REGULAR MEETING OF THE BIRMINGHAM PLANNING BOARD
THURSDAY, SEPTEMBER 9, 2021
7:30 PM
https://zoom.us/j/111656967 or dial: 877-853-5247 Toll-Free, Meeting Code: 111656967

The highly transmissible COVID-19 Delta variant is spreading throughout the nation at an alarming rate. As a result, the CDC is recommending that vaccinated and unvaccinated personnel wear a facemask indoors while in public if you live or work in a substantial or high transmission area. Oakland County is currently classified as a substantial transmission area. **The City has reinstated mask requirements for all employees while indoors. The mask requirement also applies to all board and commission members as well as the public attending public meetings.**

A. Roll Call
B. Review and Approval of the Minutes of the regular meeting of **August 25, 2021**
C. Chairpersons' Comments
D. Review of the Agenda
E. Unfinished Business

1. **525 E. Brown (Birmingham Roast)**, Request for Design Review for changes to existing outdoor dining area (postponed from July 28, 2021).

F. Final Site Plan & Design Review

1. **34745 Woodward Avenue – Jax Car Wash,** Request for Final Site Plan & Design Review for circulation and layout changes to the existing car wash site.

G. Community Impact Study Review

1. **245 – 325 S. Eton Street – District Lofts Phase III**, Request for approval of a CIS for a new four story mixed use building (**Postponed from August 25, 2021).**

H. Preliminary Site Plan Review

1. **245 – 325 S. Eton Street – District Lofts Phase III**, Request for approval of a Preliminary Site Plan Review for a new four story mixed use building. (**Postponed from August 25, 2021).**

I. Study Session Items:
Rules of Procedure for Study Sessions: Site Plan and Design Review, Special Land Use Permit Review and other review decisions will not be made during study sessions; Each person (member of the public) will be allowed to speak at the end of the study session; Each person will be allowed to speak only once; The length of time for each person to speak will be decided by the Chairman at the beginning of the meeting; Board members may seek information from the public at any time during the meeting.

1. **Outdoor Dining**

J. Miscellaneous Business and Communications:
1. Communications
2. Administrative Approval Correspondence
3. Draft Agenda for the next Regular Planning Board Meeting (**THURSDAY, September 23, 2021**)
4. Other Business

K. Planning Division Action Items
1. Staff Report on Previous Requests
2. Additional Items from tonight's meeting

L. Adjournment

Notice: Due to Building Security, public entrance during non-business hours is through the Police Department—Pierce St. Entrance only. Individuals with disabilities requiring assistance to enter the building should request aid via the intercom system at the parking lot entrance gate on Henrietta St.

Persons with disabilities that may require assistance for effective participation in this public meeting should contact the City Clerk's Office at the number (248) 530-1880, or (248) 644-5115 (for the hearing impaired) at least one day before the meeting to request help in mobility, visual, hearing, or other assistance.

Las personas con incapacidad que requieren algún tipo de ayuda para la participación en esta sesión pública deben ponerse en contacto con la oficina del escribano de la ciudad en el número (248) 530-1800 o al (248) 644-5115 (para las personas con incapacidad auditiva) por lo menos un dia antes de la reunión para solicitar ayuda a la movilidad, visual, auditiva, o de otras asistencias. (Title VI of the Civil Rights Act of 1964).

City Of Birmingham
Regular Meeting Of The Planning Board
Wednesday, August 25, 2021
City Commission Room
151 Martin Street, Birmingham, Michigan

Minutes of the regular meeting of the City of Birmingham Planning Board held on August 25, 2021. Chair Clein convened the meeting at 7:30 p.m.

A. Roll Call

Present: Chair Scott Clein; Board Members Robin Boyle, Stuart Jeffares, Bert Koseck, Daniel Share, Janelle Whipple-Boyce, Bryan Williams; Alternate Board Members Jason Emerine, Nasseem Ramin (arrived 7:40 p.m)

Absent: Student Representatives Daniel Murphy, Jane Wineman

Administration: Brooks Cowan, City Planner ("CP")
Nick Dupuis, City Planner ("CP")
Jim Surhigh, Consulting City Engineer ("CCE")

MKSK: Haley Wolf

08-118-21

B. Approval Of The Minutes Of The Regular Planning Board Meeting of August 11, 2021

Motion by Mr. Williams
Seconded by Mr. Share to approve the minutes of the Regular Planning Board Meeting of August 11, 2021 as submitted.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Boyle, Koseck, Jeffares, Clein, Whipple-Boyce, Share
Nays: None

08-119-21

C. Chair's Comments

Chair Clein welcomed everyone to the meeting and reviewed the meeting's procedures.

08-120-21

D. Review Of The Agenda

DRAFT

08-121-21

E. Unfinished Business

1. 525 E. Brown (Birmingham Roast), Request for Design Review for changes to existing outdoor dining area (postponed from July 28, 2021).

CP Dupuis presented the item.

Jesse Dhillon, owner, was present on behalf of the request. He said he would be seeking an extended outdoor dining permit if approved.

After discussion the Board requested that staff seek clarification from the Fire Marshall regarding whether a sprinkler system would still be required without sides on the structure.

There were some concerns expressed about the size of the proposed structure and the feasibility of taking the structure down every night during the extended dining season with the sprinkler system.

A number of board members said they would be more supportive of approving these plans for a year to see how the outdoor dining standards conversation unfolds.

Mr. Williams noted that it was unlikely that the Board could offer approval for only one year in this case since it was not a SLUP.

Mr. Jeffares said the City should improve its timing regarding receipt of information so that a simple informational question does not end up postponing a project as was the case here. Mr. Jeffares noted that when the same structure was in place during the Covid-19 temporary outdoor dining standards it provided desirable activation of the streetscape.

The Board also asked staff to add fire suppression to the topics to be discussed as part of the outdoor dining standards review.

Motion by Mr. Williams
Seconded by Mr. Share to postpone the design review for 525 E. Brown (Birmingham Roast), Request for Design Review for changes to existing outdoor dining area to September 9, 2021 .

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Williams, Share, Boyle, Koseck, Jeffares, Clein, Whipple-Boyce
Nays: None

Chair Clein apologized to Mr. Dhillon for the delay. He asked staff to add when outdoor dining is a SLUP and when it is not, and the implications of that difference, to the topics to study as part of the outdoor dining standards discussion.

DRAFT

Mr. Williams said the Board should also study how year-round dining should interact with SLUPs, and whether changes should be made to that aspect of the ordinance.

08-122-21

F. Courtesy Review

1. Old Woodward Reconstruction Project, Phase 3 (Brown to Landon)

CP Cowan introduced the item.

Haley Wolf of MKSK presented the item.

Ms. Wolf confirmed there would be bicycle racks installed at the bus stops.

Mr. Jeffares said the planned changes for the intersections would likely make it easier for drivers coming off Haines, Hazel, and Bowers to merge onto S. Old Woodward.

Mr. Williams, Mr. Boyle, Mr. Emerine and Chair Clein all recommended that the City consider implementing the more northern aspects of this plan while waiting on the more southern parts. They all noted that the master plan has a proposal for the southernmost part of S. Old Woodward that would require tearing up the current plans, if implemented, in a few years.

Mr. Williams specified he would not consider implementing any of the project south of Bowers at this time; Chair Clein said he would not recommend doing south of Haynes.

Ms. Wolf noted that many retailers in the area offer private parking for customers, and also noted that the team working on this was in ongoing conversations with the local businesses.

Ms. Whipple-Boyce said she liked the proposed changes, and noted that the currently low occupancy rates south of George would likely change if the RH development proceeds.

Mr. Boyle and Chair Clein said some attention should be given to mitigating the speed of drivers coming up S. Old Woodward heading north.

Chair Clein said he liked the plans overall.

Mr. Koseck said the plans would beautify the area and expressed some concern about the impact of the proposed loss of parking on nearby retailers.

Mr. Emerine agreed with Mr. Boyle and Ms. Whipple-Boyce. He also said that while parking is important, pedestrian safety is paramount, opining that the proposed crossings and bump-outs would be a needed improvement.

CCE Surhigh said the City was studying whether to include electric vehicle charging stations along this stretch of S. Old Woodward.

DRAFT

Mr. Share and Chair Clein both recommended that EV charging stations not be installed along S. Old Woodward. Mr. Share explained that the amount of charge that could be gained would be limited and that the parking turnover would be decreased if stations were installed there. Chair Clein noted that if EV charging stations were installed in the area being considered they would have to be removed for the proposed master plan changes.

Ms. Wolf confirmed that none of the sidewalks would be narrower than eight feet.

Chair Clein expressed comfort with the proposed parking space removals as long as Ms. Kroll and the City's Engineers study and approve of the likely traffic and parking impacts on the area and on the nearby residential neighborhoods.

08-123-21

G. Special Land Use Permit Review and Final Site Plan & Design Review

1. 160 W. Maple (Dick O'Dows), Request for a Special Land Use Permit and Revised Final Site Plan and Design Review to consider approval of building design changes and a new outdoor dining plan.

CP Dupuis presented.

In reply to Board inquiry, Chris Longe, architect, specified that the owner was committing to maintaining the minimum of five feet pedestrian space in the front of the building.

The Board advised Mr. Longe that they would add a condition to their motion requiring that the aforementioned five feet be maintained.

The Board also noted that the plans needed to include the planters in the rear outdoor dining area.

Mr. Jeffares said he once saw a garage truck maneuver near the outdoor dining area in the rear with no issue.

Both Mr. Jeffares and Mr. Boyle expressed approval of the layout of the outdoor dining area in the rear despite the Engineering Department's comments.

Motion by Mr. Share
Seconded by Mr. Williams to recommend approval to the City Commission for the Final Site Plan & Design Review for 160 W. Maple – Dick O' Dows – with the following conditions:
1. The applicant must submit glazing calculations and specification sheets with Visual Light Transmittance figures for the new storefront glazing;
2. The Planning Board approves outdoor dining in the Willits Alley Active Via with the final drawings to show the planters on the northern edge;
3. All outdoor activity must cease at the close of business;

4. The final drawings must show all tables and chairs in the front as located within the confines of the existing private property and not in the public right-of-way;
5. The applicant must comply with the requests of all City Departments; and,
6. The Planning Board approves the existing projection into the right-of-way of three feet, four inches.

Motion carried, 7-0.

VOICE VOTE
Yeas: Share, Williams, Boyle, Koseck, Jeffares, Clein, Whipple-Boyce
Nays: None

Motion by Mr. Share
Seconded by Mr. Williams to recommend approval to the City Commission for the Special Land Use Permit for 160 W. Maple – Dick O' Dows – with the following conditions:
1. The applicant must submit glazing calculations and specification sheets with Visual Light Transmittance figures for the new storefront glazing;
2. The Planning Board approves outdoor dining in the Willits Alley Active Via with the final drawings to show the planters on the northern edge;
3. All outdoor activity must cease at the close of business;
4. The final drawings must show all tables and chairs in the front as located within the confines of the existing private property and not in the public right-of-way;
5. The applicant must comply with the requests of all City Departments; and,
6. The Planning Board approves the existing projection into the right-of-way of three feet, four inches.

Motion carried, 7-0.

VOICE VOTE
Yeas: Share, Williams, Boyle, Koseck, Jeffares, Clein, Whipple-Boyce
Nays: None

Mr. Share recommended that the Board study the difference between active and destination vias at some point in the future.

08-124-21

H. Community Impact Study Review and Preliminary Site Plan Review

Motion by Mr. Williams
Seconded by Mr. Jeffares to postpone the CIS review for 245 – 325 S. Eton Street – District Lofts Phase III for a new four story mixed use building to September 9, 2021.

Motion carried, 7-0.

VOICE VOTE

Yeas: Williams, Jeffares, Clein, Whipple-Boyce, Share, Boyle, Koseck
Nays: None

Motion by Mr. Williams
Seconded by Mr. Boyle to postpone the Preliminary Site Plan review for 245 – 325 S. Eton Street – District Lofts Phase III for a new four story mixed use building to September 9, 2021.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Boyle, Koseck, Jeffares, Clein, Whipple-Boyce, Share
Nays: None

08-125-21

I. Extension of Final Site Plan & Design Review

1. 469 – 479 S. Old Woodward (Former Mountain King & Talmer Bank) – Request to extend Final Site Plan expiring on September 23, 2021.

Chris Longe, architect, explained that there had been extenuating circumstances, including the Covid-19 pandemic, that had caused the project's delay. He stated that the applicant team remained committed to the project.

Motion by Mr. Williams
Seconded by Mr. Jeffares to extend the Final Site Plan for 469 – 479 S. Old Woodward for one year.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Jeffares, Clein, Whipple-Boyce, Share, Boyle, Koseck
Nays: None

08-126-21

J. Miscellaneous Business and Communications
a. Communications

CP Dupuis reviewed a request from All Seasons to add three non-cutoff light fixtures to their plans. He stated that the ordinance specifies that such a request must be approved by the Board and could not be administratively approved.

The Board was fine with the proposal.

Motion by Mr. Williams
Seconded by Mr. Boyle to approve the use of the three proposed non-cutoff light fixtures subject to the administrative approval of any other required documents.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Boyle, Koseck, Jeffares, Clein, Whipple-Boyce, Share
Nays: None

b. Administrative Approval Correspondence
c. Draft Agenda for next meeting
d. Other Business

Motion by Mr. Williams
Seconded by Ms. Whipple-Boyce to have the September 23, 2021 meeting include both site plan reviews and a study session.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Whipple-Boyce, Share, Boyle, Koseck, Jeffares, Clein
Nays: None

08-127-21

K. Planning Division Action Items

a. Staff Report on Previous Requests
b. Additional Items from tonight's meeting

08-128-21

L. Adjournment

No further business being evident, the Chair adjourned the meeting at 9:23 p.m.

Nicholas Dupuis
City Planner

DRAFT

City of Birmingham
A Walkable Community

MEMORANDUM

Planning Division

DATE: **September 9th, 2021**

TO: **Planning Board**

FROM: **Nicholas Dupuis, City Planner**

SUBJECT: **525 E. Brown – Birmingham Roast – Design Review**

Zoning: B4 (Business-Residential) & D4 (Downtown Overlay)
Existing Use: Food & Drink Establishment

Introduction

The subject site is located on the north side of Brown St. east of S. Old Woodward. The applicant has submitted a Design Review application for the addition of a freestanding awning over an existing outdoor dining area for an existing food and drink establishment, Birmingham Roast.

The applicant was previously approved in February 2021 for a freestanding awning pursuant to the Temporary Covid-19 Outdoor Dining Standards adopted by the City Commission on May 11th, 2020 and extended on March 8th, 2020. The applicant has submitted this Design Review application seeking permanent approval of the awning.

On July 28th, 2021, the Planning Board postponed consideration of the Design Review application citing a need for more dimensions as well as other necessary information regarding the patio.

On August 25th, 2021, the Planning Board again postponed the application requesting a few more clarifications including whether or not the awning would need to be brought in each night during extended outdoor dining, the effect that the required sprinklers may have, and whether or not the Planning Board could approve the proposal on a temporary basis.

Proposal

The applicant is proposing to install a new freestanding awning to offer relief from the elements over an existing 6 table, 24 chair outdoor dining patio on public property. Please see the following table for details on the proposed materials:

Material	Location	Color
Herculite Vinyl Fabric	Awning Cover	Black
Aluminum	Awning Support Structure	Black

As the awning is not attached to the building, the awning structure would be considered a temporary encroachment into the public right of way, and will be subject to the requirements of Article 4, Section 4.74 (D)(4)(d)(ii) which states that:

"Temporary encroachments that are seasonal in nature such as vestibules or storm enclosures may be approved by the Planning Board, Design Review Board and/or Historic District Commission through the site plan and design review process provided that an unobstructed 5' public pedestrian path is provided at all times and that the temporary encroachments are is subject to a rental fee rate as indicated by the Birmingham Schedule for Fees, Charges, Bonds and Insurance."

As indicated by the site plans, the new structure is contained within the existing outdoor ding area, which provides a 5 ft. clear path around the outdoor dining patio. Thus, **the applicant must either maintain or enter into a new rental agreement with the City for the use of the public property.**

Signage

The applicant has submitted specifications for a small sign on the valence of the freestanding awning that reads "Birmingham Roast" in white vinyl lettering. Awning signs are permitted at no more than 0.33 square feet for each linear foot of awning length of the awning upon which the sign will be placed. The proposed awning measures 31 ft. in length, which permits the applicant 10.2 sq. ft. of signage. The sign as proposed measures 4.2 sq. ft. and meets the sign area requirements of the Sign Ordinance. Additionally, the awning valence area may not be more than 9 in. in height. The plans submitted show the valence structure at 9 in., meeting the requirements of the Sign Ordinance.

Lighting

There are no new light fixtures proposed as a part of the Design Review application submitted.

Planning and Zoning

Because the existing building footprint it proposed to remain, there are no bulk, placement or height requirements that must be addressed as a part of this review.

Departmental Reports

1. Engineering Division – The Engineering Division has no concerns at this time.

2. Department of Public Services – The Department of Public Services has no concerns at this time.

3. Fire Department – Please see the attached Fire Department comments (**no changes**).

4. Police Department – The Police Department has no concerns at this time.

5. Building Division – The Building Division has indicated that their comments reflect those of the Fire Department, and has no additional concerns at this time.

Design Standards

Article 7, Section 7.09 states that the Design Review Board shall review all documents submitted pursuant to this section and shall determine the following:

1. All of the materials required by this section have been submitted for review.
2. All provisions of this Zoning Ordinance have been complied with.
3. The appearance, color, texture and materials being used will preserve property values in the immediate neighborhood and will not adversely affect any property values.
4. The appearance of the building exterior will not detract from the general harmony of and is compatible with other buildings already existing in the immediate neighborhood.
5. The appearance of the building exterior will not be garish or otherwise offensive to the sense of sight.
6. The appearance of the building exterior will tend to minimize or prevent discordant and unsightly properties in the City.
7. The total design, including but not limited to colors and materials of all walls, screens, towers, openings, windows, lighting and signs, as well as treatment to be utilized in concealing any exposed mechanical and electrical equipment, is compatible with the intent of the urban design plan or such future modifications of that plan as may be approved by the City Commission.

Recommendation

Accordingly, the Planning Division recommends that the Planning Board **APPROVE** the Design Review application for 525 E. Brown – Birmingham Roast – with the following conditions:

1. The applicant must either maintain or enter into a new rental agreement with the City for the use of the public property; and
2. The applicant must comply with the requests of all City Departments.

Sample Motion Language

Motion to **APPROVE** the Design Review application for 525 E. Brown – Birmingham Roast – with the following conditions:

1. The applicant must either maintain or enter into a new rental agreement with the City for the use of the public property; and
2. The applicant must comply with the requests of all City Departments.

OR

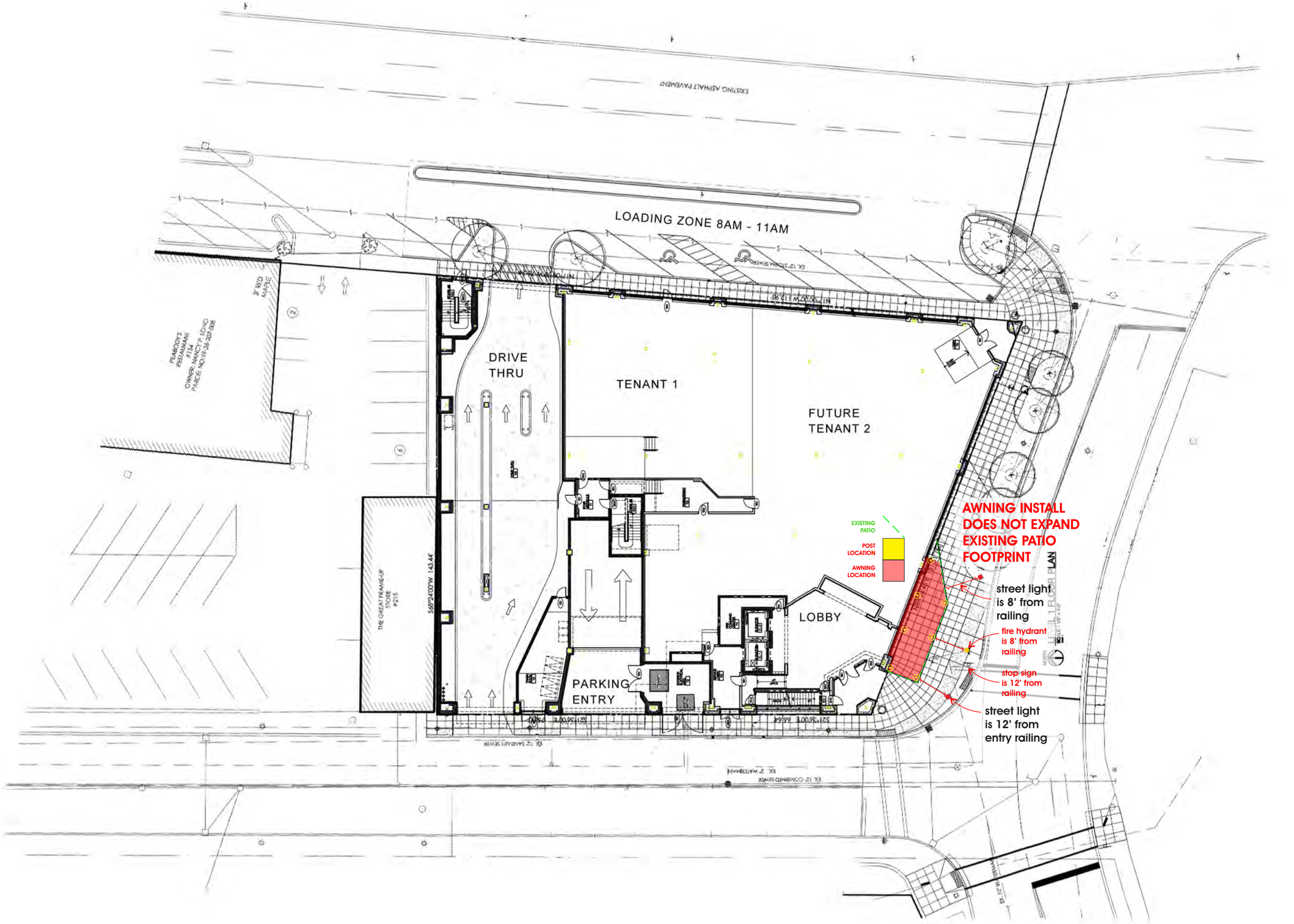
Motion to **POSTPONE** the Design Review application for 525 E. Brown – Birmingham Roast – pending receipt of the following:

1. _____
2. _____
3. _____

OR

Motion to **DENY** the Design Review application for 525 E. Brown – Birmingham Roast – for the following reasons:

1. _____
2. _____
3. _____



2013.12.05

© 2013 Hobbs + Black Architects, Inc.

DESIGN CRITERIA:
THE AWNING SUPPORTS
ARE DESIGNED FOR 115 MPH,
3 SEC. GUST ULTIMATE WIND SPEED
WIND UPLIFT @ 22 PSF & 30 PSF
GROUND SNOW LOADS FOR
EXPOSURE B, RISK CATEGORY II
AS PER 2019 - MBC AND ASCE 7-10

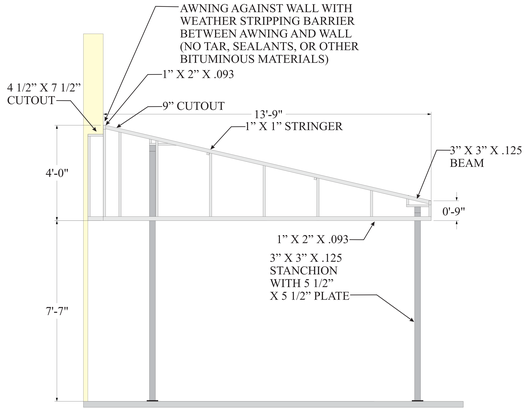
ALL MOUNTING HARDWARE SHALL
BE NON-CORROSIVE

ALL WELDING SHOULD BE
USING E70 ELECTRODES
AS PER AWS D 1.1 & D 1.2

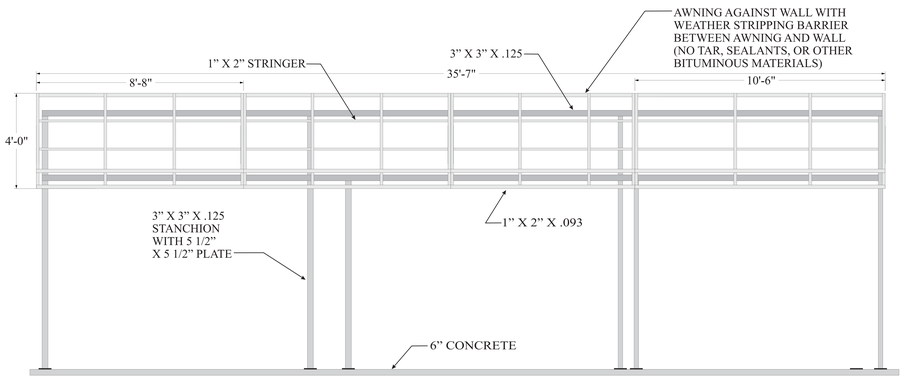
ALL ALUMINUM SECTIONS SHALL
BE 6063-T6 ALLOY

A PROTECTIVE BARRIER SHALL BE
PROVIDED BETWEEN ALL STEEL AND
ALUMINUM TO PREVENT CORROSION

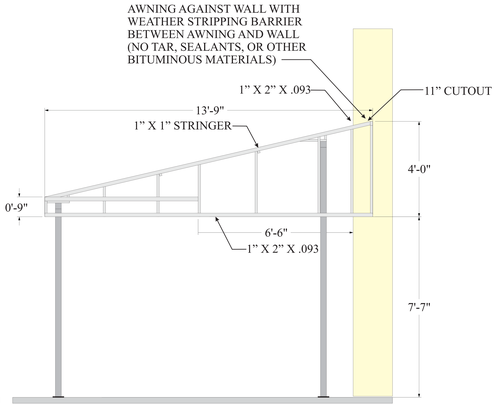
THIS PROJECT SHALL ADHERE TO THE
FOLLOWING CODES:
2015 MICHIGAN BUILDING CODE
2015 INTERNATIONAL FIRE PREVENTION CODE
2009 ANSI ACCESSIBILITY CODE



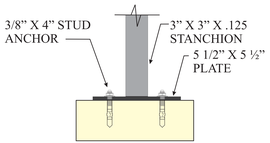
LEFT ELEVATION



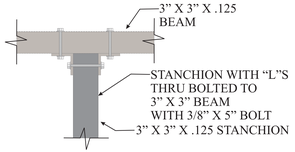
FRONT ELEVATION



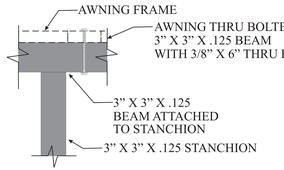
RIGHT ELEVATION



STANCHION TO
CONCRETE ATTACHMENT
DETAIL

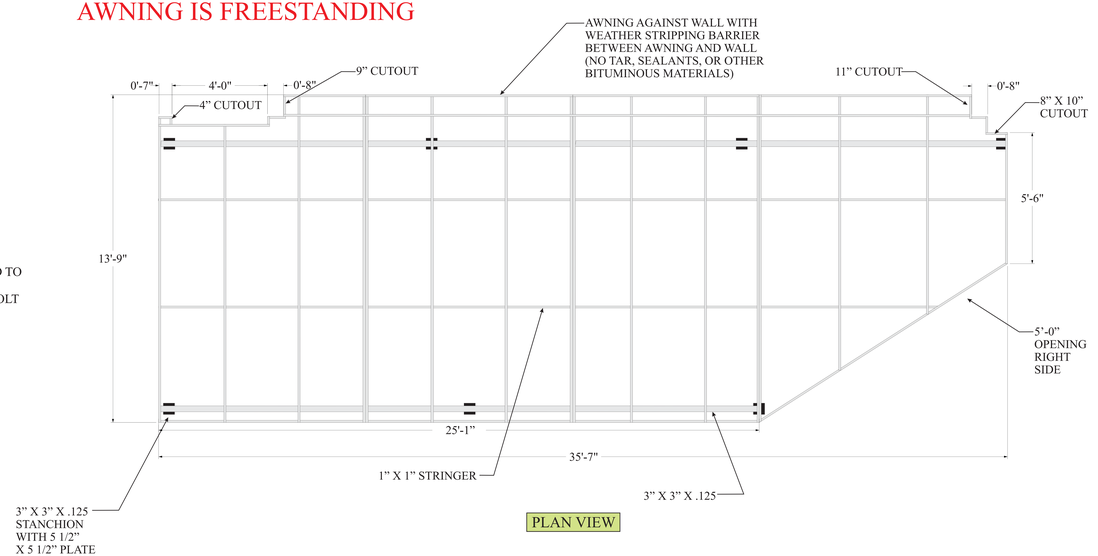


STANCHION TO
BEAM ATTACHMENT
DETAIL



AWNING TO
SUBSTRUCTURE
ATTACHMENT
DETAIL

AWNING IS FREESTANDING



PLAN VIEW

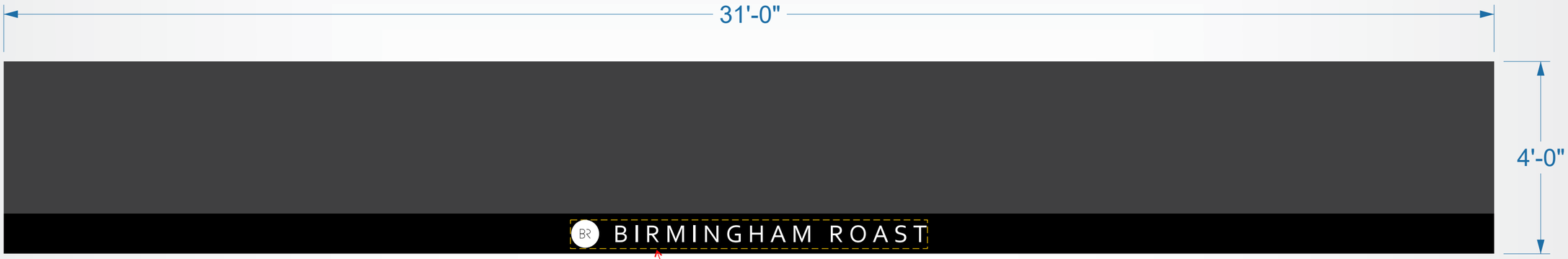
Marygrove AWNINGS

DALE BACHE
BIRMINGHAM ROAST
525 EAST BROWN STREET
BIRMINGHAM, MI 48009

1/13/21

NOTES:
ALL FRAMING ALUMINUM
1" X 1" X .093 UNLESS NOTED
FRAMES & SUBSTRUCTURE: BLACK
FABRIC: NATURA BLACK NT7745

Peabody
Marygrove
AWNINGS



BIRMINGHAM ROAST

GRAPHICS ARE 7’-4” WIDE BY 0’-7” HIGH WITH A TOTAL OF 4.2’ SQFT

Marygrove® AWNINGS

City of Birmingham
A Walkable Community

Design Review Application
Planning Division

Form will not be processed until it is completely filled out

1. Applicant
Name: Birmingham Roast
Address: 525 E. Brown St.
Birmingham, MI 48009
Phone Number: 248-530-4314
Email address: info@birminghamroast.com

2. Property Owner
Name: Harvey Weiss
Address: FW 32820 Woodward Avenue, suite 200
Royal Oak, MI 48073
Phone Number: 248-549-3600
Email address: hweiss@simonaweiss.com

3. Project Contact Person
Name: Jesse Dhillon
Address: 2633 Invitational Dr.
Oakland, MI 48363
Phone Number: 248-342-5876
Email address: jdhillon@ljhaircuts.com

4. Project Designer/Developer
Name: Marygrove Awnings
Address: 12700 Merriman Rd.
Livonia, MI 48150
Phone Number: 734-338-7258
Email address: rfalahee@marygrove.com

5. Required Attachments

I. Two (2) paper copies and one (1) digital copy of all project plans including:
   i. A detailed and scaled Site Plan depicting accurately and in detail the proposed construction, alteration or repair;
   ii. Colored elevation drawings for each building elevation;
   iii. A Landscape Plan (if applicable);
   iv. A Photometric Plan (if applicable);

II. Specification sheets for all proposed materials, light fixtures and mechanical equipment;

III. Samples of all proposed materials;

IV. Photographs of existing conditions on the site including all structures, parking areas, landscaping and adjacent structures;

V. Current aerial photographs of the site and surrounding properties;

VI. Warranty Deed, or Consent of Property Owner if applicant is not the owner;

VII. Any other data requested by the Planning Board, Planning Department, or other City Departments.

6. Project Information
Address/Location of the property: 525 E. Brown St. Birmingham, MI 48009
Name of development: Belmont Building
Sidwell #:
Current Use: Outdoor dining
Proposed Use:
Area of Site in Acres:
Current zoning: Outdoor dining / no awning

	Yes	No
Is the property located in a floodplain? ----------	☐	☑
Is the property within a Historic District? --------	☐	☑
→ If so, which?		
Will the project require a variance? ----------	☐	☑
→ If so, how many?		
Has the project been reviewed by another board?	☐	☑
→ If so, which?		

7. Details of the Proposed Development (attach separate sheet if necessary)

8. Required and Proposed Parking

Required number of parking spaces: N/A
Proposed number of parking spaces: N/A
Location of parking on site: N/A
Location of parking off site: N/A
Shared parking agreement? N/A
Size of surface parking lot: N/A

Number of underground parking levels: _____
Typical size of parking spaces: _____
Typical width of maneuvering lanes: _____
Number of handicap spaces: N/A
Screenwall material: _____
Height of screenwall: _____

9. Landscaping

Location of landscape areas: Sidewalk railing

Proposed landscape material: _____
N/A

10. Streetscape

Sidewalk width: _____
Number of benches: _____
Number of planters: _____

Number of existing street trees: _____
Number of proposed street trees: _____
Number of waste receptacles: _____

11. Loading

Required number of loading spaces: _____
Proposed number of loading spaces: N/A
Location of loading spaces on site: _____

Typical size of loading spaces: _____
Screenwall material: _____
Height of screenwall: _____

12. Exterior Waste Receptacles

Required number of waste receptacles: 1
Proposed number of waste receptacles: 1
Location of waste receptacles: Open entry

Size of waste receptacles: _____
Screenwall material: _____
Height of screenwall: _____

13. Mechanical Equipment

Utilities and Transformers:

Number of ground mounted transformers: N/A
Location of all utilities & easements: _____

Size of transformers (L•W•H): _____
Screenwall material: _____
Height of screenwall: _____

Ground Mounted Mechanical Equipment:

Number of ground mounted units: N/A
Location of all ground mounted units: _____

Size of ground mounted units (L•W•H): _____
Screenwall material: _____
Height of screenwall: _____

Rooftop Mechanical Equipment:

Number of rooftop units: _____
Type of rooftop units: N/A
Location of all rooftop units: _____
Size of rooftop units (L•W•H): _____

Location of screenwall: _____
Screenwall material: _____
Height of screenwall: _____
Distance from rooftop units to all screenwalls: _____

14. Building & Site Lighting

Number of light fixtures on building: _____
Light level at each property line: _____
Type of light fixtures on building: N/A
Location of light fixtures on building: _____

Number of light fixtures on site: _____
Type of light fixtures on site: _____
Height from grade: _____
Location of light fixtures on site: _____

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and / or Building Division of any additional changes made to an approved site plan. The undersigned further states that they have reviewed the procedures and guidelines for Site Plan Review in Birmingham, and have complied with the same. The undersigned will be in attendance at the Planning Board meeting when this application will be discussed.

By providing your e-mail to the City, you agree to receive news notifications from the City. If you do not wish to receive these messages, you may unsubscribe at any time.

Signature of Owner: _____ Date: 7/15/2021

Print name: _____

Signature of Applicant: _____ Date: 7/8/21

Print Name: Jesse Dhillon

Signature of Architect: _____ Date: _____

Print Name: _____

Office Use Only

Application #: _____ Date Received: _____ Fee: _____

Date of Approval: _____ Date of Denial: _____ Accepted By: _____

City of Birmingham
A Walkable Community

Notice Sign Rental Application

Community Development

1. Applicant

Name: Birmingham Roast
Address: 525 E. Brown St.
Birmingham, MI 48009
Phone Number: 248-530-4314
Fax Number: n/a
Email address: info@birminghamroast.com

2. Property Owner

Name: Harvey Weiss
Address: 32820 Woodward Avenue, Suite 200
Royal Oak, MI 48073
Phone Number: 248-549-3600
Fax Number:
Email address: hweiss@samuelweiss.com

3. Project Information

Address/Location of Property: 525 E. Brown St.
Name of Development: Belmont Building
Area in Acres: .1 acres

Name of Historic District, if any:
Current Use: Outdoor Dining
Current Zoning: Outdoor dining

4. Date of Board/Commission Review

City Commission:
Planning Board:
Historic District Commission:
Design Review Board:

Board of Zoning Appeals:
Board of Building Trades Appeals:
Housing Board of Appeals:
Other:

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to post the Notice Sign(s) at least 15 days prior to the date on which the project will be reviewed by the appropriate board or commission, and to ensure that the Notice Sign(s) remains posted during the entire 15 day mandatory posting period. The undersigned further agrees to pay a rental fee and security deposit for the Notice Sign(s), and to remove all such signs on the day immediately following the date of the hearing at which the project was reviewed. The security deposit will be refunded when the Notice Sign(s) are returned undamaged to the Community Development Department. Failure to return the Notice Sign(s) and/or damage to the Notice Sign(s) will result in forfeiture of the security deposit.

Signature of Applicant: _____ **Date:** 7/8/21

Office Use Only

Application#: _____ Date Received: _____ Fee: _____

Date of Approval: _____ Date of Denial: _____ Reviewed By: _____

HERCULITE®

Powered by Innovation ◆ Proven by Performance

April 2017

Herculite Natura®

TYPICAL PROPERTIES REPORT

PROPERTY		TEST METHOD	TYPICAL TEST RESULTS	
PHYSICAL PROPERTIES English	Metric		English	Metric
Weight, oz. per sq. yd.	g/m^2	ASTM D3776 Method C	18 oz. +/- 10%	610 g +/- 10%
Adhesion. (lbs./2 in.)	N/50 mm	ASTM D751 (Free Peel)	Cannot Separate	
Breaking Strength (lbs./in.)	N/25 mm	ASTM D5034	W 250 F 185	W 1112 F 823
Tear Strength (lbs.)	N	ASTM D2261/1	W 80 F 55	W 356 F 245
Hydrostatic Burst (PSI)	kPa	ASTM D751	370	2551
Waterproof			Yes	
Flame Resistance		ASTM 6413	Pass Meets Calif. State Fire Marshal	

Width: 60 inches
Roll Size: 50 Yards

The information contained in this report is believed to be reliable. It is offered in good faith and intended for use as a general guide. Herculite makes no guarantee of results and assumes no obligation or liability whatsoever in connection with the possible use of this information. This report, including any statements concerning the possible use of our products, is not a license to operate under, or intended to suggest infringement of any existing patents.

HERCULITE PRODUCTS, INC.
P.O. Box 435, Emigsville, PA 17318
(800) 772-0036 (717) 764-1192
FAX: (717) 764-5211
www.herculite.com customercare@herculite.com

Mr. Williams suggested the City could notice neighbors when building permits are granted. He said that while it would require a departmental change, it might be worth considering.

David Lubin and Kim Raznik were present on behalf of the project.

The Chair asked the applicant team to commit to better communication with the neighbors. He said the applicant team would be given the contact information for the nearby neighborhood association, church and school to notify them when construction begins.

Motion by Mr. Williams
Seconded by Mr. Jeffares to approve the Final Site Plan and Design Review for 2425 E. Fourteen Mile Road (Clover Hill Cemetery) with the following condition: 1. The applicant must submit specifications sheets on the proposed rooftop unit to determine if additional screening will be necessary.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Jeffares, Clein, Ramin, Whipple-Boyce, Boyle, Koseck
Nays: None

07-104-21

G. Design Review

1. **525 E. Brown (Birmingham Roast),** Request for Design Review for changes to existing outdoor dining area.

CP Dupuis presented the item. He noted that the proposal would be located on public property. He stated that he was emailed revised design plans showing the awning structure with no sides after the agenda packet was sent out.

Jesse Dhillon, owner, was present on behalf of the project.

PD Ecker told Mr. Williams that the proposal would not go to the Commission since there would be no alcohol service and thus no SLUP required. The owner would enter into a license agreement with the City via the Clerk's Office through the outdoor dining licensing process.

Mr. Koseck and Chair Clein noted the plans were missing dimensions as well as other necessary information, and said consequently the Board did not presently have enough information to complete the requested review.

Mr. Boyle reiterated his previous comment that this review should be postponed until the Board has a better sense of its likely outdoor dining standards recommendations.

Mr. Koseck agreed with Mr. Boyle.

APPROVED

Mr. Jeffares noted the Board had the unusual opportunity to see this structure since it was up during the temporary outdoor dining allowances that occurred because of Covid-19. He said that these plans were simple enough that they could be moved forward without conflict with the future outdoor dining standard discussions. He also disagreed with Engineering's comments, saying the structure would be unlikely to be in a driver's vision in the intersection.

Chair Clein said that while he needed to see more complete plans, he did not think this and other applicants should be asked to wait on outdoor dining reviews until the Board has made its updated outdoor dining ordinance recommendations.

Mr. Dhillon stated that any future plans would be submitted with sufficient information.

Motion by Mr. Williams
Seconded by Mr. Boyle to postpone consideration of 525 E. Brown (Birmingham Roast) to August 25, 2021.

Ms. Whipple-Boyce echoed Mr. Boyle's comments. She said the Board would be unlikely to know its outdoor dining ordinance recommendations by the proposed postponement date. She noted that the applicant could avail itself of umbrellas and other shade options in the interim, and expressed concern that approving one project would invite others prior to the Board being sure of the standards it would be applying.

Chair Clein said that while he agreed with Ms. Whipple-Boyce and Mr. Boyle in theory, the City has a current ordinance and cannot require applicants to wait a number of months until the ordinances are updated.

Mr. Williams concurred with Chair Clein, noting that the applicants applying now would be operating under the existing ordinance.

Mr. Jeffares reiterated his contention that this proposal was relatively straightforward and reviewing and approving it would not conflict with the ongoing outdoor dining standard discussions. He said the only two questions this proposal might raise would be how long the structure could stay up and whether it could in some way be heated.

Motion carried, 5-2.

ROLL CALL VOTE
Yeas: Williams, Boyle, Koseck, Clein, Ramin
Nays: Jeffares, Whipple-Boyce

07-105-21

H. Preliminary Site Plan Review

APPROVED

08-121-21

E. Unfinished Business

1. 525 E. Brown (Birmingham Roast), Request for Design Review for changes to existing outdoor dining area (postponed from July 28, 2021).

CP Dupuis presented the item.

Jesse Dhillon, owner, was present on behalf of the request. He said he would be seeking an extended outdoor dining permit if approved.

After discussion the Board requested that staff seek clarification from the Fire Marshall regarding whether a sprinkler system would still be required without sides on the structure.

There were some concerns expressed about the size of the proposed structure and the feasibility of taking the structure down every night during the extended dining season with the sprinkler system.

A number of board members said they would be more supportive of approving these plans for a year to see how the outdoor dining standards conversation unfolds.

Mr. Williams noted that it was unlikely that the Board could offer approval for only one year in this case since it was not a SLUP.

Mr. Jeffares said the City should improve its timing regarding receipt of information so that a simple informational question does not end up postponing a project as was the case here. Mr. Jeffares noted that when the same structure was in place during the Covid-19 temporary outdoor dining standards it provided desirable activation of the streetscape.

The Board also asked staff to add fire suppression to the topics to be discussed as part of the outdoor dining standards review.

Motion by Mr. Williams
Seconded by Mr. Share to postpone the design review for 525 E. Brown (Birmingham Roast), Request for Design Review for changes to existing outdoor dining area to September 9, 2021 .

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Williams, Share, Boyle, Koseck, Jeffares, Clein, Whipple-Boyce
Nays: None

Chair Clein apologized to Mr. Dhillon for the delay. He asked staff to add when outdoor dining is a SLUP and when it is not, and the implications of that difference, to the topics to study as part of the outdoor dining standards discussion.

DRAFT

Mr. Williams said the Board should also study how year-round dining should interact with SLUPs, and whether changes should be made to that aspect of the ordinance.

08-122-21

F. Courtesy Review

1. Old Woodward Reconstruction Project, Phase 3 (Brown to Landon)

CP Cowan introduced the item.

Haley Wolf of MKSK presented the item.

Ms. Wolf confirmed there would be bicycle racks installed at the bus stops.

Mr. Jeffares said the planned changes for the intersections would likely make it easier for drivers coming off Haines, Hazel, and Bowers to merge onto S. Old Woodward.

Mr. Williams, Mr. Boyle, Mr. Emerine and Chair Clein all recommended that the City consider implementing the more northern aspects of this plan while waiting on the more southern parts. They all noted that the master plan has a proposal for the southernmost part of S. Old Woodward that would require tearing up the current plans, if implemented, in a few years.

Mr. Williams specified he would not consider implementing any of the project south of Bowers at this time; Chair Clein said he would not recommend doing south of Haynes.

Ms. Wolf noted that many retailers in the area offer private parking for customers, and also noted that the team working on this was in ongoing conversations with the local businesses.

Ms. Whipple-Boyce said she liked the proposed changes, and noted that the currently low occupancy rates south of George would likely change if the RH development proceeds.

Mr. Boyle and Chair Clein said some attention should be given to mitigating the speed of drivers coming up S. Old Woodward heading north.

Chair Clein said he liked the plans overall.

Mr. Koseck said the plans would beautify the area and expressed some concern about the impact of the proposed loss of parking on nearby retailers.

Mr. Emerine agreed with Mr. Boyle and Ms. Whipple-Boyce. He also said that while parking is important, pedestrian safety is paramount, opining that the proposed crossings and bump-outs would be a needed improvement.

CCE Surhigh said the City was studying whether to include electric vehicle charging stations along this stretch of S. Old Woodward.

DRAFT

City of Birmingham
A Walkable Community

MEMORANDUM

Planning Division

DATE: **July 1, 2020**

TO: **Planning Board Members**

FROM: **Jana Ecker, Planning Director**

SUBJECT: **34745 Woodward – Jax Kar Wash – Final Site Plan & Design Review (All changes in blue type)**

The applicant has submitted a Final Site Plan and Design Review application to make minor site and building design changes to 34745 Woodward – Jax Kar Wash. The roughly 0.59 acre site is currently home to the aforementioned Jax Kar Wash and associated parking and service equipment. The applicant is proposing to update their site to include the relocation of detailing spaces to the north side of the building and a redesign of the vehicular circulation pattern, including parking, and changes to the existing building and signage.

On July 24, 2019 and August 14, 2019, the Planning board reviewed the Final Site Plan and Design for this site, and ultimately postponed the matter to September 11, 2019. The Planning Board requested that the applicant revise their plans to accommodate better screening of vehicles and cleaning equipment on site, and to reconfigure the streetscape along Woodward Avenue and Brown Street. The Planning Board requested that the applicant add landscaping and street trees to complement the Woodward and Brown Street streetscapes at the Balmoral Building on the north side of Brown Street and those throughout Downtown Birmingham.

On September 11, 2019, the Planning Board reviewed the applicant's revised plans to include landscaping in one area along Brown Street and in a bed near the corner of Woodward and Brown. Board members provided feedback to the applicant that they had significant concerns regarding the lack of screening along Brown and Woodward, especially as detailing activities are now proposed to be moved in front of the existing building. The Planning Board also expressed concern with the proposed contraflow of traffic along the raised portion of the Woodward MDOT right-of-way (including the public sidewalk) adjacent to the Jax site. The Planning Board voted unanimously to continue the matter to the October 23, 2019 Planning Board meeting to have the applicant amend their plans to comply with all ordinances, obtain approval from MDOT for the proposed use of the right-of-way, and to meet with both the Planning and Engineering Departments together to resolve the outstanding site plan and design issues.

After the September meeting, the applicant reached out to MDOT seeking approval of the proposed contraflow use of the Woodward right-of-way by vehicles. MDOT advised that they would permit this use if the City of Birmingham provided full indemnity to MDOT for such use. The City Attorney advised this condition was unacceptable to the City.

On October 23, 2019, the Planning Board again reviewed the applicant's plans to revise the circulation pattern on the site, with the addition of a landscaped area along

Brown and another near the corner of Woodward and Brown. After much discussion, the Planning Board voted unanimously to deny the Revised Final Site Plan and Design for Jax Car Wash for the following reasons:

1. The proposed plan does not meet the requirements of the zoning ordinance in a number of ways as noted in both Planning Director Ecker's report and during previous meetings;

2. The proposed plan does not meet the condition four of Article 7, section 7.27 of the Zoning Ordinance being that the plans propose hazardous traffic circumstances; and,

3. At present, the applicant has not demonstrated an entitlement to utilize the counterflow into the Woodward Avenue right of way.

The applicant has now revised the proposed plans from the October 23, 2019 meeting to include additional landscaping and an upgraded sidewalk and streetscape along Brown Street. However, the applicant has not met with the Engineering Department or the City Attorney to attempt to resolve the safety concerns about traffic flow in the MDOT right-of-way. The applicant has submitted a letter from their attorney in support of the proposed counterflow into the Woodward Avenue right-of-way. The City Attorney provided a response letter on July 8, 2020 which is provided for your review.

On July 8, 2020, the applicant again appeared before the Planning Board for a Revised Final Site Plan and Design Review. Planning Board members were concerned that the changes previously requested had not been made, and the applicant asked the Board to put the efficiency of the business before the interests of the public in terms of both safety and adherence to ordinances, whereas the obligation of the board is to protect the public interest. Board members were also concerned that the applicant's team could not fully answer the questions about ownership and property rights in regards property lines and rights of way. Board members asked the applicant's team to provide creative solutions to address the safety concerns and to meet the ordinance requirements. After much discussion, the matter was postponed to August 26, 2020.

On August 26, 2020 the applicant was scheduled to appear before the Planning Board. No review was conducted as the applicant requested a postponement to October 28, 2020, which was granted.

On October 8, 2020, the applicant's team met via Zoom with representatives from the Engineering and Planning Departments, Fleis & VandenBlink (City's traffic consultants) and the City Attorney's office. The applicant was asked to complete a traffic study to address the circulation and safety concerns with the proposed site plan.

On October 28, 2020 the applicant was scheduled to appear before the Planning Board. No review was conducted as the applicant requested a postponement. The Planning Board did not agree to postpone to a date certain and instead postponed the matter indefinitely.

On May 13, 2021, the applicant's team met via Zoom with representatives from the

Engineering and Planning Departments, Fleis & VandenBlink (City's traffic consultants), the City Attorney's office, and Scott Clein, Chair of the Planning Board. Circulation and safety concerns with the proposed site plan were again discussed, as well as the ownership issues for the right-of-way. The applicant advised they wished to proceed back to the Planning Board despite the City's position that safety concerns remained for the proposed site plan.

On June 23, 2021 the applicant was scheduled to appear before the Planning Board. No review was conducted as the applicant requested a postponement to July 28, 2021. The Planning Board did not agree to postpone to a date certain and instead postponed the matter indefinitely.

At this time, the applicant has requested to bring back a revised site plan to the Planning Board for consideration. The majority of the previous issues identified remain. However, the applicant has added a masonry screen wall along a majority of Brown Street in lieu of the landscaping previously proposed.

1.0 Land Use and Zoning

1.1 Existing Land Use – The site is currently used as commercial and parking, and contains the Jax Kar Wash and its associated parking.

1.2 Zoning – The property is zoned B-2 (General Business), and D-4 in the Downtown Overlay District.

1.3 Summary of Adjacent Land Use and Zoning – The following chart summarizes existing land use and zoning adjacent to and/or in the vicinity of the subject site, including the 2016 Regulating Plan.

	North	South	East	West
Existing Land Use	Commercial/ Office	Mixed Use	Commercial	Commercial/ Office
Existing Zoning District	B-4, Business - Residential	B-3, Office - Residential	O-2, Office/ Commercial	B-2, General Business
Overlay Zoning District	D-4	D-4	MU-5	D-3

2.0 Setback and Height Requirements

The attached summary analysis provides the required and proposed bulk, area, and placement regulations for the proposed project.

3.0 Screening and Landscaping

3.1 Dumpster Screening – The applicant is not proposing any changes to the existing

dumpster or associated screening. The existing dumpster is located in the southwest corner at the rear of the property and screened with wood fencing.

3.2 Parking Lot Screening – Article 4, Section 4.54(C)(3)(d) of the Zoning Ordinance requires that a masonry screenwall be placed along the front or side of any parking facility that abuts a street. The applicant had not originally proposed to screen the updated lot. The applicant previously submitted revised plans that proposed the addition of landscaped areas both at the northwest and northeast corners of the property to assist in screening the parking area on the north side of the building where 6 cleaning and detailing spaces are proposed. **The applicant has now revised the plans to include a 32" high screen wall along most of the south side of Brown Street. However, the plans note a height of 32" in one area, and 12" in another. The plans also note the use of a brick veneer. The Planning Board may wish to verify that the wall is proposed to be constructed of standard brick with a stone cap, and not panel brick. In addition, the screen wall does not extend the entire length of the frontage, as an "emergency opening" is proposed with two planters blocking access for vehicles. None of the required screening has been added along Woodward. A small landscaped area is proposed in the right-of-way on the corner of Brown and Woodward. However, the island does not screen the detailing area along Woodward in its entirety, nor does it provide any screening for the parking area along Woodward near the southeast corner of the site. The applicant must provide the required screening in accordance with Section 4.54 of the Zoning Ordinance, or obtain a variance from the Board of Zoning Appeals.**

3.3 Mechanical Equipment Screening – There are no changes proposed to the existing mechanical equipment for the building itself, nor any new transformers proposed. However, the applicant is proposing the addition of 6 vacuum stations in the proposed detailing area to be moved north of the existing building along Brown Street (2 vacuum stations per vehicle station). This equipment will be visible to the public from Brown Street. Article 4, Section 4.45(C)(5) of the Zoning Ordinance states that screening is required adjacent to all ground mounted mechanical equipment that is visible to the public, in order to obscure the equipment from public view. This issue was discussed at the Planning Board meeting on July 24, 2019, and board members requested that the applicant add screening along the entire northern property line along Brown Street (other than driveways) to screen both the vehicles parked for detailing and the detailing equipment. **The applicant has now revised the plans to include a screen wall along most of the south side of Brown Street as stated above. However, the proposed screen wall appears to be 32" in height, which does not fully screen the height of the vacuuming and detailing mechanical equipment proposed north of the building along Brown. In addition, no screening of the vacuuming or detailing equipment is proposed along Woodward. The applicant will be required to provide all required screening in accordance with Article 4, Section 4.45(C)(5) of the Zoning Ordinance or obtain a variance from the Board of Zoning Appeals.**

3.4 Landscaping – Article 4, Section 4.20(C)(1) of the Zoning Ordinance exempts any property in the Downtown Overlay District from the standards outlined in Section

4.20(F) – Parking Lot Landscaping. However, the applicant originally proposed a circular landscape area in the rear of the building in the vehicle queuing area. This area remains on the revised plans, and now is proposed to contain 3 Paperbark Maple trees and 180 All Gold Japanese Forest Grass plants.

At the Planning Board meeting on July 24, 2019, the Planning Board expressed concern about the lack of landscaping on this site, particularly along the Woodward and Brown frontages. The Planning Board requested that the applicant add in landscaping at the corner of Woodward and Brown to create a corner feature and to break up the large expanse of hardscape in this area. Board members also requested that the applicant look at the property to the north and add landscaping features that were comparable to those on the north side of Brown Street adjacent to the Balmoral building.

For the September 11, 2019 Planning Board meeting the applicant revised their plans to add two landscaping features to the site. The first landscape area added was an island proposed at the corner of Woodward and Brown, that did not wrap the corner. This island varied between 5' and 9' in width, and ran south along Woodward for approximately 28'. It was not proposed to extend all the way to the driveway opening. **The applicant has now submitted revised plans that show a slight increase in the size of the landscape island at the corner of Brown and Woodward. The new island is now proposed to vary in width from 7' to 12', and extends approximately 26' in length to the south. The new island still does not extend all the way to the driveway opening on Woodward. The plans state that 22 Gro-Lo Sumac plants between 24" and 30" in height are the only species proposed in this island. Other species previously proposed for this area have been removed from the plan. Cobblestone mix 3" to 6" in size is proposed to define the edge of this planting island. The Planning Board may wish to have the landscaping island elongated to the south, and widened out to the west to better break up the concrete and assist in defining the pedestrian path. In addition, the Planning Board may wish to discuss the proposed cobblestone around the planting bed which may spill over into the street and / or sidewalk area.**

A second landscaped area was also proposed along Brown Street, between the entry drive at the northwest corner and the exit drive for the vehicle detailing area on the northern property line. This area was prevously proposed to extend approximately 51' in length along Brown Street, and vary in width from 7' to 22'. The plans originally showed 8 columnar evergreen trees proposed in this island, along with tall grasses, perennials and low shrubs. **The applicant has now provided a landscape plan that shows 9 Dwarf Mugo Pines Juniper shrubs proposed at a height of 15" to 18" and 164 All Gold Japanese Forest Grass plants. The previously proposed evergreen trees, tall grasses and other perennials have been removed from this area. Cobblestone mix 3" to 6" in size is proposed to define the edge of this planting island as well. The Planning Board may wish to have the landscape island expanded to the west and the plantings increased in type, number and height to better break up the concrete and add greenery to the site. In addition, the Planning Board may wish to discuss the proposed cobblestone around the planting bed which may spill**

over into the street and / or sidewalk area.

Article 4, Section 4.20(G) requires at least one street tree for each 40 ft. of linear frontage. The applicant has roughly 185 linear feet of frontage along Brown Street, and roughly 105 linear feet of frontage along Woodward Avenue. Thus, the applicant is required to provide 5 street trees along Brown and 3 street trees along Woodward for a total of 8 street trees. The applicant has proposed 5 Ginkgo street trees on Brown, and no street trees on Woodward. However, the applicant submitted a waiver on July 16, 2019 to the Staff Arborist for the 3 required street trees along the Woodward frontage, which was approved.

4.0 Streetscape Elements – As described above, the applicant is proposing to plant 5 street trees along Brown. There are no other streetscape improvements proposed. The applicant previously revised the site plan to include a partially obstructed 5' sidewalk (utilizing ADA compliant tree grates as a portion of this width) along the south side of Brown Street as requested by the Planning Board. However, existing lighting poles provided obstructions within the 5' walking path. **The applicant has now shifted the pedestrian path along Brown Street so that the required 5' wide path is provided (including a portion of the ADA compliant tree grates). Existing cobra lighting is now proposed outside of the 5' wide pedestrian path on Brown, and the applicant has added exposed aggregate paving in the furnishing zone against the curb along Brown Street. However, no street trees or streetscape elements are proposed along Woodward Avenue and the sidewalk continues to be difficult to distinguish from the remainder of the paved area in the right-of-way along Woodward. The Planning Board may wish to require the applicant to install pedestrian scale street lighting, benches, waste receptacles, or bike racks to meet the Downtown streetscape requirements. The Planning Board may also wish to require a clear delineation between the pedestrian sidewalk and the paved area in the right-of-way, as well as some protective elements for pedestrians.**

5.0 **Parking, Loading and Circulation**

5.1 Parking – The proposed development and its commercial use is located in the Downtown Parking Assessment District; thus no parking is required on site for the commercial use. The existing site contains 17 off-street parking spaces in both the front and rear of the building. The proposed site redesign rearranges the parking with 8 traditional parking spaces to be located in the rear, and 6 quasi parking spaces in front at the proposed detailing spaces for a total of 14 off-street parking spaces. The applicant has stated in the application that all of the traditional parking spaces will be greater than or equal to the 180 sq. ft. standard.

5.2 Loading – The proposed site changes do not include an increase in square footage to the building, nor a change in use. No changes to loading are proposed.

5.3 Vehicular Circulation and Access – The existing main point of entry for vehicles seeking service is on Brown Street at the west end of the property. There exists an entrance/exit to a parking facility at the east end of the property at Woodward, and

one large exit on Woodward. The applicant is proposing to remove the eastern entry/exit on Brown and relocate it roughly 45 ft. west to be utilized as an emergency exit only from the detailing stations in front of the building. Access to the detail stations is proposed via a "U-turn" from the exit of the car wash facility.

At the Planning Board meeting on September 11, 2019, the Planning Board expressed concerns about the applicant's proposed use of the MDOT right-of-way from the Woodward curb back to and including the sidewalk. The applicant is proposing to have vehicles drive in this area, over the sidewalk and in the opposite direction of the southbound Woodward travel lanes that are adjacent to this area. The Planning Board advised the applicant to seek approval for this use from MDOT. The applicant previously advised that MDOT stated they are willing to allow this use, if the City of Birmingham is willing to indemnify the State against any and all liability resulting from such use. The City Attorney indicated that this condition was not acceptable.

On October 23, 2019, the Planning Board expressed the same concerns, and voted unanimously to deny the site plan based in large part on the proposed hazardous traffic circumstances, in addition to the fact that the applicant had not demonstrated an entitlement to utilize the counterflow into the Woodward Avenue right of way.

The applicant later provided a letter from their attorney dated June 25, 2020 in support of the use of the MDOT right-of-way for counterflow vehicular traffic. The City Attorney provided a letter in response dated July 8, 2020, which advised that the Planning Board whether or not the proposed site plan allows a safe usage of the property in light of the remaining rights of the public, and are in accordance with City Code. The City Attorney then refers to the City's traffic consultant's opinion letter dated July 7, 2020, that states that the continued use of the sidewalk along Woodward to facilitate vehicle movements is not recommended, and thus recommends that the Planning Board should not approve the site plan until this issue is corrected.

Since 2020, the applicant has met with City Planning, Engineering and Police staff, as well as the City Attorney and the City's Transportation Consultant to attempt to reconfigure the circulation patterns proposed for the site.

At this time, the applicant continues to seek approval for the counterflow vehicular movements across the sidewalk along Woodward. The City's traffic consultant has submitted an updated letter dated September 2, 2021 indicating ongoing safety concerns with the proposed site plan due to the proposed counterflow vehicular circulation across the Woodward sidewalk and right-of-way and the conflict points for vehicles and pedestrians.

5.4 Pedestrian Circulation and Access – The applicant is proposing a new entrance to the existing lobby located at the front of the building. No other changes are proposed. At the Planning Board meeting on July 24, 2019, the Planning Board requested that the plans be revised to clearly show the required 5' wide pedestrian walking path (sidewalk) along both Brown and Woodward, to ensure that that it was clear to

pedestrians where it was safe to walk. Board members specifically asked for improvements at the corner of Brown and Woodward where the entire area is concrete and it is unclear which portion is for vehicles and which is for pedestrians. The revised plans submitted for the September 11, 2019 Planning Board meeting show the 5' wide pedestrian path. In order to achieve an unobstructed 5' path along Brown, the applicant is proposing to install ADA compliant tree grates. **The latest revised plans show the required broom finish and aggregate finish along Brown Street, and have shifted the public sidewalk to eliminate obstructions to the required 5' pedestrian path along Brown. The plans show pavement striping along the edge of the sidewalk in the path of vehicles turning into the detailing area. However, pavement striping does not provide effective protection or separation for pedestrians. No additional landscaping or other barriers have been proposed. Further, the sidewalk along Woodward is required to be concrete, with a broom finish for the walking path and exposed aggregate in the furnishing zone abutting Woodward, with the Downtown standard joint pattern along both Woodward and Brown, including through the entry and exit drives. The applicant must provide additional details to clearly distinguish the sidewalk as required.**

6.0 Lighting

The applicant is not proposing any changes to the lighting on the site. The photometric plan submitted is from the existing site plan approval for reference.

7.0 Departmental Reports

7.1 Engineering Division – **Updated comments on the revised plans will be provided by September 9, 2021.** The Engineering Division previously provided the following comments:

1. **A survey and grading plan will be required showing the removal of a drive approach and the installation of a new drive approached. Due to the lack/limited right-of-way, grading may be a challenge;**
2. **There are several areas where new curbing is proposed. The above-mentioned grading plan shall also include the revised parking lot grading.**

In addition, the Engineering Division provided the following comments on September 9, 2019:

1. **The plan has proposed three evergreen trees as well as other landscaping in the right-of-way of Woodward Ave., just south of Brown St. The proposal would result in an unacceptable sight distance hazard for the multiple vehicles that need to exit the JAX car wash facility on a daily basis. The City's code reads that no landscaping obstructions are allowed on private property within a 25 ft. sight triangle extending from a corner when a property is located adjacent to the intersection of two public streets. Evergreen trees**

are never allowed in the right-of-way for this same reason, as they would serve to obstruct the view of drivers attempting to pull on to the public street. We are also confident that the proposal will not receive approval from the Michigan Dept. of Transportation, due to the same sight distance concerns.

2. **The plan has proposed the installation of five new trees in the narrow Brown St. right-of-way in front of the site. There have never been City trees in this area, due to the lack of public right-of-way. The proposal as shown is physically impossible to construct, and will not receive a permit from the Engineering Dept. as shown. Note that when the City's standard tree grates are installed, an additional six inches minimum of concrete must be installed between the street curb and the tree grate to provide concrete in which steel anchors that support the tree grate can be poured. Therefore, the center of the new tree would be 2.5 ft. south of the back of the curb, and it is surrounded by a 12 inch open circle for future tree growth. Even if the design uses the metal tree grate as a part of the walking surface, the City sidewalk would be only 4.7 ft. wide, in violation of City policy. In order to introduce City trees in this area, the applicant should consider providing an easement to the City for sidewalk purposes, thereby allowing reconstruction of the sidewalk in such a way that there is sufficient room both for pedestrians and trees. Another option, since there is no parking on this section of Brown St., would be to remove 2.5 ft. wide sections of concrete immediately behind the curb, to provide room for perennial plants and mulch.**
3. **While not in conflict with City code, the Engineering Dept. also does not recommend the installation of evergreen trees on private property to the west of the new Brown St. exit driveway. Assuming the driveway will be used frequently during business hours, the trees will serve as a sight distance conflict between the drivers using this exit, as the trees will obscure the view of both pedestrians and bicyclists that may be using the adjacent City sidewalk. Lower growing plants would be more appropriate.**

7.2 Department of Public Services – **The Department of Public Services has approved the waiver request not to plant street trees along the Woodward Avenue frontage. Updated comments on the revised plans will be provided by September 9, 2021.**

7.3 Fire Department – **The Fire Department has no concerns at this time but notes that the proposed new entry door will need egress compliant locking hardware, and handles. Twist, deadbolt locks are not permitted. The Fire Department has reviewed the revised plans and has no concerns.**

7.4 Police Department – The Police Department has no concerns at this time.

7.5 Building Division – **The Building Division will provide comments prior to the meeting on September 9, 2021.**

8.0 **Design Review**

As noted above, the applicant is making minor changes to the building on site, while focusing the majority of proposed changes on the site circulation. The proposed changes to the building include a new entry door to the existing lobby located along the Woodward frontage, and new signage. Site design changes include a new attendant booth, 3 new service canopies, and 6 new vehicle detail stations.

Lobby Entrance – The proposed lobby entrance will replace an existing large window. The door will be a Kawneer 250T Insulpour single clear glass and aluminum metal door with Trifab 451T framing system. The doorframe is proposed to match the building color theme. **At the Planning Board meeting in July, the board requested that the applicant provide a full interior floor plan to assist them in understanding the pedestrian circulation elements within the building and on site. The applicant has not yet provided a floor plan and is required to do so. The applicant has now provided a basic floor plan on sheet AS101.**

Detail Stations and Service Canopies – The 6 proposed detail stations along Brown Street will consist of 12 vacuum stanchions and a PVC pipe network running below grade, then up the side of the building to a disposal area within the building. The approximately 2 ft. stanchions are proposed to be blue ("Honor Blue") in color with blue tubing and yellow ("Daisy") detailing to match the Jax Kar Wash brand. The above-ground PVC vacuum tubing is proposed to be painted brown ("Quartersawn Oak") to blend with the existing brick as much as possible and grey ("Roycoft Pewter") to match the existing metal coping.

The 3 proposed service canopies in the rear of the building will consist of an "auto attendant" kiosk, canopy, and barrier gate arm. The applicant is proposing the service canopies to follow the same brand color scheme with blue canopy columns, yellow canopy, and grey kiosks.

Signage – The site currently contains one wall sign, one roof sign, and one pole sign for a total of three existing signs. The proposed signage design plan details one new wall sign, two new name letter signs, the **removal of the existing pole sign**, and no changes to the roof sign, for a total of four signs. The following table outlines the details of the proposed signage:

Sign Content	Sign Type	Location	Dimensions	Illumination
"Jax Kar Wash"	**Light Box** on Wall	East Elevation	**27.5 SF***	Reverse Halo Lit Sign Box
"Kar Wash"	Name Letter Sign	North Elevation	24.3 SF	Reverse Halo Lit Channel Letters
"Kar Wash"	Name Letter Sign	East Elevation	**32.9 SF***	Reverse Halo Lit Channel Letters
"Jax Kar Wash"	Roof Sign (Existing)	North Elevation	63 SF	None

***Dimensions and calculations shown on plans are not consistent**

The applicant has not provided any details on the proposed signage materials, lighting, the distance of projection from the building or mounting details, all of which are required to verify compliance with the Sign Ordinance. Based on the information provided, the logo sign on the east elevation would not be permitted as it appears to be a light box sign, which is prohibited. The logo sign also does not appear to have any dimensional letters as required. The applicant will be required to provide all signage details to demonstrate compliance with all requirements of the Sign Ordinance or obtain a variance from the Board of Zoning Appeals. No new signage details have been provided at this time. However, it appears the light box sign was reduced in size.

In addition to the building signage, the 3 proposed canopies near the attendant booth at the car wash entrance will contain signage as defined by Article 3, Section 3.02 of the Sign Ordinance. The applicant has indicated that the signs may read "Auto Attendant", but the content is not shown or confirmed on the plans, nor are the dimensions provided. **The applicant must submit the canopy signage for approval by the Planning Division prior to installation.** The revised plans submitted for the September 11, 2019 Planning Board meeting indicate that 10" high channel letters are proposed for each of the three canopies. One canopy will read "Fast Lane / No Cash", one will read "Unlimited Club Only" and one will read "Any Form of Payment". The plans state that the total signage area for all three canopy signs will be 17 sq.ft. in total. **However, detailed drawings with dimensions, mounting details etc. have not been provided. In addition, each payment kiosk under the three canopies will have a Jax Kar Wash logo decal. No dimensions have been provided for these signs. The applicant will be required to provide all signage details to demonstrate compliance with all requirements of the Sign Ordinance or obtain a variance from the Board of Zoning Appeals. No new signage details have been provided at this time.**

The Sign Ordinance requires that combined sign area be calculated based on the principal building frontage, which is defined as the width of the building on the side where the primary entrance to the business is located, which may or may not front a street. The Historic District Commission, Design Review Board or Planning Board may designate an alternate horizontal building width as the principal building frontage for signage purposes. The primary entrances are along the Woodward frontage (pedestrian) and along the rear of the building (vehicular). The applicant has requested and has designed signage using the Brown Street horizontal building width as their frontage, in which the applicant is permitted a combined sign area of 1.5 square feet per each linear foot of principal building frontage (135 linear feet). The applicant is proposing 147.7 square feet of building signage where 202.5 square feet is permitted.

However, as noted above, detailed drawings with dimensions, mounting details etc. have not been provided and the canopy and kiosk signage area has not been included in the calculation of total signage. Based on the 202.5 sq.ft. of signage permitted, it appears that the applicant will have less signage than the maximum permitted total. The applicant will be required to provide all signage details to demonstrate compliance with all requirements of the Sign Ordinance or obtain a variance from the Board of Zoning Appeals.

9.0 **Approval Criteria**

In accordance with Article 7, section 7.27 of the Zoning Ordinance, the proposed plans for development must meet the following conditions:

1) The location, size and height of the building, walls and fences shall be such that there is adequate landscaped open space so as to provide light, air and access to the persons occupying the structure.

2) The location, size and height of the building, walls and fences shall be such that there will be no interference with adequate light, air and access to adjacent lands and buildings.

3) The location, size and height of the building, walls and fences shall be such that they will not hinder the reasonable development of adjoining property and not diminish the value thereof.

4) The site plan, and its relation to streets, driveways and sidewalks, shall be such as to not interfere with or be hazardous to vehicular and pedestrian traffic.

5) The proposed development will be compatible with other uses and buildings in the neighborhood and will not be contrary to the spirit and purpose of this chapter.

6) The location, shape and size of required landscaped open space is such as to provide adequate open space for the benefit of the inhabitants of the building and the surrounding neighborhood.

10.0**Recommendation**

There continue to be many outstanding issues with regards to the proposed Final Site Plan despite this application coming before the Planning Board on nine separate dates. The Planning Division recommends that the Planning Board DENY the Final Site Plan and Design Review for 34745 Woodward – Jax Kar Wash for the following reasons:

1. **The proposed plan does not comply with the requirements of the Zoning Ordinance with regards to screening, streetscape or signage;**
2. **The proposed plan and its relation to streets, driveways and sidewalks interferes with and/or is hazardous to vehicular and /or pedestrian traffic, as determined by the City's traffic consultant, and thus does not meet the conditions for approval of a site plan as outlined in Article 7, section 7.27 of the Zoning Ordinance.**

11.0**Sample Motion Language**

The Planning Board DENIES the Final Site Plan and Design Review for 34745 Woodward – Jax Kar Wash for the following reasons:

1. **The proposed plan does not comply with the requirements of the Zoning Ordinance with regards to screening, streetscape or signage;**
2. **The proposed plan and its relation to streets, driveways and sidewalks interferes with and/or is hazardous to vehicular and /or pedestrian traffic, as determined by the City's traffic consultant, and thus does not meet the conditions for approval of a site plan as outlined in Article 7, section 7.27 of the Zoning Ordinance.**

OR

Based on a review of the site plan submitted, the Planning Board **POSTPONE** the Final Site Plan and Design Review for 34745 Woodward – Jax Kar Wash to allow for significant revisions to the proposed site plan, including but not limited to, the following:

1. Screening of the parking area and vacuum detailing area along Brown Street and Woodward and the parking area along Woodward in accordance with Section 4.54 of the Zoning Ordinance, or obtain a variance from the Board of Zoning Appeals;
2. Complying with the streetscape requirements for Downtown as outlined in the Zoning Ordinance and by resolution of the City Commission;
3. Revisions to the circulation patterns on site to eliminate the counterflow of traffic in the right-of-way and/or obtain approval of MDOT in writing granting permission for the use of the right-of-way along Woodward;
4. A clearly distinguished, safe and continuous 5' wide (minimum) protected pedestrian sidewalk along Woodward to reduce vehicular / pedestrian conflicts;
5. The provision of all signage details for the building, canopy and kiosk signage to demonstrate compliance with all requirements of the Sign Ordinance or obtain a variance from the Board of Zoning Appeals;
6. The applicant submit material samples to complete the design review; and
7. The applicant comply with the requests of all City departments.

Planning Board Minutes
July 24, 2019

G. Final Site Plan & Design Review

1. 34745 Woodward, Jax Kar Wash – Request for Final Site Plan and Design Review to add a covered detailing area and reconfigure access and circulation for the site.

City Planner Dupuis presented the item.

Brian Lawson, architect for the project, and Greg Roselli, site manager for Jax Kar Wash, walked the Planning Board through the plans.

Mr. Lawson noted that an accessible parking space was inappropriately represented as being being next to the detailing station, and confirmed the space would actually be located elsewhere on the site.

Mr. Roselli explained that the vacuuming will be moved to the north part of the site. The aim of this change is to reduce the site's traffic burden on Brown Street and to allow vehicles to be processed more expediently. Mr. Roselli estimated that customers seek exterior-only services at the site between sixty and seventy percent of the time. He confirmed that the vast majority of customers would be getting a car wash without detailing and exiting onto Woodward subsequently. If customers purchase detailing, attendants will be driving vehicles to the vacuums and vacuuming the vehicles as part of that service. Customers will not be driving their vehicles to the vacuums or accessing the vacuums on their own.

Mr. Koseck asked about efforts towards visual improvement of the site as part of these updates. Mr. Koseck said he was concerned the site will be less aesthetically pleasing than it currently is if the proposed changes are instituted. Acknowledging the aesthetic limitations of the type of work and the site, Mr. Koseck noted that the City even has requirements for gas station exteriors and this project should be given similar consideration.

Mr. Lawson replied that the site may install the requisite screen wall at the corner of Woodward and Brown, and that a landscape element could also be considered for that corner.

Mr. Williams suggested potentially planting trees at the corner of Woodward and Brown, which he stated the Board had also recommended as an option for the site during a previous review.

Mr. Jeffares observed that vegetation could be used for the screen wall, which would have the additional benefit of providing visual improvement of the site.

Planning Director Ecker confirmed that would be an acceptable option as long as the vegetation is evergreen.

Chairman Clein said he liked the tree proposed on the south side of the site and liked the removal of the parking along Brown. He emphasized that he wants to support Jax, understood the challenges of the site, and would like to see the business do well. Chairman Clein also stated:

- The attended vacuums will likely encroach on the pedestrian space along Woodward and that vehicles currently routinely drive over the public sidewalk as part of Jax operations.
- That if this were a new project, he would not vote to approve the plans.
- He loved the idea of using vegetation for a screen wall, but said it would not work as the plans are currently laid out.
- If the Board were to approve using vegetation for a screen wall that would have to be included clearly as part of the plans.

Mr. Williams said he was in favor of making the screen wall on the north side of the site out of vegetation. He said landscaping should also be added to the Woodward side of the site, stating that if the entirety of the business' Woodward frontage cannot be landscaped then at least the corner of Woodward and Brown should be. He emphasized that any efforts towards adding vegetation to the site would be an improvement.

Chairman Clein asked if all six detailing stations were necessary.

Mr. Lawson confirmed he had been told they were due to detailing volume.

Ms. Whipple-Boyce noted that four detailing stations could be nested along the north side of the building which would allow for a landscape screen wall. She stated that the landscaping outside of 525 E. Brown was beautifully done, and recommended the project aim to recreate something similar on its own corner. Ms. Whipple-Boyce explained that the visual effect of the proposed plans would be hard to endorse, and that making an adjustment to four detailing stations and adding more landscaping could resolve the issue.

Mr. Williams concurred with Ms. Whipple-Boyce. He said the Board seemed to agree that no more cement or brick walls should be added to the site.

Planning Director Ecker also noted the Board's emphasis on adding vegetation to the site's Woodward and Brown corner.

Mr. Lawson expressed enthusiasm for the idea. He asked if it would be possible for the evergreen landscaping to take the place of street trees.

Planning Director Ecker said the evergreen landscaping could not replace street trees, but could be done in addition.

Chairman Clein invited comment from the public.

Sam Volk, 736 Brookside, said he was an engineer and that the north side of the site seemed to have substantial issues. He said the proposed configuration of the vacuum stations would only allow vehicles to move in threes, which would increase the congestion of the site instead of decreasing it. He said vacuuming the vehicles at four stations along the building allows vehicles to leave individually once they were complete, instead of having to wait.

Ms. Whipple-Boyce stated that two different members of the Board had noted that issue.

Mr. Volk reiterated his concerns.

The Board concurred on giving the project a few weeks to consider or integrate the Board's comments, including the following:

- Defining the site will help the business, and will make the space more attractive.
- The Board must receive a floor plan for the site, a plan that lays out the vegetation screen wall, and a plan delineating the pedestrian traffic flow around the site.
- The traffic flow into and out of the vacuum stations should be reviewed in light of the concerns and feedback provided.
- Jax Kar Wash employees often use benches across Brown during their breaks, and it might be a good improvement if Jax also provided benches for its employees to use.

Motion by Mr. Boyle
Seconded by Mr. Jeffares to postpone the item regarding Jax Kar Wash until the Planning Board's next regular meeting on August 14, 2019.

Motion carried, 7-0.

VOICE VOTE
Yeas: Boyle, Jeffares, Williams, Whipple-Boyce, Clein, Koseck, Ramin
Nays: None

Planning Board Minutes
August 14, 2019

Motion by Mr. Williams
Seconded by Mr. Jeffares to postpone the Final Site Plan and Design Review for 34745 Woodward, Jax Kar Wash to September 11, 2019 and to suspend the Rules of Procedure to hear said review during a Planning Board study session.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Jeffares, Whipple-Boyce, Boyle, Clein, Emerine, Share
Nays: None

Planning Board Minutes
September 11, 2019

E. Old Business

1. Final Site Plan & Design Review - 34745 Woodward, Jax Kar Wash – Request for Final Site Plan and Design Review to add a covered detailing area and reconfigure access and circulation for the site (Postponed from August 14, 2019).

Planning Director Ecker presented the item.

Motion by Mr. Williams
Seconded by Mr. Share to receive and file the memorandum from City Engineer O'Meara dated September 9, 2019.

Motion carried, 7-0.

VOICE VOTE
Yeas: Williams, Share, Koseck, Jeffares, Whipple-Boyce, Clein, Emerine
Nays: None

Chairman Clein noted the plans submitted neither complied with ordinance nor sufficiently integrated the Board's August 14, 2019 feedback. He invited the applicant to comment briefly while stating he would vote against plan approval this evening due to the ordinance issues.

Jason Mylan, co-owner of Jax, said the submitted plans are the closest Jax can get to complying with the ordinance. He said there was not enough width on the Brown Street side of the lot to provide both a screening wall and an exit lane for vehicles. He said the plans represented a more functional, more aesthetically pleasing design to the lot. He also said he was open to providing whatever trees the City recommends for the lot.

Chairman Clein replied that the Board is not empowered to approve plans that do not comply with the ordinance. He said that if a business function does not meet ordinance it is either incumbent on the business to modify that function or to apply for a variance from the Board of Zoning Appeals.

In reply to a question from Chairman Clein, Mr. Mylan stated he had not spoken with MDOT about driving vehicles contraflow on Woodward Avenue in MDOT's right-of-way.

Noting that there was little to be gained from further discussion of these plans this evening, Chairman Clein recommended ending the discussion with advice to the applicant to comply with ordinance.

Mr. Koseck said he was concerned with the increase in on-site activity that these plans would represent. He said he did not anticipate that a screening wall could sufficiently obscure the increased activity, and that it may be appropriate for the applicant to consider expanding the footprint of the building in order to conduct more of the activity within the building and out of view of the street. He said that Mr. Mylan may be trying to do **too** much on the site.

In reply to Ms. Whipple-Boyce, Mr. Mylan said the attendants would never be in the driver's seat of the cars.

Ms. Whipple-Boyce said she was under the impression that attendants would be driving the cars on the lot.

Chairman Clein agreed with Ms. Whipple-Boyce, recalling the Board had been told attendants would primarily be driving the cars on the lot at the August 14, 2019 meeting. He noted other Board members looked to be recalling the same thing. He then emphasized his concerns about the applicant's proposal that the general public drive contraflow on Woodward Avenue in MDOT's right-of-way, and said the plans would not garner his vote until that was changed.

Mr. Mylan noted that the business currently drives vehicles contraflow on Woodward Avenue.

Chairman Clein said he was aware, noting that the proposed plans seek to have the general public driving contraflow on Woodward, as opposed to Jax employees. He then invited public comment.

In reply to Andrew Haigh, Planning Director Ecker indicated where the current curb cuts are allowing vehicles to enter and exit the lot.

Chairman Clein invited any further comments from the Board.

Mr. Williams stated that Jax is an important business in Birmingham, and so the matter should be postponed instead of denied. He recommended postponing the matter until the next regularly scheduled Board meeting that would include site plan reviews.

Motion by Mr. Williams
Seconded by Mr. Koseck to postpone consideration of 34745 Woodward, Jax Kar Wash to October 23, 2019.

Mr. Jeffares asked if that date would give the applicant enough time to get approval from MDOT for the Woodward right-of-way matter.

Chairman Clein replied that it was a month and a half, and that if it needed to be postponed further then that could be done. He explained it was best to postpone to a date certain to avoid having to re-notice the item while ensuring that the public knows when the item will next be discussed.

Mr. Share said he would support the motion if the Planning Department, Engineering Department, and applicant all agree to meet in order to discuss potential solutions to the issues raised at both this meeting and the August **14** ~~11~~, 2019 meeting.

Planning Director Ecker confirmed both departments would be available to meet with the applicant.

In reply to Mr. Mylan, Mr. Williams stated he would like to see compliance with the ordinance. He also said Mr. Mylan should contact MDOT to discuss the contraflow issue raised.

Chairman Clein said Mr. Mylan should meet with City Staff and make a concerted effort towards integrating their feedback.

Motion carried, 7-0.

VOICE VOTE
Yeas: Share, Koseck, Jeffares, Whipple-Boyce, Williams, Clein, Emerine
Nays: None

Planning Board Minutes
October 23, 2019

E. Old Business

1. 34745 Woodward, Jax Kar Wash – Request for Final Site Plan and Design Review to add a covered detailing area and reconfigure access and circulation for the site (Postponed from September 11, 2019).

Planning Director Ecker presented the item.

Mr. Jeffares said he was very familiar with the site both as a patron and because it is next to his workplace. He said that rather than reducing the queuing on Brown Street, the proposed plans would likely increase queuing on Brown because up to seven fewer vehicles could fit in Jax's lot while in line for the carwash.

Greg Roselli, site manager for Jax Kar Wash, explained that the issue with vacuuming cars in the rear of the lot is a time constraint. He said that once there are eight cars in the vacuum lanes, the line backs up to the curb by the booth which prevents other cars from being able to pass by. He said the plans would change the speed with which cars could be cleared from that area which would reduce the queuing on Brown.

Mr. Jeffares said he had never seen the area in the rear of the building congested, while conceding that Mr. Roselli was likely more aware of the site logistics than Mr. Jeffares.

Mr. Roselli said there would be more visible backups with winter's arrival.

Planning Director Ecker confirmed that:

- The Planning Department is still not in receipt of the signage calculations for all the additional proposed elements on the site.
- No floor plan for the site had been submitted.
- Both signage calculations and a floor plan are required for the Board to complete a final site plan and design review.

Mr. Roselli confirmed that the vacuuming of the cars would be done by Jax Kar Wash staff.

There was no public comment, and Chairman Clein returned the discussion to the Board.

Ms. Whipple-Boyce expressed dismay that the submitted site plans neither complied with the City's ordinances nor integrated the Board's previous feedback regarding the application. She said the Board gave specific feedback on a number of issues, none of which the applicant chose to resolve in the number of months since the previous meeting.

Chairman Clein noted that plans as submitted do not meet condition four from Article 7, section 7.27 of the Zoning Ordinance. In addition, Chairman Clein concurred with Ms. Whipple-Boyce's statement that the plans neither meet City ordinance nor previous Board recommendations regarding the application. He said that as a result of these issues he would not be prepared to move the plans forward.

Mr. Share concurred with both Ms. Whipple-Boyce and Chairman Clein.

Motion by Mr. Share
Seconded by Mr. Williams to deny the Final Site Plan and Design Review for 34745 Woodward – Jax Kar Wash – for the following reasons:

1. The proposed plan does not meet the requirements of the zoning ordinance in a number of ways as noted in both Planning Director Ecker's report and during previous meetings;
2. The proposed plan does not meet the condition four of Article 7, section 7.27 of the Zoning Ordinance being that the plans propose hazardous traffic circumstances; and,
3. At present, the applicant has not demonstrated an entitlement to utilize the counterflow into the Woodward Avenue right of way.

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Share, Williams, Whipple-Boyce, Emerine, Boyle, Clein, Jeffares
Nays: None

2. **34745 Woodward (JAX Car Wash)** – Request for Revised Final Site Plan & Design Review for site plan and design changes to Jax Car Wash.

Motion by Mr. Williams
Seconded by Mr. Share to formally accept for filing a letter from Fleis and Vandenbrink dated July 8, 2020 from Julie Kroll to Planning Director Ecker; a letter from Tim Currier, City Attorney, dated July 8, 2020; and a memorandum containing engineering comments dated July 8, 2020 from Assistant City Engineer Fletcher.

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Williams, Share, Koseck, Whipple-Boyce, Boyle, Clein, Jeffares
Nays: None

Planning Director Ecker reviewed the item. She explained that:

- MDOT would be willing to allow contraflow traffic in their right-of-way if the City indemnifies them for the practice.
- City Attorney Currier, in contrast, would like a letter from MDOT stating that they accept and approve of contraflow traffic in their right-of-way and that the City has no liability for the use.
- MDOT is the fee owner between the sidewalk and the curb on the east side.
- MDOT was likely not noticed as an adjacent property owner for the current review since there is no address associated with that property, and the Planning Department notices addresses within 300 feet of an application.

Chairman Clein stated that just because Jax has encouraged contraflow traffic for years does not mean that it is a wise or safe practice for the City to endorse. He continued that adding six detail stations to the front would likely increase the amount of contraflow traffic.

Mr. Share said:

- He had serious concerns about the accuracy of the memo submitted by Bradley Scobel, attorney for the project.
- The memo addressed a right-of-way that goes over a private property owner's property.
- In the classic situation, if a property owner owns property on a section line road, the state, by statute, has taken 32 feet on each side of the center line, or section line, for roadway purposes.
- The above is a different situation from the one that seems to exist in these plans, where the MDOT right-of-way does not permit MDOT to go over Jax's property; rather, MDOT is the property owner.
- The City would need City Attorney Currier to review the issue and comment since it bears on some of Mr. Scobel's points.
- If MDOT owns Woodward and part or all of the area that the contraflow is proposed to go into, then it would be in all parties' best interests to have a formal legal easement that delineates each party's rights.

- It would not be appropriate for the Board to approve site plans where one party proposes to build on another party's property without any formal indication that the latter has granted the former approval for that work.

Jason Milen, owner, Bryan Lawson, architect, Mr. Scobel, attorney, and Greg Roselli, general manager of the Birmingham Jax location were all present on behalf of the applicant.

Mr. Milen stated:

- The plans would double the existing on-site stacking available before vehicles go through the wash.
- In an effort to make the process safer, customers would exclusively drive their own vehicles at the Birmingham location. All interior vacuuming would be done by Jax employees.
- Any proposed landscaping could be modified to the City's satisfaction.
- His team only became aware of the content of the memos from the City Attorney, F&V, and City Engineering during the same day as the present meeting, and said they would be happy to address all issues raised.
- 65% of customers at the Birmingham location receive exterior-only services and those numbers would increase with the location's ability to process a larger number of exterior washes. Any customers that receive exterior-only services would not need to drive contraflow.
- His team has looked at every possible option for compliance with City ordinance. If vehicles turned out of the wash tunnel sooner then the site would not have as many spaces to do the vacuuming and interior cleaning. The conflicts with ordinance arise not from financial concerns, but from efforts to improve traffic flow, to improve safety, and to improve efficiency.
- Perhaps the safety of the sidewalk near the contraflow could be improved by painting that part of a sidewalk a different color, or by installing a different color brick, to better alert pedestrians.
- MDOT has never raised an issue with Jax over contraflow traffic in the right-of-way.

Mr. Jeffares said that even though removing one vacuum station would cause the site to lose one interior detailing space, it would be worthwhile to do so to allow the vehicles to turn sooner. He said this would eliminate the contraflow issue and make traffic on and around the site significantly safer.

Mr. Milen said that removing one interior detailing space would cause a loss of efficiency that could cause backups elsewhere on the site given current demand. Turning left out of the spot on the north side, before the sidewalk, would prevent them from being able to align the vehicles on the north side of the property. It would also require three-point turns which would likely be more dangerous than the wide-clearance turn that would otherwise occur.

In reply to Mr. Share, Mr. Lawson confirmed that the east property line as shown on the plans is correct.

Mr. Scobel stated that the portion of Jax's property that is encumbered by the right-of-way is not under the jurisdiction of MDOT. He said that while MDOT can prevent building on that right-of-way it could not control how it is used. He agreed with Mr. Share's supposition that if MDOT is

the fee owner of the property in question that it would change Mr. Scobel's analysis. He reiterated the fact that the Jax team only received City Attorney Currier's memo earlier on July 8, 2020, and said he was not yet sure on what legal research City Attorney Currier based his opinion. Jax would need permission from MDOT to landscape in the right-of-way. There would be an absence of governmental liability through the Governmental Liability Act regarding contraflow traffic in the right-of-way. In addition, if Jax has the ability to use the right-of-way for contraflow traffic in a way that MDOT cannot regulate, then MDOT can also not be held liable for contraflow traffic in the right-of-way.

In reply to Mr. Boyle, Planning Director Ecker confirmed that vegetation screening is not required, and masonry screening would be an option along Brown.

Mr. Boyle said masonry screening would be a preferable option.

Mr. Milen stated that the vacuum tubes could be run underground instead of going over the building.

In reply to Chairman Clein, Mr. Milen said that it is more efficient to vacuum after a wash, instead of before.

Chairman Clein explained that Jax's presentation largely asked the Board to put the efficiency of the business before the interests of the public in terms of both safety and adherence to ordinances. Chairman Clein said that the concerns raised by Board members were rooted in their obligation to protect the public interest.

Mr. Jeffares concurred with Chairman Clein.

Mr. Milen said that doing the vacuuming second is an effort to decrease pedestrian activity on-site, which would increase safety. He also reiterated that the team would be more than willing to do something to the sidewalk to signify that vehicles were exiting from the Jax site at that location.

Chairman Clein shared his surprise that no one on the Jax team could fully answer the questions about ownership and property rights in regards to the east side. He said that if the Board reviews the plans again in the future he would need the applicants to return with a survey and clarification of that information.

In reply to Mr. Koseck, Mr. Milen confirmed that any landscaping on the site would be maintained to the highest standards.

Mr. Williams said he would want to see a more detailed survey, more legal clarification regarding ownership, a more detailed response from City Attorney Currier in reply to the project's legal position, and more clarity regarding MDOT's legal position before any action could be taken on this item. He said the Board should not recommend that the City Commission provide indemnification vis-a-vis the contraflow traffic since he was relatively confident they would not be willing to do that. He stated that he agreed with Mr. Boyle that masonry screening would be more appropriate. He said that while the proposal still needed work, he thought it would help get traffic off Brown which would increase safety and traffic efficiency.

Mr. Share concurred with Mr. Williams regarding the further information required.

Mr. Koseck said he was reluctantly concerned that the plans were not the best they could be, and said the Jax team should look for more creative solutions that could increase safety and adherence to ordinance. He said:

- He was unsure why the main entrance would be 35 feet wide if it was one-way, and why the one-way exit would be 23.9 feet wide.
- The brown canopy is not ideal in terms of site aesthetics.
- The escape lane may not be necessary.
- He would want to see effort to increase the safety of pedestrians using the sidewalk along the Woodward edge of the property.

Chairman Clein said that the added queuing off Brown would be a positive improvement, and noted that the applicant added additional screening where it was requested by the Board. Chairman Clein continued that he still had some fundamental concerns about the plans. He said there were too many vacuums proposed for the site, and that the traffic flow proposed for the site overall seemed unlikely to work well. He said that while he appreciated the challenges of the site he was concerned about how the plan implementation would negatively impact both vehicular and pedestrian safety. He said he was supportive of the aims of the applicant and said he wished they could find another way to achieve their goals while increasing safety and adhering to ordinance.

Ms. Whipple-Boyce stated that she went back through previous minutes regarding the site and said she believed that this was the Board's fifth time discussing Jax. She said that if a sixth review were scheduled for the end of August she would like some way of knowing that the applicant would return with the necessary and acceptable changes to the plan. She said the Board has asked for essentially the same changes at each one of their five reviews of this item and that there has been relatively little progress made towards those changes on the part of the applicant.

Mr. Milen replied that they looked into the MDOT issue and increased screening. He said he believed it was four reviews, and that if the Board compared the current plans to the original plans they would see a significant difference.

Mr. Jeffares said that while the proposed plans improve the safety and efficiency of the site there were probably options that would make the site even safer. He agreed with Mr. Koseck that the brown vinyl tent is unsightly and said the Board often does not approve tents that are significantly more attractive than that. Mr. Jeffares said that while a car wash is not the optimal activation of the street that the City seeks in its planning, it is activation just the same and helps keep the City looking lively. He said he would be in favor of giving the applicant one more chance to return with plans that sufficiently address the Board's concerns. He said he saw that there had been a number of small improvements, but said he would need to see significant changes to the plans to consider approval come August. He said that five vacuum stations would be one of the changes the applicant should seriously consider.

Motion by Mr. Share
Seconded by Mr. Williams to postpone the Final Site Plan and Design Review for 34745 Woodward – Jax Kar Wash – until the regular Planning Board meeting of August 26, 2020.

Ms. Whipple-Boyce said she would not support the motion because she did not believe a sixth review of the project would yield the necessary changes anymore than the previous five reviews had. She stated that the Board had been very clear about the requisite changes from the start, and that only small steps had been taken in that direction by the Jax team.

Motion carried, 6-1.

ROLL CALL VOTE
Yeas: Share, Williams, Koseck, Boyle, Clein, Jeffares
Nays: Whipple-Boyce

Planning Board Minutes
August 26, 2020

E. Unfinished Business – Revised Final Site Plan & Design Review

1. 34745 Woodward (JAX Kar Wash) – Request for Revised Final Site Plan & Design Review for site plan and design changes to Jax Car Wash **(Postponed from July 8, 2020, Request to postpone to September 23, 2020)**.

Planning Director Ecker stated the September 23, 2020 agenda was already at capacity. She said the next meeting with availability would be October 28, 2020.

She explained the applicant requested the postponement because they only received a letter from MDOT regarding the right-of-way issue a week prior to the present meeting, and they wanted to ensure that the City Attorney and City staff would have sufficient time to review and respond to the MDOT letter.

Motion by Mr. Williams
Seconded by Mr. Jeffares to postpone the Final Site Plan and Design Review for 34745 Woodward (JAX Kar Wash) to October 28, 2020.

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Williams, Jeffares, Share, Whipple-Boyce, Boyle, Koseck, Clein
Nays: None

Planning Board Minutes
October 28, 2020

E. Unfinished Business

1. 34745 Woodward (JAX Car Wash) – Request for Revised Final Site Plan & Design Review for site plan and design changes to Jax Car Wash (Request to postpone to future meeting).

Chairman Clein recommended this item be postponed without a date certain. He said doing so would allow the applicant sufficient time to finish updating and submitting their documentation to the City.

Motion by Mr. Share
Seconded by Mr. Boyle to postpone the Revised Final Site Plan & Design Review for 34745 Woodward (JAX Car Wash) *without date.*

In reply to Mr. Williams, Chairman Clein explained that postponing without a date certain would allow the applicant to resubmit without a fee whenever their documentation is ready.

Mr. Koseck commented that the Board has been waiting on this application for several months, which he said makes it seem like its postponement is less a matter of some missing details and more a matter of whether the applicant is reconsidering larger aspects of the application.

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Share, Boyle, Williams, Clein, Jeffares, Whipple-Boyce, Koseck
Nays: None

Planning Board Minutes
June 23, 2021

2. 34745 Woodward Avenue – Jax Car Wash, Request for Final Site Plan & Design Review for circulation and layout changes to the existing car wash site. (Request by applicant to postpone to July 28, 2021)

After brief discussion, the Board agreed it would be most appropriate to postpone this item without a date certain given the number of previous postponements requested by the applicant.

Mr. Koseck noted that the site could still use improvements, and said he did not want the postponement to be seen as an endorsement of the site's current conditions.

Motion by Mr. Share
Seconded by Mr. Koseck to postpone the Final Site Plan and Design review for 34745 Woodward Avenue – Jax Car Wash indefinitely.

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Share, Koseck, Jeffares, Boyle, Williams, Whipple-Boyce, Clein
Nays: None

Zoning Compliance Summary Sheet
Final Site Plan Review
34745 Woodward – Jax Kar Wash

Existing Site: 1-Story Commercial Building – Jax Kar Wash

Zoning: B-2 (General Business) & D-4 (Downtown Overlay)

Land Use: Commercial

Existing Land Use and Zoning of Adjacent Properties:

	North	South	East	West
Existing Land Use	Commercial/ Office	Mixed Use	Commercial	Commercial/ Office
Existing Zoning District	B-4, Business - Residential	B-3, Office - Residential	O-2, Office/ Commercial	B-2, General Business
Overlay Zoning District	D-4	D-4	MU-5	D-3

Land Area:
Existing: 0.59 ac.
Proposed: 0.59 ac. (**no changes proposed**)

Dwelling Units:
Existing: 0
Proposed: 0

Minimum Lot Area/Unit:
Required: 1,000 sq. ft. (single story hotel or motel)
500 sq. ft. (two/three story hotel or motel)
1,280 sq. ft. (multiple family)
Proposed: 0 sq. ft. (**no units proposed**)

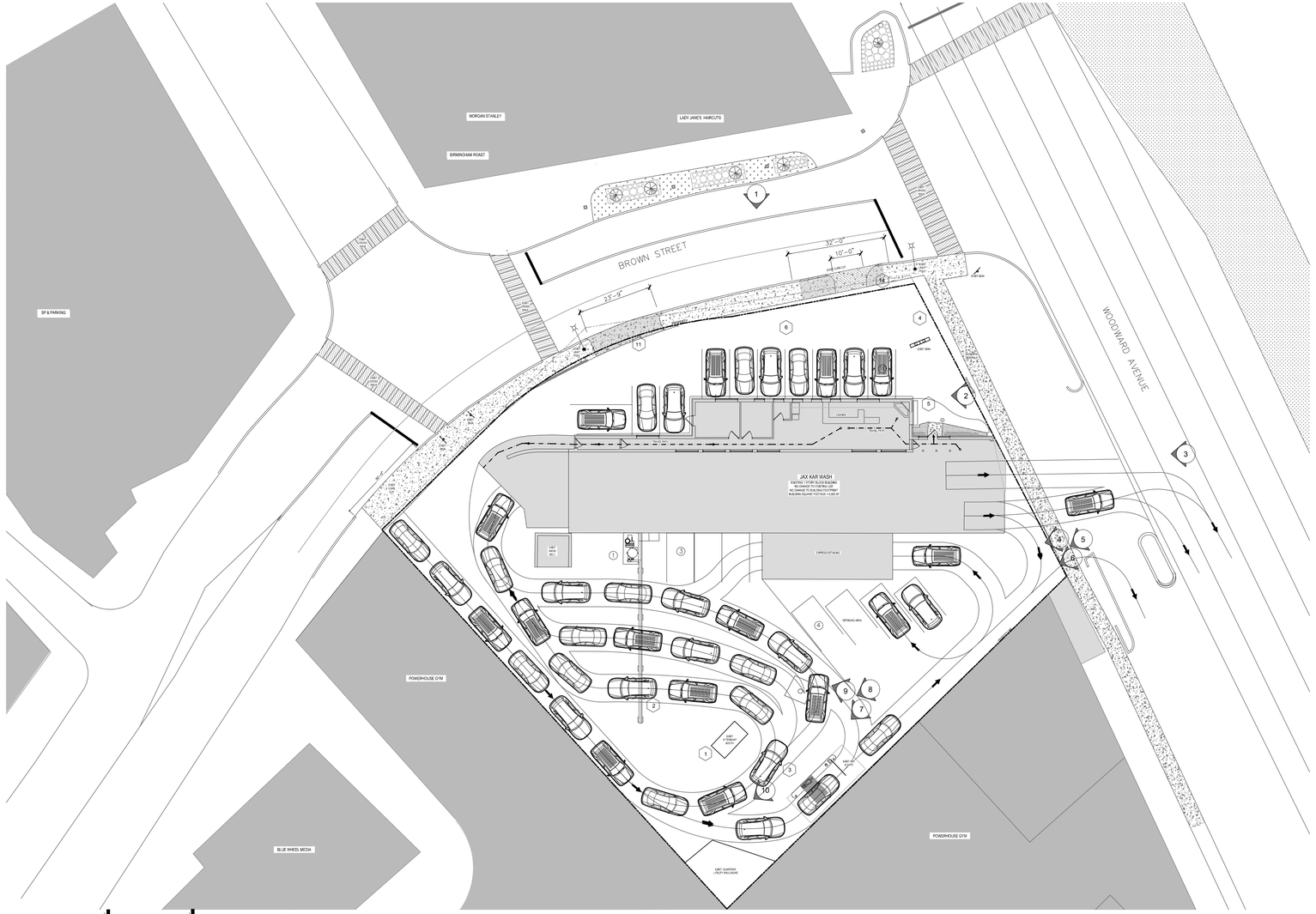
Min. Floor Area /Unit:
Required: 300 sq. ft. (single story hotel or motel)
600 sq. ft. (efficiency and one bedroom)
800 sq. ft. (two or more bedroom)
Proposed: 0 sq. ft. (**no units proposed**)

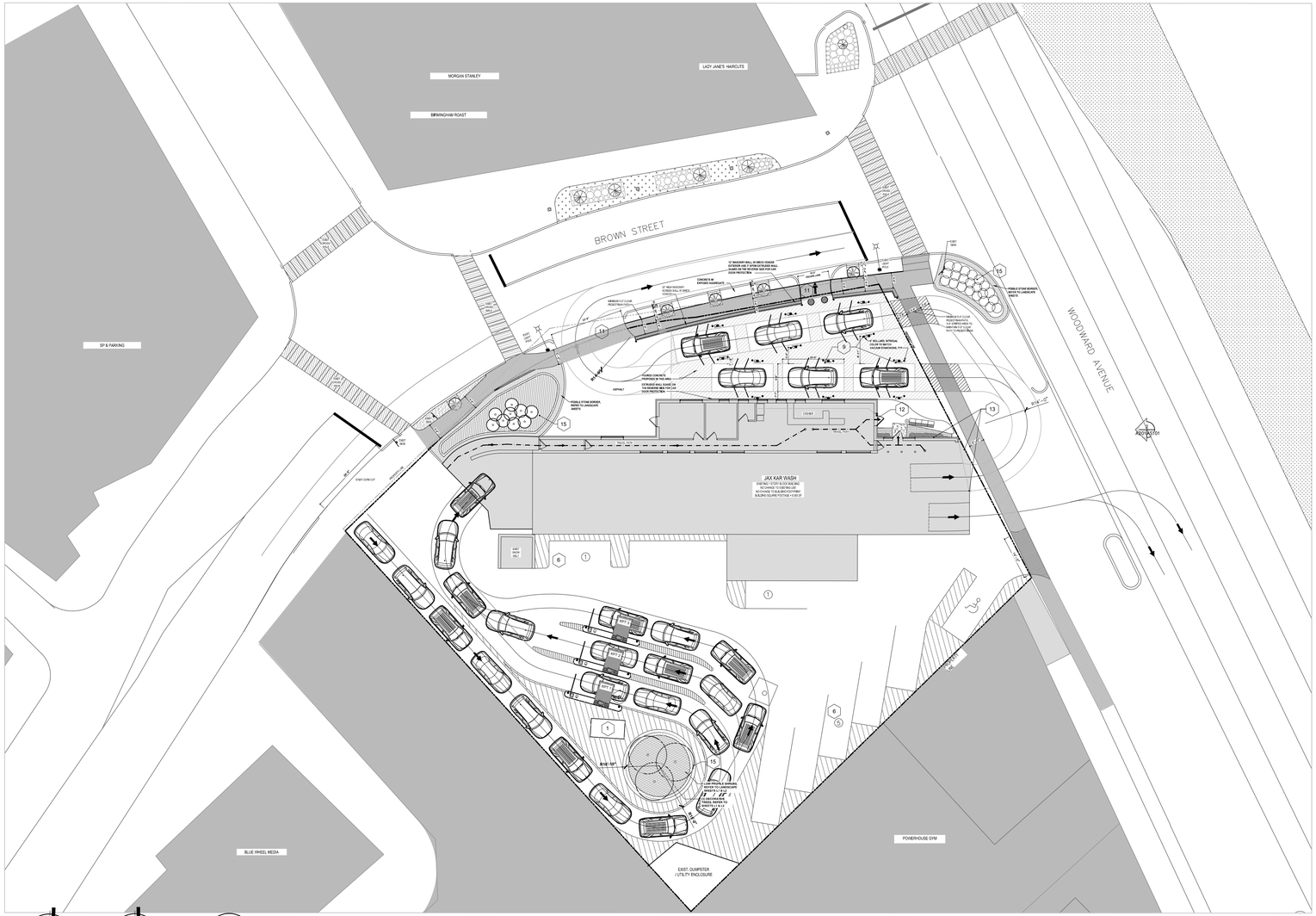
Max. Total Floor Area:	Required:	100%
	Proposed:	26% (**no changes proposed**)
Min. Open Space:	Required:	N/A
	Proposed:	N/A
Max. Lot Coverage:	Required:	N/A
	Proposed:	N/A
Front Setback:	Required:	0 ft.
	Proposed:	0 ft. (**no changes proposed**)
Side Setbacks	Required:	Not Required
	Proposed:	≈ 25 ft. & 5 ft. (**no changes proposed**)
Rear Setback:	Required:	Equal to adjacent, preexisting building
	Proposed:	≈ 37 ft. (**no changes proposed**)
Min. Front+Rear Setback	Required:	N/A
	Proposed:	N/A
Max. Bldg. Height:	Permitted:	80 ft., four or five stories
	Proposed:	≈ 16 ft. (**no changes proposed**)
Min. Eave Height:	Required:	20 ft.
	Proposed:	≈ 14 ft. (**no changes proposed**)
Floor-Ceiling Height:	Required:	N/A
	Proposed:	N/A
Front Entry:	Required:	N/A
	Proposed:	N/A
Absence of Bldg. Façade:	Required:	N/A
	Proposed:	N/A
Opening Width:	Required:	N/A
	Proposed:	N/A
Parking:	Required:	N/A (Parking Assessment District)
	Proposed:	**8 traditional spaces** **6 detailing spaces**
Min. Parking Space Size:	Required:	180 sq. ft.
	Proposed:	8 ≥ 180 sq. ft.

Parking in Frontage:	Required:	N/A
	Proposed:	N/A
Loading Area:	Required:	0
	Proposed:	0

Screening:

Parking:	Required:	Required along the front & side
	Proposed:	**32" brick screen wall along most of Brown Street, none on Woodward** (**The applicant must submit plans showing parking lot screening along the front and side of the parking facility, or obtain a variance from the Board of Zoning Appeals**)
Loading:	Required:	N/A
	Proposed:	N/A
Rooftop Mechanical:	Required:	Fully screened from public view
	Proposed:	**No changes proposed**
Elect. Transformer:	Required:	Fully screened from public view
	Proposed:	N/A (**no transformers existing or proposed**)
Dumpster:	Required:	Masonry screenwall with wood gates
	Proposed:	Wood fence screening (**no changes proposed**)


MORGAN STANLEY
LADY JANE'S HAIRCUTS
BIRMINGHAM ROAST
SP & PARKING
BROWN STREET
WOODWARD AVENUE
JAX KAR WASH
EXISTING 1 STORY BLOCK BUILDING
NO CHANGE TO BUILDING FOOTPRINT
BUILDING SQUARE FOOTAGE = 6,583 SF
EXPRESS DETAILING
DETAILING AREA
POWERHOUSE GYM
BLUE WHEEL MEDIA
LINE OF ROOF OVERHANG
LINE OF CANOPY ABOVE
LINE OF CANOPY
LINE OF ROOF OVERHANG
LIGHT POLE
LIGHT BOX
DIRECTIONAL SIGN
DIRECTIONAL SIGN
DIRECTIONAL SIGN



TRUE NORTH

PLAN NORTH

1 AS101

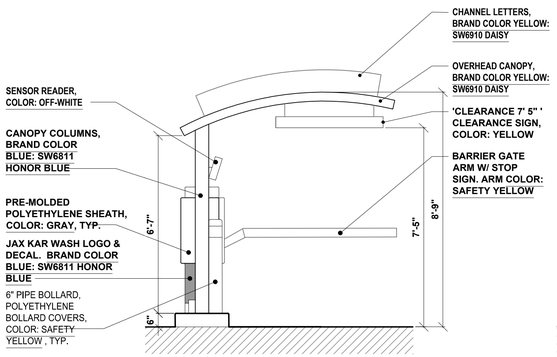
PROPOSED ARCHITECTURAL SITE PLAN

SCALE: 1"=20'-0"

0' 10' 20' 40' 80'

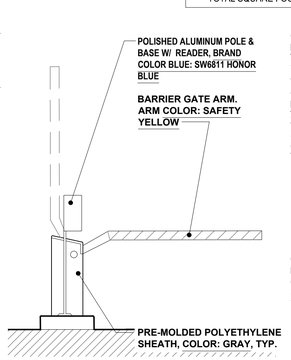
SIGN CALCULATIONS (ABOVE XPT CANOPIES, SOUTH OF BUILDING)	
10" CANOPY CHANNEL LETTERS READING 'CASH & DETAIL ONLY'	= 4.39 SF (PROPOSED)
+ 10" CANOPY CHANNEL LETTERS READING 'FASTLANE - NO CASH'	= 4.5 SF (PROPOSED)
+ 10" CANOPY CHANNEL LETTERS READING 'UNLIMITED CLUB ONLY'	= 5.07 SF (PROPOSED)
= TOTAL SQUARE FOOTAGE OF PROPOSED XPT CANOPY SIGNAGE =	13.96 SF (TOTAL)

SIGN CALCULATIONS (ALL SIGNS)	
(1.5) x LINEAL FEET OF PRIMARY FRONTAGE (BROWN ST.) =	134'-11 $\frac{1}{2}$" = **202.4 SF** (AVAILABLE)
TOTAL SQUARE FOOTAGE OF PROPOSED XPT CANOPY SIGNAGE =	17 SF (TOTAL)
+ BROWN ST. FACADE / NORTH ELEVATION =	87.3 SF (TOTAL)
+ WOODWARD AVE. FACADE / EAST ELEVATION =	42.3 SF (TOTAL)
= TOTAL SQUARE FOOTAGE OF SIGNAGE =	146.6 SF (TOTAL)



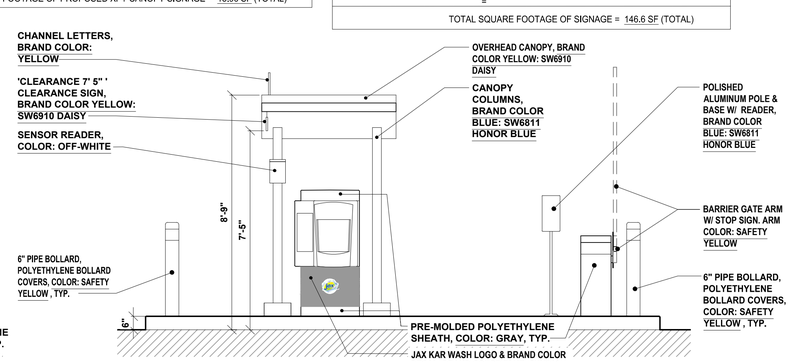
4 AS101 **XPT CURB & EQUIPMENT ELEV**

SCALE: 3/8"=1'-0"



3 AS101 **XPT CURB & EQUIPMENT ELEV**

SCALE: 3/8"=1'-0"



2 AS101 **XPT CURB & EQUIPMENT ELEV**

SCALE: 3/8"=1'-0"

1. **NAME & ADDRESS OF APPLICANT AND PROOF OF OWNERSHIP:**
   JASON MILEN
   JAX KAR WASH
   34745 WOODWARD AVENUE,
   BIRMINGHAM, MI 48009

2. **NAME OF DEVELOPMENT :**
   JAX KAR WASH

3. **ADDRESS OF SITE AND LEGAL DESCRIPTION OF THE REAL ESTATE:**
   34745 WOODWARD AVENUE

   LEGAL DESCRIPTION:
   LAND IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN DESCRIBED AS: THE EASTERLY PART OF LOT 4 MEASURING 12.4 FEET ON THE NORTH LINE AND 18.23 FEET ON THE SOUTH LINE, ALL OF LOTS 5 THROUGH 7 EXCEPT THAT PART TAKEN FOR ROAD PURPOSES, "WILLIAM HART SUBDIVISION," AS RECORDED IN LIBER 8 OF PLATS, PAGE 9 OF THE OAKLAND COUNTY RECORDS: BEING MORE PARTICULARLY DESCRIBED AS BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 7: THENCE S54d 24' 24"W 154.83 FEET; THENCE N33d 26' 35"W 166.95 FEET, TO A POINT ON THE SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE); THENCE ALONG SAID SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE), N54d 40'00"E 57.34 FEET AND 79.81 FEET ALONG THE ARC OF CURVE TO THE RIGHT RADIUS 129.52 FEET, CENTRAL ANGLE 35d 18' 14" CHORD BEAR N76d 48' 13"E 78.85 FEET AND N88d 34'36"E 60.31 FEET TO A POINT ON THE WESTERLY LINE OF WOODWARD AVENUE (FORMERLY HUNTER BOULEVARD); THENCE ALONG SAID LINE S18d 39' 22"E 107.43 FEET TO THE POINT OF BEGINNING.
4. **LEGEND AND NOTES, INCLUDING A GRAPHIC SCALE, NORTH POINT AND DATE:**
   REFER TO ELEVATIONS & SITE PLANS INCLUDING THE ABOVE ELEMENTS.
5. **A SEPARATE LOCATION MAP:**
   REFER TO LOCATION MAP, BELOW
6. **A LIST OF ALL REQUESTED ELEMENTS / CHANGES TO THE SITE PLAN.**
   LIST APPLIES TO SHEETS AS100 & AS101

(1) RELOCTION OF AN EXISTING ATTENDANT BOOTH, SOUTH SIDE OF BUILDING.

(2) DEMOLITION OF OVERHEAD VACUUM TUBES, STEEL STRUCTURE, VACUUMS, EQUIPMENT AND ASSOCIATED SIGNS, SOUTH SIDE OF BUILDING.

(3) DEMOLITION OF (1) EXISTING XPT AND CANOPY ON A RAISED CONCRETE ISLAND, SOUTH SIDE OF BUILDING, VERIFY CONDITION OF EQUIPMENT FOR POTENTIAL RE-USE.

(4) DEMOLITION OF EXISTING PYLON SIGN IN IT'S ENTIRETY.

(5) DEMOLITION OF A PORTION OF THE EAST WALL OF EXIST. LOBBY FOR PROPOSED NEW ENTRY.

(6) PROPOSED RELOCATION OF (10) PARKING SPACES FROM THE NORTH TO SOUTH SIDE OF BUILDING.

(7) PROPOSED RELOCATION OF DETAILING SPACES TO NORTH SIDE OF BUILDING.

(8) PROPOSING (3) XPTS AND CANOPIES ON 6" RAISED CONCRETE ISLANDS, SOUTH SIDE OF BUILDING.

(9) PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

(10) PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

(11) PROPOSED CURB CUTS FROM THE PROPERTY ONTO BROWN STREET.

(12) PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

(13) PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

(14) PARTIALLY CLOSING OF EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE. 10'-0" ESCAPE LANE FROM THE PROPERTY ONTO BROWN STREET.

(15) PROPOSED LANDSCAPE AREAS, REFER TO LANDSCAPE ARCHITECTURE SHEETS.

(16) PROPOSED 32" HIGH MASONRY SCREEN WALL WITH BRICK VENEER.

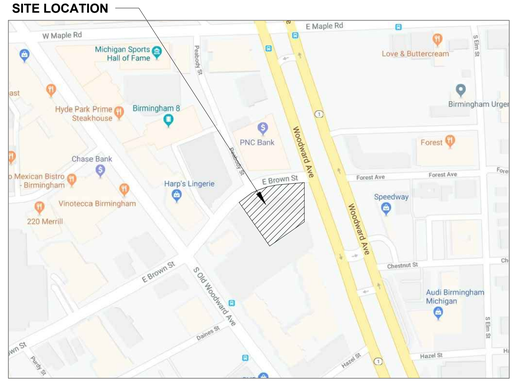
7. **ANY CHANGES REQUESTED MARKED IN COLOR:**
   ALL CHANGES IDENTIFIED AND KEYED TO THE LIST ABOVE.

8. **GENERAL DESCRIPTION, LOCATION AND TYPES OF STRUCTURES ON THE SITE:**
   EXISTING 1 STORY BLOCK BUILDING, 6,583 SQUARE FEET
   EXISTING WOOD PICKET UTILITY/ DUMPSTER ENCLOSURE, APPROX. 316 SQUARE FEET
   EXISTING SNOW MELT STRUCTURE, APPROX. 112 SQUARE FEET
   EXISTING ATTENDANT BOOTH, APPROX. 66 SQUARE FEET
9. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE, AND OTHER PERTINENT DEVELOPMENT FEATURES**
   EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
   SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200
10. **A LANDSCAPE PLAN SHOWING ALL EXISTING AND PROPOSED PLANTING AND SCREENING MATERIALS, INCLUDING THE NUMBER, SIZE AND TYPE OF PLANTINGS PROPOSED**
    LIMITED EXISTING LANDSCAPING, SHRUBS ON NORTH SIDE NEAR LOBBY ENTRY. PROPOSED LANDSCAPING AT 396 SF CIRCULAR BED. REFER TO LANDSCAPE DRAWINGS.
11. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

SYMBOL LEGEND

- IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201
- # IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
- # IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.
- # INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION



PLAN NORTH

LOCATION MAP

SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2021

STATE OF MICHIGAN — Howard Nudell — ARCHITECT — No. 1301022234 — REGISTERED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/ COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

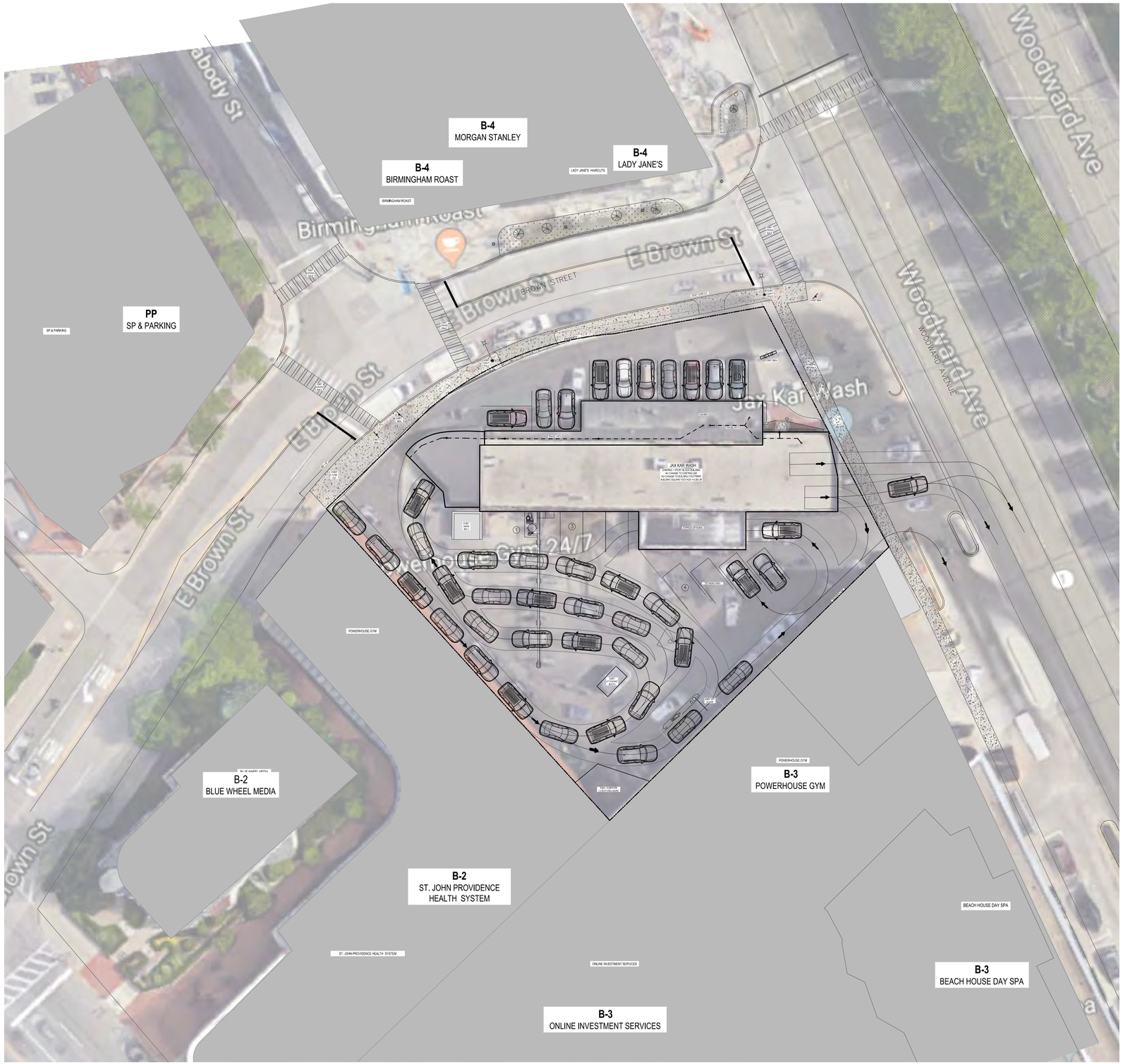
2020-012

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20
SPA - REVISIONS	7/09/20
CITY MEETINGS	10/6/20
SPA - FOURTH SUBMIT	5/05/21

sheet

AS101



TRUE NORTH

PLAN NORTH

1
AS102

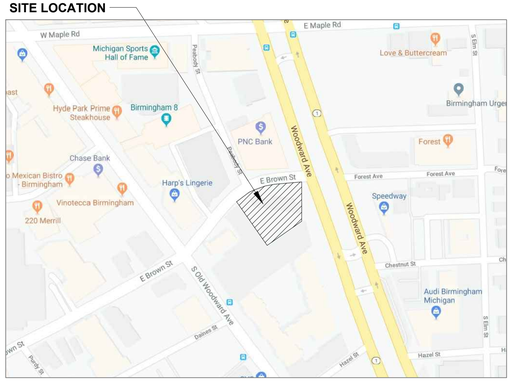
AERIAL PHOTGRAPH OF SITE & ADJACENT PROPERTIES

0' 10' 20' 40' 80'

SCALE: 1"=20'-0"

SYMBOL LEGEND	
IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201	IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.	INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION



PLAN NORTH

LOCATION MAP

SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2021

STATE OF MICHIGAN
BRANDON DUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/ COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

AERIAL ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

2020-012

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20
SPA - REVISIONS	7/09/20
CITY MEETINGS	10/6/20
SPA - FOURTH SUBMIT	5/05/21

sheet

AS102

1 A200

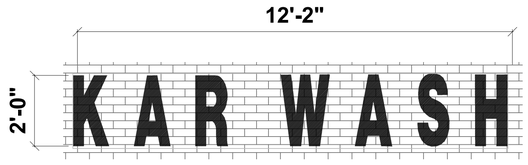
PROPOSED COLOR NORTH ELEVATION (BROWN ST.)

SCALE: 1/8"=1'-0"

2 A200

PROPOSED NORTH ELEVATION (BROWN ST.)

SCALE: 1/8"=1'-0"



3 A200

REVERSE HALO LIT CHANNEL LETTERS

SCALE: N.T.S.

SIGN CALCULATIONS (BROWN ST. FACADE / NORTH ELEVATION)
(1.0) x LINEAL FEET OF FRONTAGE = 134'-11 ½" = **134.94 SF** (AVAILABLE)
24" ROOFTOP LETTERS READING 'JAX KAR WASH' = **63 SF** (EXISTING)
+
24" REVERSE HALO LIT CHANNEL LETTERS READING 'KAR WASH' = **24.3 SF** (PROPOSED)
=
TOTAL SQUARE FOOTAGE OF EXISTING AND PROPOSED SIGNAGE = **87.3 SF** (TOTAL)

12. **COLOR ELEVATION DRAWINGS SHOWING THE PROPOSED DESIGN FOR EACH FACADE OF THE BUILDING:**
REFER TO ELEVATIONS ON SHEETS A200 & A201 FOR PROPOSED DESIGN CHANGES

13. **LIST OF ALL MATERIALS TO BE USED FOR THE BUILDING, MARKED ON THE ELEVATION DRAWIINGS:**
REFER TO ELEVATION TAGS AND ITEMS IN #15, REQUESTED DESIGN CHANGES

14. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE AND OTHER PERTINENT DEVELOPMENT FEATURES**
EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200 & A201

15. **A LIST OF ANY REQUESTED DESIGN CHANGES;**

9 PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

10 PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED TO MATCH EXISTING BRICK, PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

11 PROPOSED CURB CUT FROM THE PROPERTY ONTO BROWN STREET.

12 PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

13 PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

14 PARTIALLY CLOSING OF EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE. 10'-0" ESCAPE LANE FROM THE PROPERTY ONTO BROWN STREET.

15 PROPOSED LANDSCAPING - SCREENING. REFER TO LANDSCAPE PLAN FOR MORE INFORMATION

16 PROPOSED 32" HIGH BRICK SCREEN WALL

17. **ITEMIZED LIST OF ALL MATERIALS TO BE USED, INCLUDING EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER:**

LIMITED MATERIALS PROPOSED ON THE WOODWARD AVE. & BROWN ST. FACADES.
- SIGNAGE, BY OTHERS, REFER TO SHEET A200 & A201 FOR MORE INFORMATION.
- 8" PAINTED PVC TUBES (HORIZONTAL), COLOR TO MATCH EXISTING BRICK
- 6" PAINTED PVC TUBES (VERTICAL), COLOR TO MATCH EXISTING BRICK
- METAL STANCHION AND VACUUM HOSES
- XPT AND JAX EQUIPMENT ON 6" RAISED CONCRETE ISLAND, REFER TO SHEET AS101 FOR MORE

18. **LOCATION OF ALL EXTERIOR LIGHTING FIXTURES, EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER OF ALL FIXTURES AND A PHOTOMETRIC ANALYSIS OF ALL EXTERIOR LIGHTING FIXTURES SHOWING LIGHT LEVELS TO ALL PROPERTY LINES**

19. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2021

STATE OF MICHIGAN
BRANDON DELL NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED EXTERIOR ELEVATIONS

DO NOT SCALE DRAWINGS USE FIGURED DIMENSIONS ONLY

project number

2020-012

drawn	BDL
checked	BDL
approved	JHN

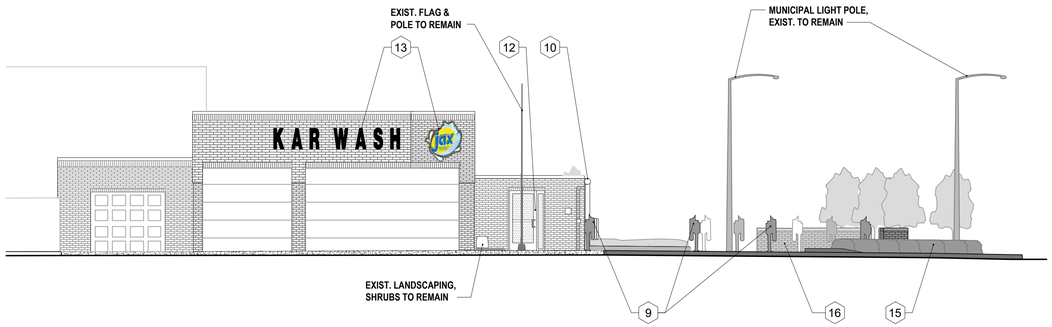
issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20
SPA - REVISIONS	7/09/20
CITY MEETINGS	10/6/20
SPA - FOURTH SUBMIT	5/05/21

sheet

A200

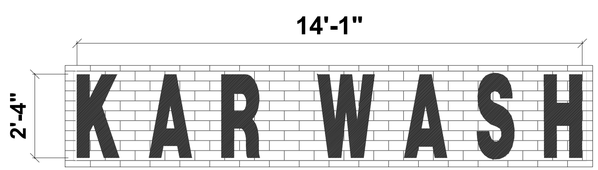
1 A201 **PROPOSED EAST ELEVATION (WOODWARD AVE.)**

SCALE: 1/8"=1'-0"



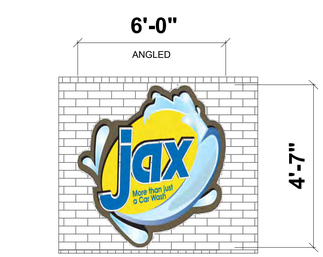
2 A201 **PROPOSED EAST ELEVATION (WOODWARD AVE.)**

SCALE: 1/8"=1'-0"



3 A201 **REVERSE HALO LIT CHANNEL LETTERS**

SCALE: N.T.S.



4 A201 **REVERSE HALO LIT SIGN BOX**

SCALE: N.T.S.

SIGN CALCULATIONS (WOODWARD AVE. FACADE / EAST ELEVATION)
(1.5) x LINEAL FEET OF FRONTAGE = (1.5) x 32.875 = **49.3 SF** (AVAILABLE)
24" REVERSE HALO LIT CHANNEL LETTERS READING 'KAR WASH' = **24.3 SF** (PROPOSED) + (1) REVERSE HALO LIT SIGN BOX = **18 SF** (PROPOSED) = TOTAL SQUARE FOOTAGE OF PROPOSED SIGNAGE = **42.3 SF** (TOTAL)

12. **COLOR ELEVATION DRAWINGS SHOWING THE PROPOSED DESIGN FOR EACH FACADE OF THE BUILDING:**
REFER TO ELEVATIONS ON SHEETS A200 & A201 FOR PROPOSED DESIGN CHANGES

13. **LIST OF ALL MATERIALS TO BE USED FOR THE BUILDING, MARKED ON THE ELEVATION DRAWIINGS:**
REFER TO ELEVATION TAGS AND ITEMS IN #15, REQUESTED DESIGN CHANGES

14. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE AND OTHER PERTINENT DEVELOPMENT FEATURES**
EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200 & A201

15. **A LIST OF ANY REQUESTED DESIGN CHANGES;**

9 PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

10 PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED TO MATCH EXISTING BRICK, PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

11 PROPOSED CURB CUT FROM THE PROPERTY ONTO BROWN STREET.

12 PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

13 PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

14 PARTIALLY CLOSING OF EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE. 10'-0" ESCAPE LANE FROM THE PROPERTY ONTO BROWN STREET.

15 PROPOSED LANDSCAPING - SCREENING. REFER TO LANDSCAPE PLAN FOR MORE INFORMATION.

16 PROPOSED 32" HIGH BRICK SCREEN WALL

17. **ITEMIZED LIST OF ALL MATERIALS TO BE USED, INCLUDING EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER:**

LIMITED MATERIALS PROPOSED ON THE WOODWARD AVE. & BROWN ST. FACADES.
- SIGNAGE, BY OTHERS, REFER TO SHEET A200 & A201 FOR MORE INFORMATION.
- 8" PAINTED PVC TUBES (HORIZONTAL), COLOR TO MATCH EXISTING BRICK
- 6" PAINTED PVC TUBES (VERTICAL), COLOR TO MATCH EXISTING BRICK
- METAL STANCHION AND VACUUM HOSES
- XPT AND JAX EQUIPMENT ON 6" RAISED CONCRETE ISLAND, REFER TO SHEET AS101 FOR MORE

18. **LOCATION OF ALL EXTERIOR LIGHTING FIXTURES, EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER OF ALL FIXTURES AND A PHOTOMETRIC ANALYSIS OF ALL EXTERIOR LIGHTING FIXTURES SHOWING LIGHT LEVELS TO ALL PROPERTY LINES**

19. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2021

STATE OF MICHIGAN
Brandie Nudell
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED EXTERIOR ELEVATIONS

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

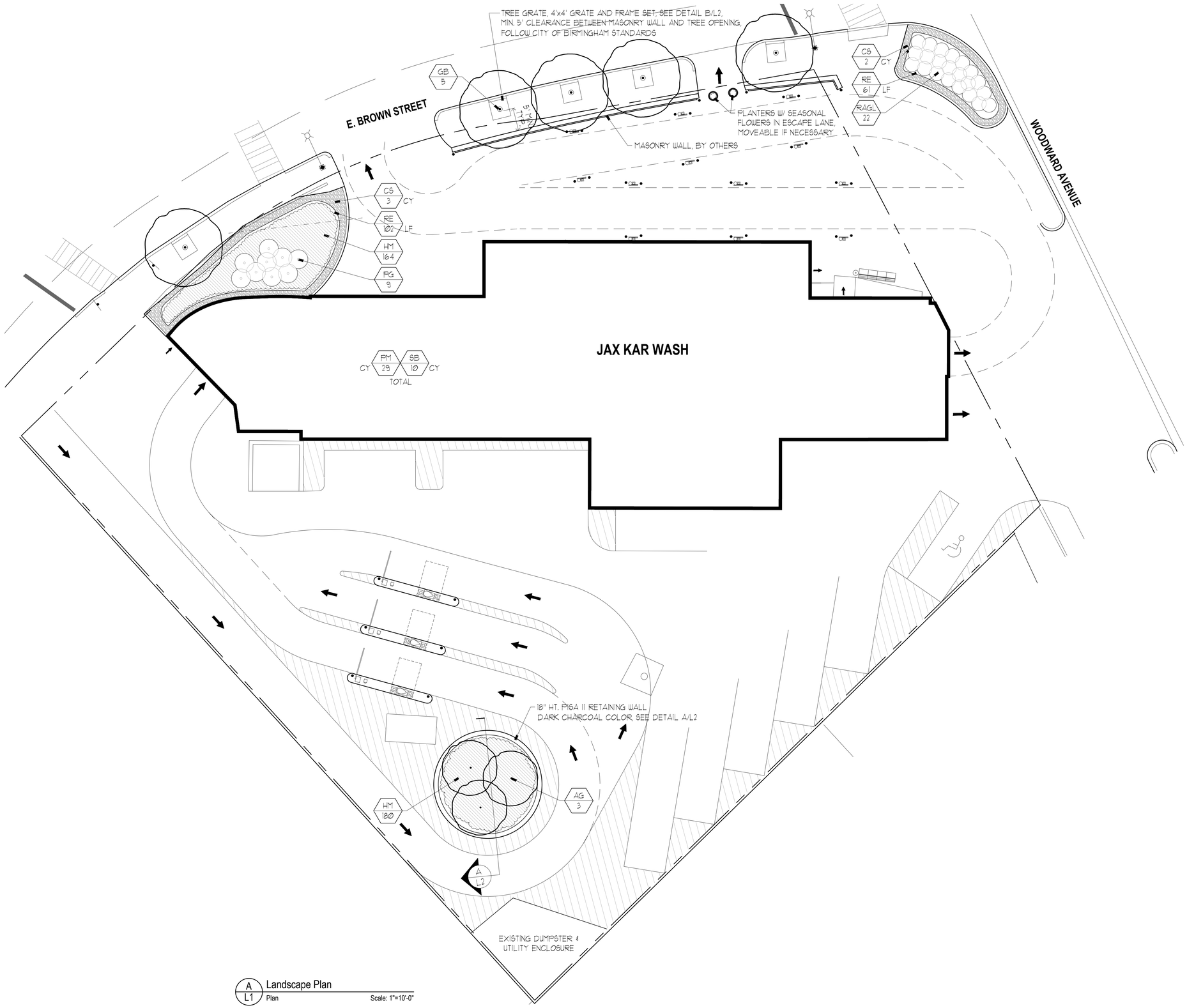
2020-012

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20
SPA - REVISIONS	7/09/20
CITY MEETINGS	10/6/20
SPA - FOURTH SUBMIT	5/05/21

sheet

A201



A/L1 Landscape Plan
Plan — Scale: 1"=10'-0"

LANDSCAPE
ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410
F 248 644 0819

www.mjdul.com

Jax Kar Wash &
Auto Detailing
34745 Woodward Ave
Birmingham, MI 48009

PROJECT

Landscape Development
Landscape Plan

SHEET TITLE

STATE OF MICHIGAN
MICHAEL J. DUL
LANDSCAPE ARCHITECT
NO. 781
REGISTERED LANDSCAPE ARCHITECT

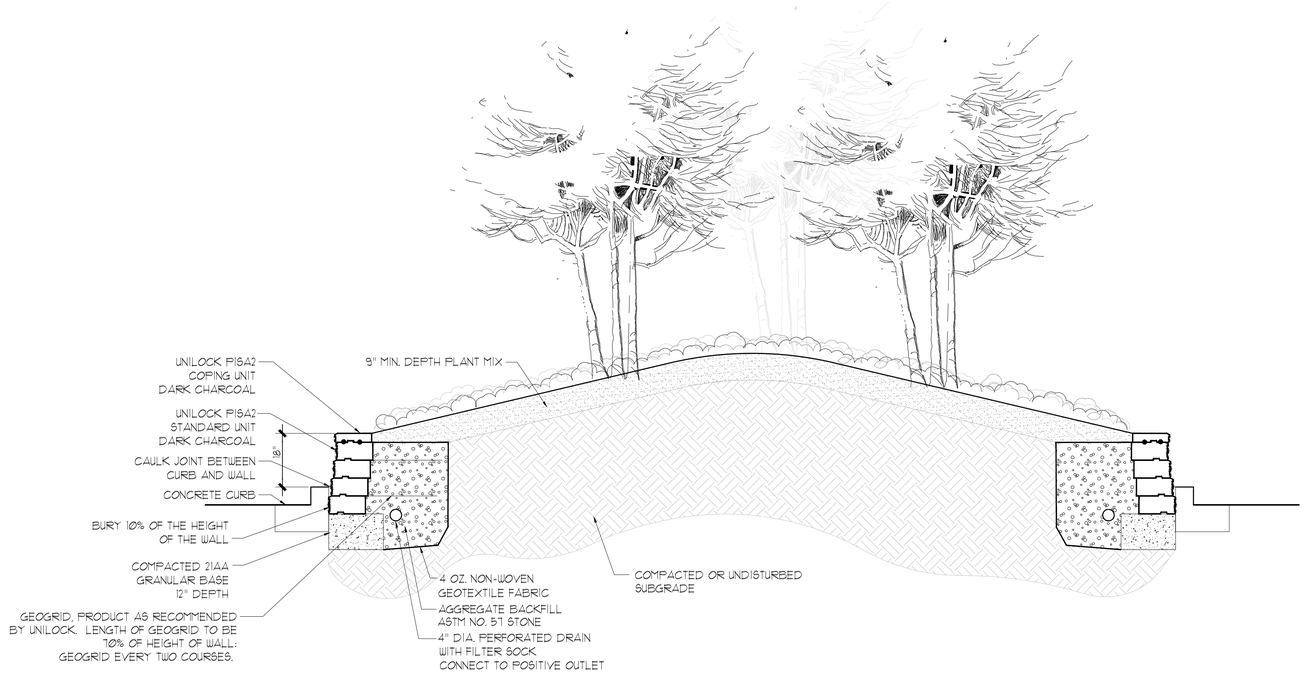
1"=10'-0"

NORTH

SCALE

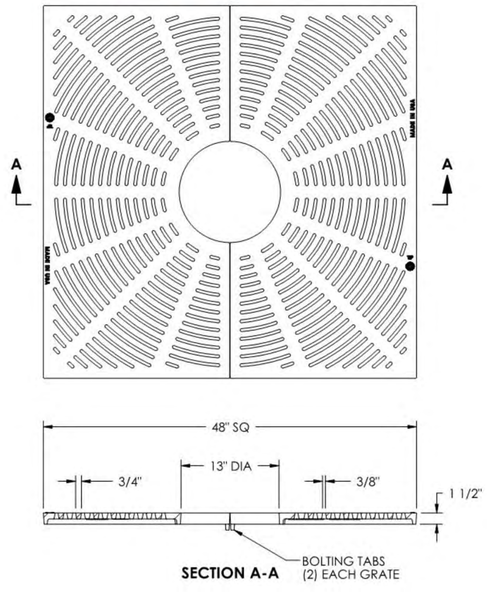
PROJECT NUMBER:	20163	
DRAWN:	M. Clark	
CHECKED:	M. Dul	
DATE:	October 6, 2020	
REVISIONS:	October 14, 2020	REVIEW
	May 5, 2021	SPA-4TH SUBMITTAL

L1



A L2 Planter Elevation
Plan Scale: 1/2"=1'-0"

V8954 Tree Grate Set

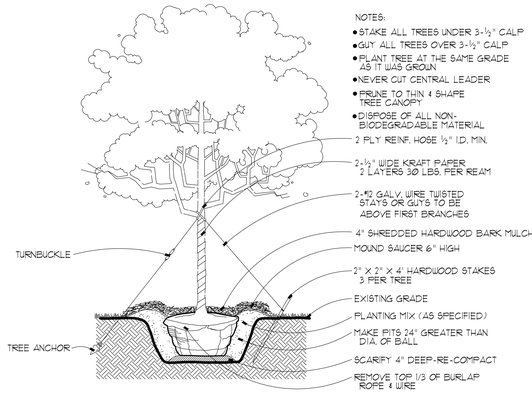


Tree Grate - EJ (East Jordan Iron Works) 48" x 48" square tree grate and frame set, ADA style with 13" tree opening diameter, Product No. 48954000

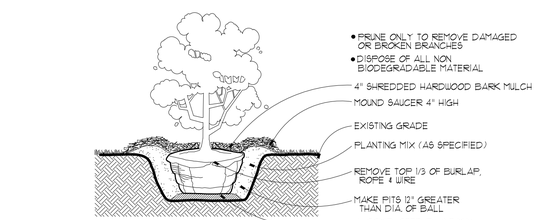
B L2 Tree Grate
Plan Not to Scale

LANDSCAPE DEVELOPMENT NOTES

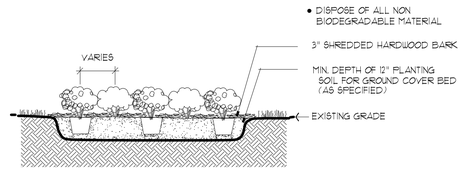
1.) ALL EXISTING AND/OR PROPOSED SITE UTILITIES SHALL BE FIELD LOCATED, FLAGGED, AND VERIFIED PRIOR TO ANY LANDSCAPE CONSTRUCTION.
2.) ALL SPECIFIED AND INSTALLED PLANT MATERIAL SHALL BE IN FULL AND STRICT ACCORDANCE WITH AMERICAN NURSERYMAN STANDARDS (LATEST EDITION) AND BE:
A.) NURSERY GROWN.
B.) STATE DEPARTMENT OF AGRICULTURE INSPECTED AND APPROVED.
C.) NO. 1 GRADE WITH STRAIGHT, UNSCARRED TRUNKS & WELL-DEVELOPED UNIFORM CROWNS ON TREES.
D.) WARRANTED FOR A MIN. 1 YEAR FROM DATE OF ACCEPTANCE
3.) SPECIFIED PLANTING SOIL MIXTURE FOR ALL SPECIFIED BEDS & PLANTS SHALL BE THREE (3) PARTS IMPORTED WELL-DRAINED, SCREENED ORGANIC TOPSOIL, TO ONE (1) PART IMPORTED CLEAN SAND, TO ONE (1) PART CANADIAN SPHAGNUM PEAT MOSS, TO ONE (1) PART NATURAL COMPOST (WEED-FREE)-COMPLETE WITH 1% NATURAL POULTRY MANURE. INSTALL 12" MINIMUM DEPTH IN ALL PERENNIAL, GROUNDCOVER, ANNUAL, AND SHRUB BEDS. ALL BEDS MUST BE EXCAVATED, REMOVE AND DISPOSE (OFF-SITE) EXISTING EARTH/SOIL TO ACCEPT PROPOSED PLANT MIXTURE.
4.) PROPOSED SHREDDED HARDWOOD BARK MULCH SHALL BE SEASONED FOR A MINIMUM 6 MONTHS, DARK BROWN IN COLOR, AND INSTALLED 4" DEEP UNDER ALL PROPOSED TREES (INCLUDED IN UNIT COST), 4" DEEP IN ALL SHRUB AND TREE BEDS, AND 3" DEEP IN ALL PERENNIAL AND GROUNDCOVER BEDS.
5.) THE LANDSCAPE CONTRACTOR SHALL KEEP THE STREET AND DRIVE CLEAN AND FREE OF DIRT AND DEBRIS AT ALL TIMES, AND SHALL THOROUGHLY SWEEP AND/OR WASH THE DRIVE AT THE END OF EACH WORK DAY.
6.) ALL DEAD AND UNACCEPTABLE PLANT MATERIALS SHALL BE REPLACED BY THE LANDSCAPE CONTRACTOR DURING THE WARRANTY PERIOD. THE WARRANTY PERIOD SHALL BE ONE (1) YEAR FROM THE ACCEPTANCE OF INSTALLATION ISSUED BY THE LANDSCAPE ARCHITECT.



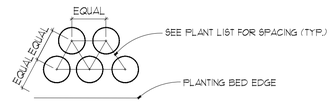
C L2 Deciduous Tree Planting
Detail No Scale



D L2 Shrub Planting
Section No Scale



E L2 Ground Cover / Perennial Planting
Section No Scale



F L2 Ground Cover / Perennial Planting
Plan No Scale

PLANT SCHEDULE

Sym.	Qty.	Botanical Name	Common Name	Size	Root	Comments
		Trees				
GB	5	*Ginkgo biloba*	Ginkgo	3"cal.	B&B	Full uniform heads, single stem, branch 6' ht.
AG	3	*Acer griseum*	Paperbark Maple	8-9' ht.	B&B	Multi-stem, specimen
		Shrubs				
PG	9	*Pinus mugo*	Dwarf Mugo Pine	15-18"	B&B	Space 42" o.c.
RAGL	22	*Rhus aromatica 'Gro-Low'*	Gro-Low Sumac	24-30"	3 gal.	Space 36" o.c.
		Perennials/Groundcovers				
HM	344	*Hakonechloa macra 'All Gold'*	All Gold Japanese Forest Grass	1 gal.	Can	Space 18" o.c.
		Materials				
CS	5 cy	3-6" cobblestone, min. 6" deep on 4 oz non-woven filter fabric, set on compacted aggregate setting bed				
SB	10 cy	Shredded hardwood bark mulch (seasoned, dark brown), 3" deep in perennial and groundcover beds, 4" depth in shrub/tree beds.				
PM	29 cy	Planting mix - 3 parts well drained screened imported topsoil, to 1 part clean sand, to 1 part Canadian sphagnum peat moss, to 1 part natural compost (weed-free), and 10% poultry manure, till in 3" deep in all specified landscape beds, excavate beds as needed				
RE	163 lf	J.D. Russell Steel Edging (BLACK), 1/8"-install per manufacturer's specifications.				

LANDSCAPE ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410
F 248 644 0819

www.mjdul.com

PROJECT

Jax Kar Wash &
Auto Detailing
34745 Woodward Ave
Birmingham, MI 48009

Landscape Development
Plant List & Details

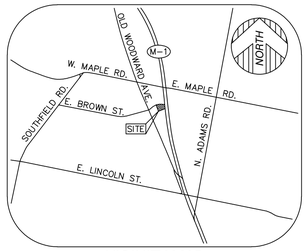
SHEET TITLE

See Details

SCALE

PROJECT NUMBER:	20163	
DRAWN:	M. Clark	
CHECKED:	M. Dul	
DATE:	October 6, 2020	
REVISIONS:	October 14, 2020	REVIEW
	May 5, 2021	SPA-4TH SUBMITTAL

L2



VICINITY MAP
(NOT TO SCALE)

PARKING

HANDICAP PARKING = 0 STALLS
STANDARD PARKING = 12 STALLS

PARCEL AREA

25,778± SQUARE FEET = 0.592± ACRES

BASIS OF BEARING

NORTH 18°50'31" WEST, BEING THE WESTERLY RIGHT OF WAY LINE OF WOODWARD AVENUE, AS DESCRIBED.

BENCHMARKS

CITY OF BIRMINGHAM REFERENCE BENCHMARK #1
SOUTHWEST CORNER OF THE INTERSECTION OF PIERCE STREET AND MARTIN STREET, WITH G.I.S. COORDINATES OF NORTHING=383240.263 AND EASTING=1343664.196. (NOT DEPICTED ON SURVEY)
ELEVATION = 781.53' (BIRMINGHAM CITY DATUM)

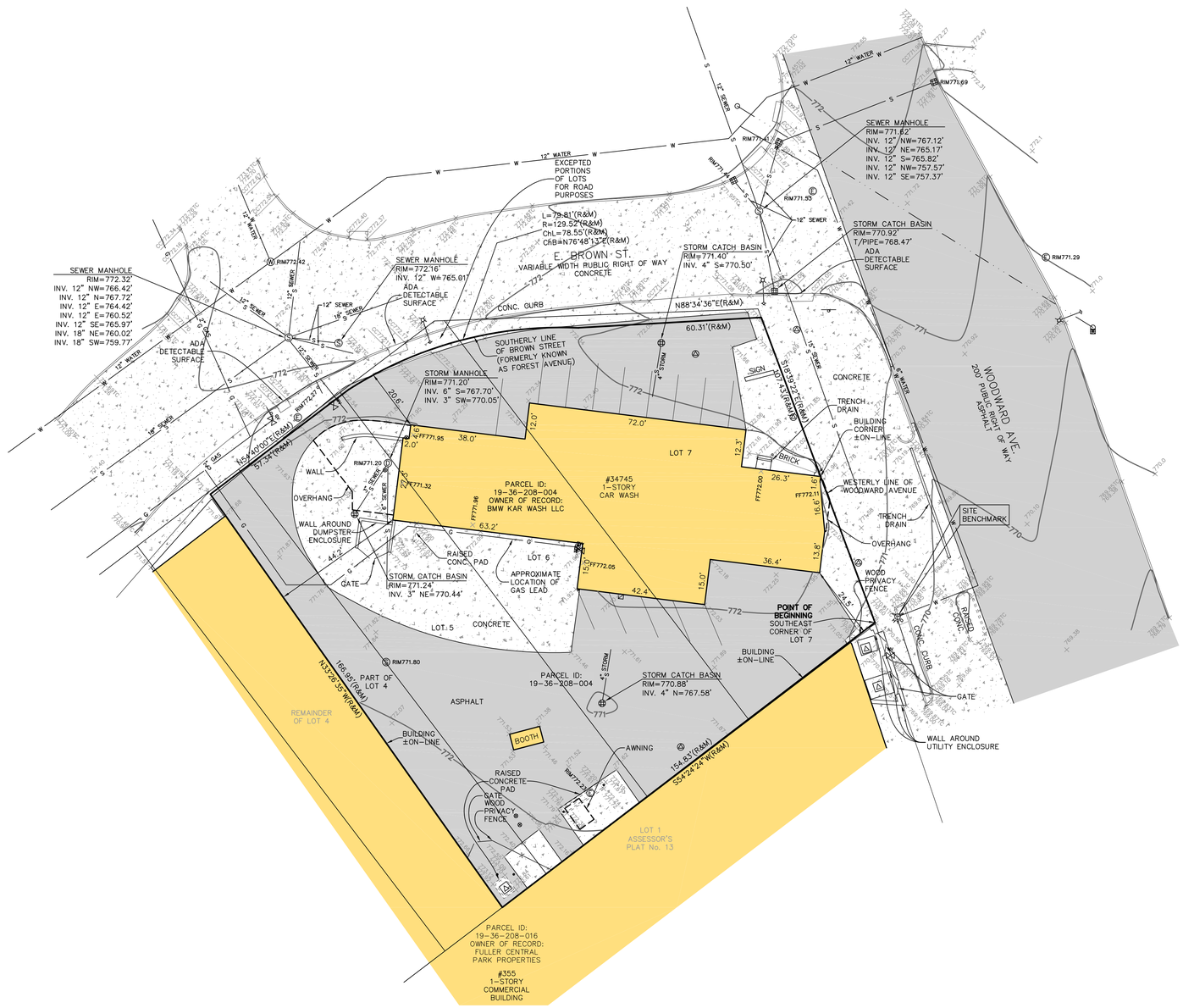
SITE BENCHMARK
NORTHWEST BOLT ON TOP FLANGE OF FIRE HYDRANT, LOCATED APPROXIMATELY 10'± EAST OF THE SOUTHEAST CORNER OF SUBJECT PROPERTY.
ELEVATION = 771.67' (BIRMINGHAM CITY DATUM)

SURVEYOR'S NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.

LEGEND

●	SET 1/2" REBAR WITH CAP P.S. 47976
(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
×0.00	GROUND ELEVATION
	TRANSFORMER
	UTILITY POLE
	GAS METER
	GAS VALVE
	CABLE TV BOX
	CLEANOUT
	SEWER MANHOLE
	ROUND CATCH BASIN
	SQUARE CATCH BASIN
	STORM DRAIN MANHOLE
	FIRE HYDRANT
	WATER GATE MANHOLE
	WATER VALVE
	MONITOR WELL
•	BOLLARD
◦	FLAGPOLE
	SINGLE POST SIGN
	PARCEL BOUNDARY LINE
	PLATTED LOT LINE
	ADJOINER PARCEL LINE
	RIGHT-OF-WAY
	BUILDING
	BUILDING OVERHANG
	CONCRETE CURB
	RAISED CONCRETE
	PARKING
	EDGE OF CONCRETE (CONC.)
	EDGE OF ASPHALT (ASPH.)
	EDGE OF BRICK
-X-	FENCE (AS NOTED)
	WALL (AS NOTED)
	OVERHEAD UTILITY LINE
G	GAS LINE
S	SEWER LINE
W	WATER LINE
	MINOR CONTOUR LINE
	MAJOR CONTOUR LINE
	BUILDING AREA
	ASPHALT
	CONCRETE



NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

PROPERTY DESCRIPTION

LAND SITUATED IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN, DESCRIBED AS:

THE EASTERLY PART OF LOT(S) 4 MEASURING 12.4 FEET ON THE NORTH LINE AND 18.23 FEET ON THE SOUTH LINE, ALL OF LOTS 5 THRU 7 EXCEPT THAT PART TAKEN FOR ROAD PURPOSES OF WILLIAM HART SUBDIVISION VILLAGE (NOW CITY) OF BIRMINGHAM ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 8 OF PLATS, PAGE 9 OF OAKLAND COUNTY RECORDS; BEING MORE PARTICULARLY DESCRIBED AS BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 7; THENCE SOUTH 54 DEGREES 24 MINUTES 24 SECONDS WEST 154.83 FEET; THENCE NORTH 33 DEGREES 26 MINUTES 35 SECONDS WEST 186.85 FEET, TO A POINT ON THE SOUTHERLY LINE OF FOREST AVENUE; THENCE ALONG SAID SOUTHERLY LINE OF FOREST AVE. NORTH 54 DEGREES 40 MINUTES 00 SECOND EAST 57.34 FEET, AND 79.81 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, RADIUS 129.52 FEET, CENTRAL ANGLE 35 DEGREES 18 MINUTES 14 SECONDS, CHORD BEAR NORTH 76 DEGREES 48 MINUTES 13 SECONDS EAST 78.55 FEET, AND NORTH 88 DEGREES 34 MINUTES 36 SECONDS EAST 60.31 FEET TO A POINT ON THE WESTERLY LINE OF HUNTER BLVD (NOW KNOWN AS WOODWARD AVENUE), THENCE ALONG SAID LINE SOUTH 18 DEGREES 39 MINUTES 22 SECONDS EAST 107.43 FEET TO THE POINT OF BEGINNING.

TITLE REPORT NOTE

ONLY THOSE EXCEPTIONS CONTAINED WITHIN FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT No. 895046, DATED JUNE 26, 2020, AND RELISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

9. UNDERGROUND EASEMENT IN FAVOR OF THE DETROIT EDISON COMPANY AND MICHIGAN BELL TELEPHONE COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 9412, PAGE 613. (DOCUMENT REFERS TO AN "APPENDIX A". SAID DOCUMENT WAS NOT FURNISHED BY CLIENT AT TIME OF SURVEY)

SURVEYOR'S CERTIFICATION

TO BMW KAR WASH LLC, A MICHIGAN LIMITED LIABILITY COMPANY; BANK ONE, MICHIGAN, ITS SUCCESSOR'S AND/OR ASSIGNS; FIDELITY TITLE COMPANY; AND STEWART TITLE GUARANTY COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDED ITEMS 2, 4, 7A, 8, AND 9 OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON JULY 28, 2020.

DATE OF PLAT OR MAP: JULY 28, 2020

ANTHONY T. SYCKO, JR., P.S.
PROFESSIONAL SURVEYOR
MICHIGAN LICENSE NO. 47976
22556 GRATIOT AVE., EASTPOINTE, MI 48021
TSycko@kemtec-survey.com

KEM-TEC
PROFESSIONAL ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
A GROUP OF COMPANIES
Eastpointe (800) 295.7222
Ann Arbor (734) 994.0888
Detroit (313) 758.0677
Grand Blanc (888) 694.0001
www.kemtecgroupofcompanies.com

ALTA / NSPS LAND TITLE SURVEY

PREPARED FOR: JAX CAR WASH
34745 WOODWARD AVE. BIRMINGHAM, MICHIGAN,
PART OF SECTION 36,
TOWN 2 NORTH, RANGE 10 EAST

REVISION	DATE	BY	DESCRIPTION
1	08-19-20	JV	RECEIVED UPDATED TITLE WORK

DRAWN BY: JDM
CHECKED BY: ATS
DATE: JULY 28, 2020
PROJECT NO. 19-02583
SCALE 1" = 20'
07/28/20
07/28/20

1

1 OF 1 SHEETS

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

September 2, 2021

VIA EMAIL ndupuis@bhamgov.org

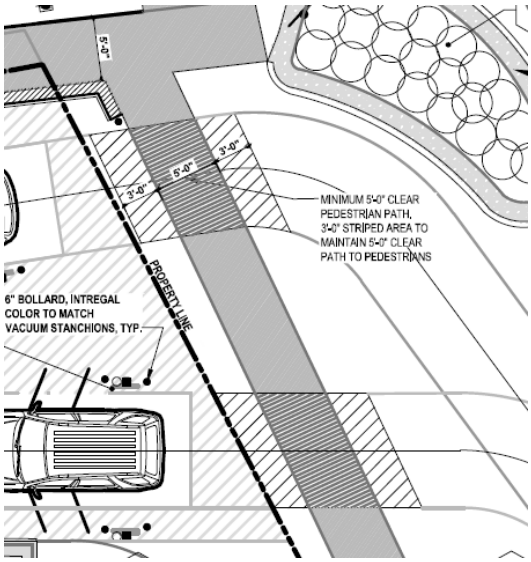
Mr. Nicholas Dupuis
Planning Department
City of Birmingham
151 Martin Street, P.O. Box 3001
Birmingham, MI 48012

RE: Jax Kar Wash
34745 Woodward Ave. Birmingham, MI
Traffic Analysis Review

Dear Mr. Dupuis:

Fleis & VandenBrink (F&V) staff have completed our review of the proposed Jax Kar Wash (34745 Woodward Ave.) traffic study. Spaulding DeDecker prepared an updated traffic study and site visit summary both dated July 13, 2021 and received by F&V on August 31, 2021. F&V has previously reviewed this project and provided comments on July 8, 2020 and May 2, 2021. Based on the review of the additional information provided on August 31, 2021, we have the following comments:

1. The applicant will be reducing the on-site queueing from 26 (regular wash) to 23 spaces to accommodate the new automatic pay stations. The limiting factor for the site will be continue to be the capacity of the car wash, which based on the data provided can accommodate 71 vehicles per hour. Therefore, during surge days it is expected that the queue for the site will extend beyond the available queue length, as is currently experienced. Additionally, with the loss of three (3) queue spaces, queueing is expected to extend further into Brown Steet.
2. The proposed layout shows the egress vehicles utilizing the area north of the site to access the vacuums. This has not changed from previous iterations of the site plan. However, they are showing pedestrian path delineation withing the vehicle paths for vacuums. The concern with this delineation is that it is self-monitoring and during peak times it is expected that the queues for this area will extend onto the sidewalk.
3. The MDOT Oakland TSC indicated in their review of this site access (via email 10/8/2019) there is a concern with the site utilizing the sidewalk adjacent to Woodward Ave. We agree with MDOT and the continued use of the sidewalk in this area to facilitate vehicle movements is not recommended.



27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

Summary

- The car wash queueing impacts will be similar to existing conditions. Additional queueing on Brown Street is expected due to the loss of three (3) queueing spaces on site.
- The egress movement of vehicles should be designed to reduce pedestrian vehicle conflicts, including the use of the sidewalk to facilitate vehicle queuing.

We hope that this report addresses the City's needs regarding this project. If you have any questions, please do not hesitate to contact us at your convenience.

Sincerely,

FLEIS & VANDENBRINK ENGINEERING, INC.

Julie M. Kroll

Julie M. Kroll, PE, PTOE
Traffic Engineering Services Manager

SPALDING DEDECKER
Engineering & Surveying Excellence since 1954

MEMORANDUM

DATE: 7/13/2021

TO: Mr. Jason Milen

ORGANIZATION NAME: Jax Kar Wash

FROM: Ariana Jeske, P.E., PTOE

RE: Traffic Study for Jax Kar Wash City Concerns & Questions

JOB NO.: RB20014

Introduction

Jax Kar Wash is in the process of revising their site plan to provide better and more streamline operations. The revisions include adding automatic pay stations, additional queuing spaces, and the relocation of the interior detailing operations southwest of the car wash building to the northside of the building. Vehicles exiting the car wash will either advance to the drying area between the sidewalk and the curb line of Woodward Avenue southbound or turn north to advance to the interior detailing and drying station on the north side of the building. Once the interior and drying portions are complete the vehicles will exit to Brown Street via an existing curb cut.

Previous meetings with representatives for Jax Kar Wash with Planning Commission members and City staff have identified two concerns relating to circulation and possible safety conflicts. These two concerns are:

1) That the headlights of vehicles turning north to enter the interior detailing area during nighttime hours may cause glare or distraction to drivers on southbound Woodward Avenue, creating a potential safety hazard.
2) That these turning vehicles may present a hazard to pedestrians walking along the sidewalk as pedestrians may not expect vehicles to turn northward once exiting the car wash.

To assuage and dispel these concerns, Jax Kar Wash, has retained Spalding DeDecker to review the existing and proposed site operations and layout to assess the possibility of potential safety issues relating to vehicle and pedestrian circulation in and around the site. This memo is a summary of those findings.

Background

A site visit was conducted on June 2, 2021 during the late morning to early afternoon. The car wash was operating under normal conditions. SDA staff observed the operations of the car wash and traffic flow on the adjacent streets (Brown Street and Woodward Avenue).

Crash History

Vehicle crash reports from January 1, 2004 to December 31, 2020 (17 total years of data) were compiled for the area around Jax Kar Wash. The southbound Woodward Avenue roadway segments north and south

of the intersection with Brown Street and the Brown Street roadway segment west of Woodward Avenue were included in the search. 100 crashes were documented; of those seven were related to the Jax Kar Wash site. Of those seven, four of the crashes were related to drivers exiting onto Woodward Avenue from the Jax Kar Wash driveway. Specifically, the four drivers attempted to cross all three lanes of southbound Woodward Avenue traffic to utilize the southbound to northbound turn-around. All four drivers failed to yield the right-of-way and were cited for this violation. These four crashes were caused by driver error and were not a function of the layout or geometrics of the site. The other three related crashes are summarized below:

- One crash involved a vehicle backing out of the existing parking on the north side of the building and causing a collision with a vehicle traveling east on Brown Street. With the proposed site plan this parking is being removed. Vehicles entering Brown Street will do so by pulling out of the existing driveway cut after completion of an interior clean.
- One crash involved a rear ending of a vehicle stopping to avoid a collision with a vehicle that had slowed down to attempt a turn into the Jax Kar Wash exit from southbound Woodward Avenue. This crash can be attributed to driver error of the rear-ending vehicle as they did not leave enough distance between them and the vehicle they hit to properly respond to changes in traffic flow.
- One crash involved a rear ending at the intersection of Brown Street and Peabody Street. A vehicle westbound on Brown Street was waiting for traffic to clear that was entering Jax via the intersection and was rear ended by a vehicle also traveling westbound on Brown Street. Again, this crash can be contributed to driver error of the rear ending vehicle that was not paying attention and caused the collision.

None of the reported crashes for the roadways over the past 17 years of available data were caused by factors unique to the layout or circulation patterns of the site, except for one. The exception being the vehicle backing out onto Brown Street, a condition that will be prohibited with the new site plan. Of the other six related to the site, all were caused by driver error. Notable, no pedestrian crashes were reported. Crash reports for these incidents are attached to this letter.

Concern: *That the headlights of vehicles turning north to enter the interior detailing area during nighttime hours may cause glare or distraction to drivers on southbound Woodward Avenue, creating a potential safety hazard.*

The movement of vehicles exiting the car wash and turning north to move to the detailing area will for a brief moment allow the headlights of the vehicle to point north into southbound Woodward Avenue traffic as it turns. The vehicles will not be stopped pointing north, but will continue the turn to point west and proceed to an interior detailing bay. This movement is consistent with normal parking lot operations. Review of the City's ordinances did not find any language that dictated the flow of traffic on a site, nor did it restrict vehicle circulation from pointing opposite of the direction of the nearest roadway. An example case of a similar movement that is frequently made is to look to the Speedway Gas Station opposite Jax on the east side of Woodward. Vehicles may drive south around the site a similar distance away from northbound Woodward Avenue creating the same condition. This is a common occurrence in commercial areas. This movement is minimal when compared to other parking areas combined with other lighting features in the area as part of the urban context. Drivers along Woodward Avenue encounter a variety of light features, vehicle movements, and other visual distractions.

Additionally, the amount of time that Jax Kar Wash operations overlaps with darkness is limited to a maximum of two hours on the darkest day of the year, around December 21st, with a sunset of 5:03 PM. Jax is open till 7 PM. The sunset does not occur before 7 PM till mid-October. Sunset is after 7 PM starting in mid-March. This condition will not occur a majority of the time Jax is in operation.

To moderate the concerns of the City, Jax Kar Wash has consulted with MDOT as to what screening landscaping could be used in their site plan at the corner of Woodward Avenue and Brown Street.

Concern: *That these turning vehicles may present a hazard to pedestrians walking along the sidewalk as pedestrians may not expect vehicles to turn northward once exiting the car wash.*

As stated in the Crash Analysis detailed above, no reported crashes have occurred at the Jax site that involved a pedestrian for the 17 years reviewed. The vehicles turning to the north to access the interior detailing site do cross the sidewalk in two locations, one immediately in front of the car wash exit to Woodward Avenue and once farther north. When vehicles are exiting the car wash, there are attendants present during all hours of operation that are directing traffic in and out. From their vantage point, attendants can see approaching pedestrians and direct traffic to either wait or exit the car wash. As shown in Exhibit A, towel attendants can see a minimum of 50 feet in either direction on the sidewalk. This distance is sufficient to allow an attendant to either wave the vehicle forward or hold it for a crossing pedestrian. Additionally, drivers exiting the car wash to turn north can see from inside the car wash out to the sidewalk. (Photos 1 and 2). The sidewalk and pedestrians are visible to drivers inside the car wash to Brown Street. Pedestrians can also see vehicles getting ready to exit the car wash (Photo 3). As for nighttime operations, the area is sufficiently lit for both pedestrians and drivers to see each other.

To moderate the concerns of the City, Jax Kar Wash can replace the existing sidewalk with a contrasting color to better direct and provide a predictable path for pedestrians that drivers can see as they exit the carwash.

Conclusions:
The proposed site revisions are an overall improvement to the safety and operations of the Jax Kar Wash site. A thorough review of 17 years of crash data did not find any pedestrian related crashes or any associated with vehicle circulation around the site.
The movement of vehicles from the car wash exit to the interior detailing area does not present a safety concern for the following reasons:

1. The same movement has been occurring since the inception of Jax Kar Wash, nearly 60 years. Review of recent crash data did not find any reported crashes related to the movement.
2. The movement is similar to other parking area circulation patterns in the area. The City's ordinance do not dictate vehicle circulation patterns. During the brief moment that headlights of the vehicle turning on Jax's site are visible to southbound Woodward Avenue Traffic, they are of the same intensity and patterns as the surrounding light features and headlights of other turning vehicles.
3. The conditions where Jax is operating during nighttime hours is limited to a maximum of two hours for a portion of the year.
4. There is sufficient sight lines for exiting vehicles of the car wash and approaching pedestrians to the exit to see each other and react accordingly.
5. Jax Kar Wash attendants will direct traffic exiting the car wash in safe and appropriate manner.

Sources:
Sunset Information: Monthly Weather Information for Birmingham, MI www.weather.com

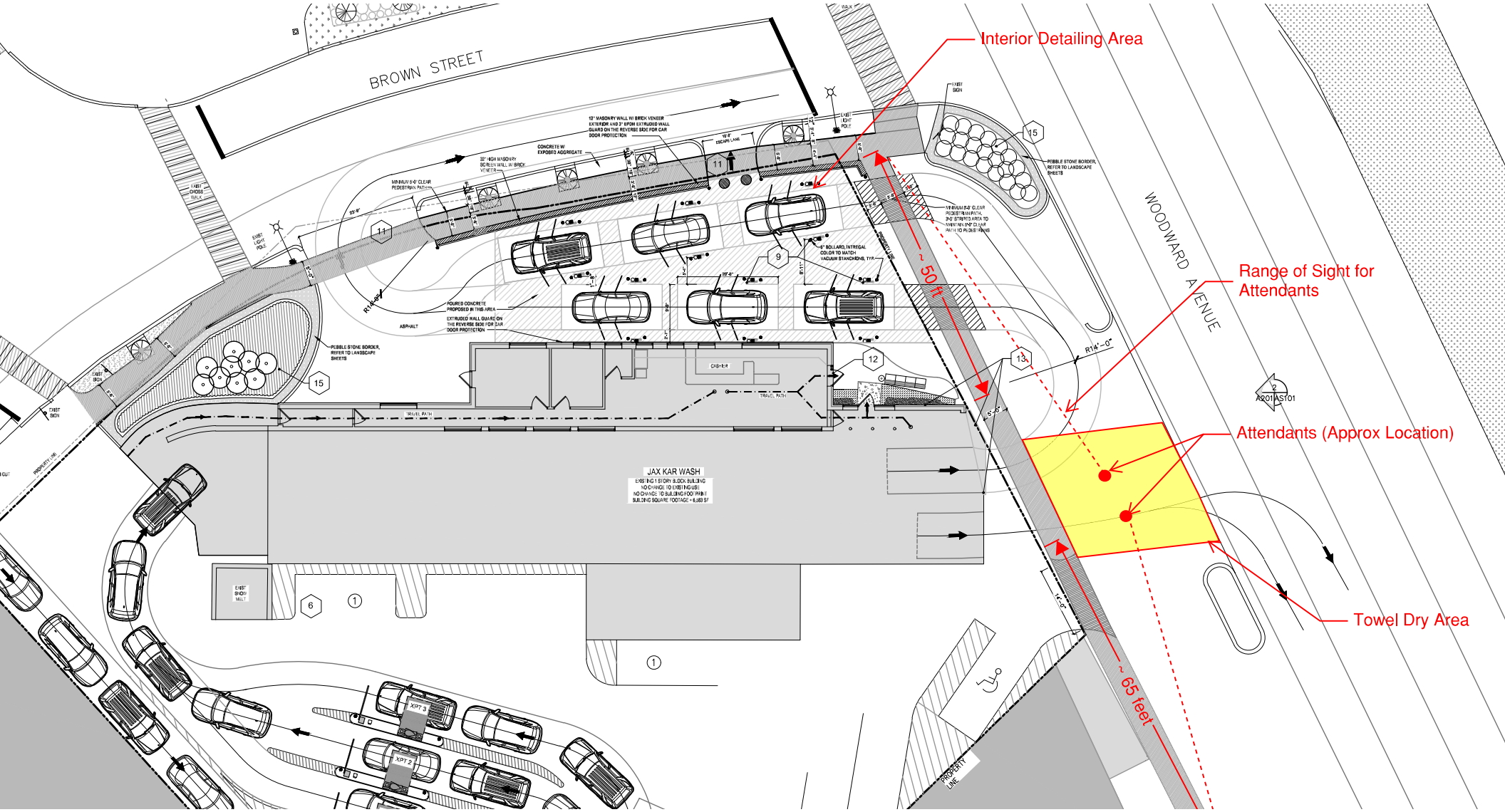

Interior Detailing Area
Range of Sight for Attendants
Attendants (Approx Location)
Towel Dry Area
~ 50 ft
~ 65 feet
BROWN STREET
WOODWARD AVENUE
JAX KAR WASH
EXISTING 1 STORY BLOCK BUILDING
NO CHANGE TO EXISTING USE
NO CHANGE TO BUILDING FOOTPRINT
BUILDING SQUARE FOOTAGE = 6,083 SF
PROPERTY LINE

Photo 1: Looking north from inside Jax Kar Wash, southern exit lane

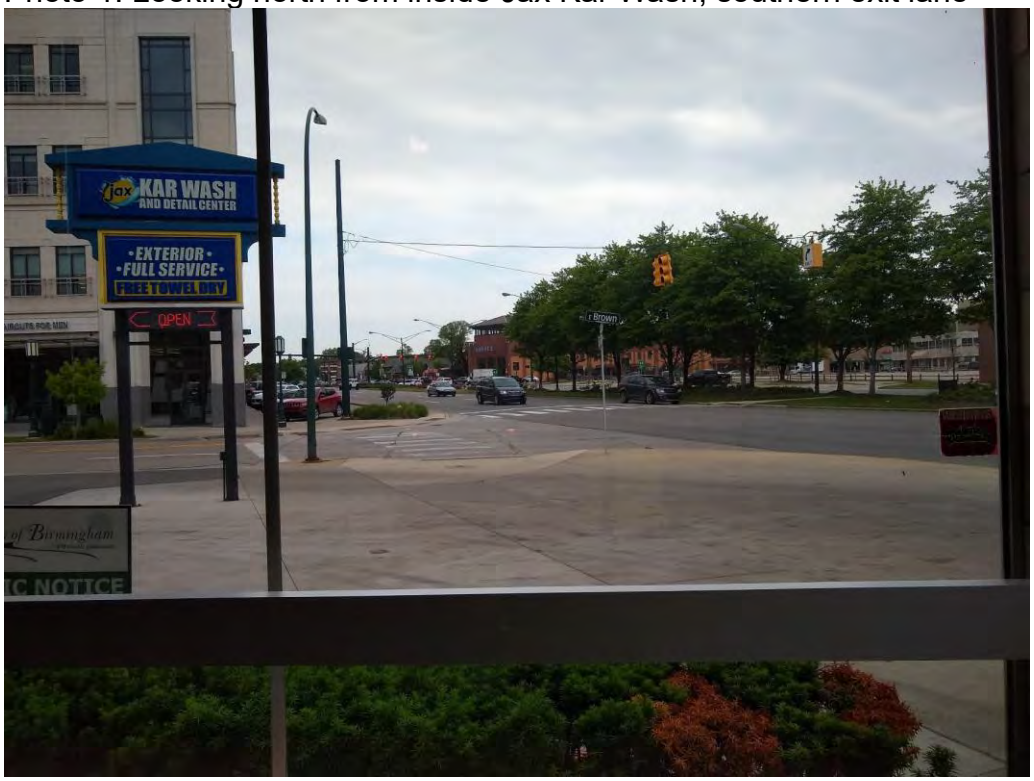


Photo 2: Looking north from center of northern exit lane, approximate driver position and assumed eye height

Photo 3: Looking south from sidewalk (Brown Street is behind this view)

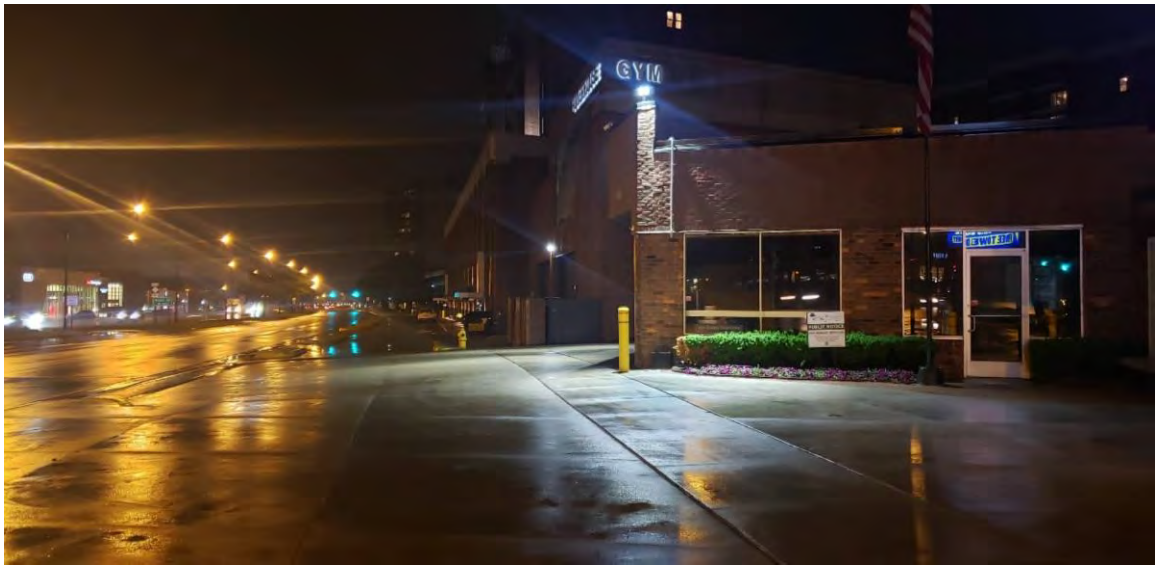


Photo 4: Nighttime Illumination Levels looking south

SPALDING DEDECKER
Engineering & Surveying Excellence since 1954

MEMORANDUM

DATE:	7/13/2021 (Revised)
TO:	Mr. Jason Milen
ORGANIZATION NAME:	Jax Kar Wash
FROM:	Kyle M. Bassett, P.E., Ariana Jeske, P.E., PTOE
RE:	Traffic Study for Jax Kar Wash
JOB NO.:	RB20014

Introduction:

This memorandum summarizes the results of the traffic study that was conducted for the proposed layout changes to the Jax Kar Wash facility in Birmingham, Oakland County, Michigan, located at the corner of Brown Street and Woodward Avenue. As part of the site plan approval process the City of Birmingham has requested more information about vehicle circulation and queuing. The following study quantifies the impacts of the new pay stations and possible vehicle queues as part of the site plan approval process.

The existing site contains a 6,583 square foot building, two interior cleaning lines, an unmanned electronic pay station, and an existing attendant pay booth. The site modifications include removal of both of the existing booths, the addition of three new unmanned electronic pay stations, and relocating the interior cleaning lines. No changes will be made to the existing building.

The study presented in this memorandum measures service rates, queues of the existing site, and a comparison of these values with the proposed conditions.

Existing Conditions:

The existing Jax Kar Wash is located at the southwest corner of the intersection of Brown Street and Woodward Avenue. The site has two entrances off of Brown Street; one for the parking area for the front of the building (East approach) and the other is for the car wash queueing area (West approach). The exit approach for the vehicles exiting the car wash is off Woodward Avenue. Vehicles entering the car wash are split between a manned attendant pay booth and one unmanned electronic pay station. Following the payment booths, vehicles have access to the detailing area, an express detailing facility, an interior cleaning line, and the entrance to the car wash conveyor. For the purposes of this study and to align with the proposed changes of relocating the interior detail to the north side of the building queueing spaces

for the existing condition do not include those vehicles getting interior detail service (those shown in red on the existing conditions exhibit). A total of 20 queuing spaces are available to vehicles entering the car wash. Vehicles exiting the car wash have the option of exiting on to Woodward Avenue or looping back on site to the detailing area.

Data Collection:

Potential peak periods were identified to perform a count for in order to determine the arrival rate of the existing site. The dates and times used to determine peak arrival rate were Wednesday October 21, 2020 from 11:00am – 1:00pm and 5:00pm – 7:00pm and Friday October 23, 2020 from 11:00am – 1:00pm and 5:00pm – 7:00pm. Count data was taken in five minute intervals.

Another location of Jax Kar Wash located in Clinton Township, Macomb County, Michigan, equipped with comparable electronic pay station system was analyzed to determine the potential service rate of the proposed electronic booths. The service rates determined by this count were compared to service rates of the existing layout at the Birmingham location. Service rates were determined for the different stages of the car wash process including; time at the booth, travel time from booth to the beginning of the car was conveyor, and time in the car was to exit.

Queue lengths were recorded at five minute intervals for each of the previously mention study times. Vehicles included in the queue count for the existing layout include those at or in line for the payment booths, vehicles at or in line for the interior cleaning stations, and vehicles in line to enter the car wash conveyor, as well as vehicles in the car wash.

Table 1: Arrival Rates and Queue Lengths

	10/21/2020		10/23/2020	
	11:00am-1:00pm	5:00pm-7:00pm	11:00am-1:00pm	5:00pm-7:00pm
Average Queue	2.54	4.17	5.17	1.04
Average Peak Queue	3.00	6.58	4.83	1.25
Max Queue Length	7	9	10	3
Average Arrival Rate (veh/hr)	30.0	40.0	52.5	11.5
Peak Arrival Rate (veh/hr)	32.0	54.0	59.0	14.0

Proposed Conditions:

Several modifications are proposed for the Birmingham Jax Kar Wash facility. The two interior cleaning lines within the queueing area are to be removed. Six vacuum stations will be added on the front side of the building that vehicles may access after exiting the car wash. The existing manned attendant pay booth and the existing electronic pay station are to be removed and replaced with three unmanned electronic pay stations further upstream of the queue than the existing booths. This will change the queueing capacity from 20 vehicles to 23 vehicles. The existing detailing areas and the express detail facility will be

relocated. The west approach from Brown Street will continue to be used as the entrance for the car wash. The east approach will become an exit-only to accommodate the proposed vacuum stations. The existing parking will be removed and relocated to the back of the building. (Existing and proposed site plans are attached to this memorandum for reference.)

Observations:

After analyzing the service rates for both the existing manned pay booths and the proposed electronic pay station, it was found the there was only a negligible difference in processing time. The existing layout had an average payment process time of 27 seconds from the time a vehicle stops at the booth to the time it pulls away. The average payment process time for the electronic pay stations at the Clinton Township location was 19 seconds from the time a vehicle stops at the station to the time the vehicle pulls away. The payment process times were compared to the total service rate calculated for the existing facility. Both payment processing times provide a service rate of over 130 vehicles per hour. Since the processing time for the existing and proposed layouts exceed the calculated maximum total service rate based on the capacity of the actual car wash process (71 vehicles per hour), any difference in payment processing rates is negligible and not the controlling factor causing an increase in queue lengths. Observing the car was during peak times shows that the limiting factor in the total processing time is the car was conveyor. The service rates were calculated using the following equation:

$$\text{Vehicles in system} = \frac{\lambda}{\mu - \lambda}$$

In this equation λ refers to the arrival rate in vehicles per hour and μ is the service rate. The equation was rearranged to solve for μ. The following equation was then used to calculate the probability that the queue capacity would be exceeded and cause a backup onto Brown St.

$$\text{Probability of k vehicles in queue} = \left(\frac{\lambda}{\mu}\right)^{k+1}$$

For the above equation, k is the queue capacity of the car wash facility.

Table 2: Service Rates and Queueing				
	10/21/2020		10/23/2020	
	11:00am-1:00pm	5:00pm-7:00pm	11:00am-1:00pm	5:00pm-7:00pm
Peak Hour Arrival Rate (veh/hr)	32.00	54.00	59.00	14.00
Peak Hour Average Queue Length (vehicles in service and in queue	3.00	6.58	4.83	1.25
Calculated Service Rate (veh/hr)	42.67	62.20	71.21	25.20
Service Time (sec/veh)	84.38	57.88	50.56	142.86
Probability that more than 20 vehicles in queue (Existing)	0.24%	5.13%	1.93%	0.00%
Probability that more than 23 vehicles in queue (Proposed)	0.10%	3.36%	1.10%	0.00%

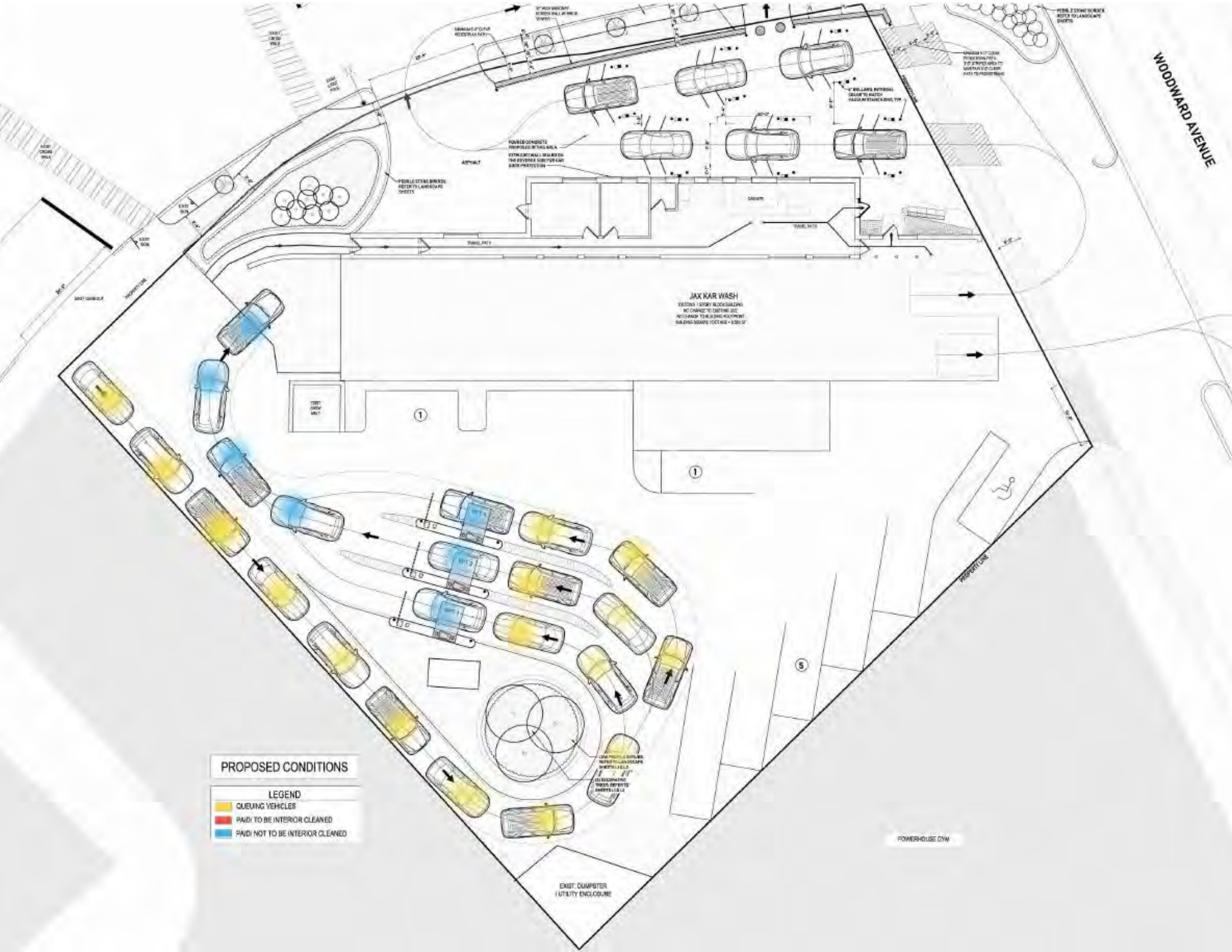
The maximum number of vehicles in the system was observed to be ten, counted on October 23, 2020 at 12:15pm. At this time vehicles were spread between the booths (three vehicles), the interior cleaning stations (two vehicles), the queue for the conveyor (two vehicles), and in the car wash (three vehicles). The peak hour average queue length was found to be 6.58 vehicles, counted on October 21, 2020 from 11:00am to 1:00pm. During this time, no backups on to Brown Street were observed. The 95th percentile queue length for the time interval from 5:00PM to 7:00PM on October 21, 2020 was calculated to be 20 vehicles. This represents a condition where the probability that the queue will exceed 20 vehicles will occur five percent of the time.

Conclusions:

This study found that the controlling factor to the length of a queue on the Jax Kar Wash site was the time that vehicles spent in the car wash. The 95th percentile queue length was calculated to be 20 vehicles when considering the processing capacity of the car wash. The new electronic pay systems and proposed queue routing will have operational benefits in that it will provide 23 queuing spots. Additional queueing space will decrease the probability, and in turn the occurrence, of queues extending onto Brown Street.

cc: SDA Job File
SDA Chronological File

WOODWARD AVENUE
JAX KAR WASH
POWERHOUSE GYM
POWERHOUSE GYM
EXISTING CONDITIONS
LEGEND
QUEUING VEHICLES
PAID/ TO BE INTERIOR CLEANED
PAID/ NOT TO BE INTERIOR CLEANED


WOODWARD AVENUE
JAX KAR WASH
EXISTING 1 STORY BLOCK BUILDING
NO CHANGE TO EXISTING USE
NO CHANGE TO BUILDING FOOTPRINT
BUILDING SQUARE FOOTAGE = 6,500 SF
ASPHALT
CASHIER
PROPERTY LINE
POWERHOUSE GYM
EXIST. DUMPSTER
/ UTILITY ENCLOSURE
PROPOSED CONDITIONS
LEGEND
QUEUING VEHICLES
PAID TO BE INTERIOR CLEANED
PAID NOT TO BE INTERIOR CLEANED

Proposed Service Times (Data from JX4 10/30/2020)								
	Enter	Leave Booth	Enter Wash	Exit	Booth Time	Booth to Wash	Wash Time	Total Time
1	9:12:32	9:12:47	9:13:10	9:16:04	0:00:15	0:00:23	0:02:54	0:03:32
2	9:14:04	9:14:17	9:14:37	9:16:46	0:00:13	0:00:20	0:02:09	0:02:42
3	9:17:06	9:17:44	9:18:08	9:20:22	0:00:38	0:00:24	0:02:14	0:03:16
4	9:18:53	9:18:55	9:19:14	9:21:24	0:00:02	0:00:19	0:02:10	0:02:31
5	9:24:29	9:24:41	9:25:03	9:27:16	0:00:12	0:00:22	0:02:13	0:02:47
6	9:26:11	9:26:28	9:26:47	9:28:56	0:00:17	0:00:19	0:02:09	0:02:45
7	9:51:03	9:51:21	9:51:39	9:53:53	0:00:18	0:00:18	0:02:14	0:02:50
8	9:56:41	9:56:59	9:57:20	10:00:04	0:00:18	0:00:21	0:02:44	0:03:23
9	10:00:28	10:00:39	10:00:59	10:03:05	0:00:11	0:00:20	0:02:06	0:02:37
10	10:01:04	10:01:49	10:02:14	10:05:00	0:00:45	0:00:25	0:02:46	0:03:56
11	2:01:30	2:01:48	2:02:28	2:04:42	0:00:18	0:00:40	0:02:14	0:03:12
12	2:04:00	2:04:13	2:04:33	2:07:15	0:00:13	0:00:20	0:02:42	0:03:15
13	2:04:03	2:04:28	2:05:27	2:07:57	0:00:25	0:00:59	0:02:30	0:03:54
14	2:04:50	2:05:10	2:06:04	2:08:28	0:00:20	0:00:54	0:02:24	0:03:38
15	2:06:09	2:06:19	2:06:41	2:09:03	0:00:10	0:00:22	0:02:22	0:02:54
16	2:07:30	2:07:53	2:08:18	2:12:41	0:00:23	0:00:25	0:04:23	0:05:11
17	2:11:04	2:11:23	2:11:44	2:13:50	0:00:19	0:00:21	0:02:06	0:02:46
18	2:11:26	2:11:52	2:12:32	2:14:43	0:00:26	0:00:40	0:02:11	0:03:17
19	2:11:32	2:12:05	2:13:01	2:15:13	0:00:33	0:00:56	0:02:12	0:03:41
20	2:12:52	2:13:05	2:13:36	2:15:44	0:00:13	0:00:31	0:02:08	0:02:52
Average service time (min:sec)					**0:00:19**	**0:00:29**	**0:02:27**	**0:03:15**
Service Rate (veh/hr)					185.09	124.35	24.56	

Existing Service Times (Data from JX2 10/30/2020)								
	Enter	Leave Booth	Enter Wash	Exit	Booth Time	Booth to Wash	Wash Time	Total Time
1	9:01:19	9:01:41	9:02:13	9:04:05	0:00:22	0:00:32	0:01:52	0:02:46
2	9:09:18	9:09:39	9:10:12	9:12:03	0:00:21	0:00:33	0:01:51	0:02:45
3	9:12:30	9:13:00	9:13:30	9:15:19	0:00:30	0:00:30	0:01:49	0:02:49
4	9:15:59	9:16:23	9:17:01	9:19:00	0:00:24	0:00:38	0:01:59	0:03:01
5	9:18:37	9:19:54	9:20:35	9:23:15	0:01:17	0:00:41	0:02:40	0:04:38
6	9:20:00	9:20:18	9:22:05	9:23:50	0:00:18	0:01:47	0:01:45	0:03:50
7	9:21:17	9:21:51	9:22:32	9:24:23	0:00:34	0:00:41	0:01:51	0:03:06
8	9:22:22	9:22:37	9:23:33	9:25:23	0:00:15	0:00:56	0:01:50	0:03:01
9	9:23:17	9:23:33	9:24:15	9:26:21	0:00:16	0:00:42	0:02:06	0:03:04
10	9:36:09	9:36:31	9:37:02	9:39:44	0:00:22	0:00:31	0:02:42	0:03:35
11	2:00:29	2:01:04	2:01:30	2:03:35	0:00:35	0:00:26	0:02:05	0:03:06
12	2:03:50	2:04:15	2:04:43	2:06:35	0:00:25	0:00:28	0:01:52	0:02:45
13	2:06:13	2:06:29	2:06:58	2:09:02	0:00:16	0:00:29	0:02:04	0:02:49
14	2:06:40	2:06:52	2:07:41	2:11:42	0:00:12	0:00:49	0:04:01	0:05:02
15	2:07:19	2:08:37	2:11:02	2:14:00	0:01:18	0:02:25	0:02:58	0:06:41
16	2:09:08	2:09:24	2:12:41	2:14:36	0:00:16	0:03:17	0:01:55	0:05:28
17	2:10:20	2:10:52	2:13:46	2:15:39	0:00:32	0:02:54	0:01:53	0:05:19
18	2:10:29	2:10:45	2:13:14	2:15:08	0:00:16	0:02:29	0:01:54	0:04:39
19	2:10:55	2:11:07	2:14:17	2:16:18	0:00:12	0:03:10	0:02:01	0:05:23
20	2:13:30	2:13:52	2:15:39	2:17:39	0:00:22	0:01:47	0:02:00	0:04:09
Average service time (min:sec)					**0:00:27**	**0:01:17**	**0:02:09**	**0:03:54**
Service Rate (veh/hr)					132.60	46.60	27.82	

Existing Drive-Thru Service Count						
	21-Oct					
	11:00AM-1:00PM	Hour Total	Queue at Time	5:00PM-7:00PM	Hour Total	Queue at Time
0:00	6	32	3	5	54	6
0:05	3	30	2	4	54	6
0:10	0	27	2	6	54	5
0:15	0	29	2	5	51	4
0:20	2	31	1	4	49	8
0:25	2	32	2	7	48	7
0:30	4	31	2	3	44	9
0:35	4	28	3	5	41	7
0:40	3	27	4	5	36	6
0:45	5	28	3	3	32	7
0:50	1	27	7	5	31	8
0:55	2	27	5	2	28	6
1:00	4	28	4	5	26	5
1:05	0		3	4		3
1:10	2		0	3		4
1:15	2		2	3		1
1:20	3		1	3		1
1:25	1		1	3		1
1:30	1		0	0		2
1:35	3		1	0		0
1:40	4		3	1		0
1:45	4		3	2		1
1:50	1		3	2		2
1:55	3		4	0		1

*Peak Hour

Existing Drive-Thru Service Count						
	23-Oct					
	11:00AM-1:00PM	Hour Total	Queue at Time	5:00PM-7:00PM	Hour Total	Queue at Time
0:00	4	57	7	2	14	1
0:05	3	57	6	1	13	2
0:10	6	59	6	3	13	3
0:15	5	59	6	2	11	3
0:20	4	57	5	1	9	1
0:25	5	56	1	0	9	2
0:30	7	53	5	1	9	0
0:35	3	49	6	0	9	1
0:40	6	49	4	3	9	1
0:45	6	48	6	0	8	1
0:50	3	46	6	0	9	0
0:55	5	48	5	1	10	0
1:00	4	48	6	1	9	1
1:05	5		2	1		1
1:10	6		4	1		1
1:15	3		10	0		1
1:20	3		7	1		0
1:25	2		5	0		1
1:30	3		2	1		1
1:35	3		4	0		0
1:40	5		4	2		0
1:45	4		6	1		3
1:50	5		5	1		0
1:55	5		6	0		1

*Peak Hour

Beier Howlett
ATTORNEYS AND COUNSELORS

TIMOTHY J. CURRIER
tcurrier@bhlaw.us.com
Telephone (248) 645-9400
Fax (248) 645-9344

July 8, 2020

Jana Ecker, Planning Director
City of Birmingham
151 Martin Street, P.O. Box 3001
Birmingham, MI 48012-3001

Re: Jax Kar Wash Easement Right of Way Memoranda

Dear Ms. Ecker:

I have reviewed the June 25, 2020 Memorandum from Bradly F. Scobel regarding Jax Kar Wash and the Right of Way Easement, and his analysis of the rights and liabilities. My concerns with respect to this proposal, fall into two categories. One, we have had no official communication from MDOT as to whether this is permissible; and two, even if this is permissible under MDOT's legal review, is it operationally safe to allow such an operation to occur.

With respect to the first concern, I believe it is important that we receive some written communication from MDOT as to whether they will give permission for the use of the Right of Way in the manner as described in the memorandum prepared by Mr. Scobel. This is MDOT's property, not ours. MDOT should be making the determination as to the rights of access and usage.

If MDOT would permit this usage, the second concern must be looked at by the Planning Board as to whether both uses within our ordinances are a safe usage of the property in light of all the remaining rights of the public. In this regard, I want to refer you to the letter from Fleis & Vandenbrink dated July 7, 2020 expressing some concerns and request for additional information in order to look at this matter further. At the present time, as the City's traffic consultants, they "agree with MDOT and the continued use of the sidewalk in this area to facilitate vehicle movements is not recommended".

It is therefore our recommendation that if the two concerns are not answered satisfactorily with the Planning Board, this matter not be approved.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

BEIER HOWLETT, P.C.

Timothy J. Currier
Birmingham City Attorney

TJC/jms

THIS INDENTURE, made this 20 day of

A.D. 1931, between

GRAND TRUNK WESTERN RAILROAD COMPANY, a consolidated railroad corporation organized and existing under and by virtue of the laws of the States of Michigan and Indiana, party of the first part,

and

THE STATE OF MICHIGAN, party of the second part,

witnesseth that the said party of the first part, successor by consolidation to Detroit, Grand Haven & Milwaukee Railway Company, pursuant to the provisions of Act No. 340 of the Public Acts of 1927, and the contract, dated the 20th day of July, 1927, between said Detroit, Grand Haven & Milwaukee Railway Company and The State of Michigan as contained in, and authorized by, said Act,

CONVEYS AND QUIT-CLAIMS

to the said party of the second part the following described lands situated and being in the County of Oakland, Michigan, known and described as follows, to-wit:

First party's old right of way commencing at its M.P.1 in the City of Royal Oak and extending in a northerly direction across portions of Sections 21, 16, 17, 8, 7 and 6, of Royal Oak Township, Section 31 of Troy Township, and Sections 36, 25, 24, 23, 14 and 11 of Bloomfield Township, to a point in the vicinity of its old M.P. 22.1; together with first party's station grounds and other lands adjoining its right of way in the Village of Birmingham, lying north of Maple Avenue, so-called, and also lots numbered 47 to 64, both inclusive, of Adams Park Subdivision, Village of Birmingham, and the vacated portion of Landon Street, so-called; all in said County and State.

Excepting therefrom all that portion of first party's old right of way in the vicinity of its M.P. 13 and extending northerly therefrom to the center-line of the Eleven Mile Road, so-called, in the City of Royal Oak, lying east of the westerly property line of first party's new right of way on its relocated line, which westerly property line is more particularly described as being eighty feet westerly at right angles from and parallel to the original base line of first party's said relocated line, said base line also being the tangential prolongation of first party's old westbound main track as now located, south of M.P. 13; also excepting therefrom all portions of first party's old right of way in the City of Royal Oak lying south of the south line of

1141-589

so-called, if projected across first party's right of way; also excepting therefrom all that portion of first party's old right of way in the vicinity of its old M.P. 21.35 and extending northerly therefrom to its old M.P. 22.1, lying within the new right of way, being more particularly described as being in part, that portion of first party's said old right of way south of the East Long Lake Road, so-called, and in the vicinity of first party's old M.P. 21.35 from a line 150 feet westerly at right angles from and parallel to the original base line of first party's relocated line, said base line being also the center-line of first party's most westerly new main track as now constructed, and extending northeasterly to a line 85 feet easterly at right angles from and parallel to first party's said original base line, and being in part, that portion of first party's said old right of way north of the East Long Lake Road, so-called, commencing at a line which crosses said old right of way south of the south line of Section 11, Bloomfield Township, and which is 56 feet easterly at right angles from and parallel to the original base line of first party's relocated line, said base line being also the center-line of first party's most westerly new main track as now constructed, and extending westerly and northerly therefrom to first party's old M.P. 22.1; also excepting therefrom a portion of first party's station grounds in the Village of Birmingham, said portion being lots 53 and 54 of the Village of Birmingham in the S.E. 1/4 of Section 25, T. 2 N., R.10 E., according to a map of a survey by Harvy Park recorded in the office of the Register of Deeds of Oakland County, in Record 27 of Deeds, Page 243, October 7, 1844; also excepting all that portion of lots 54 to 64, both inclusive, of the Adams Park Subdivision, Village of Birmingham, and the vacated portion of Landon Street, so-called, lying east of a line described as beginning at a point on the east line of lot 54 of said Adams Park Subdivision which is distant 18.4 feet southerly from the N.E. corner of said lot 54, thence extending S. 25°-05'-30" East on a straight line, a distance of 272.05 feet to a point of beginning of curve, thence extending on a curve to the left having a radius of 5629.65 feet, a distance of 242.90 feet to a point on the southeasterly line of lot 64 of said subdivision which is distant southerly 76.2 feet from the northeasterly corner of said lot 64; also

Excepting from this conveyance, first party's railroad tracks, materials, facilities and equipment now on said old right of way and other lands.

For the sum of One Dollar ($1.00) and other valuable considerations

IN WITNESS WHEREOF, the said Grand Trunk Western Railroad Company has caused these presents to be signed in its name by its duly authorized officials, and sealed with its cor-

1141-590

porate seal, the day and year first above written.

Signed, sealed and delivered in the presence of:

GRAND TRUNK WESTERN RAILROAD COMPANY

BY _____ Vice-President.

R R Quinby
asst Sec.

1141-591

1141-592

DOMINION OF CANADA
PROVINCE OF QUEBEC } ss.
COUNTY OF HOCHELAGA

On this thirty first day of august in the year of Our Lord One Thousand Nine Hundred and thirty-one, before me, a Notary Public, in and for said County, appeared Robert Phippe Ormsby, to me personally known, who, being by me duly sworn, did say that he is the Assistant Secretary of Grand Trunk Western Railroad Company, the corporation named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors; and said Robert Phippe Ormsby acknowledged said instrument to be the free act and deed of said corporation.

W. M. Parnell P.N.

Notary Public, Hochelaga County,
Province of Quebec.

My commission is for life.

1141-592

1142-593

corporation.

Notary Public, Wayne County, Michigan.

My commission expires: _____

593

DOMINION OF CANADA,)
PROVINCE OF QUEBEC,) ss.
COUNTY OF HOCHELAGA)

On this 1st day of [illegible] in the year of our Lord, one thousand nine hundred and thirty-one, before me, a notary public in and for said county, appeared Gerard Ruel, to me personally known, who, being by me duly sworn, did say that he is the Vice-President of Grand Trunk Western Railroad Company the corporation named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its

board of directors; and said Gerard Rual acknowledged said instrument to be the free act and deed of said corporation.

141594

W. M. Brooke N.P.

Notary Public, Montcalm County, Province of Quebec.

My commission is for life.

STATE OF MICHIGAN

AUDITOR GENERAL'S DEPARTMENT

LANSING

GEORGE T. GUNDRY — JAMES K. JAMISON

[illegible] from the [illegible] Party, have [illegible] said Township including all Agricultural taxes [illegible] by the Township for the years 1933 to 1936 inclusive.

Auditor General

By [signature]
Deputy Auditor General

No. 6366

QUIT-CLAIM DEED

GRAND TRUNK WESTERN RAILROAD COMPANY

-TO-

THE STATE OF MICHIGAN

REGISTER'S OFFICE)
OAKLAND County) ss:

This instrument was presented and received for record this 22 day of MAY 1930 at 9 o'clock A. M., and recorded in liber 701 of deeds on page 584-95 upon due certification and compliance with law.

[signature]
Register of Deeds

James V. Fountain, P.E.
Sr. Manager Real Estate
17641 S. Ashland Avenue
Homewood, IL 60430-1345
T 708-332-3559
F 708-332-4348
james.fountain@cn.ca

May 12, 2021

City of Birmingham
Planning Director
Jana L. Ecker
151 Martin Street
Birmingham, Michigan 4801

Re: Proposed Site Plan for Jax Kar Wash located at 34745 Woodward Avenue (the "Property").

Dear Ms. Ecker,

Although fully encumbered by a long standing Right of Way granted by Grand Trunk Western Railroad Company ("GTW") to the Michigan Department of Transportation for the creation, repair, and maintenance of Woodward Avenue, GTW is technically the fee owner of the land upon which Woodward Avenue was constructed. GTW is a wholly owned US subsidiary of Canadian National Railway Company ("CN").

GTW was contacted by the owner of the Property ("Jax"), and Jax has requested our consent to its revised site plan for the Property, wherein Jax seeks to revise the traffic flow pattern on its Property (which would permit vehicles to turn left out of its facility and travel over a portion of its Property which is encumbered by the Right of Way), as well as various other improvements to the Property as may be agreed upon between Jax and the City of Birmingham.

Please be advised that GTW consents to Jax proposed site plan, as may be amended and/or modified between Jax and the City of Birmingham. If you have any questions or need to discuss this further, you may contact me at 708-332-3559. Thank you.

Sincerely,

James V. Fountain, P.E.
Sr. Manager Real Estate

CITY OF BIRMINGHAM
Date 07/03/2019 12:46:48 PM
Ref 00160445
Receipt 491215
Amount $1,100.00

CITY OF BIRMINGHAM
te 07/03/2019 12:46:48 PM
Ref 00160446
Receipt 491215
Amount $100.00

RECEIVED
JUL 03 2019
CITY OF BIRMINGHAM
COMMUNITY DEVELOPMENT DEPARTMENT

City of Birmingham
A Walkable Community

Final

~~Preliminary~~ Site Plan Review Application
Planning Division

Form will not be processed until it is completely filled out.

1. Applicant
Name: JAX KAR WASH / JASON MILEN
Address: 34745 WOODWARD AVE.
BIRMINGHAM, MI 48009
Phone Number: 248-905-1218
Fax Number:
Email address: JASON@JAXKARWASH.NET

2. Property Owner
Name: BMW KAR WASH, LLC DBA JAX KAR WASH
Address: 28845 TELEGRAPH RD. / BRUCE MILEN
SOUTHFIELD, MI 48034
Phone Number: 248-444-0442
Fax Number:
Email address: BRUCE@JAXKARWASH.NET

3. Applicant's Attorney/Contact Person
Name: JASON MILEN
Address: 34745 WOODWARD AVE.
BIRMINGHAM, MI 48009
Phone Number: 248-905-1218
Fax Number:
Email address: JASON@JAXKARWASH.NET

4. Project Designer/Developer
Name: NUDELL ARCHITECTS / BRIAN LAWSON
Address: 31690 W. 12 MILE RD.
FARMINGTON HILLS, MI 48334
Phone Number: 248-324-8800
Fax Number: 248-324-0661
Email address: BLAWSON@JHN.COM

5. Required Attachments
I. Two (2) paper copies and one (1) digital copy of all project plans including:
  i. A detailed Existing Conditions Plan including the subject site in its entirety, including all property lines, buildings, structures, curb cuts, sidewalks, drives, ramps and all parking on site and on the street(s) adjacent to the site, and must show the same detail for all adjacent properties within 200 ft. of the subject sites property lines;
  ii. A detailed and scaled Site Plan depicting accurately and in detail the proposed construction, alteration or repair;
  iii. A certified Land Survey;
  iv. Interior floor plans;
  v. A Landscape Plan;
  vi. A Photometric Plan;
  vii. Colored elevation drawings for each building elevation;

II. Specification sheets for all proposed materials, light fixtures and mechanical equipment;
III. Samples of all proposed materials;
IV. Photographs of existing conditions on the site including all structures, parking areas, landscaping and adjacent structures;
V. Current aerial photographs of the site and surrounding properties;
VI. Warranty Deed, or Consent of Property Owner if applicant is not the owner;
VII. Any other data requested by the Planning Board, Planning Department, or other City Departments.

6. Project Information
Address/Location of the property: 34745 WOODWARD AVE.
Name of development: JAX KAR WASH
Sidwell #:
Current Use: AUTO WASH
Proposed Use: AUTO WASH
Area of Site in Acres: 0.59 ACRES
Current zoning: B-2
Is the property located in the floodplain? NO

Name of Historic District site is located in: N/A
Date of Historic District Commission Approval: N/A
Date of Design Review Board Approval: N/A
Will proposed project require the division of platted lots? NO
Will proposed project require the combination of platted lots? NO

7. Details of the Proposed Development (attach separate sheet if necessary)

EXTERIOR RENOVATIONS OF EXISTING AUTO WASH. NORTH SIDE DEMO WORK TO INCLUDE EXISTING PYLON SIGN & PORTION OF EXTERIOR WALL FOR NEW LOBBY DOOR. SOUTH SIDE DEMO OF OVERHEAD VACUUM TUBES/STRUCTURE / SIGNS & EXISTING VPT & CANOPY. PROPOSED NORTH SIDE WORK INCLUDING RELOCATION OF (10) PARKING SPACES TO SOUTH SIDE WITH DETAILING RELOCATED TO THE NORTH. NEW 6" & 8" PVC TUBE @ NORTH FACE OF BUILDING SUPPLYING VACUUM TO HOSES ON (12) METAL STANCHIONS. NEW 23' ONE WAY CURB CUT, CLOSING 32' TWO WAY CURB. PROPOSED WALL SIGNS NORTH & EAST ELEVATIONS.

8. Buildings and Structures

Number of Buildings on Site: 1
Height of Buildings & # of Stories: 13'-0" - 1 STORY 15'-8" (FACADE ON WOODWARD AVE)

Use of Buildings: AUTO WASH
Height of Rooftop Mechanical Equipment: 15'-0" & 16'-0"

9. Floor Use and Area (in Square Feet)

Proposed Commercial Structures: N/A

Total basement floor area:
Number of square feet per upper floor:
Total floor area:
Floor area ratio (total floor area ÷ total land area):
Open space:
Percent of open space:

Office Space:
Retail Space:
Industrial Space:
Assembly Space:
Seating Capacity:
Maximum Occupancy Load:

Proposed Residential Structures: N/A

Total number of units:
Number of one bedroom units:
Number of two bedroom units:
Number of three bedroom units:
Open space:
Percent of open space:

Rental units or condominiums?
Size of one bedroom units:
Size of two bedroom units:
Size of three bedroom units:
Seating Capacity:
Maximum Occupancy Load:

Proposed Additions: N/A

Total basement floor area, if any, of addition:
Number of floors to be added:
Square footage added per floor:
Total building floor area (including addition):
Floor area ratio (total floor area ÷ total land area):
Open Space:
Percent of open space:

Use of addition:
Height of addition:
Office space in addition:
Retail space in addition:
Industrial space in addition:
Assembly space in addition:
Maximum building occupancy load (including addition):

10. Required and Proposed Setbacks

Required front setback: 0
Required rear setback: 10'-0"
Required total side setback: 0
Side setback: 0

Proposed front setback: 0
Proposed rear setback 10'-0"
Proposed total side setback: 0
Second side setback: 0

11. Required and Proposed Parking

Required number of parking spaces: 10
Typical angle of parking spaces: 90°
Typical width of maneuvering lanes: 15'-0"
Location of parking on site: SOUTH SIDE
Location of parking off site:
Number of light standards in parking area: 6 (WALL MOUNTED)
Screenwall material:

Proposed number of parking spaces: 10
Typical size of parking spaces: 9' x 20'
Number of spaces <180 sq. ft.: 1
Number of handicap spaces: 1
Shared parking agreement?
Height of light standards in parking area: ALL WALL MOUNTED
Height of screenwall:

12. Landscaping

Location of landscape areas: 514 SF (EXISTING) NORTH SIDE @ LOBBY ENTRY; 604 SF NORTH SIDE @ EXISTING CROSSWALK; 369 SF CIRCULAR BED SOUTH SIDE @ TURN; 464 SF ALONG SOUTH EAST PROPERTY LINE; TOTAL: 951 SF TO POTENTIALLY BE REDUCED WITH INCLUSION OF PLANTS LOCAL TO THE AREA

Proposed landscape material: TBD

13. Streetscape

Sidewalk width: BROWN: 6'-4" WOODWARD: 5'-0"

Number of benches: 1

Number of planters: 3

Number of existing street trees: 0

Number of proposed street trees: 5

Streetscape plan submitted? NO

Description of benches or planters: EXISTING BENCH & PLANTERS @ LOBBY ENTRY. (1) MORE PROPOSED

Species of existing trees: N/A

Species of proposed trees: TBD

14. Loading

Required number of loading spaces: 1

Typical angle of loading spaces: 90°

Screenwall material: N/A

Location of loading spaces on site: SOUTH SIDE

Proposed number of loading spaces: 1

Typical size of loading spaces: 12' x 40'

Height of screenwall:

Typical time loading spaces are used: AM PRIOR TO OPEN

15. Exterior Waste Receptacles

Required number of waste receptacles: 1

Location of waste receptacles: SOUTH CORNER

Screenwall material: WOOD PICKET FENCE

Proposed number of waste receptacles: 1

Size of waste receptacles: EXISTING

Height of screenwall: 6'-0"

16. Mechanical Equipment

Utilities and Transformers:

Number of ground mounted transformers: 1

Size of transformers (L•W•H): 6' • 5' • 3'

Number of utility easements: 0

Screenwall material: WOOD PICKET FENCE

Location of all utilities & easements: SOUTH CORNER

Height of screenwall: 6'-0"

Ground Mounted Mechanical Equipment:

Number of ground mounted units: 0

Size of ground mounted units (L•W•H): N/A

Screenwall material: N/A

Location of all ground mounted units: N/A

Height of screenwall: N/A

Rooftop Mechanical Equipment:

Number of rooftop units: 4

Type of rooftop units: HVAC (2) EXHAUST (2)

Screenwall material: NONE (WOODWARD PARAPET)

Location of screenwall: WOODWARD FACADE

Location of all rooftop units:

Size of rooftop units (L•W•H):

Percentage of rooftop covered by mechanical units:

Height of screenwall:

Distance from rooftop units to all screenwalls:

17. Accessory Buildings

Number of accessory buildings: 2

Location of accessory buildings: SOUTH SIDE (REAR)

Size of accessory buildings: BOOTH 11' x 6'; ICE MELT 11' x 10'

Height of accessory buildings: 7'; 7'

18. Building Lighting

Number of light standards on building: 10
Size of light fixtures (L•W•H): 29 1/8" x 11" x 23 1/4"
Maximum wattage per fixture: 1,000 W
Light level at each property line: BROWN ≈ 0 FC
WOODWARD ≈ 14.5 FC (MAX)

Type of light standards on building: WALL MOUNTED HALIDE
Height from grade: (7) @ 13'-0" (3) @ 15'-8"
Proposed wattage per fixture: 1,000 W
EXISTING

19. Site Lighting

Number of light fixtures: ABOVE
Size of light fixtures (L•W•H):
Maximum wattage per fixture:
Light level at each property line:

Type of light fixtures: ABOVE
Height from grade:
Proposed wattage per fixture:
Holiday tree lighting receptacles:

20. Adjacent Properties

Number of properties within 200 ft.: 6

Property #1

Number of buildings on site: 1
Zoning district: PP
Use type:
Square footage of principal building:
Square footage of accessory buildings:
Number of parking spaces:

Property Description: MUNICIPAL PARKING GARAGE
North, south, east or west of property? NORTH WEST

Property #2

Number of buildings on site: 1
Zoning district: B-4
Use type:
Square footage of principal building:
Square footage of accessory buildings:
Number of parking spaces:

Property Description: COMMERCIAL BUILDING INCLUDING: MORGAN STANLEY, BIRMINGHAM ROAST & LADY JANE'S
North, south, east or west of property? NORTH

Property #3

Number of buildings on site: 1
Zoning district: B-2
Use type:
Square footage of principal building:
Square footage of accessory buildings:
Number of parking spaces:

Property Description: BUSINESS INCLUDING: ST. JOHN PROVIDENCE HEALTH SYSTEMS + METROPOLITAN TAILORING
North, south, east or west of property? WEST

Property #4

Number of buildings on site: 1
Zoning district: B-2
Use type:
Square footage of principal building:
Square footage of accessory buildings:
Number of parking spaces:

Property Description: BUSINESS INCLUDING: BLUE WHEEL MEDIA
North, south, east or west of property? WEST

Property #5

Number of buildings on site: 1
Zoning district: B-3
Use type:
Square footage of principal building:
Square footage of accessory buildings:
Number of parking spaces:

Property Description: BUSINESS INCLUDING: POWER HOUSE GYM & ONLINE INVESTMENT SERVICES
North, south, east or west of property? SOUTH

Property #6

Number of buildings on site: 1
Zoning district: B-3
Use type: _____
Square footage of principal building: _____
Square footage of accessory buildings: _____
Number of parking spaces: _____

Property Description: BUSINESS INCLUDING: BEACH HOUSE DAY SPA
North, south, east or west of property? SOUTH

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and / or Building Division of any additional changes made to an approved site plan. The undersigned further states that they have reviewed the procedures and guidelines for Site Plan Review in Birmingham, and have complied with same. The undersigned will be in attendance at the Planning Board meeting when this application will be discussed.

Signature of Owner: Bruce Milen Date: 7/1/19

Print Name: Bruce Milen

Signature of Applicant: Jason Milen Date: 7/1/19

Print Name: Jason Milen

Signature of Architect: Brian Lawson Date: 7/2/19

Print Name: BRIAN LAWSON

Office Use Only

Application #: _____ Date Received: _____ Fee: _____

Date of Approval: _____ Date of Denial: _____ Accepted by: _____

City of Birmingham
A Walkable Community

PRELIMINARY SIT PLAN REVIEW APPLICATION CHECKLIST - PLANNING DIVISION

Applicant: JAX KAR WASH / JASON MILLEN Case #: _____ Date: _____

Address: 34745 WOODWARD AVE. Project: JAX KAR WASH RENOVATION

All site plans and elevation drawings prepared for approval shall be prepared in accordance with the following specifications and other applicable requirements of the City of Birmingham. If more than one page is used, each page shall be numbered sequentially. All plans must be legible and of sufficient quality to provide for quality reproduction or recording. Plans must be no larger than 24" x 36", and must be folded and stapled together. The address of the site must be clearly noted on all plans and supporting documentation.

Preliminary Site Plan

A full Site Plan detailing the proposed changes for which approval is requested shall be drawn at a scale no smaller than 1" = 100' (unless the drawing will not fit on one 24" X 36" sheet) and shall include:

X 1. Name and address of applicant and proof of ownership;

X 2. Name of Development (if applicable);

X 3. Address of site and legal description of the real estate;

/ 4. Name and address of the land surveyor;

X 5. Legend and notes, including a graphic scale, north point, and date;

X 6. A separate location map;

/ 7. A map showing the boundary lines of adjacent land and the existing zoning of the area proposed to be developed as well as the adjacent land;

X 8. Aerial photographs of the subject site and surrounding properties;

X 9. A detailed and scaled Site Plan depicting accurately and in detail the proposed construction, alteration or repair;

X 10. A detailed Existing Conditions Plan including the subject site in its entirety, including all property lines, buildings, structures, curb cuts, sidewalks, drives, ramps and all parking on site and on the street(s) adjacent to the site, and must show the same detail for all adjacent properties within 200 ft. of the subject site's property lines;

___ 11. Interior floor plans;

/ 12. A chart indicating the dates of any previous approvals by the Planning Board, Board of Zoning Appeals, Design Review Board, or the Historic District Commission ("HDC");

X 13. Existing and proposed layout of streets, open space and other basic elements of the plan;

X 14. Existing and proposed utilities and easements and their purpose;

X 15. Location of natural streams, regulated drains, 100-year flood plains, floodway, water courses, marshes, wooded areas, isolated preserve-able trees, wetlands, historic features, existing structures, dry wells, utility lines, fire hydrants and any other significant feature(s) that may influence the design of the development;

X 16. General description, location, and types of structures on site;

X 17. Location of sidewalks, curb cuts, and parking lots on subject site and all sites within 200 ft. of the property line;

___ 18. Details of existing or proposed lighting, signage and other pertinent development features;

X 19. Elevation drawings showing proposed design;

X 20. Screening to be utilized in concealing any exposed mechanical or electrical equipment and all trash receptacle areas;

___ 21. Location of all exterior lighting fixtures;

/ 22. A Photometric Plan depicting proposed illuminance levels at all property lines;

___ 23. A Landscape Plan showing all existing and proposed planting and screening materials, including the number, size, and type of plantings proposed and the method of irrigation; and

___ 24. Any other information requested in writing by the Planning Division, the Planning Board, or the Building Official deemed important to the development.

Elevation Drawings

Complete elevation drawings detailing the proposed changes for which approval is requested shall be drawn at a scale no smaller than 1" = 100' (unless the drawing will not fit on one 24" X 36" sheet) and shall include:

X 25. Color elevation drawings showing the proposed design for each façade of the building;

___ 26. List of all materials to be used for the building, marked on the elevation drawings;

___ 27. Elevation drawings of all screenwalls to be utilized in concealing any exposed mechanical or electrical equipment, trash receptacle areas and parking areas;

___ 28. Details of existing or proposed lighting, signage and other pertinent development features;

X 29. A list of any requested design changes;

___ 30. Itemized list and specification sheets of all materials, light fixtures and mechanical equipment to be used, including exact size specifications, color, style, and the name of the manufacturer;

___ 31. Location of all exterior lighting fixtures, exact size specifications, color, style and the name of the manufacturer of all fixtures, and a photometric analysis of all exterior lighting fixtures showing light levels to all property lines; and

___ 32. Any other information requested in writing by the Planning Division, the Planning Board, or the Building Official deemed important to the development.

City of Birmingham
A Walkable Community

Notice Signs - Rental Application
Community Development

1. Applicant
Name: JAX KAR WASH / JASON MILEN
Address: 34745 WOODWARD AVE.
BIRMINGHAM, MI 48009
Phone Number: 248-905-1218
Fax Number:
Email address: JASON@JAXKARWASH.NET

Property Owner
Name: BMW KAR WASH LLC DBA JAX KAR WASH
Address: 28845 TELEGRAPH RD. / BRUCE MILEN
SOUTHFIELD, MI 48034
Phone Number: 248-444-0442
Fax Number:
Email Address: BRUCE@JAXKARWASH.NET

2. Project Information
Address/Location of Property: 34745 WOODWARD AVE.
Name of Development: JAX KAR WASH
Area in Acres: 0.59 ACRES
Name of Historic District site is in, if any: N/A
Current Use: AUTO WASH
Current Zoning: B-2

3. Date of Board Review
Board of Building Trades Appeals:
City Commission:
Historic District Commission:
Planning Board:
Board of Zoning Appeals:
Design Review Board:
Housing Board of Appeals:

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to post the Notice Sign(s) at least 15 days prior to the date on which the project will be reviewed by the appropriate board or commission, and to ensure that the Notice Sign(s) remains posted during the entire 15 day mandatory posting period. The undersigned further agrees to pay a rental fee and security deposit for the Notice Sign(s), and to remove all such signs on the day immediately following the date of the hearing at which the project was reviewed. The security deposit will be refunded when the Notice Sign(s) are returned undamaged to the Community Development Department. Failure to return the Notice Sign(s) and/or damage to the Notice Sign(s) will result in forfeiture of the security deposit.

Signature of Applicant: Jason Milen Date: 7/1/19

Office Use Only

Application #: Date Received: Fee:

Date of Approval: Date of Denial: Reviewed by:

NUDELL ARCHITECTS

31690 W. Twelve Mile Road

Farmington Hills, Michigan 48334

t 248 324 8800 f 248 324 0661

RECEIVED
JUL 03 2019
CITY OF BIRMINGHAM
COMMUNITY DEVELOPMENT DEPARTMENT

TRANSMITTAL

DATE:	07/03/2019	***RE:***	**Jax Kar Wash** 34745 Woodward Ave., Birmingham, MI 48009
SEND TO:	City of Birmingham **Planning Department** **Attn: Nicholas Dupuis** 151 Martin Street Birmingham, MI 48012 **(248) 530-1856**		
SHIPPED VIA:		***JHN JOB #***	2018-052

Urgent	***Reply ASAP***	***Please comment***	x ***Please review***	***For your information***
___	___	___	___	___

ITEMS ENCLOSED for PRELIMIINARY SITE PLAN REVIEW:

(2) copies of sheets: AS100, AS101, AS102, A200 & A201
(2) copies of reference sheets, by others: Exist survey, Exist survey2, site lights, site lights2

(1) copy of a completed Preliminary Site Plan Review Application – Planning Division

(1) check made out to: City of Birmingham ($1,200)

Nick,
Items enclosed are in response to our discussions regarding the JAX in Birmingham and are for Preliminary Site Plan Review. Please feel free to contact me if you have any questions or require anything further.

Best Regards,
BRIAN LAWSON
Project Manager
blawson@jhn.com
p. 248.324.8800 f. 248.324.0661

From: Brian Lawson – Design Project Manager
cc:

NUDELL ARCHITECTS

31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
T 248 324 8800 F 248 324 0661

July 16, 2019

City of Birmingham
Department of Public Services
Attn: Carrie Laird
Parks & Recreation Manager
851 S. Eton Street
Birmingham, MI 48009

RE: Jax Kar Wash
34745 Woodward Avenue,
Birmingham, MI 48009

Street Trees

Dear Carrie,

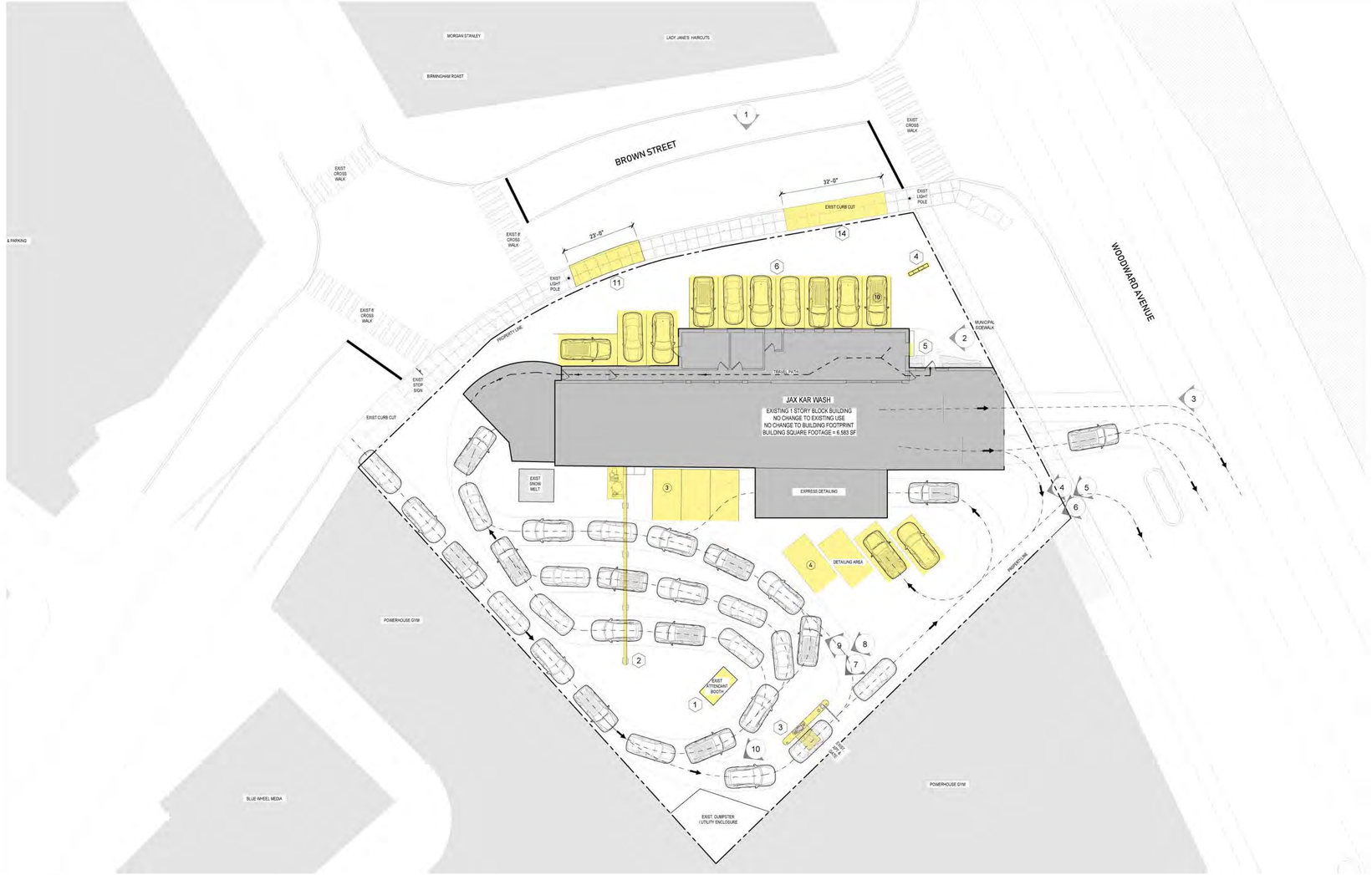
I'm writing regarding the renovation of the Jax Kar Wash at 34745 Woodward Ave. and the associated requirements for street trees, as described in the city ordinance.

> Article 4, Section 4.20(G) - **Street Trees**: All site plans shall include in the right-of-way along all streets, at least 1 street tree for each 40 linear feet of frontage. The Staff Arborist may waive this requirement if there is not adequate green space in the right-of-way to support such trees.

The existing site has frontage on both Woodward Ave. and Brown St. We are proposing to locate trees in the R.O.W. along the Brown St. frontage. After taking into account the curb cuts, cross walks and other elements along Brown St. we are proposing (5) trees for consideration. The frontage along Woodward Ave. does not allow the same opportunity to include street trees. As such, we'd like to request a waiver for the (2-3) trees that would be required along Woodward Ave.

Thank you for your consideration,

Brian Lawson
Project Manager



TRUE NORTH PLAN NORTH 1 AS100

EXISTING ARCHITECTURAL SITE PLAN

SCALE: 1"=20'-0"

0' 10' 20' 40' 80'

1 4 6

2 4 5

3 5

4

5

6

7 3

8 1

9 2

10

EXISTING SITE - PHOTOS

SCALE: NTS

1. **NAME & ADDRESS OF APPLICANT AND PROOF OF OWNERSHIP:**
   JASON MILEN
   JAX KAR WASH
   34745 WOODWARD AVENUE,
   BIRMINGHAM, MI 48009

2. **NAME OF DEVELOPMENT :**
   JAX KAR WASH

3. **ADDRESS OF SITE AND LEGAL DESCRIPTION OF THE REAL ESTATE:**
   34745 WOODWARD AVENUE

   LEGAL DESCRIPTION:
   LAND IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN DESCRIBED AS: THE EASTERLY PART OF LOT 4 MEASURING 12.4 FEET ON THE NORTH LINE AND 18.23 FEET ON THE SOUTH LINE, ALL OF LOTS 5 THROUGH 7 EXCEPT THAT PART TAKEN FOR ROAD PURPOSES, "WILLIAM HART SUBDIVISION," AS RECORDED IN LIBER 8 OF PLATS, PAGE 9 OF THE OAKLAND COUNTY RECORDS: BEING MORE PARTICULARLY DESCRIBED AS BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 7: THENCE S54d 24' 24"W 154.83 FEET; THENCE N33d 26' 35"W 166.95 FEET, TO A POINT ON THE SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE); THENCE ALONG SAID SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE), N54d 40'00"E 57.34 FEET AND 79.81 FEET ALONG THE ARC OF CURVE TO THE RIGHT RADIUS 129.52 FEET, CENTRAL ANGLE 35d 18' 14" CHORD BEAR N76d 48' 13"E 78.85 FEET AND N88d 34'36"E 60.31 FEET TO A POINT ON THE WESTERLY LINE OF WOODWARD AVENUE (FORMERLY HUNTER BOULEVARD); THENCE ALONG SAID LINE S18d 39' 22"E 107.43 FEET TO THE POINT OF BEGINNING.

4. **LEGEND AND NOTES, INCLUDING A GRAPHIC SCALE, NORTH POINT AND DATE:**
   REFER TO ELEVATIONS & SITE PLANS INCLUDING THE ABOVE ELEMENTS.

5. **A SEPARATE LOCATION MAP**:
   REFER TO LOCATION MAP, BELOW

6. **A LIST OF ALL REQUESTED ELEMENTS / CHANGES TO THE SITE PLAN. LIST APPLIES TO SHEETS AS100 & AS101**

   1. RELOCTION OF AN EXISTING ATTENDANT BOOTH, SOUTH SIDE OF BUILDING.
   2. DEMOLITION OF OVERHEAD VACUUM TUBES, STEEL STRUCTURE, VACUUMS, EQUIPMENT AND ASSOCIATED SIGNS, SOUTH SIDE OF BUILDING.
   3. DEMOLITION OF (1) EXISTING XPT AND CANOPY ON A RAISED CONCRETE ISLAND, SOUTH SIDE OF BUILDING, VERIFY CONDITION OF EQUIPMENT FOR POTENTIAL RE-USE.
   4. DEMOLITION OF EXISTING PYLON SIGN IN IT'S ENTIRETY.
   5. DEMOLITION OF A PORTION OF THE EAST WALL OF EXIST. LOBBY FOR PROPOSED NEW ENTRY.
   6. PROPOSED RELOCATION OF (10) PARKING SPACES FROM THE NORTH TO SOUTH SIDE OF BUILDING.
   7. PROPOSED RELOCATION OF DETAILING SPACES TO NORTH SIDE OF BUILDING.
   8. PROPOSING (3) XPTS AND CANOPIES ON 6" RAISED CONCRETE ISLANDS, SOUTH SIDE OF BUILDING.
   9. PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.
   10. PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.
   11. PROPOSING NEW 23' CURB CUT FROM THE PROPERTY ONTO BROWN STREET.
   12. PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.
   13. PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.
   14. PROPOSED CLOSING OF THE EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE.
   15. PROPOSED LANDSCAPING AREA TOTALING 369 SF, REFER TO LANDSCAPE DRAWINGS

7. **ANY CHANGES REQUESTED MARKED IN COLOR:**
   REFER TO 'PURPLE' AND 'YELLOW' COLORED AREAS ON PLANS AND ELEVATIONS. ALL CHANGES MARKED IN COLOR ARE KEYED TO THE LIST ABOVE.
8. **GENERAL DESCRIPTION, LOCATION AND TYPES OF STRUCTURES ON THE SITE:**
   EXISTING 1 STORY BLOCK BUILDING, 6,583 SQUARE FEET
   EXISTING WOOD PICKET UTILITY/ DUMPSTER ENCLOSURE, APPROX. 316 SQUARE FEET
   EXISTING SNOW MELT STRUCTURE, APPROX. 112 SQUARE FEET
   EXISTING ATTENDANT BOOTH, APPROX. 66 SQUARE FEET
9. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE, AND OTHER PERTINENT DEVELOPMENT FEATURES**
   EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
   SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200
10. **A LANDSCAPE PLAN SHOWING ALL EXISTING AND PROPOSED PLANTING AND SCREENING MATERIALS, INCLUDING THE NUMBER, SIZE AND TYPE OF PLANTINGS PROPOSED**
    LIMITED EXISTING LANDSCAPING, SHRUBS ON NORTH SIDE NEAR LOBBY ENTRY. PROPOSED LANDSCAPING AT 396 SF CIRCULAR BED. REFER TO LANDSCAPE DRAWINGS.
11. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

SYMBOL LEGEND

- IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201
- IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.
- IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
- INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION

PLAN NORTH

LOCATION MAP

SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE. NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2019

STATE OF MICHIGAN — JOHN H. NUDELL — ARCHITECT No. 1301022234 — LICENSED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

EXISTING ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

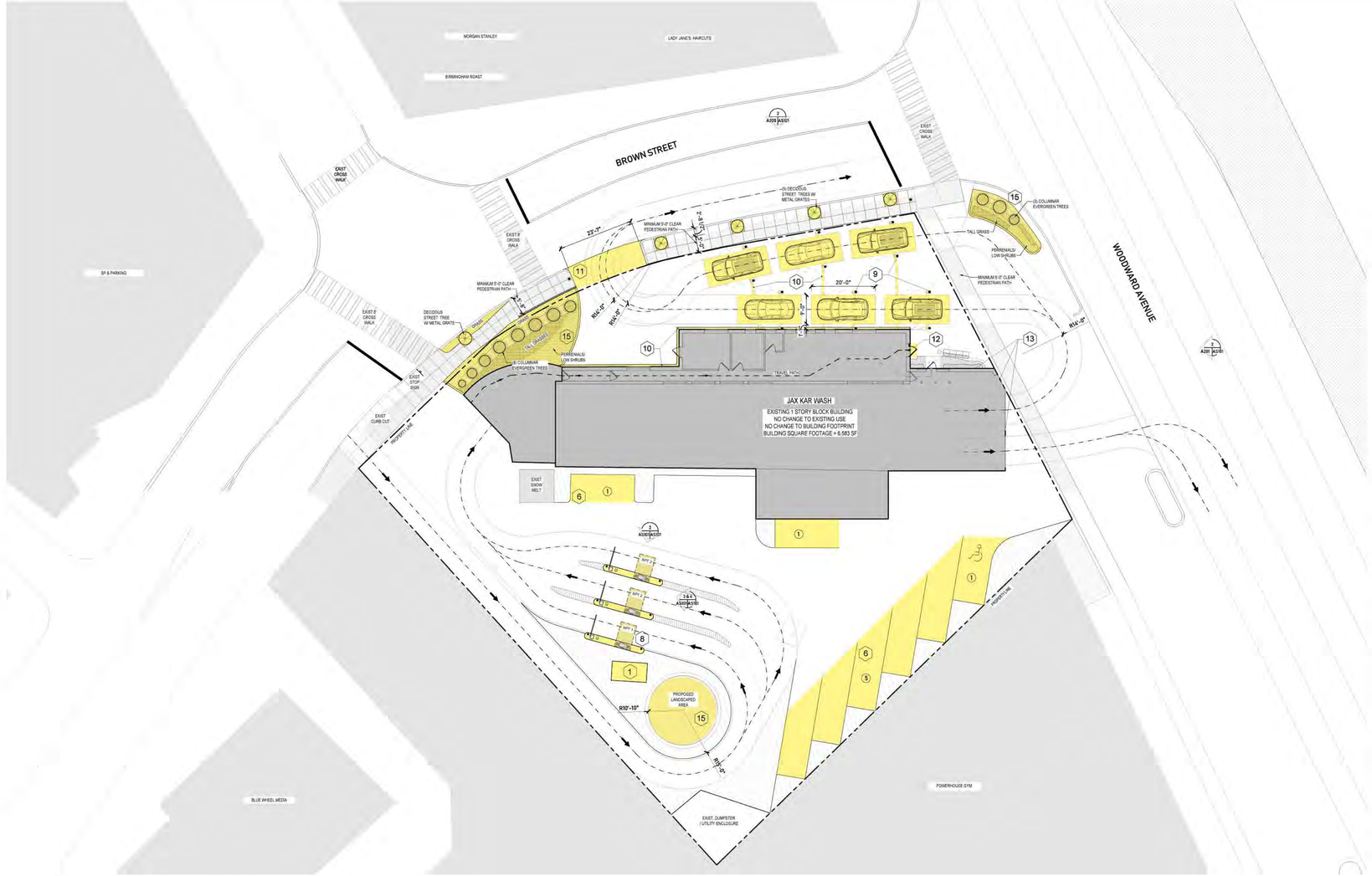
2018-052

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - PRELIM REVISED	7/16/19
SPA - SECOND SUBMIT	8/28/19

sheet

AS100



TRUE NORTH

PLAN NORTH

1 AS101

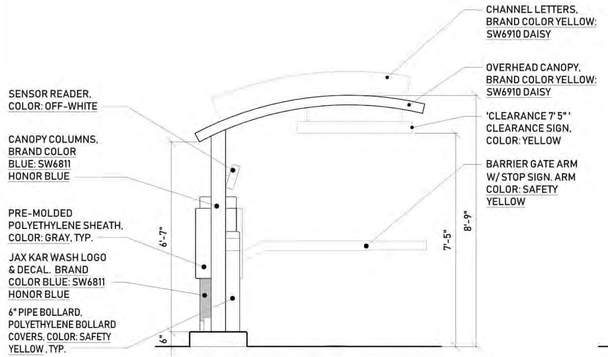
PROPOSED ARCHITECTURAL SITE PLAN

SCALE: 1"=20'-0"

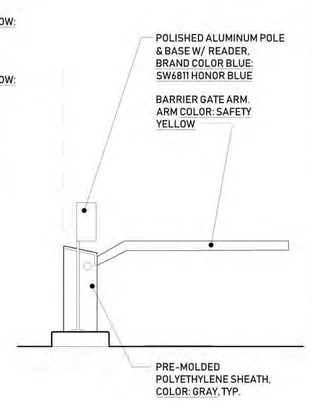
0' 10' 20' 40' 80'

SIGN CALCULATIONS (ABOVE XPT CANOPIES, SOUTH OF BUILDING)	
10" CANOPY CHANNEL LETTERS READING 'FAST LANE/ NO CASH'	= 5.38 SF (PROPOSED)
+	
10" CANOPY CHANNEL LETTERS READING 'UNLIMITED CLUB ONLY'	= 5.67 SF (PROPOSED)
+	
10" CANOPY CHANNEL LETTERS READING 'ANY FORM OF PAYMENT'	= 5.95 SF (PROPOSED)
=	
TOTAL SQUARE FOOTAGE OF PROPOSED XPT CANOPY SIGNAGE	= 17 SF (TOTAL)

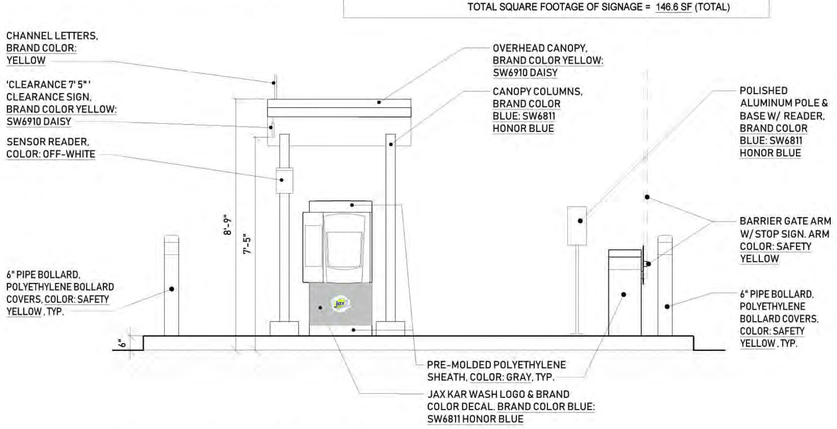
SIGN CALCULATIONS (ALL SIGNS)	
(1.5) x LINEAL FEET OF PRIMARY FRONTAGE (BROWN ST.)	= 134'-11 ½" = **202.4 SF** (AVAILABLE)
TOTAL SQUARE FOOTAGE OF PROPOSED XPT CANOPY SIGNAGE	= 17 SF (TOTAL)
+ BROWN ST. FACADE / NORTH ELEVATION	= 87.3 SF (TOTAL)
+ WOODWARD AVE. FACADE / EAST ELEVATION	= 42.3 SF (TOTAL)
= TOTAL SQUARE FOOTAGE OF SIGNAGE	= 146.6 SF (TOTAL)



4 AS101 XPT CURB & EQUIPMENT ELEV SCALE: 3/8"=1'-0"



3 AS101 XPT CURB & EQUIPMENT ELEV SCALE: 3/8"=1'-0"



2 AS101 XPT CURB & EQUIPMENT ELEV SCALE: 3/8"=1'-0"

1. **NAME & ADDRESS OF APPLICANT AND PROOF OF OWNERSHIP:**
   JASON MILEN
   JAX KAR WASH
   34745 WOODWARD AVENUE,
   BIRMINGHAM, MI 48009

2. **NAME OF DEVELOPMENT :**
   JAX KAR WASH

3. **ADDRESS OF SITE AND LEGAL DESCRIPTION OF THE REAL ESTATE:**
   34745 WOODWARD AVENUE

   LEGAL DESCRIPTION:
   LAND IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN DESCRIBED AS: THE EASTERLY PART OF LOT 4 MEASURING 12.4 FEET ON THE NORTH LINE AND 18.23 FEET ON THE SOUTH LINE, ALL OF LOTS 5 THROUGH 7 EXCEPT THAT PART TAKEN FOR ROAD PURPOSES, "WILLIAM HART SUBDIVISION," AS RECORDED IN LIBER 8 OF PLATS, PAGE 9 OF THE OAKLAND COUNTY RECORDS: BEING MORE PARTICULARLY DESCRIBED AS BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 7: THENCE S54d 24' 24"W 154.83 FEET; THENCE N33d 26' 35"W 166.95 FEET, TO A POINT ON THE SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE); THENCE ALONG SAID SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE), N54d 40'00"E 57.34 FEET AND 79.81 FEET ALONG THE ARC OF CURVE TO THE RIGHT RADIUS 129.52 FEET, CENTRAL ANGLE 35d 18' 14" CHORD BEAR N76d 48' 13"E 78.85 FEET AND N88d 34'36"E 60.31 FEET TO A POINT ON THE WESTERLY LINE OF WOODWARD AVENUE (FORMERLY HUNTER BOULEVARD); THENCE ALONG SAID LINE S18d 39' 22"E 107.43 FEET TO THE POINT OF BEGINNING.

4. **LEGEND AND NOTES, INCLUDING A GRAPHIC SCALE, NORTH POINT AND DATE:**
   REFER TO ELEVATIONS & SITE PLANS INCLUDING THE ABOVE ELEMENTS.

5. **A SEPARATE LOCATION MAP**:
   REFER TO LOCATION MAP, BELOW

6. **A LIST OF ALL REQUESTED ELEMENTS / CHANGES TO THE SITE PLAN.**
   LIST APPLIES TO SHEETS AS100 & AS101

   1. RELOCTION OF AN EXISTING ATTENDANT BOOTH, SOUTH SIDE OF BUILDING.
   2. DEMOLITION OF OVERHEAD VACUUM TUBES, STEEL STRUCTURE, VACUUMS, EQUIPMENT AND ASSOCIATED SIGNS, SOUTH SIDE OF BUILDING.
   3. DEMOLITION OF (1) EXISTING XPT AND CANOPY ON A RAISED CONCRETE ISLAND, SOUTH SIDE OF BUILDING, VERIFY CONDITION OF EQUIPMENT FOR POTENTIAL RE-USE.
   4. DEMOLITION OF EXISTING PYLON SIGN IN IT'S ENTIRETY.
   5. DEMOLITION OF A PORTION OF THE EAST WALL OF EXIST. LOBBY FOR PROPOSED NEW ENTRY.
   6. PROPOSED RELOCATION OF (10) PARKING SPACES FROM THE NORTH TO SOUTH SIDE OF BUILDING.
   7. PROPOSED RELOCATION OF DETAILING SPACES TO NORTH SIDE OF BUILDING.
   8. PROPOSING (3) XPTS AND CANOPIES ON 6" RAISED CONCRETE ISLANDS, SOUTH SIDE OF BUILDING.
   9. PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.
   10. PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.
   11. PROPOSING NEW 23' CURB CUT FROM THE PROPERTY ONTO BROWN STREET.
   12. PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.
   13. PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.
   14. PROPOSED CLOSING OF THE EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE.
   15. PROPOSED LANDSCAPING AREAS

7. **ANY CHANGES REQUESTED MARKED IN COLOR:**
   REFER TO 'PURPLE' AND 'YELLOW' COLORED AREAS ON PLANS AND ELEVATIONS. ALL CHANGES MARKED IN COLOR ARE KEYED TO THE LIST ABOVE.
8. **GENERAL DESCRIPTION, LOCATION AND TYPES OF STRUCTURES ON THE SITE:**
   EXISTING 1 STORY BLOCK BUILDING, 6,583 SQUARE FEET
   EXISTING WOOD PICKET UTILITY/ DUMPSTER ENCLOSURE, APPROX. 316 SQUARE FEET
   EXISTING SNOW MELT STRUCTURE, APPROX. 112 SQUARE FEET
   EXISTING ATTENDANT BOOTH, APPROX. 66 SQUARE FEET
9. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE, AND OTHER PERTINENT DEVELOPMENT FEATURES**
   EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
   SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200
10. **A LANDSCAPE PLAN SHOWING ALL EXISTING AND PROPOSED PLANTING AND SCREENING MATERIALS, INCLUDING THE NUMBER, SIZE AND TYPE OF PLANTINGS PROPOSED**
    LIMITED EXISTING LANDSCAPING, SHRUBS ON NORTH SIDE NEAR LOBBY ENTRY. PROPOSED LANDSCAPING AT 396 SF CIRCULAR BED. REFER TO LANDSCAPE DRAWINGS.
11. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

SYMBOL LEGEND

- IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201
- IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
- IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.
- INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION

PLAN NORTH

LOCATION MAP SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE. NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2019

STATE OF MICHIGAN — JOHN H. NUDELL — ARCHITECT — No. 1301022234 — LICENSED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

2018-052

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
LANDSCAPE COORDINATION	7/9/19
SPA - PRELIM REVISED	7/16/19
SPA - SECOND SUBMIT	8/28/19

sheet

AS101

TRUE NORTH

PLAN NORTH

1
AS102

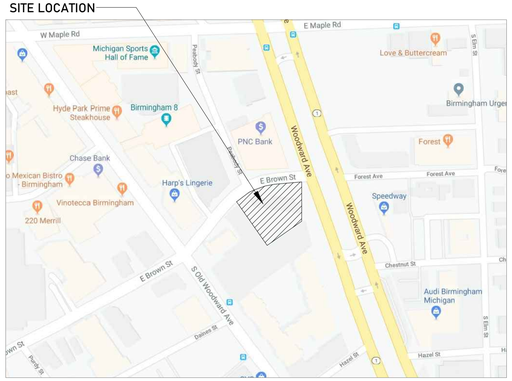
AERIAL PHOTGRAPH OF SITE & ADJACENT PROPERTIES

0' 10' 20' 40' 80'

SCALE: 1"=20'-0"

SYMBOL LEGEND	
IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201	IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.	INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION



PLAN NORTH

LOCATION MAP

SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE. NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2019

STATE OF MICHIGAN
Brandie Nudell
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/ COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

AERIAL ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

2018-052

drawn	BDL
checked	BDL
approved	JHN

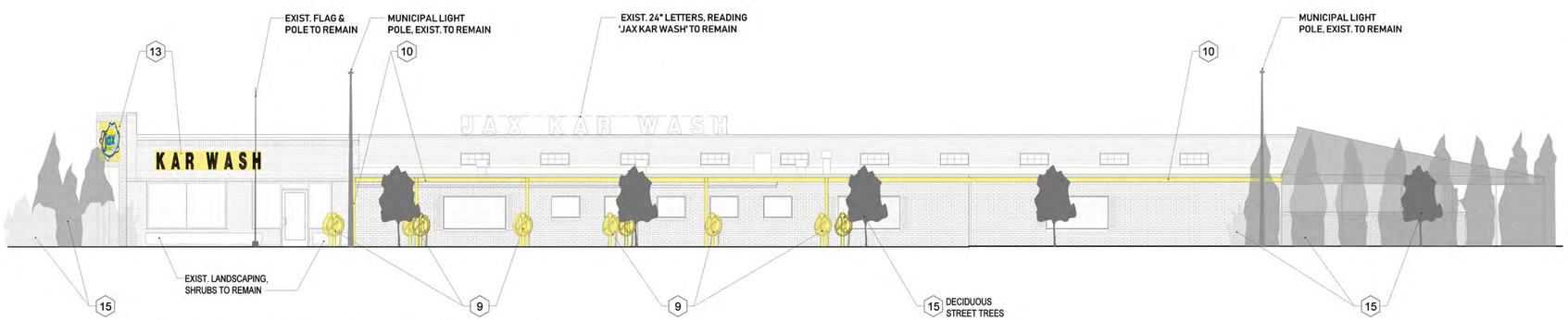
issued for	date
SPA - PRELIMINARY	7/3/19
SPA - PRELIM REVISED	7/16/19
SPA - SECOND SUBMIT	8/28/19

sheet

AS102

1 A200 PROPOSED COLOR NORTH ELEVATION (BROWN ST.)

SCALE: 1/8"=1'-0"



2 A200 PROPOSED NORTH ELEVATION (BROWN ST.)

SCALE: 1/8"=1'-0"

3 A200 REVERSE HALO LIT CHANNEL LETTERS

SCALE: N.T.S.

SIGN CALCULATIONS (BROWN ST. FACADE / NORTH ELEVATION)

(1.0) x LINEAL FEET OF FRONTAGE = 134'-11 ½" = **134.94 SF** (AVAILABLE)

24" ROOFTOP LETTERS READING 'JAX KAR WASH' = **63 SF** (EXISTING)
+
24" REVERSE HALO LIT CHANNEL LETTERS READING 'KAR WASH' = **24.3 SF** (PROPOSED)
=
TOTAL SQUARE FOOTAGE OF EXISTING AND PROPOSED SIGNAGE = **87.3 SF** (TOTAL)

12. **COLOR ELEVATION DRAWINGS SHOWING THE PROPOSED DESIGN FOR EACH FACADE OF THE BUILDING:**
REFER TO ELEVATIONS ON SHEETS A200 & A201 FOR PROPOSED DESIGN CHANGES

13. **LIST OF ALL MATERIALS TO BE USED FOR THE BUILDING, MARKED ON THE ELEVATION DRAWIINGS:**
REFER TO ELEVATION TAGS AND ITEMS IN #15, REQUESTED DESIGN CHANGES

14. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE AND OTHER PERTINENT DEVELOPMENT FEATURES**
EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200 & A201

15. **A LIST OF ANY REQUESTED DESIGN CHANGES;**

9 PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

10 PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED TO MATCH EXISTING BRICK, PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

11 N/A

12 PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

13 PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

14 N/A

15 PROPOSED LANDSCAPING - SCREENING

16. **ITEMIZED LIST OF ALL MATERIALS TO BE USED, INCLUDING EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER:**

LIMITED MATERIALS PROPOSED ON THE WOODWARD AVE. & BROWN ST. FACADES.
- SIGNAGE, BY OTHERS, REFER TO SHEET A200 & A201 FOR MORE INFORMATION.
- 8" PAINTED PVC TUBES (HORIZONTAL), COLOR TO MATCH EXISTING BRICK
- 6" PAINTED PVC TUBES (VERTICAL), COLOR TO MATCH EXISTING BRICK
- METAL STANCHION AND VACUUM HOSES
- XPT AND JAX EQUIPMENT ON 6" RAISED CONCRETE ISLAND, REFER TO SHEET AS101 FOR MORE

17. **LOCATION OF ALL EXTERIOR LIGHTING FIXTURES, EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER OF ALL FIXTURES AND A PHOTOMETRIC ANALYSIS OF ALL EXTERIOR LIGHTING FIXTURES SHOWING LIGHT LEVELS TO ALL PROPERTY LINES**
L

18. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2019

STATE OF MICHIGAN
JOHN H. NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED EXTERIOR ELEVATIONS

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

2018-052

drawn	BDL
checked	BDL
approved	JHN

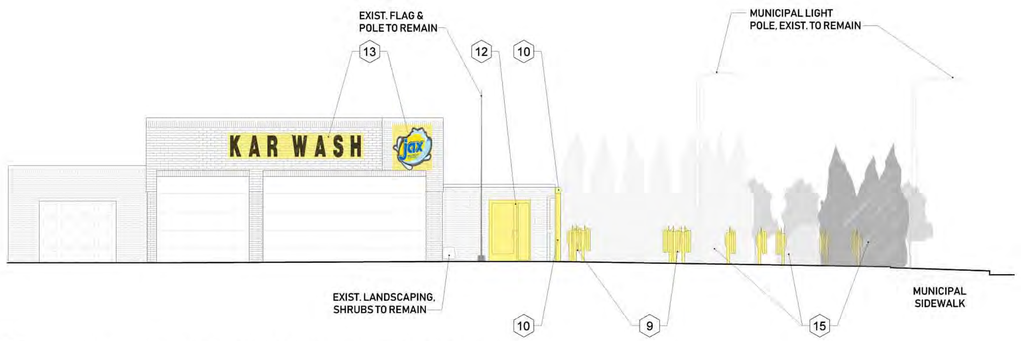
issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19

sheet

A200

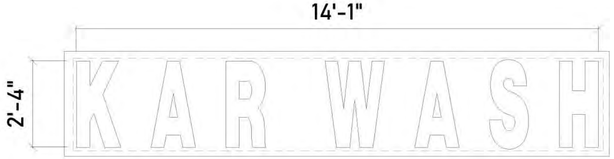
1 A201 PROPOSED EAST ELEVATION (WOODWARD AVE.)

SCALE: 1/8"=1'-0"



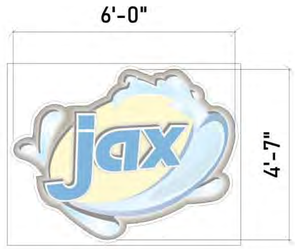
2 A201 PROPOSED EAST ELEVATION (WOODWARD AVE.)

SCALE: 1/8"=1'-0"



3 A201 REVERSE HALO LIT CHANNEL LETTERS

SCALE: N.T.S.



4 A201 REVERSE HALO LIT SIGN BOX

SCALE: N.T.S.

SIGN CALCULATIONS (WOODWARD AVE. FACADE / EAST ELEVATION)
(1.5) x LINEAL FEET OF FRONTAGE = (1.5) x 32.875 = **49.3 SF** (AVAILABLE)
24" REVERSE HALO LIT CHANNEL LETTERS READING 'KAR WASH' = **24.3 SF** (PROPOSED) + (1) REVERSE HALO LIT SIGN BOX = **18 SF** (PROPOSED) = TOTAL SQUARE FOOTAGE OF PROPOSED SIGNAGE = **42.3 SF** (TOTAL)

12. **COLOR ELEVATION DRAWINGS SHOWING THE PROPOSED DESIGN FOR EACH FACADE OF THE BUILDING:**
REFER TO ELEVATIONS ON SHEETS A200 & A201 FOR PROPOSED DESIGN CHANGES

13. **LIST OF ALL MATERIALS TO BE USED FOR THE BUILDING, MARKED ON THE ELEVATION DRAWIINGS:**
REFER TO ELEVATION TAGS AND ITEMS IN #15, REQUESTED DESIGN CHANGES

14. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE AND OTHER PERTINENT DEVELOPMENT FEATURES**
EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200 & A201

15. **A LIST OF ANY REQUESTED DESIGN CHANGES;**

9 PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

10 PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED TO MATCH EXISTING BRICK, PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

11 N/A

12 PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

13 PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

14 N/A

15 PROPOSED LANDSCAPING - SCREENING

16. **ITEMIZED LIST OF ALL MATERIALS TO BE USED, INCLUDING EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER:**

LIMITED MATERIALS PROPOSED ON THE WOODWARD AVE. & BROWN ST. FACADES.
- SIGNAGE, BY OTHERS, REFER TO SHEET A200 & A201 FOR MORE INFORMATION.
- 8" PAINTED PVC TUBES (HORIZONTAL), COLOR TO MATCH EXISTING BRICK
- 6" PAINTED PVC TUBES (VERTICAL), COLOR TO MATCH EXISTING BRICK
- METAL STANCHION AND VACUUM HOSES
- XPT AND JAX EQUIPMENT ON 6" RAISED CONCRETE ISLAND, REFER TO SHEET AS101 FOR MORE

17. **LOCATION OF ALL EXTERIOR LIGHTING FIXTURES, EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER OF ALL FIXTURES AND A PHOTOMETRIC ANALYSIS OF ALL EXTERIOR LIGHTING FIXTURES SHOWING LIGHT LEVELS TO ALL PROPERTY LINES**
L

18. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2019

STATE OF MICHIGAN
JOHN H. NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED EXTERIOR ELEVATIONS

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

2018-052

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19

sheet

A201

ARCH D - 24"x36" - 610mmx914mm (rounded)

Exterior Material Finishes

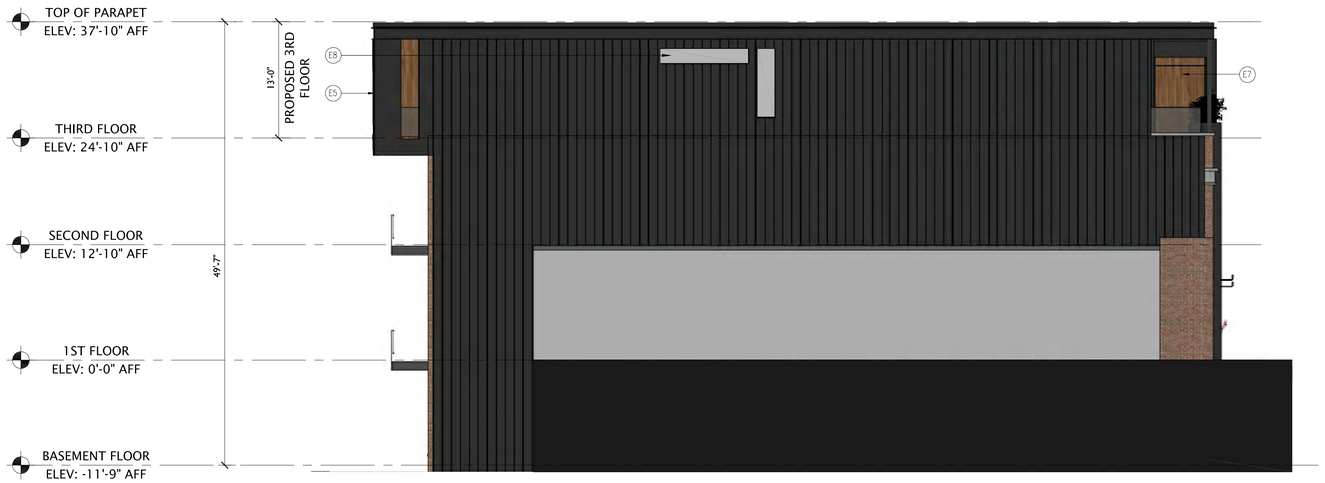
TAG	MATERIAL	MFGR.	COLOR / STYLE	REMARKS/ NOTES
E1	STONE	ARRISCRAFT INTERNATIONAL OR APPROVED EQUAL	RENAISSANCE COLLECTION COLOUR - MONTECITO	
E2	PRE-CAST STONE CAP	ARRISCRAFT INTERNATIONAL OR APPROVED EQUAL	PRECAST STONE TO MATCH ABOVE	
E3	NEW BRICK TO MATCH EXIST.	RECLAIMED BRICK	TO MATCH EXISTING	
E4	EXISTING BRICK	--	--	
E5	STANDING SEAM METAL SIDING	PAC-CLAD SNAP CLAD PANELS OR APPROVED EQUAL	MIDNIGHT BRONZE	
E6	PRE-FINISHED METAL	PAC-CLAD BREAK SHAPE METAL OR APPROVED EQUAL	MIDNIGHT BRONZE	
E7	CEDAR WOOD SIDING	LONGBOARD WOOD GRAIN ALUM. PLANKS OR APPROVED EQUAL	LIGHT CHERRY	
E8	DARK ALUM FRAME WINDOWS	TUBELITE OR APPROVED EQUAL	EXTRA DARK BRONZE	
E9	ALUM ENTRANCE DOOR	TUBELITE OR APPROVED EQUAL	EXTRA DARK BRONZE	

LEGEND

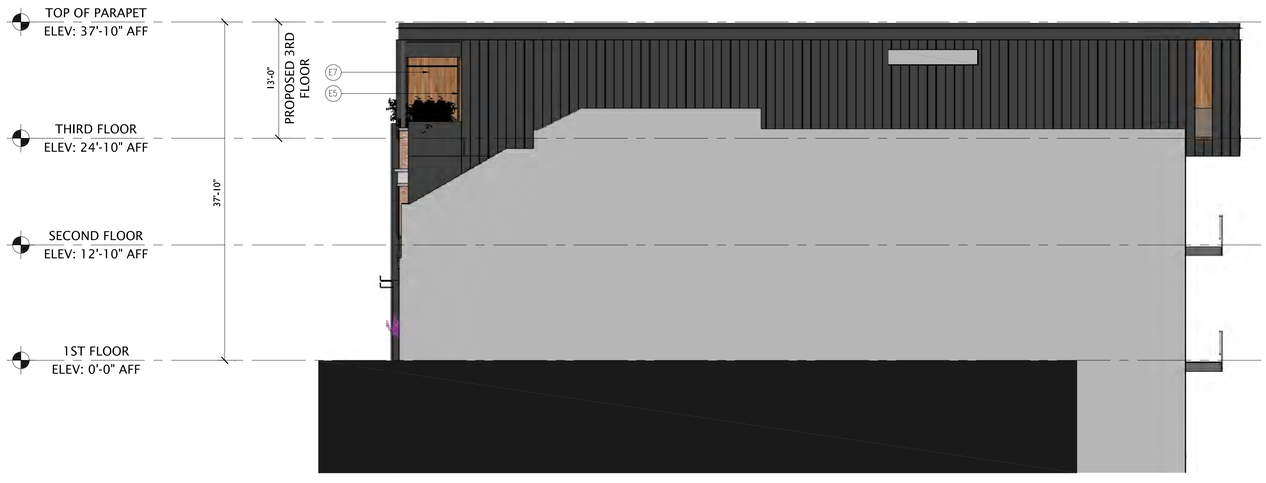
(XX) - RE: EXTERIOR FINISH SCHEDULE

Variance Chart

Requested Variance	Required	Existing	Proposed	Variance Amount
Variance A Front Setback on 3rd floor 3.04 A-1(f)	10.00 feet	N/A	0 feet	10.00 feet



2 NORTH ELEVATION - SIDE
SCALE: 1/8"



1 SOUTH ELEVATION - SIDE
SCALE: 1/8"

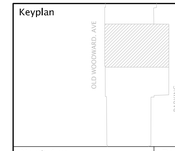
DATE	ISSUED FOR	REV
07/22/2019	PRELIM. SITE PLAN APPROVAL	0
07/22/2019	BOARD OF ZONING APPEALS	1
		2

STATE OF MICHIGAN
ANTHONY RICCIUTI
ARCHITECT
No. 1301056008
LICENSED ARCHITECT
07/22/2019

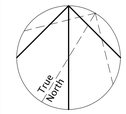
This drawing has been prepared solely for the use of Najor Companies and there are no representations of any kind made by NORR LLC to any party with whom NORR LLC has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.

Keyplan



North Arrow



Detail Symbol

Detail No.
Sheet No.

Seal(s)

NORR

NORR LLC
An Ingenium Group Company

150 W. Jefferson Ave., Suite 1300
Detroit, Michigan, 48226 USA
www.norr.com

Project Manager	Drawn
C. LANOUE	
Project Leader	Checked

Client
Najor Companies
600 N. Old Woodward Suite 100
Birmingham, Mi 48009

Project
ADDITION AND RENOVATION
720-726 N. OLD WOODWARD AVE.
BIRMINGHAM, MI

Drawing Title
COLORED ELEVATIONS

Project No.
JCDT18-0360

Drawing No.
03-02

jax
More than just a Car Wash

FAST LANE / NO CASH
OPEN
Clearance 7'2"

ANY FORM OF PAYMENT
OPEN
Clearance 7'2"

UNLIMITED CLUB ONLY
OPEN
Clearance 7'2"

THIS LANE:
CASH / CREDIT / DEBIT

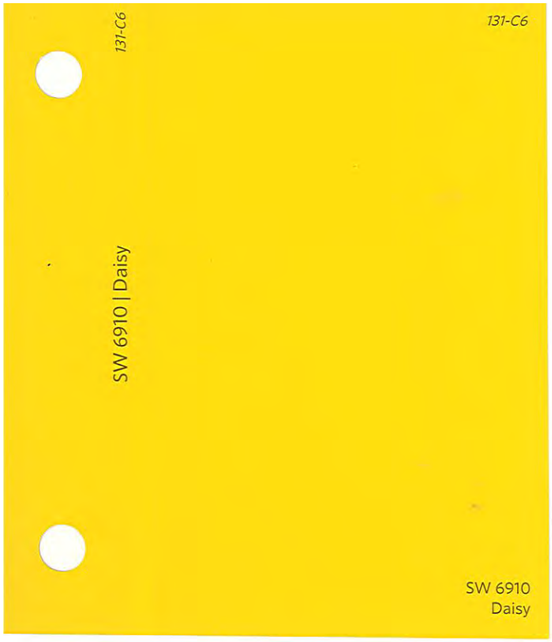
THIS LANE:
UNLIMITED CLUB ONLY
LANE RESERVED FOR
jax unlimited Club
MEMBERS
Sign up at
JaxKarWash.com/club

FREE
Dash
Towelettes
PLEASE TAKE 2

GATE RAISES WHEN PRECEDING CAR CLEARS

UNLIMITED MEMBERS SAVE
25% OFF DETAILING
PRESS "HELP"

179-C7
SW 6811 | Honorable Blue
179-C7
SW 6811
Honorable Blue


131-C6
131-C6
SW 6910 | Daisy
SW 6910
Daisy

SW 2848 | Roycroft Pewter
SW 2848
Roycroft Pewter

SW 2848 | Roycroft Pewter
SW 2848
Roycroft Pewter

SW 2836 | Quartersawn Oak
SW 2836
Quartersawn Oak

Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

© Kawneer Company, Inc., 2018

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

This suggested guide specification has been developed using the current edition of the Construction Specifications Institute (CSI) "Manual of Practice", including the recommendations for the CSI 3 Part Section Format and the CSI Page Format. Additionally, the development concept and organizational arrangement of the American Institute of Architects (AIA) MASTERSPEC Program has been recognized in the preparation of this guide specification. Neither CSI, AIA, USGBC nor ILFI endorse specific manufacturers and products. The preparation of the guide specification assumes the use of standard contract documents and forms, including the "Conditions of the Contract", published by the AIA.

PART 1 - GENERAL

1.1 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 Summary

EDITOR NOTE: CHOOSE DOOR TYPE (250T, 350T or 500T) BASED ON PROJECT REQUIREMENTS.

A. This Section includes Kawneer Thermally Broken Aluminum Entrances, glass and glazing, and door hardware and components.
   1. Types of Kawneer Thermally Broken Aluminum Entrances include:
      a. 250T Insulpour™ Thermal Entrance; Narrow stile, 2-1/2" (63.5 mm) vertical face dimension, 2-1/4" (57 mm) depth, moderate traffic applications.
      b. 350T Insulpour™ Thermal Entrance; Medium stile, 3-1/2" (88.9 mm) vertical face dimension, 2-1/4" (57 mm) depth, high traffic applications.
      c. 500T Insulpour™ Thermal Entrance; Wide stile, 5" (127 mm) vertical face dimension, 2-1/4" (57 mm) depth, high traffic applications.

EDITOR NOTE: BELOW RELATED SECTIONS ARE SPECIFIED ELSEWHERE. HOWEVER, KAWNEER RECOMMENDS SINGLE SOURCE RESPONSIBILITY FOR ALL OF THESE SECTIONS AS INDICATED IN PART 1.6 QUALITY ASSURANCE.

B. Related Sections:
   1. 072700 "Air Barriers"
   2. 079200 "Joint Sealants"
   3. 083213 "Sliding Aluminum-Framed Glass Doors"
   4. 084313 "Aluminum-Framed Storefronts"
   5. 084329 "Sliding Storefronts"
   6. 084413 "Glazed Aluminum Curtain Walls"
   7. 084433 "Sloped Glazing Assemblies"
   8. 085113 "Aluminum Windows"
   9. 086300 "Metal-Framed Skylights"
   10. 087000 "Hardware"
   11. 088000 "Glazing"
   12. 280000 "Electronic Safety and Security"

1.3 Definitions

A. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufactures Association (AAMA) – AAMA Glossary (AAMA AG).

1.4 Performance Requirements

A. General Performance: Aluminum-framed entrance doors shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

B. Aluminum-Framed Entrance Performance Requirements:

EDITOR NOTE: PROVIDE WIND LOAD DESIGN PRESSURES IN PSF AND INCLUDE APPLICABLE BUILDING CODE AND YEAR EDITION.

1. Wind loads: Provide entrance system; include anchorage, capable of withstanding wind load design pressures of (____) lbs./sq. ft. inward and (____) lbs./sq. ft. outward. The design pressures are based on the (____) Building Code; (____) Edition.

2. Air Infiltration: For single acting offset pivot or butt hung entrances in the closed and locked position, the test specimen shall be tested in accordance with ASTM E 283 at a pressure differential of 1.57 psf (75 Pa) for pairs of doors. A single 3'0" x 7'0" (915 mm x 2134 mm) entrance door and frame shall not exceed 1.0 cfm/ft^2. A pair of 6'0" x 7'0" (1830 mm x 2134 mm) entrance doors and frame shall not exceed 1.0 cfm per square foot.

3. Uniform Load Deflection: A static air design load of;
   250T: 50.13 psf (2400 Pa) for single doors and 40.10 psf (1920 Pa) for pairs of doors.
   350T: 60.15 psf (2880 Pa) for single doors and 50.13 psf (2400 Pa) for pairs of doors.
   500T: 70.19 psf (3360 Pa) for single doors and 60.15 psf (2880 Pa) for pairs of doors.
   shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 for typical application or L/180 for Small-Missile and Large-Missile impact, of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.

4. Windborne-Debris-Impact Resistance Performance: **350T** and **500T**, Shall be tested in accordance with ASTM E1886, information in ASTM E1996, and TAS 201/203.
   a. Large-Missile Impact: For aluminum-framed systems located within 30 feet (9.1m) of grade.
   b. Small-Missile Impact: For aluminum-framed systems located above 30 feet (9.1 m) of grade.

5. Blast Mitigation Performance: **350T** and **500T**, shall be tested or proven through analysis to meet ASTM F2927, GSA-TS01, and UFC 04-010.01 performance criteria.

   To meet UFC 04-010-01, B-3.3 Standard 12 for exterior doors and Standard 10 for glazing and frame bite provisions, the following options are available:
   a. Section B-3.1.1 Dynamic analysis
   b. Section B-3.1.2 Testing
   c. Section B-3.1.3 ASTM F2248 Design Approach

6. Forced Entry: Tested in accordance with AAMA 1304.

EDITOR NOTE: THERMAL TRANSMIITTANCE AND CONDENSATION RESISTANCE PERFORMANCE RESULTS ARE BASED UPON 1" CLEAR INSULATING GLASS (1/4" CLEAR WITH e= 0.035 LOW E COATING ON #2 SURFACE ,1/2" AS WITH WARM EDGE SPACER AND 90% ARGON GAS FILL, 1/4" CLEAR).

7. Energy Efficiency:
   a. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than:
      1) **250T**: Insulated Glass – 0.52 (low-e) or Project Specific (____) BTU/hr/ft^2/°F per AAMA 507 or (____) BTU/hr/ft^2/°F per AAMA 507 per NFRC 100.
   b. Solar Heat-Gain Coefficient (SHGC) : Glazed thermally broken aluminum door and frame shall have a Solar Heat Gain Coefficient (SHGC) of no greater than (_____) <Insert value> as determined according to NFRC 200.
   c. Visible Transmittance (VT): Glazed thermally broken aluminum door and frame shall have a Visible Transmittance (VT) of no greater than (_____) <Insert value> as determined according to NFRC 200.

8. Condensation Resistance Factor (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:
   a. **250T**: Insulated Glass – 49_{frame} and 68_{glass} (low-e).

9. Condensation Resistance Factor (I): When tested to CSA A440, the condensation resistance factor shall not be less than:
   a. **250T**: Insulated Glass – 37_{frame} and 66_{glass} (low-e).

10. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested in accordance with ASTM E 90, the STC and OITC ratings shall not be less than:
    a. **250T**: 37 (STC) and 32 (OITC).

C. Environmental Product Declarations (EPD): Shall have a Type III Product-Specific EPD.

Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

© Kawneer Company, Inc., 2018

1.5 Submittals

EDITOR NOTE: ADD RECYCLED CONTENT SECTION IF REQUIRED TO MEET PROJECT REQUIREMENTS AND/OR GREEN BUILDING CERTIFICATIONS SUCH AS LEED, LIVING BUILDING CHALLENGE (LBC), ETC. ARE REQUIRED.

** IF RECYCLED CONTENT REQUIREMENTS ARE NOT SPECIFIED - PRIME (ZERO RECYCLED CONTENT) ALUMUNUM COULD BE SUPPLIED.*

A. Product Data: Include construction details, material descriptions, and fabrication methods, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum-framed entrance door indicated.

1. Recycled Content:
   a. Provide documentation that aluminum has a minimum of 50% mixed pre- and post-consumer recycled content with a sample document illustrating project specific information that will be provided after product shipment.
   b. Once product has shipped, provide project specific recycled content information, including:
      1) Indicate recycled content; indicate percentage of pre- and post-consumer recycled content per unit of product.
      2) Indicate relative dollar value of recycled content product to total dollar value of product included in project.
      3) Indicate location recovery of recycled content.
      4) Indicate location of manufacturing facility.
2. Environmental Product Declaration (EPD):
   a. Include a Type III Product-Specific EPD.

B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.

C. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

D. Samples for Verification: For aluminum-framed door and components required.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type of aluminum-framed entrance doors.

F. Fabrication Sample: Corner sample consisting of a door stile and rail, of full-size components and showing details of the following:
1. Joinery, including welds.
2. Glazing.

G. Other Action Submittals:
1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.6 Quality Assurance

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of fabricating thermally broken aluminum-framed entrance doors and storefronts that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports and calculations.

C. Source Limitations: Obtain thermally broken aluminum-framed door through one source from a single manufacturer.

D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum-framed glass entrance doors and are based on the specific system indicated. Refer to Division 01 Section “Product Requirements”. Do not modify size and dimensional requirements.
1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Build mockup for type(s) of swing entrance door(s) indicated, in location(s) shown on Drawings.

F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

© Kawneer Company, Inc., 2018

1.7 Project Conditions

A. Field Measurements: Verify actual dimensions of thermally broken aluminum-framed door openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.8 Warranty

A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty.
   1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer.

PART 2 - PRODUCTS

2.1 Manufacturers

EDITOR NOTE: CHOOSE DOOR TYPE (250T, 350T or 500T) BASED ON PROJECT REQUIREMENTS.

A. Basis-of-Design Product:
   1. Kawneer Company Inc.
   2. The door stile and rail face dimensions of the [_____] (choose one: 250T, 350T or 500T) Insulpour™ Thermal Entrance will be as follows:

Door	Vertical Stile	Top Rail	Standard Bottom Rail	Select Optional Bottom Rail
250T:	2-1/2" (63.5 mm)	2-15/16" (74.6 mm)	3-7/8" (98.4 mm)	6-1/2" (165.1 mm) 7" (177.8 mm) 10" (254 mm) 12" (304.8 mm)
350T:	3-1/2" (88.9 mm)	3-1/2" (88.9 mm)	6-1/2" (165.1 mm)	7" (177.8 mm) 10" (254 mm) 12" (304.8 mm)
500T:	5" (127 mm)	5" (127 mm)	6-1/2" (165.1 mm)	7" (177.8 mm) 10" (254 mm) 12" (304.8 mm)

   3. Major portions of the door members to be 0.125" (3.2 mm) nominal in thickness and glazing molding to be 0.05" (1.3 mm) thick
   4. Glazing gaskets shall be either EPDM elastomeric extrusions or a thermoplastic elastomer.
   5. Provide adjustable glass jacks to help center the glass in the door opening.

EDITOR NOTE: PROVIDE INFORMATION BELOW INDICATING APPROVED ALTERNATIVES TO THE BASIS-OF-DESIGN PRODUCT.

B. Subject to compliance with requirements, provide a comparable product by the following:
   1. Manufacturer: (_____)
   2. Series: (_____)
   3. Profile dimension: (_____)
   4. Performance Grade: (_____)

C. Substitutions: Refer to Substitutions Section for procedures and submission requirements
   1. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
   2. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid installation and construction delays.
   3. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
   4. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for aluminum entrance and storefront system performance criteria, and (2) has been engaged in the design, manufacturer and fabrication of aluminum entrances and storefronts for a period of not less than ten (10) years. (Company Name)
   5. Test Reports: Submit test reports verifying compliance with each test requirement required by the project.
   6. Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.

D. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

© Kawneer Company, Inc., 2018

2.2 Materials

A. Aluminum Extrusions: Alloy and temper recommended by aluminum-framed door manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.125" (3.2 mm) wall thickness at any location for the main frame and door leaf members.

EDITOR NOTE: ADD RECYCLED CONTENT SECTION IF REQUIRED TO MEET PROJECT REQUIREMENTS AND/OR GREEN BUILDING CERTIFICATIONS SUCH AS LEED, LIVING BUILDING CHALLENGE (LBC), ETC. ARE REQUIRED.

** IF RECYCLED CONTENT REQUIREMENTS ARE NOT SPECIFIED - PRIME (ZERO RECYCLED CONTENT) ALUMUNUM COULD BE SUPPLIED.*

1. Recycled Content: Shall have a minimum of 50% mixed pre- and post-consumer recycled content.
   a. Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.
   b. Indicate relative dollar value of recycled content product to total dollar value of product included in project.
   c. Indicate location recovery of recycled content.
   d. Indicate location of manufacturing facility.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum-framed door members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

E. Slide-In-Type Weather Stripping: Provide woven-pile weather stripping of wool, polypropylene, or nylon pile and resin-impregnated backing fabric. Comply with AAMA 701/702.
   1. Weather Seals: Provide weather stripping with integral barrier fin or fins of semi-rigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 701/702.

F. Thermal Barrier: Shall be IsoPour™ utilizing two continuous rows of polypropylene with a nominal 7/32" (5.5 mm) separation consisting of a two-part, chemically curing high density polyurethane which is mechanically and adhesively bonded to the aluminum at door rails and stiles.

2.3 Storefront Framing System

EDITOR NOTE: CHOOSE ENTRANCE FRAMING TYPE BASED ON PROJECT REQUIREMENTS.

A. Storefront Entrance Framing:
   1. Trifab™ VG 451T
   2. Trifab™ 451UT
   3. Trifab™ 601/601T
   4. Thermally Broken entrance Framing - Kawneer IsoLock™ Thermal Break with a 1/4" (6.4 mm) separation consisting of a two-part chemically curing, high-density polyurethane, which is mechanically and adhesively joined to aluminum storefront sections.
      a. Thermal Break shall be designed in accordance with AAMA TIR-A8 and tested in accordance with AAMA 505.

B. Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel.

D. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

E. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

F. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

2.4 Glazing

A. Glazing: As specified in Division 08 Section “Glazing”.

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

© Kawneer Company, Inc., 2018

2.5 Hardware

A. General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, or other corrosion-resistant material compatible with aluminum; designed to smoothly operate, tightly close, and securely lock aluminum-framed entrance doors.

B. Standard Hardware:
1. Weather-stripping:
   a. Meeting stiles on pairs of doors shall be equipped with two lines of weather-stripping utilizing wool pile with polymeric fin.
   b. The door weathering on a single acting offset pivot or butt hung door and frame (single or pairs) shall be comprised of a thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing and a wool pile with polymeric fin.
2. Sill Sweep Strips: EPDM blade gasket sweep strip in an aluminum extrusion applied to the interior exposed surface of the bottom rail with concealed fasteners (Necessary to meet specified performance tests).
3. Threshold: Extruded aluminum, thermally broken, with ribbed surface.
4. Offset Pivots: [_____]. (Note: EL Offset Pivot available for access control)
5. Butt Hinge: [_____]. Kawneer Standard is Stainless Steel w/ Powder Coating & Non Removable Pin (NRP) (NOTE: EL Hinge available for access control)
6. Continuous Hinge: [_____].
7. Push/Pull: [_____] style.
8. Exit Device: [_____].
9. Closer: [_____].
10. Security Lock/Dead Lock: Active Leaf [_____]; Inactive Leaf [_____].
11. Latch Handle: [_____].
12. Cylinder(s)/Thumbturn: [_____].
13. Electric Strike/Strike Keeper: [_____].

C. Optional Hardware:

EDITOR NOTE: SUBSTITUTE OPTIONAL HARDWARE PER PROJECT REQUIREMENTS.

1. Adams Rite MS 1850A-505 Hookbolt Lock.
2. Mortise cylinder, interior or exterior.
3. Thumbturn, interior.
4. Flush pull.

2.6 Fabrication

A. Fabricate thermally broken aluminum-framed entrance doors in sizes indicated. Include a complete system for assembling components and anchoring doors.

B. Fabricate thermally broken aluminum-framed doors that are reglazable without dismantling perimeter framing.
1. Door corner construction shall consist of mechanical clip fastening, SIGMA deep penetration plug welds and 1" (25.4 mm) long fillet welds inside and outside of all four corners. Glazing stops shall be hook-in type with EPDM glazing gaskets reinforced with non-stretchable cord.
2. Accurately fit and secure joints and corners. Make joints hairline in appearance.
3. Prepare components with internal reinforcement for door hardware.
4. Arrange fasteners and attachments to conceal from view.

C. Weather-stripping: Provide weather-stripping locked into extruded grooves in door panels or frames as indicated on manufactures drawings and details.

2.7 Aluminum Finishes

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing:
1. Kawneer Permanodic™ AA-M10C21A44 / AA-M45C22A44, AAMA 611, Architectural Class I Color Anodic Coating (Color _____).
2. Kawneer Permanodic™ AA-M10C21A41 / AA-M45C22A41, AAMA 611, Architectural Class I Clear Anodic Coating (Color #14 Clear) (Optional).
3. Kawneer Permanodic™ AA-M10C21A31, AAMA 611, Architectural Class II Clear Anodic Coating (Color #17 Clear) (Standard).
4. Kawneer Permafluor™ (70% PVDF), AAMA 2605, Fluoropolymer Coating (Color _____).
5. Kawneer Permadize™ (50% PVDF), AAMA 2604, Fluoropolymer Coating (Color _____).
6. Kawneer Permacoat™ AAMA 2604, Powder Coating (Color _____)
7. Other: Manufacturer _____ Type _____ Color _____.

Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

© Kawneer Company, Inc., 2018

PART 3 - EXECUTION

3.1 Examination

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated installation.
   1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
   2. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches (76 mm) of opening.
   3. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
   4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing thermally broken aluminum-framed entrance doors, hardware, accessories, and other components.

B. Install thermally broken aluminum-framed entrance doors level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

C. Set sill threshold in bed of sealant, as indicated, for weather tight construction.

D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 Field Quality Control

A. Manufacturer's Field Services: Upon Owner's written request, provide periodic site visit by manufacturer's field service representative.

3.4 Adjusting, Cleaning, and Protection

A. Clean aluminum surfaces immediately after installing aluminum-framed door and storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

DISCLAIMER STATEMENT

This guide specification is intended to be used by a qualified construction specifier. The guide specification is not intended to be verbatim as project specification without appropriate modifications for the specific use intended. The guide specification must be used and coordinated with the procedures of each design firm, and the particular requirements of a specific construction project.

END OF SECTION 084113

Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

© Kawneer Company, Inc., 2018

Sitto Industries

Signs . Displays . Exhibits
Design . Engineering . Manufacturing . Installation . Service

Manufacturing Quality Since 1976

- Design, Engineering, Fabrication, Installation, Service
- Architectural Landmarks Signs and Displays
- National Brand Signs
- Marque Signs
- Transportation: Directional, Digital and Safety Signs
- LED Information Systems
- Custom To Your Needs

Sitto Industries Inc.
Local: 248.399.0111
Fax: 248.232.2540
Toll Free Nationwide: 800.690.0600
Email: sales@sitto.com

www. sitto.com

- Design, Engineering, Fabrication, Installation, Service
- Architectural Landmarks Signs and Displays
- National Brand Signs
- Marque Signs
- Transportation: Directional, Digital and Safety Signs
- LED Information Systems
- Custom To Your Needs

Sitto Industries Inc.
Local: 248.399.0111
Fax: 248.232.2540
Toll Free Nationwide: 800.690.0600
Email: sales@sitto.com

Sitto Industries

Signs . Displays . Exhibits
Design . Engineering . Manufacturing . Installation . Service

Manufacturing Quality Since 1976

- Design, Engineering, Fabrication, Installation, Service
- Architectural Landmarks Signs and Displays
- National Brand Signs
- Marque Signs
- Transportation: Directional, Digital and Safety Signs
- LED Information Systems
- Custom To Your Needs

Sitto Industries Inc.
Local: 248.399.0111
Fax: 248.232.2540
Toll Free Nationwide: 800.690.0600
Email: sales@sitto.com

www. sitto.com

Sitto Industries

Signs . Displays . Exhibits
Design . Engineering . Manufacturing . Installation . Service

Manufacturing Quality Since 1976

- Design, Engineering, Fabrication, Installation, Service
- Architectural Landmarks Signs and Displays
- National Brand Signs
- Marque Signs
- Transportation: Directional, Digital and Safety Signs
- LED Information Systems
- Custom To Your Needs

Sitto Industries Inc.
Local: 248.399.0111
Fax: 248.232.2540
Toll Free Nationwide: 800.690.0600
Email: sales@sitto.com

City of Birmingham
A Walkable Community

MEMORANDUM

Engineering Dept.

DATE: **September 9, 2019**

TO: **Jana Ecker, Planning Director**

FROM: **Paul T. O'Meara, City Engineer**

SUBJECT: **JAX Car Wash Renovations**
34745 Woodward Ave.

The Engineering Dept. has reviewed the revised site plan dated August 28, 2019. The following comments are provided at this time:

1. The plan has proposed three evergreen trees as well as other landscaping in the right-of-way of Woodward Ave., just south of Brown St. The proposal would result in an unacceptable sight distance hazard for the multiple vehicles that need to exit the JAX car wash facility on a daily basis. The City's code reads that no landscaping obstructions are allowed on private property within a 25 ft. sight triangle extending from a corner when a property is located adjacent to the intersection of two public streets. Evergreen trees are never allowed in the right-of-way for this same reason, as they would serve to obstruct the view of drivers attempting to pull on to public street. We are also confident that the proposal will not receive approval from the Michigan Dept. of Transportation, due to the same sight distance concerns.
2. The plan has proposed the installation of five new trees in the narrow Brown St. right-of-way in front of the site. There have never been City trees in this area, due to the lack of public right-of-way. The proposal as shown is physically impossible to construct, and will not receive a permit from the Engineering Dept. as shown. Note that when the City's standard tree grates are installed, an additional six inches minimum of concrete must be installed between the street curb and the tree grate to provide concrete in which steel anchors that support the tree grate can be poured. Therefore, the center of the new tree would be 2.5 ft. south of the back of the curb, and it is surrounded by a 12 inch open circle for future tree growth. Even if the design uses the metal tree grate as a part of the walking surface, the City sidewalk would be only 4.7 ft. wide, in violation of City policy. In order to introduce City trees in this area, the applicant should consider providing an easement to the City for sidewalk purposes, thereby allowing reconstruction of the sidewalk in such a way that there is sufficient room both for pedestrians and trees. Another option, since there is no parking on this section of Brown St., would be to remove 2.5 ft. wide sections of concrete immediately behind the curb, to provide room for perennial plants and mulch.
3. While not in conflict with City code, the Engineering Dept. also does not recommend the installation of evergreen trees on private property to the west of the new Brown St. exit driveway. Assuming the driveway will be used frequently during business hours, the trees will serve as a sight distance conflict between the drivers using this exit, as the trees will obscure the view of both pedestrians and bicyclists that may be using the adjacent City sidewalk. Lower growing plants would be more appropriate.

City of Birmingham
A Walkable Community

Jana Ecker <jecker@bhamgov.org>

RE: 2018-052, Jax Kar Wash, Birmingham_ Site Landscape Plan

1 message

Jason Milen - Jax Kar Wash <jason@jaxkarwash.net> Fri, Oct 11, 2019 at 3:38 PM
To: Jana Ecker <Jecker@bhamgov.org>
Cc: Brian Lawson <blawson@jhn.com>, Bradley Scobel <BScobel@seyburn.com>

Hi Jana,

We've tried, and cannot find any other way to make the plan work and maintain the escape lane. Therefore, we would like to stay on the agenda for the next meeting, and let it go to a vote. I understand it will likely be denied, then we'll ask to go to the ZBA and hope that they will see that this will solve the problem of the traffic backing up onto Brown Street at the entrance, and that with the proposed plan, we're 75% the way there to meet the landscaping/screening requirements due to the sections on the east and west we've drawn -- that it will be so much better than it is now!

As for the MDOT issue, we have from them:
"If the City of Birmingham is OK with accepting any and liability associated with cars driving/turning on their sidewalk then MDOT is OK with it."

Our attorney, Brad Scobel will contact the city attorney to try to work this out, as we are insured and would be willing to offer Birmingham indemnity in the event of any liability.

From: Gough, Stacey (MDOT) [mailto:goughs@michigan.gov]
Sent: Tuesday, October 8, 2019 9:41 AM
To: Bradley Scobel <BScobel@seyburn.com>
Cc: Gough, Stacey (MDOT) <goughs@michigan.gov>; Ibrahim, Faisal (MDOT) <IbrahimF1@michigan.gov>; Roeder, Fredrick (MDOT) <RoederF@michigan.gov>
Subject: RE: Jax Kar Wash - Woodward, Birmingham

Bradley,

If the City of Birmingham is OK with accepting any and liability associated with cars driving/turning on their sidewalk then MDOT is OK with it.

Thanks,
Stacey

Stacey Gough
MDOT Oakland TSC
Utility & Permits Engineer
800 Vanguard Drive
Pontiac, MI 48341
248-451-2453 (office)
248-895-2558 (cell)

M E M O R A N D U M

TO: Jason Milen, Bruce Milen

FROM: Bradley F. Scobel, Esq.

RE: Jax Kar Wash: Right of Way Easement - Rights and Liabilities

DATE: June 25, 2020

BACKGROUND

Since early 2019, Jax Kar Wash (Birmingham location), has been working with the City of Birmingham to re-design its traffic flow pattern on its property which is located off of Woodward Avenue and Brown Street in downtown Birmingham. The new traffic flow pattern was created to increase the safety of Jax customers (by allowing all customers to remain in their vehicles), as well as to reduce the spill-over (or "stacking") of vehicles on Brown Street, which commonly occurs during peak hours. In connection with the newly proposed traffic flow pattern, interior and detail customers would exit the building, and make a quick left turn to a staging area on the north side of building. Jax has been doing this for more than forty (40) years without issue, the only difference being that previously the vehicles were driven by Jax employees instead of its customer, and the area on the north side of the building was used for holding customers' vehicles rather than for interior cleaning.

The current traffic flow pattern, however, is extremely inefficient and causes a number of safety issues, all of which Jax hopes to correct with the new traffic flow pattern and the additional screening. For example, the current traffic flow pattern requires all customers to exit their vehicles while in line and traverse several lanes of cars waiting to enter the building. As Jax is a year round operation, this occurs doing all types of weather conditions. As such, customers are vulnerable not only to slip and fall accidents but also to being struck by vehicles moving to enter the wash. Compounding the issue is the fact that the sophistication and variety of newer vehicles is on the rise and many of the newer vehicles are unique in the manner in which they operate. As a result, it has become difficult for Jax employees to be able to understand how to correctly operate each and every make and model of vehicle, which can lead to delays as well as the sudden and unexpected movement of vehicles. The proposed traffic flow pattern would permit the customers to drive their own vehicles, virtually eliminating these concerns. Finally, the current traffic flow pattern contributes to the issue of vehicles "stacking" on Brown Street during peak hours, as the process of moving the vehicles into the building takes longer than it would by having each customer operate their own vehicle. The proposed traffic flow pattern would increase the rate at which vehicles are able to enter the wash, as well as, providing a substantial increase in the number of vehicles that can be physically held on Jax' property while waiting to enter the wash.

When the newly proposed traffic flow pattern was proposed to the City, the City requested Jax that incorporate various new screening areas in order to maintain and improve upon the property's upscale appearance. Initially, Jax was unable to incorporate all of the City's requests;

however, after many hours of design and consultation with its architect, Jax has been able to revise its traffic flow pattern and site plan such that by simply retaining an additional curb cut on Brown Street (for use as an emergency exit), Jax will now be able to incorporate all the screening requested by the City.

ISSUE:

Having what Jax' believes is a resolution to the initial issue of the required screening, Jax has asked us to render our opinion with respect to a concern raised by one of the City's council members during a previously held planning meeting. During that meeting, a council member asked whether MDOT would permit this traffic flow pattern and whether the City had potential liability by approving the proposed site plan.

ANALYSIS:

Please note that under the proposed traffic flow pattern, vehicles do not enter the actual roadway (e.g. Woodward Ave), and remain fully on Jax's property at all times. As such, MDOT has little authority to regulate how Jax uses its property, or the traffic flow on it. Although a portion of Jax' property is subject to the road right-of way, the use of such property (to the extent not used for actual roadway purposes), cannot be restricted by MDOT, other than prohibiting the placement of permanent structures or other improvements that could interfere with the use of the roadway. In other words, the property owner is not denied the use and enjoyment of the portion of its property which is subject to a road right-of-way, but which is not actually used for roadway purposes. Despite the same, we contacted MDOT's safety and engineering department, which indicated that MDOT did not have issue with the proposed traffic flow pattern, as long as the liability, if any, was acceptable to the City.

Prior to continuing this analysis, a few basic concepts should be noted, as follows:

A) A road right-of-way, for all intents and purposes, is akin to an easement. All properties which border a public roadway will be subject to a road right-of-way, but only the portion of the road right-of-way which is actually used for road purposes becomes unusable by the property owner. The remainder of the road right-of-way is free to be used by a property owner in any manner the property owner desires as long as no permanent structures are constructed on it.

B) Although roadways are directional, rights-of-way are not. There is no statutory right or wrong way to traverse a right-of-way. Case in point: if there were, none of us would be able to use our own driveways, since most of our homes are subject to a road right-of-way where the driveway meets the public road.

C) A property owner still owns the portion of the land which is subject to a right-of-way and still retains the ability to utilize such land as desired, other than the portion of the right-of-way actually used for road purposes.

1. **Jax has the right to use its property so long as it is not encroaching or unreasonably interfering with the Woodward Avenue right of way.**

Jax owns the land and has all rights associated with landownership, including the use and enjoyment thereof. Although a right-of-way easement may encumber portions of a property not being used for road purposes, the party benefitted by the right-of-way cannot impose new, additional burdens on the property owner's land.

An easement [or right-of-way], is an interest in real estate that gives one person the right to use another's land for a specified purpose. *Eyde v. State*, 82 Mich App 531 (1978). A right of way grants the right to passage over the grantor's land, along with such rights as are incidental or necessary to the right of passage. *Harvey v Crane*, 85 Mich 316, 322 (1891); *Lakeside Associates v Toski Sands*, 131 Mich App 292, 299-300 (1983). "An easement does not displace the general possession of the land by its owner," but merely grants the holder the right to enjoy the rights conferred by the easement. *Schadewald v. Brule*, 225 Mich App 26, 35 (1997).[1]

In this case, Jax still owns the portion of its land subject to the right-of-way. *Eyde Bros Dev Co v Eaton Co Drain Comm'r*, 427 Mich 271, 297 (1986) ("landowner with property abutting a highway dedicated by user retains the fee in the property."); *Morrow v. Boldt*, 203 Mich App 324, 329 (1994) ("owners of land abutting a street are presumed to own the fee to the property all the way to the center of the street, subject to the easement of public way.")

"***The owner of the fee subject to an easement may rightfully use the land for any purpose not inconsistent with the rights of the owner of the easement.***" *Lakeside*, 131 Mich App at 299-300 (emphasis added) (quoting *Harvey*, 85 Mich at 322); *Morelli v City of Madison Hts*, 315 Mich App 699, 703 (2016) ("The owner of the fee subject to an easement may rightfully use the land for any purpose not inconsistent with the easement owner's rights."). As the Michigan Supreme Court stated in *Greve v Caron*, 233 Mich 261, 267 (1925):

> At no time could the owner of the dominant estate [MDOT] exclude the owner of the servient estate [Jax] from using the way in any manner desired so long as there was no serious interference with the reasonable exercise of the easement. Neither MDOT nor the City ever had title to the land included in the right-of-way, and it was none of their concern what use was made thereof by the owner of the soil so long as such use did not obstruct the right-of-way.

Accord Cameron, § 6.23 ("[T]he owner of the servient tenement may make any use of the premises that is not inconsistent with the easement…the owner of the servient tenement has the right to

[1] In *Schadewald*, the plaintiff obtained an injunction when their neighbor sought to increase the burden on the servient estate. A similar proactive approach could be used here.

construct improvements over the easement as long as such improvements do not obstruct the passage of the owner of the dominate state.").[2]

As such, Jax has the right to use the land as it sees fit so long as it does not unreasonably interfere with the right of way easement. Woodward Avenue is a public road and therefore the general public's use stops at the curb. Cars that are turning left out of the building remain on Jax' property and are never on Woodward Avenue. Jax use of the unimproved portions of the right-of-way for vehicular travel does not interfere with the public's ability to travel along Woodward Avenue.

An easement's owner cannot materially increase the burden of it on the servient estate or impose new and additional burdens thereon. *Schadewald*, 225 Mich App at 36. Attempting to impose a new one-way driving use restriction, would create a new and additional burden on Jax's land, which is not permissible by law.[3] This result is in the best interest of all concerned as will be further explained when liability is discussed in Section 2 below.

2. Other statutes indicate that the unimproved portions of the Woodward Avenue right of way are outside of the City's/MDOT's jurisdiction and protect the same from liability.

The City's and Road Commission's liability is limited by the Governmental Tort Liability Act (the "GTLA"). The GTLA provides that "each governmental agency having jurisdiction over a highway shall maintain the highway in reasonable repair so that it is reasonably safe and convenient for public travel." MCL § 691.1402. Except as provided in MCL 691.1402a, which addresses sidewalks, "the duty of a governmental agency to repair and maintain highways, and the liability for that duty, e***xtends only to the improved portion of the highway designed for vehicular travel and does not include sidewalks, trailways, crosswalks, or any other installation outside of the improved portion of the highway designed for vehicular travel.***" MCL 691.1402(1) (emphasis added).

Similarly, a county road commission authority as well as MDOT are limited to the shoulder and roadway. MCL 224.19b empowers the county road commission to establish reasonable permit requirements. Generally, with the exception of sidewalk installation and repair, operations may not occur within a county road right-of-way without a permit from the road commission as well as the township, city, or village in which the road is located. MCL 224.19b. Specifically, "[t]he adjacent property owner is not required to obtain a permit for work incidental to the maintenance of the right of way ***lying outside of the shoulder and roadway***." MCL 224.19(b)(1) (emphasis added).

---

[2] Note that the common law right to make improvements over a public right of way was abrogated in MCL § 247.171 et seq.

[3] What may be considered a proper and reasonable use by the owner of the fee as distinguished from an unreasonable and improper use, and what may be necessary to plaintiff's beneficial use and enjoyment, are questions of fact to be determined by the trial court or jury. *Collins v Schmidt*, 2017 Mich. App. LEXIS 1720, at *7-8 (Ct App, Oct. 24, 2017)

The use of the right-of-way on Jax' property which is not actually used as a roadway, is not within the purview of the City/Road Commission, and as mentioned above, this is actually best for all parties concerned. While the City/Road Commission already enjoy the benefits of governmental immunity by statute, the lack of authority of the City/Road Commission to determine specifically when and how vehicles enter the portion of the right-of-way not being used for roadway purposes, further bolsters the argument that neither the City nor the Road Commission can be subject to liability for the way in which Jax chooses to utilize its property. Liability remains solely with Jax, and more precisely, Jax's insurance carrier.

CONCLUSION:

The government's liability and permitting process does not extend to portions of the right-of-way not used for roadway purposes. Jax is the fee owner of the land and has all the rights associated therewith, including, but not limited to, the right to traverse the right-of-way, as long as it does not unreasonably interfere with the use of the right-of-way, such as would occur by constructing improvements thereon. The portions of the right-of-way that are not being used for Woodward, are of no consequence to either MDOT or the City. Notwithstanding the request of the councilman, MDOT has no rights of approval over this issue. Simply put, until such time as the right-of-way is utilized for road purposes, Jax is permitted to use the same as it sees fit, without imposing liability on either MDOT or City. Moveover, as Jax has utilized its property in this manner for over forty (40) years without issue, the same demonstrates that utilizing its property (and the right-of-way) in the manner being requested, poses no significant safety and/or liability issues.

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

July 8, 2020

VIA EMAIL

Ms. Jana L. Ecker
Planning Director
City of Birmingham
151 Martin Street, P.O. Box 3001
Birmingham, MI 48012

RE: Jax Kar Wash
34745 Woodward Ave. Birmingham, MI
Site Plan Review

Dear Ms. Ecker:

Fleis & VandenBrink (F&V) staff have completed our review of the proposed Jax Kar Wash (34745 Woodward Ave.) The updated site plan is dated June 4, 2020 and was received by F&V on July 1, 2020. Based on our review we have the following comments:

1. The proposed queueing area has been revised from the existing operations to an automated system with three separate lanes: 1) Cash & Detail Only, 2) FastLane, and 3) Unlimited Club. An analysis is recommended to determine the recommended vehicle queue length required for the site based on the proposed operations and the maximum service rate of the car wash. Based on the results of this analysis the site layout and circulation plan should be reviewed and revised, as necessary.
2. The MDOT Oakland TSC indicated in their review of this site access (via email 10/8/2019) that they did not have concerns about the counterflow site access onto Woodward Ave. However, MDOT did note there is a concern with the site utilizing the sidewalk adjacent to Woodward Ave. We agree with MDOT and the continued use of the sidewalk in this area to facilitate vehicle movements is not recommended. In addition, the proposed vehicle queueing for the vacuum area has the potential to further block the sidewalk during peak times, presenting an additional concern regarding ADA accessibility adjacent to the site. As shown in the Google Streetview from June 2019 and August 2018 the sidewalk is currently utilized for vehicle queuing without the proposed vacuum stations.

June 2019-Google Streetview

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

August 2018-Google Streetview

SUMMARY

- The applicant should provide ingress queuing calculations for the site based on the maximum service rate for the proposed operations. The site layout should be revised, as necessary, to accommodate the projected vehicle queueing calculated for the proposed operations.
- The egress movement of vehicles should be designed to reduce pedestrian vehicle conflicts, including the use of the sidewalk to facilitate vehicle queuing.

We hope that this report addresses the City's needs regarding this project. If you have any questions, please do not hesitate to contact us at your convenience.

Sincerely,

FLEIS & VANDENBRINK ENGINEERING, INC.

Julie M. Kroll

Julie M. Kroll, PE, PTOE
Traffic Engineering Services Manager

SPALDING DEDECKER
Engineering & Surveying Excellence since 1954

MEMORANDUM

DATE: 12/7/2020

TO: Mr. Jason Milen

ORGANIZATION NAME: Jax Kar Wash

FROM: Kyle M. Bassett, P.E.

RE: Traffic Study for Jax Kar Wash

JOB NO.: RB20014

Introduction:

This memorandum summarizes the results of the traffic study that was conducted for the proposed layout changes to the Jax Kar Wash facility in Birmingham, Oakland County, Michigan, located at the corner of Brown Street and Woodward Avenue. As part of the site plan approval process the City of Birmingham has requested more information about vehicle circulation and queuing. The following study quantifies the impacts of the new pay stations and possible vehicle queues as part of the site plan approval process.

The existing site contains a 6,583 square foot building, two interior cleaning lines, an unmanned electronic pay station, and an existing attendant pay booth. The site modifications include removal of both of the existing booths, the addition of three new unmanned electronic pay stations, and relocating the interior cleaning lines. No changes will be made to the existing building.

The study presented in this memorandum measures service rates, queues of the existing site, and a comparison of these values with the proposed conditions.

Existing Conditions:

The existing Jax Kar Wash is located at the southwest corner of the intersection of Brown Street and Woodward Avenue. The site has two entrances off of Brown Street; one for the parking area for the front of the building (East approach) and the other is for the car wash queueing area (West approach). The exit approach for the vehicles exiting the car wash is off Woodward Avenue. Vehicles entering the car wash are split between a manned attendant pay booth and one unmanned electronic pay station. Following the payment booths, vehicles have access to the detailing area, an express detailing facility, an interior cleaning line, and the entrance to the car wash conveyor. The available queuing spots provide space for

vehicles that are waiting for an interior cleaning and those waiting to enter the car wash without an interior clean. Vehicles exiting the car wash have the option of exiting on to Woodward Avenue or looping back on site to the detailing area.

Data Collection:

Potential peak periods were identified to perform a count for in order to determine the arrival rate of the existing site. The dates and times used to determine peak arrival rate were Wednesday October 21, 2020 from 11:00am – 1:00pm and 5:00pm – 7:00pm and Friday October 23, 2020 from 11:00am – 1:00pm and 5:00pm – 7:00pm. Count data was taken in five minute intervals.

Another location of Jax Kar Wash located in Clinton Township, Macomb County, Michigan, equipped with comparable electronic pay station system was analyzed to determine the potential service rate of the proposed electronic booths. The service rates determined by this count were compared to service rates of the existing layout at the Birmingham location. Service rates were determined for the different stages of the car wash process including; time at the booth, travel time from booth to the beginning of the car was conveyor, and time in the car was to exit.

Queue lengths were recorded at five minute intervals for each of the previously mention study times. Vehicles included in the queue count for the existing layout include those at or in line for the payment booths, vehicles at or in line for the interior cleaning stations, and vehicles in line to enter the car wash conveyor, as well as vehicles in the car wash.

Table 1: Arrival Rates and Queue Lengths

	10/21/2020		10/23/2020	
	11:00am-1:00pm	5:00pm-7:00pm	11:00am-1:00pm	5:00pm-7:00pm
Average Queue	2.54	4.17	5.17	1.04
Average Peak Queue	3.00	6.58	4.83	1.25
Max Queue Length	7	9	10	3
Average Arrival Rate (veh/hr)	30.0	40.0	52.5	11.5
Peak Arrival Rate (veh/hr)	32.0	54.0	59.0	14.0

Proposed Conditions:

Several modifications are proposed for the Birmingham Jax Kar Wash facility. The two interior cleaning lines within the queueing area are to be removed. Six vacuum stations will be added on the front side of the building that vehicles may access after exiting the car wash. The existing manned attendant pay booth and the existing electronic pay station are to be removed and replaced with three unmanned electronic pay stations further upstream of the queue than the existing booths. This will change the queueing capacity from 28 vehicles to 23 vehicles. The existing detailing areas and the express detail facility will be

removed. The west approach from Brown Street will continue to be used as the entrance for the car wash. The east approach will become an exit-only to accommodate the proposed vacuum stations. The existing parking will be removed and relocated to the back of the building. (Existing and proposed site plans are attached to this memorandum for reference.)

Observations:

After analyzing the service rates for both the existing manned pay booths and the proposed electronic pay station, it was found the there was only a negligible difference in processing time. The existing layout had an average payment process time of 27 seconds from the time a vehicle stops at the booth to the time it pulls away. The average payment process time for the electronic pay stations at the Clinton Township location was 19 seconds from the time a vehicle stops at the station to the time the vehicle pulls away. The payment process times were compared to the total service rate calculated for the existing facility. Both payment processing times provide a service rate of over 130 vehicles per hour. Since the processing time for the existing and proposed layouts exceed the calculated maximum total service rate based on the capacity of the actual car wash process (71 vehicles per hour), any difference in payment processing rates is negligible and not the controlling factor causing an increase in queue lengths. Observing the car was during peak times shows that the limiting factor in the total processing time is the car was conveyor. The service rates were calculated using the following equation:

$$\text{Vehicles in system} = \frac{\lambda}{\mu - \lambda}$$

In this equation λ refers to the arrival rate in vehicles per hour and μ is the service rate. The equation was rearranged to solve for μ. The following equation was then used to calculate the probability that the queue capacity would be exceeded and cause a backup onto Brown St.

$$\text{Probability of k vehicles in queue} = \left(\frac{\lambda}{\mu}\right)^{k+1}$$

For the above equation, k is the queue capacity of the car wash facility.

Table 2: Service Rates and Queueing				
	10/21/2020		10/23/2020	
	11:00am-1:00pm	5:00pm-7:00pm	11:00am-1:00pm	5:00pm-7:00pm
Peak Hour Arrival Rate (veh/hr)	32.00	54.00	59.00	14.00
Peak Hour Average Queue Length (vehicles in service and in queue	3.00	6.58	4.83	1.25
Calculated Service Rate (veh/hr)	42.67	62.20	71.21	25.20
Service Time (sec/veh)	84.38	57.88	50.56	142.86
Probability that more than 28 vehicles in queue (Existing)	0.02%	1.66%	0.43%	0.00%
Probability that more than 23 vehicles in queue (Proposed)	0.10%	3.36%	1.10%	0.00%

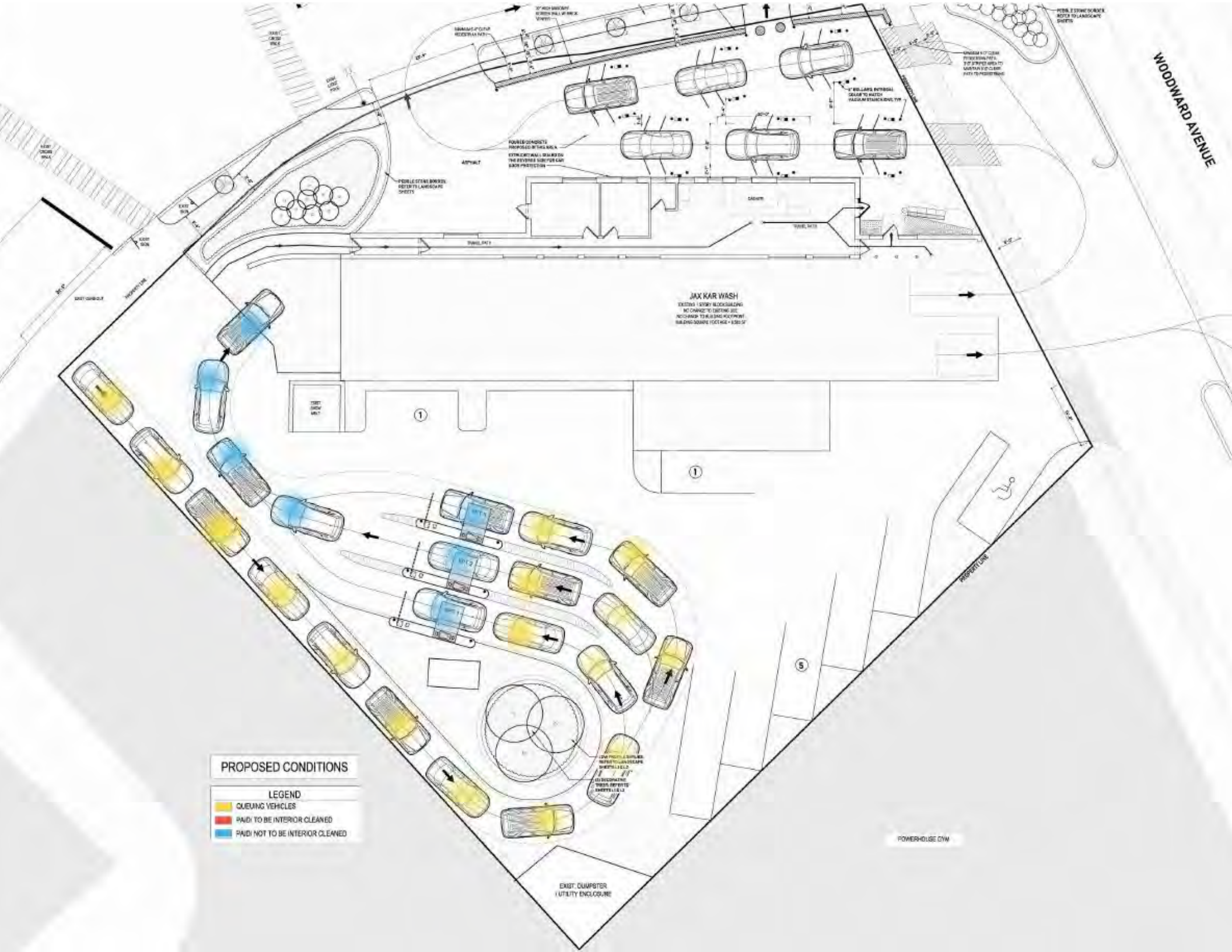
The maximum number of vehicles in the system was observed to be ten, counted on October 23, 2020 at 12:15pm. At this time vehicles were spread between the booths (three vehicles), the interior cleaning stations (two vehicles), the queue for the conveyor (two vehicles), and in the car wash (three vehicles). The peak hour average queue length was found to be 6.58 vehicles, counted on October 21, 2020 from 11:00am to 1:00pm. During this time, no backups on to Brown Street were observed. The 95th percentile queue length for the time interval from 5:00PM to 7:00PM on October 21, 2020 was calculated to be 20 vehicles. This represents a condition where the probability that the queue will exceed 20 vehicles will occur five percent of the time.

Conclusions:

The data presented herein show that replacing the existing layout will not have a significant effect on vehicle queueing at this location. The proposed layout will provide a queue capacity that will have a negligible effect on the likelihood that backups onto Brown Street will occur. There will also be a reduction in pay station service time with the proposed layout. Based on the 95th percentile queue length, it is recommended that at least 20 spaces be provided for queueing.

cc: SDA Job File
SDA Chronological File

WOODWARD AVENUE
JAX KAR WASH
POWERHOUSE GYM
POWERHOUSE GYM
EXISTING CONDITIONS
LEGEND
QUEUING VEHICLES
PAID/ TO BE INTERIOR CLEANED
PAID/ NOT TO BE INTERIOR CLEANED


WOODWARD AVENUE
JAX KAR WASH
EXISTING 1 STORY BLOCK BUILDING
NO CHANGE TO EXISTING USE
NO CHANGE TO BUILDING FOOTPRINT
BUILDING SQUARE FOOTAGE = 6,500 SF
ASPHALT
CASHIER
PROPERTY LINE
POWERHOUSE GYM
EXIST. DUMPSTER
/ UTILITY ENCLOSURE
PROPOSED CONDITIONS
LEGEND
QUEUING VEHICLES
PAID TO BE INTERIOR CLEANED
PAID NOT TO BE INTERIOR CLEANED

Proposed Service Times (Data from JX4 10/30/2020)								
	Enter	Leave Booth	Enter Wash	Exit	Booth Time	Booth to Wash	Wash Time	Total Time
1	9:12:32	9:12:47	9:13:10	9:16:04	0:00:15	0:00:23	0:02:54	0:03:32
2	9:14:04	9:14:17	9:14:37	9:16:46	0:00:13	0:00:20	0:02:09	0:02:42
3	9:17:06	9:17:44	9:18:08	9:20:22	0:00:38	0:00:24	0:02:14	0:03:16
4	9:18:53	9:18:55	9:19:14	9:21:24	0:00:02	0:00:19	0:02:10	0:02:31
5	9:24:29	9:24:41	9:25:03	9:27:16	0:00:12	0:00:22	0:02:13	0:02:47
6	9:26:11	9:26:28	9:26:47	9:28:56	0:00:17	0:00:19	0:02:09	0:02:45
7	9:51:03	9:51:21	9:51:39	9:53:53	0:00:18	0:00:18	0:02:14	0:02:50
8	9:56:41	9:56:59	9:57:20	10:00:04	0:00:18	0:00:21	0:02:44	0:03:23
9	10:00:28	10:00:39	10:00:59	10:03:05	0:00:11	0:00:20	0:02:06	0:02:37
10	10:01:04	10:01:49	10:02:14	10:05:00	0:00:45	0:00:25	0:02:46	0:03:56
11	2:01:30	2:01:48	2:02:28	2:04:42	0:00:18	0:00:40	0:02:14	0:03:12
12	2:04:00	2:04:13	2:04:33	2:07:15	0:00:13	0:00:20	0:02:42	0:03:15
13	2:04:03	2:04:28	2:05:27	2:07:57	0:00:25	0:00:59	0:02:30	0:03:54
14	2:04:50	2:05:10	2:06:04	2:08:28	0:00:20	0:00:54	0:02:24	0:03:38
15	2:06:09	2:06:19	2:06:41	2:09:03	0:00:10	0:00:22	0:02:22	0:02:54
16	2:07:30	2:07:53	2:08:18	2:12:41	0:00:23	0:00:25	0:04:23	0:05:11
17	2:11:04	2:11:23	2:11:44	2:13:50	0:00:19	0:00:21	0:02:06	0:02:46
18	2:11:26	2:11:52	2:12:32	2:14:43	0:00:26	0:00:40	0:02:11	0:03:17
19	2:11:32	2:12:05	2:13:01	2:15:13	0:00:33	0:00:56	0:02:12	0:03:41
20	2:12:52	2:13:05	2:13:36	2:15:44	0:00:13	0:00:31	0:02:08	0:02:52
Average service time (min:sec)					**0:00:19**	**0:00:29**	**0:02:27**	**0:03:15**
Service Rate (veh/hr)					185.09	124.35	24.56	

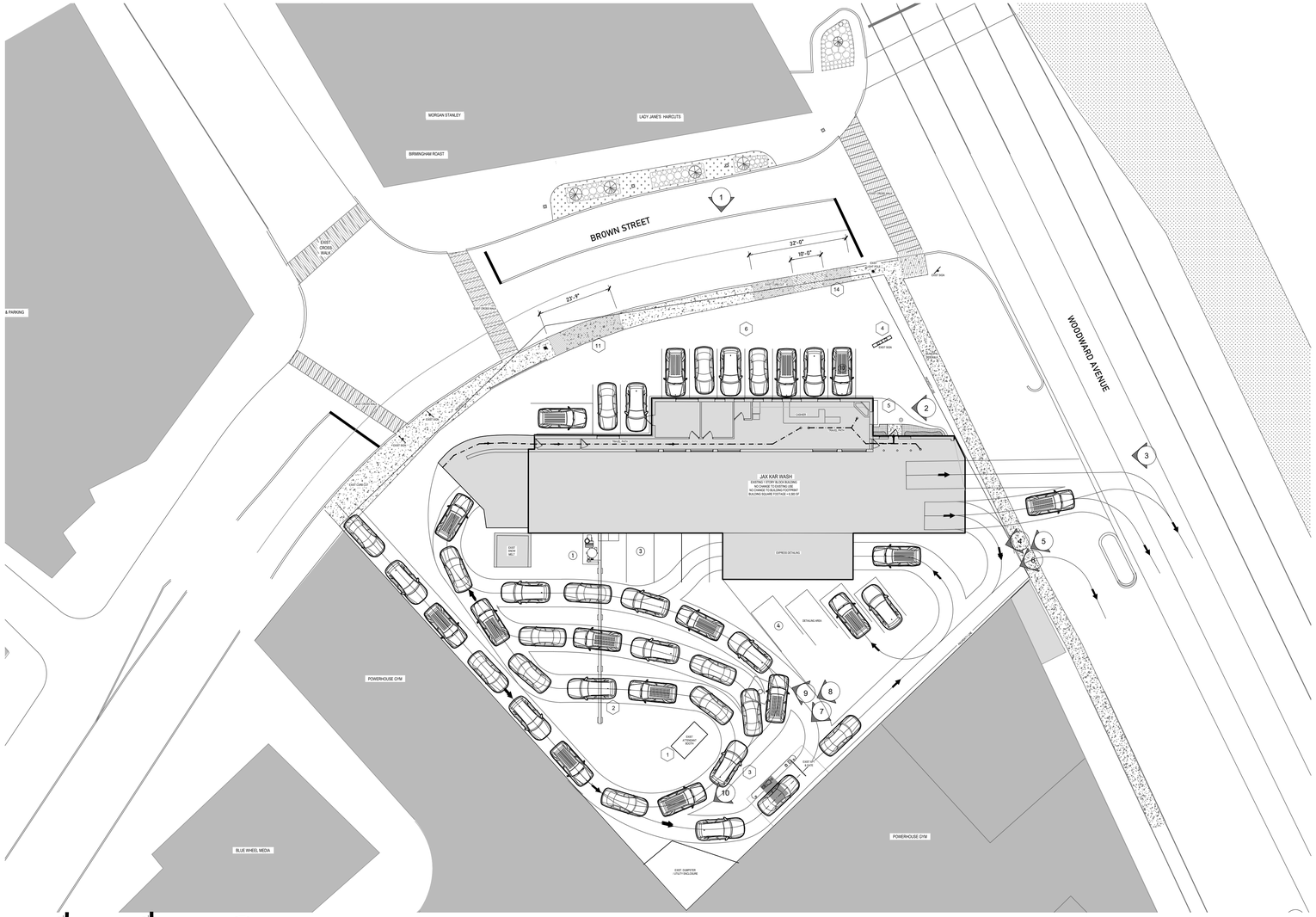
Existing Service Times (Data from JX2 10/30/2020)								
	Enter	Leave Booth	Enter Wash	Exit	Booth Time	Booth to Wash	Wash Time	Total Time
1	9:01:19	9:01:41	9:02:13	9:04:05	0:00:22	0:00:32	0:01:52	0:02:46
2	9:09:18	9:09:39	9:10:12	9:12:03	0:00:21	0:00:33	0:01:51	0:02:45
3	9:12:30	9:13:00	9:13:30	9:15:19	0:00:30	0:00:30	0:01:49	0:02:49
4	9:15:59	9:16:23	9:17:01	9:19:00	0:00:24	0:00:38	0:01:59	0:03:01
5	9:18:37	9:19:54	9:20:35	9:23:15	0:01:17	0:00:41	0:02:40	0:04:38
6	9:20:00	9:20:18	9:22:05	9:23:50	0:00:18	0:01:47	0:01:45	0:03:50
7	9:21:17	9:21:51	9:22:32	9:24:23	0:00:34	0:00:41	0:01:51	0:03:06
8	9:22:22	9:22:37	9:23:33	9:25:23	0:00:15	0:00:56	0:01:50	0:03:01
9	9:23:17	9:23:33	9:24:15	9:26:21	0:00:16	0:00:42	0:02:06	0:03:04
10	9:36:09	9:36:31	9:37:02	9:39:44	0:00:22	0:00:31	0:02:42	0:03:35
11	2:00:29	2:01:04	2:01:30	2:03:35	0:00:35	0:00:26	0:02:05	0:03:06
12	2:03:50	2:04:15	2:04:43	2:06:35	0:00:25	0:00:28	0:01:52	0:02:45
13	2:06:13	2:06:29	2:06:58	2:09:02	0:00:16	0:00:29	0:02:04	0:02:49
14	2:06:40	2:06:52	2:07:41	2:11:42	0:00:12	0:00:49	0:04:01	0:05:02
15	2:07:19	2:08:37	2:11:02	2:14:00	0:01:18	0:02:25	0:02:58	0:06:41
16	2:09:08	2:09:24	2:12:41	2:14:36	0:00:16	0:03:17	0:01:55	0:05:28
17	2:10:20	2:10:52	2:13:46	2:15:39	0:00:32	0:02:54	0:01:53	0:05:19
18	2:10:29	2:10:45	2:13:14	2:15:08	0:00:16	0:02:29	0:01:54	0:04:39
19	2:10:55	2:11:07	2:14:17	2:16:18	0:00:12	0:03:10	0:02:01	0:05:23
20	2:13:30	2:13:52	2:15:39	2:17:39	0:00:22	0:01:47	0:02:00	0:04:09
Average service time (min:sec)					**0:00:27**	**0:01:17**	**0:02:09**	**0:03:54**
Service Rate (veh/hr)					132.60	46.60	27.82	

Existing Drive-Thru Service Count						
	21-Oct					
	11:00AM-1:00PM	Hour Total	Queue at Time	5:00PM-7:00PM	Hour Total	Queue at Time
0:00	6	32	3	5	54	6
0:05	3	30	2	4	54	6
0:10	0	27	2	6	54	5
0:15	0	29	2	5	51	4
0:20	2	31	1	4	49	8
0:25	2	32	2	7	48	7
0:30	4	31	2	3	44	9
0:35	4	28	3	5	41	7
0:40	3	27	4	5	36	6
0:45	5	28	3	3	32	7
0:50	1	27	7	5	31	8
0:55	2	27	5	2	28	6
1:00	4	28	4	5	26	5
1:05	0		3	4		3
1:10	2		0	3		4
1:15	2		2	3		1
1:20	3		1	3		1
1:25	1		1	3		1
1:30	1		0	0		2
1:35	3		1	0		0
1:40	4		3	1		0
1:45	4		3	2		1
1:50	1		3	2		2
1:55	3		4	0		1

*Peak Hour

Existing Drive-Thru Service Count						
	23-Oct					
	11:00AM-1:00PM	Hour Total	Queue at Time	5:00PM-7:00PM	Hour Total	Queue at Time
0:00	4	57	7	2	14	1
0:05	3	57	6	1	13	2
0:10	6	59	6	3	13	3
0:15	5	59	6	2	11	3
0:20	4	57	5	1	9	1
0:25	5	56	1	0	9	2
0:30	7	53	5	1	9	0
0:35	3	49	6	0	9	1
0:40	6	49	4	3	9	1
0:45	6	48	6	0	8	1
0:50	3	46	6	0	9	0
0:55	5	48	5	1	10	0
1:00	4	48	6	1	9	1
1:05	5		2	1		1
1:10	6		4	1		1
1:15	3		10	0		1
1:20	3		7	1		0
1:25	2		5	0		1
1:30	3		2	1		1
1:35	3		4	0		0
1:40	5		4	2		0
1:45	4		6	1		3
1:50	5		5	1		0
1:55	5		6	0		1

*Peak Hour



TRUE NORTH

PLAN NORTH

1 AS100

EXISTING ARCHITECTURAL SITE PLAN

SCALE: 1"=20'-0"

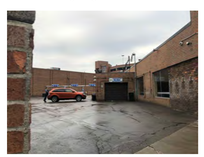
0' 10' 20' 40' 80'

1 4 6

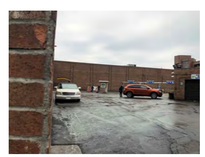
2 4 5

3 5

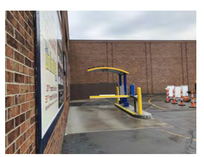
4



5



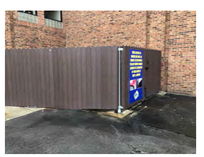
6



7 3

8 1

9 2



10

EXISTING SITE - PHOTOS

SCALE: NTS

1. **NAME & ADDRESS OF APPLICANT AND PROOF OF OWNERSHIP:**
   JASON MILEN
   JAX KAR WASH
   34745 WOODWARD AVENUE,
   BIRMINGHAM, MI 48009

2. **NAME OF DEVELOPMENT :**
   JAX KAR WASH

3. **ADDRESS OF SITE AND LEGAL DESCRIPTION OF THE REAL ESTATE:**
   34745 WOODWARD AVENUE

   LEGAL DESCRIPTION:
   LAND IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN DESCRIBED AS: THE EASTERLY PART OF LOT 4 MEASURING 12.4 FEET ON THE NORTH LINE AND 18.23 FEET ON THE SOUTH LINE, ALL OF LOTS 5 THROUGH 7 EXCEPT THAT PART TAKEN FOR ROAD PURPOSES, "WILLIAM HART SUBDIVISION," AS RECORDED IN LIBER 8 OF PLATS, PAGE 9 OF THE OAKLAND COUNTY RECORDS: BEING MORE PARTICULARLY DESCRIBED AS BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 7: THENCE S54d 24' 24"W 154.83 FEET; THENCE N33d 26' 35"W 166.95 FEET, TO A POINT ON THE SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE); THENCE ALONG SAID SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE), N54d 40'00"E 57.34 FEET AND 79.81 FEET ALONG THE ARC OF CURVE TO THE RIGHT RADIUS 129.52 FEET, CENTRAL ANGLE 35d 18' 14" CHORD BEAR N76d 48' 13"E 78.85 FEET AND N88d 34'36"E 60.31 FEET TO A POINT ON THE WESTERLY LINE OF WOODWARD AVENUE (FORMERLY HUNTER BOULEVARD); THENCE ALONG SAID LINE S18d 39' 22"E 107.43 FEET TO THE POINT OF BEGINNING.

4. **LEGEND AND NOTES, INCLUDING A GRAPHIC SCALE, NORTH POINT AND DATE:**
   REFER TO ELEVATIONS & SITE PLANS INCLUDING THE ABOVE ELEMENTS.

5. **A SEPARATE LOCATION MAP:**
   REFER TO LOCATION MAP, BELOW

6. **A LIST OF ALL REQUESTED ELEMENTS / CHANGES TO THE SITE PLAN.**
   LIST APPLIES TO SHEETS AS100 & AS101

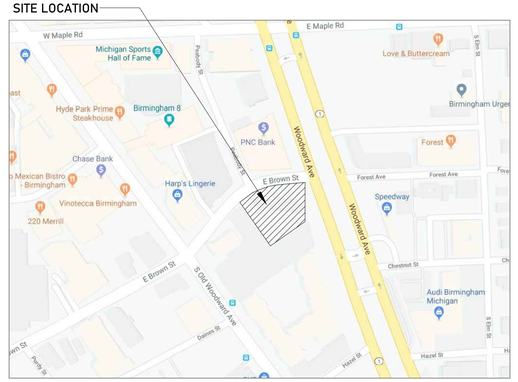
   1. RELOCTION OF AN EXISTING ATTENDANT BOOTH, SOUTH SIDE OF BUILDING.
   2. DEMOLITION OF OVERHEAD VACUUM TUBES, STEEL STRUCTURE, VACUUMS, EQUIPMENT AND ASSOCIATED SIGNS, SOUTH SIDE OF BUILDING.
   3. DEMOLITION OF (1) EXISTING XPT AND CANOPY ON A RAISED CONCRETE ISLAND, SOUTH SIDE OF BUILDING, VERIFY CONDITION OF EQUIPMENT FOR POTENTIAL RE-USE.
   4. DEMOLITION OF EXISTING PYLON SIGN IN IT'S ENTIRETY.
   5. DEMOLITION OF A PORTION OF THE EAST WALL OF EXIST. LOBBY FOR PROPOSED NEW ENTRY.
   6. PROPOSED RELOCATION OF (10) PARKING SPACES FROM THE NORTH TO SOUTH SIDE OF BUILDING.
   7. PROPOSED RELOCATION OF DETAILING SPACES TO NORTH SIDE OF BUILDING.
   8. PROPOSING (3) XPTS AND CANOPIES ON 6" RAISED CONCRETE ISLANDS, SOUTH SIDE OF BUILDING.
   9. PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.
   10. PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.
   11. PROPOSED CURB CUTS FROM THE PROPERTY ONTO BROWN STREET.
   12. PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.
   13. PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.
   14. PARTIALLY CLOSING OF EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE. 10'-0" ESCAPE LANE FROM THE PROPERTY ONTO BROWN STREET.
   15. PROPOSED LANDSCAPING AREA TOTALING 369 SF, REFER TO LANDSCAPE DRAWNGS

7. **ANY CHANGES REQUESTED MARKED IN COLOR:**
   REFER TO 'PURPLE' AND 'YELLOW' COLORED AREAS ON PLANS AND ELEVATIONS. ALL CHANGES MARKED IN COLOR ARE KEYED TO THE LIST ABOVE.
8. **GENERAL DESCRIPTION, LOCATION AND TYPES OF STRUCTURES ON THE SITE:**
   EXISTING 1 STORY BLOCK BUILDING, 6,583 SQUARE FEET
   EXISTING WOOD PICKET UTILITY/ DUMPSTER ENCLOSURE, APPROX. 316 SQUARE FEET
   EXISTING SNOW MELT STRUCTURE, APPROX. 112 SQUARE FEET
   EXISTING ATTENDANT BOOTH, APPROX. 66 SQUARE FEET
9. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE, AND OTHER PERTINENT DEVELOPMENT FEATURES**
   EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
   SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200
10. **A LANDSCAPE PLAN SHOWING ALL EXISTING AND PROPOSED PLANTING AND SCREENING MATERIALS, INCLUDING THE NUMBER, SIZE AND TYPE OF PLANTINGS PROPOSED**
    LIMITED EXISTING LANDSCAPING, SHRUBS ON NORTH SIDE NEAR LOBBY ENTRY. PROPOSED LANDSCAPING AT 396 SF CIRCULAR BED. REFER TO LANDSCAPE DRAWINGS.
11. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

SYMBOL LEGEND

- IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201
- IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
- IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.
- INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION



PLAN NORTH

LOCATION MAP

SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2020

STATE OF MICHIGAN
BRANDO DELL NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/ COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

EXISTING ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

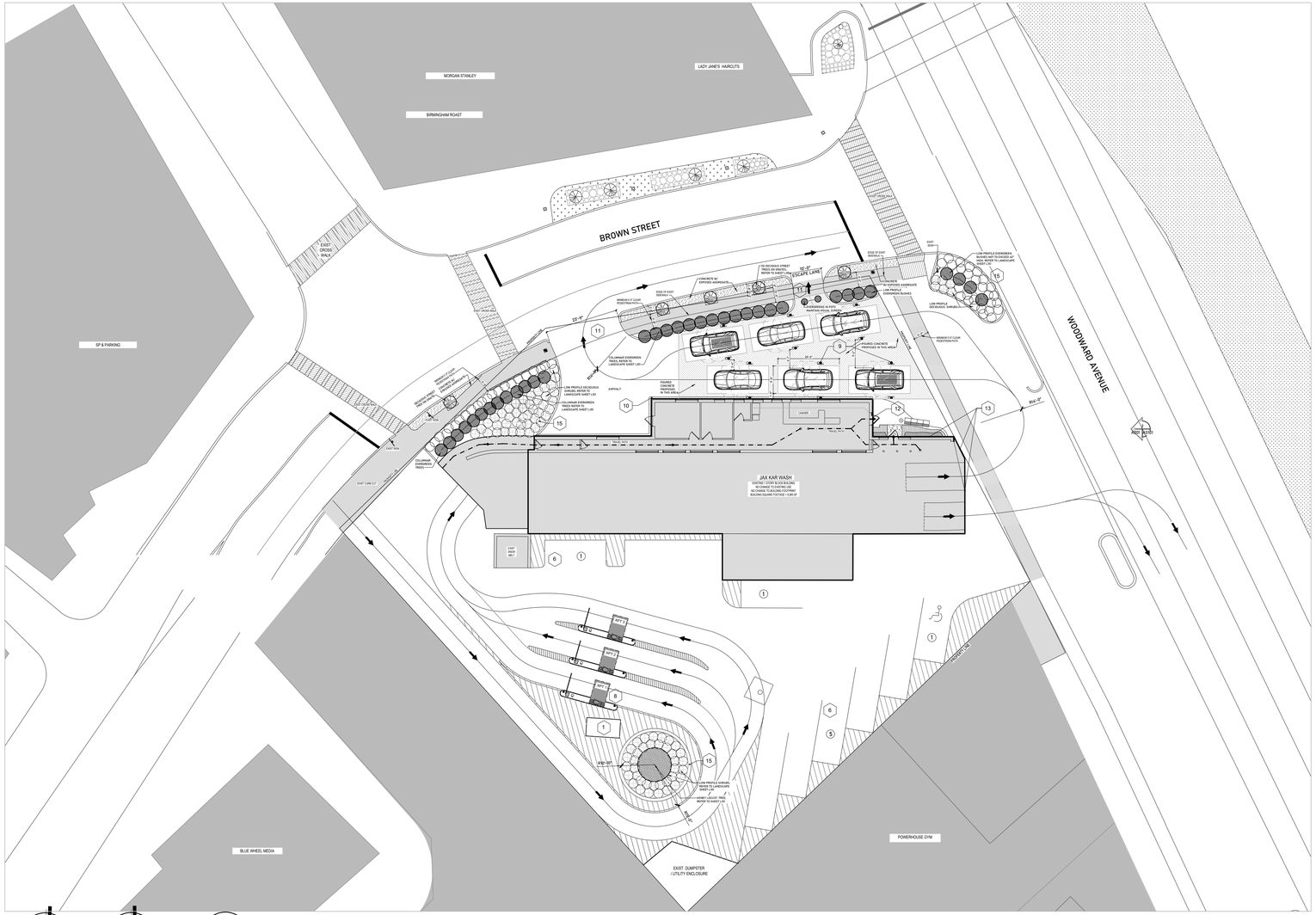
2020-012

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - PRELIM REVISED	7/16/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20

sheet

AS100

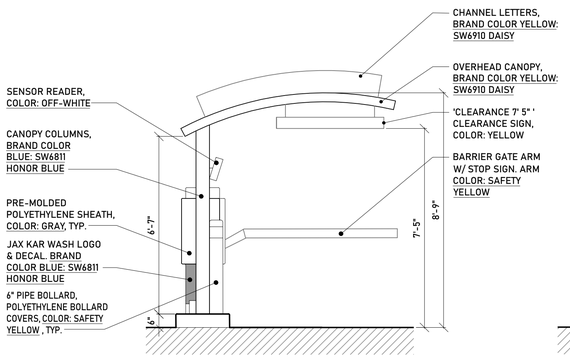


PROPOSED ARCHITECTURAL SITE PLAN

SCALE: 1"=20'-0"

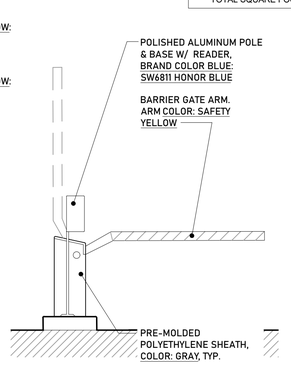
SIGN CALCULATIONS (ABOVE XPT CANOPIES, SOUTH OF BUILDING)
10" CANOPY CHANNEL LETTERS READING 'CASH & DETAIL ONLY' = 4.39 SF (PROPOSED)
+
10" CANOPY CHANNEL LETTERS READING 'FASTLANE - NO CASH' = 4.5 SF (PROPOSED)
+
10" CANOPY CHANNEL LETTERS READING 'UNLIMITED CLUB ONLY' = 5.07 SF (PROPOSED)
=
TOTAL SQUARE FOOTAGE OF PROPOSED XPT CANOPY SIGNAGE = 13.96 SF (TOTAL)

SIGN CALCULATIONS (ALL SIGNS)
(1.5) x LINEAL FEET OF PRIMARY FRONTAGE (BROWN ST.) = 134'-11 1/2" = **202.4 SF** (AVAILABLE)
TOTAL SQUARE FOOTAGE OF PROPOSED XPT CANOPY SIGNAGE = 17 SF (TOTAL)
+
BROWN ST. FACADE / NORTH ELEVATION = 87.3 SF (TOTAL)
+
WOODWARD AVE. FACADE / EAST ELEVATION = 42.3 SF (TOTAL)
=
TOTAL SQUARE FOOTAGE OF SIGNAGE = 146.6 SF (TOTAL)



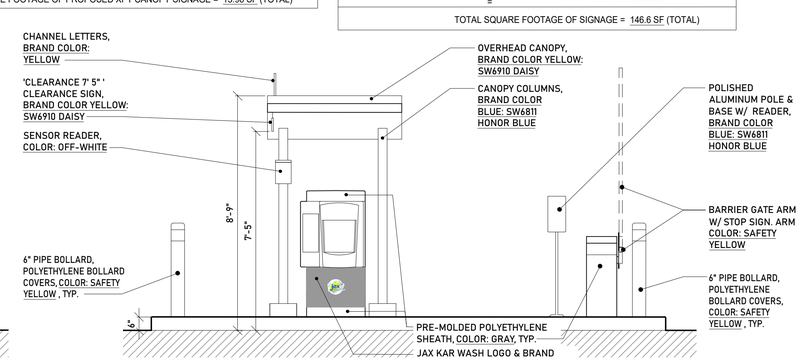
4 AS101 XPT CURB & EQUIPMENT ELEV

SCALE: 3/8"=1'-0"



3 AS101 XPT CURB & EQUIPMENT ELEV

SCALE: 3/8"=1'-0"



2 AS101 XPT CURB & EQUIPMENT ELEV

SCALE: 3/8"=1'-0"

1. **NAME & ADDRESS OF APPLICANT AND PROOF OF OWNERSHIP:**
   JASON MILEN
   JAX KAR WASH
   34745 WOODWARD AVENUE,
   BIRMINGHAM, MI 48009
2. **NAME OF DEVELOPMENT :**
   JAX KAR WASH
3. **ADDRESS OF SITE AND LEGAL DESCRIPTION OF THE REAL ESTATE:**
   34745 WOODWARD AVENUE

   LEGAL DESCRIPTION:
   LAND IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN DESCRIBED AS: THE EASTERLY PART OF LOT 4 MEASURING 12.4 FEET ON THE NORTH LINE AND 18.23 FEET ON THE SOUTH LINE, ALL OF LOTS 5 THROUGH 7 EXCEPT THAT PART TAKEN FOR ROAD PURPOSES, "WILLIAM HART SUBDIVISION," AS RECORDED IN LIBER 8 OF PLATS, PAGE 9 OF THE OAKLAND COUNTY RECORDS: BEING MORE PARTICULARLY DESCRIBED AS BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 7: THENCE S54d 24' 24"W 154.83 FEET; THENCE N33d 26' 35"W 166.95 FEET, TO A POINT ON THE SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE); THENCE ALONG SAID SOUTHERLY LINE OF BROWN STREET (FORMERLY FOREST AVENUE), N54d 40'00"E 57.34 FEET AND 79.81 FEET ALONG THE ARC OF CURVE TO THE RIGHT RADIUS 129.52 FEET, CENTRAL ANGLE 35d 18' 14" CHORD BEAR N76d 48' 13"E 78.85 FEET AND N88d 34'36"E 60.31 FEET TO A POINT ON THE WESTERLY LINE OF WOODWARD AVENUE (FORMERLY HUNTER BOULEVARD); THENCE ALONG SAID LINE S18d 39' 22"E 107.43 FEET TO THE POINT OF BEGINNING.
4. **LEGEND AND NOTES, INCLUDING A GRAPHIC SCALE, NORTH POINT AND DATE:**
   REFER TO ELEVATIONS & SITE PLANS INCLUDING THE ABOVE ELEMENTS.
5. **A SEPARATE LOCATION MAP:**
   REFER TO LOCATION MAP, BELOW
6. **A LIST OF ALL REQUESTED ELEMENTS / CHANGES TO THE SITE PLAN.**
   LIST APPLIES TO SHEETS AS100 & AS101

   (1) RELOCTION OF AN EXISTING ATTENDANT BOOTH, SOUTH SIDE OF BUILDING.

   (2) DEMOLITION OF OVERHEAD VACUUM TUBES, STEEL STRUCTURE, VACUUMS, EQUIPMENT AND ASSOCIATED SIGNS, SOUTH SIDE OF BUILDING.

   (3) DEMOLITION OF (1) EXISTING XPT AND CANOPY ON A RAISED CONCRETE ISLAND, SOUTH SIDE OF BUILDING, VERIFY CONDITION OF EQUIPMENT FOR POTENTIAL RE-USE.

   (4) DEMOLITION OF EXISTING PYLON SIGN IN IT'S ENTIRETY.

   (5) DEMOLITION OF A PORTION OF THE EAST WALL OF EXIST. LOBBY FOR PROPOSED NEW ENTRY.

   (6) PROPOSED RELOCATION OF (10) PARKING SPACES FROM THE NORTH TO SOUTH SIDE OF BUILDING.

   (7) PROPOSED RELOCATION OF DETAILING SPACES TO NORTH SIDE OF BUILDING.

   (8) PROPOSING (3) XPTS AND CANOPIES ON 6" RAISED CONCRETE ISLANDS, SOUTH SIDE OF BUILDING.

   (9) PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

   (10) PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

   (11) PROPOSED CURB CUT FROM THE PROPERTY ONTO BROWN STREET.

   (12) PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

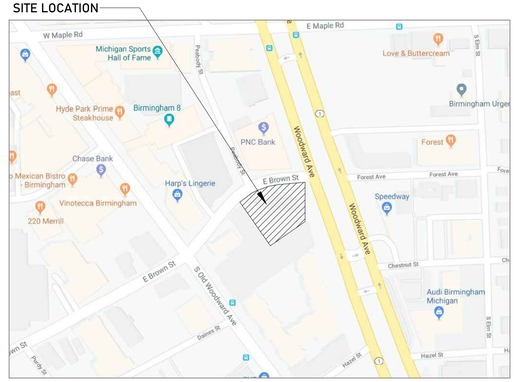
   (13) PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

   (14) PARTIALLY CLOSING OF EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE. 10'-0" ESCAPE LANE FROM THE PROPERTY ONTO BROWN STREET.

   (15) PROPOSED LANDSCAPING AREAS
7. **ANY CHANGES REQUESTED MARKED IN COLOR:**
   REFER TO 'PURPLE' AND 'YELLOW' COLORED AREAS ON PLANS AND ELEVATIONS. ALL CHANGES MARKED IN COLOR ARE KEYED TO THE LIST ABOVE.
8. **GENERAL DESCRIPTION, LOCATION AND TYPES OF STRUCTURES ON THE SITE:**
   EXISTING 1 STORY BLOCK BUILDING, 6,583 SQUARE FEET
   EXISTING WOOD PICKET UTILITY/ DUMPSTER ENCLOSURE, APPROX. 316 SQUARE FEET
   EXISTING SNOW MELT STRUCTURE, APPROX. 112 SQUARE FEET
   EXISTING ATTENDANT BOOTH, APPROX. 66 SQUARE FEET
9. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE, AND OTHER PERTINENT DEVELOPMENT FEATURES**
   EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
   SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200
10. **A LANDSCAPE PLAN SHOWING ALL EXISTING AND PROPOSED PLANTING AND SCREENING MATERIALS, INCLUDING THE NUMBER, SIZE AND TYPE OF PLANTINGS PROPOSED**
    LIMITED EXISTING LANDSCAPING, SHRUBS ON NORTH SIDE NEAR LOBBY ENTRY. PROPOSED LANDSCAPING AT 396 SF CIRCULAR BED. REFER TO LANDSCAPE DRAWINGS.
11. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

SYMBOL LEGEND	
IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201	IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.	INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION



PLAN NORTH

LOCATION MAP

SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2020

STATE OF MICHIGAN
EDWARD NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/ COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

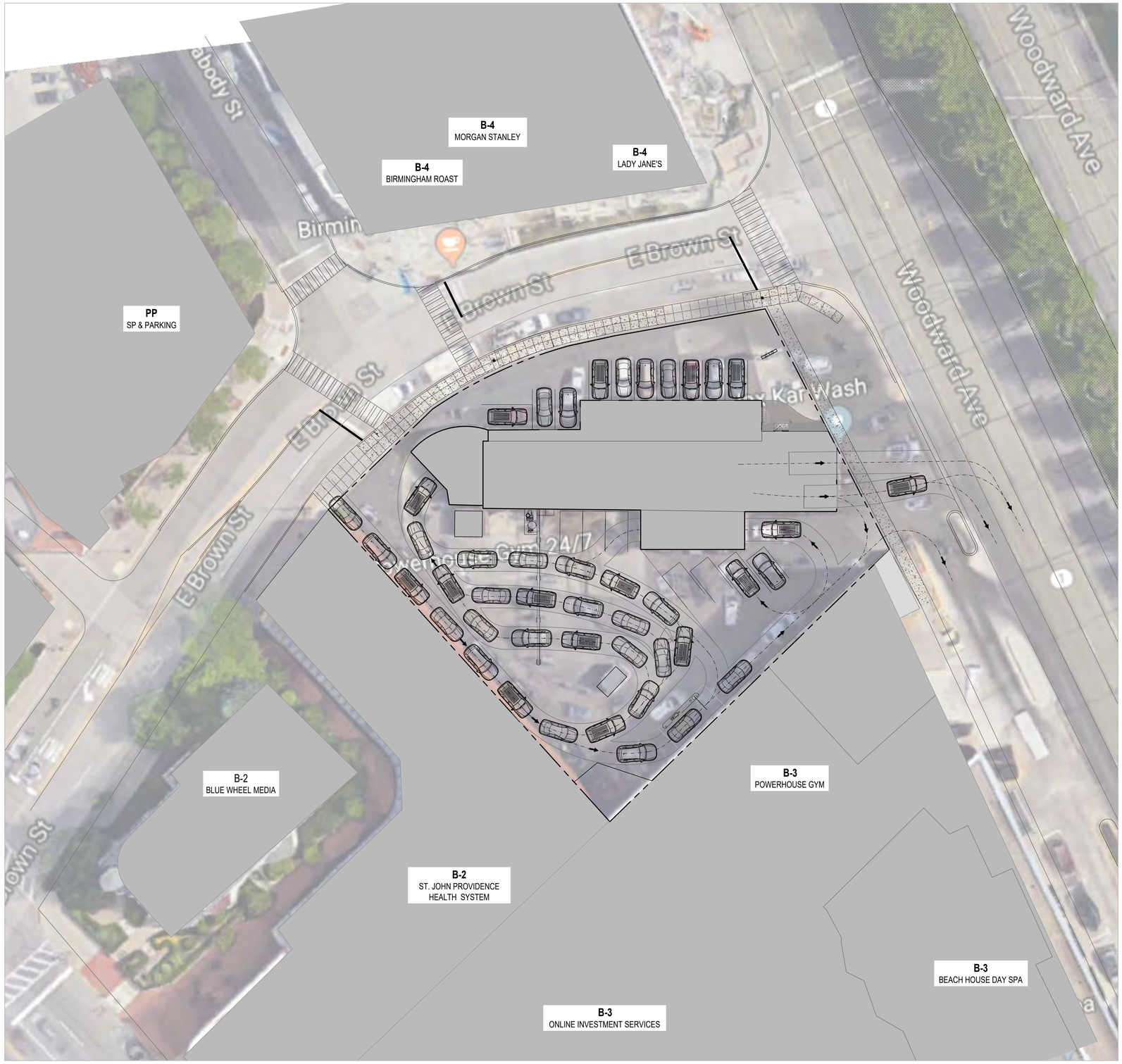
2020-012

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
LANDSCAPE COORDINATION	7/9/19
SPA - PRELIM REVISED	7/16/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20

sheet

AS101



TRUE NORTH

PLAN NORTH

1
AS102

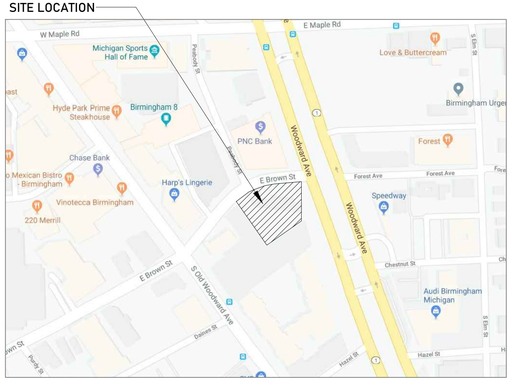
AERIAL PHOTGRAPH OF SITE & ADJACENT PROPERTIES

0' 10' 20' 40' 80'

SCALE: 1"=20'-0"

SYMBOL LEGEND	
IDENTIFIES ELEVATIONS, REFER TO SHEETS A200 & A201	IDENTIFIES NUMBER OF PARKING & DETAILING SPACES
IDENTIFIES REQUESTED ELEMENTS/ CHANGES TO THE SITE PLAN. REFER TO WRITE UP #6, THIS SHEET.	INDICATES LOCATION / DIRECTION OF PICTURE

SITE LOCATION



PLAN NORTH

LOCATION MAP

SCALE: NTS

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2020

STATE OF MICHIGAN
BRANDO DELL NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

PREVIOUS APPROVALS CHART

BOARD/ COMMISSION	DATE

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

AERIAL ARCHITECTURAL SITE PLAN

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

2020-012

drawn	BDL
checked	BDL
approved	JHN

issued for — date

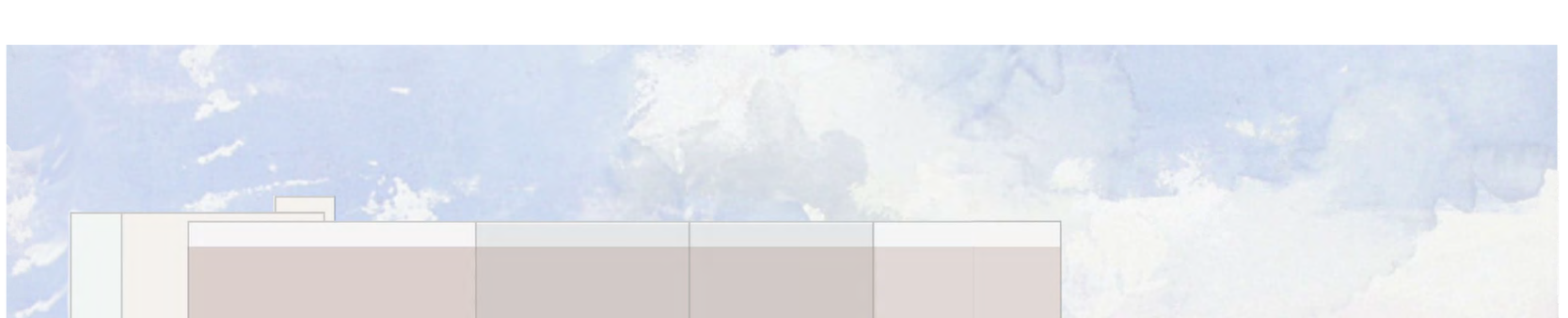
SPA - PRELIMINARY	7/3/19
SPA - PRELIM REVISED	7/16/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20

sheet

AS102

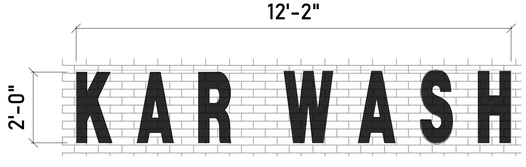
1 A200 PROPOSED COLOR NORTH ELEVATION (BROWN ST.)

SCALE: 1/8"=1'-0"



2 A200 PROPOSED NORTH ELEVATION (BROWN ST.)

SCALE: 1/8"=1'-0"



3 A200 REVERSE HALO LIT CHANNEL LETTERS

SCALE: N.T.S.

SIGN CALCULATIONS (BROWN ST. FACADE / NORTH ELEVATION)
(1.0) x LINEAL FEET OF FRONTAGE = 134'-11 ½" = **134.94 SF** (AVAILABLE)
24" ROOFTOP LETTERS READING 'JAX KAR WASH' = **63 SF** (EXISTING) + 24" REVERSE HALO LIT CHANNEL LETTERS READING 'KAR WASH' = **24.3 SF** (PROPOSED) = TOTAL SQUARE FOOTAGE OF EXISTING AND PROPOSED SIGNAGE = **87.3 SF** (TOTAL)

12. **COLOR ELEVATION DRAWINGS SHOWING THE PROPOSED DESIGN FOR EACH FACADE OF THE BUILDING:**
REFER TO ELEVATIONS ON SHEETS A200 & A201 FOR PROPOSED DESIGN CHANGES

13. **LIST OF ALL MATERIALS TO BE USED FOR THE BUILDING, MARKED ON THE ELEVATION DRAWIINGS:**
REFER TO ELEVATION TAGS AND ITEMS IN #15, REQUESTED DESIGN CHANGES

14. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE AND OTHER PERTINENT DEVELOPMENT FEATURES**
EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200 & A201

15. **A LIST OF ANY REQUESTED DESIGN CHANGES;**

9 PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

10 PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED TO MATCH EXISTING BRICK, PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

11 PROPOSED CURB CUT FROM THE PROPERTY ONTO BROWN STREET.

12 PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

13 PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

14 PARTIALLY CLOSING OF EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE. 10'-0" ESCAPE LANE FROM THE PROPERTY ONTO BROWN STREET.

15 PROPOSED LANDSCAPING - SCREENING. REFER TO LANDSCAPE PLAN FOR MORE INFORMATION

16. **ITEMIZED LIST OF ALL MATERIALS TO BE USED, INCLUDING EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER:**

LIMITED MATERIALS PROPOSED ON THE WOODWARD AVE. & BROWN ST. FACADES.
- SIGNAGE, BY OTHERS, REFER TO SHEET A200 & A201 FOR MORE INFORMATION.
- 8" PAINTED PVC TUBES (HORIZONTAL), COLOR TO MATCH EXISTING BRICK
- 6" PAINTED PVC TUBES (VERTICAL), COLOR TO MATCH EXISTING BRICK
- METAL STANCHION AND VACUUM HOSES
- XPT AND JAX EQUIPMENT ON 6" RAISED CONCRETE ISLAND, REFER TO SHEET AS101 FOR MORE

17. **LOCATION OF ALL EXTERIOR LIGHTING FIXTURES, EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER OF ALL FIXTURES AND A PHOTOMETRIC ANALYSIS OF ALL EXTERIOR LIGHTING FIXTURES SHOWING LIGHT LEVELS TO ALL PROPERTY LINES**

18. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2020

STATE OF MICHIGAN
BRANDO NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED EXTERIOR ELEVATIONS

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

2020-012

drawn	BDL
checked	BDL
approved	JHN

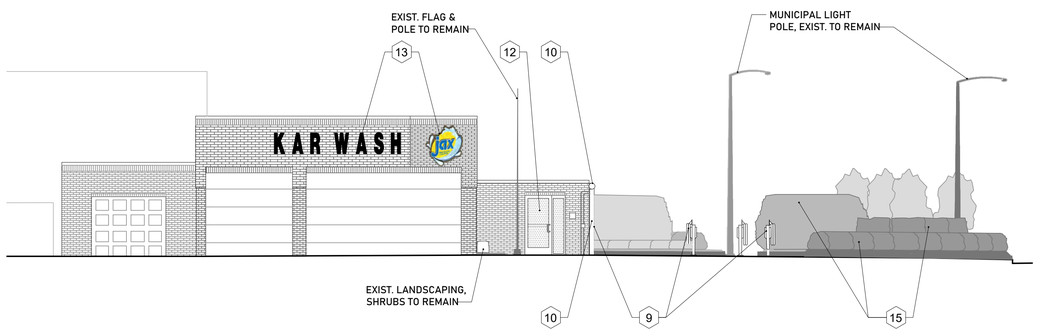
issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20

sheet

A200

1 A201 PROPOSED EAST ELEVATION (WOODWARD AVE.)

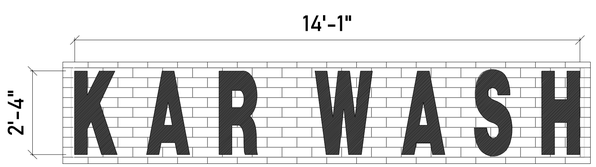
SCALE: 1/8"=1'-0"



2 A201 PROPOSED EAST ELEVATION (WOODWARD AVE.)

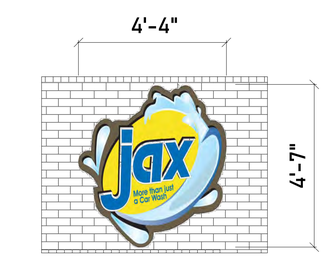
SCALE: 1/8"=1'-0"

ANGLED



3 A201 REVERSE HALO LIT CHANNEL LETTERS

SCALE: N.T.S.



4 A201 REVERSE HALO LIT SIGN BOX

SCALE: N.T.S.

SIGN CALCULATIONS (WOODWARD AVE. FACADE / EAST ELEVATION)
(1.5) x LINEAL FEET OF FRONTAGE = (1.5) x 32.875 = **49.3 SF** (AVAILABLE)
24" REVERSE HALO LIT CHANNEL LETTERS READING 'KAR WASH' = **24.3 SF** (PROPOSED)
+
(1) REVERSE HALO LIT SIGN BOX = **18 SF** (PROPOSED)
=
TOTAL SQUARE FOOTAGE OF PROPOSED SIGNAGE = **42.3 SF** (TOTAL)

12.. **COLOR ELEVATION DRAWINGS SHOWING THE PROPOSED DESIGN FOR EACH FACADE OF THE BUILDING:**
REFER TO ELEVATIONS ON SHEETS A200 & A201 FOR PROPOSED DESIGN CHANGES

13. **LIST OF ALL MATERIALS TO BE USED FOR THE BUILDING, MARKED ON THE ELEVATION DRAWIINGS:**
REFER TO ELEVATION TAGS AND ITEMS IN #15, REQUESTED DESIGN CHANGES

14. **DETAILS OF EXISTING OR PROPOSED LIGHTING, SIGNAGE AND OTHER PERTINENT DEVELOPMENT FEATURES**
EXISTING WALL MOUNTED SITE LIGHTS, TO REMAIN.
SIGNS BY OTHERS, REFER TO EXTERIOR ELEVATIONS A200 & A201

15. **A LIST OF ANY REQUESTED DESIGN CHANGES;**

9 PROPOSING (12) VACUUM STANCHIONS FOR DETAILING ON NORTH SIDE OF BUILDING.

10 PROPOSING 8" HORIZONTAL AND 6" VERTICAL PAINTED TO MATCH EXISTING BRICK, PVC PIPE MOUNTED TO BUILDING FACE AND BELOW GRADE ON THE NORTH SIDE OF BUILDING.

11 PROPOSED CURB CUT FROM THE PROPERTY ONTO BROWN STREET.

12 PROPOSING NEW DOOR W/ SIDE LIGHT FOR ENTRY INTO EXISTING LOBBY.

13 PROPOSING NEW WALL MOUNTED SIGNS ON BROWN STREET AND WOODWARD AVENUE ELEVATIONS.

14 PARTIALLY CLOSING OF EXISTING CURB CUT AT THE NORTHEAST CORNER OF SITE. 10'-0" ESCAPE LANE FROM THE PROPERTY ONTO BROWN STREET.

15 PROPOSED LANDSCAPING - SCREENING. REFER TO LANDSCAPE PLAN FOR MORE INFORMATION.

16. **ITEMIZED LIST OF ALL MATERIALS TO BE USED, INCLUDING EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER:**

LIMITED MATERIALS PROPOSED ON THE WOODWARD AVE. & BROWN ST. FACADES.
- SIGNAGE, BY OTHERS, REFER TO SHEET A200 & A201 FOR MORE INFORMATION.
- 8" PAINTED PVC TUBES (HORIZONTAL), COLOR TO MATCH EXISTING BRICK
- 6" PAINTED PVC TUBES (VERTICAL), COLOR TO MATCH EXISTING BRICK
- METAL STANCHION AND VACUUM HOSES
- XPT AND JAX EQUIPMENT ON 6" RAISED CONCRETE ISLAND, REFER TO SHEET AS101 FOR MORE

17. **LOCATION OF ALL EXTERIOR LIGHTING FIXTURES, EXACT SIZE SPECIFICATIONS, COLOR, STYLE AND THE NAME OF THE MANUFACTURER OF ALL FIXTURES AND A PHOTOMETRIC ANALYSIS OF ALL EXTERIOR LIGHTING FIXTURES SHOWING LIGHT LEVELS TO ALL PROPERTY LINES**

18. **ANY OTHER INFORMATION REQUESTED IN WRITING BY THE PLANNING DIVISION, THE DRB OR THE BUILDING OFFICIAL DEEMED IMPORTANT TO THE DEVELOPMENT**

NUDELL ARCHITECTS

MICHIGAN
31690 W. Twelve Mile Road
Farmington Hills, Michigan 48334
t 248 324 8800 f 248 324 0661

FLORIDA
1807 Edgewater Drive
Orlando, Florida 32804
t 407 930 2526

NOTICE

THIS ARCHITECTURAL AND/OR ENGINEERING DRAWING IS GIVEN IN CONFIDENCE . NO USE, IN WHOLE OR PART, MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF NUDELL ARCHITECTS. ALL RIGHTS ARE HEREBY SPECIFICALLY RESERVED.

NUDELL ARCHITECTS

COPYRIGHT YEAR 2020

STATE OF MICHIGAN
JOHN H. NUDELL
ARCHITECT
No. 1301022234
LICENSED ARCHITECT

project title

JAX KAR WASH

34745 WOODWARD AVE,
CITY OF BIRMINGHAM, MI 48009

sheet title

PROPOSED EXTERIOR ELEVATIONS

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS ONLY

project number

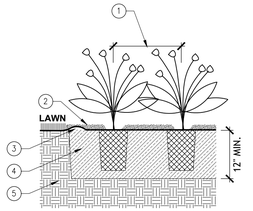
2020-012

drawn	BDL
checked	BDL
approved	JHN

issued for	date
OWNER REVIEW	6/7/19
SPA - PRELIMINARY	7/3/19
SPA - SECOND SUBMIT	8/28/19
SPA - PRELIM SUBMIT	5/27/20
SPA - THIRD SUBMIT	6/04/20

sheet

A201



CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION

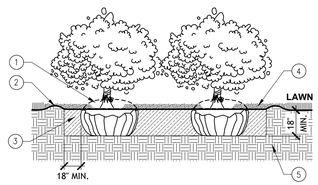
REMOVE ALL FIBER, PLASTIC OR METAL CONTAINERS

KNIFE SLIT SIDE OF ROOT BALL 6 TIMES, 1" DEEP EACH

1. IRREGULAR PLANT SPACING
2. 1-1/2" DEPTH DOUBLE PROCESSED SHREDDED BARK MULCH; DO NOT BURY CROWN OF PLANT, PROVIDE 4" DIAMETER CLEAR AREA AROUND PLANT CROWN
3. MOUND TO FORM SAUCER – FORM SOIL SAUCER WITH 3" HT. CONTINUOUS RIM – SEE PLAN
4. EXCAVATE EXISTING SOIL 12" DEEP FILL WITH PLANT MIX (SEE NOTES & SPECS.)
5. UNDISTURBED SUBGRADE

4 PERENNIAL / GROUNDCOVER PLANTING DETAIL

NOT TO SCALE



PRUNE BRANCHES TO THIN OR MATCH, RETAIN NORMAL PLANT SHAPE. PRUNE DEAD BRANCHES

SHRUBS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THEY BORE TO ORIGINAL GRADE.

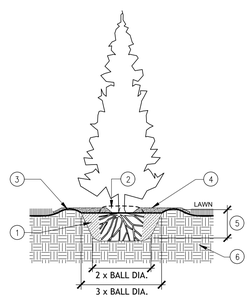
REMOVE ALL FIBER, PLASTIC OR METAL CONTAINERS.

KNIFE SLIT SIDE OF ROOT BALL 6 TIMES, 1" DEEP EACH

1. REMOVE ALL OF BURLAP FROM ROOTBALL
2. MOUND TO FORM SAUCER – FORM SOIL SAUCER WITH 3" HT. CONTINUOUS RIM
3. SPECIFIED PLANTING MIX – WATER & TAMP TO REMOVE AIR POCKETS – 18" MIN. DEPTH OR DEPTH OF ROOT BALL.
4. 3" DEPTH MULCH – DO NOT BURY CROWN OF PLANT, PROVIDE A 4" DIAMETER CLEAR AREA AROUND PLANT CROWN
5. UNDISTURBED SUBSOIL

3 SHRUB BED PLANTING DETAIL

NOT TO SCALE



PRUNE BRANCHES TO THIN OR MATCH, RETAIN NORMAL PLANT SHAPE.

SHRUBS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THEY BORE TO ORIGINAL GRADE

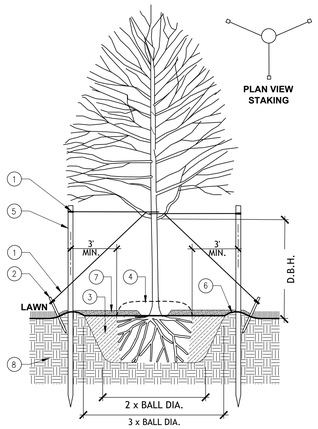
REMOVE ALL FIBER, PLASTIC OR METAL CONTAINERS

KNIFE SLIT SIDE OF ROOT BALL 6 TIMES, 1" DEEP EACH

1. AMEND SOIL PER SPECIFICATION REQUIREMENTS & NOTES, WATER AND TAMP TO REMOVE AIR POCKETS
2. REMOVE ±4"–8" OF SOIL FROM TOP OF ROOT BALL TO EXPOSE ROOT FLARE. SOIL CAN BE USED IN PLANT MIX. REMOVE ALL OF BASKET AND BURLAP
3. FORM SAUCER 3" HT. AT EDGE OF PLANT PIT
4. 3" DEEP SHREDDED BARK MULCH LEAVE 6" DIA. CIRCLE OF BARE SOIL AT TRUNK – DO NOT BURY TRUNK BASE
5. 18" MIN. OR DEPTH OF ROOT BALL
6. UNDISTURBED SUBSOIL

2 TALL SHRUB PLANTING

NOT TO SCALE



STAKE ALL TREES UNDER 4" GUY ALL TREES 4" AND OVER

PRUNE ONLY TO REMOVE BROKEN OR DAMAGED BRANCHES

PLANT SO THAT TOP OF ROOT FLARE IS EVEN WITH THE FINISHED GRADE

NEVER CUT LEADER

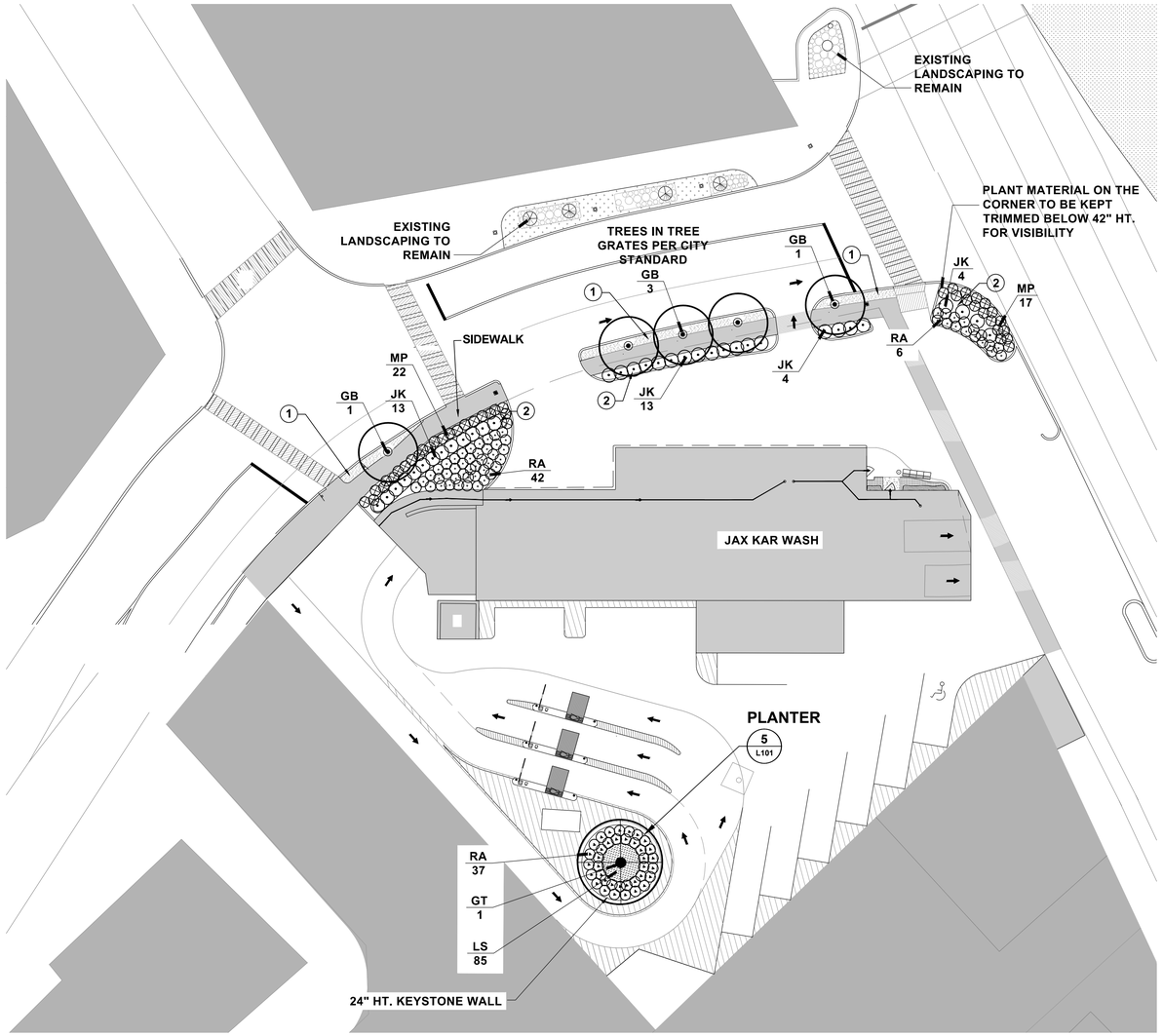
KNIFE SLIT SIDE OF ROOT BALL 6 TIMES, 1" DEEP EACH

1. "ARBORTIE" NYLON STRAPS

   STAKE ABOVE FIRST BRANCHES OR AS NECESSARY FOR FIRM SUPPORT
2. FOR TREES OVER 4" CAL., (3) 2"X4"X24" PRESS. TREATED STAKES TOP OF STAKE 6" ABOVE GROUND
3. AMEND SOIL PER SPECIFICATION REQUIREMENTS & NOTES, WATER AND TAMP TO REMOVE AIR POCKETS
4. REMOVE ±4"–8" OF SOIL FROM TOP OF ROOT BALL TO EXPOSE ROOT FLARE. SOIL CAN BE USED IN PLANT MIX. REMOVE ALL OF BASKET AND BURLAP
5. HARDWOOD STAKES (3) STAKES 2"X2" DRIVEN (MIN. 18") FIRMLY INTO SUBGRADE PRIOR TO BACKFILLING. REMOVE AFTER 1 YEAR
6. FORM SAUCER 3" HT. AT EDGE OF PLANT PIT
7. 3" DEEP SHREDDED BARK MULCH LEAVE 6" DIA. CIRCLE OF BARE SOIL AT TRUNK – DO NOT BURY TRUNK BASE
8. UNDISTURBED SUBSOIL

1 DECIDUOUS TREE PLANTING

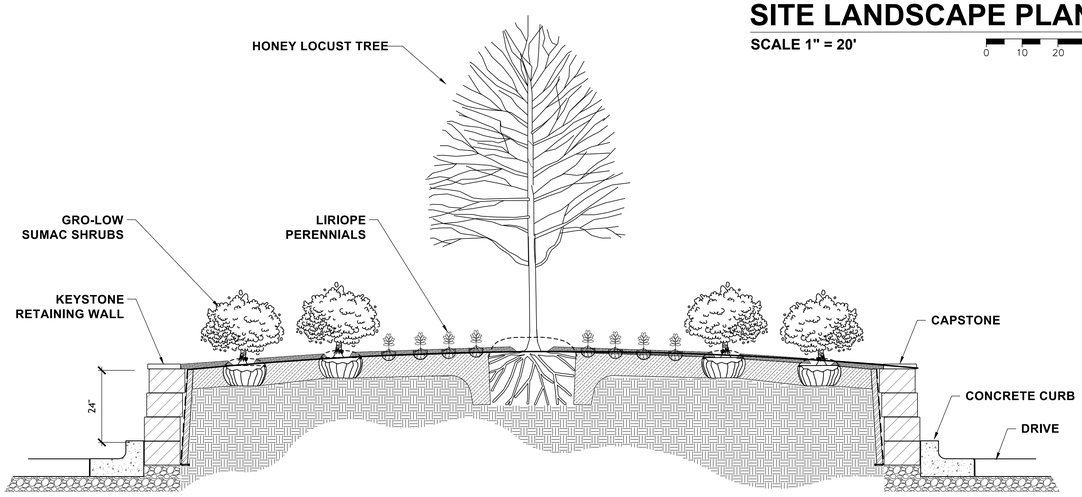
NOT TO SCALE



SITE LANDSCAPE PLAN

SCALE 1" = 20'

0 10 20 40



5 L101 KEYSTONE COMPACT BLOCK RETAINING WALL - SECTION

NOT TO SCALE

NOTE KEY 2

1. EXPOSED AGGREGATE CONCRETE PAVING PER CITY STANDARD
2. 1" DIA. EGG-STONE MULCH, 3" DEEP OVER FILTER MAT

GENERAL PLANTING NOTES:

A. ALL TREES TO HAVE CLAY OR LOAM BALLS, TREES WITH SAND BALLS **WILL BE REJECTED**.

B. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.

C. ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER, TREES WITH FORKED OR IRREGULAR TRUNKS **WILL NOT BE ACCEPTED.**

D. ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.

E. IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS, WALKS AND PAVED AREAS.

F. ALL PLANTING BEDS SHALL RECEIVE SHREDDED BARK MULCH. SEE PLANTING DETAILS FOR DEPTH.

G. SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.

MULCH

MULCH IS DOUBLE SHREDDED HARDWOOD BARK MULCH

NO GROUND WOOD PALETTE MULCH PERMITTED

PLANT MIX

ALL PLANTING/ PERENNIAL BEDS TO RECEIVE:

(1) 6 CU FT. ORGANIC COMPOST

(1) 20 LB BAG COMPOSTED POULTRY MANURE "CHICK MAGIC" 5-3-2 WWW.CHICKMAGIC.NET (262)495-6220

(1) 5 LB BAG SHEMINS 13-13-13 MULTI PURPOSE FERTILIZER

PER 150 SQ FT BED AREA.

HAND TILL INTO SOIL TO A DEPTH OF 12" MINIMUM

PLANT LIST

QUAN.	KEY	COMMON/ BOTANICAL NAME	SIZE	SPEC.
5	GB	Ginkgo *Ginkgo biloba*	3" Cal.	B&B
1	GT	Thornless Honeylocust *Gleditsia 'Skyline'*	3" Cal.	B&B
34	JK	Ketleri Juniper *Juniperus spp. 'Ketleriі'*	6' Ht.	B&B
85	RA	Gro-low Fragrant Sumac *Rhus aromatica'Gro-low'*	24" Spr.	Cont.
39	MP	Dwarf Bayberry *Myrica pensylvanica*	24" Spr.	B&B
85	LS	*Liriope* Liriope spicata	1 Gal.	Cont.

SUE'S LANDSCAPING
1000 Benstein
Walled Lake, MI 48390
248 669-3032

KENNETH S. WEIKAL LANDSCAPE ARCHITECT No. 1022

PROJECT TITLE

JAX KAR WASH

34745 WOODWARD AVE
BIRMINGHAM, MI 48009

SHEET

SITE LANDSCAPE PLAN

ISSUE DATE

05/20/2020
SPA- PRELIM REVISED

06/04/2020
SPA- THIRD SUBMISSION

SHEET NUMBER

L101

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

May 2, 2021

VIA EMAIL

Ms. Jana L. Ecker
Planning Director
City of Birmingham
151 Martin Street, P.O. Box 3001
Birmingham, MI 48012

RE: Jax Kar Wash
34745 Woodward Ave. Birmingham, MI
Traffic Analysis Review

Dear Ms. Ecker:

Fleis & VandenBrink (F&V) staff have completed our review of the proposed Jax Kar Wash (34745 Woodward Ave.) traffic study. The study dated updated site plan was prepared by Spaulding DeDecker and is dated December 7, 2020. Based on our review we have the following comments:

1. The analysis concluded that the limited factor for this site is the capacity of the car wash, which is 71 vehicles per hour. The payment kiosk has a capacity of 130 vehicles per hour. Therefore, vehicles will exceed the available queue length when the demand exceeds the capacity of the car wash. The analysis indicates a peak demand of 59 vehicles on a typical day. The proposed site can accommodate a peak demand of 93 vehicles per hour onsite before exceeding the available queue length. Therefore, on a typical day the peak demand can be accommodated on site.
2. The MDOT Oakland TSC indicated in their review of this site access (via email 10/8/2019) noted there is a concern with the site utilizing the sidewalk adjacent to Woodward Ave. We agree with MDOT and the continued use of the sidewalk in this area to facilitate vehicle movements is not recommended.

Summary

- During a typical day, the car wash is anticipated to have adequate capacity and queue length to accommodate the projected vehicle demand. During the peak season (winter), the demand may exceed the capacity and extend beyond the available queue length on site.
- The egress movement of vehicles should be designed to reduce pedestrian vehicle conflicts, including the use of the sidewalk to facilitate vehicle queuing.

We hope that this report addresses the City's needs regarding this project. If you have any questions, please do not hesitate to contact us at your convenience.

Sincerely,

FLEIS & VANDENBRINK ENGINEERING, INC.

Julie M. Kroll

Julie M. Kroll, PE, PTOE
Traffic Engineering Services Manager

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

City of Birmingham
A Walkable Community

MEMORANDUM

Planning Department

DATE: **September 1st, 2021**

TO: **Planning Board**

FROM: **Brooks Cowan, City Planner**

APPROVED: **Jana Ecker, Planning Director**

SUBJECT: **325 S. Eton Street – District Lofts Phase 3 – New Mixed Use Four Story Building – Community Impact Study UPDATE & Preliminary Site Plan Review**

Community Impact Study

I. Introduction

The applicant for 325 S. Eton Street is applying to complete Phase 3 for the District Lofts which consists of a 4 story mixed use building with first floor commercial space and 50 residential units. The subject site for the Phase 3 building currently consists of The Reserve banquet and dining hall just south of the intersection at S. Eton and Maple Road. The Reserve obtained a Final Site Plan and SLUP approval in 2003 as it exceeds 6,000 square feet and operates past 11pm.

The entire property currently consists of five buildings including the Big Rock Chop House, The Reserve, a four story private parking deck, District Lofts Building A, and District Lofts Buiding B. Districts Lofts Buildings A at 2051 Villa Street and Building B at 375 S. Eton account for over 90,000 square feet with first floor commercial space, live-works units, and 47 residential units. Given the size of the original development proposal in 2006, the applicant was required to submit a Community Impact Study which was accepted in January 2006. Relevant meeting minutes are attached. District Lofts Building B at 375 S. Eton went to the Planning Board for Final Site Plan approval in 2015, however it was not required to submit a CIS due to the plans being included in the original 2006 CIS. Building B again appeared before the Planning Board once again in July of 2017 for a SLUP to have an office use greater than 6,000 SF. The SLUP was approved by City Commission August 2017.

District Lofts Phase 3 is part of the Eton Condominium Properties which is 143,593 square feet and encompasses the triangular area from Villa Street to East Maple, bound by S. Eton Road to the west and the railroad to the east. **It is of note that the Big Rock Chophouse is listed in the City's inventory of historic properties and given the proposed changes to the site plan, the application must be reviewed by the Historic District Commission. The first floor of the building is proposed to have 6,600 square feet of commercial office and retail space and therefore will also require SLUP review and approval in conjunction with Final Site Plan and Design Review.**

The proposed District Lofts Phase 3 building is proposed to be 59,077 square feet in size, thus requiring the applicant to prepare a Community Impact Study in accordance with Article 7, section 7.27(E) of the Zoning Ordinance as they are proposing a new building containing more than 20,000 square feet of gross floor area. The Phase 3 building was not included in the 2006 CIS report for the District Lofts development due to the existence of The Reserve. The City considers the application a Community Impact Study Update due to the fact that the property has obtained CIS acceptance in 2006.

II. COMMUNITY IMPACT STUDY

As stated above, the applicant was required to prepare an updated Community Impact Study given the proposed construction of a new building. The Zoning Ordinance recognizes that buildings of a certain size may affect community services, the environment, and neighboring properties. The CIS acts as a foundation for discussion between the Planning Board and the applicant, beyond the normal scope of information addressed in the Preliminary Site Plan Review application. The Planning Board "accepts" the CIS prior to taking action on a Preliminary Site Plan.

A. Planning & Zoning Issues:

Use

The property is currently zoned MX – Mixed Use and B2-B Business on the northern portion of the lot. The new proposed building is entirely within the MX Zone. The proposed commercial and multi-family residential uses are permitted principal uses in the MX and B2-B zone districts.

The four existing buildings and the new proposed building of the District Lofts Development consist of a mix of uses with live-work units, first floor commercial space, residential units, a restaurant, and a private parking deck.

Master Plan Compliance: Eton Road Corridor Plan

The Eton Road Corridor Plan Vision Statement is based on the issues and vision drafted by participants and is stated as follows:

> *The Eton Road Corridor will be a mixed use corridor with a range of commercial, service, light industrial, and residential uses that serve the needs of the residents of Birmingham. Creative site planning will be encouraged to promote high quality, cohesive development that is compatible with the existing uses in the corridor and the adjacent single-family residential neighborhoods.*

The Eton Road Corridor Plan Future Land Use Goals of Chapter 4 state the following:

a) *Promote the continued mixed use and redevelopment of the corridor area.*
b) *Ensure that public and recreational uses, and their accessory uses remain compatible with and accessible to the single-family residential neighborhood.*

c) *Discourage large-scale commercial and industrial uses that are incompatible with the adjacent single-family neighborhood.*
d) *Continue to preserve the adjacent stable single-family residential district to the west.*
e) *Encourage the retention and expansion of existing uses that help define the corridor area including the continued use of historic depot landmark building and the existing passenger rail facility.*
f) *Allow mixed-use developments that include residential uses.*
g) *Enhance the image of the sub-area by creating entrance features consisting of landscaping, lighting and low profile signage.*

The proposed development implements the Future Land Use Goals contained in the Eton Road Corridor Plan as the applicant is proposing a mixed-use building with first floor commercial space fronting along Eton Street along with three floors of residential units and architectural enhancements consisting of landscaping, lighting, and low profile signage.

The proposal appears to be compatible with the uses on the west side of Eton Street which include zones B1 and R6 which allow commercial uses up to 30 feet in height and residential uses up to 40 feet in height. The District Lofts Phase 3 Building also appears to expand existing commercial and residential uses in the area and encourages the continued use of the historic landmark building by increasing commercial activity in the area.

The Site Design Goals for the Eton Road Corridor Plan encourages the use of high quality building materials and appropriate urban design elements such as entrance features, streetscape, lighting, and façade improvements that create a pedestrian friendly environment. The proposed development and uses relate to the pedestrian as the building is located at the property line and was designed with human scale detailing on the first floor including canopies, large windows, landscaping and pedestrian entrances along S. Eton Street. The building consists of high quality brick and detailing materials with landscaping and furniture surrounding the building.

The Plan also encourages a continuous sidewalk and cohesive streetscape design along the east side of Eton Road and along existing and proposed interior streets. However, the applicant has not indicated any streetscape features such as street trees or street lights. The streetscape along Eton Street to the south is complete with street trees and City standard street lights. The current site plan indicates the existing 5 foot sidewalk without any streetscape improvements. **The lack of street trees and streetlights does not appear to be consistent with the recommendations of the Eton Road Corridor Plan's recommendation for a cohesive streetscape design along the sidewalk.** The applicant will be required to add street trees and street lights to ensure compliance with the Zoning Ordinance and the Eton Road Corridor Plan. The applicant has advised that they will provide a 5' wide grass strip between the curb and the sidewalk, and will include the required street trees and pedestrian scale lights in this area as required for Final Site Plan and Design Review.

B. Land Development Issues:

The applicant has provided a survey of existing site conditions, an Eton Condominiums survey, topographic conditions and historic aerial photos of the area to document the history of development in the area.

Section 3.4 of the CIS includes a Phase I Environmental Site Assessment dated June 1st, 2021 prepared by Consolidated Environmental Services, Inc. (CES). The report indicates that a Recognized Environmental Condition (REC) was identified in 1998 and a Phase 2 Environmental Site Assessment was performed at that time to address potential for contamination in areas along the railroad siding. Findings concluded that some hydrocarbon impact was found on the property but this impact was below the state residential cleanup standards, therefore no further action was taken. The portion of the property where hydrocarbons were detected in 1998 appears to be where the parking garage is now located.

The recent borings done for the 325 S. Eton Street site had no hydrocarbons detected. CES believes the REC identified in 1998 has been adequately addressed. CES also finds that no other RECs have been found for the 325 S. Eton Street property from the operation of the Reserve. The Phase I Environmental Site Assessment recommendation is that care should be taken in the development of the new building. If any suspected contaminated soils or other materials are encountered during excavation an environmental professional should be retained for testing and to properly characterize and handle the material.

Section 3.5 of the CIS includes the Geotechnical Investigation with Soil and Groundwater Analytical Results. Soil borings included in the report are by McDowell & Associates from 2015 for the District Lofts Phase Building B at 375 S. Eton Street, directly south of the subject property. Six borings were taken and the underlying native soil was composed of fill soils and clay. Standard Penetration Tests made during sampling indicate that the native soils at the site have fair to very good strengths. The report concludes that the area has sufficient soil to support a 4 story building with conventional spread or strip footing. The report suggests that the Phase 3 building of 325 S. Eton has acceptable soil and groundwater analytics, given the accepted results of the previous 2006 CIS, the soil results from 2015, and the presence of an existing building. Minutes from each review are attached.

Section 3.8 of the CIS includes the haul route proposed for the development project. Trucks will use Eton, Villa, and the District Lofts access drive in a counter-clockwise direction to deliver and carry out materials. It is of note that the proposed development will be using the existing basement at The Reserve. Thus, the volume of excavated soils to be removed from the site will be low.

C. Utilities, Noise, and Air Issues:

The applicant will be required to bury all utilities on the site. The applicant will maintain existing utility companies to service the site. The site plan indicates that all new lines on will be run underground as required.

A noise study was prepared by Kolano and Saha Engineers, Inc dated February 2, 2021. For the on-site sound level measurements, noise readings were taken for a 24 hour period in January 2021 80 ft east of S. Eton Road, 320 ft north of Villa Street at a position that is expected to be at the middle of the north wall of the proposed new building. The daytime and nighttime average sound level ranged from 51 to 59 dB(A) with an occasional peak due to an aircraft, a train, or garbage truck operation. The report concludes that the ambient sound within the area falls within the "normally acceptable" range and is not expected to adversely affect residents in the building.

The Noise Impact section states that the proposed mixed-use multi-story building will be similar to other multi-family residential buildings in Birmingham where the main source of noise will come from heating and cooling units. The report concludes that mechanical heating and cooling units are not expected to contribute a significant level of noise beyond the property boundary, and will not exceed ordinance limits if located sufficiently away from property lines and contained within screen walls. The report concludes that the development will not produce excessive noise contribution to the adjacent community and will be within the Birmingham Noise Ordinance limits with proper considerations for noise control.

A 2019 Air Quality Annual Report for Michigan has been provided. The report does not provide site specific conclusions regarding air quality, however it does provide data from the nearest air quality monitoring station which is Oak Park. The proposed development and use appears to be compatible with surrounding uses and is not expected to create substantial increases in pollution levels.

A parking deck is located on-site to serve the commercial buildings on-site. The parking deck has 262 parking spaces with open ventilation and does not appear to contribute towards hazardous levels of pollution.

D. Environmental Design and Historic Values:

245 S. Eton Street is a nationally registered historical landmark. The train station known as Grand Trunk Western Railroad Birmingham Depot now serves as the restaurant known as "Big Rock Chophouse." The site plan indicates that no changes are proposed for the historic train depot in use as a restaurant. However, as noted, a Historic District Commission application is required.

The applicant has indicated that no demonstrable destruction of natural features will take place at the site, as the site is largely impervious. The site plans indicate an addition of green space and plantings for the central gathering area which will replace existing parking spaces.

The proposed building will continue the street wall facing S. Eton from the existing building to the south. The four story building will not block or degrade views and it will provide ample screening for the parking structure behind it. There will be no visual pollution as the site plan also indicates that loading spaces are located in the rear portion of the property, along with dumpsters which are screened from view.

E. Refuse, Sewer and Water:

With regards to refuse, the site has two dumpsters designated for residential users located on each side of the parking structure and a third dumpster that is for Big Rock Chophouse. All dumpsters are properly screened. The site plan submitted does not indicate a trash room within the building, residents of the proposed Phase III building are expected to use the dumpster that The Reserve Banquet facility currently uses. The CIS states that solid waste generated from this development will be normal and can be handled via standard practices by local waste management. A separate area for the collection of recycled debris has not been indicated. The applicant has advised that they will provide separate bins for the disposal of recycled materials within the existing dumpster enclosure area for use by the building's occupants.

In regards to sewer and water, the applicant obtained CIS acceptance in 2006 when The Reserve was located in the subject area. The applicant states that it is anticipated that the existing sanitary sewer will have the capacity to adequately service the proposed development, and that the existing sewer along the frontage of the property has the capacity to handle the flows from the proposed development. The proposed conditions reduce the amount of impervious surface and the applicant does not anticipate that drainage from the site will adversely affect the municipal system. The applicant also anticipates that the existing 12 inch water main should have the capacity to service the proposed building. Further comments on sewer, water, and other engineering related items will be provided by the City's Engineering staff by Thursday, September 9th, 2021 for the Planning Board.

F. Public Safety:

The Fire Department has requested that the applicant indicate on the plans that the fire lane on the east side of the property provide proper turn radius for the Birmingham Fire Department's largest vehicle, and that a 20 foot width be maintained for this lane. For the northeast side of the property (Big Rock, Phase 3, and Parking Deck), the Fire Department requests that the applicant assure a fire truck can turn into the access drive without disruption of islands, structures, or landscape. Current site plans indicate a 20 foot wide access drive as existing and proposed. The Fire Department will require further information to ensure that all life safety issues have been addressed, including fire access, water connections etc. The applicant has indicated they intend to meet all fire codes and povide a full fire supression system. The plans indicate one elevator that will accommodate a medical cart.

The CIS states that there are no plans for a security system for the building. However, the applicant has advised that they do intend to provide a secured entry that requires visitors to call for entry, and residents can access the building using a key fob. This is the same system in use in the existing District Loft Buildings A and B. The Police Department have commented that they would prefer to see the sidewalk along S. Eton Street be moved away from the street to improve the safety of pedestrians by having a separation from the roadway. Doing so would be in line with the right-of-way immediately to the south. The City also requires street lights to be installed in the every 40 along S. Eton street to improve pedestrian and vehicular safety during the nighttime. **The Planning Division recommends the applicant provide a public access easement to separate the sidewalk from the street and provide space for City required streetlights.** The

applicant has stated that they will provide a 5' wide boulevard area abutting the curb to provide separation between the street and sidewalk, and proposes to include the required street trees and pedestrian scale lighting in this area for Final Site Plan Review.

G. Transportation:

A Traffic Impact Study has been provided by ROWE Professional Services Company dated July 1st, 2021. On September 1st, 2021, the City's traffic consulting firm Fleis & Vandebrink (F&V) submitted a letter requesting issues with the TIS submitted by ROWE be addressed (attached). The two consulting firms have been in communication regarding the TIS and F&V will conduct an updated review and will have a traffic engineer present at the meeting on Thursday September 9th, 2021 to address all traffic issues.

H. Parking:

The site has a private parking structure servicing the four commercial buildings. The private structure has 262 parking spaces available for District Lofts Residents, Big Rock Chophouse patrons and staff, and Griffin Claw brewery staff. The mixed-use buildings of 2051 Villa and 375 S. Eton have a combined below ground parking total of 102 parking spaces. Big Rock Chophouse has a total of 21 surface parking spaces, while the southeast corner of the site area has 18 parking spaces facing the railroad. There are also 12 on street parking spaces along Villa which are available to the public. Five parking spaces will be removed from the interior to accommodate for the new gathering area.

I. Natural Features:

There will be little to no impact on natural features as the site is already developed for commercial and residential uses with mostly impervious surface. Extensive new landscaping is proposed to coincide with the new development surrounding the proposed building and for the proposed gathering area central to the entire property.

Street trees are required every 40 feet of linear frontage per the Zoning Ordinance, however the current site plan does not indicate such natural features. The Department of Public Services have commented that street trees and the right-of-way should be designed to match what is along S. Eton to the south of the subject building where there is up to 7 feet of grass between the road and sidewalk with trees every 40 feet. **The Planning Division recommends the applicant provide a public access easement to separate the sidewalk from the street and provide space for City required street trees and lighting to be included along the frontage of the proposed building to match the right-of-way along the eastern portion of S. Eton Road south of the proposed Phase 3 building.** As noted above, the applicant has stated that they will provide a 5' wide boulevard area abutting the curb to provide separation between the street and sidewalk, and proposes to include the required street trees and pedestrian scale lighting in this area for Final Site Plan Review.

J. Departmental Reports:

1. Engineering Division

CIS

Comments regarding water, sewer, drainage, and other engineering related items will be provided by Thursday, September 9th, 2021.

SITE PLAN

The Engineering Department has completed a review of the streetscape spacing requirements in regards to lighting and walkway spacing from the street edge.

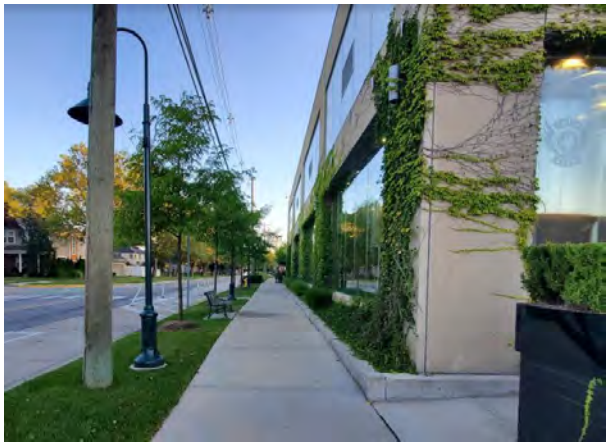
The light pole foundation base used in the district is 16" in diameter. In order to access the foundation based for replacement the forms are approximately 3.5' in diameter. For safety of both vehicles and pedestrians the poles should not be located immediately adjacent to either the road or the 5' standard walkway space.

Therefore, the Engineering department recommends a minimum of 5' of space between the back of curb and the start of the primary walking surface and that the light pole be centered in this space.

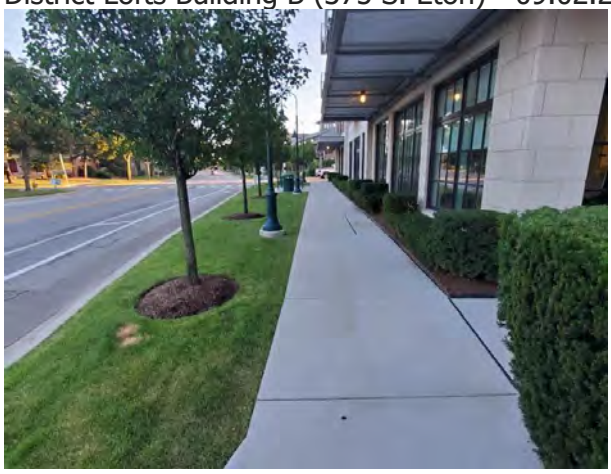
2. Department of Public Services – Griffin Claw has a 7' grass/right-of-way and 7.5' sidewalk with 18 in. planter beds. The existing District Lofts building at 385 S. Eton has 7' grass and 6.5' sidewalk at shortest point (foreground of photo below). 12" planter bed. The streetscape area along S. Eton, from building to curb should match the above with grass area of at least 7', incorporating trees at the proper spacing requirements.

Tree protection is required on at least 2 of the existing city trees in front of 385 S. Eton (if not all 4). We recommend selecting a different species of tree than Pear, due to Trellis Rust Disease, overplanting and invasive nature. The plant material on sheet L2 is approved.

Griffin Claw – 09.02.21



District Lofts Building B (375 S. Eton) - 09.02.21



3. Fire Department – The Fire Department provided the following comments on August 16, 2021:

1. Fire lane on east side of property shall provide proper turning radius for the Birmingham Fire Department's largest vehicle. Maintain 20 feet of width for this lane.
2. At the northeast side of the property, assure that a fire truck can turn into the lane without disruption of islands, structures or landscape.
3. Full fire suppression required.
4. Fire alarm system required.
5. The fire department connection (FDC) shall be installed on the Eton Street side with a fire hydrant within 100 feet of the FDC.
6. Fire pump installation required if water pressures are not sufficient for system installed. Back-up power system for this pump. Determination of this item at a later date when plans submitted and calculations made.
7. Knox box required for this building.
8. Emergency power shut off device installation Knox 4500 series box for fire department use.

4. Police Department – The Police Department has reviewed the plans and would prefer to see the sidewalk moved back to improve the safety of pedestrians by having a separation from the roadway. This would also match how their building to the south looks.

5. Building Division – As requested, the Building Department has examined the plans for the proposed project referenced above. The plans were provided to the Planning Department for site plan review purposes only and present conceptual elevations and floor plans. Although the plans lack sufficient detail to perform a code review, the following comments are offered for Planning Design Review purposes and applicant consideration:

1. Exit stair B.1 is connected to the exit discharge (exterior) by a "delivery corridor". This corridor must be constructed as an exit passageway and meet the requirements of Section 1024 of the building code.

2. The corridor running north and south on floors 2 thru 4 has a dead end that exceeds the maximum of 50-feet as limited Section 1020.4 of the building code.

K. Summary of CIS:

The following issues remain outstanding with regards to the CIS:

1. The applicant must update the TIS to address issues outlined in the September 1st, 2021 letter from F & V and resubmit for review.

Suggested Action:

To postpone action on the Community Impact Study as provided by the applicant for the proposed development at 325 S. Eton, allowing the applicant to address the opportunity to address the following issues:

1. The applicant submit an updated TIS report addressing issues outlined by F&V;
2. Applicant provide a public access easement to separate the sidewalk from the street and provide space in the right-of-way for City required street trees and street lights to be included along the frontage of the proposed building which will match the right-of-way along the eastern portion of S. Eton Road that exists to the south of the proposed Phase 3 building at Final Site Plan review.
3. The applicant indicate an area for the collection of recyclables in the dumpster enclosure; and
4. The applicant indicate on the plans that the fire lane on the east side of the property (Villa) provide proper turn radius for the Birmingham Fire Department's largest vehicle and that a fire truck can turn into the access drive at the northeastern portion of the property (Big Rock, Phase 3, and Parking Deck) without disruption of islands, structures, or landscape.

OR

To accept the Community Impact Study as provided by the applicant for the proposed development at 325 S. Eton Street with the following conditions:

1. The applicant submit an updated TIS report addressing issues outlined by F&V;
2. Applicant provide a public access easement to separate the sidewalk from the street and provide space in the right-of-way for City required street trees and street lights to be included along the frontage of the proposed building which will match the right-of-way along the eastern portion of S. Eton Road that exists to the south of the proposed Phase 3 building at Final Site Plan review.
3. The applicant indicate an area for the collection of recyclables in the dumpster enclosure; and
4. The applicant indicate on the plans that the fire lane on the east side of the property (Villa) provide proper turn radius for the Birmingham Fire Department's largest vehicle and that a fire truck can turn into the access drive at the northeastern portion of the property (Big Rock, Phase 3, and Parking Deck) without disruption of islands, structures, or landscape.

OR

To decline the Community Impact Study as provided by the applicant for the proposed development at 325 S. Eton Street for the following reasons:

1. _____
2. _____
3. _____

Preliminary Site Plan Review

III. Preliminary Site Plan Review

Please see the attached Zoning Compliance Summary Sheet for detailed zoning compliance information.

1.0 Land Use and Zoning

1.1 Existing Land Use – The existing land uses on the site include The Reserve banquet facility, the Big Rock restaurant, a 3-story parking deck, District Lofts Building A (2051 Villa), and District Lofts Building B (375 S. Eton).

1.2 Zoning – The northern portion of the parcel is zoned B-2B, General Business. The southern portion of the site is zoned MX, Mixed Use. The proposed new building is entirely within the MX zone. The proposed uses appear to conform to the permitted uses of their respective Zoning Districts. **The applicant is proposing greater than 6,000 square feet of commercial space on the first floor in the MX zone, therefore the applicant must apply for a Special Land Use Permit at Final Site Plan review.**

1.3 Summary of Adjacent Land Use and Zoning - The following chart summarizes existing land use and zoning adjacent to and/or in the vicinity of the subject site.

	North	South	East	West
Existing Land Use	Public Property	Crosswinds Development	Railroad	Commercial, Multi-family Residential
Existing Zoning District	PP Public Property	MX - Mixed Use	N/A	B-1 – Neighborhood Business, R-6 – Multiple-Family Residential
Overlay Zoning District	N/A	N/A	N/A	N/A

2.0 Area, Setback, and Height Requirements

The attached summary analysis provides the required and proposed bulk, area, and placement regulations for the proposed project. The applicant appears to satisfy the majority of the bulk, height, and placement requirements for the MX Zoning District, and is able to meet the Floor Area Ratio requirement of the MX District by satisfying the FAR parking requirement in excess of the general parking standards. There was a clerical error in 2005 which omitted the FAR allowance up to 150% in the MX District when the Zoning Ordinance was reformatted. A memo addressing the error has been prepared for the Planning Board and City Commission. This memo is attached along with the original MX-Mixed Use Ordinance approval from 2000 and the legal review of the Zoning Ordinance changes and reformatting in 2005 that does not mention removing the 150% FAR allowance in the MX zone.

The balconies proposed for the western elevation along Eton Street appear to project into the right-of-way. The applicant must provide dimensions of balcony projections into the right-of-way for Final Site Plan Review. Article 4, Section 4.74(D)(4)(c)(ii) states that *"Permanent architectural features such as windows, balconies, overhangs and other architectural features that encroach into the right of way above 8' may be approved by the Planning Board, Design Review Board and/or the Historic District Commission provided that they do not extend 2' or more into the right of way or create an obstruction and that the encroachment complies with the design review standards set forth in Article 07 of the Birmingham Chapter 126 - Zoning. Encroachments that extend more than 2' into the right of way will also require the approval of the City Commission through a lease agreement"*

City staff would also like to bring attention to room units #213 and #215 for discussion. The applicant has indicated these spaces as one-bedroom units with a studio office approximately 90 to 100 square feet in size. Both spaces are surrounded by walls with a door for access. Unit #213 studio has a window while the studio in unit #215 does not have a window, and neither have amenities such as closets. Minimum square footage for a bedroom per the building code is 70 square feet. The applicant has indicated that the space is provided due to an increasing demand for work-from-home space and that the walls will provide a private area to conduct work and video calls. The Building Official has reviewed the plans and accepts considering the spaces as offices.

Please see the attached Zoning Compliance Summary Sheet for detailed zoning compliance information.

3.0 Screening and Landscaping

3.1 Dumpster Screening – The applicant is not proposing any changes to the existing three dumpster locations on the site. The dumpsters located at the northeast and southeast portion of the parking structure will be for residential use, while the dumpster adjacent to Big Rock will remain for the restaurant. The current Reserve dumpster is intended to be used by the Phase III building tenants and is screened by the parking deck with a wooden gate. All dumpsters appear to have screening at this time, and there are no trash rooms proposed within Building C at this time. **The Planning Division requires that the applicant label materials and dimensions for the dumpster screen wall and gate for FSP review to**

verify all dumpster screening requirements are met.

3.2 Parking Lot Screening – The surface parking for Big Rock is adequately screened by a masonry screen wall from S. Eton Rd. The surface parking on the southeast corner of the property is also screened by a masonry wall from Villa Ave. All other parking is screened within the parking structure located behind the District Loft Buildings.

3.3 Mechanical Equipment Screening –The applicant has indicated a 5.5' mechanical screenwall on the rooftop. The applicant has also provided a roof plan indicating locations of rooftop mechanical units. Rooftop mechanical units are proposed to be 3' in height, therefore adequate rooftop screening is provided. There are two ground mounted transformers located on the south side of the building. **The application indicates a height of 5' for the transformers, however the applicant is proposing screening consisting of 30"-36" Hatfield Yew and 30"-36" Koreansice Viburnum. The applicant must provide landscaping 5' in height to screen the existing ground transformers.**

3.4 Landscaping –A detailed landscape plan has been provided which shows extensive plantings surrounding the building and a remodeling of the cental gathering space. The building frontage along Eton Street is lined with Dense Yew clipped evergreen hedges. The north elevation is proposed to have All Gold Japanese Forest Grass along the commercial space with four Treeform Hydrangea trees. The residential courtyards on the north elevation are proposed to have Emerald Green Arborvitae, Green Carpet Pachysandra groundcover, and Bobo Hydrangea and Pinky Winky Hydrangea for flowering shrubs.

The eastern elevation is also surrounded with Dense Yew clipped evergreen hedges and Treeform Hydrangea. Hameln fountain grass is proposed to wrap around the southeast corner into the pedestrian walkway between 325 & 375 S. Eton.

The southern elevation is lined with Emerald Green Arborvitae, Little Lime Hydrangea, and Little Quick Fire Hydrangea. A dog run with synthetic turf is proposed between the building and pedestrian pathway. The dog run is proposed to be lined with Hatfield Yew evergreens and Koreanspice viburnums along the pedestrian pathway. A new Presidential Gold Ginko surrounded by All Gold Japanese Forest Grass is also proposed for the southwest corner beside the dog run.

The applicant is also proposing the addition of a new gathering space central to the residential buildings. The gathering space is proposed on what is now visitor parking for District Lofts which is adjacent to the parking deck. The existing fountain on south side of access drive at the Building B entrance is proposed to be moved and be a focal point of the gathering space. There will be a grassy lawn with Green Carpet Pachysandra, Green Velvet Boxwood, Hatfield Yew, and Bobo Hydrangea surrounding the fountain. Resident space with a pergola, grill and firepit will be surrounded by Dense Yew, Presidential Gold Ginko, Little Quick Fire Hydrangea, and All Gold Japanese Forest Grass. The existing trees will provide a buffer between the gathering space and the parking structure.

4.0 Streetscape Elements

One street tree is required for every 40 feet of street frontage, as per Article 4, Section 4.20(G) of the Zoning Ordinance. The site plan submitted does not indicate new street trees along Phase III's linear frontage on S. Eton Street. **The applicant has previously planted trees in the right-of-way along Villa and S. Eton in front of Building A and Building B. The Planning Division recommends that this planting pattern be continued. The applicant must provide plans indicating 1 street tree per 40 feet of linear frontage, or obtain a variance from the Board of Zoning Appeals.** The applicant has advised that they will amend the plans to add a grass boulevard with the required street trees along S. Eton at Final Site Plan Review.

The Rail District Streetscape Standards adopted April 20, 2009 requires streetlights, benches, bike racks and trach receptacles of a specific style. The Reserve Banquet facility was approved in 2003 and was not subject to the current streetscape standards at that time. **The Planning Division recommends one streetlamp be installed for every 40 feet of street frontage on S. Eton.** New street lamps were installed in front of 2051 Villa and 375 S. Eton Street after site plan approval, however the site plan submitted does not indicate new street lamps in front of the newly proposed Phase III building. **The applicant must provide plans indicating one City standard street lamp for every 40 feet of frontage for Final Site Plan Review.** The applicant has advised that they will amend the plans to include the required pedestrian scale lighting for Final Site Plan and Design Review.

The sidewalk between S. Eton Road and The Reserve is currently 5 feet wide. The site plan submitted appears to maintain the 5 foot width. The Engineering Department, Police Department, and Department of Public Services have commented that additional right-of-way will be required to accommodate space for the street lights and street trees and to separate the sidewalk from the street for safety. DPS has commented that the right-of-way should match what is south of the development with grass and trees between the sidewalk and road. Photos were provided with examples of 7 feet of space of grass between the road and sidewalk. The Planning Division recommends the applicant provide a public access easement to accommodate for additional streetscape space. The applicant has advised that they will amend the plans to include the required buffer between the street and the sidewalk and add in street trees for Final Site Plan and Design Review.

The Phase 3 building frontage along Eton Street is proposed to include three commercial tenants. The Planning Division recommends additional public amenities serving the commercial spaces such as Rail District standard benches, bike, racks, and refuse containers as well. The applicant has advised that they will amend the plans to include street furnishings for Final Site Plan and Design Review.

Existing Sidewalk Image – 08.31.2021

4.0 Parking, Loading and Circulation

4.1 Parking – In accordance with Article 4, Section 4.42 of the Zoning Ordinance, below are the following parking requirements for each building and the entire site of District Lofts, including the addition of Phase III. The applicant is also using additional parking provisions to satisfy the Floor Area Ratio requirements as per Article 2, Section 2.40 MX (Mixed Use):

- The Big Rock Chophouse is 11,051 SF of restaurant use which requires 1 space per 75 SF, totaling 148 spaces.
- 2051 Villa (Building A) has 8,000 SF of office which required 1 space per 300 SF (27), 7 one bedroom units requiring 1 space per unit (7), and 12 two-bedroom units requiring 1.25 space per unit (15), totaling 49 parking spaces.
- 375 S. Eton (Building B) has 10,400 SF of office (35), 7 one-bedroom units (7), and 11 two bedroom units (14), totaling 56 parking spaces.
- 325 S. Eton (Phase III) is proposing 6,600 SF of office / retail (22), 47 one-bedroom units (47) and 3 two-bedroom units (4), totaling 73 parking spaces.
- The entire site area is 143,593 SF while the applicant has proposed a total gross floor area of 160,712 for all commercial buildings. This is an excess of 17,119 SF over 100% of the Floor Area Ratio (FAR). The MX zone permits an excess of 100% FAR, up to 150%, if one parking space is provided for

every 300 SF in excess of the 100% FAR, therefore an additional 57 spaces is required (17,119 SF / 300 SF = 57 spaces).

Big Rock Chop house	148 spaces
2051 Villa (Building A)	49 spaces
375 Eton Street (Building B)	56 spaces
Phase III Building	73 spaces
General Requirements	326 spaces
17,119 SF over 100% FAR	57 spaces
Total Required	**383 spaces**

The entire subject property has a parking structure serving all buildings within its boundary, along with surface parking spaces, on-street spaces, and below ground spaces beneath 2051 Villa and 375 S. Eton. Below are the following parking provisions on site:

Existing Parking Deck	262 spaces
Below ground spaces	102 spaces
Surface lot facing RR	18 spaces
Big Rock surface	21 spaces
Villa on-street (Req CC Approval)	*12 spaces*
Total On-Site	**403 spaces**
Total Pending CC Approval	**415 spaces**

The applicant exceeds the parking requirement by 20 parking spaces on-site based on uses indicated in the submitted plans, with an opportunity for an additional 12 parking spaces for a total of 32 pending approval from City Commission, therefore satisfying the parking requirement for the subject site. **Staff would like to note that the applicant has indicated 6,600 SF for the first floor commercial space with three tenant spaces as either an office or retail use. If these spaces are filled with uses such as a salon or restaurant, the parking requirement for the entire site will increase due to different parking requirements of the uses. An excess of 20 to 32 spaces may not be adequate for highly intensive parking uses such as salon or restaurant uses in all three commercial spaces.**

4.2 Loading – In accordance with Article 4, section 4.21 of the Zoning Ordinance, two loading spaces are required for the proposed development, which must be 12' by 40' in size, and must be screened with 6' high screening in accordance with Article 4, section 4.49. In addition, in the MX district, the loading areas are only permitted within the rear open space. The applicant is proposing 2 loading spaces 12' by 40' in size, within the rear open space on the north side and south side of the parking structure. The loading spaces appear to be screened by landscaping and buildings along Eton Street.

4.3 Vehicular Circulation and Access – The proposed development includes the removal of a curb cut facing S. Eton which currently provides access to The Reserve's parking lot. District Lofts Phase III is proposing to build on top of The Reserve's parking lot and eliminate automobile access to this area. Vehicular

access to the subject site is available from Villa Road near the train tracks and from S. Eton Road between the proposed development and the existing Big Rock Chophouse. An access drive winds through the subject site, connecting the curb cuts on Villa Road and S. Eton. The access drive provides a vehicular connection to the four commercial buildings and the private parking structure.

The site plan indicates a new gathering space in the central portion of the entire development. The existing fountain is being relocated from the south side of the access drive to the north side as a focal point of the gathering space. Existing parking spaces are being removed to accommodate space for the gathering area which the access drive wraps around.

In regards to a review of the traffic report, the City's consulting firm Fleis & Vandenbrink will have comments prepared by Thursday September 9th for the Planning Board meeting, and will be present to address any concerns.

4.4 Pedestrian Circulation and Access – The subject site has proposed ornamental brick pavers to delineate pedestrian crosswalks connecting the residential buildings to the gathering area, the parking deck, and Big Rock Chophouse – all on private property. Concrete pedestrian pathways also connect the S. Eton sidewalk to the interior portion of the property. The gathering area is accessible from public and private walkway connections. There are 3 doors facing S. Eton Street which provide pedestrian access to the proposed commercial space. A sidewalk also connects to the northern elevation providing pedestrian access to the interior of the building and two ground floor residential units.

The submitted site plans indicate a 5 foot width for the sidewalk between the building and S. Eton Road. Given the lack of street trees and street lights, the Engineering Department, Police Department, and DPS recommend additional space for safety and street strees and street lights. **The Planning Division recommends the applicant provide a public access easement to accommodate the required space to install required street trees and street lights in a manner consistent with the Eton Street Corridor and to maintain a 5' public sidewalk.** The applicant has advised that they will amend the plans to include the required pedestrian scale lighting and street trees in a 5' wide buffer between the street and sidewalk for Final Site Plan and Design Review.

5.0 Lighting

The site plan indicates two wall mounted light fixtures at the building entry facing the access drive and gathering area. Surface mounted lights beneath the 3rd and 4th floor balconies are also proposed. The gathering area is proposed to have eight new ingrade tree uplights. The plans also indicate that the single head and double head light fixtures for the Big Rock Chophouse parking lot are to remain. The applicant has provided a photometric plan for the relevant site area. **A detailed review of lighting will be conducted during Final Site Plan & SLUP Review.**

6.0 Departmental Reports

6.1 Engineering Division

CIS
Comments regarding water, sewer, drainage, and other engineering related items will be provided by Thursday, September 9th, 2021.

SITE PLAN
The Engineering has completed a review of the streetscape spacing requirements in regards to lighting and walkway spacing from the street edge.

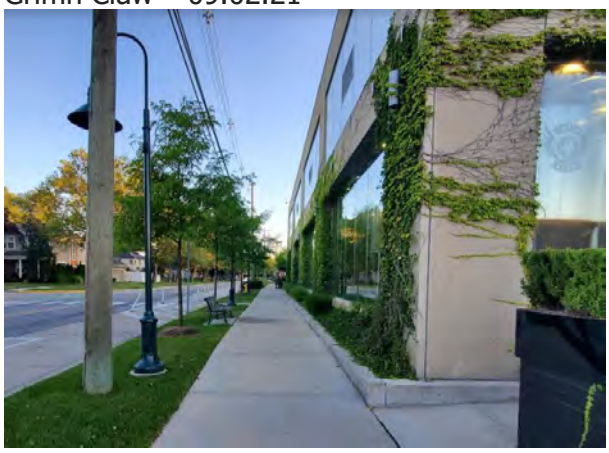
The light pole foundation base used in the district is 16" in diameter. In order to access the foundation based for replacement the forms are approximately 3.5' in diameter. For safety of both vehicles and pedestrians the poles should not be located immediately adjacent to either the road or the 5' standard walkway space.

Therefore, the Engineering department recommends a minimum of 5' of space between the back of curb and the start of the primary walking surface be allowed and that the light pole be centered in this space.

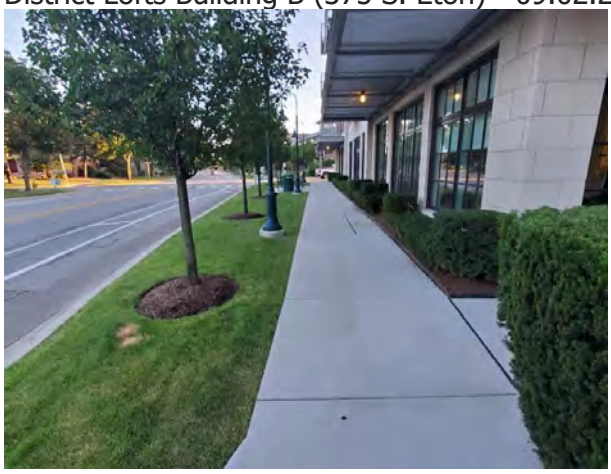
6.2 Department of Public Services – Griffin Claw has a 7' grass/right-of-way and 7.5' sidewalk with ~18 in. Planter beds. The existing District Lofts building at 385 S. Eton has 7' grass and 6.5' sidewalk at shortest point (foreground of photo). ~12" planter bed. The Streetscape area along S. Eton, from building to curb should match the above with grass area of at least 7', incorporating trees at the proper spacing requirements.

Tree protection is required on at least 2 of the existing pear city trees in front of 385 S. Eton (if not all 4). We recommend selecting a different species of tree than pear, due to trellis rust disease, overplanting and invasive nature. The plant material on sheet L2 is approved.

Griffin Claw – 09.02.21



District Lofts Building B (375 S. Eton) - 09.02.21



6.3 Fire Department –The Fire Department provided the following comments regarding initial plan submittal:

1. Fire lane on east side of property shall provide proper turning radius for the Birmingham Fire Department's largest vehicle. Maintain 20 feet of width for this lane.
2. At the northeast side of the property, assure that a fire truck can turn into the lane without disruption of islands, structures or landscape.
3. Full fire suppression required.
4. Fire alarm system required.
5. The fire department connection (FDC) shall be installed on the Eton Street side with a fire hydrant within 100 feet of the FDC.
6. Fire pump installation required if water pressures are not sufficient for system installed. Back-up power system for this pump. Determination of this item at a later date when plans submitted and calculations made.
7. Knox box required for this building.
8. Emergency power shut off device installation Knox 4500 series box for fire department use.

6.4 Police Department – The police department has reviewed the plans and would prefer to see the sidewalk moved back to improve the safety of pedestrians by having a separation from the roadway. This would also match how their building to the south looks.

6.5 Building Division – As requested, the Building Department has examined the plans for the proposed project referenced above. The plans were provided to the Planning Department for site plan review purposes only and present conceptual elevations and floor plans. Although the plans lack sufficient detail to perform a code review, the following comments are offered for Planning Design Review purposes and applicant consideration:

1. Exit stair B.1 is connected to the exit discharge (exterior) by a "delivery corridor". This corridor must be constructed as an exit passageway and meet the requirements of Section 1024 of the building code.
2. The corridor running north and south on floors 2 thru 4 has a dead end that exceeds the maximum of 50-feet as limited Section 1020.4 of the building code.

7.0 Master Plan Compliance

As previously mentioned in the CIS review, the proposed development implements a number of the Future Land Use Goals contained in the Eton Road Corridor Plan (ERCP) as the applicant is proposing a mixed-use building with first floor commercial space fronting on Eton Street along with multiple floors of residential units and architectural enhancements for the area.

The ERCP recommends buildings have primary pedestrian entrances, each articulated differently, which face the street or other public space and provide a strong sense of place. District Lofts Phase 3 proposes to have three entryways facing S. Eton for commercial spaces. The applicant has indicated awnings and landscaping surrounding the three commercial entrances. **The Planning Division recommends that the applicant compliment the entryways to commercial spaces with a change in landscaping near the doors and public amenities such as benches and bike racks.**

In regards to the building and parking placement, the applicant has satisfied the recommendations of the ERCP by placing the mixed-use building along the street frontage and the parking structure in the rear. Areas on site with surface parking and refuse collection near Big Rock Chophouse and the southeast corner are also screened by a masonry wall.

In regards to site access, the ERCP encourages a continuous sidewalk and cohesive streetscape design along the east side of Eton Road and along existing and proposed interior streets. The applicant has not indicated any streetscape features such as street trees or street lights along S. Eton. The streetscape along Eton Street to the south is complete with street trees and city standard street lights. However the current site plan indicates the existing 5 foot sidewalk without any streetscape improvements. **The lack of street trees and streetlights does not appear to be consistent with the recommendations of the Eton Road Corridor Plan's recommendation for a cohesive streetscape design along the sidewalk.** The applicant has advised that they will provide the required street trees and street lights to be consistent with the ERCP.

The site plan indicates pedestrian pathways from the public sidewalk connecting to the interior of the site where ornamental paving across the access drive indicates a walkway for pedestrians and signals to drivers that they should slow down. The pedestrian pathways and ornamental paving connects to a central gathering space with a number of outdoor amenities.

In regards to landscaping, the applicant has provided extensive landscape designs surrounding the proposed building which includes a landscaped dog run. The ERCP also recommends that the interior area adjacent to structures should be developed as landscaping area in order to provide balance and enhance exterior appearances of buildings. The applicant is proposing to remove existing interior parking spaces and re-

route the access drive in order to accommodate a gathering area complete with ample landscaping and amenities such as a pergola, fire pit and grill.

8.0 Design Review

In regards to the first floor, There are three proposed office / retail spaces facing S. Eton Street, with five residential units on the north and east side of the building. **The ordinance requires a ceiling height of 12 feet for the 1st floor in the MX zone, therefore the applicant must indicate the first floor ceiling height for Final Site Plan review.** The applicant is proposing a brick a stone base for the first floor material. The commercial space facing S. Eton will have clear insulated glass in a pre-finished anondized aluminum frame system. The applicant has indicated a glazing percentage of 84% for the west elevation frontage on S. Eton which satisfies the 70% minimum. The applicant has also indicated first floor glazing calculations of 48% for the east elevation, 60% for the south elevation, and 67% for the north elevation which satisfies the ordinance requirement of not less than 30%.

The three commercial spaces on the first floor are proposed to have pre-finished metal awnings above the entrances. Staff would like to note that if future tenants wish to place signage on the awnings, the awning valance may be 9 inches maximum. **The Planning Board may wish to discuss requiring public amenities to compliment the commercial entrances such as public benches and bike racks.**

The ground floor residential entrances face north and east and provide access to the main lobby, stairway, elevator, and fitness room. The east facing entryway is complimented by landscaping, bike racks, and brick pavers connecting to the common gathering area. The first floor residential units facing north are proposed to have 36" – 42" decorative site walls with metal gates. The three units facing east do not have outdoor patio walls and have landscaping beds immediately outside or their door. **The Planning Board may wish to discuss having the applicant open up patio space for the 1st floor tenants facing east.**

In regards to the upper stories, floors two and three are proposed to have a brick veneer exterior with pre-engineered pre-finished metal balconies with an integral handrail. The fourth floor exterior is proposed to consist of pre-finished metal panels. The rooftop is surrounded by a metal awning and metal coping. The applicant has indicated that the glazing for floors 2-4 is 35% which satisfies the Ordinance requirement of 50% maximum.

A detailed review will be conducted during Final Site Plan and SLUP review.

8.0 Approval Criteria

In accordance with Article 7, section 7.27 of the Zoning Ordinance, the proposed plans for development must meet the following conditions:

(1) The location, size and height of the building, walls and fences shall be such that there is adequate landscaped open space so as to provide light, air and access to the persons occupying the structure.

(2) The location, size and height of the building, walls and fences shall be such that there will be no interference with adequate light, air and access to adjacent lands and buildings.

(3) The location, size and height of the building, walls and fences shall be such that they will not hinder the reasonable development of adjoining property not diminish the value thereof.

(4) The site plan, and its relation to streets, driveways and sidewalks, shall be such as to not interfere with or be hazardous to vehicular and pedestrian traffic.

(5) The proposed development will be compatible with other uses and buildings in the neighborhood and will not be contrary to the spirit and purpose of this chapter.

(6) The location, shape and size of required landscaped open space is such as to provide adequate open space for the benefit of the inhabitants of the building and the surrounding neighborhood.

9.0 Recommendation

Based on a review of the site plan submitted, the Planning Division recommends that the Planning Board APPROVE the Preliminary Site Plan for 325 S. Eton Street with the following conditions:

1. The applicant provide a public access easement to the City to accommodate the required space to install required street trees and street lights in a manner consistent with the Eton Street Corridor and to maintain a 5 foot public sidewalk;
2. The applicant provide plans indicating one Rail District City standard street lamp and one street tree for every 40 feet of frontage for Final Site Plan Review;
3. The applicant provide plan indicating additional public amenities along S. Eton Street including Rail District standard benches, bike, racks, and refuse containers for Final Site Plan and Design Review;
4. The applicant apply for a Special Land Use Permit to have greater than 6,000 square feet of commercial space on the first floor in the MX zone;
5. The applicant apply for design review by the Historic District Committee;
6. The applicant provide a first floor ceiling height of 12 feet for the 1st floor in the MX zone;
7. The applicant label materials and dimensions for the dumpster screen wall and gate for FSP review to verify all dumpster screening requirements are met;
8. The applicant properly screen the ground level transformers with landscaping 5’ in height; and
9. Provide all specification sheets including but not limited to building materials, screening materials, signage, streetscape items, glass, light fixtures, mechanical units and landscaping be included for Final Site Plan and Design Review.

10. **Sample Motion Language**

Motion to APPROVE the Preliminary Site Plan for 325 S. Eton Street subject to the following conditions:

1. The applicant provide a public access easement to the City to accommodate the required space to install required street trees and street lights in a manner consistent with the Eton Street Corridor and to maintain a 5 foot public sidewalk;
2. The applicant provide plans indicating one Rail District City standard street lamp and one street tree for every 40 feet of frontage for Final Site Plan Review;
3. The applicant provide plan indicating additional public amenities along S. Eton Street including Rail District standard benches, bike, racks, and refuse containers for Final Site Plan and Design Review;
4. The applicant apply for a Special Land Use Permit to have greater than 6,000 square feet of commercial space on the first floor in the MX zone;
5. The applicant apply for design review by the Historic District Committee;
6. The applicant provide a first floor ceiling height of 12 feet for the 1st floor in the MX zone;
7. The applicant label materials and dimensions for the dumpster screen wall and gate for FSP review to verify all dumpster screening requirements are met;
8. The applicant properly screen the ground level transformers with landscaping 5' in height; and
9. Provide all specification sheets including but not limited to building materials, screening materials, signage, streetscape items, glass, light fixtures, mechanical units and landscaping be included for Final Site Plan and Design Review.

OR

Motion to POSTPONE the Preliminary Site Plan for 325 S. Eton Street subject to the following conditions:

1. The applicant provide a public access easement to the City to accommodate the required space to install required street trees and street lights in a manner consistent with the Eton Street Corridor and to maintain a 5 foot public sidewalk;
2. The applicant provide plans indicating one Rail District City standard street lamp and one street tree for every 40 feet of frontage for Final Site Plan Review;
3. The applicant provide plan indicating additional public amenities along S. Eton Street including Rail District standard benches, bike, racks, and refuse containers for Final Site Plan and Design Review;
4. The applicant apply for a Special Land Use Permit to have greater than 6,000 square feet of commercial space on the first floor in the MX zone;
5. The applicant apply for design review by the Historic District Committee;
6. The applicant provide a first floor ceiling height of 12 feet for the 1st floor in the MX zone;

7. The applicant label materials and dimensions for the dumpster screen wall and gate for FSP review to verify all dumpster screening requirements are met;
8. The applicant properly screen the ground level transformers with landscaping 5' in height; and
9. Provide all specification sheets including but not limited to building materials, screening materials, signage, streetscape items, glass, light fixtures, mechanical units and landscaping be included for Final Site Plan and Design Review.

OR

Motion to DENY the Preliminary Site Plan for 325 S. Eton Street for the following reasons:

_____
_____
_____

Zoning Compliance Summary Sheet
Preliminary Site Plan
325 S. Eton – Eton Street Lofts – Phase III

Existing Site: District Lofts – Mixed Use Buildings

Zoning: MX, Mixed Use
Land Use: Loft building: residential/ retail

Existing Land Use and Zoning of Adjacent Properties:

	North	**South**	**East**	**West**
Existing Land Use	Big Rock Restaurant, Public Property	Crosswinds Development	District Lofts Parking Lot, Railroad	Commercial, Multi-family Residential
Existing Zoning District	B-2B Neighborhood Business, PP Public Property	MX - Mixed Use	MX – Mixed Use, PP – Public Property	B-1 – Neighborhood Business, R-6 – Multiple-Family Residential
Overlay Zoning District	N/A	N/A	N/A	N/A

Land Area:	Existing:	Site area = 143,593 SF
	Proposed:	Same as existing
Minimum Lot Area Per Unit:	Required:	1,500 SF (one bedroom) 2,000 SF (two bedroom) 2,500 SF (three or more bedroom)
	Proposed:	47 x 1 bedroom (70,500 SF) 3 x 2 bedroom (6,000 SF) District Loft Phase 3 Total = 76,500 SF Entire property = 143,500 SF
Minimum Floor Area Per Unit:	Required:	400 SF (efficiency) 600 SF (one bedroom) 800 SF (two bedroom) 1,000 SF (three or more bedroom) Not to exceed 143,593 SF total for entire site
	Proposed:	47 x 1 bedroom = 70,500 SF (Phase 3) 3x 2 bedroom = 6,000 SF (Phase 3)

		Total site = 143,500 SF
Maximum Total Floor Area	Required:	100%, except that the maximum usable floor area may be increased up to 150% by providing 1 parking space for every 300 square feet over the maximum 100% FAR. 6000 SF max per commercial use without a SLUP
	Proposed:	56,100 SF - Phase III Building 47,275 SF - Building B (375 S. Eton) 46,286 SF - Building A (2051 Villa) 11,051 SF - Big Rock **160,712 SF Total** The applicant exceeds 100% of the Floor Area Ratio by 17,119 square feet, which requires an additional 57 parking spaces (1 per 300 SF) in the MX Zone. The applicant has 415 parking spaces total. After factoring in the required 57 parking spaces required for the FAR, the applicant has 32 parking spaces in excess of their total requirement, therefore satisfying the Ordinance.
Minimum Open Space:	Required: Proposed:	N/A N/A
Maximum Lot Coverage:	Required: *Proposed:*	N/A N/A
Front Setback:	*Required*: *Proposed*:	0 ft. minimum 3.5 feet for building Applicant must provide balcony dimensions
Side Setbacks:	*Required:* *Proposed*:	0 ft. minimum 0 ft. for residential stories with walls facing side lot lines which do not contain 20 foot minimum separation between adjacent buildings that contain windows. > 100 feet
Rear Setback:	*Required:* *Proposed*:	10 ft. >100 ft.
Max. Bldg. Height:	*Permitted*: *Proposed*:	45’ for flat roofs, 50’ including mechanical & 4 stories 49.5’ including mechanical & 4 stories
Minimum Eave Height:	*Required*: *Proposed*:	18’ along Eton Street 44’

First Floor Ceiling:	*Required*:	12 ft. minimum clearance finished floor to finished ceiling on first floor	
	Proposed:	**Applicant must indicate 1st floor ceiling height**	
Front Entry:	*Required:*	Principal pedestrian entrance on frontage line, Planning Board may adjust.	
	Proposed:	Office spaces have principal pedestrian entrance on the frontage line Eton Street	
Parking:	*Required*:	Big Rock Chop House	148 spaces
		2051 Villa (Building A)	49 spaces
		375 Eton Street (Building B)	56 spaces
		Phase III Building	73 spaces
		General Requirements	326 spaces
		17,119 SF over 100% FAR	57 spaces
		Total	**383 spaces**
	Proposed:	Existing Parking Deck	262 spaces
		Below ground spaces	102 spaces
		Surface lot facing RR	18 spaces
		Big Rock surface	21 spaces
		Villa on-street (Req CC Approval)	*12 spaces*
		Total Provided On Site	**403 spaces**
		Total Pending CC Approval	**415 spaces**
Loading Area:	*Required*:	20,001 – 50,000 ft^2 commercial – 2 Must be located in rear open space per s. 4.23 LD-03	
	Proposed:	2, located in rear open space (existing)	
Streetscape:	*Required*:	1 street tree per 40 feet of linear frontage 1 street light every 40 feet	
	Proposed:	**Applicant must provide plans indicating 1 street tree every 40 feet and 1 street lamp every 40 feet or obtain a variance from the Board of Zoning Appeals**	
Screening:			
Parking:	*Required:*	Minimum 32" high masonry wall with stone cap	
	Proposed:	Existing parking structure screened entirely by building, staggered planting beds and landscaping.	
AC/Mech. units:	*Required:*	Screening to compliment the building	
	Proposed:	5.5' rooftop metal panels screening 3' rooftop HVAC units	

Elect. Transformer:	*Required*:	Fully screened from public view
	Proposed:	**30"-36" Hatfield Yew and 30"-36" Koreansice Viburnum to screen 2 x 5' in height ground transformers. Applicant must provide landscaping 5' in height to screen ground transformers.**
Dumpster:	*Required*:	6' high capped masonry wall with wooden gates
	Proposed:	**Existing screening and gates. Applicant must verify material and dimensions.**

HDDRC Minutes
January 4, 2006

PUBLIC HEARING
Historic Design Review

245-375 S. Eton
Eton Street Lofts
Birmingham Grand Trunk Western Railroad Depot Landmark

Chairman Rinschler opened the public hearing at 8:14 p.m.

Zoning: B-2B General Business

Proposal: The applicant proposes to develop two residential loft buildings and a parking structure that will house 250 cars. The development will also have an off-street surface parking area, loading areas, and landscaped areas. The new development will be located on the south end of the triangular site of the Birmingham Grand Trunk Western Railroad Depot Landmark which is bordered by S. Eton on the west, Villa Street on the south, and the railroad on the east. The Big Rock Chop house and the Reserve are also located on the site. The applicant proposes to demolish an existing office building at 375 S. Eton at the corner of S. Eton and Villa Streets.

The proposed three-story parking deck will be located on the east side of the property. It will be constructed of brick veneer with pre-cast concrete caps with metal screen grill openings.

Ms. Bashiri read from the Ordinance the boundaries of the Historic District.

Chairman Rinschler commented it is hard for him to imagine that the whole parking lot was intended to be part of the Historic District. Therefore the commission should address the issue as to what size the Historic District should be prior to final site plan approval. Ms. Rowbottom recalled that when the Historic District was designated they talked about using the original property lines of the Grand Trunk Railroad. She agreed the issue should be decided.

Mr. Victor Saroki, the architect for the project, was present along with Mr. Mark Farlow principal from his office; and Mr. J.C. Cataldo, of Mocher Dolan Cataldo & Kelly Building and Development Company. Mr. Norman LePage, the property owner, was not present this evening. Mr. Saroki noted that the site falls within two zoning districts, MX and B-2B, and perhaps the demarcation line between the two zoning districts would make sense for the delineation of the Historic District.

At this point, Mr. Saroki walked the board through his report. It is his understanding they will be before the HDDRC for preliminary historic design review, and before the Planning Board for preliminary site plan approval along with a CIS application approval.

They would then go back to the Planning Board for final site plan approval and come back to the HDDRC for final historic design approval.

The site circulation pattern for both the Big Rock and the Reserve will be quite similar to what it is now. Both of these operations use a valet service. The parking deck is not meant to serve the loft buildings. The lofts will be supported by underground parking that will house 50 cars and some surface parking. The residential traffic will all come in off of Villa Street. They hope to develop some one-car garages in addition to the 50 parking spaces underground. The proposal is for 47 loft units ranging in size from 1,000 sq. ft. up to about 2,000 sq. ft. Each building will have an opportunity for retail uses on the first level. The first-floor loft units that front on Villa Street are intended to be work/live units. The applicants believe that they meet all of the requirements of the Zoning Ordinance. Mr. Saroki presented an overview showing the massing of the buildings along Eton.

They propose warehouse-like loft buildings that would fit into the Rail District. Their material pallet favors what has been used on the Train Station. The parking structure will be located at the rear of the site so that it parallels the train tracks. All of the parking needs for the Big Rock and the Reserve are satisfied. They think their proposal is in the spirit of the MX District and that it recognizes the historical character of that whole area.

Chairman Rinschler had difficulty with the massing and intrusion of the parking structure and its close proximity to the historic structure. There needs to be some architectural way to minimize the effect of the parking deck. Mr. Hewer suggested making the parking structure mixed-use. Mr. Saroki thought they may be able to create a very dense greenbelt screen as a buffer. From the standpoint of the residents and sales, they have to make sure that the deck is very pleasing. When they build the deck in brick with stone accents, add the mullion patterns, break down the amount of light through either louvers or an opaque surface, and add landscaping, it will diminish the whole deck area.

Discussion followed with respect to adding a roof on top of the deck. Mr. Saroki explained it would raise the mass of the deck and intrude into the required distance from the ITC transmission lines overhead. Mr. Farlow said that a portion of the parking deck lies within the B-2B District and that portion must abide by the lower height requirement for that District. Therefore, they have two districts to deal with, as well as the transmission lines.

Chairman Rinschler said it sounds to him that the area to work on is ways to minimize the massing and the visual impact of the parking deck. That is what the commission would like to see when the proposal comes back, because the deck is so incongruous with historic preservation. He feels they are going in the right direction with the lofts.

Ms. Weisberg thought the deck will be a nice relief from the parking lot that currently exists. Personally, she would like to see more of an industrial edge to the loft buildings.

In response to a question from Ms. Rowbottom, Mr. Saroki explained the retail will park either on Villa Street or in the structure. She suggested a tie-in to the neighborhoods with the species of trees that are planted. Mr. Saroki indicated his intention to present a landscape plan at final review.

Mr. Saroki explained that the property line angles, and that necessitates their buildings to be set back. The loft building will start to create some building edges which will help the Reserve not to took like it is set out in the street. On another subject, their proposal for lighting on the site will take on an industrial look.

Motion by Chairman Rinschler
Seconded by Mr. Hewer to approve the preliminary historic review application for 245-375 S. Eton, Eton Street Lofts, provided that the applicant comes back with proposals to soften the impact of the parking structure and the commission has a resolution of the specific bounds of the Historic District to guide it in its final approval.

No one from the public wished to comment on the motion at 9:10 p.m.

Motion carried, 5-0.

VOICE VOTE
Yeas: Rinschler, Hewer, Deyer, Rowbottom, Weisberg
Nays: None
Absent: Henke, Sadowski

BIRMINGHAM PLANNING BOARD PROCEEDINGS
REGULAR MEETING OF WEDNESDAY, JANUARY 25, 2006

Minutes of a regular meeting of the City of Birmingham Planning Board held January 25, 2006. Vice Chair Robin Boyle convened the meeting at 7:30 p.m.

Present: Board Members Brian Blaesing, Robin Boyle, George Dilgard, Sam Haberman, Mark Nickita, David Potts

Absent: Student Representative Alex Timlin

Administration: Timothy Currier, City Attorney
Jana Ecker, Planning Director
Mario Mendoza, Recorder
Jill Robinson, Asst. City Planner
Carole Salutes, Secretary

01-18-06

PRELIMINARY SITE PLAN REVIEW AND COMMUNITY IMPACT STUDY **("CIS")**
245,325, 375 S. Eton
The District Lofts
Construction of mixed-use development, including residential lofts, retail space and two-story parking deck on the site of the Big Rock Chop House and the Reserve

CIS

Ms. Ecker offered background information. The subject parcels are located on the site of the existing Big Rock Chop House, the Reserve banquet facility, and an office building. The site has a total land area of 3.54 acres. It is located on the southeast corner of S. Eton and Maple Road, and extends down to Villa Street to the south. The applicant is proposing to demolish the existing office building and surface parking lot to construct a mixed-use development that would include the Big Rock Chop House, the Reserve banquet facility, two new four-story buildings containing retail space, residential loft units, live/work units, as well as a three-story parking deck on the rear of the site.

Ms. Ecker advised that the applicant was required to prepare a CIS as they are proposing two new buildings containing more than 20,000 sq. ft. of gross floor area. The CIS discusses the proposed use of the site; access and circulation; sub-area plan; building and parking placement; design; land development issues; utilities, noise and

APPROVED

air issues; environmental design and historic values; refuse, sewer and water; public safety; transportation issues; parking issues; natural features; and includes an associated soils report, an environmental report, a traffic report, and a noise study. The site is zoned B-2B General Business at the north end on the site of the existing Big Rock Chop House, and is zoned MX Mixed Use on the southern portion.

Ms. Ecker reviewed all details of the proposed development and the corresponding studies for the Planning Board. Mr. Potts asked if there is sufficient capacity in the proposed parking deck and in the adjacent surface parking area to accommodate a full max out of all of the uses contemplated in the three areas. Ms. Ecker indicated it meets the City parking requirements.

Mr. Victor Saroki, architect for the District Lofts, was present with Mr. Norman LePage, owner of the Big Rock Chop House and the Reserve banquet facility; Messrs. Mark Egott and Johannes from his office; and Mr. Rod Arroyo, Traffic Consultant from Birchler, Arroyo. Mr. Saroki assured the board that all of the items required in the CIS will be complied with prior to final site plan review. He went on to discuss the Clayton Environmental Report which was developed in 1998 for Mr. LePage when he was proposing the Reserve banquet facility. They have not prepared a new report because nothing has changed on the site except for the Reserve getting built. Erb Lumber was a lumber yard, so he does not see it as an issue needing any additional extensive environmental testing. Also, if there is a water table issue involving basements, they will deal with it at the time of construction and excavation. They always employ geotechnical engineers and soil engineers to help with the design of the buildings and footings.

Mr. Potts confirmed that Mr. Saroki is satisfied that there are no environmental concerns at this point. Mr. Saroki said that if anything does come to light during construction they will take the proper caution and hire an environmental consultant to help them. Mr. Norman LePage established that all of the storage facilities for the lumber yard actually were from Crosswinds on back. So, as far back as he can remember there was no storage of any kind taking place on his property. Also, Mr. Saroki added that their lender is satisfied with the environmental report. Further, the developers are satisfied that the environmental survey is acceptable for a residential development. They are obligated by law that if anything is found they will stop, investigate, bring in experts, and remediate.

Ms. Dorothy Conrad spoke to say that the Crosswinds property was cleaned up prior to construction beginning. Chairman Boyle cautioned that wolmanized timber may have been stored on the site.

Mr. Rod Arroyo, whose firm prepared the Traffic Impact Assessment, said there were three issues raised by TetraTech and one issue raised by the Engineering Division.

1. Birchler, Arroyo is recommending a two-way left turn lane in the area north of Yosemite. They believe it would be a safety and a capacity improvement to provide a two-way left turn lane so that southbound traffic on Eton can get into a left-turn lane to turn into the main driveway which serves the entire

APPROVED

facility. From what they have observed, only about 75 ft. of storage is needed in the north-bound left turn lane. They are recommending that 100 ft. be a two-way left turn lane. That leaves another 175 ft. for north-bound left turns. Right now, if a car is south bound on Eton and wants to turn left and there is traffic coming north bound, there is no choice but to block through traffic south bound on Eton and wait for a gap to make the left turn. The two-way left turn lane allows cars to get out of the way so that south-bound traffic can continue. They think that is a significant improvement.

2. Regarding the one-way drive that is used by the valets, Mr. Arroyo's understanding is there will be no additional impact on that. It will still operate as it does today.
3. With respect to site obstructions on Eton Street on the east side, parking should be prohibited and there should be appropriate signage added to clarify that so that clear site distance can be maintained to the south as cars turn out.
4. The Engineering Division does not agree with their recommendation to limit parking on Villa Street to one side only, given the demand for parking to support the Amtrack train station. Birchler, Arroyo went out to re-evaluate that and found that parking on both sides would leave an 18 ft. travel way for two-way traffic. If it turns out that it becomes problematic, re-striping could fix that problem by removing parking on one side of the street. They would leave it up to the City in terms of what they believe is correct.

Further, to have three lanes at the villa approach to Eton Road would be a very tight configuration. Mr. Arroyo doesn't believe the delays are going to be enough to require that, but once again the City could make a change in striping.

Mr. Blaesing said that anything dealing with the public streets, either Villa or Eton, doesn't necessarily have to be tied as a requirement of the final site plan. It is not something that would prohibit the Planning Board from accepting the CIS. It would be a recommendation to the City's other boards to go ahead and try it out.

Mr. Saroki provided details regarding the proposed separation and collection of recycled materials on-site. In both buildings there are trash chutes that lead down to trash rooms in the parking garage.

Motion by Mr. Potts
Seconded by Mr. Blaesing to accept the CIS for 245, 325, 375 S. Eton, the District Lofts, with the understanding that the applicant will address all of the issues as represented.

Chairman Boyle asked if members of the public wished to comment on this motion at 10:40 p.m.

Ms. Dorothy Conrad observed that currently on both sides of Maple Road the traffic is much greater than normal. That is because of the closing of the bridge at Adams Road. If these traffic volumes are being used as a measuring stick they are probably the highest that Maple Road will ever get.

APPROVED

Motion carried, 6-0.

ROLL CALL VOTE
Yeas: Potts, Blaesing, Boyle, Dilgard, Haberman, Nickita
Nays: None
Absent: None

Preliminary Site Plan Review

Ms. Ecker advised that a Special Land Use Permit ("SLUP") was granted on September 22, 2003 to allow construction of the Reserve banquet facility as it exceeds 7,000 sq. ft. in size, and proposed hours of operation past 11 p.m.

Ms. Ecker advised that on October 26, 2005, the applicant appeared before the Planning Board for a pre-application discussion. The Planning Board suggested that the applicant consider decreasing the size of the units and suggested that more live/work units be offered, along with more retail and/or office space.

On January 4, 2006, the HDDRC conducted a preliminary review of the development and approved the preliminary historic review application for the site, with the conditions that the applicant comes back with a proposal to soften the impact of the parking structure, and that the Planning Division provide a map of the specific boundaries of the Historic District located on the site.

The applicant meets the majority of the height, area, and placement requirements for the MX Zoning District. However, the Planning Board will have to approve the location of the principal pedestrian entrances on Villa Street as they are proposed 3 ft. back from the frontage line and are required to be on the frontage line. In addition, the applicant will be required to increase the first-floor ceiling heights to provide a 12 ft. clear space from finished floor to finished ceiling, or obtain a variance from the BZA. The applicant advised that they had altered their plans to meet this requirement. This is a result of the Eton Road Corridor Plan which envisions having spaces that could be converted from residential to commercial in order to accommodate a multitude of uses over time.

Mr. Saroki passed out a colored rendering setting forth the elevations. They listened to the Planning Board's comments at the pre-application discussion. They have added additional retail space and some live/work units. They are now up to 47 loft units. The approach they took with the architectural aesthetic of their elevations is to develop exteriors that are warehouse-like with large panels of glass with mullions and windows as one would see in manufacturing and industrial buildings. The buildings relate also to the train station with the brick color and the limestone. The buildings set back 3 ft. from the street. That allows a softening green belt across the front of the residential units. The parking structure is a background building that is set back parallel to the tracks.

APPROVED

One parking space is allowed underground for each loft unit and a second enclosed space can be purchased. It was an intentional move on their part to isolate the commercial traffic from the residential traffic. The parking garage is being developed to support parking for the Reserve banquet facility and Big Rock Chop House. Mr. Saroki believes the 380 spaces on the site are enough to sustain all of the operations if everything is going at maximum capacity. They have been very creative in finding every parking space they can on this site.

Mr. Saroki advised that there will be screening for the mechanical units on the roof, they will meet the 12 ft. height for the first-floor retail spaces, and they are not going to request any variances. Further, they will provide 12 ft. light standards in the parking lot. They intend to be extra careful with lighting in the parking structure because it is next to residential. Louvers, metal grills and translucent panels are being contemplated and different designs are being studied.

Mr. Nickita stated that he thinks street parking is very important. It always slows traffic and it creates a better pedestrian environment. He sees Villa Street as being wider than almost all of the residential streets throughout the City. Therefore, he advocates parking on both sides of the street. It would still allow sufficient ingress and egress to the project.

Mr. Nickita went on to discuss the issue of circulation within the site. He does not think dead-end situations are best for traffic flow. Also, he noted that pedestrians will need to have a path in order to traverse the site. Mr. Saroki said they will try to designate good pedestrian movement. Addressing the traffic circulation, he said they are concerned that the heavy commercial traffic would interfere with the comfort of the residential buildings. Therefore they feel that Villa Street should just be for the residential.

Motion by Mr. Blaesing
Seconded by Mr. Dilgard to extend the meeting to 11:30 p.m.

Motion carried, 6-0.

Yeas: Blaesing, Dilgard, Boyle, Haberman, Nickita, Potts
Nays: None
Absent: None

Mr. Saroki said the units will measure from 850 sq. ft. to 2,000 sq. ft. The prices will probably range from $400 thousand to $800 thousand. Everything is one-level loft living with 10 ft. finished ceilings on the upper floors.

Mr. Blaesing said that as a resident he would appreciate the separation of vehicular movement because he would want some privacy from the commercial district so that people are not driving through his parking lot at 2 a.m. trying to find their way out. He thanked the applicant for listening at the pre-application discussion and he appreciates the changes that were made as a result. He is sure than when all of this gets done it will feel like a neighborhood.

APPROVED

Mr. Potts urged the applicant to soften the garage to improve the visual perspective as people enter the MX District off of Maple. Mr. Saroki indicated they could do that and add a significant landscape plan.

Ms. Ecker said she believes the City Manager is advocating to keep the train station on the Birmingham side rather than moving it to Troy. Ms. Dorothy Conrad said plans are moving forward for a transportation hub that is to be built in Troy. She thought the Community Development Department ought to contact the City of Troy to ask them exactly what is going on and what they have in mind.

Mr. Nickita pointed out that the front doors are not really accessible by a drop-off/pick-up situation. There is not adequate pedestrian circulation between the buildings and between the Reserve. What happens is that someone who is dropped off in the back of the units would then have to walk around to the front. Mr. Saroki explained that a car could pull into a parking space in the front, let someone get out, and then leave. He thought they could develop a striped spot that is not a parking space that would allow someone to pull in and back out. Mr. Boyle pointed out that most people would probably pull into the Reserve to pick up or drop off, short of it being a peak time.

Motion by Mr. Blaesing
Supported by Mr. Potts to approve the Preliminary Site Plan as presented for 245, 325, 375 S. Eton, the District Lofts. The approval should include:

1. Approval by the board to allow a 3 ft. setback of the building on Villa Street;
2. That all of the first-floor units have 12 ft. ceiling heights;
3. That the sidewalk constructed on Villa extend eastward to the train loading station; and
4. That the applicant consider a more thorough design of the pedestrian and vehicular circulation throughout the site.

Mr. Nickita went on record as saying he recommends that the City consider allowing parking on both sides of Villa Street.

There was no public comment on the motion at 11:25 p.m.

Motion carried, 6-0.

Yeas: Blaesing, Potts, Boyle, Dilgard, Haberman, Nickita
Nays: None
Absent: None

01-19-06

Meeting Open To The Public For Items Not On The Agenda (none)

APPROVED

Planning Board Minutes
March 22, 2006
03-65-06

FINAL SITE PLAN AND DESIGN REVIEW
245, 325 and 375 S. Eton Street
Construction of new loft buildings and parking deck

Ms. Ecker advised that this project has been before the Planning Board several times. It is the site of the existing Big Rock Chop House, The Reserve banquet facility, and an office building. The site has a total land area of 3.54 acres. It is located on the southeast corner of S. Eton and Maple Road, and extends down to Villa Street to the south. The applicant is proposing to demolish the existing office building and surface parking lot to construct a mixed-use development that would include the Big Rock Chop House; The Reserve banquet facility; two new four-story buildings containing retail space, residential loft units, and live/work units; as well as a three-story parking deck on the rear of the site.

Ms. Ecker advised that the applicant was required to prepare a Community Impact Study in accordance with Article 7, section 7.27 (E) of the Zoning Ordinance as they are proposing two new buildings containing more than 20,000 sq. ft. of gross floor area. As the Big Rock Chop House is listed in the City's inventory of historic properties, this application must also be reviewed and approved by the Historic District and Design Review Committee ("HDDRC").

A Special Land Use Permit ("SLUP") permit was granted on September 22, 2003 to allow construction of The Reserve banquet facility and to allow the proposed hours of operation past 11 p.m. An amendment to this SLUP will be required to permit construction of the proposed development, to allow the proposed 7,000 sq. ft. of commercial space, and to allow any new business on the site to operate past 11 p.m.

On October 26, 2005, the applicant appeared before the Planning Board for a pre-application discussion. Since the pre-application discussion, the applicant heeded the suggestions of the board members and increased the number of units from 45 to 47, and is proposing that five of those units be live/work units along Villa Street. Two commercial spaces are now proposed along Eton Street.

On January 4, 2006, the HDDRC conducted a preliminary review of the proposed development and approved the preliminary historic review application provided the applicant comes back with a proposal to soften the impact of the parking structure, and that the Planning Division provide a map of the specific boundaries of the Historic District located on the site. Since that time the applicant has added more landscaping based on the comments of the HDDRC to soften the view of the parking structure from Eton Street and Maple Road.

On January 25, 2006, the Planning Board conducted a preliminary review of the proposed development and a complete review of the Community Impact Study ("CIS"). The

Planning Board approved the CIS with the condition that the applicant address all of the issues outlined in the staff report. The Planning Board also approved the Preliminary Site Plan with several conditions.

Ms. Ecker advised that since the Preliminary Site Plan was approved, the applicant has shifted the buildings to be 2 ft. rather than 3 ft. back off the property line along Villa St. which was previously approved by the Planning Board. The applicant has modified the plans to extend the sidewalk on Villa eastward to the train station, and has added a pedestrian connection from the proposed loft buildings across the site to the big Rock Chop House restaurant. The applicant indicated at the preliminary site plan review that they would increase the ceiling heights for all first-floor units to be 12 ft. clear from finished floor to finished ceiling. A new section has been provided that clearly shows a full 12 ft. The applicant has not altered the vehicular circulation pattern on the site.

The Planning Board will have to approve the new location of the principal pedestrian entrances on Villa Street as they are now proposed 2 ft. back from the frontage line. *In addition, the applicant will be required to decrease the height of that portion of the parking structure located in the B-2B Zone District, or obtain a variance from the Board of Zoning Appeals ("BZA").*

Motion by Mr. Dilgard
Seconded by Mr. Blaesing to extend the meeting to 11:30 p.m.

Motion carried, 5-0.

VOICE VOTE
Yeas: Dilgard, Blaesing, Boyle, Nickita, Potts
Nays: None
Absent: Haberman

Mr. Victor Saroki, from Victor Saroki & Associates, Architects, was present along with Mr. Norman LePage, the property owner; Mr. J.C. Cataldo of Mosher, Dolan, Cataldo and Kelly, the general contractors; and Mr. Michael Dul, the landscape architect. Mr. Saroki indicated they are happy to sit down with the Fire Marshal and discuss the turning radius for the Fire Department's largest vehicle to access the site from both Villa and Eton. He noted the existing loading space immediately adjacent to the Big Rock Chop House is somewhat screened by the landscaping, but it cannot accommodate a masonry screenwall because it would prohibit the trucks from turning in. Ms. Ecker said that as long as it is an existing loading space a variance will not be needed.

Mr. Saroki said to soften the parking deck they are proposing a brick veneer for the outside that matches both of the loft buildings. Only a portion of the stairwell on the deck requires a variance from the building height limitation.

Chairman Boyle commented he would like to see an occasional flash of color because this development lies within an industrial area.

Motion by Mr. Dilgard
Seconded by Mr. Nickita to extend the meeting to 11:45 p.m.

Motion carried, 5-0.

VOICE VOTE
Yeas: Dilgard, Nickita, Blaesing Boyle, Potts
Nays: None
Absent: Haberman

Chairman Boyle took discussion to the public for comments and no one spoke at 11:30 p.m.

Motion by Mr. Blaesing
Seconded by Mr. Dilgard to recommend approval to the City Commission of the SLUP Amendment and Final Site Plan, and support the staff recommendations for the approval of the lofts at 245, 325, and 375 S. Eton Street. The board supports a variance for the stairwell on the parking deck that happens to fall in the B-2B District. The staff recommendations are as follows:

1. The Planning Board provide approval for the new location of the principal pedestrian entrances on Villa Street 2 ft. back from the frontage line;
2. Decrease the height of that portion of the parking structure located in the B-2B Zone District, or obtain a variance from the BZA;
3. Increase the first-floor ceiling heights to provide a 12 ft. clear space from finished floor to finished ceiling or obtain a variance from the BZA;
4. Provide screening for the existing dumpsters and clean up the debris surrounding them immediately;
5. Provide details on the proposed rooftop mechanical equipment;
6. Replace all proposed Stella D'Oro Daylilies with Happy Returns Daylilies;
7. Replace all proposed Euonymus with another hardy groundcover;
8. Provide a photometric plan that includes all proposed lighting;
9. Provide information regarding the location of fire hydrants, Fire Department water connections, the ability of the largest emergency vehicle to access the site from both Villa and Eton, and the sufficiency of the proposed fire lanes;
10. Extend the screenwall between The Reserve and loft Eton Building to connect to The Reserve; and
11. Submit all requested changes for administrative approval by the Planning Division.
12. Provide an 8.5 ft. sidewalk along the north side of Villa Street with tree wells and no grass boulevard to match the south side of Villa Street to reduce maintenance issues. Administrative approval of the sidewalk.

Motion carried, 5-0.

ROLL CALL VOTE
Yeas: Blaesing, Dilgard, Boyle, Nickita, Potts

Nays: None
Absent: Haberman

CITY OF BIRMINGHAM
PLANNING BOARD ACTION ITEMS
OF WEDNESDAY, JANUARY 14, 2015

FINAL SITE PLAN REVIEW
245, 325 and 375 S. Eton
District Lofts, Building B
Construction of a new four-story, mixed-use building to include commercial space and residential loft units

Ms. Ecker explained the subject site, 375 S. Eton, is part of a larger site including the existing Big Rock Chop House, Big Rock Chop House parking deck, the Reserve banquet facility, and the District Lofts - Villa Street Building (Building A), and has a total land area of 3.54 acres. It is located on the southeast corner of S. Eton and Maple Rd., and extends down to Villa St. to the south. A Special Land Use Permit ("SLUP") was granted for the Reserve on September 22, 2003 as it exceeds 6,000 sq. ft. in size, and has hours of operation past 11 p.m. The applicant was also required to prepare a Community Impact Study ("CIS") in accordance with section 7.27(E) of the Zoning Ordinance at the time that the entire site was originally approved (when Building A was to be constructed), and the CIS was accepted by the Planning Board on January 25, 2006. As the Big Rock Chop House is also listed in the City's inventory of historic properties, the entire site was also previously reviewed and approved by the Historic District and Design Review Committee ("HDDRC").

The applicant is proposing to construct the final phase of the entire development which was originally approved on August 6, 2006. This final phase includes the proposed construction of a four-story, mixed-use building containing 18 residential loft units, two live/work ground floor units and two commercial spaces on the first floor (Building B). Building B is not located in a Historic District. All of the underground parking will be under the footprint of the new loft building and accessed from the existing loft building. The units range in size from 924 sq. ft. to 2,800 sq. ft.

The applicant meets the majority of the bulk, height, area and placement requirements for the MX Zoning District. ***However, the applicant will be required to reduce the height of the building or obtain a variance from the Board of Zoning Appeals to allow the mechanical tower and other equipment to exceed 50 ft. in height.*** The applicant is proposing 58 ft. including the mechanical and four stories. They have advised that they wish to seek a variance from the BZA to allow the stair and elevator tower to provide access to the rooftop, ***and to seek a variance to allow a rooftop deck with a pergola and an enclosed exercise room and a restroom if the Planning Board is supportive of this use.***

Design Review
The proposed building design matches the contemporary style of the existing District Lofts building next door, while using some traditional style materials to blend in with the historic Big Rock Restaurant and The Reserve to create a building design that is

harmonious with both the Mixed-Use District on the east side of Eton and the Single-Family Residential District on the west side of Eton. Overall, the proposed design of Building A is compatible with the vision for the MX District contained in the Eton Road Corridor Plan. All of the materials match what is on the existing loft building.

Mr. Victor Saroki, the architect for this development, was present along with Mr. Scott LePage, the developer; and Mr. John Kelly, the general contractor. The new building is exactly the same as originally proposed, except for the roof terrace. The original building has been very successful and there is a waiting list to get in. This building has some nice retail spaces that front right on Eton. The materials and aesthetic details are meant to resemble updated warehouses. The project meets all parking requirements and an additional 34 underground spaces are proposed for the new building. They are happy to work with staff to identify street furniture along Eton and the appropriate spaces for lighting along both Eton and Villa.

They see the roof terrace as a nice element to introduce into this project. Serviceability for the mechanical equipment is a practical consideration for allowing the stairs and elevator to go to the roof. In the MX District the allowable building height is 45 ft. and only 5 ft. more is permitted for mechanical. All the other zoning districts in town permit 10 ft. for mechanical. So with only 5 ft. permitted, the only way to get to the roof is to climb up a ladder and through a hatch. In summary, the rooftop terrace is a small element that is practical for service and it is good for the residents. Mr. Saroki thinks that use of the roofs should be encouraged, but it cannot be done with only 5 ft. allowed above the building height.

Ms. Whipple-Boyce thought the rooftop area is somewhat like a fifth story. She suggested they could achieve what they want by taking half of an end unit and turning it into a terrace. Mr. Saroki replied if they are not successful at the BZA, the terrace won't happen.

Mr. Koseck likes the aesthetic of the building. He was surprised at the 5 ft. limit on rooftop screening, the same with stairs and an elevator. Mr. Saroki showed the circulation through the site and explained how people can go in and out comfortably.

Mr. DeWeese said he finds it very hard to support the uses, given the way the ordinance is written; but again, it is not clear why it is that way because the 5 ft. height allowance for screening is not practical.

In response to Chairman Clein, Mr. Saroki stated there is no intention to add an enclosure to allow for all season use. This is truly a sun deck.

The Chairman called for comments from members of the public at 9:55 p.m.

Mr. J. Colsman, 521 Lewis, asked where all the cars will park. Ms. Ecker verified that the applicant complies with the parking requirement. Mr. Saroki said they have 397

spaces on-site, which is an excess of 60 spaces, not including street parking. Mr. Williams noted that people always want to park on the streets.

Motion by Ms. Whipple-Boyce
Seconded by Mr. Share to approve the Final Site Plan and Design Review for 375 S. Eton subject to the following conditions:
1) Reduce the height of the building or obtain a variance from the BZA to allow the mechanical tower and other equipment to exceed 50 ft. in height;
2) Remove all uses above 40 ft. in height (deck, exercise room and restroom) or obtain a variance from the BZA;
3) Provide specification sheets for the proposed rooftop mechanical equipment and identify the proposed roofing material;
4) Add one street tree along Villa and provide street lights every 40 ft. on S. Eton and every 80 ft. on Villa all along the north side, adjacent to Buildings A and B, with all locations to be administratively approved; and
6) Add benches, trash receptacles and bike racks, with locations to be administratively approved.

There were no comments from the audience on the motion at 10:03 p.m.

Motion carried, 7-0.

VOICE VOTE
Yeas: Whipple-Boyce, Share, Clein, DeWeese, Koseck, Lazar, Williams
Nays: None
Absent: Boyle

CITY OF BIRMINGHAM
PLANNING BOARD ACTION ITEMS
OF WEDNESDAY, JULY 26, 2017
07-142-17

SPECIAL LAND USE PERMIT ("SLUP") REVIEW

FINAL SITE PLAN AND DESIGN REVIEW

375 S. Eton, District Lofts

Request for approval of a commercial office use over 6,000 sq. ft. in size

Ms. Ecker explained the subject site is part of a larger site including the existing Big Rock Chop House, the parking deck, the Reserve banquet facility, and the District Lofts Villa St. Building A and Building B (currently under construction), and has a total land area of 3.54 acres. It is located on the southeast corner of S. Eton and Maple Rd., and extends down to Villa St. to the south.

The applicant is completing construction of the final phase of the entire development which was originally approved on August 6, 2006. This final phase includes a four-story mixed-use building containing 18 residential loft units, and office space on the first floor (Building B). A single office tenant (Oppenheimer Financial) is now proposing to occupy approximately 10,000 sq. ft. of space on the first floor of Building B. The first-floor use is now proposed to change from retail/residential to office use. As the single office user wishes to occupy more than 6,000 sq. ft., a SLUP and approval from the Planning Board and City Commission is required.

Design Review

The proposed building design matches the contemporary style of the existing District Lofts building next door, while using some traditional style materials to blend in with the historic Big Rock Restaurant and The Reserve to create a building design that is harmonious with both the Mixed-Use ("MX") District on the east side of Eton and the Single-Family Residential District on the west side of Eton. Overall, the proposed design of Building B is compatible with the vision for the MX District contained in the Eton Road Corridor Plan. The only design changes that are proposed at this time with the proposed conversion from retail/residential to office use on the first floor are the proposed decommissioning of several doors along all elevations. The only office entrance open to the public is proposed at the southwest corner of the building, facing Villa St. The residential entrance is on the east elevation.

Signage: The applicant has submitted plans that depict signage on the west and south elevations. The name letter signs are proposed to be placed 12 ft. above finish grade and are 18 in. high and 9 ft. long. The signs will feature the name of the tenant, Oppenheimer, in brushed stainless steel metal lettering. The lettering will be attached to the metal canopy over the west and south elevations. The signs will be 31.40 sq. ft. which is well under the maximum allowed by the Birmingham Sign Ordinance for that building.

Mr. Victor Saroki, Architect, was present with Messrs. John Kelly and J.C. Cataldo, the contractors representing ownership. Oppenheimer will employ approximately thirty people in Birmingham. They plan to take out a few doors and replace them with windows that are consistent with the existing storefront windows. In their opinion this is a good use and it meets the design guidelines that were intended for the Eton Rd. Corridor Plan. He passed around a sample of the brushed stainless sign material.

Motion by Mr. Boyle

Seconded by Mr. Koseck to recommend approval of the Final Site Plan and Special Land Use Permit for 375 S. Eton subject to the following condition:

1) The applicant adds one or more entrances along S. Eton and obtain Administrative Approval for same.

There were no comments from the public regarding the motion at 7:50 p.m.

Motion carried, 4-0.

BIRMINGHAM CITY COMMISSION MINUTES
AUGUST 28, 2017
MUNICIPAL BUILDING, 151 MARTIN
7:30 P.M.

VI. NEW BUSINESS

08-241-17 PUBLIC HEARING FOR 375 S. ETON – DISTRICT LOFTS, SPECIAL LAND USE PERMIT AND FINAL SITE PLAN

Mayor Nickita recused himself due to business dealings with the applicant teams, based upon discussion with the City Attorney and City Manager. Mayor Nickita left the Commission room.

Mayor Pro Tem Harris opened the public hearing at 8:12 p.m.

From City Planner Ecker's staff report to City Manager Valentine dated August 18, 2017:

- The subject site, District Lofts, is located at 375 S. Eton, on the east side of Eton north of Villa.
- The parcel is zoned MX, Mixed Use.
- The applicant is applying for a Special Land Use Permit (SLUP) to allow a commercial use greater than 6000 sq.ft. in the Mixed Use (MX) zoning district. The proposed commercial use is a 10,039 sq.ft. office for Oppenheimer Financial. This space was previously proposed to be used as retail/residential, broken up into four tenant spaces, with each one under 6000 sq.ft. in size.

- Article 2, section 2.39, MX District requires that any permitted principal use with a total floor area greater than 6,000 sq.ft. shall obtain a SLUP.
- Accordingly, the applicant is required to obtain a recommendation from the Planning Board on the Final Site Plan and SLUP, and then obtain approval from the City Commission for the Final Site Plan and SLUP.
- The Planning Board voted unanimously to recommend approval to the City Commission of the SLUP and Final Site Plan for 375 S. Eton, District Loft, on the condition that the applicant adds one or more entrances along S. Eton and obtains administrative approval for same.

City Planner Ecker added that changes to the exterior include some door modifications and adding 31 sq. ft. of stainless steel signage which meets ordinance requirements. There is sufficient parking for any uses on this site.

Commissioner Hoff requested further information on parking, observing that:
- 166 parking spaces are required for Big Rock.
- 90 spaces are required for The Reserve, but The Reserve has a capacity of 540 people.
- The ratio of spaces-to-people might contribute further to the parking problem in that area. Residents have expressed concerns about patrons parking on neighborhood streets, and the Commission is considering eliminating parking on one side of Eton, which would create the need for more spaces.

In addition, Commissioner Hoff expressed:
- Concerns that the timing of the shift from retail/residential to office-use zoning is not good.
- Curiosity as to whether there is a mix of uses required in the district, and if so, is first floor retail is required.

City Planner Ecker replied:
- Reviews are based on ordinance requirements.
- With regards to the subject space, the ordinance requires 33 parking spaces be provided.
- For the development as a whole, it would be necessary to supply 348 parking spaces according to the zoning requirements, and 430 are being supplied.
- Oppenheimer's clients will use parking spaces during the day, while parking for The Reserve will primarily be on evenings and weekends.
- A parking study performed in October 2016 found that 2500 parking spaces are available in the rail district, and the parking deck is vastly underutilized.
- There is a mixed-use requirement for the district, but it does not require first-floor retail. In the MX district there is no first-floor retail requirement like there is in the downtown and redline retail districts. The only prohibition in the MX district on the first-floor is single-family residential.

Victor Saroki appeared before the Commission representing the architects for District Lofts. Norm LePage, Owner of Big Rock, The Reserve, and District Lofts, along with John Kelley and J.C. Cataldo, both contractors and managers of the property, were also in attendance.

Mr. Saroki explained:
- The gross area of the ground floor of the building is 12,350 sq. ft.
- The usable area, which Oppenheimer will occupy, is approximately 10,000 sq. ft.

- The remaining space is the residential lobby, common area, stairs, and elevators.
- When coming in to do a project and propose some uses on a drawing before the Planning Board, it is not uncommon to leave some space designated for unidentified tenants.
- Oppenheimer is a good tenant, and while they had been previously considering a move to Bloomfield Hills, renting this space will keep them in Birmingham.
- An office user is a commercial user, and commercial space is being provided on the ground floor.
- The Reserve only actually accommodates 250 people, not 540 as previously quoted.
- Big Rock is a nighttime function, although they do a light lunch service, and The Reserve is entirely a nighttime function.
- Oppenheimer only uses the parking spaces 8:00 a.m. – 4:00 p.m.
- The users need parking spaces at different peak times.

Mr. Saroki also noted that the ordinance was designed to discourage big-box retailers or supermarkets from overwhelming the area with traffic by moving in, but that if the space had been divided into two 5,000 sq. ft. office users on each side, it would have conformed to the ordinance and would not have required a SLUP.

Commissioner DeWeese asked how easy it would be in the future to revert this space to its original intent.

Mr. Saroki explained that it would be very easy because the building will not have interior load-bearing walls. It is a steel frame building with columns so there is flexibility for tenant mix.

Mr. Saroki added that Oppenheimer employees will park in the parking structure, residents will use the underground parking, and clients of Oppenheimer will have access to six surface spots or to street parking on Villa. Oppenheimer does a lot of its business online, and does not anticipate much traffic from clients.

Commissioner Hoff mentioned the previous issue with Griffin Claw employee parking, and Mr. LePage assured the Commission that the employees are now parking in the structure.

City Planner Ecker confirmed for Commissioner Hoff that office use is permitted in the MX district on the first floor.

Mayor Pro Tem Harris clarified that Villa Road parking is on the east side of S. Eton, not on the west, neighborhood-side of S. Eton.

Mayor Pro Tem Harris closed the public hearing at 8:34.

MOTION: Motion by Commissioner DeWeese, seconded by Commissioner Sherman:
To approve the Final Site Plan and Special Land Use Permit for 375 S. Eton to allow a commercial use greater than 6,000 sq.ft. on the ground floor at 375 S. Eton. *Formal resolution is appended to these minutes as Attachment D.*

Mayor Pro Tem Harris commented that he did take heed of Commissioner Hoff's parking concerns, but is persuaded by the applicant's compliance with the parking requirements set forth in the zoning ordinance. He also commented that if this presents a problem moving

forward, there will be multiple opportunities to revisit the situation as the Commission looks at the rail district.

Commissioner Hoff said she will support the motion despite some concerns, and believes that everything Mr. LePage has done is an asset to the rail district. City Planner Ecker confirmed for Commissioner Hoff the Commission has the option of rescinding the SLUP if there are issues by setting a public hearing to consider termination.

VOTE:	Yeas,	4
	Nays,	0
	Absent,	2 (Bordman, Boutros)
	Recused,	1 (Nickita)

City of Birmingham
A Walkable Community

MEMORANDUM

Planning Divison

DATE: **September 3rd, 2021**

TO: **The City Commission & Planning Board**

FROM: **Brooks Cowan, City Planner**

SUBJECT: **Clerical Error in Zoning Ordinance Article 2, Section 2.40 MX (Mixed Use) Table 2.40.3 – Maximum Total Floor Area**

INTRODUCTION:
City staff has encountered an error in the Zoning Ordinance in Article 2, Section 2.40 regarding maximum total floor area ratio for the MX – Mixed Use zone. Staff has researched the history of the Ordinance requirements and determined that a clerical error was made. Staff made edits to the Zoning Ordinance on September 3rd, 2021 to correct the error.

BACKGROUND:
In the year 2003 the City of Birmingham contracted Ground Rules, INC. to overhaul the City's zoning ordinance and convert our text based ordinance to a graphic based ordinance. The contracted overhaul was ordered to strictly address organizational and readability issues and to in no way alter the ordinance language, unless specifically instructed to do so. On May 11th, 2005, the City Commission approved the Ordinance reformatting with minor changes to Ordinance language, however no changes were approved in regards to the FAR requirements in the MX zone.

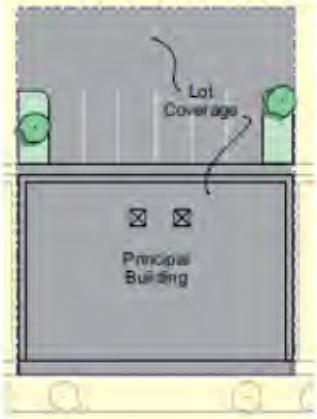
The Ordinance reformat in 2005 made a clerical error for Table 2.40.3 Maximum Total Floor area in that it required "100%". Verbage was left out that said, **"except that the maximum usable floor area may be increased up to 150% by providing 1 parking space for every 300 square feet over the maximum 100% FAR.**" This requirement was approved on May 15th, 2000 when the MX zone was established in Ordinace #1734. Relevant pages from the Ordinance adoption are attached. Upon further review, city staff found no documentation of an Ordinance Amendment related to FAR in the MX-Mixed Use zone since initial approval, and therefore determined the omission in the Ordinance is a clerical error.

Corrections to the online Zoning Ordinance provided by Encode were made by staff on September 3rd, 2021. Images of before and after corrections are provided below. Print outs for Board Member's Zoning Ordinance hard copies will also be provided at the next meeting.

Former table with clerical error:

TABLE 2.40.3 - Floor Area (see Figure 2.40.3)	
Minimum Floor Area Per Unit	• 400 sq ft (efficiency) • 600 sq ft (one bedroom) • 800 sq ft (two bedroom) • 1,000 sq ft (three or more bedroom)
Maximum Total Floor Area	• 100% • 6,000 sq ft for commercial, office, and service uses

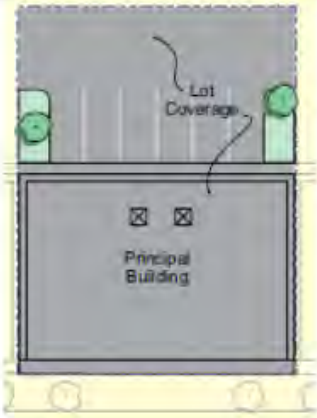
Figure 2.40.3 - Floor Area



Updated table with correction on September 3rd, 2021:

TABLE 2.40.3 - Floor Area (see Figure 2.40.3)	
Minimum Floor Area Per Unit	• 400 sq ft (efficiency) • 600 sq ft (one bedroom) • 800 sq ft (two bedroom) • 1,000 sq ft (three or more bedroom)
Maximum Total Floor Area	• 100%, except that the maximum usable floor area may be increased up to 150% by providing 1 parking space for every 300 square feet over the maximum 100% FAR. • 6,000 sq ft for commercial, office, and service uses.

Figure 2.40.3 - Floor Area



4183

CITY OF BIRMINGHAM

ORDINANCE NO. 1734

AN ORDINANCE TO AMEND CHAPTER 126, ZONING, ARTICLE II, DEFINITIONS; ARTICLE XVIII, INDUSTRIAL DISTRICT (I); ARTICLE XIX, SCHEDULE OF REGULATIONS, DIVISION 1 TABLE; AND M, ARTICLE XXI, PARKING REQUIREMENTS OF THE CODE OF THE CITY OF BIRMINGHAM, FOR THE PURPOSE OF IMPLEMENTING THE ETON ROAD CORRIDOR PLAN. TO ADD THE DEFINITIONS OF ARTISAN, AUTOMOBILE REPAIR MAJOR, FACADE, FRONTAGE LINE, LIVE/WORK UNIT, OUTDOOR CAFÉ, AND SCREENWALL. TO AMEND ARTICLE XVIII, REPLACING PORTIONS OF THE INDUSTRIAL DISTRICT (I) REGULATIONS TO ESTABLISH REGULATIONS FOR THE MIXED USE DISTRICT (MX). TO AMEND ARTICLE XIX, SCHEDULE OF REGULATIONS, DIVISION 1 TABLE TO REPLACE PORTIONS OF THE I INDUSTRIAL DISTRICT WITH AREA, HEIGHT, BULK AND PLACEMENT REGULATIONS FOR PERMITTED PRINCIPAL USES AND REQUIRED MINIMUM OPEN SPACES FOR THE MX, MIXED USE DISTRICT. TO AMEND ARTICLE XXI, PARKING, LOADING AND SCREENING FOR THE MX, MIXED USE DISTRICT.

THE CITY OF BIRMINGHAM ORDAINS:

Chapter 126, Zoning, ARTICLE II, DEFINITIONS, of the Birmingham City Code is hereby amended to read as follows:

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Artisan use means any premises used principally for the repair, manufacture, and sale of domestic furniture, arts, and crafts. The work must take place entirely within an enclosed structure using only hand-held and/or table-mounted manual and electric tools.

Automobile repair - major means engine and transmission rebuilding and general repairs, rebuilding or reconditioning; collision service such as body, frame or fender straightening or repair; steam cleaning, undercoating and rust-proofing; and similar servicing, rebuilding or repairs that normally do require significant disassembly or storing of the automobiles on the premises overnight.

Facade means the vertical exterior surface of a building that is set parallel to a frontage line.

Frontage line means all lot lines that abut a public street, private street, or permanently preserved or dedicated public open space.

Live/Work Unit means a residential dwelling unit(s) that shares space with a non-residential use.

Outdoor Café means an outdoor area accessory to an existing restaurant operation designated for consumption of food prepared within the restaurant and subject to the provisions of this ordinance.

OT

Chapter 126, Zoning, ARTICLE XIX. SCHEDULE OF REGULATIONS, DIVISION 1 TABLE, of the Birmingham City Code is hereby amended to read as follows:

Sec. 126-446. Schedule of Regulations

Area, Height, Bulk and PLACEMENT Regulations for Permitted Principal Uses

Zone District	Required Minimum Lot Area in Square Feet per Dwelling Unit or Apartment Unit	Required Minimum Floor Area in Square Feet per Dwelling Unit or Apartment Unit	Maximum Total Floor Area in Percentage of Lot Area	Maximum Building Height	
				In Feet	In Stories
(20) MX Mixed Use	1- bedroom dwelling unit- 1,500sf 2- bedroom dwelling unit -2,000sf 3- bedroom dwelling unit -2,500sf	1.Efficiency unit - 400 square feet 2. 1 - bedroom dwelling unit - 600 square feet 3. 2- bedroom dwelling unit - 800 square feet 4. 3-or more bedroom dwelling unit -1,000 square feet	100%, except that the maximum usable floor area may be increased up to 150% by providing 1 parking space for every 300 square feet over the maximum 100% FAR.	45 feet	3 stories

4194

MEMORANDUM

Date: **April 5, 2005**

To: **Planning Board Members**

From: **Jana L. Ecker, Planning Director**

Subject: **Legal Review of Final Draft of Zoning Ordinance**

Background

At the February 9, 2005 Planning Board meeting, a public hearing was held to consider approval of the reformatted Zoning Ordinance. After much discussion, the Planning Board voted unanimously to recommend approval to the City Commission of the new graphic, electronic, and user-friendly format of the Zoning Ordinance. In addition, the board amended the motion to make the approval conditional upon the review and approval of the City Attorney. The board further requested the opportunity to review any questions raised by the City Attorney. Minutes from the relevant Planning Board meeting are attached.

Accordingly, on February 23, 2005, I met with both Mr. Currier and Mr. Kragt of Beier Howlett to review the reformatted Zoning Ordinance. Their findings and comments are as follows:

(1) The Planning Division should prepare a comparison chart listing the old Zoning Ordinance section numbers that correspond to the section numbers in the reformatted Zoning Ordinance to ensure a smooth transition to the new ordinance;

(2) **Page 2-5, 2-7, 2-9, & 2-11 – Minimum Front Yard Setback** – should read "average of homes within 200', if no homes within 200', then 25'";

(3) **Page 2-21 – Minimum Side Yard Setback** – should read "14' or 25% of total lot width, whichever is larger, between principal residential buildings on adjacent lots";

(4) **Page 2-25 – Maximum Total Floor Area** – entire section should read:
- 200% Floor Area Ratio (FAR) for office uses not in parking assessment district
- in parking assessment district, FAR shall not exceed 100%, except that the maximum FAR may be increased up to 200% by providing 1 parking space for every 300 sq.ft. over the maximum FAR

- not applicable for residential and parking uses;

(5) **Page 2-36 – Other Use Regulations** – outdoor cafes should be listed under Accessory Permitted Uses, and the word "none" should appear under Uses Requiring a Special Land Use Permit;
(6) **Page 2-38 – Other Use Regulations** – same as in (5) above;
(7) **Page 2-40 – Permitted Uses** – dance studios and exercise studios should be included under Commercial Permitted Uses;
(8) **Page 2-41 – Maximum Building / Eave Height** – entire section should read:
- 45' for flat roofs
- 40' maximum eave line for sloped roofs
- 50' maximum height to the peak or ridge for sloped roofs as measured to average grade
- 4 stories;

(9) **Page 4-25 – Parking Standards – Table A** – alphabetize all land use categories, and remove R-8 from the "Residential Uses in PP, R1A, R1, R2, R3, R4, R5, R6, R7, ~~R8~~, O1, O2, P, and B1" as residential uses in R8 have a distinct parking requirement as listed at the end of the chart.

In addition to the findings and comments above, it is important to note that there were several substantive changes that were made in the reformatted Zoning Ordinance to eliminate conflicts and confusion:

(1) **Page 2-31 – B-2 Zone District – Side Setbacks** - removed provision that stated "0.45 of the height of any wall in residential stories which contain windows" as it was impossible to understand and in any event had not been applied over the last 15 years;
(2) **Page 2-37 – B-3 Zone District – Side Setbacks** - removed the same provision as in (1) above, for the same reasons;
(3) **Page 4-30 – B-3 Zone District – Front Setback** – changes made as follows:

~~(1) For buildings containing residential uses only, or parking in combination with residential uses, the front setback is 70% of the total height of the building.~~

~~(2)~~ (1) For buildings containing residential in combination with commercial uses; no setbacks are required for commercial, office or parking stories.

~~(3) For buildings containing all residential stories, the front setback is 80% of the total height of the building.~~

~~(4)~~ (2) The setbacks are measured to the centerline of the public right-of-way adjoining the front lot line.

Provisions (1) and (3) were eliminated as they conflict with each other, and in any event it would be impossible to apply either of them to the 3 properties in Birmingham that are zoned B-3 as each of these sites fronts

on at least 3 streets, and thus the application of either of these provisions would render these sites unbuildable; and

(4) **Page 6-2 – Nonconformance with Prior Ordinance** – removed the provision that stated "All basketball apparatus in place as of March 31, 1988, whether or not installed in compliance with section 126-474, shall be deemed legal nonconforming structures for purposes of this chapter and, therefore, shall be granted that status accorded to all other legal nonconforming uses, buildings and structures under the terms of this chapter" as the provision was difficult to enforce.

Please be advised that all of these requested changes have been forwarded to Ground Rules Inc. for revision prior to the public hearing that is in the process of being scheduled for the City Commission meeting on May 9, 2005. Both the hard copy and the electronic versions will be updated to reflect the City Attorney's comments.

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

September 1, 2021

VIA EMAIL bcowan@bhamgov.org

Mr. Brooks Cowan
Planning Department
City of Birmingham
151 Martin Street, P.O. Box 3001
Birmingham, MI 48012

RE: 325 S. Eton St.
District Lofts Phase 3 Development
Traffic Impact Statement (TIS) Review

Dear Mr. Cowan:

Fleis & VandenBrink (F&V) have completed our review of the proposed District Lofts Phase 3 Development Traffic Impact Statement prepared by Rowe PSC, dated July 1, 2021 and received by F&V on August 12, 2021. Based on our review of the TIS we have the following comments:

1. Rowe, PSC utilized a 25.5% COVID factor to adjust the 2021 traffic volumes collected at Lincoln Ave. and Yosemite Blvd. A 6.2% annual growth rate was applied to the pre-COVID 2018 traffic volumes at Maple Road to calculate 2021 traffic volumes. Finally, a 1.0 % annual growth rate was applied to the adjusted 2021 traffic volumes to calculate the 2022 build out year traffic volumes. The resulting baseline existing 2021 and background 2022 traffic volumes resulted in artificially high traffic volumes and the subsequent operational analysis performed is not representative of existing 2021 or future 2022 traffic operations.

   Therefore, the following revisions to the TIS are requested:

   - Provide the following information to the City (F&V) for review and approval prior to use in the study:
     - COVID adjustment factor calculations by intersection approach.
     - Historical data and/or growth rate projections (i.e. SEMCOG) supporting a 6.2% annual growth rate for the 2018 traffic counts and a 1.0% annual growth rate to calculate the 2022 traffic volumes.
     - Review and revise the modal split data utilized as it applies to residential uses.
   - Revise the study analysis, results and recommendations using the revised and approved baseline data.

We hope that this report addresses the City's needs regarding this project. If you have any questions, please do not hesitate to contact us at your convenience.

Sincerely,
FLEIS & VANDENBRINK ENGINEERING, INC.

Julie M. Kroll

Julie M. Kroll, PE, PTOE
Traffic Engineering Services Manager

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

Combined CIS & Site Plan Review Application
Planning Division

Form will not be processed until it is completely filled out.

1. Applicant
Name: JOHN KELLY
Address: 2051 VILLA ROAD, SUITE 106
BIRMINGHAM, MI 48009
Phone Number: 248-258-6663
Fax Number: N/A
Email address: JKELLY@KELLYBUILDINGCOMPANY.COM

2. Property Owner
Name: BIRMINGHAM LOFTS, LLC
Address: 2051 VILLA ROAD, SUITE 106
BIRMINGHAM, MI 48009
Phone Number: 248-258-6663
Fax Number: N/A
Email address: JKELLY@KELLYBUILDINGCOMPANY.COM

3. Applicant's Attorney/Contact Person
Name: JOHN KELLY
Address: 2051 VILLA ROAD, SUITE 106
BIRMINGHAM, MI 48009
Phone Number: 248-258-6663
Fax Number: N/A
Email address: JKELLY@KELLYBUILDINGCOMPANY.COM

4. Project Designer/Developer
Name: VICTOR SAROKI, FAIA
Address: 430 N OLD WOODWARD AVE, FLOOR 3
BIRMINGHAM, MI 48009
Phone Number: 248-258-5707
Fax Number: N/A
Email address: VSAROKI@SAROKIARCHITECTURE.COM

5. Required Attachments
I. Two (2) paper copies and one (1) digital copy of all project plans including:
   i. A detailed Existing Conditions Plan including the subject site in its entirety, including all property lines, buildings, structures, curb cuts, sidewalks, drives, ramps and all parking on site and on the street(s) adjacent to the site, and must show the same detail for all adjacent properties within 200 ft. of the subject site's property lines;
   ii. A detailed and scaled Site Plan depicting accurately and in detail the proposed construction, alteration or repair;
   iii. A certified Land Survey;
   iv. Interior floor plans;
   v. A Landscape Plan;
   vi. A Photometric Plan;
   vii. Colored elevation drawings for each building elevation;

II. Specification sheets for all proposed materials, light fixtures and mechanical equipment;
III. Samples of all proposed materials;
IV. Photographs of existing conditions on the site including all structures, parking areas, landscaping and adjacent structures;
V. Current aerial photographs of the site and surrounding properties;
VI. Warranty Deed, or Consent of Property Owner if applicant is not the owner;
VII. Any other data requested by the Planning Board, Planning Department, or other City Departments.

6. Project Information
Address/Location of the property: 325 S. ETON STREET
BIRMINGHAM, MI 48009
Name of development: DISTRICT LOFTS - PHASE 3
Sidwell #: 20-31-207-002
Current Use: BANQUET FACILITY
Current zoning: MX (MIXED-USE)
Is the property located in the floodplain? NO

Name of Historic District Site is Located in: BIRMINGHAM
GRAND TRUNK WESTERN RAILROAD DEPOT HISTORIC DISTRICT
Date of HDC Approval: TBD
Date of DRB Approval: N/A
Area of Site in Acres: 3.296 ACRES
Proposed Use: RETAIL, OFFICE, AND RESIDENTIAL UNITS
Will proposed project require the division of platted lots? ___
NO
Will proposed project require the combination of platted lots?
NO

7. Details of the Proposed Development (attach separate sheet if necessary)

THE PROPOSED DEVELOPMENT IS FOR A NEW, FOUR-STORY STRUCTURE THAT INCLUDES FIRST FLOOR RETAIL/OFFICE AND RESIDENTIAL UNITS ALONG WITH THREE FLOORS OF RESIDENTIAL UNITS ABOVE.

8. Buildings and Structures

Number of Buildings on Site: 1
Height of Buildings & # of Stories: 44 FEET / 4 LEVELS ABOVE GRADE
Use of Buildings: RETAIL/OFFICE & RESIDENTIAL
Height of Rooftop Mechanical Equipment: 5'-6"

9. Floor Use and Area (in Square Feet)

Proposed Commercial Structures:

Total basement floor area: 2,977 SF (EXISTING BASEMENT TO BE REUSED)
Number of square feet per upper floor: 14,025 SF
Total floor area: 59,077 SF
Floor area ratio (total floor area ÷ total land area): 0.41
(59,077 SF / 143,593 SF = 0.41)
Open space: N/A
Percent of open space: N/A
Office Space: 2,418 SF
Retail Space: 3,984 SF
Industrial Space: N/A
Assembly Space: N/A
Seating Capacity: N/A
Maximum Occupancy Load: N/A

Proposed Residential Structures:

Total number of units: 50 UNITS
Number of one bedroom units: 47 UNITS
Number of two bedroom units: 3 UNITS
Number of three bedroom units: N/A
Open space: N/A
Percent of open space: N/A
Rental units or condominiums? RENTAL
Size of one bedroom units: 700 SF
Size of two bedroom units: 1,164 SF
Size of three bedroom units: N/A
Seating Capacity: N/A
Maximum Occupancy Load: N/A

Proposed Additions:

Total basement floor area, if any, of addition: N/A
Number of floors to be added: N/A
Square footage added per floor: N/A
Total building floor area (including addition): N/A
Floor area ratio (total floor area ÷ total land area): N/A
Open Space: N/A
Percent of open space: N/A
Use of addition: N/A
Height of addition: N/A
Office space in addition: N/A
Retail space in addition: N/A
Industrial space in addition: N/A
Assembly space in addition: N/A
Maximum building occupancy load (including addition): N/A

10. Required and Proposed Setbacks

Required front setback: 0 FEET
Required rear setback: 10 FEET
Required total side setback: 0 FEET
Side setback: 0 FEET
Proposed front setback: 0 FEET
Proposed rear setback N/A (NO CHANGE TO EXISTING)
Proposed total side setback: N/A (NO CHANGE TO EXISTING)
Second side setback: N/A (NO CHANGE TO EXISTING)

11. Required and Proposed Parking

Required number of parking spaces: 85 SPACES
Typical angle of parking spaces: 90 DEGREES
Typical width of maneuvering lanes: 20 FEET
Location of parking on site: EXISTING PARKING DECK & SURFACE PARKING
Location of parking off site: STREET
Number of light standards in parking area: N/A
Screenwall material: N/A
Proposed number of parking spaces: 137 SPACES
Typical size of parking spaces: 180 SF
Number of spaces <180 sq. ft.: 0
Number of handicap spaces: PER CITY STANDARDS
Shared parking agreement? NO
Height of light standards in parking area: N/A
Height of screenwall: N/A

12. Landscaping

Location of landscape areas: SEE LANDSCAPE PLAN FOR DETAILS. PROPOSED LANDSCAPING ALONG THE BULDING FRONTAGE ON ETON STREET, ON EACH SIDE OF THE BUILDING AND IN THE REAR OF THE BUILDING. LANDSCAPING IS PROPOSED AROUND THE DOG RUN ON THE SOUTH SIDE OF THE BUILDING . NEW LANDSCAPING PROPOSED AROUND THE OUTDOOR AMENITY AREA TO THE EAST OF THE SITE.

Proposed landscape material: SEE LANDSCAPE PLAN

13. Streetscape

Sidewalk width: 5 FEET (EXISTING SIDEWALK)
Number of benches: 0 ALONG ETON STREET (NO CHANGE TO EXISTING)
Number of planters: 0 ALONG ETON STREET (NO CHANGE TO EXISTING)
Number of existing street trees: 1
Number of proposed street trees: 1
Streetscape Plan submitted? YES

Description of benches or planters: PER CITY SPECIFICATIONS
Species of existing trees: SEE LANDSCAPE PLAN
Species of proposed trees: SEE LANDSCAPE PLAN

14. Loading

Required number of loading spaces: 1
Typical angle of loading spaces: 90 DEGREES
Screenwall material: N/A
Location of loading spaces on site: SURFACE PARKING NORTH OF BUIDLING

Proposed number of loading spaces: 1
Typical size of loading spaces: 12' X 40'
Height of screenwall: N/A
Typical time loading spaces are used: EARLY MORNING

15. Exterior Waste Receptacles

Required number of waste receptacles: 0
Location of waste receptacles: N/A
Screenwall material: N/A

Proposed number of waste receptacles: 0
Size of waste receptacles: N/A
Height of screenwall: N/A

16. Mechanical Equipment

Utilities and Transformers:

Number of ground mounted transformers: 2 (EXISTING)
Size of transformers (L•W•H): 5' X 5' X 5' (EXISTING UNITS)
Number of utility easements: N/A
Screenwall material: SEE LANDSCAPE PLAN

Location of all ground mounted utilities: SEE CIVIL SURVEY SOUTH SIDE OF BUILDING
Height of screenwall: SEE LANDSCAPE PLAN

Ground Mounted Mechanical Equipment:

Number of ground mounted units: 0
Size of ground mounted units (L•W•H): N/A
Screenwall material: N/A

Location of all ground mounted units: N/A
Height of screenwall: N/A

Rooftop Mechanical Equipment:

Number of rooftop units: 65 UNITS
Type of rooftop units: *********
Screenwall material: PRE-FINISHED METAL
Location of screenwall: ROOFTOP MECHANICAL WELL SEE SHEET A500 ROOF PLAN

Location of all rooftop units: ROOFTOP MECHANICAL WELL
Size of rooftop units (L•W•H): 2'-6" X 2'-6" X 3'-0"
Percentage of rooftop covered by mechanical units: 18%
Height of screenwall: 5'-6"
Distance from rooftop units to all screenwalls: 2 FEET MINIMUM SEE SHEET A500 ROOF PLAN

17. Accessory Buildings

Number of accessory buildings: N/A
Location of accessory buildings: N/A

Size of accessory buildings: N/A
Height of accessory buildings: N/A

18. Building Lighting

Number of light standards on building: SEE PHOTOMETRIC PLAN
Size of light fixtures (L•W•H): VARIES (SEE PHOTOMETRIC PLAN)

Type of light standards on building: VARIES (SEE PHOTOMETRIC PLAN)
Height from grade: VARIES (SEE PHOTOMETRIC PLAN)

Maximum wattage per fixture: VARIES (SEE PHOTOMETRIC PLAN)
Proposed wattage per fixture: VARIES (SEE PHOTOMETRIC PLAN)
Light level at each property line: VARIES (SEE PHOTOMETRIC PLAN)

19. Site Lighting

Number of light fixtures: SEE PHOTOMETRIC PLAN
Type of light fixtures: SEE PHOTOMETRIC PLAN
Size of light fixtures (L•W•H): SEE PHOTOMETRIC PLAN
Height from grade: SEE PHOTOMETRIC PLAN
Maximum wattage per fixture: SEE PHOTOMETRIC PLAN
Proposed wattage per fixture: SEE PHOTOMETRIC PLAN
Light level at each property line: SEE PHOTOMETRIC PLAN
Holiday tree lighting receptacles: SEE PHOTOMETRIC PLAN

20. Adjacent Properties

Number of properties within 200 ft.: 6

Property #1

Number of buildings on site: 1
Property Description: 256 S ETON STREET
Zoning district: B-1
BEAUTY COLLECTIVE
Use type: RETAIL
SINGLE-STORY RETAIL BUILDING
Square footage of principal building: 3,583 SF
Square footage of accessory buildings: N/A
Number of parking spaces: 17 SURFACE PARKING SPACES
North, south, east or west of property? WEST

Property #2

Number of buildings on site: 1
Property Description: 385 S ETON STREET
Zoning district: MX
DISTRICT LOFTS - ETON BUILDING
Use type: RETAIL/OFFICE & RESIDENTIAL
4-STORY MIXED-USE BUILDING
Square footage of principal building: 46,817
Square footage of accessory buildings: N/A
Number of parking spaces: UNDERGROUND PARKING
North, south, east or west of property? SOUTH

Property #3

Number of buildings on site: 1
Property Description: 305 S ETON STREET
Zoning district: MX
PRIVATE ABOVE GROUND PARKING GARAGE
Use type: ABOVE GROUND PARKING STRUCTURE
2-STORY
Square footage of principal building: 95,645
Square footage of accessory buildings: N/A
Number of parking spaces: 262 PARKING SPACES
North, south, east or west of property? EAST

Property #4

Number of buildings on site: 1
Property Description: 245 S ETON STREET
Zoning district: B-2B
BIG ROCK CHOPHOUSE
Use type: RESTAURANT
2-STORY
Square footage of principal building: 11,051
Square footage of accessory buildings: N/A
Number of parking spaces: 17 SURFACE PARKING & PARKING GARGE
North, south, east or west of property? NORTH

Property #5

Number of buildings on site: 1
Property Description: 2051 VILLA ROAD
Zoning district: MX
DISTRICT LOFTS - VILLA BUILDING
Use type: RETAIL/OFFICE & RESIDENTIAL
4-STORY MIXED-USE BUILDING
Square footage of principal building: 60,559 SF
Square footage of accessory buildings: N/A
Number of parking spaces: UNDERGROUND PARKING
North, south, east or west of property? EAST

Property #6

Number of buildings on site: 8
Property Description: 1812 YOSEMITE BLVD
Zoning district: R-6
ETON SQUARE APARTMENTS & TOWNHOMES
Use type: RESIDENTAIL
2-STORY MULTIFAMILY STRUCTURES
Square footage of principal building: 60,315 SF
Square footage of accessory buildings: N/A
Number of parking spaces: SURFACE PARKING
North, south, east or west of property? WEST

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and / or Building Division of any additional changes made to an approved site plan. The undersigned further states that they have reviewed the procedures and guidelines for Site Plan Review in Birmingham, and have complied with same. The undersigned will be in attendance at the Planning Board meeting when this application will be discussed.

By providing your e-mail to the City, you agree to receive news notifications from the City. If you do not wish to receive these messages, you may unsubscribe at any time.

Signature of Owner: _____ Date: 7-2-2021

Print Name: JOHN KELLY

Signature of Applicant: _____ Date: 7-2-2021

Print Name: JOHN KELLY

Signature of Architect: _____ Date: 7-2-2021

Print Name: VICTOR SAROKI, FAIA

Office Use Only

Application #: _____ Date Received: _____ Fee: _____

Date of Approval: _____ Date of Denial: _____ Accepted by: _____

COMBINED SITE PLAN REVIEW & COMMUNITY IMPACT STUDY APPLICATION CHECKLIST- PLANNING DIVISION

Applicant: JOHN KELLY Case #: _____ Date: 7-2-2021

Address: 325 S. ETON STREET Project: DISTRICT LOFTS - PHASE 3

All site plans and elevation drawings prepared for approval shall be prepared in accordance with the following specifications and other applicable requirements of the City of Birmingham. If more than one page is used, each page shall be numbered sequentially. All plans must be legible and of sufficient quality to provide for quality reproduction or recording. Plans must be no larger than 24" x 36", and must be folded and stapled together. The address of the site must be clearly noted on all plans and supporting documentation.

Site Plan

A full Site Plan detailing the proposed changes for which approval is requested shall be drawn at a scale no smaller than 1" = 100' (unless the drawing will not fit on one 24" X 36" sheet) and shall include:

- ☑ 1. Name and address of applicant and proof of ownership;
- ☑ 2. Name of Development (if applicable);
- ☑ 3. Address of site and legal description of the real estate;
- ☑ 4. Name and address of the land surveyor;
- ☑ 5. Legend and notes, including a graphic scale, north point, and date;
- ☑ 6. A separate location map;
- ☑ 7. A map showing the boundary lines of adjacent land and the existing zoning of the area proposed to be developed as well as the adjacent land;
- ☑ 8. Aerial photographs of the subject site and surrounding properties;
- ☑ 9. A detailed and scaled Site Plan depicting accurately and in detail the proposed construction, alteration or repair;
- ☑ 10. A detailed Existing Conditions Plan including the subject site in its entirety, including all property lines, buildings, structures, curb cuts, sidewalks, drives, ramps and all parking on site and on the street(s) adjacent to the site, and must show the same detail for all adjacent properties within 200 ft. of the subject site's property lines;
- ☑ 11. Interior floor plans;
- ☑ 12. A chart indicating the dates of any previous approvals by the Planning Board, Board of Zoning Appeals, Design Review Board, or the Historic District Commission ("HDC");
- ☑ 13. Existing and proposed layout of streets, open space and other basic elements of the plan;
- ☑ 14. Existing and proposed utilities and easements and their purpose;

☑ 15. Location of natural streams, regulated drains, 100-year flood plains, floodway, water courses, marshes, wooded areas, isolated preserve-able trees, wetlands, historic features, existing structures, dry wells, utility lines, fire hydrants and any other significant feature(s) that may influence the design of the development;

☑ 16. General description, location, and types of structures on site;

☑ 17. Location of sidewalks, curb cuts, and parking lots on subject site and all sites within 200 ft. of the property line;

☑ 18. Details of existing or proposed lighting, signage and other pertinent development features;

☑ 19. Elevation drawings showing proposed design;

☑ 20. Screening to be utilized in concealing any exposed mechanical or electrical equipment and all trash receptacle areas;

☑ 21. Location of all exterior lighting fixtures;

☑ 22. A Photometric Plan depicting proposed illuminance levels at all property lines;

☑ 23. A Landscape Plan showing all existing and proposed planting and screening materials, including the number, size, and type of plantings proposed and the method of irrigation; and

☑ 24. Any other information requested in writing by the Planning Division, the Planning Board, or the Building Official deemed important to the development.

Elevation Drawings

Complete elevation drawings detailing the proposed changes for which approval is requested shall be drawn at a scale no smaller than 1" = 100' (unless the drawing will not fit on one 24" X 36" sheet) and shall include:

☑ 25. Color elevation drawings showing the proposed design for each façade of the building;

☑ 26. List of all materials to be used for the building, marked on the elevation drawings;

☑ 27. Elevation drawings of all screenwalls to be utilized in concealing any exposed mechanical or electrical equipment, trash receptacle areas and parking areas;

☑ 28. Details of existing or proposed lighting, signage and other pertinent development features;

☑ 29. A list of any requested design changes;

☑ 30. Itemized list and specification sheets of all materials, light fixtures and mechanical equipment to be used, including exact size specifications, color, style, and the name of the manufacturer;

☑ 31. Location of all exterior lighting fixtures, exact size specifications, color, style and the name of the manufacturer of all fixtures, and a photometric analysis of all exterior lighting fixtures showing light levels to all property lines; and

☑ 32. Any other information requested in writing by the Planning Division, the Planning Board, or the Building Official deemed important to the development.

COMMUNITY IMPACT STUDY CHECKLIST

PLANNING DIVISION

Applicant: JOHN KELLY Case #: _____ Date: 7-2-2021

Address: 325 S. ETON STREET Project: DISTRICT LOFTS - PHASE 3

All Community Impact Studies prepared for approval must contain the following information:

General Information

- [x] 1. Name and address of applicant and proof of ownership;
- [x] 2. Name of Development (if applicable);
- [x] 3. Address of site and legal description of the real estate;
- [x] 4. Name and address of the land surveyor;
- [x] 5. Legend and notes, including a graphic scale, north point, and date;
- [x] 6. A separate location map;
- [x] 7. A map showing the boundary lines of adjacent land and the existing zoning of the area proposed to be developed as well as the adjacent land;
- [x] 8. Details of all proposed site plan changes;

Planning & Zoning Issues

- [x] 9. Recommended land use of the subject property as designated on the Future Land Use Map of the City's Master Plan;
- [x] 10. Goals and objectives of the city's Master Plans that demonstrate the City's support of the proposed development;
- [x] 11. Whether or not the project site is located within an area of the City for which an Urban Design Plan has been adopted by the Planning Board in which special design criteria or other supplemental development requirements apply;
- [x] 12. The current zoning classification of the subject property;
- [x] 13. The zoning classification required for the proposed development;
- [x] 14. The existing land uses adjacent to the proposed project;
- [x] 15. Complete the attached "Zoning Requirements Analysis" chart;

Land Development Issues

- [x] 16. A Survey and Site Drainage Plan;
- [x] 17. Identify any sensitive soils on site that will require stabilization or alteration in order to support the proposed development;
- [x] 18. Whether or not the proposed development will occur on a steep slope, and if so, the measures that will be taken to overcome potential erosion, slope stability and runoff;

☑ 19. The volume of excavated soils to be removed from the site and /or delivered to the site, and a map of the proposed haul routes;

☑ 20. Identify the potential hazards and nuisances that may be created by the proposed development and the suggested methods of mitigating such hazards;

Private Utilities

☑ 21. Indicate the source of all required private utilities to be provided;

☑ 22. Provide verification that all required utility easements have been secured for necessary private utilities;

Noise Levels

☑ 23. Provide a reading of existing ambient noise and estimated future noise levels on the site;

☑ 24. Indicate whether the project will be exposed to or cause noise levels which exceed those levels prescribed in Chapter 50, Division 4, Section 50-71 through 50-77 of the Birmingham City Code, as amended;

☑ 25. Indicate whether the site is appropriate for the proposed activities and facilities given the existing ambient noise and the estimated future noise levels of the site;

Air Quality

☑ 26. Indicate whether the project is located in the vicinity of a monitoring station where air quality violations have been registered and, if so, provide information as to whether the project will increase air quality problems in the area;

☑ 27. Indicate if the nature of the project or its potential users would be particularly sensitive to existing air pollution levels and, if so, indicate how the project has been designed to mitigate possible adverse effects;

☑ 28. Indicate whether the proposal will establish a trend which, if continued, may lead to violation of air quality standards in the future;

☑ 29. Indicate whether the proposed project will have parking facilities for more than 75 cars and indicate percentage of required parking that is proposed;

Environmental Design and Historic Values

☑ 30. Indicate whether there will be demonstrable destruction or physical alteration of the natural or human-made environment on site or in the right-of-way (i.e. clearance of trees, substantial regrading etc.);

☑ 31. Indicate whether there will be an intrusion of elements out of character or scale with the existing physical environment (i.e. significant changes in size, scale of building, floor levels, entrance patterns, height, materials, color or style from that of surrounding developments);

☑ 32. Indicate all elements of the project that are eligible for LEED points if the building were to be LEED certified (i.e. extensive use of natural daylight, use of low VOC paint, use of renewable/recycled resources, energy efficient mechanical systems, use of wind and solar power, geothermal heating etc.);

☑ 33. Indicate whether the proposed structure will block or degrade views, change the skyline or create a new focal point;

☑ 34. Indicate whether there will be objectionable visual pollution introduced directly or indirectly due to loading docks, trash receptacles or parking, and indicate mitigation measures for same;

☑ 35. Indicate whether there will be an interference with or impairment of ambient conditions necessary for the enjoyment of the physical environment (i.e. vibration, dust, odor, heat, glare etc.);

☑ 36. Indicate whether the project area and environs contain any properties listed on the National Register of Historic Places or the City's inventory of historic structures;

☑ 37. Provide any information on the project area that the State Historic Preservation Office (SHPO) may have;

☑ 38. Indicate whether there will be other properties within the boundaries or in the vicinity of the project that appear to be historic and thus require consultation with the SHPO as to eligibility for the National Register;

☑ 39. Indicate whether the Department of the Interior has been requested to make a determination of eligibility on properties the SHPO or HDC deems eligible and affected by the project;

☑ 40. Provide proof that the HDC has been given an opportunity to comment on properties that are listed on or have been found eligible for the National Register and which would be affected by the project;

Refuse

☑ 41. Indicate whether the existing or planned solid waste disposal system will adequately service the proposed development including space for separation of recyclable materials;

☑ 42. Indicate whether the design capacity of the existing or planned solid waste disposal system will be exceeded as a result of the project;

Sanitary Sewer

☑ 43. Indicate whether existing or planned waste water systems will be able to adequately service the proposed development;

☑ 44. Indicate whether the design capacity of these facilities will be exceeded as a result of the project;

☑ 45. Indicate the elements of the project that have been incorporated to reduce the amount of water entering the sewer system (such as low flush toilets, EnergyStar appliances, restricted flow faucets, greywater recycling etc.);

Storm Sewer

☑ 46. Indicate whether existing or planned storm water disposal and treatment systems will adequately serve the proposed development;

☑ 47. Indicate whether the design capacity of these facilities will be exceeded as a result of the project;

☑ 48. Indicate the elements of the project that have been incorporated to reduce the amount of storm water entering the sewer system (such as the use of pervious concrete, rain gardens, greywater recycling, green pavers etc.);

Water Service

☑ 49. Indicate whether either the municipal water utility or on-site water supply system is adequate to serve the proposed project;

☑ 50. Indicate whether the water quality is safe from both a chemical and bacteriological standpoint;

☑ 51. Indicate whether the intended location of the service will be compatible with the location and elevation of the main;

Public Safety

☑ 52. Whether or not the project location provides adequate access to police, fire and emergency medical services;

☑ 53. Whether or not the proposed project design provides easy access for emergency vehicles and individuals (ie. are there obstacles to access, such as one-way roads, narrow bridges etc.);

☑ 54. Whether or not there are plans for a security system which can be expanded, and whether approval for same has been granted by the police department;

☑ 55. Detailed description of all fire access to the building, site, fire hydrants and water connections;

☑ 56. Whether or not there are plans for adherence to all city and N.F.P.A. fire codes;

- [x] 57. Proof that one elevator has been designed to accommodate a medical cart;
- [x] 58. Detailed specifications on all fire lanes/parking lot surfaces/alleys/streets to demonstrate the ability to accommodate the weight of emergency / fire vehicles;
- [x] 59. Detailed description of all fire suppression systems;

Transportation issues

- [x] 60. Provide completed FORM A – Transportation Study Questionnaire (Abbreviated);
- [x] 61. Provide completed FORM B – Transportation Study Questionnaire if required by the city's transportation consultant;
- [x] 62. Indicate whether transportation facilities and services will be adequate to meet the needs of all users (i.e. access to public transportation, bicycle accommodations, pedestrian connections, disabled, elderly etc.);
- [x] 63. Indicate how the project will improve the mobility of all groups by providing transportation choices;
- [x] 64. Indicate how the users of the building will be encouraged to use public transit and non-motorized forms of transportation;
- [x] 65. Indicate the elements that have been incorporated into the site and surrounding right-of-way to encourage mode shift away from private vehicle trips;
- [x] 66. Indicate the elements of the project that have been provided to improve the comfort and safety of cyclists (such as secured or covered bicycle parking, lockers, bike lanes/paths, bicycle share program etc.);
- [x] 67. Indicate the elements of the project that have been provided to improve the comfort and safety of pedestrians (such as wheelchair ramps, crosswalk markings, pedestrian activated signal lights, bulb outs, benches, landscaping, lighting etc.);
- [x] 68. Indicate the elements of the project that have been provided to encourage the use of sustainable transportation modes (such as receptacles for electric vehicle charging, parking for scooters/Smart cars etc.);

Natural Features

- [x] 69. Indicate whether there are any visual indicators of pond and / or stream water quality problems on or near the site;
- [x] 70. Indicate whether the project will involve any increase in impervious surface area and, if so, indicate the runoff control measures that will be undertaken;
- [x] 71. Indicate whether the project will affect surface water flows on water levels of ponds or other water bodies;
- [x] 72. Indicate whether the project may affect or be affected by a wetland, flood plain, or floodway;
- [x] 73. Indicate whether the project location or construction will adversely impact unique natural features on or near the site;
- [x] 74. Indicate whether the project will either destroy or isolate a unique natural feature from public access;
- [x] 75. Indicate whether any unique natural feature will pose safety hazards for the proposed development;
- [x] 76. Indicate whether the project will damage or destroy existing wildlife habitats; and

Other Information

- [x] 77. Any other information as may reasonably be required by the City to assure an adequate analysis of all existing and proposed site features and conditions.

Professional Qualifications

The preparer(s) of the CIS must indicate their professional qualifications, which must include registration in the state of Michigan in their profession where licensing is a state requirement for the practice of the profession (i.e. engineer, surveyor, architect etc.). Where the state does not require licensing (ie. planner, urban designer, economist etc.), the

preparer must demonstrate acceptable credentials including, but not limited to, membership in professional societies, university degrees, documentation illustrating professional experience in preparing CIS related materials for similar projects.

City of Birmingham
A Walkable Community

ZONING REQUIREMENTS ANALYSIS

Development Standard	Required	Proposed	Variance Required
Zoning Classification	MX	MX	NO
Front Setback	0 FEET	0 FEET	NO
Rear Setback	10 FFET	N/A (NO CHANGE)	NO
Side Setback	0 FFET	N/A (NO CHANGE)	NO
FAR - Percentage	N/A	N/A	NO
FAR – Square Footage	N/A	N/A	NO
Open Space – Percentage	N/A	N/A	NO
Open Space – Square Footage	N/A	N/A	NO
Number of Residential Units	0 UNITS	50 UNITS	NO
Minimum Floor Area	N/A	N/A	NO
Maximum Height	45 FEET	44 FEET	NO
Parking	85 SPACES	137 SPACES	NO
Loading	1 SPACE	1 SPACE	NO
Screening	N/A	N/A	NO

City of Birmingham
A Walkable Community

Notice Signs - Rental Application
Community Development

1. Applicant

Name: JOHN KELLY
Address: 2051 VILLA ROAD, SUITE 106
BIRMINGHAM, MI 48009
Phone Number: 248-258-6663
Fax Number: N/A
Email address: JKELLY@KELLYBUILDINGCOMPANY.COM

Property Owner

Name: BIRMINGHAM LOFTS, LLC
Address: 2051 VILLA ROAD, SUITE 106
BIRMINGHAM, MI 48009
Phone Number: 248-258-6663
Fax Number: N/A
Email address: JKELLY@KELLYBUILDINGCOMPANY.COM

2. Project Information

Address/Location of Property: 325 S. ETON STREET
Name of Development: DISTRICT LOFTS - PHASE 3
Area in Acres: 3.296 ACRES

Name of Historic District site is in, if any: GRAND TRUNK WESTERN RAILROAD
Current Use: BANQUET HALL
Current Zoning: MX

3. Date of Board Review

Board of Building Trades Appeals: N/A
City Commission: TBD
Historic District Commission: TBD
Planning Board: TBD

Board of Zoning Appeals: N/A
Design Review Board: N/A
Housing Board of Appeals: N/A

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to post the Notice Sign(s) at least 15 days prior to the date on which the project will be reviewed by the appropriate board or commission, and to ensure that the Notice Sign(s) remains posted during the entire 15 day mandatory posting period. The undersigned further agrees to pay a rental fee and security deposit for the Notice Sign(s), and to remove all such signs on the day immediately following the date of the hearing at which the project was reviewed. The security deposit will be refunded when the Notice Sign(s) are returned undamaged to the Community Development Department. Failure to return the Notice Sign(s) and/or damage to the Notice Sign(s) will result in forfeiture of the security deposit.

Signature of Applicant: _____ Date: 7-2-2021

Office Use Only

Application #: _____ Date Received: _____ Fee: _____

Date of Approval: _____ Date of Denial: _____ Reviewed by: _____

City of Birmingham
A Walkable Community

FEE SCHEDULE

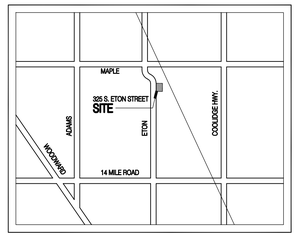
Application	Fees
Administrative Approval	$100
Administrative Sign Approval	$100
Board of Zoning Appeals* • Single Family Residential • All Other Zoning Districts	 $310 $510
Community Impact Study Review*	$2,050
Design Review*	$350
Division/Combination of Platted Lots	$200
Historic District Review* • Single Family Residential • All Other Zoning Districts	 No Charge $350
Public Notice Sign • Notice Sign Rental • Returnable Sign Bond	 $50 $100 ➔ $150 total
Preliminary/Final Site Plan Review • R4 – R8 Zoning District • Nonresidential Districts	 $850, plus $50 per dwelling unit $1,050, plus $50 per acre or portion of acre
Special Land Use Permit* • Plus Site Plan Review • Plus Design Review • Plus Publish of Legal Notice • Plus Sign Rental and Deposit	$800 $1,050 $350 $450 $150 ➔ $2,800 total
Special Land Use Permit Annual Renewal	$200
Temporary Use Permit	$100
Zoning Compliance Letter	$50

***The fees for Board of Zoning Appeals, Community Impact Study Review, Design Review, Site Plan Review, Historic District Review and Special Land Use Permits shall be double the listed amounts in the event the work is commenced prior to the filing of an application for review by the City of Birmingham.**

Ordinance No. 1751 (Appendix A, Section 7.38 of the Birmingham City Code)

DISTRICT LOFTS - PHASE 3

325 S. Eton Street
Birmingham, MI 48009



Location Map
Not to Scale

Owner:
Eton Office Properties, LLC
2051 Villa, Suite 106
Birmingham, MI 48009
T: 248.258.6663
Contact: John Kelly

Owner's Representative / CM:
2051 Villa, Suite 106
Birmingham, MI 48009
T: 248.258.6663
Contact: John Kelly

Architect:
Saroki Architecture
430 N. Old Woodward Avenue, Suite 300
Birmingham, MI 48009
T: 248.258.5707
Contact: Victor Saroki, FAIA

Civil Engineer:
Nowak & Fraus Engineers
46777 Woodward Avenue
Pontiac, Michigan 48342
T: 248.332.7931
Contact: Patrick J. Williams, PE

Landscape Architect:
Michael J. Dul & Associates Inc.
212 Daines
Birmingham, Michigan 48009
T: 248.644.3410
Contact: Patrick M. Funke, PLA, CNSP

Structural Engineer:
Shymanski & Associates
33426 Five Mile Road
Livonia, Michigan 48154
T: 734.855.4810
Contact: Ted Shymanski

Mechanical, Electrical & Plumbing:
M.A. Engineering
200 East Brown Street
Birmingham, Michigan 48009
T: 248.258.1610
F: 248.258.9538
Contact: Salim Sessine

Zoning Information:

Zoning District:	B-2B, MX (The proposed District Lofts - Phase 3 building lies entirely within the MX Zoning District)	
Zoning of Adjacent Properties:	North:	PP
	West:	R6, B1 (Directly west of proposed Phase 3 building)
	South:	MX
	East:	MX, PP
Site Area:	3.296 Acres (143,593 S.F.)	

Building Area:

Lower Level (Storage):	2,977 S.F. (existing basement to be reused)
First Level:	14,025 S.F.
Second Level:	14,025 S.F.
Third Level:	14,025 S.F.
Fourth Level:	14,025 S.F.
Total Building Area:	59,077 S.F.

Loading: One (1) 10' x 40' Required, One Provided

Landscape Requirements: Refer to Landscape Drawings

Glazing Calculations:

	Required:	Proposed:
North Elevation:		
Ground Level (between 1' & 8')	Not less than 30%	66.96% OK
541 SF (glazing) / 808 SF (facade area between 1' & 8') = 541 SF / 808 SF = 0.6696 = 66.96%		
Upper Levels	50% Maximum	34.99% OK
1,350 SF (glazing) / 3,858 SF (facade above first level) = 1,350 SF / 3,858 SF = 0.3499 = 34.99%		
West Elevation (Eton Street):		
Ground Level (between 1' & 8')	Not less than 70%	84.22% OK
865 SF (glazing) / 1,027 SF (facade area between 1' & 8') = 865 SF / 1,027 SF = 0.8422 = 84.22%		
Upper Levels	50% Maximum	48.37% OK
2,376 SF (glazing) / 4,912 SF (facade above first level) = 2,376 SF / 4,912 SF = 0.4837 = 48.37%		
South Elevation:		
Ground Level (between 1' & 8')	Not less than 30%	59.53% OK
481 SF (glazing) / 808 SF (facade area between 1' & 8') = 481 SF / 808 SF = 0.5953 = 59.53%		
Upper Levels	50% Maximum	33.90% OK
1,308 SF (glazing) / 3,858 SF (facade above first level) = 1,308 SF / 3,858 SF = 0.3390 = 33.90%		
East Elevation:		
Ground Level (between 1' & 8')	Not less than 30%	48.49% OK
498 SF (glazing) / 1,027 SF (facade area between 1' & 8') = 498 SF / 1,027 SF = 0.4849 = 48.49%		
Upper Levels	50% Maximum	33.96% OK
1,668 SF (glazing) / 4,912 SF (facade above first level) = 1,668 SF / 4,912 SF = 0.3396 = 33.96%		

2.40 MX (Mixed Use) District Development Standards

TABLE 2.40.1 - Lot Area (see Figure 2.40.1)	
Minimum Lot Area	• 1,500 sq ft (one bedroom) • 2,000 sq ft (two bedroom) • 2,500 sq ft (three or more bedroom)
Minimum Open Space	NA
Maximum Lot Coverage	NA

Figure 2.40.1 - Lot Area

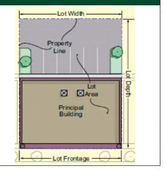


TABLE 2.40.2 – Setbacks (see Figure 2.40.2)	
Minimum Front Yard Setback	0 feet
Minimum Rear Yard Setback	• 10 feet when the rear open space abuts a P, B1, B2, B2B, B2C, B3, B4, O1, O2, or MX Zoning District • 20 feet when adjacent to a residential zoning district
Minimum Combined Front and Rear Setback	NA
Minimum Side Yard Setback	• 0 feet for commercial, office or parking stories • 0 feet for residential stories with walls facing side lot lines which do not contain 20 foot minimum separation between adjacent buildings with walls that contain windows

Figure 2.40.2 - Setbacks

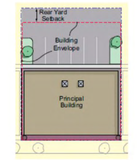


TABLE 2.40.3 - Floor Area (see Figure 2.40.3)	
Minimum Floor Area Per Unit	• 400 sq ft (efficiency) • 600 sq ft (one bedroom) • 800 sq ft (two bedroom) • 1,000 sq ft (three or more bedroom)
Maximum Total Floor Area	• 100% • 6,000 sq ft for commercial, office, and service uses

Figure 2.40.3 - Floor Area

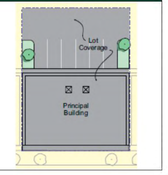
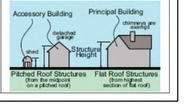


TABLE 2.40.4 - Maximum Building Height (see Figure 2.40.4)
45 feet for flat roofs
40 feet maximum eave line for sloped roofs
50 feet maximum height to the peak or ridge for sloped roofs as measured to average grade
4 stories
Minimum Eave Height
18 feet for one-story building on Eton Road

Figure 2.40.4 - Building Height



4.90 WN-01

This Window Standards section applies to the following districts:

The following window standards apply:

A. Storefront Windows: Ground floor facades shall be designed with storefronts that have windows, doorways and signage, which are integrally designed. The following standards apply:
1. No less than 70% of a storefront/groundfloor façade between 1 and 8 feet above grade shall be clear glazing.
2. Only Clear glazing is permitted on storefront facades at the first floor. Lightly tinted glazing above the first floor may be permitted. Mirrored glass is prohibited.
3. Required window areas shall be either pedestrian entrances, windows that allow views into retail space, working areas or lobbies. Display windows set into the wall may be approved by the Planning Board.
4. Windows shall not be blocked with opaque materials or the back of shelving units or signs.
5. The bottom of the window shall be no more than 3 feet above the adjacent exterior grade.

B. Ground floor building elevations: Building elevations on the ground floor that do not face a frontage line but contain a public entrance shall be no less than 30% clear glazing between 1 and 8 feet above grade.

C. Blank walls of longer than 20 feet on the ground floor façade shall not face a plaza, park, parking area or Public Street.

D. Upper Story Windows: Openings above the first story shall be a maximum of 50% of the total façade area. Windows shall be vertical in proportion.

E. To allow flexibility in design, these standards may be modified by a majority vote of those appointed and serving on the appropriate reviewing body including the Planning Board, Design Review Board, and/or Historic District Commission for architectural design considerations provided that the following conditions are met:
a. The subject property must be in a zoning district that allows mixed uses;
b. The scale, color, design and quality of materials must be consistent with the building and site on which it is located;
c. The proposed development must not adversely affect other uses and buildings in the neighborhood;
d. Glazing above the first story shall not exceed a maximum of 70% of the façade area;
e. Windows shall be vertical in proportion.

(Ord. No. 2244, 07/24/2017)

Effective on: 8/20/2017

Drawing Index:

- ● DRAWING ISSUED
- ○ DRAWING ISSUED FOR REFERENCE ONLY
- ☐ DRAWING NOT ISSUED

		2021-06-30 PRELIMINARY SITE PLAN REVIEW
GENERAL		
G000	COVER SHEET & DRAWING INDEX	●
CIVIL		
SP-1	BOUNDARY / TOPOGRAPHIC SURVEY	●
SP-2	OVERALL SITE PLAN	●
SP-3	DIMENSIONAL SITE PLAN	●
SP-4	ENGINEERING SITE PLAN	●
LANDSCAPE		
L1	LANDSCAPE PLAN	●
L1.1	LANDSCAPE PLAN RENDERING	●
L2	LANDSCAPE DETAILS	●
ARCHITECTURAL		
A005	OVERALL ARCHITECTURAL SITE PLAN	●
A100	LOWER LEVEL PLAN	●
A110	FIRST LEVEL PLAN	●
A120	SECOND THRU FOURTH LEVEL PLAN	●
A150	ROOF PLAN	●
A200	NORTH ELEVATION	●
A210	WEST (ETON STREET) ELEVATION	●
A220	SOUTH ELEVATION	●
A230	EAST ELEVATION	●
LIGHTING		
	PHOTOMETRIC SITE PLAN	●

Approvals:

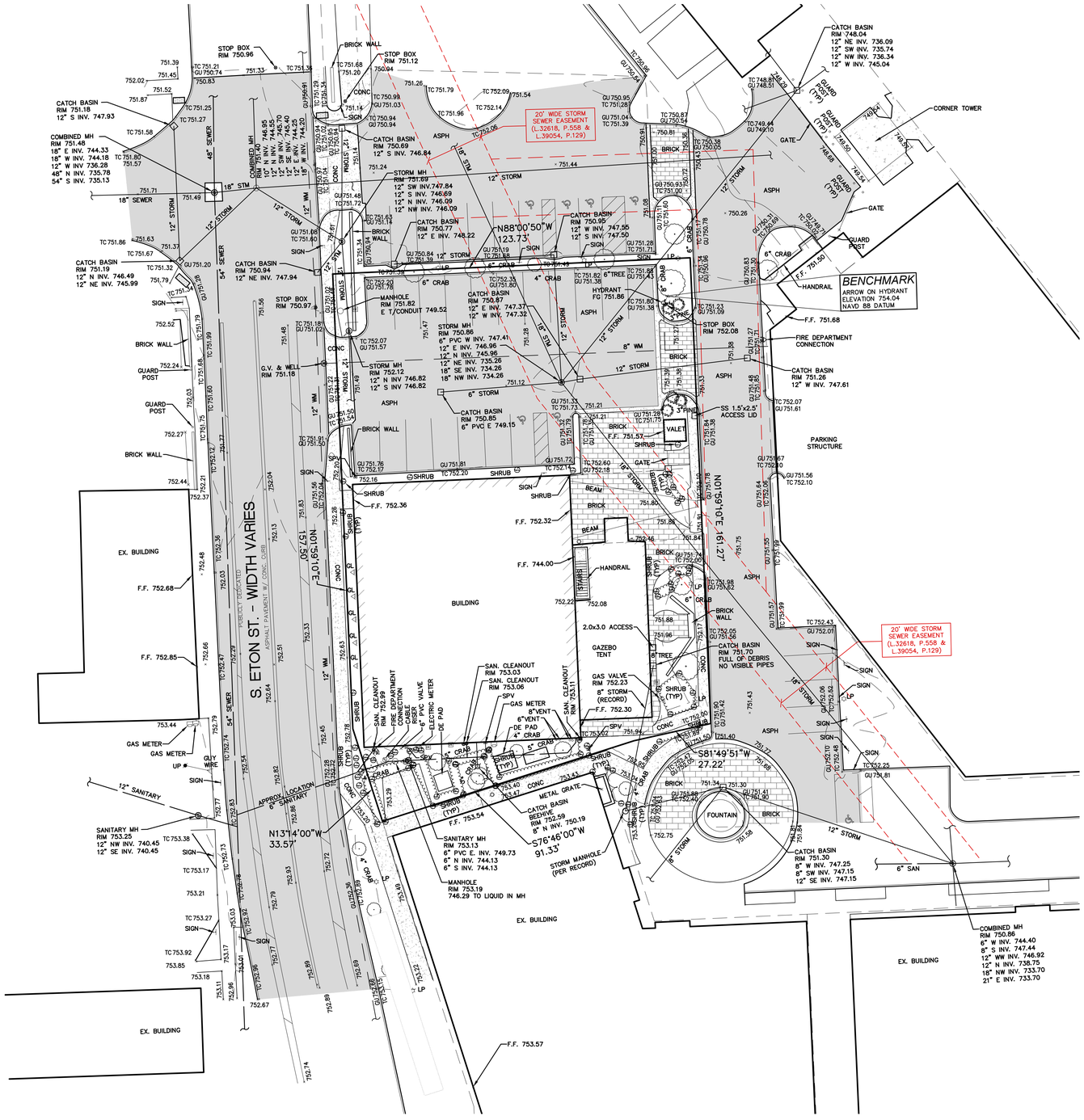
.

SAROKI ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

Project:
The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-06-30	PRELIMINARY SITE PLAN APPROVAL

Sheet No.:
G000
COVER SHEET & DRAWING INDEX



NF ENGINEERS

CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

SEAL

STATE OF MICHIGAN
PATRICK J. WILLIAMS
ENGINEER
NO. 44351
LICENSED PROFESSIONAL ENGINEER

PROJECT
District Lofts

CLIENT
Kelly Building & Development
2051 Villa
Suite 106
Birmingham, MI 48009

Contact: John Kelly
Ph: (248) 258-6663

PROJECT LOCATION
Part of the Northeast 1/4 of Section 31
T. 2 North, R. 11 East
City of Birmingham,
Oakland County, Michigan

SHEET
Boundary / Topographic Survey

LEGAL DESCRIPTION

UNIT 2, ETON CONDOMINIUM PROPERTIES, ACCORDING TO THE MASTER DEED RECORDED IN LIBER 37854, PAGES 533 THROUGH 583, BOTH INCLUSIVE, AND FIRST AMENDMENT TO THE MASTER DEED RECORDED IN LIBER 38725, PAGES 110 THROUGH 112, BOTH INCLUSIVE, AND SECOND AMENDMENT TO THE MASTER DEED RECORDED IN LIBER ____ PAGES ____ THROUGH ____, BOTH INCLUSIVE, OAKLAND COUNTY RECORDS, AS AMENDED, AND DESIGNATED AS OAKLAND COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 1883, TOGETHER WITH RIGHTS IN GENERAL COMMON ELEMENTS AND LIMITED COMMON ELEMENTS AS SET FORTH IN THE ABOVE-DESCRIBED MASTER DEED, AS AMENDED, AND AS DESCRIBED IN ACT 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED.

FLOOD HAZARD NOTE

THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE X OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 26125C0537F BEARING AN EFFECTIVE DATE OF 09-29-2006.

COVID-19 PANDEMIC CONDITION

DUE TO THE UNPRECEDENTED COVID-19 PANDEMIC CONDITION AND RESTRICTIONS THE STANDARD DATA WHICH IS OBTAINED FROM MISS DIG / CALL 811 HAS BEEN RESTRICTED TO CRITICAL INFRASTRUCTURE ONLY. NFE WILL MAKE EVERY EFFORT TO OBTAIN CURRENT REFERENCE DATA FROM THE GOVERNING AGENCIES; HOWEVER, THIS DATA MAY BE PARTIAL OR INCOMPLETE. NFE WILL ISSUE THIS SURVEY WITH THE BEST AVAILABLE INFORMATION FROM OUR FIELD SURVEY AND OTHER AVAILABLE REFERENCE DATA. NFE WILL NOT BE RESPONSIBLE FOR INCOMPLETE OR PARTIAL DATA PROVIDED BY THIRD PARTY FACILITY OWNERS.

ALL SURVEYS BEING UTILIZED FOR DESIGN PURPOSES BY OTHERS: IT WILL BE THE CLIENT'S OBLIGATION TO UPDATE THE UTILITY INFORMATION AS IT BECOMES AVAILABLE. NFE IS NOT RESPONSIBLE FOR BURIED UTILITIES FOR WHICH PLANS WERE NOT FURNISHED OR CANNOT BE OBSERVED IN THE FIELD.

MISS DIG / UTILITY DISCLAIMER NOTE

A MISS DIG TICKET NUMBER A003100088, PURSUANT TO MICHIGAN PUBLIC ACT 174 WAS ENTERED FOR THE SURVEYED PROPERTY. DUE TO THE EXTENDED REPORTING PERIOD FOR UNDERGROUND FACILITY OWNERS TO PROVIDE THEIR RECORDS, THE SURVEY MAY NOT REFLECT ALL THE UTILITIES AT THE TIME THE SURVEY WAS ISSUED ON 11/17/2020. THE SURVEY ONLY REFLECTS THOSE UTILITIES WHICH COULD BE OBSERVED BY THE SURVEYOR IN THE FIELD OR AS DEPICTED BY THE UTILITY COMPANY RECORDS FURNISH PRIOR TO THE DATE THIS SURVEY WAS ISSUED. **THE CLIENT AND/OR THEIR AUTHORIZED AGENT SHALL VERIFY WITH THE FACILITY OWNERS AND/OR THEIR AUTHORIZED AGENTS, THE COMPLETENESS AND EXACTNESS OF THE UTILITIES LOCATION.**

TOPOGRAPHIC SURVEY NOTES

ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED.

UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.

THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD UNLESS AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYOR BY THE OWNER.

LEGEND

- MANHOLE — EXISTING SANITARY SEWER
- HYDRANT — EXISTING SAN. CLEAN OUT
- GATE VALVE — EXISTING WATER MAIN
- MANHOLE / CATCH BASIN — EXISTING STORM SEWER
- EX. R.Y. CATCH BASIN
- EXISTING BURIED CABLES
- UTILITY POLE / GUY POLE — OVERHEAD LINES
- GUY WIRE — LIGHT POLE
- SIGN
- EXISTING GAS MAIN

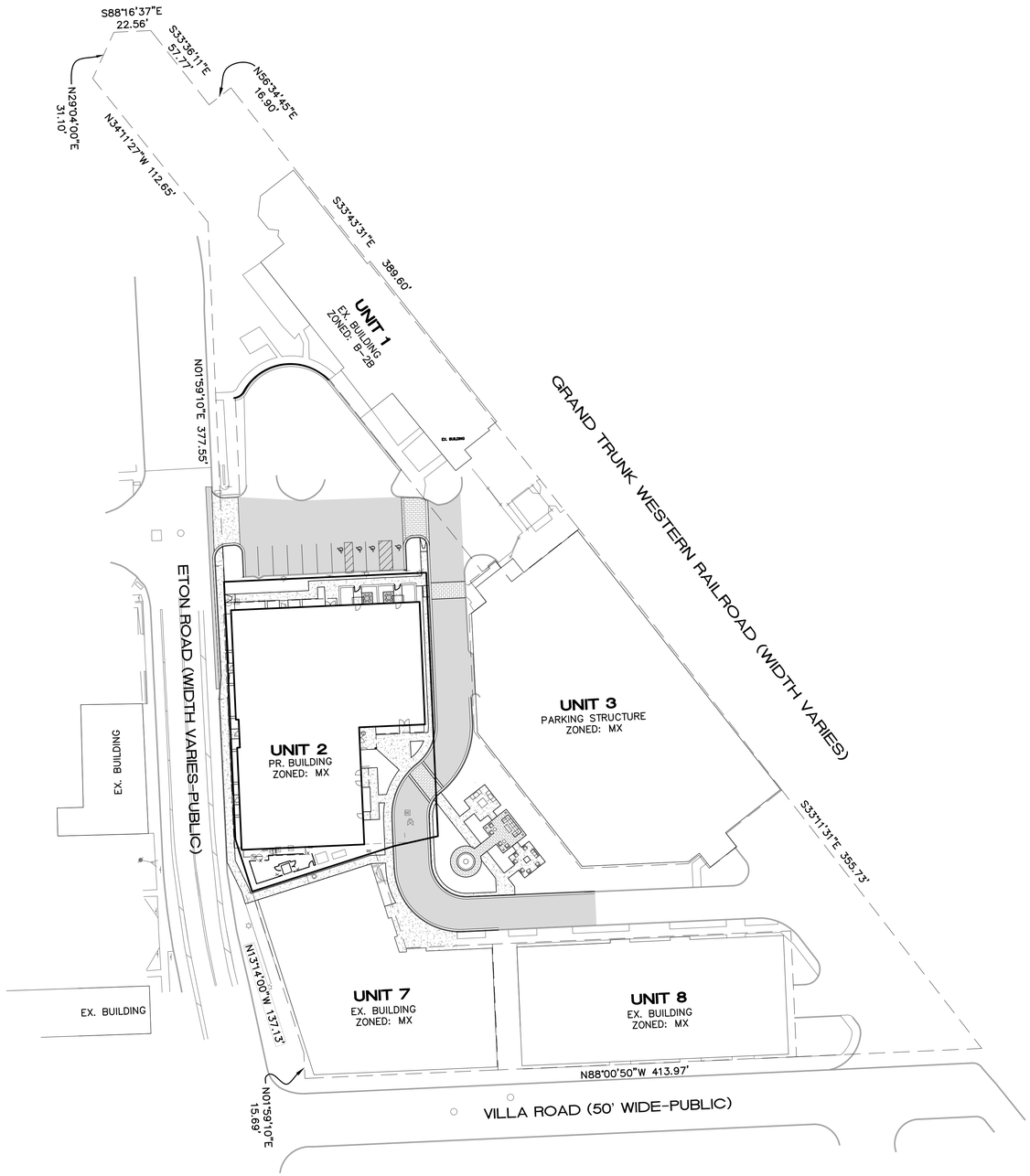
Know what's below Call before you dig.

DATE	ISSUED/REVISED
06-30-21	PRELIMINARY SITE PLAN APPROVAL

DRAWN BY: A. Eizember
DESIGNED BY:
APPROVED BY: P. Williams
DATE: June 30, 2021
SCALE: 1" = 20'

20 10 0 10 20 30

NFE JOB NO. **E103-02**
SHEET NO. **SP-1**



NF ENGINEERS

CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

SEAL

STATE OF MICHIGAN
PATRICK J. WILLIAMS
ENGINEER NO. 44251
LICENSED PROFESSIONAL ENGINEER

PROJECT
District Lofts

CLIENT
Kelly Building & Development
2051 Villa
Suite 106
Birmingham, MI 48009

Contact: John Kelly
Ph: (248) 258-6663

PROJECT LOCATION
Part of the Northeast 1/4 of Section 31
T. 2 North, R. 11 East
City of Birmingham,
Oakland County, Michigan

SHEET
Overall Site Plan

COVID-19 PANDEMIC CONDITION

DUE TO THE UNPRECEDENTED COVID-19 PANDEMIC CONDITION AND RESTRICTIONS THE STANDARD DATA WHICH IS OBTAINED FROM MISS DIG / CALL 811 HAS BEEN RESTRICTED TO CRITICAL INFRASTRUCTURE ONLY. NFE WILL MAKE EVERY EFFORT TO OBTAIN CURRENT REFERENCE DATA FROM THE GOVERNING AGENCIES; HOWEVER, THIS DATA MAY BE PARTIAL OR INCOMPLETE. NFE WILL ISSUE THIS SURVEY WITH THE BEST AVAILABLE INFORMATION FROM OUR FIELD SURVEY AND OTHER AVAILABLE REFERENCE DATA. NFE WILL NOT BE RESPONSIBLE FOR INCOMPLETE OR PARTIAL DATA PROVIDED BY THIRD PARTY FACILITY OWNERS. NFE IS NOT RESPONSIBLE FOR BURIED UTILITIES FOR WHICH PLANS WERE NOT FURNISHED OR CANNOT BE OBSERVED IN THE FIELD.

ALL CONSTRUCTION DOCUMENTS WILL BE UPDATED WHEN THE UTILITY INFORMATION IS PROVIDED BY THE FACILITY OWNER UP UNTIL THE TIME OF SUBMITTAL. ONCE THE PLANS HAVE BEEN SUBMITTED AND APPROVED IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN A MISS DIG TICKET PRIOR TO COMMENCING ANY CONSTRUCTION REQUIRING EXCAVATION. CONTRACTOR SHALL IMMEDIATELY NOTIFY NFE OF ANY UTILITIES FLAGGED BY MISS DIG THAT WERE NOT SHOWN ON THE PLANS OR UTILITIES UNCOVERED DURING THEIR WORK.

PAVING LEGEND

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT PAVEMENT

LEGEND

- MANHOLE
- HYDRANT
- GATE VALVE
- MANHOLE
- CATCH BASIN
- UTILITY POLE
- GUY POLE
- GUY WIRE
- C.O.
- INLET
- C.B.
- EXISTING SANITARY SEWER
- SAN. CLEAN OUT
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- EX. R. Y. CATCH BASIN
- EXISTING BURIED CABLES
- OVERHEAD LINES
- LIGHT POLE
- SIGN
- EXISTING GAS MAIN
- PR. SANITARY SEWER
- PR. WATER MAIN
- PR. STORM SEWER
- PR. R. Y. CATCH BASIN
- PROPOSED LIGHT POLE

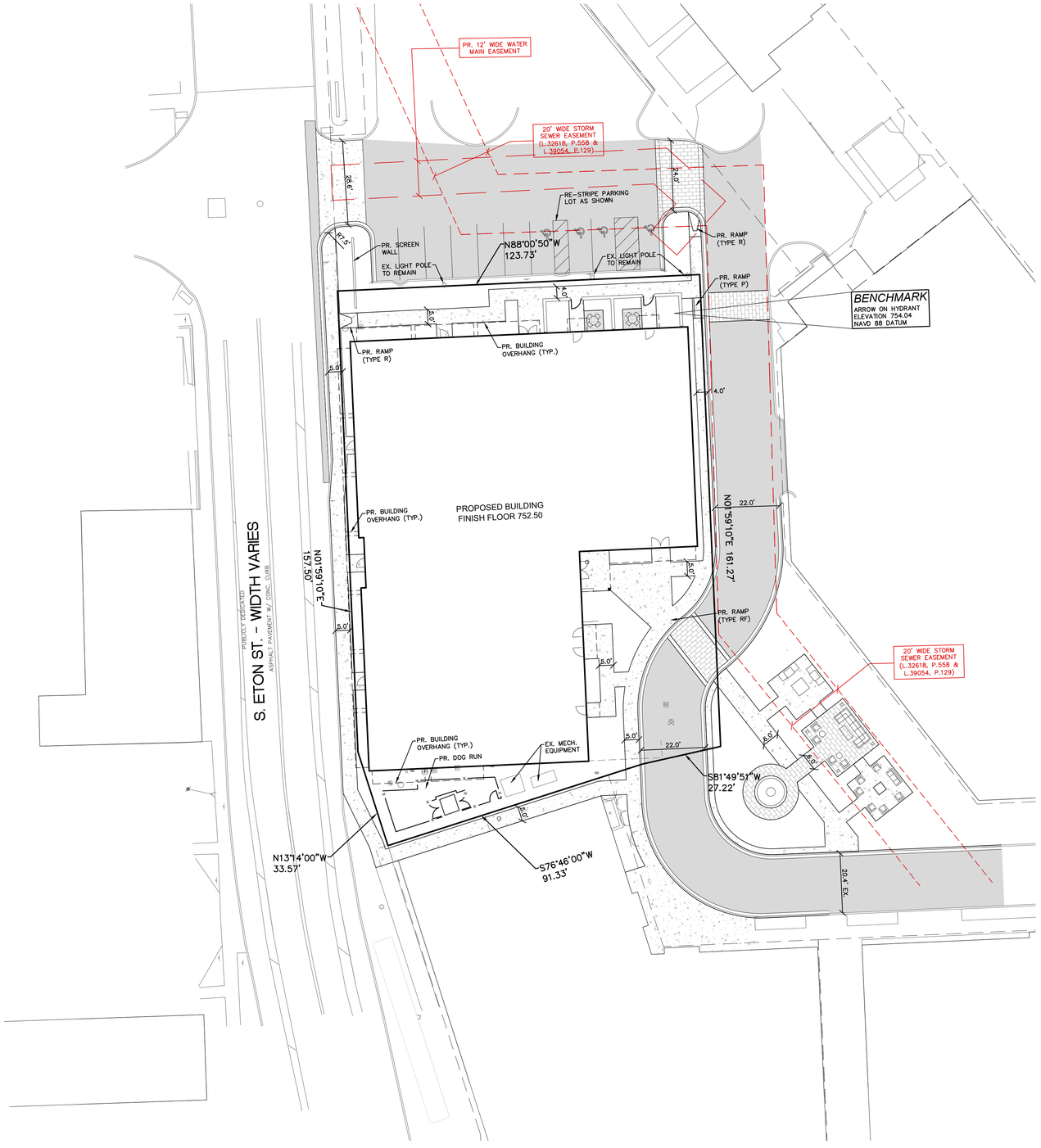
Know what's below Call before you dig.

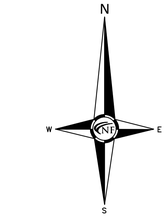
DATE	ISSUED/REVISED
06-30-21	PRELIMINARY SITE PLAN APPROVAL

DRAWN BY: A. Eizember
DESIGNED BY: A. Eizember
APPROVED BY: P. Williams
DATE: June 30, 2021
SCALE: 1" = 40'

40 20 0 20 40 60

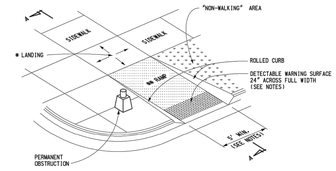
NFE JOB NO. E103-02
SHEET NO. SP-2





* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

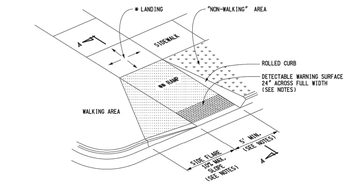
** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE R
(ROLLED SIDES)

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

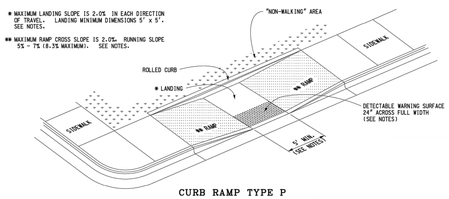
** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE RF
(ROLLED / FLARED SIDES)

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE P
(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR

COVID-19 PANDEMIC CONDITION

DUE TO THE UNPRECEDENTED COVID-19 PANDEMIC CONDITION AND RESTRICTIONS THE STANDARD DATA WHICH IS OBTAINED FROM MISS DIG / CALL 811 HAS BEEN RESTRICTED TO CRITICAL INFRASTRUCTURE ONLY. NFE WILL MAKE EVERY EFFORT TO OBTAIN CURRENT REFERENCE DATA FROM THE GOVERNING AGENCIES; HOWEVER, THIS DATA MAY BE PARTIAL OR INCOMPLETE. NFE WILL ISSUE THIS SURVEY WITH THE BEST AVAILABLE INFORMATION FROM OUR FIELD SURVEY AND OTHER AVAILABLE REFERENCE DATA. NFE WILL NOT BE RESPONSIBLE FOR INCOMPLETE OR PARTIAL DATA PROVIDED BY THIRD PARTY FACILITY OWNERS. NFE IS NOT RESPONSIBLE FOR BURIED UTILITIES FOR WHICH PLANS WERE NOT FURNISHED OR CANNOT BE OBSERVED IN THE FIELD.

ALL CONSTRUCTION DOCUMENTS WILL BE UPDATED WHEN THE UTILITY INFORMATION IS PROVIDED BY THE FACILITY OWNER UP UNTIL THE TIME OF SUBMITTAL. ONCE THE PLANS HAVE BEEN SUBMITTED AND APPROVED IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN A MISS DIG TICKET PRIOR TO COMMENCING ANY CONSTRUCTION REQUIRING EXCAVATION. CONTRACTOR SHALL IMMEDIATELY NOTIFY NFE OF ANY UTILITIES FLAGGED BY MISS DIG THAT WERE NOT SHOWN ON THE PLANS OR UTILITIES UNCOVERED DURING THEIR WORK.

PAVING LEGEND

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT PAVEMENT

LEGEND

- MANHOLE
- HYDRANT
- GATE VALVE
- MANHOLE
- CATCH BASIN
- UTILITY POLE
- GUY POLE
- GUY WIRE
- C.O.
- MANHOLE
- HYDRANT
- GATE VALVE
- INLET
- C.B.
- MANHOLE
- EXISTING SANITARY SEWER
- SAN. CLEAN OUT
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- EX. R. Y. CATCH BASIN
- EXISTING BURIED CABLES
- OVERHEAD LINES
- LIGHT POLE
- SIGN
- EXISTING GAS MAIN
- PR. SANITARY SEWER
- PR. WATER MAIN
- PR. STORM SEWER
- PR. R. Y. CATCH BASIN
- PROPOSED LIGHT POLE

NF ENGINEERS

CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

SEAL

STATE OF MICHIGAN
PATRICK J. WILLIAMS
ENGINEER
NO. 44351
LICENSED PROFESSIONAL ENGINEER

PROJECT
District Lofts

CLIENT
Kelly Building & Development
2051 Villa
Suite 106
Birmingham, MI 48009

Contact: John Kelly
Ph: (248) 258-6663

PROJECT LOCATION
Part of the Northeast 1/4 of Section 31
T. 2 North, R. 11 East
City of Birmingham, Oakland County, Michigan

SHEET
Dimensional Site Plan

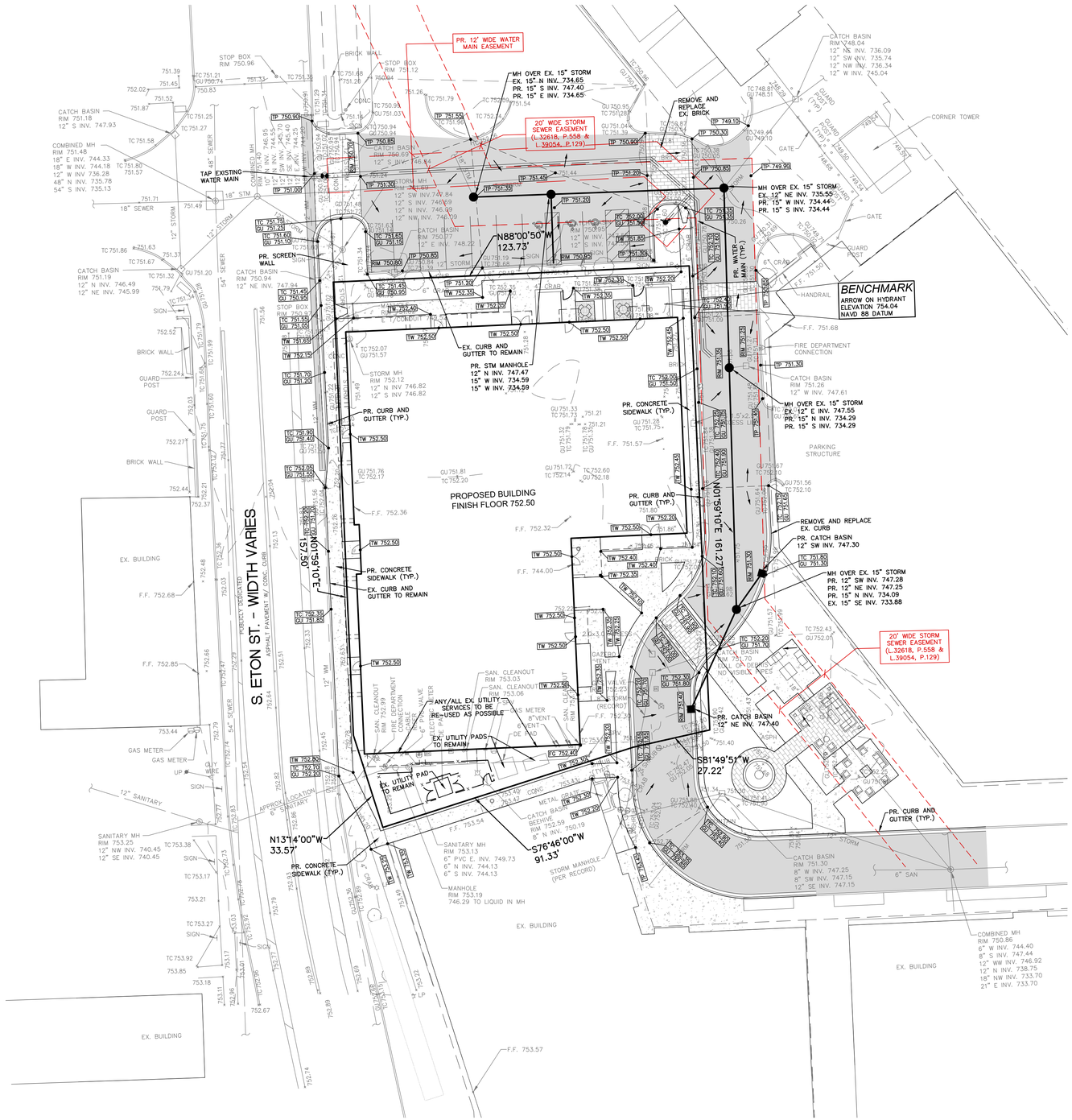
811 Know what's below Call before you dig.

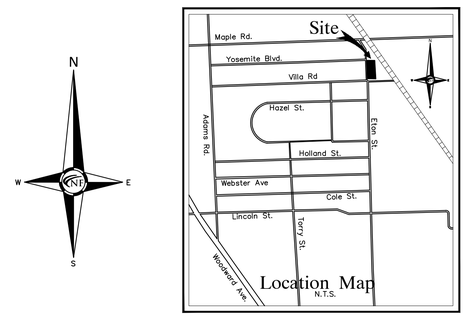
DATE	ISSUED/REVISED
06-30-21	PRELIMINARY SITE PLAN APPROVAL

DRAWN BY: A. Eizember
DESIGNED BY: A. Eizember
APPROVED BY: P. Williams
DATE: June 30, 2021
SCALE: 1" = 20'

20 10 0 10 20 30

NFE JOB NO. **E103-02**
SHEET NO. **SP-3**





NF ENGINEERS

CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

GENERAL PAVING NOTES

PAVEMENT SHALL BE OF THE TYPE, THICKNESS AND CROSS SECTION AS INDICATED ON THE PLANS AND AS FOLLOWS:

CONCRETE: PORTLAND CEMENT TYPE IA (AIR-ENTRAINED) WITH A MINIMUM CEMENT CONTENT OF SIX SACKS PER CUBIC YARD, MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND A SLUMP OF 1 1/2 TO 3 INCHES.

ASPHALT: BASE COURSE – MDOT BITUMINOUS MIXTURE NO. 1100L, 20AA; SURFACE COURSE – MDOT BITUMINOUS MIXTURE NO. 1100T, 20AA; ASPHALT CEMENT PENETRATION GRADE 85-100, BOND COAT – MDOT SS-1H EMULSION AT 0.10 GALLON PER SQUARE YARD; MAXIMUM 2 INCH LIFT.

PAVEMENT BASE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT. EXISTING SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF THE ENGINEER TO DETERMINE STABILITY.

ALL CONCRETE PAVEMENT, DRIVEWAYS, CURB & GUTTER, ETC., SHALL BE SPRAY CURED WITH WHITE MEMBRANE CURING COMPOUND IMMEDIATELY FOLLOWING FINISHING OPERATION.

ALL CONCRETE PAVEMENT JOINTS SHALL BE FILLED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALING COMPOUND IMMEDIATELY AFTER SAWCUT OPERATION. FEDERAL SPECIFICATION SS-S164.

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION.

ALL TOP OF CURB ELEVATIONS, AS SHOWN ON THE PLANS, ARE CALCULATED FOR A 6" CONCRETE CURB UNLESS OTHERWISE NOTED.

ALL SIDEWALK RAMPS, CONFORMING TO PUBLIC ACT NO. 8, 1993, SHALL BE INSTALLED AS INDICATED ON THE PLANS.

CONSTRUCTION OF A NEW OR RECONSTRUCTED DRIVE APPROACH CONNECTING TO AN EXISTING STATE OR COUNTY ROADWAY SHALL BE ALLOWED ONLY AFTER AN APPROVED PERMIT HAS BEEN SECURED FROM THE AGENCY HAVING JURISDICTION OVER SAID ROADWAY.

FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL PAY FOR AND SECURE ALL NECESSARY PERMITS AND LIKEWISE ARRANGE FOR ALL INSPECTION.

EXISTING TOPSOIL, VEGETATION AND ORGANIC MATERIALS SHALL BE STRIPPED AND REMOVED FROM PROPOSED PAVEMENT AREA PRIOR TO PLACEMENT OF BASE MATERIALS.

EXPANSION JOINTS SHOULD BE INSTALLED AT THE END OF ALL INTERSECTION RADII.

SIDEWALK RAMPS, CONFORMING TO PUBLIC ACT NO. 8, 1973, SHALL BE INSTALLED AS SHOWN AT ALL STREET INTERSECTIONS AND AT ALL BARRIER FREE PARKING AREAS AS INDICATED ON THE PLANS.

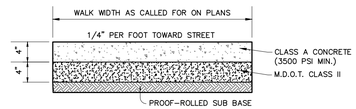
ALL PAVEMENT AREAS SHALL BE PROOF-ROLLED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF BASE MATERIALS AND PAVING MATERIALS.

FILL AREAS SHALL BE MACHINE COMPACTED IN UNIFORM LIFTS NOT EXCEEDING 9 INCHES THICK TO 98% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT.

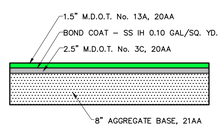
COVID-19 PANDEMIC CONDITION

DUE TO THE UNPRECEDENTED COVID-19 PANDEMIC CONDITION AND RESTRICTIONS THE STANDARD DATA WHICH IS OBTAINED FROM MISS DIG / CALL 811 HAS BEEN RESTRICTED TO CRITICAL INFRASTRUCTURE ONLY. NFE WILL MAKE EVERY EFFORT TO OBTAIN CURRENT REFERENCE DATA FROM THE GOVERNING AGENCIES; HOWEVER, THIS DATA MAY BE PARTIAL OR INCOMPLETE. NFE WILL ISSUE THIS SURVEY WITH THE BEST AVAILABLE INFORMATION FROM OUR FIELD SURVEY AND OTHER AVAILABLE REFERENCE DATA. NFE WILL NOT BE RESPONSIBLE FOR INCOMPLETE OR PARTIAL DATA PROVIDED BY THIRD PARTY FACILITY OWNERS. NFE IS NOT RESPONSIBLE FOR BURIED UTILITIES FOR WHICH PLANS WERE NOT FURNISHED OR CANNOT BE OBSERVED IN THE FIELD.

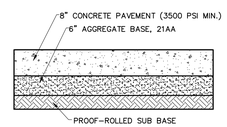
ALL CONSTRUCTION DOCUMENTS WILL BE UPDATED WHEN THE UTILITY INFORMATION IS PROVIDED BY THE FACILITY OWNER UP UNTIL THE TIME OF SUBMITTAL. ONCE THE PLANS HAVE BEEN SUBMITTED AND APPROVED IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN A MISS DIG TICKET PRIOR TO COMMENCING ANY CONSTRUCTION REQUIRING EXCAVATION. CONTRACTOR SHALL IMMEDIATELY NOTIFY NFE OF ANY UTILITIES FLAGGED BY MISS DIG THAT WERE NOT SHOWN ON THE PLANS OR UTILITIES UNCOVERED DURING THEIR WORK.



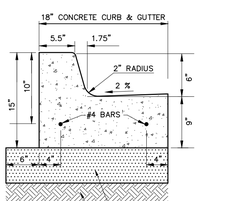
CONCRETE SIDEWALK SECTION
N.T.S.



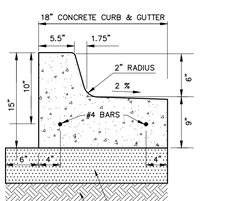
ASPHALT PAVEMENT SECTION
(DRIVE AND PARKING)



CONCRETE PAVEMENT SECTION
N.T.S.



CONCRETE CURB DETAIL 'A'
N.T.S.



CONCRETE CURB DETAIL 'B'
N.T.S.

PAVING LEGEND

PROPOSED CONCRETE PAVEMENT

PROPOSED ASPHALT PAVEMENT

LEGEND

- MANHOLE — EXISTING SANITARY SEWER
- SAN. CLEAN OUT
- HYDRANT, GATE VALVE — EXISTING WATERMAIN
- MANHOLE, CATCH BASIN — EXISTING STORM SEWER
- EX. R. Y. CATCH BASIN
- UTILITY POLE, GUY POLE — EXISTING BURIED CABLES
- GUY WIRE — OVERHEAD LINES
- LIGHT POLE
- SIGN
- EXISTING GAS MAIN
- C.O., MANHOLE — PR. SANITARY SEWER
- HYDRANT, GATE VALVE — PR. WATER MAIN
- INLET, C.B., MANHOLE — PR. STORM SEWER
- PR. R. Y. CATCH BASIN
- PROPOSED LIGHT POLE
- TC 600.00 — PR. TOP OF CURB ELEVATION
- GU 600.00 — PR. GUTTER ELEVATION
- TW 600.00 — PR. TOP OF WALK ELEVATION
- TP 600.00 — PR. TOP OF PVMT. ELEVATION
- FG 600.00 — FINISH GRADE ELEVATION

SEAL

STATE OF MICHIGAN
PATRICK J. WILLIAMS
ENGINEER
NO. 44351
REGISTERED PROFESSIONAL ENGINEER

PROJECT
District Lofts

CLIENT
Kelly Building & Development
2051 Villa
Suite 106
Birmingham, MI 48009

Contact: John Kelly
Ph: (248) 258-6663

PROJECT LOCATION
Part of the Northeast 1/4 of Section 31
T. 2 North, R. 11 East
City of Birmingham,
Oakland County, Michigan

SHEET
Engineering Site Plan

811 Know what's below Call before you dig.

DATE	ISSUED/REVISED
06-30-21	PRELIMINARY SITE PLAN APPROVAL

DRAWN BY: A. Eizember
DESIGNED BY: A. Eizember
APPROVED BY: P. Williams
DATE: June 30, 2021
SCALE: 1" = 20'
20 10 0 10 20 30

NFE JOB NO. E103-02
SHEET NO. SP-4

EXISTING YEWS TO BE RETAINED (TYP.)
EXISTING TREES TO BE RETAINED (TYP.)
DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS
SMALL FLOWERING SHRUBS
LITTLE QUICK FIRE HYDRANGEA

EXISTING
PARKING DECK

S 88°31'04" E (R)
245.16' (R)

LAWN
FIREPIT
PERGOLA
GRILL
FOUNTAIN
LAWN
LAWN

EXISTING
VILLA BUILDING

DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS
DECIDUOUS CANOPY TREES
PRESIDENTIAL GOLD GINGKO
CLIPPED EVERGREEN MASS
DENSE YEW

ORNAMENTAL PAVING
CONC. UNIT PAVERS

INGRADE TREE UPLIGHT
8 TOTAL
SMALL FLOWERING SHRUBS
BOBO HYDRANGEA
CLIPPED EVERGREEN HEDGE
HATFIELD YEW
SMALL CLIPPED EVERGREEN HEDGE
GREEN VELVET BOXWOOD
LIGHTPOLE
5 TOTAL
EVERGREEN GROUNDCOVER
GREEN CARPET PACHYSANDRA

ORNAMENTAL PAVING
CONCRETE UNIT PAVERS
16" CONCRETE BAND (TYP.)

ORNAMENTAL PAVING
CONCRETE UNIT PAVERS
16" CONCRETE BAND (TYP.)

S 88°26'51" E (R)
245.03' (R)

LAWN

CLIPPED EVERGREEN HEDGE
DENSE YEW

GATE

1,072 sq. ft.

EVERGREEN GROUNDCOVER
GREEN CARPET PACHYSANDRA
SMALL FLOWERING SHRUBS
BOBO HYDRANGEA
EVERGREEN SCREEN HEDGE
EMERALD GREEN ARBORVITAE

GATE

904 sq. ft.

LARGE FLOWERING SHRUB
PINKY WINKY HYDRANGEA

Community
Room

DWARF FLOWERING TREES
TREEFORM HYDRANGEA
CLIPPED EVERGREEN MASS
DENSE YEW

Fitness
Room

Stair B.1

Residential
Lobby

Elevator

Stair A.1

598 sq. ft.

688 sq. ft.

708 sq. ft.

Delivery
Corridor

Janitor's
Closet

Packages &
Mail
10'-11" x 27'-8"

Leasing
Office
10'-11" x
8'-0"

EXISTING TREE TO BE RETAINED (TYP.)

ORNAMENTAL GRASSES
SHENANDOAH SWITCH GRASS
CLIPPED EVERGREEN MASS
DENSE YEW
DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS
DWARF FLOWERING TREES
TREEFORM HYDRANGEA

Office /
Retail

PROPOSED
ETON BUILDING

ORNAMENTAL GRASSES
HAMELN FOUNTAIN GRASS
CLIPPED EVERGREEN MASS
DENSE YEW
SMALL FLOWERING SHRUBS
LITTLE LIME HYDRANGEA
DECIDUOUS CANOPY TREES
PRESIDENTIAL GOLD GINGKO
LARGE FLOWERING SHRUBS
KOREANSPICE VIBURNUM

EXISTING
375 BUILDING

GATE

CLIPPED EVERGREEN HEDGE
HATFIELD YEW
EVERGREEN SCREEN HEDGE
EMERALD GREEN ARBORVITAE
LARGE FLOWERING SHRUBS
KOREANSPICE VIBURNUM
SMALL FLOWERING SHRUBS
LITTLE QUICK FIRE HYDRANGEA
CLIPPED EVERGREEN HEDGE
HATFIELD YEW

DECIDUOUS CANOPY TREE
PRESIDENTIAL GOLD GINGKO
CLIPPED EVERGREEN HEDGE
DENSE YEW
MAINTENANCE EDGE
12" WD. CRUSHED STONE

DOG RUN
SYNTHETIC
TURF

LAWN

DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS

EXISTING PLANTINGS TO BE RETAINED (TYP.)

E T O N S T R E E T

LANDSCAPE
ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410
F 248 644 0819

info@mjdul.com

The District Lofts
PHASE 3

Eton Street
Birmingham, Michigan 48009

PROJECT

PRELIMINARY

Landscape Development

LANDSCAPE PLAN

SHEET TITLE

STATE OF MICHIGAN
MICHAEL J. DUL
LANDSCAPE ARCHITECT
NO. 781
REGISTERED LANDSCAPE ARCHITECT

1"=10'-0"

NORTH

SCALE

PROJECT NUMBER:	21106
DRAWN:	P. Funke
CHECKED:	M. Dul
DATE:	February 15, 2021
REVISIONS:	February 17, 2021
	February 23, 2021
	February 24, 2021
	March 18, 2021
	June 3, 2021
	June 4, 2021
	June 7, 2021
	June 11, 2021
	June 30, 2021 Preliminary Site Plan Approval

L1

EXISTING YEWS TO BE RETAINED (TYP.)
EXISTING TREES TO BE RETAINED (TYP.)
DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS
SMALL FLOWERING SHRUBS
LITTLE QUICK FIRE HYDRANGEA

EXISTING
PARKING DECK

S 88°30'41" E(R)
245.16'(R)

ORNAMENTAL PAVING
CONCRETE UNIT PAVERS
16" CONCRETE BAND (TYP.)

S 88°26'57" E(R) 248.03'(R)

LAWN
PERGOLA
FIREPIT
GRILL
FOUNTAIN
LAWN
LAWN

ORNAMENTAL PAVING
CONC. UNIT PAVERS

EXISTING
VILLA BUILDING

DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS
DECIDUOUS CANOPY TREES
PRESIDENTIAL GOLD GINGKO
CLIPPED EVERGREEN MASS
DENSE YEW

INGRADE TREE UPLIGHT
8 TOTAL
SMALL FLOWERING SHRUBS
BOBO HYDRANGEA
CLIPPED EVERGREEN HEDGE
HATFIELD YEW
SMALL CLIPPED EVERGREEN HEDGE
GREEN VELVET BOXWOOD
LIGHTPOLE
5 TOTAL
EVERGREEN GROUNDCOVER
GREEN CARPET PACHYSANDRA

N 82°53'10" E 110.14'

LAWN

CLIPPED EVERGREEN HEDGE
DENSE YEW
GATE
EVERGREEN GROUNDCOVER
GREEN CARPET PACHYSANDRA
SMALL FLOWERING SHRUBS
BOBO HYDRANGEA
EVERGREEN SCREEN HEDGE
EMERALD GREEN ARBORVITAE
GATE
LARGE FLOWERING SHRUB
PINKY WINKY HYDRANGEA

S 88°20'50" E 42.99'

DWARF FLOWERING TREES
TREEFORM HYDRANGEA
CLIPPED EVERGREEN MASS
DENSE YEW

ORNAMENTAL PAVING
CONCRETE UNIT PAVERS
16" CONCRETE BAND (TYP.)

N 01°39'10" E 19.08'

Elevator
up
down

EXISTING TREE TO BE RETAINED (TYP.)
ORNAMENTAL GRASSES
SHENANDOAH SWITCH GRASS
CLIPPED EVERGREEN MASS
DENSE YEW
DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS
DWARF FLOWERING TREES
TREEFORM HYDRANGEA

S 88°20'50" E 80.74'

PROPOSED
ETON BUILDING

ORNAMENTAL GRASSES
HAMELN FOUNTAIN GRASS
CLIPPED EVERGREEN MASS
DENSE YEW
SMALL FLOWERING SHRUBS
LITTLE LIME HYDRANGEA
DECIDUOUS CANOPY TREES
PRESIDENTIAL GOLD GINGKO
LARGE FLOWERING SHRUBS
KOREANSPICE VIBURNUM

EXISTING
375 BUILDING

GATE
CLIPPED EVERGREEN HEDGE
HATFIELD YEW
EVERGREEN SCREEN HEDGE
EMERALD GREEN ARBORVITAE
LARGE FLOWERING SHRUBS
KOREANSPICE VIBURNUM
SMALL FLOWERING SHRUBS
LITTLE QUICK FIRE HYDRANGEA
CLIPPED EVERGREEN HEDGE
HATFIELD YEW

DECIDUOUS CANOPY TREE
PRESIDENTIAL GOLD GINGKO
CLIPPED EVERGREEN HEDGE
DENSE YEW
MAINTENANCE EDGE
12" WD. CRUSHED STONE

DOG RUN
SYNTHETIC TURF

LAWN

DWARF ORNAMENTAL GRASSES
ALL GOLD JAPANESE FOREST GRASS

EXISTING PLANTINGS TO BE RETAINED (TYP.)

E T O N S T R E E T

LANDSCAPE ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410
F 248 644 0819

info@mjdul.com

The District Lofts
PHASE 3

Eton Street
Birmingham, Michigan 48009

PROJECT

PRELIMINARY

Landscape Development

LANDSCAPE PLAN

SHEET TITLE

STATE OF MICHIGAN
MICHAEL J. DUL
LANDSCAPE ARCHITECT
NO. 781
REGISTERED LANDSCAPE ARCHITECT

1"=10'-0"

NORTH

SCALE

PROJECT NUMBER:	21106
DRAWN:	P. Funke
CHECKED:	M. Dul
DATE:	February 15, 2021
REVISIONS:	February 17, 2021 February 23, 2021 February 24, 2021 March 18, 2021 June 3, 2021 June 4, 2021 June 7, 2021 June 11, 2021 June 14, 2021 June 30, 2021 Preliminary Site Plan Approval

L1.1

PLANT & MATERIAL SCHEDULE

Sym.	Qty.	Botanical Name	Common Name	Size	Root	Comments
		Deciduous Trees				
HPL	12	Hydrangea paniculata 'Limelight'-Tree Form	Tree Form Limelight Hydrangea	4-5' Sprd.	B&B	SPECIMENS-Single stem
GBP	10	Gingko biloba 'Presidential Gold'	Presidential Gold Gingko	3-3½" cal.	B&B	SPECIMENS-Full heads
		Evergreen Trees				
TOE	43	Thuja occidentalis 'Emerald Green'	Emerald Green Arborvitae	7-8' ht.	B&B	Space 24" o.c.
		Shrubs				
BGV	59	Buxus x microphylla 'Green Velvet'	Green Velvet Boxwood	15-18"	B&B	Space 12" o.c., acidify soil, clip into hedge
HBB	18	Hydrangea paniculata 'BoBo'	BoBo Hydrangea	18-24"	Can	Min. 3 gal., space 36" o.c., acidify soil
HLL	5	Hydrangea paniculata 'Little Lime'	BoBo Hydrangea	18-24"	Can	Min. 3 gal., space 36" o.c., acidify soil
HLQ	15	Hydrangea paniculata 'Little Quick Fire'	Little Quick Fire Hydrangea	18-24"	Can	
HPW	2	Hydrangea paniculata 'Pinky Winky'	Pinky Winky Hydrangea	30-36"	Can	Min. 5 gal., space 60" o.c., acidify soil
TMD	342	Taxus x media 'Denisformis'	Dense Yew	24-30"	B&B	Space 20" & 24" o.c., clip into hedge
TMH	27	Taxus x media 'Hatfield' or 'Moon'	Hatfield or Moon Yew	30-36"	B&B	Space 18" o.c., clip into hedge
VCC	12	Viburnum carlesi 'Cayuga'	Cayuga Koreanspice Viburnum	30-36"	B&B	Space 60" o.c., acidify soil
		Perennials/Groundcovers				
HMA	230	Hakonechloa macra 'All Gold'	All Gold Japanese Forest Grass	1 gal.	Can	Space 15" o.c.
PTG	210	Pachysandra termanlis 'Green Carpet'	Green Carpet Pachysandra	1 gal.	Can	Space 12" o.c., acidify soil
PAH	29	Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass	1 gal.	Can	Space 24" o.c.
PVS	48	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	1 gal.	Can	Space 30" o.c.
		Materials				
CS	7 cy	½-¾" dia. Washed Crushed Natural Stone (9A)-6" deep on 4 oz. non-woven filter fabric				
RE	500 lf	3/16" x 4" J.D. Russell Steel Edging (BLACK)-Install per manufacturer's specifications				
SB	56 cy	Shredded hardwood bark mulch (seasoned, dark brown), 3" deep in perennial and groundcover beds, 4" depth in shrub/tree beds.				
PM	113 cy	Planting mix - 3 parts well drained screened imported topsoil, to 1 part clean sand, to 1 part Canadian sphagnum peat moss, to 1 part natural compost (weed-free), and 10% poultry manure, install 9" deep in all specified landscape beds				
SOD	240 sy	Fine grade, fertilize (min. 1 application), and sod (Class 'A' Blended Bluegrass Sod) on a min. 3" imported screened topsoil				
SYN	385 sf	Synthetic Pet Turf, on min. 6" compactes 21AA limestone, 1" stone dust setting bed, and ZeoFill pet turf infill				

LANDSCAPE DEVELOPMENT NOTES

1.) ALL EXISTING AND/OR PROPOSED SITE UTILITIES SHALL BE FIELD LOCATED, FLAGGED, AND VERIFIED PRIOR TO ANY LANDSCAPE OR IRRIGATION CONSTRUCTION.

2.) ALL SPECIFIED AND INSTALLED PLANT MATERIAL SHALL BE IN FULL AND STRICT ACCORDANCE WITH AMERICAN NURSERYMAN STANDARDS (LATEST EDITION) AND BE:

- A.) NURSERY GROWN.
- B.) STATE DEPARTMENT OF AGRICULTURE INSPECTED AND APPROVED.
- C.) NO. 1 GRADE WITH STRAIGHT, UNSCARRED TRUNKS & WELL-DEVELOPED UNIFORM CROWNS ON TREES.
- D.) WARRANTED FOR A MIN. 1 YEAR FROM DATE OF ACCEPTANCE

3.) SPECIFIED PLANTING SOIL MIXTURE FOR ALL SPECIFIED BEDS & PLANTS SHALL BE THREE (3) PARTS IMPORTED WELL-DRAINED, SCREENED ORGANIC TOPSOIL, TO ONE (1) PART IMPORTED CLEAN SAND, TO ONE (1) PART CANADIAN SPHAGNUM PEAT MOSS, TO ONE (1) PART NATURAL COMPOST (WEED-FREE)-COMPLETE WITH 10% NATURAL POULTRY MANURE. INSTALL 9" MINIMUM DEPTH IN ALL PERENNIAL, GROUNDCOVER, ANNUAL, AND SHRUB BEDS. ALL BEDS MUST BE EXCAVATED, REMOVE AND DISPOSE (OFF-SITE) EXISTING EARTH/SOIL TO ACCEPT PROPOSED PLANT MIXTURE.

4.) PROPOSED SHREDDED HARDWOOD BARK MULCH SHALL BE SEASONED FOR A MINIMUM 6 MONTHS, DARK BROWN IN COLOR, AND INSTALLED 4" DEEP UNDER ALL PROPOSED TREES (INCLUDED IN UNIT COST), 4" DEEP IN ALL SHRUB AND TREE BEDS, AND 3" DEEP IN ALL PERENNIAL AND GROUNDCOVER BEDS.

5.) ALL PROPOSED LAWN AND LANDSCAPE AREAS SHALL BE WATERED BY AN AUTOMATICALLY OPERATED SPRINKLER IRRIGATION SYSTEM, SEE IRRIGATION PLAN(S).

6.) ALL PROPOSED "SPECIMEN" PLANT MATERIAL MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION AND/OR DELIVERY TO THE SITE.

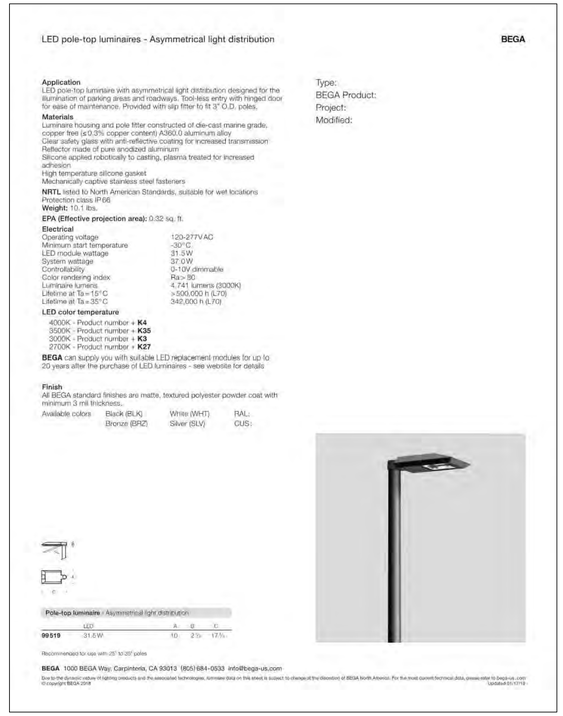
7.) THE LANDSCAPE CONTRACTOR SHALL KEEP THE STREET AND DRIVE CLEAN AND FREE OF DIRT AND DEBRIS AT ALL TIMES, AND SHALL THOROUGHLY SWEEP AND/OR WASH THE DRIVE AT THE END OF EACH WORK DAY.

8.) THE LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATION OF ALL PROPOSED TREES FOR THE LANDSCAPE ARCHITECT TO APPROVE PRIOR TO PLANTING. THE LANDSCAPE CONTRACTOR SHALL ALSO SET ON-SITE ALL SHRUBS, PERENNIALS, ORNAMENTAL GRASSES, VINES, AND GROUNDCOVERS AS PER PLAN FOR THE LANDSCAPE ARCHITECT TO APPROVE PRIOR TO PLANTING.

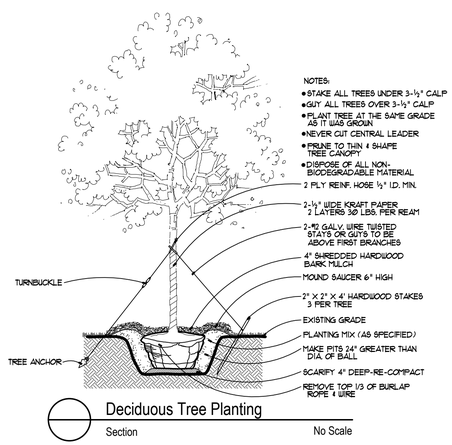
9.) ALL DEAD AND UNACCEPTABLE PLANT MATERIALS SHALL BE REPLACED BY THE LANDSCAPE CONTRACTOR DURING THE WARRANTY PERIOD. THE WARRANTY PERIOD SHALL BE ONE (1) YEAR FROM THE ACCEPTANCE OF INSTALLATION ISSUED BY THE LANDSCAPE ARCHITECT.

10.) PROPOSED SOD LAWN AREAS: FINE GRADE EXISTING TOPSOIL, REMOVE AND DISPOSE (OFF-SITE) EXISTING ROOTS, ROCKS, AND DEBRIS, INCLUDE IMPORTING A MIN. 3" (AVE.) IMPORTED SCREENED TOPSOIL TO FINE GRADE ALL AREAS
FERTILIZE-MIN. 1 APPLICATION: STARTER FERTILIZER (13-26-12) WITH 50% SLOW RELEASE NITROGEN AT INITIAL INSTALLATION OF SOD RATE OF 5 LBS. PER 1,000 SF. OR 218 LBS. PER ACRE

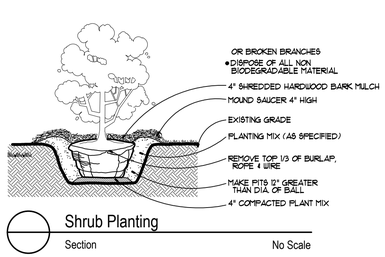
INGRADE TREE UPLIGHTS
Specification — No Scale



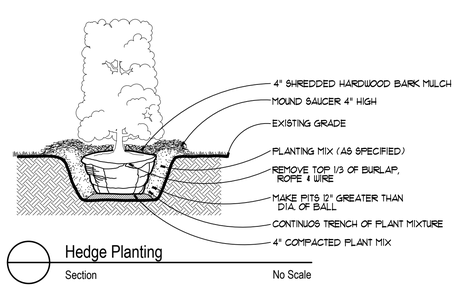
LIGHT POLES
Specification — No Scale



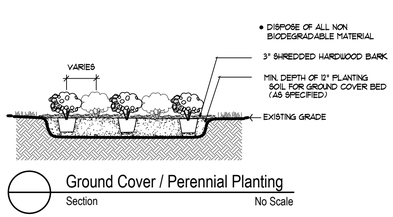
Deciduous Tree Planting
Section — No Scale



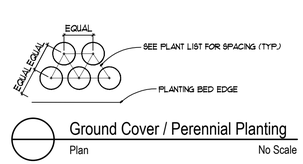
Shrub Planting
Section — No Scale



Hedge Planting
Section — No Scale



Ground Cover / Perennial Planting
Section — No Scale



Ground Cover / Perennial Planting
Plan — No Scale

LANDSCAPE ARCHITECTURE

MICHAEL J. DUL
& ASSOCIATES, INC

212 DAINES STREET
BIRMINGHAM
MICHIGAN 48009

P 248 644 3410
F 248 644 0819

info @ mjdul.com

The District Lofts
PHASE 3

Eton Street
Birmingham, Michigan 48009

PROJECT

PRELIMINARY

Landscape Development

LANDSCAPE DETAILS

SHEET TITLE

STATE OF MICHIGAN
MICHAEL J. DUL
LANDSCAPE ARCHITECT
NO. 781
REGISTERED LANDSCAPE ARCHITECT

See Details

SCALE

PROJECT NUMBER:	21106
DRAWN:	P. Funke
CHECKED:	M. Dul
DATE:	February 17, 2021
REVISIONS:	February 18, 2021
	February 23, 2021
	February 24, 2021
	March 18, 2021
	June 3, 2021
	June 4, 2021
	June 7, 2021
	June 11, 2021
	June 30, 2021 Preliminary Site Plan Approval

L2

District Lofts - Phase 3 - Parking Calculations:

Parking Required:

Existing Big Rock Chop House	**148**
11,051 SF / 75 = 147.3	
The Villa Building -	
Office (8,000 / 300) = 26.7	27
(7) 1-BR Units (x 1.0) = 7	7
(12) 2-BR Units (x 1.25) = 15	15
Total Villa Building Required:	**49**
The Eton Building -	
Office (10,400 / 300) = 34.7	35
(7) 1-BR Units (x 1.0) = 7	7
(11) 2-BR Units (x 1.25) = 13.75	14
Total Eton Building Required:	**56**
Phase 3 Building -	
Office/Retail (6,600 / 300) = 22	22
(47) 1-BR Units (x 1.0) = 47	47
(3) 2-BR Units (x 1.25) = 3.75	4
Total Phase 3 Required:	**73**
Total Parking Required:	**326**

Parking Provided:

Existing Parking Deck	262
Spaces below Villa and Eton	102
Surface	30
Big Rock Surface	21
Total Parking Provided:	**415**

Excess Parking Provided: **89**

District Lofts - Phase 3 - Lot Area Calculations:

Total Site Area: **143,593 SF**

The Villa Building: = 19 Units Total:

7 One Bedroom Units x 1,500 SF =	10,500 SF
12 Two Bedroom Units x 2,000 SF =	24,000 SF
	34,500 SF required

The Eton Building: = 18 Units Total:

7 One Bedroom Units x 1,500 SF =	10,500 SF
11 Two Bedroom Units x 2,000 SF =	22,000 SF
	32,500 SF required

Phase 3 Building: = 50 Units Total:

47 One Bedroom Units x 1,500 SF =	70,500 SF
3 Two Bedroom Units x 2,000 SF =	6,000 SF
	76,500 SF required

Total = 143,500 SF required

Existing Site Area: 143,593 SF
Required Site Area: 143,500 SF therefore OK

Floor Area Ratio:

Proposed Total Floor Area: 160,712 SF
100% Max. Total Floor Area: 143,593 SF
150% Max. Total Floor Area: 215,390 SF

1 Parking Space Required for every 300 S.F. over 100% FAR

Floor Area over 100%: 17,119 SF
160,712 SF - 143,593 SF = 17,119 SF

Required Parking for Additional FAR: 57
17,119 SF / 300 SF = 57 Spaces

Excess Parking Provided: 32
89 - 57 = 32 Spaces

H10 / A005 Overall Architectural Site Plan
SCALE: 1" = 20.0'

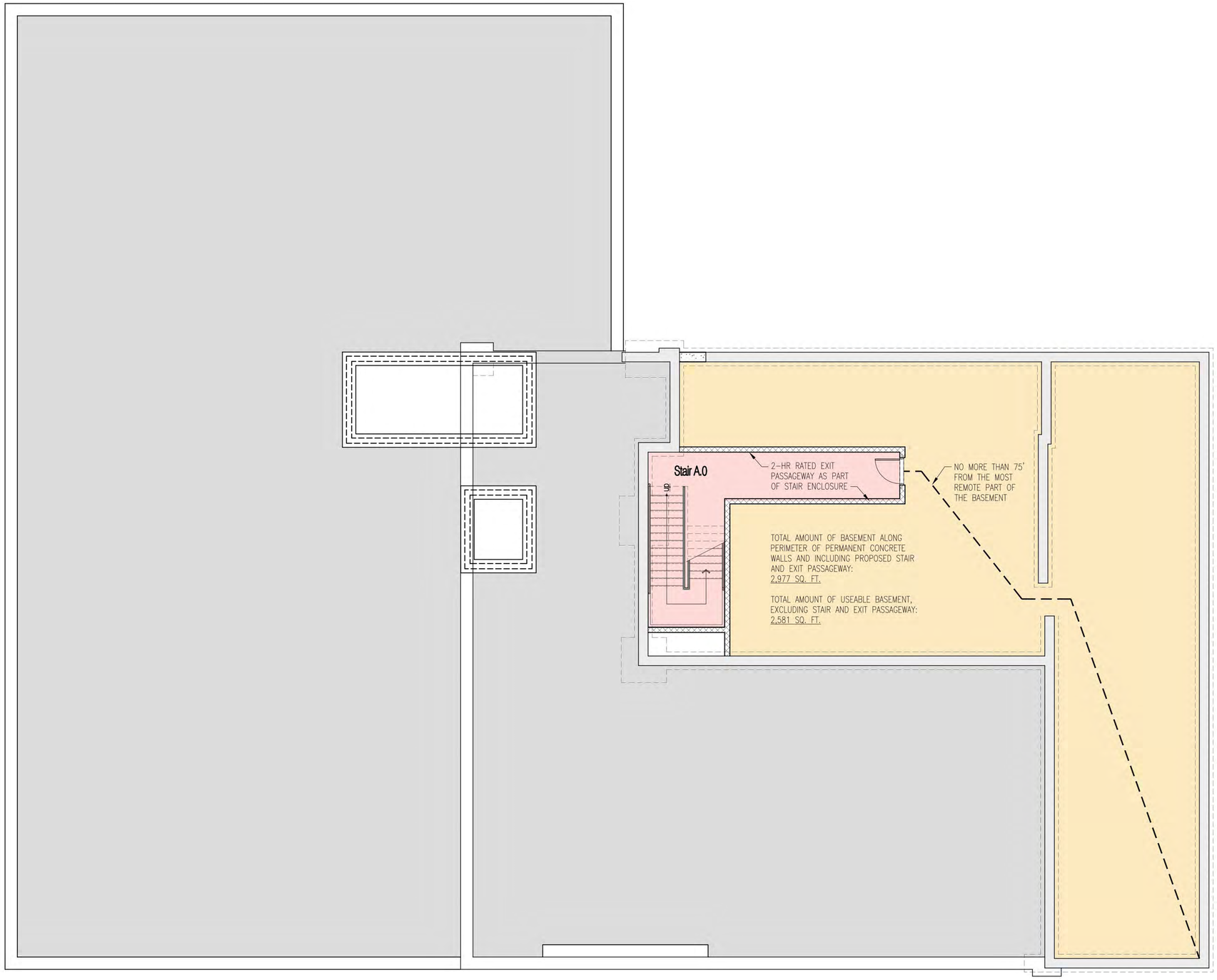
NORTH

SAROKI ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

Project:
The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-06-30	PRELIMINARY SITE PLAN APPROVAL

Sheet No.:
A005
OVERALL ARCHITECTURAL SITE PLAN



H10 / A100 Lower Level Floor Plan
SCALE: 3/16" = 1'-0"

NORTH

0 5' 10' 20'

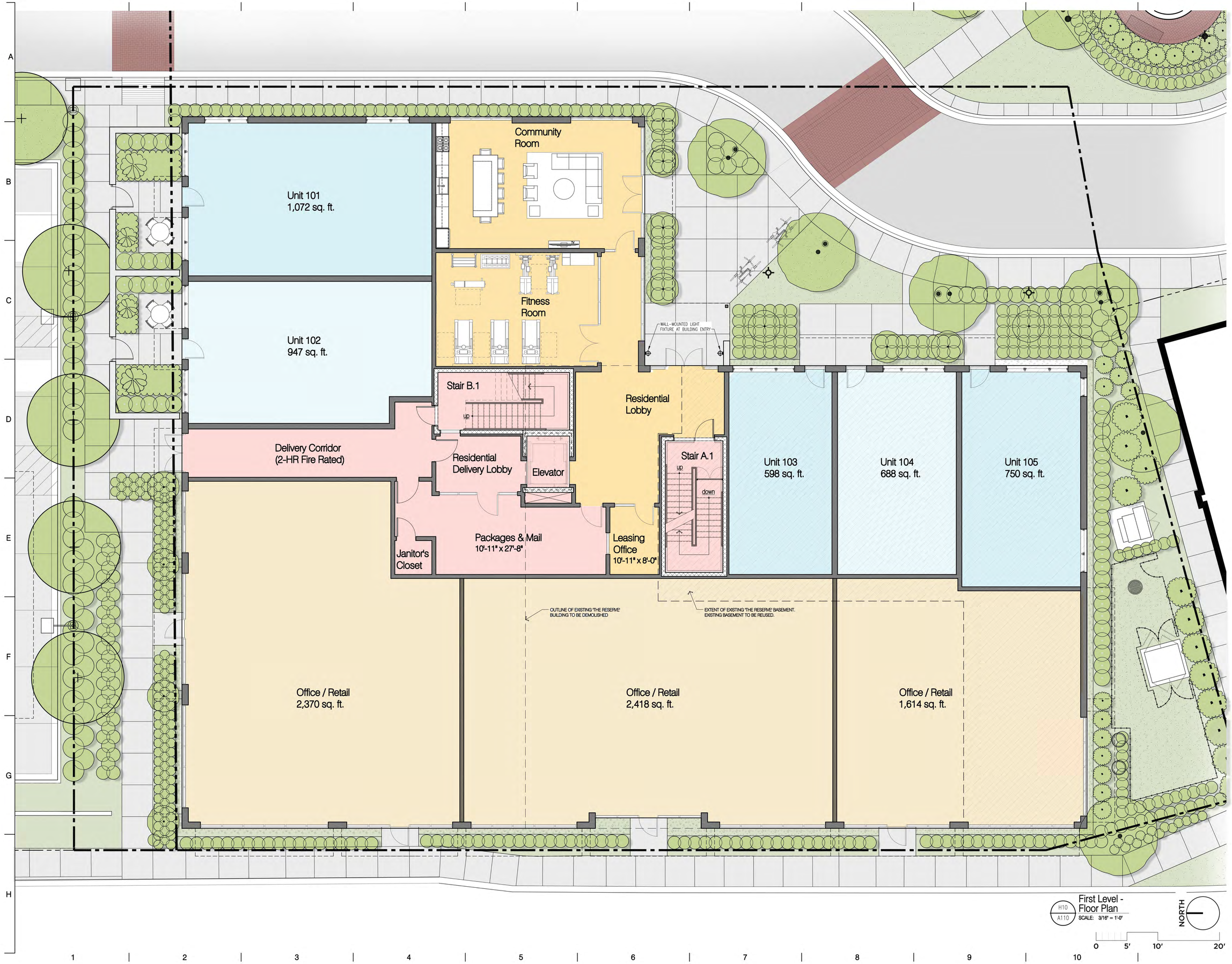
SAROKI ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

Project:
The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-06-30	PRELIMINARY SITE PLAN APPROVAL

Sheet No.:
A100

LOWER LEVEL - FLOOR PLAN



H10 / A110 First Level - Floor Plan
SCALE: 3/16" = 1'-0"

NORTH

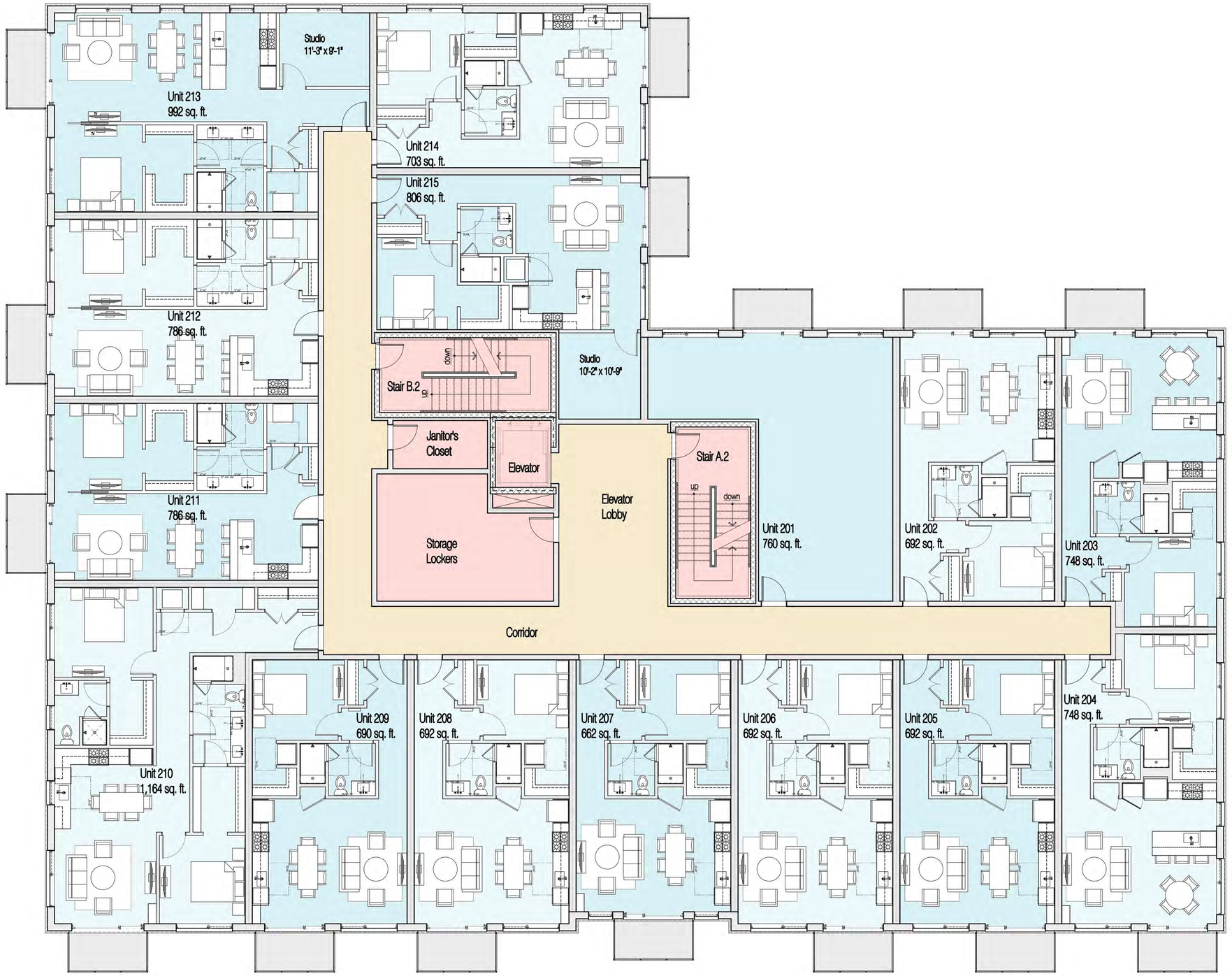
0 5' 10' 20'

SAROKI ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

Project:
The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-06-30	PRELIMINARY SITE PLAN APPROVAL

Sheet No.:
A110
FIRST LEVEL - FLOOR PLAN



H10
A120

Second thru Fourth Levels - Floor Plan

SCALE: 3/16" = 1'-0"

NORTH

0 5' 10' 20'

SAROKI
ARCHITECTURE

430 N. OLD WOODWARD
BIRMINGHAM, MI 48009

P. 248.258.5707
F. 248.258.5515

SarokiArchitecture.com

Project:

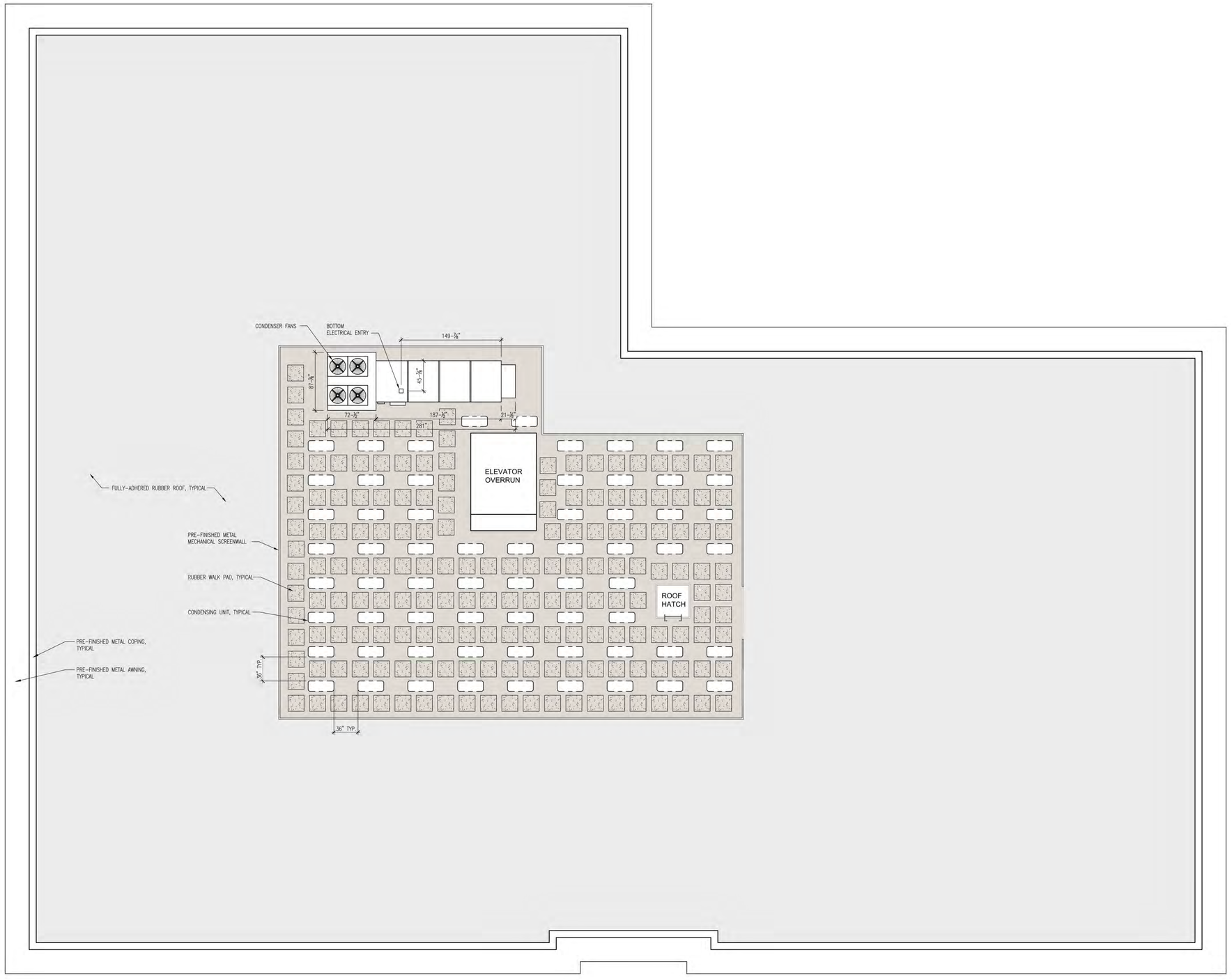
The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-06-30	PRELIMINARY SITE PLAN APPROVAL

Sheet No.:

A120

SECOND THRU FOURTH LEVELS - FLOOR PLAN



H10 / A150 Roof Plan
SCALE: 3/16" = 1'-0"

NORTH

0 5' 10' 20'

SAROKI ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

Project:
The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-06-30	PRELIMINARY SITE PLAN APPROVAL

Sheet No.:
A150
ROOF PLAN

H10 / A200 North Elevation

SCALE: 3/16" = 1'-0"

0 5' 10' 20'

SAROKI ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

Project:

The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-06-30	PRELIMINARY SITE PLAN APPROVAL

Sheet No.:

A200

NORTH ELEVATION

H10 / A210 West Elevation

SCALE: 3/16" = 1'-0"

0 5' 10' 20'

SAROKI ARCHITECTURE

430 N. OLD WOODWARD
BIRMINGHAM, MI 48009

P. 248.258.5707
F. 248.258.5515

SarokiArchitecture.com

Project:

The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-02-15	REVIEW MEETING
2021-02-22	REVIEW MEETING
2021-03-01	REVIEW MEETING
2021-03-05	UPDATE
2021-03-10	UPDATE
2021-03-16	UPDATE
2021-03-29	TEAM MEETING
2021-04-05	UPDATED
2021-06-21	UPDATED

Sheet No.:

A210

WEST ELEVATION
(ETON STREET)

H10 / A220 South Elevation

SCALE: 3/16" = 1'-0"

0 5' 10' 20'

SAROKI ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

Project:

The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-02-15	REVIEW MEETING
2021-02-22	REVIEW MEETING
2021-03-01	REVIEW MEETING
2021-03-05	UPDATE
2021-03-10	UPDATE
2021-03-16	UPDATE
2021-03-29	TEAM MEETING
2021-04-05	UPDATED
2021-06-21	UPDATED

Sheet No.:

A220

SOUTH ELEVATION

H10 / A230 East Elevation

SCALE: 3/16" = 1'-0"

0 5' 10' 20'

SAROKI ARCHITECTURE

430 N. OLD WOODWARD
BIRMINGHAM, MI 48009

P. 248.258.5707
F. 248.258.5515

SarokiArchitecture.com

Project:

The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

Date:	Issued For:
2021-02-15	REVIEW MEETING
2021-02-22	REVIEW MEETING
2021-03-01	REVIEW MEETING
2021-03-05	UPDATE
2021-03-10	UPDATE
2021-03-16	UPDATE
2021-03-29	TEAM MEETING
2021-04-05	UPDATED
2021-06-21	UPDATED

Sheet No.:

A230

EAST ELEVATION

Drive-over in-ground floodlights - STAINLESS STEEL
for installation in pre-cored holes

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:

Enclosure: Heavy gauge stainless steel. Provided with two external clamps that secure the luminaire in a pre-cored hole prepared by the customer.

Trim Ring: Heavy gauge, machined stainless steel secured to the inner housing with captive, stainless steel fasteners. Trim is sealed in place using molded, one piece high temperature silicone gasket. Glass is tempered, ½" thick machined flush to trim ring.

Electrical: 3.0W LED luminaire. 5 total system watts. -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 4000K with an 85 CRI. Available in 3000K (85 CRI); add suffix K3 to order. Inner housing pre-wired with nine (9) feet of 18/3 water stopper cable, cable clamp, and waterproof cable gland entry into housing. A separate weatherproof wiring box for power supply must be provided (by contractor).

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA US. For the most current technical data, please refer to www.bega-us.com.

Finish: Machined #4 brushed stainless steel. Custom colors are not available.

Temperature caution: The column "T" in this chart indicates the temperature in degrees Celsius which is reached on the center of the glass surface during operation. Surface temperatures are for exterior applications. For interior applications add 15° C to temperatures shown.

Note: These luminaires are designed to bear pressure loads up to 4400lbs. from vehicles with pneumatic tires. The luminaires must not be used for traffic lanes where they are subject to torsional pressure from vehicles braking, accelerating and changing direction.

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP68 10m

Weight: 7.5 lbs.

Luminaire Lumens: 126

LG03800 Luminaire - **white** safety glass

Lens					
77814	3.0W LED:	35°	9½	8½	3½

BEGA-US 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (800) 566-9474 www.bega-us.com

©copyright BEGA-US 2016 Updated 2/16

Linear wall luminaire - unshielded

BEGA

Type:
BEGA Product:
Project:
Modified:

Application
An unshielded wall luminaire with light output on all sides. This linear shape of this luminaire with its square profile makes it particularly suitable for installation on columns, walls, and pillars.

Materials
Luminaire housing constructed of die-cast zinc,extruded marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy.
White impact resistant acrylic diffuser
Cast aluminum mounting plate
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP55
Weight: 14.8 lbs

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	18.6W
System wattage	19.6W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	1814 lumens (3000K)
Lifetime at Ta = 15° C	112,000 h (L70)
Lifetime at Ta = 40° C	66,000 h (L70)

LED color temperature
☐ 4000K - Product number = **K4**
☐ 3500K - Product number = **K35**
☐ 3000K - Product number = **K3**
☐ 2700K - Product number = **K27**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires – see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.
Available colors: ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:

Linear wall luminaire - unshielded

	(W)	A	B	C
24 506	18.6W	4 ½	19 ½	7 ½

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com
Due to the location specific nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com
© copyright BEGA 2017 Updated 8/31/17

LED pole-top luminaires – Asymmetrical light distribution

BEGA

Type:
BEGA Product:
Project:
Modified:

Application
LED pole-top luminaire with asymmetrical light distribution designed for the illumination of parking areas and roadways. Tool-less entry with hinged door for ease of maintenance. Provided with slip fitter to fit 3" O.D. poles.

Materials
Luminaire housing and post liner constructed of die-cast marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Clear safety glass with anti-reflective coating for increased transmission
Reflector made of pure anodized aluminum
Silicone applied robotically for casting, plasma treated for increased adhesion
Cast aluminum silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP66
Weight: 16.1 lbs.
EPA (Effective projection area): 0.32 sq. ft.

Electrical

Operating voltage	120-277VAC
Minimum start temperature	-30° C
LED module wattage	31.5W
System wattage	37.2W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	4,741 lumens (5000K)
Lifetime at Ta = 15° C	> 500,000 h (L70)
Lifetime at Ta = 50° C	342,000 h (L70)

LED color temperature
☐ 4000K - Product number = **K4**
☐ 3500K - Product number = **K35**
☐ 3000K - Product number = **K3**
☐ 2700K - Product number = **K27**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires – see website for details

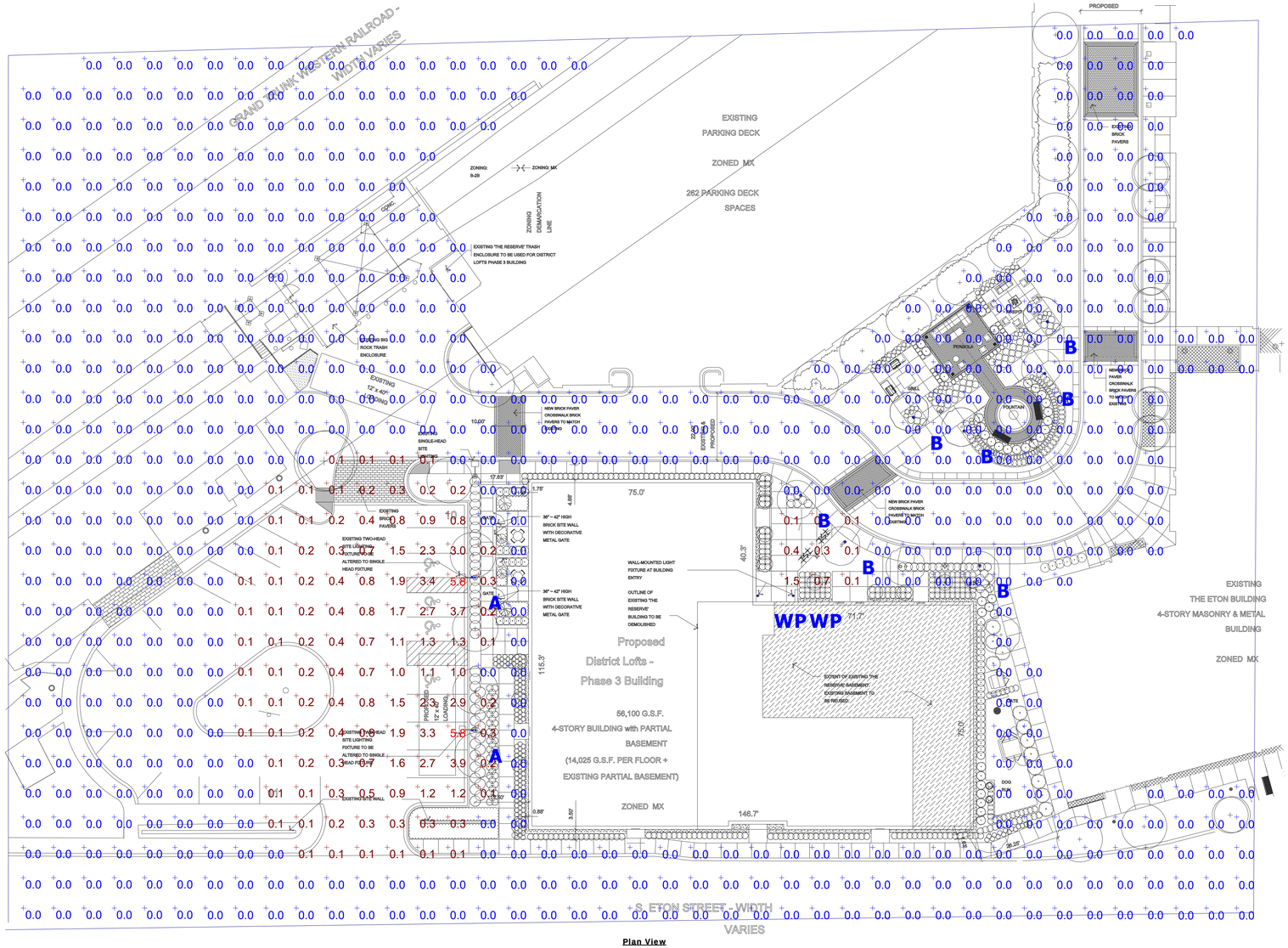
Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.
Available colors: Black (BLK) White (WHT) RAL:
Bronze (BRZ) Silver (SLV) CUS:

Pole-top luminaire - Asymmetrical light distribution

	(W)	A	B	C
99519	31.5W	19"	31½	17½

Recommended mounting height: 12' to 20' (3.6m to 6m)

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com
Due to the location specific nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com
© copyright BEGA 2017 Updated 2017-2018



Plan View
Scale - 1" = 20ft

General Note

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"
3. LIGHTING ALTERNATES REQUIRE NEW PHOTOMETRIC CALCULATION AND RESUBMISSION TO CITY FOR APPROVAL.

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.

FOR ORDERING INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Lumens Per Lamp	Light Loss Factor	Wattage	MH
	WP	2	BEGA Converted by LUMCat V 14.11.2016 / H.R.			24 506 K3	24506_BEGA_IES.ies	1	0.9	22
	A	2	BEGA Converted by LUMCat V 30.08.2016 / M.S.			99 519 K3	99519_BEGA_IES.ies	1	0.9	37
	B	7	BEGA Converted by LUMCat V 02.05.2017 / H.R.			77 814 K4	77814_BEGA_IES.ies	1	0.9	5

Statistics

Description	Symbol	Avg	Max	Min	Max / Min	Avg / Min	Avg / Max
SITE	+	0.1 fc	5.8 fc	0.0 fc	N/A	N/A	0.0:1

THE DISTRICT LOFTS PHASE 3
EXTERIOR PHOTOMETRIC SITE PLAN
PREPARED FOR: SAROKI ARCH
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer nae
Date 06/30/2021
Scale Not to Scale
Drawing No. #21-63997 V1
1 of 1

Community Impact Study

DISTRICT LOFTS – PHASE 3

325 South Eton Street

Birmingham, MI

Prepared By

Saroki Architecture

430 N. Old Woodward Ave.

Birmingham, MI 48009

Owner/Developer

Birmingham Lofts, LLC

2051 Villa Road, Suite 106

Birmingham, MI 48009

DISTRICT LOFTS – PHASE 3

325 South Eton Street

Birmingham, MI

Development Team

Owner/Developer
Birmingham Lofts, LLC
2051 Villa Road, Suite 106
Birmingham, MI 48009
(248) 258-6663

Architect
Saroki Architecture
430 N. Old Woodward Ave
Birmingham MI, 48009
(248) 258-5707

Surveyor & Civil Engineer
Nowak & Fraus Engineers
46777 Woodward Ave.
Pontiac, MI 48342
(248) 332-7931

Landscape Architect
Michael J Dul & Associates, Inc.
212 Danes Street
Birmingham, MI 48009
(248) 644-3410

Environmental Engineer
Consolidated Environmental Services, INC.
830 E. Fourth St, Suite 6
Royal Oak, MI 48067
(248) 540-8437

MEP Engineer
MA Engineering
400 S. Old Woodward, Suite 100
Birmingham, MI 48009
(248) 258-1610

Geotechnical Engineer
(Geotechnical Investigation & Engineering)
McDowell & Associates
21355 Hatcher Avenue
Ferndale, MI 48220
(248) 399-2066

Acoustical Engineer
Kolano and Saha Engineers, Inc.
3559 Sashabaw Road
Waterford, MI 48329
(248) 674-4100

Traffic Engineer
ROWE Professional Services Company
27280 Haggerty Road, Ste. C-2
Farmington Hills, MI 48331
248) 675-1096

Table of Contents

Section 1 CIS Checklist & Zoning Requirements Analysis

Section 2 CIS Checklist Supplemental Information

Section 3 Appendix

3.0 Proof of Ownership

Warranty Deed

3.1 Maps

Location Map

Zoning Map

3.2 Noise Impact Study

3.3 Traffic Impact Study

3.4 Phase I Environmental Site Assessment

3.5 Geotechnical Investigation

3.6 Air Quality Information

3.7 Site Photographs

3.8 Site Logistics

Proposed Haul Routes Map

3.9 Mechanical Equipment Specifications

4.0 Historic Documents

National Register of Historic Places Nomination Form

245 S. Eton Street

Section 1
CIS Checklist & Zoning Requirements Analysis

COMMUNITY IMPACT STUDY CHECKLIST

PLANNING DIVISION

Applicant: JOHN KELLY Case #: _____ Date: 7-2-2021

Address: 325 S. ETON STREET Project: DISTRICT LOFTS - PHASE 3

All Community Impact Studies prepared for approval must contain the following information:

General Information

- [x] 1. Name and address of applicant and proof of ownership;
- [x] 2. Name of Development (if applicable);
- [x] 3. Address of site and legal description of the real estate;
- [x] 4. Name and address of the land surveyor;
- [x] 5. Legend and notes, including a graphic scale, north point, and date;
- [x] 6. A separate location map;
- [x] 7. A map showing the boundary lines of adjacent land and the existing zoning of the area proposed to be developed as well as the adjacent land;
- [x] 8. Details of all proposed site plan changes;

Planning & Zoning Issues

- [x] 9. Recommended land use of the subject property as designated on the Future Land Use Map of the City's Master Plan;
- [x] 10. Goals and objectives of the city's Master Plans that demonstrate the City's support of the proposed development;
- [x] 11. Whether or not the project site is located within an area of the City for which an Urban Design Plan has been adopted by the Planning Board in which special design criteria or other supplemental development requirements apply;
- [x] 12. The current zoning classification of the subject property;
- [x] 13. The zoning classification required for the proposed development;
- [x] 14. The existing land uses adjacent to the proposed project;
- [x] 15. Complete the attached "Zoning Requirements Analysis" chart;

Land Development Issues

- [x] 16. A Survey and Site Drainage Plan;
- [x] 17. Identify any sensitive soils on site that will require stabilization or alteration in order to support the proposed development;
- [x] 18. Whether or not the proposed development will occur on a steep slope, and if so, the measures that will be taken to overcome potential erosion, slope stability and runoff;

☑ 19. The volume of excavated soils to be removed from the site and /or delivered to the site, and a map of the proposed haul routes;

☑ 20. Identify the potential hazards and nuisances that may be created by the proposed development and the suggested methods of mitigating such hazards;

Private Utilities

☑ 21. Indicate the source of all required private utilities to be provided;

☑ 22. Provide verification that all required utility easements have been secured for necessary private utilities;

Noise Levels

☑ 23. Provide a reading of existing ambient noise and estimated future noise levels on the site;

☑ 24. Indicate whether the project will be exposed to or cause noise levels which exceed those levels prescribed in Chapter 50, Division 4, Section 50-71 through 50-77 of the Birmingham City Code, as amended;

☑ 25. Indicate whether the site is appropriate for the proposed activities and facilities given the existing ambient noise and the estimated future noise levels of the site;

Air Quality

☑ 26. Indicate whether the project is located in the vicinity of a monitoring station where air quality violations have been registered and, if so, provide information as to whether the project will increase air quality problems in the area;

☑ 27. Indicate if the nature of the project or its potential users would be particularly sensitive to existing air pollution levels and, if so, indicate how the project has been designed to mitigate possible adverse effects;

☑ 28. Indicate whether the proposal will establish a trend which, if continued, may lead to violation of air quality standards in the future;

☑ 29. Indicate whether the proposed project will have parking facilities for more than 75 cars and indicate percentage of required parking that is proposed;

Environmental Design and Historic Values

☑ 30. Indicate whether there will be demonstrable destruction or physical alteration of the natural or human-made environment on site or in the right-of-way (i.e. clearance of trees, substantial regrading etc.);

☑ 31. Indicate whether there will be an intrusion of elements out of character or scale with the existing physical environment (i.e. significant changes in size, scale of building, floor levels, entrance patterns, height, materials, color or style from that of surrounding developments);

☑ 32. Indicate all elements of the project that are eligible for LEED points if the building were to be LEED certified (i.e. extensive use of natural daylight, use of low VOC paint, use of renewable/recycled resources, energy efficient mechanical systems, use of wind and solar power, geothermal heating etc.);

☑ 33. Indicate whether the proposed structure will block or degrade views, change the skyline or create a new focal point;

☑ 34. Indicate whether there will be objectionable visual pollution introduced directly or indirectly due to loading docks, trash receptacles or parking, and indicate mitigation measures for same;

☑ 35. Indicate whether there will be an interference with or impairment of ambient conditions necessary for the enjoyment of the physical environment (i.e. vibration, dust, odor, heat, glare etc.);

☑ 36. Indicate whether the project area and environs contain any properties listed on the National Register of Historic Places or the City's inventory of historic structures;

☑ 37. Provide any information on the project area that the State Historic Preservation Office (SHPO) may have;

☑ 38. Indicate whether there will be other properties within the boundaries or in the vicinity of the project that appear to be historic and thus require consultation with the SHPO as to eligibility for the National Register;

☑ 39. Indicate whether the Department of the Interior has been requested to make a determination of eligibility on properties the SHPO or HDC deems eligible and affected by the project;

☑ 40. Provide proof that the HDC has been given an opportunity to comment on properties that are listed on or have been found eligible for the National Register and which would be affected by the project;

Refuse

☑ 41. Indicate whether the existing or planned solid waste disposal system will adequately service the proposed development including space for separation of recyclable materials;

☑ 42. Indicate whether the design capacity of the existing or planned solid waste disposal system will be exceeded as a result of the project;

Sanitary Sewer

☑ 43. Indicate whether existing or planned waste water systems will be able to adequately service the proposed development;

☑ 44. Indicate whether the design capacity of these facilities will be exceeded as a result of the project;

☑ 45. Indicate the elements of the project that have been incorporated to reduce the amount of water entering the sewer system (such as low flush toilets, EnergyStar appliances, restricted flow faucets, greywater recycling etc.);

Storm Sewer

☑ 46. Indicate whether existing or planned storm water disposal and treatment systems will adequately serve the proposed development;

☑ 47. Indicate whether the design capacity of these facilities will be exceeded as a result of the project;

☑ 48. Indicate the elements of the project that have been incorporated to reduce the amount of storm water entering the sewer system (such as the use of pervious concrete, rain gardens, greywater recycling, green pavers etc.);

Water Service

☑ 49. Indicate whether either the municipal water utility or on-site water supply system is adequate to serve the proposed project;

☑ 50. Indicate whether the water quality is safe from both a chemical and bacteriological standpoint;

☑ 51. Indicate whether the intended location of the service will be compatible with the location and elevation of the main;

Public Safety

☑ 52. Whether or not the project location provides adequate access to police, fire and emergency medical services;

☑ 53. Whether or not the proposed project design provides easy access for emergency vehicles and individuals (ie. are there obstacles to access, such as one-way roads, narrow bridges etc.);

☑ 54. Whether or not there are plans for a security system which can be expanded, and whether approval for same has been granted by the police department;

☑ 55. Detailed description of all fire access to the building, site, fire hydrants and water connections;

☑ 56. Whether or not there are plans for adherence to all city and N.F.P.A. fire codes;

- [x] 57. Proof that one elevator has been designed to accommodate a medical cart;
- [x] 58. Detailed specifications on all fire lanes/parking lot surfaces/alleys/streets to demonstrate the ability to accommodate the weight of emergency / fire vehicles;
- [x] 59. Detailed description of all fire suppression systems;

Transportation issues

- [x] 60. Provide completed FORM A – Transportation Study Questionnaire (Abbreviated);
- [x] 61. Provide completed FORM B – Transportation Study Questionnaire if required by the city's transportation consultant;
- [x] 62. Indicate whether transportation facilities and services will be adequate to meet the needs of all users (i.e. access to public transportation, bicycle accommodations, pedestrian connections, disabled, elderly etc.);
- [x] 63. Indicate how the project will improve the mobility of all groups by providing transportation choices;
- [x] 64. Indicate how the users of the building will be encouraged to use public transit and non-motorized forms of transportation;
- [x] 65. Indicate the elements that have been incorporated into the site and surrounding right-of-way to encourage mode shift away from private vehicle trips;
- [x] 66. Indicate the elements of the project that have been provided to improve the comfort and safety of cyclists (such as secured or covered bicycle parking, lockers, bike lanes/paths, bicycle share program etc.);
- [x] 67. Indicate the elements of the project that have been provided to improve the comfort and safety of pedestrians (such as wheelchair ramps, crosswalk markings, pedestrian activated signal lights, bulb outs, benches, landscaping, lighting etc.);
- [x] 68. Indicate the elements of the project that have been provided to encourage the use of sustainable transportation modes (such as receptacles for electric vehicle charging, parking for scooters/Smart cars etc.);

Natural Features

- [x] 69. Indicate whether there are any visual indicators of pond and / or stream water quality problems on or near the site;
- [x] 70. Indicate whether the project will involve any increase in impervious surface area and, if so, indicate the runoff control measures that will be undertaken;
- [x] 71. Indicate whether the project will affect surface water flows on water levels of ponds or other water bodies;
- [x] 72. Indicate whether the project may affect or be affected by a wetland, flood plain, or floodway;
- [x] 73. Indicate whether the project location or construction will adversely impact unique natural features on or near the site;
- [x] 74. Indicate whether the project will either destroy or isolate a unique natural feature from public access;
- [x] 75. Indicate whether any unique natural feature will pose safety hazards for the proposed development;
- [x] 76. Indicate whether the project will damage or destroy existing wildlife habitats; and

Other Information

- [x] 77. Any other information as may reasonably be required by the City to assure an adequate analysis of all existing and proposed site features and conditions.

Professional Qualifications

The preparer(s) of the CIS must indicate their professional qualifications, which must include registration in the state of Michigan in their profession where licensing is a state requirement for the practice of the profession (i.e. engineer, surveyor, architect etc.). Where the state does not require licensing (ie. planner, urban designer, economist etc.), the

preparer must demonstrate acceptable credentials including, but not limited to, membership in professional societies, university degrees, documentation illustrating professional experience in preparing CIS related materials for similar projects.

City of Birmingham
A Walkable Community

ZONING REQUIREMENTS ANALYSIS

Development Standard	Required	Proposed	Variance Required
Zoning Classification	MX	MX	NO
Front Setback	0 FEET	0 FEET	NO
Rear Setback	10 FFET	N/A (NO CHANGE)	NO
Side Setback	0 FFET	N/A (NO CHANGE)	NO
FAR - Percentage	N/A	N/A	NO
FAR – Square Footage	N/A	N/A	NO
Open Space – Percentage	N/A	N/A	NO
Open Space – Square Footage	N/A	N/A	NO
Number of Residential Units	0 UNITS	50 UNITS	NO
Minimum Floor Area	N/A	N/A	NO
Maximum Height	45 FEET	44 FEET	NO
Parking	85 SPACES	137 SPACES	NO
Loading	1 SPACE	1 SPACE	NO
Screening	N/A	N/A	NO

Section 2
CIS Checklist Supplemental Information

Section 2

CIS Checklist Supplemental Information

DISTRICT LOFTS – PHASE 3

Birmingham, MI 48009

Combined CIS & Site Plan Review Application

Planning Division

GENERAL INFORMATION:

1. Name and address of applicant and proof of ownership

   John Kelly
   2051 Villa Road, Suite 106
   Birmingham, MI 48009
   (248) 258-6663

   Refer to Appendix 3.0 for Consent for Proof of Ownership.

2. Name of Development

   District Lofts – Phase 3

3. Address of site and legal description of the real estate

   325 South Eton Street
   Birmingham, MI 48009

   (Refer to Civil Survey Sheet SP-1 for legal description)

4. Name and address of the surveyor

   Nowak & Fraus Engineers
   46777 Woodward Ave.
   Pontiac, MI 48342
   (248) 332-7931

5. Legend and notes, including a graphic scale, north point, and date

   See Site Plan

6. A separate location map

   See location map in Appendix 3.1.

7. A map showing the boundary lines of adjacent land and the existing zoning of the area proposed to be developed as well as the adjacent land

   Refer to zoning map provided in Appendix 3.1.

8. Details of all proposed site plan changes

   Refer to Preliminary Site Plan Review drawings.

PLANNING AND ZONING ISSUES:

9. Recommended land use of the subject property as designated on the future land use map of the city's master plan

   Mixed-Use Development (Map 8 – Future Land Use, Eton Road Corridor Plan)

10. Goals and objectives of the city's master plan that demonstrate the city's support of the proposed development

    The Eton Road Corridor Plan (2013): Recommended land use for this parcel is Mixed-Use Development (Section 4, page 31). The future land use goal for this area is to promote the continued mixed use and redevelopment of the corridor area in a pattern and scale that is compatible with the surrounding residential neighborhoods. The proposed development meets the goals and objectives of the current master plan with a mixed-use development that includes residential uses.

11. Whether or not the project site is located within an area of the city for which an Urban Design Plan has been adopted by the Planning Board in which special design criteria or other supplemental development requirements apply

    The proposed project is within the Eton Road Corridor Plan.

12. The current zoning classification of the subject property

    The current zoning classification for the subject property is MX.

13. The zoning classification required for the proposed development

    The zoning classification required for the proposed development is MX.

14. The existing land uses adjacent to the proposed project

    North: 2-story Restaurant, zoned B2-B
    South: 4-story mixed-use building, zoned MX
    East: 2 Private Above Ground Parking Garage, zoned MX
    West: 1-story retail building, zoned B-1

15. Complete the attached "Zoning Requirements Analysis" chart

    Refer to Section 1 for Zoning Requirements Analysis.

LAND DEVELOPMENT ISSUES

16. A survey and site drainage plan

    (See Civil Engineering drawings) Refer to the enclosed survey of the site.

17. Identify any sensitive soils on the site that will require stabilization or alteration in order to support the proposed development

    Refer to the Geotechnical Investigation in Appendix 3.5.

18. Whether or not the proposed development will occur on a steep slope, and if so, the measures that will be taken to overcome potential erosion, slope stability and runoff

    The proposed development does not occur on a steep slope. There is very little grade change on the parcel. However, during construction of the development, care will be taken to prevent any sediment laden soils from leaving the site and to stabilize any steep slopes by employing soil erosion best management techniques.

19. The volume of excavated soils to be removed from the site and/or delivered to the site, and a map of the proposed haul routes.

    The volume of excavated soils is minimal if any. The proposed project is reusing the existing basement. Refer to Appendix 3.8 for proposed haul route.

20. Identify the potential hazards and nuisances that may be created by the proposed development and the suggested methods of mitigating such hazards

    Pedestrian and traffic control which will be clearly marked and identified with either jersey barriers, fencing, signage, street and sidewalk closures clearly identified, etc. Signage at the gates clearly noting areas as "do not enter", etc. Misc. noise nuisances that may occur are demo of the existing structures, starting of large equipment, safety back-up alarms, and heavy machinery. Dust mitigation and track out clean-up will be accomplished with water spray guns and sweepers.

PRIVATE UTILITIES

21. Indicate the source of all required private utilities to be provided

    Refer to Civil Engineering Drawings.

22. Provide verification that all required utility easements have been secured for necessary private utilities

    It is unlikely that easements for private utility services will be required as all existing services and leads will be within the public right-of-way.

NOISE LEVELS

23. Provide a reading of existing ambient noise and estimated future noise levels on the site.

    Refer to the Noise Impact Study completed by Kolano and Saha Engineers, Inc. in Appendix 3.2.

24. Indicate whether the project will be exposed to or cause noise levels which exceed those levels prescribed in Chapter 50, Division 4, Section 50-71 through 50-77 of the Birmingham City Code, as amended

    Refer to the Noise Impact Study completed by Kolano and Saha Engineers, Inc. in Appendix 3.2.

25. Indicate whether the site is appropriate for the proposed activities and facilities given the existing ambient noise and the estimated future noise levels of the site

    Refer to the Noise Impact Study completed by Kolano and Saha Engineers, Inc. in Appendix 3.2.

AIR QUALITY

26. Indicate whether the project is located in the vicinity of a monitoring station where air quality violations have been registered and, if so. Provide information as to whether the project will increase air quality problems in the area

    This development is located within the Southeast Air Quality District and the closest monitoring stations are located in Oak Park and Pontiac. Current ambient air quality standards are below the minimum standards from the EPA (Refer to air quality information in Appendix 3.6).

27. Indicate if the nature of the project or its potential users would be particularly sensitive to existing air pollution levels and, if so, indicate how the project has been designed to mitigate possible adverse effects

    This development is consistent with similar downtown Birmingham building types and uses. Newer buildings are built with cleaner, more sustainable materials and equipment, which should mitigate some of these effects.

28. Indicate whether the proposal will establish a trend which, if continued, may lead to violation of air quality standards in the future

    This development will not establish any trends pertaining to air quality standards, though there will be some additional pollution from the additional density of the built environment, which would be the case of any development.

29. Indicate whether the proposed project will have parking facilities for more than 75 cars and indicate percentage of required parking that is proposed

    The proposed development utilizes the existing private parking deck, below grade spaces, and surface parking. The required parking for the entire campus is 360 spaces and 412 spaces are provided. There are 85 required parking spaces for the proposed development per the Zoning Ordinance.

ENVIRONMENTAL DESIGN AND HISTORIC VALUES

30. Indicate whether there will be demonstrable destruction or physical alteration of the natural or human-made environment on site or in the right-of-way (i.e. Clearance of trees, substantial regrading etc.)

    The existing structure will be demolished, along with a portion of the surface lot to make way for the proposed building. There are very few trees currently on these sites. The proposed development will greatly enhance the built environment with new trees, landscaping, and walks.

31. Indicate whether there will be an intrusion of elements out of character or scale with the existing physical environment (i.e. Significant changes in size, scale of building, floor levels, entrance patterns, height materials, color or style from that of surrounding developments)

    The proposed buildings are similar in size, scale, and materiality to the existing neighboring buildings. The overall development brings density and activity to an underutilized site.

32. Indicate all elements of the project that are eligible for LEED points if the building were to be LEED certified (i.e. Extensive use of natural daylight, use of low VOC paint, use of renewable/recycled resources, energy efficient mechanical systems, use of wind and solar power, geothermal heating etc.)

    Not Applicable

33. Indicate whether the proposed structure will block or degrade views, change the skyline or create a new focal point

    The proposed building will not block or degrade views, as there has been thoughtful consideration to the adjacent properties, to enhance the overall area. The proposed development would lead to an increase in activity and would create a new area of focus on an underutilized site.

34. Indicate whether there will be objectionable visual pollution introduced indirectly due to loading docks, trash receptacles or parking, and indicate mitigation measures for same

    There will not be objectionable visual pollution, as we are improving views to and from the site. Access to loading will be on the surface lot at the North side of the building. Trash receptacles will be inside the existing Reserve trash enclosure located to the East of the building and hidden from view. The proposed surface parking is a big improvement over the existing surface parking with the introduction of landscaping elements.

35. Indicate whether there will be an interference with or impairment of ambient conditions necessary for the enjoyment of the physical environment (i.e. Vibration, dust, odor, heat, glare, etc.)

    There will be no interference with or impairment of ambient conditions necessary for the enjoyment of the physical environment.

36. Indicate whether the project area and environs contain any properties listed on the National Register of Historic Places or the city's inventory of historic structures

    The project area is listed in the Birmingham Grand Trunk Western Railroad Depot Historic District. The adjacent Big Rock Chophouse is listed on the city's inventory of historic structures and the National Register of Historic Places.

37. Provide any information on the project area that the State Historic Preservation Office (SHPO) may have.

    Refer to the National Register of Historic Places Nomination Form in Appendix 4.0 for 245 S Eton Street.

38. Indicate whether there will be other properties within the boundaries or in the vicinity of the project that appear to be historic and thus require consultation with the SHPO as to eligibility for the National Register

    Aside from 245 S. Eton Street, no other historic properties are directly adjacent to the site.

39. Indicate whether the Department of the Interior has been requested to make a determination of eligibility on properties the SHPO or HDC deems eligible and affected by the project

    There is no indication that the Department of the Interior has been requested to make a determination of the historic value of the surrounding properties.

40. Provide proof that the HDC has been given an opportunity to comment on properties that are listed on or have been found eligible for the National Register and which would be affected by the project.

    The proposed project is located in the Birmingham Grand Trunk Western Railroad Depot Historic District, so the project is required to be reviewed by the HDC.

REFUSE

41. Indicate whether the existing or planned solid waste disposal system will adequately service the proposed development including space for separation of recyclable materials**.**

    The proposed development will use the existing Reserve Trash Enclosure that is adjacent to the Parking Garage and to the East of the building.

42. Indicate whether the design capacity of the existing or planned solid waste disposal system will be exceeded as a result of the project

    Solid waste generated from this development will be normal and can be handled via standard practices by local waste management.

SANITARY SEWER

43. Indicate whether existing or planned wastewater systems will be able to adequately service the proposed development

    Public gravity sanitary sewer exists within the South Eton Street right-of-way along the frontage of the proposed development. It is anticipated that the existing sanitary sewer will have the capacity to adequately service the proposed development. Per preliminary meetings and correspondence with the City, the existing sewer along the frontage of the property has the capacity to handle the flows from the proposed development. The planned sewer service flow basis of design and capacity of the existing sewer will be reviewed and confirmed by the City Engineer prior to final site plan approvals.

44. Indicate whether the design capacity of the facilities will be exceeded as a result of the project

    It is not anticipated that the design capacity of the existing sanitary sewer will be exceeded by the development. Per preliminary meetings and correspondence with the City, the existing sewer along the frontage of the property has the capacity to handle the flows from the proposed development. The planned sewer service flow basis of design and capacity of the existing sewer will be reviewed and confirmed by the City Engineer prior to final site plan approvals.

45. Indicate the elements of the project that have been incorporated to reduce the amount of water entering the sewer system (such as low flush toilets, Energy Star appliances, restricted flow faucets, greywater recycling etc.)

    Low-flush toilets, restricted flow faucets, and greywater recycling may be incorporated to reduce the amount of water entering the sewer system.

STORM SEWER

46. Indicate whether existing or planned storm water disposal and treatment systems will adequately serve the proposed development

    In existing conditions, 3.296 acres of the site (which is currently fully developed) drains via a storm sewer conveyance pipe network. No stormwater treatment measures are incorporated into the existing drainage system. The planned storm water management design will be reviewed and confirmed by the City Engineer prior to final site plan approvals.

47. Indicate whether the design capacity of the facilities will be exceeded as a result of the project

It is not anticipated that the design capacity of the existing municipal storm sewer systems in the area will be exceeded or adversely affected by the runoff from the proposed development. In proposed conditions, no additional runoff will be directed to drain to the municipal storm sewer system along South Eton Street. Therefore, drainage from the site will not adversely affect the municipal system. The proposed pipe conveyance system will be designed to handle a 10-year design frequency storm in accordance with City standards.

48. Indicate the elements of the project that have been incorporated to reduce the amount of storm water entering the sewer system (such as the use of pervious concrete, rain gardens, greywater recycling, green pavers etc.)

In proposed conditions, the amount of impervious area will be reduced due to landscaping and gardens, thus reducing the overall amount of storm water entering the municipal storm systems.

WATER SERVICE

49. Indicate whether either the municipal water utility or on-site water supply system is adequate to serve the proposed project

Public 12-inch water exists within the South Eton Street right-of-way along the frontage of the proposed development. Per preliminary meetings and correspondence with the City, the existing 12-inch water main should have the capacity to service the proposed building. The planned water usage design and capacity of the existing water main will be reviewed and confirmed by the City Engineer prior to final site plan approvals.

50. Indicate whether the water quality is safe from both a chemical and bacteriologist standpoint

It is not anticipated that the water quality of the existing water main supply system is unsafe. The proposed water main will need to be field tested from both a chemical and bacteriological standpoint, in accordance with State and City standards, prior to making the connections to the existing water network and placing the proposed water main in service.

51. Indicate whether intended location of the service will be compatible with the location and elevation of the main

The proposed water supply design is compatible with the existing system and will not require rerouting, significant alterations, or modifications.

PUBLIC SAFETY

52. Whether or not the project location provides adequate access to police, fire and emergency medical services

    The proposed development offers direct access for emergency personnel from multiple access points (S. Eton Street, Villa Road, and the drive lane behind the buildings off Villa Road).

53. Whether or not the proposed project design provides easy access for emergency vehicles and individuals (ie. Are there obstacles to access, such as one-way roads, narrow bridges etc.)

    S. Eton Street, Villa Road, and the drive lane behind the buildings off Villa Road provide easy access for emergency vehicles and individuals.

54. Whether or not there are any plans for a security system which can be expanded, and whether approval for same has been granted by the police department.

    Currently there are not any plans for a security system. If a system is desired, it is the responsibility of the tenant to submit plans to the police department for approval.

55. Detailed description of all fire access to the building, site, fire hydrants and water connections

    Refer to Civil Engineering Drawings.

56. Whether or not there are plans for adherence to all city and N.F.P.A. fire codes

    All code requirements will be met.

57. Proof that one elevator has been designed to accommodate a medical cart

    The proposed building will have one elevator that will accommodate a medical cart.

58. Detailed specifications on all fire lanes/parking lot surfaces/alleys/streets to demonstrate the ability to accommodate the weight of emergency/ fire vehicles

    Refer to Civil Engineering Drawings.

59. Detailed description of all fire suppression systems

    Full fire suppression system and/or standpipe, Siamese FDC, and knox box will be provided where required. Fire suppression drawings will be based on a performance specification. Drawings will be issued for the building with requirements for a design-build fire suppression contractor to submit full working plans and specifications for review which will then be submitted for approval prior to construction.

TRANSPORTATION ISSUES

60. Provide completed FORM A-Transportation Study Questionnaire (Abbreviated)

    Refer to the Traffic Impact Study by ROWE Professional Services Company in Appendix 3.3.

61. Provide completed FORM B- Transportation Study Questionnaire if required by the city's transportation consultant

    Refer to the Traffic Impact Study by ROWE Professional Services Company in Appendix 3.4.

62. Indicate whether transportation facilities and services will be adequate to meet the needs of all users (i.e. access to public transportation bicycle accommodations, pedestrian connections, disabled, elderly etc.)

    There are a few SMART bus stops (#10049, #11303, and #10687) located on E Maple Road and close to the Eton St intersection, within proximity to the proposed building. The site is also 0.7 miles from the Troy Transit Center which is served by SMART and Amtrak. Pedestrian connectivity will be improved with new streetscape elements.

63. Indicate how the project will improve the mobility of all groups by providing transportation choices

    The proposed development can be easily accessed on two street fronts by vehicle, the drive lane off Villa Street, train, bicycle, or pedestrian traffic.

64. Indicate how the users of the building will be encouraged to use the public transit and non-motorized forms of transportation

    There are 3 SMART bus stops within 0.2 miles of the site. The new sidewalks and streetscape elements are designed for pedestrian connectivity. New bike racks will be added to the existing streetscape around the project development. The site is 0.7 miles from the Troy Transit Center which is served by SMART and Amtrak.

65. Indicate the elements that have been incorporated into the site and surrounding right of way to encourage mode shift away from private vehicle trips

    There are 3 SMART bus stops within 0.2 miles of the site. New bike racks will be added to the existing streetscape around the project development.

66. Indicate the elements of the project that have been provided to improve the comfort and safety cyclists (such as secured or covered bicycle parking, lockers, bike lanes/paths, bicycle share program etc.)

New bike racks will be added around the project development., in addition to illumination along walks and entries for safety and security.

67. Indicate the elements of the project that have been provided to improve the comfort and safety of pedestrians (such as wheelchair ramps, crosswalk markings, pedestrian activated signal lights, bulb out, benches, landscaping, lighting etc.)

There are markings on crosswalks. In addition, there are streetlights, benches, and landscape located along the sidewalks throughout the development. Building entrances would be at grade.

68. Indicate the elements of the project that have been provided to encourage the use of sustainable transportation modes (such as receptacles for electric vehicle charging, parking for scooters/smart cars etc.)

There are electric vehicle charging spaces on the site, along with parking for compact cars. New bike racks will be added around the development. In addition, it is walkable from the surrounding areas.

NATURAL FEATURES

69. Indicate whether there any visual indicators of pond and/or stream water quality problems on or near the site

No water quality issues are known to exist.

70. Indicate whether the project will invoke any increase in impervious surface area and, if so, indicate the runoff control measures that will be undertaken.

The project proposes to decrease the impervious area of the existing site, thus runoff peak discharge rate and discharge volumes are expected to be reduced in proposed conditions.

71. Indicate whether the project will affect surface water flows or water levels of ponds or other water bodies

Effects to the surface water levels of water bodies in the area are not anticipated.

72. Indicate whether the project may affect or be affected by a wetland, flood plain, or floodway

The property does not lie within a special flood hazard area as defined by the Federal Emergency Management Agency; The property lies within Zone X of the Flood Insurance Rate Map identified as Map No. 26125C0537F bearing an effective 9/29/2006.

73. Indicate whether the project location or construction will adversely impact unique natural features on or near the site

    It is not anticipated that the project location or construction will adversely impact unique natural features on or near the site. It is the intent to enhance the site through the proposed development.

74. Indicate whether the project will either destroy or isolate a unique natural feature from public access

    It is not anticipated the development will destroy or isolate any unique natural feature from public access.

75. Indicate whether any unique natural feature will pose safety hazards for the proposed development

    It is not anticipated that any existing natural feature will pose safety hazards for the proposed development.

76. Indicate whether the project will damage or destroy existing wildlife habitats

    The existing site is urban land and it is not anticipated that the proposed project will destroy any existing wildlife or habitats.

OTHER INFORMATION

77. Any other information as may reasonably be required by the city to assure an adequate analysis of all existing and proposed site features and conditions

    Our team will provide any additional information that the city requests during the site plan review process.

PROFESSIONAL QUALIFICATIONS

The preparer(s) of the CIS must indicate their professional qualifications, which must include registration in the state of Michigan in their profession where licensing is a state requirement for the practice of the profession (i.e. engineer, surveyor, architect etc.). Where the state does not require licensing (i.e. planner, urban designer, economist etc.), the preparer must demonstrate acceptable credentials including, but not limited to, membership in professional societies, university degrees, documentation illustrating professional experience in preparing CIS related materials for similar projects.

Preparer: Victor Saroki, FAIA. State of Michigan Architectural Registration no. 1301030354.

Section 3
Appendix

Section 3 Appendix

3.0 Proof of Ownership

Warranty Deed

3.1 Maps

Location Map

Zoning Map

3.2 Noise Impact Study

3.3 Traffic Impact Study

3.4 Phase I Environmental Site Assessment

3.5 Geotechnical Investigation

3.6 Air Quality Information

3.7 Site Photographs

3.8 Site Logistics

Proposed Haul Routes Map

3.9 Mechanical Equipment Specifications

4.0 Historic Documents

National Register of Historic Places Nomination Form

245 S. Eton Street

Section 3.0
Proof of Ownership

WARRANTY DEED

ETON OFFICE PROPERTIES, L.L.C., a Michigan limited liability company ("Grantor"), having an address of 245 South Eton Street, Birmingham, Michigan 48009, conveys and warrants to **BIRMINGHAM LOFTS, LLC**, a Michigan limited liability company ("Grantee"), having an address of 2051 Villa Road, Unit 106, Birmingham, Michigan 48009, certain land situated in the City of Birmingham, Oakland County, Michigan, being more particularly described as:

> Unit 2, Eton Condominium Properties, according to the Master Deed recorded in Liber 37854, Pages 533 through 583, both inclusive, and First Amendment to the Master Deed recorded in Liber 38725, Pages 110 through 112, both inclusive, and Second Amendment to Master Deed recorded in Liber 55551, Pages 146 through 153, both inclusive, Oakland County Records, as amended, and designated as Oakland County Condominium Subdivision Plan No. 1883, together with rights in general common elements and limited common elements as set forth in the above-described Master Deed, as amended, and as described in Act 59 of the Public Acts of 1978, as amended
>
> Tax Parcel No. 20-31-207-002

commonly known as 325 South Eton Street, Birmingham, Michigan 48009, together with the buildings and all other improvements of every kind and nature located in or on the land, all fixtures of every kind and nature located in or on the land or the buildings or any such improvements, and all appurtenances and hereditaments to the land, subject only to those matters set forth in attached **Exhibit A**, for good and valuable consideration [REAL ESTATE TRANSFER TAX VALUATION AFFIDAVIT FILED].

[SIGNATURE PAGE FOLLOWS]

Dated as of the 29 day of June, 2021.

GRANTOR:

ETON OFFICE PROPERTIES, L.L.C., a Michigan limited liability company

By: _____

Name: Norman R. LePage

Its: Authorized Representative

STATE OF Michigan)
) ss.
COUNTY OF Oakland)

The foregoing instrument was acknowledged before me this 29 day of June, 2021, by Norman R. LePage, the Authorized Representative of Eton Office Properties, L.L.C., a Michigan limited liability company, on behalf of the company.

_____, Notary Public
_____ County, _____
My commission expires: _____
Acting in _____ County, _____

MARY GRACE VAN HUFFEL
NOTARY PUBLIC, STATE OF MICHIGAN
COUNTY OF OAKLAND
MY COMMISSION EXPIRES March 10, 2026
ACTING IN THE COUNTY OF Oakland

Prepared by:

Brandon J. Muller
Clark Hill PLC
151 South Old Woodward Avenue, Suite 200
Birmingham, Michigan 48009

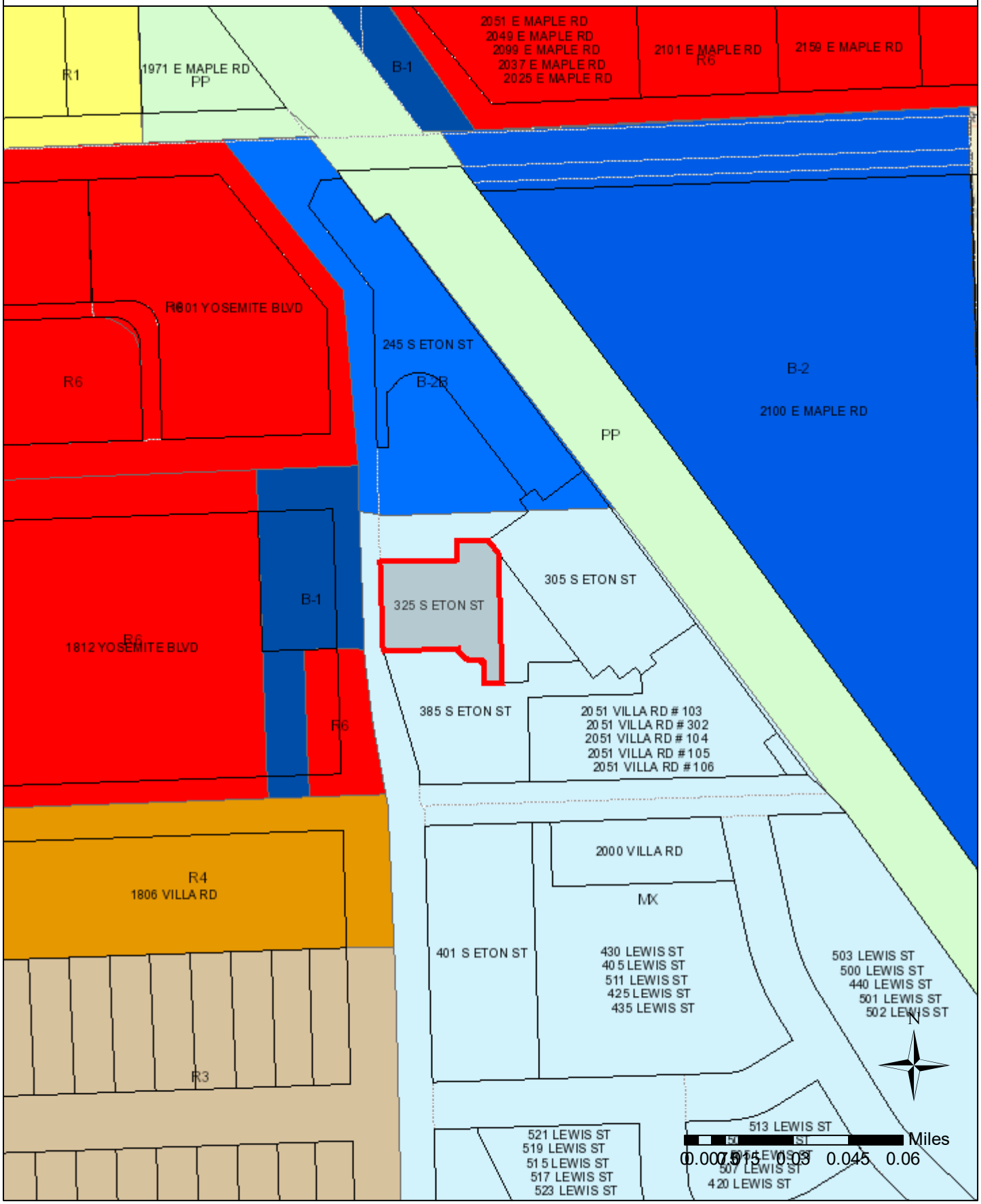
When recorded, return to:

John F. Kelly
Birmingham Lofts, LLC
2051 Villa Road, Unit 106
Birmingham, Michigan 48009

Section 3.1
Maps

Location Map

Zoning Map


R1
1971 E MAPLE RD
PP
B-1
2051 E MAPLE RD
2049 E MAPLE RD
2099 E MAPLE RD
2037 E MAPLE RD
2025 E MAPLE RD
2101 E MAPLE RD
R6
2159 E MAPLE RD
1801 YOSEMITE BLVD
R6
245 S ETON ST
B-2B
B-2
2100 E MAPLE RD
PP
305 S ETON ST
325 S ETON ST
B-1
1812 YOSEMITE BLVD
R6
385 S ETON ST
2051 VILLA RD # 103
2051 VILLA RD # 302
2051 VILLA RD # 104
2051 VILLA RD # 105
2051 VILLA RD # 106
R4
1806 VILLA RD
2000 VILLA RD
MX
401 S ETON ST
430 LEWIS ST
405 LEWIS ST
511 LEWIS ST
425 LEWIS ST
435 LEWIS ST
503 LEWIS ST
500 LEWIS ST
440 LEWIS ST
501 LEWIS ST
502 LEWIS ST
N
R3
513 LEWIS ST
521 LEWIS ST
519 LEWIS ST
515 LEWIS ST
517 LEWIS ST
523 LEWIS ST
507 LEWIS ST
420 LEWIS ST
Miles
0.015
0.03
0.045
0.06

Section 3.2
Noise Impact Study

Kolano and Saha Engineers, Inc.
Consultants in Acoustics, Noise and Vibration

2021-004
February 2, 2021

Mr. John Kelly
Kelly Building & Development Company
2051 Villa Rd, Suite 106
Bloomfield Hills, MI 48304

Subject: **Birmingham CIS - Sound Level Measurements and Noise Impact Assessment**
re: District Lofts, Phase 3
Birmingham, MI

Mr. Kelly:

At your request and authorization, Kolano and Saha Engineers, Inc. (K&SE) conducted an investigation to evaluate the community noise associated with the proposed District Lofts – Phase3 development. This investigation included measurements of existing site noise levels at the proposed development site to understand the current ambient noise condition with a review and evaluation of the proposed development to help assess if noise associated with this development will be compatible at this location or if there are any specific noise sources that are likely to need some attention to noise control to meet the City Noise Ordinance limits.

On-Site Sound Level Measurements

We conducted measurements using a Brüel & Kjær 2270 environmental noise analyzer with a precision outdoor microphone assembly. This instrumentation was calibrated before and after measurements using an acoustic calibrator traceable to the National Institute for Standards and Technology.

Measurements were conducted near the proposed site for a 24-hour period to capture the existing ambient sound levels. Sound level measurements were conducted at a position that is expected to be at the middle of the north wall of the proposed new building. This position is located 80 feet east of S. Eaton Road, and 320 feet north of Villa Road. Details of this measurement position is provided in **Exhibit 1**.

The measurement equipment captured sound levels starting at 2PM on January 18, 2021 and continued for a complete 24-hour period. The measurement results are provided in **Exhibit 2**. The results of the measurements are presented in a graph of sound level versus time. These graphs contain three plot lines; the 5-minute L_{eq} (energy average level), the hourly L_{eq} and the daytime and nighttime averaged sound levels.

From this data we calculated the DNL or day-night sound level average. The DNL is an average of both the daytime and nighttime sound levels where the nighttime sound levels have been raised by 10 dB to account for people's greater sensitivity to noise in the nighttime hours. Measurement results, in terms of the day-night sound level average (DNL), were determined and compared to U.S. Government guidelines promulgated by the U.S. Environmental Protection Agency (EPA) and the department of Housing and Urban Development (HUD). EPA guidelines define DNL 55dB (or less) as desirable goal for residential land use; HUD guidelines consider outdoor noise levels up to DNL 65dB as "normally

acceptable" for residential land use. HUD guidelines consider outdoor noise levels between 65dB and 75dB as "normally unacceptable" for residential land use. For the proposed District Lofts Phase 3 development, we measured a site sound level of DNL 60dB(A).

The ambient sound falls within the "normally acceptable" range and is not expected to adversely affect residents in the building. However, if the apartments are being developed as luxury units, it may be desired to provide additional noise isolating construction on the façades of the building that will have direct exposure to traffic and or train noise. Windows and balcony doors are typically the easiest path for noise to pass through, and could be upgraded with sound rated assemblies. We recommend that the façade construction or sound barrier elements, be designed to provide sufficient sound attenuation to produce interior traffic noise levels no higher than DNL 45 dB(A), though noise levels not exceeding DNL 35 dB(A) would be preferred for luxury construction. Properly selected sound rated windows and doors are key to obtaining that level of interior sound.

City of Birmingham Noise Ordinance

The City of Birmingham addresses noise in their ordinance under *Part II – City Code, Chapter 50 – Environment, Article II. Nuisances, Division 4 – Noise*. This ordinance provides information of Definitions, general prohibitions, specific prohibitions, decibel level prohibitions, general exemptions and test procedures.

The objective limits cited in this ordinance (as Table 1) are:

Use of Property Producing the Sound	Use of Property Receiving the Sound	Sunday to Saturday 7:00 a.m. to 7:00 p.m.	Sunday to Saturday 7:00 p.m. to 7:00 a.m.
Residential	Residential	75	60
Commercial	Residential	80	60
Residential	Commercial	80	60
Commercial	Commercial	90	75

Exemptions to these limits include power equipment operations between 7AM and 7PM that do not exceed 100 dB(A) at or beyond the property line, construction noise between 7AM and 7PM Monday-Saturday excluding holidays (with additional provisions), and snow removal which does not exceed 90 dB(A) at or beyond the property line.

The adjacent properties to this development are office buildings, a bank, a shopping strip mall and a multi-family residential building. The noise associated with these buildings is expected to be primarily related to on-site vehicular noise and building mechanical equipment.

Proposed Development Noise Impact

The proposed residential building is generally similar to other multi-story, multi-family residential buildings in Birmingham. The proposed 4 story building is expected to be have a lobby and a retail space on the ground level floor. The second through fourth floors are planned to be residential. The sources of noise expected from the building include:

Building Wide & Individual Unit Heating and Cooling Mechanical Systems

Heating and cooling for the building are expected to be managed by space specific mechanical units. Condenser/compressor units are likely to be located on the roof with air handling equipment located within each of the residential and commercial units. Mechanical units of this this scale are not expected to contribute a significant level of noise beyond the property boundary. If located sufficiently away from the property lines and with screen walls, these elements are not expected to exceed the ordinance limits.

At this point in the development, no restaurants or food kitchens are planned for the District Lofts – Phase 3 building. However, should there be one, careful planning of a kitchen exhaust fan will be needed to ensure the noise will be in compliance of ordinance requirements, as well to meet the expectations of residents for reasonable levels of noise.

Emergency Power Generator

At this point in the development, no emergency power generator is expected for the building. If a generator is placed in this development, careful planning for location and noise controls will be needed to ensure the noise will not be an ordinance issue or create undue impact to residents in the area.

Conclusion

Based on the information we have been provided, we anticipate that the proposed development will produce no excessive noise contribution to the adjacent community and will be within the Birmingham Noise Ordinance limits with the proper considerations for noise control. Furthermore, the measured site sound levels do not exceed 65 DNL and are in the range of the "normally acceptable" noise level guidelines promulgated for residential land use by the U.S. Department of HUD.

Mr. Kelly, we are glad that we could assist you in this project. Please don't hesitate with any questions or if you need additional assistance.

Sincerely,

KOLANO AND SAHA ENGINEERS, INC.

Darren Brown, P.E.
INCE Board Certified
Senior Consultant

EXHIBIT 1

SITE PLAN DETAILING THE SOUND LEVEL MEASUREMENT LOCATION FOR THE DISTRICT LOFTS PHASE 3

Community Impact Study for: Kelly Building & Development Co.

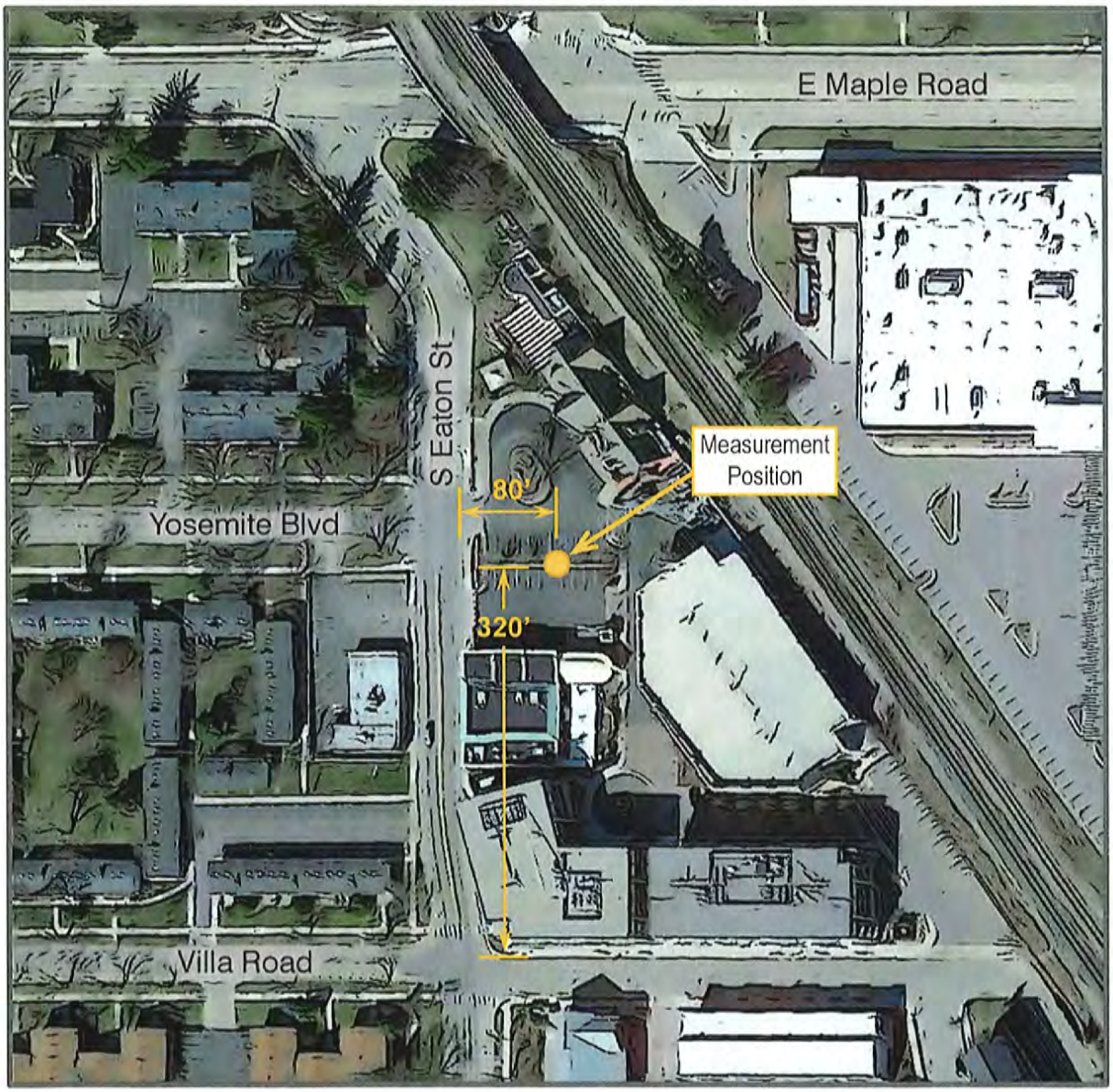
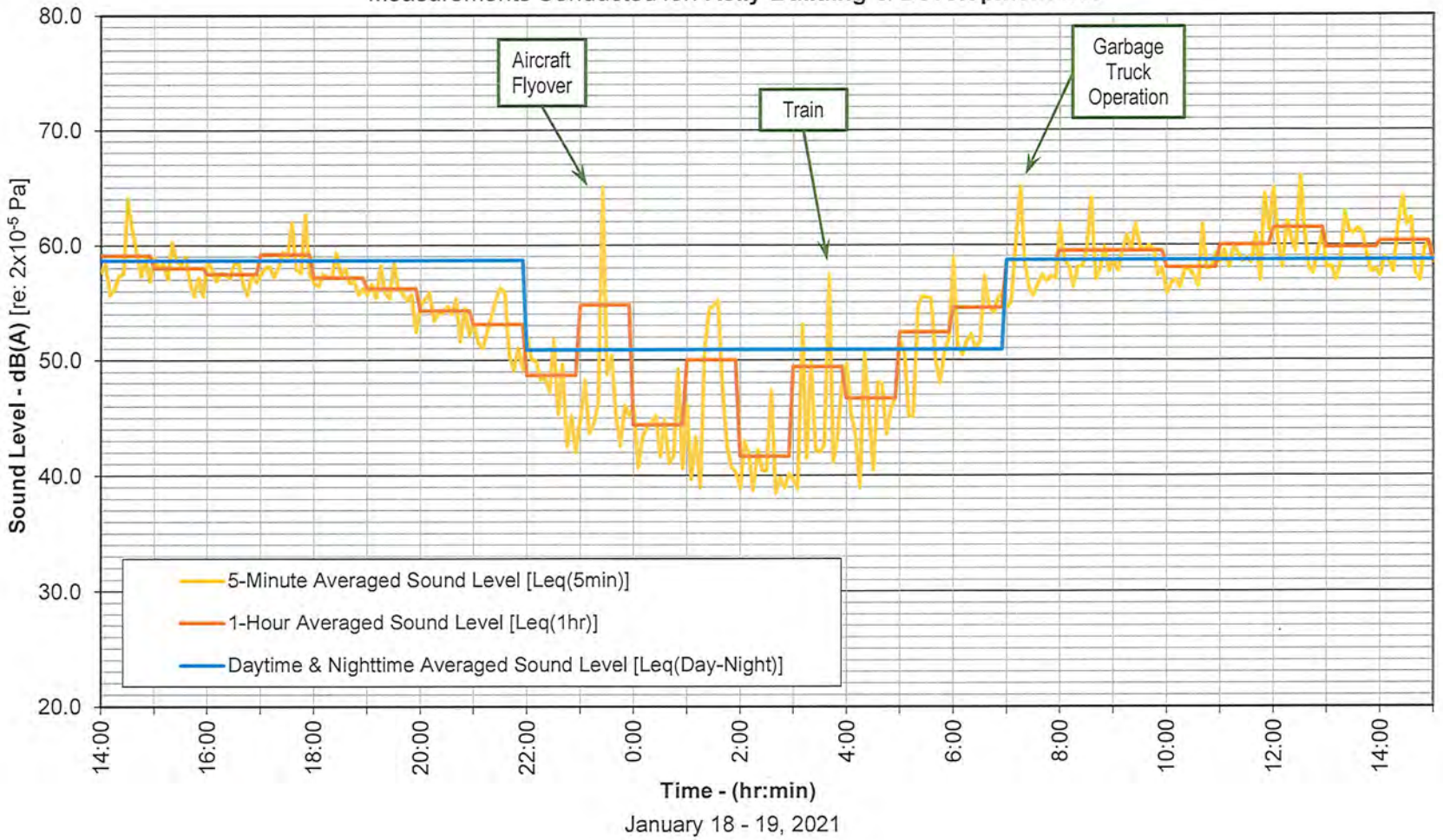


EXHIBIT 2

Ambient Sound Levels Measured at the Northeast Corner of Eaton Street & Villa Road

Measured Approximately 80 Feet East of S Eaton Street and 320 Feet North of Villa Road
Sound is predominantly from traffic on Eaton Street and E Maple Road

Measurements Conducted for: **Kelly Building & Development Co.**



January 18 - 19, 2021

2021-004 Measurement Data.xlsx

Section 3.3
Traffic Impact Study

ROWE PROFESSIONAL SERVICES COMPANY

Large Firm Resources. Personal Attention.

Memorandum

To: Alexander Saroki, AIA, NCARB – Saroki Architecture

From: Paul T. O'Meara, PE and Brandon M. Hayes, PE, P.Eng.

Date: July 1, 2021

RE: Traffic Impact Statement for District Lofts Phase 3 – Birmingham, MI

ROWE Professional Services Company has completed a Traffic Impact Statement (TIS) related to the proposed mixed-use development located on the east side of S. Eton St. at Yosemite Blvd. in Birmingham, MI. The proposed development will replace the existing banquet facility. The current site plan (included in the materials attached to this report) shows a four-level mixed-use development comprised of 50 residential dwelling units and 6,400 square feet (SF) of retail/office with an anticipated opening date in 2022. The development will utilize two existing driveways: one on S. Eton St. at Yosemite Blvd. (primary access); and, one on Villa Rd. at Lewis St. (secondary access). This TIA was prepared to determine if any improvements would be necessary to mitigate traffic impacts to the adjacent road network. This report has been completed in accordance with the requirements specified by the City of Birmingham.

TRAFFIC IMPACT STATEMENT

Existing Conditions

E. Maple Rd. is under the jurisdiction of the City of Birmingham. Through the study area, E. Maple Rd. has a four-lane cross-section and a posted speed limit of 30 mph to 35 mph (variable). E. Maple Rd. is classified as *Other Principal Arterial*. Available 2019 ADT volume data published by the Michigan Department of Transportation (MDOT) was reported as 23,743 vehicles per day (vpd).

S. Eton St. is under the jurisdiction of the City of Birmingham. Through the study area, S. Eton St. has a two-lane cross-section with adjacent separated bike lanes and a posted speed limit of 25 mph. S. Eton St. is classified as a *Collector Road*; the City of Birmingham includes S. Eton St. as a part of the Major Street system.

E. Lincoln St. is under the jurisdiction of the City of Birmingham. Through the study area, E. Lincoln St. has a two-lane cross-section and a posted speed limit of 25 mph. E. Lincoln St. is classified as a *Local Road*; the City of Birmingham includes E. Lincoln St. as a part of the Major Street system. Available 2013 ADT volume data published by MDOT was reported as 6,304 vpd.

Traffic Counts

Turning movement counts (TMCs) were collected during the weekday AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p.m. to 6:00 p.m.) peak periods on Thursday, January 28, 2021 at the intersections of:

- S. Eton St. and Yosemite Blvd./North Driveway; and
- S. Eton St. and E. Lincoln St.

Due to the impact of COVID-19, current traffic volume data is not representative of typical operations. The City of Birmingham provided a 2018 TMC at the intersection of E. Maple Rd. and S. Eton St. (collected prior to the onset of the pandemic) for use in this study.

Historical traffic data from the MDOT and the Southeast Michigan Council of Governments (SEMCOG) websites were reviewed at intersections in the vicinity of the project. Based on these counts, a growth rate was calculated to adjust the counts collected in 2021 to "Pre-COVID-19" conditions. The growth rate calculation indicated that the TMCs collected in 2021 should be increased by a factor of 1.255 to reflect pre-pandemic conditions. Additionally, a second growth rate was calculated to adjust the counts collected in 2018 to the year 2021. This second growth rate calculation indicated that the TMC collected in 2018 should be subject to a 6.2% per year growth rate to reflect 2021 conditions.

All traffic counts used in this study at attached to this memorandum. The existing adjusted peak hour traffic volumes are shown in Figure 1 attached to this memo.

Background Traffic Scenario

In general, a development proposed for completion within the next year would not typically be subject to a Background Conditions analysis. Nevertheless, for this project, historical traffic data were referenced to determine the applicable growth rate for the existing traffic volumes (adjusted to 2021 pre-pandemic conditions) for the project build-out year in 2022. Based on this review, a background growth rate of 1.0 percent was utilized to maintain a conservative analysis. The background traffic volumes are shown in Figure 2 attached to this memorandum.

Trip Generation

Using the information and methodologies specified in the latest version of Trip Generation (Trip Generation Manual, 10th Edition, 2017), ROWE forecast the weekday AM and PM peak hour trips associated with the proposed development. Information provided by the developer indicated that the 6,400 SF of retail space is likely to be divided into three units. The results of the trip generation forecast are provided below in Table 1.

Table 1
Trip Generation for Proposed Development

Land Use	Land Use Code	Units	Weekday	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise)	221	50 DU	271	4	13	17	14	9	23
Shopping Center	820	6,400 SF	927	4	2	6	34	37	71
Total			**1,198**	**8**	**15**	**23**	**48**	**46**	**94**
Internal Capture Reductions: 0% AM; 20% PM (19% In, 20% Out)			-	0	0	0	10	11	21
Total External Trips			**1,198**	**8**	**15**	**23**	**38**	**35**	**73**
Pass-By Rates, LUC 820: 34% PM			-	-	-	-	12	13	25
Total New Trips			**1,198**	**8**	**15**	**23**	**26**	**22**	**48**

In multi-use developments, not all the trips generated are from sources outside the boundaries of the development but are rather trips that are "internally captured" within the site. The methodology presented in *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* was followed to determine an appropriate internal capture rate for the proposed development. The results of this analysis indicate a 0 percent AM peak hour internal capture rate and a 20 percent (19% in, 20% out) PM peak hour internal capture rate for the combination of

land uses. With the inclusion of the internal capture reductions, the proposed development will generate 23 external trips during the AM peak hour (8 inbound and 15 outbound) and 73 external trips during the PM peak hour (38 inbound and 35 outbound).

Not all the traffic generated by the proposed development will be new traffic added onto the adjacent roadway network. As with most new commercial development, a significant amount of the site-generated traffic is considered "pass-by" traffic. Pass-by trips are trips already present on the adjacent roadway network, which are interrupted to visit the site. Pass-by trips are accounted for by reducing the number of forecast new trips to be added to the roadway network; however, actual driveway volumes are not reduced. Pass-by trips are normally expressed as a percentage of trips generated by the new development. These pass-by rates are published in the Trip Generation Handbook.

The Trip Generation Handbook indicates a 34 percent PM pass-by rate for general retail (LUC 820). With the application of the pass-by trip factors, the site-generated trips can be classified as "pass-by" and "new" trips. The proposed development is expected to generate 23 total trips during the AM peak hour and 73 total trips during the PM peak hour. However, only 48 of the PM peak hour trips will be new traffic not currently using the adjacent street network, whose primary purpose is to visit the new development.

The vehicle trips in Table 1 were converted to person-trips by using the baseline vehicle mode split and baseline vehicle occupancy rates published by ITE in Appendix B of the ITE *Trip Generation Handbook, 3rd Edition*. The vehicle mode splits and vehicle occupancy rates for the studies contained within the *Trip Generation Handbook* are provided in Table 2 below.

Table 2
Vehicle Occupancy and Mode Share

Land Use	Land Use Code	AM Peak Hour					PM Peak Hour				
		Vehicle Occupancy	Mode Share				Vehicle Occupancy	Mode Share			
			Vehicle	Walking	Cycling	Transit		Vehicle	Walking	Cycling	Transit
Multifamily (Mid-Rise)[1]	221	1.13	0.96	0.02	0.01	0.01	1.15	0.96	0.02	0.01	0.01
Shopping Center	820	1.17	0.96	0.02	0.01	0.01	1.21	0.96	0.02	0.01	0.01

[1] – data for *LUC 220* used in lieu of available data for *LUC 221*

Appendix B of the *Trip Generation Handbook, 3rd Edition* specifies weekday average vehicle occupancy rates of 1.13 (AM peak hour) and 1.15 (PM peak hour) for LUC 220 vehicle-based trips, and weekday average vehicle occupancy rates of 1.17 (AM peak hour) and 1.21 (PM peak hour) for LUC 820 vehicle-based trips. Appendix B also specifies a *minimum* vehicle mode share of 96% for these person-trips. Therefore, it was assumed that the remaining 4% of person-trips were made via walking (2%), cycling (1%), and transit (1%). The vehicular trip generation associated with the new development was converted to a person-trip generation by applying the vehicle occupancy rate to the vehicular trip generation (prior to implementation of the Internal Capture reductions). These calculations are shown in Table 3 and Table 4 for LUC 221 and LUC 820, respectively. Next, the Internal Capture reductions were applied to the person-trip generation by applying the aforementioned factors. These calculations are shown in Table 5 and Table 6 for the LUC 221 and LUC 820 development components, respectively. Finally, the vehicle mode share percentages were applied to the total number of person-trips to project the number of person-trips utilizing vehicle travel, walking, cycling, and transit travel to the site. These

calculations are shown in Table 7 and Table 8 for the LUC 221 and LUC 820 development components, respectively.

Table 3
Person-Trip Generation – LUC 221 (Prior to Internal Capture Reductions)

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise)	221	50 DU	5	15	20	16	10	26

Table 4
Person-Trip Generation– LUC 820 (Prior to Internal Capture Reductions)

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Shopping Center	820	6,400 SF	5	2	7	41	45	86

Table 5
Person-Trip Generation – LUC 221 (After Internal Capture Reductions)

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise)	221	50 DU	5	15	20	13	8	21

Table 6
Person-Trip Generation– LUC 820 (After Internal Capture Reductions)

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Shopping Center	820	6,400 SF	5	2	7	33	36	69

Table 7
Person-Trip Generation by Travel Mode – LUC 221

Travel Mode	Land Use Code	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Vehicle	221	5	15	20	13	8	21
Walking	221	0	0	0	0	0	0
Cycling	221	0	0	0	0	0	0
Transit	221	0	0	0	0	0	0
Total New Person-Trips		**5**	**15**	**20**	**13**	**8**	**21**

Table 8
Person-Trip Generation by Travel Mode – LUC 820

Travel Mode	Land Use Code	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Vehicle	820	5	2	7	32	35	67
Walking	820	0	0	0	1	1	2
Cycling	820	0	0	0	0	0	0
Transit	820	0	0	0	0	0	0
Total New Person-Trips		**5**	**2**	**7**	**33**	**36**	**69**

Trip Distribution

The existing traffic volumes were used to develop a trip distribution model for the AM and PM peak hours for the new vehicle traffic that will be generated by the proposed development. Table 9 provides the probable distribution based on the existing traffic patterns.

Table 9
Trip Distribution

Direction	Via	AM Peak Hour		PM Peak Hour	
		To	From	To	From
North	N. Eton St.	7%	15%	9%	13%
South	S. Eton St.	7%	9%	10%	10%
East	E. Maple Rd.	39%	37%	40%	34%
	E. Lincoln St.	2%	2%	2%	3%
West	E. Maple Rd.	38%	28%	31%	33%
	Yosemite Blvd.	1%	1%	1%	1%
	E. Lincoln St.	6%	8%	7%	6%
Total		**100%**	**100%**	**100%**	**100%**

The new vehicle trip assignments for the site are shown in Figure 3 attached to this memo. The pass-by vehicle trip reassignments for the site are shown in Figure 4 attached to this memo. The background traffic volumes were combined with the site generated traffic volumes and pass-by vehicle volume reassignments to obtain the total future traffic volumes, which are shown in Figure 5 attached to this memo.

Level of Service Analysis

Level of service (LOS) analyses for existing, background, and total future (build) conditions for the AM and PM peak hours were performed for the intersections of:

- S. Eton St. & E. Maple Rd.
  - Signalized Intersection
- S. Eton St. & Yosemite Blvd./North Driveway
  - Unsignalized Intersection
- S. Eton St. & E. Lincoln St.
  - Unsignalized Intersection

According to the most recent edition of the Highway Capacity Manual (6th Edition), LOS ranges from A to F, with LOS A representing desirable traffic operations characterized by low vehicle delays and LOS F representing extremely poor traffic operations characterized by excessive vehicle delays and long vehicle queues. LOS D or above is generally considered to be acceptable in an urban/suburban area. Table 10 presents the criteria for defining the various LOS for signalized and unsignalized intersections.

Table 10
LOS Criteria

LOS	Average Stopped Delay/Vehicle (seconds)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

The results of the LOS analyses for the intersection listed above are summarized in Table 11 through Table 13. Full LOS output reports are attached to this memorandum.

Existing Conditions

The results of the LOS analysis for *Existing Conditions* indicate that all approaches of the study intersections operate at LOS D or better during the AM and PM peak hours. The results of the operational analysis for *Existing Conditions* are presented in Table 11.

Table 11
LOS Analysis for Existing Conditions

Intersection	Control Type	Approach / *Movement*	AM Peak Hour		PM Peak Hour	
S. Eton St. & E. Maple Rd.	Signalized	EB	D	42.6	D	48.9
		WB	A	1.1	A	1.0
		NB	C	21.7	C	26.6
		NBL	*D*	*47.6*	*D*	*52.3*
		NBR	*B*	*18.1*	*C*	*22.3*
		Overall	**B**	**17.5**	**C**	**22.3**
S. Eton St. & Yosemite Blvd.	TWSC	EB	C	16.1	D	30.4
		WB	B	11.9	D	33.0
		NBL	*A*	*8.5*	*B*	*10.1*
		SBL	*A*	*8.6*	*A*	*8.8*
S. Eton St. & E. Lincoln St.	AWSC	EB	B	13.1	C	15.2
		WB	B	10.1	B	12.6
		NB	C	15.3	C	21.9
		SB	B	11.8	C	24.8

Background Conditions

The results of the LOS analysis for *Background Conditions* indicate that all approaches of the study intersections continue to operate at LOS D or better during the AM and PM peak hours. The results of the operational analysis for *Background Conditions (without the proposed development)* are presented in Table 12.

Table 12
LOS Analysis for Background Conditions

Intersection	Control Type	Approach / *Movement*	AM Peak Hour		PM Peak Hour	
S. Eton St. & E. Maple Rd.	Signalized	EB	D	43.1	D	50.1
		WB	A	1.1	A	1.1
		NB	C	21.7	C	26.7
		NBL	*D*	*47.6*	*D*	*52.4*
		NBR	*B*	*18.1*	*C*	*22.4*
		Overall	**B**	**17.6**	**C**	**22.8**
S. Eton St. & Yosemite Blvd.	TWSC	EB	C	16.2	D	31.2
		WB	B	11.9	D	33.7
		NBL	*A*	*8.5*	*B*	*10.2*
		SBL	*A*	*8.6*	*A*	*8.8*
S. Eton St. & E. Lincoln St.	AWSC	EB	B	13.2	C	15.4
		WB	B	10.1	B	12.7
		NB	C	15.5	C	22.4
		SB	B	11.9	D	25.6

Future Conditions

The results of the LOS analysis for *Future Conditions* indicate that most approaches of the study intersections continue to operate at LOS D or better during the AM and PM peak hours. The results of the operational analysis for Future Conditions *(with the proposed development)* are presented in Table 13.

Table 13
LOS Analysis for Future Conditions

Intersection	Control Type	Approach / *Movement*	AM Peak Hour		PM Peak Hour	
S. Eton St. & E. Maple Rd.	Signalized	EB	D	43.2	D	50.9
		WB	A	1.1	A	1.1
		NB	C	22.1	C	27.3
		NBL	*D*	*47.8*	*D*	*52.9*
		NBR	*B*	*18.2*	*B*	*22.8*
		Overall	**B**	**17.8**	**C**	**23.2**
S. Eton St. & Yosemite Blvd. / Site Driveway	TWSC	EB	C	16.8	E	37.3
		WB	B	14.1	E	48.9
		NBL	*A*	*8.5*	*B*	*10.1*
		SBL	*A*	*8.6*	*A*	*9.0*
S. Eton St. & E. Lincoln St.	AWSC	EB	B	13.2	C	15.6
		WB	B	10.1	B	12.9
		NB	C	15.6	C	23.2
		SB	B	12.0	D	26.6

Two approaches operate at LOS E or F, as follows:

S. Eton St. & Yosemite Blvd. / Site Driveway

- The EB and WB approaches operate at LOS E during the PM peak hour.

The following observations were made following the ***Future Conditions*** analysis:

S. Eton St. & Yosemite Blvd. / Site Driveway

- After reviewing the microsimulation analysis, it was noted that 95th percentile queue lengths on the westbound (Site Driveway) approach reached 35 feet (1-2 vehicles) during the AM peak hour and 53 feet (2 vehicles) during the PM peak hour. The 95th percentile queue lengths on the eastbound (Yosemite Blvd.) approach reached 41 feet (1-2 vehicles) during the AM peak hour and 38 feet (1-2 vehicles) during the PM peak hour. Vehicle delays were also extracted from the microsimulation analysis. The delay outputs indicated that all movements at this intersection operate at LOS D or better. No intersection improvements are recommended at this time based on the Future Conditions analysis. The calculated delays extracted from the microsimulation analysis are shown below in Table 14 for the intersection of S. Eton St. and Yosemite Blvd.

Table 14
Microsimulation Analysis Results – S. Eton and Yosemite

Intersection	Control Type	Approach / *Movement*	PM Peak Hour	
S. Eton St. & Yosemite Blvd. / Site Driveway	TWSC	EB	B	13.5
		EBL	*C*	*22.0*
		EBT	-	-
		EBR	*A*	*8.9*
		WB	B	10.2
		WBL	*B*	*14.5*
		WBT	*D*	*28.4*
		WBR	*A*	*7.3*
		NBL	*B*	*10.2*
		SBL	*A*	*9.1*

Site Circulation

95th percentile queue lengths were assessed at the vehicle access point on S. Eton St. These queue lengths did not exceed 36 feet (1-2 vehicles) during the AM peak hour and 64 feet (2-3 vehicles) during the PM peak hour. In addition, the assessment of 95th percentile queue lengths at E. Maple Rd. and S. Eton St. indicated that queue lengths could reach approximately 217 feet (8-9 vehicles) during the AM peak hour and 295 feet (12 vehicles) during the PM peak hour. Although it is possible that vehicle blockages at the site driveway in the adjacent northbound lane could infrequently occur during the PM peak hour, these queues were observed to clear quickly and minimal vehicle impacts at the site egress are anticipated.

Crash Analysis

A crash analysis was conducted at the studied intersections. Traffic crash data was reviewed for the most recent completed five years (January 1, 2015 – December 31, 2019) of available data. The results of this analysis revealed there was a total of 29 crashes on these segments. Of these 29 crashes, there were: zero fatal or serious injury (A) crashes; 1 minor injury (B) crash; 5 potential injury (C) crashes; and 23 property damage only (O) crashes. Below is a summary of all crash types within the studied segments:

- 12 Angle Crashes
  - 9 crashes involved a vehicle failing to stop for a stop sign
  - 3 crashes involved a vehicle attempted to turn from or into the incorrect lane
- 7 Rear-end Crashes
  - 2 crashes in icy/snowy/wet road conditions
  - 6 crashes occurred at red light or stop sign

  - 1 crash occurred in slowed traffic
- 7 Sideswipe Same Direction Crashes
  - 2 crashes in icy/snowy road conditions
  - 5 crashes involved a vehicle attempting to turn from or into the incorrect lane
  - 2 crashes involved a vehicle failing to stop for a stop sign or red light
- 1 Backing Crash
  - Involved a vehicle backing up to avoid a turning bus
- 1 Single Motor Vehicle Crash
  - Crash involved a vehicle fleeing the scene of a separate crash
- 1 Other Crash
  - Crash involved a vehicle attempting to turn left and hitting a pedestrian who had the right of way

One crash pattern that was identified involved vehicles turning from or into the incorrect lane. Restriping along S Eton Street to add protected bike lanes was completed in 2019 and eliminated the potential for this type of crash. The other crash pattern that was identified was vehicles failing to stop at a stop sign. These intersections should be monitored to assure that trees are not overgrown and blocking visibility of the stop signs. A summary of the crash data is attached to this memorandum.

Multimodal Considerations

Cyclists

Separated on-street bicycle lanes are available on both sides of S. Eton St. from E. Maple Rd. in the north to Villa Rd. in the south. South of this point, the lanes become an on-street bicycle track on the west side of S. Eton St. southward to E. Lincoln St. The proposed development will include bicycle parking for the residential component. It will also include street-side bicycle racks consistent with the requirements of the City of Birmingham in the Zoning Ordinance and streetscape design standards. No further bike network enhancements are required to support the subject development.

Pedestrians

Adjacent to the site, sidewalks are located on both sides of S. Eton St., E. Maple Rd., and E. Lincoln St. Pedestrian crossings are located across the eastbound and northbound approaches at the signalized intersection of E. Maple Rd. and S. Eton St. Pedestrian crossing opportunities across S. Eton St. are also located at the unsignalized intersection with Villa Rd. to the immediate south. The proposed development will maintain the existing sidewalk configuration. No further enhancements to pedestrian access are required to support the development.

Transit Users

Route 450/460 – Woodward Local has scheduled stop locations at E. Maple Rd. & S. Eton St. These routes, administered by SMART, run for approximately 18 hours on weekdays and Saturdays, and for approximately 16 hours on Sundays. Headways are approximately 60 minutes for each of the two independent numbered routes.

Route 780 – 15 Mile Crosstown also shares the scheduled stop locations at E. Maple Rd. & S. Eton St. This route, also administered by SMART, runs for approximately 18 hours on weekdays and Saturdays. Headways are approximately 60 minutes for this route.

No transit service is available on S. Eton Rd. No additional bus stops or routes are required to support the subject development.

Conclusions and Recommendations for the Traffic Impact Study

The proposed development is comprised of 50 residential dwelling units and 6,400 square feet (SF) of general retail with an anticipated opening date in 2022. The development will utilize two existing driveways: one on S. Eton St. at Yosemite Blvd. (primary access); and, one on Villa Rd. at Lewis St. (secondary access).

The proposed development is forecast to generate 23 new trips during the AM peak hour (8 inbound and 15 outbound from the site) and 48 new trips during the PM peak hour (26 inbound and 22 outbound from the site).

An operational analysis was performed for *Existing Conditions*, *Background Conditions (without the proposed development)*, and *Future Conditions (with the proposed development)* for the intersections of:

- S. Eton St. & E. Maple Rd.;
- S. Eton St. & Yosemite Blvd./North Driveway; and
- S. Eton St. & E. Lincoln St.

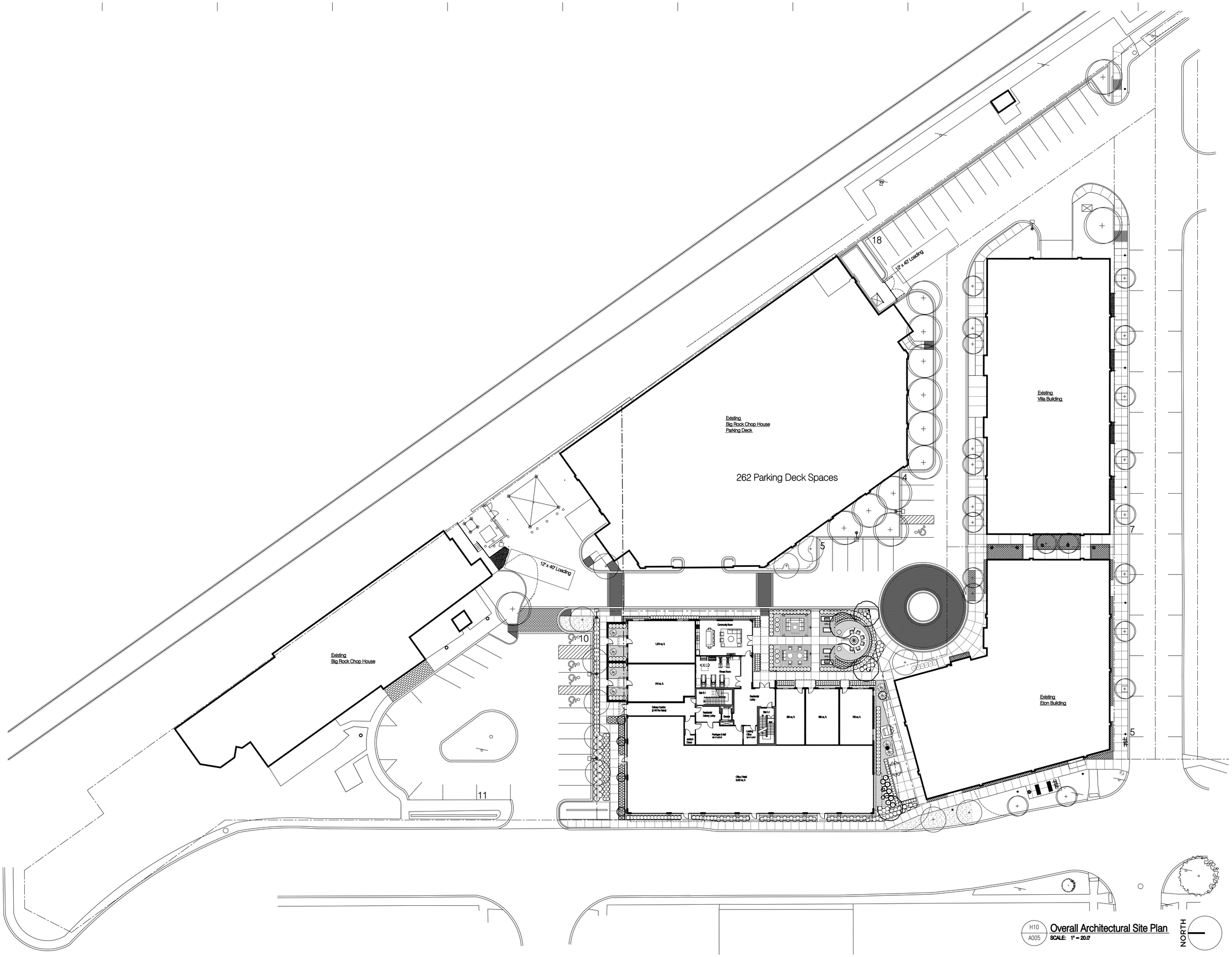
The operational analysis indicated that most approaches of the study intersections will operate at LOS D or better during both the AM and PM peak hours. No improvements are required to mitigate unacceptable traffic operations during any of the analysis scenarios.

Although the *Future Conditions* analysis indicated that the EB and WB approaches at the intersection of S. Eton St. and Yosemite Blvd. / Site Driveway will operate at LOS E during the PM peak hour, the subsequent analysis of 95th percentile queue lengths and simulated vehicle delays indicated that improvements are not required on these approaches. The microsimulation analysis indicated that all approaches and movements will operate at a LOS D or better and queues on these approaches were calculated to be at most two (2) vehicles.

Overall, the proposed project does not have a significant impact at the study intersections or on the surrounding road network. No transportation infrastructure improvements will be required to support the development on opening day.

Attachments

SITE PLAN



H10 / A005 **Overall Architectural Site Plan**
SCALE: 1" = 20.0'

NORTH

SAROKI
ARCHITECTURE
430 N. OLD WOODWARD
BIRMINGHAM, MI 48009
P. 248.258.5707
F. 248.258.5515
SarokiArchitecture.com

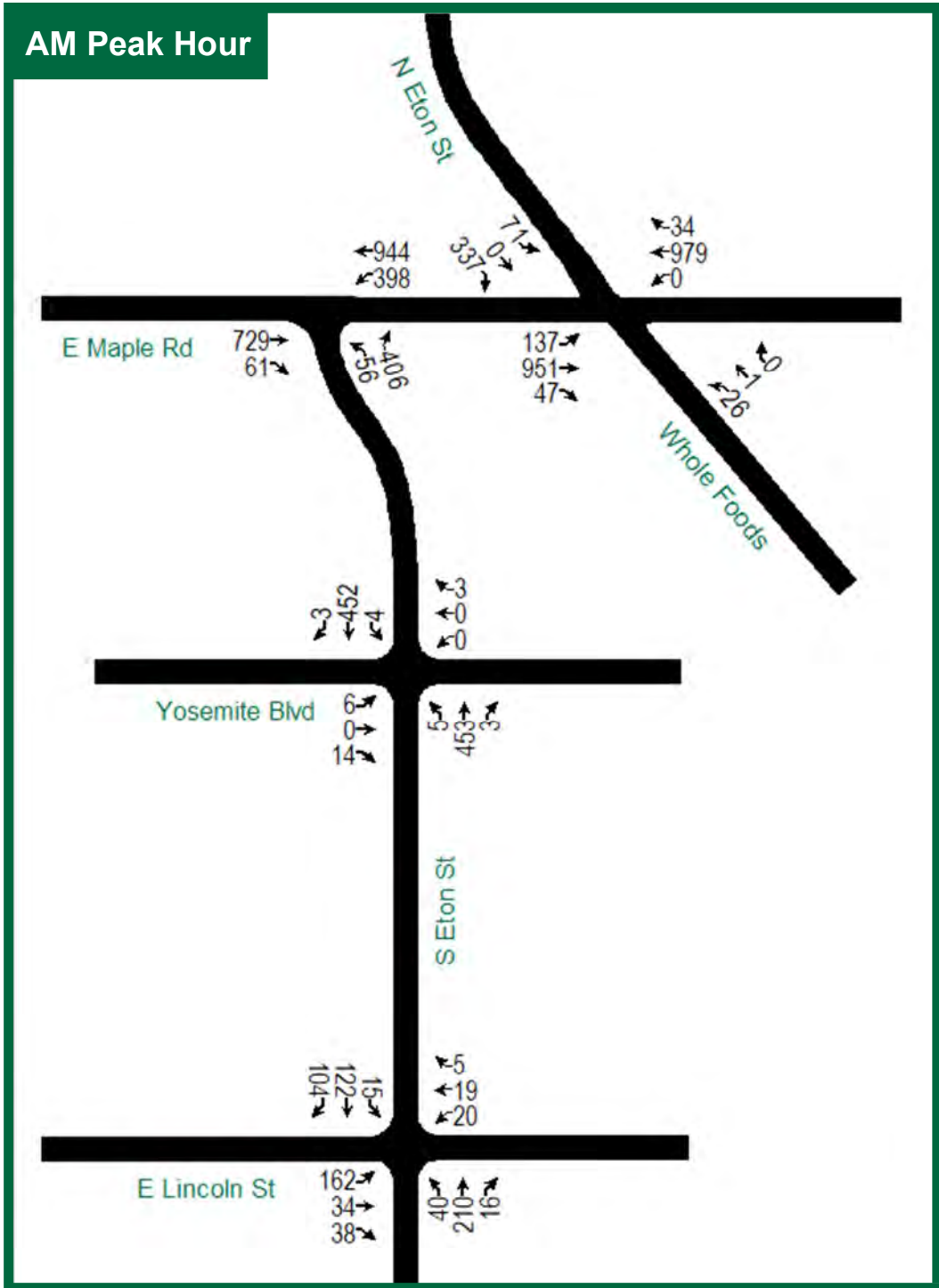
Project:
The District Lofts
Phase 3
Eton Street
Birmingham, Michigan 48009

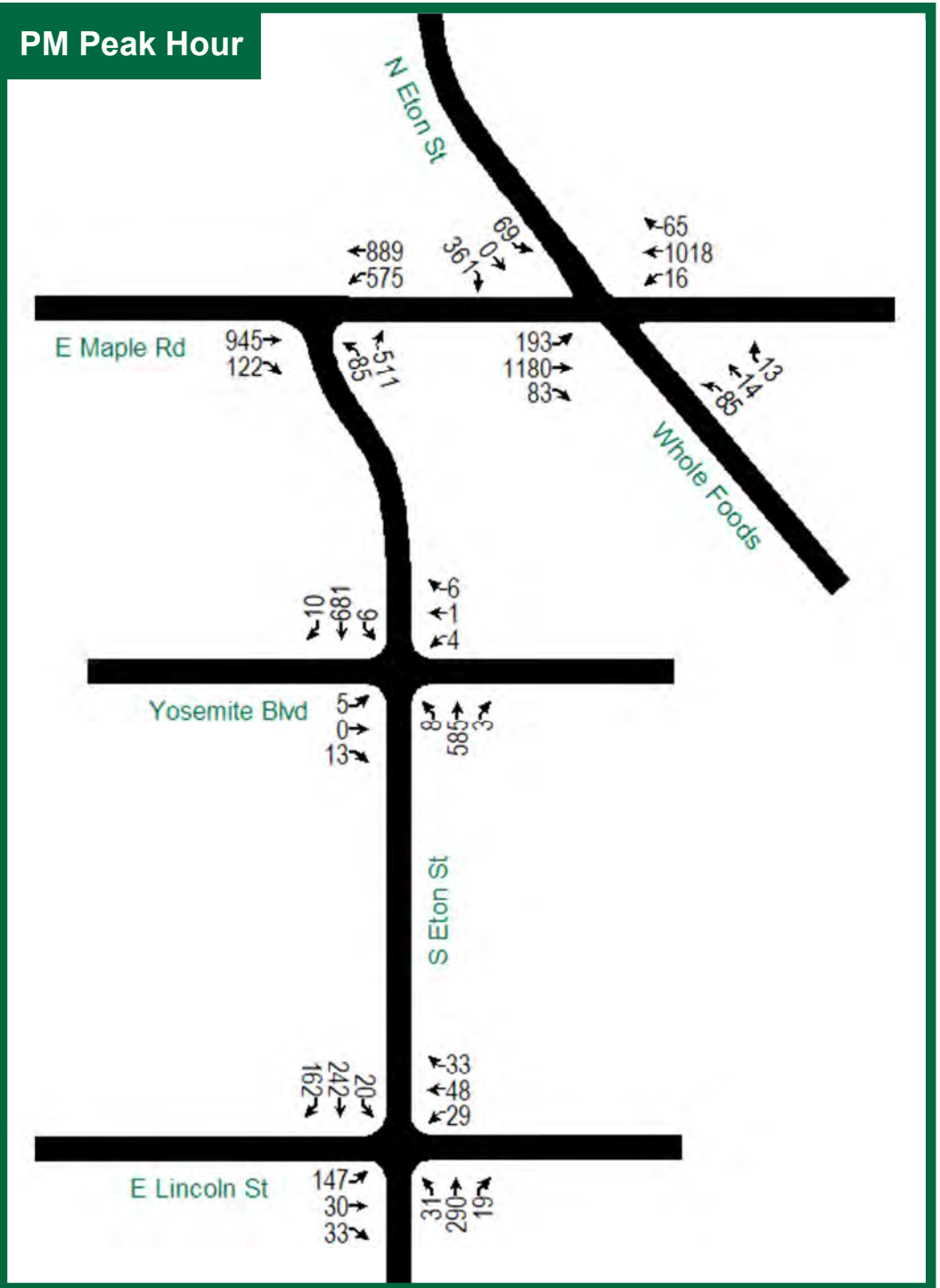
Date:	Issued For:
2021-02-22	REVIEW MEETING
2021-03-01	REVIEW MEETING
2021-03-05	UPDATE

Sheet No.:
A005

OVERALL
ARCHITECTURAL SITE PLAN

REPORT FIGURES

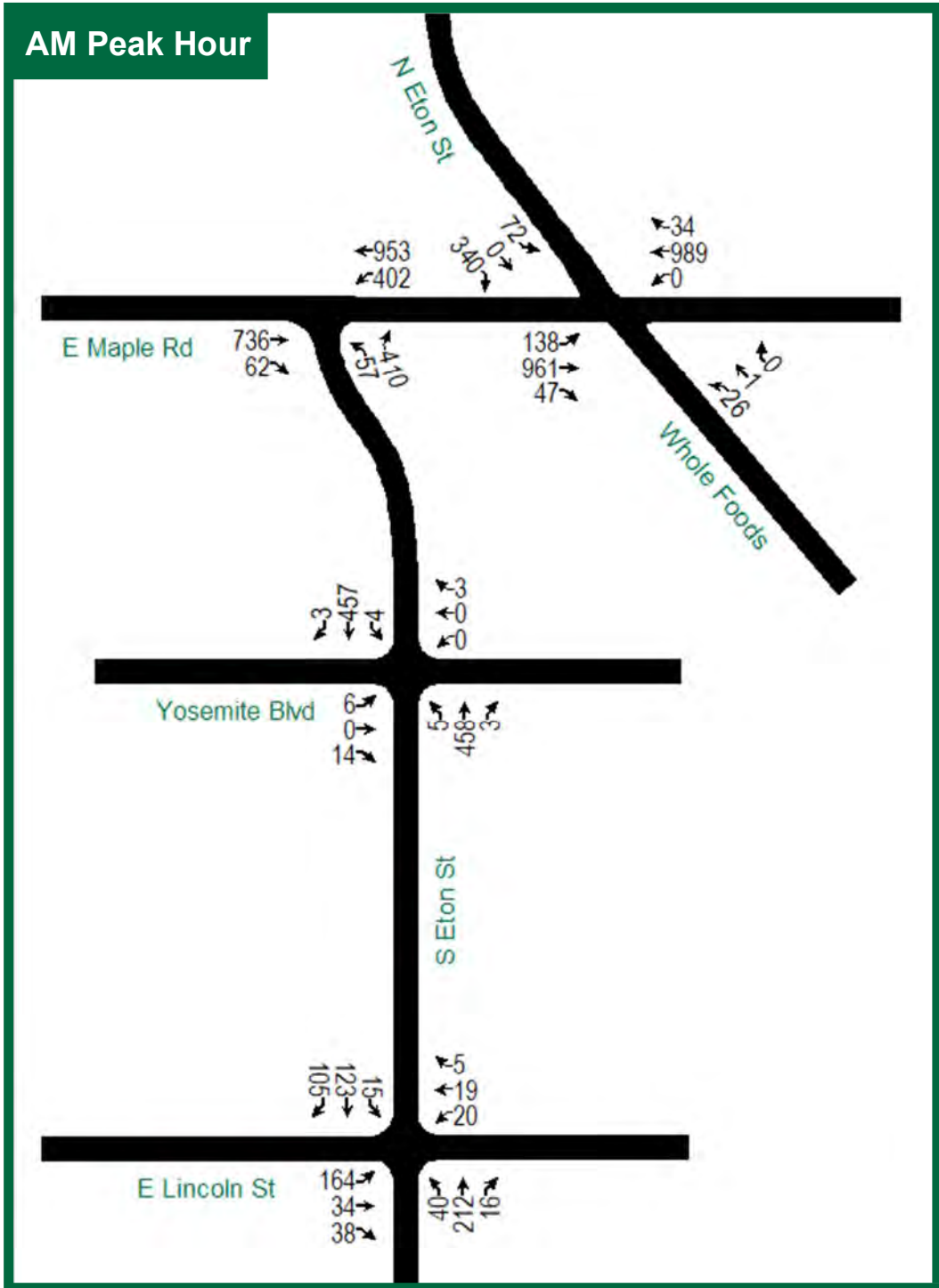


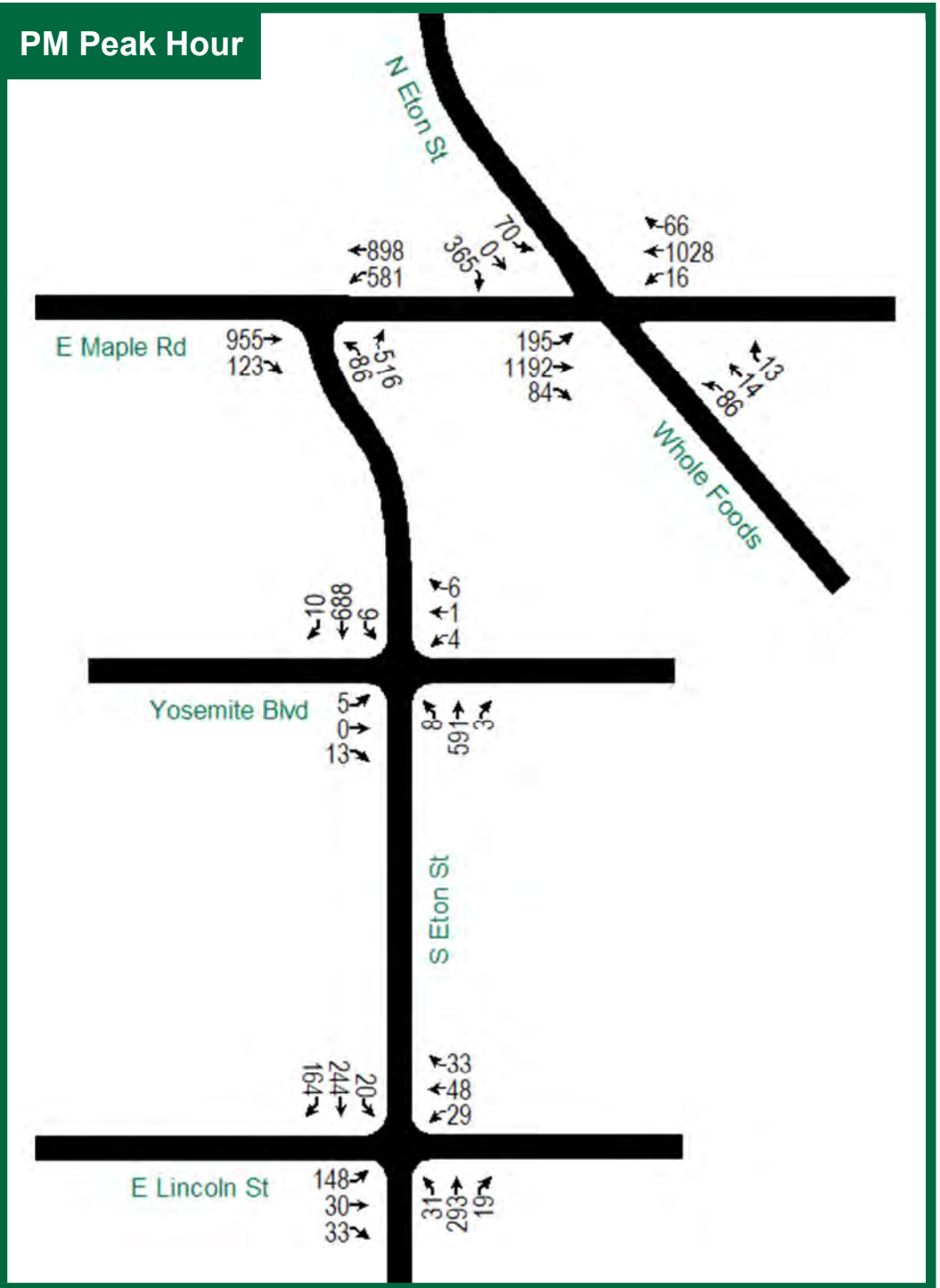


ROWE PROFESSIONAL SERVICES COMPANY
Large Firm Resources. Personal Attention.

2021 Existing Conditions Traffic Volumes
District Lofts Phase 3 TIS
Figure 1

Not to scale – for illustrative purposes only



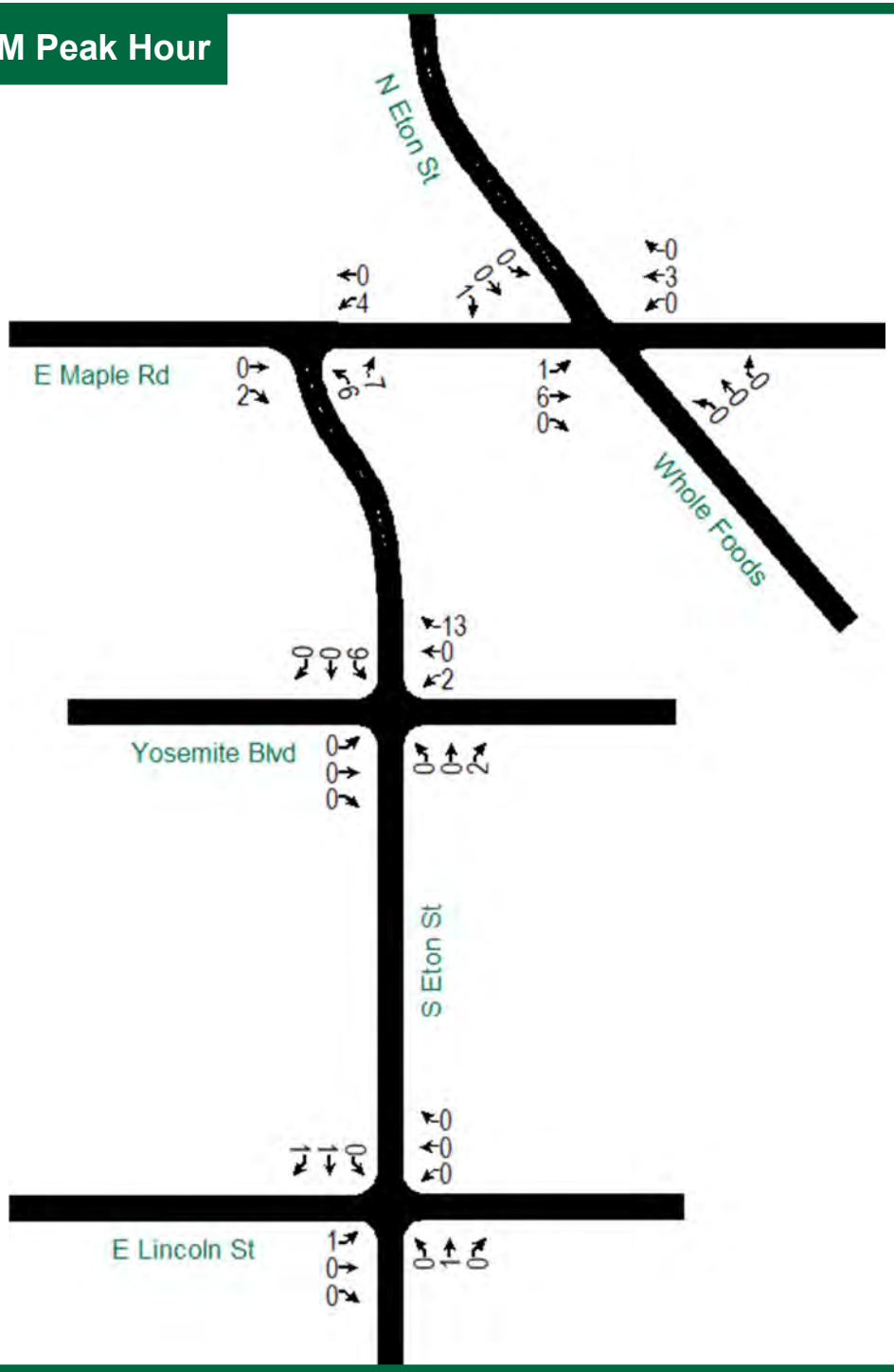


ROWE PROFESSIONAL SERVICES COMPANY
Large Firm Resources. Personal Attention.

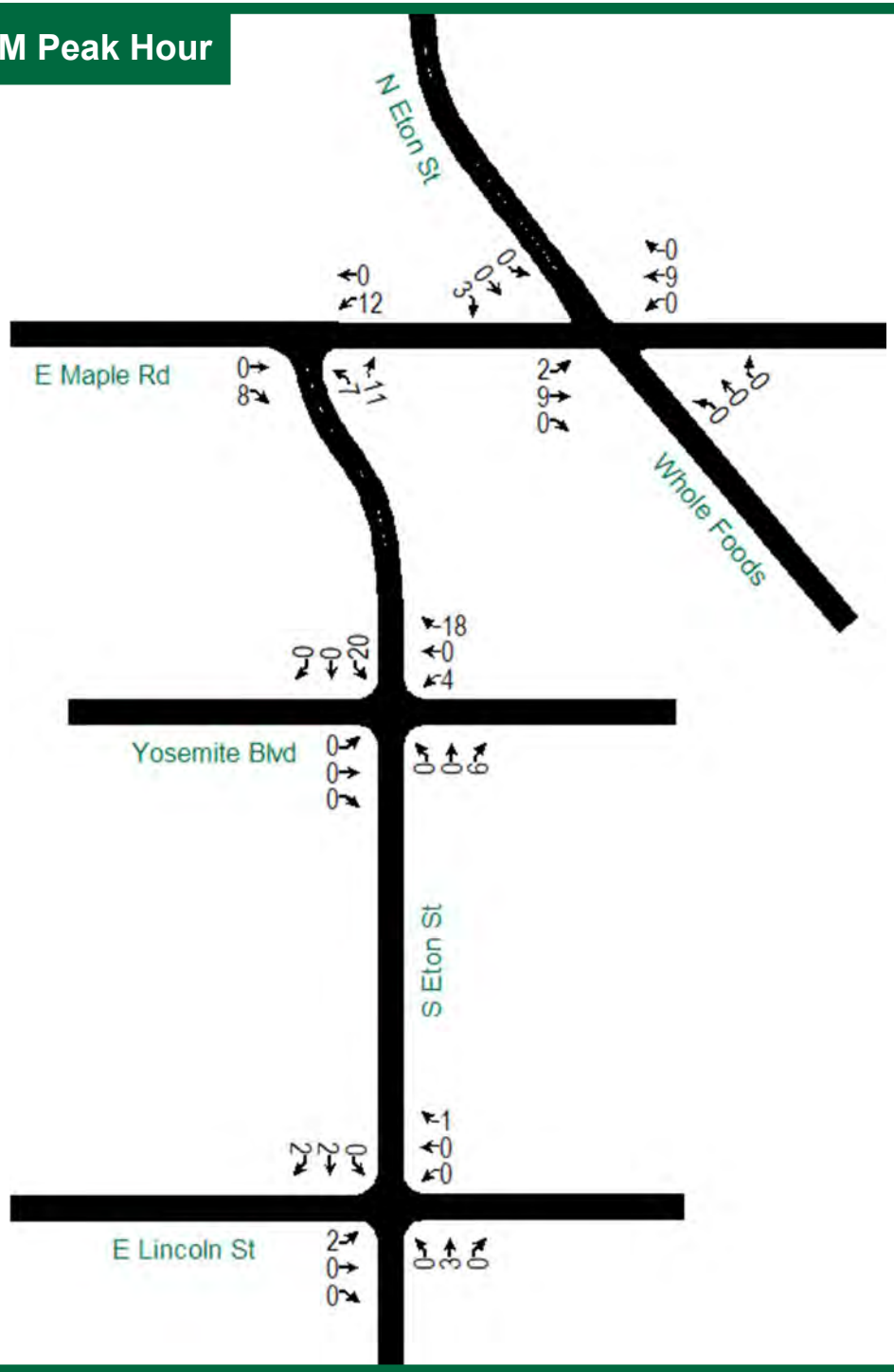
2023 Background Conditions Traffic Volumes
District Lofts Phase 3 TIS
Figure 2

Not to scale – for illustrative purposes only

AM Peak Hour



PM Peak Hour



ROWE PROFESSIONAL SERVICES COMPANY
Large Firm Resources. Personal Attention.

2023 Site-Generated Traffic Volumes
District Lofts Phase 3 TIS
Figure 3

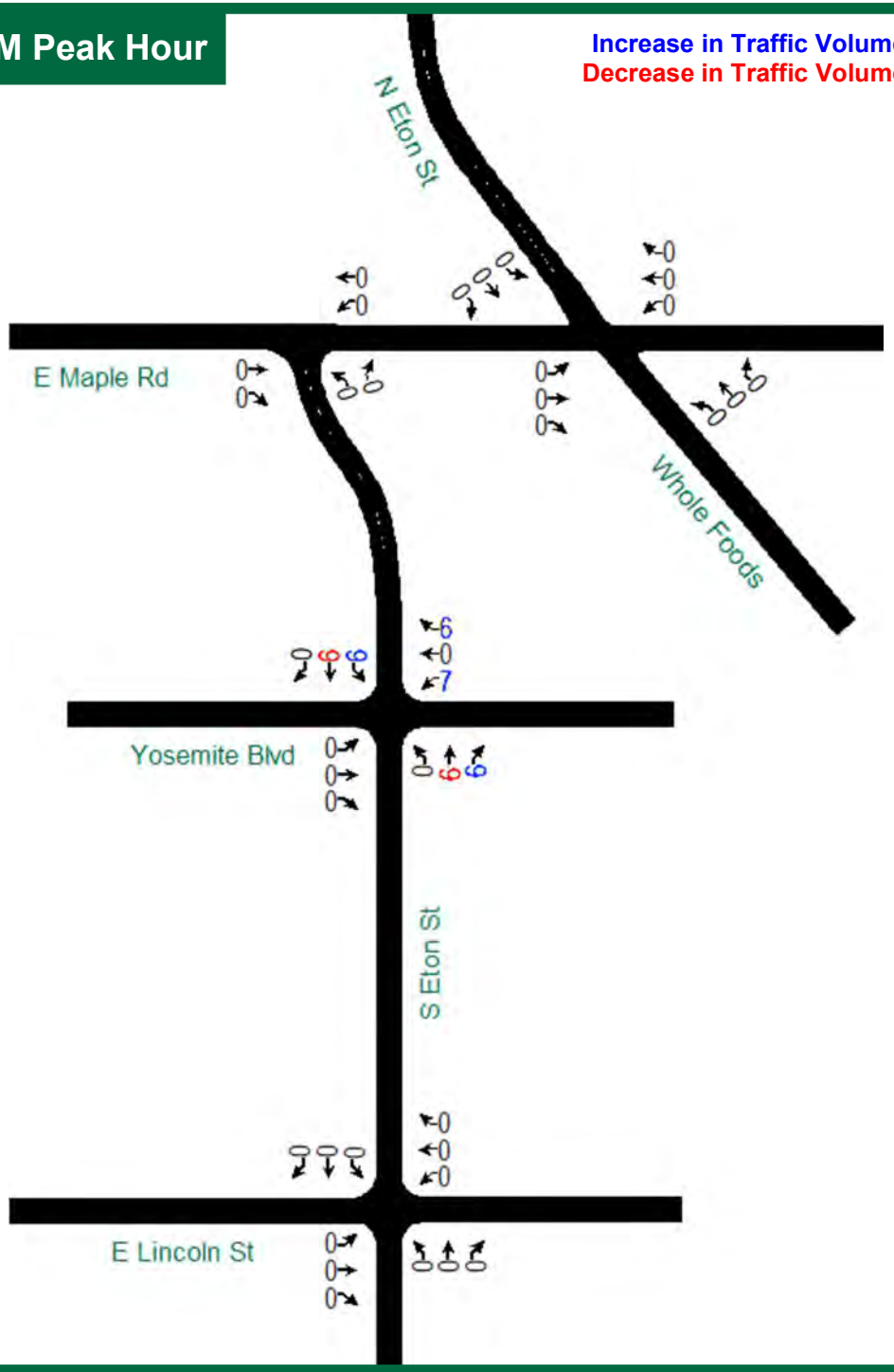
Not to scale – for illustrative purposes only

AM Peak Hour

No AM Peak Hour Pass-By Trips

PM Peak Hour

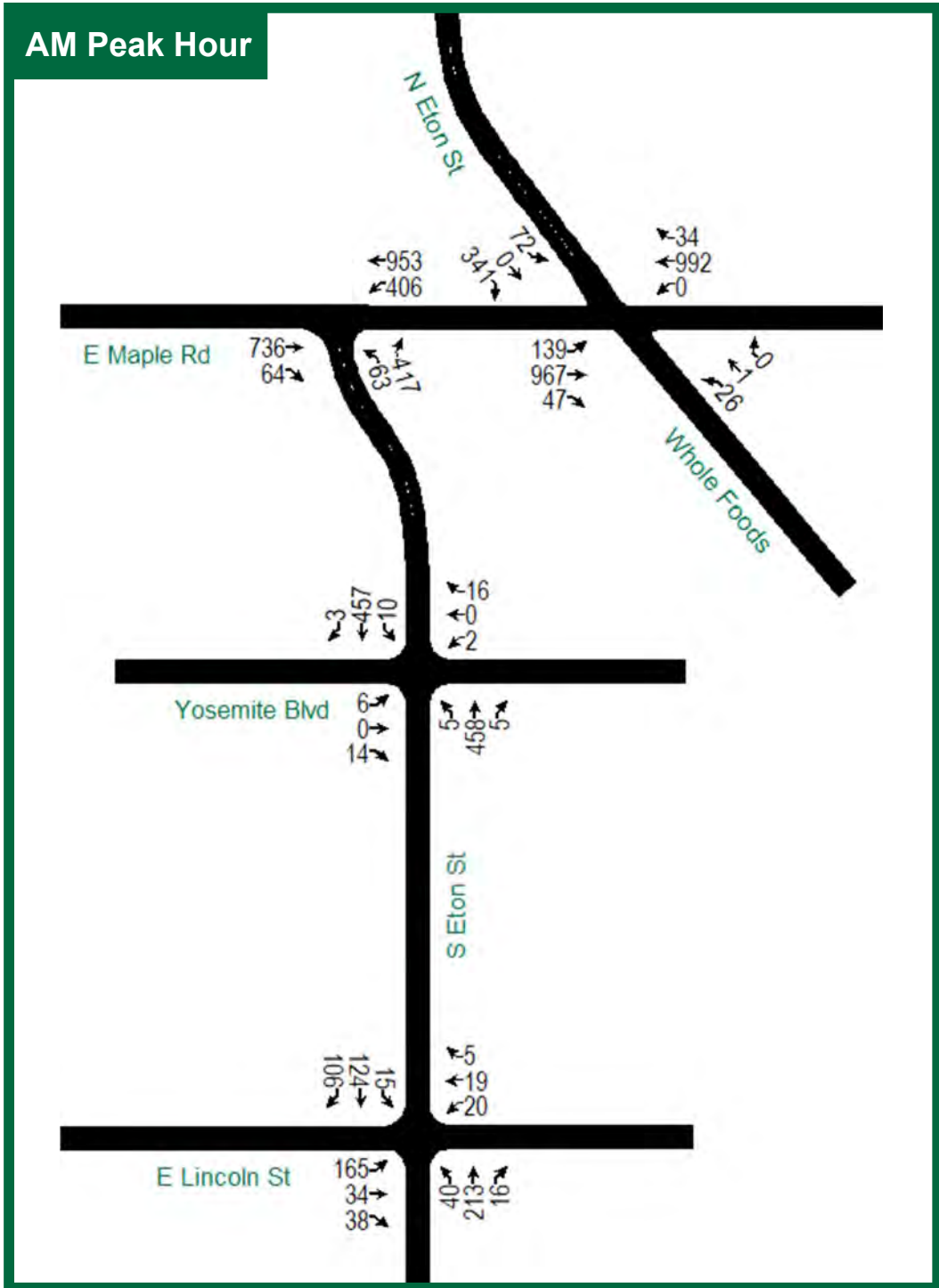
Increase in Traffic Volumes
Decrease in Traffic Volumes

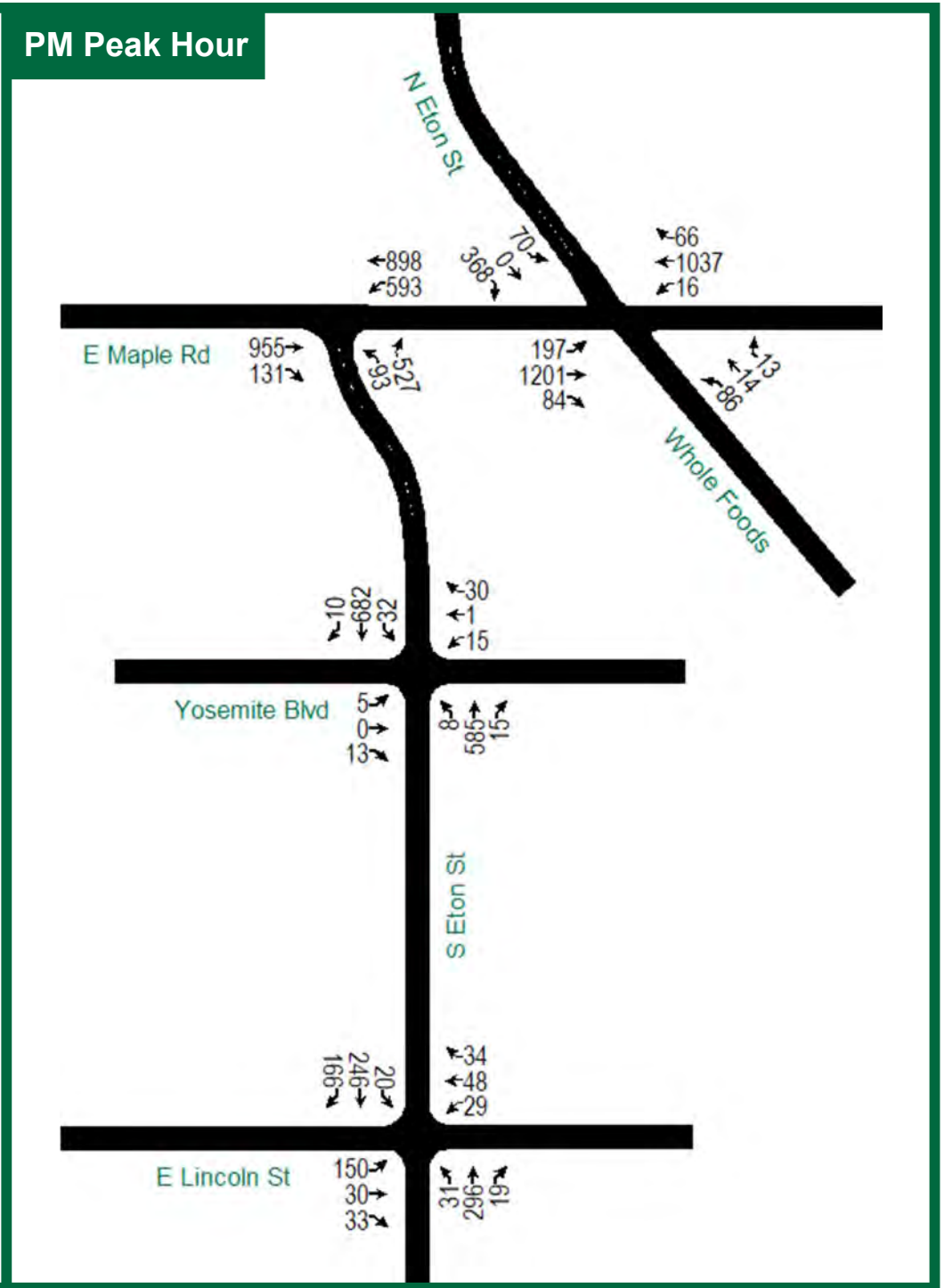


ROWE PROFESSIONAL SERVICES COMPANY
Large Firm Resources. Personal Attention.

2023 Pass-By Traffic Volumes
District Lofts Phase 3 TIS
Figure 4

Not to scale – for illustrative purposes only





ROWE PROFESSIONAL SERVICES COMPANY
Large Firm Resources. Personal Attention.

2023 Future Conditions Traffic Volumes
District Lofts Phase 3 TIS
Figure 5

Not to scale – for illustrative purposes only

TRAFFIC COUNTS

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:		**Organization:**	
Project Location:		**Performed By:**	
Scenario Description:		**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	712	2,000	SF	4	3	1
Retail	890	2,000	SF	2	2	0
Restaurant	931	2,400	SF	19	13	6
Cinema/Entertainment				0		
Residential	221	50	DU	17	4	13
Hotel				0		
All Other Land Uses[2]				0		
Total				42	22	20

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.06		4%	1.06		4%
Retail	1.17		4%	1.17		4%
Restaurant	1.78		4%	1.78		4%
Cinema/Entertainment						
Residential	1.13		4%	1.13		4%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	3	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	60	33	27
Internal Capture Percentage	10%	9%	11%
External Vehicle-Trips[3]	38	20	18
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	1	1	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	0%	N/A
Restaurant	13%	0%
Cinema/Entertainment	N/A	N/A
Residential	0%	20%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:		**Organization:**	
Project Location:		**Performed By:**	
Scenario Description:		**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**SAT Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	712	2,000	SF	5	2	3
Retail	890	2,000	SF	8	4	4
Restaurant	931	2,400	SF	26	15	11
Cinema/Entertainment				0		
Residential	221	50	DU	23	14	9
Hotel				0		
All Other Land Uses[2]				0		
Total				62	35	27

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.11		4%	1.11		4%
Retail	1.21		4%	1.21		4%
Restaurant	1.78		4%	1.78		4%
Cinema/Entertainment						
Residential	1.15		4%	1.15		4%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	1	3		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	2	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	88	50	38
Internal Capture Percentage	27%	24%	32%
External Vehicle-Trips[3]	43	25	18
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	2	1	1

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	50%	0%
Retail	80%	40%
Restaurant	11%	35%
Cinema/Entertainment	N/A	N/A
Residential	25%	30%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

South Eton Road and Lincoln Avenue (unsignal... - TMC

Thu Jan 28, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810060, Location: 42.539081, -83.19559

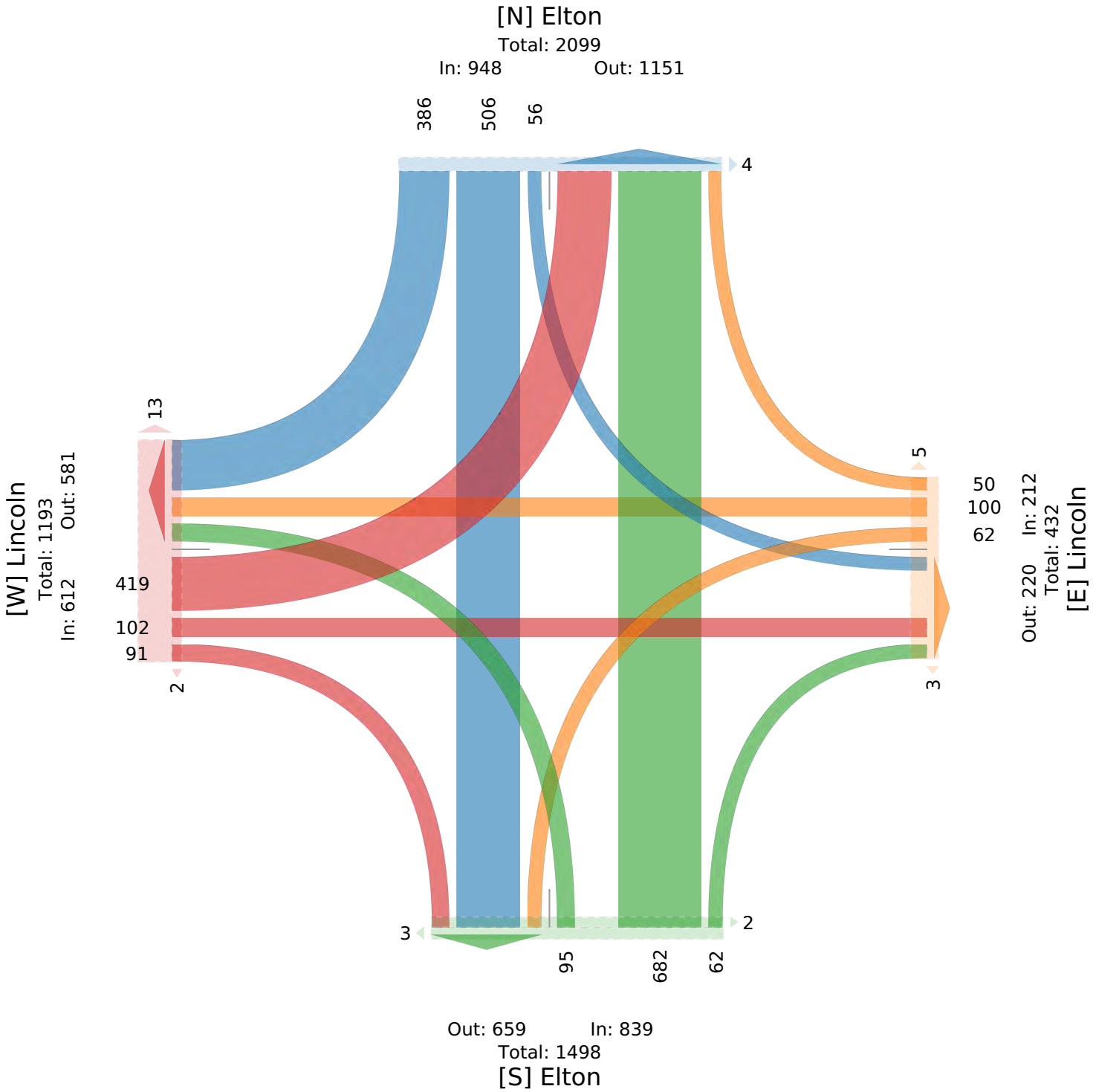
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Lincoln						Lincoln						Elton						Elton						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-01-28 7:00AM	55	16	9	0	**80**	4	7	7	4	0	**18**	1	20	100	13	0	**133**	2	13	82	75	0	**170**	2	**401**
8:00AM	129	27	30	0	**186**	1	16	15	4	0	**35**	0	32	167	13	0	**212**	0	12	97	83	0	**192**	0	**625**
4:00PM	126	34	22	0	**182**	3	13	33	21	0	**67**	4	20	175	17	0	**212**	1	15	170	108	0	**293**	0	**754**
5:00PM	109	25	30	0	**164**	7	26	45	21	0	**92**	3	23	240	19	0	**282**	2	16	157	120	0	**293**	2	**831**
Total	419	102	91	0	**612**	15	62	100	50	0	**212**	8	95	682	62	0	**839**	5	56	506	386	0	**948**	4	**2611**
% Approach	68.5%	16.7%	14.9%	0%	**-**	-	29.2%	47.2%	23.6%	0%	**-**	-	11.3%	81.3%	7.4%	0%	**-**	-	5.9%	53.4%	40.7%	0%	**-**	-	**-**
% Total	16.0%	3.9%	3.5%	0%	**23.4%**	-	2.4%	3.8%	1.9%	0%	**8.1%**	-	3.6%	26.1%	2.4%	0%	**32.1%**	-	2.1%	19.4%	14.8%	0%	**36.3%**	-	**-**
Lights	387	101	90	0	**578**	-	59	99	50	0	**208**	-	92	660	61	0	**813**	-	52	485	366	0	**903**	-	2502
% Lights	92.4%	99.0%	98.9%	0%	**94.4%**	-	95.2%	99.0%	100%	0%	**98.1%**	-	96.8%	96.8%	98.4%	0%	**96.9%**	-	92.9%	95.8%	94.8%	0%	**95.3%**	-	95.8%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	1	2	0	**3**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0.2%	0.5%	0%	**0.3%**	-	0.2%
Buses and Single-Unit Trucks	32	1	1	0	**34**	-	3	1	0	0	**4**	-	3	21	1	0	**25**	-	4	20	18	0	**42**	-	105
% Buses and Single-Unit Trucks	7.6%	1.0%	1.1%	0%	**5.6%**	-	4.8%	1.0%	0%	0%	**1.9%**	-	3.2%	3.1%	1.6%	0%	**3.0%**	-	7.1%	4.0%	4.7%	0%	**4.4%**	-	4.0%
Pedestrians	-	-	-	-	-	14	-	-	-	-	-	6	-	-	-	-	-	4	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	93.3%	-	-	-	-	-	75.0%	-	-	-	-	-	80.0%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	6.7%	-	-	-	-	-	25.0%	-	-	-	-	-	20.0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

South Eton Road and Lincoln Avenue (unsignal... - TMC
Thu Jan 28, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810060, Location: 42.539081, -83.19559

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



South Eton Road and Lincoln Avenue (unsignal... - TMC

Thu Jan 28, 2021
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810060, Location: 42.539081, -83.19559

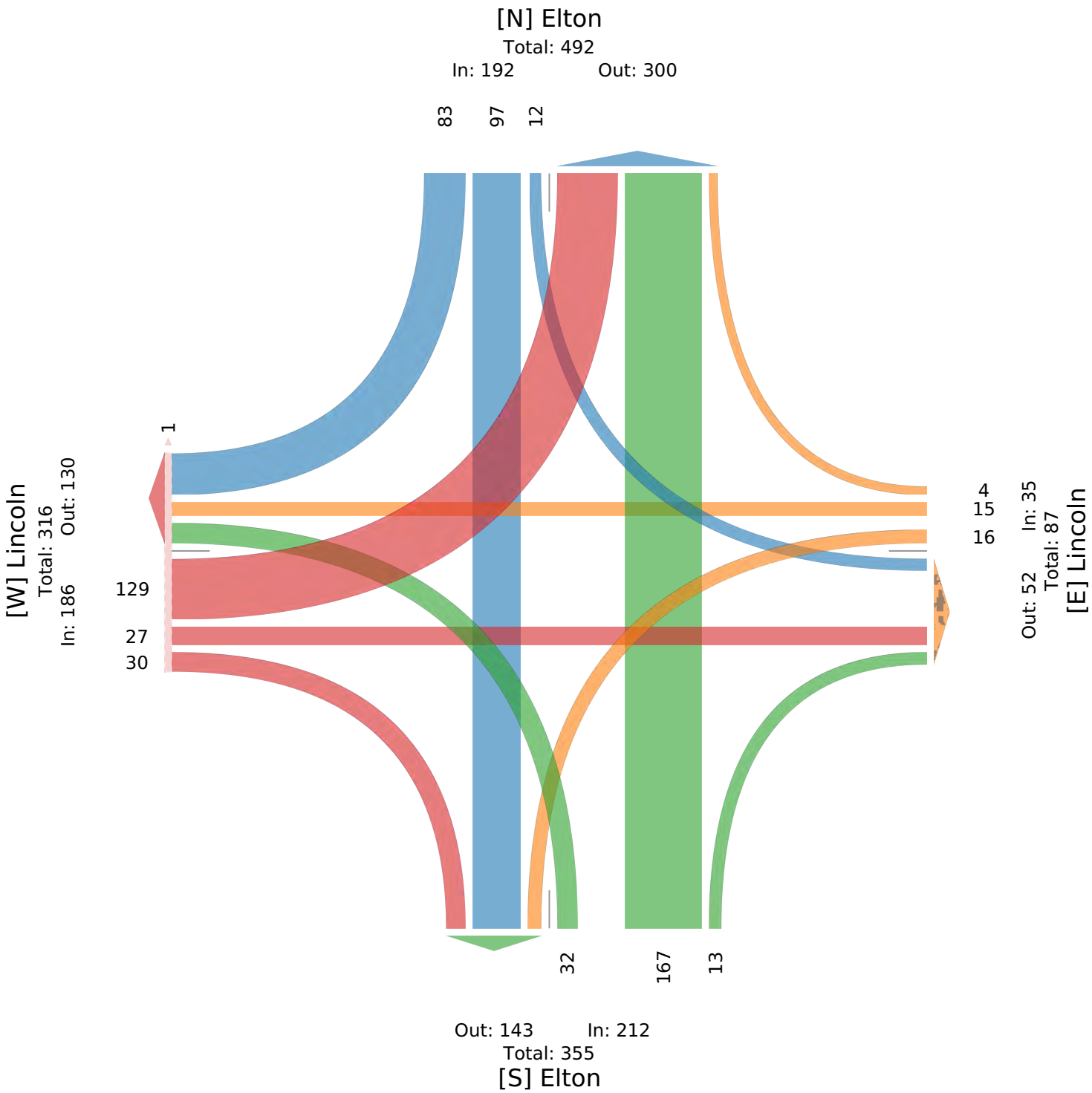
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Lincoln Eastbound						Lincoln Westbound						Elton Northbound						Elton Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2021-01-28 8:00AM	37	5	8	0	**50**	0	3	2	2	0	**7**	0	9	29	1	0	**39**	0	0	28	23	0	**51**	0	**147**
8:15AM	35	5	5	0	**45**	0	4	5	0	0	**9**	0	10	42	3	0	**55**	0	2	15	24	0	**41**	0	**150**
8:30AM	25	13	8	0	**46**	0	5	6	1	0	**12**	0	5	33	3	0	**41**	0	3	28	22	0	**53**	0	**152**
8:45AM	32	4	9	0	**45**	1	4	2	1	0	**7**	0	8	63	6	0	**77**	0	7	26	14	0	**47**	0	**176**
Total	129	27	30	0	**186**	1	16	15	4	0	**35**	0	32	167	13	0	**212**	0	12	97	83	0	**192**	0	**625**
% Approach	69.4%	14.5%	16.1%	0%	**-**	-	45.7%	42.9%	11.4%	0%	**-**	-	15.1%	78.8%	6.1%	0%	**-**	-	6.3%	50.5%	43.2%	0%	**-**	-	**-**
% Total	20.6%	4.3%	4.8%	0%	**29.8%**	-	2.6%	2.4%	0.6%	0%	**5.6%**	-	5.1%	26.7%	2.1%	0%	**33.9%**	-	1.9%	15.5%	13.3%	0%	**30.7%**	-	**-**
PHF	0.872	0.519	0.833	-	**0.930**	-	0.800	0.625	0.500	-	**0.729**	-	0.800	0.663	0.542	-	**0.688**	-	0.429	0.866	0.865	-	**0.906**	-	0.888
Lights	118	27	29	0	**174**	-	15	15	4	0	**34**	-	31	160	13	0	**204**	-	10	95	73	0	**178**	-	590
% Lights	91.5%	100%	96.7%	0%	**93.5%**	-	93.8%	100%	100%	0%	**97.1%**	-	96.9%	95.8%	100%	0%	**96.2%**	-	83.3%	97.9%	88.0%	0%	**92.7%**	-	94.4%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	2	0	**2**	-	3
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.6%	0%	0%	**0.5%**	-	0%	0%	2.4%	0%	**1.0%**	-	0.5%
Buses and Single-Unit Trucks	11	0	1	0	**12**	-	1	0	0	0	**1**	-	1	6	0	0	**7**	-	2	2	8	0	**12**	-	32
% Buses and Single-Unit Trucks	8.5%	0%	3.3%	0%	**6.5%**	-	6.3%	0%	0%	0%	**2.9%**	-	3.1%	3.6%	0%	0%	**3.3%**	-	16.7%	2.1%	9.6%	0%	**6.3%**	-	5.1%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

South Eton Road and Lincoln Avenue (unsignal... - TMC
Thu Jan 28, 2021
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810060, Location: 42.539081, -83.19559

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



South Eton Road and Lincoln Avenue (unsignal... - TMC

Thu Jan 28, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810060, Location: 42.539081, -83.19559

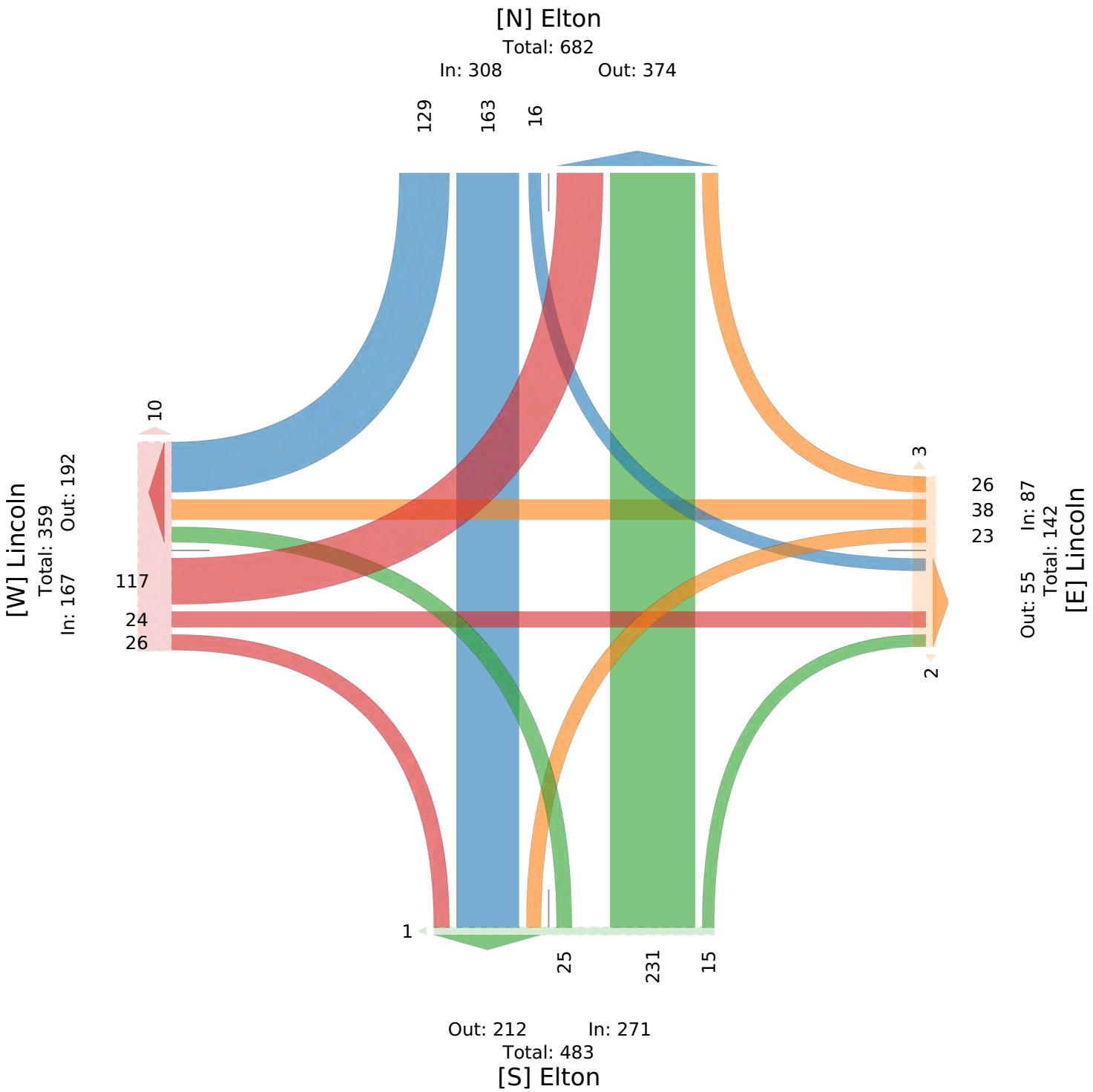
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Lincoln						Lincoln						Elton						Elton						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2021-01-28 4:30PM	29	13	3	0	**45**	0	2	10	7	0	**19**	1	11	44	3	0	**58**	0	5	44	29	0	**78**	0	**200**
4:45PM	25	5	6	0	**36**	3	5	9	7	0	**21**	2	2	49	2	0	**53**	1	5	33	30	0	**68**	0	**178**
5:00PM	33	4	8	0	**45**	4	12	10	5	0	**27**	2	5	70	3	0	**78**	0	3	48	35	0	**86**	0	**236**
5:15PM	30	2	9	0	**41**	3	4	9	7	0	**20**	0	7	68	7	0	**82**	0	3	38	35	0	**76**	0	**219**
Total	117	24	26	0	**167**	10	23	38	26	0	**87**	5	25	231	15	0	**271**	1	16	163	129	0	**308**	0	**833**
% Approach	70.1%	14.4%	15.6%	0%	**-**	-	26.4%	43.7%	29.9%	0%	**-**	-	9.2%	85.2%	5.5%	0%	**-**	-	5.2%	52.9%	41.9%	0%	**-**	-	-
% Total	14.0%	2.9%	3.1%	0%	**20.0%**	-	2.8%	4.6%	3.1%	0%	**10.4%**	-	3.0%	27.7%	1.8%	0%	**32.5%**	-	1.9%	19.6%	15.5%	0%	**37.0%**	-	-
PHF	0.886	0.462	0.722	-	**0.928**	-	0.479	0.950	0.929	-	**0.806**	-	0.568	0.825	0.536	-	**0.826**	-	0.800	0.849	0.921	-	**0.895**	-	0.882
Lights	114	24	26	0	**164**	-	23	38	26	0	**87**	-	25	227	15	0	**267**	-	16	162	128	0	**306**	-	824
% Lights	97.4%	100%	100%	0%	**98.2%**	-	100%	100%	100%	0%	**100%**	-	100%	98.3%	100%	0%	**98.5%**	-	100%	99.4%	99.2%	0%	**99.4%**	-	98.9%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	3	0	0	0	**3**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	0	1	1	0	**2**	-	9
% Buses and Single-Unit Trucks	2.6%	0%	0%	0%	**1.8%**	-	0%	0%	0%	0%	**0%**	-	0%	1.7%	0%	0%	**1.5%**	-	0%	0.6%	0.8%	0%	**0.6%**	-	1.1%
Pedestrians	-	-	-	-	-	10	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	80.0%	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	20.0%	-	-	-	-	-	100%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

South Eton Road and Lincoln Avenue (unsignal... - TMC
Thu Jan 28, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810060, Location: 42.539081, -83.19559

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



South Eton Road and Yosemite Boulevard (unsi... - TMC

Thu Jan 28, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810059, Location: 42.546232, -83.19594

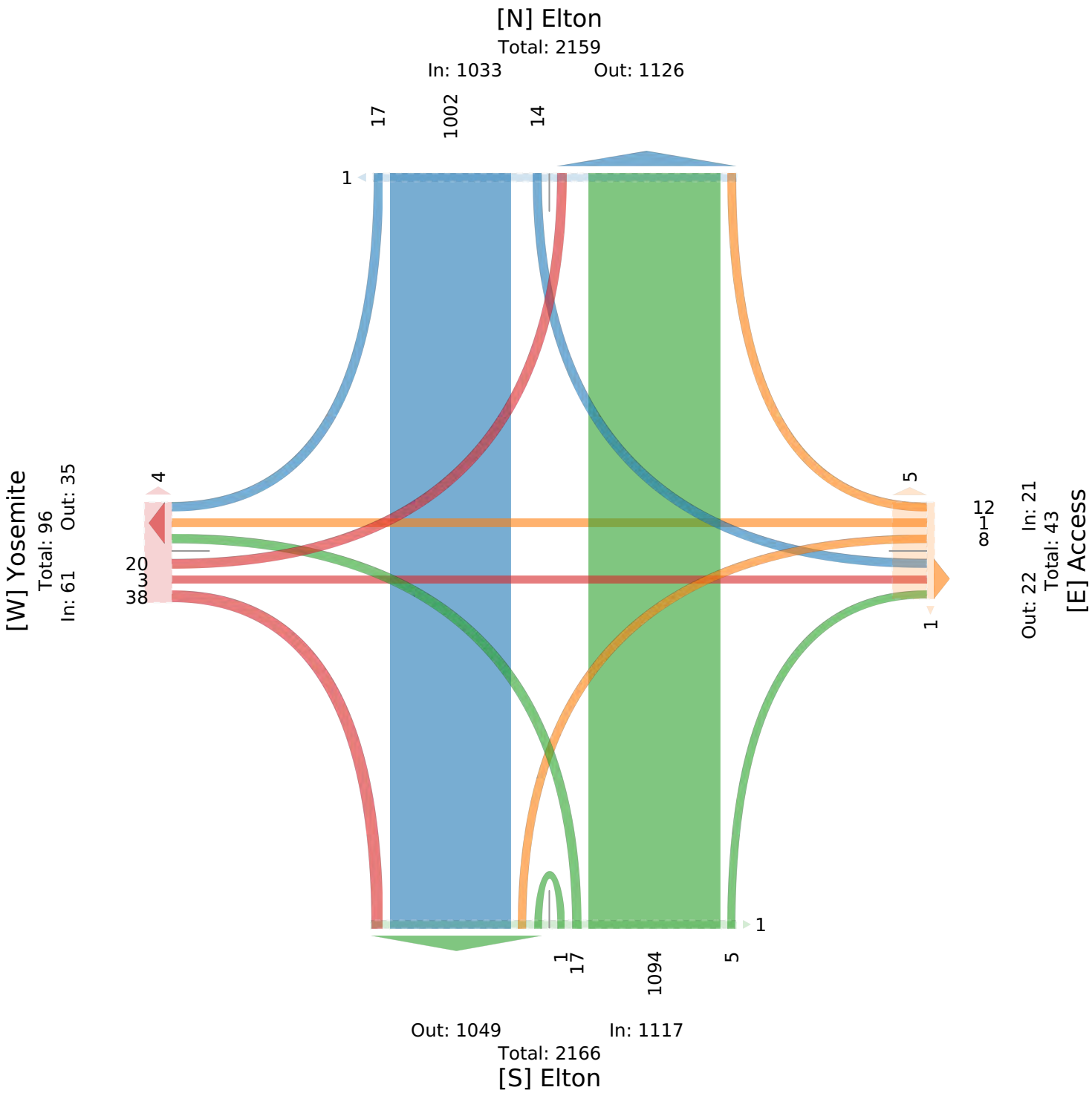
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Yosemite						Access						Elton						Elton						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-01-28 7:00AM	4	0	5	0	**9**	0	2	0	0	0	**2**	1	3	152	0	0	**155**	0	0	172	2	0	**174**	0	**340**
8:00AM	5	0	11	0	**16**	1	0	0	2	0	**2**	2	4	264	2	0	**270**	0	3	238	2	0	**243**	0	**531**
4:00PM	4	2	13	0	**19**	1	2	0	6	0	**8**	1	3	333	2	0	**338**	0	5	272	3	0	**280**	0	**645**
5:00PM	7	1	9	0	**17**	2	4	1	4	0	**9**	2	7	345	1	1	**354**	1	6	320	10	0	**336**	1	**716**
Total	20	3	38	0	**61**	4	8	1	12	0	**21**	6	17	1094	5	1	**1117**	1	14	1002	17	0	**1033**	1	**2232**
% Approach	32.8%	4.9%	62.3%	0%	**-**	-	38.1%	4.8%	57.1%	0%	**-**	-	1.5%	97.9%	0.4%	0.1%	**-**	-	1.4%	97.0%	1.6%	0%	**-**	-	**-**
% Total	0.9%	0.1%	1.7%	0%	**2.7%**	-	0.4%	0%	0.5%	0%	**0.9%**	-	0.8%	49.0%	0.2%	0%	**50.0%**	-	0.6%	44.9%	0.8%	0%	**46.3%**	-	**-**
Lights	20	3	37	0	**60**	-	8	1	11	0	**20**	-	15	1060	5	1	**1081**	-	13	959	17	0	**989**	-	2150
% Lights	100%	100%	97.4%	0%	**98.4%**	-	100%	100%	91.7%	0%	**95.2%**	-	88.2%	96.9%	100%	100%	**96.8%**	-	92.9%	95.7%	100%	0%	**95.7%**	-	96.3%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	0	2	0	0	**2**	-	6
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.4%	0%	0%	**0.4%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.3%
Buses and Single-Unit Trucks	0	0	1	0	**1**	-	0	0	1	0	**1**	-	2	30	0	0	**32**	-	1	41	0	0	**42**	-	76
% Buses and Single-Unit Trucks	0%	0%	2.6%	0%	**1.6%**	-	0%	0%	8.3%	0%	**4.8%**	-	11.8%	2.7%	0%	0%	**2.9%**	-	7.1%	4.1%	0%	0%	**4.1%**	-	3.4%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	75.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	25.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

South Eton Road and Yosemite Boulevard (unsi... - TMC
Thu Jan 28, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810059, Location: 42.546232, -83.19594

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



South Eton Road and Yosemite Boulevard (unsi... - TMC

Thu Jan 28, 2021
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810059, Location: 42.546232, -83.19594

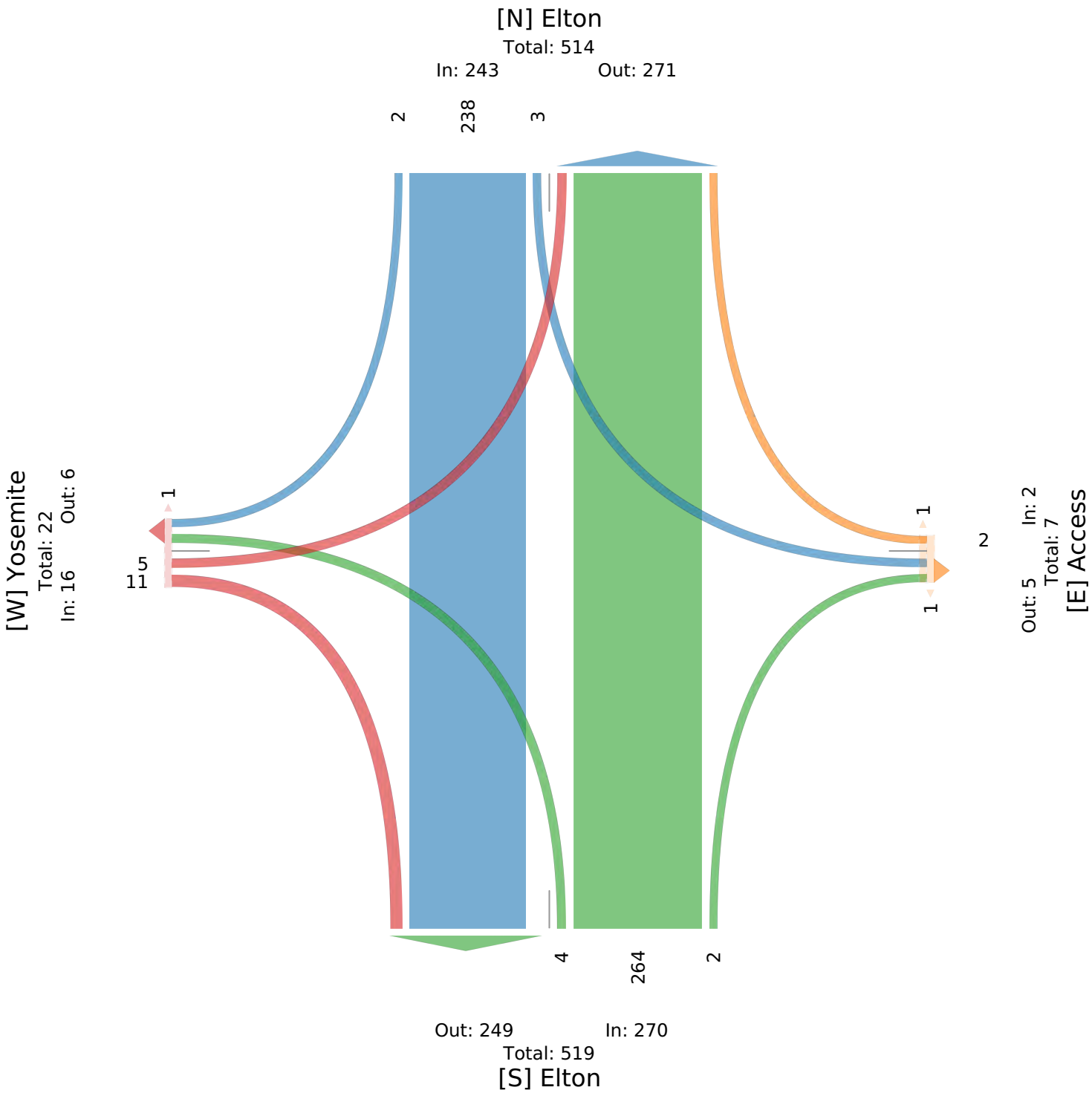
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Yosemite Eastbound						Access Westbound						Elton Northbound						Elton Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2021-01-28 8:00AM	2	0	3	0	**5**	0	0	0	0	0	**0**	0	2	66	0	0	**68**	0	1	50	0	0	**51**	0	**124**
8:15AM	0	0	2	0	**2**	0	0	0	0	0	**0**	0	1	63	0	0	**64**	0	1	58	1	0	**60**	0	**126**
8:30AM	1	0	3	0	**4**	1	0	0	0	0	**0**	1	0	54	2	0	**56**	0	1	68	0	0	**69**	0	**129**
8:45AM	2	0	3	0	**5**	0	0	0	2	0	**2**	1	1	81	0	0	**82**	0	0	62	1	0	**63**	0	**152**
Total	5	0	11	0	**16**	1	0	0	2	0	**2**	2	4	264	2	0	**270**	0	3	238	2	0	**243**	0	**531**
% Approach	31.3%	0%	68.8%	0%	**-**	-	0%	0%	100%	0%	**-**	-	1.5%	97.8%	0.7%	0%	**-**	-	1.2%	97.9%	0.8%	0%	**-**	-	-
% Total	0.9%	0%	2.1%	0%	**3.0%**	-	0%	0%	0.4%	0%	**0.4%**	-	0.8%	49.7%	0.4%	0%	**50.8%**	-	0.6%	44.8%	0.4%	0%	**45.8%**	-	-
PHF	0.625	-	0.917	-	**0.800**	-	-	-	0.250	-	**0.250**	-	0.500	0.815	0.250	-	**0.823**	-	0.750	0.875	0.500	-	**0.880**	-	0.873
Lights	5	0	10	0	**15**	-	0	0	1	0	**1**	-	3	251	2	0	**256**	-	2	223	2	0	**227**	-	499
% Lights	100%	0%	90.9%	0%	**93.8%**	-	0%	0%	50.0%	0%	**50.0%**	-	75.0%	95.1%	100%	0%	**94.8%**	-	66.7%	93.7%	100%	0%	**93.4%**	-	94.0%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	2	0	0	**2**	-	5
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.1%	0%	0%	**1.1%**	-	0%	0.8%	0%	0%	**0.8%**	-	0.9%
Buses and Single-Unit Trucks	0	0	1	0	**1**	-	0	0	1	0	**1**	-	1	10	0	0	**11**	-	1	13	0	0	**14**	-	27
% Buses and Single-Unit Trucks	0%	0%	9.1%	0%	**6.3%**	-	0%	0%	50.0%	0%	**50.0%**	-	25.0%	3.8%	0%	0%	**4.1%**	-	33.3%	5.5%	0%	0%	**5.8%**	-	5.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

South Eton Road and Yosemite Boulevard (unsi... - TMC
Thu Jan 28, 2021
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810059, Location: 42.546232, -83.19594

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



South Eton Road and Yosemite Boulevard (unsi... - TMC

Thu Jan 28, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810059, Location: 42.546232, -83.19594

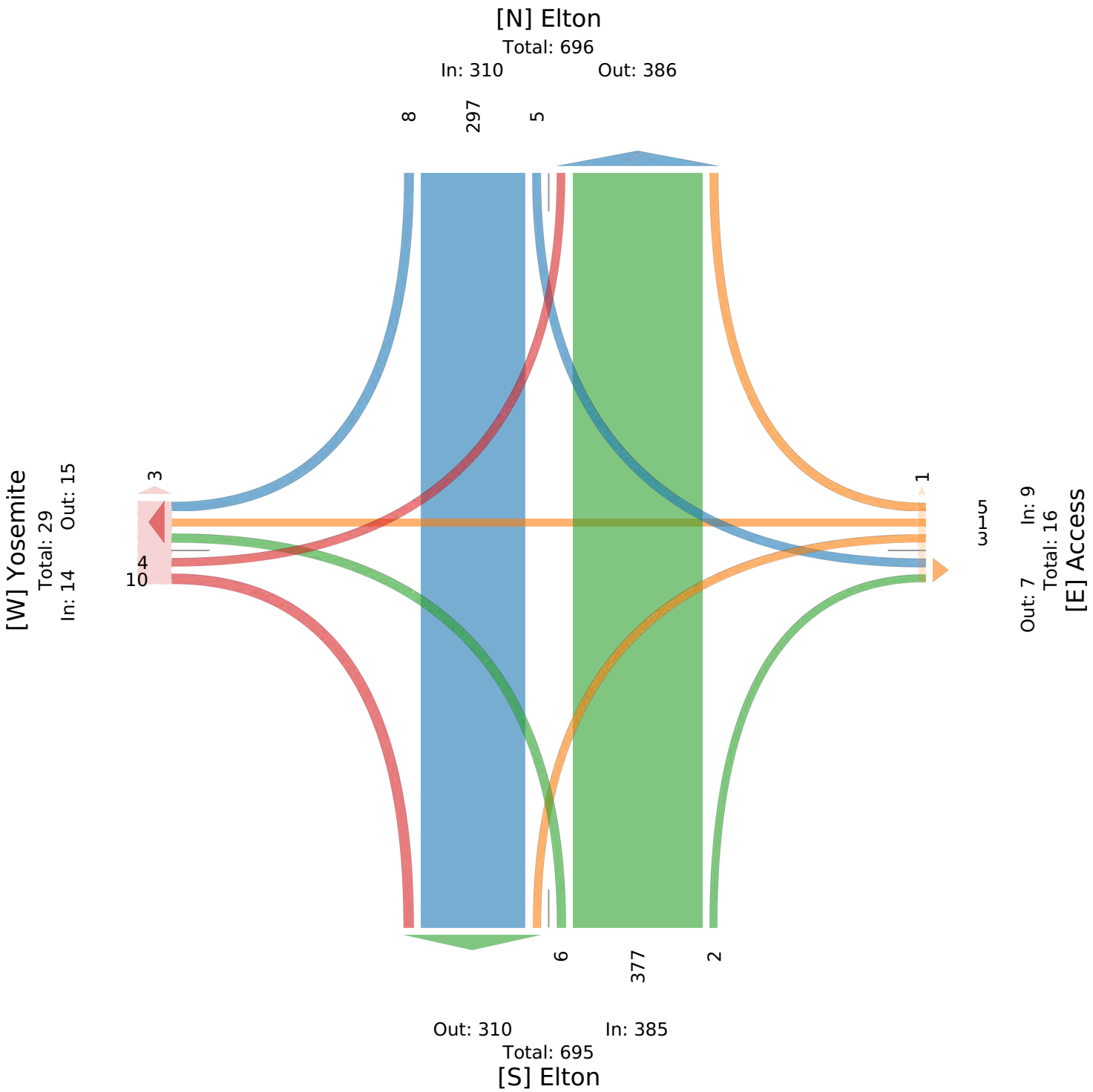
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Yosemite						Access						Elton						Elton						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-01-28 4:30PM	0	0	4	0	**4**	1	0	0	3	0	**3**	0	2	96	0	0	**98**	0	1	64	0	0	**65**	0	**170**
4:45PM	2	0	3	0	**5**	0	1	0	0	0	**1**	1	0	87	1	0	**88**	0	1	63	1	0	**65**	0	**159**
5:00PM	0	0	1	0	**1**	1	1	0	1	0	**2**	0	1	95	0	0	**96**	0	0	68	2	0	**70**	0	**169**
5:15PM	2	0	2	0	**4**	1	1	1	1	0	**3**	0	3	99	1	0	**103**	0	3	102	5	0	**110**	0	**220**
Total	4	0	10	0	**14**	3	3	1	5	0	**9**	1	6	377	2	0	**385**	0	5	297	8	0	**310**	0	**718**
% Approach	28.6%	0%	71.4%	0%	**-**	-	33.3%	11.1%	55.6%	0%	**-**	-	1.6%	97.9%	0.5%	0%	**-**	-	1.6%	95.8%	2.6%	0%	**-**	-	-
% Total	0.6%	0%	1.4%	0%	**1.9%**	-	0.4%	0.1%	0.7%	0%	**1.3%**	-	0.8%	52.5%	0.3%	0%	**53.6%**	-	0.7%	41.4%	1.1%	0%	**43.2%**	-	-
PHF	0.500	-	0.625	-	**0.700**	-	0.750	0.250	0.417	-	**0.750**	-	0.500	0.952	0.500	-	**0.934**	-	0.417	0.728	0.400	-	**0.705**	-	0.816
Lights	4	0	10	0	**14**	-	3	1	5	0	**9**	-	6	376	2	0	**384**	-	5	294	8	0	**307**	-	714
% Lights	100%	0%	100%	0%	**100%**	-	100%	100%	100%	0%	**100%**	-	100%	99.7%	100%	0%	**99.7%**	-	100%	99.0%	100%	0%	**99.0%**	-	99.4%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	3	0	0	**3**	-	4
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0%	1.0%	0%	0%	**1.0%**	-	0.6%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

South Eton Road and Yosemite Boulevard (unsi... - TMC
Thu Jan 28, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 810059, Location: 42.546232, -83.19594

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018

6 Hour video traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM -9:00 AM morning, 12:00 - 2:00 PM mid-day & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Buses - Single Units - Heavy Trucks - Bikes On Road - Bikes On Walk - Peds

	Maple Road Westbound				S. Eaton St. Northbound				Maple Road Eastbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
07:00 AM	103	46	0	149	24	12	0	36	6	79	0	85	270
07:15 AM	154	58	0	212	42	18	2	62	8	86	1	95	369
07:30 AM	180	78	0	258	56	12	0	68	6	114	0	120	446
07:45 AM	181	98	0	279	94	15	0	109	10	121	1	132	520
Total	618	280	0	898	216	57	2	275	30	400	2	432	1605
08:00 AM	222	84	1	307	82	11	1	94	11	153	0	164	565
08:15 AM	191	82	0	273	95	9	1	105	15	133	2	150	528
08:30 AM	186	83	0	269	87	10	0	97	10	168	1	179	545
08:45 AM	189	83	0	272	75	17	2	94	15	145	1	161	527
Total	788	332	1	1121	339	47	4	390	51	599	4	654	2165
*** BREAK ***													
12:00 PM	164	75	0	239	64	19	0	83	24	176	2	202	524
12:15 PM	162	68	0	230	62	16	1	79	8	165	0	173	482
12:30 PM	177	45	0	222	75	19	2	96	14	150	1	165	483
12:45 PM	182	64	0	246	73	15	1	89	12	154	1	167	502
Total	685	252	0	937	274	69	4	347	58	645	4	707	1991
01:00 PM	145	70	0	215	59	11	0	70	15	176	1	192	477
01:15 PM	171	40	0	211	68	20	3	91	15	185	1	201	503
01:30 PM	164	60	0	224	57	11	4	72	10	144	0	154	450
01:45 PM	155	57	0	212	62	15	0	77	22	162	0	184	473
Total	635	227	0	862	246	57	7	310	62	667	2	731	1903
*** BREAK ***													
04:00 PM	200	78	0	278	79	17	0	96	14	151	0	165	539
04:15 PM	175	98	0	273	99	19	2	120	27	159	2	188	581
04:30 PM	176	108	0	284	98	16	0	114	17	177	1	195	593
04:45 PM	227	103	0	330	92	27	2	121	31	160	1	192	643
Total	778	387	0	1165	368	79	4	451	89	647	4	740	2356
05:00 PM	175	113	0	288	99	22	1	122	27	210	0	237	647
05:15 PM	171	130	0	301	109	15	0	124	23	181	0	204	629
05:30 PM	191	125	0	316	112	20	0	132	27	204	2	233	681
05:45 PM	193	112	0	305	107	14	5	126	25	193	0	218	649
Total	730	480	0	1210	427	71	6	504	102	788	2	892	2606
Grand Total	4234	1958	1	6193	1870	380	27	2277	392	3746	18	4156	12626
Apprch %	68.4	31.6	0		82.1	16.7	1.2		9.4	90.1	0.4		
Total %	33.5	15.5	0	49	14.8	3	0.2	18	3.1	29.7	0.1	32.9	
Pass Cars	4123	1910	0	6033	1836	348	0	2184	347	3672	0	4019	12236
% Pass Cars	97.4	97.5	0	97.4	98.2	91.6	0	95.9	88.5	98	0	96.7	96.9
Buses	36	25	0	61	11	10	0	21	26	32	0	58	140
% Buses	0.9	1.3	0	1	0.6	2.6	0	0.9	6.6	0.9	0	1.4	1.1
Single Units	59	18	0	77	16	15	0	31	15	40	0	55	163
% Single Units	1.4	0.9	0	1.2	0.9	3.9	0	1.4	3.8	1.1	0	1.3	1.3
Heavy Trucks	15	3	0	18	3	7	0	10	3	1	0	4	32
% Heavy Trucks	0.4	0.2	0	0.3	0.2	1.8	0	0.4	0.8	0	0	0.1	0.3
Bikes On Road	1	2	0	3	4	0	0	4	1	1	0	2	9
% Bikes On Road	0	0.1	0	0	0.2	0	0	0.2	0.3	0	0	0	0.1

Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

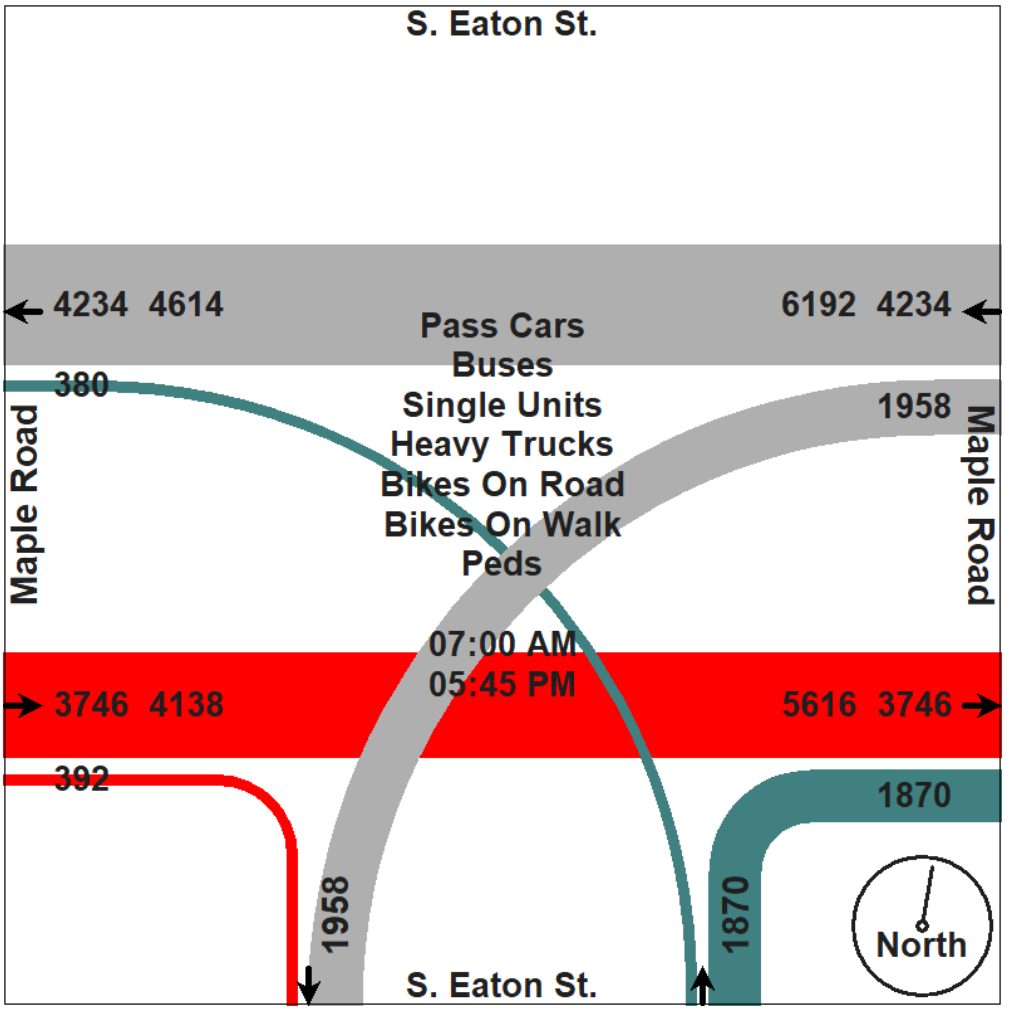
Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 2

Groups Printed- Pass Cars - Buses - Single Units - Heavy Trucks - Bikes On Road - Bikes On Walk - Peds

	Maple Road Westbound				S. Eaton St. Northbound				Maple Road Eastbound				
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Bikes On Walk	0	0	0	0	0	0	13	13	0	0	5	5	18
% Bikes On Walk	0	0	0	0	0	0	48.1	0.6	0	0	27.8	0.1	0.1
Peds	0	0	1	1	0	0	14	14	0	0	13	13	28
% Peds	0	0	100	0	0	0	51.9	0.6	0	0	72.2	0.3	0.2

TDC Traffic Comments: Signalized "T" intersection with ped. signals for west & south legs. Push buttons for west leg. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports. Traffic counts performed for ROWE Professional Services Company for Birmingham Whole Foods Traffic Study.



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 3

	Maple Road Westbound			S. Eaton St. Northbound			Maple Road Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**222**	**84**	**306**	82	11	93	11	153	164	**563**
08:15 AM	191	82	273	**95**	9	**104**	**15**	133	148	525
08:30 AM	186	83	269	87	10	97	10	**168**	**178**	544
08:45 AM	189	83	272	75	**17**	92	15	145	160	524
Total Volume	788	332	1120	339	47	386	51	599	650	2156
% App. Total	70.4	29.6		87.8	12.2		7.8	92.2		
PHF	.887	.988	.915	.892	.691	.928	.850	.891	.913	.957
Pass Cars	765	315	1080	331	39	370	41	576	617	2067
% Pass Cars	97.1	94.9	96.4	97.6	83.0	95.9	80.4	96.2	94.9	95.9
Buses	5	11	16	5	0	5	8	9	17	38
% Buses	0.6	3.3	1.4	1.5	0	1.3	15.7	1.5	2.6	1.8
Single Units	14	5	19	3	5	8	2	13	15	42
% Single Units	1.8	1.5	1.7	0.9	10.6	2.1	3.9	2.2	2.3	1.9
Heavy Trucks	4	1	5	0	3	3	0	1	1	9
% Heavy Trucks	0.5	0.3	0.4	0	6.4	0.8	0	0.2	0.2	0.4
Bikes On Road	0	0	0	0	0	0	0	0	0	0
% Bikes On Road	0	0	0	0	0	0	0	0	0	0
Bikes On Walk	0	0	0	0	0	0	0	0	0	0
% Bikes On Walk	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0

Traffic Data Collection, LLC

www:tdccounts.com

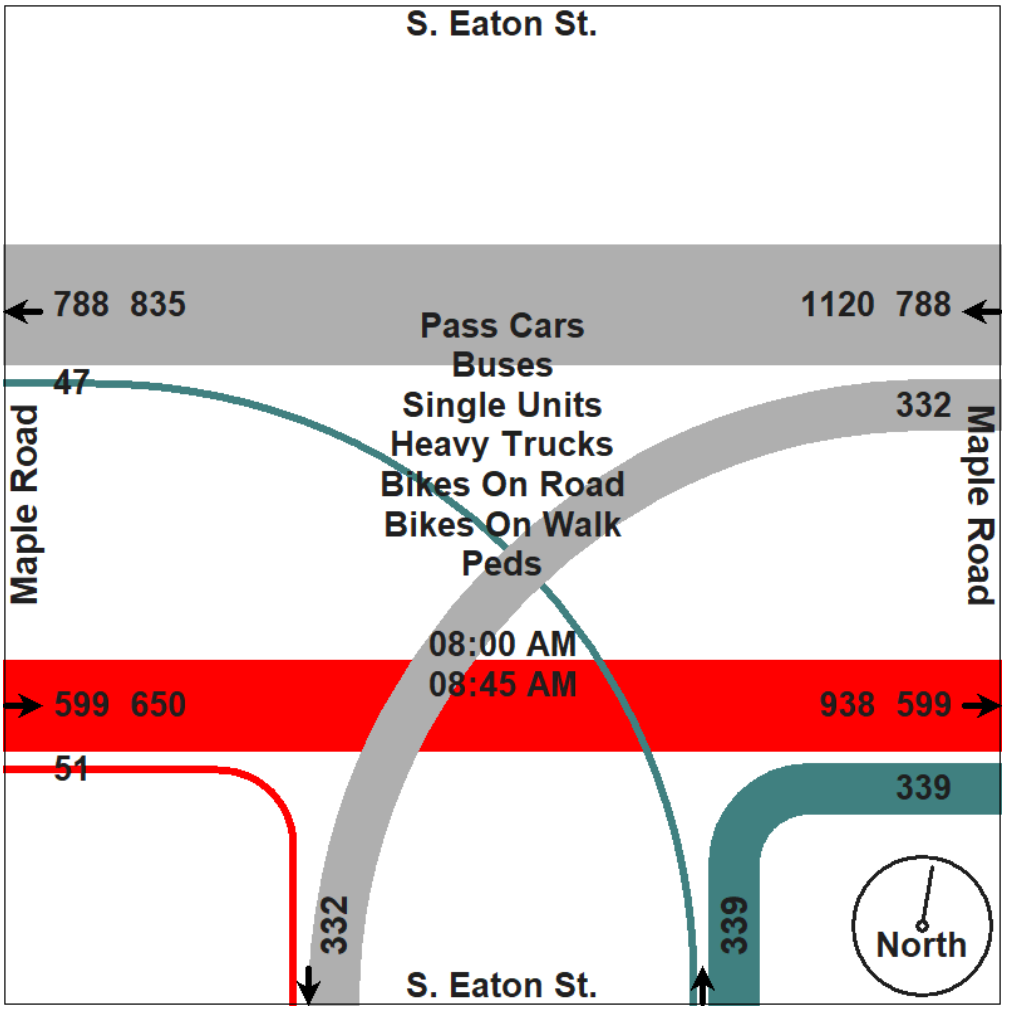
Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 4



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 5

	Maple Road Westbound			S. Eaton St. Northbound			Maple Road Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	164	**75**	239	64	**19**	83	**24**	**176**	**200**	**522**
12:15 PM	162	68	230	62	16	78	8	165	173	481
12:30 PM	177	45	222	**75**	19	**94**	14	150	164	480
12:45 PM	**182**	64	**246**	73	15	88	12	154	166	500
Total Volume	685	252	937	274	69	343	58	645	703	1983
% App. Total	73.1	26.9		79.9	20.1		8.3	91.7		
PHF	.941	.840	.952	.913	.908	.912	.604	.916	.879	.950
Pass Cars	663	248	911	272	62	334	52	638	690	1935
% Pass Cars	96.8	98.4	97.2	99.3	89.9	97.4	89.7	98.9	98.2	97.6
Buses	6	0	6	0	1	1	0	4	4	11
% Buses	0.9	0	0.6	0	1.4	0.3	0	0.6	0.6	0.6
Single Units	14	3	17	2	5	7	4	3	7	31
% Single Units	2.0	1.2	1.8	0.7	7.2	2.0	6.9	0.5	1.0	1.6
Heavy Trucks	2	1	3	0	1	1	2	0	2	6
% Heavy Trucks	0.3	0.4	0.3	0	1.4	0.3	3.4	0	0.3	0.3
Bikes On Road	0	0	0	0	0	0	0	0	0	0
% Bikes On Road	0	0	0	0	0	0	0	0	0	0
Bikes On Walk	0	0	0	0	0	0	0	0	0	0
% Bikes On Walk	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0

Traffic Data Collection, LLC

www:tdccounts.com

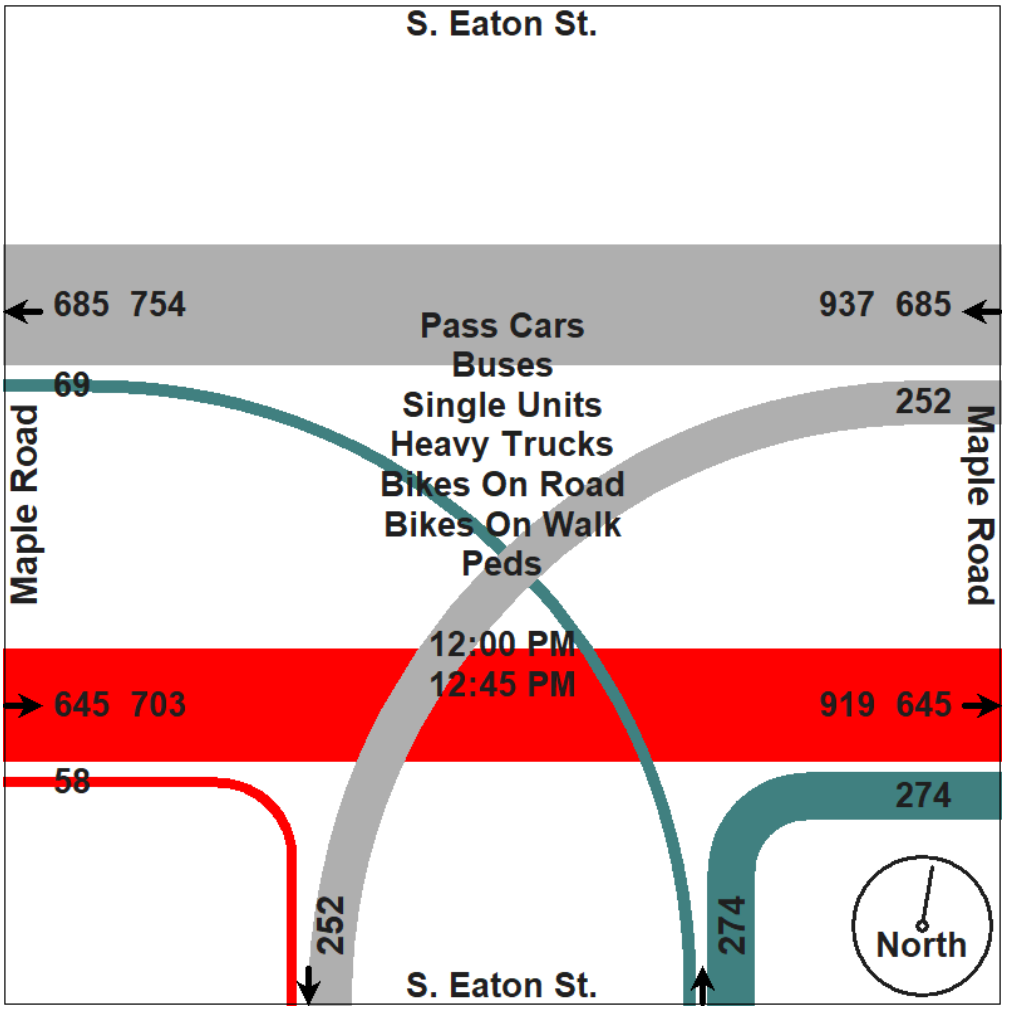
Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 6



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 7

	Maple Road Westbound			S. Eaton St. Northbound			Maple Road Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	175	113	288	99	**22**	121	**27**	**210**	**237**	646
05:15 PM	171	**130**	301	109	15	124	23	181	204	629
05:30 PM	191	125	**316**	**112**	20	**132**	27	204	231	**679**
05:45 PM	**193**	112	305	107	14	121	25	193	218	644
Total Volume	730	480	1210	427	71	498	102	788	890	2598
% App. Total	60.3	39.7		85.7	14.3		11.5	88.5		
PHF	.946	.923	.957	.953	.807	.943	.944	.938	.939	.957
Pass Cars	723	479	1202	421	70	491	97	783	880	2573
% Pass Cars	99.0	99.8	99.3	98.6	98.6	98.6	95.1	99.4	98.9	99.0
Buses	4	0	4	0	0	0	3	5	8	12
% Buses	0.5	0	0.3	0	0	0	2.9	0.6	0.9	0.5
Single Units	2	1	3	2	1	3	2	0	2	8
% Single Units	0.3	0.2	0.2	0.5	1.4	0.6	2.0	0	0.2	0.3
Heavy Trucks	1	0	1	1	0	1	0	0	0	2
% Heavy Trucks	0.1	0	0.1	0.2	0	0.2	0	0	0	0.1
Bikes On Road	0	0	0	3	0	3	0	0	0	3
% Bikes On Road	0	0	0	0.7	0	0.6	0	0	0	0.1
Bikes On Walk	0	0	0	0	0	0	0	0	0	0
% Bikes On Walk	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0

Traffic Data Collection, LLC

www:tdccounts.com

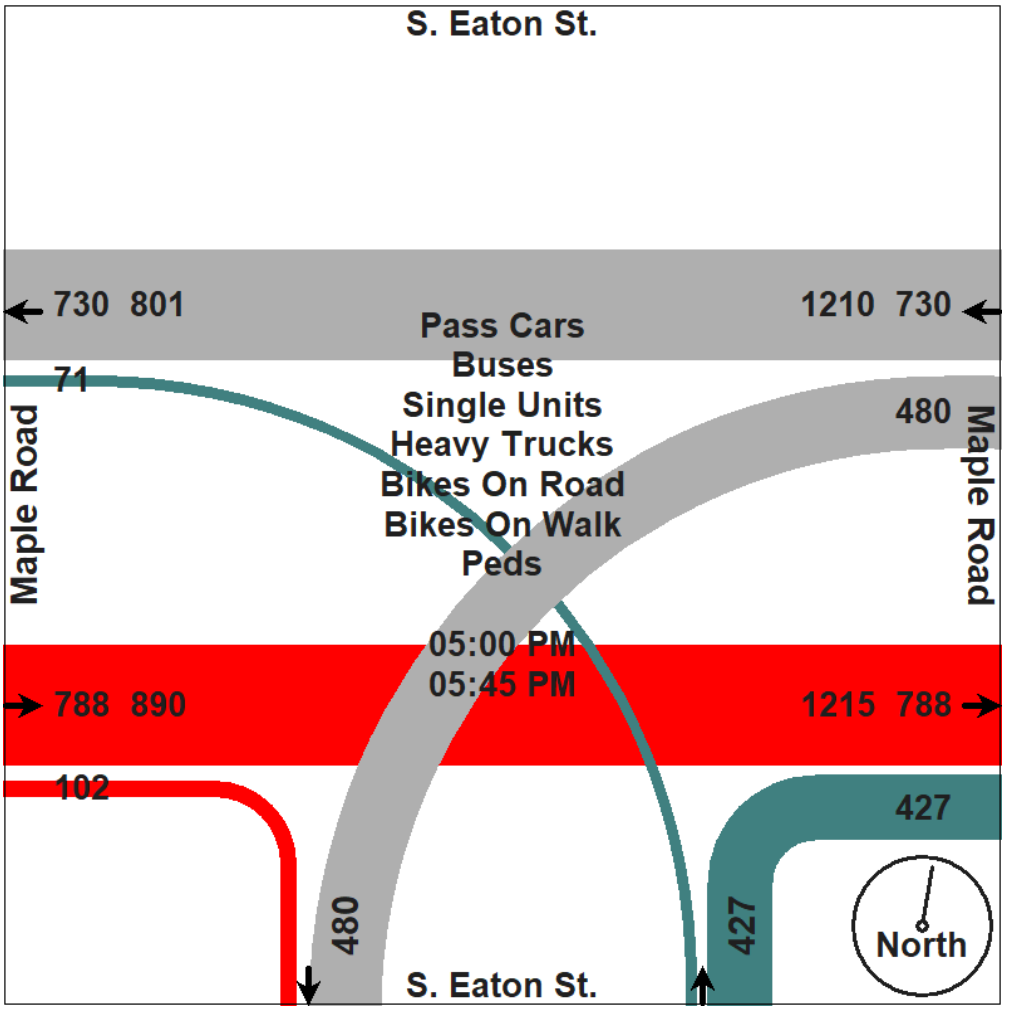
Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 8



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

ROWE Professional Services Company

Project: Birmingham Whole Foods TIS
Study:6 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry PM Deg's 80's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Maple & SEaton_Tue
Site Code : TMC_1
Start Date : 9/18/2018
Page No : 9

Aerial Photo

LOS OUTPUT REPORTS

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	729	61	398	944	56	406
Future Volume (vph)	729	61	398	944	56	406
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	13.0			2.9	3.0	3.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	3577			3600	1827	1635
Flt Permitted	1.00			0.54	0.95	1.00
Satd. Flow (perm)	3577			1965	1827	1635
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.93	0.93
Adj. Flow (vph)	801	67	433	1026	60	437
RTOR Reduction (vph)	5	0	0	0	0	11
Lane Group Flow (vph)	863	0	0	1459	60	426
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	6		1	3	8	1
Permitted Phases			3			8
Actuated Green, G (s)	32.5			95.5	12.5	57.5
Effective Green, g (s)	37.5			98.6	15.5	63.5
Actuated g/C Ratio	0.31			0.82	0.13	0.53
Clearance Time (s)	18.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1117			2269	235	906
v/s Ratio Prot	0.24			c0.26	0.03	c0.19
v/s Ratio Perm				c0.27		0.07
v/c Ratio	0.77			0.64	0.26	0.47
Uniform Delay, d1	37.4			4.0	47.1	17.7
Progression Factor	1.00			0.17	1.00	1.00
Incremental Delay, d2	5.2			0.4	0.6	0.4
Delay (s)	42.6			1.1	47.6	18.1
Level of Service	D			A	D	B
Approach Delay (s)	42.6			1.1	21.7	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	14	0	0	3	5	453	3	4	452	3
Future Vol, veh/h	6	0	14	0	0	3	5	453	3	4	452	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	60	60	60	82	82	82	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	18	0	0	5	6	552	4	5	514	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1095	1096	516	1103	1095	556	517	0	0	558	0	0
Stage 1	526	526	-	568	568	-	-	-	-	-	-	-
Stage 2	569	570	-	535	527	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	191	213	559	189	214	531	1049	-	-	1013	-	-
Stage 1	535	529	-	508	506	-	-	-	-	-	-	-
Stage 2	507	505	-	529	528	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	187	209	559	181	210	530	1049	-	-	1011	-	-
Mov Cap-2 Maneuver	187	209	-	181	210	-	-	-	-	-	-	-
Stage 1	531	525	-	503	501	-	-	-	-	-	-	-
Stage 2	498	500	-	509	524	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	11.9	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1049	-	-	350	530	1011	-	-
HCM Lane V/C Ratio	0.006	-	-	0.071	0.009	0.004	-	-
HCM Control Delay (s)	8.5	0	-	16.1	11.9	8.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	162	34	38	20	19	5	40	210	16	15	122	104
Future Vol, veh/h	162	34	38	20	19	5	40	210	16	15	122	104
Peak Hour Factor	0.93	0.93	0.93	0.73	0.73	0.73	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	7	7	7	3	3	3	4	4	4	7	7	7
Mvmt Flow	174	37	41	27	26	7	58	304	23	16	134	114
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.1	10.1	15.3	11.8
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	69%	45%	6%
Vol Thru, %	79%	15%	43%	51%
Vol Right, %	6%	16%	11%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	266	234	44	241
LT Vol	40	162	20	15
Through Vol	210	34	19	122
RT Vol	16	38	5	104
Lane Flow Rate	386	252	60	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.571	0.412	0.105	0.392
Departure Headway (Hd)	5.332	5.899	6.243	5.331
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	675	609	571	673
Service Time	3.377	3.95	4.313	3.382
HCM Lane V/C Ratio	0.572	0.414	0.105	0.394
HCM Control Delay	15.3	13.1	10.1	11.8
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.6	2	0.4	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	945	122	575	889	85	511
Future Volume (vph)	945	122	575	889	85	511
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	13.0			2.9	3.0	3.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.98			1.00	1.00	0.85
Flt Protected	1.00			0.98	0.95	1.00
Satd. Flow (prot)	3688			3690	1881	1683
Flt Permitted	1.00			0.52	0.95	1.00
Satd. Flow (perm)	3688			1954	1881	1683
Peak-hour factor, PHF	0.94	0.94	0.95	0.95	0.94	0.94
Adj. Flow (vph)	1005	130	605	936	90	544
RTOR Reduction (vph)	9	0	0	0	0	9
Lane Group Flow (vph)	1126	0	0	1541	90	535
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	6		1	3	8	1
Permitted Phases			3			8
Actuated Green, G (s)	35.5			98.5	9.5	54.5
Effective Green, g (s)	40.5			101.6	12.5	60.5
Actuated g/C Ratio	0.34			0.85	0.10	0.50
Clearance Time (s)	18.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1244			2350	195	890
v/s Ratio Prot	c0.31			c0.26	0.05	c0.24
v/s Ratio Perm				0.29		0.08
v/c Ratio	0.91			0.66	0.46	0.60
Uniform Delay, d1	37.9			3.2	50.6	21.2
Progression Factor	1.00			0.21	1.00	1.00
Incremental Delay, d2	11.0			0.4	1.7	1.2
Delay (s)	48.9			1.0	52.3	22.3
Level of Service	D			A	D	C
Approach Delay (s)	48.9			1.0	26.6	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	13	4	1	6	8	585	3	6	681	10
Future Vol, veh/h	5	0	13	4	1	6	8	585	3	6	681	10
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	75	75	75	93	93	93	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	7	0	19	5	1	8	9	629	3	8	959	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1638	1636	969	1642	1642	632	976	0	0	633	0	0
Stage 1	985	985	-	650	650	-	-	-	-	-	-	-
Stage 2	653	651	-	992	992	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	81	102	310	81	101	484	715	-	-	955	-	-
Stage 1	301	329	-	461	468	-	-	-	-	-	-	-
Stage 2	460	468	-	299	326	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	76	98	309	74	97	484	713	-	-	954	-	-
Mov Cap-2 Maneuver	76	98	-	74	97	-	-	-	-	-	-	-
Stage 1	294	322	-	452	459	-	-	-	-	-	-	-
Stage 2	443	459	-	276	319	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.4	33	0.1	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	713	-	-	167	143	954	-	-
HCM Lane V/C Ratio	0.012	-	-	0.154	0.103	0.009	-	-
HCM Control Delay (s)	10.1	0	-	30.4	33	8.8	0	-
HCM Lane LOS	B	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	20.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	147	30	33	29	48	33	31	290	19	20	242	162
Future Vol, veh/h	147	30	33	29	48	33	31	290	19	20	242	162
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.83	0.83	0.83	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	0	0	0	2	2	2	1	1	1
Mvmt Flow	158	32	35	36	59	41	37	349	23	22	269	180
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.2	12.6	21.9	24.8
HCM LOS	C	B	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	70%	26%	5%
Vol Thru, %	85%	14%	44%	57%
Vol Right, %	6%	16%	30%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	340	210	110	424
LT Vol	31	147	29	20
Through Vol	290	30	48	242
RT Vol	19	33	33	162
Lane Flow Rate	410	226	136	471
Geometry Grp	1	1	1	1
Degree of Util (X)	0.694	0.434	0.265	0.758
Departure Headway (Hd)	6.096	6.915	7.023	5.792
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	590	519	508	622
Service Time	4.156	4.987	5.107	3.85
HCM Lane V/C Ratio	0.695	0.435	0.268	0.757
HCM Control Delay	21.9	15.2	12.6	24.8
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	5.5	2.2	1.1	6.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	736	62	402	953	57	410
Future Volume (vph)	736	62	402	953	57	410
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	13.0			2.9	3.0	3.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	3577			3600	1827	1635
Flt Permitted	1.00			0.54	0.95	1.00
Satd. Flow (perm)	3577			1956	1827	1635
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.93	0.93
Adj. Flow (vph)	809	68	437	1036	61	441
RTOR Reduction (vph)	5	0	0	0	0	11
Lane Group Flow (vph)	872	0	0	1473	61	430
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	6		1	3	8	1
Permitted Phases			3			8
Actuated Green, G (s)	32.4			95.4	12.6	57.6
Effective Green, g (s)	37.4			98.5	15.6	63.6
Actuated g/C Ratio	0.31			0.82	0.13	0.53
Clearance Time (s)	18.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1114			2264	237	907
v/s Ratio Prot	0.24			c0.26	0.03	c0.19
v/s Ratio Perm				c0.27		0.07
v/c Ratio	0.78			0.65	0.26	0.47
Uniform Delay, d1	37.6			4.1	47.0	17.7
Progression Factor	1.00			0.17	1.00	1.00
Incremental Delay, d2	5.5			0.4	0.6	0.4
Delay (s)	43.1			1.1	47.6	18.1
Level of Service	D			A	D	B
Approach Delay (s)	43.1			1.1	21.7	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	0	14	0	0	3	5	458	3	4	457	3
Future Vol, veh/h	6	0	14	0	0	3	5	458	3	4	457	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	60	60	60	82	82	82	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	18	0	0	5	6	559	4	5	519	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1107	1108	521	1115	1107	563	522	0	0	565	0	0
Stage 1	531	531	-	575	575	-	-	-	-	-	-	-
Stage 2	576	577	-	540	532	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	188	210	555	185	210	526	1044	-	-	1007	-	-
Stage 1	532	526	-	503	503	-	-	-	-	-	-	-
Stage 2	503	502	-	526	526	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	184	206	555	177	206	525	1044	-	-	1005	-	-
Mov Cap-2 Maneuver	184	206	-	177	206	-	-	-	-	-	-	-
Stage 1	528	522	-	498	498	-	-	-	-	-	-	-
Stage 2	494	497	-	506	522	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	11.9	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1044	-	-	346	525	1005	-	-
HCM Lane V/C Ratio	0.006	-	-	0.072	0.01	0.005	-	-
HCM Control Delay (s)	8.5	0	-	16.2	11.9	8.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	164	34	38	20	19	5	40	212	16	15	123	105
Future Vol, veh/h	164	34	38	20	19	5	40	212	16	15	123	105
Peak Hour Factor	0.93	0.93	0.93	0.73	0.73	0.73	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	7	7	7	3	3	3	4	4	4	7	7	7
Mvmt Flow	176	37	41	27	26	7	58	307	23	16	135	115
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.2	10.1	15.5	11.9
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	69%	45%	6%
Vol Thru, %	79%	14%	43%	51%
Vol Right, %	6%	16%	11%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	268	236	44	243
LT Vol	40	164	20	15
Through Vol	212	34	19	123
RT Vol	16	38	5	105
Lane Flow Rate	388	254	60	267
Geometry Grp	1	1	1	1
Degree of Util (X)	0.577	0.417	0.105	0.397
Departure Headway (Hd)	5.347	5.916	6.269	5.347
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	672	606	568	670
Service Time	3.393	3.97	4.342	3.399
HCM Lane V/C Ratio	0.577	0.419	0.106	0.399
HCM Control Delay	15.5	13.2	10.1	11.9
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.7	2.1	0.4	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	955	123	581	898	86	516
Future Volume (vph)	955	123	581	898	86	516
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	13.0			2.9	3.0	3.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.98			1.00	1.00	0.85
Flt Protected	1.00			0.98	0.95	1.00
Satd. Flow (prot)	3688			3690	1881	1683
Flt Permitted	1.00			0.52	0.95	1.00
Satd. Flow (perm)	3688			1957	1881	1683
Peak-hour factor, PHF	0.94	0.94	0.95	0.95	0.94	0.94
Adj. Flow (vph)	1016	131	612	945	91	549
RTOR Reduction (vph)	8	0	0	0	0	8
Lane Group Flow (vph)	1139	0	0	1557	91	541
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	6		1	3	8	1
Permitted Phases			3			8
Actuated Green, G (s)	35.5			98.5	9.5	54.5
Effective Green, g (s)	40.5			101.6	12.5	60.5
Actuated g/C Ratio	0.34			0.85	0.10	0.50
Clearance Time (s)	18.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1244			2351	195	890
v/s Ratio Prot	c0.31			c0.27	0.05	c0.24
v/s Ratio Perm				0.30		0.08
v/c Ratio	0.92			0.66	0.47	0.61
Uniform Delay, d1	38.1			3.2	50.6	21.3
Progression Factor	1.00			0.22	1.00	1.00
Incremental Delay, d2	11.9			0.4	1.8	1.2
Delay (s)	50.1			1.1	52.4	22.4
Level of Service	D			A	D	C
Approach Delay (s)	50.1			1.1	26.7	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	13	4	1	6	8	591	3	6	688	10
Future Vol, veh/h	5	0	13	4	1	6	8	591	3	6	688	10
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	75	75	75	93	93	93	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	7	0	19	5	1	8	9	635	3	8	969	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1654	1652	979	1658	1658	638	986	0	0	639	0	0
Stage 1	995	995	-	656	656	-	-	-	-	-	-	-
Stage 2	659	657	-	1002	1002	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	79	100	306	79	99	480	709	-	-	950	-	-
Stage 1	297	325	-	458	465	-	-	-	-	-	-	-
Stage 2	456	465	-	295	323	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	74	96	305	72	95	480	707	-	-	949	-	-
Mov Cap-2 Maneuver	74	96	-	72	95	-	-	-	-	-	-	-
Stage 1	290	318	-	448	455	-	-	-	-	-	-	-
Stage 2	438	455	-	272	316	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.2	33.7	0.1	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	707	-	-	163	140	949	-	-
HCM Lane V/C Ratio	0.012	-	-	0.158	0.105	0.009	-	-
HCM Control Delay (s)	10.2	0	-	31.2	33.7	8.8	0	-
HCM Lane LOS	B	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	21.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	148	30	33	29	48	33	31	293	19	20	244	164
Future Vol, veh/h	148	30	33	29	48	33	31	293	19	20	244	164
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.83	0.83	0.83	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	0	0	0	2	2	2	1	1	1
Mvmt Flow	159	32	35	36	59	41	37	353	23	22	271	182
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.4	12.7	22.4	25.6
HCM LOS	C	B	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	70%	26%	5%
Vol Thru, %	85%	14%	44%	57%
Vol Right, %	6%	16%	30%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	343	211	110	428
LT Vol	31	148	29	20
Through Vol	293	30	48	244
RT Vol	19	33	33	164
Lane Flow Rate	413	227	136	476
Geometry Grp	1	1	1	1
Degree of Util (X)	0.702	0.438	0.267	0.768
Departure Headway (Hd)	6.118	6.949	7.066	5.813
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	587	515	505	618
Service Time	4.182	5.023	5.15	3.873
HCM Lane V/C Ratio	0.704	0.441	0.269	0.77
HCM Control Delay	22.4	15.4	12.7	25.6
HCM Lane LOS	C	C	B	D
HCM 95th-tile Q	5.6	2.2	1.1	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	736	64	406	953	63	417
Future Volume (vph)	736	64	406	953	63	417
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	13.0			2.9	3.0	3.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	3576			3600	1827	1635
Flt Permitted	1.00			0.53	0.95	1.00
Satd. Flow (perm)	3576			1953	1827	1635
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.93	0.93
Adj. Flow (vph)	809	70	441	1036	68	448
RTOR Reduction (vph)	5	0	0	0	0	11
Lane Group Flow (vph)	874	0	0	1477	68	437
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	6		1	3	8	1
Permitted Phases			3			8
Actuated Green, G (s)	32.4			95.4	12.6	57.6
Effective Green, g (s)	37.4			98.5	15.6	63.6
Actuated g/C Ratio	0.31			0.82	0.13	0.53
Clearance Time (s)	18.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1114			2263	237	907
v/s Ratio Prot	0.24			c0.26	0.04	c0.19
v/s Ratio Perm				c0.27		0.07
v/c Ratio	0.78			0.65	0.29	0.48
Uniform Delay, d1	37.6			4.1	47.2	17.8
Progression Factor	1.00			0.17	1.00	1.00
Incremental Delay, d2	5.6			0.4	0.7	0.4
Delay (s)	43.2			1.1	47.8	18.2
Level of Service	D			A	D	B
Approach Delay (s)	43.2			1.1	22.1	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	0	14	2	0	16	5	458	5	10	457	3
Future Vol, veh/h	6	0	14	2	0	16	5	458	5	10	457	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	60	60	60	82	82	82	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	18	3	0	27	6	559	6	11	519	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1131	1122	521	1128	1120	564	522	0	0	567	0	0
Stage 1	543	543	-	576	576	-	-	-	-	-	-	-
Stage 2	588	579	-	552	544	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	181	206	555	181	206	525	1044	-	-	1005	-	-
Stage 1	524	520	-	503	502	-	-	-	-	-	-	-
Stage 2	495	501	-	518	519	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	169	201	555	172	201	524	1044	-	-	1003	-	-
Mov Cap-2 Maneuver	169	201	-	172	201	-	-	-	-	-	-	-
Stage 1	520	512	-	498	497	-	-	-	-	-	-	-
Stage 2	466	496	-	494	511	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	14.1	0.1	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1044	-	-	329	427	1003	-	-
HCM Lane V/C Ratio	0.006	-	-	0.076	0.07	0.011	-	-
HCM Control Delay (s)	8.5	0	-	16.8	14.1	8.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	165	34	38	20	19	5	40	213	16	15	124	106
Future Vol, veh/h	165	34	38	20	19	5	40	213	16	15	124	106
Peak Hour Factor	0.93	0.93	0.93	0.73	0.73	0.73	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	7	7	7	3	3	3	4	4	4	7	7	7
Mvmt Flow	177	37	41	27	26	7	58	309	23	16	136	116
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.2	10.1	15.6	12
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	70%	45%	6%
Vol Thru, %	79%	14%	43%	51%
Vol Right, %	6%	16%	11%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	269	237	44	245
LT Vol	40	165	20	15
Through Vol	213	34	19	124
RT Vol	16	38	5	106
Lane Flow Rate	390	255	60	269
Geometry Grp	1	1	1	1
Degree of Util (X)	0.58	0.42	0.105	0.4
Departure Headway (Hd)	5.355	5.927	6.284	5.354
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	671	607	567	670
Service Time	3.403	3.981	4.359	3.409
HCM Lane V/C Ratio	0.581	0.42	0.106	0.401
HCM Control Delay	15.6	13.2	10.1	12
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.7	2.1	0.4	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	955	131	593	898	93	527
Future Volume (vph)	955	131	593	898	93	527
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	13.0			2.9	3.0	3.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.98			1.00	1.00	0.85
Flt Protected	1.00			0.98	0.95	1.00
Satd. Flow (prot)	3684			3689	1881	1683
Flt Permitted	1.00			0.52	0.95	1.00
Satd. Flow (perm)	3684			1961	1881	1683
Peak-hour factor, PHF	0.94	0.94	0.95	0.95	0.94	0.94
Adj. Flow (vph)	1016	139	624	945	99	561
RTOR Reduction (vph)	9	0	0	0	0	8
Lane Group Flow (vph)	1146	0	0	1569	99	553
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	6		1	3	8	1
Permitted Phases			3			8
Actuated Green, G (s)	35.5			98.5	9.5	54.5
Effective Green, g (s)	40.5			101.6	12.5	60.5
Actuated g/C Ratio	0.34			0.85	0.10	0.50
Clearance Time (s)	18.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1243			2352	195	890
v/s Ratio Prot	c0.31			c0.27	0.05	c0.25
v/s Ratio Perm				0.30		0.08
v/c Ratio	0.92			0.67	0.51	0.62
Uniform Delay, d1	38.2			3.2	50.8	21.5
Progression Factor	1.00			0.22	1.00	1.00
Incremental Delay, d2	12.6			0.4	2.1	1.4
Delay (s)	50.9			1.1	52.9	22.8
Level of Service	D			A	D	C
Approach Delay (s)	50.9			1.1	27.3	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	0	13	15	1	30	8	585	15	32	682	10
Future Vol, veh/h	5	0	13	15	1	30	8	585	15	32	682	10
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	75	75	75	93	93	93	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	7	0	19	20	1	40	9	629	16	45	961	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1737	1725	971	1724	1724	638	978	0	0	646	0	0
Stage 1	1061	1061	-	656	656	-	-	-	-	-	-	-
Stage 2	676	664	-	1068	1068	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	69	90	309	71	90	480	714	-	-	944	-	-
Stage 1	273	303	-	458	465	-	-	-	-	-	-	-
Stage 2	446	461	-	271	301	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	56	79	308	60	79	480	712	-	-	943	-	-
Mov Cap-2 Maneuver	56	79	-	60	79	-	-	-	-	-	-	-
Stage 1	267	271	-	448	455	-	-	-	-	-	-	-
Stage 2	399	451	-	228	269	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.3	48.9	0.1	0.4
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	137	141	943	-	-
HCM Lane V/C Ratio	0.012	-	-	0.188	0.435	0.048	-	-
HCM Control Delay (s)	10.1	0	-	37.3	48.9	9	0	-
HCM Lane LOS	B	A	-	E	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	1.9	0.1	-	-

Intersection	
Intersection Delay, s/veh	22
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	30	33	29	48	34	31	296	19	20	246	166
Future Vol, veh/h	150	30	33	29	48	34	31	296	19	20	246	166
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.83	0.83	0.83	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	0	0	0	2	2	2	1	1	1
Mvmt Flow	161	32	35	36	59	42	37	357	23	22	273	184
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.6	12.9	23.2	26.6
HCM LOS	C	B	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	70%	26%	5%
Vol Thru, %	86%	14%	43%	57%
Vol Right, %	5%	15%	31%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	346	213	111	432
LT Vol	31	150	29	20
Through Vol	296	30	48	246
RT Vol	19	33	34	166
Lane Flow Rate	417	229	137	480
Geometry Grp	1	1	1	1
Degree of Util (X)	0.713	0.445	0.271	0.779
Departure Headway (Hd)	6.155	6.994	7.112	5.846
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	584	513	502	614
Service Time	4.222	5.071	5.202	3.91
HCM Lane V/C Ratio	0.714	0.446	0.273	0.782
HCM Control Delay	23.2	15.6	12.9	26.6
HCM Lane LOS	C	C	B	D
HCM 95th-tile Q	5.8	2.3	1.1	7.4

MICROSIMULATION OUTPUT REPORTS

Intersection: 2: S Eton St & E Maple Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	435	407	143	108	100	261
Average Queue (ft)	283	241	80	13	41	122
95th Queue (ft)	421	379	143	56	82	222
Link Distance (ft)	872	872	109	109	287	287
Upstream Blk Time (%)			4	0		0
Queuing Penalty (veh)			26	1		0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: S Eton St & Yosemite Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	32	28	72	52
Average Queue (ft)	14	2	3	2
95th Queue (ft)	36	14	26	26
Link Distance (ft)	580	108	306	287
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: S Eton St & E Lincoln St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	117	59	124	124
Average Queue (ft)	60	24	60	65
95th Queue (ft)	95	50	100	104
Link Distance (ft)	362	442	225	894
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 27

Intersection: 2: S Eton St & E Maple Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	844	833	146	72	145	290
Average Queue (ft)	640	605	117	19	59	167
95th Queue (ft)	964	951	166	52	120	274
Link Distance (ft)	872	872	109	109	287	287
Upstream Blk Time (%)	15	14	14			0
Queuing Penalty (veh)	0	0	99			1
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: S Eton St & Yosemite Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	45	41	129	102
Average Queue (ft)	14	12	12	7
95th Queue (ft)	38	36	59	51
Link Distance (ft)	580	108	306	287
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: S Eton St & E Lincoln St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	108	76	152	161
Average Queue (ft)	56	38	67	83
95th Queue (ft)	92	63	112	134
Link Distance (ft)	362	442	225	894
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 100

Intersection: 2: S Eton St & E Maple Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	436	394	146	111	115	260
Average Queue (ft)	288	239	82	12	43	121
95th Queue (ft)	421	371	147	61	93	217
Link Distance (ft)	872	872	109	109	287	287
Upstream Blk Time (%)			4	0		0
Queuing Penalty (veh)			28	1		0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: S Eton St & Yosemite Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	42	28	53	67
Average Queue (ft)	13	3	4	3
95th Queue (ft)	37	16	25	25
Link Distance (ft)	580	108	306	287
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: S Eton St & E Lincoln St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	116	60	132	132
Average Queue (ft)	59	25	61	66
95th Queue (ft)	93	52	103	104
Link Distance (ft)	362	442	225	894
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 29

Intersection: 2: S Eton St & E Maple Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	903	905	145	99	167	288
Average Queue (ft)	728	705	124	26	65	171
95th Queue (ft)	1074	1077	163	70	132	280
Link Distance (ft)	872	872	109	109	287	287
Upstream Blk Time (%)	36	36	15	0		0
Queuing Penalty (veh)	0	0	110	0		1
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: S Eton St & Yosemite Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	32	33	123	99
Average Queue (ft)	10	9	11	7
95th Queue (ft)	31	31	60	45
Link Distance (ft)	580	108	306	287
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: S Eton St & E Lincoln St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	102	76	137	193
Average Queue (ft)	53	38	72	87
95th Queue (ft)	82	61	114	140
Link Distance (ft)	362	442	225	894
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 111

Intersection: 2: S Eton St & E Maple Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	506	464	143	92	127	247
Average Queue (ft)	297	256	77	8	48	122
95th Queue (ft)	438	396	133	47	98	218
Link Distance (ft)	872	872	109	109	287	287
Upstream Blk Time (%)			3	0		0
Queuing Penalty (veh)			19	0		0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: S Eton St & Yosemite Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	49	34	57	74
Average Queue (ft)	16	11	5	6
95th Queue (ft)	41	35	37	39
Link Distance (ft)	580	108	306	287
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: S Eton St & E Lincoln St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	105	56	121	121
Average Queue (ft)	58	25	61	61
95th Queue (ft)	91	52	96	96
Link Distance (ft)	362	442	225	894
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 20

Intersection: 2: S Eton St & E Maple Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (ft)	896	909	144	75	141	293
Average Queue (ft)	759	735	124	22	62	178
95th Queue (ft)	1001	998	163	58	120	286
Link Distance (ft)	872	872	109	109	287	287
Upstream Blk Time (%)	25	22	16	0		1
Queuing Penalty (veh)	0	0	121	0		2
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: S Eton St & Yosemite Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	68	118	158
Average Queue (ft)	13	24	15	23
95th Queue (ft)	38	53	65	85
Link Distance (ft)	580	108	306	287
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: S Eton St & E Lincoln St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	97	71	134	156
Average Queue (ft)	53	35	70	80
95th Queue (ft)	82	57	111	123
Link Distance (ft)	362	442	225	894
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 123

2: S Eton St & E Maple Rd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Delay (hr)	2.5	0.4	0.0	0.0	0.0	0.0	0.0	3.0
Denied Del/Veh (s)	9.8	11.8	0.3	0.0	0.0	0.0	0.1	3.5
Total Delay (hr)	41.8	5.7	1.5	0.7	1.4	0.0	2.5	53.6
Total Del/Veh (s)	155.9	147.5	9.8	3.0	55.3	0.6	16.8	61.7
Stop Delay (hr)	36.9	5.1	1.2	0.1	1.3	0.0	2.1	46.7
Stop Del/Veh (s)	137.7	131.8	7.6	0.6	53.2	0.0	14.2	53.9

3: S Eton St & Yosemite Blvd Performance by movement

Movement	EBL	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.5	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.3	0.0	0.7
Total Del/Veh (s)	22.0	8.9	14.5	28.4	7.3	7.0	1.2	1.0	4.9	1.4	0.9	1.8
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Stop Del/Veh (s)	20.5	8.8	13.4	26.7	7.4	5.1	0.2	0.5	2.7	0.2	0.0	0.7

4: S Eton St & E Lincoln St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.4	0.0	0.0	0.0
Total Delay (hr)	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.7	0.0	0.0	0.6	0.3
Total Del/Veh (s)	6.8	7.5	5.2	5.9	7.1	4.5	7.8	8.1	5.8	8.5	9.6	7.7
Stop Delay (hr)	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.3	0.2
Stop Del/Veh (s)	4.7	4.7	4.1	4.1	4.6	3.8	5.6	5.0	4.5	5.3	5.4	5.2

4: S Eton St & E Lincoln St Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	2.3
Total Del/Veh (s)	7.8
Stop Delay (hr)	1.5
Stop Del/Veh (s)	5.0

CRASH ANALYSIS

Crash Data 2015 - 2019

ID #	Date	Crash Type	Road Conditions	Light	Injury	Alcohol/ Drugs	Ped/ Bike	Cause
201530594	1/22/2015	Angle	Wet	Dark lighted	O	No	No	Vehicle attempted to turn left from right lane.
201534168	2/4/2015	Rear-end	Wet	Daylight	O	No	No	Vehicle failed to stop for stopped traffic at red light.
201543993	2/16/2015	Angle	Dry	Dusk	O	No	No	Vehicle attempted to turn right after stopping and signaling left turn.
2.015E+09	7/10/2015	Rear-end	Dry	Daylight	O	No	No	Vehicle failed to stop for stopped traffic at red light then left the scene.
2.015E+09	8/7/2015	Sideswipe same direction	Dry	Daylight	O	No	No	Vehicle attempted to turn right from left lane.
2.015E+09	9/5/2015	Rear-end	Dry	Daylight	O	No	No	Vehicle failed to stop for stopped traffic at red light.
2.015E+09	9/15/2015	Rear-end	Dry	Daylight	C	No	No	Vehicle rear ended while stopped at stop sign.
2.015E+09	9/22/2015	Angle	Dry	Daylight	O	No	No	Vehicle failed to stop at stop sign.
2.015E+09	10/19/2015	Angle	Dry	Daylight	O	No	No	Vehicle failed to stop at stop sign.
201654141	2/24/2016	Sideswipe same direction	Snow	Daylight	O	No	No	Vehicle failed to stop for stopped traffic at red light.
2.016E+09	6/27/2016	Rear-end	Dry	Dark lighted	O	No	No	Vehicle failed to stop for stopped traffic at red light.
2.016E+09	8/23/2016	Sideswipe same direction	Dry	Daylight	O	No	No	Vehicle attempted to turn left from right lane.
2.016E+09	9/7/2016	Angle	Wet	Daylight	O	No	No	Vehicle failed to stop at stop sign.
2.016E+09	12/20/2016	Angle	Dry	Daylight	O	No	No	Vehicle failed to stop at stop sign.
2.017E+09	3/10/2017	Rear-end	Dry	Daylight	O	No	No	Vehicle failed to stop for slowed traffic.
2.017E+09	3/15/2017	Angle	Dry	Dark unlighted	O	No	No	Vehicle failed to stop at stop sign.
201768377	6/15/2017	Sideswipe same direction	Dry	Daylight	O	No	No	Vehicle attempted to go straight after stopping and signaling left turn.
2.017E+09	12/7/2017	Sideswipe same direction	Snow	Daylight	C	No	No	Vehicle failed to stop at stop sign.
2.017E+09	12/28/2017	Rear-end	Snow	Dark lighted	O	No	No	Vehicle failed to stop for stopped traffic at red light.
2.018E+09	5/13/2018	Angle	Dry	Daylight	C	No	No	Vehcile turned left into oncoming left turn lane.
2.018E+09	6/4/2018	Angle	Dry	Daylight	O	No	No	Vehicle failed to stop at stop sign.
2.018E+09	11/24/2018	Angle	Wet	Dark lighted	O	No	No	Vehicle failed to stop at stop sign.
2.018E+09	11/25/2018	Single motor vehicle	Dry	Dark lighted	C	No	No	Vehicle was fleeing police and hit the median of the railroad bridge.
201974406	3/13/2019	Other	Dry	Daylight	B	No	Yes	Vehicle attempted to turn left and hit pedestrian that had the right of way.
2.019E+09	4/27/2019	Sideswipe same direction	Dry	Daylight	O	No	No	Vehicle attempted to turn right and hit vehicle waiting to turn left.
2.019E+09	5/16/2019	Sideswipe same direction	Dry	Daylight	O	No	No	Vehcile attempted to turn right from left lane.
2.019E+09	7/10/2019	Angle	Dry	Daylight	O	No	No	Vehicle failed to stop at stop sign.
2.019E+09	9/3/2019	Backing	Dry	Daylight	C	No	No	Vehicle 2 backed into vehicle 1 to avoid turning bus.
2.019E+09	10/12/2019	Angle	Dry	Daylight	O	No	No	Vehicle failed to stop at stop sign.

TRANSIT SCHEDULES

450/460 WOODWARD LOCAL Northbound for Saturday

ROUTE	WOODWARD & STATE FAIRGROUNDS	WOODWARD & 9 MILE RD.	ROYAL OAK TRANSIT CENTER	WOODWARD & 11 MILE RD.	WOODWARD & 13 MILE RD.	WOODWARD & DAINES	SOMERSET COLLECTION	WOODWARD & CHARLES LANE	PHOENIX CENTER
460	4:50AM	4:55AM	5:01AM	5:03AM	5:08AM	5:14AM	5:24AM	-	-
450	5:20AM	5:24AM	-	5:29AM	5:34AM	5:40AM	-	5:51AM	6:00AM
460	5:50AM	5:55AM	6:01AM	6:03AM	6:08AM	6:14AM	6:24AM	-	-
450	6:20AM	6:24AM	-	6:29AM	6:34AM	6:40AM	-	6:51AM	7:00AM
460	6:50AM	6:55AM	7:01AM	7:03AM	7:08AM	7:14AM	7:24AM	-	-
450	7:20AM	7:25AM	-	7:30AM	7:35AM	7:41AM	-	7:53AM	8:02AM
460	7:50AM	7:56AM	8:03AM	8:06AM	8:11AM	8:17AM	8:27AM	-	-
450	8:20AM	8:26AM	-	8:32AM	8:38AM	8:44AM	-	8:56AM	9:05AM
460	8:50AM	8:56AM	9:03AM	9:06AM	9:12AM	9:18AM	9:28AM	-	-
450	9:20AM	9:26AM	-	9:32AM	9:38AM	9:45AM	-	9:58AM	10:07AM
460	9:50AM	9:56AM	10:03AM	10:06AM	10:12AM	10:19AM	10:29AM	-	-
450	10:20AM	10:26AM	-	10:32AM	10:38AM	10:45AM	-	10:58AM	11:07AM
460	10:50AM	10:56AM	11:03AM	11:06AM	11:12AM	11:19AM	11:29AM	-	-
450	11:20AM	11:26AM	-	11:32AM	11:39AM	11:46AM	-	11:59AM	12:10PM
460	11:50AM	11:56AM	12:03PM	12:06PM	12:13PM	12:20PM	12:32PM	-	-
450	12:20PM	12:26PM	-	12:33PM	12:40PM	12:47PM	-	1:00PM	1:11PM
460	12:50PM	12:56PM	1:03PM	1:06PM	1:13PM	1:20PM	1:32PM	-	-
450	1:20PM	1:26PM	-	1:33PM	1:40PM	1:47PM	-	2:00PM	2:11PM
460	1:50PM	1:56PM	2:03PM	2:06PM	2:13PM	2:20PM	2:32PM	-	-
450	2:20PM	2:26PM	-	2:33PM	2:40PM	2:47PM	-	3:00PM	3:11PM
460	2:50PM	2:56PM	3:03PM	3:06PM	3:13PM	3:20PM	3:32PM	-	-
450	3:20PM	3:26PM	-	3:33PM	3:39PM	3:46PM	-	3:59PM	4:09PM
460	3:50PM	3:56PM	4:03PM	4:06PM	4:12PM	4:19PM	4:30PM	-	-
450	4:20PM	4:26PM	-	4:32PM	4:38PM	4:45PM	-	4:58PM	5:08PM
460	4:50PM	4:56PM	5:03PM	5:06PM	5:12PM	5:19PM	5:30PM	-	-
450	5:20PM	5:26PM	-	5:32PM	5:38PM	5:45PM	-	5:58PM	6:08PM
460	5:50PM	5:56PM	6:03PM	6:06PM	6:12PM	6:19PM	6:30PM	-	-
450	6:20PM	6:26PM	-	6:32PM	6:38PM	6:45PM	-	6:58PM	7:08PM
460	6:50PM	6:56PM	7:03PM	7:06PM	7:12PM	7:19PM	7:30PM	-	-
450	7:20PM	7:25PM	-	7:31PM	7:37PM	7:44PM	-	7:56PM	8:06PM
460	7:50PM	7:55PM	8:02PM	8:05PM	8:10PM	8:17PM	8:27PM	-	-
450	8:20PM	8:25PM	-	8:31PM	8:37PM	8:44PM	-	8:56PM	9:06PM
460	8:50PM	8:55PM	9:02PM	9:05PM	9:10PM	9:17PM	9:27PM	-	-
450	9:20PM	9:25PM	-	9:31PM	9:37PM	9:44PM	-	9:56PM	10:06PM
460	9:50PM	9:55PM	10:02PM	10:05PM	10:10PM	10:17PM	10:27PM	-	-
450	10:20PM	10:25PM	-	10:31PM	10:37PM	10:44PM	-	10:56PM	11:06PM
460	10:50PM	10:55PM	11:02PM	11:04PM	11:09PM	11:14PM	11:23PM	-	-
450	11:20PM	11:25PM	-	11:31PM	11:37PM	11:44PM	-	11:56PM	12:06AM

SMART RIDE

450/460 WOODWARD LOCAL Northbound for Sunday

ROUTE	WOODWARD & STATE FAIRGROUNDS	WOODWARD & 9 MILE RD.	ROYAL OAK TRANSIT CENTER	WOODWARD & 11 MILE RD.	WOODWARD & 13 MILE RD.	WOODWARD & DAINES	SOMERSET COLLECTION	WOODWARD & CHARLES LANE	PHOENIX CENTER
460	6:50AM	6:55AM	7:01AM	7:03AM	7:08AM	7:14AM	7:24AM	-	-
450	7:50AM	7:56AM	-	8:02AM	8:07AM	8:13AM	-	8:25AM	8:34AM
460	8:50AM	8:56AM	9:03AM	9:06AM	9:12AM	9:18AM	9:28AM	-	-
450	9:50AM	9:56AM	-	10:02AM	10:08AM	10:15AM	-	10:28AM	10:37AM
460	10:50AM	10:56AM	11:03AM	11:06AM	11:12AM	11:19AM	11:29AM	-	-
450	11:54AM	12:00PM	-	12:07PM	12:14PM	12:21PM	-	12:34PM	12:45PM
460	12:50PM	12:56PM	1:03PM	1:06PM	1:13PM	1:20PM	1:32PM	-	-
450	1:50PM	1:56PM	-	2:03PM	2:10PM	2:17PM	-	2:30PM	2:41PM
460	2:50PM	2:56PM	3:03PM	3:06PM	3:13PM	3:20PM	3:32PM	-	-
450	3:50PM	3:56PM	-	4:02PM	4:08PM	4:15PM	-	4:28PM	4:38PM
460	4:50PM	4:56PM	5:03PM	5:06PM	5:12PM	5:19PM	5:30PM	-	-
450	5:50PM	5:56PM	-	6:02PM	6:08PM	6:15PM	-	6:28PM	6:38PM
460	6:50PM	6:56PM	7:03PM	7:06PM	7:12PM	7:19PM	7:30PM	-	-
450	7:44PM	7:49PM	-	7:55PM	8:01PM	8:08PM	-	8:20PM	8:30PM
460	8:50PM	8:55PM	9:02PM	9:05PM	9:10PM	9:17PM	9:27PM	-	-
450	9:50PM	9:55PM	-	10:01PM	10:07PM	10:14PM	-	10:26PM	10:36PM
460	10:50PM	10:55PM	11:02PM	11:04PM	11:09PM	11:14PM	11:23PM	-	-

450/460 WOODWARD LOCAL Northbound for Weekday

ROUTE	WOODWARD & STATE FAIRGROUNDS	WOODWARD & 9 MILE RD.	ROYAL OAK TRANSIT CENTER	WOODWARD & 11 MILE RD.	WOODWARD & 13 MILE RD.	WOODWARD & DAINES	SOMERSET COLLECTION	WOODWARD & CHARLES LANE	PHOENIX CENTER
460	4:50AM	4:55AM	5:01AM	5:03AM	5:08AM	5:14AM	5:24AM	-	-
450	5:20AM	5:24AM	-	5:29AM	5:34AM	5:40AM	-	5:51AM	6:00AM
460	5:50AM	5:55AM	6:01AM	6:03AM	6:08AM	6:14AM	6:24AM	-	-
450	6:20AM	6:24AM	-	6:29AM	6:34AM	6:40AM	-	6:51AM	7:00AM
460	6:50AM	6:55AM	7:01AM	7:03AM	7:08AM	7:14AM	7:24AM	-	-
450	7:20AM	7:25AM	-	7:30AM	7:35AM	7:41AM	-	7:53AM	8:02AM
460	7:50AM	7:56AM	8:03AM	8:06AM	8:11AM	8:17AM	8:27AM	-	-
450	8:20AM	8:26AM	-	8:32AM	8:38AM	8:44AM	-	8:56AM	9:05AM
460	8:50AM	8:56AM	9:03AM	9:06AM	9:12AM	9:18AM	9:28AM	-	-
450	9:20AM	9:26AM	-	9:32AM	9:38AM	9:45AM	-	9:58AM	10:07AM
460	9:50AM	9:56AM	10:03AM	10:06AM	10:12AM	10:19AM	10:29AM	-	-
450	10:20AM	10:26AM	-	10:32AM	10:38AM	10:45AM	-	10:58AM	11:07AM
460	10:50AM	10:56AM	11:03AM	11:06AM	11:12AM	11:19AM	11:29AM	-	-
450	11:20AM	11:26AM	-	11:32AM	11:39AM	11:46AM	-	11:59AM	12:10PM
460	11:50AM	11:56AM	12:03PM	12:06PM	12:13PM	12:20PM	12:32PM	-	-
450	12:20PM	12:26PM	-	12:33PM	12:40PM	12:47PM	-	1:00PM	1:11PM
460	12:50PM	12:56PM	1:03PM	1:06PM	1:13PM	1:20PM	1:32PM	-	-
450	1:20PM	1:26PM	-	1:33PM	1:40PM	1:47PM	-	2:00PM	2:11PM
460	1:50PM	1:56PM	2:03PM	2:06PM	2:13PM	2:20PM	2:32PM	-	-
450	2:20PM	2:26PM	-	2:33PM	2:40PM	2:47PM	-	3:00PM	3:11PM
460	2:50PM	2:56PM	3:03PM	3:06PM	3:13PM	3:20PM	3:32PM	-	-
450	3:20PM	3:26PM	-	3:33PM	3:39PM	3:46PM	-	3:59PM	4:09PM
460	3:50PM	3:56PM	4:03PM	4:06PM	4:12PM	4:19PM	4:30PM	-	-
450	4:20PM	4:26PM	-	4:32PM	4:38PM	4:45PM	-	4:58PM	5:08PM
460	4:50PM	4:56PM	5:03PM	5:06PM	5:12PM	5:19PM	5:30PM	-	-
450	5:20PM	5:26PM	-	5:32PM	5:38PM	5:45PM	-	5:58PM	6:08PM
460	5:50PM	5:56PM	6:03PM	6:06PM	6:12PM	6:19PM	6:30PM	-	-
450	6:20PM	6:26PM	-	6:32PM	6:38PM	6:45PM	-	6:58PM	7:08PM
460	6:50PM	6:56PM	7:03PM	7:06PM	7:12PM	7:19PM	7:30PM	-	-
450	7:20PM	7:25PM	-	7:31PM	7:37PM	7:44PM	-	7:56PM	8:06PM
460	7:50PM	7:55PM	8:02PM	8:05PM	8:10PM	8:17PM	8:27PM	-	-
450	8:20PM	8:25PM	-	8:31PM	8:37PM	8:44PM	-	8:56PM	9:06PM
460	8:50PM	8:55PM	9:02PM	9:05PM	9:10PM	9:17PM	9:27PM	-	-
450	9:20PM	9:25PM	-	9:31PM	9:37PM	9:44PM	-	9:56PM	10:06PM
460	9:50PM	9:55PM	10:02PM	10:05PM	10:10PM	10:17PM	10:27PM	-	-
450	10:20PM	10:25PM	-	10:31PM	10:37PM	10:44PM	-	10:56PM	11:06PM
460	10:50PM	10:55PM	11:02PM	11:04PM	11:09PM	11:14PM	11:23PM	-	-
450	11:20PM	11:25PM	-	11:31PM	11:37PM	11:44PM	-	11:56PM	12:06AM

450/460 WOODWARD LOCAL Southbound for Saturday

ROUTE	PHOENIX CENTER	WOODWARD & CHARLES LANE	SOMERSET COLLECTION	WOODWARD & DAINES	WOODWARD & 13 MILE RD.	WOODWARD & 11 MILE RD.	ROYAL OAK TRANSIT CENTER	WOODWARD & 9 MILE RD.	WOODWARD & STATE FAIRGROUNDS
450	4:31AM	4:39AM	-	4:50AM	4:55AM	5:00AM	-	5:05AM	5:10AM
460	-	-	5:10AM	5:17AM	5:22AM	5:27AM	5:29AM	5:35AM	5:40AM
450	5:31AM	5:39AM	-	5:50AM	5:55AM	6:00AM	-	6:05AM	6:10AM
460	-	-	6:05AM	6:15AM	6:20AM	6:25AM	6:28AM	6:35AM	6:40AM
450	6:30AM	6:39AM	-	6:50AM	6:55AM	7:00AM	-	7:05AM	7:10AM
460	-	-	7:05AM	7:15AM	7:20AM	7:25AM	7:28AM	7:35AM	7:40AM
450	7:28AM	7:37AM	-	7:48AM	7:53AM	8:00AM	-	8:05AM	8:10AM
460	-	-	8:00AM	8:12AM	8:18AM	8:25AM	8:28AM	8:35AM	8:40AM
450	8:26AM	8:36AM	-	8:47AM	8:53AM	9:00AM	-	9:05AM	9:10AM
460	-	-	9:00AM	9:12AM	9:18AM	9:25AM	9:28AM	9:35AM	9:40AM
450	9:26AM	9:36AM	-	9:47AM	9:53AM	10:00AM	-	10:05AM	10:10AM
460	-	-	10:00AM	10:12AM	10:18AM	10:25AM	10:28AM	10:35AM	10:40AM
450	10:26AM	10:36AM	-	10:47AM	10:53AM	11:00AM	-	11:05AM	11:10AM
460	-	-	11:00AM	11:12AM	11:18AM	11:25AM	11:28AM	11:35AM	11:40AM
450	11:25AM	11:35AM	-	11:46AM	11:52AM	11:59AM	-	12:05PM	12:10PM
460	-	-	11:57AM	12:11PM	12:17PM	12:24PM	12:27PM	12:35PM	12:40PM
450	12:21PM	12:33PM	-	12:46PM	12:52PM	12:59PM	-	1:05PM	1:10PM
460	-	-	12:58PM	1:11PM	1:17PM	1:24PM	1:27PM	1:35PM	1:40PM
450	1:21PM	1:33PM	-	1:46PM	1:52PM	1:59PM	-	2:05PM	2:10PM
460	-	-	1:58PM	2:11PM	2:17PM	2:24PM	2:27PM	2:35PM	2:40PM
450	2:21PM	2:33PM	-	2:46PM	2:52PM	2:59PM	-	3:05PM	3:10PM
460	-	-	2:58PM	3:11PM	3:17PM	3:24PM	3:27PM	3:35PM	3:40PM
450	3:21PM	3:33PM	-	3:46PM	3:52PM	3:59PM	-	4:05PM	4:10PM
460	-	-	3:58PM	4:11PM	4:17PM	4:24PM	4:27PM	4:35PM	4:40PM
450	4:21PM	4:33PM	-	4:46PM	4:52PM	4:59PM	-	5:05PM	5:10PM
460	-	-	4:58PM	5:11PM	5:17PM	5:24PM	5:27PM	5:35PM	5:40PM
450	5:21PM	5:33PM	-	5:46PM	5:52PM	5:59PM	-	6:05PM	6:10PM
460	-	-	5:58PM	6:11PM	6:17PM	6:24PM	6:27PM	6:35PM	6:40PM
450	6:21PM	6:33PM	-	6:46PM	6:52PM	6:59PM	-	7:05PM	7:10PM
460	-	-	6:58PM	7:11PM	7:17PM	7:24PM	7:27PM	7:35PM	7:40PM
450	7:24PM	7:35PM	-	7:48PM	7:54PM	8:00PM	-	8:05PM	8:10PM
460	-	-	8:00PM	8:12PM	8:18PM	8:24PM	8:27PM	8:35PM	8:40PM
450	8:26PM	8:37PM	-	8:50PM	8:56PM	9:02PM	-	9:07PM	9:12PM
460	-	-	9:01PM	9:13PM	9:19PM	9:25PM	9:28PM	9:35PM	9:40PM
450	9:26PM	9:37PM	-	9:50PM	9:56PM	10:02PM	-	10:07PM	10:12PM
460	-	-	10:03PM	10:13PM	10:19PM	10:25PM	10:28PM	10:35PM	10:40PM
450	10:24PM	10:35PM	-	10:48PM	10:54PM	11:00PM	-	11:05PM	11:10PM
460	-	-	11:05PM	11:15PM	11:20PM	11:26PM	11:28PM	11:35PM	11:40PM

450/460 WOODWARD LOCAL Southbound for Sunday

ROUTE	PHOENIX CENTER	WOODWARD & CHARLES LANE	SOMERSET COLLECTION	WOODWARD & DAINES	WOODWARD & 13 MILE RD.	WOODWARD & 11 MILE RD.	ROYAL OAK TRANSIT CENTER	WOODWARD & 9 MILE RD.	WOODWARD & STATE FAIRGROUNDS
460	-	-	5:50AM	5:57AM	6:02AM	6:07AM	6:10AM	6:17AM	6:22AM
450	6:50AM	6:59AM	-	7:10AM	7:15AM	7:20AM	-	7:25AM	7:30AM
460	-	-	7:50AM	8:00AM	8:06AM	8:13AM	8:16AM	8:23AM	8:28AM
450	8:50AM	9:00AM	-	9:11AM	9:17AM	9:24AM	-	9:29AM	9:34AM
460	-	-	9:50AM	10:02AM	10:08AM	10:15AM	10:18AM	10:25AM	10:30AM
450	10:50AM	11:00AM	-	11:11AM	11:17AM	11:24AM	-	11:29AM	11:34AM
460	-	-	11:50AM	12:02PM	12:08PM	12:15PM	12:18PM	12:26PM	12:31PM
450	12:50PM	1:02PM	-	1:15PM	1:21PM	1:28PM	-	1:34PM	1:39PM
460	-	-	1:50PM	2:03PM	2:09PM	2:16PM	2:19PM	2:27PM	2:32PM
450	2:50PM	3:02PM	-	3:15PM	3:21PM	3:28PM	-	3:34PM	3:39PM
460	-	-	3:50PM	4:03PM	4:09PM	4:16PM	4:19PM	4:27PM	4:32PM
450	4:50PM	5:02PM	-	5:15PM	5:21PM	5:28PM	-	5:34PM	5:39PM
460	-	-	5:50PM	6:03PM	6:09PM	6:16PM	6:19PM	6:27PM	6:32PM
450	6:50PM	7:02PM	-	7:15PM	7:21PM	7:28PM	-	7:34PM	7:39PM
460	-	-	7:50PM	8:03PM	8:09PM	8:15PM	8:18PM	8:26PM	8:31PM
450	8:50PM	9:01PM	-	9:14PM	9:20PM	9:26PM	-	9:31PM	9:36PM
460	-	-	9:50PM	10:02PM	10:08PM	10:14PM	10:17PM	10:24PM	10:29PM
450	10:56PM	11:07PM	-	11:20PM	11:26PM	11:32PM	-	11:37PM	11:42PM
460	-	-	11:25PM	11:35PM	11:39PM	11:44PM	11:46PM	11:52PM	11:57PM

450/460 WOODWARD LOCAL Southbound for Weekday

ROUTE	PHOENIX CENTER	WOODWARD & CHARLES LANE	SOMERSET COLLECTION	WOODWARD & DAINES	WOODWARD & 13 MILE RD.	WOODWARD & 11 MILE RD.	ROYAL OAK TRANSIT CENTER	WOODWARD & 9 MILE RD.	WOODWARD & STATE FAIRGROUNDS
450	4:31AM	4:39AM	-	4:50AM	4:55AM	5:00AM	-	5:05AM	5:10AM
460	-	-	5:10AM	5:17AM	5:22AM	5:27AM	5:29AM	5:35AM	5:40AM
450	5:31AM	5:39AM	-	5:50AM	5:55AM	6:00AM	-	6:05AM	6:10AM
460	-	-	6:05AM	6:15AM	6:20AM	6:25AM	6:28AM	6:35AM	6:40AM
450	6:30AM	6:39AM	-	6:50AM	6:55AM	7:00AM	-	7:05AM	7:10AM
460	-	-	7:05AM	7:15AM	7:20AM	7:25AM	7:28AM	7:35AM	7:40AM
450	7:28AM	7:37AM	-	7:48AM	7:53AM	8:00AM	-	8:05AM	8:10AM
460	-	-	8:00AM	8:12AM	8:18AM	8:25AM	8:28AM	8:35AM	8:40AM
450	8:26AM	8:36AM	-	8:47AM	8:53AM	9:00AM	-	9:05AM	9:10AM
460	-	-	9:00AM	9:12AM	9:18AM	9:25AM	9:28AM	9:35AM	9:40AM
450	9:26AM	9:36AM	-	9:47AM	9:53AM	10:00AM	-	10:05AM	10:10AM
460	-	-	10:00AM	10:12AM	10:18AM	10:25AM	10:28AM	10:35AM	10:40AM
450	10:26AM	10:36AM	-	10:47AM	10:53AM	11:00AM	-	11:05AM	11:10AM
460	-	-	11:00AM	11:12AM	11:18AM	11:25AM	11:28AM	11:35AM	11:40AM
450	11:25AM	11:35AM	-	11:46AM	11:52AM	11:59AM	-	12:05PM	12:10PM
460	-	-	11:57AM	12:11PM	12:17PM	12:24PM	12:27PM	12:35PM	12:40PM
450	12:21PM	12:33PM	-	12:46PM	12:52PM	12:59PM	-	1:05PM	1:10PM
460	-	-	12:58PM	1:11PM	1:17PM	1:24PM	1:27PM	1:35PM	1:40PM
450	1:21PM	1:33PM	-	1:46PM	1:52PM	1:59PM	-	2:05PM	2:10PM
460	-	-	1:58PM	2:11PM	2:17PM	2:24PM	2:27PM	2:35PM	2:40PM
450	2:21PM	2:33PM	-	2:46PM	2:52PM	2:59PM	-	3:05PM	3:10PM
460	-	-	2:58PM	3:11PM	3:17PM	3:24PM	3:27PM	3:35PM	3:40PM
450	3:21PM	3:33PM	-	3:46PM	3:52PM	3:59PM	-	4:05PM	4:10PM
460	-	-	3:58PM	4:11PM	4:17PM	4:24PM	4:27PM	4:35PM	4:40PM
450	4:21PM	4:33PM	-	4:46PM	4:52PM	4:59PM	-	5:05PM	5:10PM
460	-	-	4:58PM	5:11PM	5:17PM	5:24PM	5:27PM	5:35PM	5:40PM
450	5:21PM	5:33PM	-	5:46PM	5:52PM	5:59PM	-	6:05PM	6:10PM
460	-	-	5:58PM	6:11PM	6:17PM	6:24PM	6:27PM	6:35PM	6:40PM
450	6:21PM	6:33PM	-	6:46PM	6:52PM	6:59PM	-	7:05PM	7:10PM
460	-	-	6:58PM	7:11PM	7:17PM	7:24PM	7:27PM	7:35PM	7:40PM
450	7:24PM	7:35PM	-	7:48PM	7:54PM	8:00PM	-	8:05PM	8:10PM
460	-	-	8:00PM	8:12PM	8:18PM	8:24PM	8:27PM	8:35PM	8:40PM
450	8:26PM	8:37PM	-	8:50PM	8:56PM	9:02PM	-	9:07PM	9:12PM
460	-	-	9:01PM	9:13PM	9:19PM	9:25PM	9:28PM	9:35PM	9:40PM
450	9:26PM	9:37PM	-	9:50PM	9:56PM	10:02PM	-	10:07PM	10:12PM
460	-	-	10:03PM	10:13PM	10:19PM	10:25PM	10:28PM	10:35PM	10:40PM
450	10:24PM	10:35PM	-	10:48PM	10:54PM	11:00PM	-	11:05PM	11:10PM
460	-	-	11:05PM	11:15PM	11:20PM	11:26PM	11:28PM	11:35PM	11:40PM

780 15 MILE CROSSTOWN Eastbound for Saturday

ROUTE	ORCHARD LAKE & 15 MILE ROAD	MAPLE & TELEGRAPH	MAPLE & WOODWARD	SOMERSET COLLECTION	MAPLE & MAIN	OAKLAND MALL	GRAND HAVEN DRIVE	DEQUINDRE & 15 MILE RD.	VAN DYKE & 15 MILE	GARFIELD & 15 MILE	GRATIOT & 15 MILE
780	-	-	5:46AM	5:54AM	6:02AM	6:09AM	-	6:15AM	6:22AM	6:32AM	6:39AM
780	6:29AM	6:37AM	6:46AM	6:54AM	7:08AM	7:15AM	-	7:21AM	7:28AM	7:38AM	7:45AM
780	7:33AM	7:41AM	7:50AM	7:58AM	8:12AM	8:19AM	-	8:25AM	8:32AM	8:42AM	8:49AM
780	8:33AM	8:41AM	8:50AM	8:58AM	9:12AM	9:19AM	-	9:25AM	9:32AM	9:42AM	9:49AM
780	9:33AM	9:41AM	9:50AM	9:58AM	10:12AM	10:19AM	-	10:25AM	10:32AM	10:42AM	10:49AM
780	10:32AM	10:40AM	10:49AM	10:57AM	11:11AM	11:18AM	-	11:24AM	11:31AM	11:41AM	11:48AM
780	11:33AM	11:41AM	11:50AM	11:58AM	12:12PM	12:19PM	12:23PM	12:28PM	12:35PM	12:45PM	12:52PM
780	12:33PM	12:41PM	12:50PM	12:58PM	1:12PM	1:19PM	-	1:25PM	1:32PM	1:42PM	1:49PM
780	1:33PM	1:41PM	1:50PM	1:58PM	2:12PM	2:19PM	-	2:25PM	2:32PM	2:42PM	2:49PM
780	2:33PM	2:41PM	2:50PM	2:58PM	3:12PM	3:19PM	-	3:25PM	3:32PM	3:42PM	3:49PM
780	3:33PM	3:41PM	3:50PM	3:58PM	4:12PM	4:19PM	-	4:26PM	4:33PM	4:42PM	4:49PM
780	4:33PM	4:41PM	4:49PM	4:58PM	5:13PM	5:20PM	-	5:27PM	5:34PM	5:43PM	5:50PM
780	5:33PM	5:41PM	5:49PM	5:58PM	6:13PM	6:20PM	6:23PM	6:30PM	6:37PM	6:46PM	6:53PM
780	6:33PM	6:41PM	6:49PM	6:58PM	7:13PM	7:20PM	-	7:27PM	7:34PM	7:43PM	7:50PM
780	7:34PM	7:42PM	7:50PM	7:59PM	8:14PM	8:21PM	-	8:28PM	8:35PM	8:44PM	8:51PM
780	8:34PM	8:42PM	8:50PM	8:59PM	9:14PM	9:21PM	-	9:28PM	9:35PM	9:44PM	9:51PM
780	9:34PM	9:42PM	9:50PM	9:59PM	10:14PM	10:21PM	-	10:28PM	10:35PM	10:44PM	10:51PM

780 15 MILE CROSSTOWN Eastbound for Weekday

ROUTE	ORCHARD LAKE & 15 MILE ROAD	MAPLE & TELEGRAPH	MAPLE & WOODWARD	SOMERSET COLLECTION	MAPLE & MAIN	OAKLAND MALL	GRAND HAVEN DRIVE	DEQUINDRE & 15 MILE RD.	VAN DYKE & 15 MILE	GARFIELD & 15 MILE	GRATIOT & 15 MILE
780	-	-	5:46AM	5:54AM	6:02AM	6:09AM	-	6:15AM	6:22AM	6:32AM	6:39AM
780	6:29AM	6:37AM	6:46AM	6:54AM	7:08AM	7:15AM	-	7:21AM	7:28AM	7:38AM	7:45AM
780	7:33AM	7:41AM	7:50AM	7:58AM	8:12AM	8:19AM	-	8:25AM	8:32AM	8:42AM	8:49AM
780	8:33AM	8:41AM	8:50AM	8:58AM	9:12AM	9:19AM	-	9:25AM	9:32AM	9:42AM	9:49AM
780	9:33AM	9:41AM	9:50AM	9:58AM	10:12AM	10:19AM	-	10:25AM	10:32AM	10:42AM	10:49AM
780	10:32AM	10:40AM	10:49AM	10:57AM	11:11AM	11:18AM	-	11:24AM	11:31AM	11:41AM	11:48AM
780	11:33AM	11:41AM	11:50AM	11:58AM	12:12PM	12:19PM	12:23PM	12:28PM	12:35PM	12:45PM	12:52PM
780	12:33PM	12:41PM	12:50PM	12:58PM	1:12PM	1:19PM	-	1:25PM	1:32PM	1:42PM	1:49PM
780	1:33PM	1:41PM	1:50PM	1:58PM	2:12PM	2:19PM	-	2:25PM	2:32PM	2:42PM	2:49PM
780	2:33PM	2:41PM	2:50PM	2:58PM	3:12PM	3:19PM	-	3:25PM	3:32PM	3:42PM	3:49PM
780	3:33PM	3:41PM	3:50PM	3:58PM	4:12PM	4:19PM	-	4:26PM	4:33PM	4:42PM	4:49PM
780	4:33PM	4:41PM	4:49PM	4:58PM	5:13PM	5:20PM	-	5:27PM	5:34PM	5:43PM	5:50PM
780	5:33PM	5:41PM	5:49PM	5:58PM	6:13PM	6:20PM	6:23PM	6:30PM	6:37PM	6:46PM	6:53PM
780	6:33PM	6:41PM	6:49PM	6:58PM	7:13PM	7:20PM	-	7:27PM	7:34PM	7:43PM	7:50PM
780	7:34PM	7:42PM	7:50PM	7:59PM	8:14PM	8:21PM	-	8:28PM	8:35PM	8:44PM	8:51PM
780	8:34PM	8:42PM	8:50PM	8:59PM	9:14PM	9:21PM	-	9:28PM	9:35PM	9:44PM	9:51PM
780	9:34PM	9:42PM	9:50PM	9:59PM	10:14PM	10:21PM	-	10:28PM	10:35PM	10:44PM	10:51PM

780 15 MILE CROSSTOWN Westbound for Saturday

ROUTE	GRATIOT & 15 MILE	GARFIELD & 15 MILE	VAN DYKE & 15 MILE	DEQUINDRE & 15 MILE RD.	GRAND HAVEN DRIVE	OAKLAND MALL	MAPLE & MAIN	SOMERSET COLLECTION	MAPLE & WOODWARD	MAPLE & TELEGRAPH	ORCHARD LAKE & 15 MILE ROAD
780	5:10AM	5:18AM	5:27AM	5:34AM	-	5:39AM	5:47AM	5:55AM	6:03AM	6:11AM	6:19AM
780	6:10AM	6:18AM	6:27AM	6:34AM	-	6:39AM	6:47AM	6:55AM	7:03AM	7:11AM	7:19AM
780	7:10AM	7:18AM	7:27AM	7:34AM	-	7:39AM	7:47AM	7:55AM	8:03AM	8:11AM	8:19AM
780	8:10AM	8:18AM	8:27AM	8:34AM	-	8:39AM	8:47AM	8:55AM	9:03AM	9:11AM	9:19AM
780	9:10AM	9:18AM	9:27AM	9:34AM	-	9:39AM	9:47AM	9:55AM	10:03AM	10:11AM	10:19AM
780	10:10AM	10:18AM	10:27AM	10:34AM	10:40AM	10:43AM	10:51AM	10:59AM	11:07AM	11:15AM	11:23AM
780	11:10AM	11:18AM	11:27AM	11:34AM	-	11:39AM	11:47AM	11:55AM	12:03PM	12:11PM	12:19PM
780	12:10PM	12:18PM	12:27PM	12:34PM	-	12:39PM	12:47PM	12:55PM	1:03PM	1:11PM	1:19PM
780	1:10PM	1:18PM	1:27PM	1:34PM	-	1:39PM	1:47PM	1:55PM	2:03PM	2:11PM	2:19PM
780	2:10PM	2:18PM	2:27PM	2:34PM	-	2:39PM	2:47PM	2:55PM	3:03PM	3:11PM	3:19PM
780	3:10PM	3:18PM	3:27PM	3:34PM	-	3:39PM	3:47PM	3:55PM	4:03PM	4:12PM	4:22PM
780	4:10PM	4:18PM	4:27PM	4:35PM	4:42PM	4:45PM	4:53PM	5:01PM	5:09PM	5:18PM	5:28PM
780	5:09PM	5:17PM	5:26PM	5:34PM	-	5:40PM	5:48PM	5:56PM	6:04PM	6:13PM	6:23PM
780	6:10PM	6:18PM	6:27PM	6:35PM	-	6:41PM	6:49PM	6:57PM	7:05PM	7:14PM	7:24PM
780	7:10PM	7:18PM	7:27PM	7:35PM	-	7:41PM	7:49PM	7:57PM	8:05PM	8:14PM	8:24PM
780	8:10PM	8:18PM	8:27PM	8:35PM	-	8:41PM	8:49PM	8:57PM	9:05PM	9:14PM	9:24PM
780	9:10PM	9:18PM	9:27PM	9:35PM	-	9:41PM	9:49PM	9:57PM	-	-	-
780	10:10PM	10:18PM	10:27PM	10:35PM	-	10:41PM	10:49PM	10:57PM	-	-	-

SMART RIDE

780 15 MILE CROSSTOWN Westbound for Weekday

ROUTE	GRATIOT & 15 MILE	GARFIELD & 15 MILE	VAN DYKE & 15 MILE	DEQUINDRE & 15 MILE RD.	GRAND HAVEN DRIVE	OAKLAND MALL	MAPLE & MAIN	SOMERSET COLLECTION	MAPLE & WOODWARD	MAPLE & TELEGRAPH	ORCHARD LAKE & 15 MILE ROAD
780	5:10AM	5:18AM	5:27AM	5:34AM	-	5:39AM	5:47AM	5:55AM	6:03AM	6:11AM	6:19AM
780	6:10AM	6:18AM	6:27AM	6:34AM	-	6:39AM	6:47AM	6:55AM	7:03AM	7:11AM	7:19AM
780	7:10AM	7:18AM	7:27AM	7:34AM	-	7:39AM	7:47AM	7:55AM	8:03AM	8:11AM	8:19AM
780	8:10AM	8:18AM	8:27AM	8:34AM	-	8:39AM	8:47AM	8:55AM	9:03AM	9:11AM	9:19AM
780	9:10AM	9:18AM	9:27AM	9:34AM	-	9:39AM	9:47AM	9:55AM	10:03AM	10:11AM	10:19AM
780	10:10AM	10:18AM	10:27AM	10:34AM	10:40AM	10:43AM	10:51AM	10:59AM	11:07AM	11:15AM	11:23AM
780	11:10AM	11:18AM	11:27AM	11:34AM	-	11:39AM	11:47AM	11:55AM	12:03PM	12:11PM	12:19PM
780	12:10PM	12:18PM	12:27PM	12:34PM	-	12:39PM	12:47PM	12:55PM	1:03PM	1:11PM	1:19PM
780	1:10PM	1:18PM	1:27PM	1:34PM	-	1:39PM	1:47PM	1:55PM	2:03PM	2:11PM	2:19PM
780	2:10PM	2:18PM	2:27PM	2:34PM	-	2:39PM	2:47PM	2:55PM	3:03PM	3:11PM	3:19PM
780	3:10PM	3:18PM	3:27PM	3:34PM	-	3:39PM	3:47PM	3:55PM	4:03PM	4:12PM	4:22PM
780	4:10PM	4:18PM	4:27PM	4:35PM	4:42PM	4:45PM	4:53PM	5:01PM	5:09PM	5:18PM	5:28PM
780	5:09PM	5:17PM	5:26PM	5:34PM	-	5:40PM	5:48PM	5:56PM	6:04PM	6:13PM	6:23PM
780	6:10PM	6:18PM	6:27PM	6:35PM	-	6:41PM	6:49PM	6:57PM	7:05PM	7:14PM	7:24PM
780	7:10PM	7:18PM	7:27PM	7:35PM	-	7:41PM	7:49PM	7:57PM	8:05PM	8:14PM	8:24PM
780	8:10PM	8:18PM	8:27PM	8:35PM	-	8:41PM	8:49PM	8:57PM	9:05PM	9:14PM	9:24PM
780	9:10PM	9:18PM	9:27PM	9:35PM	-	9:41PM	9:49PM	9:57PM	-	-	-
780	10:10PM	10:18PM	10:27PM	10:35PM	-	10:41PM	10:49PM	10:57PM	-	-	-

Section 3.4
Phase I Environmental Site Assessment

CONSOLIDATED ENVIRONMENTAL SERVICES, INC.

PHASE I Environmental Site Assessment

The Reserve
325 South Eton Street
Birmingham Michigan 48009

June 1, 2021

Prepared For:

Birmingham Lofts, LLC
2051 Villa, Suite 106
Birmingham, MI 48009

TABLE OF CONTENTS

	PAGE
1.0 EXECUTIVE SUMMARY	1
2.0 INTRODUCTION	2
2.1 Purpose	2
2.2 Special Terms and Conditions	3
2.3 Limiting Conditions	3
2.4 Scope of Investigation	3
3.0 SITE CONDITIONS AND PAST MANAGEMENT	4
3.1 Current Site Conditions	4
3.2 Site History	5
4.0 SURROUNDING PROPERTIES	6
5.0 PHYSICAL SITE DESCRIPTION	6
5.1 Topographic and Geologic Overview	6
5.2 Storage Tanks	6
5.3 Polychlorinated Biphenyls (PCB)	7
5.4 Asbestos Containing Materials (ACM)	7
5.5 Solid Wastes	7
5.6 Hazardous Wastes	7
6.0 RECORDS REVIEW	8
6.1 Government Records Database	8
6.2 Environmental Lien Search	9
7.0 INTERVIEW	9
8.0 FINDINGS AND CONCLUSIONS	10
8.1 Records Review	10
8.2 Site Reconnaissance	10
8.3 Conclusions	11
9.0 RECOMMENDATIONS	11
10.0 SIGNATURE AND QUALIFICATION STATEMENT	12

APPENDICES

Appendix A ..... Figures

Appendix B ..... Photographs

Appendix C ..... Sanborn Maps

Appendix D ..... Historical Aerial Photographs

Appendix E ..... Historical Topographic Maps

Appendix F ..... City Directory Listings

Appendix G ..... Regulatory Documentation

Appendix H ..... Environmental Lien Search

Appendix I ..... Building Department Records

Appendix J ..... Property Tax Map Report

Appendix K ..... Chain of Title Report

Appendix L ..... Condominium Documents and Drawings

Appendix M ..... Clayton Phase 1 and Phase 2

Appendix N ..... Statement of Limitations

1.0 EXECUTIVE SUMMARY

Consolidated Environmental Services, Inc. (CES) was retained by Birmingham Lofts, LLC to perform a Phase I Environmental Site Assessment for The Reserve, a Banquet Hall, located at 325 S. Eton St., Birmingham, MI. The building is located just south of the corner of Maple Rd, and Eton St.

Birmingham Lofts, LLC has plans to redevelop the property as mixed use with apartments, office and retail.

The property is zoned for mixed use and is currently being utilized as a Banquet Hall and Wedding venue in association with the adjacent Big Rock Chop house.

The property is unit 2 of the Eton condominium properties. These condominiums include the subject property, The Big Rock chop House, the District Lofts and a common parking structure.

Unit 2 has been re plated to encompass a portion of the Eton Condominium Properties common area. This was done to allow for a larger building on Unit 2 than the currently existing building.

The additional area included in unit 2 will be on property that has in the past been identified with 325 South Eton St.

Previously, the property was owned by Grand Trunk Western Railroad which maintained a Freight Depot on the property.

A Phase 1 Environmental Site Assessment was performed for the Subject property (325 S. Eton) and 375 S. Eton on November 23, 1998 by Clayton Environmental Consultants (Clayton). A Phase 2 was performed by Clayton on August 13, 1999.

A Phase I Environmental Site Assessment is intended to identify conditions indicative of releases and threatened releases of hazardous substances or petroleum products on, at, in, or to the subject property. It is a compilation of information obtained through visual inspection and inquiry into the current and past ownership and uses of the subject property and surrounding properties.

The Phase I Environmental Site Assessment was performed in accordance with ASTM Standard E-1527-13.

The conclusion of the Phase 1 is that an ASTM Recognized Environmental Conditions (REC) has been identified. A Phase 2 Environmental Site Assessment was previously performed investigating that REC. No additional investigation is required.

2.0 INTRODUCTION

CES was retained by Birmingham Lofts, LLC to perform a Phase I Environmental Site Assessment for 325 S. Eton St. Birmingham, Oakland County, Michigan.

The property is located on Eton St. South of Maple Rd and North of Villa Rd.

The property is currently owned by Eton Office Properties, LLC and is unit 2 of Eton Condominium Properties.

The property is occupied by the Reserve, which is a banquet hall and wedding venue.

Previously, Phase 1 and Phase 2 reports were prepared by Clayton Environmental Consultants (Clayton) for the property in 1998 and 1999.

Birmingham Lofts, LLC will redevelop the property as mixed use with retail, office and residential use. The basement of the existing structure will remain the same.

Unit 2 of Eton Condominium properties has been re plated to include common areas which will allow for a larger building. These common areas have previously been associated with 325 S. Eton and were included in the Clayton Phase 1 and Phase 2.

This Phase 1 also considers the re platted portion of the property even though the Environmental Data Resources (EDR) report does not show the new Unit 2 boundary. The modification to the Eton Condominium Properties master deed was filed on January 22, 2021 but the county data base had not been updated when our report was ordered.

The purpose of this report will be to determine if the Recognized Environmental Conditions (RECs) were adequately addressed by Clayton and if any new RECs are present.

Appendix A contains a Site location map and survey maps of the property as it exists today and of the proposed development.

2.1 Purpose

The purpose of the Environmental Site Assessment is to identify whether Recognized Environmental Conditions (RECs), Historical Recognized Environmental Conditions (HRECs), or Controlled Recognized Environmental Conditions (CRECs) are present in connection with the property.

RECs mean the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

HRECs are past releases of hazardous substances or petroleum products which have been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by the regulatory authority, without subjecting the property to any required controls or property use restrictions.

CRECs are past releases of hazardous substances or petroleum products that have been addressed but where contamination still remains and is subject to the implementation of required activity use limitations such as institutional or engineering controls.

The Assessment is done to meet the "all appropriate inquiry" provisions necessary to qualify for certain landowner liability protections under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Michigan Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994, as amended.

2.2 Special Terms and Conditions

See Statement of Limitations in Appendix N.

2.3 Limiting Conditions

There were no limiting conditions to the site investigation.

2.4 Scope of Investigation

The scope of the investigation for the Phase I Environmental Site Assessment consisted of a historical review including review of historical city directory listings, building permit reports, historical fire insurance maps, historic aerial photographs, environmental lien search, and historic topographic maps.

A search of relevant governmental environmental databases (radius map report) was made.

The city of Birmingham records were reviewed regarding city files for the property.

A chain of title search was performed and reviewed to determine past uses of the property.

A reconnaissance of the subject property and surrounding area was performed.

The current owners and operators of the property were interviewed concerning their use of property.

3.0 SITE CONDITIONS AND PAST MANAGEMENT

The subject property is located on the East side of Eton St., South of Maple Rd.

The Legal description of the property is:

Property ID Number: 20-31-207-001

T2N, R 11 E, SEC 31 Oakland Condominium Plan NO 1883 Eton Condo Properties Unit2, L 37854 P 533 7-19-06 FR 203-029

According to city of Birmingham and Oakland county records the current structure is approximately 6,825 square feet with a 5,050 square feet basement. The property is 13,416 square feet.

Appendix A contains a Site location map and a survey of the property. Appendix I contains a sketch of the Building and basement.

According to the Re plat of Eton Condominium Properties (included as Appendix L) Unit 2 is now 21,598 square feet and will accommodate the larger proposed building.

A title search was ordered from EDR and contained the following historic ownership information:

Prior to 1928 the property was owned by Leo D. Sullivan.

In 1928 it was deeded to the State of Michigan.

In 1938 the State of Michigan deeded the property to Grand Trunk Western Rail Road

In 1984 the property was quit claimed to Birmingham Train Station Associates.

In 1997 the property was deeded to Eton Street Real Estate, Inc.

The chain of title documentation can be found in Appendix K

3.1 Current Site Conditions

Mr. Stephen Peach of CES performed site reconnaissance on May 7, 2021.

The subject property is a single story building being utilized as a banquet hall and event venue in conjunction with the adjacent Big Rock Chop House. The structure was built in 2005 and is 6,825 square feet with a 5,050 square feet basement. The exterior is brick and stone and appears to be in excellent condition.

An additional temporary canopied area for outdoor dining was also noted.

The site is serviced by city water and sewer. Natural gas is provided by Consumers energy and electrical power is provided by DTE energy. The heating, ventilation and air conditioning (HVAC) system is roof mounted and a newer electrical transformer was observed on the south side of the building.

The kitchen servicing the facility is located in the basement. Small amounts of cleaning chemicals in consumer size packaging are kept on shelves in the basement.

No evidence of any spills, stressed vegetation, or any other type of environmental concern was noted on site inspection.

Photographs of the site are included in Appendix B

3.2 Site History

The history of the site was investigated as follows:

Phase 1 and Phase 2 reports were reviewed for the subject property and adjacent properties.

Historical use of the subject property was researched through a review of aerial photographs for the years 1937, 1940, 1949, 1952, 1956, 1967, 1972, 1976,1981, 1983, 1987, 1997, 1999, 2005, 2009, 2012 and 2016; historical topographic maps were reviewed for the years 1908, 1936, 1945, 1952, 1968, 1973, 1981, and 2014.

City directories were reviewed including Bresser's Cross Index Directory company and EDR Digital archive for years 1954, 1957, 1962, 1967, 1972, 1977, 1982, 1987, 1992, 1995, 2000, 2005, 2010, 2014 and 2017. These directories are reviewed to indicate what type of activity has occurred at the property historically and if there is an indication of activity that may cause environmental issues.

The Certified Sanborn Map Report (Fire Insurance Maps) did provide maps for the subject property and were reviewed for the years 1931, 1949 and 1960.

A copy of the Certified Sanborn Map Report is provided in Appendix C.

Copies of the historical aerial photographs are provided in Appendix D of this report.

Copies of historical topographic maps are provided in Appendix E.

City Directory listings are provided in Appendix F.

The Sanborn map from 1931 and the aerial photograph from 1937 show the "new" railroad passenger terminal (now Big Rock chop House) at 245 S. Eton but nothing shown on the subject property.

The Sanborn maps from 1949 and 1960 show the building on the subject property prior to the Reserve as a "freight building and had a rail spur on the east side of that building that terminated in front of the building. The aerial photographs and Sanborn maps also show the Standard Oil terminal to the south of the site across Villa.

City Directories were available from 1954. From 1954 to 1972 there is no listing at 325 S. Eton.

Grand Trunk Western Railroad is listed at 245 S. Eton St. from 1954-1977. 245 S. Eton was the train station that eventually became The Big Rock Chop House.

Because 325 S. Eton was owned by Grand Trunk Western, it appears that the building on that property was utilized by Grand Trunk until approximately 1972.

In 1972 325 S. Eton is listed as The Bees Hive and Schoenly interior design. In 1977 just Schoenly is listed. In 1982 Superior mortgage is listed. In 1987 Erb lumber Administrative offices, Salem Management and Superior Mortgage are listed. In 1992 Erb Lumber and Salem Management are listed. In 2000 Erb lumber is listed. After 2005 The Reserve has been on the property.

Based on review of the previous Phase 1s, aerial photographs, and Sanborn maps, prior to the construction of The Reserve there was an 8119 square foot single story building with a partial basement originally built in approximately 1946 and added on to in approximately 1980.

The structure on the subject property was first utilized as a freight building, with a dedicated rail spur. Later, after an expansion it became an office building and was then demolished to construct The Reserve.

The current owner Representative was interviewed about past property usage. See discussion in Section 7.

The presence of the Freight building and the Rail spur was identified a Recognized Environmental Condition (REC) by Clayton and a Phase 2 site investigation was performed. See Discussion in Section 8.

4.0 SURROUNDING PROPERTIES

The Subject property is in an area of mixed commercial and residential use.

The subject property is bordered by Eton Street to the west and by other buildings in the Eton Condominium Properties Development to the north, east and south.

The north adjoining property is 245 S. Eton, the Big Rock Chop House (Unit 1 of Eton Condominium Properties).

The South adjoining property is the District Lofts, mixed office and residential (Unit 7 in Eton Condominium Properties) and formerly 375 S. Eton St.

The East adjoining property is the common parking garage for the Eton Condominium Properties (Unit 3 of Eton Condominium Properties). A portion of this property was previously associated with 325 S. Eton when the Clayton Phase 1 and Phase 2s were performed.

Across Eton St. to the west is a beauty salon and apartments.

The adjoining properties were visually observed during the site reconnaissance of the subject parcel. No Environmental issues were observed.

5.0 PHYSICAL SITE DESCRIPTION

5.1 Topographic and Geologic Overview

EDR includes a physical Source addendum which is included in Appendix G of this report.

Referencing the 2014 USGS Birmingham MI Topographic map, the subject property is located at Latitude 42.545841 N and Longitude 83.195598 W and is 749 ft above sea level.

Surface water drainage is generally to the south-southeast.

The site is underlain by soil classified as Urban Land-Lenawee. Urban land and nearly level and gently undulating, somewhat poorly drained and poorly drained loamy and silty clay soils; on lake plains and moraines.

A review of the Michigan water well database showed a few water wells within a half mile apparently for irrigation. These wells are set at greater than 100 ft deep. The site is not in a wellhead protection area.

5.2 Storage Tanks

There are currently no known storage tanks at the subject property.

5.3 Polychlorinated Biphenyls (PCB)

No potential PCB transformers were observed

5.4 Asbestos Containing Materials (ACM)

No suspect ACM material was observed at the site, however, ACM is outside of the scope of this investigation.

5.5 Solid Wastes

There is currently a solid waste dumpster on-site.

5.6 Hazardous Wastes

There is currently no hazardous waste disposal from the site.

6.0 RECORDS REVIEW

6.1 Government Records Database

The records review consists of obtaining and reviewing records to help identify recognized environmental conditions on the subject properties and on surrounding properties which may have impacted the subject property. The EDR Summary Radius Report (Appendix G) was dated April 8, 2021, and was reviewed to determine if such conditions exist. EDR searches over 1600 environmental databases. The search results are included in the Radius Report.

The subject property is not listed in the databases but several nearby properties were listed.

Table 6.1 summarizes the results of the target property and nearby sites which were included in one or more of the databases.

Table 6.1
Records Summary

Site Name	Site Address	Distance and Direction From Subject Property	Databases Site Found In
The Reserve	325 S. Eton	Target property	Not listed
Erb Lumber	425 S. Eton	262 ft S.	UST, LUST,WDS Finds Echo
Amoco Oil/Erb Lumber	451 S. Eton	325ft S.	RCRA, Finds, Echo,UST,LUST
Saxon Ind/Failure analysis/St Joe Mercy	2100 E Maple	432 ft NNE	RCRA, Finds, Echo
Hitchingham Development	2006 Hazel	484ft.S.	UST, LUST
AT&T	2100 Palmer St	661 ft. S.	UST, LUST, WDS,AST, RCRA,Finds,Echo

Databases:
RCRA-NonGen/NLR: Resource Conservation and Recovery Act Very small quantity generator
UST: Registered Underground Storage Tanks.
LUST: Leaking Underground Storage Tank sites.
WDS: Waste Data System
Inventory: Inventory of Facilities
EDR Hist Cleaners:
EDR Exclusive Historic Gas Stations
ECHO: Enforcement & Compliance History Information
FINDS: Facility Index System/Facility Registry System
AUL: Engineering and Institutional Controls
NPDES: National Pollutant Discharge Elimination System

6.2 Environmental Lien Search.

A copy of the EDR Environmental Lien Search was provided on January 19, 2021. No environmental liens were reported.

A copy of the Lien search is in Attachment H.

7.0 Interviews

The current site owner and the manager of The Reserve were interviewed by Stephen A. Peach of CES.

On May 5, 2021 Mr. Norm Lepage , the owner of Big Rock Chop House and The Reserve was interviewed.

Mr. Lepage's company developed the Reserve in 2005 and utilizes the facility as an event venue in conjunction with the Big Rock Chop house. The Big Rock Chop house was originally redeveloped as Norm's Eton Street Station restaurant (Norms) in 1984 after the Railroad quit using it as a passenger station in approximately 1984.

Mr. Lepage stated that when the Reserve was developed that the entire former building, including foundations was removed and no contamination was encountered. He stated that The Reserve does not handle any chemicals other than the small amounts required for cleaning and maintenance of the building. They have had no spills or other environmental issues.

Mr. Lepage has received no notices of migration of environmental migration from other sites in the area and has no other environmental reports for the site other than those given to CES to review.

On May 7, 2021 Ms. Vera Day Rizer was interviewed. Ms. Rizer is the General Manager of the Big Rock and the Reserve and is familiar with the site from 1984 when she started to work at Norms. Ms. Rizer confirmed that the entire former building, including foundations, was removed and the much larger basement excavated. There was no indication of any

environmental impact during that construction. Ms. Rizer has stated that they have only used small quantities of cleaners and maintenance chemicals, similar to what was observed on site during the CES walk through. They have never had any spills or other environmental issues that she is aware of.

8.0 FINDINGS AND CONCLUSIONS

CES has completed the Phase I Environmental Site Assessment for the subject property. A discussion of each of the primary sections of this report can be found below.

8.1 Records Review

The review of historical and regulatory information did indicate areas of concern within the scope of 40 CFR Part 312, All Appropriate Inquiry, for environmental impairment for the subject property.

A Recognized Environmental Condition was identified by Clayton in 1998 and a Phase 2 Environmental Site Assessment was performed to address the potential for contamination on the railroad siding in front of the former freight building.

The results of the Phase 2 indicated that there was some hydrocarbon impact on the property but this impact was below the State residential cleanup standards. Therefore, no further action was required.

After the Clayton investigation, the existing building was demolished and the Reserve was built.

The portion of the property where hydrocarbons were detected appears to now be part of Eton Condominium Unit 3, the parking garage.

The boring done on what is still 325 S. Eton St. had no hydrocarbon detections. CES believes the REC identified by Clayton has been adequately addressed.

CES also has reviewed the status of other sites identified in the database search. The nearby sites of identified environmental contamination have achieved regulatory closure. No other sites were identified that are likely to impact the subject property.

Based on the review of all documentation CES believes that there are no other RECs for the 325 S. Eton St. property from the operation of the Reserve.

8.2 Site Reconnaissance

No visible evidence of environmental contamination or impairment was noted during the site reconnaissance. No operations on adjacent properties were observed which might impact the subject property.

8.3 Conclusions

CES has completed the Phase I Environmental Site Assessment for the subject property located at 325 S. Eton St, Birmingham Oakland County Michigan. Any exceptions to, deletions from, or limiting conditions to this standard are described in Section 2.3 and 2.4 of this report.

CES did identify an ASTM Recognized Environmental Condition. This REC had previously been identified and investigated by Clayton.

No other RECs have been identified on the subject property.

No Historical Recognized Environmental Conditions or Controlled Environmental Conditions were noted.

No further investigation is required at this time.

9.0 RECOMMENDATIONS

It is the opinion of the environmental professional that the following recommendations are appropriate:

Care should be taken in the development of the expanded building. If any suspected contaminated soils or other materials are encountered during excavation an environmental professional should be retained for testing and to properly characterize and handle the material.

10.0 SIGNATURE AND QUALIFICATION STATEMENT

This Phase I Environmental Site Assessment report was prepared by Stephen Peach, PE.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR Part 312

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312

I am licensed as a Professional Engineer in the State of Michigan.

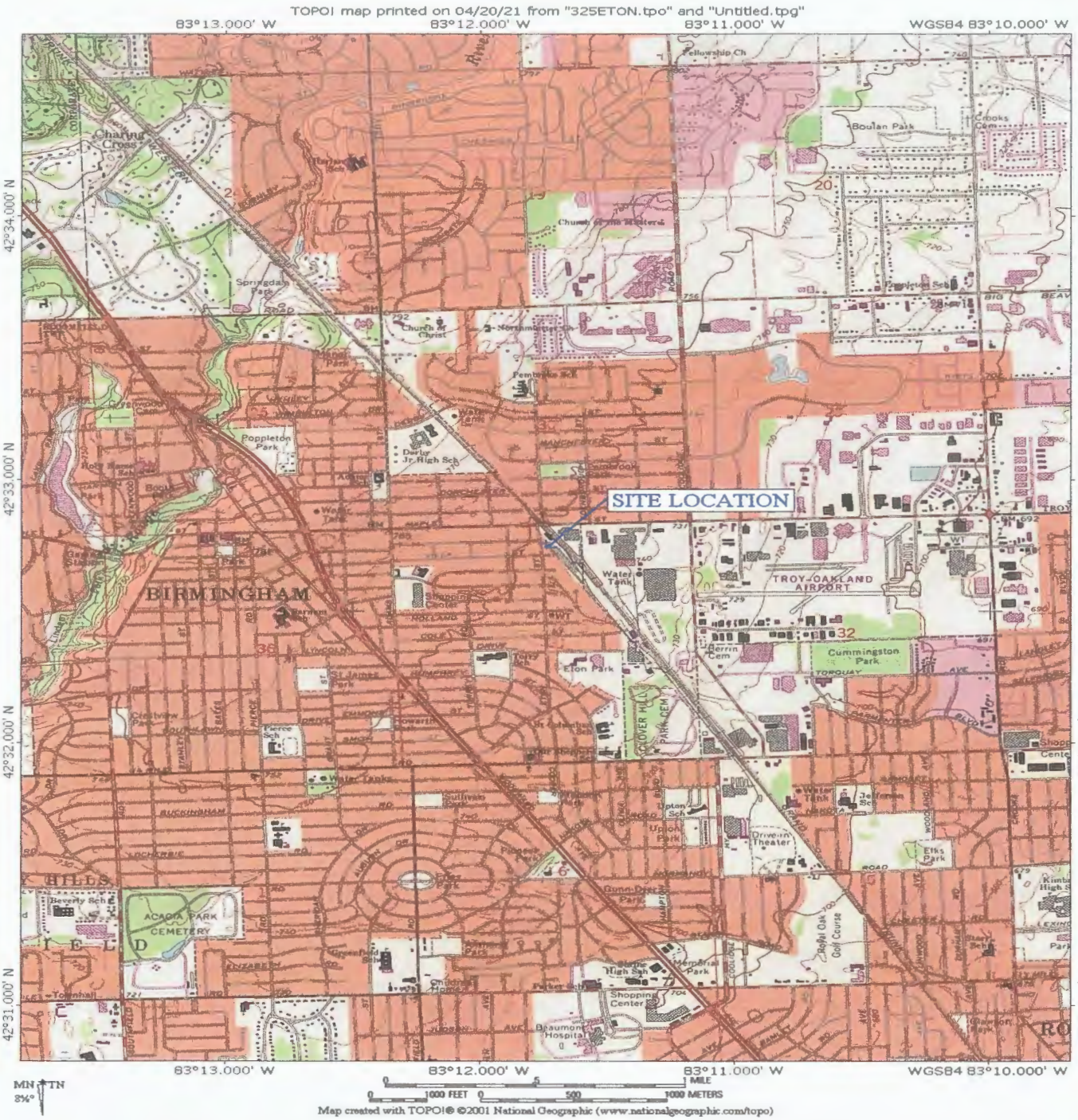
I have 36 years of experience working as an engineer and 29 years as a professional engineer in environmental consulting. I remain current in my field through participation in continuing education and other activities.

Date: 6-1-21

Stephen A. Peach, PE

Appendix A

Figures



BIRMINGHAM QUADRANGLE

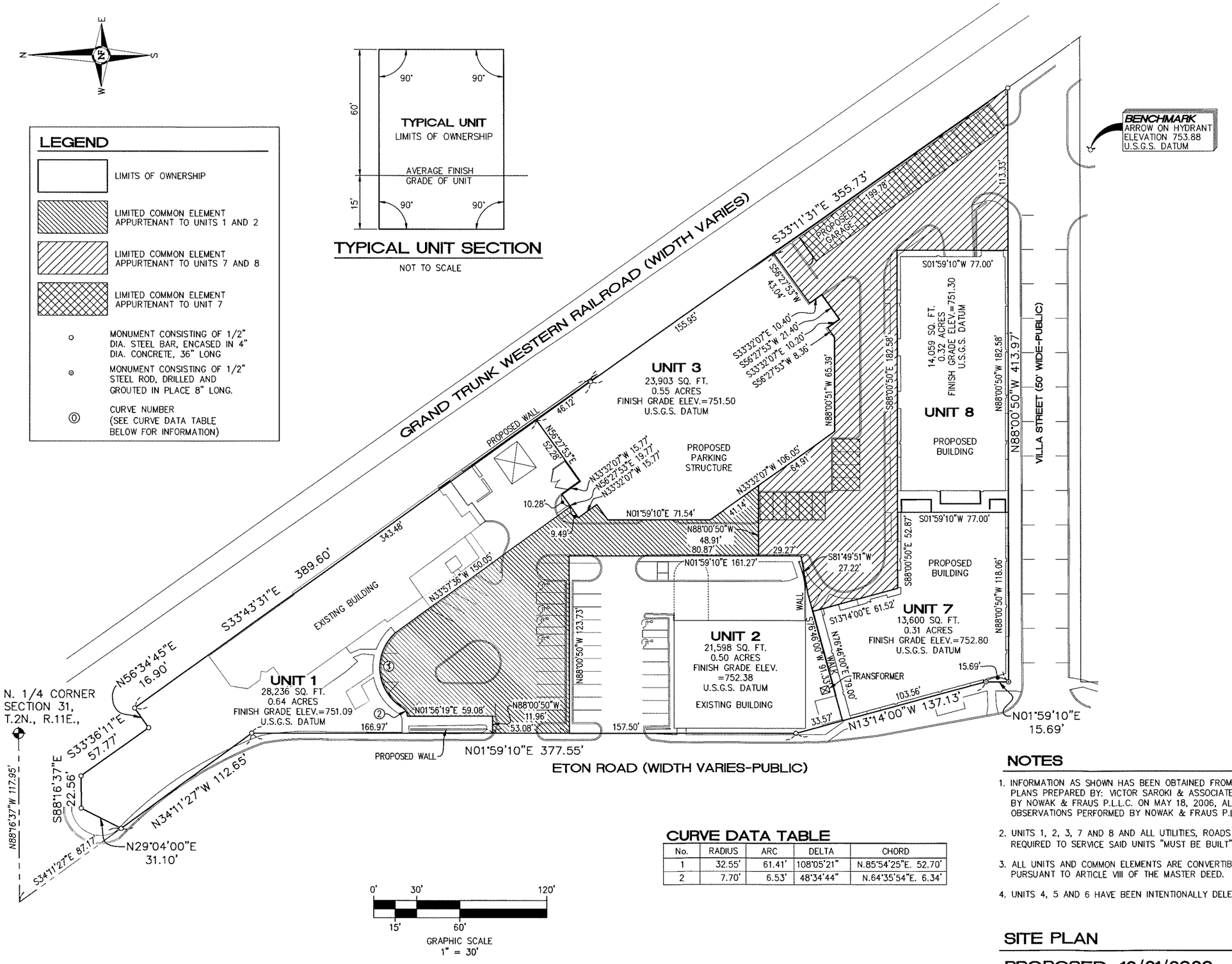
Consolidated Environmental Services, Inc. 830 E. Fourth St. Suite 6 Royal Oak, MI 48067 Phone: 248-540-8437 Fax: 248-540-8368	Date Created: 4-20-21 Date Revised: Drawn By: DHB Document: 325ETONFIG1.DOC	FIGURE 1 Site Location Map The Reserve 325 S. Eton Street Birmingham, MI 48009

LEGEND

- LIMITS OF OWNERSHIP
- LIMITED COMMON ELEMENT APPURTENANT TO UNITS 1 AND 2
- LIMITED COMMON ELEMENT APPURTENANT TO UNITS 7 AND 8
- LIMITED COMMON ELEMENT APPURTENANT TO UNIT 7
- ○ MONUMENT CONSISTING OF 1/2" DIA. STEEL BAR, ENCASED IN 4" DIA. CONCRETE, 36" LONG
- ⊙ MONUMENT CONSISTING OF 1/2" STEEL ROD, DRILLED AND GROUTED IN PLACE 8" LONG.
- ⓪ CURVE NUMBER (SEE CURVE DATA TABLE BELOW FOR INFORMATION)

TYPICAL UNIT SECTION

NOT TO SCALE



CURVE DATA TABLE

No.	RADIUS	ARC	DELTA	CHORD
1	32.55'	61.41'	108°05'21"	N.85°54'25"E. 52.70'
2	7.70'	6.53'	48°34'44"	N.64°35'54"E. 6.34'

GRAPHIC SCALE
1" = 30'

NOTES

1. INFORMATION AS SHOWN HAS BEEN OBTAINED FROM ARCHITECTURAL PLANS PREPARED BY: VICTOR SAROKI & ASSOCIATES AND RECEIVED BY NOWAK & FRAUS P.L.L.C. ON MAY 18, 2006, ALONG WITH FIELD OBSERVATIONS PERFORMED BY NOWAK & FRAUS P.L.L.C.
2. UNITS 1, 2, 3, 7 AND 8 AND ALL UTILITIES, ROADS AND DRIVES REQUIRED TO SERVICE SAID UNITS "MUST BE BUILT".
3. ALL UNITS AND COMMON ELEMENTS ARE CONVERTIBLE AREAS PURSUANT TO ARTICLE VIII OF THE MASTER DEED.
4. UNITS 4, 5 AND 6 HAVE BEEN INTENTIONALLY DELETED.

SITE PLAN

PROPOSED 12/21/2020

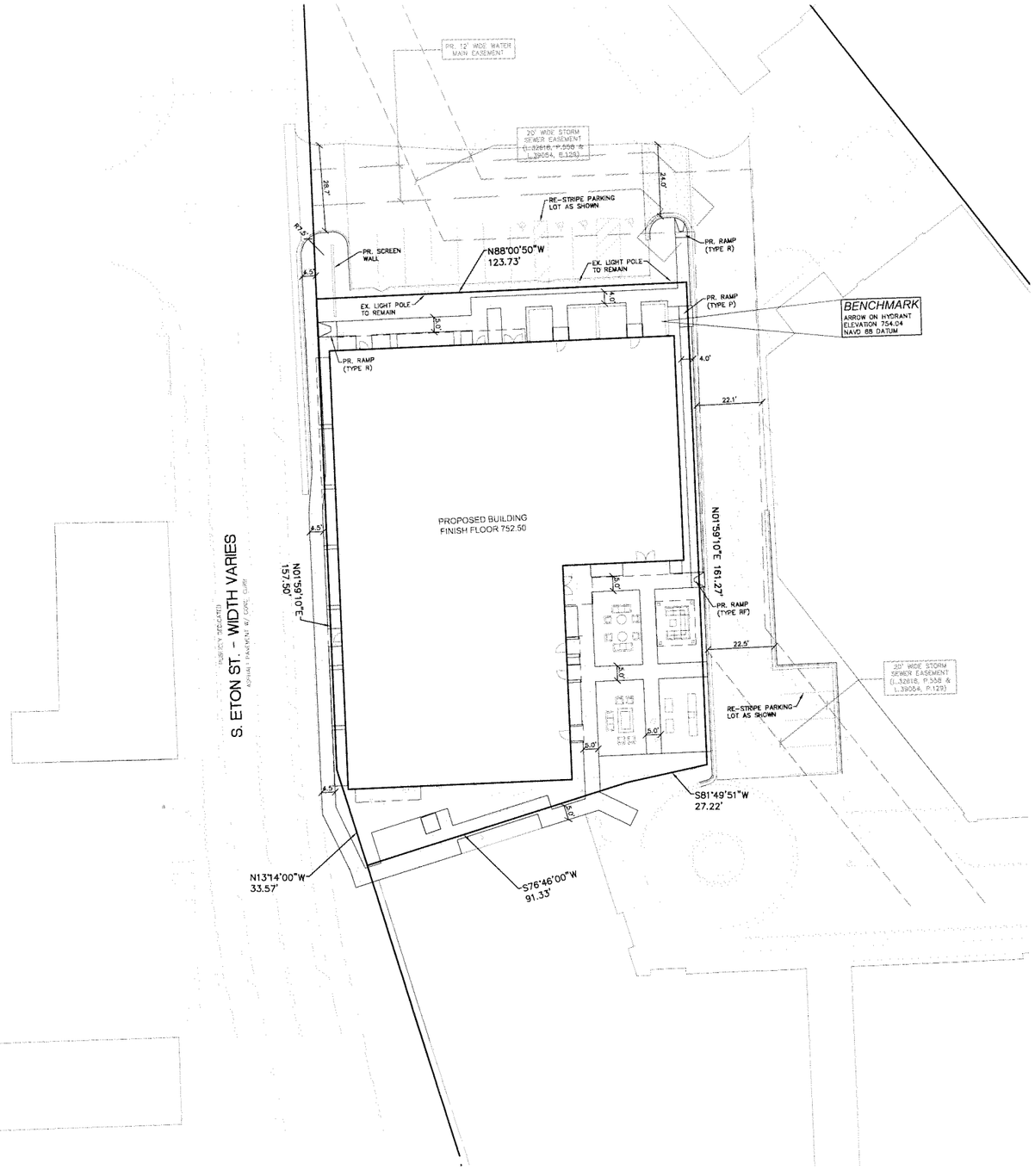
NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257

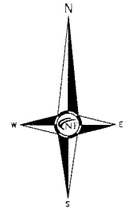
Eton Condominium
Properties

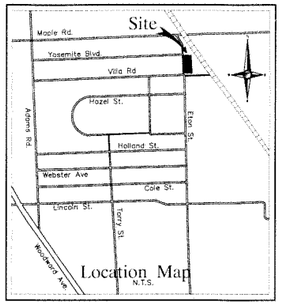
SEAL

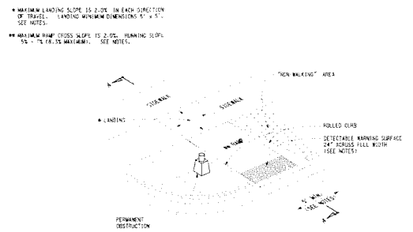
DRAWN BY: M. Tiseo / K.N.
DESIGNED BY:
APPROVED BY: K. Navaroli
DATE: 12/21/2020
SCALE: 1" = 30'

N/F JOB NO. E103-01
SHEET NO. 3

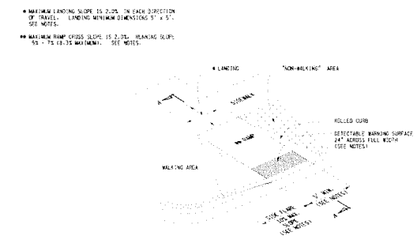




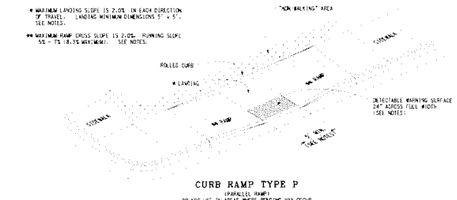




CURB RAMP TYPE R
(ROLLED SIDES)



CURB RAMP TYPE RF
(ROLLED / FLARED SIDES)



CURB RAMP TYPE P
(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PENDING MAY OCCUR

COVID-19 PANDEMIC CONDITION

DUE TO THE UNPRECEDENTED COVID-19 PANDEMIC CONDITION AND RESTRICTIONS THE STANDARD DATA WHICH IS OBTAINED FROM MISS DIG / CALL 811 HAS BEEN RESTRICTED TO CRITICAL INFRASTRUCTURE ONLY. NFE WILL MAKE EVERY EFFORT TO OBTAIN CURRENT REFERENCE DATA FROM THE GOVERNING AGENCIES; HOWEVER, THIS DATA MAY BE PARTIAL OR INCOMPLETE. NFE WILL ISSUE THIS SURVEY WITH THE BEST AVAILABLE INFORMATION FROM OUR FIELD SURVEY AND OTHER AVAILABLE REFERENCE DATA. NFE WILL NOT BE RESPONSIBLE FOR INCOMPLETE OR PARTIAL DATA PROVIDED BY THIRD PARTY FACILITY OWNERS. NFE IS NOT RESPONSIBLE FOR BURIED UTILITIES FOR WHICH PLANS WERE NOT FURNISHED OR CANNOT BE OBSERVED IN THE FIELD.

ALL CONSTRUCTION DOCUMENTS WILL BE UPDATED WHEN THE UTILITY INFORMATION IS PROVIDED BY THE FACILITY OWNER UP UNTIL THE TIME OF SUBMITTAL. ONCE THE PLANS HAVE BEEN SUBMITTED AND APPROVED IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN A MISS DIG TICKET PRIOR TO COMMENCING ANY CONSTRUCTION REQUIRING EXCAVATION. CONTRACTOR SHALL IMMEDIATELY NOTIFY NFE OF ANY UTILITIES FLAGGED BY MISS DIG THAT WERE NOT SHOWN ON THE PLANS OR UTILITIES UNCOVERED DURING THEIR WORK.

PAVING LEGEND

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT PAVEMENT

LEGEND

- MANHOLE
- HYDRANT
- GATE VALVE
- MANHOLE CATCH BASIN
- UTILITY POLE
- GUY POLE
- GUY WIRE
- EXISTING SANITARY SEWER
- SAN. CLEAN OUT
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- EX. R. Y. CATCH BASIN
- EXISTING BURIED CABLES
- OVERHEAD LINES
- LIGHT POLE
- SIGN
- EXISTING GAS MAIN
- C.O. MANHOLE
- PR. SANITARY SEWER
- HYDRANT GATE VALVE
- PR. WATER MAIN
- INLET C.B. MANHOLE
- PR. STORM SEWER
- PR. R. Y. CATCH BASIN
- PROPOSED LIGHT POLE

NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

SEAL

STATE OF MICHIGAN
PATRICK J. WILLIAMS
ENGINEER NO. 44351
LICENSED PROFESSIONAL ENGINEER

PROJECT
District Lofts

CLIENT
Kelly Building & Development
2051 Villa
Suite 106
Birmingham, MI 48009

Contact: John Kelly
Ph: (248) 258-6663

PROJECT LOCATION
Part of the Northeast 1/4 of Section 31
T. 2 North, R. 11 East
City of Birmingham,
Oakland County, Michigan

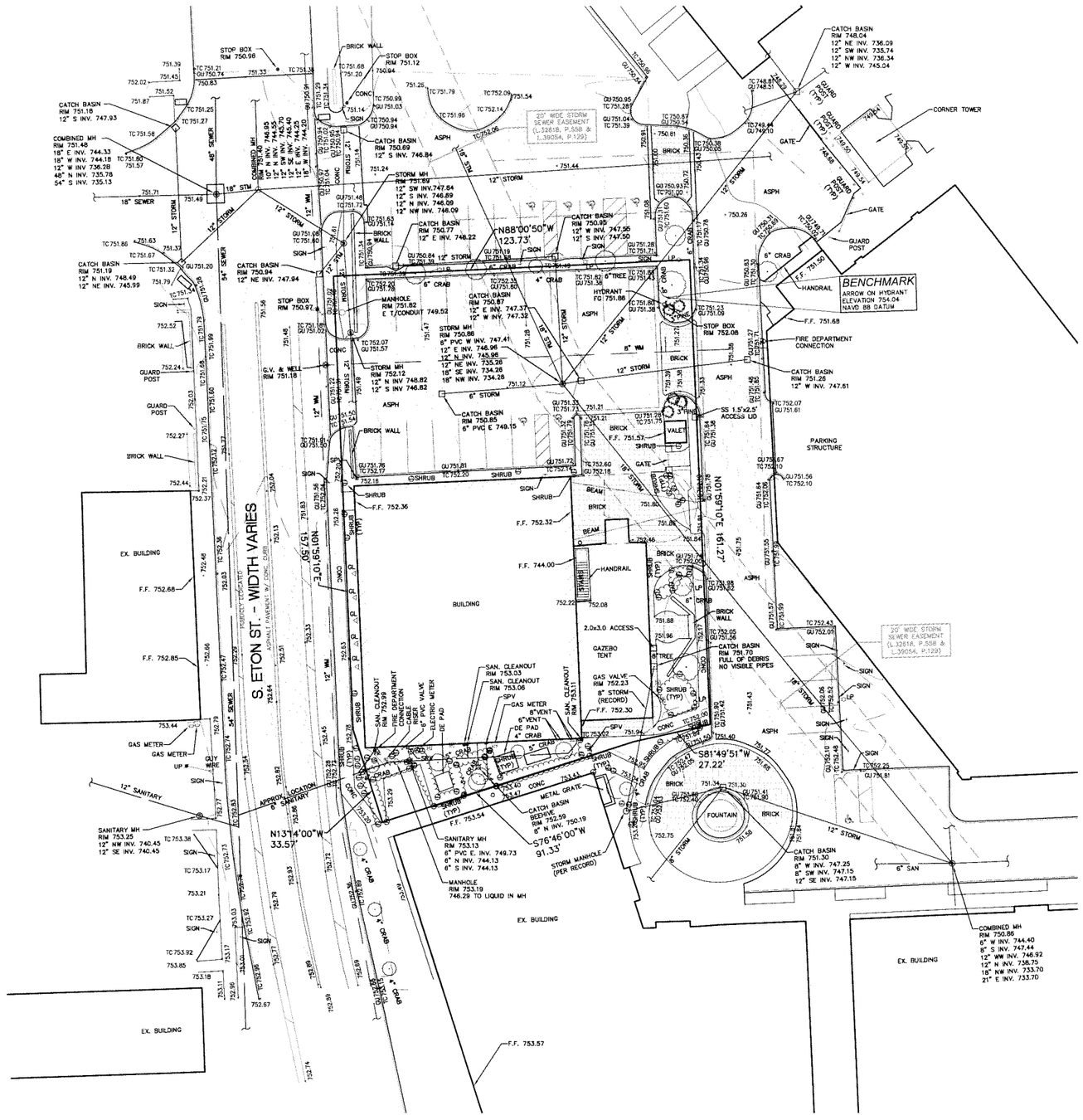
SHEET
Dimensional Site Plan

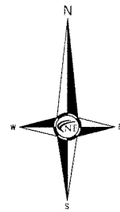
Know what's **below** **Call** before you dig.

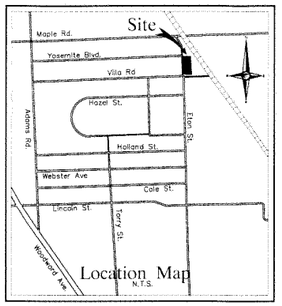
DATE ISSUED/REVISED
00-00-00 REVISED PER

DRAWN BY:
A. Eizember
DESIGNED BY:
A. Eizember
APPROVED BY:
P. Williams
DATE:
February 22, 2021
SCALE: 1" = 20'
20 10 0 10 20 40

NFE JOB NO. **E103-02**
SHEET NO. **SP-3**







LEGAL DESCRIPTION

UNIT 2, ETON CONDOMINIUM PROPERTIES, ACCORDING TO THE MASTER DEED RECORDED IN LIBER 37854, PAGES 533 THROUGH 583, BOTH INCLUSIVE, AND FIRST AMENDMENT TO THE MASTER DEED RECORDED IN LIBER 38725, PAGES 110 THROUGH 112, BOTH INCLUSIVE, AND SECOND AMENDMENT TO THE MASTER DEED RECORDED IN LIBER ____, PAGES ____ THROUGH ____, BOTH INCLUSIVE, OAKLAND COUNTY RECORDS, AS AMENDED, AND DESIGNATED AS OAKLAND COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 1883, TOGETHER WITH RIGHTS IN GENERAL COMMON ELEMENTS AND LIMITED COMMON ELEMENTS AS SET FORTH IN THE ABOVE-DESCRIBED MASTER DEED, AS AMENDED, AND AS DESCRIBED IN ACT 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED.

FLOOD HAZARD NOTE

THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE X OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 26125C0537F BEARING AN EFFECTIVE DATE OF 09-29-2006.

COVID-19 PANDEMIC CONDITION

DUE TO THE UNPRECEDENTED COVID-19 PANDEMIC CONDITION AND RESTRICTIONS THE STANDARD DATA WHICH IS OBTAINED FROM MISS DIG / CALL 811 HAS BEEN RESTRICTED TO CRITICAL INFRASTRUCTURE ONLY. NFE WILL MAKE EVERY EFFORT TO OBTAIN CURRENT REFERENCE DATA FROM THE GOVERNING AGENCIES; HOWEVER, THIS DATA MAY BE PARTIAL OR INCOMPLETE. NFE WILL ISSUE THIS SURVEY WITH THE BEST AVAILABLE INFORMATION FROM OUR FIELD SURVEY AND OTHER AVAILABLE REFERENCE DATA. NFE WILL NOT BE RESPONSIBLE FOR INCOMPLETE OR PARTIAL DATA PROVIDED BY THIRD PARTY FACILITY OWNERS.

ALL SURVEYS BEING UTILIZED FOR DESIGN PURPOSES BY OTHERS; IT WILL BE THE CLIENT'S OBLIGATION TO UPDATE THE UTILITY INFORMATION AS IT BECOMES AVAILABLE. NFE IS NOT RESPONSIBLE FOR BURIED UTILITIES FOR WHICH PLANS WERE NOT FURNISHED OR CANNOT BE OBSERVED IN THE FIELD.

MISS DIG / UTILITY DISCLAIMER NOTE

A MISS DIG TICKET NUMBER A00310088, PURSUANT TO MICHIGAN PUBLIC ACT 174 WAS ENTERED FOR THE SURVEYED PROPERTY. DUE TO THE EXTENDED REPORTING PERIOD FOR UNDERGROUND FACILITY OWNERS TO PROVIDE THEIR RECORDS, THE SURVEY MAY NOT REFLECT ALL THE UTILITIES AT THE TIME THE SURVEY WAS ISSUED ON 01/22/2021. THE SURVEY ONLY REFLECTS THOSE UTILITIES WHICH COULD BE OBSERVED BY THE SURVEYOR IN THE FIELD OR AS DEPICTED BY THE UTILITY COMPANY RECORDS FURNISH PRIOR TO THE DATE THIS SURVEY WAS ISSUED. **THE CLIENT AND/OR THEIR AUTHORIZED AGENT SHALL VERIFY WITH THE FACILITY OWNERS AND/OR THEIR AUTHORIZED AGENTS, THE COMPLETENESS AND EXACTNESS OF THE UTILITIES LOCATION.**

TOPOGRAPHIC SURVEY NOTES

ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED.

UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.

THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD UNLESS AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYOR BY THE OWNER.

LEGEND

- MANHOLE — EXISTING SANITARY SEWER
- HYDRANT, GATE VALVE — EXISTING SAN. CLEAN OUT
- MANHOLE, CATCH BASIN — EXISTING WATER MAIN
- EXISTING STORM SEWER
- EX. R.Y. CATCH BASIN
- EXISTING BURIED CABLES
- UTILITY POLE, GUY POLE, GUY WIRE — OVERHEAD LINES
- LIGHT POLE
- SIGN
- EXISTING GAS MAIN

NF ENGINEERS

CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

SEAL

STATE OF MICHIGAN — PATRICK J. WILLIAMS — ENGINEER NO. 44351 — PROFESSIONAL ENGINEER

PROJECT
District Lofts

CLIENT
Kelly Building & Development
2051 Villa
Suite 106
Birmingham, MI 48009

Contact: John Kelly
Ph: (248) 258-6663

PROJECT LOCATION
Part of the Northeast 1/4 of Section 31
T. 2 North, R. 11 East
City of Birmingham,
Oakland County, Michigan

SHEET
Boundary / Topographic Survey

Know what's **below** **Call** before you dig.

DATE	ISSUED/REVISED
00-00-00	REVISED PER

DRAWN BY: A. Eizember
DESIGNED BY:
APPROVED BY: P. Williams
DATE: February 22, 2021
SCALE: 1" = 20'

NFE JOB NO. **E103-02** SHEET NO. **SP-1**

Appendix B

Photographs

THE RESERVE
325 SOUTH ETON STREET
BIRMINGHAM, MICHIGAN 48009

View to southeast of site on Eton Street. 5-7-21

View to the south of site from the north side. 5-7-21

THE RESERVE
325 SOUTH ETON STREET
BIRMINGHAM, MICHIGAN 48009

Looking north at the site 5-7-21

View of an event room inside the Reserve. 5-7-21

THE RESERVE
325 SOUTH ETON STREET
BIRMINGHAM, MICHIGAN 48009

Interior view of another event room. 5-7-21

Kitchen area in the basement of the Reserve. 5-7-21

THE RESERVE
325 SOUTH ETON STREET
BIRMINGHAM, MICHIGAN 48009

Supply room in the Reserve. 5-7-21

Cleaning supplies closet. 5-7-21

Appendix C

Sanborn Maps

The Reserve
325 S Eton St.
Birmingham, MI 48009

Inquiry Number: 6442429.3
April 09, 2021

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/09/21

Site Name:

The Reserve
325 S Eton St.
Birmingham, MI 48009
EDR Inquiry # 6442429.3

Client Name:

Consolidated Env. Services
830 East Fourth St Suite 6
Royal Oak, MI 48067
Contact: Stephen Peach

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Consolidated Env. Services were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 8316-4029-8546

PO # NA

Project NA

Maps Provided:

1960
1949
1931

Sanborn® Library search results

Certification #: 8316-4029-8546

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Consolidated Env. Services (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

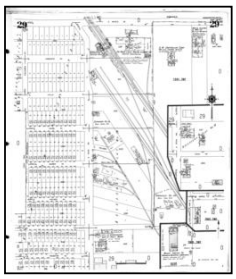
Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1960 Source Sheets

Volume 1, Sheet 29
1960

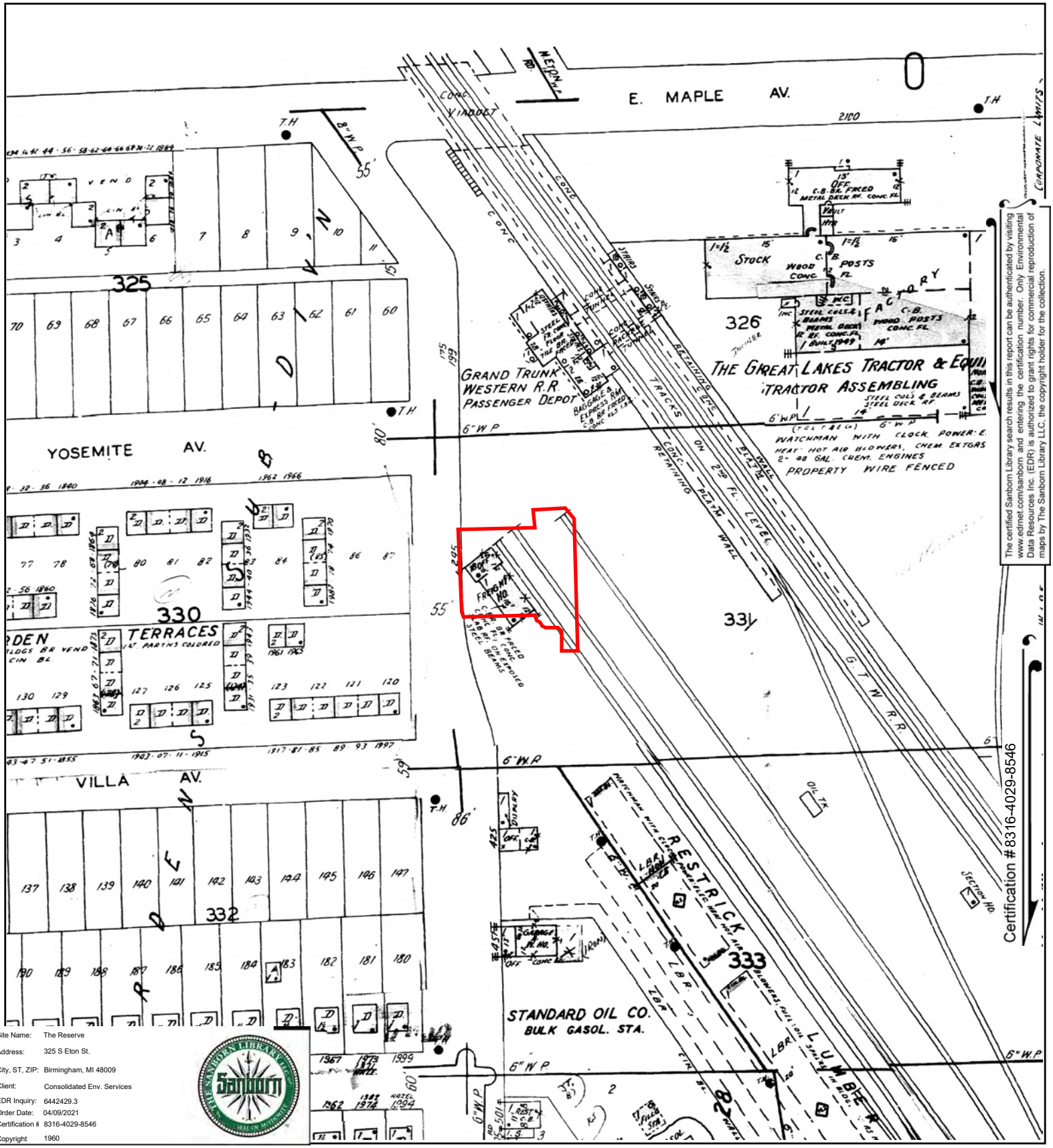
1949 Source Sheets



Volume 1, Sheet 29
1949

1931 Source Sheets

Volume 1, Sheet 21
1931

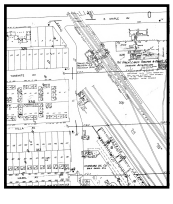


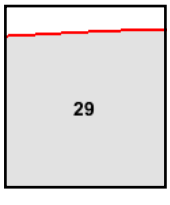
The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

Site Name:	The Reserve
Address:	325 S Eton St.
City, ST, ZIP:	Birmingham, MI 48009
Client:	Consolidated Env. Services
EDR Inquiry:	6442429.3
Order Date:	04/09/2021
Certification #:	8316-4029-8546
Copyright	1960

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

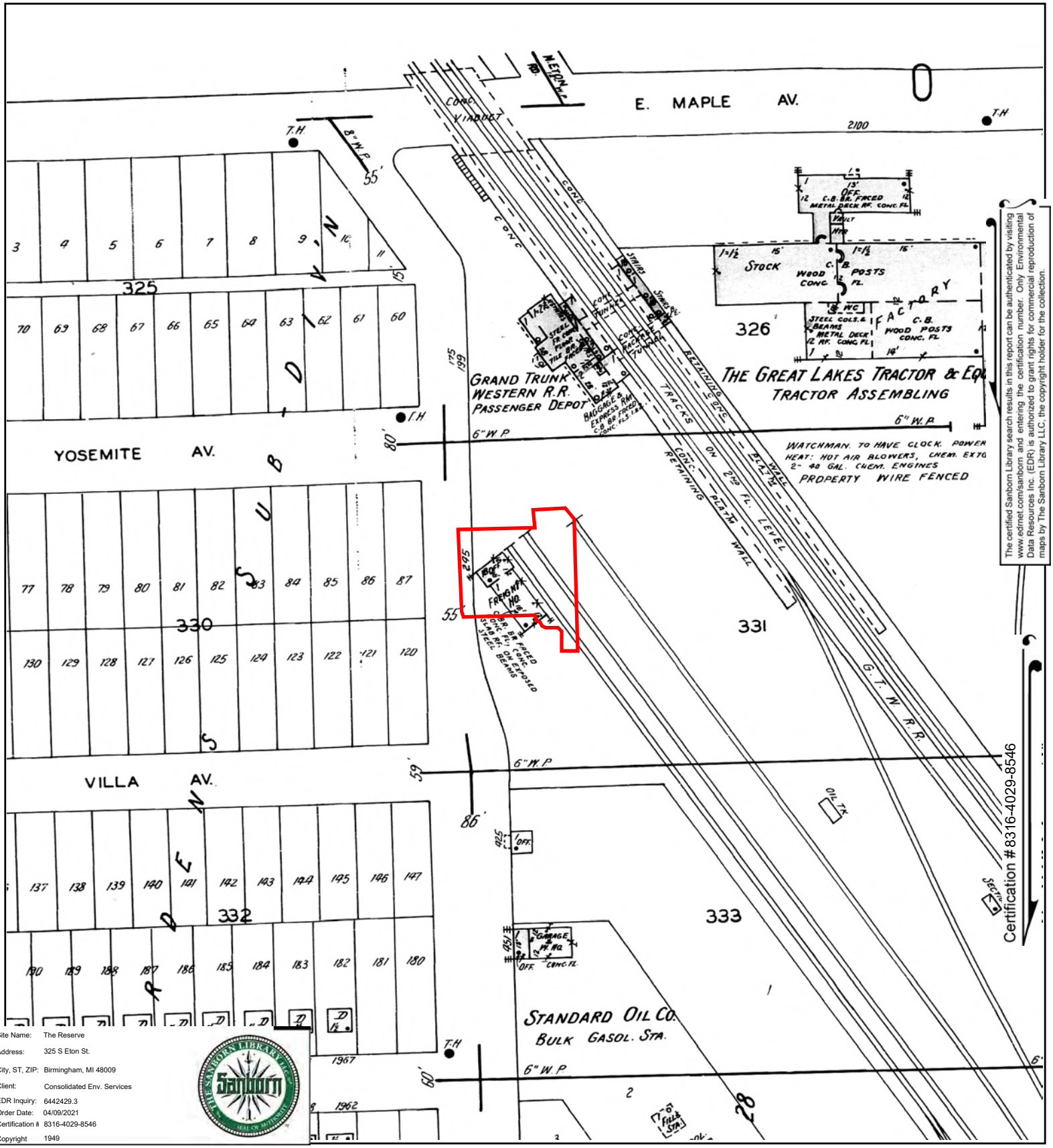
0 Feet 150 300 600





Volume 1, Sheet 29

N



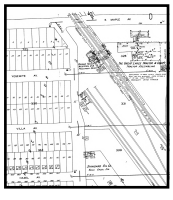
The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

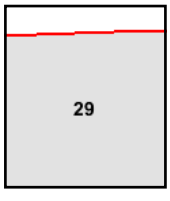
Certification #8316-4029-8546

Site Name:	The Reserve
Address:	325 S Eton St.
City, ST, ZIP:	Birmingham, MI 48009
Client:	Consolidated Env. Services
EDR Inquiry:	6442429.3
Order Date:	04/09/2021
Certification #:	8316-4029-8546
Copyright	1949

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

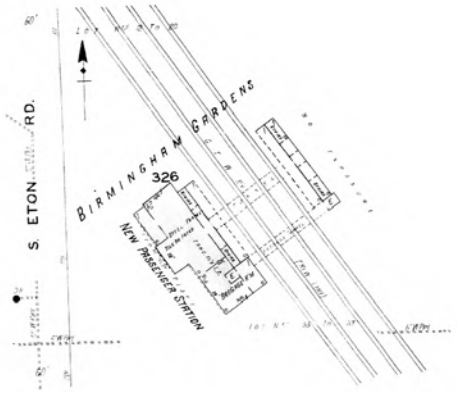
0 Feet 150 300 600





Volume 1, Sheet 29

N



The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

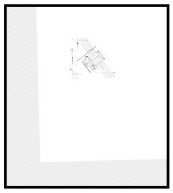
Certification #8316-4029-8546

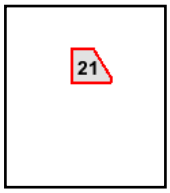
Site Name: The Reserve
Address: 325 S Eton St.
City, ST, ZIP: Birmingham, MI 48009
Client: Consolidated Env. Services
EDR Inquiry: 6442429.3
Order Date: 04/09/2021
Certification #: 8316-4029-8546
Copyright: 1931

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600

Volume 1, Sheet 21





N

Appendix D

Historical Aerial Photographs

The Reserve
325 S Eton St.
Birmingham, MI 48009

Inquiry Number: 6442429.11
April 08, 2021

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

04/08/21

Site Name:

The Reserve
325 S Eton St.
Birmingham, MI 48009
EDR Inquiry # 6442429.11

Client Name:

Consolidated Env. Services
830 East Fourth St Suite 6
Royal Oak, MI 48067
Contact: Stephen Peach

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1999	1"=500'	Acquisition Date: March 28, 1999	USGS/DOQQ
1997	1"=500'	Flight Date: May 04, 1997	DTE
1987	1"=500'	Flight Date: June 17, 1987	USDA
1983	1"=500'	Flight Date: May 05, 1983	USDA
1976	1"=500'	Flight Date: March 25, 1976	USDA
1972	1"=500'	Flight Date: July 01, 1972	USDA
1967	1"=500'	Flight Date: May 12, 1967	DTE
1956	1"=500'	Flight Date: May 07, 1956	DTE
1952	1"=500'	Flight Date: April 25, 1952	DTE
1949	1"=500'	Flight Date: May 03, 1949	DTE
1940	1"=500'	Flight Date: September 05, 1940	USDA
1937	1"=500'	Flight Date: July 23, 1937	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

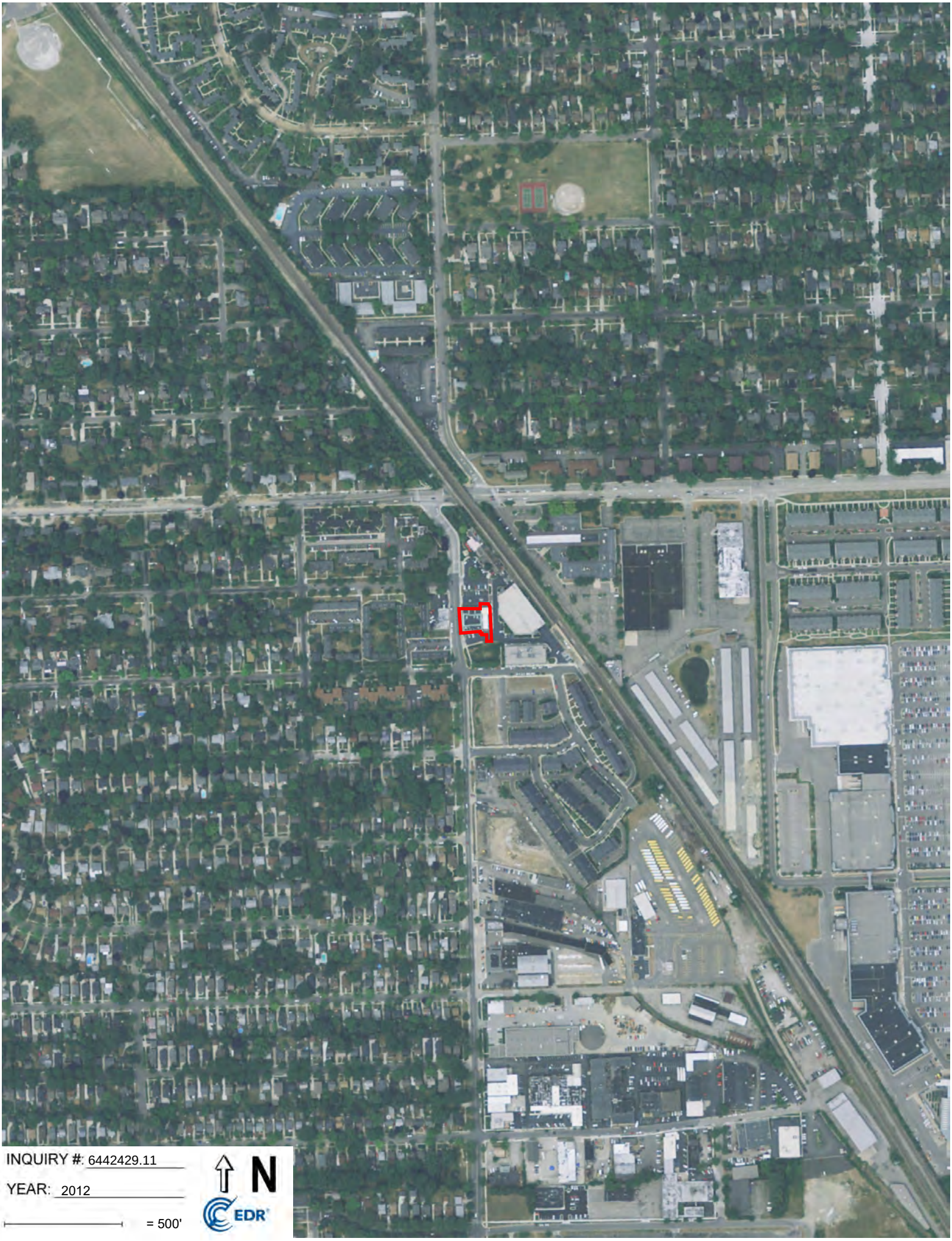
Disclaimer - Copyright and Trademark Notice

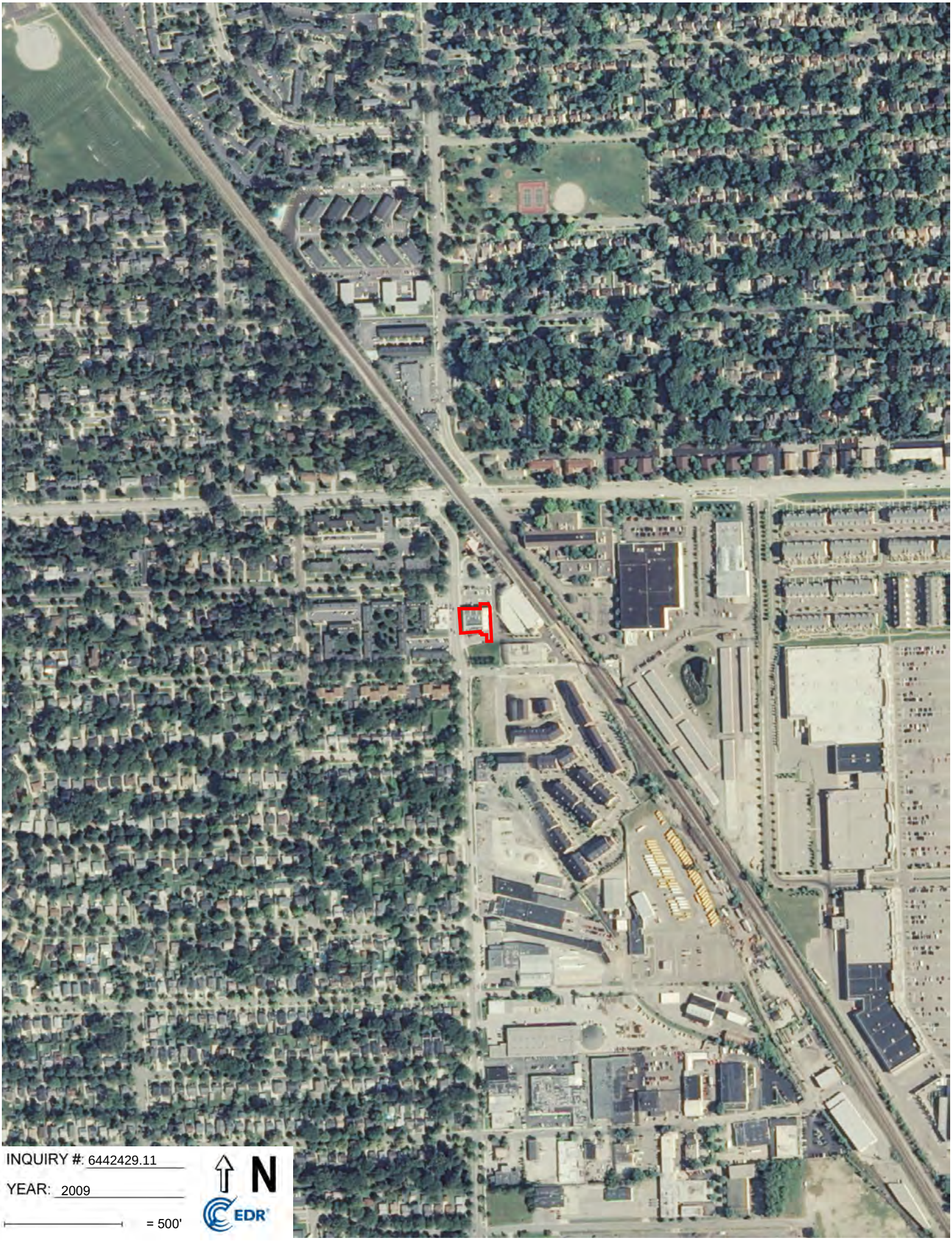
This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

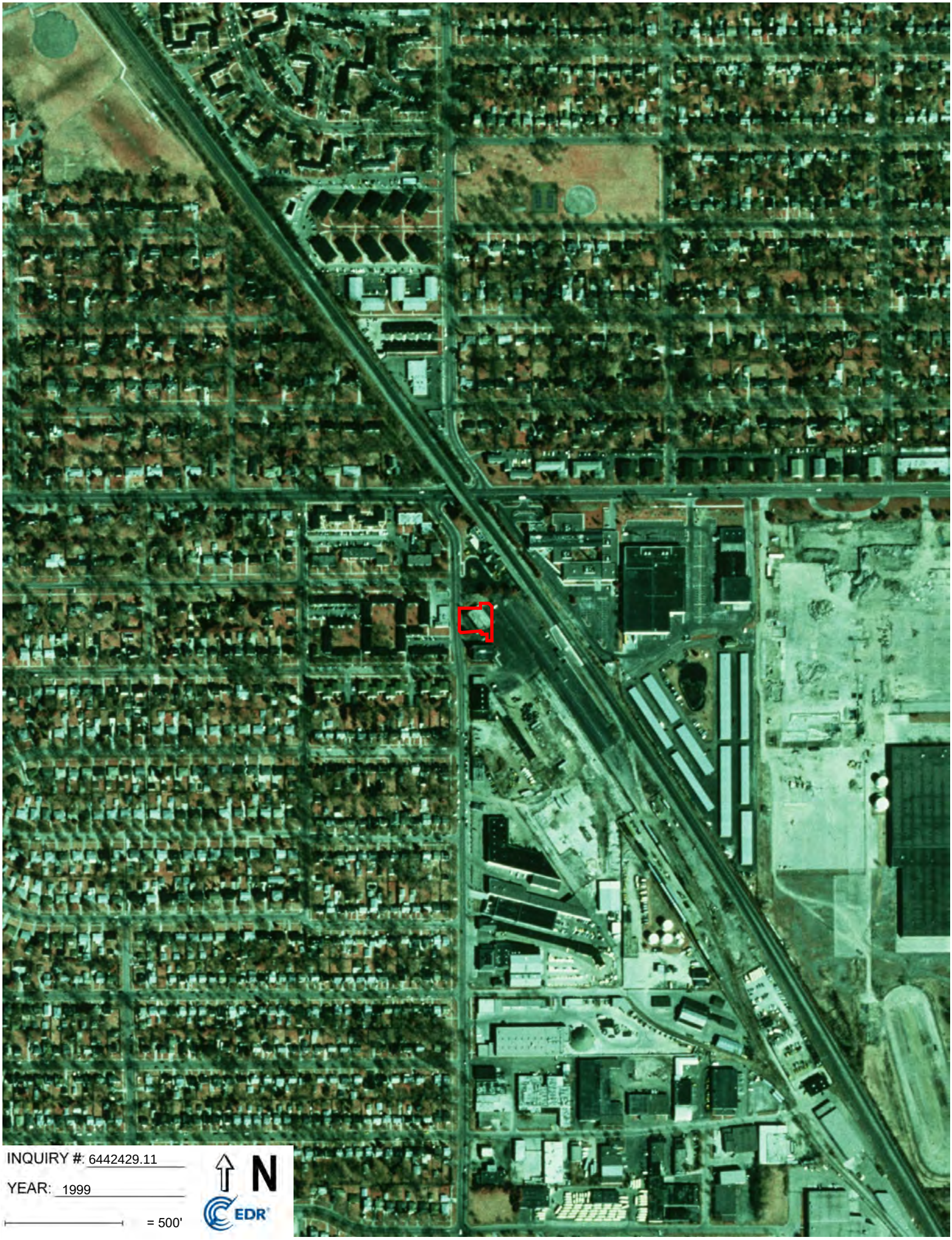
EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

INQUIRY #: 6442429.11
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 6442429.11
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 6442429.11
YEAR: 2009
= 500'
N
EDR

INQUIRY #: 6442429.11
YEAR: 2005
= 500'
N
EDR


INQUIRY #: 6442429.11
YEAR: 1999
= 500'
N
EDR

INQUIRY #: 6442429.11

YEAR: 1997

= 500'

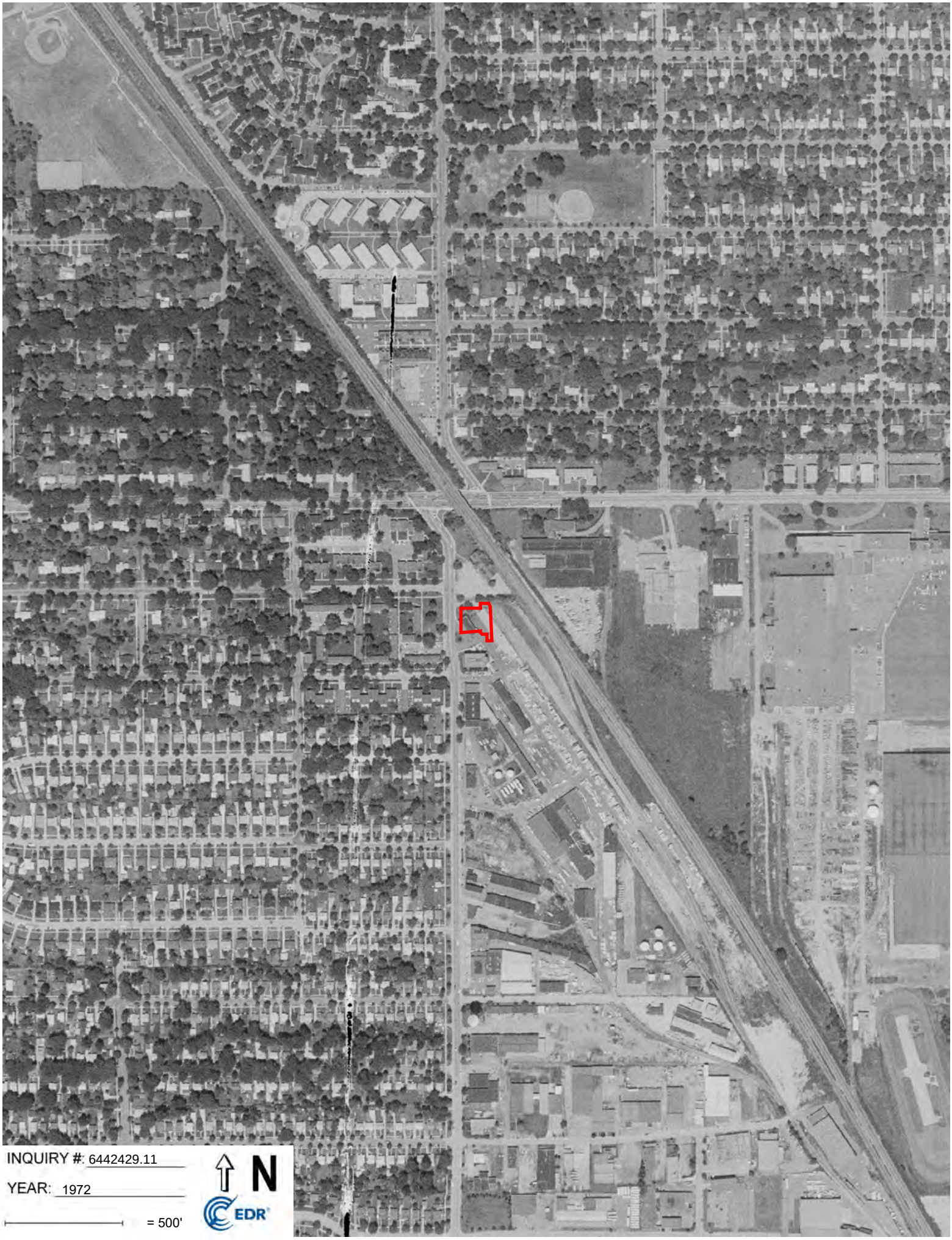
N

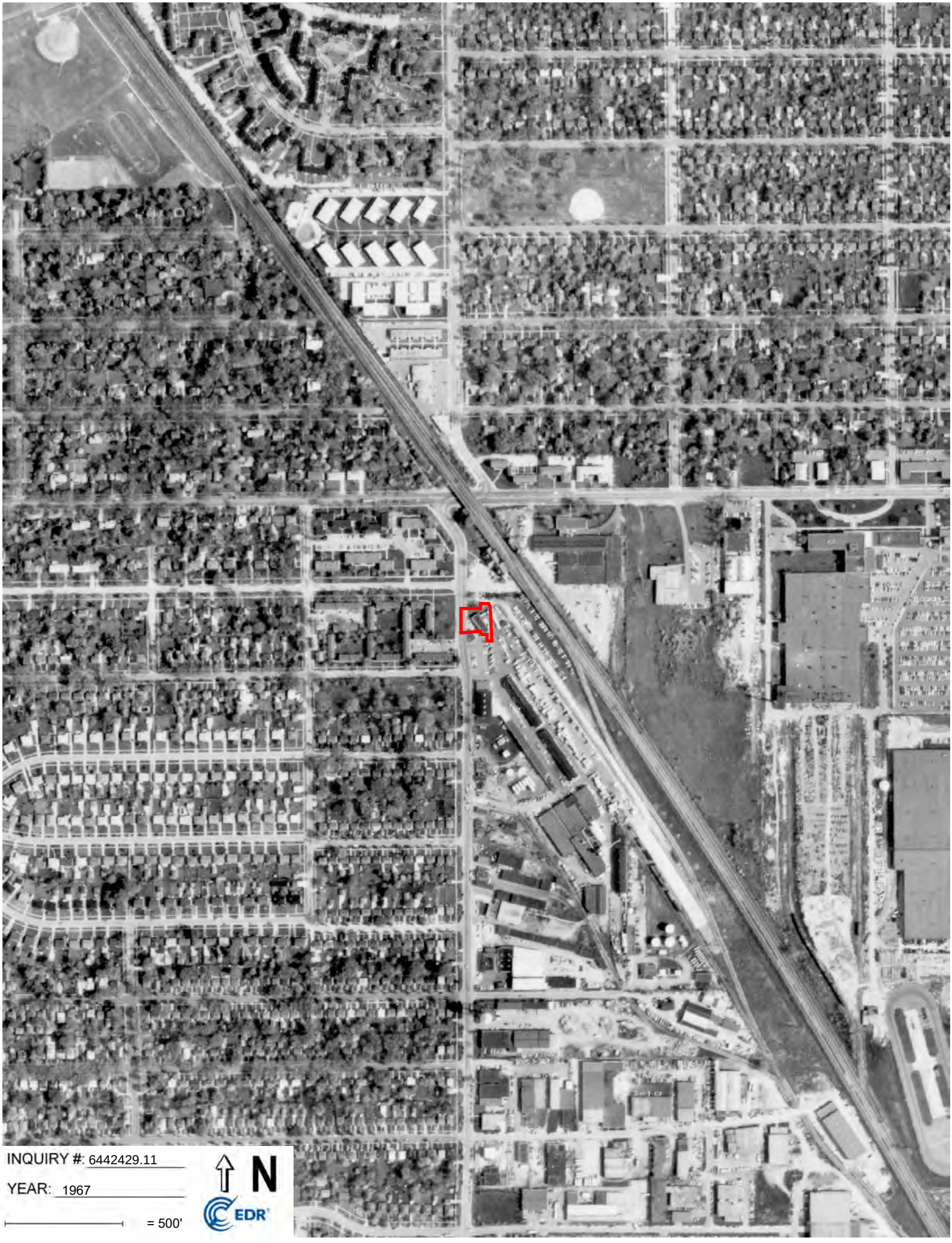
EDR

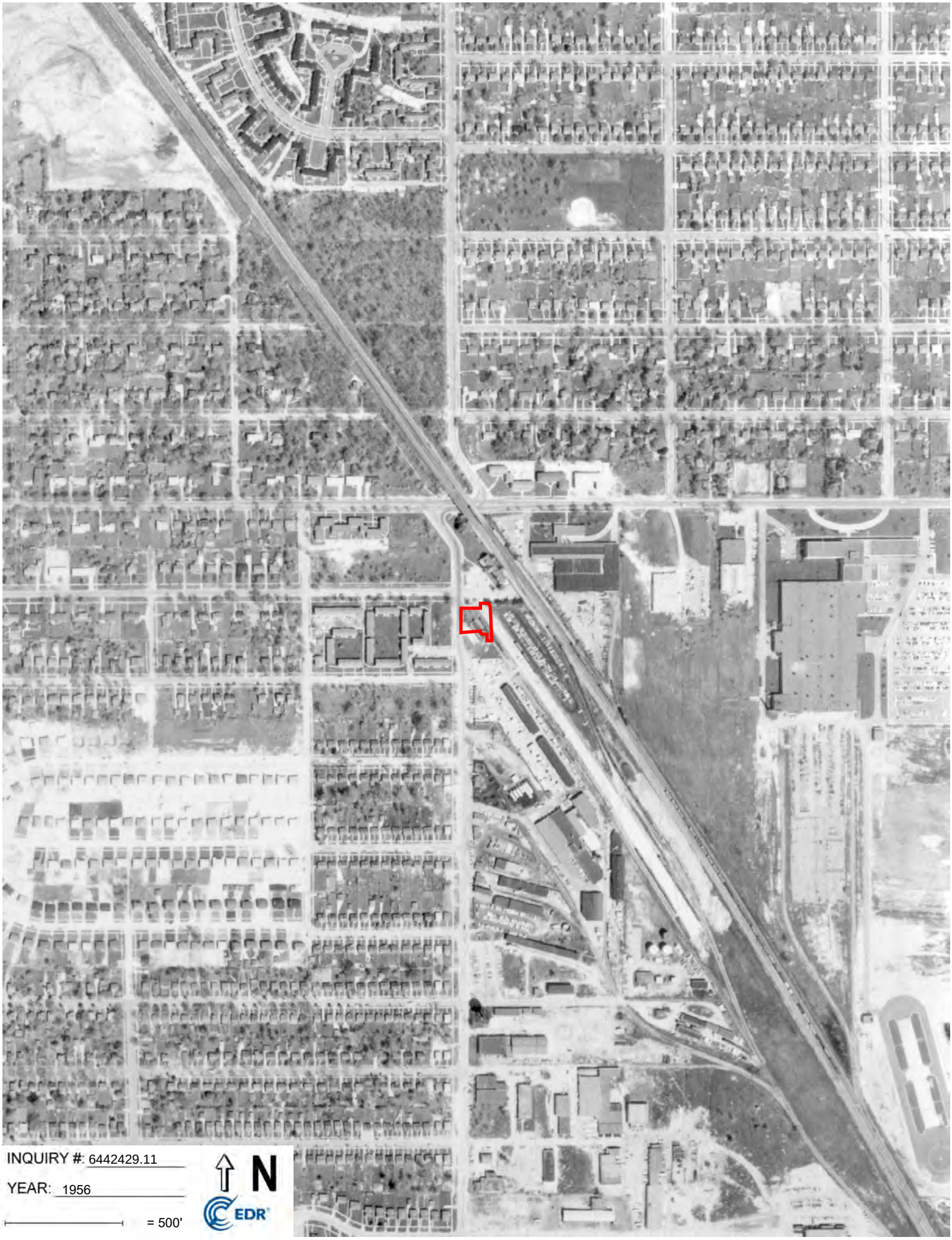
INQUIRY #: 6442429.11
YEAR: 1987
= 500'
N
EDR

INQUIRY #: 6442429.11
YEAR: 1983
= 500'
N
EDR

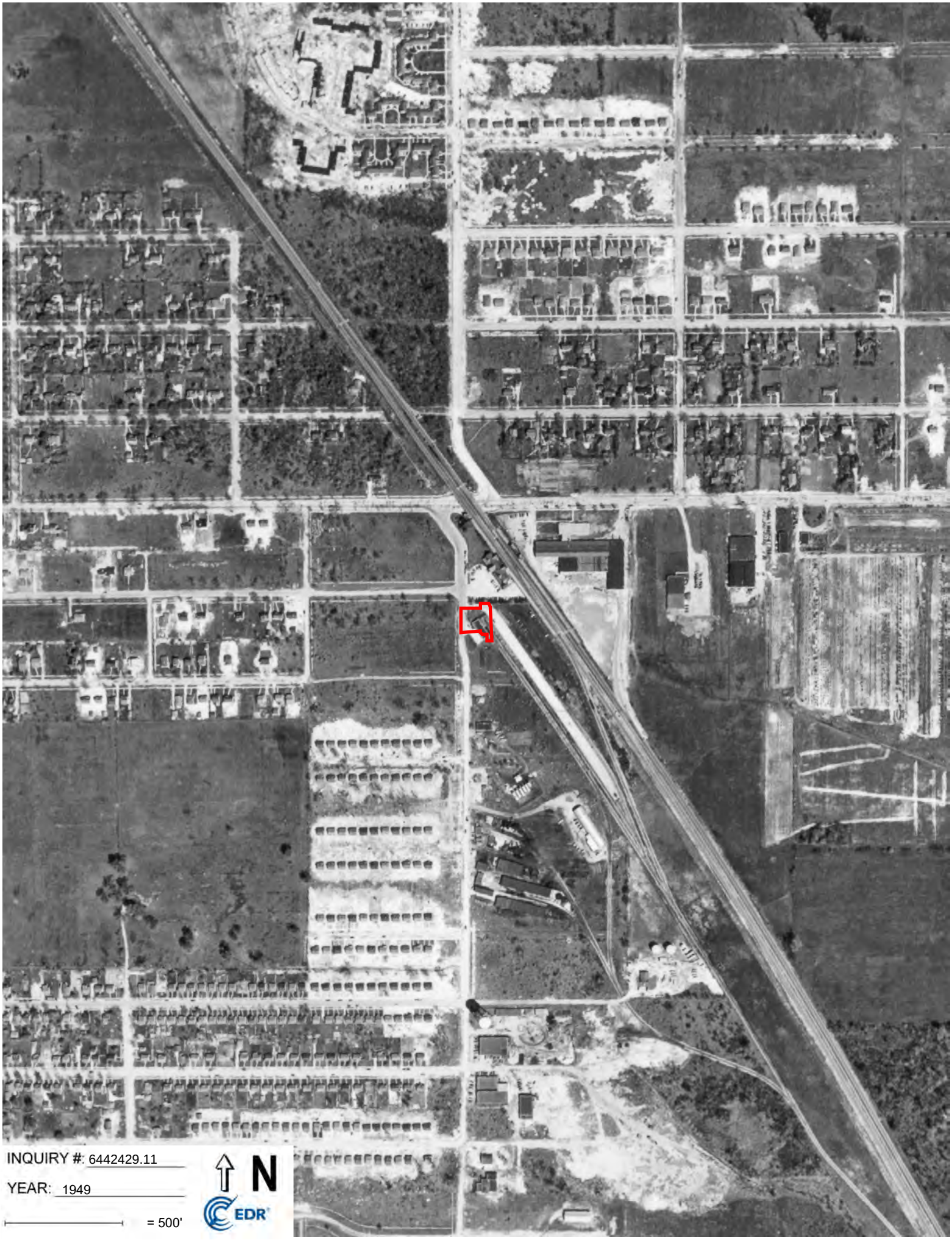
INQUIRY #: 6442429.11
YEAR: 1976
= 500'
N
EDR


INQUIRY #: 6442429.11
YEAR: 1972
= 500'
N
EDR


INQUIRY #: 6442429.11
YEAR: 1967
= 500'
N
EDR


INQUIRY #: 6442429.11
YEAR: 1956
= 500'
N
EDR

INQUIRY #: 6442429.11
YEAR: 1952
= 500'
N
EDR



INQUIRY #: 6442429.11

YEAR: 1949

= 500'

N

EDR

INQUIRY #: 6442429.11
YEAR: 1940
= 500'
N
EDR

INQUIRY #: 6442429.11

YEAR: 1937

= 500'

N

EDR

Appendix E

Historical Topographic Maps

The Reserve
325 S Eton St.
Birmingham, MI 48009

Inquiry Number: 6442429.4
April 08, 2021

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

04/08/21

Site Name:

The Reserve
325 S Eton St.
Birmingham, MI 48009
EDR Inquiry # 6442429.4

Client Name:

Consolidated Env. Services
830 East Fourth St Suite 6
Royal Oak, MI 48067
Contact: Stephen Peach

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Consolidated Env. Services were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA

Project: NA

Coordinates:

Latitude:	42.545841 42° 32' 45" North
Longitude:	-83.195598 -83° 11' 44" West
UTM Zone:	Zone 17 North
UTM X Meters:	319724.19
UTM Y Meters:	4712719.43
Elevation:	749.00' above sea level

Maps Provided:

2014
1981
1973
1968
1952
1945
1936
1908

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

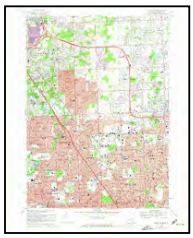
2014 Source Sheets

Birmingham
2014
7.5-minute, 24000

1981 Source Sheets

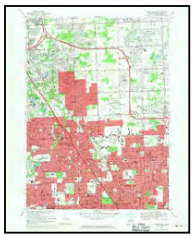
Birmingham
1981
7.5-minute, 24000
Aerial Photo Revised 1981

1973 Source Sheets



Birmingham
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1968 Source Sheets



Birmingham
1968
7.5-minute, 24000
Aerial Photo Revised 1967

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1952 Source Sheets

Birmingham
1952
7.5-minute, 24000

1945 Source Sheets

Birmingham
1945
7.5-minute, 24000

1936 Source Sheets

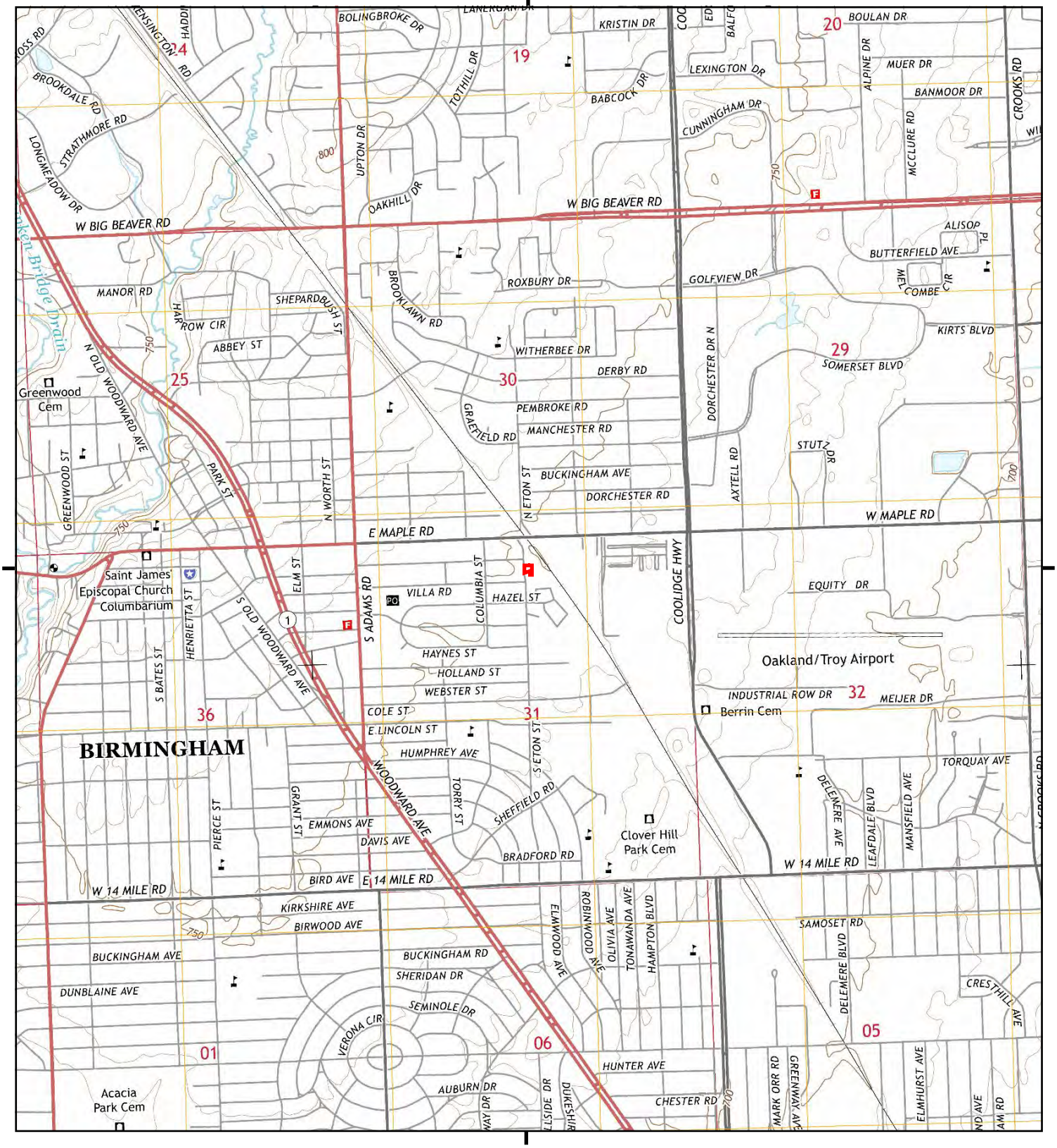
Birmingham
1936
7.5-minute, 31680

1908 Source Sheets

Rochester
1908
15-minute, 62500

Historical Topo Map

2014



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

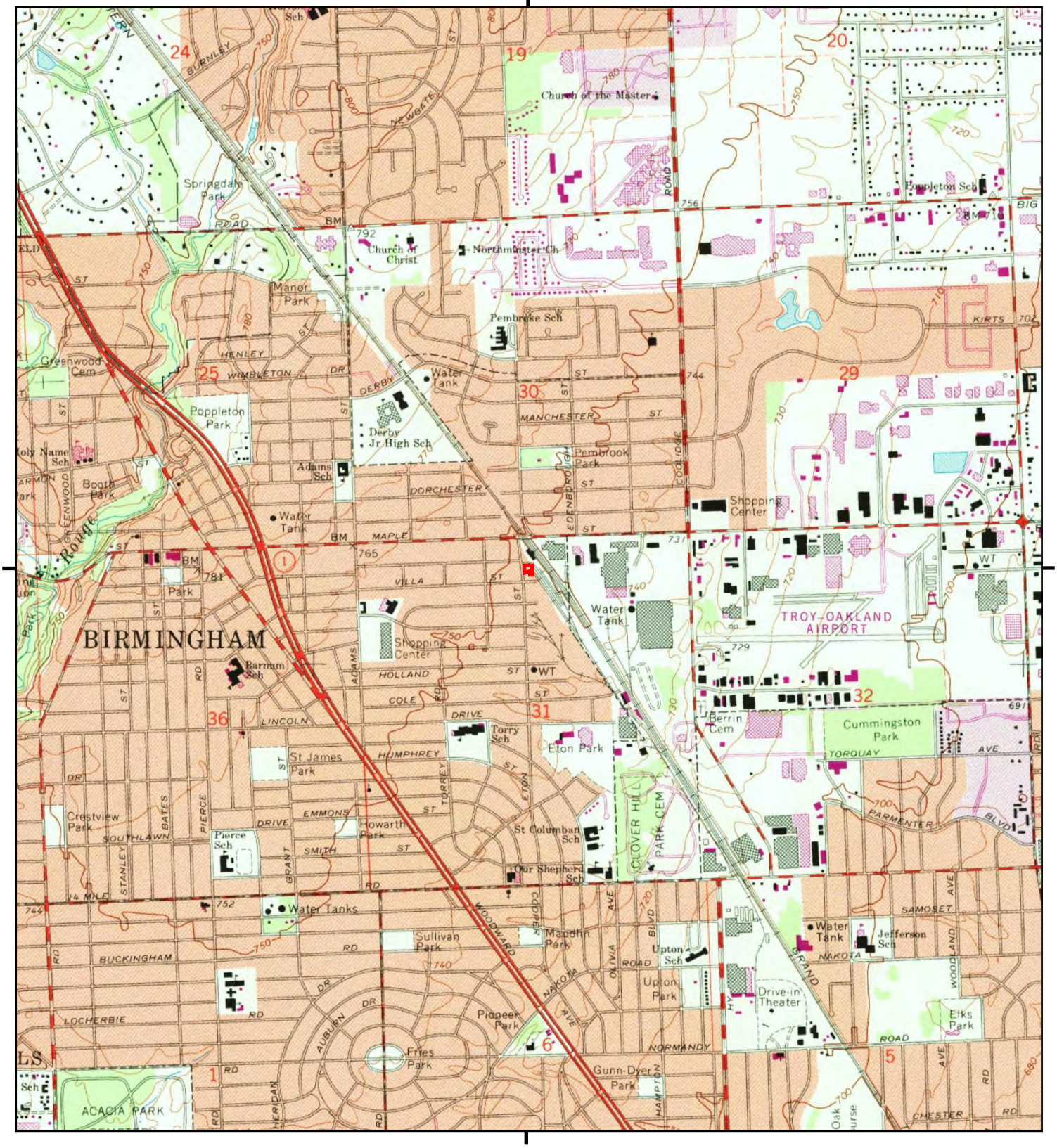
TP, Birmingham, 2014, 7.5-minute

SITE NAME: The Reserve
ADDRESS: 325 S Eton St.
Birmingham, MI 48009
CLIENT: Consolidated Env. Services

N

Historical Topo Map

1981



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

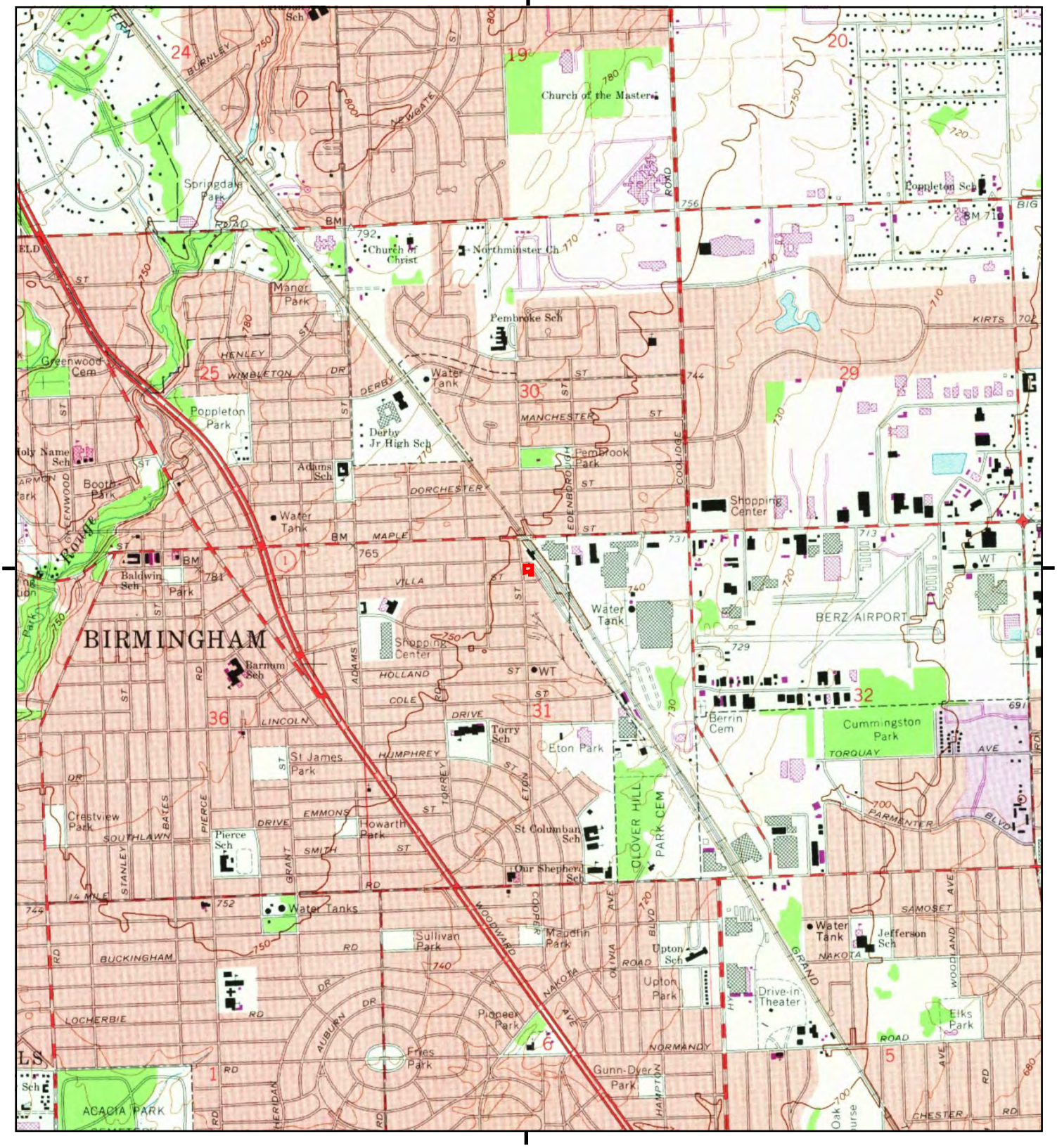
TP, Birmingham, 1981, 7.5-minute

SITE NAME: The Reserve
ADDRESS: 325 S Eton St.
Birmingham, MI 48009
CLIENT: Consolidated Env. Services

N

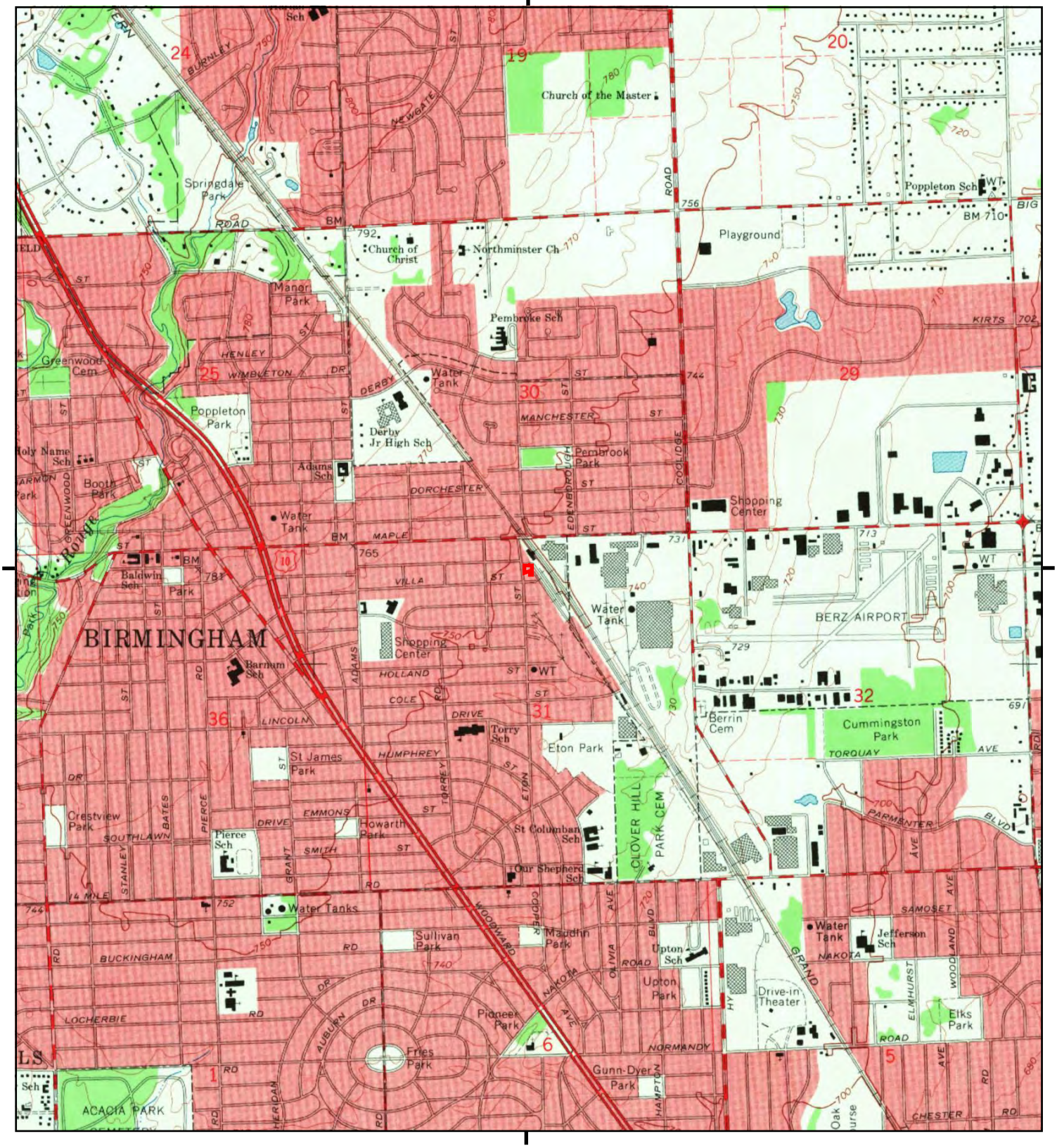
Historical Topo Map

1973


BIRMINGHAM
Church of the Master
Springdale Park
Church of Christ
Northminster Ch
Manor Park
Pembroke Sch
Greenwood Cem
Poppleton Park
Derby Jr High Sch
Water Tank
Adams Sch
Booth Park
Pembrook Park
Shopping Center
Baldwin Sch
Park
Barnum Sch
Berrin Cem
Cummingston Park
Torry Sch
Eton Park
St James Park
Crestview Park
Pierce Sch
Howarth Park
St Columban Sch
Our Shepherd Sch
Water Tanks
Sullivan Park
Maudlin Park
Upton Sch
Upton Park
Drive-in Theater
Elks Park
Pioneer Park
Fries Park
Gunn-Dyer Park
ACACIA PARK
Jefferson Sch
BERZ AIRPORT
Coppleton Sch
Water Tank
Shopping Center
Water Tank
Water Tank
Water Tank

Historical Topo Map

1968



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

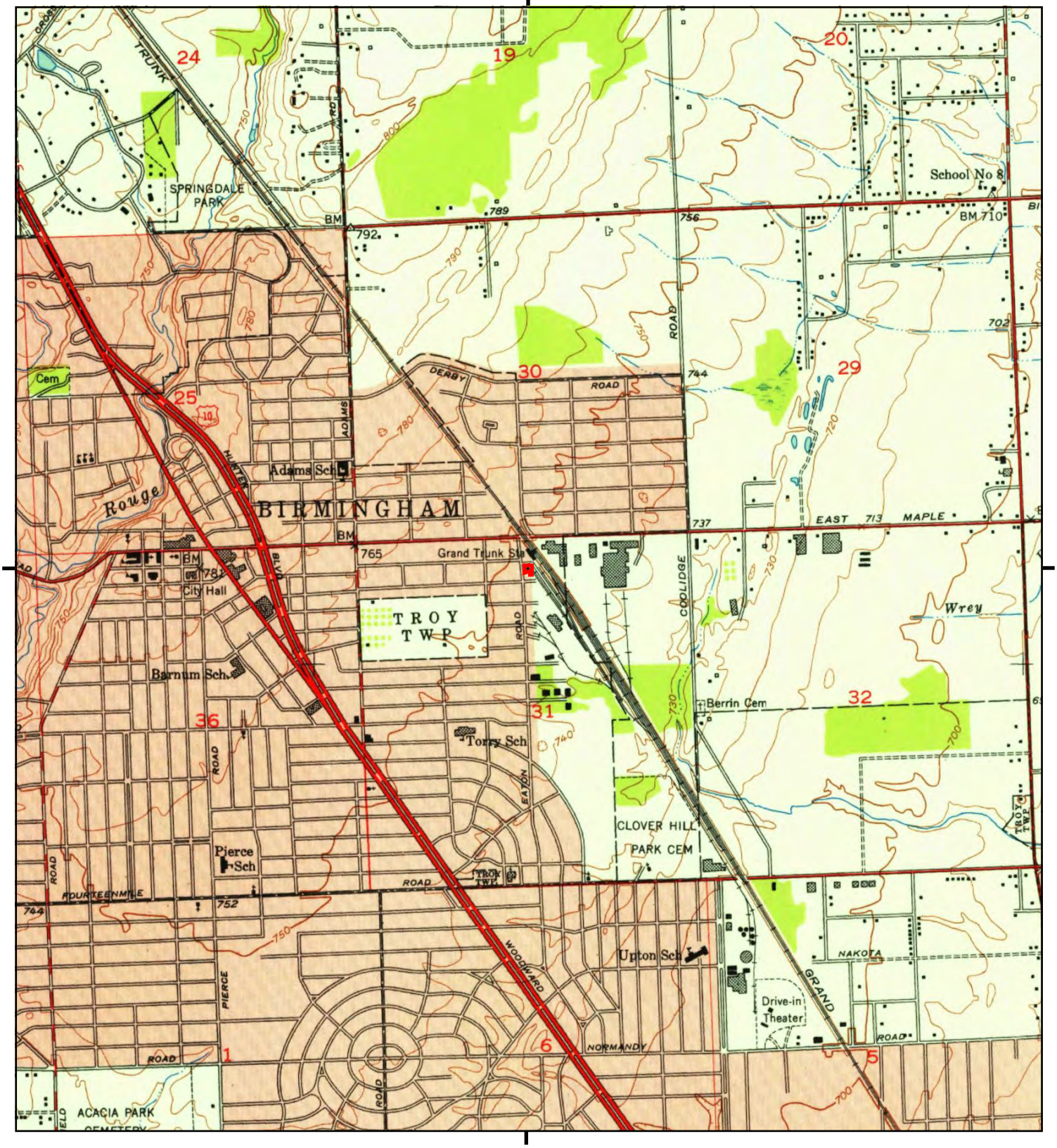
TP, Birmingham, 1968, 7.5-minute

SITE NAME: The Reserve
ADDRESS: 325 S Eton St.
Birmingham, MI 48009
CLIENT: Consolidated Env. Services

N

Historical Topo Map

1952



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

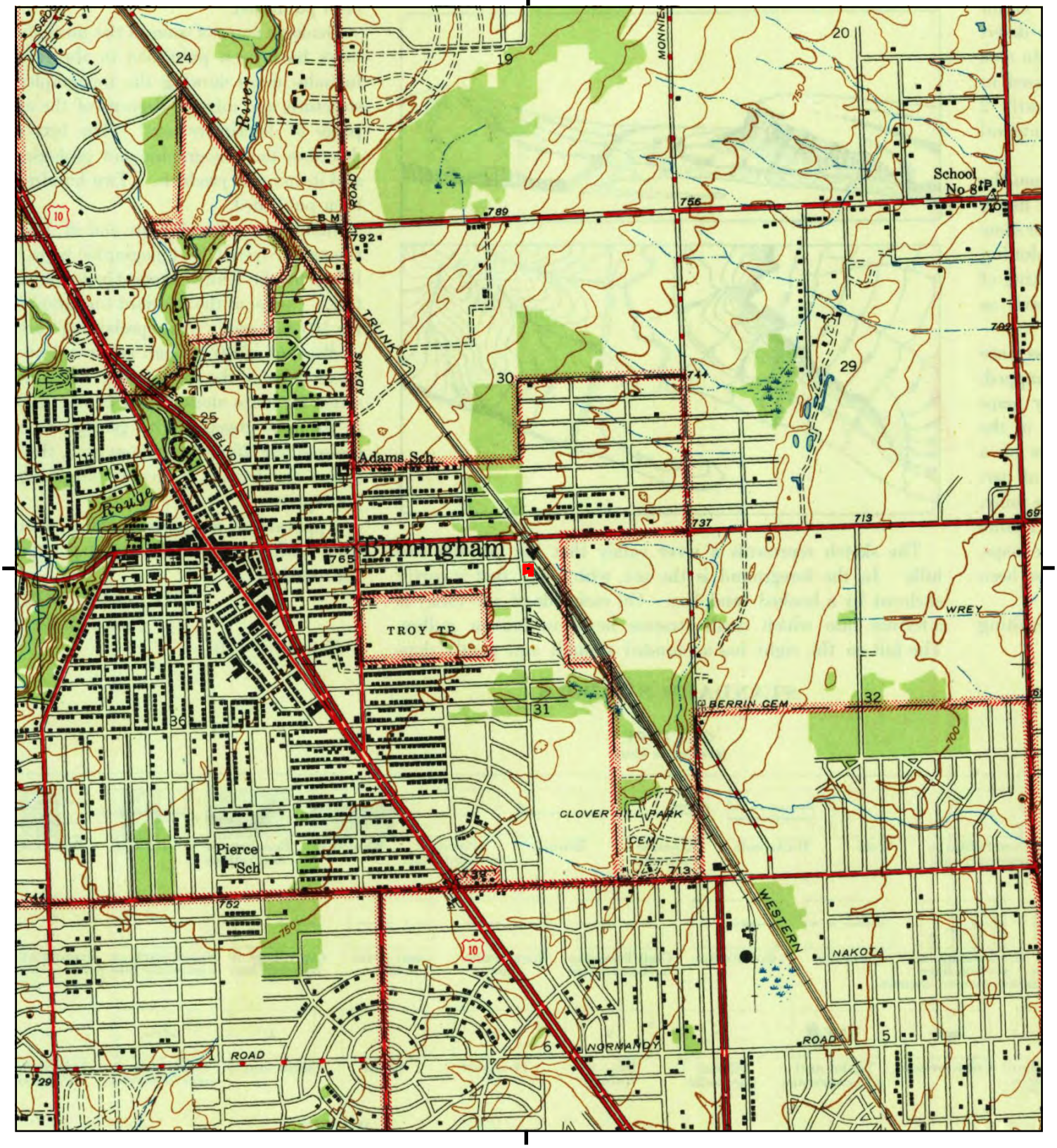
TP, Birmingham, 1952, 7.5-minute

SITE NAME: The Reserve
ADDRESS: 325 S Eton St.
Birmingham, MI 48009
CLIENT: Consolidated Env. Services

N

Historical Topo Map

1945



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

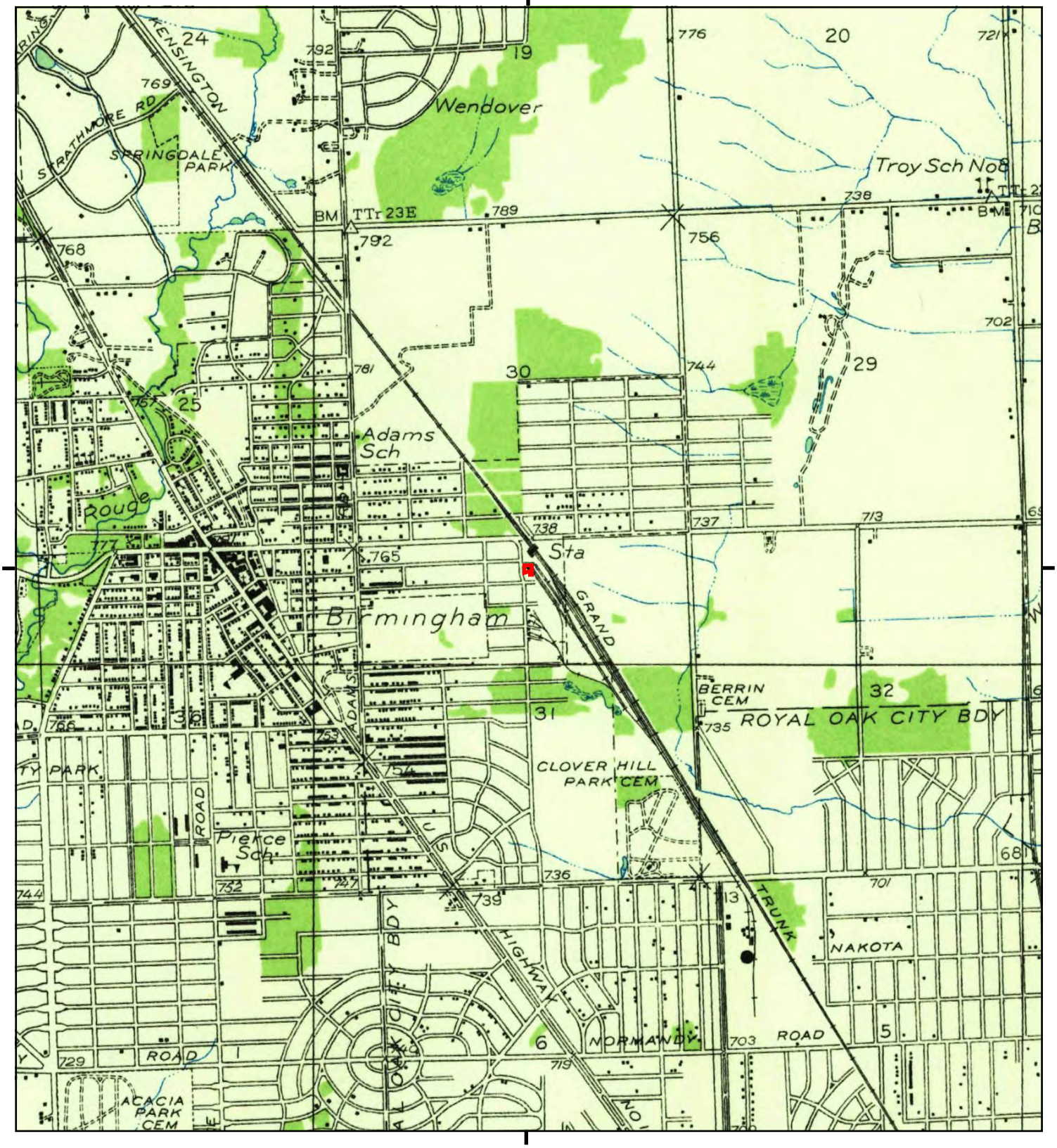
TP, Birmingham, 1945, 7.5-minute

SITE NAME: The Reserve
ADDRESS: 325 S Eton St.
Birmingham, MI 48009
CLIENT: Consolidated Env. Services

N

Historical Topo Map

1936



This report includes information from the following map sheet(s).

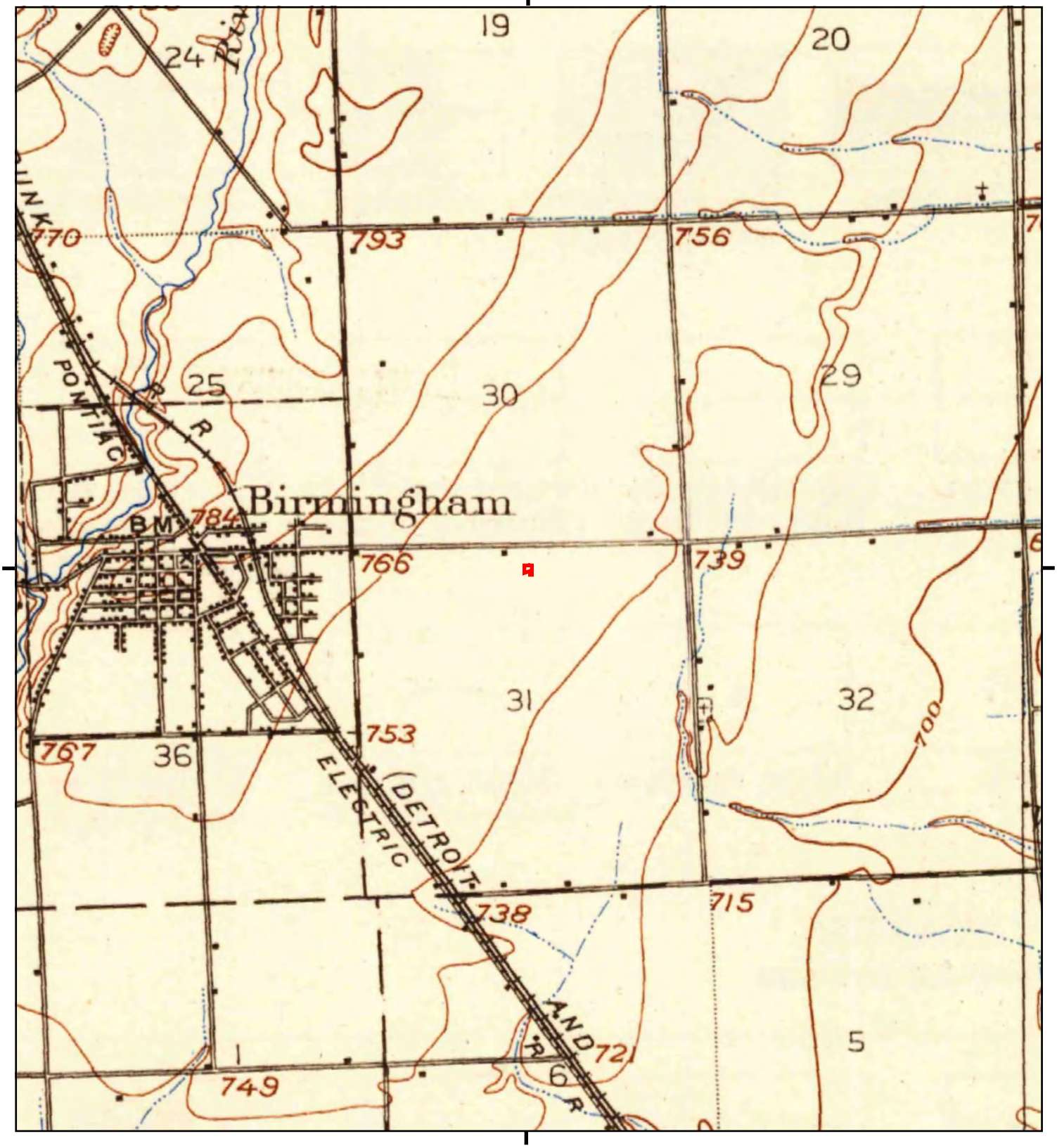
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Birmingham, 1936, 7.5-minute

SITE NAME: The Reserve
ADDRESS: 325 S Eton St.
Birmingham, MI 48009
CLIENT: Consolidated Env. Services

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Rochester, 1908, 15-minute

SITE NAME: The Reserve
ADDRESS: 325 S Eton St.
Birmingham, MI 48009
CLIENT: Consolidated Env. Services

N

Appendix F

City Directory Listings

The Reserve
325 S Eton St.
Birmingham, MI 48009

Inquiry Number: 6442429.5
April 15, 2021

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

Data by
infoUSA®
Copyright©2008
All Rights Reserved

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☑	☐	EDR Digital Archive
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1987	☑	☐	Bresser's Cross-Index Directory Company
1982	☑	☐	Bresser's Cross-Index Directory Company
1977	☑	☐	Bresser's Cross-Index Directory Company
1972	☑	☐	Bresser's Cross-Index Directory Company
1967	☑	☐	Bresser's Cross-Index Directory Company
1962	☑	☐	Bresser's Cross-Index Directory Company
1957	☑	☐	Bresser's Cross-Index Directory Company
1954	☑	☐	Bresser's Cross-Index Directory Company

EXECUTIVE SUMMARY

Year	Target Street	Cross Street	Source

FINDINGS

TARGET PROPERTY STREET

325 S Eton St.
Birmingham, MI 48009

Year	*CD Image*	*Source*
S ETON ST		
2017	pg A1	EDR Digital Archive
2014	pg A2	EDR Digital Archive
2010	pg A3	EDR Digital Archive
2005	pg A4	EDR Digital Archive
2000	pg A5	EDR Digital Archive
1995	pg A6	EDR Digital Archive
1992	pg A7	EDR Digital Archive
1987	pg A8	Bresser's Cross-Index Directory Company
1982	pg A9	Bresser's Cross-Index Directory Company
1977	pg A10	Bresser's Cross-Index Directory Company
1972	pg A11	Bresser's Cross-Index Directory Company
1967	pg A12	Bresser's Cross-Index Directory Company
1962	pg A13	Bresser's Cross-Index Directory Company
1957	pg A14	Bresser's Cross-Index Directory Company
1954	pg A15	Bresser's Cross-Index Directory Company

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

S ETON ST 2017

245	BIG ROCK CHOPHOUSE
256	BEAUTY COLLECTIVE
325	RESERVE THE
451	GROSS, SUSIE G
501	WHISTLE STOP RESTAURANT
575	GRIFFIN CLAW BREWING COMPANY
	TWENTY TWO INC
637	THE ROBOT GARAGE
639	ALAN DAVIDSON PHOTOGRAPHY

S ETON ST 2014

245	BIG ROCK CHOP HOUSE
256	BEAUTY COLLECTIVE
515	SALON 515
575	GRIFFIN CLAW BREWING COMPANY
581	TWENTYTWO INC
637	ROBOT GARAGE THE
639	ALAN DAVIDSON PHOTOGRAPHY

S ETON ST 2010

245	BIG ROCK CHOP HOUSE
	NORMANS ETON STREET STATION
250	ETON MARKET LLC
256	BEAUTY COLLECTIVE
501	WHISTLE STOP RESTAURANT
515	SALON 515
639	FLYING FISH STUDIOS INC

S ETON ST 2005

245	ETON STREET RESTAURANT INC
	TRAIN STATION ASSOCIATES INC
250	ETON SQUARE MARKET
256	SALON SANGHA
375	THE RESERVE
501	PELICAN GROUP LLC
581	22 MANAGEMENT GROUP INC
585	ROBERT BROOKE AND ASSOCIATES
	SHERWOOD R KRAUSE LLC
595	ARCANA FINANCIAL SERVICES INC
641	FLYING FISH STUDIOS INC

S ETON ST 2000

245	BIG ROCK CHOP & BREW HOUSE RESTRNT
250	ETON SQUARE MARKET
313	ORDOWER, J D
325	ERB LUMBER
375	MUDRICK, STEPHEN
425	RICCIUTI BRUNO CPA
451	HORTON, SANDRA J
581	TWENTY TWO INCORPORATED
595	GREAT AMERICAN MORTGAGE CORPORATION
637	ARNOLD LOUIS PHOTOGRAPHY
639	ALAN DAVIDSON PHOTOGRAPHY

S ETON ST 1995

245	NORMANS ETON STREET STATION
250	ETON SQUARE MARKET
256	PIERSON & PIERSON
375	SALEM MANAGEMENT CO
501	WHISTLE STOP INC
515	TANDY SALON
563	KITCHENS BY JENSEN
581	RAD
585	R BROOKE&ASCS
	ROBERT BROOKE & ASSOC
595	DAVID JENSEN CORP
	WOODLYNNE DESIGN
605	MODAR INC
615	PUNATI CHEMICAL CORP
635	IMPRL FLOOR CVRNG
637	WINDSHIELDS ON WHEELS
639	ALAN DAVIDSON PHOTOGRAPHY
641	WATTS MACHINING

S ETON ST 1992

245	NORMAN ETON ST STA
250	ETON SQUARE MARKET
256	RYAN, TERRY
325	ERB LUMBER
	SALEM MANAGEMNT CO
501	WHISTLE-STOP
515	TANDY SALON
563	KITCHENS BY JENSEN
581	RAD
585	R BROOKE&ASCS
595	D JENSEN CONSTRUCT
605	H R INC
	MODAR CO
	WAY-WIPERS INC
615	PUNATI CHEMICAL
635	IMPRL FLOOR CVRNG
	MAGNA-DRY CARPET
639	ALAN DVDSN PHTGRHY

S ETON ST 1987

ETON S 48008

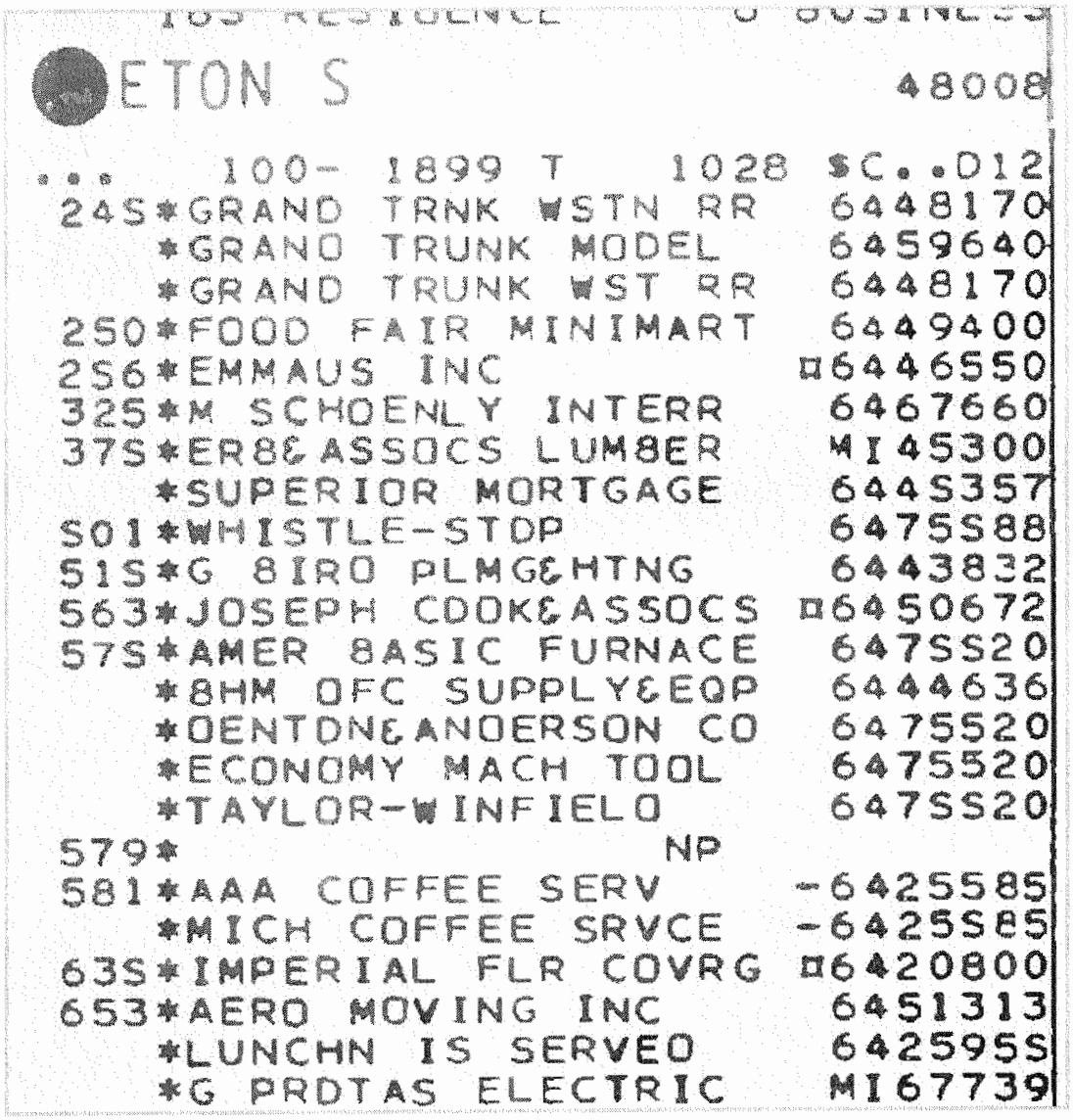
••	100- 1899 T 1028	$C••D 9
245	*NORMAN ETON ST STA	6477774
250	*GET-N-GO MART	¤6472196
256	*CAT PRACTICE	5403390
	*DR TERRY RYAN	5403390
325	*ERB LUM8ER ADM OFC	6445300
	*SALEM MANAGEMNT CO	6445354
	*SUPERIOR MORTGAGE	6445354
501	*WHISTLE-STOP	6475588
515	*W CASTILE INTERIRS	6442203
	*J J HENKE INTERRS	6448371
	*LAZAR ANTIQUES	6441303
563	*D JENSEN CONST CO	5404880
	*KITCHENS BY JENSEN	5404880
575	*R BROOKE&ASCS	6448433
579	* NP	
595	*TOM ROY LIGHT&MTN	6426515
605	*H R INC	6442811
	*MODAR CO	6442811
	*WAY-WIPERS INC	6442811
615	*D E LAVIGNE&ASSC	5406399
635	*IMPERIAL FLR COVRG	6420800
637	*CONTROL SYSTM TECH	2589230
645	*BOOTH COMM BIRMING	5406110
648	NP	

ETON S 48008

●● 100- 1899 T 1028 $C●●D12

250 *FOOD FAIR MINIMART 6449400
256 *ABSOFT 6460060
325 *SUPERIOR MORTGAGE 6445354
375 *ERB LUMBER □6445300
*ERB LUMBER 6445300
*SUPERIOR MORTGAGE 6445357
501 *WHISTLE-STOP 6475588
563 *JOSEPH COOK&ASSOCS 6450672
575 *AMER BASIC FURNACE 6475520
*DENTON&ANDERSON CO 6475520
*ECONOMY MACH TOOL 6475520
*TAYLOR-WINFIELD 6475520
579 * NP
581 *BUSINESS CARD EXP □5404230
595 *TOM ROY LIGHT&MTN □6426515
635 *IMPERIAL FLR COVRG 6420800
637 *MILANI USA □6426676
639 *NICHOLAS INC □5402416
641 *ESMOND WELLINGTON 6462963
651 *CANNA STL&METALS 6451760
653 *LUNCHN IS SERVED 6425955

S ETON ST 1977



ETON S 48008

... 100- 1899 T 1028 $C..D12
24S *GRAND TRNK WSTN RR 6448170
*GRAND TRUNK MODEL 6459640
*GRAND TRUNK WST RR 6448170
250 *FOOD FAIR MINIMART 6449400
256 *EMMAUS INC ¤6446550
325 *M SCHOENLY INTERR 6467660
37S *ER8&ASSOCS LUM8ER MI45300
*SUPERIOR MORTGAGE 6445357
S01 *WHISTLE-STOP 6475588
51S *G 8IRO PLMG&HTNG 6443832
563 *JOSEPH CDOK&ASSOCS ¤6450672
57S *AMER 8ASIC FURNACE 647SS20
*8HM OFC SUPPLY&EQP 6444636
*OENTDN&ANOERSON CO 6475520
*ECONOMY MACH TOOL 6475520
*TAYLOR-WINFIELO 647SS20
579 * NP
581 *AAA COFFEE SERV -6425585
*MICH COFFEE SRVCE -6425585
63S *IMPERIAL FLR COVRG ¤6420800
653 *AERO MOVING INC 6451313
*LUNCHN IS SERVEO 642595S
*G PRDTAS ELECTRIC MI67739

S ETON ST 1972

ETON S 48008

```
...   100- 1899 T    1028 $C..012
  245*GRAND TRUNK WESTRN 6447616
     *GRAND TRNK WSTN RR 6448170
  325*SCHOENLY INTR DSGN 6467660
     *THE BEE HIVE       6464667
     *THE BEES HIVE      6464667
  375*ERB-RESTRICK-BOCK  ¤MI45300
     *ERESBO INC         ¤MI45300
     *RESTRICK LUMBR CO   MI45300
  451*STANDARD DIL DIV    MI4S250
  501*WHISTLE-STOP RSTRN 6475588
  515*BIRD&GRIFFITH PLBG MI43832
  563*SDNNYS PARTY STORE 6420226
  575*LUNCHEON IS SERVD  ¤642595S
  653 M E EVANS          ¤6473012
     *GRAPHIC EPQ&MNTNCE-6475142
     *GEDRGE PROTAS ELEC MI67739
     *SUBURBAN MACHINERY 6477044
```

S ETON ST 1967

ETON S 48008

```
.....   100- 1899 TZ3028 $C..D12
  245*GRAND TRUNK WSTRN   6447616
     *GRAND TRUNK WSTRN   6448170
  425*ERB-RESTRICK LMBR   MI45300
     *RESTRICK LUMBER CO  MI45300
  451*STANDARD OIL DIV    MI45250
  501*ANTHONYS RESTAURNT¤6426116
     *ETON RSTRNT&PZZRIA¤6426116
  505*LEONARD BARBAR SHP¤6449768
  515*CARLS APPLIANCE SV  6462197
  653*ADAMS ELECTRIC CO   6444432
     *GEORGE PROTAS ELEC  MI67739
     *SAVE U STAS         6469355
```

S ETON ST 1962

ETON S

```
.....   100- 1899 TZ3U28 $C..D12
  245*GRAND TRUNK RR CO   MI48170
     *REA EXP             MI46844
     *GRAND TRUNK RR CO   MI47616
  425*ERB-RESTRICK LMBR   MI45300
     *RESTRICK LUMBER CO  MI45300
  451*STANDARD OIL CO     MI45250
  501*ETON GRILL          6460073
  515*DUANE TIBBITS CNTR  MI46464
  545*TRUS WAL SYSTS INC-MI48550
     *MICH BLDG COMPONEN  MI44843
  563*GAYS BEAN POT       MI49677
  575*HORN FUEL&SUPPLY    MI65800
  653*CHARLS CHPS OF DET-6473075
  677*BOPP-DECKER PLSTC   MI67070
     *INJECTION CONTROL   MI67070
```

S ETON ST 1957

ETON S

245	*RAILWAY EXP AGCY	MI4-6844
	*GRND TRUNK WEST RR	□MI4-7616
	*GRND TRUNK WEST RR	□MI4-7616
	*GD TRNK WESTRN RR	MI4-8170
425	*RESTRICK LUMBER CO	MI4-5300
	*RESTRICK MODRNZTN	MI4-5300
451	*STANDARD OIL CO	MI4-5250
	*B L SPRINGER	MI4-5250
515	*COX COAL CO	MI4-6820
545	*RESTRCK QUAL MLWRK	MI4-5300
563	*HALLOCKS	MI4-9677
571	C E PARDEE	MI4-7359
575	*EATON BRICK&SUP	MI6-0700
	*ETON BRICK&SUPPLY	MI6-0700
579	*BIRMGH HTG&AIR CON	MI6-1455
	*BIRMGH SERV CO	MI6-1455

S ETON ST 1954

ETON SOUTH

245	*GRAND TRUNK RR CO	MI 4-8170
	*RR TICKET OFC	MI 4-7616
451	*B L SPRINGER	MI 4-5250
	*STANDARD OIL CO	MI 4-5250
515	*COX COAL CO	MI 4-6820
521	*GRAEFIELD TERRACES	MI 4-0144
545	*RESTRICK MILWK DIV	MI 4-5300
563	HALLOCKS	MI 4-9677
571	C E PARDEE	MI 4-7359
575	*BIRM HTG&AIR COND	MI 6-1455
653	*LAWSON&SON LBR CO	MI 4-6810
675	J JENNINGS MORSE	MI 4-4231

Appendix G

Regulatory Documentation

The Reserve
325 S Eton St.
Birmingham, MI 48009

Inquiry Number: 6442429.2s
April 08, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	123
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-8
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

325 S ETON ST.
BIRMINGHAM, MI 48009

COORDINATES

Latitude (North):	42.5458410 - 42° 32' 45.02''
Longitude (West):	83.1955980 - 83° 11' 44.15''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	319719.2
UTM Y (Meters):	4712505.0
Elevation:	749 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	6066350 BIRMINGHAM, MI
Version Date:	2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140628
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
325 S ETON ST.
BIRMINGHAM, MI 48009

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	ERB LUMBER CO - ETON	425 S ETON ST	MI LUST, MI UST, MI WDS	Lower	262, 0.050, South
A2	ERB LUMBER	425 S ETON ST	RCRA NonGen / NLR, FINDS, ECHO	Lower	262, 0.050, South
A3	AMOCO OIL CO	451 S ETON ST	RCRA NonGen / NLR, FINDS, ECHO	Lower	325, 0.062, South
A4	ERB LUMBER CO INC	451 S ETON ST	MI LUST, MI UST	Lower	325, 0.062, South
B5	SAXON IND INC	2100 E MAPLE RD	RCRA NonGen / NLR, FINDS, ECHO	Higher	416, 0.079, NNE
B6	FAILURE ANALYSIS ASS	2100 E MAPLE RD	RCRA NonGen / NLR	Higher	416, 0.079, NNE
B7	ST JOSEPH MERCY OAKL	2110 E MAPLE RD	RCRA-VSQG	Higher	432, 0.082, NNE
A8	HITCHINGHAM DEVELOPM	2006 HAZEL ST	MI LUST, MI UST	Lower	484, 0.092, South
9	RUSS SIMON BEAUTY ST	2022 HAZEL	RCRA-VSQG	Lower	499, 0.095, SSE
C10	BIRMINGHAM	2100 PALMER ST	MI LUST, MI UST, MI WDS	Lower	661, 0.125, South
C11	AT&T FACILITY	2100 PALMER ST	MI AST	Lower	661, 0.125, South
C12	AT&T CORP	2100 PALMER ST	RCRA NonGen / NLR, FINDS, ECHO	Lower	661, 0.125, South
C13	ERB LUMBER CO	545 S ETON	MI LUST, MI UST	Lower	705, 0.134, South
14	ELICON DETROIT INC	2222 E MAPLE RD	RCRA NonGen / NLR, FINDS, ECHO	Lower	707, 0.134, NE
D15	REAL STEEL PRODUCTIO	1501 MAPLE LN	RCRA NonGen / NLR	Lower	738, 0.140, East
D16	WOLVERINE PRODUCTION	1501 MAPLE LN	RCRA NonGen / NLR	Lower	738, 0.140, East
D17	CREATIVE CONCEPTS IN	1497 MAPLE LANE	MI BEA	Lower	754, 0.143, East
D18	1497 MAPLE LANE	1497 MAPLE LANE	MI INVENTORY	Lower	754, 0.143, East
D19	CREATIVE CONCEPTS IN	1497 MAPLE LANE	MI INVENTORY	Lower	802, 0.152, ENE
D20	2100 EAST MAPLE ROAD	1501 HALO DRIVE	MI BEA	Lower	814, 0.154, ENE
D21	1501 HALO	1501 HALO	MI INVENTORY	Lower	814, 0.154, ENE
D22	2100 EAST MAPLE ROAD	1501 HALO DRIVE	MI INVENTORY	Lower	818, 0.155, ENE
C23	ETON STREET BREWERY	563 AND 575 S. ETON	MI BEA	Lower	865, 0.164, South
C24	ETON STREET BREWERY	563 AND 575 S. ETON	MI INVENTORY	Lower	865, 0.164, South
E25	ETON CLEANERS	217 NORTH ETON	MI DRYCLEANERS	Higher	953, 0.180, North
E26	NORTH ETON CLEANERS	217 N ETON ST	RCRA-VSQG, FINDS, ECHO, RI MANIFEST	Higher	975, 0.185, North
27	ETON ROAD PROPERTY	563 THRU 635 SOUTH E	MI BEA	Lower	986, 0.187, South
28	DETROIT EDISON HOLLA	1485 MAPLE WAY DRIVE	MI BEA	Lower	1027, 0.195, East
29	GRAND/SAKWA NEW HOLL	2500 WEST MAPLE ROAD	MI INVENTORY	Lower	1143, 0.216, ENE
30	BIRMINGHAM LEGACY T	2203 HOLLAND ST	MI AST	Lower	1167, 0.221, SSE
31	ERB LUMBER CO INC	777 S ETON ST	MI LUST, MI UST, MI WDS	Lower	1294, 0.245, South
F32	BIRMINGHAM PUBLIC SC	2205 HOLLAND ST	MI LUST, MI UST, MI Financial Assurance	Lower	1434, 0.272, SSE
F33	DURHAM SCHOOL SERVIC	2205 HOLLAND STREET	MI INVENTORY, MI BEA, MI NPDES, MI WDS	Lower	1434, 0.272, SSE
F34	BIRMINGHAM DEPARTMEN	851 S ETON ST	MI LUST, MI UST, MI Financial Assurance	Lower	1602, 0.303, SSE
35	FORD NEW HOLLAND (FO	1333 COOLIDGE & 1485	MI INVENTORY	Lower	1663, 0.315, East
36	MERCEDES-BENZ OF BLO	2200 HOLLAND STREET	MI INVENTORY	Lower	1758, 0.333, SSE
G37	DE STA CO	2121 COLE ST	MI INVENTORY, MI BEA, MI WDS	Lower	1942, 0.368, South
38	2006 COLE	2006 COLE	MI INVENTORY	Lower	2011, 0.381, South
G39	2006-2010 COLE STREE	2006-2010 COLE STREE	US BROWNFIELDS	Lower	2061, 0.390, South

MAPPED SITES SUMMARY

Target Property Address:
325 S ETON ST.
BIRMINGHAM, MI 48009

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
G40	FISHER PROPERTIES, L	2006 COLE STREET	MI BEA	Lower	2061, 0.390, South
G41	TECHSYS INC	2010 COLE ST	MI INVENTORY, MI WDS	Lower	2067, 0.391, South
G42	CARNOVALE ASSOCIATES	2006 COLE STREET	MI INVENTORY	Lower	2110, 0.400, South
G43	FISHER PROPERTIES, L	2006 COLE STREET	MI INVENTORY	Lower	2110, 0.400, South
44	SCHLEEDE HAMPTON ASS	2254 COLE ST	MI INVENTORY, MI WDS	Lower	2119, 0.401, SSE
45	US POSTAL FACILITY	2330 COLE ST	MI LUST, MI UST, MI WDS	Lower	2162, 0.409, SSE
H46	BIRMINGHAM SCHOOLS	2125 E LINCOLN ST	MI INVENTORY, MI WDS	Lower	2318, 0.439, South
H47	TRANSPORTATION CENTE	2125 E LINCOLN ST	MI LUST, MI UST	Lower	2318, 0.439, South
H48	ORION DEVELOPMENT GR	2159 E. LINCOLN AVE.	MI INVENTORY	Lower	2392, 0.453, SSE
H49	ORION DEVELOPMENT GR	2159 E. LINCOLN AVE.	MI BEA	Lower	2392, 0.453, SSE
H50	ORION DEVELOPMENT GR	2159 E. LINCOLN AVEN	MI INVENTORY	Lower	2392, 0.453, SSE
I51	FORD NEW HOLLAND INC	1333 COOLIDGE	MI AUL, MI PART 201, MI INVENTORY	Lower	2454, 0.465, East
I52	FORD MOTOR CO DETROI	2500 E MAPLE RD	SEMS-ARCHIVE, RCRA NonGen / NLR, FINDS, ECHO	Lower	2454, 0.465, East
I53	IVECO ENGINE PRODUCT	1333 COOLIDGE HWY	MI LUST, MI UST	Lower	2454, 0.465, East
54	BYRNE PLYWOOD CO	2400 COLE ST	MI LUST, MI UST, MI WDS	Lower	2457, 0.465, SE
J55	AV HARABEDIAN TRUST	1470 COOLIDGE HWY	MI AUL, MI BEA, MI WDS	Lower	2560, 0.485, East
J56	MICHAEL HARABEDIAN/H	1470 COOLIDGE HWY	MI LUST, MI UST, MI INVENTORY	Lower	2560, 0.485, East
57	INNOVATIVE HOME PROD	2400 E. LINCOLN ROAD	MI INVENTORY	Lower	2565, 0.486, SSE
58	PRISTINE PROPERTIES	2400 EAST LINCOLN ST	MI PART 201, MI INVENTORY, MI BEA	Lower	2898, 0.549, SSE
59	AUBURN METALFAB INC	2545 W MAPLE RD	MI DEL PART 201, MI WDS	Lower	4271, 0.809, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

Federal ERNS list

ERNS ---------- Emergency Response Notification System

EXECUTIVE SUMMARY

State- and tribal - equivalent CERCLIS

MI SHWS ---- This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State and tribal landfill and/or solid waste disposal site lists

MI SWF/LF ---- Solid Waste Facilities Database

State and tribal leaking storage tank lists

INDIAN LUST ---- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST ---- Underground Storage Tank Listing
INDIAN UST ---- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

MI BROWNFIELDS ---- Brownfields and UST Site Database

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

MI SWRCY ---- Recycling Facilities
MI HIST LF ---- Inactive Solid Waste Facilities
INDIAN ODI ---- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---- Open Dump Inventory
IHS OPEN DUMPS ---- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---- Delisted National Clandestine Laboratory Register
MI CDL ---- Clandestine Drug Lab Listing
US CDL ---- National Clandestine Laboratory Register
MI PFAS ---- PFAS Contaminated Sites Listing

Local Land Records

MI LIENS ---- Lien List
LIENS 2 ---- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
MI SPILLS ---- Pollution Emergency Alerting System

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
MI AIRS	Permit and Emissions Inventory Data
MI ASBESTOS	ASBESTOS
MI COAL ASH	Coal Ash Disposal Sites
MI LEAD	Lead Safe Housing Registry
MI UIC	Underground Injection Wells Database
MINES MRDS	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

MI RGA PART 201	Recovered Government Archive State Hazardous Waste Facilities List

EXECUTIVE SUMMARY

MI RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
MI RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 12/30/2020 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORD MOTOR CO DETROI	***2500 E MAPLE RD***	***E 1/4 - 1/2 (0.465 mi.)***	***I52***	***100***
Site ID: 0502552				
EPA Id: MID057680324				

Federal RCRA generators list

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 12/14/2020 has revealed that there are

3 RCRA-VSQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ST JOSEPH MERCY OAKL EPA ID:: MIK195719141	2110 E MAPLE RD	NNE 0 - 1/8 (0.082 mi.)	B7	26
NORTH ETON CLEANERS EPA ID:: MID981782469	***217 N ETON ST***	***N 1/8 - 1/4 (0.185 mi.)***	***E26***	***60***

Lower Elevation	Address	Direction / Distance	Map ID	Page
RUSS SIMON BEAUTY ST EPA ID:: MIK148425906	2022 HAZEL	SSE 0 - 1/8 (0.095 mi.)	9	30

State and tribal leaking storage tank lists

MI LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's Leaking Underground Storage Tank (LUST) Database.

A review of the MI LUST list, as provided by EDR, and dated 10/28/2020 has revealed that there are 13 MI LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ERB LUMBER CO - ETON Release Status: Closed Facility Id: 00010849	***425 S ETON ST***	***S 0 - 1/8 (0.050 mi.)***	***A1***	***8***
ERB LUMBER CO INC Release Status: Closed Facility Id: 00033805	***451 S ETON ST***	***S 0 - 1/8 (0.062 mi.)***	***A4***	***17***
HITCHINGHAM DEVELOPM Release Status: Closed Substance Release: Unknown Facility Id: 00041400	***2006 HAZEL ST***	***S 0 - 1/8 (0.092 mi.)***	***A8***	***28***
BIRMINGHAM Release Status: Closed Substance Release: Diesel Facility Id: 00009686	***2100 PALMER ST***	***S 1/8 - 1/4 (0.125 mi.)***	***C10***	***32***
ERB LUMBER CO Release Status: Closed Substance Release: Diesel,Gasoline Facility Id: 00037701	***545 S ETON***	***S 1/8 - 1/4 (0.134 mi.)***	***C13***	***38***
ERB LUMBER CO INC Release Status: Closed Facility Id: 00010852	***777 S ETON ST***	***S 1/8 - 1/4 (0.245 mi.)***	***31***	***68***
BIRMINGHAM PUBLIC SC Release Status: Closed Substance Release: Unknown Facility Id: 00007708	***2205 HOLLAND ST***	***SSE 1/4 - 1/2 (0.272 mi.)***	***F32***	***70***
BIRMINGHAM DEPARTMEN	***851 S ETON ST***	***SSE 1/4 - 1/2 (0.303 mi.)***	***F34***	***73***

Release Status: Closed
Facility Id: 00006622

US POSTAL FACILITY	***2330 COLE ST***	***SSE 1/4 - 1/2 (0.409 mi.)***	***45***	***90***
Release Status: Closed Facility Id: 00009759				
TRANSPORTATION CENTE	***2125 E LINCOLN ST***	***S 1/4 - 1/2 (0.439 mi.)***	***H47***	***93***
Release Status: Closed Substance Release: Gasoline,Diesel Facility Id: 00006418				
IVECO ENGINE PRODUCT	***1333 COOLIDGE HWY***	***E 1/4 - 1/2 (0.465 mi.)***	***I53***	***105***
Release Status: Closed Release Status: Open Substance Release: Unknown Facility Id: 00017853				
BYRNE PLYWOOD CO	***2400 COLE ST***	***SE 1/4 - 1/2 (0.465 mi.)***	***54***	***113***
Release Status: Closed Facility Id: 00002937				
MICHAEL HARABEDIAN/H	***1470 COOLIDGE HWY***	***E 1/4 - 1/2 (0.485 mi.)***	***J56***	***117***
Release Status: Closed Substance Release: Unknown Facility Id: 00019650				

State and tribal registered storage tank lists

MI UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Michigan UST database.

A review of the MI UST list, as provided by EDR, has revealed that there are 6 MI UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ERB LUMBER CO - ETON	***425 S ETON ST***	***S 0 - 1/8 (0.050 mi.)***	***A1***	***8***
Database: UST, Date of Government Version: 07/20/2020 Facility Type: CLOSED Facility Id: 00010849 Tank Status: Removed from Ground				
ERB LUMBER CO INC	***451 S ETON ST***	***S 0 - 1/8 (0.062 mi.)***	***A4***	***17***
Database: UST, Date of Government Version: 07/20/2020 Facility Type: CLOSED Facility Id: 00033805 Tank Status: Removed from Ground				
HITCHINGHAM DEVELOPM	***2006 HAZEL ST***	***S 0 - 1/8 (0.092 mi.)***	***A8***	***28***
Database: UST, Date of Government Version: 07/20/2020 Facility Type: CLOSED Facility Id: 00041400 Tank Status: Removed from Ground				
BIRMINGHAM	***2100 PALMER ST***	***S 1/8 - 1/4 (0.125 mi.)***	***C10***	***32***
Database: UST, Date of Government Version: 07/20/2020				

Facility Type: CLOSED
Facility Id: 00009686
Tank Status: Removed from Ground

ERB LUMBER CO ***545 S ETON*** ***S 1/8 - 1/4 (0.134 mi.)*** ***C13*** ***38***
Database: UST, Date of Government Version: 07/20/2020
Facility Type: CLOSED
Facility Id: 00037701
Tank Status: Removed from Ground

ERB LUMBER CO INC ***777 S ETON ST*** ***S 1/8 - 1/4 (0.245 mi.)*** ***31*** ***68***
Database: UST, Date of Government Version: 07/20/2020
Facility Type: CLOSED
Facility Id: 00010852
Tank Status: Removed from Ground

MI AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the Department of Natural Resources' Michigan AST database.

A review of the MI AST list, as provided by EDR, and dated 02/08/2021 has revealed that there are 2 MI AST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AT&T FACILITY Facility Id: 91063273 Removed/Closed Date: 08/13/2007 Tank Status: Removed from Premises	2100 PALMER ST	S 1/8 - 1/4 (0.125 mi.)	C11	34
BIRMINGHAM LEGACY T Facility Id: 91085189 Tank Status: Currently In Use	2203 HOLLAND ST	SSE 1/8 - 1/4 (0.221 mi.)	30	67

State and tribal institutional control / engineering control registries

MI AUL: A listing of sites with institutional and/or engineering controls in place.

A review of the MI AUL list, as provided by EDR, and dated 11/23/2020 has revealed that there are 2 MI AUL sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORD NEW HOLLAND INC	***1333 COOLIDGE***	***E 1/4 - 1/2 (0.465 mi.)***	***I51***	***97***
AV HARABEDIAN TRUST Facility ID: 00019650	***1470 COOLIDGE HWY***	***E 1/4 - 1/2 (0.485 mi.)***	***J55***	***115***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

EXECUTIVE SUMMARY

US BROWNFIELDS: The EPA's listing of Brownfields properties from the Cleanups in My Community program, which provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

A review of the US BROWNFIELDS list, as provided by EDR, and dated 12/11/2020 has revealed that there is 1 US BROWNFIELDS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
2006-2010 COLE STREE Cleanup Completion Date: - ACRES property ID: 236472	2006-2010 COLE STREE	S 1/4 - 1/2 (0.390 mi.)	G39	79

Local Lists of Hazardous waste / Contaminated Sites

MI PART 201: A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

A review of the MI PART 201 list, as provided by EDR, and dated 10/01/2013 has revealed that there are 2 MI PART 201 sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORD NEW HOLLAND INC Facility Status: Remedial Action in Progress (may incl. use restrictions, O&M and/or monitoring) Facility ID: 63000392	***1333 COOLIDGE***	***E 1/4 - 1/2 (0.465 mi.)***	***I51***	***97***
PRISTINE PROPERTIES Facility Status: Interim Response conducted - No further activities anticipated Facility ID: 63005209	***2400 EAST LINCOLN ST***	***SSE 1/2 - 1 (0.549 mi.)***	***58***	***121***

MI INVENTORY: The Inventory of Facilities has three data sources: Facilities under Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) identified through state funded or private party response activities (Projects); Facilities under Part 213, Leaking Underground Storage Tanks of the NREPA; and Facilities identified through submittals of Baseline Environmental Assessments (BEA) submitted pursuant to Part 201 or Part 213 of the NREPA. The Part 201 Projects Inventory does not include all of the facilities that are subject to regulation under Part 201 because owners are not required to inform the Department of Environmental Quality (DEQ) about the facilities and can pursue cleanup independently. Facilities that are not known to DEQ are not on the Inventory, nor are locations with releases that resulted in low environmental impact. Part 213 facilities listed here may have more than one release; a list of releases for which corrective actions have been completed and list of releases for which corrective action has not been completed is located on the Leaking Underground Storage Tanks Site Search webpage. The DEQ may or may not have reviewed and concurred with the conclusion that the corrective actions described in a closure report meets criteria. A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

A review of the MI INVENTORY list, as provided by EDR, and dated 10/19/2020 has revealed that there

are 21 MI INVENTORY sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
1497 MAPLE LANE Facility ID: 63005509	1497 MAPLE LANE	E 1/8 - 1/4 (0.143 mi.)	D18	57
CREATIVE CONCEPTS IN Facility ID: 63005509	1497 MAPLE LANE	ENE 1/8 - 1/4 (0.152 mi.)	D19	57
1501 HALO Facility ID: 63005739	1501 HALO	ENE 1/8 - 1/4 (0.154 mi.)	D21	58
2100 EAST MAPLE ROAD Facility ID: 63005739	1501 HALO DRIVE	ENE 1/8 - 1/4 (0.155 mi.)	D22	58
ETON STREET BREWERY	563 AND 575 S. ETON	S 1/8 - 1/4 (0.164 mi.)	C24	59
GRAND/SAKWA NEW HOLL Facility ID: 63005706	2500 WEST MAPLE ROAD	ENE 1/8 - 1/4 (0.216 mi.)	29	67
DURHAM SCHOOL SERVIC	***2205 HOLLAND STREET***	***SSE 1/4 - 1/2 (0.272 mi.)***	***F33***	***72***
FORD NEW HOLLAND (FO Facility ID: 63000392	1333 COOLIDGE & 1485	E 1/4 - 1/2 (0.315 mi.)	35	77
MERCEDES-BENZ OF BLO	2200 HOLLAND STREET	SSE 1/4 - 1/2 (0.333 mi.)	36	78
DE STA CO	***2121 COLE ST***	***S 1/4 - 1/2 (0.368 mi.)***	***G37***	***78***
2006 COLE Facility ID: 63005559	2006 COLE	S 1/4 - 1/2 (0.381 mi.)	38	79
TECHSYS INC	***2010 COLE ST***	***S 1/4 - 1/2 (0.391 mi.)***	***G41***	***88***
CARNOVALE ASSOCIATES Facility ID: 63005559	2006 COLE STREET	S 1/4 - 1/2 (0.400 mi.)	G42	89
FISHER PROPERTIES, L Facility ID: 63005559	2006 COLE STREET	S 1/4 - 1/2 (0.400 mi.)	G43	89
SCHLEEDE HAMPTON ASS	***2254 COLE ST***	***SSE 1/4 - 1/2 (0.401 mi.)***	***44***	***89***
BIRMINGHAM SCHOOLS	***2125 E LINCOLN ST***	***S 1/4 - 1/2 (0.439 mi.)***	***H46***	***92***
ORION DEVELOPMENT GR Facility ID: 63005993	2159 E. LINCOLN AVE.	SSE 1/4 - 1/2 (0.453 mi.)	H48	96
ORION DEVELOPMENT GR Facility ID: 63005993	2159 E. LINCOLN AVEN	SSE 1/4 - 1/2 (0.453 mi.)	H50	97
FORD NEW HOLLAND INC Facility ID: 00017853	***1333 COOLIDGE***	***E 1/4 - 1/2 (0.465 mi.)***	***I51***	***97***
MICHAEL HARABEDIAN/H Facility ID: 00019650	***1470 COOLIDGE HWY***	***E 1/4 - 1/2 (0.485 mi.)***	***J56***	***117***
INNOVATIVE HOME PROD Facility ID: 63005209	2400 E. LINCOLN ROAD	SSE 1/4 - 1/2 (0.486 mi.)	57	120

MI DEL PART 201: A deleted site has been removed from the Part 201 List because information known to the DEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion. A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

A review of the MI DEL PART 201 list, as provided by EDR, and dated 08/01/2013 has revealed that there is 1 MI DEL PART 201 site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AUBURN METALFAB INC Facility Id: 63000999	***2545 W MAPLE RD***	***E 1/2 - 1 (0.809 mi.)***	***59***	***122***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/14/2020 has revealed that there are 8 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SAXON IND INC EPA ID:: MID095399218	***2100 E MAPLE RD***	***NNE 0 - 1/8 (0.079 mi.)***	***B5***	***19***
FAILURE ANALYSIS ASS EPA ID:: MID985583087	2100 E MAPLE RD	NNE 0 - 1/8 (0.079 mi.)	B6	23

Lower Elevation	Address	Direction / Distance	Map ID	Page
ERB LUMBER EPA ID:: MID186804621	***425 S ETON ST***	***S 0 - 1/8 (0.050 mi.)***	***A2***	***10***
AMOCO OIL CO EPA ID:: MID985609726	***451 S ETON ST***	***S 0 - 1/8 (0.062 mi.)***	***A3***	***14***
AT&T CORP EPA ID:: MI0000054650	***2100 PALMER ST***	***S 1/8 - 1/4 (0.125 mi.)***	***C12***	***35***
ELICON DETROIT INC EPA ID:: MID082771734	***2222 E MAPLE RD***	***NE 1/8 - 1/4 (0.134 mi.)***	***14***	***41***
REAL STEEL PRODUCTIO EPA ID:: MIK379183668	1501 MAPLE LN	E 1/8 - 1/4 (0.140 mi.)	D15	44
WOLVERINE PRODUCTION EPA ID:: MIK633376371	1501 MAPLE LN	E 1/8 - 1/4 (0.140 mi.)	D16	49

MI BEA: A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

A review of the MI BEA list, as provided by EDR, and dated 08/21/2013 has revealed that there are 10 MI BEA sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CREATIVE CONCEPTS IN	1497 MAPLE LANE	E 1/8 - 1/4 (0.143 mi.)	D17	56
2100 EAST MAPLE ROAD	1501 HALO DRIVE	ENE 1/8 - 1/4 (0.154 mi.)	D20	57
ETON STREET BREWERY	563 AND 575 S. ETON	S 1/8 - 1/4 (0.164 mi.)	C23	58
ETON ROAD PROPERTY	563 THRU 635 SOUTH E	S 1/8 - 1/4 (0.187 mi.)	27	66

Lower Elevation	Address	Direction / Distance	Map ID	Page
DETROIT EDISON HOLLA	1485 MAPLE WAY DRIVE	E 1/8 - 1/4 (0.195 mi.)	28	67
DURHAM SCHOOL SERVIC	***2205 HOLLAND STREET***	***SSE 1/4 - 1/2 (0.272 mi.)***	***F33***	***72***
DE STA CO	***2121 COLE ST***	***S 1/4 - 1/2 (0.368 mi.)***	***G37***	***78***
FISHER PROPERTIES, L	2006 COLE STREET	S 1/4 - 1/2 (0.390 mi.)	G40	87
ORION DEVELOPMENT GR	2159 E. LINCOLN AVE.	SSE 1/4 - 1/2 (0.453 mi.)	H49	97
AV HARABEDIAN TRUST	***1470 COOLIDGE HWY***	***E 1/4 - 1/2 (0.485 mi.)***	***J55***	***115***

MI DRYCLEANERS: A listing of drycleaning facilities in Michigan.

A review of the MI DRYCLEANERS list, as provided by EDR, and dated 01/07/2021 has revealed that there is 1 MI DRYCLEANERS site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ETON CLEANERS Establishment#: 6300255	217 NORTH ETON	N 1/8 - 1/4 (0.180 mi.)	E25	59

RI MANIFEST: Hazardous waste manifest information

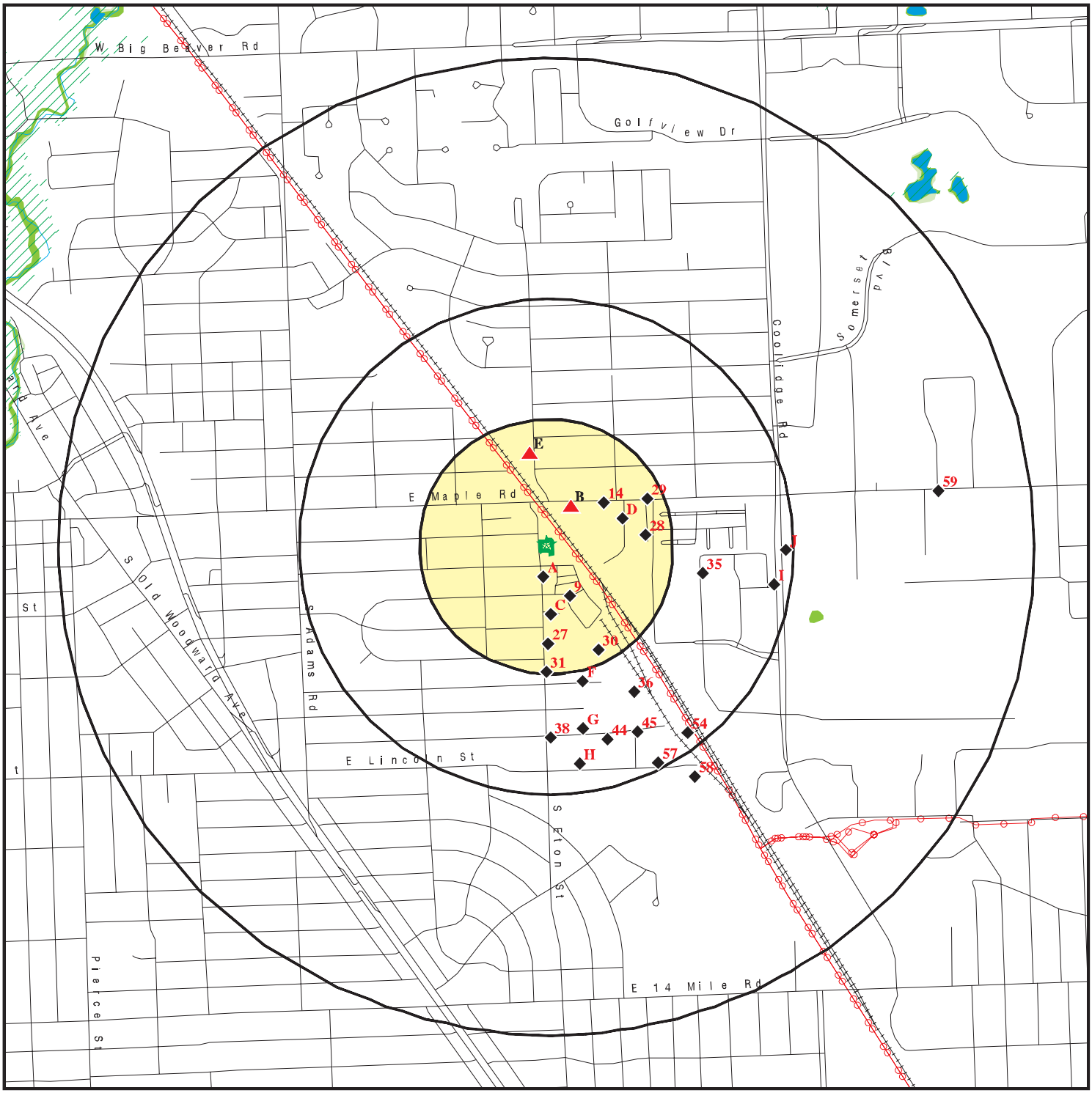
A review of the RI MANIFEST list, as provided by EDR, and dated 12/31/2019 has revealed that there is 1 RI MANIFEST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NORTH ETON CLEANERS EPA Id: MID981782469 Manifest Document Number: 003877822FLE	***217 N ETON ST***	***N 1/8 - 1/4 (0.185 mi.)***	***E26***	***60***

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6442429.2S



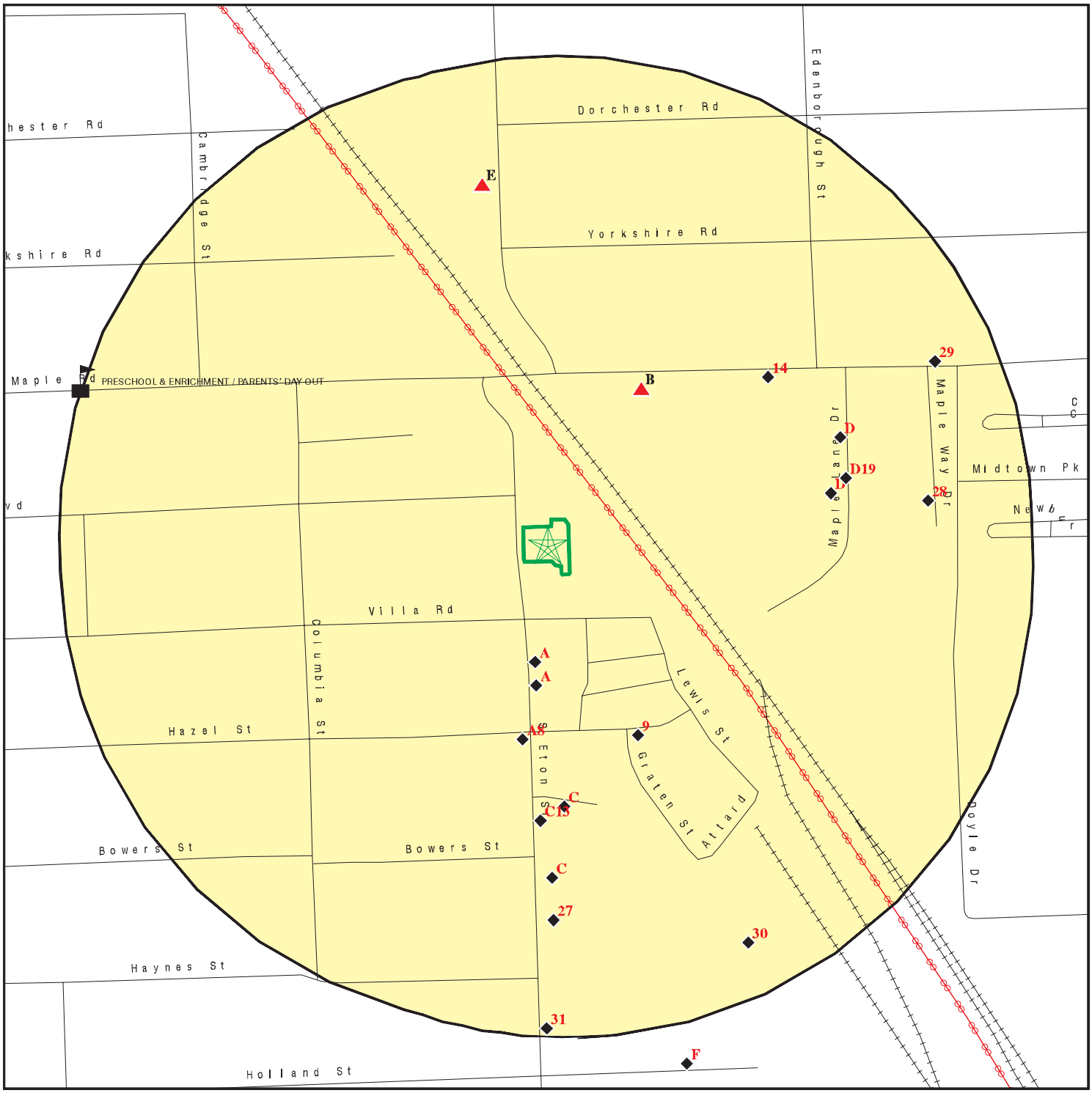
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	The Reserve	CLIENT:	Consolidated Env. Services
ADDRESS:	325 S Eton St. Birmingham MI 48009	CONTACT:	Stephen Peach
LAT/LONG:	42.545841 / 83.195598	INQUIRY #:	6442429.2s
		DATE:	April 08, 2021 3:13 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 6442429.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	The Reserve	CLIENT:	Consolidated Env. Services
ADDRESS:	325 S Eton St. Birmingham MI 48009	CONTACT:	Stephen Peach
		INQUIRY #:	6442429.2s
LAT/LONG:	42.545841 / 83.195598	DATE:	April 08, 2021 3:13 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		2	1	NR	NR	NR	3
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
MI SHWS	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
MI SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
MI LUST	0.500		3	3	7	NR	NR	13
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MI UST	0.250		3	3	NR	NR	NR	6
MI AST	0.250		0	2	NR	NR	NR	2
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
MI AUL	0.500		0	0	2	NR	NR	2
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
MI BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	1	NR	NR	1
Local Lists of Landfill / Solid Waste Disposal Sites								
MI SWRCY	0.500		0	0	0	NR	NR	0
MI HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
MI PART 201	1.000		0	0	1	1	NR	2
MI INVENTORY	0.500		0	6	15	NR	NR	21
MI CDL	TP		NR	NR	NR	NR	NR	0
MI DEL PART 201	1.000		0	0	0	1	NR	1
US CDL	TP		NR	NR	NR	NR	NR	0
MI PFAS	0.500		0	0	0	NR	NR	0
Local Land Records								
MI LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
MI SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		4	4	NR	NR	NR	8
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
MI AIRS	TP		NR	NR	NR	NR	NR	0
MI ASBESTOS	TP		NR	NR	NR	NR	NR	0
MI BEA	0.500		0	5	5	NR	NR	10
MI COAL ASH	0.500		0	0	0	NR	NR	0
MI DRYCLEANERS	0.250		0	1	NR	NR	NR	1
MI Financial Assurance	TP		NR	NR	NR	NR	NR	0
MI LEAD	TP		NR	NR	NR	NR	NR	0
RI MANIFEST	0.250		0	1	NR	NR	NR	1
MI NPDES	TP		NR	NR	NR	NR	NR	0
MI UIC	TP		NR	NR	NR	NR	NR	0
MI WDS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
MI RGA PART 201	TP		NR	NR	NR	NR	NR	0
MI RGA LF	TP		NR	NR	NR	NR	NR	0
MI RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	12	26	32	2	0	72

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **ERB LUMBER CO - ETON MILL** **MI LUST** **U003082121**
South **425 S ETON ST** **MI UST** **N/A**
< 1/8 **BIRMINGHAM, MI 48009** **MI WDS**
0.050 mi.
262 ft. **Site 1 of 5 in cluster A**

Relative:
Lower

Actual:
748 ft.

LUST:

Name:	ERB LUMBER CO - ETON MILL
Address:	425 S ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009-
Facility ID:	00010849
Source:	STATE OF MICHIGAN
Owner Name:	ErbLumber Co
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Erb Lumber- Eton Mill
Latitude:	42.54664
Longitude:	-83.19607
Date of Collection:	01/11/2001
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Leak Number:	C-0880-89
Release Date:	11/13/1989
Substance Released:	Not reported
Release Status:	Closed
Release Closed Date:	04/28/1994

UST:

Name:	ERB LUMBER CO - ETON MILL
Address:	425 S ETON ST
City,State,Zip:	BIRMINGHAM 48009-6524
Facility Type:	CLOSED
Facility ID:	00010849
Facility Region:	Not reported
Owner Name:	ERB LUMBER CO
Owner Address:	2155 BUTTERFIELD DR STE 300
Owner City:	TROY
Owner State:	MI
Owner Zip:	48084-3452
Owner Contact:	Not reported
Owner Phone:	2486146200
Contact:	JOHN M. DOROSZ
Contact Phone:	(313) 644-5300
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number

ERB LUMBER CO - ETON MILL (Continued) **U003082121**

District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	6000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	05/02/1961
Remove Date:	10/04/1990
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54664
Longitude:	-83.19607

Name:	ERB LUMBER CO - ETON MILL
Address:	425 S ETON ST
City,State,Zip:	BIRMINGHAM 48009-6524
Facility Type:	CLOSED
Facility ID:	00010849
Facility Region:	Not reported
Owner Name:	ERB LUMBER CO
Owner Address:	2155 BUTTERFIELD DR STE 300
Owner City:	TROY
Owner State:	MI
Owner Zip:	48084-3452
Owner Contact:	Not reported
Owner Phone:	2486146200
Contact:	JOHN M. DOROSZ
Contact Phone:	(313) 644-5300
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	6000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	05/02/1961
Remove Date:	10/04/1990
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54664

ERB LUMBER CO - ETON MILL (Continued) **U003082121**

Longitude: -83.19607

WDS:
Name: ERB LUMBER
Address: 425 S ETON ST
City,State,Zip: BIRMINGHAM, MI 48009
Site Id: MID186804621
WMD Id: 398976
Site Specific Name: ERB LUMBER
Mailing Address: 425 S ETON ST
Mailing City/State/Zip: 48009
Mailing County: OAKLAND

A2 **ERB LUMBER** **RCRA NonGen / NLR** **1000122558**
South **425 S ETON ST** **FINDS** **MID186804621**
< 1/8 **BIRMINGHAM, MI 48009** **ECHO**
0.050 mi.
262 ft. **Site 2 of 5 in cluster A**

Relative: **Lower**
Actual: **748 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:	1998-11-02 00:00:00.0
Handler Name:	ERB LUMBER
Handler Address:	425 S ETON ST
Handler City,State,Zip:	BIRMINGHAM, MI 48009
EPA ID:	MID186804621
Contact Name:	JOHN DOROSZ
Contact Address:	425 S ETON ST
Contact City,State,Zip:	BIRMINGHAM, MI 48009
Contact Telephone:	313-644-5300
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	05
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	425 S ETON ST
Mailing City,State,Zip:	BIRMINGHAM, MI 48009
Owner Name:	ERB LUMBER
Owner Type:	Private
Operator Name:	NAME NOT REPORTED
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No

ERB LUMBER (Continued) **1000122558**

Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NAME NOT REPORTED
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.

ERB LUMBER (Continued) **1000122558**

Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	ERB LUMBER
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	NAME NOT REPORTED
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	ERB LUMBER
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	1998-11-02 00:00:00.0
Handler Name: ERB LUMBER	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

ERB LUMBER (Continued) **1000122558**

Receive Date:	1989-12-01 00:00:00.0
Handler Name: ERB LUMBER	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	11131
NAICS Description:	ORANGE GROVES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

FINDS:

Registry ID: 110003615838

Click Here:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000122558
Registry ID:	110003615838
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003615838
Name:	ERB LUMBER
Address:	425 S ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009

A3 **AMOCO OIL CO** **RCRA NonGen / NLR** **1000528553**
South **451 S ETON ST** **FINDS** **MID985609726**
< 1/8 **BIRMINGHAM, MI 48009** **ECHO**
0.062 mi.
325 ft. **Site 3 of 5 in cluster A**

Relative: **Lower**
Actual: **747 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:		1997-09-08 00:00:00.0
Handler Name:	AMOCO OIL CO	
Handler Address:		451 S ETON ST
Handler City,State,Zip:		BIRMINGHAM, MI 48009
EPA ID:		MID985609726
Contact Name:		KAYE CLEGHORN
Contact Address:		451 S ETON ST
Contact City,State,Zip:		BIRMINGHAM, MI 48009
Contact Telephone:		313-855-1060
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		05
Land Type:		Private
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		30230 ORCHARD LAKE RD
Mailing City,State,Zip:		FARMINGTON HILLS, MI 48334
Owner Name:		AMOCO OIL CO
Owner Type:		Private
Operator Name:		AMOCO OIL CO
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		NN
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

AMOCO OIL CO (Continued) **1000528553**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	AMOCO OIL CO
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	AMOCO OIL CO
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported

AMOCO OIL CO (Continued) **1000528553**

Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	AMOCO OIL CO
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	AMOCO OIL CO
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	1997-09-08 00:00:00.0
Handler Name: AMOCO OIL CO	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	1991-04-04 00:00:00.0
Handler Name: AMOCO OIL CO	
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

AMOCO OIL CO (Continued) **1000528553**

List of NAICS Codes and Descriptions:
NAICS Code: 11131
NAICS Description: ORANGE GROVES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110003655232

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000528553
Registry ID: 110003655232
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110003655232
Name: AMOCO OIL CO
Address: 451 S ETON ST
City,State,Zip: BIRMINGHAM, MI 48009

A4 **ERB LUMBER CO INC** **MI LUST U000262749**
South **451 S ETON ST** **MI UST N/A**
< 1/8 **BIRMINGHAM, MI 48009**
0.062 mi.
325 ft. **Site 4 of 5 in cluster A**

Relative: **Lower**
Actual: **747 ft.**

LUST:
Name: ERB LUMBER CO INC
Address: 451 S ETON ST
City,State,Zip: BIRMINGHAM, MI 48009-
Facility ID: 00033805
Source: STATE OF MICHIGAN
Owner Name: ErbLumber Co
Owner Address: Not reported
Owner City,St,Zip: UNKNOWN, MI
Owner Contact: Not reported
Owner Phone: Not reported
Country: USA
District: Warren
Site Name: Erb Lumber- Michigan Rr Repair
Latitude: 42.54661
Longitude: -83.19606

ERB LUMBER CO INC (Continued) **U000262749**

Date of Collection: 01/11/2001
Method of Collection: Address Matching-House Number
Accuracy: 100
Accuracy Value Unit: FEET
Horizontal Data: NAD83
Point Line Area: POINT
Desc Category: Plant Entrance (Freight)

Leak Number: C-1202-89
Release Date: 12/21/1989
Substance Released: Not reported
Release Status: Closed
Release Closed Date: 05/26/1995

UST:
Name: ERB LUMBER CO INC
Address: 451 S ETON ST
City,State,Zip: BIRMINGHAM 48009-6524
Facility Type: CLOSED
Facility ID: 00033805
Facility Region: Not reported
Owner Name: ERB LUMBER CO
Owner Address: 2155 BUTTERFIELD DR STE 300
Owner City: TROY
Owner State: MI
Owner Zip: 48084-3452
Owner Contact: Not reported
Owner Phone: 2486146200
Contact: JOHN M. DOROSZ
Contact Phone: (313) 644-5300
Date of Collection: 01/11/2001
Accuracy: 100
Horizontal Datum: NAD83
Accuracy Value Unit: FEET
Source: STATE OF MICHIGAN
Point Line Area: POINT
Desc Category: Plant Entrance (Freight)
Method of Collection: Address Matching-House Number
District: Region 1 - SE Michigan District Office
Tank ID: 1
Capacity: 2000
Tank Status: Removed from Ground
Substance: Gasoline
Install Date: 01/24/1965
Remove Date: 12/20/1989
Tank Number: Not reported
Tank Details Compartments: Not reported
Tank Release Detection: Not reported
Pipe Release Detection: Not reported
Piping Material: Not reported
Piping Type: Not reported
Tank Construction: Not reported
Impressed Device: Not reported
Latitude: 42.54661
Longitude: -83.19606

B5 **SAXON IND INC** **RCRA NonGen / NLR** **1000336934**
NNE **2100 E MAPLE RD** **FINDS** **MID095399218**
< 1/8 **BIRMINGHAM, MI 48009** **ECHO**
0.079 mi.
416 ft. **Site 1 of 3 in cluster B**

Relative: **Higher**
Actual: **749 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:		1998-09-17 00:00:00.0
Handler Name:	SAXON IND INC	
Handler Address:		2100 E MAPLE RD
Handler City,State,Zip:		BIRMINGHAM, MI 48009
EPA ID:		MID095399218
Contact Name:		THOMAS NUGENT
Contact Address:		2100 E MAPLE RD
Contact City,State,Zip:		BIRMINGHAM, MI 48009
Contact Telephone:		313-643-7230
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		05
Land Type:		Private
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		2100 E MAPLE RD
Mailing City,State,Zip:		BIRMINGHAM, MI 48009
Owner Name:		SAXON INDUSTRIES INC
Owner Type:		Private
Operator Name:		SAXON INDUSTRIES INC
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		NN
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

SAXON IND INC (Continued) **1000336934**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	SAXON INDUSTRIES INC
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	SAXON INDUSTRIES INC
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported

SAXON IND INC (Continued) **1000336934**

Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	SAXON INDUSTRIES INC
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	SAXON INDUSTRIES INC
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	1998-09-17 00:00:00.0
Handler Name: SAXON IND INC	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	1980-08-18 00:00:00.0
Handler Name: SAXON IND INC	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

SAXON IND INC (Continued) **1000336934**

List of NAICS Codes and Descriptions:
NAICS Code: 11131
NAICS Description: ORANGE GROVES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110009601225

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
Registry ID: 110003608677

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000336934
Registry ID: 110003608677
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110003608677
Name: SAXON IND INC
Address: 2100 E MAPLE RD
City,State,Zip: BIRMINGHAM, MI 48009

Envid: 1000336934
Registry ID: 110009601225
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110009601225
Name: FAILURE ANALYSIS ASSOC INC
Address: 2100 E MAPLE RD
City,State,Zip: BIRMINGHAM, MI 48009

B6 **FAILURE ANALYSIS ASSOC INC** **RCRA NonGen / NLR** **1000451543**
NNE **2100 E MAPLE RD** **MID985583087**
< 1/8 **BIRMINGHAM, MI 48009**
0.079 mi.
416 ft. **Site 2 of 3 in cluster B**

Relative: **Higher**
Actual: **749 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:	1998-11-02 00:00:00.0
Handler Name:	FAILURE ANALYSIS ASSOC INC
Handler Address:	2100 E MAPLE RD
Handler City,State,Zip:	BIRMINGHAM, MI 48009
EPA ID:	MID985583087
Contact Name:	RHONDA ELLENBURG
Contact Address:	2100 E MAPLE RD
Contact City,State,Zip:	BIRMINGHAM, MI 48009
Contact Telephone:	313-649-3775
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	05
Land Type:	Other
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	2100 E MAPLE RD
Mailing City,State,Zip:	BIRMINGHAM, MI 48009
Owner Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Owner Type:	Private
Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported

FAILURE ANALYSIS ASSOC INC (Continued) **1000451543**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2001-07-25 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2001-07-25 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported

FAILURE ANALYSIS ASSOC INC (Continued) **1000451543**

Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2001-07-25 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2001-07-25 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	1998-11-02 00:00:00.0
Handler Name: FAILURE ANALYSIS ASSOC INC	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	1990-07-16 00:00:00.0
Handler Name: FAILURE ANALYSIS ASSOC INC	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

FAILURE ANALYSIS ASSOC INC (Continued) **1000451543**

List of NAICS Codes and Descriptions:
NAICS Code: 11131
NAICS Description: ORANGE GROVES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

B7 **ST JOSEPH MERCY OAKLAND A MEMBER OF TRINITY HEALTH** **RCRA-VSQG** **1014391567**
NNE **2110 E MAPLE RD** **MIK195719141**
< 1/8 **BIRMINGHAM, MI 48009**
0.082 mi.
432 ft. **Site 3 of 3 in cluster B**

Relative: **Higher**
Actual: **749 ft.**

RCRA-VSQG:

Date Form Received by Agency:	2010-12-21 00:00:00.0
Handler Name:	ST JOSEPH MERCY OAKLAND A MEMBER OF TRINITY HEALTH
Handler Address:	2110 E MAPLE RD
Handler City,State,Zip:	BIRMINGHAM, MI 48009
EPA ID:	MIK195719141
Contact Name:	STEWART HOERMAN
Contact Address:	2110 E MAPLE RD
Contact City,State,Zip:	BIRMINGHAM, MI 48009
Contact Telephone:	248-816-3951
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	05
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	2110 E MAPLE RD
Mailing City,State,Zip:	BIRMINGHAM, MI 48009
Owner Name:	TRINITY HEALTH
Owner Type:	Private
Operator Name:	TRINITY HEALTH
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

ST JOSEPH MERCY OAKLAND A MEMBER OF TRINITY HEALTH (Continued) **1014391567**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	TRINITY HEALTH
Legal Status:	Private
Date Became Current:	2010-12-21 00:00:00.
Date Ended Current:	Not reported

ST JOSEPH MERCY OAKLAND A MEMBER OF TRINITY HEALTH (Continued) **1014391567**

Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	TRINITY HEALTH
Legal Status:	Private
Date Became Current:	2010-12-21 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	2010-12-21 00:00:00.0
Handler Name:	ST JOSEPH MERCY OAKLAND A MEMBER OF TRINITY HEALTH
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	62111
NAICS Description:	OFFICES OF PHYSICIANS

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

A8 **HITCHINGHAM DEVELOPMENT CO** **MI LUST U003914296**
South **2006 HAZEL ST** **MI UST N/A**
< 1/8 **BIRMINGHAM, MI 48009**
0.092 mi.
484 ft. **Site 5 of 5 in cluster A**

Relative: LUST:
Lower

Name:	HITCHINGHAM DEVELOPMENT CO
Address:	2006 HAZEL ST
City,State,Zip:	BIRMINGHAM, MI 48009-
Facility ID:	00041400
Source:	STATE OF MICHIGAN

Actual:
746 ft.

HITCHINGHAM DEVELOPMENT CO (Continued) **U003914296**

Owner Name:	HitchinghamDevelopment Co
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Hitchingham Development Co
Latitude:	42.54447
Longitude:	-83.19682
Date of Collection:	Not reported
Method of Collection:	Interpolation-Map
Accuracy:	15
Accuracy Value Unit:	METERS
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Not reported
Leak Number:	C-0301-03
Release Date:	07/11/2003
Substance Released:	Unknown
Release Status:	Closed
Release Closed Date:	01/16/2004

UST:

Name:	HITCHINGHAM DEVELOPMENT CO
Address:	2006 HAZEL ST
City,State,Zip:	BIRMINGHAM 48009-6807
Facility Type:	CLOSED
Facility ID:	00041400
Facility Region:	Not reported
Owner Name:	HITCHINGHAM DEVELOPMENT CO
Owner Address:	41050 VINCENTI CT
Owner City:	NOVI
Owner State:	MI
Owner Zip:	46375
Owner Contact:	Not reported
Owner Phone:	2486151313
Contact:	Douglas M Mcdowell
Contact Phone:	248-399-2066
Date of Collection:	Not reported
Accuracy:	15
Horizontal Datum:	NAD83
Accuracy Value Unit:	METERS
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Not reported
Method of Collection:	Interpolation-Map
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	2000
Tank Status:	Removed from Ground
Substance:	Other(Unkown)
Install Date:	Not reported
Remove Date:	07/11/2003
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported

HITCHINGHAM DEVELOPMENT CO (Continued) **U003914296**

Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54447
Longitude:	-83.19682

---

9 **RUSS SIMON BEAUTY STUDIO** **RCRA-VSQG** **1024886159**
SSE **2022 HAZEL** **MIK148425906**
< 1/8 **BIRMINGHAM, MI 48009**
0.095 mi.
499 ft.

Relative: **Lower**
Actual: **747 ft.**

RCRA-VSQG:

Date Form Received by Agency:	2018-07-17 00:00:00.0
Handler Name:	RUSS SIMON BEAUTY STUDIO
Handler Address:	2022 HAZEL
Handler City,State,Zip:	BIRMINGHAM, MI 48009
EPA ID:	MIK148425906
Contact Name:	RUSSEL SIMON
Contact Address:	Not reported
Contact City,State,Zip:	Not reported
Contact Telephone:	248-385-1395
Contact Fax:	Not reported
Contact Email:	CONTACT@RSBEAUTYSTUDIO.COM
Contact Title:	Not reported
EPA Region:	05
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	2022 HAZEL
Mailing City,State,Zip:	BIRMINGHAM, MI 48009
Owner Name:	RUSSELL SIMON
Owner Type:	Private
Operator Name:	RUSSELL SIMON
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported

RUSS SIMON BEAUTY STUDIO (Continued) **1024886159**

Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2018-07-18 08:04:23.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	RUSSELL SIMON
Legal Status:	Private
Date Became Current:	2017-07-28 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	2022 HAZEL
Owner/Operator City,State,Zip:	BIRMINGHAM, MI 48009
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported

RUSS SIMON BEAUTY STUDIO (Continued) **1024886159**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: RUSSELL SIMON
Legal Status: Private
Date Became Current: 2017-07-28 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: 2022 HAZEL
Owner/Operator City,State,Zip: BIRMINGHAM, MI 48009
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 2018-07-17 00:00:00.0
Handler Name: RUSS SIMON BEAUTY STUDIO
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 812112
NAICS Description: BEAUTY SALONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C10 **BIRMINGHAM** **MI LUST** **U000262022**
South **2100 PALMER ST** **MI UST** **N/A**
1/8-1/4 **BIRMINGHAM, MI 48009** **MI WDS**
0.125 mi.
661 ft. **Site 1 of 6 in cluster C**

Relative:
Lower

Actual:
746 ft.

LUST:
Name: BIRMINGHAM
Address: 2100 PALMER ST
City,State,Zip: BIRMINGHAM, MI 48009-
Facility ID: 00009686
Source: STATE OF MICHIGAN
Owner Name: AT&TMichigan
Owner Address: Not reported
Owner City,St,Zip: UNKNOWN, MI
Owner Contact: Not reported
Owner Phone: Not reported

BIRMINGHAM (Continued) **U000262022**

Country:	USA
District:	Warren
Site Name:	At & T - Birmingham
Latitude:	42.54375
Longitude:	-83.19527
Date of Collection:	10/05/2004
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Leak Number:	C-0251-95
Release Date:	03/06/1995
Substance Released:	Diesel
Release Status:	Closed
Release Closed Date:	04/10/1995

UST:

Name:	BIRMINGHAM
Address:	2100 PALMER ST
City,State,Zip:	BIRMINGHAM 48009-6806
Facility Type:	CLOSED
Facility ID:	00009686
Facility Region:	Not reported
Owner Name:	AT&T MICHIGAN
Owner Address:	308 S AKARD STE 1700
Owner City:	DALLAS
Owner State:	TX
Owner Zip:	75202
Owner Contact:	Not reported
Owner Phone:	8776482073
Contact:	Jerry Wieman
Contact Phone:	(313) 541-3063
Date of Collection:	10/05/2004
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	2000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	03/13/1985
Remove Date:	11/01/1993
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported

BIRMINGHAM (Continued) **U000262022**

Latitude: 42.54375
Longitude: -83.19527

WDS:
Name: AT&T CORP
Address: 2100 PALMER ST
City,State,Zip: BIRMINGHAM, MI 48009
Site Id: MI0000054650
WMD Id: 390329
Site Specific Name: AT&T
Mailing Address: 227 W MONROE
Mailing City/State/Zip: 60606
Mailing County: Not reported

C11 **AT&T FACILITY** **MI AST** **A100252568**
South **2100 PALMER ST** **N/A**
1/8-1/4 **BIRMINGHAM, MI 48009**
0.125 mi.
661 ft. **Site 2 of 6 in cluster C**

Relative: **Lower**

Actual: **746 ft.**

AST:
Name: AT&T FACILITY
Address: 2100 PALMER ST
City: BIRMINGHAM
Zip: 48009-6806
Facility ID: 91063273
Tank ID Old: Not reported
Owner Name: AT&T MICHIGAN
Owner Address: 308 S AKARD STE 1700
Owner City,St,Zip: DALLAS, TX 75202
District: 1
Date of Collection: Not reported
Accuracy: 15 METERS
Source: STATE OF MICHIGAN
Point Line Area: POINT
Description Category: Not reported
Method of Collection: Interpolation-Map
Horizontal Datum: NAD83
Latitude: 42.5437060
Longitude: -83.194554

Tank Id: ATK-056837-15
Tank Status: Removed from Premises
Capacity (in gallons): 1500
Installation Date: 01/09/1995
Substance Stored: Not reported
Removed/Closed Date: 08/13/2007

C12 **AT&T CORP** **RCRA NonGen / NLR** **1000865487**
South **2100 PALMER ST** **FINDS** **MI0000054650**
1/8-1/4 **BIRMINGHAM, MI 48009** **ECHO**
0.125 mi.
661 ft. **Site 3 of 6 in cluster C**

Relative: **Lower**
Actual: **746 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:		1997-09-08 00:00:00.0
Handler Name:	AT&T CORP	
Handler Address:		2100 PALMER ST
Handler City,State,Zip:		BIRMINGHAM, MI 48009
EPA ID:		MI0000054650
Contact Name:		PROMILA LAL
Contact Address:		2100 PALMER ST
Contact City,State,Zip:		BIRMINGHAM, MI 48009
Contact Telephone:		312-230-5239
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		05
Land Type:		Private
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		227 W MONROE
Mailing City,State,Zip:		CHICAGO, IL 60606
Owner Name:		AT&T CORP
Owner Type:		Private
Operator Name:		AT&T CORP
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		NN
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

AT&T CORP (Continued) **1000865487**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	AT&T CORP
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	AT&T CORP
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported

AT&T CORP (Continued) **1000865487**

Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	AT&T CORP
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	AT&T CORP
Legal Status:	Private
Date Became Current:	1970-01-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	1997-09-08 00:00:00.0
Handler Name: AT&T CORP	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	1993-11-12 00:00:00.0
Handler Name: AT&T CORP	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

AT&T CORP (Continued) **1000865487**

List of NAICS Codes and Descriptions:
NAICS Code: 11131
NAICS Description: ORANGE GROVES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110003560398

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000865487
Registry ID: 110003560398
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110003560398
Name: AT&T CORP
Address: 2100 PALMER ST
City,State,Zip: BIRMINGHAM, MI 48009

C13 **ERB LUMBER CO** **MI LUST U001777433**
South **545 S ETON** **MI UST N/A**
1/8-1/4 **BIRMINGHAM, MI 48009**
0.134 mi.
705 ft. **Site 4 of 6 in cluster C**

Relative: **Lower**
Actual: **746 ft.**

LUST:
Name: ERB LUMBER CO
Address: 545 S ETON
City,State,Zip: BIRMINGHAM, MI 48009-
Facility ID: 00037701
Source: STATE OF MICHIGAN
Owner Name: EdgemereEnterprises Inc
Owner Address: Not reported
Owner City,St,Zip: UNKNOWN, MI
Owner Contact: Not reported
Owner Phone: Not reported
Country: USA
District: Warren
Site Name: Erb Lumber Company
Latitude: 42.54652
Longitude: -83.19605

ERB LUMBER CO (Continued) **U001777433**

Date of Collection: 01/11/2001
Method of Collection: Address Matching-House Number
Accuracy: 100
Accuracy Value Unit: FEET
Horizontal Data: NAD83
Point Line Area: POINT
Desc Category: Plant Entrance (Freight)

Leak Number: C-1137-93
Release Date: 09/17/1993
Substance Released: Diesel,Gasoline
Release Status: Closed
Release Closed Date: 01/23/1995

UST:
Name: ERB LUMBER CO
Address: 545 S ETON
City,State,Zip: BIRMINGHAM 48009
Facility Type: CLOSED
Facility ID: 00037701
Facility Region: Not reported
Owner Name: EDGEMERE ENTERPRISES INC
Owner Address: 44 E LONG LAKE RD
Owner City: BLOOMFIELD HILLS
Owner State: MI
Owner Zip: 48304-2321
Owner Contact: Not reported
Owner Phone: 2486446222
Contact: JAMES TOMARO
Contact Phone: (248) 644-6222
Date of Collection: 01/11/2001
Accuracy: 100
Horizontal Datum: NAD83
Accuracy Value Unit: FEET
Source: STATE OF MICHIGAN
Point Line Area: POINT
Desc Category: Plant Entrance (Freight)
Method of Collection: Address Matching-House Number
District: Region 1 - SE Michigan District Office
Tank ID: 3
Capacity: 1500
Tank Status: Removed from Ground
Substance: Diesel
Install Date: Not reported
Remove Date: 02/07/1995
Tank Number: Not reported
Tank Details Compartments: Not reported
Tank Release Detection: Not reported
Pipe Release Detection: Not reported
Piping Material: Not reported
Piping Type: Not reported
Tank Construction: Not reported
Impressed Device: Not reported
Latitude: 42.54652
Longitude: -83.19605

Name: ERB LUMBER CO
Address: 545 S ETON

ERB LUMBER CO (Continued) **U001777433**

City,State,Zip:	BIRMINGHAM 48009
Facility Type:	CLOSED
Facility ID:	00037701
Facility Region:	Not reported
Owner Name:	EDGEMERE ENTERPRISES INC
Owner Address:	44 E LONG LAKE RD
Owner City:	BLOOMFIELD HILLS
Owner State:	MI
Owner Zip:	48304-2321
Owner Contact:	Not reported
Owner Phone:	2486446222
Contact:	JAMES TOMARO
Contact Phone:	(248) 644-6222
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	1500
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	Not reported
Remove Date:	02/07/1995
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54652
Longitude:	-83.19605

Name:	ERB LUMBER CO
Address:	545 S ETON
City,State,Zip:	BIRMINGHAM 48009
Facility Type:	CLOSED
Facility ID:	00037701
Facility Region:	Not reported
Owner Name:	EDGEMERE ENTERPRISES INC
Owner Address:	44 E LONG LAKE RD
Owner City:	BLOOMFIELD HILLS
Owner State:	MI
Owner Zip:	48304-2321
Owner Contact:	Not reported
Owner Phone:	2486446222
Contact:	JAMES TOMARO
Contact Phone:	(248) 644-6222
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83

ERB LUMBER CO (Continued) **U001777433**

Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	6000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	Not reported
Remove Date:	02/07/1995
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54652
Longitude:	-83.19605

---

14 **ELICON DETROIT INC** **RCRA NonGen / NLR** **1000179733**
NE **2222 E MAPLE RD** **FINDS** **MID082771734**
1/8-1/4 **BIRMINGHAM, MI 48009** **ECHO**
0.134 mi.
707 ft.

Relative: **Lower**
Actual: **747 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:		1980-08-18 00:00:00.0
Handler Name:	ELICON DETROIT INC	
Handler Address:		2222 E MAPLE RD
Handler City,State,Zip:		BIRMINGHAM, MI 48009
EPA ID:		MID082771734
Contact Name:		MICHAEL BURNS
Contact Address:		2222 E MAPLE RD
Contact City,State,Zip:		BIRMINGHAM, MI 48009
Contact Telephone:		313-643-7100
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		05
Land Type:		Other
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		2222 E MAPLE RD
Mailing City,State,Zip:		BIRMINGHAM, MI 48009
Owner Name:		NO ACTIVE O/OP AS NOT GENERATING WASTE
Owner Type:		Private
Operator Name:		NO ACTIVE O/OP AS NOT GENERATING WASTE
Operator Type:		Private
Short-Term Generator Activity:		No

ELICON DETROIT INC (Continued) **1000179733**

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

ELICON DETROIT INC (Continued) **1000179733**

Hazardous Waste Summary:
- Waste Code: D001
- Waste Description: IGNITABLE WASTE

Handler - Owner Operator:
- Owner/Operator Indicator: Owner
- Owner/Operator Name: NO ACTIVE O/OP AS NOT GENERATING WASTE
- Legal Status: Private
- Date Became Current: 1970-01-03 00:00:00.
- Date Ended Current: Not reported
- Owner/Operator Address: Not reported
- Owner/Operator City,State,Zip: Not reported
- Owner/Operator Telephone: Not reported
- Owner/Operator Telephone Ext: Not reported
- Owner/Operator Fax: Not reported
- Owner/Operator Email: Not reported

- Owner/Operator Indicator: Operator
- Owner/Operator Name: NO ACTIVE O/OP AS NOT GENERATING WASTE
- Legal Status: Private
- Date Became Current: 1970-01-03 00:00:00.
- Date Ended Current: Not reported
- Owner/Operator Address: Not reported
- Owner/Operator City,State,Zip: Not reported
- Owner/Operator Telephone: Not reported
- Owner/Operator Telephone Ext: Not reported
- Owner/Operator Fax: Not reported
- Owner/Operator Email: Not reported

Historic Generators:
- Receive Date: 1980-08-18 00:00:00.0
- Handler Name: ELICON DETROIT INC
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: Not reported
- Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
- NAICS Code: 81111
- NAICS Description: AUTOMOTIVE MECHANICAL AND ELECTRICAL REPAIR AND MAINTENANCE

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

ELICON DETROIT INC (Continued) **1000179733**

FINDS:
Registry ID: 110003605634

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000179733
Registry ID:	110003605634
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003605634
Name:	ELICON DETROIT INC
Address:	2222 E MAPLE RD
City,State,Zip:	BIRMINGHAM, MI 48009

D15 **REAL STEEL PRODUCTIONS LLC** **RCRA NonGen / NLR** **1014391919**
East **1501 MAPLE LN** **MIK379183668**
1/8-1/4 **TROY, MI 48084**
0.140 mi.
738 ft. **Site 1 of 8 in cluster D**

Relative: RCRA NonGen / NLR:
Lower

Actual: **746 ft.**

Date Form Received by Agency:	2010-12-17 00:00:00.0
Handler Name:	REAL STEEL PRODUCTIONS LLC
Handler Address:	1501 MAPLE LN
Handler City,State,Zip:	TROY, MI 48084
EPA ID:	MIK379183668
Contact Name:	LESLIE TOKUNAGA
Contact Address:	1501 MAPLE LN
Contact City,State,Zip:	TROY, MI 48084
Contact Telephone:	248-816-3998
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	05
Land Type:	Other
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	1501 MAPLE LN
Mailing City,State,Zip:	TROY, MI 48084
Owner Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Owner Type:	Private
Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Operator Type:	Private

REAL STEEL PRODUCTIONS LLC (Continued) **1014391919**

Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

REAL STEEL PRODUCTIONS LLC (Continued) **1014391919**

Hazardous Waste Summary:
Waste Code: D001
Waste Description: IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2010-10-02 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2010-10-02 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2010-10-02 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2010-10-02 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private

REAL STEEL PRODUCTIONS LLC (Continued) **1014391919**

Date Became Current: 2010-10-02 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status: Private
Date Became Current: 2010-10-02 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 2010-12-17 00:00:00.0
Handler Name: REAL STEEL PRODUCTIONS LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 2010-06-01 00:00:00.0
Handler Name: REAL STEEL PRODUCTIONS LLC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 2010-10-01 00:00:00.0
Handler Name: REAL STEEL PRODUCTIONS LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No

REAL STEEL PRODUCTIONS LLC (Continued) **1014391919**

Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 51211
NAICS Description: MOTION PICTURE AND VIDEO PRODUCTION

Facility Has Received Notices of Violation:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 2010-08-23 00:00:00.0
Actual Return to Compliance Date: 2010-09-16 00:00:00.0
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 2010-09-24 00:00:00.0
Enforcement Identifier: 001
Date of Enforcement Action: 2010-08-24 00:00:00.0
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 2010-08-23 00:00:00.0
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: Not reported
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 2010-09-16 00:00:00.0
Scheduled Compliance Date: 2010-09-24 00:00:00.0

REAL STEEL PRODUCTIONS LLC (Continued) **1014391919**

Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

D16 **WOLVERINE PRODUCTIONS LLC** **RCRA NonGen / NLR** **1012180804**
East **1501 MAPLE LN** **MIK633376371**
1/8-1/4 **TROY, MI 48084**
0.140 mi.
738 ft. **Site 2 of 8 in cluster D**

Relative: RCRA NonGen / NLR:
Lower

Date Form Received by Agency:	2010-04-08 00:00:00.0
Handler Name:	WOLVERINE PRODUCTIONS LLC
Handler Address:	1501 MAPLE LN
Handler City,State,Zip:	TROY, MI 48084
EPA ID:	MIK633376371
Contact Name:	CHRISTINA DUNCAN
Contact Address:	1501 MAPLE LN
Contact City,State,Zip:	TROY, MI 48084
Contact Telephone:	310-586-8542
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	05
Land Type:	Other
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	MGM TOWER- 10250 CONSTELLATION
Mailing City,State,Zip:	LOS ANGELES, CA 90067
Owner Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Owner Type:	Private
Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported

Actual:
746 ft.

WOLVERINE PRODUCTIONS LLC (Continued) **1012180804**

Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	2010-03-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

WOLVERINE PRODUCTIONS LLC (Continued) **1012180804**

Owner/Operator Indicator: Operator
Owner/Operator Name: NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status: Private
Date Became Current: 2010-03-01 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status: Private
Date Became Current: 2010-03-01 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status: Private
Date Became Current: 2010-03-01 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 2009-08-07 00:00:00.0
Handler Name: WOLVERINE PRODUCTIONS LLC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 2010-04-08 00:00:00.0
Handler Name: WOLVERINE PRODUCTIONS LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No

WOLVERINE PRODUCTIONS LLC (Continued) **1012180804**

Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 51211
NAICS Description: MOTION PICTURE AND VIDEO PRODUCTION

Facility Has Received Notices of Violation:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 2009-09-10 00:00:00.0
Actual Return to Compliance Date: 2009-11-20 00:00:00.0
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 2010-03-24 00:00:00.0
Enforcement Identifier: 001
Date of Enforcement Action: 2009-09-24 00:00:00.0
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 2009-09-10 00:00:00.0
Actual Return to Compliance Date: 2009-11-20 00:00:00.0
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State

WOLVERINE PRODUCTIONS LLC (Continued) **1012180804**

Scheduled Compliance Date: 2010-03-24 00:00:00.0
Enforcement Identifier: 001
Date of Enforcement Action: 2009-09-24 00:00:00.0
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 2009-09-10 00:00:00.0
Actual Return to Compliance Date: 2009-11-20 00:00:00.0
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 2010-03-24 00:00:00.0
Enforcement Identifier: 001
Date of Enforcement Action: 2009-09-24 00:00:00.0
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported

WOLVERINE PRODUCTIONS LLC (Continued) **1012180804**

SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 2009-09-10 00:00:00.0
Actual Return to Compliance Date: 2009-11-20 00:00:00.0
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 2010-03-24 00:00:00.0
Enforcement Identifier: 001
Date of Enforcement Action: 2009-09-24 00:00:00.0
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 2009-09-10 00:00:00.0
Actual Return to Compliance Date: 2009-11-20 00:00:00.0
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State

WOLVERINE PRODUCTIONS LLC (Continued) **1012180804**

Scheduled Compliance Date: 2010-03-24 00:00:00.0
Enforcement Identifier: 001
Date of Enforcement Action: 2009-09-24 00:00:00.0
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 2009-09-10 00:00:00.0
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: Not reported
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 2009-11-20 00:00:00.0
Scheduled Compliance Date: 2010-03-24 00:00:00.0
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 2009-09-10 00:00:00.0
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: Not reported
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 2009-11-20 00:00:00.0
Scheduled Compliance Date: 2010-03-24 00:00:00.0
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

WOLVERINE PRODUCTIONS LLC (Continued) **1012180804**

Evaluation Date:	2009-09-10 00:00:00.0
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	2009-11-20 00:00:00.0
Scheduled Compliance Date:	2010-03-24 00:00:00.0
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	2009-09-10 00:00:00.0
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	2009-11-20 00:00:00.0
Scheduled Compliance Date:	2010-03-24 00:00:00.0
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	2009-09-10 00:00:00.0
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	2009-11-20 00:00:00.0
Scheduled Compliance Date:	2010-03-24 00:00:00.0
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

D17 **CREATIVE CONCEPTS IN ADVERTISING** **MI BEA** **S104910729**
East **1497 MAPLE LANE** **N/A**
1/8-1/4 **TROY, MI**
0.143 mi.
754 ft. **Site 3 of 8 in cluster D**

Relative: **Lower**
Actual: **746 ft.**

BEA:

Secondary Address:	Not reported
BEA Number:	259
District:	Southeast MI
Date Received:	01/28/1997
Submitter Name:	CREATIVE CONCEPTS IN ADVERTISING
Petition Determination:	Affirmed
Petition Disclosure:	1
Category:	No Hazardous Substance(s)
Determination 20107A:	Affirmed
Reviewer:	temppm
Division Assigned:	Environmental Response Division

D18 **1497 MAPLE LANE** **MI INVENTORY** **S114028880**
East **1497 MAPLE LANE** **N/A**
1/8-1/4 **TROY, MI 48084**
0.143 mi.
754 ft. **Site 4 of 8 in cluster D**

Relative: **Lower**
Actual: **746 ft.**

INVENTORY:

Name:	1497 MAPLE LANE
Address:	1497 MAPLE LANE
City,State,Zip:	TROY, MI 48084
Bea Number:	Not reported
Township:	Troy
District:	Southeast MI
Data Source:	Part 201
Latitude:	42.54636
Longitude:	-83.19245

D19 **CREATIVE CONCEPTS IN ADVERTISING** **MI INVENTORY** **S114033719**
ENE **1497 MAPLE LANE** **N/A**
1/8-1/4 **OAKLAND (County), MI**
0.152 mi.
802 ft. **Site 5 of 8 in cluster D**

Relative: **Lower**
Actual: **746 ft.**

INVENTORY:

Name:	CREATIVE CONCEPTS IN ADVERTISING
Address:	1497 MAPLE LANE
City,State,Zip:	MI
Bea Number:	199700259LV
Township:	Troy
District:	Southeast MI
Data Source:	BEA
Latitude:	42.54636
Longitude:	-83.19245

D20 **2100 EAST MAPLE ROAD, L.L.C.** **MI BEA** **S104912219**
ENE **1501 HALO DRIVE** **N/A**
1/8-1/4 **TROY, MI**
0.154 mi.
814 ft. **Site 6 of 8 in cluster D**

Relative: **Lower**
Actual: **746 ft.**

BEA:

Secondary Address:	Not reported
BEA Number:	864
District:	Southeast MI
Date Received:	03/12/1999
Submitter Name:	2100 EAST MAPLE ROAD, LLC
Petition Determination:	Affirmed
Petition Disclosure:	1
Category:	No Hazardous Substance(s)
Determination 20107A:	Denied
Reviewer:	temppm
Division Assigned:	Environmental Response Division

D21 **1501 HALO** **MI INVENTORY** **S114029126**
ENE **1501 HALO** **N/A**
1/8-1/4 **TROY, MI 48084**
0.154 mi.
814 ft. **Site 7 of 8 in cluster D**

Relative: **Lower**
Actual: **746 ft.**

INVENTORY:

Name:	1501 HALO
Address:	1501 HALO
City,State,Zip:	TROY, MI 48084
Bea Number:	Not reported
Township:	Troy
District:	Southeast MI
Data Source:	Part 201
Latitude:	42.54654
Longitude:	-83.19244

D22 **2100 EAST MAPLE ROAD, L.L.C.** **MI INVENTORY** **S114023756**
ENE **1501 HALO DRIVE** **N/A**
1/8-1/4 **OAKLAND (County), MI**
0.155 mi.
818 ft. **Site 8 of 8 in cluster D**

Relative: **Lower**
Actual: **746 ft.**

INVENTORY:

Name:	2100 EAST MAPLE ROAD, L.L.C.
Address:	1501 HALO DRIVE
City,State,Zip:	MI
Bea Number:	199900864LV
Township:	Troy
District:	Southeast MI
Data Source:	BEA
Latitude:	42.54654
Longitude:	-83.19244

C23 **ETON STREET BREWERY** **MI BEA** **S108488051**
South **563 AND 575 S. ETON STREET** **N/A**
1/8-1/4 **BIRMINGHAM, MI 48009**
0.164 mi.
865 ft. **Site 5 of 6 in cluster C**

Relative: **Lower**
Actual: **745 ft.**

BEA:

Secondary Address:	Not reported
BEA Number:	5086
District:	Southeast MI
Date Received:	02/22/2012
Submitter Name:	Eton Street Brewery, LLC
Petition Determination:	No Request
Petition Disclosure:	0
Category:	Not reported
Determination 20107A:	No Request
Reviewer:	berakr
Division Assigned:	RD

Secondary Address:	Not reported
BEA Number:	5087
District:	Southeast MI
Date Received:	02/22/2012
Submitter Name:	Eton Street Brewery Real Estate, LLC

ETON STREET BREWERY (Continued) **S108488051**

Petition Determination: No Request
Petition Disclosure: 0
Category: Not reported
Determination 20107A: No Request
Reviewer: berakr
Division Assigned: RD

Secondary Address: SE corner of Eton Street & Palmer Avenue
BEA Number: 3549
District: Southeast MI
Date Received: 05/03/2007
Submitter Name: EOP South, LLC
Petition Determination: Affirmed
Petition Disclosure: 1
Category: No Hazardous Substance(s)
Determination 20107A: No Request
Reviewer: wilsoncr
Division Assigned: Environmental Response Division

C24 **ETON STREET BREWERY** **MI INVENTORY** **S114034239**
South **563 AND 575 S. ETON ST.** **N/A**
1/8-1/4 **OAKLAND (County), MI 48009**
0.164 mi.
865 ft. **Site 6 of 6 in cluster C**

Relative: **Lower**
Actual: **745 ft.**

INVENTORY:
Name: ETON STREET BREWERY
Address: 563 AND 575 S. ETON STREET
City,State,Zip: MI 48009
Bea Number: 201205086LV
Township: Birmingham
District: Southeast MI
Data Source: BEA
Latitude: Not reported
Longitude: Not reported

Name: ETON STREET BREWERY
Address: 563 AND 575 S. ETON ST.
City,State,Zip: MI 48009
Bea Number: 201205087LV
Township: Birmingham
District: Southeast MI
Data Source: BEA
Latitude: Not reported
Longitude: Not reported

E25 **ETON CLEANERS** **MI DRYCLEANERS** **S125694182**
North **217 NORTH ETON** **N/A**
1/8-1/4 **BIRMINGHAM, MI 48009**
0.180 mi.
953 ft. **Site 1 of 2 in cluster E**

Relative: **Higher**
Actual: **752 ft.**

DRYCLEANERS:
Name: ETON CLEANERS
Address: 217 NORTH ETON
City,State,Zip: BIRMINGHAM, MI 48009

ETON CLEANERS (Continued) **S125694182**

fadd2:	Not reported
Facility Status:	Inactive
Establishment#:	6300255
DCM #:	Not reported
DCM Type:	Commercial
Total lb:	Not reported
Inspector:	Not reported
Last Insp Date:	Not reported

E26 **NORTH ETON CLEANERS** **RCRA-VSQG** **1000405793**
North **217 N ETON ST** **FINDS** **MID981782469**
1/8-1/4 **BIRMINGHAM, MI 48009** **ECHO**
0.185 mi. **RI MANIFEST**
975 ft. **Site 2 of 2 in cluster E**

Relative: **Higher**
Actual: **753 ft.**

RCRA-VSQG:

Date Form Received by Agency:		2002-08-15 00:00:00.0
Handler Name:	NORTH ETON CLEANERS	
Handler Address:		217 N ETON ST
Handler City,State,Zip:		BIRMINGHAM, MI 48009
EPA ID:		MID981782469
Contact Name:		GAREN DEMIRYAN
Contact Address:		217 N ETON ST
Contact City,State,Zip:		BIRMINGHAM, MI 48009
Contact Telephone:		313-649-5550
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		05
Land Type:		Private
Federal Waste Generator Description:		Conditionally Exempt Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		217 N ETON ST
Mailing City,State,Zip:		BIRMINGHAM, MI 48009
Owner Name:		GAREN DEMIRYAN
Owner Type:		Private
Operator Name:		GAREN DEMIRYAN
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported

NORTH ETON CLEANERS (Continued) **1000405793**

Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	GAREN DEMIRYAN
Legal Status:	Private
Date Became Current:	1990-10-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported

NORTH ETON CLEANERS (Continued) **1000405793**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GAREN DEMIRYAN
Legal Status: Private
Date Became Current: 1990-10-01 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GAREN DEMIRYAN
Legal Status: Private
Date Became Current: 1990-10-01 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: GAREN DEMIRYAN
Legal Status: Private
Date Became Current: 1990-10-01 00:00:00.
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 1986-09-16 00:00:00.0
Handler Name: NORTH ETON CLEANERS
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 2002-08-15 00:00:00.0
Handler Name: NORTH ETON CLEANERS
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported

NORTH ETON CLEANERS (Continued) **1000405793**

Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	81232
NAICS Description:	DRYCLEANING AND LAUNDRY SERVICES (EXCEPT COIN-OPERATED)

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

FINDS:

Registry ID:	110003622072

Click Here:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000405793
Registry ID:	110003622072
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003622072
Name:	NORTH ETON CLEANERS
Address:	217 N ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009

RI MANIFEST:

Name:	NORTH ETON CLEANERS
Address:	217 N ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009
EPA Id:	MID981782469
GEN Cert Date:	12/2/2010
Manifest Document Number:	003877822FLE
Waste Description:	TOXIC LIQUIDS ORGANIC NOS
TSDF Id:	RID084802842
TSDF Name:	SAFETY KLEEN
Qty:	250
WT/Vol Units:	P

NORTH ETON CLEANERS (Continued) **1000405793**

TSDF Date:	12/17/2010
Transporter 2 Id:	NJD071629976
Item Number:	1
Transporter 2 Name:	12/17/2010
Transporter Name 2:	SAFETY KLEEN
Transporter EPAID:	TXR000050930
Transporter Receipt Date:	12/2/2010
Number Of Containers:	1
Container Type:	DM
Waste Code1:	D007
Waste Code2:	D029
Waste Code3:	D039
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Fee Exempt Code:	Not reported
Comment:	Not reported
Transporter Name 2:	SJ TRANSPORTATION CO INC
Company Permit Number:	Not reported
Year:	Not reported
Quarter:	Not reported
Transporter Contact Name:	Not reported
Transporter Contact Email:	Not reported
Filing Date:	Not reported
Total Fee:	Not reported
Billing Name:	Not reported
Paid Date:	Not reported
Paid Time:	Not reported
Facility Receipt Date:	Not reported
Fee:	Not reported
Manifest Created Date:	Not reported
Manifest Updated Date:	Not reported

RI MANIFEST:

Transporter Receipt Date:	11/14/2011
Number Of Containers:	1
Container Type:	DM
Waste Code1:	D007
Waste Code2:	D029
Waste Code3:	D039
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	SAFETY KLEEN
TSDF Id:	RID084802842
Transporter Name 2:	SJ TRANSPORTATION CO INC
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	MID981782469
Manifest Docket Number:	003008906SKS
Quarter:	Not reported
Waste Description:	TOXIC LIQUIDS ORGANIC NOS
Transporter Contact Name:	Not reported
Quantity:	246
Transporter Contact Email:	Not reported
WT/Vol Units:	P

NORTH ETON CLEANERS (Continued) **1000405793**

Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	1
Transporter Name:	SAFETY KLEEN
Billing Name:	Not reported
Transporter EPA ID:	TXR000050930
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	11/14/2011
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	12/2/2011
Manifest Created Date:	Not reported
TSDF Receipt Date:	12/2/2011
Transporter 2 ID:	NJD071629976
Manifest Updated Date:	Not reported
Transporter Receipt Date:	12/2/2010
Number Of Containers:	1
Container Type:	DM
Waste Code1:	D007
Waste Code2:	D029
Waste Code3:	D039
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	SAFETY KLEEN
TSDF Id:	RID084802842
Transporter Name 2:	SJ TRANSPORTATION CO INC
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	MID981782469
Manifest Docket Number:	003877822FLE
Quarter:	Not reported
Waste Description:	TOXIC LIQUIDS ORGANIC NOS
Transporter Contact Name:	Not reported
Quantity:	250
Transporter Contact Email:	Not reported
WT/Vol Units:	P
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	1
Transporter Name:	SAFETY KLEEN
Billing Name:	Not reported
Transporter EPA ID:	TXR000050930
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	12/2/2010
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	12/17/2010
Manifest Created Date:	Not reported
TSDF Receipt Date:	12/17/2010
Transporter 2 ID:	NJD071629976
Manifest Updated Date:	Not reported

NORTH ETON CLEANERS (Continued) **1000405793**

Transporter Receipt Date:	12/2/2010
Number Of Containers:	1
Container Type:	DM
Waste Code1:	D007
Waste Code2:	D029
Waste Code3:	D039
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	SAFETY KLEEN
TSDF Id:	RID084802842
Transporter Name 2:	SJ TRANSPORTATION CO INC
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	MID981782469
Manifest Docket Number:	003877822FLE
Quarter:	Not reported
Waste Description:	TOXIC LIQUIDS ORGANIC NOS
Transporter Contact Name:	Not reported
Quantity:	250
Transporter Contact Email:	Not reported
WT/Vol Units:	P
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	1
Transporter Name:	SAFETY KLEEN
Billing Name:	Not reported
Transporter EPA ID:	TXR000050930
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	12/2/2010
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	12/17/2010
Manifest Created Date:	Not reported
TSDF Receipt Date:	12/17/2010
Transporter 2 ID:	NJD071629976
Manifest Updated Date:	Not reported

27
South
1/8-1/4
0.187 mi.
986 ft.

ETON ROAD PROPERTY **MI BEA** **S111120973**
563 THRU 635 SOUTH ETON STREET **N/A**
BIRMINGHAM, MI

Relative:
Lower

Actual:
745 ft.

BEA:

Secondary Address:	(563, 575, 581, 585, 595, 605 615 & 635)
BEA Number:	3495
District:	Southeast MI
Date Received:	03/14/2007
Submitter Name:	EOP South, LLC
Petition Determination:	Denied
Petition Disclosure:	1
Category:	No Hazardous Substance(s)
Determination 20107A:	No Request

ETON ROAD PROPERTY (Continued) **S111120973**

Reviewer: lebarj
Division Assigned: Environmental Response Division

28
East
1/8-1/4
0.195 mi.
1027 ft.

DETROIT EDISON HOLLAND SUBSTATION **MI BEA** **S109569536**
1485 MAPLE WAY DRIVE **N/A**
TROY, MI

Relative:
Lower

Actual:
745 ft.

BEA:
Secondary Address: Not reported
BEA Number: 4152
District: Southeast MI
Date Received: 03/23/2009
Submitter Name: DTE Energy
Petition Determination: No Request
Petition Disclosure: 0
Category: Different Hazardous Substance(s)
Determination 20107A: No Request
Reviewer: mathewsb
Division Assigned: RRD

29
ENE
1/8-1/4
0.216 mi.
1143 ft.

GRAND/SAKWA NEW HOLLAND, L.L.C. **MI INVENTORY** **S114035387**
2500 WEST MAPLE ROAD SOUTHERN THREE QUARTERS **N/A**
OAKLAND (County), MI

Relative:
Lower

Actual:
745 ft.

INVENTORY:
Name: GRAND/SAKWA NEW HOLLAND, L.L.C.
Address: 2500 WEST MAPLE ROAD SOUTHERN THREE QUARTERS
City,State,Zip: MI
Bea Number: 199901034LV
Township: Troy
District: Southeast MI
Data Source: BEA
Latitude: 42.54727
Longitude: -83.19151

30
SSE
1/8-1/4
0.221 mi.
1167 ft.

BIRMINGHAM LEGACY T FACILITY (M57049) **MI AST** **A100414203**
2203 HOLLAND ST **N/A**
BIRMINGHAM, MI 48009

Relative:
Lower

Actual:
746 ft.

AST:
Name: BIRMINGHAM LEGACY T FACILITY (M57049)
Address: 2203 HOLLAND ST
City: BIRMINGHAM
Zip: 48009-7810
Facility ID: 91085189
Tank ID Old: Not reported
Owner Name: AT&T MICHIGAN
Owner Address: 308 S AKARD STE 1700
Owner City,St,Zip: DALLAS, TX 75202

BIRMINGHAM LEGACY T FACILITY (M57049) (Continued) **A100414203**

District:	1
Date of Collection:	Not reported
Accuracy:	Not reported
Source:	Not reported
Point Line Area:	Not reported
Description Category:	Not reported
Method of Collection:	Not reported
Horizontal Datum:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Tank Id:	ATK-140701-15
Tank Status:	Currently In Use
Capacity (in gallons):	1500
Installation Date:	12/26/2013
Substance Stored:	Diesel
Removed/Closed Date:	Not reported

---

31 South 1/8-1/4 0.245 mi. 1294 ft.

ERB LUMBER CO INC
777 S ETON ST
BIRMINGHAM, MI 48009

MI LUST U000263027
MI UST N/A
MI WDS

Relative: Lower

Actual: 744 ft.

LUST:

Name:	ERB LUMBER CO INC
Address:	777 S ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009-
Facility ID:	00010852
Source:	STATE OF MICHIGAN
Owner Name:	ErbLumber Co
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Erb Lumber
Latitude:	42.54628
Longitude:	-83.19601
Date of Collection:	01/11/2001
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Leak Number:	C-0350-91
Release Date:	03/08/1991
Substance Released:	Not reported
Release Status:	Closed
Release Closed Date:	06/30/1994

UST:

Name:	ERB LUMBER CO INC
Address:	777 S ETON ST
City,State,Zip:	BIRMINGHAM 48009-6837

ERB LUMBER CO INC (Continued) **U000263027**

Facility Type:	CLOSED
Facility ID:	00010852
Facility Region:	Not reported
Owner Name:	ERB LUMBER CO
Owner Address:	2155 BUTTERFIELD DR STE 300
Owner City:	TROY
Owner State:	MI
Owner Zip:	48084-3452
Owner Contact:	Not reported
Owner Phone:	2486146200
Contact:	JOHN DOROSZ
Contact Phone:	(313) 644-5300
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	2000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	05/02/1981
Remove Date:	09/30/1991
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54628
Longitude:	-83.19601

WDS:

Name:	ERB LUMBER
Address:	777 S ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009
Site Id:	MIG000033286
WMD Id:	446877
Site Specific Name:	ERB LUMBER
Mailing Address:	777 S ETON ST
Mailing City/State/Zip:	48009
Mailing County:	OAKLAND

F32 **BIRMINGHAM PUBLIC SCHOOLS TRANSPORTATION FACILITY** **MI LUST** **U003835402**
SSE **2205 HOLLAND ST** **MI UST** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009** **MI Financial Assurance**
0.272 mi.
1434 ft. **Site 1 of 3 in cluster F**

Relative:
Lower

Actual:
742 ft.

LUST:

Name:	BIRMINGHAM PUBLIC SCHOOLS TRANSPORTATION FACILITY
Address:	2205 HOLLAND ST
City,State,Zip:	BIRMINGHAM, MI 48009-
Facility ID:	00007708
Source:	STATE OF MICHIGAN
Owner Name:	BirminghamPublic Schools
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Express Fueling
Latitude:	42.54185
Longitude:	-83.19457
Date of Collection:	01/11/2001
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Leak Number:	C-0577-99
Release Date:	06/15/1999
Substance Released:	Unknown
Release Status:	Closed
Release Closed Date:	10/22/1999

UST:

Name:	BIRMINGHAM PUBLIC SCHOOLS TRANSPORTATION FACILITY
Address:	2205 HOLLAND ST
City,State,Zip:	BIRMINGHAM 48009-7810
Facility Type:	ACTIVE
Facility ID:	00007708
Facility Region:	Not reported
Owner Name:	BIRMINGHAM PUBLIC SCHOOLS
Owner Address:	2305 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48009
Owner Contact:	Not reported
Owner Phone:	2482033977
Contact:	Steve King
Contact Phone:	(248) 203-3983
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number

BIRMINGHAM PUBLIC SCHOOLS TRANSPORTATION FACILITY (Continued) **U003835402**

District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	20000
Tank Status:	Currently In Use
Substance:	Diesel,Gasoline
Install Date:	02/04/2001
Remove Date:	Not reported
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54185
Longitude:	-83.19457

Name:	BIRMINGHAM PUBLIC SCHOOLS TRANSPORTATION FACILITY
Address:	2205 HOLLAND ST
City,State,Zip:	BIRMINGHAM 48009-7810
Facility Type:	ACTIVE
Facility ID:	00007708
Facility Region:	Not reported
Owner Name:	BIRMINGHAM PUBLIC SCHOOLS
Owner Address:	2305 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48009
Owner Contact:	Not reported
Owner Phone:	2482033977
Contact:	Steve King
Contact Phone:	(248) 203-3983
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	10000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	03/21/1966
Remove Date:	05/14/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54185

BIRMINGHAM PUBLIC SCHOOLS TRANSPORTATION FACILITY (Continued) **U003835402**

Longitude: -83.19457

FINANCIAL ASSURANCE 3:

Name:	BIRMINGHAM PUBLIC SCHOOLS TRANSPORTATION FACILI
Address:	2205 HOLLAND ST
City,State,Zip:	BIRMINGHAM, MI 48009-7810
Facility ID:	00007708
Exempt:	No
Expiration Date:	10/27/2021
Bond Rating Tests:	Not reported
Commerical Insurance:	Not reported
Guarantee:	Not reported
Letter of Credit:	Not reported
Risk Retention Group:	Not reported
Self Insurance:	Not reported
State Funds:	CHECKED
Surety Bond:	Not reported
Trust Funds:	Not reported
Year:	2020

F33 **DURHAM SCHOOL SERVICES - BIRMINGHAM** **MI INVENTORY** **S105095045**
SSE **2205 HOLLAND STREET** **MI BEA** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009** **MI NPDES**
0.272 mi. **MI WDS**
1434 ft. **Site 2 of 3 in cluster F**

Relative:
Lower

Actual:
742 ft.

INVENTORY:

Name:	RKA PETROLEUM/MARATHON OIL (FORMER)
Address:	2205 HOLLAND AVENUE
City,State,Zip:	MI 48009
Bea Number:	200101433LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	Not reported
Longitude:	Not reported

BEA:

Secondary Address:	Not reported
BEA Number:	1433
District:	Southeast MI
Date Received:	07/18/2001
Submitter Name:	BIRMINGHAM PUBLIC SCHOOLS
Petition Determination:	Affirmed
Petition Disclosure:	1
Category:	Same Hazardous Substance(s)
Determination 20107A:	Affirmed
Reviewer:	labrecqd
Division Assigned:	Environmental Response Division

MI NPDES:

Name:	DURHAM SCHOOL SERVICES - BIRMINGHAM
Address:	2205 HOLLAND STREET
City,State,Zip:	BIRMINGHAM, MI 48009
Permit Number:	NEC186605
Permitee PO Box:	Not reported

DURHAM SCHOOL SERVICES - BIRMINGHAM (Continued) **S105095045**

Permitee Email:	Not reported
Issue Date:	03/07/2017
Effective Date:	03/07/2017
Expiration Date:	03/06/2022
Permittee Name:	National Express, LLC for Durham School Services
Permittee Address:	4300 Weaver Parkway
Permittee Addr2:	Not reported
Permittee City,St,Zip:	Warrenville, IL 60555
Permit Type:	NPDES Industrial Storm Water No Exposure Certificate (NEC)
Facility Name 2:	Not reported
Facility Name 3:	Not reported
Facility Name 4:	Not reported
Designed Name:	Not reported
Latitude:	42.542788521
Lat Direction:	Not reported
Lat Type Code:	Not reported
Longitude:	-83.192930116
Lon Direction:	Not reported
Lon Type Code:	Not reported
Hydrologic Unit Code:	Not reported
Permit Status:	In Effect
COC Permit Category:	Not reported
DEQ District Email:	Warren
DEQ Permit Compliance Manager:	Ryan Schwarb
DEQ Permit Compliance Manager Email:	schwarbr@michigan.gov

WDS:

Name:	BIRMINGHAM SCHOOLS
Address:	2205 HOLLAND ST
City,State,Zip:	BIRMINGHAM, MI 48009
Site Id:	MID985637602
WMD Id:	406970
Site Specific Name:	BPS TRANSPORTATION
Mailing Address:	2305 COLE ST
Mailing City/State/Zip:	48009
Mailing County:	OAKLAND

Name:	MARATHON PETROLEUM COMPANY LLC
Address:	2205 HOLLAND ST
City,State,Zip:	BIRMINGHAM, MI 48009
Site Id:	MIG000009282
WMD Id:	457294
Site Specific Name:	MARATHON OIL CO
Mailing Address:	2205 HOLLAND ST
Mailing City/State/Zip:	48009
Mailing County:	OAKLAND

F34 **BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES** **MI LUST** **U000263066**
SSE **851 S ETON ST** **MI UST** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009** **MI Financial Assurance**
0.303 mi.
1602 ft. **Site 3 of 3 in cluster F**

Relative: LUST:
Lower

Name:	BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES
Address:	851 S ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009-

Actual:
741 ft.

BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES (Continued) **U000263066**

Facility ID:	00006622
Source:	STATE OF MICHIGAN
Owner Name:	Cityof Birmingham
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Birmingham, City Of
Latitude:	42.54066
Longitude:	-83.19558
Date of Collection:	01/11/2001
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)

Leak Number:	C-0275-91
Release Date:	02/26/1991
Substance Released:	Not reported
Release Status:	Closed
Release Closed Date:	11/22/1994

UST:

Name:	BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES
Address:	851 S ETON ST
City,State,Zip:	BIRMINGHAM 48009-6870
Facility Type:	ACTIVE
Facility ID:	00006622
Facility Region:	Not reported
Owner Name:	CITY OF BIRMINGHAM
Owner Address:	151 MARTIN ST PO BOX 3001
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48012-3001
Owner Contact:	Not reported
Owner Phone:	2486441800
Contact:	Not reported
Contact Phone:	Not reported
Date of Collection:	Not reported
Accuracy:	Not reported
Horizontal Datum:	Not reported
Accuracy Value Unit:	Not reported
Source:	Not reported
Point Line Area:	Not reported
Desc Category:	Not reported
Method of Collection:	Not reported
District:	Not reported
Tank ID:	DPS-003
Capacity:	5929
Tank Status:	Currently In Use
Substance:	Diesel
Install Date:	01/29/1987
Remove Date:	Not reported
Tank Number:	Not reported

BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES (Continued) **U000263066**

Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Name:	BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES
Address:	851 S ETON ST
City,State,Zip:	BIRMINGHAM 48009-6870
Facility Type:	ACTIVE
Facility ID:	00006622
Facility Region:	Not reported
Owner Name:	CITY OF BIRMINGHAM
Owner Address:	151 MARTIN ST PO BOX 3001
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48012-3001
Owner Contact:	Not reported
Owner Phone:	2486441800
Contact:	Not reported
Contact Phone:	Not reported
Date of Collection:	Not reported
Accuracy:	Not reported
Horizontal Datum:	Not reported
Accuracy Value Unit:	Not reported
Source:	Not reported
Point Line Area:	Not reported
Desc Category:	Not reported
Method of Collection:	Not reported
District:	Not reported
Tank ID:	DPS-002
Capacity:	5000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	02/20/1979
Remove Date:	02/26/1991
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Name:	BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES
Address:	851 S ETON ST
City,State,Zip:	BIRMINGHAM 48009-6870
Facility Type:	ACTIVE
Facility ID:	00006622
Facility Region:	Not reported

BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES (Continued) **U000263066**

Owner Name:	CITY OF BIRMINGHAM
Owner Address:	151 MARTIN ST PO BOX 3001
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48012-3001
Owner Contact:	Not reported
Owner Phone:	2486441800
Contact:	Not reported
Contact Phone:	Not reported
Date of Collection:	Not reported
Accuracy:	Not reported
Horizontal Datum:	Not reported
Accuracy Value Unit:	Not reported
Source:	Not reported
Point Line Area:	Not reported
Desc Category:	Not reported
Method of Collection:	Not reported
District:	Not reported
Tank ID:	DPS-001A
Capacity:	11627
Tank Status:	Currently In Use
Substance:	Gasoline
Install Date:	01/29/1987
Remove Date:	Not reported
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Name:	BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES
Address:	851 S ETON ST
City,State,Zip:	BIRMINGHAM 48009-6870
Facility Type:	ACTIVE
Facility ID:	00006622
Facility Region:	Not reported
Owner Name:	CITY OF BIRMINGHAM
Owner Address:	151 MARTIN ST PO BOX 3001
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48012-3001
Owner Contact:	Not reported
Owner Phone:	2486441800
Contact:	Not reported
Contact Phone:	Not reported
Date of Collection:	Not reported
Accuracy:	Not reported
Horizontal Datum:	Not reported
Accuracy Value Unit:	Not reported
Source:	Not reported
Point Line Area:	Not reported
Desc Category:	Not reported

BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES (Continued) **U000263066**

Method of Collection:	Not reported
District:	Not reported
Tank ID:	DPS-001
Capacity:	10000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	02/19/1962
Remove Date:	01/01/1987
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	Not reported
Longitude:	Not reported

FINANCIAL ASSURANCE 3:

Name:	BIRMINGHAM DEPARTMENT OF PUBLIC SERVICES
Address:	851 S ETON ST
City,State,Zip:	BIRMINGHAM, MI 48009-6870
Facility ID:	00006622
Exempt:	No
Expiration Date:	08/21/2020
Bond Rating Tests:	Not reported
Commerical Insurance:	CHECKED
Guarantee:	Not reported
Letter of Credit:	Not reported
Risk Retention Group:	Not reported
Self Insurance:	Not reported
State Funds:	Not reported
Surety Bond:	Not reported
Trust Funds:	Not reported
Year:	2019

35
East
1/4-1/2
0.315 mi.
1663 ft.

FORD NEW HOLLAND (FORMER) **MI INVENTORY** **S120852257**
1333 COOLIDGE & 1485 MAPLE WAY DRIVE SW CORNER OF MAPLE & CO **N/A**
TROY, MI 48084

Relative:
Lower

Actual:
740 ft.

INVENTORY:

Name:	FORD NEW HOLLAND (FORMER)
Address:	1333 COOLIDGE & 1485 MAPLE WAY DRIVE SW CORNER OF MAPLE & COOLIDGE
City,State,Zip:	TROY, MI 48084
Bea Number:	Not reported
Township:	Not reported
District:	Southeast MI
Data Source:	Part 201
Latitude:	42.54503
Longitude:	-83.18925

36
SSE
1/4-1/2
0.333 mi.
1758 ft.

MERCEDES-BENZ OF BLOOMFIELD, INC.
2200 HOLLAND STREET
OAKLAND (County), MI 48009

MI INVENTORY **S117731925**
N/A

Relative:
Lower

Actual:
740 ft.

INVENTORY:

Name:	MERCEDES-BENZ OF BLOOMFIELD, INC.
Address:	2200 HOLLAND STREET
City,State,Zip:	MI 48009
Bea Number:	201506314LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	Not reported
Longitude:	Not reported

Name:	MERCEDES-BENZ OF BLOOMFIELD, INC.
Address:	2200 HOLLAND STREET
City,State,Zip:	MI 48009
Bea Number:	201506313LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	Not reported
Longitude:	Not reported

G37
South
1/4-1/2
0.368 mi.
1942 ft.

DE STA CO
2121 COLE ST
BIRMINGHAM, MI 48009

Site 1 of 6 in cluster G

MI INVENTORY **S108488085**
MI BEA **N/A**
MI WDS

Relative:
Lower

Actual:
739 ft.

INVENTORY:

Name:	LIGHT INDUSTRIAL PROPERTY
Address:	2121 COLE STREET
City,State,Zip:	MI 48009
Bea Number:	200703529LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	Not reported
Longitude:	Not reported

BEA:

Secondary Address:	Not reported
BEA Number:	3529
District:	Southeast MI
Date Received:	04/16/2007
Submitter Name:	Cole Business Center III, LLC
Petition Determination:	Affirmed
Petition Disclosure:	1
Category:	No Hazardous Substance(s)
Determination 20107A:	No Request
Reviewer:	tiernang
Division Assigned:	Environmental Response Division

WDS:

Name:	DE STA CO

DE STA CO (Continued) **S108488085**

Address:	2121 COLE ST
City,State,Zip:	BIRMINGHAM, MI 48009
Site Id:	MID982614786
WMD Id:	401294
Site Specific Name:	DE STA CO
Mailing Address:	2121 COLE ST
Mailing City/State/Zip:	48009
Mailing County:	OAKLAND

---

38 **2006 COLE** **MI INVENTORY** **S114028934**
South **2006 COLE** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.381 mi.
2011 ft.

Relative: **Lower**
Actual: **740 ft.**

INVENTORY:

Name:	COLE STREET HOLDINGS I, LLC
Address:	2006 COLE STREET
City,State,Zip:	MI 48009
Bea Number:	201607129LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	42.53984
Longitude:	-83.1947

Name:	2006 COLE
Address:	2006 COLE
City,State,Zip:	BIRMINGHAM, MI 48009
Bea Number:	Not reported
Township:	Birmingham
District:	Southeast MI
Data Source:	Part 201
Latitude:	42.53984
Longitude:	-83.1947

Name:	2006 COLE STREET
Address:	2006 COLE STREET
City,State,Zip:	MI 48009
Bea Number:	201808224LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	42.53984
Longitude:	-83.1947

G39 **2006-2010 COLE STREET** **US BROWNFIELDS** **1024456102**
South **2006-2010 COLE STREET** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.390 mi.
2061 ft. **Site 2 of 6 in cluster G**

Relative: **Lower**
Actual: **740 ft.**

US BROWNFIELDS:

Name:	2006-2010 COLE STREET
Address:	2006-2010 COLE STREET
City,State,Zip:	BIRMINGHAM, MI 48009

2006-2010 COLE STREET (Continued) **1024456102**

Recipient Name:	Oakland County Michigan
Grant Type:	Assessment
Property Number:	20-31-252-013, 20-31-252-010
Parcel size:	1.01
Latitude:	42.5398493
Longitude:	-83.1942887
HCM Label:	-
Map Scale:	-
Point of Reference:	-
Highlights:	-
Datum:	-
Acres Property ID:	236472
IC Data Access:	-
Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	10570
Assessment Funding Source:	LPH Ventures, LLC
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	Private/Other Funding
Cleanup Funding Entity:	-
Grant Type:	Hazardous
Accomplishment Type:	Phase II Environmental Assessment
Accomplishment Count:	N
Cooperative Agreement Number:	00E02004
Start Date:	04/05/2018
Ownership Entity:	Private
Completion Date:	-
Current Owner:	-
Did Owner Change:	-
Cleanup Required:	Y
Video Available:	N
Photo Available:	Y
Institutional Controls Required:	N
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	-
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	N
State/tribal program date:	-
State/tribal program ID:	-
State/tribal NFA date:	-
Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	Y

2006-2010 COLE STREET (Continued) **1024456102**

Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-
No media affected:	Not reported
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	Y
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	Y
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	Y
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	Y
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	-
Past use industrial acreage:	1.01
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	1.01
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-
Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-
Arsenic contaminant found:	-
Cadmium contaminant found:	-
Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-

2006-2010 COLE STREET (Continued) **1024456102**

SVOCs contaminant found:	-
Unknown contaminant found:	-
Future Use: Multistory	-
Media affected Bluiding Material:	-
Media affected indoor air:	Y
Building material media cleaned up:	-
Indoor air media cleaned up:	-
Unknown media cleaned up:	-
Past Use: Multistory	Not reported
Property Description:	Review of standard and historical sources documented that the subject property was developed with the current eastern building (2010 Cole Street) in the 1950s, on previously vacant land, with portions of the building demolished in the early 2010s. The current western building (2006 Cole Street), was constructed in 1965, with an addition constructed in 1999. The eastern subject building was occupied by a solvent warehouse and chemical company from the mid-1950s to the early 2000s, various general warehouse, commercial, and office operations from the mid-2000s to 2017, and has been vacant since 2018. The western subject building was occupied by a post office from 1965 to at least 1969, various laboratory, manufacturing, chemical, and paint operations from at least 1974 to 1990, and has been occupied by the current construction company since at least 1998.
Below Poverty Number:	97
Below Poverty Percent:	3.1
Meidan Income:	9720
Meidan Income Number:	446
Meidan Income Percent:	14.27
Vacant Housing Number:	190
Vacant Housing Percent:	10.69
Unemployed Number:	147
Unemployed Percent:	4.7

Name:	2006-2010 COLE STREET
Address:	2006-2010 COLE STREET
City,State,Zip:	BIRMINGHAM, MI 48009
Recipient Name:	Oakland County Michigan
Grant Type:	Assessment
Property Number:	20-31-252-013, 20-31-252-010
Parcel size:	1.01
Latitude:	42.5398493
Longitude:	-83.1942887
HCM Label:	-
Map Scale:	-
Point of Reference:	-
Highlights:	-
Datum:	-
Acres Property ID:	236472
IC Data Access:	-
Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	4500
Assessment Funding Source:	EPA
Redevelopment Funding:	-

2006-2010 COLE STREET (Continued) **1024456102**

Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	US EPA - Brownfields Assessment Cooperative Agreement
Cleanup Funding Entity:	-
Grant Type:	Hazardous
Accomplishment Type:	Phase II Environmental Assessment
Accomplishment Count:	N
Cooperative Agreement Number:	00E02004
Start Date:	02/16/2018
Ownership Entity:	Private
Completion Date:	04/16/2018
Current Owner:	-
Did Owner Change:	-
Cleanup Required:	Y
Video Available:	N
Photo Available:	Y
Institutional Controls Required:	N
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	-
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	N
State/tribal program date:	-
State/tribal program ID:	-
State/tribal NFA date:	-
Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	Y
Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-
No media affected:	Not reported
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	Y
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	Y
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	Y
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	Y

2006-2010 COLE STREET (Continued) **1024456102**

VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	-
Past use industrial acreage:	1.01
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	1.01
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-
Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-
Arsenic contaminant found:	-
Cadmium contaminant found:	-
Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-
SVOCs contaminant found:	-
Unknown contaminant found:	-
Future Use: Multistory	-
Media affected Bluiding Material:	-
Media affected indoor air:	Y
Building material media cleaned up:	-
Indoor air media cleaned up:	-
Unknown media cleaned up:	-
Past Use: Multistory	Not reported
Property Description:	Review of standard and historical sources documented that the subject property was developed with the current eastern building (2010 Cole Street) in the 1950s, on previously vacant land, with portions of the building demolished in the early 2010s. The current western building (2006 Cole Street), was constructed in 1965, with an addition constructed in 1999. The eastern subject building was occupied by a solvent warehouse and chemical company from the mid-1950s to the early 2000s, various general warehouse, commercial, and office operations from the mid-2000s to 2017, and has been vacant since 2018. The western subject building was occupied by a post office from 1965 to at least 1969, various laboratory, manufacturing, chemical, and paint operations from at least 1974 to 1990, and has been occupied by the current construction company since at least 1998.

2006-2010 COLE STREET (Continued) **1024456102**

Below Poverty Number:	97
Below Poverty Percent:	3.1
Meidan Income:	9720
Meidan Income Number:	446
Meidan Income Percent:	14.27
Vacant Housing Number:	190
Vacant Housing Percent:	10.69
Unemployed Number:	147
Unemployed Percent:	4.7
Name:	2006-2010 COLE STREET
Address:	2006-2010 COLE STREET
City,State,Zip:	BIRMINGHAM, MI 48009
Recipient Name:	Oakland County Michigan
Grant Type:	Assessment
Property Number:	20-31-252-013, 20-31-252-010
Parcel size:	1.01
Latitude:	42.5398493
Longitude:	-83.1942887
HCM Label:	-
Map Scale:	-
Point of Reference:	-
Highlights:	-
Datum:	-
Acres Property ID:	236472
IC Data Access:	-
Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	2800
Assessment Funding Source:	EPA
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	US EPA - Brownfields Assessment Cooperative Agreement
Cleanup Funding Entity:	-
Grant Type:	Hazardous
Accomplishment Type:	Phase I Environmental Assessment
Accomplishment Count:	Y
Cooperative Agreement Number:	00E02004
Start Date:	02/16/2018
Ownership Entity:	Private
Completion Date:	04/06/2018
Current Owner:	-
Did Owner Change:	-
Cleanup Required:	Y
Video Available:	N
Photo Available:	Y
Institutional Controls Required:	N
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	-
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-

2006-2010 COLE STREET (Continued) **1024456102**

IC in place date:	-
IC in place:	N
State/tribal program date:	-
State/tribal program ID:	-
State/tribal NFA date:	-
Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	Y
Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-
No media affected:	Not reported
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	Y
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	Y
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	Y
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	Y
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	-
Past use industrial acreage:	1.01
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	1.01
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-

2006-2010 COLE STREET (Continued) **1024456102**

Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-
Arsenic contaminant found:	-
Cadmium contaminant found:	-
Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-
SVOCs contaminant found:	-
Unknown contaminant found:	-
Future Use: Multistory	-
Media affected Bluiding Material:	-
Media affected indoor air:	Y
Building material media cleaned up:	-
Indoor air media cleaned up:	-
Unknown media cleaned up:	-
Past Use: Multistory	Not reported
Property Description:	Review of standard and historical sources documented that the subject property was developed with the current eastern building (2010 Cole Street) in the 1950s, on previously vacant land, with portions of the building demolished in the early 2010s. The current western building (2006 Cole Street), was constructed in 1965, with an addition constructed in 1999. The eastern subject building was occupied by a solvent warehouse and chemical company from the mid-1950s to the early 2000s, various general warehouse, commercial, and office operations from the mid-2000s to 2017, and has been vacant since 2018. The western subject building was occupied by a post office from 1965 to at least 1969, various laboratory, manufacturing, chemical, and paint operations from at least 1974 to 1990, and has been occupied by the current construction company since at least 1998.
Below Poverty Number:	97
Below Poverty Percent:	3.1
Meidan Income:	9720
Meidan Income Number:	446
Meidan Income Percent:	14.27
Vacant Housing Number:	190
Vacant Housing Percent:	10.69
Unemployed Number:	147
Unemployed Percent:	4.7

G40 **FISHER PROPERTIES, L.L.C.** **MI BEA** **S104912014**
South **2006 COLE STREET** **N/A**
1/4-1/2 **BIRMINGHAM, MI**
0.390 mi.
2061 ft. **Site 3 of 6 in cluster G**

Relative: **Lower**
Actual: **740 ft.**

BEA:

Secondary Address:	Not reported
BEA Number:	756
District:	Southeast MI
Date Received:	10/29/1998
Submitter Name:	CARNOVALE ASSOCIATES, INC.
Petition Determination:	No Request

FISHER PROPERTIES, L.L.C. (Continued) **S104912014**

Petition Disclosure: 0
Category: No Hazardous Substance(s)
Determination 20107A: No Request
Reviewer: temppm
Division Assigned: Environmental Response Division

Secondary Address: Not reported
BEA Number: 742
District: Southeast MI
Date Received: 10/14/1998
Submitter Name: FISHER PROPERTIES, L.L.C.
Petition Determination: Affirmed
Petition Disclosure: 1
Category: No Hazardous Substance(s)
Determination 20107A: Affirmed
Reviewer: temppm
Division Assigned: Environmental Response Division

G41 **TECHSYS INC** **MI INVENTORY** **S111138142**
South **2010 COLE ST** **MI WDS** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.391 mi.
2067 ft. **Site 4 of 6 in cluster G**

Relative:
Lower

Actual:
740 ft.

INVENTORY:
Name: 2010 COLE STREET
Address: 2010 COLE STREET
City,State,Zip: MI 48009
Bea Number: 201607332LV
Township: Birmingham
District: Southeast MI
Data Source: BEA
Latitude: Not reported
Longitude: Not reported

Name: 2010 COLE STREET
Address: 2010 COLE STREET
City,State,Zip: MI 48009
Bea Number: 201808197LV
Township: Birmingham
District: Southeast MI
Data Source: BEA
Latitude: Not reported
Longitude: Not reported

WDS:
Name: CHEMICO SYSTEMS INC
Address: 2010 COLE ST
City,State,Zip: BIRMINGHAM, MI 48009
Site Id: MID005345137
WMD Id: 393324
Site Specific Name: CHEMICO SYSTEMS INC
Mailing Address: 50725 RICHARD WEST BLVD
Mailing City/State/Zip: 48051
Mailing County: MACOMB

Name: TECHSYS INC

TECHSYS INC (Continued) **S111138142**

Address: 2010 COLE ST
City,State,Zip: BIRMINGHAM, MI 48009
Site Id: MIK376844817
WMD Id: 479307
Site Specific Name: TECHSYS INC
Mailing Address: 2010 COLE ST
Mailing City/State/Zip: 48009
Mailing County: OAKLAND

G42 **CARNOVALE ASSOCIATES, INC.** **MI INVENTORY** **S114033178**
South **2006 COLE STREET** **N/A**
1/4-1/2 **OAKLAND (County), MI**
0.400 mi.
2110 ft. **Site 5 of 6 in cluster G**

Relative: **Lower**
Actual: **740 ft.**

INVENTORY:
Name: CARNOVALE ASSOCIATES, INC.
Address: 2006 COLE STREET
City,State,Zip: MI
Bea Number: 199800756LV
Township: Birmingham
District: Southeast MI
Data Source: BEA
Latitude: 42.53984
Longitude: -83.1947

G43 **FISHER PROPERTIES, L.L.C.** **MI INVENTORY** **S114034368**
South **2006 COLE STREET** **N/A**
1/4-1/2 **OAKLAND (County), MI**
0.400 mi.
2110 ft. **Site 6 of 6 in cluster G**

Relative: **Lower**
Actual: **740 ft.**

INVENTORY:
Name: FISHER PROPERTIES, L.L.C.
Address: 2006 COLE STREET
City,State,Zip: MI
Bea Number: 199800742LV
Township: Birmingham
District: Southeast MI
Data Source: BEA
Latitude: 42.53984
Longitude: -83.1947

---

44 **SCHLEEDE HAMPTON ASSOCIATION** **MI INVENTORY** **S111936837**
SSE **2254 COLE ST** **MI WDS** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.401 mi.
2119 ft.

Relative: **Lower**
Actual: **739 ft.**

INVENTORY:
Name: COLE BUSINESS CENTER IV, LLC
Address: 2254 COLE STREET
City,State,Zip: MI 48009
Bea Number: 201506773LV
Township: Birmingham

SCHLEEDE HAMPTON ASSOCIATION (Continued) **S111936837**

District: Southeast MI
Data Source: BEA
Latitude: Not reported
Longitude: Not reported

WDS:
Name: SCHLEEDE HAMPTON ASSOCIATION
Address: 2254 COLE ST
City,State,Zip: BIRMINGHAM, MI 48009
Site Id: MID981794068
WMD Id: 400251
Site Specific Name: SCHLEEDE HAMPTON ASSOC
Mailing Address: 975 E MAPLE RD
Mailing City/State/Zip: 48009
Mailing County: OAKLAND

---

45 **US POSTAL FACILITY** **MI LUST** **U002302655**
SSE **2330 COLE ST** **MI UST** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009** **MI WDS**
0.409 mi.
2162 ft.

Relative:
Lower

Actual:
738 ft.

LUST:
Name: US POSTAL FACILITY
Address: 2330 COLE ST
City,State,Zip: BIRMINGHAM, MI 48009-
Facility ID: 00009759
Source: STATE OF MICHIGAN
Owner Name: MichaelsRealty Inc
Owner Address: Not reported
Owner City,St,Zip: UNKNOWN, MI
Owner Contact: Not reported
Owner Phone: Not reported
Country: USA
District: Warren
Site Name: US Post Office - Birmingham
Latitude: 42.54005
Longitude: -83.19257
Date of Collection: 01/11/2001
Method of Collection: Address Matching-House Number
Accuracy: 100
Accuracy Value Unit: FEET
Horizontal Data: NAD83
Point Line Area: POINT
Desc Category: Plant Entrance (Freight)

Leak Number: C-0283-91
Release Date: 02/27/1991
Substance Released: Not reported
Release Status: Closed
Release Closed Date: 04/10/1996

UST:
Name: US POSTAL FACILITY
Address: 2330 COLE ST
City,State,Zip: BIRMINGHAM 48009-7030
Facility Type: CLOSED
Facility ID: 00009759

US POSTAL FACILITY (Continued) **U002302655**

Facility Region:	Not reported
Owner Name:	MICHAELS REALTY INC
Owner Address:	16155 W 12 MILE RD
Owner City:	SOUTHFIELD
Owner State:	MI
Owner Zip:	48076
Owner Contact:	Not reported
Owner Phone:	3135570770
Contact:	HERBERT CHERNICK
Contact Phone:	(248) 557-0770
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	500
Tank Status:	Removed from Ground
Substance:	Used Oil
Install Date:	04/25/1959
Remove Date:	08/03/1993
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54005
Longitude:	-83.19257

Name:	US POSTAL FACILITY
Address:	2330 COLE ST
City,State,Zip:	BIRMINGHAM 48009-7030
Facility Type:	CLOSED
Facility ID:	00009759
Facility Region:	Not reported
Owner Name:	MICHAELS REALTY INC
Owner Address:	16155 W 12 MILE RD
Owner City:	SOUTHFIELD
Owner State:	MI
Owner Zip:	48076
Owner Contact:	Not reported
Owner Phone:	3135570770
Contact:	HERBERT CHERNICK
Contact Phone:	(248) 557-0770
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT

US POSTAL FACILITY (Continued) **U002302655**

Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	6000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	04/25/1959
Remove Date:	08/01/1993
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54005
Longitude:	-83.19257

WDS:

Name:	US POSTAL SERVICE
Address:	2330 COLE ST
City,State,Zip:	BIRMINGHAM, MI 48009
Site Id:	MI5180090362
WMD Id:	391947
Site Specific Name:	US POSTAL SERVICE
Mailing Address:	2360 BELLINGHAM DR
Mailing City/State/Zip:	48083
Mailing County:	OAKLAND

H46 **BIRMINGHAM SCHOOLS** **MI INVENTORY** **S111141927**
South **2125 E LINCOLN ST** **MI WDS** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.439 mi.
2318 ft. **Site 1 of 5 in cluster H**

Relative:
Lower

Actual:
740 ft.

INVENTORY:

Name:	LINCOLN STATION, LLC
Address:	2125 E. LINCOLN STREET
City,State,Zip:	MI 48009
Bea Number:	201606963LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	Not reported
Longitude:	Not reported

WDS:

Name:	BIRMINGHAM SCHOOLS
Address:	2125 E LINCOLN ST
City,State,Zip:	BIRMINGHAM, MI 48009
Site Id:	MIG000020988
WMD Id:	452710
Site Specific Name:	BIRMINGHAM SCHOOLS
Mailing Address:	2125 E LINCOLN ST
Mailing City/State/Zip:	48009

BIRMINGHAM SCHOOLS (Continued) **S111141927**

Mailing County: OAKLAND

H47 **TRANSPORTATION CENTER** **MI LUST** **U000262036**
South **2125 E LINCOLN ST** **MI UST** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.439 mi.
2318 ft. **Site 2 of 5 in cluster H**

Relative: **Lower**
Actual: **740 ft.**

LUST:

Name:	TRANSPORTATION CENTER
Address:	2125 E LINCOLN ST
City,State,Zip:	BIRMINGHAM, MI 48009-
Facility ID:	00006418
Source:	STATE OF MICHIGAN
Owner Name:	BirminghamPublic Schools
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Public School Bus Garage
Latitude:	42.53921
Longitude:	-83.19396
Date of Collection:	01/11/2001
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Leak Number:	C-1047-92
Release Date:	06/24/1992
Substance Released:	Gasoline,Diesel
Release Status:	Closed
Release Closed Date:	12/10/2010

UST:

Name:	TRANSPORTATION CENTER
Address:	2125 E LINCOLN ST
City,State,Zip:	BIRMINGHAM 48009-7702
Facility Type:	CLOSED
Facility ID:	00006418
Facility Region:	Not reported
Owner Name:	BIRMINGHAM PUBLIC SCHOOLS
Owner Address:	2305 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48009
Owner Contact:	Not reported
Owner Phone:	2482033977
Contact:	Steve King
Contact Phone:	(248) 203-3977
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET

TRANSPORTATION CENTER (Continued) **U000262036**

Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	4
Capacity:	10000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	08/07/1992
Remove Date:	04/01/2010
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.53921
Longitude:	-83.19396

Name:	TRANSPORTATION CENTER
Address:	2125 E LINCOLN ST
City,State,Zip:	BIRMINGHAM 48009-7702
Facility Type:	CLOSED
Facility ID:	00006418
Facility Region:	Not reported
Owner Name:	BIRMINGHAM PUBLIC SCHOOLS
Owner Address:	2305 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48009
Owner Contact:	Not reported
Owner Phone:	2482033977
Contact:	Steve King
Contact Phone:	(248) 203-3977
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	3
Capacity:	10000
Tank Status:	Removed from Ground
Substance:	Other(Unleaded Gasoline)
Install Date:	08/07/1992
Remove Date:	04/01/2010
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported

TRANSPORTATION CENTER (Continued) **U000262036**

Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.53921
Longitude:	-83.19396

Name:	TRANSPORTATION CENTER
Address:	2125 E LINCOLN ST
City,State,Zip:	BIRMINGHAM 48009-7702
Facility Type:	CLOSED
Facility ID:	00006418
Facility Region:	Not reported
Owner Name:	BIRMINGHAM PUBLIC SCHOOLS
Owner Address:	2305 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48009
Owner Contact:	Not reported
Owner Phone:	2482033977
Contact:	Steve King
Contact Phone:	(248) 203-3977
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	10000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	02/14/1980
Remove Date:	07/06/1992
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.53921
Longitude:	-83.19396

Name:	TRANSPORTATION CENTER
Address:	2125 E LINCOLN ST
City,State,Zip:	BIRMINGHAM 48009-7702
Facility Type:	CLOSED
Facility ID:	00006418
Facility Region:	Not reported
Owner Name:	BIRMINGHAM PUBLIC SCHOOLS
Owner Address:	2305 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI

TRANSPORTATION CENTER (Continued) **U000262036**

Owner Zip:	48009
Owner Contact:	Not reported
Owner Phone:	2482033977
Contact:	Steve King
Contact Phone:	(248) 203-3977
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	10000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	02/14/1956
Remove Date:	07/06/1992
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.53921
Longitude:	-83.19396

H48 **ORION DEVELOPMENT GROUP, LLC** **MI INVENTORY** **S114029348**
SSE **2159 E. LINCOLN AVE.** **N/A**
1/4-1/2 **OAKLAND (County), MI 48009**
0.453 mi.
2392 ft. **Site 3 of 5 in cluster H**

Relative:
Lower

Actual:
740 ft.

INVENTORY:

Name:	ORION DEVELOPMENT GROUP, LLC
Address:	2159 E. LINCOLN AVE.
City,State,Zip:	MI 48009
Bea Number:	201205378LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	42.5392
Longitude:	-83.1933

H49 **ORION DEVELOPMENT GROUP, LLC** **MI BEA** **S113193109**
SSE **2159 E. LINCOLN AVE.** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.453 mi.
2392 ft. **Site 4 of 5 in cluster H**

Relative: **Lower**
Actual: **740 ft.**

BEA:

Secondary Address:	Not reported
BEA Number:	5378
District:	Southeast MI
Date Received:	11/15/2012
Submitter Name:	Orion Development Group, LLC
Petition Determination:	No Request
Petition Disclosure:	0
Category:	Not reported
Determination 20107A:	No Request
Reviewer:	berakr
Division Assigned:	RRD

H50 **ORION DEVELOPMENT GROUP, LLC** **MI INVENTORY** **S114029349**
SSE **2159 E. LINCOLN AVENUE** **N/A**
1/4-1/2 **BIRMINGHAM, MI 48009**
0.453 mi.
2392 ft. **Site 5 of 5 in cluster H**

Relative: **Lower**
Actual: **740 ft.**

INVENTORY:

Name:	ORION DEVELOPMENT GROUP, LLC
Address:	2159 E. LINCOLN AVENUE
City,State,Zip:	BIRMINGHAM, MI 48009
Bea Number:	Not reported
Township:	Birmingham
District:	Southeast MI
Data Source:	Part 201
Latitude:	42.5392
Longitude:	-83.1933

I51 **FORD NEW HOLLAND INC - RESCINDED** **MI AUL** **S108417598**
East **1333 COOLIDGE** **MI PART 201** **N/A**
1/4-1/2 **TROY, MI 48084** **MI INVENTORY**
0.465 mi.
2454 ft. **Site 1 of 3 in cluster I**

Relative: **Lower**
Actual: **730 ft.**

AUL:

Name:	FORD NEW HOLLAND INC - RESCINDED
Address:	1333 COOLIDGE
City,State,Zip:	TROY, MI 48084
Status:	Rescinded
Site Name:	Ford New Holland (former)
Property:	Ford New Holland - Secured Storage Property
Land Use Restriction Type:	RC
Program Type:	Part 201
Program Support Assigned User:	Not reported
Program Support Assigned Date:	Not reported
Legal Description Of Property:	Plot of Engineered Barrier
Based On The Deq Ref #:	11120106011R
MDEQ Reference Number:	RC-RRD-201-06-011
Property Or Description Restricted Area:	Plot of Engineered Barrier
Lead Division:	RRD

FORD NEW HOLLAND INC - RESCINDED (Continued) **S108417598**

File Name Of Hyperlinked Legal Doc:	U:\\Kermit\\11120106011R.pdf
Mapped Polygons Area In Acres:	0.17999999999999999
Mapped Polygons Area In Square Miles:	0
Date Data Entry Started:	03/06/2007
Date Data Entry Finished:	03/06/2007
Individual Or Staff Assoc With The Mapping:	Phillip Wilkins
Program Used To Map Restricted Features:	IcoMap 4.0
Date Legal Paperwork Stamped/Filed/Register Of Deeds:	06/07/2011
Commercial I Land Use Restriction:	0
Commercial Ii Land Use Restriction:	0
Commercial Iii Land Use Restriction:	0
Commercial Iv Land Use Restriction:	0
Industrial Land Use Restriction:	0
Residential Land Use Restriction:	0
Recreational Land Use Restriction:	0
Multiple Land-Use Restrictions:	0
Site Specific Restrictions:	0
Groundwater Consumption Restrictions:	0
Groundwater Contact Restrictions:	0
Special Well Construction Requirements:	0
Special Building Restrictions:	1
Excavation And Soil Movement Restrictions:	1
Soil Movement Requirements:	0
There Is A Restriction On All Construction:	0
Monitoring Well Protected, No Tampering Or Removal:	0
There Is An Exposure Barrier In Place:	1
There Is A Health And Safety Plan:	0
There Is A Permanent Marker On The Site:	0
Comment:	Request received by Leemon/Mollenhour. 10/25/2010, Cyndi Mollenhour requested a DNRE reference number for the Rescision of this RC, RC-RRD-201-06-011. 8/10/2011 status changed to Rescinded.
Map Comments:	Address on legal description stated as 1485 Mapleway, Troy, MI 20110929 - LRUR has been rescinded and is no longer visable in KERMIT - Nick Ekel 20110829 - LRUR status has been updated in KERMIT - (See Comments Tab) - Nick Ekel

Name:	FORMER FORD NEW HOLLAND
Address:	1333 COOLIDGE ROAD
City,State,Zip:	TROY, MI 48084
Status:	Recorded
Site Name:	Ford New Holland (former)
Property:	on-site
Land Use Restriction Type:	RC
Program Type:	Part 201
Program Support Assigned User:	Nicholas Ekel
Program Support Assigned Date:	07/11/2011
Legal Description Of Property:	Site Address
Based On The Deq Ref #:	11120111004
MDEQ Reference Number:	RC-RRD-201-11-004
Property Or Description Restricted Area:	Not reported
Lead Division:	RRD
File Name Of Hyperlinked Legal Doc:	U:\\KERMIT\\11120111004.PDF
Mapped Polygons Area In Acres:	60.1708
Mapped Polygons Area In Square Miles:	0.094
Date Data Entry Started:	07/11/2011
Date Data Entry Finished:	07/11/2011
Individual Or Staff Assoc With The Mapping:	Nicholas Ekel

FORD NEW HOLLAND INC - RESCINDED (Continued) **S108417598**

Program Used To Map Restricted Features:	ArcINFO 9.3 & IcoMAP 4.2
Date Legal Paperwork Stamped/Filed/Register Of Deeds:	05/17/2011
Commercial I Land Use Restriction:	0
Commercial Ii Land Use Restriction:	0
Commercial Iii Land Use Restriction:	0
Commercial Iv Land Use Restriction:	0
Industrial Land Use Restriction:	0
Residential Land Use Restriction:	1
Recreational Land Use Restriction:	0
Multiple Land-Use Restrictions:	0
Site Specific Restrictions:	1
Groundwater Consumption Restrictions:	1
Groundwater Contact Restrictions:	0
Special Well Construction Requirements:	0
Special Building Restrictions:	1
Excavation And Soil Movement Restrictions:	1
Soil Movement Requirements:	0
There Is A Restriction On All Construction:	0
Monitoring Well Protected, No Tampering Or Removal:	0
There Is An Exposure Barrier In Place:	1
There Is A Health And Safety Plan:	0
There Is A Permanent Marker On The Site:	1
Comment:	3/31/2011 C&E requested Reference # for the following parcels: 20-31-226-012, 20-31-226-014, 20-31-226-016, 20-31-226-017, 20-31-226-018, 20-31-226-019, 20-31-226-020, 20-31-226-021 5/17/2011 recorded with Oakland Co. ROD. 6/28/2011 received by DEQ.
Map Comments:	20110711 - LRUR is NOT mapped in KERMIT - Nick Ekel 20110711 - LRUR is mapped in KERMIT - Nick Ekel

PART 201:

Facility ID:	63000392
Facility Status:	**Remedial Action in Progress (may incl. use restrictions, O&M and/or monitoring)**
Source:	Indus Commercial Mach & Comp
SAM Score:	32
SAM Score Date:	01/30/2004
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter:	Not reported
Quarter/Quarter:	Not reported
Pollutants:	Not reported

INVENTORY:

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY, MI 48084
Bea Number:	Not reported
Township:	Not reported
District:	Southeast MI
Data Source:	Part 213
Latitude:	42.54324
Longitude:	-83.18635

I52 **FORD MOTOR CO DETROIT SUPPLY & CENTRAL** **SEMS-ARCHIVE** **1000183612**
East **2500 E MAPLE RD** **RCRA NonGen / NLR** **MID057680324**
1/4-1/2 **TROY, MI 48084** **FINDS**
0.465 mi. **ECHO**
2454 ft. **Site 2 of 3 in cluster I**

Relative:
Lower

Actual:
730 ft.

SEMS Archive:

Site ID:	0502552
EPA ID:	MID057680324
Name:	FORD MOTOR CO DETROIT SUPPLY & CENTRAL
Address:	2500 E MAPLE RD
Address 2:	Not reported
City,State,Zip:	TROY, MI 48084
Cong District:	18
FIPS Code:	26125
FF:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	05
Site ID:	0502552
EPA ID:	MID057680324
Site Name:	FORD MOTOR CO DETROIT SUPPLY & CENTRAL
NPL:	N
FF:	N
OU:	00
Action Code:	VS
Action Name:	ARCH SITE
SEQ:	1
Start Date:	Not reported
Finish Date:	1990-02-07 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf In-Hse

Region:	05
Site ID:	0502552
EPA ID:	MID057680324
Site Name:	FORD MOTOR CO DETROIT SUPPLY & CENTRAL
NPL:	N
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1981-06-01 04:00:00
Finish Date:	1981-06-01 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	05
Site ID:	0502552
EPA ID:	MID057680324
Site Name:	FORD MOTOR CO DETROIT SUPPLY & CENTRAL
NPL:	N
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1

FORD MOTOR CO DETROIT SUPPLY & CENTRAL (Continued) **1000183612**

Start Date:	Not reported
Finish Date:	1987-12-11 05:00:00
Qual:	L
Current Action Lead:	St Perf
Region:	05
Site ID:	0502552
EPA ID:	MID057680324
Site Name:	FORD MOTOR CO DETROIT SUPPLY & CENTRAL
NPL:	N
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	2
Start Date:	Not reported
Finish Date:	1990-02-07 05:00:00
Qual:	N
Current Action Lead:	St Perf

RCRA NonGen / NLR:

Date Form Received by Agency:		1998-05-05 00:00:00.0
Handler Name:	FORD MOTOR COMPANY	
Handler Address:		2500 E MAPLE RD
Handler City,State,Zip:		TROY, MI 48083
EPA ID:		MID057680324
Contact Name:		BARBARA RUSINOWSKI
Contact Address:		2500 E MAPLE RD
Contact City,State,Zip:		TROY, MI 48083
Contact Telephone:		313-322-3891
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		05
Land Type:		Other
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		2500 E MAPLE RD
Mailing City,State,Zip:		TROY, MI 48083
Owner Name:		NO ACTIVE O/OP AS NOT GENERATING WASTE
Owner Type:		Private
Operator Name:		NO ACTIVE O/OP AS NOT GENERATING WASTE
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No

FORD MOTOR CO DETROIT SUPPLY & CENTRAL (Continued) **1000183612**

Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2011-03-03 13:15:53.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	Not reported

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE

FORD MOTOR CO DETROIT SUPPLY & CENTRAL (Continued) **1000183612**

Legal Status:	Private
Date Became Current:	1998-05-06 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	1998-05-06 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	1998-05-06 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	NO ACTIVE O/OP AS NOT GENERATING WASTE
Legal Status:	Private
Date Became Current:	1998-05-06 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	1998-05-05 00:00:00.0
Handler Name: FORD MOTOR COMPANY	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes

FORD MOTOR CO DETROIT SUPPLY & CENTRAL (Continued) **1000183612**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 1980-08-18 00:00:00.0
Handler Name: FORD MOTOR COMPANY
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 1990-02-26 00:00:00.0
Handler Name: FORD NEW HOLLAND ENGINE PRODUCT DEVELOPM
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 1992-02-28 00:00:00.0
Handler Name: IVECO ENGINE PROD. DVLPMNT FORD/NEW HOLL
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 11131
NAICS Description: ORANGE GROVES

NAICS Code: 54138
NAICS Description: TESTING LABORATORIES

NAICS Code: 54172
NAICS Description: RESEARCH AND DEVELOPMENT IN THE SOCIAL SCIENCES AND HUMANITIES

NAICS Code: 561439
NAICS Description: OTHER BUSINESS SERVICE CENTERS (INCLUDING COPY SHOPS)

NAICS Code: 56172
NAICS Description: JANITORIAL SERVICES

FORD MOTOR CO DETROIT SUPPLY & CENTRAL (Continued) **1000183612**

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110003598982

Click Here:

Environmental Interest/Information System:
AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000183612
Registry ID:	110003598982
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003598982
Name:	FORD MOTOR COMPANY
Address:	2500 E MAPLE RD
City,State,Zip:	TROY, MI 48083

I53 **IVECO ENGINE PRODUCT DEVELOPMENT** **MI LUST** **U003323951**
East **1333 COOLIDGE HWY** **MI UST** **N/A**
1/4-1/2 **TROY, MI 48084**
0.465 mi.
2454 ft. **Site 3 of 3 in cluster I**

Relative: LUST:
Lower

Actual: Name:	IVECO ENGINE PRODUCT DEVELOPMENT
730 ft. Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY, MI 48084-
Facility ID:	00017853
Source:	STATE OF MICHIGAN
Owner Name:	NewHolland North America Inc
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

Owner Contact: Not reported
Owner Phone: Not reported
Country: USA
District: Warren
Site Name: Iveco Engine Product Development
Latitude: 42.54323
Longitude: -83.18635
Date of Collection: 01/11/2001
Method of Collection: Address Matching-House Number
Accuracy: 100
Accuracy Value Unit: FEET
Horizontal Data: NAD83
Point Line Area: POINT
Desc Category: Plant Entrance (Freight)

Leak Number: C-0132-99
Release Date: 02/09/1999
Substance Released: Unknown
Release Status: Closed
Release Closed Date: 08/05/1999

Leak Number: C-0209-91
Release Date: 02/26/1991
Substance Released: Not reported
Release Status: Closed
Release Closed Date: 08/05/1999

Leak Number: C-0823-99
Release Date: 08/13/1999
Substance Released: Unknown
Release Status: Open
Release Closed Date: Not reported

UST:
Name: IVECO ENGINE PRODUCT DEVELOPMENT
Address: 1333 COOLIDGE HWY
City,State,Zip: TROY 48084-7017
Facility Type: CLOSED
Facility ID: 00017853
Facility Region: Not reported
Owner Name: NEW HOLLAND NORTH AMERICA INC
Owner Address: 500 DILLER AVE MS - 645
Owner City: NEW HOLLAND
Owner State: PA
Owner Zip: 17557
Owner Contact: Not reported
Owner Phone: 7173551211
Contact: GUYTON GLANNOTTA
Contact Phone: (717) 355-3341
Date of Collection: 01/11/2001
Accuracy: 100
Horizontal Datum: NAD83
Accuracy Value Unit: FEET
Source: STATE OF MICHIGAN
Point Line Area: POINT
Desc Category: Plant Entrance (Freight)
Method of Collection: Address Matching-House Number
District: Region 1 - SE Michigan District Office

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

Tank ID:	7
Capacity:	12000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	04/15/1978
Remove Date:	02/09/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54323
Longitude:	-83.18635

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC
Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	GUYTON GLANNOTTA
Contact Phone:	(717) 355-3341
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	6
Capacity:	12000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	04/15/1978
Remove Date:	02/09/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54323
Longitude:	-83.18635

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC
Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	GUYTON GLANNOTTA
Contact Phone:	(717) 355-3341
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	5
Capacity:	12000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	04/15/1978
Remove Date:	02/09/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54323
Longitude:	-83.18635

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC
Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	GUYTON GLANNOTTA
Contact Phone:	(717) 355-3341
Date of Collection:	01/11/2001

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	4
Capacity:	1000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	04/15/1974
Remove Date:	12/23/1989
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54323
Longitude:	-83.18635

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC
Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	Not reported
Contact Phone:	Not reported
Date of Collection:	Not reported
Accuracy:	Not reported
Horizontal Datum:	Not reported
Accuracy Value Unit:	Not reported
Source:	Not reported
Point Line Area:	Not reported
Desc Category:	Not reported
Method of Collection:	Not reported
District:	Not reported
Tank ID:	3-2
Capacity:	250
Tank Status:	Removed from Ground
Substance:	Used Oil
Install Date:	09/02/1999
Remove Date:	08/17/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC
Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	Not reported
Contact Phone:	Not reported
Date of Collection:	Not reported
Accuracy:	Not reported
Horizontal Datum:	Not reported
Accuracy Value Unit:	Not reported
Source:	Not reported
Point Line Area:	Not reported
Desc Category:	Not reported
Method of Collection:	Not reported
District:	Not reported
Tank ID:	3-1
Capacity:	500
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	09/02/1999
Remove Date:	08/16/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	GUYTON GLANNOTTA
Contact Phone:	(717) 355-3341
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	3
Capacity:	1000
Tank Status:	Removed from Ground
Substance:	Used Oil
Install Date:	04/15/1978
Remove Date:	02/09/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54323
Longitude:	-83.18635

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC
Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	GUYTON GLANNOTTA
Contact Phone:	(717) 355-3341
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	2500
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	04/15/1978
Remove Date:	02/26/1991
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54323
Longitude:	-83.18635

Name:	IVECO ENGINE PRODUCT DEVELOPMENT
Address:	1333 COOLIDGE HWY
City,State,Zip:	TROY 48084-7017
Facility Type:	CLOSED
Facility ID:	00017853
Facility Region:	Not reported
Owner Name:	NEW HOLLAND NORTH AMERICA INC
Owner Address:	500 DILLER AVE MS - 645
Owner City:	NEW HOLLAND
Owner State:	PA
Owner Zip:	17557
Owner Contact:	Not reported
Owner Phone:	7173551211
Contact:	GUYTON GLANNOTTA
Contact Phone:	(717) 355-3341
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	2500
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	04/15/1978
Remove Date:	02/09/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54323

IVECO ENGINE PRODUCT DEVELOPMENT (Continued) **U003323951**

Longitude: -83.18635

54
SE
1/4-1/2
0.465 mi.
2457 ft.

BYRNE PLYWOOD CO
2400 COLE ST
BIRMINGHAM, MI 48009

MI LUST **U000262145**
MI UST **N/A**
MI WDS

Relative:
Lower

Actual:
740 ft.

LUST:

Name:	BYRNE PLYWOOD CO
Address:	2400 COLE ST
City,State,Zip:	BIRMINGHAM, MI 48009-
Facility ID:	00002937
Source:	STATE OF MICHIGAN
Owner Name:	ByrnePlywood Co
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Erb Lumber- Cole St
Latitude:	42.53991
Longitude:	-83.19181
Date of Collection:	10/05/2004
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Leak Number:	C-1071-89
Release Date:	12/08/1989
Substance Released:	Not reported
Release Status:	Closed
Release Closed Date:	07/28/1993

UST:

Name:	BYRNE PLYWOOD CO
Address:	2400 COLE ST
City,State,Zip:	BIRMINGHAM 48009-7083
Facility Type:	CLOSED
Facility ID:	00002937
Facility Region:	Not reported
Owner Name:	BYRNE PLYWOOD CO
Owner Address:	2400 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48009-7083
Owner Contact:	Not reported
Owner Phone:	3136428800
Contact:	JOHN M. DOROSZ
Contact Phone:	(313) 644-5300
Date of Collection:	10/05/2004
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET

BYRNE PLYWOOD CO (Continued) **U000262145**

Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	Not reported
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	Not reported
Remove Date:	09/04/1990
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.53991
Longitude:	-83.19181

Name:	BYRNE PLYWOOD CO
Address:	2400 COLE ST
City,State,Zip:	BIRMINGHAM 48009-7083
Facility Type:	CLOSED
Facility ID:	00002937
Facility Region:	Not reported
Owner Name:	BYRNE PLYWOOD CO
Owner Address:	2400 COLE ST
Owner City:	BIRMINGHAM
Owner State:	MI
Owner Zip:	48009-7083
Owner Contact:	Not reported
Owner Phone:	3136428800
Contact:	JOHN M. DOROSZ
Contact Phone:	(313) 644-5300
Date of Collection:	10/05/2004
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	1500
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	Not reported
Remove Date:	09/04/1990
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported

BYRNE PLYWOOD CO (Continued) **U000262145**

Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.53991
Longitude:	-83.19181

WDS:

Name:	BYRNE PLYWOOD INC
Address:	2400 COLE ST
City,State,Zip:	BIRMINGHAM, MI 48009
Site Id:	MID016754350
WMD Id:	394536
Site Specific Name:	BYRNE PLYWOOD INC
Mailing Address:	2400 COLE ST
Mailing City/State/Zip:	48009
Mailing County:	OAKLAND

J55 **AV HARABEDIAN TRUST** **MI AUL** **S104912545**
East **1470 COOLIDGE HWY** **MI BEA** **N/A**
1/4-1/2 **TROY, MI 48084** **MI WDS**
0.485 mi.
2560 ft. **Site 1 of 2 in cluster J**

Relative:
Lower

Actual:
731 ft.

AUL:

Name:	HARABEDIAN ASPHALT CO.
Address:	1470 COOLIDGE ROAD
City,State,Zip:	TROY, MI 48084
Status:	Recorded
Site Name:	Not reported
Property:	Harabedian Asphalt Co.
Land Use Restriction Type:	NCA
Program Type:	Part 213
Program Support Assigned User:	Nicholas Swartz
Program Support Assigned Date:	07/17/2009
Legal Description Of Property:	Migrated
Based On The Deq Ref #:	12121304118
MDEQ Reference Number:	NCA-RRD-213-04-118
Property Or Description Restricted Area:	Migrated
Lead Division:	STD
File Name Of Hyperlinked Legal Doc:	U:\\kermit\\12121304118.pdf
Mapped Polygons Area In Acres:	1.7330000000000001
Mapped Polygons Area In Square Miles:	0.0027
Date Data Entry Started:	07/17/2009
Date Data Entry Finished:	07/17/2009
Individual Or Staff Assoc With The Mapping:	Nicholas Swartz
Program Used To Map Restricted Features:	ArcInfo 9.3 and IcoMap 4.2
Date Legal Paperwork Stamped/Filed/Register Of Deeds:	02/16/1999
Commercial I Land Use Restriction:	0
Commercial Ii Land Use Restriction:	0
Commercial Iii Land Use Restriction:	1
Commercial Iv Land Use Restriction:	0
Industrial Land Use Restriction:	0
Residential Land Use Restriction:	0
Recreational Land Use Restriction:	0
Multiple Land-Use Restrictions:	0
Site Specific Restrictions:	0
Groundwater Consumption Restrictions:	0

AV HARABEDIAN TRUST (Continued) **S104912545**

Groundwater Contact Restrictions:	0
Special Well Construction Requirements:	0
Special Building Restrictions:	0
Excavation And Soil Movement Restrictions:	0
Soil Movement Requirements:	0
There Is A Restriction On All Construction:	0
Monitoring Well Protected, No Tampering Or Removal:	0
There Is An Exposure Barrier In Place:	0
There Is A Health And Safety Plan:	0
There Is A Permanent Marker On The Site:	0
Comment:	Request received on 7/13/2004
Map Comments:	Land restriction has not been mapped in kermit as of February 8, 2008 LUR is mapped in KERMIT as of 20090717 - Nick Swartz

BEA:

Secondary Address:	Not reported
BEA Number:	1195
District:	Southeast MI
Date Received:	08/28/2000
Submitter Name:	MAPLE COOLIDGE OFFICE BLDG. , LLC
Petition Determination:	Affirmed
Petition Disclosure:	1
Category:	No Hazardous Substance(s)
Determination 20107A:	Pending
Reviewer:	temppm
Division Assigned:	Storage Tank Division

Secondary Address:	Not reported
BEA Number:	3114
District:	Southeast MI
Date Received:	04/17/2006
Submitter Name:	TCF National Bank
Petition Determination:	Affirmed
Petition Disclosure:	1
Category:	No Hazardous Substance(s)
Determination 20107A:	No Request
Reviewer:	mitchelf
Division Assigned:	Storage Tank Division

WDS:

Name:	AV HARABEDIAN TRUST
Address:	1470 COOLIDGE HWY
City,State,Zip:	TROY, MI 48084
Site Id:	MIR000036319
WMD Id:	412783
Site Specific Name:	AV HARABEDIAN TRUST-FORMER HARABEDIAN CO
Mailing Address:	1470 COOLIDGE HWY
Mailing City/State/Zip:	48084
Mailing County:	OAKLAND

J56 **MICHAEL HARABEDIAN/HARBCO** **MI LUST** **U003324449**
East **1470 COOLIDGE HWY** **MI UST** **N/A**
1/4-1/2 **TROY, MI 48084** **MI INVENTORY**
0.485 mi.
2560 ft. **Site 2 of 2 in cluster J**

Relative:
Lower

Actual:
731 ft.

LUST:

Name:	MICHAEL HARABEDIAN/HARBCO
Address:	1470 COOLIDGE HWY
City,State,Zip:	TROY, MI 48084-
Facility ID:	00019650
Source:	STATE OF MICHIGAN
Owner Name:	MichaelHarabedian/Harbco
Owner Address:	Not reported
Owner City,St,Zip:	UNKNOWN, MI
Owner Contact:	Not reported
Owner Phone:	Not reported
Country:	USA
District:	Warren
Site Name:	Michael Harabedian/harbco
Latitude:	42.54528
Longitude:	-83.18607
Date of Collection:	01/11/2001
Method of Collection:	Address Matching-House Number
Accuracy:	100
Accuracy Value Unit:	FEET
Horizontal Data:	NAD83
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Leak Number:	C-1176-98
Release Date:	11/23/1998
Substance Released:	Unknown
Release Status:	Closed
Release Closed Date:	06/11/1999

UST:

Name:	MICHAEL HARABEDIAN/HARBCO
Address:	1470 COOLIDGE HWY
City,State,Zip:	TROY 48084-7029
Facility Type:	CLOSED
Facility ID:	00019650
Facility Region:	Not reported
Owner Name:	MICHAEL HARABEDIAN/HARBCO
Owner Address:	1470 COOLIDGE HWY
Owner City:	TROY
Owner State:	MI
Owner Zip:	48084-7029
Owner Contact:	Not reported
Owner Phone:	2483624551
Contact:	STEPHEN A PEACH
Contact Phone:	(248) 540-8437
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number

MICHAEL HARABEDIAN/HARBCO (Continued) **U003324449**

District:	Region 1 - SE Michigan District Office
Tank ID:	4
Capacity:	30000
Tank Status:	Removed from Ground
Substance:	Diesel,Gasoline,Other(SPLIT)
Install Date:	05/19/1978
Remove Date:	02/25/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54528
Longitude:	-83.18607

Name:	MICHAEL HARABEDIAN/HARBCO
Address:	1470 COOLIDGE HWY
City,State,Zip:	TROY 48084-7029
Facility Type:	CLOSED
Facility ID:	00019650
Facility Region:	Not reported
Owner Name:	MICHAEL HARABEDIAN/HARBCO
Owner Address:	1470 COOLIDGE HWY
Owner City:	TROY
Owner State:	MI
Owner Zip:	48084-7029
Owner Contact:	Not reported
Owner Phone:	2483624551
Contact:	STEPHEN A PEACH
Contact Phone:	(248) 540-8437
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	3
Capacity:	2000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	05/19/1966
Remove Date:	02/25/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54528

MICHAEL HARABEDIAN/HARBCO (Continued) **U003324449**

Longitude:	-83.18607
Name:	MICHAEL HARABEDIAN/HARBCO
Address:	1470 COOLIDGE HWY
City,State,Zip:	TROY 48084-7029
Facility Type:	CLOSED
Facility ID:	00019650
Facility Region:	Not reported
Owner Name:	MICHAEL HARABEDIAN/HARBCO
Owner Address:	1470 COOLIDGE HWY
Owner City:	TROY
Owner State:	MI
Owner Zip:	48084-7029
Owner Contact:	Not reported
Owner Phone:	2483624551
Contact:	STEPHEN A PEACH
Contact Phone:	(248) 540-8437
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	2
Capacity:	1000
Tank Status:	Removed from Ground
Substance:	Diesel
Install Date:	05/19/1966
Remove Date:	02/25/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54528
Longitude:	-83.18607
Name:	MICHAEL HARABEDIAN/HARBCO
Address:	1470 COOLIDGE HWY
City,State,Zip:	TROY 48084-7029
Facility Type:	CLOSED
Facility ID:	00019650
Facility Region:	Not reported
Owner Name:	MICHAEL HARABEDIAN/HARBCO
Owner Address:	1470 COOLIDGE HWY
Owner City:	TROY
Owner State:	MI
Owner Zip:	48084-7029
Owner Contact:	Not reported
Owner Phone:	2483624551
Contact:	STEPHEN A PEACH

MICHAEL HARABEDIAN/HARBCO (Continued) **U003324449**

Contact Phone:	(248) 540-8437
Date of Collection:	01/11/2001
Accuracy:	100
Horizontal Datum:	NAD83
Accuracy Value Unit:	FEET
Source:	STATE OF MICHIGAN
Point Line Area:	POINT
Desc Category:	Plant Entrance (Freight)
Method of Collection:	Address Matching-House Number
District:	Region 1 - SE Michigan District Office
Tank ID:	1
Capacity:	1000
Tank Status:	Removed from Ground
Substance:	Gasoline
Install Date:	05/19/1966
Remove Date:	02/25/1999
Tank Number:	Not reported
Tank Details Compartments:	Not reported
Tank Release Detection:	Not reported
Pipe Release Detection:	Not reported
Piping Material:	Not reported
Piping Type:	Not reported
Tank Construction:	Not reported
Impressed Device:	Not reported
Latitude:	42.54528
Longitude:	-83.18607

INVENTORY:

Name:	MICHAEL HARABEDIAN/HARBCO
Address:	1470 COOLIDGE HWY
City,State,Zip:	TROY, MI 48084
Bea Number:	Not reported
Township:	Not reported
District:	Southeast MI
Data Source:	Part 213
Latitude:	42.54528
Longitude:	-83.18607

57
SSE
1/4-1/2
0.486 mi.
2565 ft.

INNOVATIVE HOME PRODUCTS, INC. **MI INVENTORY** **S114028583**
2400 E. LINCOLN ROAD **N/A**
OAKLAND (County), MI

Relative:
Lower

Actual:
736 ft.

INVENTORY:

Name:	INNOVATIVE HOME PRODUCTS, INC.
Address:	2400 E. LINCOLN ROAD
City,State,Zip:	MI
Bea Number:	199901017LV
Township:	Birmingham
District:	Southeast MI
Data Source:	BEA
Latitude:	42.53933
Longitude:	-83.19107

58
SSE
1/2-1
0.549 mi.
2898 ft.

PRISTINE PROPERTIES BIRMINGHAM, LLC
2400 EAST LINCOLN STREET
BIRMINGHAM, MI 48009

MI PART 201
MI INVENTORY
MI BEA

S105541976
N/A

Relative:
Lower

Actual:
733 ft.

PART 201:

Facility ID:	63005209
Facility Status:	**Interim Response conducted - No further activities anticipated**
Source:	Metal Doors Sash & Trim
SAM Score:	33
SAM Score Date:	01/21/2010
Township:	02N
Range:	11E
Section:	31
Quarter:	SE
Quarter/Quarter:	NE
Pollutants:	Not reported

INVENTORY:

Name:	2400 EAST LINCOLN - BIRMINGHAM
Address:	2400 EAST LINCOLN ROAD
City,State,Zip:	BIRMINGHAM, MI 480097126
Bea Number:	Not reported
Township:	Birmingham
District:	Southeast MI
Data Source:	Part 201
Latitude:	42.53933
Longitude:	-83.19107

BEA:

Secondary Address:	Not reported
BEA Number:	4923
District:	Southeast MI
Date Received:	09/28/2011
Submitter Name:	Pristine Properties Birmingham, LLC
Petition Determination:	No Request
Petition Disclosure:	0
Category:	Not reported
Determination 20107A:	No Request
Reviewer:	berakr
Division Assigned:	RD

Secondary Address:	Not reported
BEA Number:	1810
District:	Southeast MI
Date Received:	09/10/2002
Submitter Name:	2400 LINCOLN L.L.C.
Petition Determination:	Affirmed
Petition Disclosure:	1
Category:	No Hazardous Substance(s)
Determination 20107A:	Affirmed
Reviewer:	barrowsg
Division Assigned:	Environmental Response Division

59
East
1/2-1
0.809 mi.
4271 ft.

AUBURN METALFAB INC
2545 W MAPLE RD
TROY, MI 48084

MI DEL PART 201
MI WDS

S105966047
N/A

Relative:
Lower

Actual:
721 ft.

DEL_PART201:
Facility ID: 63000999
Status: Delisted - no longer meets criteria specified in rules

WDS:
Name: AUBURN METALFAB INC
Address: 2545 W MAPLE RD
City,State,Zip: TROY, MI 48084
Site Id: MI0000980656
WMD Id: 391676
Site Specific Name: AUBURN METALFAB INC
Mailing Address: 2545 W MAPLE RD
Mailing City/State/Zip: 48084
Mailing County: OAKLAND

Count: 0 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 03/30/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 39

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/23/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/23/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/15/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 7

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Date of Government Version: N/A
Date Data Arrived at EDR: 10/31/2013
Date Made Active in Reports: 11/20/2013
Number of Days to Update: 20

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5103
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities Database

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/17/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 03/10/2021
Number of Days to Update: 83

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4035
Last EDR Contact: 03/24/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/10/2020
Date Made Active in Reports: 01/27/2021
Number of Days to Update: 78

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9837
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

State and tribal registered storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Varies

UST 2: Underground Storage Tank Listing
A listing of underground storage tank site locations that have unknown owner information.

Date of Government Version: 07/12/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 10/02/2020
Number of Days to Update: 78

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

UST: Underground Storage Tank Facility List
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 10/09/2020
Date Made Active in Reports: 11/19/2020
Number of Days to Update: 41

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 02/12/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Annually

AST: Aboveground Tanks
Registered Aboveground Storage Tanks.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/17/2021
Number of Days to Update: 28

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-373-1820
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: No Update Planned

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Engineering and Institutional Controls
A listing of sites with institutional and/or engineering controls in place.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/24/2020
Date Made Active in Reports: 02/10/2021
Number of Days to Update: 78
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-4828
Last EDR Contact: 02/22/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/22/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields and USTfield Site Database
All state funded Part 201 and 213 sites, as well as LUST sites that have been redeveloped by private entities using the BEA process. Be aware that this is not a list of all of the potential brownfield sites in Michigan.

Date of Government Version: 01/15/2016
Date Data Arrived at EDR: 02/02/2016
Date Made Active in Reports: 04/04/2016
Number of Days to Update: 62
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-4805
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

BROWNFIELDS 2: Brownfields Building and Land Site Locations
A listing of brownfield building and land site locations. The listing is a collaborative effort of Michigan Economic Development Corporation, Michigan Economic Developers Association, Detrot Edison, Detroit Area Commercial Board of Realtors

Date of Government Version: 11/10/2020
Date Data Arrived at EDR: 11/12/2020
Date Made Active in Reports: 01/28/2021
Number of Days to Update: 77
Source: Economic Development Corporation
Telephone: 888-522-0103
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/11/2020
Date Data Arrived at EDR: 12/11/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/16/2021
Next Scheduled EDR Contact: 06/28/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Inactive Solid Waste Facilities
The database contains historical information and is no longer updated.

Date of Government Version: 03/01/1997
Date Data Arrived at EDR: 02/28/2003
Date Made Active in Reports: 03/06/2003
Number of Days to Update: 6

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4034
Last EDR Contact: 02/28/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycling Facilities
A listing of recycling center locations.

Date of Government Version: 12/28/2020
Date Data Arrived at EDR: 12/30/2020
Date Made Active in Reports: 03/17/2021
Number of Days to Update: 77

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-5719
Last EDR Contact: 03/22/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/22/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: No Update Planned

INVENTORY: Inventory of Facilities

The Inventory of Facilities has three data sources: Facilities under Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) identified through state funded or private party response activities (Projects); Facilities under Part 213, Leaking Underground Storage Tanks of the NREPA; and Facilities identified through submittals of Baseline Environmental Assessments (BEA) submitted pursuant to Part 201 or Part 213 of the NREPA. The Part 201 Projects Inventory does not include all of the facilities that are subject to regulation under Part 201 because owners are not required to inform the Department of Environmental Quality (DEQ) about the facilities and can pursue cleanup independently. Facilities that are not known to DEQ are not on the Inventory, nor are locations with releases that resulted in low environmental impact. Part 213 facilities listed here may have more than one release; a list of releases for which corrective actions have been completed and list of releases for which corrective action has not been completed is located on the Leaking Underground Storage Tanks Site Search webpage. The DEQ may or may not have reviewed and concurred with the conclusion that the corrective actions described in a closure report meets criteria. A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/08/2021
Number of Days to Update: 81

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5136
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

PART 201: Part 201 Site List

A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

Date of Government Version: 10/01/2013
Date Data Arrived at EDR: 10/03/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 0

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-5103
Last EDR Contact: 07/22/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Lab Listing

A listing of clandestine drug lab locations.

Date of Government Version: 06/03/2020
Date Data Arrived at EDR: 07/07/2020
Date Made Active in Reports: 09/24/2020
Number of Days to Update: 79

Source: Department of Community Health
Telephone: 517-373-3740
Last EDR Contact: 01/05/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

DEL PART 201: Delisted List of Contaminated Sites

A deleted site has been removed from the Part 201 List because information known to the DEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion. A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 09/11/2013
Number of Days to Update: 41

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9541
Last EDR Contact: 07/22/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/22/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contaminated Sites Listing

PFAS have been widely used in numerous industrial and residential applications since the 1950a??s. Their stability and unique chemical properties produce waterproof, stain resistant, and nonstick qualities in products. They are found in some firefighting foams and a wide range of consumer products such as carpet treatments, non-stick cookware, water-resistant fabrics, food packaging materials, and personal care products.

Date of Government Version: 11/09/2020
Date Data Arrived at EDR: 11/12/2020
Date Made Active in Reports: 01/29/2021
Number of Days to Update: 78

Source: Department of Environment, Great Lakes & Energy
Telephone: 517-284-9278
Last EDR Contact: 02/10/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

Local Land Records

LIENS: Lien List

An Environmental Lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC * 9607(1) and similar state or local laws. In other words: a lien placed upon a property's title due to an environmental condition

Date of Government Version: 10/11/2019
Date Data Arrived at EDR: 10/17/2019
Date Made Active in Reports: 12/11/2019
Number of Days to Update: 55

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-7603
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/16/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 85

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/24/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

PEAS: Pollution Emergency Alerting System

Environmental pollution emergencies reported to the Department of Environmental Quality such as tanker accidents, pipeline breaks, and release of reportable quantities of hazardous substances.

Date of Government Version: 03/31/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/16/2020
Number of Days to Update: 79

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-8427
Last EDR Contact: 01/22/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 47

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/17/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/19/2021
Next Scheduled EDR Contact: 06/28/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 60

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/21/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 06/14/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2020
Date Data Arrived at EDR: 11/12/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 74

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/05/2021
Number of Days to Update: 50

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 03/11/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 03/31/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 59
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 03/05/2021
Next Scheduled EDR Contact: 06/14/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/02/2021
Next Scheduled EDR Contact: 06/14/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/25/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/27/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/13/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 68

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/23/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/06/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/18/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 63

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/24/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/30/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 56

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 03/01/2021
Next Scheduled EDR Contact: 06/14/2021
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/26/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/26/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/11/2020
Date Data Arrived at EDR: 12/11/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 81

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/10/2021
Next Scheduled EDR Contact: 06/21/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 33

Source: EPA
Telephone: (312) 353-2000
Last EDR Contact: 03/03/2021
Next Scheduled EDR Contact: 06/14/2021
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/02/2021
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 04/06/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/26/2021
Next Scheduled EDR Contact: 06/06/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/17/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/17/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Quarterly

AIRS: Permit and Emissions Inventory Data

Permit and emissions inventory data.

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/11/2020
Date Made Active in Reports: 03/01/2021
Number of Days to Update: 80

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-7074
Last EDR Contact: 03/15/2021
Next Scheduled EDR Contact: 06/28/2021
Data Release Frequency: Annually

ASBESTOS: Asbestos Notification Listing
Asbestos

Date of Government Version: 01/31/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 9

Source: Department of Licensing & Regulatory Affairs
Telephone: 517-284-7699
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

BEA: Baseline Environmental Assessment Database
A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

Date of Government Version: 08/21/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 09/12/2013
Number of Days to Update: 20

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-373-9541
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: No Update Planned

COAL ASH: Coal Ash Disposal Sites
Coal fired power plants in Southeast Michigan that have coal ash handling on site.

Date of Government Version: 10/08/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 01/05/2021
Number of Days to Update: 83

Source: Department of Environment, Great Lakes, and Energy
Telephone: 586-753-3754
Last EDR Contact: 03/26/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Establishments
A listing of drycleaning facilities in Michigan.

Date of Government Version: 01/07/2021
Date Data Arrived at EDR: 01/13/2021
Date Made Active in Reports: 04/01/2021
Number of Days to Update: 78

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4586
Last EDR Contact: 01/13/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing
Financial assurance information.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/29/2020
Number of Days to Update: 83

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-6610
Last EDR Contact: 03/26/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Semi-Annually

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 12/28/2020
Date Data Arrived at EDR: 12/29/2020
Date Made Active in Reports: 03/17/2021
Number of Days to Update: 78

Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-335-4034
Last EDR Contact: 03/22/2021
Next Scheduled EDR Contact: 07/05/2021
Data Release Frequency: Varies

FINANCIAL ASSURANCE 3: Financial Assurance Information Listing
Financial assurance information for underground storage tank facilities.

Date of Government Version: 12/20/2020
Date Data Arrived at EDR: 01/05/2021
Date Made Active in Reports: 03/26/2021
Number of Days to Update: 80
Source: Department of Licensing & Regulatory Affairs
Telephone: 517-335-7279
Last EDR Contact: 03/26/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Varies

LEAD CERT: Lead Safe Housing Registry
A listing of Michigan properties included in the Lead Safe Housing Registry.

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 82
Source: Department of Community Health
Telephone: 517-335-9699
Last EDR Contact: 03/01/2021
Next Scheduled EDR Contact: 06/14/2021
Data Release Frequency: Quarterly

NPDES: List of Active NPDES Permits
General information regarding NPDES (National Pollutant Discharge Elimination System) permits and NPDES Storm Water permits.

Date of Government Version: 10/22/2020
Date Data Arrived at EDR: 12/23/2020
Date Made Active in Reports: 03/16/2021
Number of Days to Update: 83
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-1300
Last EDR Contact: 04/01/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Varies

UIC: Underground Injection Wells Database
A listing of underground injection well locations. The UIC Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

Date of Government Version: 07/08/2019
Date Data Arrived at EDR: 07/09/2019
Date Made Active in Reports: 09/19/2019
Number of Days to Update: 72
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-241-1515
Last EDR Contact: 01/05/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

WDS: Waste Data System
The Waste Data System (WDS) tracks activities at facilities regulated by the Solid Waste, Scrap Tire, Hazardous Waste, and Liquid Industrial Waste programs.

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/29/2020
Number of Days to Update: 83
Source: Department of Environment, Great Lakes, and Energy
Telephone: 517-284-6562
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/31/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Semi-Annually

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 03/31/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 03/31/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 02/26/2021
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environment, Great Lakes, and Energy
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 10/20/2020
Date Made Active in Reports: 11/02/2020
Number of Days to Update: 13

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/12/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/08/2021
Next Scheduled EDR Contact: 06/21/2021
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Centers, Group & Family Homes
Source: Bureau of REgulatory Services
Telephone: 517-373-8300

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 517-241-2254

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

THE RESERVE
325 S ETON ST.
BIRMINGHAM, MI 48009

TARGET PROPERTY COORDINATES

Latitude (North):	42.545841 - 42° 32’ 45.03’’
Longitude (West):	83.195598 - 83° 11’ 44.15’’
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	319719.2
UTM Y (Meters):	4712505.0
Elevation:	749 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6066350 BIRMINGHAM, MI
Version Date:	2014

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

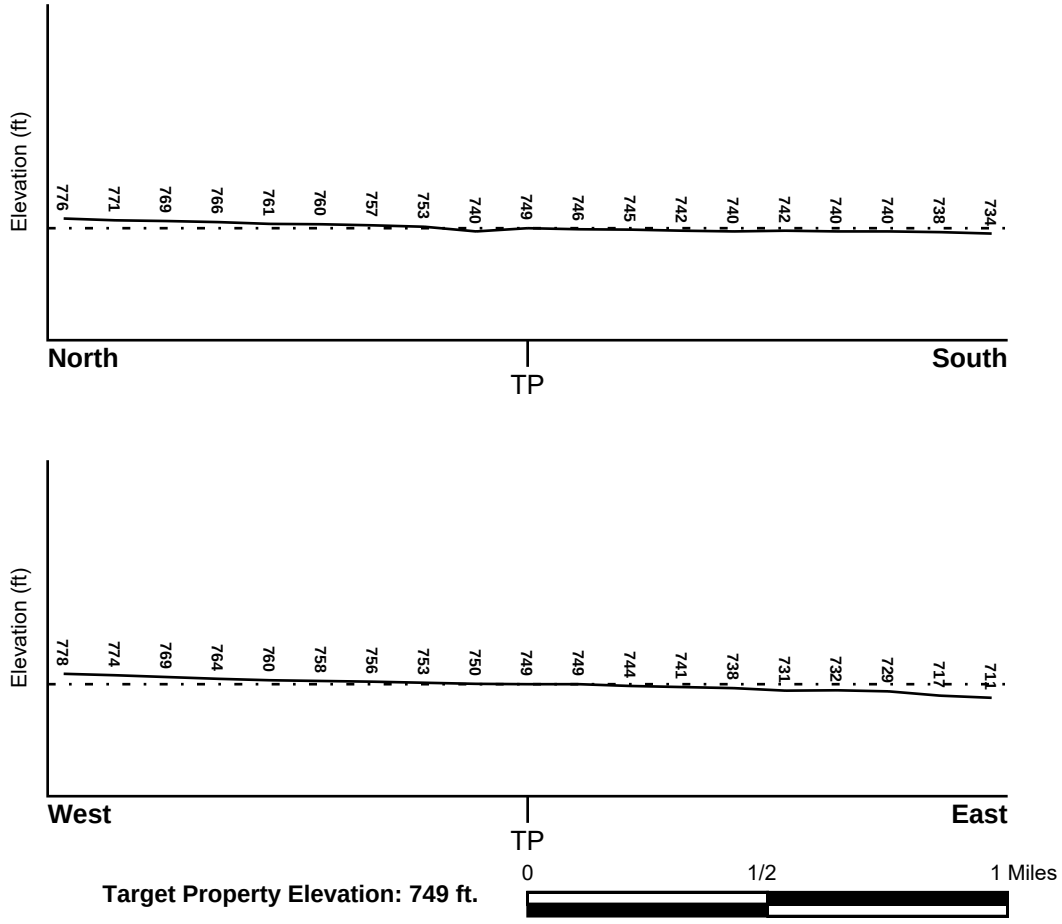
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
26125C0537F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
26125C0541F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
BIRMINGHAM	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
8	1/2 - 1 Mile East	ESE
1G	1/2 - 1 Mile East	ESE

For additional site information, refer to Physical Setting Source Map Findings.

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

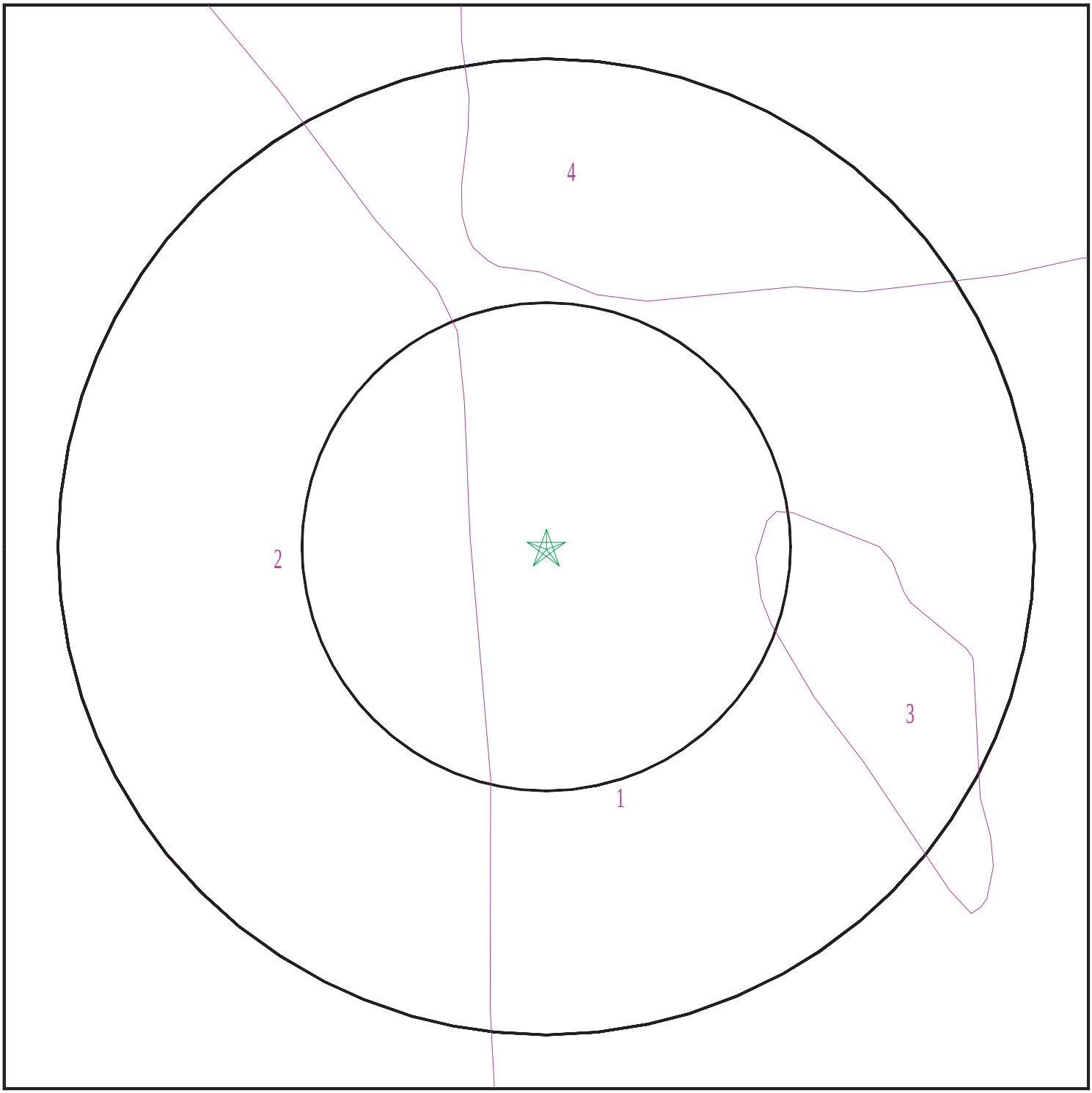
Era:	Paleozoic
System:	Devonian
Series:	Upper Devonian
Code:	D3 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6442429.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	The Reserve	CLIENT:	Consolidated Env. Services
ADDRESS:	325 S Eton St. Birmingham MI 48009	CONTACT:	Stephen Peach
LAT/LONG:	42.545841 / 83.195598	INQUIRY #:	6442429.2s
		DATE:	April 08, 2021 3:14 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Urban land

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Urban land

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 46 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Lenawee

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	7 inches	53 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	53 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 4

Soil Component Name: Urban land

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B4	USGS40000482203	1/2 - 1 Mile North
C6	USGS40000482172	1/2 - 1 Mile East
C7	USGS40000482176	1/2 - 1 Mile East
C9	USGS40000482171	1/2 - 1 Mile East
12	USGS40000482188	1/2 - 1 Mile East
14	USGS40000482130	1/2 - 1 Mile South

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

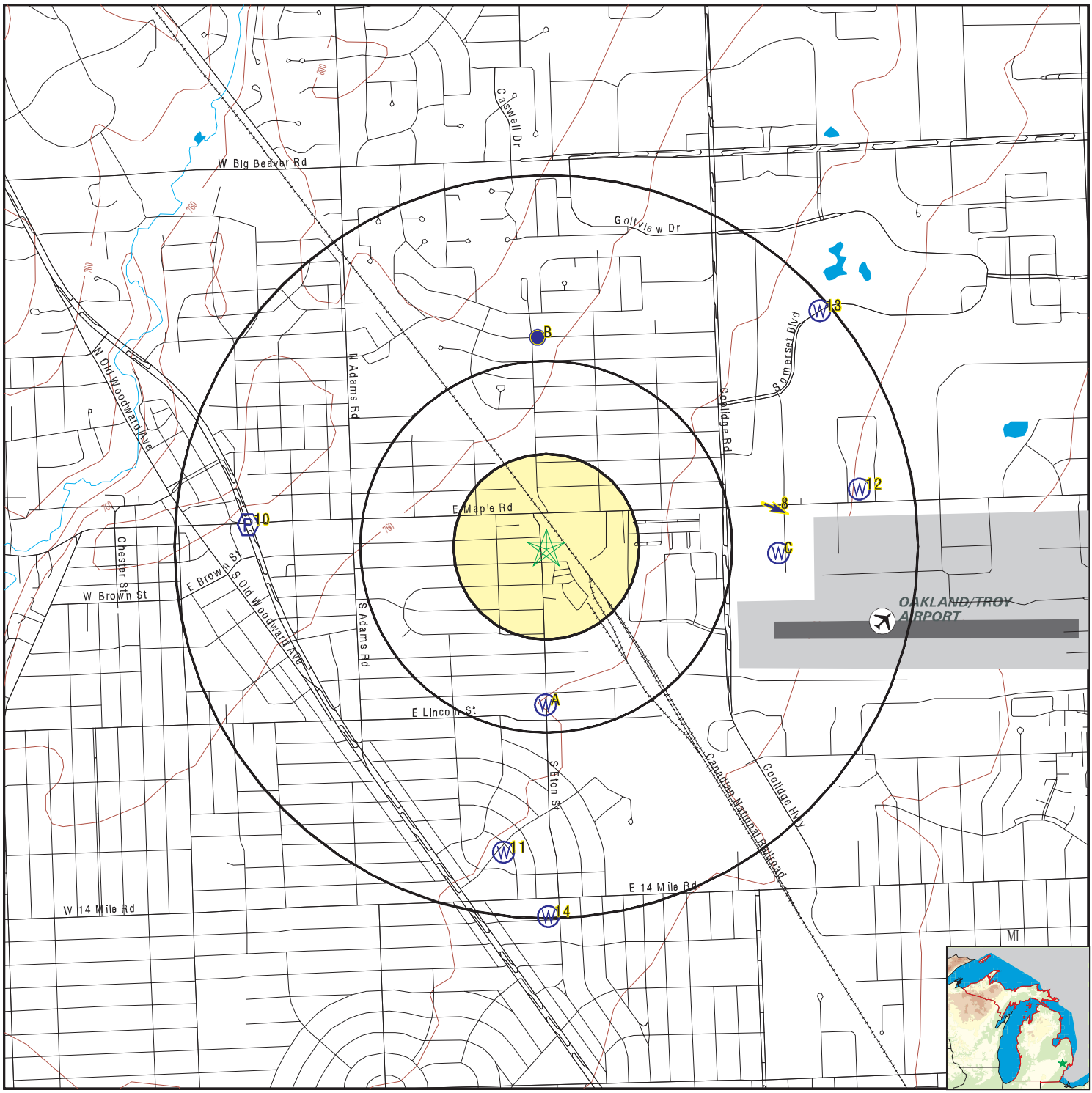
MAP ID	WELL ID	LOCATION FROM TP
10	MI2033663	1/2 - 1 Mile West

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	MI4000000284459	1/4 - 1/2 Mile South
A2	MI4000000288578	1/4 - 1/2 Mile South
A3	MI4000000308290	1/4 - 1/2 Mile South
B5	MI4000000288577	1/2 - 1 Mile North
11	MI4000000288579	1/2 - 1 Mile South
13	MI4000000288575	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 6442429.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	The Reserve	CLIENT:	Consolidated Env. Services
ADDRESS:	325 S Eton St. Birmingham MI 48009	CONTACT:	Stephen Peach
LAT/LONG:	42.545841 / 83.195598	INQUIRY #:	6442429.2s
		DATE:	April 08, 2021 3:14 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

A1
South
1/4 - 1/2 Mile
Lower

MI WELLS **MI4000000284459**

Well ID:	63000000181	Permit #:	Not Reported
Owner:	CLOVERHILL PARK CEMETARY	Well Depth:	220
Well Type:	Other	Other Type Info:	Abandoned
Well Status:	Not Reported	Other Status Info:	Not Reported
Well Supply Serial #:	Not Reported	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Rotary
Other Method Info:	Not Reported	Construction Date:	1996-10-04 00:00:00
Casing Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Casing Depth (ft):	0
Screen Start Depth:	Not Reported	Screen End Depth:	Not Reported
Static Water Level:	999.99	Flowing:	N
Test Drawdown Depth:	0	Test Hours:	0
Test Water Flow Rate:	0	Test Method:	Unknown
Well Grouted:	Y	Elevation:	0

A2
South
1/4 - 1/2 Mile
Lower

MI WELLS **MI4000000288578**

Well ID:	63000004359	Permit #:	Not Reported
Owner:	CLOVERHILL PARK CEMETARY	Well Depth:	304
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Not Reported	Other Status Info:	Not Reported
Well Supply Serial #:	Not Reported	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	1990-08-07 00:00:00
Casing Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	8	Casing Depth (ft):	278
Screen Start Depth:	275.5	Screen End Depth:	304
Static Water Level:	2	Flowing:	N
Test Drawdown Depth:	125	Test Hours:	8
Test Water Flow Rate:	305	Test Method:	Unknown
Well Grouted:	Y	Elevation:	0

A3
South
1/4 - 1/2 Mile
Lower

MI WELLS **MI4000000308290**

Well ID:	63000026129	Permit #:	20405000002
Owner:	CLOVER HILL PARK CEMETERY	Well Depth:	198
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Plugged/Abandoned	Other Status Info:	Not Reported
Well Supply Serial #:	Not Reported	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Rotary
Other Method Info:	Not Reported	Construction Date:	2006-04-18 00:00:00
Casing Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	0	Casing Depth (ft):	0
Screen Start Depth:	Not Reported	Screen End Depth:	Not Reported
Static Water Level:	0	Flowing:	N

Test Drawdown Depth:	0	Test Hours:	0
Test Water Flow Rate:	0	Test Method:	Unknown
Well Grouted:	N	Elevation:	0

B4
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000482203**

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	02N 11E 30DBBB 02	Type:	Well
Description:	Not Reported	HUC:	04090004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported
Construction Date:	19280101	Well Depth:	240
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1928-09-01
Feet below surface:	13.00	Feet to sea level:	Not Reported
Note:	Not Reported		

B5
North
1/2 - 1 Mile
Higher

MI WELLS **MI4000000288577**

Well ID:	63000004358	Permit #:	Not Reported
Owner:	GRACE EVANGELICAL FREE CHURCH	Well Depth:	111
Well Type:	Household	Other Type Info:	Not Reported
Well Status:	Not Reported	Other Status Info:	Not Reported
Well Supply Serial #:	Not Reported	Well #:	Not Reported
Driller ID:	63-0025	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	1986-04-15 00:00:00
Casing Type:	Unknown	Other Casing Info:	Not Reported
Case Diameter (in):	4	Casing Depth (ft):	105.7
Screen Start Depth:	103.42	Screen End Depth:	111.33
Static Water Level:	40	Flowing:	N
Test Drawdown Depth:	75	Test Hours:	1
Test Water Flow Rate:	20	Test Method:	Unknown
Well Grouted:	N	Elevation:	0

C6
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000482172**

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	02N 11E 32BBAC 01	Type:	Well
Description:	Not Reported	HUC:	04090004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported

Construction Date:	19490101	Well Depth:	188
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

C7
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000482176**

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	02N 11E 32BBAC 02	Type:	Well
Description:	Not Reported	HUC:	04090004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported
Construction Date:	19490101	Well Depth:	205
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1950-07-01
Feet below surface:	76.00	Feet to sea level:	Not Reported
Note:	Not Reported		

8
East
1/2 - 1 Mile
Lower

AQUIFLOW **36022**

Site ID:	630762
Groundwater Flow:	ESE
Shallowest Water Table Depth:	Not Reported
Deepest Water Table Depth:	Not Reported
Average Water Table Depth:	5
Date:	04/11/1995

C9
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000482171**

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	02N 11E 32BBDB 01	Type:	Well
Description:	Not Reported	HUC:	04090003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported
Construction Date:	19440101	Well Depth:	187
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1944-01-01
Feet below surface:	33.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

10
West
1/2 - 1 Mile
Higher

FRDS PWS **MI2033663**

PWS ID:	MI2033663	PWS type:	System Owner/Responsible Party
PWS name:	JOHN FREDENBURGH	PWS address:	Not Reported
PWS city:	Not Reported	PWS state:	Not Reported
PWS zip:	Not Reported	PWS ID:	MI2033663
Activity status:	Active	Date system activated:	7706
Date system deactivated:	Not Reported	Retail population:	00000140
System name:	NATIVITY EPISCOPAL CHURCH	System address:	Not Reported
System address:	21220 FOURTEEN MILE ROAD	System city:	BIRMINGHAM
System state:	Not Reported	System zip:	48010
County FIPS:	063	City served:	BLOOMFIELD
Population served:	101 - 500 Persons	Treatment:	Untreated
Latitude:	423248	Longitude:	0831241

11
South
1/2 - 1 Mile
Lower

MI WELLS **MI4000000288579**

Well ID:	63000004360	Permit #:	Not Reported
Owner:	MILES BENTLEY	Well Depth:	315
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Not Reported	Other Status Info:	Not Reported
Well Supply Serial #:	Not Reported	Well #:	Not Reported
Driller ID:	78-1607	Drill Method:	Rotary
Other Method Info:	Not Reported	Construction Date:	1997-08-29 00:00:00
Casing Type:	PVC Plastic	Other Casing Info:	Not Reported
Case Diameter (in):	8	Casing Depth (ft):	300
Screen Start Depth:	300	Screen End Depth:	315
Static Water Level:	35	Flowing:	N
Test Drawdown Depth:	315	Test Hours:	3
Test Water Flow Rate:	500	Test Method:	Unknown
Well Grouted:	Y	Elevation:	0

12
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000482188**

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	02N 11E 29CDDC 01	Type:	Well
Description:	Not Reported	HUC:	04090003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported
Construction Date:	19470101	Well Depth:	193
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:		1	Level reading date:		1947-01-01
Feet below surface:	22.00		Feet to sea level:		Not Reported
Note:	Not Reported				

13
NE
1/2 - 1 Mile
Lower

MI WELLS **MI4000000288575**

Well ID:	63000004356	Permit #:	Not Reported
Owner:	SUMMERSET APARTMENTS	Well Depth:	142
Well Type:	Irrigation	Other Type Info:	Not Reported
Well Status:	Not Reported	Other Status Info:	Not Reported
Well Supply Serial #:	Not Reported	Well #:	Not Reported
Driller ID:	63-1837	Drill Method:	Cable Tool
Other Method Info:	Not Reported	Construction Date:	1987-05-19 00:00:00
Casing Type:	Steel-black	Other Casing Info:	Not Reported
Case Diameter (in):	6	Casing Depth (ft):	127
Screen Start Depth:	127	Screen End Depth:	142
Static Water Level:	0	Flowing:	Y
Test Drawdown Depth:	0	Test Hours:	0
Test Water Flow Rate:	0	Test Method:	Unknown
Well Grouted:	Y	Elevation:	735

14
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000482130**

Organization ID:	USGS-MI	Organization Name:	USGS Michigan Water Science Center
Monitor Location:	01N 11E 06BAAA 02	Type:	Well
Description:	Not Reported	HUC:	04090004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Pleistocene Series	Aquifer Type:	Not Reported
Construction Date:	19280101	Well Depth:	230
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:		1	Level reading date:		1928-05-01
Feet below surface:	12.00		Feet to sea level:		Not Reported
Note:	Not Reported				

1G
East
1/2 - 1 Mile
Lower

AQUIFLOW **36022**

Site ID:	630762
Groundwater Flow:	ESE
Shallowest Water Table Depth:	Not Reported
Deepest Water Table Depth:	Not Reported
Average Water Table Depth:	5
Date:	04/11/1995

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: MI Radon

Radon Test Results

Zipcode	Test Date	LT Sign	Result
48009	4/21/2007		1.5
48009	1/14/2008		1.5
48009	7/14/2004		1.5
48009	4/7/2006		1.5
48009	4/12/2002		1.4
48009	7/29/2004		1.4
48009	7/27/2009		1.5
48009	10/19/2009		1.5
48009	5/29/2001		1.4
48009	1/29/2009		1.4
48009	4/7/2006		1.4
48009	12/4/2006		1.4
48009	5/28/2003		1.3
48009	1/24/2009		1.3
48009	1/6/1997		1.2
48009	8/22/2002		1.2
48009	5/24/2002		1.2
48009	3/26/2004		1.2
48009	3/26/2004		1.2
48009	3/26/2004		1.2
48009	2/8/2005		1.2
48009	10/13/1995		1.1
48009	7/1/1998		1.1
48009	5/10/2002		1.1
48009	5/31/2002		1.1
48009	2/24/2003		1.1
48009	1/27/2009		1.2
48009	1/24/2009		1.2
48009	2/17/2009		1.2
48009	2/14/2009		1.2
48009	2/2/2009		1.1
48009	3/22/2004		1.1
48009	3/7/2008		1.1
48009	6/8/2002		1.0
48009	2/2/2009		1.1
48009	7/3/1995		1.0
48009	2/26/1999		1.0
48009	2/16/2005		1.9
48009	2/2/2006		1.9
48009	11/15/2001		1.9
48009	4/20/1998		1.9
48009	3/11/2003		1.8
48009	10/13/2008		1.9
48009	10/27/2000		1.9
48009	2/27/2009		1.9
48009	4/3/2009		1.9
48009			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

	1/13/1996		1.8
48009	2/21/1995		1.8
48009	11/20/2007		1.8
48009	10/13/1995		1.7
48009	7/29/2003		1.7
48009	4/29/2002		1.7
48009	10/31/2002		1.7
48009	1/18/2003		1.7
48009	1/28/2003		1.7
48009	11/22/2003		1.6
48009	12/30/2003		1.6
48009	2/7/2009		1.7
48009	1/29/2009		1.7
48009	5/11/2007	<	0.3
48009	5/7/2005		0.5
48009	3/8/2004		0.5
48009	1/29/2004	<	0.3
48009	1/12/2004	<	0.3
48009	4/7/2006	<	0.3
48009	6/2/2004	<	0.3
48009	3/21/2007		0.5
48009	8/30/1999		0.5
48009	11/16/2004	<	0.3
48009	3/18/1994		0.5
48009	3/18/1994		0.5
48009	9/26/1998	<	0.3
48009	2/18/1999	<	0.3
48009	1/22/2008	<	0.3
48009	5/20/2003	<	0.3
48009	5/10/2002	<	0.3
48009	5/23/2002	<	0.3
48009	4/15/2002	<	0.3
48009	1/15/2007	<	0.3
48009	1/20/1998		0.8
48009	7/3/1995		0.8
48009	3/15/2004		0.7
48009	3/19/2003		0.8
48009	3/29/2004		0.8
48009	4/17/2004		0.6
48009	3/24/2006		0.8
48009	10/9/2004		0.9
48009	2/9/2004		0.9
48009	2/21/2004		0.9
48009	11/10/2006		0.9
48009	1/21/2008		0.6
48009	1/15/2008		0.6
48009	1/29/2009		0.6
48009	3/13/2009		0.7
48009	2/20/2009		0.6
48009	1/24/2009		0.8
48009	2/7/2009		0.8
48009	1/24/2009		0.6
48009	2/3/2009		0.9
48009	7/1/1998		0.7
48009	3/19/2003		0.6
48009	4/13/2002		0.6
48009			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

	4/1/2002		0.6
48009	1/26/2009		0.9
48009	4/24/2002		0.5
48009	4/22/2003		0.6
48009	1/26/2009		2.6
48009	1/22/2009		2.8
48009	1/7/2002		2.5
48009	11/23/2007		2.4
48009	11/9/2007		2.4
48009	9/28/1999		2.4
48009	10/30/2006		2.2
48009	3/23/2009		2.4
48009	1/26/2009		2.3
48009	12/3/1994		2.2
48009	4/23/2002		2.2
48009	4/29/2002		2.2
48009	2/7/2003		2.2
48009	1/8/2007		2.3
48009	2/25/2002		2.1
48009	12/2/2002		2.7
48009	11/14/2003		2.6
48009	6/10/2002		2.7
48009	1/13/2006		2.6
48009	10/31/2009		3.0
48009	1/3/2004		2.8
48009	11/3/2007		2.7
48009	11/7/2007		3.8
48009	7/28/2008		3.6
48009	5/21/2004		3.5
48009	4/28/2003		3.5
48009	1/2/2010		3.5
48009	9/8/2009		3.5
48009	11/6/2008		3.4
48009	2/25/2004		3.2
48009	4/9/2004		3.3
48009	11/10/2007		3.2
48009	1/24/2009	<	0.3
48009	11/11/2003		3.7
48009	1/25/2010	<	0.3
48009	1/4/1997		3.8
48009	1/14/2002		3.8
48009	6/9/2003		3.8
48009	11/22/1997		3.6
48009	7/16/2007		5.6
48009	7/16/1999		5.5
48009	1/24/2009		5.9
48009	6/12/2004		4.7
48009	10/20/2008		5.0
48009	9/29/2007		5.0
48009	3/13/2002		4.6
48009	5/27/2002		4.6
48009	6/9/2008		6.7
48009	7/6/2007		7.7
48009	4/12/2002		2.0
48009	5/8/2002		2.0
48009	9/17/2001		22.4
48009			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

	3/5/2009	14.4
48009	2/7/2009	12.6
48009	5/27/2002	8.0
48009	6/24/2002	10.8
48009	7/24/1999	8.6
48009	1/24/2009	2.1
48009	11/7/2008	4.2
48009	10/10/2006	4.2
48009	8/19/2008	4.1
48009	2/1/2008	4.5
48009	10/23/2007	4.5

Federal EPA Radon Zone for OAKLAND County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 48009

Number of sites tested: 5

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.780 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 517-241-2254

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Environmental Quality
Telephone: 517-335-9218
The data in this file was obtained from Wellogic, the Michigan Department of Environmental Quality Statewide Groundwater Database (SGWD). Wellogic contains approximately 425,000 water well records found within the State of Michigan, and although it represents the best available data, it cannot be considered a complete database of all the wells or well records in existence. Locations of verified municipal and private water well sites compiled from Michigan Department of Public Health, Water Well and Pump Records. Available in the following MI counties: Calhoun, Eaton, Genesee, Ingham, Jackson, Kalamazoo, Kent, Midland, Muskegon, Oakland, Ottawaw, Saginaw, St. Clair, Washtenaw.

OTHER STATE DATABASE INFORMATION

Michigan Oil and Gas Wells
Source: Department of Environmental Quality
Telephone: 517-241-1528
Locations of oil and gas wells are compiled from permit records on file at the Geological Survey Division (GSD), Michigan Department of Natural Resources.

RADON

State Database: MI Radon
Source: Department of Environmental Quality
Telephone: 517-335-9551
Radon Test Results

Michigan Radon Test Results
Source: Department of Environmental Quality
Telephone: 517-335-8037
These results are from test kits distributed by the local health departments and used by Michigan residents. There is no way of knowing whether the devices were used properly, whether there are duplicates (or repeat verification) test (i.e., more than one sample per home), etc.

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Appendix H

Environmental Lien Search

THE RESERVE
325 S ETON ST.
BIRMINGHAM, MI 48009

Inquiry Number: 6442429.7S
APRIL 13, 2021

EDR Environmental Lien and AUL Search

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This report was prepared for the use of Environmental Data Resources, Inc., and AFX Research, LLC. (AFX) exclusively. This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WTH THIS REPORT**. Environmental Data Resources, Inc. (EDR) and AFX exclusively specifically disclaim the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

THE RESERVE
325 S ETON ST.
BIRMINGHAM, MI 48009

RESEARCH SOURCE

Source 1: OAKLAND COUNTY RECORDER'S OFFICE

Source 2: MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Source 3: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PROPERTY INFORMATION

Deed 1

Type of Deed:	WARRANTY DEED
Title is vested in:	ETON STREET REAL ESTATE INC
Title received from:	BIRMINGHAM TRAIN STATION ASSOCIATES
Date Executed:	01/10/1997
Date Recorded:	01/14/1997
Book:	16909
Page:	359
Volume:	NA
Instrument#:	NA
Docket:	NA
Land Record Comments:	NA
Miscellaneous Comments:	NA

Legal Description: T2N, R11E, SEC 31 OAKLAND COUNTY CONDOMINIUM PLAN NO 1883 ETON CONDO PROPERTIES UNIT 2 L 37854 P 533 7-19-06 FR 203-029

Current Owner: ETON STREET REAL ESTATE INC

Property Identifiers: 20-31-207-002
2031207002

Comments: NA

EDR Environmental Lien and AUL Search

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

Comments: NONE IDENTIFIED.

OTHER ACTIVITY AND USE LIMITATIONS (AULS)

Other AUL's: Found ☐ Not Found ☒

Comments: NONE IDENTIFIED.

EDR Environmental Lien and AUL Search

MISCELLANEOUS

Comments: NONE IDENTIFIED.

EDR Environmental Lien and AUL Search

DEED EXHIBIT

LIBER 16909 PG 359

JAN 14 97 0 1 1 6 7 0

WARRANTY DEED - LIMITED PARTNERSHIP - Statutory Form #82466

KNOW ALL MEN BY THESE PRESENTS THAT: BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP, a Michigan limited partnership, the address of which is 1000 Town Center, Suite 700, Southfield, Michigan 48075

CONVEYS AND WARRANTS TO: ETON STREET REAL ESTATE, INC., a Michigan corporation, the address of which is 805 Oakwood Road, Rochester, Michigan 48307

certain premises situated in the City of Birmingham, County of Oakland and State of Michigan, more particularly described on Exhibit A hereto for the full consideration set forth on the Real Estate Transfer Tax Valuation Affidavit submitted herewith, together with and subject to all easements, restrictions and limitations of record and all applicable laws and governmental regulations.

Dated this 10th day of January, 1997

Witnesses:

Lorraine A. Wallace

Lorraine A. Wallace

Pamela Steed

Pamela Steed

Signed and Sealed:

BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP, a Michigan limited partnership

By: William T. Myers

William T. Myers, General Partner

STATE OF MICHIGAN)
) SS.
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this 10th day of January, 1997, by William T. Myers, a General Partner of BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP, a Michigan limited partnership, on behalf of the limited partnership.

Pamela Steed
Notary Public, Lapeer County, Michigan, acting in Oakland County
My commission expires: October 1, 2000

$ 2.00 REMONUMENTATION
14 JAN 97 2:38 P.M. RECEIPT #63
PAID RECORDED - OAKLAND COUNTY
LYNN D. ALLEN, CLERK/REGISTER OF DEEDS

This instrument drafted by:
William T. Myers
552 Kingsley Trail
Bloomfield Hills, Michigan 48304

OAKLAND COUNTY TREASURER'S CERTIFICATE
I HEREBY CERTIFY that the County Treasurer's Certificate held by the said County individual agent or firm, foreclosure, and all TAXES on same are paid for five years previous to the date of this instrument, as appears by the records in the office except as stated.

C. HUGH DOHANY

1-14-97 C. HUGH DOHANY, County Treasurer Sec. 135, Act 206, 1893 as amended

001627

City Treasurer's Certificate

Recording Fee $13.00
PLEASE AFFIX AFFIDAVIT AFTER RECORDING

When recorded return to Grantee Eton St. Real Estate
805 Oakwood Rd. Rochester, Mich 48307
Send subsequent tax bills
to Grantee

Tax Parcel # 20-31-201-002

REVENUE TO BE AFFIXED AFTER RECORDING

JAN 14 1997 O.K. - J.S.

185093

EXHIBIT A TO WARRANTY DEED FROM
BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP
TO ETON STREET REAL ESTATE, INC.

LIBER 16909 PAGE 360

Parcel A:
A parcel of land located in the North 1/2 of Section 31, Town 2 North, Range 11 East, Township of Troy, (now City of Birmingham), now owned by Grand Trunk Western Railroad Company and previously platted as Lots 58 and 59, part of Lot 11, Lots 12 through 15, inclusive, plus all or parts of Lots 55 through 59, inclusive, plus part of vacated Yosemite Boulevard, Eton Road and a 16 foot alley in "Birmingham Gardens Subdivision", according to the plat thereof recorded in Liber 31 of Plats, Page 38, Oakland County Records. Parcel more particularly described as: Beginning at a point on the East line of Eton Road (as relocated), said point being North 88 degrees 16 minutes 37 seconds West, 117.95 feet along the East-West Section line in Maple Road (66 feet wide) and South 34 degrees 11 minutes 27 seconds East, 87.17 feet along the Easterly Right of Way line of Eton Road (50 feet wide) extended from the North 1/4 corner of said Section 31; thence continuing South 34 degrees 11 minutes 27 seconds East, 112.57 feet along said Right of Way line; thence South 1 degree 59 minutes 10 seconds West, 236.98 feet along the East line of Eton Road; thence South 88 degrees 20 minutes 47 seconds East, 245.76 feet; thence North 33 degrees 44 minutes 54 seconds West, 390.56 feet parallel and 1.00 feet Westerly of an existing concrete retaining wall; thence South 56 degrees 34 minutes 45 seconds West, 16.90 feet; thence North 33 degrees 36 minutes 11 seconds West, 57.77 feet to the South line of Maple Road as widened for Railroad Bridge (43 feet, 1/2 Right of Way); thence North 88 degrees 16 minutes 37 seconds West, 22.56 feet along said Right of Way; thence South 29 degrees 04 minutes West, 31.10 feet along the Easterly Right of Way of Eton Road as relocated to the point of beginning.

20-31-201-002 Lots 11-15 + Lots 55-59

Parcel B:
Easements over the following described parcels.

31038

EASEMENT PARCEL 1:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Track No. 690-1 (as shown by Grand Trunk Western Railroad's Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 328.4 feet, more or less, along the centerline of said track; thence Southwesterly 32.5 feet at right angles to the outside Easterly corner of the former Birmingham Depot Baggage and Utility Rooms being the point of beginning; thence Northwesterly 45.1 feet, at right angles, to the outside Northerly corner of said Baggage and Utility Rooms; thence Southwesterly 11.3 feet, at right angles, to a point on Southwesterly Right of Way line; thence Southeasterly 45.1 feet along said Right of Way line; thence Northeasterly 11.3 feet at right angles to the point of beginning.

EASEMENT PARCEL 2:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Track No. 690-1 (as disclosed by Grand Trunk Western Railroad's Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 297.3 feet, more or less, along the centerline of said track to the outside face of the Northwesterly wall of the former Birmingham Depot Baggage Tunnel, being the point of beginning; thence Southwesterly 32.5 feet at right angles along the outside face of said wall to the Northeasterly outside face of the former Birmingham Depot Baggage Room wall; thence Southeasterly 9.4 feet, more or less, at right angles to the outside face of the Southeasterly wall of said tunnel; thence Northeasterly 76.0 feet at right angles along the outside face of said wall to Northeasterly Right of Way line; thence Northwesterly 9.4 feet, more or less, along said Right of Way line to the outside face of the Northwesterly wall of said baggage tunnel; thence Southwesterly 43.5 feet along the outside face of said wall to the point of beginning.

EASEMENT PARCEL 3:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Grand Trunk Western Railroad Track No. 690-1, (as disclosed by Grand Trunk Western Railroad Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 253.3 feet, more or less, along the centerline of said track to the outside face of the Northwesterly wall of the former Birmingham Depot Passenger Tunnel, being the point of beginning; thence Southwesterly 43.8 feet at right angles along the outside face of said wall to Grand Trunk Western Railroad Southwesterly Right of Way line; thence Southeasterly 13.4 feet, more or less, at right angles along said Right of Way line to the outside face of the Southeasterly wall of said passenger tunnel; thence Northeasterly 61.8 feet at right angles along the outside face of said wall; thence Northwesterly 13.4 feet at right angles to the outside face of the Northwesterly wall of said tunnel; thence Southwesterly 18.0 feet along the outside face of said wall to the point of beginning.

EASEMENT PARCEL 4:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Grand Trunk Western Railroad Track No. 690-1, (as disclosed by Grand Trunk Western Railroad Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 220.2 feet, more or less, along the centerline of said track; thence Southwesterly 43.8 feet at right angles to a point 1.3 feet Northwesterly of the Northwesterly face of the former Birmingham Depot, said point being the point of beginning; thence Southeasterly 79.4 feet, more or less, along Grand Trunk Western Railroad Sotuhwesterly Right of Way line; thence Northeasterly 2.8 feet at right angles; thence Northwesterly 24.8 feet at right angles; thence Southwesterly 0.8 feet at right angles; thence Northwesterly 29.8 feet at right angles; thence Northeasterly 0.8 feet at right angles; thence Northwesterly 24.8 feet at right angles; thence Southwesterly 2.8 feet to the point of beginning.

Appendix I

Building Department Records

The Reserve
325 S Eton St.
Birmingham, MI 48009

Inquiry Number: 6442429.8
April 08, 2021

EDR Building Permit Report

Target Property and Adjoining Properties

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Building Permit Report: Search Documentation

4/08/21

Site Name:
The Reserve
325 S Eton St.
Birmingham, MI 48009

EDR Inquiry # 6442429.8

Client Name:
Consolidated Env. Services
830 East Fourth St Suite 6
Royal Oak, MI 48067

Contact: Stephen Peach

Search Documentation

DATA GAP

The complete collection of Building Permit data available to EDR has been searched, and as of 4/08/21, EDR does not have access to building permits in the city where your target property is located (Birmingham, MI).

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED ORIMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THEMAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALLRISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OFERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL,INCIDENTAL CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLYLIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risklevels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providingany facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by anenvironmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to beconstrued as legal advice.

Copyright 2017 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

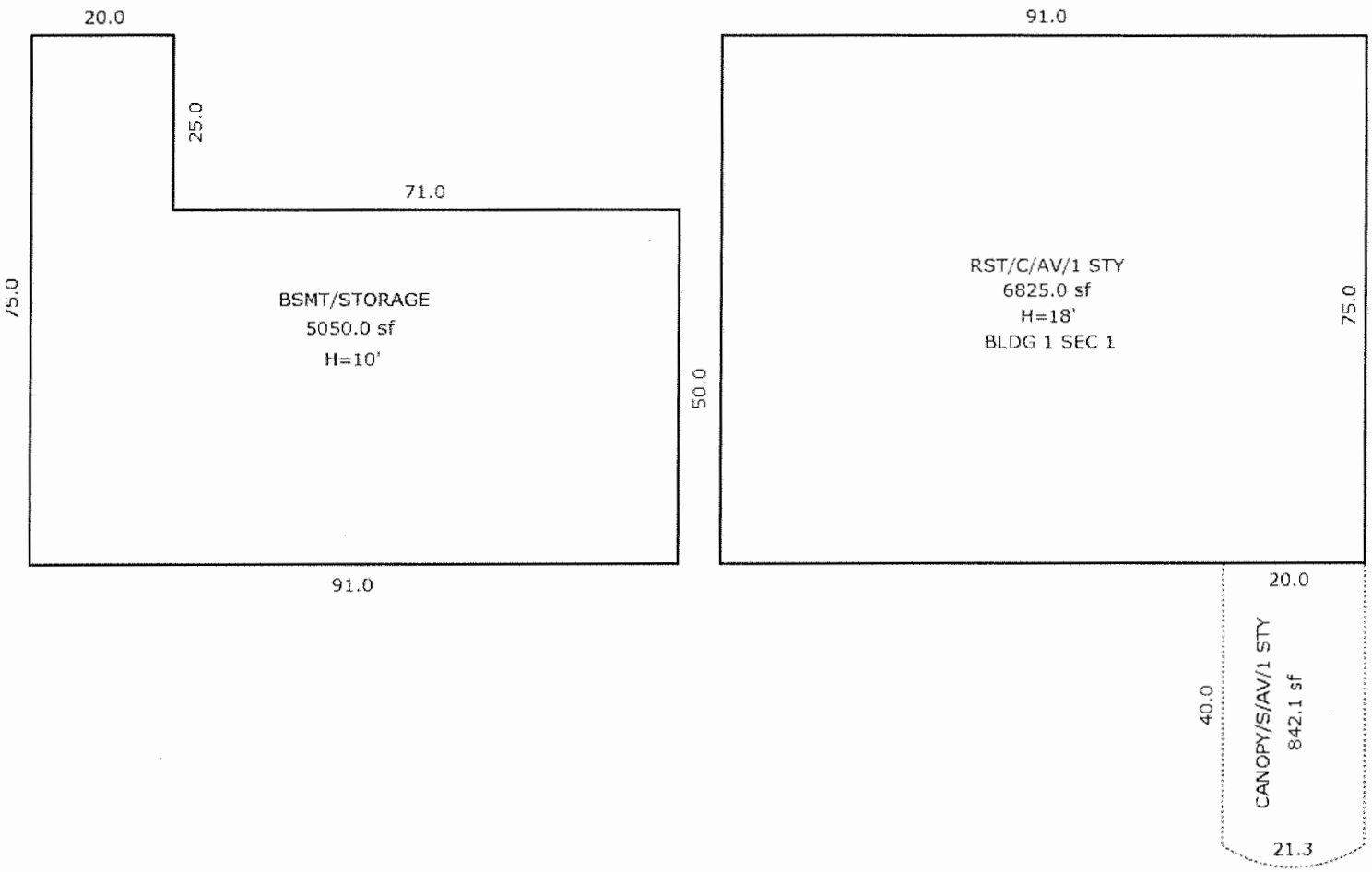
The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILDFAX PROPERTY HISTORY



apex Sketch

1

Close

Appendix J

Property Tax Map Report

The Reserve
325 S Eton St.
Birmingham, MI 48009

Inquiry Number: 6442429.6
April 08, 2021

The EDR Property Tax Map Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

NO COVERAGE

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2017 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Appendix K

Chain of Title Report

THE RESERVE
325 S ETON ST.
BIRMINGHAM, MI 48009

Inquiry Number: 6442429.13S
APRIL 12, 2021

The EDR 1940 Chain of Title

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Chain of Title

The EDR Chain of Title Report tracks a line of successive owners from the present back to 1940 of a particular parcel of property, linked together by recorded transactions which pass title. Available nationwide, this report provides a summary of a property's ownership history and is a valuable source for determining the prior uses of a property.

A network of professional abstractors following established procedures, uses client supplied address information to locate:

• Historical Chain of Title research

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer – Copyright and Trademark Notice

This report was prepared for the use of Environmental Data Resources, Inc. and AFX Research LLC, exclusively. This report is neither a guarantee of title, a commitment to insure, nor a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT.** Environmental Data Resources, Inc. (EDR) and AFX Research LLC specifically disclaim the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Chain of Title

TARGET PROPERTY INFORMATION

ADDRESS

THE RESERVE
325 S ETON ST.
BIRMINGHAM, MI 48009

RESEARCH SOURCE

SOURCE 1:	OAKLAND COUNTY RECORDER'S OFFICE
SOURCE 2:	OAKLAND COUNTY ASSESSOR'S OFFICE
EXAMINER'S NOTE:	PUBLIC RECORDS OF OAKLAND COUNTY, MI WERE SEARCHED FROM JANUARY 1, 1940 TO MARCH 26, 2021, AND NO OTHER DEEDS VESTING TITLE IN THE SUBJECT PROPERTY WERE FOUND OF RECORD DURING THE PERIOD SEARCHED.

PROPERTY DESCRIPTION

CURRENT OWNER:	ETON STREET REAL ESTATE INC
LEGAL DESCRIPTION:	T2N, R11E, SEC 31 OAKLAND COUNTY CONDOMINIUM PLAN NO 1883 ETON CONDO PROPERTIES UNIT 2 L 37854 P 533 7-19-06 FR 203-029
PROPERTY IDENTIFIERS:	20-31-207-002 2031207002
GENERAL COMMENTS:	NA

HISTORICAL CHAIN OF TITLE

SEE EXHIBIT "A"

MISCELLANEOUS

SEE EXHIBIT "B"

EDR Chain of Title

CHAIN OF TITLE

EXHIBIT "A"

EDR Chain of Title

HISTORICAL CHAIN OF TITLE

PARCEL 20-31-207-002

CHAIN 1

TYPE OF DEED:	WARRANTY DEED - LIMITED PARTNERSHIP
TITLE IS VESTED IN:	ETON STREET REAL ESTATE INC
TITLE RECEIVED FROM:	BIRMINGHAM TRAIN STATION ASSOCIATES
DATE EXECUTED:	01/10/1997
DATE RECORDED:	01/14/1997
BOOK:	16909
PAGE:	359
VOLUME:	NA
INSTRUMENT #:	NA
DOCKET:	NA
LAND RECORD COMMENTS:	NA

CHAIN 2

TYPE OF DEED:	QUIT CLAIM DEED
TITLE IS VESTED IN:	BIRMINGHAM TRAIN STATION ASSOCIATES LP
TITLE RECEIVED FROM:	BIRMINGHAM TRAIN STATION ASSOCIATE
DATE EXECUTED:	04/04/1984
DATE RECORDED:	04/18/1984
BOOK:	8645
PAGE:	878
VOLUME:	NA
INSTRUMENT #:	NA
DOCKET:	NA
LAND RECORD COMMENTS:	NA

EDR Chain of Title

CHAIN 3

TYPE OF DEED:	DEED
TITLE IS VESTED IN:	GRAND TRUNK WESTERN RR
TITLE RECEIVED FROM:	STATE OF MICHIGAN
DATE EXECUTED:	06/29/1938
DATE RECORDED:	06/29/1938
BOOK:	1145
PAGE:	274
VOLUME:	NA
INSTRUMENT #:	NA
DOCKET:	NA
LAND RECORD COMMENTS:	NA

CHAIN 4

TYPE OF DEED:	DEED
TITLE IS VESTED IN:	STATE OF MICHIGAN
TITLE RECEIVED FROM:	LEO D SULLIVAN
DATE EXECUTED:	04/23/1928
DATE RECORDED:	04/23/1928
BOOK:	18MR
PAGE:	1
VOLUME:	NA
INSTRUMENT #:	NA
DOCKET:	NA
LAND RECORD COMMENTS:	NA

EDR Chain of Title

MISCELLANEOUS

EXHIBIT "B"

EDR Chain of Title

MISCELLANEOUS

COMMENTS: NONE IDENTIFIED.

LIBER 16909 PG 359

JAN 14 97 0 1 1 6 7 0

WARRANTY DEED - LIMITED PARTNERSHIP - Statutory Form #82466

KNOW ALL MEN BY THESE PRESENTS THAT: BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP, a Michigan limited partnership, the address of which is 1000 Town Center, Suite 700, Southfield, Michigan 48075

CONVEYS AND WARRANTS TO: ETON STREET REAL ESTATE, INC., a Michigan corporation, the address of which is 805 Oakwood Road, Rochester, Michigan 48307

certain premises situated in the City of Birmingham, County of Oakland and State of Michigan, more particularly described on Exhibit A hereto for the full consideration set forth on the Real Estate Transfer Tax Valuation Affidavit submitted herewith, together with and subject to all easements, restrictions and limitations of record and all applicable laws and governmental regulations.

Dated this 10th day of January, 1997

Witnesses:

Lorraine A. Wallace

Lorraine A. Wallace

Pamela Steed

Pamela Steed

Signed and Sealed:

BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP, a Michigan limited partnership

By: William T. Myers

William T. Myers, General Partner

STATE OF MICHIGAN)
) SS.
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this 10th day of January, 1997, by William T. Myers, a General Partner of BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP, a Michigan limited partnership, on behalf of the limited partnership.

Pamela Steed
Notary Public, Lapeer County, Michigan, acting in Oakland County
My commission expires: October 1, 2000

$ 2.00 REMONUMENTATION
14 JAN 97 2:38 P.M. RECEIPT #63
PAID RECORDED - OAKLAND COUNTY
LYNN D. ALLEN, CLERK/REGISTER OF DEEDS

This instrument drafted by:
William T. Myers
552 Kingsley Trail
Bloomfield Hills, Michigan 48304

OAKLAND COUNTY TREASURER'S CERTIFICATE
I HEREBY CERTIFY that the County Treasurer's Certificate held by the said County individual agent or firm, foreclosure, and all TAXES on same are paid for five years previous to the date of this instrument, as appears by the records in the office except as stated.

C. HUGH DOHANY

1-14-97 C. HUGH DOHANY, County Treasurer Sec. 135, Act 206, 1893 as amended

001627

City Treasurer's Certificate

Recording Fee $13.00
PLEASE AFFIX AFFIDAVIT AFTER RECORDING

When recorded return to Grantee Eton St. Real Estate
805 Oakwood Rd. Rochester, Mich 48307
Send subsequent tax bills
to Grantee

Tax Parcel # 20-31-201-002

REVENUE TO BE AFFIXED AFTER RECORDING

JAN 14 1997 O.K. - J.S.

185093

EXHIBIT A TO WARRANTY DEED FROM
BIRMINGHAM TRAIN STATION ASSOCIATES, A MICHIGAN LIMITED PARTNERSHIP
TO ETON STREET REAL ESTATE, INC.

LIBER 16909 PAGE 360

Parcel A:
A parcel of land located in the North 1/2 of Section 31, Town 2 North, Range 11 East, Township of Troy, (now City of Birmingham), now owned by Grand Trunk Western Railroad Company and previously platted as Lots 58 and 59, part of Lot 11, Lots 12 through 15, inclusive, plus all or parts of Lots 55 through 59, inclusive, plus part of vacated Yosemite Boulevard, Eton Road and a 16 foot alley in "Birmingham Gardens Subdivision", according to the plat thereof recorded in Liber 31 of Plats, Page 38, Oakland County Records. Parcel more particularly described as: Beginning at a point on the East line of Eton Road (as relocated), said point being North 88 degrees 16 minutes 37 seconds West, 117.95 feet along the East-West Section line in Maple Road (66 feet wide) and South 34 degrees 11 minutes 27 seconds East, 87.17 feet along the Easterly Right of Way line of Eton Road (50 feet wide) extended from the North 1/4 corner of said Section 31; thence continuing South 34 degrees 11 minutes 27 seconds East, 112.57 feet along said Right of Way line; thence South 1 degree 59 minutes 10 seconds West, 236.98 feet along the East line of Eton Road; thence South 88 degrees 20 minutes 47 seconds East, 245.76 feet; thence North 33 degrees 44 minutes 54 seconds West, 390.56 feet parallel and 1.00 feet Westerly of an existing concrete retaining wall; thence South 56 degrees 34 minutes 45 seconds West, 16.90 feet; thence North 33 degrees 36 minutes 11 seconds West, 57.77 feet to the South line of Maple Road as widened for Railroad Bridge (43 feet, 1/2 Right of Way); thence North 88 degrees 16 minutes 37 seconds West, 22.56 feet along said Right of Way; thence South 29 degrees 04 minutes West, 31.10 feet along the Easterly Right of Way of Eton Road as relocated to the point of beginning.

20-31-201-002 Lots 11-15 + Lots 55-59

Parcel B:
Easements over the following described parcels.

31038

EASEMENT PARCEL 1:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Track No. 690-1 (as shown by Grand Trunk Western Railroad's Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 328.4 feet, more or less, along the centerline of said track; thence Southwesterly 32.5 feet at right angles to the outside Easterly corner of the former Birmingham Depot Baggage and Utility Rooms being the point of beginning; thence Northwesterly 45.1 feet, at right angles, to the outside Northerly corner of said Baggage and Utility Rooms; thence Southwesterly 11.3 feet, at right angles, to a point on Southwesterly Right of Way line; thence Southeasterly 45.1 feet along said Right of Way line; thence Northeasterly 11.3 feet at right angles to the point of beginning.

EASEMENT PARCEL 2:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Track No. 690-1 (as disclosed by Grand Trunk Western Railroad's Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 297.3 feet, more or less, along the centerline of said track to the outside face of the Northwesterly wall of the former Birmingham Depot Baggage Tunnel, being the point of beginning; thence Southwesterly 32.5 feet at right angles along the outside face of said wall to the Northeasterly outside face of the former Birmingham Depot Baggage Room wall; thence Southeasterly 9.4 feet, more or less, at right angles to the outside face of the Southeasterly wall of said tunnel; thence Northeasterly 76.0 feet at right angles along the outside face of said wall to Northeasterly Right of Way line; thence Northwesterly 9.4 feet, more or less, along said Right of Way line to the outside face of the Northwesterly wall of said baggage tunnel; thence Southwesterly 43.5 feet along the outside face of said wall to the point of beginning.

EASEMENT PARCEL 3:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Grand Trunk Western Railroad Track No. 690-1, (as disclosed by Grand Trunk Western Railroad Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 253.3 feet, more or less, along the centerline of said track to the outside face of the Northwesterly wall of the former Birmingham Depot Passenger Tunnel, being the point of beginning; thence Southwesterly 43.8 feet at right angles along the outside face of said wall to Grand Trunk Western Railroad Southwesterly Right of Way line; thence Southeasterly 13.4 feet, more or less, at right angles along said Right of Way line to the outside face of the Southeasterly wall of said passenger tunnel; thence Northeasterly 61.8 feet at right angles along the outside face of said wall; thence Northwesterly 13.4 feet at right angles to the outside face of the Northwesterly wall of said tunnel; thence Southwesterly 18.0 feet along the outside face of said wall to the point of beginning.

EASEMENT PARCEL 4:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, City of Birmingham, Oakland County, Michigan, and the centerline of Grand Trunk Western Railroad Track No. 690-1, (as disclosed by Grand Trunk Western Railroad Plan No. A-30-80, dated September 24, 1980, File No. 70-53); thence Southeasterly 220.2 feet, more or less, along the centerline of said track; thence Southwesterly 43.8 feet at right angles to a point 1.3 feet Northwesterly of the Northwesterly face of the former Birmingham Depot, said point being the point of beginning; thence Southeasterly 79.4 feet, more or less, along Grand Trunk Western Railroad Sotuhwesterly Right of Way line; thence Northeasterly 2.8 feet at right angles; thence Northwesterly 24.8 feet at right angles; thence Southwesterly 0.8 feet at right angles; thence Northwesterly 29.8 feet at right angles; thence Northeasterly 0.8 feet at right angles; thence Northwesterly 24.8 feet at right angles; thence Southwesterly 2.8 feet to the point of beginning.

Appendix L

Condominium Documents and Drawings

18033
LIBER 55551 PAGE 146
$30.00 MISC RECORDING
$4.00 REMONUMENTATION
03/22/2021 10:32:16 A.M. RECEIPT# 15184
PAID RECORDED - OAKLAND COUNTY
LISA BROWN, CLERK/REGISTER OF DEEDS

COVER SHEET

DOC TYPE: 2nd Amendment to Master Deed

8P

RECEIVED
OAKLAND COUNTY
REGISTER OF DEEDS

2021 JAN 20 PM 12: 04

000030

OAKLAND COUNTY TREASURERS CERTIFICATE
This is to certify that there are no delinquent property taxes as of this date owed to our office on this property. No representation is made as to the status of any taxes, tax liens or titles owed to any other entities.

JAN 22 2021 KMD

ANDREW E. MEISNER, County Treasurer
5.00 Sec. 135, Act 206, 1893 as amended

SECOND AMENDMENT TO MASTER DEED OF ETON CONDOMINIUM PROPERTIES

On this 14th day of December, 2020, **ETON OFFICE PROPERTIES, LLC.**, a Michigan limited liability company, and **ETON STREET REAL ESTATE, INC.**, a Michigan corporation whose address is 245 S. Eton Street, Birmingham, Michigan 48009, being the Developers of **Eton Condominium Properties**, a Condominium Project established pursuant to the Master Deed thereof, recorded on July 18, 2006, in Liber 37854 Page 533, Oakland County Records, Oakland County Subdivision Plan No. 1883, and amended by the First Amendment to Master Deed recorded February 5, 2007, in Liber 38735, Page 110, Oakland County Records, hereby amends the Master Deed of Eton Condominium Properties pursuant to the authority reserved in Article X, Section 3 thereof, converting and modifying certain Unit space, General and Limited Common Element areas, and removing Unit 6. Upon the recording of this Amendment in the office of the Oakland County Register of Deeds, said Master Deed shall be amended in the following manner:

1. Pursuant to Article VII of the Master Deed, Units 4 and 5 and appurtenant Common Elements shall be converted as set forth in attached Replat No. 1. In addition, Unit 4 shall become Unit 7, and Unit 5 shall become Unit 8.

2. Sheets 1-4 of Exhibit B to the Master Deed as originally recorded, are hereby replaced and superseded by attached Sheets 1-4, and originally recorded Sheets 1-4 shall be of no further force and effect.

3. The Master Deed Article I, shall be deleted in its entirety and replaced with:

   The Condominium Project shall be known as Eton Condominium Properties, Oakland County Condominium Subdivision Plan No. 1883. The Condominium Project is established in accordance with the Act. The Units contained in the Condominium, including the number, boundaries, dimensions and area of each Unit therein, are set forth completely in the Condominium Subdivision Plan. The Project consists of a total of 5 Units. Each Unit has been designed for business and/or residential and/or mixed use purposes and is capable of individual utilization on account of having its own entrance from and exit to a Common Element of the Condominium Project. Each Co-owner in the Condominium Project shall have an exclusive right to his Unit and shall have undivided and inseparable rights to share with other Co-owners the General Common Elements of the Condominium Project.

20-31-207-000 Ent
20-31-207-001 Unit 1
20-31-207-002 Unit 2
20-31-207-003 Unit 3
20-31-207-004 Unit 4
20-31-207-006 Unit 6
20-31-208-000 Ent District Lofts

O.K. - RC

OK LB

4. The Master Deed Article V, Sections 1 and 2, shall be deleted in its entirety and replaced with:

ARTICLE V

UNIT DESCRIPTION AND PERCENTAGE OF VALUE

Section 1. **Description of Units.** Each Unit in the Condominium Project is described in this paragraph with reference to the Condominium Subdivision Plan of Eton Condominium Properties, as prepared by Nowak & Fraus, 46777 Woodward Ave., Pontiac, MI 48342, attached hereto as Exhibit B. Each Unit shall consist of the land located within Unit boundaries as shown on Exhibit "B" hereto and delineated with heavy outlines together with all appurtenances thereto.

Section 2. **Percentage of Value.** The percentage of value assigned to each Unit is set forth below. The percentage of value was computed based upon the average square footages of the units with the resultant percentages reasonably adjusted to total precisely one hundred percent (100%). The percentage of value assigned to each Unit shall be determinative of each Co-owner's undivided interest in the Common Elements, the proportionate share of each respective Co-owner in the proceeds and expenses of administration and the value of such Co-owner's vote at meetings of the Association of Co-owners.

Unit #1	27.85%
Unit #2	21.30%
Unit #3	23.57%
Unit #7	13.41%
Unit #8	13.87%
Total	100.0 %

Limited Common Elements to Units 1 and 2 have been allocated to Unit 1 (60%) and Unit 2 (40%). Limited Common Elements to Units 7 and 8 have been allocated to Unit 7 (50%) and Unit 8 (50%).

5. In all respects, other than as hereinabove indicated, the original Master Deed of Eton Condominium Properties, as amended, including the Bylaws and Condominium Subdivision Plan respectively attached thereto as Exhibits A and B, recorded as aforesaid, is unchanged and hereby ratified and confirmed.

[SIGNATURES ON FOLLOWING PAGE]

ETON OFFICE PROPERTIES, LLC,
a Michigan Limited Liability Company

By: Norman R LePage

Its: Authorized Representative

ETON STREET REAL ESTATE, INC.,
a Michigan Corporation

By: Norman R. LePage

Its: Authorized Representative

STATE OF MICHIGAN)
)SS
COUNTY OF Oakland)

The foregoing Second Amendment to Master Deed of **Eton Condominium Properties** was acknowledged before me this 4th day of December, 2020, by Norman LePage, the Authorized Representative of **ETON OFFICE PROPERTIES, LLC**, a Michigan limited liability company, on behalf of the company and by Norman LePage, the Authorized Representative of **ETON STREET REAL ESTATE, INC.**, a Michigan corporation, on behalf of the corporation.

ERIC MALLORY
NOTARY PUBLIC – STATE OF MICHIGAN
COUNTY OF OAKLAND
My Commission Expires January 14, 2027
Acting in the County of Oakland

Eric Mallory
Eric Mallory, Notary Public
Oakland County, Michigan
Acting in Oakland County, Michigan
My Commission Expires: 1/14/2027

Drafted by and when recorded, return to:
H. William Freeman, Esq.
LFG Law Firm PLLC
33 Bloomfield Hills Pkwy, Suite 100
Bloomfield Hills, MI 48304
(248) 724-3706
wfreeman@lfglawfirm.com

REPLAT NO. 1
OAKLAND COUNTY CONDOMINIUM SUBDIVISION
PLAN NUMBER 1883
EXHIBIT B TO THE MASTER DEED OF

Eton Condominium Properties

CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN

LEGAL DESCRIPTION

A PART OF THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF SECTION 31, TOWN 2 NORTH, RANGE 11 EAST, CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, BEING PART OF LOTS 11 THROUGH 15, 55 THROUGH 57, 94–96, 109–111, 119, ALL INCLUSIVE, ALL OF LOTS 58, 59, 88–93, 112–118, PART OF VACATED PRAIRIE AVENUE (59 1/2 FEET WIDE), PART OF VACATED ALLEY (16 FEET WIDE), PART OF VACATED ETON ROAD (50 FEET WIDE) AND PART OF VACATED YOSEMITE BOULEVARD (80 FEET WIDE) OF BIRMINGHAM GARDENS AS RECORDED IN LIBER 31, PAGE 38 OF PLATS, OAKLAND COUNTY RECORDS, ALSO PART OF LOT 1 OF ASSESSOR'S PLAT NO. 28 AS RECORDED IN LIBER 43, PAGE 50 OF PLATS, OAKLAND COUNTY RECORDS, ALSO BEING MORE PARTICULARLY DESCRIBED AS: COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 31; THENCE N.88°16'37"W., 117.95 FEET; THENCE S.34°11'27"E., 87.17 FEET TO THE POINT OF BEGINNING; THENCE N.29°04'00"E., 31.10 FEET; THENCE S.88°16'37"E., 22.56 FEET; THENCE S.33°36'11"E., 57.77 FEET; THENCE N.56°34'45"E., 16.90 FEET TO A POINT ON THE WESTERLY LINE OF GRAND TRUNK WESTERN RAILROAD (WIDTH VARIES); THENCE ALONG SAID RAILROAD LINE THE FOLLOWING TWO (2) COURSES: 1) S.33°43'31"E., 389.60 FEET AND 2) S.33°11'31"E., 355.73 FEET TO A POINT ON THE NORTH RIGHT–OF–WAY LINE OF VILLA STREET (50 FEET WIDE); THENCE ALONG THE NORTH RIGHT–OF–WAY OF SAID VILLA N.88°00'50"W., 413.97 TO A POINT ON THE EASTERLY RIGHT–OF–WAY OF ETON ROAD (WIDTH VARIES); THENCE ALONG THE EASTERLY RIGHT–OF–WAY OF SAID ETON ROAD THE FOLLOWING TWO (2) COURSES: 1) N.01°59'10"E., 15.69 FEET, 2) N.13°14'00"W., 137.13 FEET TO A POINT ON THE EASTERLY RIGHT–OF–WAY OF ETON ROAD (50 FEET WIDE–AS PLATTED) SAID POINT BEING N.01°59'10"E., 0.15 FEET FROM THE SOUTHWEST CORNER OF SAID LOT 88; THENCE ALONG THE EASTERLY RIGHT–OF–WAY OF SAID ETON ROAD (AS PLATTED) N.01°59'10"E., 377.55 FEET; THENCE ALONG THE NORTHEASTERLY RIGHT–OF–WAY OF ETON ROAD (WIDTH VARIES) N.34°11'27"W., 112.65 FEET TO THE POINT OF BEGINNING.

CONTAINING 143,596 SQ. FT. OR 3.30 ACRES.

NOTE

THIS CONDOMINIUM SUBDIVISION PLAN IS NOT REQUIRED TO CONTAIN DETAILED PROJECT DESIGN PLANS PREPARED BY THE APPROPRIATE LICENSED DESIGN PROFESSIONAL. SUCH PROJECT DESIGN PLANS ARE FILED, AS PART OF THE CONSTRUCTION PERMIT APPLICATION, WITH THE ENFORCING AGENCY FOR THE STATE CONSTRUCTION CODE IN THE RELEVANT GOVERNMENTAL SUBDIVISION. THE ENFORCING AGENCY MAY BE A LOCAL BUILDING DEPARTMENT OR THE STATE DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS.

DEVELOPER

ETON STREET REAL ESTATE, INC.
AND
ETON OFFICE PROPERTIES, LLC
245 S. ETON STREET
BIRMINGHAM, MICHIGAN 48009

SURVEYOR

NOWAK AND FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MICHIGAN 48342–5032
PHONE: (248) 332–7931
FAX: (248) 332–8257
WEB: WWW.NOWAKFRAUS.COM

INDEX

* 1 ..... TITLE SHEET
* 2 ..... SURVEY PLAN
* 3 ..... SITE PLAN
* 4 ..... UTILITY PLAN

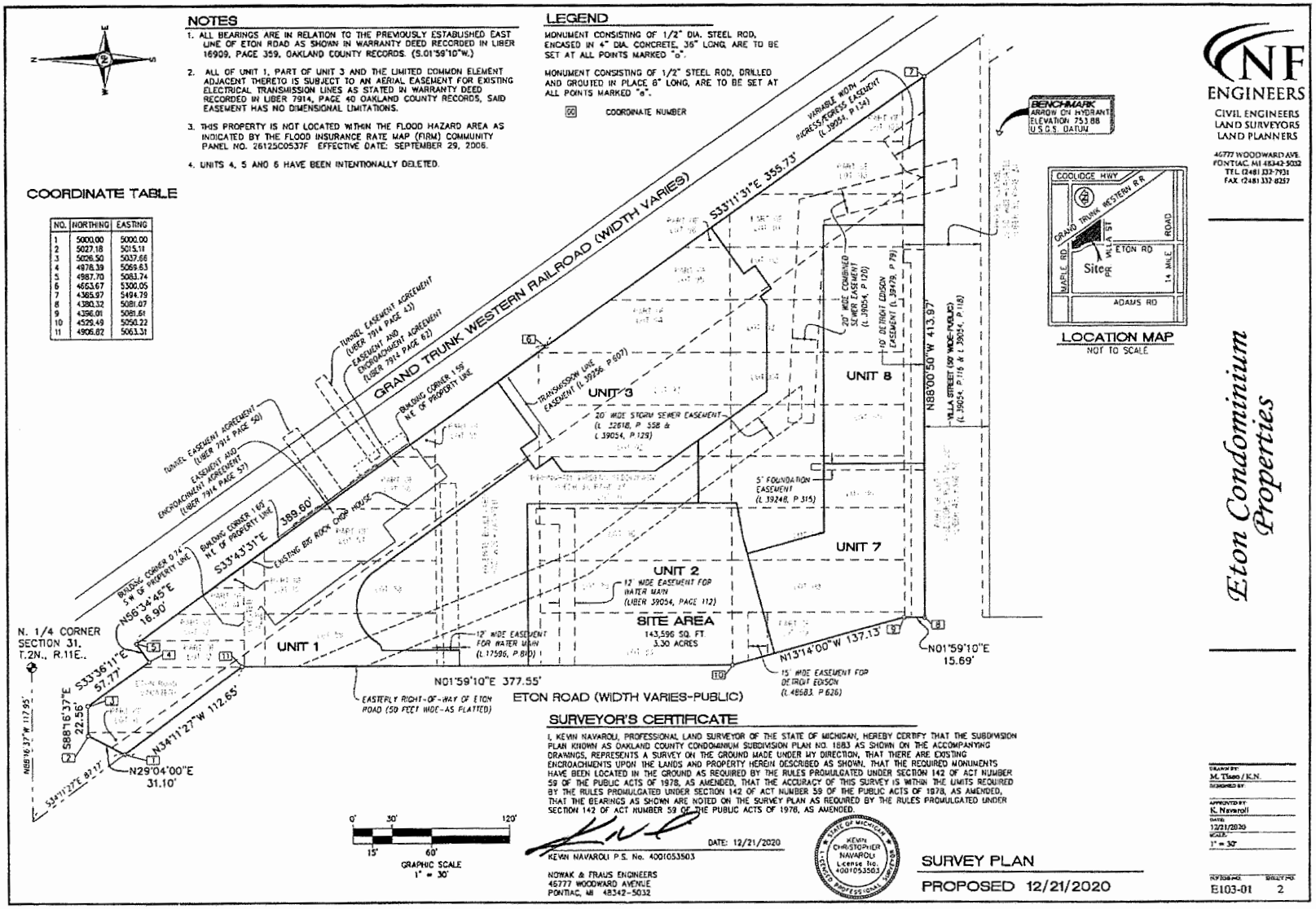
NOTE

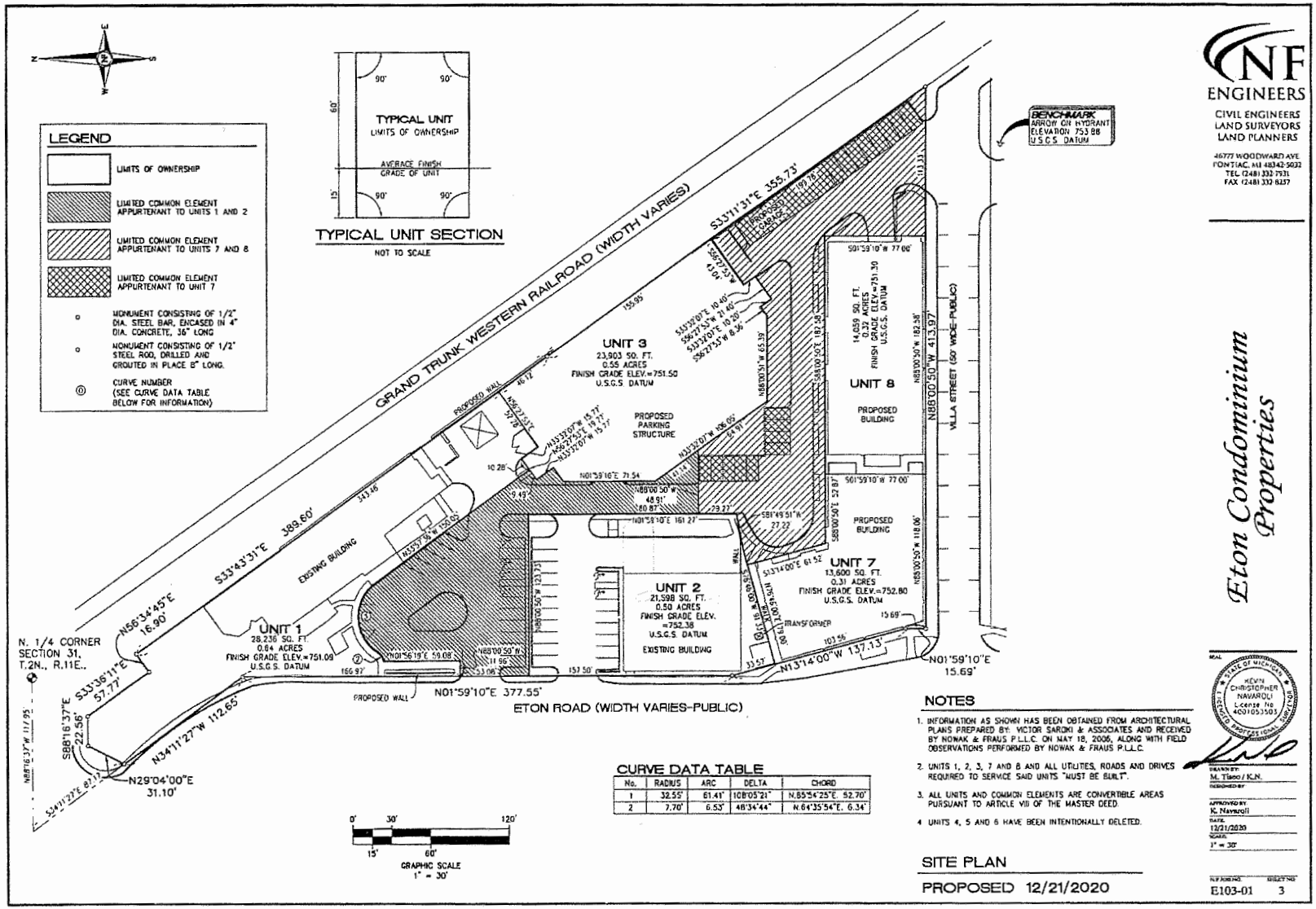
THE ASTERISK (*) AS SHOWN IN THE SHEET INDEX INDICATES NEW OR AMENDED DRAWINGS WHICH ARE DATED: 012/21/2020. THESE DRAWINGS ARE TO REPLACE THOSE PREVIOUSLY RECORDED.

STATE OF MICHIGAN
KEVIN CHRISTOPHER NAVAROLI
License No 4001053503
PROFESSIONAL SURVEYOR

TITLE SHEET
PROPOSED 12/21/2020

ISSUED 12/21/2020
JOB No. E103–01
SHEET No. 1


NOTES
1. ALL BEARINGS ARE IN RELATION TO THE PREVIOUSLY ESTABLISHED EAST LINE OF ETON ROAD AS SHOWN IN WARRANTY DEED RECORDED IN LIBER 16909, PAGE 359, OAKLAND COUNTY RECORDS. (S.01°59'10"W.)
2. ALL OF UNIT 1, PART OF UNIT 3 AND THE LIMITED COMMON ELEMENT ADJACENT THERETO IS SUBJECT TO AN AERIAL EASEMENT FOR EXISTING ELECTRICAL TRANSMISSION LINES AS STATED IN WARRANTY DEED RECORDED IN LIBER 7914, PAGE 40 OAKLAND COUNTY RECORDS, SAID EASEMENT HAS NO DIMENSIONAL LIMITATIONS.
3. THIS PROPERTY IS NOT LOCATED WITHIN THE FLOOD HAZARD AREA AS INDICATED BY THE FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 26125C0537F EFFECTIVE DATE: SEPTEMBER 29, 2006.
4. UNITS 4, 5 AND 6 HAVE BEEN INTENTIONALLY DELETED.
LEGEND
MONUMENT CONSISTING OF 1/2" DIA. STEEL ROD, ENCASED IN 4" DIA. CONCRETE, 36" LONG ARE TO BE SET AT ALL POINTS MARKED "o".
MONUMENT CONSISTING OF 1/2" STEEL ROD, DRILLED AND GROUTED IN PLACE 6" LONG, ARE TO BE SET AT ALL POINTS MARKED "o".
60 COORDINATE NUMBER
COORDINATE TABLE
NO. NORTHING EASTING
1 5000.00 5000.00
2 5027.18 5015.11
3 5026.50 5037.66
4 4978.39 5069.63
5 4987.70 5083.74
6 4663.67 5300.05
7 4365.97 5494.79
8 4390.32 5081.67
9 4396.01 5081.61
10 4529.49 5050.22
11 4906.82 5063.31
GRAND TRUNK WESTERN RAILROAD (WIDTH VARIES)
S33°11'31"E 355.73'
VARIABLE WIDTH INGRESS/EGRESS EASEMENT (L 39054, P 134)
TUNNEL EASEMENT AGREEMENT (LIBER 7914 PAGE 43)
EASEMENT AND ENCROACHMENT AGREEMENT (LIBER 7914 PAGE 62)
TUNNEL EASEMENT AGREEMENT (LIBER 7914 PAGE 50)
EASEMENT AND ENCROACHMENT AGREEMENT (LIBER 7914 PAGE 57)
BUILDING CORNER 1.59' N.E. OF PROPERTY LINE
BUILDING CORNER 0.74' S.W. OF PROPERTY LINE
BUILDING CORNER 1.65' N.E. OF PROPERTY LINE
389.60'
S33°43'31"E
N56°34'45"E 16.90'
EXISTING BIG ROCK CHOP HOUSE
TRANSFORMER LINE EASEMENT (L 39236, P 607)
UNIT 3
20' WIDE STORM SEWER EASEMENT (L 32618, P 558 & L 39054, P 129)
20' WIDE COMBINED SEWER EASEMENT (L 39054, P 120)
10' DETROIT EDISON EASEMENT (L 39478, P 79)
UNIT 8
N86°00'50"W 413.97'
VILLA STREET (50' WIDE-PUBLIC) (L 39054, P 116 & L 39054, P 118)
5' FOUNDATION EASEMENT (L 39248, P 515)
UNIT 7
UNIT 2
12' WIDE EASEMENT FOR WATER MAIN (LIBER 39054, PAGE 112)
SITE AREA
143,596 SQ. FT.
3.30 ACRES
12' WIDE EASEMENT FOR WATER MAIN (L 17596, P 810)
UNIT 1
N. 1/4 CORNER SECTION 31, T.2N., R.11E.
S33°36'11"E 57.77'
S88°16'37"E 22.56'
N34°11'27"W 112.65'
N29°04'00"E 31.10'
N88°16'37"W 117.95'
S34°11'27"E 87.17'
N01°59'10"E 377.55'
EASTERLY RIGHT-OF-WAY OF ETON ROAD (50 FEET WIDE-AS PLATTED)
ETON ROAD (WIDTH VARIES-PUBLIC)
N13°14'00"W 137.13'
N01°59'10"E 15.69'
15' WIDE EASEMENT FOR DETROIT EDISON (L 48583, P 626)
0' 30' 120'
15' 60'
GRAPHIC SCALE
1" = 30'
BENCHMARK
ARROW ON HYDRANT
ELEVATION 753.88
U.S.G.S. DATUM
COOLIDGE HWY
GRAND TRUNK WESTERN R.R.
MILL ST
ETON RD
MAPLE RD
1/4 MILE ROAD
Site
ADAMS RD
LOCATION MAP
NOT TO SCALE
SURVEYOR'S CERTIFICATE
I, KEVIN NAVAROLI, PROFESSIONAL LAND SURVEYOR OF THE STATE OF MICHIGAN, HEREBY CERTIFY THAT THE SUBDIVISION PLAN KNOWN AS OAKLAND COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 1883 AS SHOWN ON THE ACCOMPANYING DRAWINGS, REPRESENTS A SURVEY ON THE GROUND MADE UNDER MY DIRECTION, THAT THERE ARE EXISTING ENCROACHMENTS UPON THE LANDS AND PROPERTY HEREIN DESCRIBED AS SHOWN, THAT THE REQUIRED MONUMENTS HAVE BEEN LOCATED IN THE GROUND AS REQUIRED BY THE RULES PROMULGATED UNDER SECTION 142 OF ACT NUMBER 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED, THAT THE ACCURACY OF THIS SURVEY IS WITHIN THE LIMITS REQUIRED BY THE RULES PROMULGATED UNDER SECTION 142 OF ACT NUMBER 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED, THAT THE BEARINGS AS SHOWN ARE NOTED ON THE SURVEY PLAN AS REQUIRED BY THE RULES PROMULGATED UNDER SECTION 142 OF ACT NUMBER 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED.
DATE: 12/21/2020
KEVIN NAVAROLI P.S. No. 4001053503
NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVENUE
PONTIAC, MI 48342-5032
STATE OF MICHIGAN KEVIN CHRISTOPHER NAVAROLI LICENSE No. 4001053503 REGISTERED PROFESSIONAL SURVEYOR
SURVEY PLAN
PROPOSED 12/21/2020
NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL (248) 332-7931
FAX (248) 332-8257
Eton Condominium Properties
DRAWN BY: M. Tilson / K.N.
DESIGNED BY:
APPROVED BY: K. Navaroli
DATE: 12/21/2020
SCALE: 1" = 30'
PROJECT NO. E103-01
SHEET NO. 2



CURVE DATA TABLE

No.	RADIUS	ARC	DELTA	CHORD
1	32.55'	61.41'	108°05'21"	N.85°54'25"E. 52.70'
2	7.70'	6.53'	48°34'44"	N.64°35'54"E. 6.34'

NOTES

1. INFORMATION AS SHOWN HAS BEEN OBTAINED FROM ARCHITECTURAL PLANS PREPARED BY: VICTOR SAROKI & ASSOCIATES AND RECEIVED BY NOWAK & FRAUS P.L.L.C. ON MAY 18, 2006, ALONG WITH FIELD OBSERVATIONS PERFORMED BY NOWAK & FRAUS P.L.L.C.
2. UNITS 1, 2, 3, 7 AND 8 AND ALL UTILITIES, ROADS AND DRIVES REQUIRED TO SERVICE SAID UNITS "MUST BE BUILT".
3. ALL UNITS AND COMMON ELEMENTS ARE CONVERTIBLE AREAS PURSUANT TO ARTICLE VIII OF THE MASTER DEED.
4. UNITS 4, 5 AND 6 HAVE BEEN INTENTIONALLY DELETED.

SITE PLAN

PROPOSED 12/21/2020

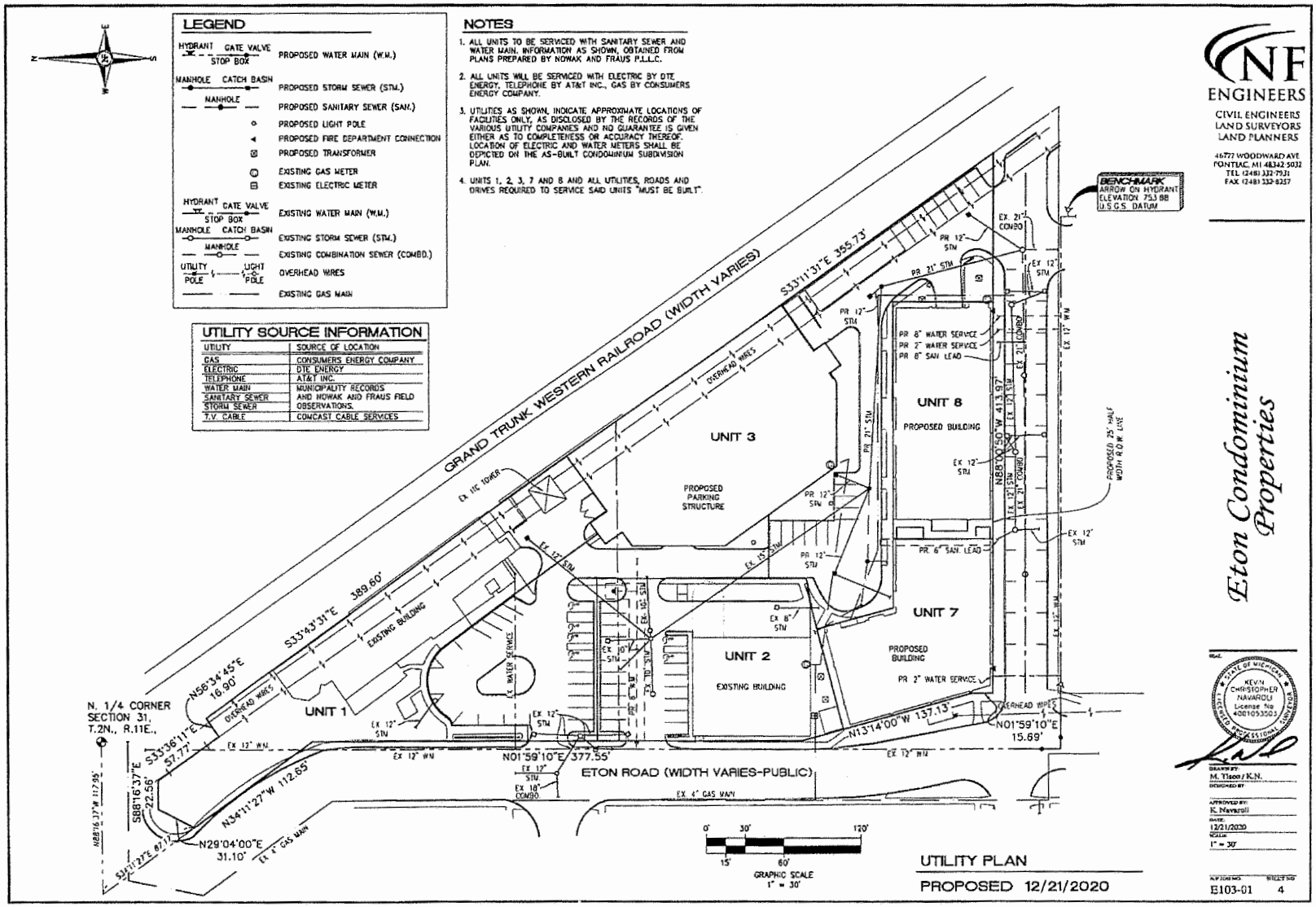
NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL (248) 332-7931
FAX (248) 332-8257

Eton Condominium Properties

KEVIN CHRISTOPHER NAVAROLI License No. 4001053503 LICENSED PROFESSIONAL ENGINEER

DRAWN BY: M. Tiseo / K.N.
DESIGNED BY:
APPROVED BY: K. Navaroli
DATE: 12/21/2020
SCALE: 1" = 30'

N.F. JOB NO. E103-01
SHEET NO. 3



UTILITY PLAN

PROPOSED 12/21/2020

NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS
46777 WOODWARD AVE
PONTIAC, MI 48342-5032
TEL (248) 332-7931
FAX (248) 332-8257

Eton Condominium Properties

STATE OF MICHIGAN — KEVIN CHRISTOPHER NAVAROLI — License No. 4001053023 — LICENSED PROFESSIONAL SURVEYOR

DRAWN BY: M. Tisco / K.N.
DESIGNED BY:
APPROVED BY: K. Navaroli
DATE: 12/21/2020
SCALE: 1" = 30'

JOB NO. E103-01
SHEET NO. 4

Appendix M

Clayton Phase 1 and Phase 2

[redacted]

Phase I Environmental Site Assessment and ~~Limited~~ Suspect Asbestos-Containing Materials Assessment of Commercial Property located at 325 and 375 South Eton Street in Birmingham (Oakland County), Michigan

Prepared for:
Dean & Fulkerson
Troy, Michigan
and
National Bank of Detroit
Detroit, Michigan

Prepared by:
Clayton Environmental Consultants
Detroit Regional Office

Clayton Project No. 13-99337.00

November 23, 1998

Detroit Regional Office

22345 Roethel Drive
Novi, MI 48375
(248) 344-1770
Fax (248) 344-2656

Clayton
ENVIRONMENTAL
CONSULTANTS

Phase I Environmental Site Assessment and Limited Suspect Asbestos-Containing Materials Assessment of Commercial Property located at 325 and 375 South Eton Street in Birmingham (Oakland County), Michigan

Prepared for:
Dean & Fulkerson
Troy, Michigan
and
National Bank of Detroit
Detroit, Michigan

Prepared by:
Clayton Environmental Consultants
Detroit Regional Office

Clayton Project No. 13-99337.00

November 23, 1998

CONTENTS

Section		Page
Executive Summary		iv
1.0	**INTRODUCTION**	1
1.1	PURPOSE	1
1.2	METHODOLOGY USED AND LIMITING CONDITIONS	1
1.3	LIMITATIONS AND EXCEPTIONS OF ASSESSMENT	2
2.0	**SITE DESCRIPTION**	3
2.1	LOCATION AND LEGAL DESCRIPTION	3
2.2	CURRENT USE OF SUBJECT PROPERTY	3
2.3	CURRENT USES OF ADJACENT PROPERTIES	4
3.0	**RECORDS REVIEW**	5
3.1	ENVIRONMENTAL LIENS	12
3.2	PHYSICAL SETTING SOURCES	12
3.3	HISTORICAL SEARCH	13
3.3.1	Ownership and Occupancy	13
3.3.2	Aerial Photographs	14
3.3.3	Fire Insurance Maps	16
3.3.4	Previous Environmental Reports	17
4.0	**SITE INSPECTION AND INTERVIEWS**	17
4.1	HAZARDOUS SUBSTANCES	17
4.2	STORAGE TANKS	18
4.2.1	Underground Storage Tanks	18
4.2.2	Aboveground Storage Tanks	18
4.3	INDICATIONS OF PCBs	19
4.3.1	Transformers and Capacitors	19
4.3.2	Other Electrical Equipment	20
4.4	INDICATION OF SOLID WASTE DISPOSAL	20
5.0	**NON-ASTM ISSUES**	21
5.1	ASBESTOS	21
5.2	RADON	22
5.3	WETLANDS	22

CONTENTS
(continued)

6.0 FINDINGS, CONCLUSIONS, RECOMMENDATIONS 23

7.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS 24

Figures

1. Site location
2. Site plan

Photographs

Appendices

A Environmental Risk Information and Imaging Services Report and Environmental Data Resources, Inc. Radius Map Report
B Fire Insurance Maps
C Asbestos Analytical Results

Executive Summary

Mr. Donald A. Pierce, with Dean & Fulkerson, retained Clayton Environmental Consultants (Clayton), to conduct a Phase I environmental site assessment and limited suspect asbestos-containing materials assessment of commercial property located at 325 and 375 South Eton Street in Birmingham (Oakland County), Michigan. Clayton performed the Phase I environmental site assessment in conformance with the scope and limitations of (1) American Society for Testing and Materials (ASTM) Standard Practice E 1527-97, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" and (2) NBD Bank's Scope of Work and Report Format: Phase I Environmental Site Assessment.

The objective of the assessment was to provide an independent, professional opinion regarding *recognized environmental conditions* (as defined by ASTM), if any, associated with the site. The scope of services provided by Clayton is described in Clayton's proposal, dated September 29, 1998, and addressed to Mr. Pierce (Clayton Proposal No. 98DetERMR272). The terms and conditions under which the project was conducted were included in Clayton's proposal and was authorized by Mr. Pierce on October 20, 1998.

Based on Clayton's (1) site observations, (2) interviews with (a) Mr. John Dorosz, Facilities Manager for Erb Lumber, which is a tenant of the subject property and (b) municipal employees, and (3) review of (a) historical aerial photographs of the subject property, (b) an Environmental Risk Information and Imaging Services (ERIIS) report, (c) municipal records, (d) city directories, and (e) fire insurance maps, the following evidence of potential *recognized environmental conditions* or other areas of environmental concern were identified in connection with the property:

- The subject building located at 325 South Eton Street was used as a freight depot from at least 1949 until 1960. A railroad spur was located adjacent to and east of this freight building. Clayton was unable to confirm the identity of the freight that was loaded, unloaded, or possibly stored at 325 South Eton Street.

Clayton recommends a subsurface investigation at the subject property. The subsurface investigation should include (1) advancing three soil borings at the subject property, (2) collecting a soil sample from each soil boring, and (3) analyzing the soil samples for polynuclear aromatics, volatile organic compounds, polychlorinated biphenyls, and metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc). Clayton estimates the cost to complete this investigation and prepare a written report summarizing the investigation and the findings, to be $3,300.

Details of the work performed by Clayton, sources of information, and findings are presented in this report. Limitations of the assessment are described in Section 1.3.

1.0 INTRODUCTION

Mr. Donald A. Pierce with Dean & Fulkerson, retained Clayton Environmental Consultants (Clayton), to conduct a Phase I environmental site assessment and limited suspect asbestos-containing materials (ACM) assessment of commercial property located at 325 and 375 South Eton Street in Birmingham (Oakland County), Michigan. The scope of services provided by Clayton is described in Clayton's proposal, dated September 29, 1998, and addressed to Mr. Pierce (Clayton Proposal No. DetERMR272). Clayton's proposal included the terms and conditions under which the project was conducted and was authorized by Mr. Pierce on October 20, 1998.

1.1 PURPOSE

The objective of the assessment was to provide an independent, professional opinion regarding *recognized environmental conditions*, if any, associated with the property. According to American Society for Testing and Materials (ASTM) Standard Practice E 1527-97, Section 1.1.1, the term *recognized environmental conditions* means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

Clayton understands that the environmental site assessment report is to be used by (1) Dean & Fulkerson and (2) NBD Bank to assess *recognized environmental conditions*, if any, associated with the subject property.

1.2 METHODOLOGY USED AND LIMITING CONDITIONS

The assessment included the following four components:

- A walkthrough of the subject property
- A review of pertinent records for evidence of present and historical use of the subject property and adjacent properties
- Interviews with Mr. John Dorosz, Facilities Manager for Erb Lumber, tenant of the subject property, and local government officials
- Evaluation of information gathered and development of this report

Ms. Patricia M. Grimes, Senior Environmental Consultant, with Clayton's Detroit Regional Office, conducted the site walkthrough of the subject property on November 6, and November 18, 1998. During the November 18, 1998 site walkthrough, Ms. Grimes was accompanied by Mr. Dorosz.

1.3 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

Information required to complete the Phase I environmental site assessment was obtained from (1) interviews with Mr. Dorosz, and (2) a review and evaluation of information provided from the following sources:

- A commercial database report of federal and state environmental records prepared by Environmental Risk Information and Imaging Services (ERIIS)
- Sanborn Map Company fire insurance maps
- Bresser's Cross-Index city directories
- Historical aerial photographs of the subject property as maintained by Oakland County Department of Planning and City of Birmingham, Fire Department
- City of Birmingham, Assessing, Planning and Engineering, and Fire Department records
- Michigan Department of Environmental Quality (MDEQ) Environmental Response Division records

Information from external sources, to the extent that it was relied on to form Clayton's opinion, was assumed to be complete and correct. Clayton cannot be responsible for the quality or content of information from external sources.

The information and opinions rendered in this report are exclusively for use by (1) Dean & Fulkerson and (2) NBD Bank. Clayton will not distribute or publish this report without Dean & Fulkerson's consent except as required by law or court order. The information and opinions included in this report were given in response to a limited scope of work and should be considered and implemented only in light of that particular scope of work. The services provided by Clayton in completing this project have been provided in a manner consistent with the normal standards of the profession. No other warranty, expressed or implied, is made.

Any use that a third party makes of this report (other than NBD Bank), or any reliance upon it, or any decision based on it, is the sole responsibility of the third party. A third party is not afforded the status of a third party beneficiary unless such status is expressly agreed to in writing by Clayton. Clayton is not responsible for any damages that may be suffered by a third party as a result of any decision made, or action taken by a third party, based on this report.

2.0 SITE DESCRIPTION

2.1 LOCATION AND LEGAL DESCRIPTION

The subject property is located on the east side of South Eton Street in Birmingham (Oakland County), Michigan. Maple Road is located less than 0.125 mile north of the subject property and the Grand Trunk Western Railroad is located along the eastern boundary of the property. The legal description for the subject property, as provided by the City of Birmingham, Assessing Department, is as follows:

> Township 2 North, Range 11 East, Section 31 Birmingham Gardens all part of Lots 88 to 91 and of Lots 114 to 119 inclusive and part of vacated Prairie Avenue

The general site location and site plan of the subject property are presented as Figures 1 and 2, respectively. Photographs of the subject property and adjacent properties taken by Ms. Grimes during the site walkthrough, are included behind the *Photographs* tab.

2.2 CURRENT USE OF SUBJECT PROPERTY

The subject property is improved with (1) a single-story building comprising 8,119 square feet of interior floor space, (2) a three-story building comprising 12,748 square feet of interior floor space, (3) a railroad passenger building containing approximately 80 square feet of interior floor space, and (4) asphalt-paved parking areas.

The building that exists at 325 South Eton Street is a single-story building that contains a full basement within the eastern portion of the building and a small basement at the northern end of the western portion (original) of the building. An addition that included the basement was constructed to the east side of the building in 1980. According to municipal records, a wood building was constructed at the subject property in 1946 and is believed to be the existing subject building. Mr. Dorosz indicated that this building was formerly a freight depot. Fire insurance maps for the subject property dated 1949 and 1960, denoted a wood building at this site that was used as a freight building. Historical aerial photographs, revealed a building located at the site of the existing subject building. A railroad spur was located adjacent to and east of this building.

The building located at 325 South Eton Street is equipped with forced air heat and central air-conditioning. This building is constructed of a wood frame, concrete foundation, concrete flooring in the basement, brick and wood-shingled exterior, and rubber roof. The interior of the building contains carpeting throughout the office areas, paneling within the western portion of the main floor and in the basement, wallpaper and drywall, various styles of ceiling tile, and linoleum in the restrooms and kitchen. The building is equipped with fluorescent and limited incandescent lighting. Erb Lumber utilizes this building for office purposes. A small mailroom, furnace room, storage areas, and offices are located in the basement on the eastern side of the building. The basement that is located at the north end of the western side of the building contains a restroom, storage area and gas meter room.

The building located at 375 South Eton Street contains three floors and was constructed in 1968. The building is constructed of a wood frame, concrete foundation and flooring on the first floor, wood siding and windows, and flat roof. The interior of the building contains carpeting throughout most of the office area, floor tile in the east stairwell, ceramic floor tile in the restrooms and in the lobby, paneling throughout the three floors, drywall, and various types of ceiling tile. The building is equipped with fluorescent and limited incandescent lighting, natural gas heat, and central air-conditioning. The building does not contain an elevator.

A small railroad passenger building is located along the eastern boundary of the subject property. The building is constructed of concrete flooring and foundation, brick and glass walls, steel structure, metal ceiling, and asphalt-shingled roof. A wood bench is located within the building. This building is not equipped with heat or sanitary or sewerage services.

Natural gas and electrical services are supplied to the subject property by Consumers Energy Company and Detroit Edison Company, respectively. According to municipal records, natural gas has been provided to the building located at 375 South Eton Street since 1968 when the subject commercial building was constructed. Municipal records indicated that the building located at 325 South Eton Street was equipped with natural gas heat since at least 1968. Clayton was unable to confirm the fuel source for this subject building for the years 1946 until 1968. The City of Birmingham supplies sanitary sewerage and potable water services (via City of Detroit) to the subject property. There is no record of a former or current onsite well or septic system at the subject property.

2.3 CURRENT USES OF ADJACENT PROPERTIES

Clayton visually inspected adjacent properties (from the subject property and from public access areas) for signs of potential environmental concerns. The area surrounding the subject property is developed with a mix of residential, commercial and industrial purposes. Adjacent properties include:

North: Big Rock Brewery Restaurant and parking lot

South: Commercial building and parking lot

East: Grand Trunk Railroad and commercial building beyond the railroad tracks

West: Eton Street, beyond which is a convenience store and apartments

At the time of Clayton's site walkthrough, Clayton did not observe indications of exterior activities or conditions on the adjacent properties that would appear to pose a potential environmental risk to the subject property. However, according to Clayton's review of

fire insurance maps dated 1949 and 1960, Standard Oil Company was previously a southern neighboring property.

The ERIIS report did not list the northern, western, or eastern adjacent properties in any of the databases that were searched. However, several southern adjacent properties (Erb Lumber sites) were listed in the Registered Underground Storage Tank (RST), Leaking RST (LRST), and Facility Index System (FINDS) databases. Additional information regarding these properties are provided in Section 3.0.

3.0 RECORDS REVIEW

Clayton reviewed an environmental database search report of government records prepared by ERIIS, to evaluate environmental issues at the subject property. Clayton reviewed the ERIIS report to evaluate environmental issues at any listed sites within ASTM-recommended search distances that could potentially impact the subject property. Federal and state databases reviewed are provided in the table provided on the following page. The ERIIS report is provided in Appendix A.

National Priorities List

The National Priorities List (NPL; Superfund) is a subset of Comprehensive Environmental Response Compensation, and Liability Information System (CERCLIS) and identifies more than 1,200 sites for priority cleanup under the Superfund program. Clayton's review of the ERIIS report, did not identify the subject property or sites located within a 1.0-mile radius of the subject property in the NPL database.

Resource Conservation and Recovery Information System-Treatment, Storage, or Disposal Facilities

Resource Conservation and Recovery Information System (RCRIS)-Treatment, Storage, or Disposal Facilities (TS) includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by Resource Conservation and Recovery Act (RCRA). The subject property or sites located within a 1.0-mile radius of the subject property were not identified in the RCRIS-TS database.

Resource Conservation Recovery Information System-Large Quantity Generator

The RCRIS-Large Quantity Generator (LG) database lists facilities that produce more than 1,000 kilograms (2,200 pounds) of hazardous waste in a calendar month. The subject property and adjacent properties were not identified in the RCRIS-LG database.

ASTM SEARCH DISTANCES

Database Searched	Search Distance (mile)	Number of Sites Identified
Federal National Priorities List (NPL)	1.0	0
Federal Resource Conservation and Recovery Information System (RCRIS), Treatment, Storage, or Disposal Facilities (TS) list	1.0	0
Federal RCRIS-Large Quantity Generators (LG) and RCRIS-Small Quantity Generators (SG) list	subject property and adjoining properties	0 1
Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	0.5	0
State List of Hazardous Waste Sites identified for investigation or remediation (HWS; NPL and CERCLIS equivalents)	1.0	0
State Solid Waste Facility/Landfills (SWF) list	0.5	0
Leaking Registered Underground Storage Tanks (LRST) list	0.5	10
State List of Registered Underground Storage Tanks (RSTs)	subject property and adjoining properties	4
Emergency Response Notification System (ERNS)	subject property	0
Facility Index System (FINDS)	subject property	2
Toxic Release Inventory System (TRI)	0.13	0
No Further Remedial Action Planned (NFRAP)	0.5	0
RCRIS-Corrective Action (CA)	1.0	0

Resource Conservation Recovery Information System-Small Quantity Generator

The RCRIS-Small Quantity Generator (SG) database lists facilities that produce between 100 kilograms (220 pounds) and 1,000 kilograms (2,200 pounds) of hazardous waste in a calendar month. The subject property and adjacent properties were not identified in the RCRIS-SG database with the exception of the following site:

- Erb Lumber, located adjacent to and south of the subject property at 425 South Eton Street in Birmingham. According to the ERIIS report, this site is not reported in the RCRA Administrative Action Tracking System (RAATS) database as having reported RCRA violations. This site is also listed in the RST, LRST, and FINDS databases.

The potential for the Erb Lumber site to pose an environmental risk to the subject property is minimal based on the fact that (1) USTs were removed from the Erb Lumber site, (2) the Erb Lumber site received closure from MDEQ, (3) the subject property utilizes potable water provided by the City of Birmingham, and (4) soils in the area of the subject property contain clay according to MDEQ file information, which reduces the potential for offsite migration of contaminants.

Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains information on sites identified by United States Environmental Protection Agency's (USEPA's) as abandoned, inactive, or uncontrolled hazardous waste sites that may require cleanup. Clayton's review of the ERIIS report, did not identify the subject property or sites located within a 0.5-mile radius of the subject property in the CERCLIS database.

State Hazardous Waste Sites

State Hazardous Waste Site (HWS) records are the State of Michigan's equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds are identified along with sites where cleanup will be paid for by potentially responsible parties. Clayton's review of the ERIIS report, did not identify the subject property or sites located within a 1.0-mile radius of the subject property in the HWS database.

State Solid Waste Facility/Landfills

State Solid Waste Facility/Landfills (SWF) records contain an inventory of solid waste disposal facilities or landfills in a particular state. These sites may be active or inactive facilities or open dumps that failed to meet RCRA Section 2004 criteria for solid waste landfills or disposal sites. The ERIIS report did not identify the subject property or sites located within a 0.5 mile radius of the subject property in the SWF database.

Leaking Registered Underground Storage Tanks

LRST records contain an inventory of reported leaking RST incidents. Clayton did not identify the subject property in the LRST database. However, ten LRST sites are located within a 0.5-mile radius of the subject property:

- Erb Lumber, located 0.01 mile south of the subject property at 425 South Eton Street in Birmingham. According to the ERIIS report, this site received closure from Michigan Department of Natural Resources (MDNR) now known as MDEQ in 1994 and 1995. Clayton's review of MDEQ records indicated that two confirmed releases were reported (1989 and 1993) during the removal of four USTs. The USTs contained fuel oil and diesel fuel. A subsurface investigation and hydrogeological investigation were conducted. Free product was not encountered during either subsurface investigation and groundwater was not impacted. Approximately 4,337 cubic yards of soil were removed from the diesel fuel and gasoline USTs excavations and properly disposed of offsite. Approximately 360 cubic yards of soil were removed from the fuel oil UST excavations. Soils in the area of the UST excavations were evaluated to contain clay. One groundwater monitoring well was installed. Soil and groundwater samples were analyzed for polynuclear aromatic hydrocarbons (PNAs), benzene, toluene, ethylbenzene, and xylenes (BTEX), and total lead. Analytical results for all soil and groundwater samples collected from this site were below applicable MDNR guidelines.

- Erb Lumber, located 0.01 southwest of the subject property at 451 South Eton Street in Birmingham. According to the ERIIS report, this site received closure from MDNR. MDEQ records indicate a release was reported in December 1989 and closure was obtained from MDNR in May 1995. Approximately 5,105 cubic yards of soil were removed from this site. Soils in the area of a UST excavation contain clay which reduces the potential for contaminants to migrate offsite. Groundwater and free product were not encountered during site investigative and remedial activities. The direction of groundwater was assumed to be southeast based on the surface topography of the site.

- AT&T-Birmingham, located 0.06 mile south of the subject property at 2100 Palmer Street in Birmingham. According to the ERIIS report, this site received closure from MDNR. A release was reported in March 1995 and closure was obtained from MDNR in April 1995. A 2,000-gallon fiberglass diesel fuel UST and associated piping were removed from this site in 1994. Free product was not present. Samples of soil and groundwater were analyzed for BTEX and PNAs. Analytical results indicated BTEX and PNAs were at concentrations below MDNR guidelines.

- Erb Lumber, located 0.06 mile south of the subject property at 545 South Eton Street in Birmingham. According to the ERIIS report, this site received closure from MDNR. MDEQ file information indicated a confirmed release was reported in September 1993 and closure was obtained from MDEQ in 1995. Two USTs

containing diesel fuel and one UST containing gasoline were removed from the site . groundwater and free product were not encountered; however, perched groundwater was sampled and analyzed for BTEX and methyltertbutyl ether (MtBE). Soil samples were collected and analyzed for BTEX, PNAs, and total lead. Analytical results for soil and perched water samples were below applicable MDNR guidelines. The direction of groundwater at this site is assumed to be southeast based on the surface topography. Soils in the area of the former USTs contained clay to a depth of at least 50 feet below the ground surface.

- Erb Lumber, located 0.17 mile south of the subject property at 777 South Eton Street in Birmingham. According to the ERIIS report, this site received closure from MDNR. According to MDEQ information, a confirmed release was reported in March 1991 and Type A closure was obtained from MDNR in 1994. A 2,000-gallon diesel fuel UST was removed from this site. Approximately 8,164 cubic yards of soil were excavated and properly disposed of offsite. Free product was not encountered. A hydrogeologic investigation was conducted in 1993 which included installing three groundwater monitoring wells. Based on this investigation, the direction of groundwater at this site was evaluated to be northeast. Forty-five confirmatory soil samples were collected at this site and analyzed for BTEX and PNAs. Analytical results for groundwater and soil samples were below applicable MDNR guidelines. Soils at this site were evaluated to contain clay to a depth of at least 20 feet below the ground surface.

- Department of Public Services, located 0.21 mile south of the subject property at 851 South Eton Street in Birmingham. This site received closure from MDEQ.

- United States Postal Service facility, located 0.332 mile southeast of the subject property at 2330 Cole Street in Birmingham. This site received closure from MDEQ.

- Byrne Plywood Company, located 0.35 mile southeast of the subject property at 2400 Cole Street in Birmingham. This site has not received closure from MDEQ.

- Transportation Center, located 0.38 mile southeast of the subject property at 2125 East Lincoln Street in Birmingham. This site has not received closure from MDEQ.

- Iveco Engine Product Development, located 0.43 mile northeast of the subject property at 1333 Coolidge Highway in Troy. This site has not received closure from MDEQ.

The potential for the ten LRST sites to pose a direct environmental risk to the subject property is minimal because (1) seven of the LRST sites have received closure from MDEQ, (2) based on review of the United States Geological Survey (USGS) topographic map, the ten LRST are located topographically downgradient or crossgradient to the subject property, (3) the subject property utilizes potable water that is supplied by the City

of Birmingham, (4) based on MDEQ file information, offsite migration has not occurred at the four Erb Lumber sites or the AT&T-Birmingham site, and (5) soils in the area of the subject property contain clay which acts like an impermeable barrier and prevents the offsite migration of contaminants.

Registered Underground Storage Tanks

RSTs are regulated under Subtitle I of RCRA and must be registered with the state department responsible for administering the RST program. There are no USTs registered to the subject property according to the ERIIS report and City of Birmingham, Fire Department records. However, four sites maintaining RSTs are located within a 0.125-mile radius of the subject property:

- Erb Lumber, located adjacent to and south of the subject property at 425 South Eton Street in Birmingham. According to the ERIIS report, two, 6,000-gallon USTs were removed from this site. The USTs previously contained gasoline and diesel fuel. The USTs were 36 years old and were constructed of bare steel. This site is listed in the LRST database; however, the site received closure from MDEQ.

- Erb Lumber, located adjacent to and south of the subject property at 451 South Eton Street in Birmingham. According to the ERIIS report, one, 2,000-gallon gasoline UST was removed from this site. The UST was 33 years old and was constructed of bare steel. This site was also listed in the LRST database; however, the Erb Lumber site received closure from MDEQ.

- AT&T-Birmingham, located 0.06 mile southeast of the subject property at 2100 Palmer Street in Birmingham. According to the ERIIS report, one, 2,000-gallon diesel fuel UST and one, 1,500-gallon UST are currently in use at this site. The diesel fuel UST is 12 years old and is constructed of fiberglass. The contents and construction material of the 1,500 gallon UST were not provided. This UST is three years old. This site is listed in the LRST database; however, the AT&T-Birmingham site received closure from MDEQ. This site is located topographically downgradient to the subject property.

- Erb Lumber, located 0.06 mile south of the subject property at 545 South Eton Street in Birmingham. According to the ERIIS report, three diesel fuel USTs were removed from this site. The USTs were constructed of bare steel and had capacities of 1,500 and 6,000 gallons. The age of the USTs was unknown. This site was listed in the LRST database; however, this site received closure from MDEQ. This site is located topographically crossgradient to the subject property.

The potential for the four sites maintaining RSTs to pose a direct environmental risk to the subject property is minimal because (1) the USTs have been removed from the three Erb Lumber sites, (2) all four sites have received closure from MDEQ, (3) soils in the area of the RST sites contain clay which reduces the potential for offsite migration, and (4) the subject property utilizes potable water supplied by the City of Birmingham.

Emergency Response Notification System

Emergency Response Notification System (ERNS) records and stores information on reported releases of oil and hazardous substances. The ERIIS report did not identify the subject property in the ERNS database.

Facility Index System

Facility Index Systems (FINDS) contains both facility information and other sources that contain more detailed information. The ERIIS report did not list the subject property in the FINDS database. However, two FINDS sites are located within a 0.05-mile radius of the subject property:

- Erb Lumber, located adjacent to and south of the subject property at 425 South Eton Street in Birmingham. This site was also listed in the RCRIS-SG, LRST, and RST databases.

- Amoco Oil Company Service Station 0768, located adjacent to and south of the subject property at 451 South Eton Street in Birmingham. This site was listed as Erb Lumber in the LRST and RST databases.

The potential for the two FINDS sites to pose a direct environmental risk to the subject property is minimal because (1) USTs were removed from both of these properties, (2) both of these properties received closure from MDNR, (3) the subject property utilizes potable water provided by the City of Birmingham, and (4) soils in the area of the FINDS sites contain clay which reduces the potential for offsite migration.

Toxic Release Inventory System

Toxic Release Inventory System (TRI) identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under Superfund Amendments and Reauthorization Act Title III, Section 313. The ERIIS report did not identify the subject property or sites located within a 0.13-mile radius of the subject property in the TRI database.

No Further Remedial Action Planned Sites

The No Further Remedial Action Planned Report (NFRAP) database, also known as the CERCLIS Archive, contains information pertaining to sites that have been removed from the USEPA CERCLIS database. NFRAP sites may be sites where, following an initial investigation, (1) no contamination was found, (2) contamination was removed quickly without need for the site to be placed on the NPL, or (3) the contamination was not serious enough to require federal Superfund action or NPL consideration. The ERIIS report did not list the subject property or sites located within a 0.5-mile radius of the subject property in the NFRAP database.

RCRIS-Corrective Action Sites

The RCRIS-Corrective Action (RCRIS-CA) report contains information pertaining to hazardous waste treatment, storage, and disposal facilities (RCRIS-TSs) which have conducted or are currently conducting a corrective action(s) as regulated under RCRA. The ERIIS report did not list the subject property or sites located within a 1.0-mile radius of the subject property in the RCRIS-CA database.

The summary of unplottable sites presented in the ERIIS report did not list sites of environmental contamination within a 1.0-mile radius of the subject property.

3.1 ENVIRONMENTAL LIENS

According to (1) Mr. Dorosz and (2) Clayton's review of municipal records, there are no environmental liens currently recorded against the subject property.

3.2 PHYSICAL SETTING SOURCES

Clayton's review of the USGS Birmingham, Michigan, Quadrangle Map, dated 1968 (photorevised 1981) indicated that the elevation of the subject property is approximately 750 feet above mean sea level. The apparent regional surface water discharge pattern in the area of the subject property appears to be to the south-southeast based on review of the USGS topographic map. However, this regional discharge pattern will be greatly influenced by local manmade obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines).

According to the *Oakland County Soil Survey* (August 1961), the soil type for the area of the subject property is classified as Urban land. This miscellaneous areas consists of nearly level and sloping land that is covered by commercial buildings, condominiums and apartments, parking lots, streets, sidewalks, driveways, railroad yards, industrial complexes, and other structures. Included with the Urban land in mapping are some small areas of sandy to clayey soils. Urban land is not assigned to interpretive groupings.

Based on Clayton's review of MDEQ records for adjacent LRST sites, soils in the area of the subject property and surrounding area contain relatively impermeable clay which reduces the potential for offsite migration. Groundwater in this area is perched groundwater.

3.3 HISTORICAL SEARCH

To obtain historical site occupancy information for the subject property, Clayton interviewed Mr. Dorosz and reviewed (1) Bresser's Cross-Index city directories, (2) historical aerial photographs of the subject property as maintained by the Oakland County Department of Planning and City of Birmingham, Fire Department, (3) records maintained by the City of Birmingham, and (4) Sanborn Map Company, fire insurance maps.

3.3.1 Ownership and Occupancy

A chain-of-title was not conducted for the subject property since it was not included in the scope of work for this project. According to municipal records, the subject property is currently owned by Edgemere Enterprises and is leased by Erb Lumber.

A city directory lists the names and addresses of city residents and commercial establishments for a given year. In reviewing a series of city directories, a researcher may be able to obtain information regarding general land use for a given site and surrounding area over time. Because the names of commercial establishments often indicate business operations associated with various environmental risks, a review of city directories can reveal potential historical environmental concerns. Clayton was reviewed available city directories for the subject property dated 1952 through 1998.

325 South Eton Street

1952-1964	No listing
1965	No listing for 325 Eton; Henry Fischer at 323 Eton
1966-1969	No listing
1970-1978	Schoenly Interior Design; Bee Hive also in 1971
1979	No listing
1980-1984	Superior Mortgage; Erb Lumber also in 1984
1985-1995	Erb Lumber/Salem Management Company
1996-1998	Erb Lumber

375 South Eton Street

1952-1969	No listing
1970-1973	Erb-Restrick-Bock/CLM Construction/Eresbo, Inc.,/Restrick Lumber
1974-1983	Erb Lumber/Salem Management/Superior Mortgage
1984	No listing
1985	M&B Forest Product
1986-1998	No listing

Restrick Lumber Company was listed as occupying 425 South Eton Street in the city directories dated 1959 through 1966. Standard Oil Company was listed as the southern neighboring property (451 South Eton Street) in each of the city directories.

Based on available ownership information and information provided by Mr. Dorosz, current uses of the subject property do not appear to pose an environmental risk to the subject property. Former occupants of the southern neighboring property may pose an environmental risk to the subject property. However, because (1) the Standard Oil Company is no longer in operation at the southern adjacent property, (2) the Standard Oil Company was located topographically downgradient to the subject property, (3) the subject property utilizes potable water provided by the City of Birmingham, and (4) soils in the area of the subject property contain relatively impermeable clay which reduces the potential for contaminants to migrate offsite, the potential for the former Standard Oil Company to pose a direct environmental risk to the subject property is minimal.

3.3.2 Aerial Photographs

Clayton reviewed historical aerial photographs of the subject property dated 1957, 1963, 1970, 1980, 1990, and 1995 as maintained by Oakland County Department of Planning. Clayton also reviewed aerial photographs dated 1953 and 1963 as maintained by the City of Birmingham, Fire Department.

1953, 1957 and 1963

In the 1953, 1957 and 1963 aerial photographs, the subject property was improved with one building that was located in the vicinity of the current building located at 325 South Eton Street. A railroad spur was present to the east of the subject building. Lumber appeared to be stored west of the railroad tracks. The eastern and southern portions of the subject property were utilized for parking. The eastern adjacent property, beyond the main railroad line (Grand Trunk), contained a parking lot for a large building that was located east of the northern adjacent property. A building was located adjacent to and north of the subject property. This building was similar in size and shape as the existing restaurant building. The western adjacent property, beyond South Eton Street, was improved for residential purposes. The southern adjacent property was improved with several buildings. Two large ASTs were present at a southern neighboring property. Fire insurance maps revealed this site to be occupied by Standard Oil Company.

1970 and 1980

In the 1970 and 1980 aerial photographs, the subject property contained the two existing subject buildings. The building located at 325 South Eton Street was smaller than the existing building in the 1970 aerial photograph. An addition to the east of the building was noted in the 1980 aerial photograph. In the 1980 aerial photograph, a small passenger building was located adjacent to the railroad tracks along the eastern boundary of the subject property. The remainder of the subject property was used for parking. The

railroad spur that was located to the east of the building located at 325 South Eton Street was not present in the 1970 or 1980 aerial photographs. This area appeared to have been paved over and used for parking.

The northern adjacent property contained a building similar the building present in previous aerial photographs. The western adjacent property, beyond South Eton Street, was improved with single-family and multi-tenant residences. Railroad tracks were located adjacent to and east of the subject property, beyond which was improved with parking areas for several large buildings. In both the 1970 and 1980 aerial photographs, the southern adjacent property was improved with several buildings. Two aboveground storage tanks (ASTs) were present at a southern neighboring property. According to fire insurance maps, Standard Oil Company and Restrick Lumber Company were neighboring properties that were located to the south of the subject property.

1990 and 1995

In the 1990 and 1995 aerial photographs, the subject property contained two buildings that were similar in size and shape as the two existing subject buildings. A small building was located adjacent to and west of the railroad tracks along the eastern boundary of the subject property. This building is located in the same location as the existing passenger railroad building. The area surrounding the three subject buildings was paved and used primarily for parking.

The adjacent properties were improved with buildings similar to those observed during Clayton's site walkthrough. The large building that was observed south of the subject property in previous aerial photographs, was no longer present in the 1995 aerial photograph. The footprint or foundation of the building was all that remained.

Clayton did not identify unusual topographic features (e.g., pits, mounds), evidence of exterior potentially hazardous material storage, or signs of potential environmental impairment at the subject property. However, ASTs were noted at the southern neighboring property in the aerial photographs dated 1953, 1957, 1963, 1970, and 1980. Evidence of landfill activities was not observed at the subject property or adjacent properties. The potential for the southern neighboring ASTs to pose a direct environmental risk to the subject property is minimal because (1) the ASTs are no longer present at this site, (2) the ASTs were not located immediately adjacent to the subject property, (3) the ASTs were located topographically downgradient to the subject property, (4) the subject property utilizes potable water supplied by the City of Birmingham, and (5) soils in the are of the subject property contain relatively impermeable clay that reduces the potential for contaminants to migrate offsite.

3.3.3 Fire Insurance Maps

Fire insurance maps typically depict either the locations of manufacturing and industrial concerns within the city limits or potential fire hazards existing within individual structures. In some cases, areas of environmental concern, such as location of USTs, can be found by referencing fire insurance maps. Clayton reviewed Sanborn Map Company, fire insurance maps of the subject property dated 1949 and 1960. (See Appendix B).

In the 1949 fire insurance map, the subject property was improved with a building that appeared to be located in the same location as the existing subject building at 325 Eton Street. The building was labeled as a freight house and contained a small office area. A railroad spur was located to the east of the freight house. The northern adjacent property contained the Grand Trunk Western Railroad Passenger Depot. This building remains today and has been renovated for use as a restaurant. Dwellings were located adjacent to the west, beyond Eton Street, and the Grand Trunk Western Railroad was located adjacent to the east. Beyond the railroad tracks and northeast of the subject property was the Great Lakes Tractor & Equipment Company which conducted tractor assembly operations. Standard Oil Company, a bulk gasoline station, was a neighboring property located to the south of the subject property. Several ASTs were observed at this site just north of the vacated Palmer Avenue. Beyond Standard Oil Company, was Parks Coal Company and Cox Coal Company which both operated coal yards. Further southeast of the subject property was the Torrence Oil Company which was a bulk fuel oil company. Several ASTs and at least one UST were present at this site.

In the 1960 fire insurance map, conditions were similar at the subject property and adjacent properties as provided in the 1949 fire insurance map, with the exception of additional development located adjacent to and southeast of the subject property. Standard Oil Company remained a southern neighboring property; however, to the east of Standard Oil Company and south of the subject property was Restrick Lumber Company. Restrick Lumber Company operated a mill, stored and stocked lumber, and maintained a woodworking building. Oil was utilized as a fuel source.

Based on information obtained from review of the fire insurance maps, former occupants and operations conducted at the southern neighboring properties may have posed an environmental risk to the subject property. However, because (1) the southern neighboring properties are located topographically downgradient and crossgradient to the subject property, (2) Restrick Lumber Company and Standard oil Company are no longer located at the southern neighboring properties, (3) the subject property utilizes potable water provided by the City of Birmingham, and (4) soils in the area of the subject property contain clay which reduces the potential for contaminants to migrate offsite, the potential environmental risk appears to be minimal. However, Clayton recommends an investigation at the subject property as a result of historical freight depot operations conducted at the subject property.

3.3.4 Previous Environmental Reports

There are no previous environmental reports for the subject property, according to Dean & Fulkerson.

4.0 SITE INSPECTION AND INTERVIEWS

On November 6, 1998, Clayton visually inspected the subject and adjoining properties (from the subject property and from public access areas).

In general, the interiors of the two subject commercial buildings and the railroad passenger building were in good condition. Clayton did not observe evidence of former freight unloading or loading operations. In addition, the former railroad spur that was located east of the building at 325 South Eton Street, was not observed during Clayton's site walkthrough. Clayton did not observe operations or activities conducted within the subject buildings that would indicate evidence of *recognized environmental conditions* at the subject property.

Clayton did not observe evidence of stained soils or paved surfaces, or stressed vegetation on the exterior portions of the property. Evidence of *recognized environmental conditions* were not observed at the subject property.

4.1 HAZARDOUS SUBSTANCES

During the Phase I environmental site assessment, potentially hazardous materials present at the subject property were limited to commercially available cleaning products and antique oil finish. Containers of these materials were in good condition during Clayton's site walkthrough. These materials were stored in janitorial closets. Clayton did not observe operations or activities at the subject property that would result in the generation, storage, or use of hazardous materials. Clayton was unable to confirm the nature of freight that was formerly loaded and unloaded while the building at 325 South Eton Street operated as a freight train depot.

Because the potential exists for hazardous materials to have been loaded, unloaded, and possibly stored at the subject property, Clayton recommends a subsurface investigation be conducted at the subject property. The investigation should include (1) advancing three soil borings in the area of subject property, (2) collecting a soil sample from each soil boring and a groundwater sample, if groundwater is encountered, and (3) analyzing the soil and groundwater samples for PNAs, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc).

The subject property is not currently listed as a RCRIS generator of hazardous waste.

4.2 STORAGE TANK

4.2.1 Underground Storage Tanks

During the site walkthrough, Clayton inspected the subject property to identify potential UST systems present at the subject property. The potential for soil and/or groundwater contamination resulting from leaking UST systems represents a significant long-term environmental liability. The use of USTs for the maintenance of hazardous or toxic materials/wastes is strictly regulated by federal and state guidelines.

There are no USTs registered to the subject property, according to Clayton's (1) review of (a) the ERIIS report and (b) City of Birmingham Fire Department records. Clayton did not observe evidence of USTs at the subject property. In addition, Mr. Dorosz indicated that USTs are not present at the subject property. However, municipal records indicated the 1972 installation of one, 6,000-gallon gasoline UST and one, 6,000-gallon fuel oil UST at the subject building located at 375 South Eton Street. Mr. Dorosz stated these USTs were actually located at the southern adjacent property (Erb Lumber at 425 South Eton Street) which was confirmed by MDEQ and City of Birmingham, Fire Department records. These two USTs were removed and received closure from MDEQ. Municipal records indicated that the subject buildings utilized natural gas heat since at least 1968. Clayton was unable to confirm whether or not the subject building located at 325 South Eton Street utilized natural gas or another fuel source from 1946 until 1968.

Clayton did not observe evidence of potential USTs on the adjacent properties during the site walkthrough. However, USTs were registered to several southern neighboring properties (Erb Lumber sites and AT&T) according to the ERIIS report. The USTs were removed from the southern neighboring properties. Section 3.0 provides additional information regarding the former USTs.

The lack of visible evidence of potential USTs and the fact that agencies listed above were not aware of or did not have a record of USTs does not preclude the possibility that USTs could be present at the subject property. Visible evidence of potential USTs, such as fill ports or vent pipes may have been removed or obscured from view, and USTs could have been used at the subject property without the knowledge of the current owner/operator, site contact, or government agency.

4.2.2 Aboveground Storage Tanks

During the site walkthrough, Clayton did not observe ASTs to be present at the subject property or the adjacent properties. According to Mr. Dorosz, ASTs have never been present at the subject property.

Based on Clayton's review of historical aerial photographs, several ASTs were located on the southern neighboring property which was formerly occupied by Standard Oil Company. Based on the historical usage of the southern neighboring property, the potential exists for an environmental risk to be posed to the subject property. However, because (1) Standard Oil Company and ASTs are no longer located at the southern neighboring property, (2) the former ASTs were located topographically downgradient to the subject property, (3) the subject property utilizes potable water provided by the City of Birmingham, and (4) soils in the area of the subject property contain relatively impermeable clay that reduces the potential for contaminants to migrate offsite, the environmental risk posed to the subject property appears to be minimal.

4.3 INDICATIONS OF PCBs

4.3.1 Transformers and Capacitors

During the site walkthrough, Clayton inspected the subject property for the presence of liquid-cooled electrical units (transformers and capacitors). Such units are notable since they may be possible PCB sources that could subject the owner/operator to stringent regulatory requirements under the Toxic Substances Control Act (TSCA). The release of PCB fluids or their combustion products (in the event of a spill, fire, or otherwise) is also a potential environmental liability that can require costly remediation.

Clayton observed no facility-owned, transformers present at the subject property. However, three, Detroit Edison Company-owned, pole-mounted transformers were located outside the southeastern corner of the subject building located at 375 South Eton Street. Clayton did not observe labels on these transformers indicating the respective PCB status of each transformer. The transformers were observed to be in good condition and not leaking. The area surrounding the transformers was not stained.

According to information from Detroit Edison Company, outdoor transformers typically contain a non-PCB, mineral oil-based dielectric fluid. Detroit Edison Company has indicated, however, that during manufacturing or routine maintenance, concentrations of less than 50 parts per million (ppm) PCBs may have been inadvertently introduced to the units.

A formalized testing program has not been implemented by Detroit Edison Company to determine PCB levels in the dielectric fluid of its outdoor transformers (the only way to evaluate the level of PCBs in such units is through sampling and analysis). Detroit Edison Company assumes for regulatory purposes, that the level of PCBs in its untested transformers ranges from 50 to 500 ppm.

In the event of a release of dielectric fluid from any of its units, it is Detroit Edison Company's policy to clean the area impacted by the release in accordance with established federal cleanup standards (Title 40 Part 761, *Code of Federal Regulations* [40

CFR 761]). Clayton recommends that the property owner notify Detroit Edison Company of any evidence of potential leaks associated with the pole-mounted transformers bordering the subject property.

Clayton did not observe other Detroit Edison Company-owned transformers located at the subject property.

4.3.2 Other Electrical Equipment

The lighting system within the subject buildings consisted primarily of fluorescent lights. According to Mr. Dorosz, the spent lighting material is disposed of as nonhazardous municipal waste.

Prior to 1978, most fluorescent light ballasts (particularly those intended for interior use) were made with small capacitors that contained PCB insulating liquid. However, under TSCA regulations, most fluorescent light ballasts are considered to be "small capacitors" (e.g., containing less than 3 pounds of fluid), and as such, are generally not subject to TSCA disposal requirements. One important exception to this is when ballasts are leaking. In this situation, the ballasts are considered a PCB waste and are subject to all TSCA management and disposal requirements.

In the event of a release of dielectric fluids from any PCB-containing units, TSCA regulations require owners of PCB-containing equipment to properly clean up (in accordance with federally established cleanup standards) areas impacted by the uncontrolled release of PCB fluids from those units.

Fluorescent lamps, high intensity discharge lamps, and other lighting material may contain varying amounts of mercury. Mercury may be present within lighting material at hazardous levels as defined under 40 CFR Part 261, the hazardous characteristics of the fluorescent light tubes can be obtained from (1) the manufacturer or distributor of the lighting material, (2) a review of the material safety data sheets for the lighting material, or (3) sampling and analysis of the spent lighting material using the Toxicity Characteristic Leaching Procedure.

Clayton was unable to inspect a representative (unused) fluorescent light ballast during the site walkthrough since the lights were not readily accessible. As a precautionary measure, Clayton recommends that when the ballasts are replaced, each ballast be inspected to evaluate whether it is labeled as containing PCBs.

4.4 INDICATION OF SOLID WASTE DISPOSAL

The subject property generates nonhazardous solid waste (i.e., food, cardboard, fluorescent light tubes, paper). City Environmental is contracted to periodically collect ad properly dispose of the refuse offsite. Clayton did not observe evidence of potentially hazardous materials being disposed of into the waste dumpster.

5.0 NON-ASTM ISSUES

5.1 ASBESTOS

During the site walkthrough, Clayton was inspected the subject buildings for the presence of suspect ACM. The inspection consisted of noting observable material (i.e., materials that are readily accessible and visible without dismantling permanent structures) that may contain asbestos. The inspection was not intended to disclose *all* possible sources of suspect ACM, rather, it was designed to assess the presence of suspect ACM in the most significant (significant because of the quantity present, condition, and/or ease of accessibility) sources observed at the property.

ACM may subject the owner of the subject property to various regulatory requirements designed to prevent the exposure of building occupants and maintenance or repair personnel to airborne asbestos fibers. USEPA has limited the asbestos content of some materials to 1%; however, asbestos has not been eliminated from all manufactured building materials. Therefore, the age of a building or remodeling project cannot be the basis for assuming that a material does not contain asbestos. During the site walkthrough, Clayton observed the following suspect ACMs at the subject buildings:

Material Description	Location	Condition, Friability, and Quantity	Analytical Results
2-by-4-foot, ceiling tile (DF-1, DF-2, DF-3)	Building 325 Offices	Good, friable, 4,000 square feet	None detected
2-by-2-foot, ceiling tile (DF-4, DF-5, DF-6)	Building 325 Offices	Good, friable, 3,000 square feet	None detected
1-by-1-foot, ceiling tile	Building 325, Closet beneath stairwell	Good, friable, 80 square feet	Not sampled
Linoleum	Building 325 Kitchen and restrooms	Good, nonfriable 300 square feet	Not sampled
9-by-9-inch beige and brown floor tile	Building 375 East stairwell	Good, nonfriable 1,000 square feet	Not sampled
Mudded elbows and joints (DF-A, DF-B, DF-C)	Building 375 Furnace room	Good, friable 20 elbows/joints/fittings	10% to 20% chrysotile
2-by-2-foot ceiling tile (DF-D, DF-E, DF-F)	Building 375 Offices	Good, friable 4,000 square feet	None detected

Clayton did not observe boiler insulation, sprayed-on fireproofing, or other suspect ACM during the site walkthrough. Clayton recommends that the appropriate handling procedures of asbestos-containing pipe elbows, fittings, and joints be taken when conducting operations or activities that may disturb these ACMs. The analytical results are provided in Appendix C.

Prior to renovation or demolition of a building that contains regulated asbestos-containing material (RACM), all RACM must be removed from the building unless it is classified as Category I or II nonfriable ACM. Category I nonfriable ACM includes asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than 1% asbestos, as determined using polarized light microscopy (PLM). A Category II nonfriable ACM is any material (excluding Category I nonfriable ACM) that contains more than 1% asbestos, as determined by PLM and that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

During building renovations or demolition operations, materials may be uncovered that are different from materials noted during Clayton's Phase I environmental site assessment. Personnel in charge of potential future building renovations or demolition activities should be alerted to note materials uncovered during these operations that differ substantially from those included in this assessment; at that time, sampling of suspect ACM should be performed to evaluate the asbestos content of these materials.

5.2 RADON

Radon (radon-222) is a radioactive heavy gas formed by the radioactive transformation of an isotope of the element radium (radium-226). Radon gas enters a building structure through foundation cracks, service openings (e.g., sewer drains, water pipes, sump pumps), crawl spaces, and other imperfections in the building. Because all buildings are uniquely located and constructed, indoor radon levels in a specific structure cannot be determined without sampling and analysis.

Sampling or analysis for radon was not a part of Clayton's scope of work and was not conducted during the assessment. According to information provided in the ERIIS report, radon concentrations in the area of the subject property are reported to be greater than 2.0 picoCuries per Liter (pCi/L) of air and less than 4.0 pCi/L. Based only on this information, it appears that a radon survey is not warranted at the subject property at this time.

5.3 WETLANDS

Clayton did not observe wetland habitat or vegetation typical to wetlands at the subject property. In addition, the USGS map did not denote the presence of wetlands at the subject property.

6.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Clayton has performed a Phase I environmental site assessment and limited suspect ACM assessment of the commercial property located at 325 and 375 South Eton Street in Birmingham (Oakland County), Michigan, in conformance with the scope and limitations of ASTM Standard Practice E 1527-97. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

This assessment revealed the following evidence of *recognized environmental conditions* in connection with the subject property:

- The subject building located at 325 South Eton Street was used as a freight depot from at least 1949 until 1960. A railroad spur was located to the east of this freight building. Clayton was unable to confirm the identity of the freight that was loaded, unloaded, and possibly stored at 325 South Eton Street.

Clayton recommends the following:

- Conduct a subsurface investigation at the subject property. The subsurface investigation should include (1) advancing three soil borings at the subject property, (2) collecting a soil sample from each soil boring, and (3) analyzing the soil and groundwater samples for PNAs, VOCs, PCBs, and metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc). Clayton estimates the cost to complete this investigation and prepare a written report summarizing the investigation and the findings, to be $3,300.

7.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

This report prepared by: Patricia M. Grimes

Patricia M. Grimes
Senior Environmental Consultant
Environmental Risk Management and Remediation
Detroit Regional Office

This report approved by: Kent B McCroskey

Kent B. McCroskey
Supervisor, Environmental Assessment and
Compliance Programs
Environmental Risk Management and Remediation
Detroit Regional Office

November 23, 1998

FIGURES

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETRE

Quadrangle Location

Portion of 7.5-minute Series (Topographic) Map
United States Department of the Interior
Geological Survey
Birmingham, Michigan 1981

Figure 1
Site Location

Clayton
ENVIRONMENTAL
CONSULTANTS

SITE

325 and 375 South Eton Street
Birmingham, Michigan

Project No. 13-99337.00

November 23, 1998

Figure 1
Site Plan

Clayton
ENVIRONMENTAL
CONSULTANTS

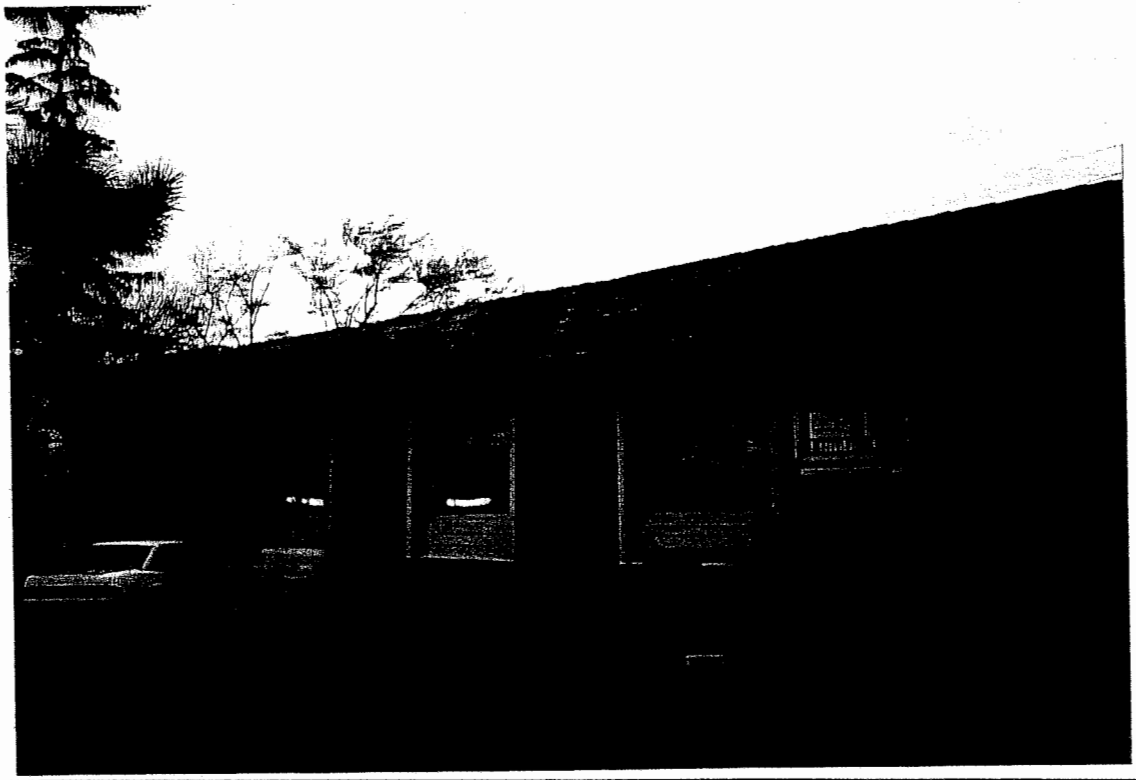
SITE

325 and 375 South Eton Street
Birmingham, Michigan

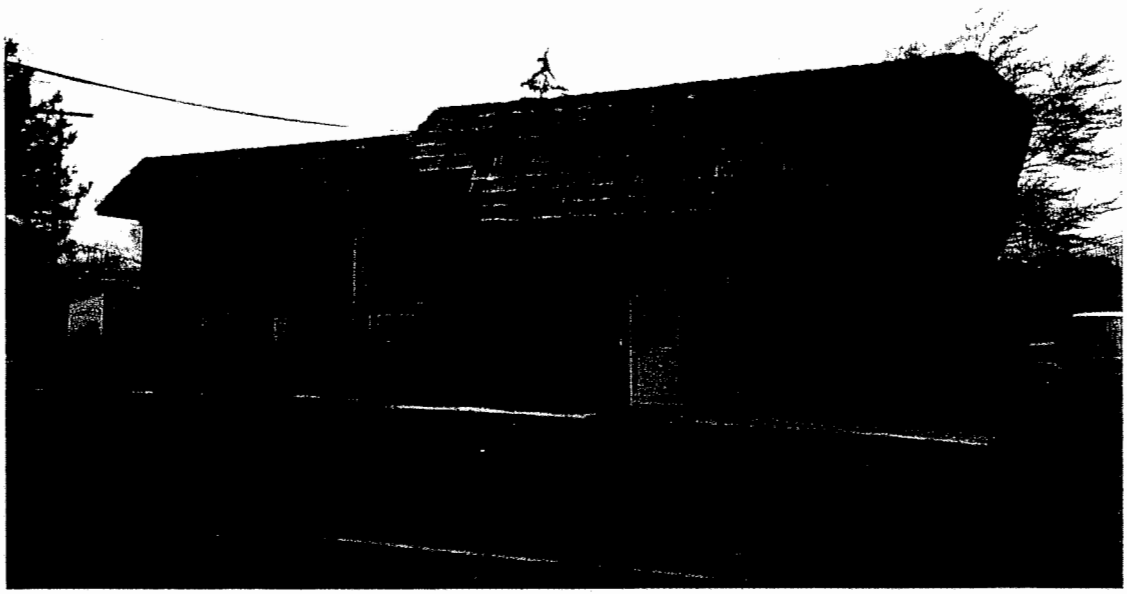
Project No. 13-99337.00

November 23, 1998

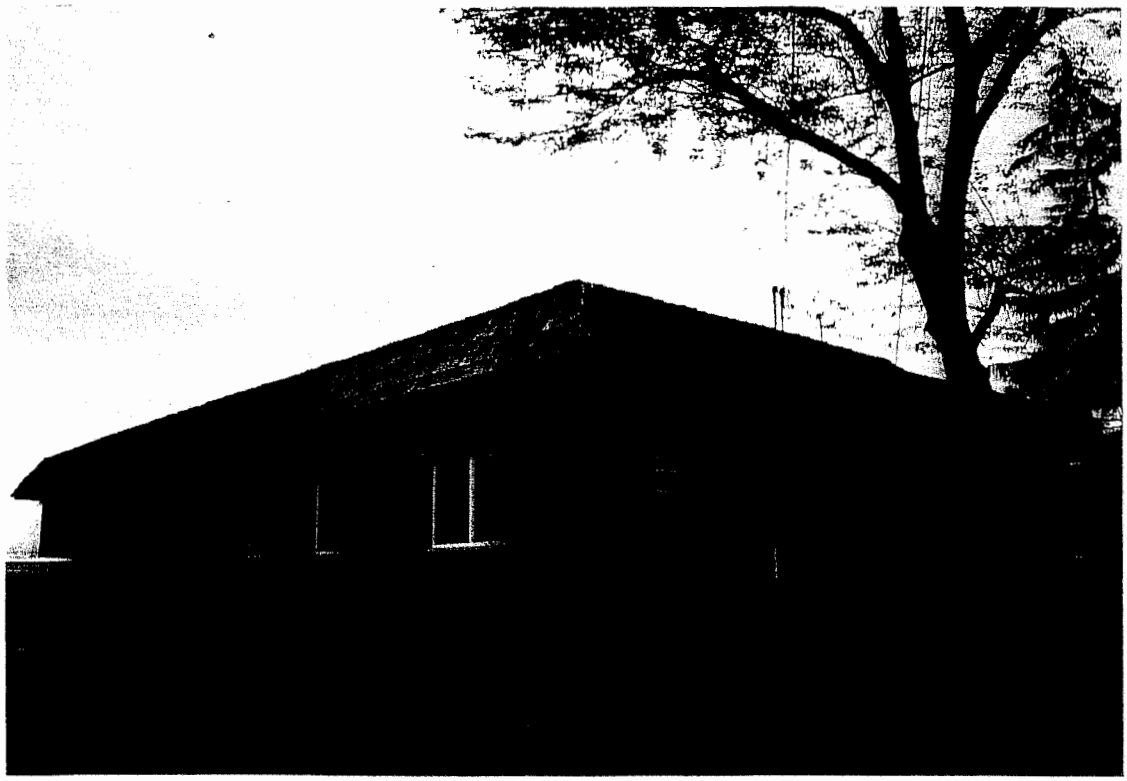
PHOTOGRAPHS



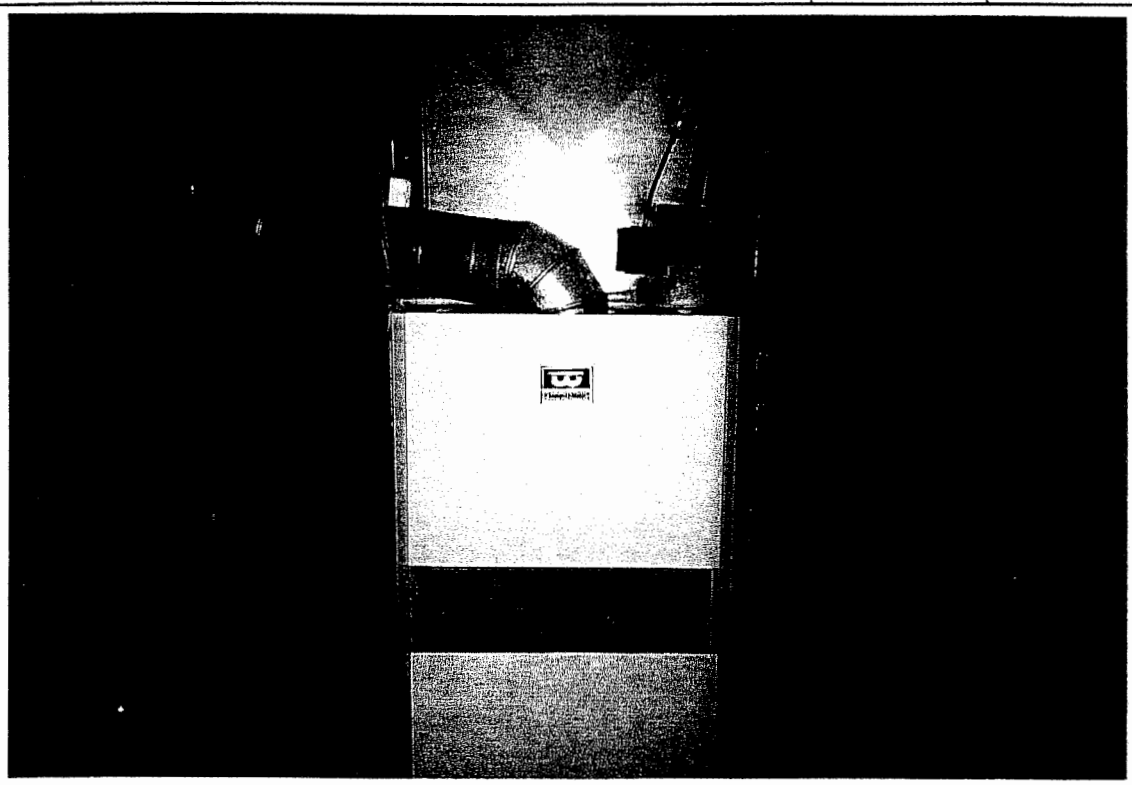
Subject	Subject building at 325 S. Eton Street	**Clayton Project No.**	**1**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998



Subject	Southern side of building at 325 S. Eton Street	**Clayton Project No.**	**2**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998



Subject	Northeastern corner of building at 325 S. Eton Street	**Clayton Project No.**	**3**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998



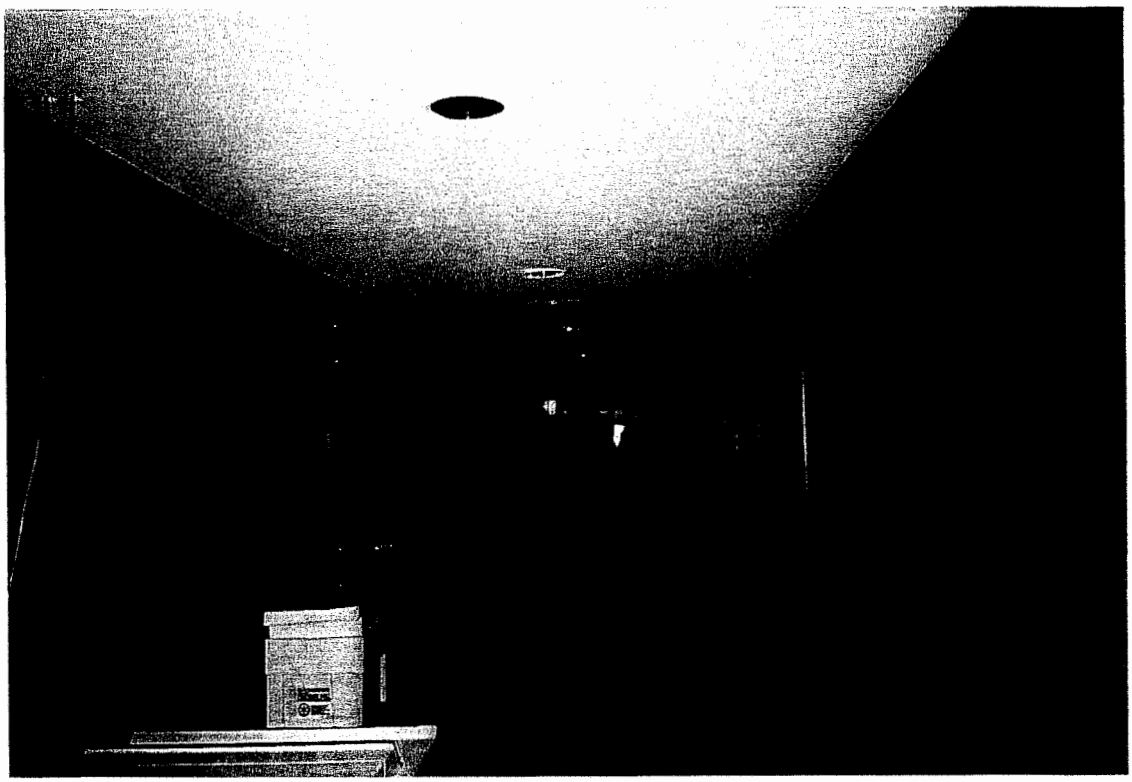
Subject	Furnace in building at 325 S. Eton Street	**Clayton Project No.**	**4**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

Subject	Subject building at 375 S. Eton Street	**Clayton Project No.**	**5**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

Subject	Building at 375 S. Eton Street viewing southwest	**Clayton Project No.**	**6**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

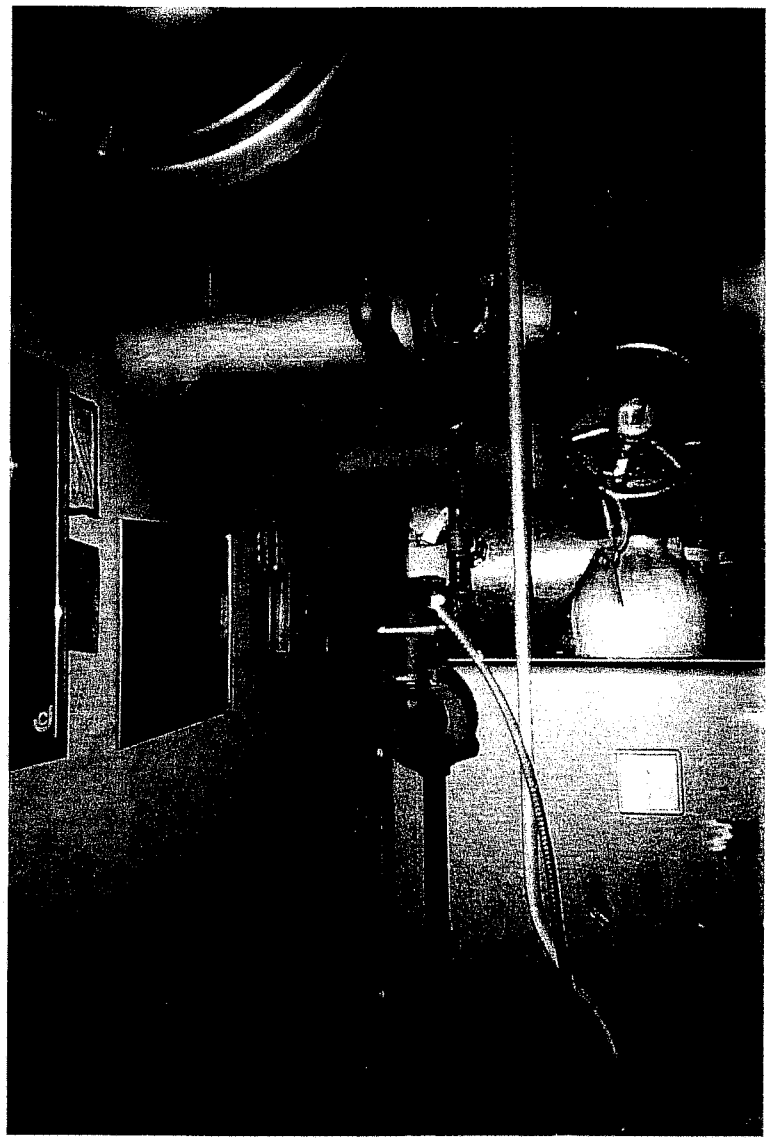
Subject	Southern side of building at 375 S. Eton Street	**Clayton Project No.**	**7**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	22 Jul 1998

Subject	Transformers and waste dumpster at subject property	**Clayton Project No.**	**8**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998



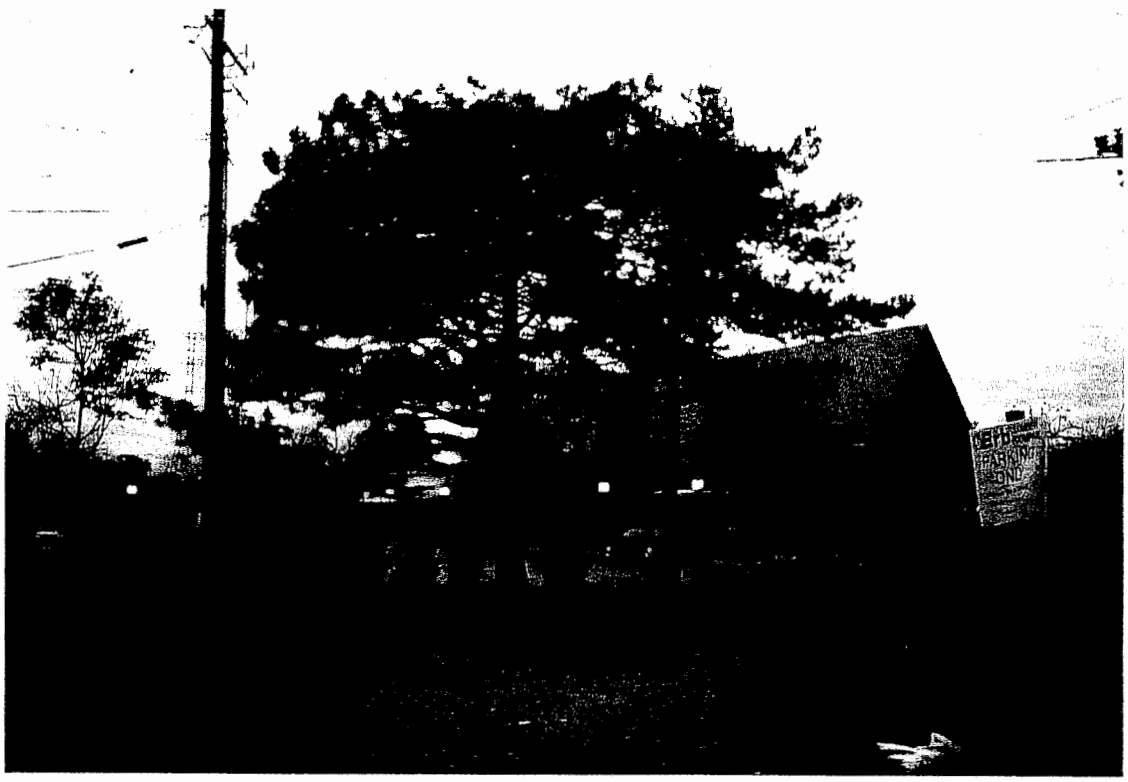
Subject	Interior view of building at 375 S. Eton Street	**Clayton Project No.**	**9**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

Subject	Material storage at 375 S. Eton Street	**Clayton Project No.**	**10**
Site	325 and 375 S. Eton Street, Birmingham, MI		**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998



Subject	Asbestos-containing pipe insulation in boiler room at 375 S. Eton		**11**
Site	325 & 375 S. Eton, Birmingham, MI	**Clayton Project No.**	**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

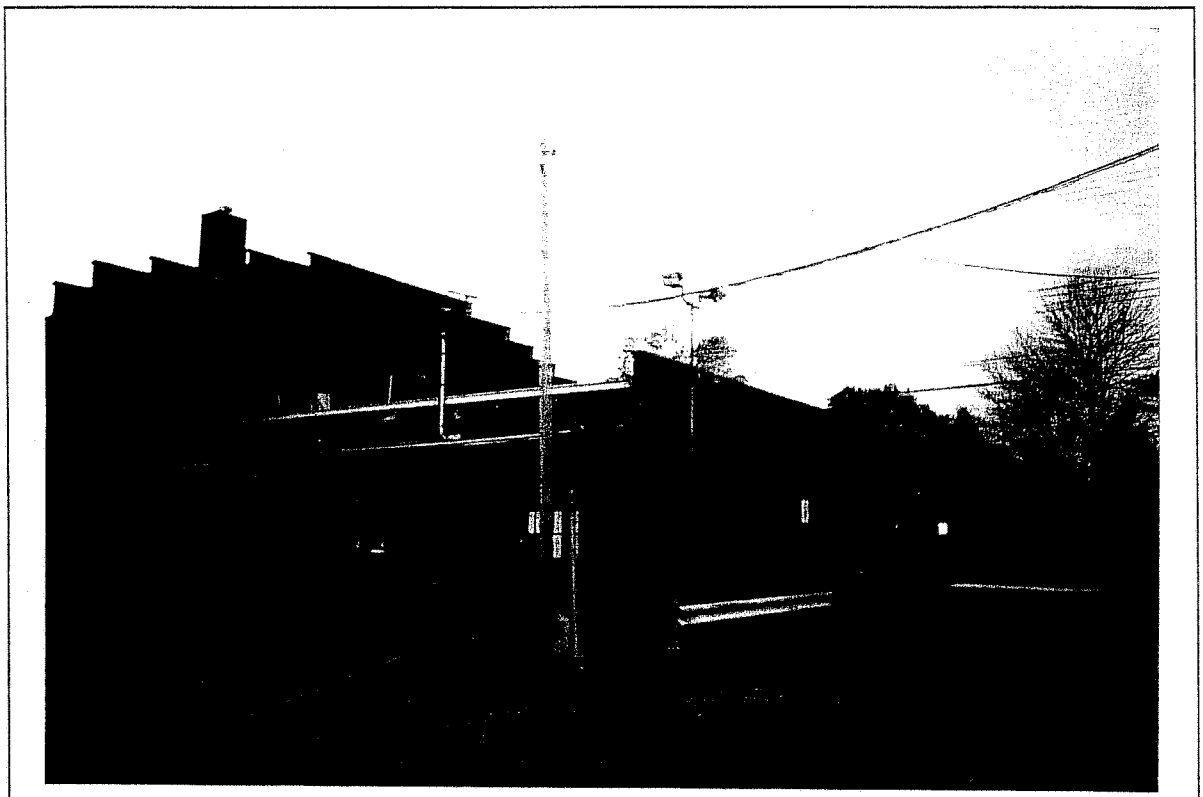
Subject	Southern portion of subject property viewing southeast	**Clayton**	**12**
Site	325 and 375 S. Eton Street, Birmingham, MI	**Project No.**	**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998



Subject	Northern adjacent property (Big Rock Brewery)	**Clayton**	**13**
Site	325 and 375 S. Eton Street, Birmingham, MI	**Project No.**	**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

Subject	Western adjacent property	**Clayton**	**14**
Site	325 and 375 S. Eton Street, Birmingham, MI	**Project No.**	**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

Subject	Western and southwestern adjacent properties	**Clayton**	**15**
Site	325 and 375 S. Eton Street, Birmingham, MI	**Project No.**	**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998



Subject	Southern adjacent property	**Clayton**	**16**
Site	325 and 375 S. Eton Street, Birmingham, MI	**Project No.**	**Date**
Client	Dean & Fulkerson	13-99337.00	6 Nov 1998

APPENDIX A

ENVIRONMENTAL RISK INFORMATION AND IMAGING SYSTEMS REPORT AND ENVIRONMENTAL DATA RESOURCES, INC.-RADIUS MAP REPORT

SUBJECT PROPERTY: Commercial Property
325 Eton Street
Birmingham, MI 48009

ORDERED BY: Patricia Grimes

REPORT NUMBER: 286502A

PREPARED ON: 11/04/1998

ERIIS DISCLAIMER

The Information contained in the ERIIS Report has been obtained from publicly available data sources and other secondary sources of information produced by entities other than ERIIS. Although reasonable care has been taken by ERIIS in compiling the information contained in the Report, ERIIS disclaims any and all liability for any errors, omissions or inaccuracies in this information. THIS REPORT DOES NOT CONSTITUTE A LEGAL OR PROFESSIONAL OPINION AND IS NOT AN ENVIRONMENTAL RISK AUDIT OR ASSESSMENT. THE DATA AND REPORTS ARE PROVIDED "AS IS". ERIIS MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WHATSOEVER WITH RESPECT TO THE DATA OR THE REPORTS INCLUDING, BUT NOT LIMITED TO, THEIR CORRECTNESS, COMPLETENESS, CURRENTNESS, FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, NOR ARE SUCH REPRESENTATIONS OR WARRANTIES TO BE IMPLIED WITH RESPECT TO THE DATA OR REPORTS FURNISHED AND ERIIS ASSUMES NO RESPONSIBILITY WITH RESPECT TO THE PURCHASER'S USE THEREOF. ERIIS SHALL HAVE NO LIABILITY, IN CONTRACT, TORT OR OTHERWISE, FOR ANY INACCURACY OR DEFECT OR OMISSION IN PROCURING, COMPILING, COLLECTING, INTERPRETING, REPORTING, COMMUNICATING OR DELIVERING THE REPORTS OR DATA OR ANY OTHER MATTER RELATED TO CUSTOMER'S USE OF THE SERVICE, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING. NONE OF ERIIS, ITS PARTNERS, OFFICERS, EMPLOYEES OR DATA SUPPLIERS SHALL IN ANY EVENT HAVE ANY LIABILITY FOR LOST PROFITS OR FOR ANY OTHER INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR PUNITIVE DAMAGES. Each Report is valid only for the geographical parameters and as of the date specified on the cover page of such Report, and any alteration or deviation from the description, or any subsequent use, will require a new Report. In the case of any Data obtained from a Data Supplier, ERIIS will advise the Data Supplier of any inaccuracies reported to it, but can take no responsibility for the accuracy or completeness of the Data provided to the Purchaser under this Agreement.

ERIIS Custom Detail Radius Statistical Profile

ERIIS Report #286502A

Nov 4, 1998

SITE: Commercial Property
325 Eton Street
Birmingham, MI 48009

Latitude: 42.544504
Longitude: -83.195093

State: MI

DATABASE	RADIUS (MI)	TARGET AREA**	PROPERTY-1/4	1/4-1/2	1/2-1	>1	TOTAL
NPL	1.00		0	0	0		0
CERCLIS	0.50		0	0			0
RCRIS_TS	0.50		0	0			0
RCRIS_LG	0.13		0				0
RCRIS_SG	0.13		1				1
ERNS	0.05		0				0
LRST	0.50		6	4			10
RST	0.13		5				5
SWF	0.50		0	0			0
HWS	1.00		0	0	0		0
NFRAP	0.50		0	0			0
DOCKET	0.13		0				0
FINDS	0.05		2				2
TRI	0.13		0				0
RCRIS_CA	1.00		0	0	0		0
			14	4	0	0	18

TOPO QUAD: Birmingham

Radon Zone Level: 2

Zone 2 has a predicted average indoor screening level >= 2 pCi/L and <= 4 pCi/L

A Radon Zone should not be used to determine if individual homes need to be tested for radon.
The EPA's Office of Radiation and Indoor Air (202/233-9320) recommends that all homes be tested for radon, regardless of geographic location or the zone designation in which the property is located.

**A target area is defined as a .02 mile buffer around the site's latitude and longitude.
A blank radius count indicates that the database was not searched by this radius per client instructions.
NR in a radius count indicates that the database cannot be reported by this search criteria due to insufficient and/or inaccurate addresses reported by a federal/state agency.

NPL

Date of Data: 06/04/1998
Release Date: 06/15/1998
Date on System: 07/02/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
703/603-8881
Date of Last Contact: 11/02/1998

National Priorities List

The NPL Report is an EPA listing of the nation's worst uncontrolled or abandoned hazardous waste sites. NPL sites are targeted for possible long-term remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. In addition, the NPL Report includes information concerning cleanup agreements between EPA and Potentially Responsible Parties (commonly called Records of Decision, or RODS), any liens filed against contaminated properties, as well as the past and current EPA budget expenditures tracked within the Superfund Consolidated Accomplishments Plan (SCAP).

CERCLIS

Date of Data: 06/04/1998
Release Date: 06/15/1998
Date on System: 07/02/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
703/603-8881
Date of Last Contact: 11/02/1998

Comprehensive Environmental Response, Compensation, and Liability Information System

The CERCLIS Database is a comprehensive listing of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated, or are currently under investigation by the U.S. EPA for the release, or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation, and ultimately placed on the National Priorities List (NPL). In addition to site events and milestone dates, the CERCLIS Report also contains financial information from the Superfund Consolidated Accomplishments Plan (SCAP).

RCRIS_TS

Date of Data: 01/01/1998
Release Date: 02/02/1998
Date on System: 03/06/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346
Date of Last Contact: 07/30/1998

Resource Conservation and Recovery Information System - Non-Corrective Action TSD Facilities

The RCRIS_TS Report contains information pertaining to facilities which either treat, store, or dispose of EPA regulated hazardous waste. The following information is also included in the RCRIS_TS Report:

- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties

RCRIS_LG

Date of Data: 01/01/1998
Release Date: 02/02/1998
Date on System: 03/06/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346
Date of Last Contact: 07/30/1998

Resource Conservation and Recovery Information System - Large Quantity Generators

The RCRIS_LG Report contains information pertaining to facilities which either generate more than 1000kg of EPA regulated hazardous waste per month, or meet other applicable requirements of the Resource Conservation And Recovery Act. The following information is also included in the RCRIS_LG Report:

- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties
- Information pertaining to corrective actions undertaken by the facility or EPA

RCRIS_SG

Date of Data: 01/01/1998
Release Date: 02/02/1998
Date on System: 03/06/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346
Date of Last Contact: 07/30/1998

Resource Conservation and Recovery Information System - Small Quantity Generators

The RCRIS_SG Report contains information pertaining to facilities which either generate between 100kg and 1000kg of EPA regulated hazardous waste per month, or meet other applicable requirements of the Resource Conservation And Recovery Act. On advice of the U.S. EPA, ERIIS does not report so-called "RCRA Protective Filers." Protective Filers, commonly called Conditionally Exempt Small Quantity Generators (CESQG's), are facilities that have completed RCRA notification paperwork, but are not, in fact, subject to RCRA regulation. The determination of CESQG status is made by the U.S. EPA. The following information is also included in the RCRIS_SG Report:
- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties
- Information pertaining to corrective actions undertaken by the facility or EPA

ERNS

Date of Data: 07/24/1998
Release Date: 07/31/1998
Date on System: 09/18/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
202/260-2342
Date of Last Contact: 10/19/1998

Emergency Response Notification System

ERNS is a national computer database system that is used to store information concerning the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS Reporting System contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party. Please note that the information in the ERNS Report pertains only to those releases that occured between January 1, 1997 and March 6, 1998.

LRST

Date of Data: 07/01/1998
Release Date: 10/01/1998
Date on System: 10/16/1998
MI Dept. of Environmental Quality
UST Division
517/335-7279
Date of Last Contact: 10/27/1998

Michigan Leaking Underground Storage Tank Report

The Michigan Leaking Underground Storage Tanks Report is a comprehensive listing of all reported active and inactive leaking underground storage tanks located within the State of Michigan. ERIIS' LUST Report consists of the listings maintained by the Michigan Department of Natural Resources (LUST Section and Environmental Response Division) and the Michigan Department of State Police (Fire Marshal's Division).

RST

Date of Data: 02/01/1998
Release Date: 08/18/1998
Date on System: 10/30/1998
MI Dept. of Environmental Quality
UST Division
517/335-7279
Date of Last Contact: 10/16/1998

Michigan Facility and Tank Data Report

The Michigan Facility and Tank Data Report is a comprehensive listing of all registered active and inactive underground storage tanks located within the State of Michigan.

SWF

Date of Data: 07/02/1998
Release Date: 07/02/1998
Date on System: 07/17/1998
MI Dept. of Environmental Quality
Waste Management Division - Solid Waste
517/335-4035
Date of Last Contact: 10/28/1998

Michigan Solid Waste Facilities

The Michigan Solid Waste Facilities Report is a comprehensive listing of all active and inactive solid waste landfills and processing facilities located within the State of Michigan.

Transfer Stations - 02/22/95
Active Facilities - 03/02/95
Processing Plants - 02/23/95

HWS

Date of Data: 04/22/1998
Release Date: 07/01/1998
Date on System: 08/28/1998
MI Dept. of Environmental Quality
Environmental Response Division - Act 307
517/373-9540
Date of Last Contact: 10/28/1998

Michigan Environmental Contamination List (Act 307)

The Michigan Environmental Contamination List contains summary information pertaining to sites that are deemed potentially hazardous by the Michigan Department of Natural Resources.

NFRAP

Date of Data: 06/04/1998
Release Date: 06/15/1998
Date on System: 09/04/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
703/603-8881
Date of Last Contact: 11/02/1998

No Further Remedial Action Planned Sites

The No Further Remedial Action Planned Report (NFRAP), also known as the CERCLIS Archive, contains information pertaining to sites which have been removed from the U.S. EPA's CERCLIS Database. NFRAP sites may be sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require federal Superfund action or NPL consideration.

DOCKET

Date of Data: 04/30/1997
Release Date: 05/01/1997
Date on System: 05/23/1997
US Environmental Protection Agency
Office of Enforcement
202/564-4114
Date of Last Contact: 06/26/1998

Civil Enforcement Docket

The Civil Enforcement Docket is the U.S. Environmental Protection Agency's system for tracking civil judicial cases filed on the Agency's behalf by the U.S. Department Of Justice. This report contains information on cases from 1972 to the present.

FINDS

Date of Data: 12/01/1997
Release Date: 02/01/1998
Date on System: 04/10/1998
US Environmental Protection Agency
Office of Information Resources Management
202/260-1786
Date of Last Contact: 11/02/1998

Facility Index System

The FINDS Report is a computerized inventory of all facilities that are regulated or tracked by the U.S. Environmental Protection Agency. These facilities are assigned a unique identification number which serves as a cross-reference for other databases in the EPA's Program System. Each FINDS record indicates the EPA Program Office which is responsible for the tracking of the facility.

TRI

Date of Data: 12/31/1994
Release Date: 08/01/1996
Date on System: 01/24/1997
US Environmental Protection Agency
Office of Pollution Prevention and Toxics
202/260-1531
Date of Last Contact: 06/26/1998

Toxic Release Inventory System of 1994

The TRI Report contains information concerning the industrial release and/or transfer of toxic chemicals as reportable under Title III of the Superfund Amendments And Reauthorization Act Of 1986 (SARA Title III).

RCRIS_CA

Date of Data: 01/01/1998
Release Date: 02/02/1998
Date on System: 03/06/1998
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346
Date of Last Contact: 07/30/1998

Resource Conservation and Recovery Information System - TSD's Subject to Corrective Action

The RCRIS_CA Report contains information pertaining to hazardous waste treatment, storage , and disposal Facilities (RCRA TSD's) which have conducted, or are currently conducting, a corrective action(s) as regulated under the Resource Conservation and Recovery Act. The following information is included within the RCRIS_CA Report:
- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties
- Information pertaining to corrective actions undertaken by

the facility or EPA

If a selected database does not appear on this list, it is not available for the subject property's state.

ERIIS Report #286502A Nov 4, 1998

ERIIS ID. DATABASE	FACILITY ADDRESS COMMENTS	DISTANCE FROM SITE	DIRECTION FROM SITE	MAP ID
	0 - 1/4 Miles			
26008003624 RCRIS_SG	Erb Lumber 425 S Eton St Birmingham, MI 48009-657 County: Oakland	0.01 Mi	NORTHWEST	2
26003007224 FINDS	Erb Lumber Co 425 S Eton St Birmingham, MI 48009-6573 County: Oakland	0.01 Mi	NORTHWEST	
26005009061 LRST	Erb Lumber Co - Eton Mill 425 S Eton St Birmingham, MI 48009-6573 County: Oakland	0.01 Mi	NORTHWEST	2
26010008119 RST	Erb Lumber Co - Eton Mill 425 S Eton St Birmingham, MI 48009-6573 County: Oakland	0.01 Mi	NORTHWEST	2
26003014065 FINDS	Amoco Oil Co Ss 0768 451 S Eton St Birmingham, MI 48009-6573 County: Oakland	0.01 Mi	SOUTHWEST	
26005010913 LRST	Erb Lumber Co. Inc 451 S Eton St Birmingham, MI 48009-6573 County: Oakland	0.01 Mi	SOUTHWEST	1
26010021532 RST	Erb Lumber Co. Inc 451 S Eton St Birmingham, MI 48009-6573 County: Oakland	0.01 Mi	SOUTHWEST	1
26005008869 LRST	At & T - Birmingham 2100 Palmer St Birmingham, MI 48009-6806 County: Oakland	0.06 Mi	SOUTHWEST	3
26010007045 RST	At & T - Birmingham 2100 Palmer St Birmingham, MI 48009-6806 County: Oakland	0.06 Mi	SOUTHWEST	3
26010026553 RST	At&t 2100 Palmer St Birmingham, MI 48009-6806 County: Oakland	0.06 Mi	SOUTHWEST	3
26005011767 LRST	Erb Lumber Company 545 S Eton St Birmingham, MI 48009-6824 County: Oakland	0.06 Mi	SOUTHWEST	4
26010023274 RST	Erb Lumber Company 545 S Eton St Birmingham, MI 48009-6824 County: Oakland	0.06 Mi	SOUTHWEST	4
26005009064 LRST	Erb Lumber Co. Inc 777 S Eton St Birmingham, MI 48009-6837 County: Oakland	0.17 Mi	SOUTHWEST	5
26005008337 LRST	Department Of Public Services 851 S Eton St Birmingham, MI 48009-6870 County: Oakland	0.21 Mi	SOUTHWEST	6

Summary of Plottable sites

ERIIS Report #286502A Nov 4, 1998

ERIIS ID. DATABASE	FACILITY ADDRESS COMMENTS	DISTANCE FROM SITE	DIRECTION FROM SITE	MAP ID
	1/4 - 1/2 Miles			
26005008896 LRST	Us Postal Facility 2330 Cole St Birmingham, MI 48009-7030 County: Oakland	0.32 Mi	SOUTHEAST	7
26005000678 LRST	Byrne Plywood Co. 2400 Cole St Birmingham, MI 48009-7083 County: Oakland	0.35 Mi	SOUTHEAST	8
26005001605 LRST	Transportation Center 2125 E Lincoln St Birmingham, MI 48009-7702 County: Oakland	0.38 Mi	SOUTHEAST	9
26005004489 LRST	Iveco Engine Product Development 1333 Coolidge Hwy Troy, MI 48084-7017 County: Oakland	0.43 Mi	NORTHEAST	10

ERIIS ENVIRONMENTAL DATA REPORT
RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM - SMALL QUANTITY GENERATORS
RCRIS_SG - PLOTTABLE SITES - PAGE 1

ERIIS Report #286502A Nov 4, 1998

ERIIS ID / EPA ID	FACILITY	ADDRESS	MAP ID
26008003624 MID186804621	Erb Lumber DISTANCE FROM SITE: 0.01 Miles DIRECTION FROM SITE: Northwest	425 S Eton St Birmingham, MI 48009-657 County: Oakland	2

Facility Is Not Reported In Raats

ERIIS Report #286502A

Nov 4, 1998

ERIIS ID / FACILITY ID	FACILITY	ADDRESS	MAP ID
26005009061 0-010849	Erb Lumber Co - Eton Mill DISTANCE FROM SITE: 0.01 Miles DIRECTION FROM SITE: Northwest STATUS: Closed	425 S Eton St Birmingham, MI 48009-6573 COUNTY: Oakland	2
26005010913 0-033805	Erb Lumber Co. Inc DISTANCE FROM SITE: 0.01 Miles DIRECTION FROM SITE: Southwest STATUS: Closed	451 S Eton St Birmingham, MI 48009-6573 COUNTY: Oakland	1
26005008869 0-009686	At & T - Birmingham DISTANCE FROM SITE: 0.06 Miles DIRECTION FROM SITE: Southwest STATUS: Closed	2100 Palmer St Birmingham, MI 48009-6806 COUNTY: Oakland	3
26005011767 0-037701	Erb Lumber Company DISTANCE FROM SITE: 0.06 Miles DIRECTION FROM SITE: Southwest STATUS: Closed	545 S Eton St Birmingham, MI 48009-6824 COUNTY: Oakland	4
26005009064 0-010852	Erb Lumber Co. Inc DISTANCE FROM SITE: 0.17 Miles DIRECTION FROM SITE: Southwest STATUS: Closed	777 S Eton St Birmingham, MI 48009-6837 COUNTY: Oakland	5
26005008337 0-006622	Department Of Public Services DISTANCE FROM SITE: 0.21 Miles DIRECTION FROM SITE: Southwest STATUS: Closed	851 S Eton St Birmingham, MI 48009-6870 COUNTY: Oakland	6
26005008896 0-009759	Us Postal Facility DISTANCE FROM SITE: 0.32 Miles DIRECTION FROM SITE: Southeast STATUS: Closed	2330 Cole St Birmingham, MI 48009-7030 COUNTY: Oakland	7
26005000678 0-002937	Byrne Plywood Co. DISTANCE FROM SITE: 0.35 Miles DIRECTION FROM SITE: Southeast STATUS: Open	2400 Cole St Birmingham, MI 48009-7083 COUNTY: Oakland	8
26005001605 0-006418	Transportation Center DISTANCE FROM SITE: 0.38 Miles DIRECTION FROM SITE: Southeast STATUS: Open	2125 E Lincoln St Birmingham, MI 48009-7702 COUNTY: Oakland	9
26005004489 0-017853	Iveco Engine Product Development DISTANCE FROM SITE: 0.43 Miles DIRECTION FROM SITE: Northeast STATUS: Open	1333 Coolidge Hwy Troy, MI 48084-7017 COUNTY: Oakland	10

ERIIS Report #286502A Nov 4, 1998

ERIIS ID / FACILITY ID	FACILITY	ADDRESS	MAP ID
26010008119 0-010849	Erb Lumber Co - Eton Mill DISTANCE FROM SITE: 0.01 Miles DIRECTION FROM SITE: Northwest	425 S Eton St Birmingham, MI 48009-6573 COUNTY: Oakland	2

MANAGER: John M. Dorosz (313) 644-5300

TANK ID: 1	STATUS: Removed	PRODUCT: Gasoline
	CAPACITY(GALS): 6,000	TANK MATERIAL: Bare Steel
	AGE (YEARS) 36	PIPE MATERIAL: Galvanized Steel
TANK ID: 2	STATUS: Removed	PRODUCT: Diesel
	CAPACITY(GALS): 6,000	TANK MATERIAL: Bare Steel
	AGE (YEARS) 36	PIPE MATERIAL: Galvanized Steel

26010021532 0-033805	Erb Lumber Co. Inc DISTANCE FROM SITE: 0.01 Miles DIRECTION FROM SITE: Southwest	451 S Eton St Birmingham, MI 48009-6573 COUNTY: Oakland	1

MANAGER: John M. Dorosz (313) 644-5300

TANK ID: 1	STATUS: Removed	PRODUCT: Gasoline
	CAPACITY(GALS): 2,000	TANK MATERIAL: Bare Steel
	AGE (YEARS) 33	PIPE MATERIAL: Galvanized Steel

26010007045 0-009686	At & T - Birmingham DISTANCE FROM SITE: 0.06 Miles DIRECTION FROM SITE: Southwest	2100 Palmer St Birmingham, MI 48009-6806 COUNTY: Oakland	3

MANAGER: Jerry Wieman (734) 451-3063

TANK ID: 1	STATUS: Currently In Use	PRODUCT: Diesel
	CAPACITY(GALS): 2,000	TANK MATERIAL: Fiberglass
	AGE (YEARS) 12	PIPE MATERIAL: Galvanized Steel

26010023274 0-037701	Erb Lumber Company DISTANCE FROM SITE: 0.06 Miles DIRECTION FROM SITE: Southwest	545 S Eton St Birmingham, MI 48009-6824 COUNTY: Oakland	4

MANAGER: James Tomaro (248) 644-6222

TANK ID: 1	STATUS: Removed	PRODUCT: Diesel
	CAPACITY(GALS): 6,000	TANK MATERIAL: Bare Steel
	AGE (YEARS) Unk	PIPE MATERIAL: Bare Steel
TANK ID: 2	STATUS: Removed	PRODUCT: Diesel
	CAPACITY(GALS): 1,500	TANK MATERIAL: Bare Steel
	AGE (YEARS) Unk	PIPE MATERIAL: Bare Steel
TANK ID: 3	STATUS: Removed	PRODUCT: Diesel
	CAPACITY(GALS): 1,500	TANK MATERIAL: Bare Steel
	AGE (YEARS) Unk	PIPE MATERIAL: Bare Steel

26010026553 9-163273	At&t DISTANCE FROM SITE: 0.06 Miles DIRECTION FROM SITE: Southwest	2100 Palmer St Birmingham, MI 48009-6806 COUNTY: Oakland	3

MANAGER: Dave Straats (313) 983-5273

TANK ID: 1	STATUS: Currently In Use	PRODUCT: Fl
	CAPACITY(GALS): 1,500	TANK MATERIAL:
	AGE (YEARS) 3	PIPE MATERIAL:

ERIIS ENVIRONMENTAL DATA REPORT
FACILITY INDEX SYSTEM
FINDS - PLOTTABLE SITES - PAGE 1

ERIIS Report #286502A Nov 4, 1998

ERIIS ID / EPA ID	FACILITY	ADDRESS
26003007224 MID186804621	Erb Lumber Co DISTANCE FROM SITE: 0.01 Miles DIRECTION FROM SITE: Northwest	425 S Eton St Birmingham, MI 48009-6573 COUNTY: Oakland

SIC CODE(S): Not Reported

TRACKING PROGRAM	LAST UPDATE
RCRIS	10/29/97

ERIIS ID / EPA ID	FACILITY	ADDRESS
26003014065 MID985609726	Amoco Oil Co Ss 0768 DISTANCE FROM SITE: 0.01 Miles DIRECTION FROM SITE: Southwest	451 S Eton St Birmingham, MI 48009-6573 COUNTY: Oakland

SIC CODE(S): Not Reported

TRACKING PROGRAM	LAST UPDATE
RCRIS	01/28/98

Summary of Unplottable sites

ERIIS Report #286502A — Nov 4, 1998

ERIIS ID. DATABASE	FACILITY ADDRESS COMMENTS	SELECTED BY
26003014764 FINDS	Amoco Oil Co 5349 Birmingham 1088 Maple Birmingham, MI 48009 County: Oakland	ZIP code
26008007490 RCRIS_SG	Amoco Oil Co 5349 Birmingham 1088 Maple Birmingham, MI 48009 County: Oakland	ZIP code
26010000348 RST	Shell Service Station 120 Hunter Birmingham, MI 48009 County: Oakland	ZIP code
26008007485 RCRIS_SG	Cranbrook Car Care Center 5696 2483 W Maple And Cranbrook Birmingham, MI 48009 County: Oakland	ZIP code
26003014756 FINDS	Cranbrook Car Care Ctr 5696 2483 W Maple And Cranbrook Birmingham, MI 48009 County: Oakland	ZIP code
26010005108 RST	Amoco Oil #5696 2483 W. Maple & Cranbrook Birmingham, MI 48009 County: Oakland	ZIP code
26003013890 FINDS	Amoco Als Village 31015 Southfield Birmingham, MI 48009 County: Oakland	ZIP code
26008006850 RCRIS_SG	Amoco Oil Co Als Village 31015 Southfield Birmingham, MI 48009 County: Oakland	ZIP code
26003004597 FINDS	Gross Lois Cleaners Corp 31221 Southfield Rd Birmingham, MI 48009 County: Oakland	ZIP code
26008002189 RCRIS_SG	Gross Lois Cleaners Corp 31221 Southfield Rd Birmingham, MI 48009 County: Oakland	ZIP code
26008006925 RCRIS_SG	Acacia Park Cemetery Assoc 31300 Southfield Rd Birmingham, MI 48009 County: Oakland	ZIP code
26010009873 RST	Acacia Park Cemetery 31300 Southfield Road Birmingham, MI 48009 County: Oakland	ZIP code
26003013992 FINDS	Acacia Pk Cmetery Association 31300 Southfield Rd Birmingham, MI 48009-2628 County: Oakland	ZIP code

ERIIS ENVIRONMENTAL DATA REPORT
RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM - SMALL QUANTITY GENERATORS
RCRIS_SG - UNPLOTTABLE SITES

ERIIS Report #286502A Nov 4, 1998

ERIIS ID / EPA ID	FACILITY	ADDRESS
26008002189 MID057682015	Gross Lois Cleaners Corp	31221 Southfield Rd Birmingham, MI 48009 County: Oakland

Facility Is Not Reported In Raats

26008006850 MID985607829	Amoco Oil Co Als Village	31015 Southfield Birmingham, MI 48009 County: Oakland

Facility Is Not Reported In Raats

26008006925 MID985608892	Acacia Park Cemetery Assoc	31300 Southfield Rd Birmingham, MI 48009 County: Oakland

Facility Is Not Reported In Raats

26008007485 MID985617984	Cranbrook Car Care Center 5696	2483 W Maple And Cranbrook Birmingham, MI 48009 County: Oakland

Facility Is Not Reported In Raats

26008007490 MID985618065	Amoco Oil Co 5349 Birmingham	1088 Maple Birmingham, MI 48009 County: Oakland

Facility Is Not Reported In Raats

ERIIS ENVIRONMENTAL DATA REPORT
MICHIGAN FACILITY AND TANK DATA REPORT
RST - UNPLOTTABLE SITES

ERIIS Report #286502A — Nov 4, 1998

ERIIS ID / FACILITY ID	FACILITY	ADDRESS
26010000348 0-002267	Shell Service Station	120 Hunter Birmingham, MI 48009 COUNTY: Oakland

MANAGER: Jerome P Cavaluzzi (734) 953-4341

TANK ID: 1	STATUS: Currently In Use CAPACITY(GALS): 8,000 AGE (YEARS) 27	PRODUCT: Gasoline TANK MATERIAL: Fiberglass PIPE MATERIAL: Fiberglass
TANK ID: 2	STATUS: Currently In Use CAPACITY(GALS): 10,000 AGE (YEARS) 16	PRODUCT: Gasoline TANK MATERIAL: Fiberglass PIPE MATERIAL: Fiberglass
TANK ID: 3	STATUS: Currently In Use CAPACITY(GALS): 10,000 AGE (YEARS) 16	PRODUCT: Gasoline TANK MATERIAL: Fiberglass PIPE MATERIAL: Fiberglass
TANK ID: 4	STATUS: Removed CAPACITY(GALS): 550 AGE (YEARS) 48	PRODUCT: Used Oil TANK MATERIAL: Bare Steel PIPE MATERIAL: Galvanized Steel
TANK ID: 9	STATUS: Currently In Use CAPACITY(GALS): 1,000 AGE (YEARS) 8	PRODUCT: Used Oil TANK MATERIAL: Fiberglass PIPE MATERIAL: Fiberglass

---

26010005108 0-005776	Amoco Oil #5696	2483 W. Maple & Cranbrook Birmingham, MI 48009 COUNTY: Oakland

MANAGER: J.e. Weston (313) 539-1311

TANK ID: 1	STATUS: Currently In Use CAPACITY(GALS): 6,000 AGE (YEARS) 40	PRODUCT: Gasoline TANK MATERIAL: Cath. Steel PIPE MATERIAL: Fiberglass
TANK ID: 2	STATUS: Currently In Use CAPACITY(GALS): 6,000 AGE (YEARS) 40	PRODUCT: Gasoline TANK MATERIAL: Cath. Steel PIPE MATERIAL: Fiberglass
TANK ID: 3	STATUS: Currently In Use CAPACITY(GALS): 6,000 AGE (YEARS) 34	PRODUCT: Gasoline TANK MATERIAL: Cath. Steel PIPE MATERIAL: Fiberglass
TANK ID: 4	STATUS: Currently In Use CAPACITY(GALS): 6,000 AGE (YEARS) 34	PRODUCT: Gasoline TANK MATERIAL: Cath. Steel PIPE MATERIAL: Fiberglass
TANK ID: 5	STATUS: Currently In Use CAPACITY(GALS): 8,000 AGE (YEARS) 24	PRODUCT: Gasoline TANK MATERIAL: Cath. Steel PIPE MATERIAL: Fiberglass
TANK ID: 6	STATUS: Currently In Use CAPACITY(GALS): 550 AGE (YEARS) 9	PRODUCT: Used Oil TANK MATERIAL: Cath. Steel PIPE MATERIAL: Unknown

---

26010009873 0-009178	Acacia Park Cemetery	31300 Southfield Road Birmingham, MI 48009 COUNTY: Oakland

MANAGER: T Hendershot (313) 642-6113

TANK ID: 1	STATUS: Removed CAPACITY(GALS): 1,000 AGE (YEARS) 28	PRODUCT: Diesel TANK MATERIAL: Bare Steel PIPE MATERIAL: Galvanized Steel

ERIIS ENVIRONMENTAL DATA REPORT
MICHIGAN FACILITY AND TANK DATA REPORT
RST - UNPLOTTABLE SITES

ERIIS Report #286502A Nov 4, 1998

ERIIS ID / FACILITY ID	FACILITY	ADDRESS	
TANK ID: 2	STATUS: Removed		PRODUCT:
	CAPACITY(GALS): 1,000		TANK MATERIAL: Bare Steel
	AGE (YEARS) 28		PIPE MATERIAL: Galvanized Steel
TANK ID: 3	STATUS: Removed		PRODUCT: Gasoline
	CAPACITY(GALS): 1,000		TANK MATERIAL: Bare Steel
	AGE (YEARS) 28		PIPE MATERIAL: Galvanized Steel

ERIIS ENVIRONMENTAL DATA REPORT
FACILITY INDEX SYSTEM
FINDS - UNPLOTTABLE SITES

ERIIS Report #286502A — Nov 4, 1998

ERIIS ID / EPA ID	FACILITY	ADDRESS
26003004597 MID057682015	Gross Lois Cleaners Corp	31221 Southfield Rd Birmingham, MI 48009 COUNTY: Oakland

SIC CODE(S): Not Reported

TRACKING PROGRAM	LAST UPDATE
RCRIS	10/29/97

ERIIS ID / EPA ID	FACILITY	ADDRESS
26003013890 MID985607829	Amoco Als Village	31015 Southfield Birmingham, MI 48009 COUNTY: Oakland

SIC CODE(S): Not Reported

TRACKING PROGRAM	LAST UPDATE
RCRIS	10/29/97

ERIIS ID / EPA ID	FACILITY	ADDRESS
26003013992 MID985608892	Acacia Pk Cmetery Association	31300 Southfield Rd Birmingham, MI 48009-2628 COUNTY: Oakland

SIC CODE(S): Not Reported

TRACKING PROGRAM	LAST UPDATE
RCRIS	10/29/97

ERIIS ID / EPA ID	FACILITY	ADDRESS
26003014756 MID985617984	Cranbrook Car Care Ctr 5696	2483 W Maple And Cranbrook Birmingham, MI 48009 COUNTY: Oakland

SIC CODE(S): Not Reported

TRACKING PROGRAM	LAST UPDATE
RCRIS	10/29/97

ERIIS ID / EPA ID	FACILITY	ADDRESS
26003014764 MID985618065	Amoco Oil Co 5349 Birmingham	1088 Maple Birmingham, MI 48009 COUNTY: Oakland

SIC CODE(S): Not Reported

TRACKING PROGRAM	LAST UPDATE
RCRIS	10/29/97

ERIIS LIST OF STREETS IN THE RADIUS

ERIIS Report #286502A Nov 4, 1998

STREET NAME
ANN ST
AXTELL DR
BANBURY ST
BENNAVILLE AVE
BOWERS ST
BUCKINGHAM AVE
CAMBRIDGE ST
CHAPIN AVE
CHELTENHAM RD
CHESTNUT ST
COLE ST
COLUMBIA ST
COMMERCE ST
COOLIDGE HWY
COOLIDGE RD
CROFT RD
DARTMOOR DR
DERBY RD
DORCHESTER DR N
DORCHESTER RD
DUNSTABLE RD
E LINCOLN ST
E MAPLE AVE
E MAPLE RD
E MELTON RD
EDENBOROUGH DR
EDENBOROUGH ST
ELM ST
EMMONS AVE
ETON DR
FOREST AVE
GRAEFIELD CT
GRAEFIELD DR
GRAEFIELD RD
HANLEY CT
HAYNES CT
HAYNES ST
HAZEL ST
HOLLAND ST
HUMPHREY AVE
INDUSTRIAL ROW DR
KNOX ST
LANDON ST
MADISON ST
MANCHESTER RD
MANCHESTER ST
MANSFIELD RD
MAPLE LANE DR
MAPLE WAY DR
MEIJER DR
N ADAMS RD
N ETON ST
N WORTH ST
OAKLAND AVE
PEMBROKE RD
PENISTONE ST
POPPLETON ST
RIDGEDALE AVE
RIVENOAK ST
ROSEDALE ST
RUFFNER AVE
RUGBY ST
S ADAMS RD
S ETON ST
S HUNTER BLVD
S HUNTERS BLVD
S WOODWARD AVE
S WORTH ST
SAINT ANDREWS DR
SHEFFIELD RD
SOMERSET BLVD
ST ANDREWS ST
TAUNTON RD
TORRY ST

ERIIS LIST OF STREETS IN THE RADIUS

ERIIS Report #286502A Nov 4, 1998

STREET NAME
UNNAMED STREET
VILLA RD
W MAPLE RD
W MELTON RD
WARWICK DR
WEBSTER AVE
WEBSTER ST
WESTBORO
WINDEMERE RD
WITHERBEE DR
YANKEE ST
YORKSHIRE RD
YOSEMITE BLVD

SEARCH RESULTS
ERIIS HISTORICAL MAP COLLECTION

PERTAINING TO: Commercial Property
325 Eton Street
Birmingham, MI 48009

REPORT NUMBER: 286502A

Preliminary research of the ERIIS Historic Map Collection indicates that historic map coverage may be available for this site. If more detailed research shows that coverage is not, in fact, available, you will be sent a version of this page indicating "No Coverage Available". If historic maps are found, you will receive them according to the terms of of your ERIIS service and delivery agreement.

The ERIIS Historic Map Collection is the largest and most extensive private collection of prior-use maps in the United States, thereby affording the greatest degree of historic due diligence. ERIIS' inventory includes images from the following publishers:

- Bracey
- Bromley
- Dakin
- Hexamer
- Hopkins
- Manufacturers Mutual Fire Insurance Maps
- Nirenstein Real Estate Atlases
- Sanborn Fire Insurance Map Collections
- Scarlett and Scarlett
- Rascher
- William G. Baist

Note: Electronic delivery may not be available for some historic maps. If you requested electronic delivery of maps for a site where this service is not available, paper copies of all maps for your subject property will be sent via overnight carrier to arrive within your delivery time at no additional charge.

Copyright (c) 1998 by Environmental Risk Information & Imaging Services.
505 Huntmar Park Dr. - Ste 200, Herndon, VA 20170, Ph. (703) 834-0600,
1-800-989-0403, FAX: (703) 834-0606.

E R I S

505 Huntmar Park Dr, Suite 200
Herndon, VA 20170
(703)834-0600 (800)989-0402
FAX: (703)834-0606

SITE INFORMATION

Commercial Property
325 Eton Street
Birmingham, MI
Oakland County
Job Number: 286502A
Map Plotted: Nov 4, 1998

MAP LEGEND

- Target Area
- Radii .25, .5, 1 Mi
- Hydrography
- Railroads
- Roads
- Highways
- NPL 0 Sites
- RCRIS_TS 0 Sites
- RCRIS_CA 0 Sites
- CERCLIS 0 Sites
- NFRAP 0 Sites
- RCRIS_LG 0 Sites
- RCRIS_SG 1 Site
- TRI 0 Sites
- ERNS 0 Sites
- HWS 0 Sites
- LRST 10 Sites
- SWF 0 Sites
- RST 5 Sites

Miles

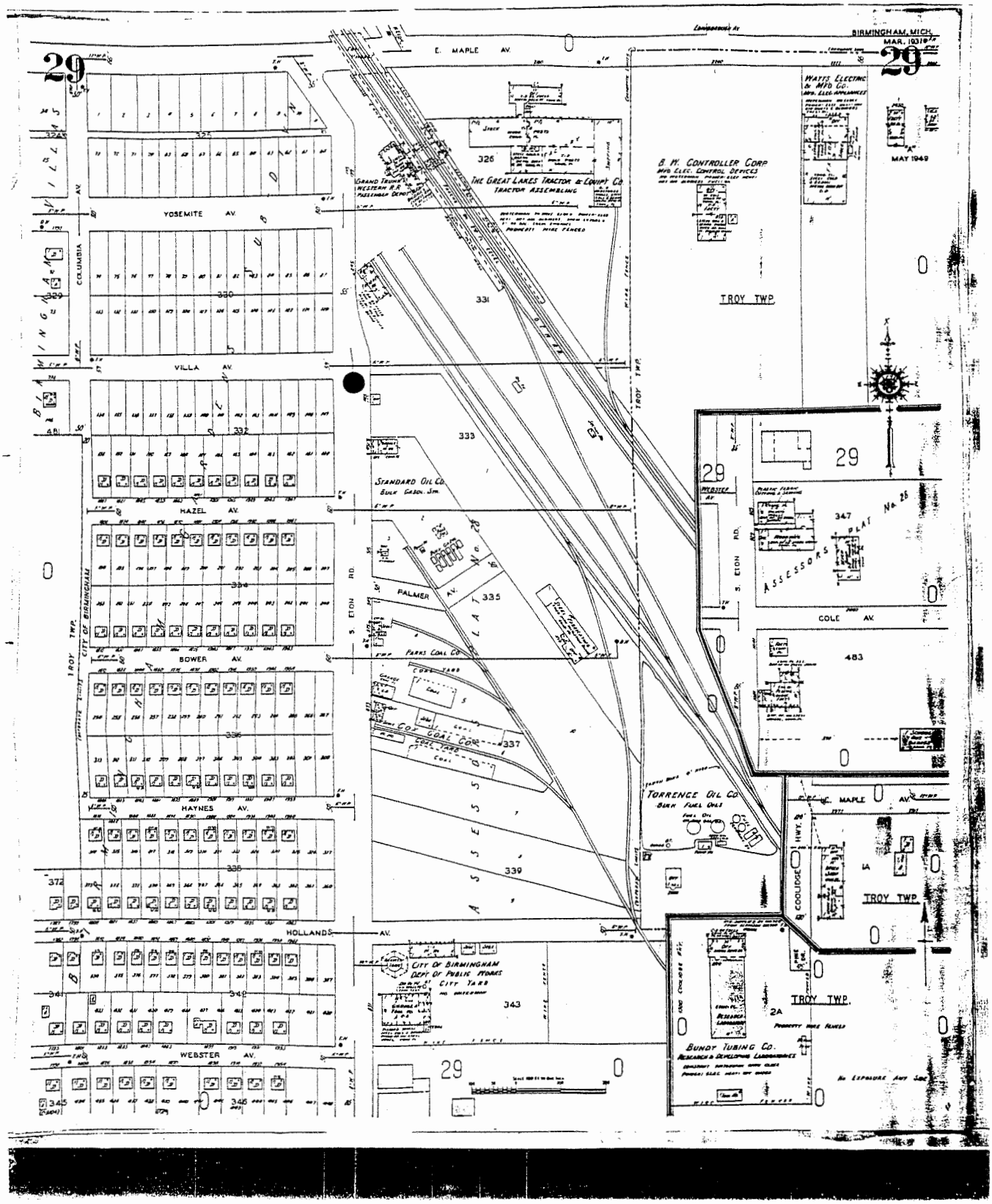
0 0.25 0.5

The Information on this map is subject to the ERIIS Disclaimer

Copyright 1997 ERIIS, Inc.

APPENDIX B

FIRE INSURANCE MAPS



Environmental Risk Information & Imaging Services

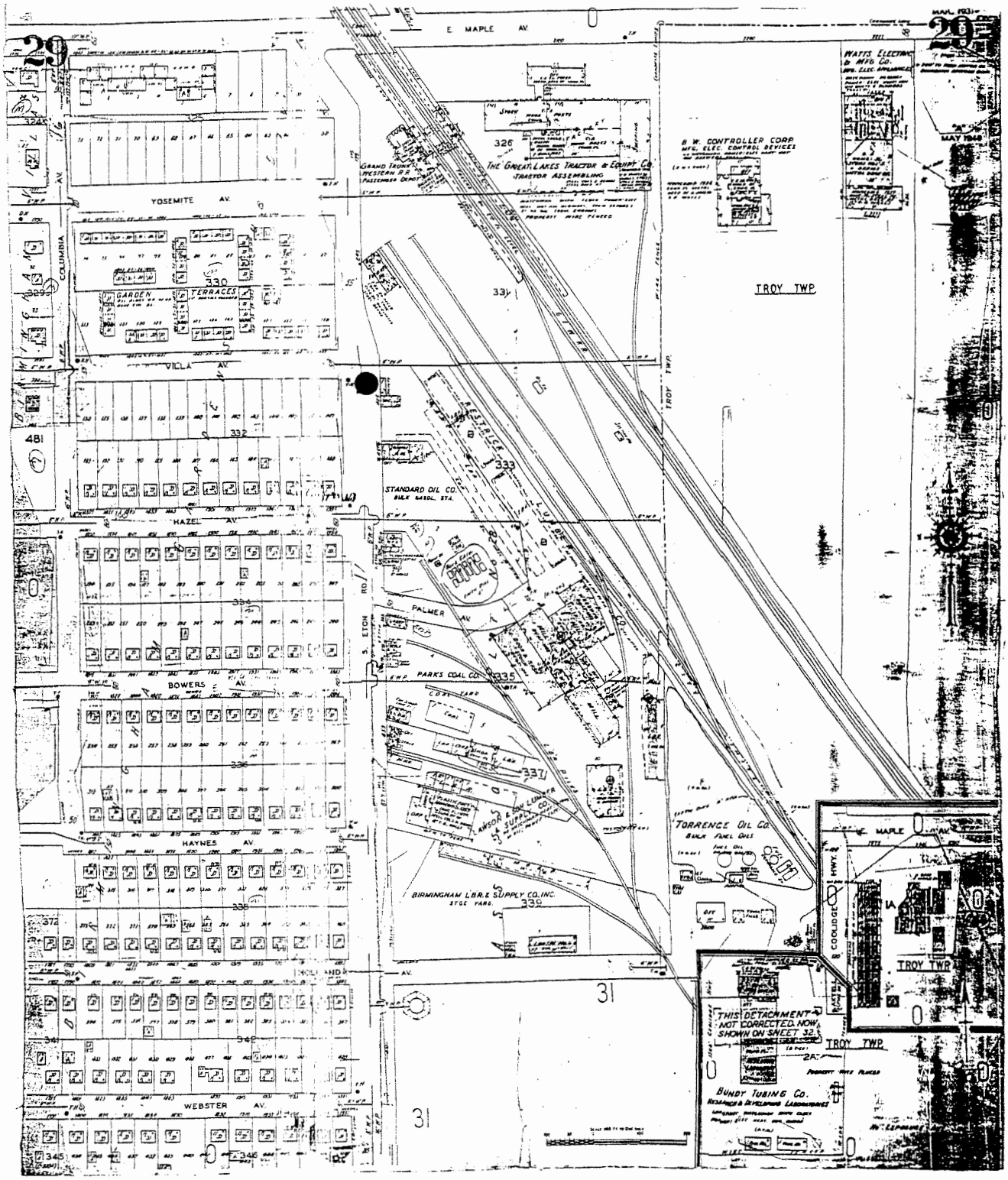
505 HUNTMAR PARK DRIVE, SUITE 200 • HERNDON, VA 20170 • 703•834•0600 • 1•800•989•0403 • FAX: 703•834•0606

ERIIS

THE REPRODUCTION OF THE SANBORN FIRE INSURANCE MAPS HAS BEEN MADE BY PERMISSION OF EDR SANBORN, INC., THE COPYRIGHT HOLDER, IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF AN AGREEMENT BETWEEN ENVIRONMENTAL RISK INFORMATION & IMAGING SERVICES AND EDR SANBORN, INC. DATED AUGUST 1, 1991. EDR SANBORN, INC. MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THE SANBORN MAPS, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SANBORN AND SANBORN MAPS ARE TRADEMARKS OF EDR SANBORN, INC. THE MANUFACTURERS' MUTUAL MAPS ARE THE PROPERTY OF THE EDISON INSTITUTE, DEARBORN, MICHIGAN, AND MAY NOT BE FURTHER REPRODUCED WITHOUT PERMISSION.

BIRMINGHAM

1949



Environmental Risk Information & Imaging Services

505 HUNTMAR PARK DRIVE, SUITE 200 • HERNDON, VA 20170 • 703•834•0600 • 1•800•989•0403 • FAX: 703•834•0606

ERIIS

THE REPRODUCTION OF THE SANBORN FIRE INSURANCE MAPS HAS BEEN MADE BY PERMISSION OF EDR SANBORN, INC., THE COPYRIGHT HOLDER. IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF AN AGREEMENT BETWEEN ENVIRONMENTAL RISK INFORMATION & IMAGING SERVICES AND EDR SANBORN, INC. DATED AUGUST 1, 1991, EDR SANBORN, INC. MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THE SANBORN MAPS INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SANBORN AND SANBORN MAPS ARE TRADEMARKS OF EDR SANBORN, INC. THE MANUFACTURERS' MUTUAL MAPS ARE THE PROPERTY OF THE EDISON INSTITUTE, DEARBORN, MICHIGAN, AND MAY NOT BE FURTHER REPRODUCED WITHOUT PERMISSION.

1960

APPENDIX C

ASBESTOS ANALYTICAL RESULTS

Detroit Regional Office

22345 Roethel Drive
Novi, MI 48375
(248) 344-1770
Fax (248) 344-2655

Clayton
LABORATORY
SERVICES

November 12, 1998

Ms. Patricia M. Grimes
Clayton Environmental Consultants, Inc.
Detroit ERMR
22345 Roethel Drive
Novi, MI 48375

Clayton Project No. 68488.00/13-99337.00

Dear Ms. Grimes:

Attached is our analytical laboratory report for the samples received on November 9, 1998. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after December 12, 1998, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact a Client Services Representative at (800) 806-5887.

Sincerely,

Laura R. McMahon
Supervisor, Client Services
Laboratory Services
Detroit Regional Office

LRM/jk

Attachments

Table 1
Analytical Results
for
DEAN & FULKERSON, P.C.
Clayton Project No. 68488.00/13-99337.00

Sample Type: Bulk Sample
Method Reference: EPA 600-M4-82-020
Analyst: AP

Date Sampled: 11/06/98
Date Received: 11/09/98
Date Analyzed: 11/12/98

Lab No.	Sample Identification and Description ([Layer] and Morphology)	Asbestos Content (Percent and Type)	Non-asbestos Fibers (Percent and Type)	Non-fibrous Materials (Type)
001a	DF-1 [1] Non-homogeneous compressed tan ceiling tile	None Detected	40% Cellulose fiber 25% Mineral wool	Binder/Filler, Paint and Perlite
002a	DF-2 [1] Non-homogeneous compressed tan ceiling tile	None Detected	40% Cellulose fiber 30% Mineral wool	Binder/Filler, Paint and Perlite
003a	DF-3 [1] Non-homogeneous compressed tan ceiling tile	None Detected	40% Cellulose fiber 25% Mineral wool	Binder/Filler, Paint and Perlite
004a	DF-4 [1] Non-homogeneous compressed tan ceiling tile	None Detected	45% Cellulose fiber 20% Mineral wool	Binder/Filler, Paint and Perlite
005a	DF-5 [1] Non-homogeneous compressed tan ceiling tile	None Detected	45% Cellulose fiber 20% Mineral wool	Binder/Filler, Paint and Perlite
006a	DF-6 [1] Non-homogeneous compressed tan ceiling tile	None Detected	40% Cellulose fiber 20% Mineral wool	Binder/Filler, Paint and Perlite

Table 1 (continued)
Analytical Results
for
DEAN & FULKERSON, P.C.
Clayton Project No. 68488.00/13-99337.00

Sample Type: Bulk Sample
Method Reference: EPA 600-M4-82-020
Analyst: AP

Date Sampled: 11/06/98
Date Received: 11/09/98
Date Analyzed: 11/12/98

Lab No.	Sample Identification and Description ([Layer] and Morphology)	Asbestos Content (Percent and Type)	Non-asbestos Fibers (Percent and Type)	Non-fibrous Materials (Type)
007a	DF-A [1] Non-homogeneous tan fiber and mineral mixture	10% Chrysotile	2% Cellulose fiber 25% Mineral wool	Binder/Filler
008a	DF-B [1] Non-homogeneous tan fiber and mineral mixture	15% Chrysotile	5% Cellulose fiber 30% Mineral wool	Binder/Filler
009a	DF-C [1] Non-homogeneous tan fiber and mineral mixture	20% Chrysotile	2% Cellulose fiber 30% Mineral wool	Binder/Filler
010a	DF-D [1] Non-homogeneous compressed tan ceiling tile	None Detected	40% Cellulose fiber 20% Mineral wool	Binder/Filler, Paint and Perlite

Table 1 (continued)
Analytical Results
for
DEAN & FULKERSON, P.C.
Clayton Project No. 68488.00/13-99337.00

Sample Type: Bulk Sample
Method Reference: EPA 600-M4-82-020
Analyst: AP

Date Sampled: 11/06/98
Date Received: 11/09/98
Date Analyzed: 11/12/98

Lab No.	Sample Identification and Description ([Layer] and Morphology)	Asbestos Content (Percent and Type)	Non-asbestos Fibers (Percent and Type)	Non-fibrous Materials (Type)
011a	DF-E [1] Non-homogeneous compressed tan ceiling tile	None Detected	40% Cellulose fiber 30% Mineral wool	Binder/Filler, Paint and Perlite
012a	DF-F [1] Non-homogeneous compressed tan ceiling tile	None Detected	40% Cellulose fiber 25% Mineral wool	Binder/Filler, Paint and Perlite

General Notes
Analytical Method: U.S. EPA, "Interim Method for the Determination of Asbestos in Bulk Insulation Samples", EPA-600/M4-82-020 December 1982.

Percentages are visual estimations. The reliable limit of quantitation of the method is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%".

Detroit Regional Office

22345 Roethel Drive
Novi, MI 48375
(248) 344-1770
Fax (248) 344-2656

Clayton
ENVIRONMENTAL
CONSULTANTS

Subsurface Investigation at 325 and 375 South Eton Street in Birmingham, Michigan

Prepared for Dean & Fulkerson Troy, Michigan

Clayton Project No. 13-00021.00

August 13, 1999

CONTENTS

1.0 INTRODUCTION 1

2.0 SITE DECRIPTION AND BACKGROUND 1

3.0 FIELD ACTIVITIES 1
3.1 SOIL AND GROUNDWATER SAMPLING 4
3.2 EQUIPMENT DECONTAMINATION 4
3.3 SAMPLE COLLECTION AND PRESERVATION 4

4.0 SITE GEOLOGY 5

5.0 LABORATORY ANALYSES 5

6.0 APPLICABLE CLEANUP CRITERIA 6

7.0 DISCUSSION AND CONCLUSIONS 6

FIGURES

1 SITE LOCATION 2
2 SITE PLAN WITH SOIL BORING LOCATIONS 3

TABLES

1 SUMMARY OF VOC ANALYTICAL RESULTS IN GROUNDWATER
2 SUMMARY OF PNAS, METALS, AND PCBS ANALYTICAL RESULTS IN GROUNDWATER
3 SUMMARY OF VOC ANALYTICAL RESULTS IN SOIL
4 SUMMARY OF PNAS, METALS, AND PCBS ANALYTICAL RESULTS IN SOIL

APPENDICES

A Soil Boring Logs
B Analytical Results

1.0 INTRODUCTION

Clayton Environmental Consultants conducted a subsurface investigation at the commercial property located at 325 and 375 South Eton Street in Birmingham, Michigan. This subsurface investigation was conducted as a result of recommendations included in Clayton's Phase I Environmental Site Assessment dated March 5, 1999 (Clayton Project No. 13-99337.00.001). The Phase I environmental assessment revealed evidence of the following *recognized environmental conditions*, as defined by American Society for Testing Materials (ASTM), in connection with the subject property:

- The building located at 325 South Eton Street was used as a freight depot from at least 1949 to 1960. A railroad spur was located adjacent to and east of this freight building. Clayton was unable to confirm the identity of the freight that was loaded, unloaded, or possibly stored on the property.

The purpose of the subsurface investigation was to evaluate the possible presence of contamination associated with the recognized environmental condition (REC) listed above. Clayton conducted this investigation in accordance with its proposal dated May 21, 1999 (Clayton Proposal No. 99DETEMR127a).

Clayton understands that this project was conducted as part of a possible property transaction.

2.0 SITE DESCRIPTION AND BACKGROUND

The subject property, 325 and 375 South Eton Street is situated on the south side of Maple Street and East of Eton Street in Birmingham, Michigan. Figure 1 is a site location map.

The subject property is located in a mixed residential and commercial setting.

3.0 FIELD ACTIVITIES

Clayton conducted soil sampling at the subject property on July 21, 1999, to evaluate the possible presence of contamination associated with the REC outlined in Section 1.0. Three soil borings were drilled to an approximate depth of 12 feet below the surface of the ground using a Geoprobe® drill rig. Soil samples were collected continuously from each soil boring. Groundwater was collected from one soil boring. Refer to Figure 2 for the locations of the soil borings.

Clayton analyzed soil and groundwater samples collected from the soil borings for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PNAs), trimethylbenzene isomers, polychlorinated biphenyls (PCBs); and metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc).

Clayton observed a slight petroleum-like odor in SB-2 approximately 2 to 3 feet below the ground surface (bgs) and collected a soil sample from this interval for laboratory

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETRE

Quadrangle Location

Portion of 7.5-minute Series (Topographic) Map
United States Department of the Interior
Geological Survey
Birmingham, Michigan 1981

Figure 1
Site location

Clayton
ENVIRONMENTAL
CONSULTANTS

SITE

325 and 375 South Eton Street
Birmingham, Michigan

Project No. 13-00021.00 | August 10, 1999

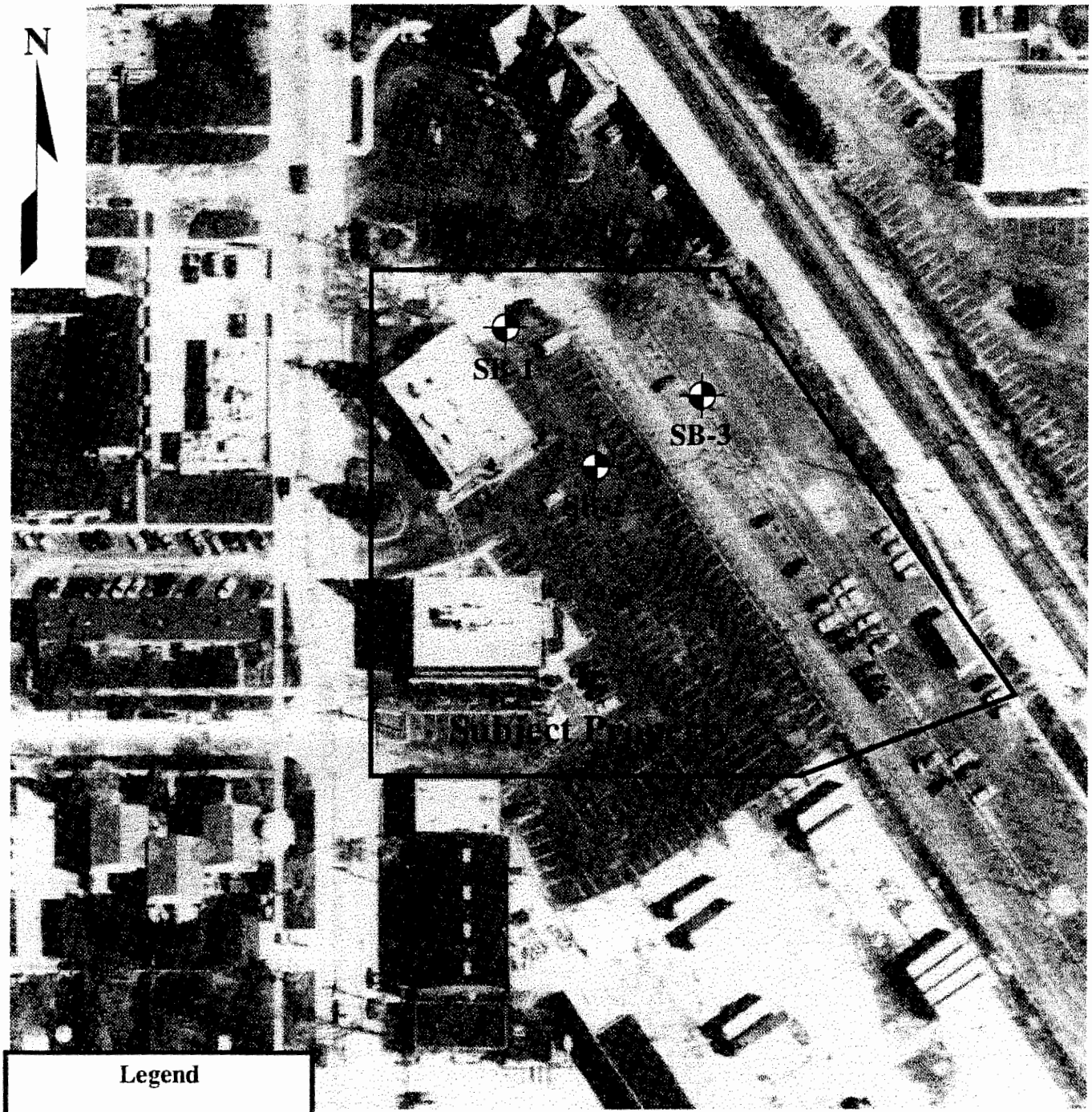


Figure 2
Location of soil borings

Clayton
ENVIRONMENTAL
CONSULTANTS

SITE

325 and 375 South Eton Street
Birmingham, Michigan

Proposal No. 13-00021.00

August 10, 1999

analysis. Because Clayton did not observe visible or odorous evidence of contamination during the drilling of SB-1 or SB-3, Clayton selected soil samples that would most likely have been affected by potential contamination. Therefore, Clayton submitted for analysis samples collected at a depth of 2 feet bgs for SB-1 and SB-3.

3.1 SOIL AND GROUNDWATER SAMPLING

Clayton (1) retained a subcontractor to drill soil borings utilizing a Geoprobe® drill rig, (2) supervised drilling of the soil borings, and (3) collected soil and groundwater samples.

The soil borings were drilled in the following locations:

- Soil Boring SB-1 and SB-2 were drilled in the area between the old railroad spur and the building.
- Soil Boring SB-3 was drilled on the east side of the old railroad spur.

As each soil sample was collected, Clayton visually examined the sample to provide data on subsurface soil stratigraphy and to note visible evidence of contamination. Soil boring logs are included as Appendix A. The drilling contractor extracted soil samples from clear acetate liners installed within the stainless steel Geoprobe® rods. Clayton observed odorous evidence of contamination in one of the soil samples collected from the soil borings.

Clayton collected a groundwater sample from Soil Boring SB-3. No groundwater was observed in SB-2 and an insufficient quantity of groundwater was present in Soil Boring SB-1. The groundwater sample was obtained by lowering dedicated tubing into the borehole, using a peristaltic pump to draw the groundwater sample to the surface, and filling appropriate sample bottles.

After the completion of drilling and following collection of soil and groundwater samples, the soil borings were backfilled with bentonite chips.

3.2 EQUIPMENT DECONTAMINATION

Clayton instructed the Geoprobe operator to clean the sampling sleeves prior to drilling each boring.

The sampling sleeves were decontaminated by:

1. Washing the sampling sleeves with a nonphosphate detergent solution
2. Rinsing the sampling sleeves with tap water
3. Air drying the sampling sleeves

3.3 SAMPLE COLLECTION AND PRESERVATION

Soil and groundwater samples were placed in laboratory-grade containers, and preserved and stored following United States Environmental Protection Agency (USEPA) Publication SW-846, *Testing Methods for Evaluating Solid Waste*.

Clayton collected samples designated for VOC analysis using EnCore™ samplers to comply with USEPA Method 5035. Each soil sample was packed without head space, into the sample container and the container was sealed with an "o-ring" cap.

For samples intended for analyses for PNAs, PCBs, and metals, the sample containers used had been (1) washed with detergent, (2) rinsed with acid, de-ionized water, and solvents, and (3) oven dried.

Groundwater samples analyzed for VOCs were preserved in the field with hydrochloric acid. Groundwater samples analyzed for metals were filtered in the field using 0.45 micron filters and preserved with nitric acid.

The samples were transported to Clayton's analytical laboratory in Novi, Michigan.

4.0 SITE GEOLOGY

During drilling, Clayton observed subsurface conditions that generally consisted of silty clay from beneath the asphalt to the maximum depth of the soil borings (12 feet). Soil boring logs are included in Appendix A.

Groundwater was encountered in two of the three soil borings. These soil borings, SB-1 and SB-3, were located on opposite sides of the railroad spur. Clayton did not observe groundwater in SB-2. The groundwater in SB-1 and SB-3 was observed at a depth of six feet and three feet, respectively. A groundwater sample could not be collected from Soil Boring SB-1 because an insufficient quantity of groundwater was present.

5.0 LABORATORY ANALYSES

Clayton analyzed the three soil and one groundwater samples for VOCs using USEPA Method 8260, PNAs using USEPA Method 8270, PCBs using USEPA Method 8082, and metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc) using USEPA Method 6020. Detailed analytical results and detection limits are presented in Appendix B. Analytical results, along with the appropriate MDEQ clean-up criteria, are summarized in Tables 1 through 4.

Soil Samples. The following lists the detectable chemicals in the soil:

- PNAs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene) in the soil sample collected from Soil Boring SB-2.
- PNAs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, Indeno(123-cd)pyrene, phenanthrene, and pyrene) in the soil sample collected from Soil Boring SB-3.
- Metals (arsenic, barium, chromium, copper, lead, and zinc) in the soil samples collected from Soil Borings SB-1, SB-2, and SB-3.

Clayton did not detect the presence of VOCs or PCBs in the soil samples.

Groundwater Sample. The following lists the detectable chemicals in the groundwater:

- Arsenic in the groundwater sample collected from Soil Boring SB-3.

Clayton did not detect the presence of VOCs, PNAs or PCBs in the groundwater sample.

6.0 APPLICABLE CLEANUP CRITERIA

Clayton has preliminarily evaluated that the applicable cleanup criteria for soil and groundwater at the site are direct contact and groundwater contact protection. These criteria identify concentrations that are protective against adverse health effects due to long-term ingestion and dermal exposure to contaminated soil and groundwater and contaminants that may leach to water in a utility worker excavation pit.

Clayton has evaluated that other cleanup criteria for the site, such as protection of groundwater as a source of drinking water and groundwater surface water interface are not applicable because (1) groundwater is not a source of potable water beneath the site (the site receives its potable water from the City of Detroit), (2) groundwater encountered beneath the property is discontinuous (Clayton did not encounter groundwater in one of the three soil borings.

Cleanup Requirements. A property meets cleanup requirements when (1) the concentration of the chemical of concern is at or below the appropriate standard or (2) the concentration of the chemical is less than the background level of the chemical when the background level is higher than the standard. Background level is the concentration of a chemical on a property that exists due to naturally occurring processes in the environment (e.g. metals).

7.0 DISCUSSION AND CONCLUSIONS

Clayton conducted a subsurface investigation at property located at 325 and 375 South Eton Street in Birmingham, Michigan to evaluate the possible presence of contamination from (1) the historical use of a building as a freight depot and (2) a railroad spur that was located adjacent to and east of this freight building.

PNAs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene) were detected in the soil samples collected from Soil Borings SB-2 and SB-3 along with the PNAs benzo(ghi)perylene and Indeno(123-cd)pyrene detected in soil boring SB-3. Concentrations of these chemicals do not exceed any current residential cleanup criteria.

Arsenic detected in the groundwater does not currently exceed any residential cleanup criteria. In Clayton's opinion, the metals detected in the soil most likely represent naturally occurring concentrations.

Clayton sampled in the suspect source areas and did not detect contamination at concentrations currently exceeding any applicable residential cleanup criteria. Because the groundwater and soil concentrations were not detected above the relevant pathways for the MDEQ residential cleanup criteria, the subject property would not be considered a "facility" as defined by Part 201 of the Natural Resources and Environmental Protection Act (NREPA); 1994, PA 451, as amended. Clayton thereby concludes that further environmental testing is not warranted and that all appropriate inquiry in the condition of the property has been conducted.

APPENDIX A

SOIL BORING LOGS

Boring Location Map

Clayton Boring Log

Project No. 13-00021.00		Soil Boring SB-1	Start Date 7-21-99
Boring Depth	12 feet	Monitoring Well	Finish Date 7-21-99
Clayton Engineer Steven Verhoff			

Boring Location Description	Client Name and Address	Site Name and Address
Right next to catch basin northeast side of ERB lumber	Dean & Fulkerson Troy, Michigan	325 and 375 South Eton Street Birmingham, Michigan

R (%)	ft	N	Color	Moisture	Description	PID	Comment
	0				6 inches of CONCRETRE		
					Light brown SANDY SILT		
	1						
	2						
	3						
	4						
					Light brown SANDY SILT		
	5						
	6				Dark brown, wet CLAY		
	7				Light brown SANDY SILT		
	8						
					Light brown SANDY SILT		
	9						
	10				Brown CLAY		
					Brown, wet SANDY SILT		
	11						
					End of boring = 12 feet		
	12						

Drilling Contractor		Filter Pack Top	feet BGS	Well Type	Flush Stick-up
		Filter Pack Bottom	feet BGS	Top of Grout	feet BGS
Drilling Method		Top of Screen	feet	Bottom of Grout	feet BGS
		Bottom of Screen	feet BGS	Bentonite Seal	feet
Sampling Method		Well Material		Pack Material	

Boring Location Map

Clayton Boring Log

Project No. 13-00021.00		Soil Boring SB-2	Start Date 7-21-99
Boring Depth	12 feet	Monitoring Well	Finish Date 7-21-99
Clayton Engineer Steven Verhoff			

Boring Location Description	Client Name and Address	Site Name and Address
Southeast corner of 325	Dean & Fulkerson Troy, Michigan	325 and 375 South Eton Street Birmingham, Michigan

R (%)	ft	N	Color	Moisture	Description	PID	Comment
	0				ASPHALT		
					FILL SAND with stones		
	1						
	2				ROCKY FILL, some black stones		
	3				Gray brown CLAY		Diesel smell
	4				Gray brown CLAY		
	5						
	6						
	7						
	8						
					Brown, dry CLAY		
	9						
					Gray CLAY		
	10						
	11				Slightly moist		
					End of boring = 12 feet		
	12						

Drilling Contractor		Filter Pack Top	feet BGS	Well Type	Flush Stick-up
		Filter Pack Bottom	feet BGS	Top of Grout	feet BGS
Drilling Method		Top of Screen	feet	Bottom of Grout	feet BGS
		Bottom of Screen	feet BGS	Bentonite Seal	feet
Sampling Method		Well Material		Pack Material	

Boring Location Map

Clayton Boring Log

Project No. 13-00021.00		Soil Boring SB-3	Start Date 7-21-99
Boring Depth	12 feet	Monitoring Well	Finish Date 7-21-99
Clayton Engineer Steven Verhoff			

Boring Location Description	Client Name and Address	Site Name and Address
50 feet from rail. 25 feet south of line with ERB	Dean & Fulkerson Troy, Michigan	325 and 375 South Eton Street Birmingham, Michigan

R (%)	ft	N	Color	Moisture	Description	PID	Comment
	0				ASPHALT		
					Light brown SAND with railroad cinders		
	1						
	2						
					Black SILTY CLAY		
	3						
							Water level at 3.32 feet deep
	4				Black gray SANDY CLAY		
	5						
					Gray SILTY CLAY		
	6						
					Light brown SANDY SILT		
	7						
	8						
					Dark brown CLAY		
	9						
	10				SILTY CLAY		
	11				Wet SANDY SILT, loose		
					End of boring = 12 feet		
	12						

Drilling Contractor		Filter Pack Top	feet BGS	Well Type	Flush Stick-up
		Filter Pack Bottom	feet BGS	Top of Grout	feet BGS
Drilling Method		Top of Screen	feet	Bottom of Grout	feet BGS
		Bottom of Screen	feet BGS	Bentonite Seal	feet
Sampling Method		Well Material		Pack Material	

TABLE 1

Summary of VOCs Analytical Results in Groundwater Compared to MDEQ Residential Cleanup Criteria Eton Office Properties, Inc. Sampling Date: July 21, 1999 Clayton Project No. 13-00021.00

Sample Identification	Groundwater Sample Concentration (µg/L)	MDEQ Part 201 Generic Cleanup Criteria			
		Residential & Commercial I Criteria (µg/L)			
	TW-1 (SB-3)	Drinking Water	Groundwater Surface water Interface	Volatilization to Indoor Air	Direct Contact
VOCs					
Acetone	<100	730	1,700	1.00E+09	3.10E+07
Benzene	<5	5	200	5,600	9,400
Bromodichloromethane	<1	100	ID	4,800	11,000
Bromoform	<1	100	ID	4.8	100,000
Bromomethane	<1	10	35	4,000	65,000
2-Butanone	<50	13,000	NA	2.40E+08	2.40E+08
Carbon disulfide	<50	800	NA	2.50E+05	1.10E+06
Carbon tetrachloride	<1	5	45	370	1,600
Chlorobenzene	<1	100	47	2.10E+05	68,000
Chloroethane	<1	220	ID	5.70E+06	200,000
Chloroform	<1	100	170	28,000	96,000
Chloromethane	<1	66	ID	8,600	110,000
Dibromochloromethane	<1	100	ID	15,000	9,500
1,2-Dichlorobenzene	<1	600	16	160,000	160,000
1,3-Dichlorobenzene	<1	600	38	ID	110,000
1,4-Dichlorobenzene	<1	75	13	16,000	2,800
1,1-Dichloroethane	<1	800	ID	5.10E+06	5.10E+06
1,2-Dichloroethane	<1	5	360	9,600	11,000
1,1-Dichloroethene	<1	7	65	200	10,000
cis-1,2-Dichloroethene	<1	70	ID	3.50E+06	1.70E+05
trans-1,2-Dichloroethene	<1	100	ID	6.30E+06	1.90E+05
1,2-Dichloropropane	<1	5	290	16,000	7,500
cis-1,3-Dichloropropene	<1	4.7	NA	300	2,600
trans-1,3-Dichloropropene	<1	4.7	NA	300	2,600
Ethylbenzene	<1	74	18	1.70E+05	1.70E+05
2-Hexanone	<50	1,000	NA	4.20E+06	1.60E+07
Methylene chloride	<5	5	940	2.20E+05	1.10E+05
4-Methyl-2-pentanone	<50	1,800	ID	2.00E+07	1.20E+07
Styrene	<1	100	IP	1.60E+05	3,200
1,1,2,2-Tetrachloroethane	<1	4.3	78	12,000	2,100
Tetrachloroethene	<1	5	45	25,000	5,100
Toluene	<1	790	140	5.30E+05	5.30E+05
1,1,1-Trichloroethane	<1	200	200	6.60E+05	2.20E+05
1,1,2-Trichloroethane	<1	5	330	17,000	9,500
Trichloroethene	<1	5	200	15,000	11,000
Vinyl acetate	<1	640	NA	4.10E+06	7.70E+06
Vinyl chloride	<1	2	15	110	290
Xylenes (total)	<3	280	35	1.90E+05	1.90E+05

µg/l = micrograms per liter or parts per billion (ppb)
< = not detected above detection limit
VOC = volatile organic compounds
ID = inadequate data to develop RBSL
IP = value in progress
NA = RBSL or value is not available or applicable

TABLE 2

Summary of PNAs, Metals and PCBs Analytical Results in Groundwater Compared to MDEQ Residential Cleanup Criteria
Eton Office Properties, Inc.
Sampling Date: July 21, 1999
Clayton Project No. 13-00021.00

	Groundwater Sample Concentration (µg/L)	MDEQ Part 201 Generic Cleanup Criteria			
		Residential & Commercial I Criteria (µg/L)			
Sample Identification	TW-1 (SB-3)	Drinking Water	Groundwater Surface water Interface	Volatilization to Indoor Air	Direct Contact
PNAs					
Acenaphthene	<5	1,300	19	4,200	4,200
Acenaphthylene	<5	26	ID	3,900	3,900
Anthracene	<5	43	ID	43	43
Benzo(a)anthracene	<5	5	NA	NLV	5
Benzo(a)pyrene	<5	5	ID	NLV	5
Benzo(b)fluoranthene	<5	5	ID	ID	5
Benzo(g,h,I)perylene	<5	26	NA	NLV	5
Benzo(k)fluoranthene	<5	12	NA	NLV	21
Chrysene	<5	120	ID	ID	5
Dibenzo(a,h)anthracene	<5	5	ID	NLV	5
Fluoranthene	<5	210	IP	210	210
Flourene	<5	880	12	2,000	2,000
Indeno(1,2,3-cd)pyrene	<5	5	ID	NLV	5
2-Methylnaphthalene	<5	260	ID	ID	32,000
Naphthalene	<5	260	13	31,000	31,000
Phenanthrene	<5	26	5	1,000	1,000
Pyrene	<5	140	ID	140	140
Metals					
Arsenic	39	50	150	NLV	4,700
Barium	<200	2,000	200	NLV	1.50E+07
Cadmium	0.9	5	GX	NLV	2.10E+05
Chromium	<50	100	11	NLV	1.00E+06
Copper	<25	1,000	G	NLV	8.10E+06
Lead	<3	4	GX	NLV	ID
Mercury	<0.2	2	0.2	NLV	56
Selenium	<5	50	5	NLV	1.10E+06
Silver	<0.5	34	0.5	NLV	1.00E+06
Zinc	<20	2400	G	NLV	7.00E+07
PCBs					
Arochlor 1016	<0.1	0.5	0.2	45	2.3
Arochlor 1221	<0.1	0.5	0.2	45	2.3
Arochlor 1232	<0.1	0.5	0.2	45	2.3
Arochlor 1242	<0.1	0.5	0.2	45	2.3
Arochlor 1248	<0.1	0.5	0.2	45	2.3
Arochlor 1254	<0.1	0.5	0.2	45	2.3
Arochlor 1260	<0.1	0.5	0.2	45	2.3

µg/l = micrograms per l or parts per billion (ppb).
< = not detected above detection limit
NLV = not likely to volatilize under most conditions
NA = RBSL or value is not available or applicable
IP = value in progress
G = GSI value is pH or water hardness dependent
X = GSI criterion is not protective for surface water that is used as a drinking water source
ID = inadequate data to develop criterion

Table 3
Summary of VOCs Analytical Results in Soil
Compared to MDEQ Residential Cleanup Criteria
Eton Office Properties, Inc.
Sampling Date: July 21, 1999
Clayton Project No. 13-00021.00

Sample Identification (depth below ground surface)	Soil Sample Concentration (µg/kg)			MDEQ Part 201 Generic Cleanup Criteria Residential & Commercial I Soil Criteria (µg/kg)			
	SB-1 (2')	SB-2 (2-3')	SB-3 (2')	Drinking Water	Groundwater Surface Water Interface	Groundwater Contact Protection	Infintie Source Volatile Soil Inhalation Criteria
VOCs							
Acetone	<100	<1,000	<100	15,000	34,000	1.1E+08	1.3E+08
Benzene	<10	<100	<10	100	4,000	1.9E+05	13,000
Bromodichloromethane	<10	<100	<10	2,000	ID	2.2E+05	9,100
Bromoform	<10	<100	<10	2,000	NA	8.7E+05	9.0E+05
Bromomethane	<10	<100	<10	200	700	1.3E+06	11,000
2-Butanone	<100	<1,000	<100	2.6E+05	NA	2.7E+07	2.9E+07
Carbon disulfide	<100	<1,000	<100	16,000	NA	2.8E+05	1.3E+06
Carbon tetrachloride	<10	<100	<10	100	900	32,000	3,500
Chlorobenzene	<10	<100	<10	2,000	940	2.6E+05	7.7E+05
Chloroethane	<10	<100	<10	4,400	ID	9.7E+05	3.1E+07
Chloroform	<10	<100	<10	2,000	3,400	1.5E+06	45,000
Chloromethane	<10	<100	<10	1,300	ID	1.1E+06	40,000
Dibromochloromethane	<10	<100	<10	2,000	ID	1.9E+05	24,000
1,2-Dichlorobenzene	<10	<100	<10	13,000	340	2.1E+05	3.9E+07
1,3-Dichlorobenzene	<10	<100	<10	17,000	1,100	2.0E+05	ID
1,4-Dichlorobenzene	<10	<100	<10	1,600	280	60,000	7.7E+04
1,1-Dichloroethane	<10	<100	<10	18,000	IP	7.9E+05	3.0E+07
1,2-Dichloroethane	<10	<100	<10	100	7,200	2.2E+05	6,100
1,1-Dichloroethene	<10	<100	<10	140	1,300	2.0E+05	1,100
cis-1,2-Dichloroethene	<10	<100	<10	1,400	ID	6.4E+05	4.0E+07
trans-1,2-Dichloroethene	<10	<100	<10	2,000	ID	1.4E+06	3.1E+07
1,2-Dichloropropane	<10	<100	<10	100	5,800	1.5E+05	25,000
cis-1,3-Dichloropropene	<10	<100	<10	94	NA	52,000	1,400
trans-1,3-Dichloropropene	<10	<100	<10	94	NA	52,000	1,400
Ethylbenzene	<10	<100	<10	1,500	360	1.4E+05	9.5E+06
2-Hexanone	<100	<1,000	<100	20,000	NA	2.5E+06	ID
Methylene chloride	<10	<100	<10	100	19,000	2.2E+06	2.1E+05
4-Methyl-2-pentanone	<100	<1,000	<100	36,000	ID	2.7E+06	4.5E+07
Styrene	<10	<100	<10	2,700	IP	85,500	9.4E+05
1,1,2,2-Tetrachloroethane	<10	<100	<10	86	1,600	42,000	10,000
Tetrachloroethene	<10	<100	<10	100	900	88,000	180,000
Toluene	<10	<100	<10	16,000	2,800	2.5E+05	2.8E+06
1,1,1-Trichloroethane	<10	<100	<10	4,000	4,000	4.6E+05	3.8E+06
1,1,2-Trichloroethane	<10	<100	<10	100	6,600	1.9E+05	12,000
Trichloroethene	<10	<100	<10	100	4,000	2.2E+05	78,000
1,2,4-Trimethylbenzene	<10	<100	<10	34,000	ID	1.1E+05	2.1E+07
1,3,5-Trimethylbenzene	<10	<100	<10	25,000	ID	94,000	1.6E+07
Vinyl acetate	<10	<100	<10	13,000	NA	2.4E+06	1.7E+06
Vinyl chloride	<10	<100	<10	40	300	5,800	440
Xylenes (total)	<30	<400	<30	5,600	700	1.5E+05	4.6E+07

(a) MDEQ LOD's could not be achieved due to matrix interference
µg/kg = micrograms per kilogram or parts per billion (ppb)
< = not detected above detection limit
VOC = volatile organic compounds
ID = inadequate data to develop RBSL
IP = value in progress
NA = RBSL or value is not available or applicable

Table 4
Summary of PNAs, Metals and PCBs Analytical Results in Soil
Compared to MDEQ Residential Cleanup Criteria
Eton Office Properties, Inc.
Sampling Date: July 21, 1999
Clayton Project No. 13-00021.00

Sample Identification (depth in feet below ground surface)	Soil Sample Concentration			MDEQ Part 201 Generic Cleanup Criteria Residential & Commercial I Soil Criteria (µg/kg)					
	SB-1 (2')	SB-2 (2-3')	SB-3 (2')	Default Background Levels	Drinking Water	Groundwater Surface Water Interface	Infinite Source Volatile Soil Inhalation Criteria	Groundwater Contact Protection	Direct Contact
PNAs									
Acenaphthene	<330	<330	<330	NA	3.0E+05	4,300	8.1E+07	9.6E+05	7.6E+07
Acenaphthylene	<330	<330	<330	NA	2,900	ID	2.2E+06	4.0E+05	1.5E+06
Anthracene	<330	<330	<330	NA	41,000	ID	1.4E+09	41,000	4.2E+08
Benzo(a)anthracene	<330	380	660	NA	NLL	NLL	NLV	NLL	14,000
Benzo(a)pyrene	<330	410	660	NA	NLL	NLL	NLV	NLL	1,400
Benzo(b)fluoranthene	<330	430	680	NA	NLL	NLL	ID	NLL	14,000
Benzo(g,h,I)perylene	<330	<330	360	NA	NLL	NLL	NLV	NLL	1.5E+06
Benzo(k)fluoranthene	<330	420	710	NA	NLL	NLL	NLV	NLL	1.4E+05
Chrysene	<330	630	940	NA	NLL	NLL	ID	NLL	1.4E+06
Dibenzo(a,h)anthracene	<330	<330	<330	NA	NLL	NLL	NLV	NLL	1,400
Fluoranthene	<330	1,300	1,700	NA	7.2E+05	IP	7.4E+08	7.2E+05	5.1E+07
Flourene	<330	<330	<330	NA	3.9E+05	2,400	1.3E+08	8.9E+05	5.1E+07
Indeno(1,2,3-cd)pyrene	<330	<330	380	NA	NLL	NLL	NLV	NLL	14,000
2-Methylnaphthalene	<330	<330	<330	NA	57,000	ID	ID	7.1E+06	1.5E+07
Naphthalene	<330	<330	<330	NA	17,000	850	4.9E+07	2.0E+06	1.5E+07
Phenanthrene	<330	1,000	750	NA	12,000	2,300	1.3E+05	4.5E+05	1.5E+06
Pyrene	<330	890	1,200	NA	4.7E+05	ID	6.5E+08	4.7E+05	3.2E+07
Metals									
Arsenic	4300	5,200	2,100	5,800	23,000	70,000	NLV	2.2E+06	6,600
Barium	37,000	55,000	69,000	75,000	1.3E+06	1.3E+05	NLV	1.0E+09	3.0E+07
Cadmium	<50	<50	450	1,200	6,000	GX	NLV	2.5E+08	2.1E+05
Chromium	12,000	16,000	13,000	18,000	30,000	3,300	NLV	3.0E+08	2.0E+06
Copper	14,000	16,000	16,000	32,000	1.6E+08	G	NLV	1.0E+09	1.6E+07
Lead	9,000	11,000	13,000	21,000	1,000	GMX	NLV	ID	4.0E+05
Mercury	<100	<100	<100	130	1,700	170	NLV	47,000	1.3E+05
Selenium	<500	<500	<500	410	4,000	400	NLV	8.8E+07	2.1E+06
Silver	<500	<500	<500	1,000	4,500	500	NLV	2.3E+08	2.0E+06
Zinc	42,000	43,000	51,000	47,000	2.4E+06	G	NLV	1.0E+09	1.4E+08
PCBs									
Aroclor-1016	<330	<330	<330	NA	NLL	NLL	2.4E+05	NLL	1,200
Aroclor-1221	<330	<330	<330	NA	NLL	NLL	2.4E+05	NLL	1,200
Aroclor-1232	<330	<330	<330	NA	NLL	NLL	2.4E+05	NLL	1,200
Aroclor-1242	<330	<330	<330	NA	NLL	NLL	2.4E+05	NLL	1,200
Aroclor-1248	<330	<330	<330	NA	NLL	NLL	2.4E+05	NLL	1,200
Aroclor-1254	<330	<330	<330	NA	NLL	NLL	2.4E+05	NLL	1,200
Aroclor-1260	<330	<330	<330	NA	NLL	NLL	2.4E+05	NLL	1,200

µg/kg = micrograms per kilogram or parts per billion (ppb).
< = not detected above detection limit
NLL = not likely to leach under most conditions
NLV = not likely to volatilize under most conditions
G = GSI value is pH or water hardness dependent
M = criterion default to method detection limit
X = GSI criterion is not protective for surface water that is used as a drinking water source
NA = RBSL or value is not available or applicable
N/A = not analyzed

Appendix N

Statement of Limitations

Statement of Limitations

This all appropriate inquiry report was prepared by Consolidated Environmental Services, Inc. (CES) in accordance with 40 CFR 312 Innocent Landowners, Standards for Conducting All Appropriate Inquiries. This report was prepared for the exclusive use of Birmingham Lofts, LLC.

CES performed its services in conformance with the care and skill ordinarily used by other reputable environmental consulting firms practicing under similar conditions, at the same time, and in the same or similar locality. In preparing the assessment report, CES may have relied on information obtained from or provided by others. CES makes no representation or warranty regarding the accuracy or completeness of this information gathered from outside sources or subcontracted services. No warranty, guarantee, or certification of any kind, expressed or implied, at common law or created by statute, is extended, made, or intended by rendering these environmental consulting services or by furnishing this written report. No single page of this report should be relied upon alone rather only the report in its entirety. Environmental conditions and regulations are subject to constant change and reinterpretation. One should not assume that any on-site condition and/or regulatory statutes or rules will remain constant in the future after CES has completed the scope of work for this project. Furthermore, because the facts stated in this report are subject to professional interpretation, differing conclusions could be reached by other professionals.

Contaminants may be hidden in subsurface material, covered by pavement, vegetation, or other substances. Additionally, contamination may not be present in predictable locations. The most that CES can do is prepare a logical assessment program to reduce the client's risk of discovering unknown contamination. This risk may be reduced by more extensive exploration on the site. Even with additional exploration, it is not possible to completely eliminate the risk of discovering contamination on site. It cannot be assumed that conditions observed are representative of an area that has not been observed. Data collected for this report were obtained only for the purposes stated in this report and they should not be used for purposes and reasons other than those intended.

40 CFR Part 312 defines all appropriate inquiry. 40 CFR Part 312 is aimed at providing a standard for the application of the Comprehensive Environmental Response, Compensation and Liability Act's (CERCLA's) "innocent land owner defense." Due to changing environmental regulatory conditions and potential on-site activities after the assessment, the client may rely upon the conclusions within this assessment for a period of 180 days from the report's issuance date.

Any reports, field data, field notes, laboratory testing, calculations, estimates or other documents prepared by or relied upon by CES are the property of CES. If any of these documents are released or obtained by a part other than the client, CES may not discuss the project with that party unless the original contracted client notifies CES of the same and CES is authorized to disclose the information and to discuss the project with others. CES further states that it disclaims any duty of any kind or nature to any person or entity other than the client in preparing this report, except as otherwise noted and agreed with the client.

CES does not assume liability for any losses or damages that the client or third party incur due to the results or conclusions provided in this assessment.

Section 3.5
Geotechnical Investigation

SOILS INVESTIGATION
PROPOSED BUILDING
DISTRICT LOFTS – PHASE 2
EATON AND VILLA STREETS
BIRMINGHAM, MICHIGAN

KELLY BUILDING & DEVELOPMENT COMPANY, LLC
2051 VILLA
SUITE 106
BIRMINGHAM, MICHIGAN 48009

MARCH 3, 2015
BY
McDOWELL & ASSOCIATES

McDowell & Associates

Geotechnical, Environmental & Hydrogeological Services • Materials Testing & Inspection

21355 Hatcher Avenue, Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157
www.mcdowasc.com

March 3, 2015

Kelly Building & Development Company, LLC
2051 Villa
Suite 106
Birmingham, Michigan 48009

Job No. 15-039

Attention: Mr. Keith Ahee

Subject: Soils Investigation
Proposed Building
District Lofts – Phase 2
Eaton and Villa Streets
Birmingham, Michigan

Gentlemen:

In accordance with your request, we have made a Soils Investigation at the subject project.

Five (5) current Soil Test Borings, designated as 2-1 through 2-5, were performed in the planned building area. One (1) previous Boring, designated as No. 7, was performed in the building area as part of our Soils Investigation Report dated August 3, 2005 (McDowell & Associates' Job No. 05-242). A copy of the log of this boring is contained herein for easier reference. The approximate locations of the six (6) borings are shown on the Soil Boring Location Plan which accompanies this report. Borings 7, 2-1, 2-2 and 2-3 were advanced to depths of thirty feet six inches (30'6") and fifty feet six inches (50'6") below the existing ground surface at these locations. Borings 2-4 and 2-5 were drilled for environmental purposes and were advanced to a depth of thirteen feet (13') with samples taken at two-foot (2') intervals in these borings. Extra samples were taken at a depth of twelve feet (12') in Borings 2-1, 2-2 and 2-3 for environmental purposes. These extra samples and the samples taken in Borings 2-4 and 2-5 were taken by Mr. Steve Peach of Consolidated Environmental Services.

Soil descriptions, groundwater observations and the results of field and laboratory tests are to be found on the accompanying Logs of Soil Test Borings and summary sheet of Atterberg Limits Test results.

The borings encountered two feet six inches (2'6") to seven feet six inches (7'6") of fill and possible fill soils consisting of discolored brown crushed stone, topsoil, asphalt pavement, compact to very compact brown, dark brown, greenish brown and black clayey sand to gravelly sand and firm to very stiff discolored brown, greenish brown and blue silty clay to sandy clay, followed by native soils

composed of firm to extremely stiff brown to blue silty clay to silty sandy clay which were found throughout the remainder of the borings. Our drillers noted that the fill soils contained varying amounts of vegetation, stones, topsoil streaks, wood, concrete, asphalt and pea pebbles. Petroleum odor was noted in Boring 2-2 between the depths of four inches (4") and two feet six inches (2'6"). Four-inch (4") and five-inch (5") thick asphalt pavement was found at Borings 2-2 and 2-3.

Soil descriptions and depths shown on the boring logs are approximate indications of change from one soil type to another and are not intended to represent an area of exact geological change or stratification. Also, the site shows signs of modification which could indicate fill and soil conditions different from those encountered at the boring locations.

Water was encountered in Boring 2-5 at a depth of seven feet (7') below the existing ground surface. Water was measured upon completion of the drilling operation in Boring 2-5 at a depth of eight feet (8'). No water was encountered in the other borings. It should be noted that short-term groundwater observations may not provide a reliable indication of the depth of the water table. In clay soils this is due to the slow rate of infiltration of water into the borehole as well as the potential for water to become trapped in overlying layers of granular soils during periods of heavy rainfall. Water levels in granular soils fluctuate with seasonal and climatic changes as well as the amount of rainfall in the area immediately prior to the measurements. It should be expected that groundwater level fluctuations may occur on a seasonal basis and that seams of water-bearing sands or silts could be found within the various clay strata at the site.

Standard Penetration Tests made during sampling indicate that the native soils at the site have fair to very good strengths. An automatic hammer was used in Borings 2-1 through 2-5. Tests taken in the fill and possible fill soils gave results ranging from five (5) to twenty-five (25) blows per foot. Tests taken in the native soils gave results ranging from twelve (12) to thirty-six (36) blows per foot.

It is understood that a four-story residential loft building with a basement is planned to be constructed at the site. We have assumed that the basement will be about eight feet (8') to ten feet (10') deep and elevator pits will be about eighteen feet (18') to twenty feet (20') deep. Column loads will reportedly be about 320 kips. Existing buildings are located nearby.

Based on the project information provided and the results of field and laboratory tests, it is believed that the new structure could be supported by conventional spread or strip footings. All exterior footings should be constructed at or below a minimum frost penetration depth of three feet six inches (3'6") below finished grade. All footings should extend through non-engineered fill soils, soils containing a significant amount of organic substances or excessively weak soils. All strip footings should be continuously reinforced in order to minimize the noticeable effects of differential settlement.

Footings could be proportioned for the design soil pressures shown in the chart below provided this results in the footings bearing on native non-organic soils.

Boring	Depth			Soil Pressure (psf)
7	3'6"	to	4'7"	2,500*
	5'0"	to	6'0"	4,000
	6'6"	to	25'0"	6,000
2-1	7'6"	to	9'6"	4,000
	10'0"	to	25'0"	6,000
2-2	2'6"	to	4'6"	4,000
	5'0"	to	13'0"	6,000
	13'6"	to	22'0"	4,000
	22'6"	to	25'0"	6,000
2-3	3'6"	to	7'0"	4,000
	7'6"	to	25'0"	6,000
2-4	6'0"	to	7'6"	2,000
	8'0"	to	10'0"	6,000
2-5	7'6"	to	8'6"	4,000
	9'0"	to	10'0"	6,000

*Soils at this location were described by our drillers as containing some organic matter. During footing excavation if it is determined that these soils contain significant amounts of organic matter or are fill soils, then the footings should be located at or below an approximate depth of four feet seven inches (4'7") at the location of Boring 7.

It should be noted that footing, basement and below-grade structure excavations may be near or below the level at which water was encountered in Boring 2-5. Depending upon the depth of the footings relative to the existing ground surface and the actual conditions at the time of construction, it may be necessary to depress the water table in this location to allow for footings to be constructed. Water seepage in sand and gravel seams in clay fill soils in the vicinity of Boring 2-5 should be manageable with construction pumping and sumps. However, this is not known for certain. If large volumes of water or saturated granular soils are encountered, special dewatering techniques may be required. Extreme care must be exercised during any dewatering operation if any nearby buildings, structures or utilities are sensitive to settlement. Care must be taken to minimize the removal of soil fines during any pumping operation.

The basement and below-grade structures should be provided with an adequate drainage system to protect the floors and walls from the possible effects of hydrostatic pressure. The drainage system should be designed and installed to minimize the potential for soil fines to erode into the underdrainage system.

It may be necessary to provide properly designed and installed shoring to protect the nearby existing building, utilities, or others' property. All excavations should conform to MIOSHA requirements.

Fill and possible fill soils were encountered in the borings. If the possibility of more than normal differential movement can be tolerated, slab-on-grade floors or floor supporting backfill could be placed at or near the present grade. Existing pavement materials should be removed or thoroughly broken up. Any obviously objectionable material should be removed and the subgrade thoroughly proof-compacted with heavy, rubber-tired equipment. If, during the proof-compaction operation, areas are found where the soils yield excessively, the yielding materials should be scarified, dried and recompacted or removed and replaced with engineered fill. Where fill or backfill is required to raise the subgrade for concrete floors, it is suggested that clean, well-graded granular soils be used. If clay material is utilized, it should be placed within two percent (2%) of its optimum moisture content. The fill should be deposited in horizontal lifts not to exceed nine inches (9") in thickness with each lift being compacted uniformly to a minimum density of ninety-five percent (95%) of its maximum value as determined by the Modified Proctor Test (AASHTO T-180 or ASTM D-1557).

If the possibility of more than normal differential movement cannot be tolerated, all existing fill material should be removed and replaced with engineered fill meeting the requirements outlined above or floor slabs should be structurally supported.

If any existing structures or buried utilities are found within the planned building area, they should be removed or the utilities could be grouted in place. In lawn, sidewalk or pavement areas, any existing structure foundations should be removed to a minimum depth of three feet (3') below finished grade. The resulting excavation should be backfilled with engineered fill meeting the requirements outlined above. If any existing basement floors are found within the proposed building area, they should be removed. If existing basement floors are located outside of the proposed building area, then they can remain but should be broken up.

Petroleum odor was noted in Boring 2-2. This report did not include an environmental assessment of the site.

Experience indicates that the actual subsoil conditions at the site could vary from those found at the test borings made at specific locations. It is, therefore, essential that McDowell & Associates be notified of any variation of soil conditions to determine their effects on the recommendations presented in this report. The evaluations and recommendations presented in this report have been formulated on the basis of reported or assumed data relating to the proposed project. Any significant change in this data in the final design plans should be brought to our attention for review and evaluation with respect to the prevailing subsoil conditions.

It is recommended that the services of McDowell & Associates be engaged to observe the soils in the footing excavations prior to concreting in order to test the soils for the required bearing capacities. Testing should also be performed to check that suitable materials are being used for controlled fills and that they are properly placed and compacted.

If we can be of any further service, please feel free to call.

Very truly yours,

McDOWELL & ASSOCIATES

Daniel A. Kaniarz, M.S., P.E.

DAK/nm

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 7

PROJECT Proposed Parking Deck and Residential Loft Buildings

JOB NO. 05-242

LOCATION Villa and Eton Streets

SURFACE ELEV. _____ **DATE** 7-12-05

Birmingham, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF	Str. %
	1		Moist discolored brown CRUSHED STONE & fine SAND with vegetation, fill						
A	2		1'8" Stiff moist discolored brown silty sandy CLAY with pebbles, occasional stones and sand lenses, fill	7					
UL	3			7	13.5	136		6570	
				8			*	(6500)	
	4		3'3" Firm moist slightly discolored variegated silty CLAY with sand and pebbles						
B				3					
UL	5		4'7" Stiff moist brown silty CLAY with sand and pebbles	6	13.7	138		7620	
	6		6'0"	8			*	(8000)	
C	7		Very stiff to extremely stiff moist brown silty CLAY with sand and pebbles and occasional stones	7					
UL	8			14	13.4	136		7405	
				20			*	(9000+)	
	9		8'6"						
D				16					
UL	10			16	11.7	140		22625	
				17			*	(9000+)	
	11								
	12								
	13								
	14								
E			Very stiff to extremely stiff moist blue silty CLAY with sand and pebbles and occasional stones	8					
UL	15			12					
				13					
	16								
	17								
	18								
	19								
F				7					
UL	20			9	13.8	136			
				12			*	(6000)	
	21								
	22								
	23								
	24								
G				7					
UL	25			10					
				12					

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

* Calibrated Penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT _____ FT. _____ INS.
G.W. ENCOUNTERED AT _____ FT. _____ INS.
G.W. AFTER COMPLETION none FT. _____ INS.
G.W. AFTER _____ HRS. _____ FT. _____ INS.
G.W. VOLUMES

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 7 (continued)

PROJECT Proposed Parking Deck and Residential Loft Buildings

JOB NO. 05-242

LOCATION Villa and Eton Streets

SURFACE ELEV. _____ **DATE** 7-12-05

Birmingham, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	26								
	27								
	28								
	29								
H				7					
UL	30			9	13.5	140		3785	
				11			*	(6000)	
	31								
	32								
	33								
	34								
I				7					
UL	35			9					
				11					
	36		Very stiff to extremely stiff moist blue silty CLAY with sand and pebbles and occasional stones						
	37								
	38								
	39								
J				7					
UL	40			9	14.8	135		3825	
				10			*	(5000)	
	41								
	42								
	43								
	44								
K				7					
UL	45			10					
				12					
	46								
	47								
	48								
	49								
L				9					
UL	50			11					
			50'6"	14					

Notes:
1. Boring offset 5' east of planned location due to possible sewer.
2. Boring backfilled with natural soils and 3 bags of hole plug.

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

* Calibrated Penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT		FT.	INS.
G.W. ENCOUNTERED AT		FT.	INS.
G.W. AFTER COMPLETION	none	FT.	INS.
G.W. AFTER	HRS.	FT.	INS.
G.W. VOLUMES			

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-1
PROJECT Soils Investigation – Proposed Building
District Lofts – Phase 2
LOCATION Eton and Villa Streets
Birmingham, Michigan

JOB NO. 15-039
SURFACE ELEV. _____ **DATE** 2-26-15

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
			0'4" Frozen black sandy clayey TOPSOIL, fill						
	1								
			Firm moist greenish-brown silty sandy CLAY with trace of pebbles, occasional black streaks and brown sand seams, fill						
A	2			1					
UL				5					
	3			5					
			3'7"						
	4								
B				4					
UL	5			4	13.5	127			
			Compact moist brown and black clayey SAND with gravel and greenish-brown clay layers, fill	4					
	6								
				6					
C	7								
UL				6	13.6	136			
			7'5"						
	8			8			*	(6000)	
			Very stiff moist brown silty sandy CLAY with pebbles						
	9								
D				6					
UL	10		9'6"	12	13.2				
				19			*	(9000+)	
E	11		Extremely stiff moist variegated silty sandy CLAY with pebbles	7					
SS				15					
	12			21					
			12'6"						
	13								
	14								
F				5					
UL	15			7					
				9					
	16								
	17								
	18								
	19		Very stiff moist blue silty sandy CLAY with pebbles						
G				4					
UL	20			7					
				10					
	21								
	22								
	23								
	24								
H				5					
UL	25			7					
				10					

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated Penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT	FT.	INS.
G.W. ENCOUNTERED AT	FT.	INS.
G.W. AFTER COMPLETION	FT.	INS.
G.W. AFTER HRS.	FT.	INS.
G.W. VOLUMES	None	

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-1 (continued)
PROJECT Soils Investigation – Proposed Building
District Lofts – Phase 2
LOCATION Eton and Villa Streets
Birmingham, Michigan

JOB NO. 15-039
SURFACE ELEV. _____ **DATE** 2-26-15

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	26								
	27								
	28		Very stiff moist blue silty sandy CLAY with pebbles						
	29								
I	30			5					
UL				7					
			30'6"	10					
	31								
	32								
	33								
	34								
	35		Notes:						
	36		1) Used automatic hammer.						
	37		2) Extra sample (2-1E) for environmental purposes.						
	38								
	39								
	40								
	41								
	42								
	43								
	44								
	45								
	46								
	47								
	48								
	49								
	50								

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES None

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-2
PROJECT Soils Investigation – Proposed Building
District Lofts – Phase 2
LOCATION Eton and Villa Streets
Birmingham, Michigan

JOB NO. 15-039
SURFACE ELEV. _____ **DATE** 2-26-15

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
			0'4" ASPHALT						
	1								
			Frozen to moist brown and dark brown SAND with gravel, fill (petroleum odor)						
A	2			8					
UL				5	11.6	117			
	3		2'6"	7					
	4								
B				5					
UL	5		Very stiff moist variegated silty CLAY with pebbles	7	14.4				
				9			*	(7000)	
	6								
C	7			5					
UL				7	14.5	135			
	8		7'5"	11			*	(7500)	
	9		Very stiff moist brown silty sandy CLAY with pebbles						
D				5					
UL	10			13					
			10'0"	18					
E	11			7					
SS				11					
	12		Extremely stiff moist variegated silty sandy CLAY with pebbles	13					
	13								
			13'0"						
	14								
F				4					
UL	15			6	14.1	134			
				9			*	(6000)	
	16								
	17								
	18								
	19		Stiff to very stiff moist blue silty sandy CLAY with pebbles						
G				3					
UL	20			6					
				6					
	21								
	22								
	23								
	24								
H				4					
UL	25			7					
				10					

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated Penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT	FT.	INS.
G.W. ENCOUNTERED AT	FT.	INS.
G.W. AFTER COMPLETION	FT.	INS.
G.W. AFTER HRS.	FT.	INS.
G.W. VOLUMES	None	

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-2 (continued)
PROJECT Soils Investigation – Proposed Building
District Lofts – Phase 2
LOCATION Eton and Villa Streets
Birmingham, Michigan

JOB NO. 15-039
SURFACE ELEV. _____ **DATE** 2-26-15

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	26								
	27								
	28		Stiff to very stiff moist blue silty sandy CLAY with pebbles						
	29								
I									
UL	30			5					
				8					
			30'6"	11					
	31								
	32								
	33								
	34								
	35		Notes:						
	36		1) Used automatic hammer.						
	37		2) Extra sample (2-2E) for environmental purposes.						
	38								
	39								
	40								
	41								
	42								
	43								
	44								
	45								
	46								
	47								
	48								
	49								
	50								

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT		FT.	INS.
G.W. ENCOUNTERED AT		FT.	INS.
G.W. AFTER COMPLETION		FT.	INS.
G.W. AFTER	HRS.	FT.	INS.
G.W. VOLUMES		None	

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-3
PROJECT Soils Investigation – Proposed Building
District Lofts – Phase 2
JOB NO. 15-039
LOCATION Eton and Villa Streets
SURFACE ELEV. _____ DATE 2-26-15
Birmingham, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
			0'5" ASPHALT						
	1		Frozen black and brown gravelly SAND, fill						
			1'6"						
A	2		Very compact moist greenish-brown silty SAND with black sand seams, fill	5					
UL				6	18.7	120			
	3		2'10" Very stiff moist greenish-brown sandy CLAY,	6					
			3'3" possible fill						
	4								
B				5					
UL	5			7	17.9				
			Very stiff moist variegated silty CLAY with pebbles	7			*	(5500)	
	6								
C	7			5					
UL			7'3"	8					
	8			11					
	9		Extremely stiff moist brown silty sandy CLAY						
D			with pebbles	7					
UL	10			11					
				16					
E	11		11'0"	7					
SS				11					
	12		Extremely stiff moist variegated silty sandy CLAY with pebbles	15					
	13		12'9"						
	14								
F				4					
UL	15			6	13.8	136			
				9			*	(6000)	
	16								
	17		Very stiff moist blue silty sandy CLAY with pebbles						
	18								
	19								
G				4					
UL	20			6					
				10					
	21								
	22		21'6"						
	23								
	24		Extremely stiff moist blue silty CLAY with pebbles						
H				5					
UL	25			9					
				13					

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated Penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT		FT.	INS.
G.W. ENCOUNTERED AT		FT.	INS.
G.W. AFTER COMPLETION		FT.	INS.
G.W. AFTER	HRS.	FT.	INS.
G.W. VOLUMES	None		

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-3 (continued)
PROJECT Soils Investigation – Proposed Building District Lofts – Phase 2
LOCATION Eton and Villa Streets, Birmingham, Michigan

JOB NO. 15-039
SURFACE ELEV. _____ **DATE** 2-26-15

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	26								
	27								
	28		Extremely stiff moist blue silty CLAY with pebbles						
	29								
I				6					
UL	30			9					
			30'6"	13					
	31								
	32								
	33								
	34								
	35		Notes:						
	36		1) Used automatic hammer.						
	37		2) Extra sample (2-3E) for environmental purposes.						
	38								
	39								
	40								
	41								
	42								
	43								
	44								
	45								
	46								
	47								
	48								
	49								
	50								

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT FT. INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION FT. INS.
G.W. AFTER HRS. FT. INS.
G.W. VOLUMES None

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-4

PROJECT Soils Investigation – Proposed Building
District Lofts – Phase 2

JOB NO. 15-039

LOCATION Eton and Villa Streets

SURFACE ELEV. _____ **DATE** 2-26-15

Birmingham, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
			0'4" Frozen black sandy TOPSOIL						
	1								
A				2					
SS	2			2					
				3					
	3		Firm to stiff moist greenish-brown and blue silty CLAY with occasional black streaks and traces of vegetation and wood, fill	3					
B				3					
SS	4			5					
				5					
	5			3					
C				1					
SS	6			2					
			6'0"	3					
	7		Firm moist variegated silty sandy CLAY with pebbles	4					
D			7'4"	4					
SS	8			8					
			Very stiff to extremely stiff moist brown silty sandy CLAY with pebbles	11					
	9			15					
E				6					
SS	10			9					
			10'0" Extremely stiff moist variegated silty sandy CLAY with pebbles	14					
	11		11'0"	17					
F				6					
SS	12		Extremely stiff moist blue silty sandy CLAY with pebbles	9					
				11					
	13		13'0"	13					
	14								
	15								
	16								
	17								
	18								
	19								
	20								
	21								
	22								
	23								
	24								
	25								

Notes:

1) Used automatic hammer

2) Boring for environmental purposes. Samples kept by environmental representative.

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT		FT.	INS.
G.W. ENCOUNTERED AT		FT.	INS.
G.W. AFTER COMPLETION		FT.	INS.
G.W. AFTER	HRS.	FT.	INS.
G.W. VOLUMES	None		

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2-5
PROJECT Soils Investigation – Proposed Building
District Lofts – Phase 2
LOCATION Eton and Villa Streets
Birmingham, Michigan

JOB NO. 15-039
SURFACE ELEV. _____ **DATE** 2-26-15

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	1		Frozen black and brown SAND, fill						
			1'0"						
A				3					
SS	2		Stiff silty moist greenish-brown silty CLAY with pebbles, occasional black streaks and trace of broken concrete, fill	4					
				7					
	3			12					
B			3'3"						
SS	4			2					
				5					
	5			8					
C			Stiff to very stiff moist greenish-brown sandy CLAY with pebbles, broken concrete, broken asphalt, wood, and wet pea pebble seam at 7'0", fill	3					
SS	6			2					
				17					
	7			8					
D				21					
SS	8		7'6"						
			Stiff moist variegated silty sandy CLAY with pebbles	8					
	9		8'8"	5					
E			Very stiff moist brown silty sandy CLAY with pebbles	7					
SS	10			15					
			10'1"	6					
	11		Extremely stiff moist variegated silty sandy CLAY with pebbles	9					
F				13					
SS	12		11'6"	22					
			Very stiff to extremely stiff moist blue silty sandy CLAY with pebbles	6					
	13		13'0"	9					
				12					
	14			14					
	15								
	16								
	17								
	18								
	19								
	20								
	21								
	22								
	23								
	24								
	25								

Notes:

1) Used automatic hammer

2) Boring for environmental purposes. Samples kept by environmental representative.

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

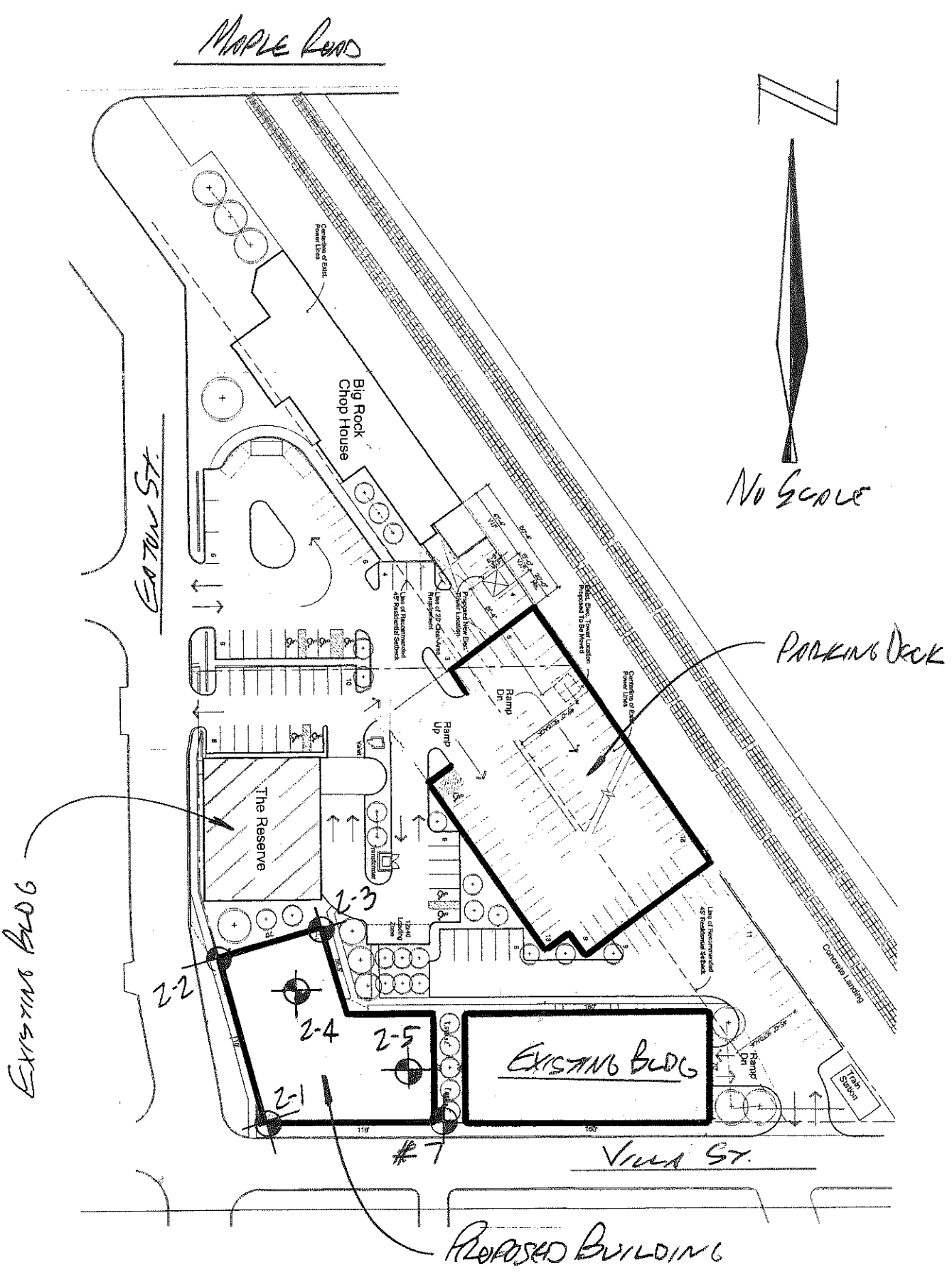
Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT	7	FT.	0	INS.
G.W. ENCOUNTERED AT		FT.		INS.
G.W. AFTER COMPLETION	8	FT.	0	INS.
G.W. AFTER HRS.		FT.		INS.
G.W. VOLUMES	Heavy			

ATTERBERG LIMIT TEST SUMMARY

Boring	Sample	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)
7	F	24.6	13.1	11.5
	J	23.3	11.4	11.9



SOIL BORING LOCATION PLAN

#15-039

Section 3.6
Air Quality Information

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

AIR QUALITY ANNUAL REPORT

2019

Michigan Department of Environment, Great Lakes, and Energy
Michigan.gov/EGLE | 800-662-9278

Air Quality Annual Report

2019

Executive summary

This report gives an overview of the air quality for 2019. Current data for Michigan can be found on MIAir (www.deqmiair.org) and Air Quality alerts can be delivered directly to email by signing up for the Michigan EnviroFlash program (http://miair.enviroflash.info/). In April 2019, by the Governor's executive order, the Michigan Department of Environmental Quality (MDEQ) became the Michigan Department of Environment, Great Lakes, and Energy (EGLE). While the data in this report was partly collected in 2019 under the agency name of MDEQ, this report will use EGLE.

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) for six criteria pollutants considered harmful to public health and the environment.

The six pollutants monitored by EGLE, Air Quality Division (AQD) are:

1. Carbon monoxide (CO)
2. Lead (Pb)
3. Nitrogen dioxide (NO_2)
4. Ozone (O_3)
5. Particulate matter smaller than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively)
6. Sulfur dioxide (SO_2)

EGLE has established a network of more than 40 monitoring sites throughout the state that monitor for one or more of the criteria pollutants (Figure 1.1 and Table 1.3).

Congress passed the CAA in 1970; however, Michigan has had a long-standing history of environmental awareness well before the Act was established. In 1887, Detroit was the first city in Michigan to adopt an air quality ordinance, which declared that the dense smoke from burning coal was a public nuisance.

The USEPA reviews the criteria pollutant standards every five years. Over time, based upon health data, the standards have been tightened to better protect public health (see Appendix D). Areas that meet the NAAQS are considered in "attainment." Locations where air pollution levels persistently exceed the NAAQS may be designated as "nonattainment." The tightening standards are why some areas in the state may be designated to nonattainment from attainment even though monitoring shows that air quality continues to improve.

Since EGLE began monitoring in the early 1970s, criteria pollutant levels have continually decreased (see Chap. 2-7). The air is much cleaner today than when the CAA began. The entire state of Michigan is in attainment for CO, Pb, NO2, and particulate matter. Although portions of the state are in nonattainment for SO2 and O3, as illustrated in the figure below, levels of these pollutants are still decreasing. The NAAQS levels have also decreased recently, which prompted these nonattainment areas. EGLE is currently working on State Implementation Plans (SIPs) to reduce pollutants further and bring the entire state into attainment for SO2 and ozone.

Attainment Status for the National Ambient Air Quality Standards

Several changes to the monitoring network occurred during 2019.

- Five sites were shut down: Livonia, Linwood, and Wyandotte to reduce workload; the Eliza Howell Downwind site since it is not needed for the near-road network; and Sault St. Marie, a tribal site, due to discontinued federal funding.
- Lead monitoring at Belding-Reed Street was discontinued since Belding is now in attainment for lead and a second site is no longer needed there (Belding-Merrick Street still monitors for lead). However, meteorological monitors continue at this site (Chap. 3).
- $PM_{2.5}$ Speciation and EC/OC were shut down at Tecumseh to reduce workload and because the data are not required (Chap. 7).
- Several changes were made to the $PM_{2.5}$ network, exchanging Federal Reference Method (FRM) manual filter-based monitors for continuous, federal equivalent method (FEM) monitors, the beta attenuation monitors (BAMs) due to funding changes. Sites that were affected were Tecumseh, Ypsilanti, Eliza Howell Near-road, Bay City, Houghton Lake, Holland, Seney, and Flint (Chap. 7).
- The Livonia Near-road monitor is in the process of moving since site access was lost in July 2019.
- The NOx monitor at E. 7 Mile was switched to an NOy and a NOx monitor was added to Jenison.
- Sampling continues for the Gordie Howe International Bridge project special study.

TABLE OF CONTENTS

INTRODUCTION 1
CHAPTER 1: BACKGROUND INFORMATION 2
National Ambient Air Quality Standards (NAAQS) 2
Michigan Air Sampling Network 3
Current Attainment Status 6
MIair – Air Quality Information in Real-Time 7
Air Quality Index 7
Air Quality Forecasts 7
Air Quality Notification 8
AIRNow 8
CHAPTER 2: CARBON MONOXIDE (CO) 10
CHAPTER 3: LEAD (PB) 13
CHAPTER 4: NITROGEN DIOXIDE (NO_2) 17
CHAPTER 5: SULFUR DIOXIDE (SO_2) 21
CHAPTER 6: OZONE (O_3) 26
CHAPTER 7: PARTICULATE MATTER (PM_{10}, $PM_{10\text{-}2.5}$, $PM_{2.5}$, $PM_{2.5}$) 34
CHEMICAL SPECIATION AND TSP) 34
PM_{10} 36
$PM_{10\text{-}2.5}$ 38
$PM_{2.5}$ 39
CHAPTER 8: TOXIC AIR POLLUTANTS 48
National Monitoring Efforts and Data Analysis 50
CHAPTER 9: METEOROLOGICAL INFORMATION 52
CHAPTER 10: SPECIAL PROJECTS 53
APPENDIX A: CRITERIA POLLUTANT SUMMARY FOR 2019
APPENDIX B: 2019 AIR TOXICS MONITORING SUMMARY FOR METALS, VOCS, CARBONYL COMPOUNDS, PAHS, HEXAVALENT CHROMIUM & SPECIATED $PM_{2.5}$.
APPENDIX C: 2019 AIR QUALITY INDEX (AQI) PIE CHARTS .
APPENDIX D - SUMMARY
National Ambient Air Quality Standards (NAAQS)
Types of Monitors
Quality Assurance
Historical NAAQS Changes
APPENDIX E: ACRONYMS AND THEIR DEFINITIONS
ACKNOWLEDGMENTS

INTRODUCTION

Air quality regulations in Michigan are based on National Ambient Air Quality Standards (NAAQS) established by United States Environmental Protection Agency (USEPA) based on the federal Clean Air Act (CAA). The NAAQS designates six criteria pollutants considered harmful to public health and the environment. The USEPA must describe the characteristics and potential health and welfare effects for these criteria pollutants. These standards define the maximum permissible concentration of criteria pollutants in the air (see Table 1.1).

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) monitors the six criteria pollutants, which are:

- Carbon monoxide (CO);
- Lead (Pb);
- Nitrogen dioxide (NO_2);
- Ozone (O_3);
- Particulate matter smaller than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5,}$ respectively); and
- Sulfur dioxide (SO_2).

Chapters 2 through **7** provide information on each of the six criteria pollutants and include:

- Michigan's monitoring requirements for 2019;
- Attainment / nonattainment status;
- Monitoring site locations (tables and maps show all the monitors active in 2019); and
- Air quality trends from 2014-2019 broken down by location.[1]

The 2019 data for each criteria pollutant is available in **Appendix A.**

The AQD also monitors air toxics. Air toxics are other hazardous air pollutants that can affect human health and the environment.[2] This data can be found in **Appendix B.**

The purpose of this report is to provide a snapshot of Michigan's 2019 air quality data, air quality trends, overview of the monitoring network (available in much greater detail in the 2019 Network Review),[3] air toxics monitoring program, and other AQD programs, such as MIair and the Emissions Inventory.[4]

[1] Air quality trends are based on actual statewide monitored readings, which are also listed in the USEPA's Air Quality Subsystem Quick Look Report Data at www3.epa.gov/airtrends/ .

[2] An Overview of Michigan Air Toxic Rules is available on the AQD website at www.michigan.gov/air (select "Permits," then "Toxics Laws and Rules.")

[3] Available online at www.michigan.gov/documents/deq/deq-aqd-amu-2019_air_monitoring_network_review__623679_7.pdf

[4] Online information about criteria pollutants and air toxics, along with this and previous Annual Air Quality Reports, are available via the AQD's website at www.michigan.gov/air (select "Monitoring").

CHAPTER 1: BACKGROUND INFORMATION

This section summarizes the development of the NAAQS (see **Appendix D** for further details) and how compliance with these standards is determined. Also included is an overview of Michigan's air sampling network, attainment status of the state, and information on MIAir and the Air Quality Index (AQI).

National Ambient Air Quality Standards (NAAQS)

Under the CAA, the USEPA established a primary and secondary NAAQS for each criteria pollutant. The primary standard is designed to protect public health with an adequate margin of safety, including the health of the most susceptible individuals in a population, such as children, the elderly, and those with chronic respiratory ailments. Secondary standards are chosen to protect public welfare (personal comfort and well-being) and the environment.

In addition, the NAAQS have various averaging times to address health impacts. Short averaging times reflect the potential for acute (immediate) effects, whereas long-term averaging times are designed to protect against chronic (long-term) effects.

NAAQS have been established for CO, Pb, NO_2, particulate matter (PM), O_3, and SO_2. **Table 1.1** lists the primary and secondary NAAQS, averaging time, and concentration level for each criteria pollutant in effect in 2019. The concentrations are listed as parts per million (ppm), micrograms per cubic meter ($\mu g/m^3$), and/or milligrams per cubic meter (mg/m^3).

Table 1.1: NAAQS in Effect during 2019 for Criteria Pollutants

Pollutant	Primary (health) Level	Primary Averaging Time	Secondary (welfare) Level	Secondary Averaging Time
CO 8-hour average	9 ppm (10 mg/m^3)	8-hour average, not to be exceeded more than once per year *(1971)*	None*	None*
CO 1-hour average	35 ppm (40 mg/m^3)	1-hour average, not to be exceeded more than once per year *(1971)*	None*	None*
Lead	0.15 $\mu g/m^3$	Maximum rolling 3-month average *(2008)*	Same as Primary	Same as Primary
NO_2 Annual mean	0.053 ppm (100 $\mu g/m^3$)	Annual mean *(1971)*	Same as Primary	Same as Primary
NO_2 1-hour average	0.100 ppm	98th percentile of 1-hour average, averaged over 3 years *(2010)*	Same as Annual	Same as Annual
PM_{10}	150 $\mu g/m^3$	24-hour average, not to be exceeded more than once per year over 3 years *(1987)*	Same as Primary	Same as Primary
$PM_{2.5}$ Annual average	12.0 $\mu g/m^3$	Annual mean averaged over 3 years *(2012)*	15.0 $\mu g/m^3$	Annual mean
$PM_{2.5}$ 24-hour average	35 $\mu g/m^3$	98th percentile of 24-hour concentration, averaged over 3 years *(2006)*	Same as Primary	Same as Primary
Ozone	0.070 ppm	Annual 4th highest 8-hour daily max averaged over 3 years *(2015)*	Same as Primary	Same as Primary
SO_2	0.075 ppm	99th percentile of 1-hour daily max averaged over 3 years *(2010)*	0.5 ppm	3 hours

*In 1985, the USEPA revoked the secondary standard for CO (for public welfare) due to a lack of evidence of adverse effects on public welfare at or near ambient concentrations.

Michigan Air Sampling Network

EGLE's AQD operates the Michigan Air Sampling Network (MASN), along with other governmental agencies. For instance, the O_3 and $PM_{2.5}$ monitor in Manistee County is a tribal monitor handled by the Little River Band of Ottawa Indians. A second tribal monitor in Sault Ste. Marie was shut down in February 2019 due to an unrenewed federal grant. Their data is not included in this report, since there are only two months of data. **Figure 1.1** is a picture the deck at the Allen Park site. **Figure 1.2** shows a map of the 2019 MASN monitoring sites.

The MASN consists of federal reference method (FRM) monitors that enable continuous monitoring for the gaseous pollutants CO, NO_2, O_3, and SO_2 providing real-time hourly data. PM and Pb monitors measure concentrations over a 24-hour period. In addition, continuous $PM_{2.5}$ and PM_{10} monitors provide real-time hourly data for PM. $PM_{2.5}$ chemical speciation monitors determine the chemical composition of $PM_{2.5}$. The MASN data is also used to provide timely reporting to EGLE's air quality reporting web page (MIAir). The types of monitoring conducted in 2019 and the MASN locations are shown in **Table 1.3.**

Figure 1.1: Allen Park Site

The **NCore network** began January 1, 2011, as part of the USEPA's 2006 amended air monitoring requirements. NCore is a multi-pollutant network that integrates several advance measurement systems for particles, pollutant gases, and meteorology. Michigan has two NCore sites; Allen Park and Grand Rapids-Monroe Street. Further information on this network is provided in **Chapters 2** through **7**.

The **Near-road Monitoring Network** focuses on vehicle emissions and how they disperse near roadways. Data from these sites are presented in **Chapters 2, 5,** and **7.**

Figure 1.2: 2019 MASN Monitoring Sites

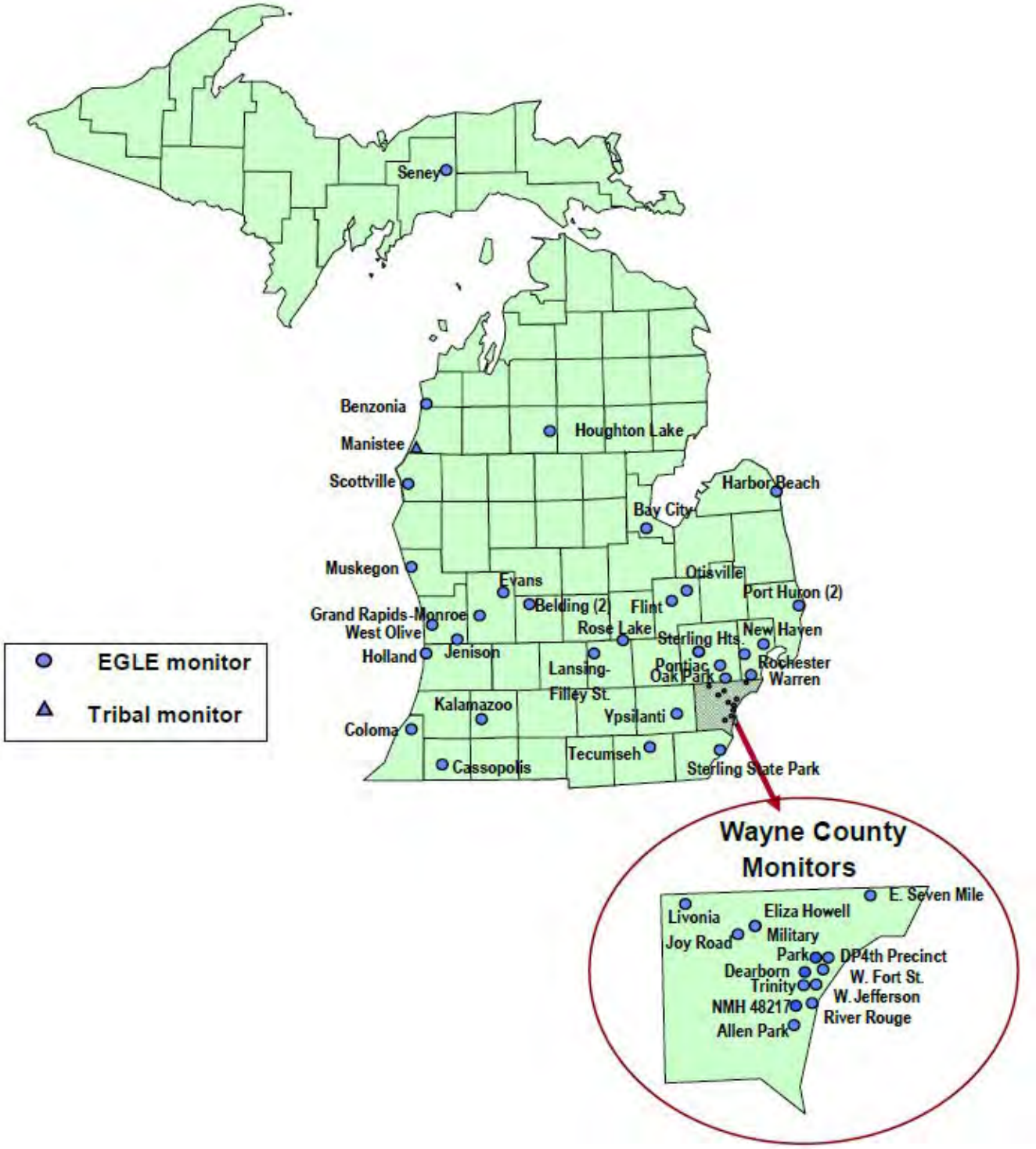


Figure 1.3 Types of Monitoring Conducted in 2019 and MASN Location

Area	AQS ID	Site Name	CO	NO_2	Trace NO_y	O_3	PM_{10}	$PM_{2.5}$	$PM_{2.5}$ Continuous	$PM_{2.5}$ Speciation	SO_2	VOC	Carbonyls	Trace Metals&	Wind Speed & Direction, Temp.	Relative Humidity	Solar Radiation	Barometric Pressure
Detroit-Ann Arbor	260910007	Tecumseh				√			√B						√			√
	260990009	New Haven				√		√							√	√	√	
	260991003	Warren				√												
	261250001	Oak Park				√		√							√			
	261470005	Port Huron				√		√	√T		√				√			
	261470031	Port Huron-Rural St.												√				
	261610008	Ypsilanti				√		√	√B						√			√
	261630001	Allen Park	√*		√	√	√	√	√T	√+A	√*			√	√	√		√
	261630005	River Rouge											√	√	√			
	261630015	Detroit-W. Fort St.		√			√	√	√B	√+A	√	√	√	√	√	√		√
	261630019	Detroit-E. 7 Mile			√	√		√							√	√		√
	261630027	Detroit-W. Jefferson												√				
	261630033	Dearborn					√^	√	√T	√+A		√	√	√#	√	√		√
	261630093	Eliza Howell-Roadway	√	√					√B						√			
	261630095	Livonia-Roadway	√	√				√							√	√		√
	261630097	NMH 48217							√T		√			√				
	261360098	GHB-DP4th Precinct	√	√					√B	A	√			√				
	261360099	GHB-Trinity	√	√					√B	A	√			√	√			
	261360100	GHB-Military Park		√					√B	A	√			√				
Flint	260490021	Flint				√		√	√B						√			√
	260492001	Otisville				√									√			
Grand Rapids	261390005	Jenison		√		√	√	√							√			
	261390011	West Olive									√				√			
	260810020	Grand Rapids-Monroe	√*		√	√	√	√	√T	√	√*			√	√			√
	260810022	Evans				√									√			
Lansing/East Lansing	260650018	Lansing-Filley St.		√		√		√	√T		√				√			√
	260370002	Rose Lake				√												
Monroe Co	261150006	Sterling State Park									√				√			
Huron Co	260630007	Harbor Beach				√									√			
Bay Co	260170014	Bay City							√B						√			
Missaukee Co	261130001	Houghton Lake		√		√			√B						√			√
Allegan Co	260050003	Holland				√			√B						√	√	√	√
Benzie Co	260190003	Benzonia				√												
Berrien Co	260210014	Coloma				√									√			
Cass Co	260270003	Cassopolis				√									√			
Kalamazoo Co	260770008	Kalamazoo				√		√	√T						√			
Manistee Co	261010922	Manistee $				√		√							√		√	√
Mason Co	261050007	Scottville				√									√			
Muskegon Co	261210039	Muskegon				√									√			
Schoolcraft Co	261530001	Seney Nat'l Wildlife				√			√B						√	√	√	√
Ionia Co	260670002	Belding-Reed St.													√			
	260670003	Belding-Merrick St.												√				

√ = Data Collected
& = 5 trace metals: As, Cd, Mn, Ni and Pb
# = 9 additional metals sampled: Ba, Be, Cr, Co, Cu, Fe, Mo, V, Zn
B = BAM continuous PM2.5 monitor
T = TEOM continuous PM2.5 monitor
$ = Tribal monitor
* = Trace monitor
^ = Continuous PM10 monitor
A = Aethalometer monitor

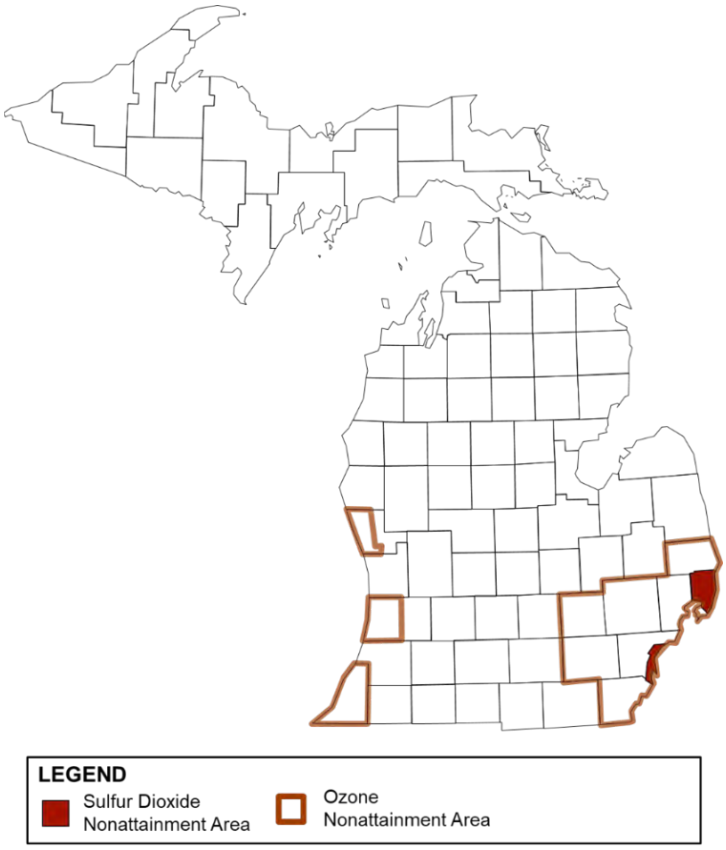
Current Attainment Status

Areas of the state that are below the NAAQS concentration level are called attainment areas. The entire state of Michigan is in attainment for the following pollutants:

- CO
- Pb
- NO_2
- Particulate Matter

Nonattainment areas are those that have been classified by the USEPA as having concentrations over the NAAQS level. Portions of the state are in nonattainment for SO_2 and O_3 (see **Figure 1.4**). The SO_2 nonattainment area includes a portion of Wayne County and a portion of St. Clair County. Ozone nonattainment areas include a portion of Allegan County, Berrien County, a portion of Muskegon County and the 7-county area of Southeast Michigan, which includes Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties. Nonattainment status for O_3 was effective on August 3, 2019.

Figure 1.4: Attainment Status for the National Ambient Air Quality Standards

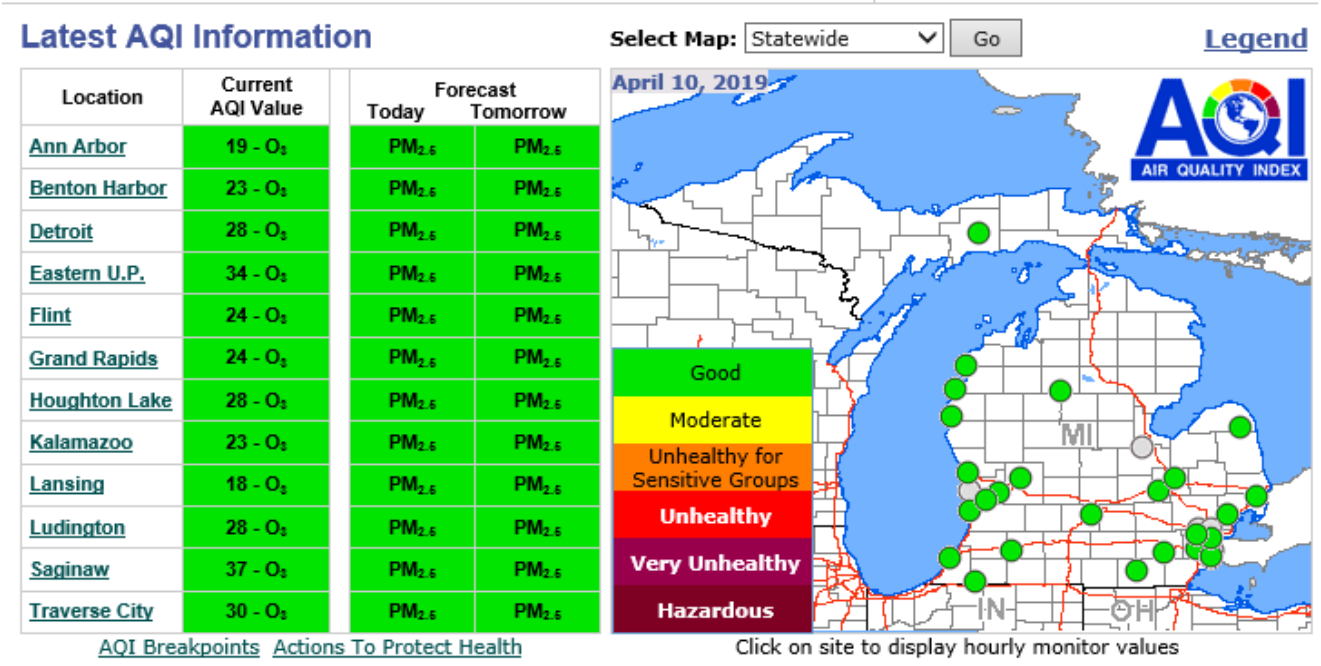


MIair – Air Quality Information in Real-Time

MIair is the internet tool that provides real-time air quality information via EGLE's web page. The deqmiair.org hotlink opens to the current Air Quality Index (AQI) map and displays air quality forecasts for "today" and "tomorrow." **MIair** also hosts EnviroFlash, the automated air quality notification system.

Air Quality Index

The Air Quality Index (AQI) is a simple tool developed to communicate current air quality information to the public. The current day's color-coded AQI values, ranging from Good to Hazardous (see **Table 1.3**), are displayed in a forecast table and as dots on a Michigan map (see example below).



As can be seen from the annual summaries in **Appendix C**, air quality in Michigan is generally in the Good or Moderate range. An area will occasionally fall into the Unhealthy for Sensitive Groups range, but rarely reaches Unhealthy levels.

MIair includes an "Air Quality Index Fact Sheet" link: michigan.gov/documents/deq/deq-aqd-aqifacts_273090_7.pdf, which contains activity recommendations based on the AQI levels (also **Table 1.4**).

Air Quality Forecasts

AQD meteorologists provide air pollution forecasts to alert the public when air pollution levels may become elevated. Action! Days are declared when levels are expected to reach or exceed the Unhealthy for Sensitive Groups AQI health indicator. On Action! Days, businesses, industry, government and the public are encouraged to reduce air pollution levels by limiting vehicle use, refueling only after 6 PM, carpooling, walking, biking or taking public transit, deferring the use of gasoline-powered lawn and recreation equipment, limiting the use of volatile chemicals and curtailing all burning. More information on voluntary air pollution control measures can be found under the Action! Days tab on **MIair**.

The weather plays a significant role in air quality (see **Chapter 9** for an annual weather summary) and can either help increase or decrease the amount of pollution in the air. High temperatures, sun, and longer days (i.e., more daylight hours) are conducive to ozone formation, whereas rain tends to wash pollutants out of the air. *Action!* Days are declared when meteorological conditions are conducive for the formation of elevated ground-level O_3 or $PM_{2.5}$ concentrations.

Table 1.2 shows that there were some *Action!* Days declared during the summer of 2019.

Table 1.2: *Action!* Days Declared During Summer 2019

Location	Year	Number	Dates
Ann Arbor	2019	5	7/3, 7/15, 7/18, 7/19, 7/20
Benton Harbor	2019	3	7/18, 7/19, 7/20
Detroit	2019	5	7/3, 7/15, 7/18, 7/19, 7/20
Grand Rapids	2019	4	7/15, 7/18, 7/19, 7/20

Air Quality Notification

EnviroFlash is a free service that provides automated air quality (AQI) and ultraviolet (UV) forecasts to subscribers. Those enrolled receive e-mail or mobile phone text messages when the health level they select is predicted to occur. AIRNow iPhone and Android applications deliver ozone and fine particle air quality forecasts plus detailed real-time information that can be used to better protect health when planning daily activities. To learn more about this program, select the **MIair** button from Michigan's Air Quality page www.michigan.gov/air. To receive notices, choose the "Air Quality Notification" tab and click the "Enroll in AQI EnviroFlash" link. Michigan's EnviroFlash network has the potential to reach up to 98% of the state's population.

AIRNow

EGLE supplies Michigan air monitoring data to AIRNow, the USEPA's nation-wide air quality mapping system. Information about AIRNow is available at www.airnow.gov or you can select the AIRNow hot link at the bottom of each **MIair** web page.

Table 1.3: AQI Colors and Health Statements

AQI Color, Category and Value	Particulate Matter ($\mu g/m^3$) 24-hour	Ozone (ppm) 8-hour / 1-hour	Carbon Monoxide (ppm) 8-hour	Sulfur Dioxide (ppm) 24-hour	Nitrogen Dioxide (ppm) 1-hour
GREEN: Good 1- 50	None	None	None	None	None
YELLOW: Moderate 51- 100	Unusually sensitive people should consider reducing prolonged or heavy exertion.	Unusually sensitive people should consider reducing prolonged or heavy exertion.	None	None	None
ORANGE: Unhealthy for Sensitive Groups 101- 150	People with heart or lung disease, children, and older adults should **reduce prolonged** or **heavy** exertion.	People with heart or lung disease, children & older adults, and people who are active outdoors should **reduce prolonged** or heavy exertion.	People with heart disease, such as angina, should limit heavy exertion and avoid sources of CO, such as heavy traffic.	People with asthma should consider limiting outdoor exertion.	None
RED: Unhealthy 151- 200	People with heart or lung disease, children, and older adults should avoid prolonged or heavy exertion. Everyone should reduce prolonged or heavy exertion.	People with heart or lung disease, children & older adults, and people who are active outdoors should **avoid prolonged** or heavy exertion. Everyone should reduce prolonged or heavy exertion.	People with heart disease, such as angina, should reduce moderate exertion and avoid sources of CO, such as heavy traffic.	Children, Asthmatics, and People with heart or lung disease should reduce outdoor exertion.	None
PURPLE: Very Unhealthy 201- 300	People with heart or lung disease, children, and older adults should **avoid all** physical exertion outdoors. Everyone else should limit outdoor exertion.	People with heart or lung disease, children & older adults, and people who are active outdoors should **avoid all** physical exertion outdoors. Everyone else should limit outdoor exertion.	People with heart disease, such as angina, should avoid exertion and sources of CO, such as heavy traffic.	Children, asthmatics, and people with heart or lung disease should avoid outdoor exertion. Everyone should reduce outdoor exertion.	Children and people with respiratory disease, such as asthma, should reduce outdoor exertion.
MAROON: Hazardous 301- 500	People with heart or lung disease, children, and older adults should remain indoors. Everyone should **avoid** prolonged or heavy exertion.	People with heart or lung disease, children, and older adults should remain indoors. Everyone should **avoid all** outdoor exertion.	People with heart disease, such as angina, should avoid exertion and sources of CO, such as heavy traffic. Everyone else should limit heavy exertion.	Children, Asthmatics, and people with heart or lung disease should remain indoors. Everyone should avoid outdoor exertion.	Children and People with respiratory disease, such as asthma, should avoid outdoor exertion.

CHAPTER 2: CARBON MONOXIDE (CO)

Carbon monoxide is a gas formed during incomplete burning of fuel. CO is colorless, odorless, and tasteless, and is lethal at elevated concentrations. Levels peak during colder months primarily due to cold temperatures that affect combustion efficiency of engines. The CO NAAQS is 9 ppm for the second highest 8-hour average and 35 ppm for the second highest 1-hour average. Its sources and effects are provided below.

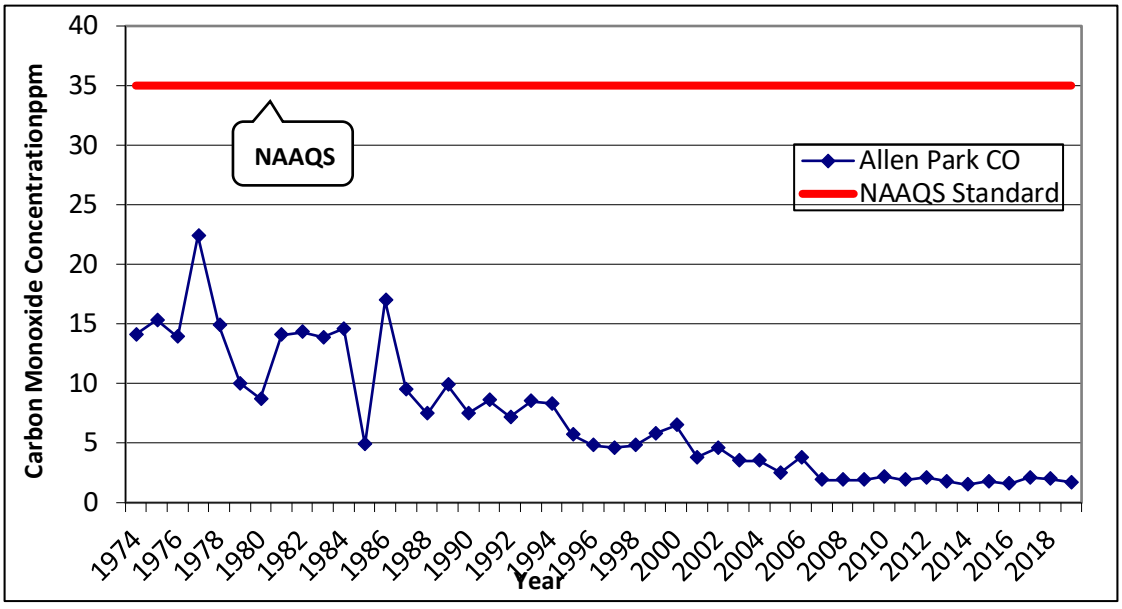
Sources: CO is given off whenever fuel or other carbon-based materials are burned. Outdoor exposure sources include automobile exhaust, industrial processes (metal processing and chemical production), and non-vehicle fuel combustion. Natural sources include volcanos, forest fires and photochemical reactions in the atmosphere. Indoor exposure sources include wood stoves and fireplaces, gas ranges with continuous pilot flame ignition, unvented gas or kerosene heaters, and cigarette smoke.

Effects: CO enters the bloodstream through the lungs, where it displaces oxygen delivered to the organs and tissues. Elevated levels can cause visual impairment, interfere with mental acuity by reducing learning ability and manual dexterity, and can decrease work performance in the completion of complex tasks. In extreme cases, unconsciousness and death can occur. CO also alters atmospheric photochemistry contributing to the formation of ground-level O_3, which can trigger serious respiratory problems.

Population most at risk: Those who suffer from cardiovascular (heart and respiratory) disease, fetuses, infants, and the elderly are most at risk for exposure to elevated levels of CO. People with angina and peripheral vascular disease are especially at risk, as their circulatory systems are already compromised and less efficient at carrying oxygen; however, elevated CO levels can also affect healthy people.

Historical Trends: Southeast Michigan has been monitoring for CO for 45 years. **Figure 2.1** shows the CO trend at Allen Park to be well below the 1-hour standard of 35 ppm. This standard has not changed since 1971.

Figure 2.1: Historical 1-hour CO Averages at Allen Park



Figures 2.2 and **2.3** show CO emission sources and CO emissions by county (courtesy of the USEPA's State and County Emission Summaries).

Figure 2.2: CO Emissions by Source Sector

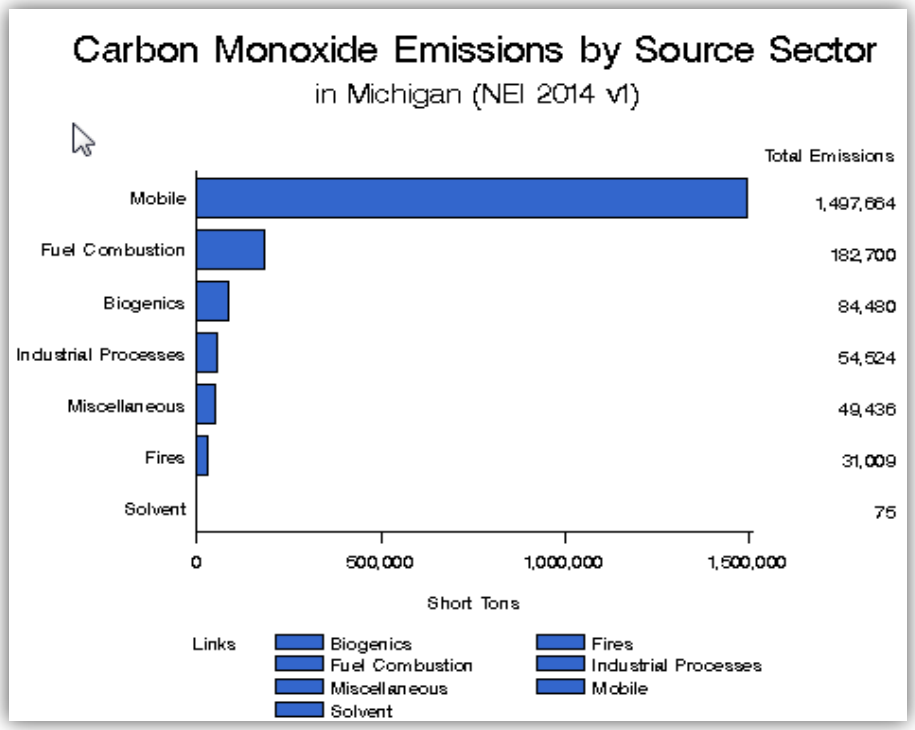


Figure 2.3: CO Emissions in 2014

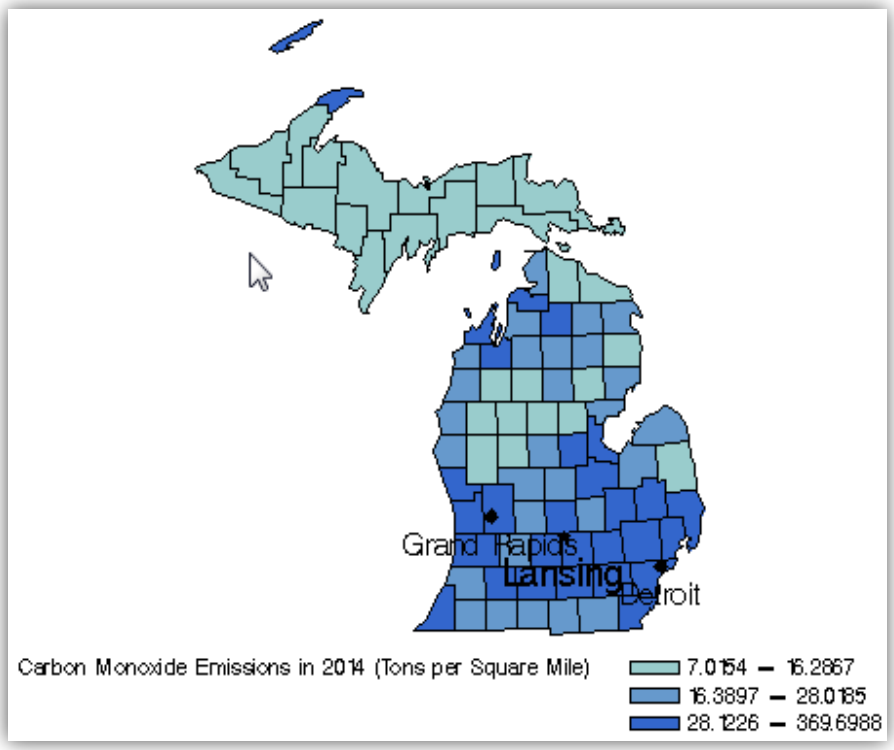


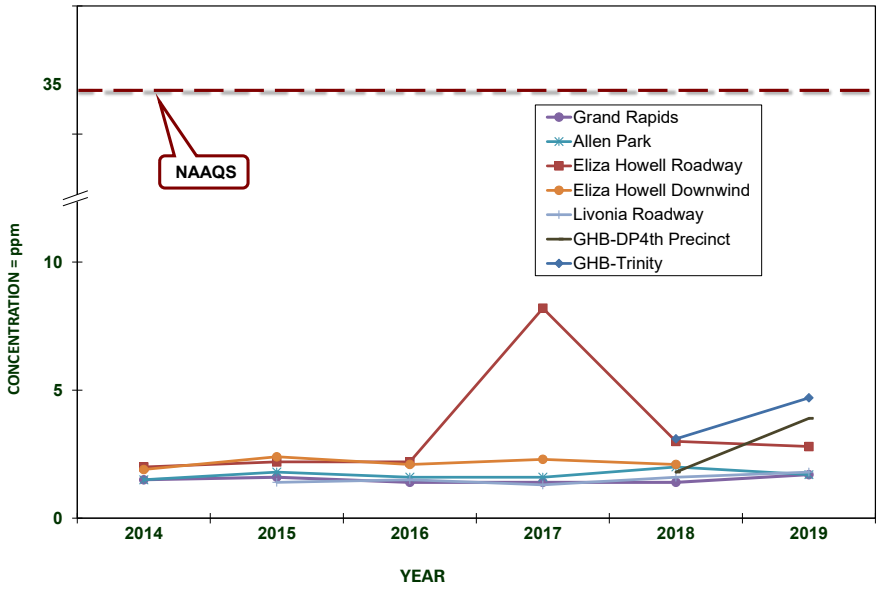
Figure 2.4 shows the location of each CO monitor that operated in 2019.

- Near-roadway network sites: Eliza Howell Park and Livonia.
- NCore Network: Grand Rapids and Allen Park measure trace CO (lower detection levels 1 ppm-50 ppm).
- Gordie Howe International Bridge (GHB) project: Detroit Police 4th Precinct (DP4th Precinct) and Trinity St. Marks (Trinity), started summer and fall 2018, respectively.

Figure 2.4: CO Monitors in 2019

Figure 2.5 shows the second highest 1-hour CO concentrations for Michigan from 2013-2019, which demonstrates that there have not been any exceedances of the 1-hour CO NAAQS.

Figure 2.5: CO Levels in Michigan from 2014-2019 (2nd Highest 1-Hour Maximum Values)



CHAPTER 3: LEAD (PB)

Lead is a highly toxic metal found in coal, oil, and other fuels. It is also found in older paints, municipal solid waste and sewage sludge, and may be released to the atmosphere during combustion. In 2008, the USEPA lowered the Pb NAAQS from a maximum quarterly average of 1.5 µg/m^3 to a 3-month rolling average of 0.15 µg/m^3. Its sources and effects are presented below.

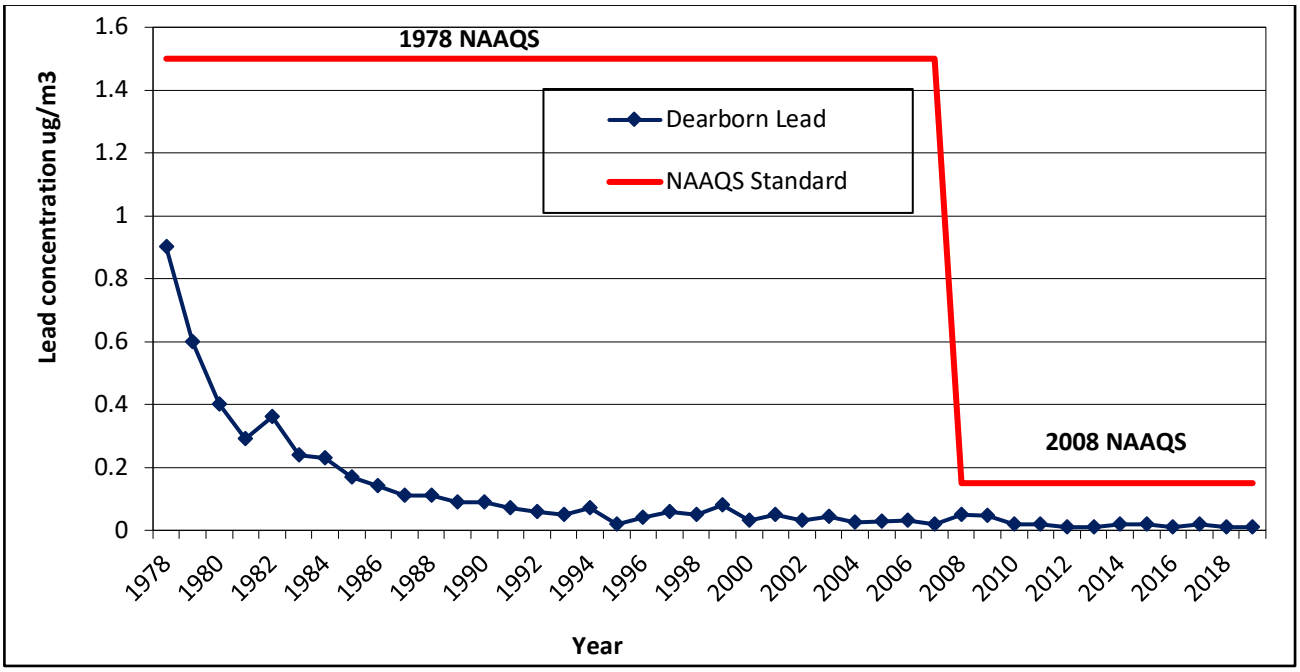
Sources: With the phase-out of leaded gas in the 1970s, the major sources of Pb emissions have been due to ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other industrial sources include Pb acid battery manufacturers, waste incinerators, and utilities. The highest air concentrations of Pb are usually found near lead smelters.

Effects: Exposure occurs through the inhalation or ingestion of Pb in food, water, soil, or dust particles. Pb primarily accumulates in the body's blood, bones, and soft tissues, and adversely affects the nervous system as well as the cardiovascular system, reproductive system, blood, kidneys, and other organs.

Population most at risk: Fetuses and children are most at risk since low levels of Pb may cause central nervous system damage. Excessive Pb exposure during the early years of life is associated with lower IQ scores and neurological impairment (seizures, mental development, and behavioral disorders). Even at low doses, lead exposure is associated with changes in fundamental enzymatic, metabolic, and homeostatic mechanisms in the body, and Pb may be a factor in high blood pressure and subsequent heart disease.

Historical Trends: Southeast Michigan has been monitoring for lead for 40 years. **Figure 3.1** shows the trend for lead at Dearborn. The largest decrease in Pb in the air is due to the removal of Pb in gasoline. By 1975, most newly manufactured vehicles no longer required leaded gasoline, and as a result, there was a dramatic decrease in ambient Pb levels. In 1996, the USEPA banned the sale of leaded fuel for use in on-road vehicles. The graph also shows the decrease in the Pb standard that occurred in 2008.

Figure 3.1: Historical Quarterly / 3-month Averages for Lead at Dearborn



Figures 3.2 and **3.3** show Pb emission sources and Pb emissions by county (courtesy of the USEPA's State and County Emission Summaries).

Figure 3.2: Pb Emissions by Source Sector

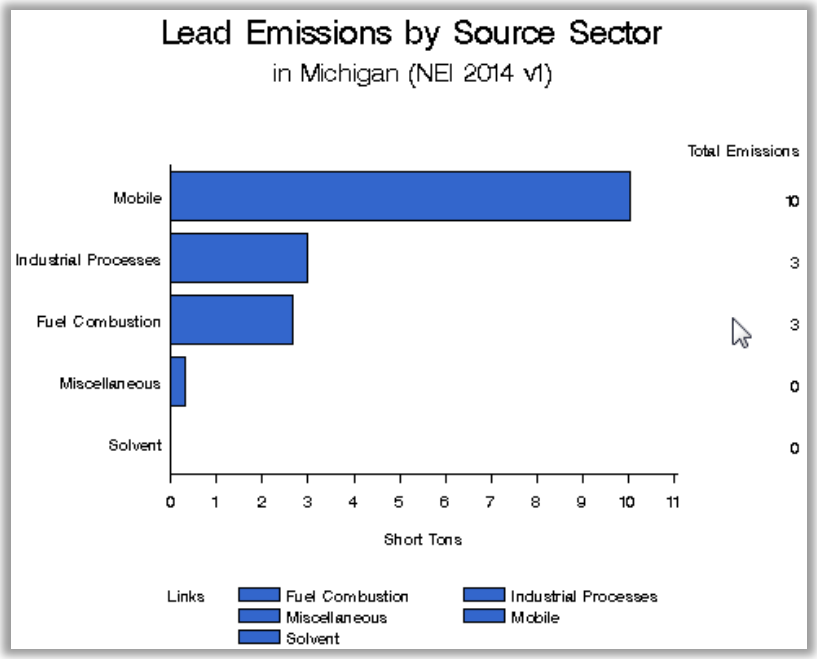


Figure 3.3: Pb Emissions in 2014

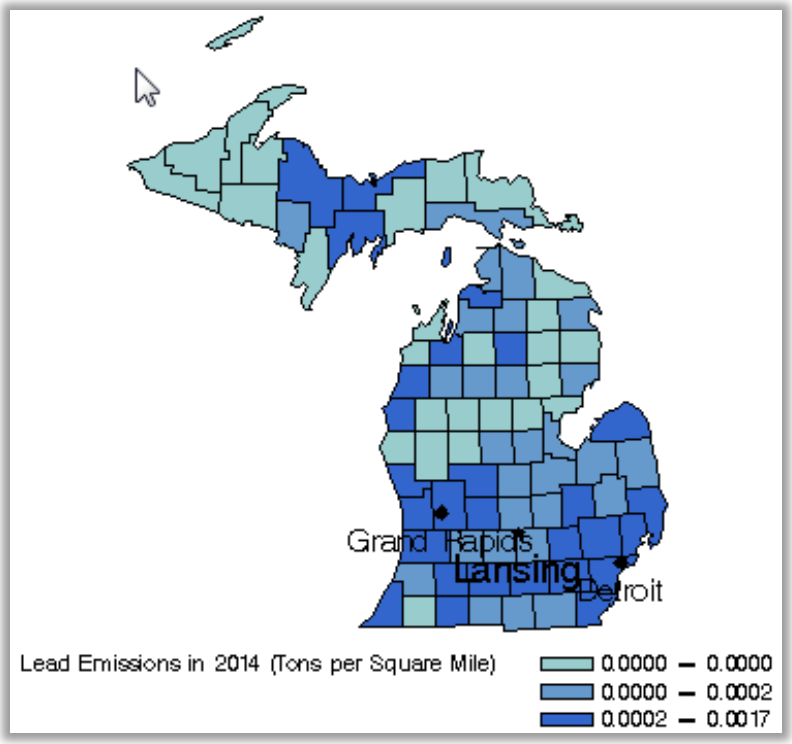


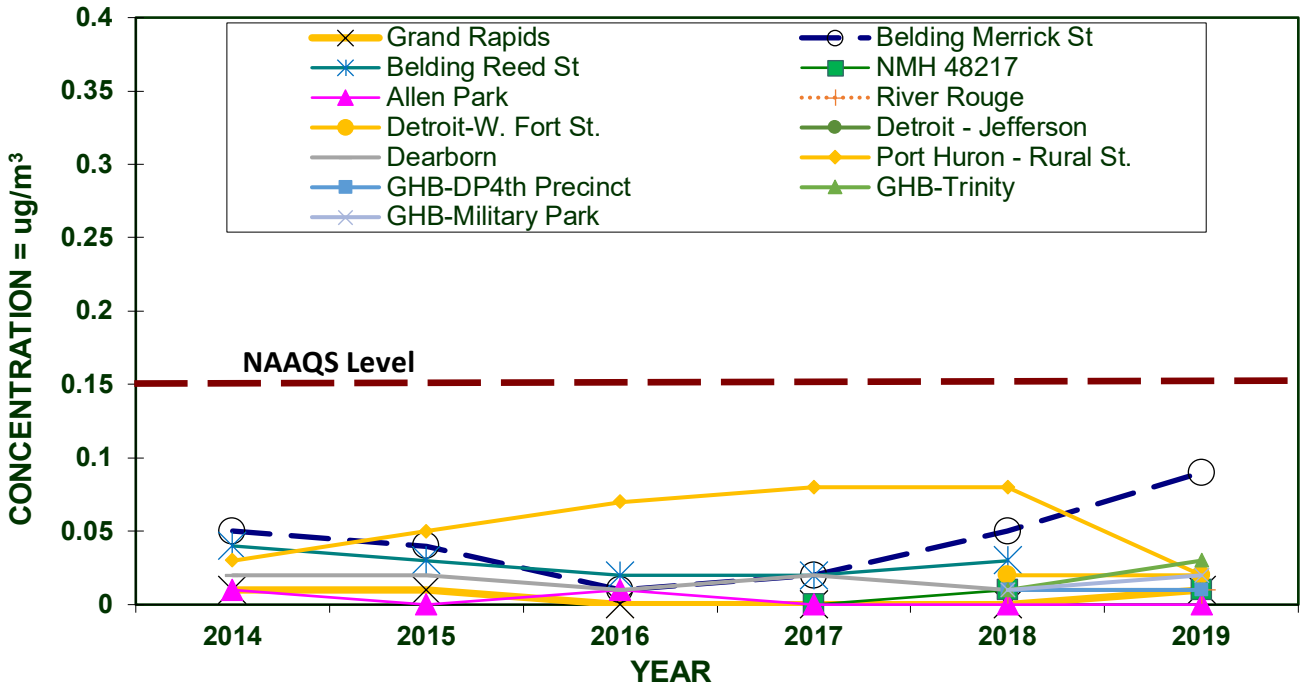
Figure 3.4 shows the location of the Pb monitors in the MASN in 2019. When the Pb NAAQS was lowered in 2008, the monitoring network was modified to consist of source-oriented monitors and population-oriented monitors. As part of the 2008 Pb NAAQS, EGLE must monitor near stationary sources emitting more than 1/2 ton of Pb per year.

- Source-oriented sites: Port Huron-Rural St. and Belding-Merrick St. The second site, Belding-Reed St. was shut down on January 1, 2019, since lead levels are below the standard and both sites are no longer necessary. The two sites in Belding previously were above the standard, but values for both the sites have been below the NAAQS for the past five years. Belding was designated to attainment on July 31, 2018.
- National Air Toxics Trend Sites (NATTS): Dearborn lead and trace metals, both as total suspended particulate (TSP) and PM_{10}. Lead measurements as $PM_{2.5}$ are also made throughout the $PM_{2.5}$ speciation network.
- NCore sites: Allen Park and Grand Rapids.
- Network consistency: River Rouge, Detroit-W. Jefferson, New Mount Hermon (NMH) 48217, and Detroit-W. Fort St. On January 1, 2018, lead sampling was started at all the TSP metals sites to maintain consistency and to be more protective of public health. Many older homes, which often contain lead-based paint, are being demolished in the Detroit area near these monitors.
- Secondary monitor: Port Huron-Rural St. to comply with the USEPA's collocation regulations.
- Gordie Howe International Bridge (GHB) project: DP4th Precinct, Trinity, and Military Park.

Figure 3.4: Lead (Pb) Monitors in 2019

Figure 3.5 shows the maximum 3-month rolling average values for Pb from 2014 to 2019. All Pb monitor sites in Michigan are below the standard.

Figure 3.5: Lead Levels in Michigan from 2014-2019 (Maximum 3-month Average Values)



CHAPTER 4: NITROGEN DIOXIDE (NO_2)

Nitrogen dioxide is a reddish-brown, highly reactive gas formed through oxidation of nitric oxide (NO). Upon dilution, it becomes yellow or invisible. High concentrations produce a pungent odor and lower levels have an odor similar to bleach. NO_X is the term used to describe the sum of NO, NO_2, and other nitrogen oxides. NO_X can lead to the formation of O_3 and NO_2 and can react with other substances in the atmosphere to form particulate matter or acidic products that are deposited in rain (acid rain), fog, or snow. Since 1971, the primary and secondary standard for NO_2 was an annual mean of 0.053 ppm. In January 2010, the USEPA added a 1-hour NO_2 standard of 100 ppb, taking the form of the 98th percentile averaged over three years. The sources and effects of NO_2 are as follows:

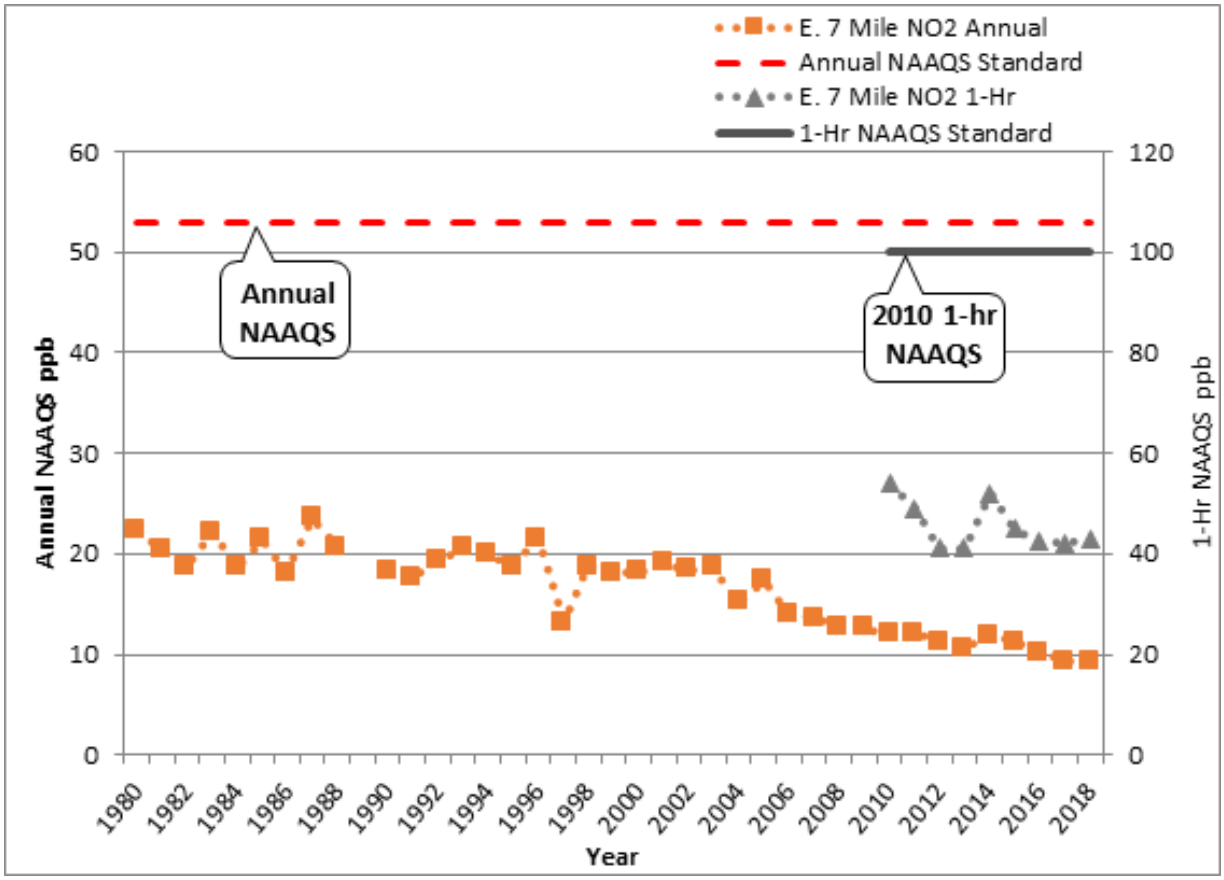
Sources: NO_X compounds and their transformed products occur both naturally and because of human activities. Natural sources of NO_X are lightning, forest fires, bacterial processes in soil, and stratospheric intrusion. Stratospheric intrusion is when the air upper atmosphere (stratosphere) descends towards the surface of the earth and mixes with the air at breathing level. Ammonia and other nitrogen compounds produced naturally are important in the cycling of nitrogen through the ecosystem. The major sources of man-made (anthropogenic) NO_x emissions come from high-temperature combustion processes such as those occurring in automobiles and power plants. Home heaters and gas stoves produce substantial amounts of NO_2 in indoor settings.

Effects: Exposure to NO_2 occurs through the respiratory system, irritating the lungs. Short-term NO_2 exposures (i.e., less than three hours) can produce coughing and changes in airway responsiveness and lung function. Evidence suggests that long-term exposures to NO_2 may lead to increased susceptibility to respiratory infection and may cause structural changes in the lungs. Exercise increases the ventilation rate and hence exposure to NO_2. Nitrate particles and NO_2 can block the transmission of light, resulting in visibility impairment (i.e., smog or haze). Nitrogen deposition can lead to fertilization, excessive nutrient enrichment, or acidification of terrestrial, wetland, and aquatic systems that can upset the delicate balance in those ecosystems.

Population most at risk: Individuals with pre-existing respiratory illnesses and asthmatics are more sensitive to the effects of NO_2 than the general population. Short-term NO_2 exposure can increase respiratory illnesses in children.

Historical Trends: Southeast Michigan has been monitoring for NO_2 for almost 40 years. **Figure 4.1** shows the trend for NO_2 at E. 7 Mile Road, which has been well below the annual standard of 53 ppb and shows a downward trend. In 2010, the USEPA added a 1-hour standard for NO_2, which has also remained well below the standard in Michigan. Southeast Michigan is highly industrialized; therefore, it is a good indicator of the air quality improvement for the rest of the state.

Figure 4.1: Historical Annual and 1-hour NO_2 at E. 7 Mile Road



Figures 4.2 and **4.3** show NO_2 emission sources and NO_2 emissions by county (courtesy of the USEPA's State and County Emission Summaries).

Figure 4.2: NO_2 Emissions by Source Sector

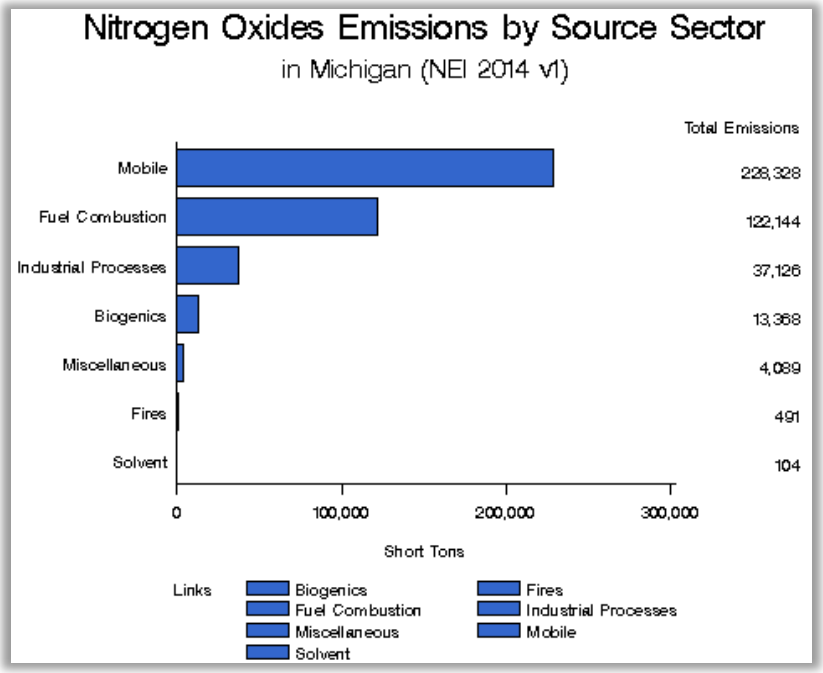


Figure 4.3: NO_2 Emissions in 2014

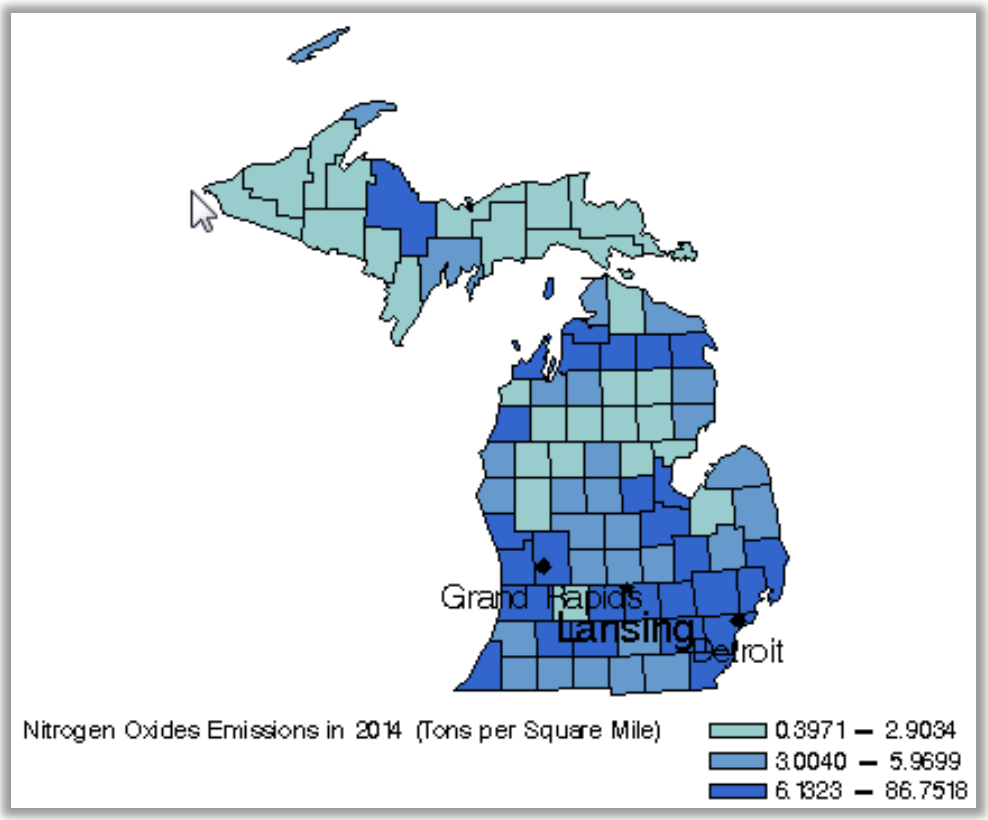
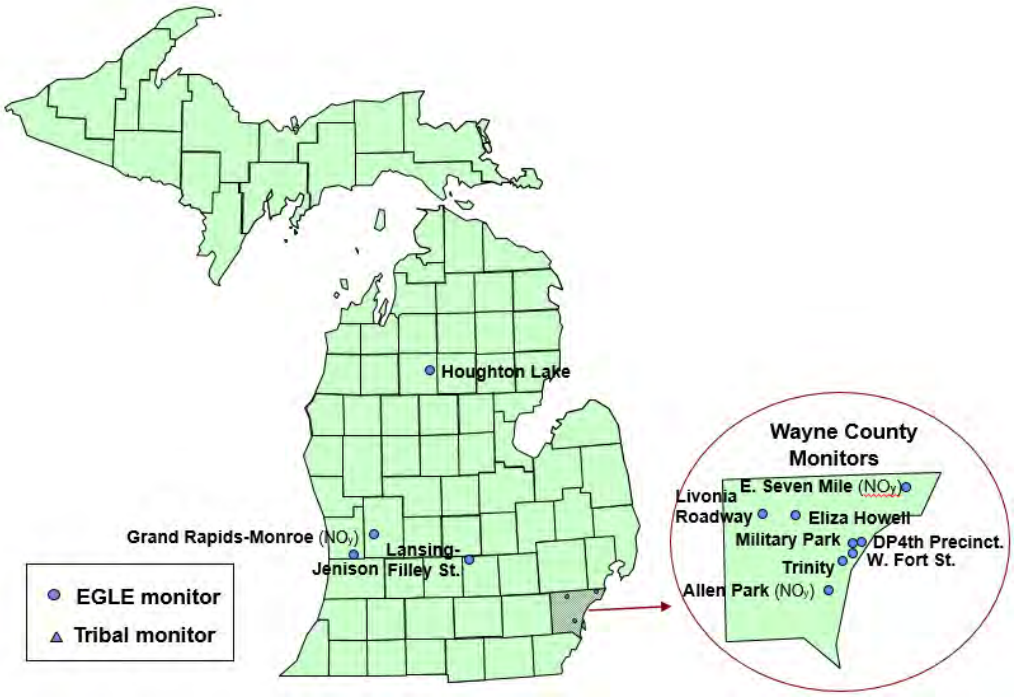


Figure 4.4 shows the location of all NO_2 monitors that operated in 2019.

- Downwind urban scale site: E. 7 Mile in Detroit and Jenison for the Grand Rapids area
- Near-roadway Network sites: Detroit Eliza Howell roadway site, the downwind site was shut down since it is not necessary for the near-road network. The Livonia roadway site needed to be moved since EGLE lost site access. A suitable replacement has not been found.
- NCore sites: Grand Rapids and Allen Park, monitor NO_Y, which includes NO_X, nitric acid and organic and inorganic nitrates (not used for attainment / nonattainment purposes).
- Photochemical Assessment Monitoring Station (PAMS) Network: The NO_X monitor at E. 7 Mile was switched to a NO_Y for PAMS. Direct NO_2 will also be monitored at E. 7 Mile when the PAMS network is completely installed at this site.
- Background monitors for modeling: Lansing and Houghton Lake.
- Gordie Howe International Bridge (GBH) project: W. Fort St., DP4th Precinct, Trinity, and Military Park (GHB)

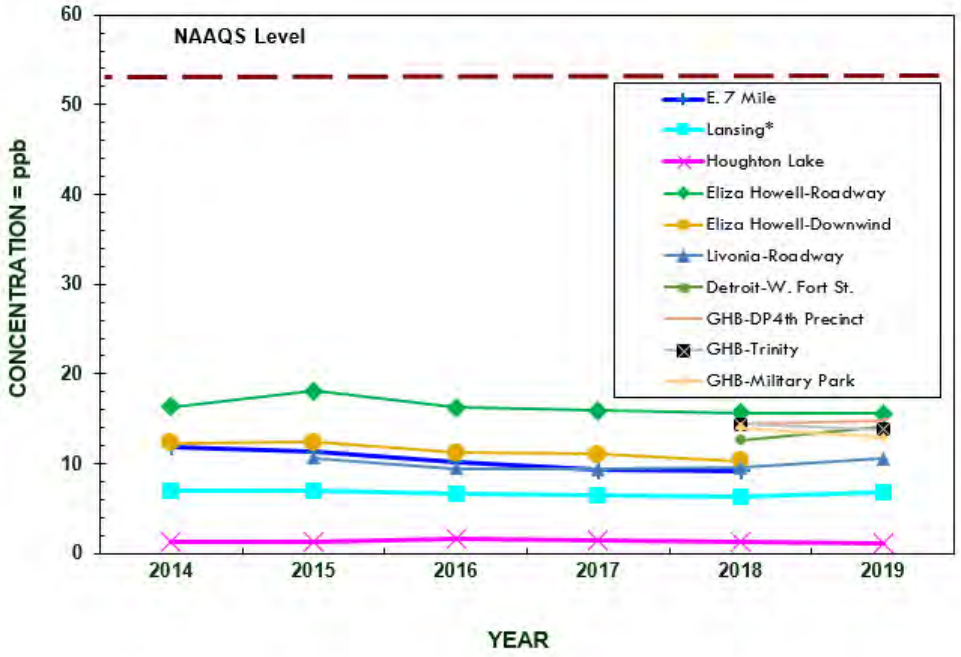
Figure 4.4: Nitrogen Dioxide (NO_2)/NO_y Monitors in 2019



Michigan's ambient NO_2 levels have always been well below the NAAQS. Since March 3, 1978, all areas in Michigan have been in attainment for the annual NO_2 NAAQS. As shown in **Figure 4.5**, all monitoring sites have had an annual NO_2 concentration at less than half of the 0.053 ppm NAAQS.

Even though there are no nonattainment areas for NO_2 in Michigan and monitoring for attainment purposes is not required, monitors continue to operate to support photochemical model validation work.

Figure 4.5: NO_2 Levels in MI from 2014-2019 (Annual Arithmetic Mean)**



*Indicates site was moved 2018 and concentrations were averaged together for both locations.
**Since Allen Park and Grand Rapids are monitoring NO_Y, those sites are not included in graph.

CHAPTER 5: SULFUR DIOXIDE (SO_2)

Sulfur dioxide is a gas formed by the burning of sulfur-containing material. Odorless at typical ambient concentrations, SO_2 can react with other atmospheric chemicals to form sulfuric acid. At higher concentrations it has a pungent, irritating odor similar to a struck match. When sulfur-bearing fuel is burned, the sulfur is oxidized to form SO_2, which then reacts with other pollutants to form aerosols. These aerosols can form particles in the air causing increases in $PM_{2.5}$ levels. In liquid form, it is found in clouds, fog, rain, aerosol particles, and in surface films on these particles. In June 2010, the USEPA changed the primary SO_2 standard to a 99th percentile of 1-hour concentrations not to exceed 0.075 ppm, averaged over a 3-year period. The secondary standard has not changed and is a 3-hour average that cannot exceed 0.5 ppm once per year. Its sources and effects are presented below.

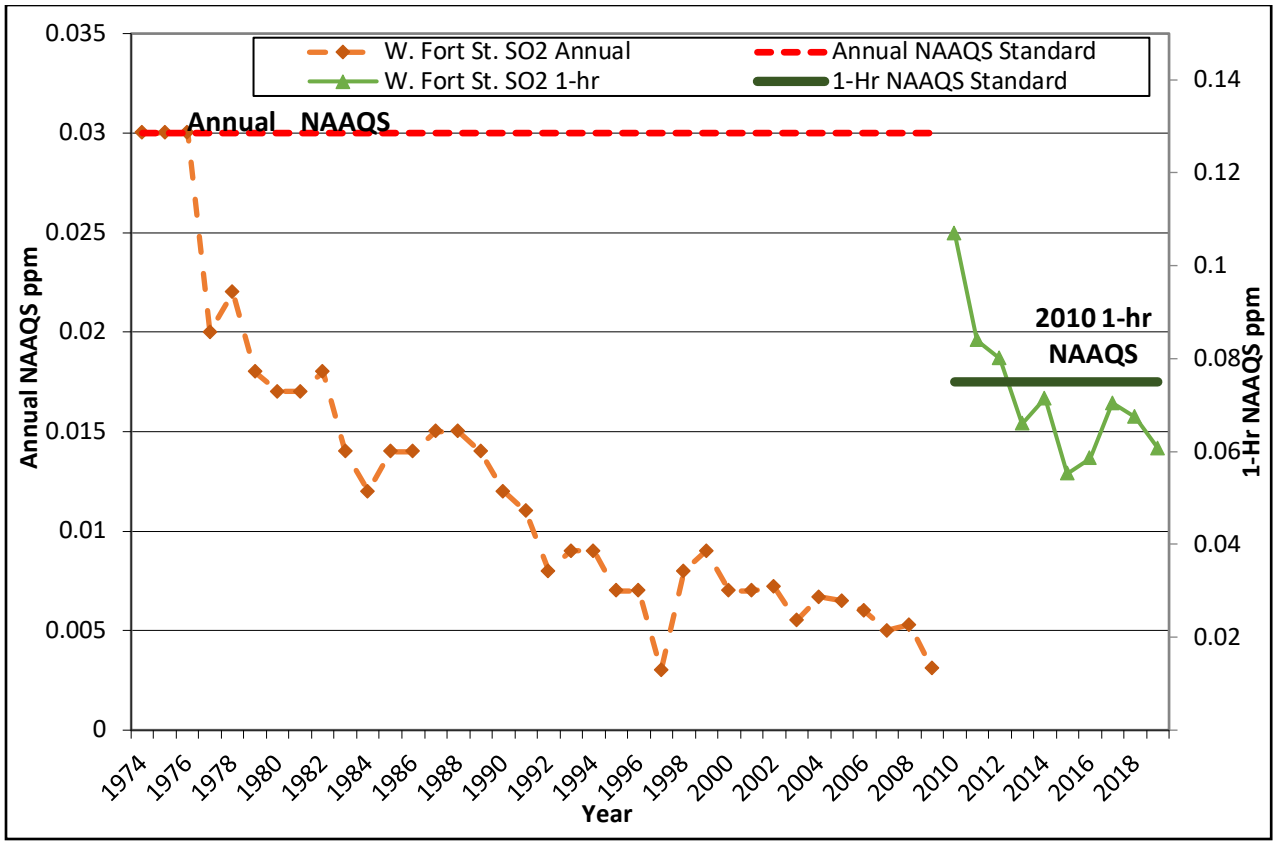
Sources: Coal-burning power plants are the largest source of SO_2 emissions. Other sources include industrial processes such as extracting metal from ore, and non-road transportation sources, and natural sources such as volcanoes. SO_2 and particulate matter are often emitted together.

Effects: Exposure to elevated levels can aggravate symptoms in asthmatics and cause respiratory problems in healthy groups. SO_2 and NOx together are the major precursors to acid rain and are associated with the acidification of soils, lakes, and streams, as well as accelerated corrosion of buildings and monuments.

Population most at risk: Asthmatics, children, and the elderly are especially sensitive to SO_2 exposure. Asthmatics receiving short-term exposures during moderate exertion may experience reduced lung function and symptoms, such as wheezing, chest tightness, or shortness of breath. Depending on the concentration, SO_2 may also cause symptoms in people who do not have asthma.

Historical Trends: Southeast Michigan has been monitoring for SO_2 for 45 years. **Figure 5.1** shows the SO_2 trend for the old annual standard and the new 1-hour standard for W. Fort Street in Detroit. Michigan had been in attainment for SO_2 since 1982 with levels consistently well below the annual SO_2 NAAQS. In 2010, when the USEPA changed the standard from an annual average to a 1-hour standard, a portion of Wayne County was designated nonattainment. In September 2016, a portion of St. Clair County was also designated as nonattainment by the USEPA based on emissions and modeling. Even though the areas are in nonattainment for the 1-hour SO_2 standard, SO_2 concentrations have decreased at these sites and are currently under the NAAQS, although modeling results are not below the NAAQS.

Figure 5.1: Historical Annual and 1-hour SO_2 Averages at W. Fort St.



Figures 5.2 and **5.3** show SO_2 emission sources and SO_2 emissions by county (courtesy of the USEPA's State and County Emission Summaries).

Figure 5.2: SO_2 Emissions by Source Sector

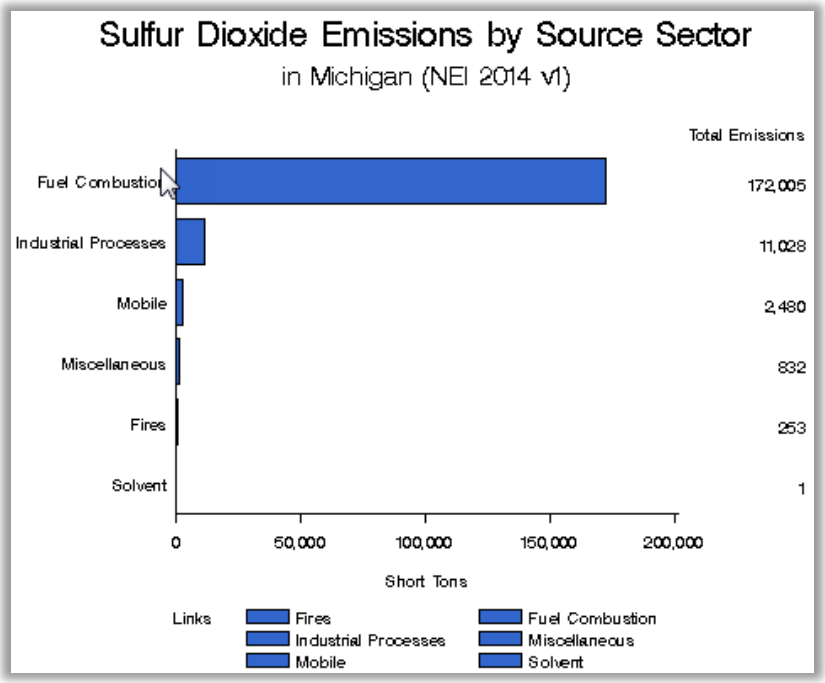


Figure 5.3: SO_2 Emissions in 2014

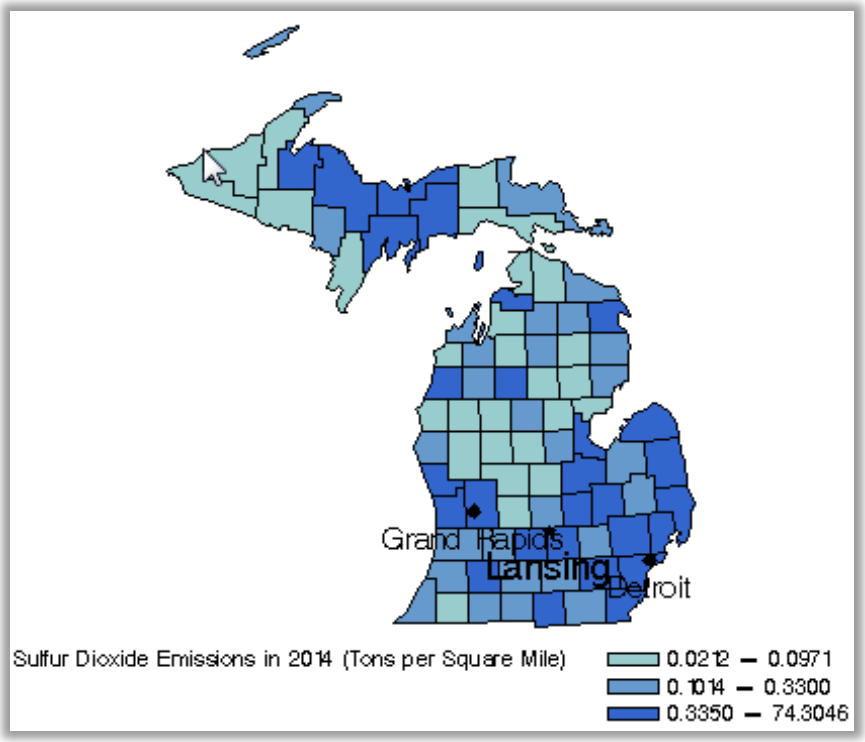


Figure 5.4 shows the location of each SO_2 monitor that operated in 2019.

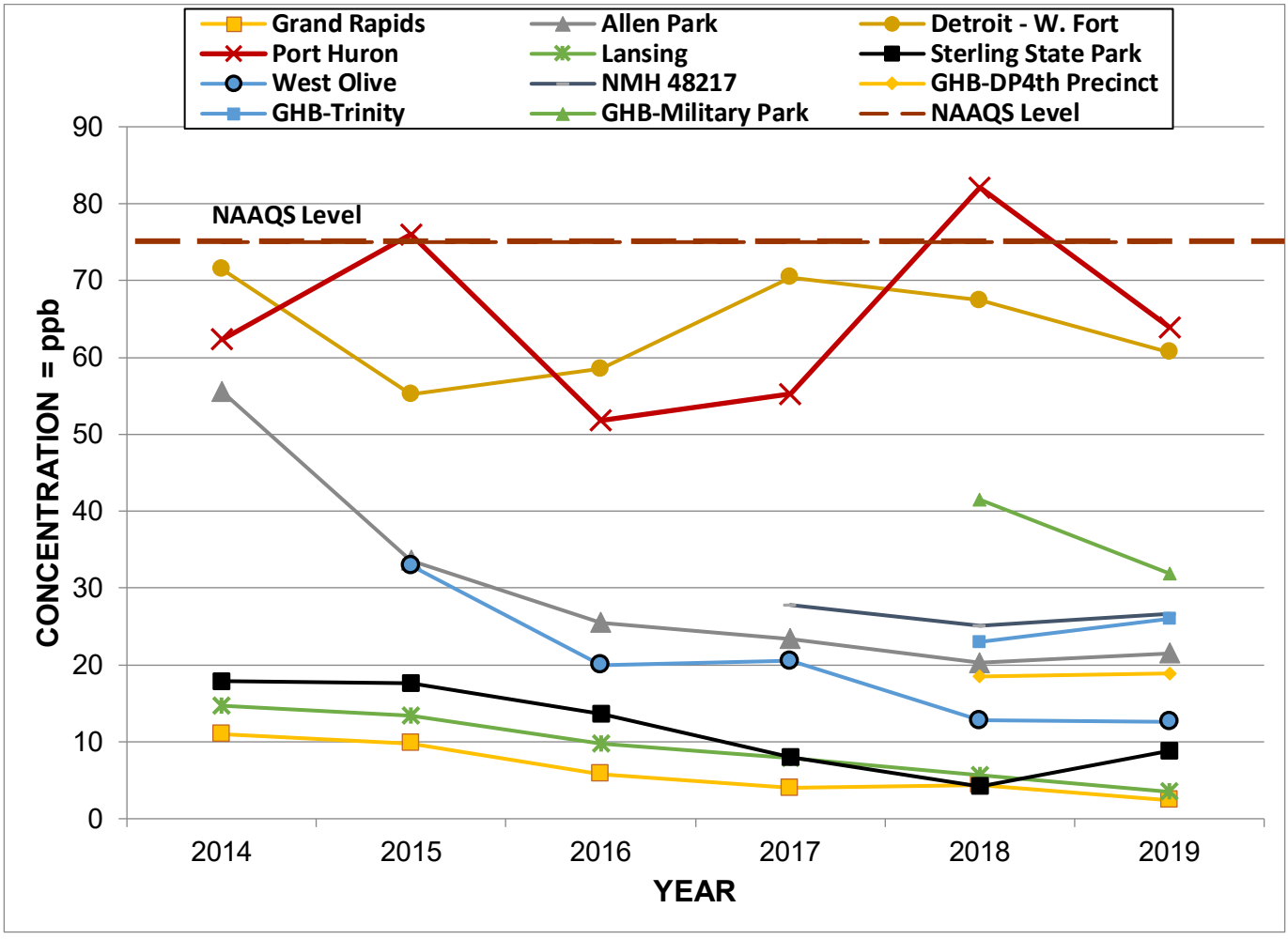
- NCore sites: Allen Park and Grand Rapids have trace SO_2 monitors that have lower detection limits than traditional SO_2 monitors.
- Source-oriented sites: Lansing, Port Huron, W. Fort St., Sterling State Park, West Olive.
- Community monitoring project: NMH 48217.
- GHB project: DP4th Precinct, Trinity, and Military Park.

Figure 5.4: Sulfur Dioxide (SO_2) Monitors in 2019

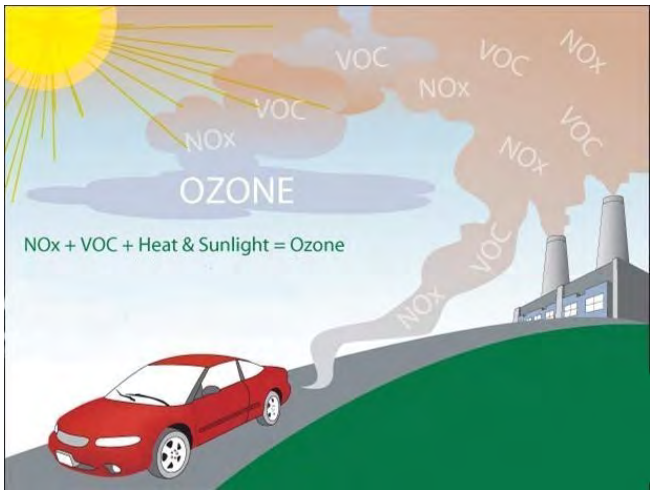
Figure 5.5 shows that all the SO_2 sites in Michigan are below the standard even though there is a nonattainment area for SO_2. The standard is a three-year average, therefore having one point above the NAAQS level line does not mean the monitor is over the standard. SO_2 pollution is extremely variable and would require a large monitoring network to designate areas as attainment. Therefore, SO_2 attainment depends on both emission modeling and monitoring data.

The NCore sites, Grand Rapids and Allen Park, monitor for trace SO_2. For trend purposes, all SO_2 data are graphed together in **Figure 5.5**.

Figure 5.5: SO_2 Level in Michigan from 2014-2019 (1-Hour 99th Percentile)



CHAPTER 6: OZONE (O_3)



Ground-level O_3 is created by reactions involving nitrogen oxides (NO_X) and volatile organic compounds (VOCs), or hydrocarbons, in the presence of sunlight as the illustration to the right depicts (image courtesy of the USEPA). These reactions usually occur during the hot summer months as ultraviolet radiation from the sun initiates a sequence of photochemical reactions. In Earth's upper atmosphere (the stratosphere), O_3 helps by absorbing much of the sun's ultraviolet radiation, but in the lower atmosphere (the troposphere), ozone is an air pollutant. O_3 is also a key ingredient of urban smog and can be transported hundreds of miles under certain meteorological conditions. Ozone levels are often higher in rural areas than in cities due to transport to regions downwind from the actual emissions of NO_X and VOCs. Shoreline monitors along Lake Michigan often measure high ozone concentrations due to transport from upwind states. The ozone NAAQS was revised by the USEPA and became effective in November 2015. It is a 3-year average of the 4th highest daily maximum 8-hour average concentration that must not exceed 0.070 ppm. The sources and effects of ozone follow.

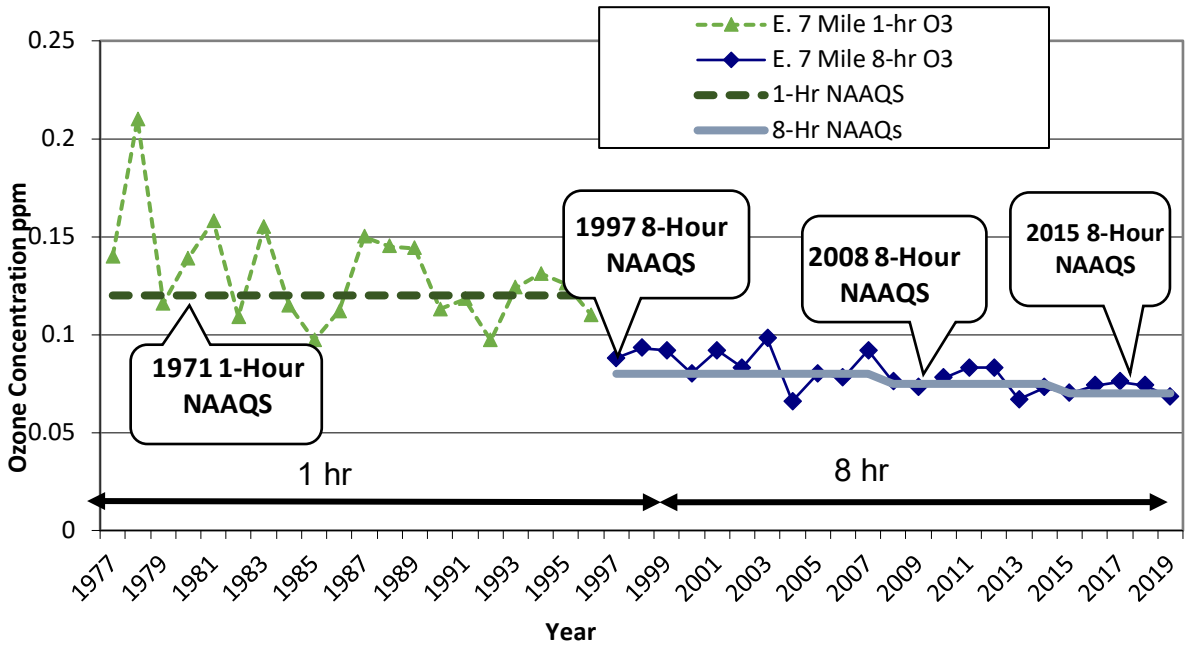
Sources: Major sources of NO_X and VOCs are engine exhaust, emissions from industrial facilities, combustion from power plants, gasoline vapors, chemical solvents, and biogenic emissions from natural sources. Ground-level O_3 can also be transported hundreds of miles under certain wind regimes. As a result, the long-range transport of air pollutants impacts the air quality of regions downwind from the actual area of formation.

Effects: Elevated O_3 exposure can irritate airways, reduce lung function, aggravate asthma and chronic lung diseases like emphysema and bronchitis, and inflame and damage the cells lining the lungs. Other effects include increased respiratory related hospital admissions with symptoms such as chest pain, shortness of breath, throat irritation, and cough. O_3 may also reduce the immune system's ability to fight off bacterial infections in the respiratory system, and long-term, repeated exposure may cause permanent lung damage. O_3 also impacts vegetation and forest ecosystems, including agricultural crop and forest yield reductions, diminished resistance to pests and pathogens, and reduced survivability of tree seedlings.

Population most at risk: Individuals most susceptible to the effects of O_3 exposure include those with a pre-existing or chronic respiratory disease, children who are active outdoors and adults who actively exercise or work outdoors.

Historical Trends: Southeast Michigan has been monitoring for ozone for over 40 years. **Figure 6.1** shows the ozone levels at the Detroit E. 7 Mile Road site. This graph shows how the standard changed from a 1-hour average of 0.120 ppm to an 8-hour average of 0.08 ppm in 1997. The standard was further lowered to 0.075 ppm in 2008 and to 0.070 ppm at the end of 2015. Ozone depends on weather conditions, so ozone concentrations are more variable than other pollutants. Ozone is also monitored primarily in warmer months. In the 2015 NAAQS, the ozone season was extended to by two months to March 1 to October 31.

Figure 6.1: Historical 1-hour and 8-hour Ozone at E. 7 Mile



Figures 6.2 and **6.3** show VOC emission sources and VOC emissions by county (courtesy of the USEPA's State and County Emission Summaries).

Figure 6.2: VOC Emissions by Source Sector

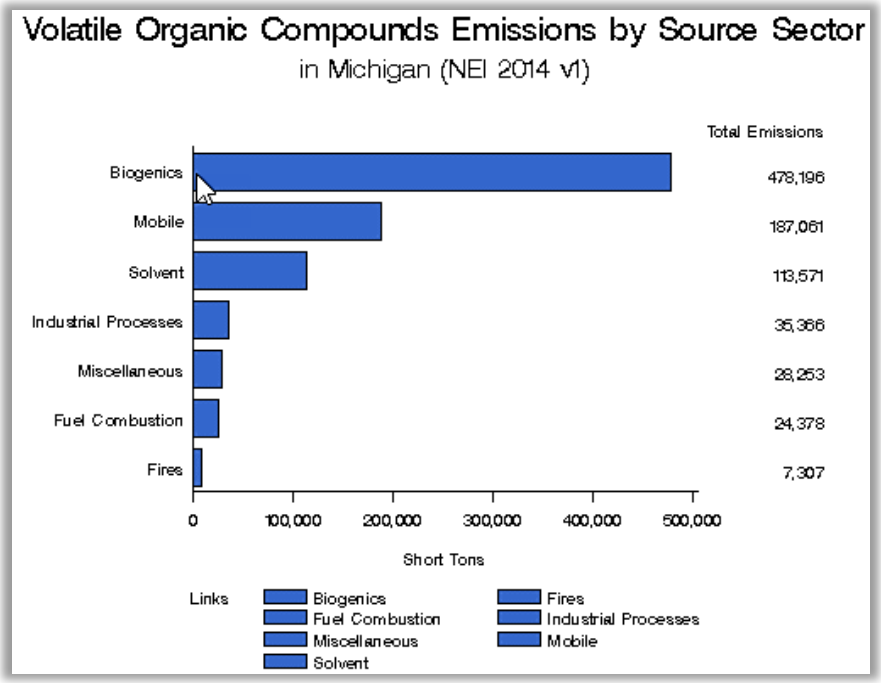


Figure 6.3: VOC Emissions in 2014

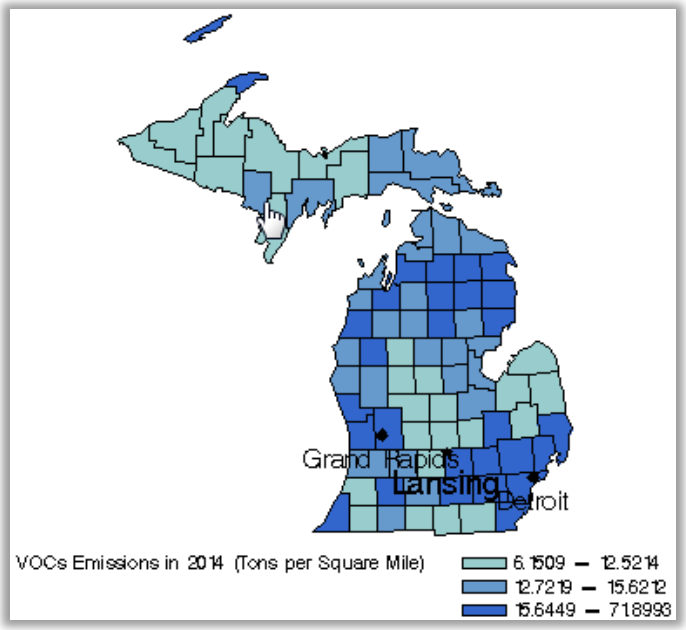


Figure 6.4 shows all O_3 air quality monitors active in Michigan at the beginning of the 2019 ozone season.

- Background site monitors: Houghton Lake, Scottville, Seney.
- Transport site monitors: Benzonia, Coloma, Harbor Beach, Holland, Muskegon, Tecumseh.
- Tribal site: Manistee
- Population-oriented monitors: all other sites.

Figure 6.4: Ozone Monitors in 2019

Table 6.1 shows the three-year averages of ozone. The USEPA uses these values (called design values) to determine attainment/nonattainment areas. In 2016, several monitors violated the 2015 standard of 0.070 ppm. The AQD recommended several counties be designated as nonattainment. The USEPA made their final designations for the 2015 standard on April 30, 2018 (effective August 3, 2018) based on 2014-2016 data. Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties were designated nonattainment in Southeast Michigan, and all of Berrien County, and portions of Allegan and Muskegon Counties were designated nonattainment in Western Michigan. In 2019 Berrien County was below the standard and a redesignation request was submitted to the USEPA in January of 2020.

The O_3 monitoring season in Michigan is from March 1 through October 31. During this time O_3 monitoring data is available for the public via the AQD's website (discussed in **Chapter 1**). However, year-round O_3 monitoring is conducted at the following four sites: Allen Park, Grand Rapids, Houghton Lake, and Lansing. This data helps in attainment designations, and urban air quality and population exposure assessments.

Table 6.1: 3-Year Average of the 4th Highest 8-hour Ozone Values from 2015-2017, 2016-2018, 2017-2019 (concentrations in ppm)

Areas	County	Monitor Sites	2015-2017	2016-2018	2017-2019
Detroit-Ann Arbor	Lenawee	Tecumseh	0.066	0.068	0.065
	Macomb	New Haven	**0.071**	**0.072**	0.068
		Warren	0.066	0.069	0.066
	Oakland	Oak Park	0.070	**0.073**	0.070
	St. Clair	Port Huron	**0.071**	**0.072**	**0.071**
	Washtenaw	Ypsilanti	0.067	0.069	0.066
	Wayne	Allen Park	0.066	0.068	0.066
		E. 7 Mile	**0.073**	**0.074**	**0.072**
Flint	Genesee	Flint	0.067	0.068	0.064
		Otisville	0.067	0.068	0.063
Grand Rapids	Ottawa	Jenison	0.068	0.070	0.067
	Kent	Grand Rapids	0.068	0.070	0.066
		Evans	0.067	0.068	0.064
Muskegon Co	Muskegon	Muskegon	**0.074**	**0.076**	**0.074**
Allegan Co	Allegan	Holland	**0.073**	**0.073**	**0.072**
Huron	Huron	Harbor Beach	0.067	0.068	0.064
Kalamazoo-Battle Creek	Kalamazoo	Kalamazoo	0.069	**0.071**	0.066
Lansing-East Lansing	Ingham	Lansing	0.067	0.068*	0.063
	Clinton	Rose Lake	0.066*	0.069*	0.062
Benton Harbor	Berrien	Coloma	**0.073**	**0.073**	0.069
Benzie Co	Benzie	Benzonia	0.065	0.068	0.063
Cass Co	Cass	Cassopolis	**0.072**	**0.074**	0.070
Mason Co	Mason	Scottville	0.068	0.068	0.063
Missaukee Co	Missaukee	Houghton	0.066	0.067	0.062
Manistee Co	Manistee	Manistee	0.067	0.066	0.064
Schoolcraft Co	Schoolcraft	Seney	0.067	0.064	0.059

Numbers in bold indicate 3-year averages over the 2015 ozone standard of 0.070 ppm.

*The three-year average is using data averaged from sites that were moved.

Tables 6.2 and 6.3 highlight the number of days when two or more O_3 monitors exceeded 0.070 ppm. It also specifies in which month they occurred and the temperature range.

Table 6.2: 2019 West Michigan Ozone Season

Daily High Temperature Range			2019 WEST MICHIGAN OZONE SEASON															
			March		April		May		June		July		August		September		October	
					Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days
	>=	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	<=	94	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	0
85	<=	89	0	0	0	0	0	0	4	0	9	0	10	0	3	0	0	0
80	<=	84	0	0	0	0	0	0	7	0	12	0	11	0	7	0	0	0
75	<=	79	0	0	1	0	7	0	8	0	3	0	5	0	3	0	1	0
70	<=	74	0	0	3	0	6	0	6	0	0	0	5	0	9	0	3	0
65	<=	69	0	0	5	0	6	0	3	0	0	0	0	0	7	0	6	0
60	<=	64	1	0	5	0	3	0	2	0	0	0	0	0	1	0	3	0
55	<=	59	3	0	3	0	7	0	0	0	0	0	0	0	0	0	6	0
50	<=	54	2	0	4	0	1	0	0	0	0	0	0	0	0	0	8	0
49	<=		25	0	9	0	1	0	0	0	0	0	0	0	0	0	4	0
Totals			31	0	30	0	31	0	30	0	31	2	31	0	30	0	31	0

Days: Number of days during month when the daily high temperature falls within the specified temperature range.
O_3 Days: Number of days, during specified temperature range, when two or more area monitors exceeded 70 ppb.

For West Michigan, there were two O_3 exceedance days in July when ozone exceeded 0.070 ppm at two or more ozone monitors. The temperatures for those days ranged between 90°F and 94°F.

Table 6.3: 2019 Southeast Michigan Ozone Season

Daily High Temperature Range			2019 SOUTHEAST MICHIGAN OZONE SEASON															
			March		April		May		June		July		August		September		October	
					Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days	Days	O_3 Days
	>=	95	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
90	<=	94	0	0	0	0	0	0	2	0	8	1	0	0	0	0	0	0
85	<=	89	0	0	0	0	1	0	3	1	10	0	9	0	5	0	1	0
80	<=	84	0	0	0	0	3	0	3	0	10	0	12	0	2	0	0	0
75	<=	79	0	0	0	0	2	0	12	0	2	0	8	0	11	0	0	0
70	<=	74	0	0	3	0	6	0	6	0	0	0	2	0	8	0	6	0
65	<=	69	1	0	5	0	9	0	2	0	0	0	0	0	3	0	4	0
60	<=	64	1	0	3	0	4	0	2	0	0	0	0	0	1	0	9	0
55	<=	59	1	0	6	0	1	0	0	0	0	0	0	0	0	0	6	0
50	<=	54	3	0	4	0	5	0	0	0	0	0	0	0	0	0	3	0
49	<=		25	0	9	0	0	0	0	0	0	0	0	0	0	0	2	0
Totals			31	0	30	0	31	0	30	1	31	1	31	0	30	0	31	0

Days: Number of days during month when the daily high temperature falls within the specified temperature range.
O_3 Days: Number of days, during specified temperature range, when two or more area monitors exceeded 70 ppb.

For Southeast Michigan, there was one day each in June and July when ozone exceeded 0.070 ppm at two or more ozone monitors. The temperature for those days ranged between 85°F and 94°F.

Table 6.4 gives a breakdown of the O_3 days and the specific monitors that went over the standard in western, central/upper, and eastern Michigan in 2019.

Table 6.4: Monitors with 8-Hour Exceedances (>0.070 ppm) of the Ozone Standard

Date	Western Michigan	Central / Upper Michigan	Eastern Michigan	Total
6/27/2019	Manistee		E. Seven Mile, Oak Park	3
7/1/2019			E. 7 Mile	1
7/2/2019	Coloma, Holland			2
7/5/2019	Holland			1
7/10/2019	Coloma, Holland, Muskegon		E. 7 Mile, New Haven, Port Huron	6
7/15/2019			Oak Park	1
7/27/2019			Port Huron	1
7/28/2019	Holland			1
8/12/2019			Port Huron	1
			TOTAL	**17**

On July 10, 2019, there were 6 monitors and on June 27, 2019, there were 3 monitor readings that exceeded the level of the standard. The site with the most exceedances in the western region of Michigan was Holland with four. The central/upper Michigan sites had no exceedances. Port Huron and E. 7 Mile had 3 exceedances each in eastern Michigan

Figure 6.5 shows the 4th highest 8-hour O_3 values for Southeast Michigan monitoring sites from 2014-2019. Detroit-E. 7 Mile and Port Huron site violated the 3-year standard.

Figure 6.6 shows the 4th highest 8-hour O_3 values for Grand Rapids-Muskegon-Holland CSA. Muskegon and Holland violated the 3-year standard.

Figure 6.7 shows 4th highest 8-hour O_3 values for mid-Michigan. Coloma and Kalamazoo violated the 3-year standard.

Figure 6.8 shows 4th highest 8-hour O_3 values for Northern Lower and Upper Peninsula. No sites violated the 3-year standard.

Figure 6.5: O_3 Levels in Detroit-Warren-Flint CSA from 2014-2019 - (4th Highest 8-Hour O_3 Values).

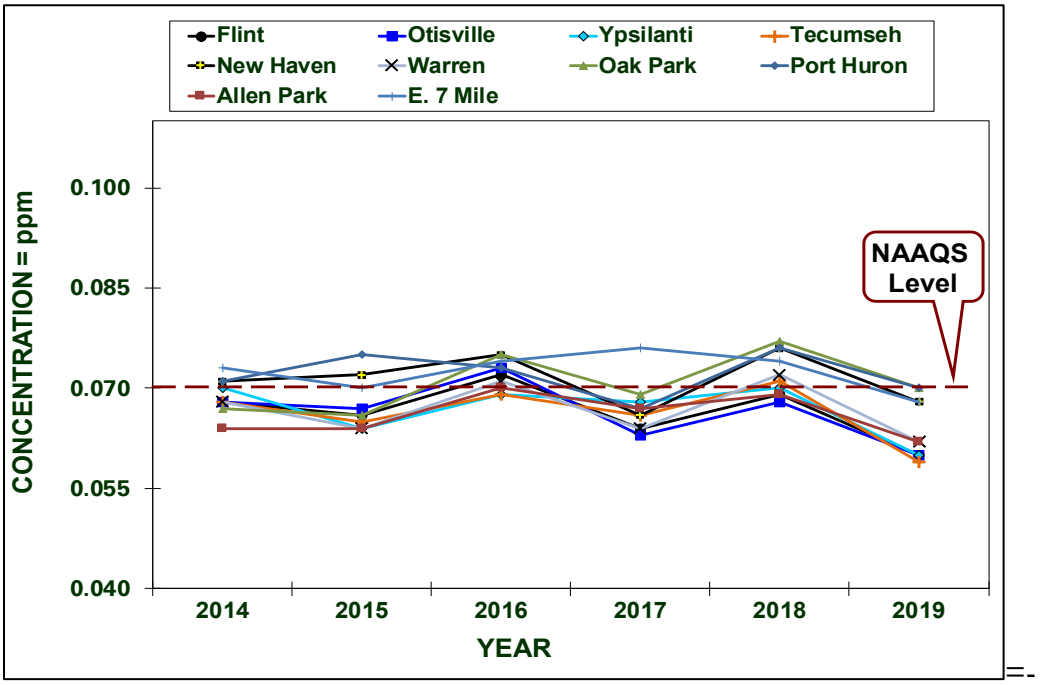


Figure 6.6: O_3 Levels in the Grand Rapids-Muskegon-Holland CSA from 2014-2019 (4th Highest 8-Hour O_3 Values)

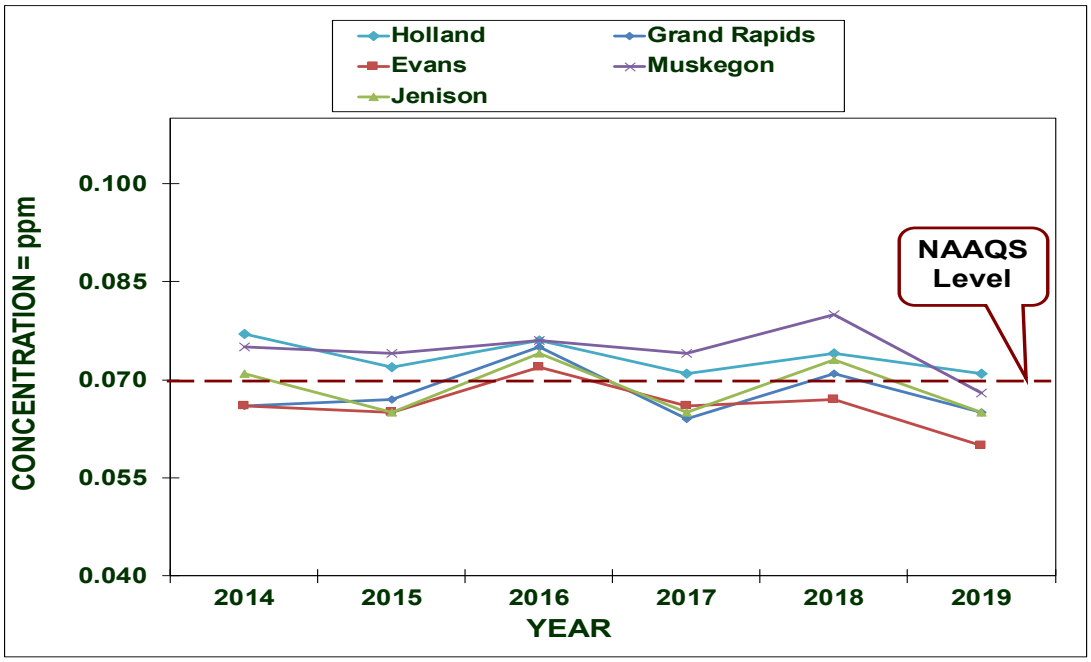


Figure 6.7: O_3 Levels in the Kalamazoo-Portage MSA, Lansing-E. Lansing-Owosso CSA, Niles-Benton Harbor MSA, & South Bend-Mishawaka (IN-MI) MSAs from 2014-2019 (4th Highest 8-Hour O_3 Values)

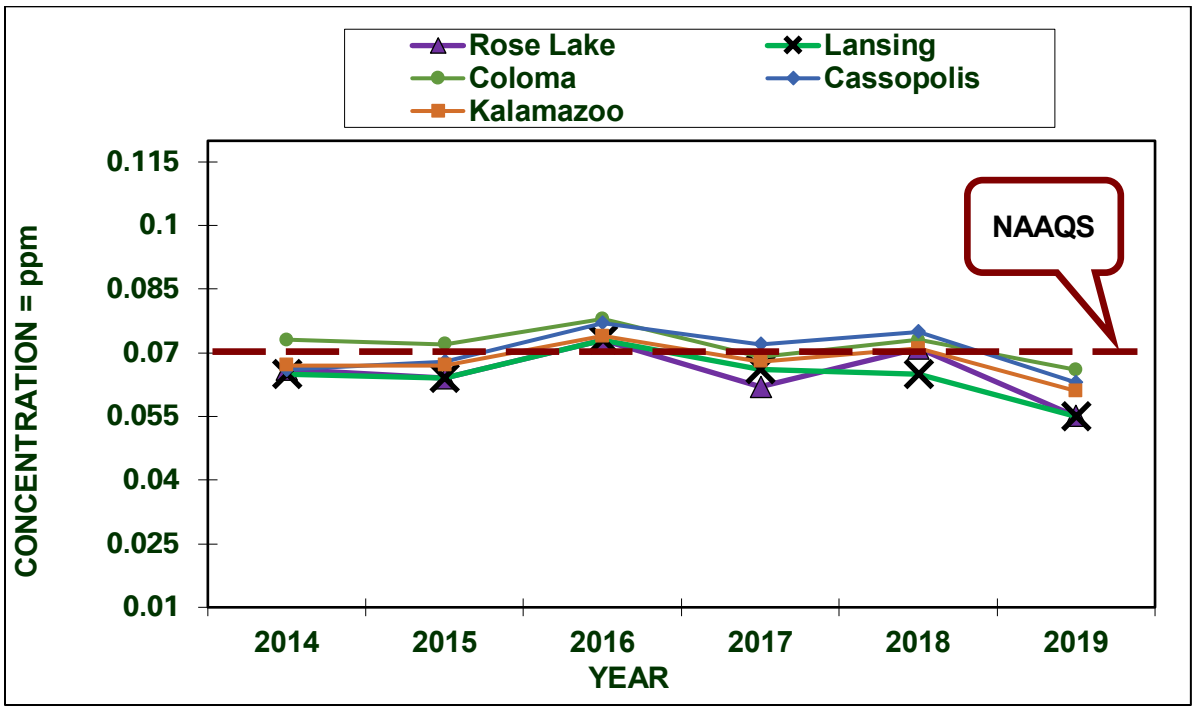
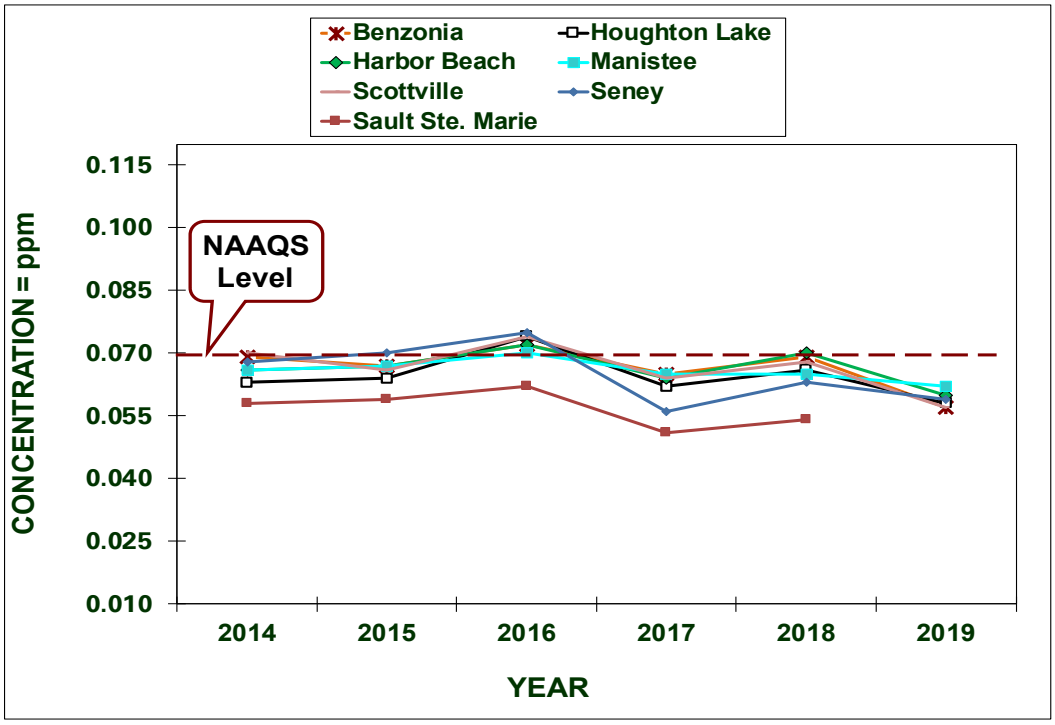
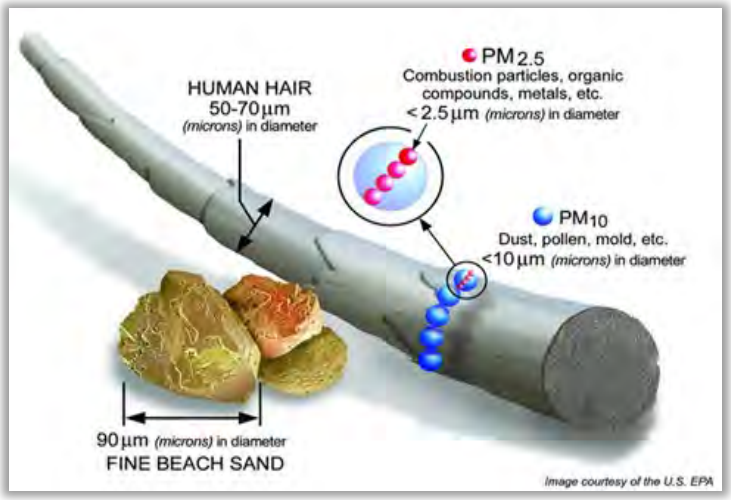


Figure 6.8: O_3 Levels in MI's Northern Lower and Upper Peninsula Areas from 2014-2019 (4th Highest 8-Hour O_3 Values)



CHAPTER 7: PARTICULATE MATTER (PM_{10}, $PM_{10-2.5}$, $PM_{2.5}$, $PM_{2.5}$ CHEMICAL SPECIATION AND TSP)

Particulate matter (PM) is a general term used for a mixture of solid particles and liquid droplets (aerosols) found in the air. These are further categorized according to size; larger particles with diameters of less than 50 micrometers (µm) are classified as total suspended particulates (TSP). PM_{10} consists of "coarse particles" less than 10 µm in diameter (about one-seventh the diameter of a human hair) and $PM_{2.5}$ are much smaller "fine particles" equal to or less than 2.5 µm in diameter. PM_{10} has a 24-hour average standard of 150 µg/m^3 not to be exceeded more than once per year over 3 years. $PM_{2.5}$ has an annual average standard of 12 µg/m^3, and a 98th percentile 24-hour concentration of 35 µg/m^3 averaged over 3 years. The sources and effects of PM are as follows:



Sources: PM can be emitted directly (primary) or may form in the atmosphere (secondary). Most man-made particulate emissions are classified as TSP. PM_{10} consists of primary particles that can originate from power plants, various manufacturing processes, wood stoves and fireplaces, agriculture and forestry practices, fugitive dust sources (road dust and windblown soil), and forest fires. $PM_{2.5}$ can come directly from primary particle emissions or through secondary reactions that include VOCs, SO_2, and NO_X emissions originating from power plants, motor vehicles (especially diesel trucks and buses), industrial facilities, and other types of combustion sources.

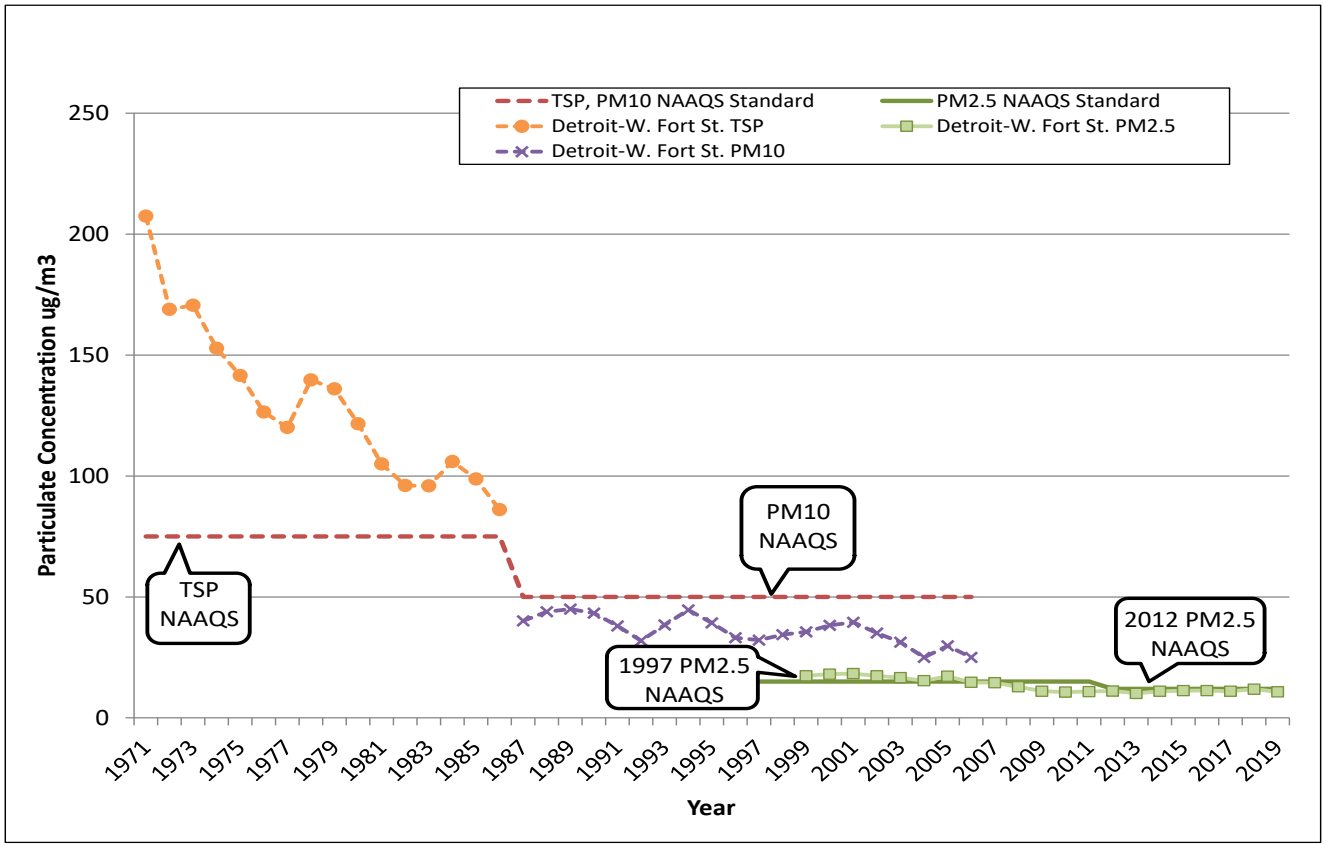
Effects: Exposure to PM can aggravate existing cardiovascular ailments and even cause death in susceptible populations. PM may affect breathing and the cellular defenses of the lungs and has been linked with heart and lung disease. Smaller particles (PM_{10} or smaller) pose the greatest problems, because they can penetrate deep in the lungs and possibly into the bloodstream. PM is the major cause of reduced visibility in many parts of the United States. $PM_{2.5}$ is considered a primary visibility-reducing component of urban and regional haze. Airborne particles impact vegetation ecosystems and damage paints, building materials and surfaces. Deposition of acid aerosols and salts increases corrosion of metals and impacts plant tissue.

Population most at risk: People with heart or lung disease, the elderly, and children are at highest risk from exposure to PM.

Historical Trends: Southeast Michigan has been monitoring for particulate for over 40 years. **Figure 7.1** shows the trends for particulate matter. In 1971, the USEPA promulgated an annual and 24-hour particulate standard based on total suspended particulates (TSP). In 1987, the USEPA changed the standard to PM_{10}. Health studies indicated that particles smaller than 10 microns affect respiration. In 1997, the USEPA added additional NAAQS for a smaller particle fraction size, $PM_{2.5}$, which can get deeper into the lungs and possibly into the blood stream. In 2006, the USEPA revoked the PM_{10} annual standard but kept the PM_{10} 24-hour standard. The $PM_{2.5}$ 24-hour standard was also reduced from 65 µg/m^3 to 35 µg/m^3. In 2012, the USEPA reduced the annual standard from 15 µg/m^3 to 12 µg/m^3.

Particulate trends show that particulate concentrations have decreased, and the state is in compliance for all particulate NAAQS; however, Michigan has had past nonattainment issues in Southeast Michigan for TSP, PM_{10} and $PM_{2.5}$.

Figure 7.1: Historical Annual Particulate Matter at W. Fort St. (SWHS)



PM_{10}

Figures 7.2 and **7.3** show PM_{10} emission sources and PM_{10} emissions by county (courtesy of the USEPA's State and County Emission Summaries).

Figure 7.2: PM_{10} Emissions by Source Sector

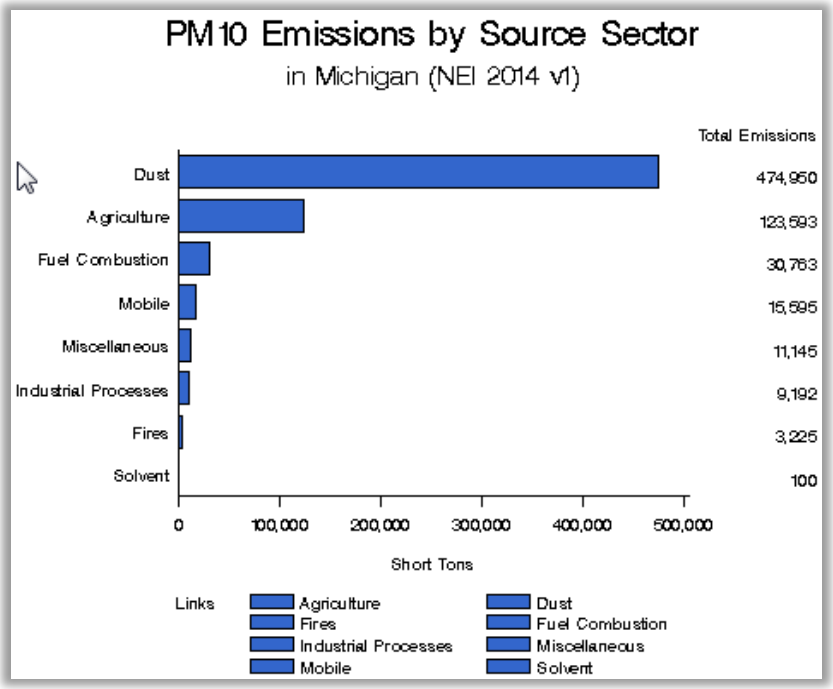
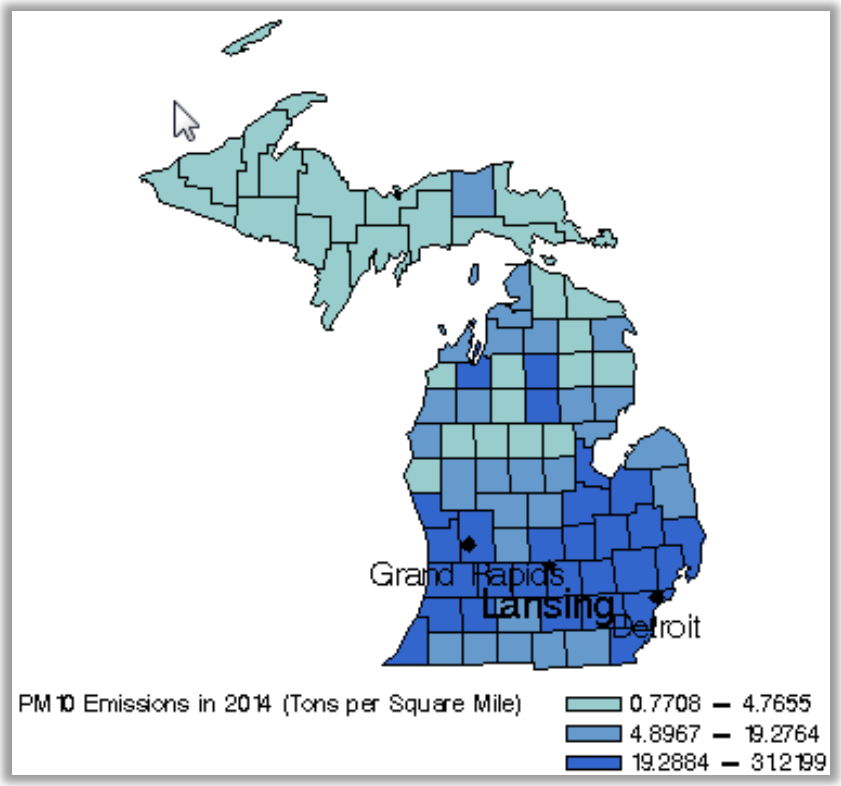


Figure 7.3: PM_{10} Emissions in 2014



Since October 1996, all areas in Michigan have been in attainment with the PM_{10} NAAQS. Due to the recent focus upon $PM_{2.5}$ and because of the relatively low concentrations of PM_{10} measured in recent years, Michigan's PM_{10} network has been reduced to a minimum level. Table 1-3 identifies the locations of PM_{10} monitoring stations that were operating in Michigan during 2016. These monitors are located mostly in the state's largest populated urban areas: three in the Detroit area and two in Grand Rapids. To better characterize the nature of particulate matter in Michigan, many of the existing PM_{10} monitors are co-located with $PM_{2.5}$ monitors in population-oriented areas.

Figure 7.4 shows the location of each PM_{10} monitor. All PM_{10} monitors are population-oriented monitors. A second PM_{10} monitor was added to the Grand Rapids area in Jenison (**Figure 7.5**) based on the USEPA's population requirements.

Figure 7.4: PM_{10} Monitors in 2019

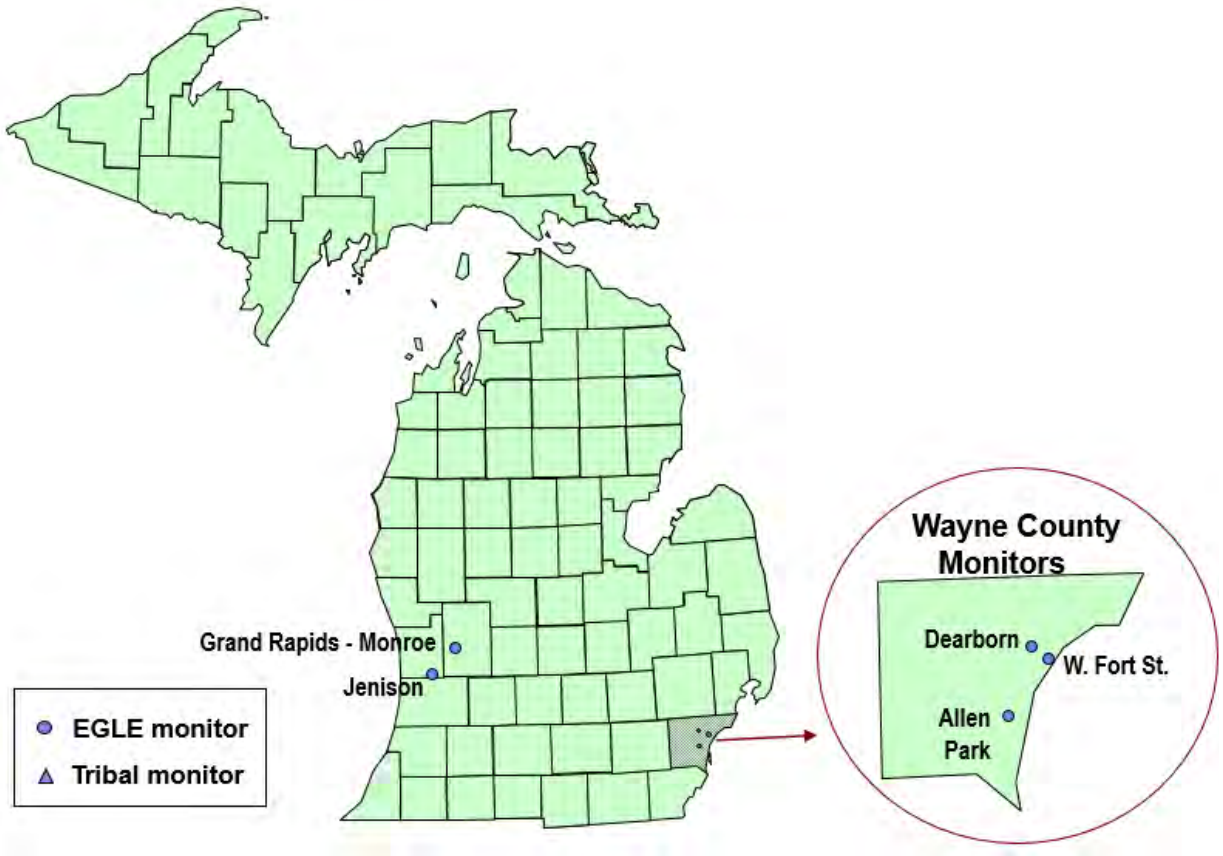
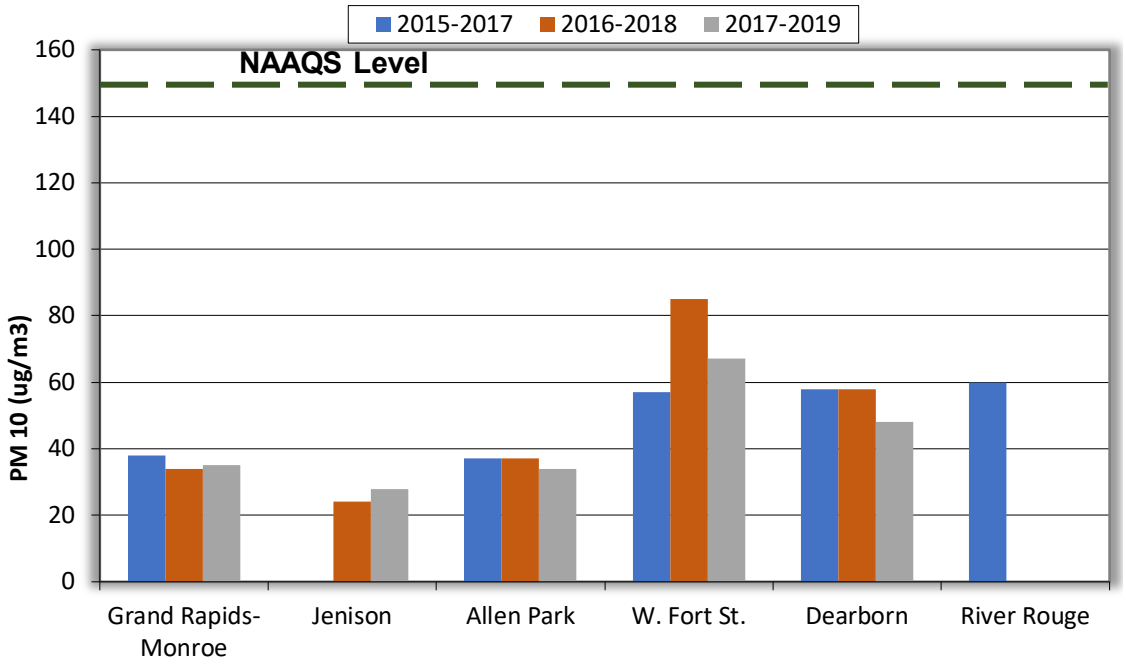


Figure 7.6 shows the PM_{10} levels in Michigan compared to the 24-hour average NAAQS of 150 µg/m^3. This standard must not be exceeded on average more than once per year over a 3-year period. The design value is the 4th highest value over a 3-year period. The PM_{10} levels at all sites in Michigan are well below the national standard.

Figure 7.6: 24-Hour PM_{10} Design Value

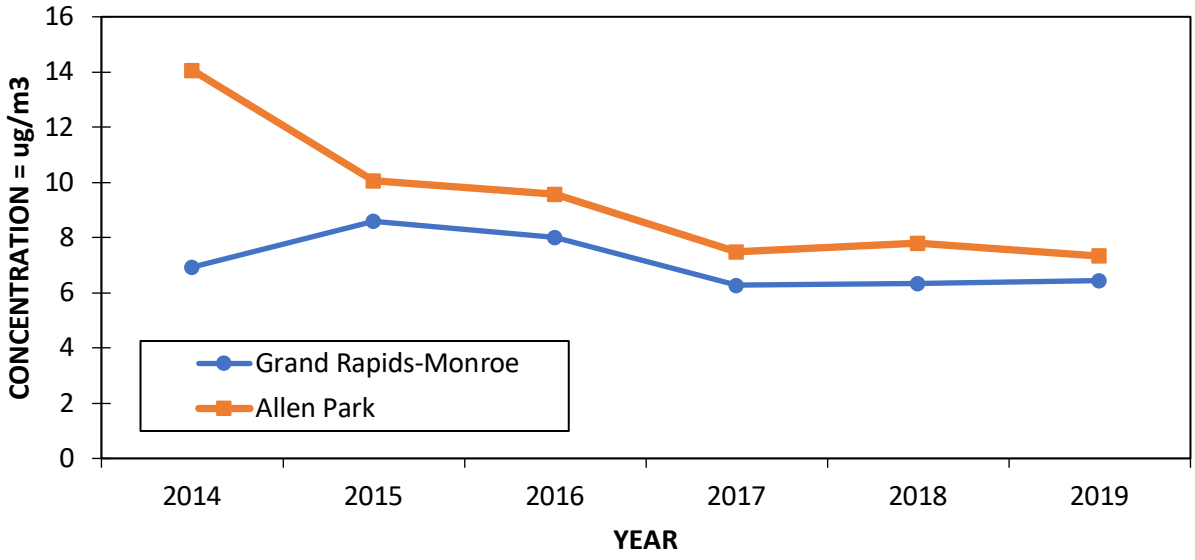


$PM_{10-2.5}$

The 2006 amended air monitoring regulations specified that measurements of PM course ($PM_{10-2.5}$) needed to be added to the NCore sites.[5] EGLE began PM course monitoring at Allen Park and Grand Rapids-Monroe Street in 2010. **Figure 7.7** shows the $PM_{10-2.5}$ levels in Michigan.

[5] Current information can be found at www3.epa.gov/ttn/amtic/ncoreguidance.html.

Figure 7.7: PM Coarse Levels in Michigan from 2014-2019 (Annual Arithmetic Mean)



$PM_{2.5}$

In December 2012, the USEPA revised the annual primary standard to 12 µg/m³ while the annual secondary standard remained at 15 µg/m³. The primary and secondary 24-hour standard remained at 35 µg/m³. In December 2014, the USEPA determined that no area in Michigan violated the 2012 standard and the state was classified as unclassifiable/attainment.

Figures 7.8 and **7.9** show $PM_{2.5}$ emission sources and $PM_{2.5}$ emissions by county (from the USEPA's State and County Emission Summaries).

Figure 7.8: $PM_{2.5}$ Emissions by Source Sector

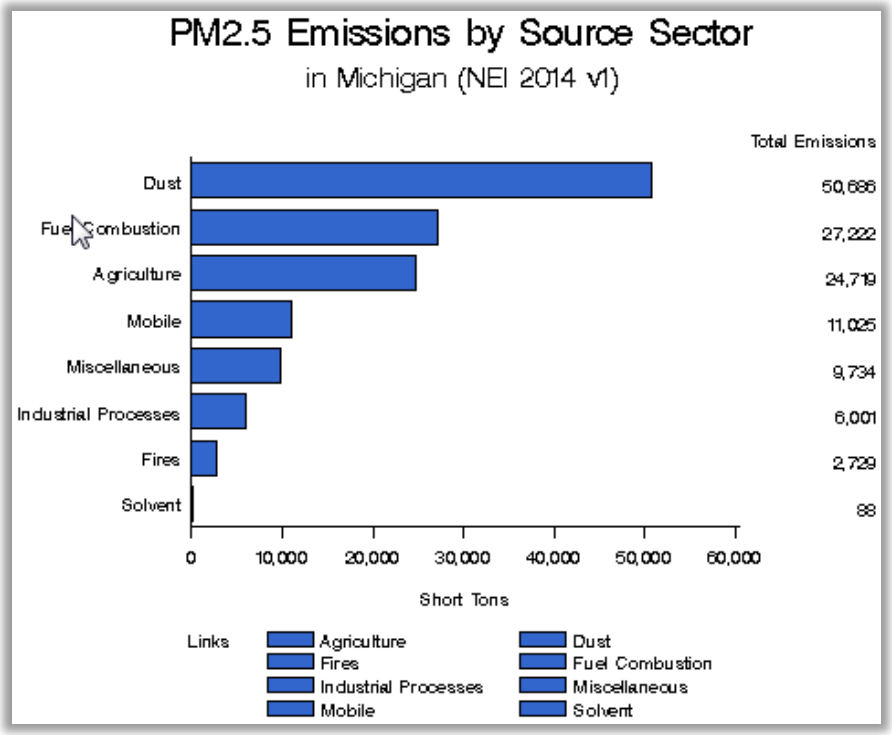
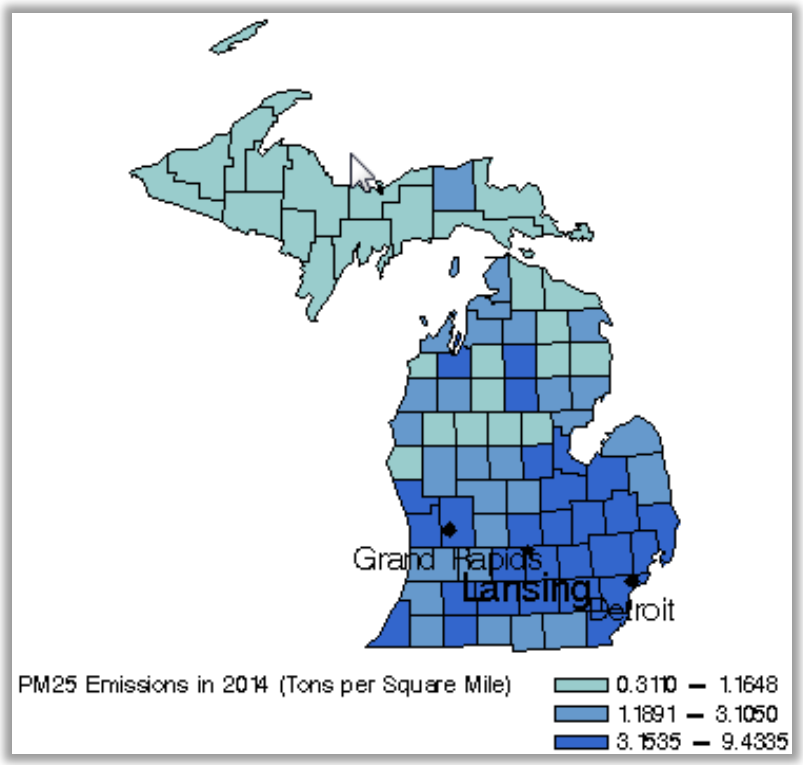


Figure 7.9: $PM_{2.5}$ Emissions in 2014



Fine particulate matter ($PM_{2.5}$) is measured using three techniques: a filter-based Federal Reference Method (FRM), Continuous Methods, and Chemical Speciation Methods. These methods are described in more detail in Appendix A.

Figure 7.10 shows the location of each $PM_{2.5}$ monitor.

$PM_{2.5}$ FRM Monitoring Network: $PM_{2.5}$ FRM filter-based monitors are deployed to characterize background or regional $PM_{2.5}$ transport collectively from upwind sources as well as population-oriented sites. Several changes occurred in the FRM network in 2019.

- Loss of site access shut down: Livonia Near-road and Livonia was shut down July 2019, but a suitable replacement site for the near-road site has not been found yet.
- Monitors shut down: Livonia, Linwood, Wyandotte, and Eliza Howell-downwind were shut down to reduce costs and workload. Eliza Howell-downwind also is not required for near-road monitoring. Sault Ste. Marie was shutdown February 2019 due to funding.
- Collocation sites: Five $PM_{2.5}$ FRM monitoring sites are co-located with PM_{10} monitors to allow for $PM_{2.5}$ and PM_{10} comparisons.[6] Co-located PM_{10} and $PM_{2.5}$ sites include Grand Rapids-Monroe, Dearborn, Allen Park, Detroit's W. Fort Street (SWHS), and newly added site, Jenison.
- Change in sampling frequency: The sampling frequency at Allen Park was reduced from daily to 1 in 3-day sampling.
- Switched FRMs to BAMs: Houghton Lake and Tecumseh were switched to BAMs since the USEPA is reducing the funding for FRMs.

Figure 7.10: $PM_{2.5}$ Monitors in 2019

[6] Requirements for $PM_{2.5}$ FRM sites are obtained from the Revised Requirements for Designation of Reference and Equivalent Methods for $PM_{2.5}$ and Ambient Air Quality Surveillance for PM [62 FR 38763]; Guidance for Using Continuous Monitors in $PM_{2.5}$ Monitoring Networks [EPA-454/R-98-012, May 1998]; and Appendix N to Part 50 - Interpretation of the National Ambient Air Quality Standards for PM [40 CFR Part 50, July 1, 1998].

Continuous $PM_{2.5}$ Network: Short-term measurements of $PM_{2.5}$ or PM_{10} are updated on an hourly basis using TEOM or BAM instruments. At least one continuous monitor is required at the NCore $PM_{2.5}$ monitoring site in a metropolitan area with a population greater than one million. Both Detroit (Allen Park) and Grand Rapids (Monroe) meet this requirement.[7] Under the revised 2006 air monitoring regulations, 50 percent of the FRM monitoring sites are now required to have a continuous $PM_{2.5}$ monitor. For Michigan, there are 22 FRM monitoring sites, 12 of which also had TEOMs or BAMs.

- BAMs replaced TEOMS: Tecumseh and Houghton Lake stopped running the FRMs on January 1, 2019 and the BAMs will be used for NAAQS comparison. Seney was formerly running a TEOM and by changing it to a BAM, it will be used for NAAQS comparison in the Upper Peninsula of Michigan starting January 1, 2019. The Sault Ste. Marie tribal monitor site, also in the Upper Peninsula was running a BAM until February 2019 when funding was discontinued at that site. A BAM replaced the TEOM at Ypsilanti but continues to be collocated with an FRM.
- GHB project: DP4th Precinct, Trinity, and Military Park; also, the $PM_{2.5}$ BAM monitor was added to Detroit-W. Fort St. as a special project for the Gordie Howe International Bridge construction.

Speciation Monitors: Speciation monitors consist of filter-based, 24-hour monitors and continuous speciation aethalometers. Continuous monitors are used to determine diurnal changes in $PM_{2.5}$ composition.

- 24-hour speciation monitors: Allen Park and Grand Rapids (NCore sites), Dearborn (NATTS site), and Detroit-W. Fort St. The Tecumseh speciation monitor was shut down in 2019. These monitors are placed in population-oriented stations in both urban and rural locations. $PM_{2.5}$ chemical speciation samples are collected over a 24-hour period and analyzed to determine various components of $PM_{2.5}$. The primary objectives of the chemical speciation monitoring sites are to provide data that will be used to determine sources of poor air quality and to support the development of attainment strategies. Historical speciation data for Michigan indicates that $PM_{2.5}$ is made up of 30 percent nitrate compounds, 30 percent sulfate compounds, 30 percent organic carbon,[8] and 10 percent unidentified or trace elements.
- Aethalometers: Allen Park, Dearborn, and the GHB project (DP4th Precinct, Trinity, Military Park, and Detroit-W. Fort St. started in 2018). These continuous monitors measure black carbon, a combustion by-product typical of transportation sources.

Figure 1.3 in Chapter 1 shows all of Michigan's $PM_{2.5}$ FRM monitoring stations operating in 2019 and denotes which sites have TEOM, BAM, Speciation, or Aethalometer monitors in operation.

[7] Under the Guidance for Using Continuous Monitors in $PM_{2.5}$ Monitoring Networks [EPA-454/R-98-012, May 1998].
[8] To better understand the chemical composition of the organic carbon fraction, several studies have been conducted in Southeast Michigan to further investigate organic carbon. Information can be found in the Michigan 2012 Ambient Air Monitoring Network Review, available at http://www.michigan.gov/documents/deq/deq-aqd-aqe-2012-Air-Mon-Network-Review_357137_7.pdf

Table 7.1 provides the design value, the 3-year average of the annual mean $PM_{2.5}$ concentrations for 2017-2019. Michigan's levels are below the 12 µg/m^3 primary standard.[9]

Stations labeled #2 provide a precision estimate of the overall measurement and operate on a one-in-six sampling schedule. All other monitors are sampled on a one-in-three-day schedule. Allen Park samples daily but was switched to a one-in-three-day schedule in July 2019.

Table 7.1: 3-Year Average of the Annual Mean $PM_{2.5}$ Concentrations

Areas	County	Monitoring Sites	2017	2018	2019	2017-2019 Mean
Detroit-Ann Arbor	Lenawee	Tecumseh	7.34	7.96	8.50	8.1
	Livingston					
	Macomb	New Haven	7.41	7.82	7.30	7.5
	Oakland	Oak Park	8.11	8.27	7.74	8.0
	St. Clair	Port Huron	8.01	8.09	7.64	7.9
	Washtenaw	Ypsilanti #1	7.93	8.35	8.33	8.2
		Ypsilanti #2	8.32	8.81	7.57	8.2
	Wayne	Allen Park	8.47	9.14	8.69	8.8
		Detroit-Linwood	8.99	8.86		8.9
		Detroit-E. 7 Mile	7.88	8.40	7.61	8.0
		Detroit-W. Fort St.	11.01	11.89	10.76	11.2
		Detroit-W. Lafayette	7.93*	8.87*		8.4
		Wyandotte	7.18	8.02		7.6
		Dearborn #1	10.57	10.80	9.90	10.4
		Dearborn #2	10.82	11.06	9.08	10.3
		Livonia	7.98	7.45*		7.9
		Livonia-Roadway	7.60	9.10	8.36*	8.3
Flint	Genesee	Flint	7.10	7.33	6.81	7.3
	Lapeer					
Grand Rapids	Ottawa	Jenison		8.32*	8.30	8.3
	Kent	Grand Rapids-Wealthy	9.15			9.0
		Grand Rapids #1	8.12	8.45	8.20	8.2
		Grand Rapids #2	8.31	8.93	7.2*	8.2
Allegan Co	Allegan	Holland	7.49	7.61	7.15	7.4
Monroe Co	Monroe	Luna Pier				
		Sterling State Park	7.71			7.7
Kalamazoo-Battle Creek	Calhoun					
	Kalamazoo	Kalamazoo #1	8.03	8.47	7.35*	7.9
		Kalamazoo #2	8.36	8.68	6.83	8.0
	Van Buren					
Lansing-East Lansing	Ingham	Lansing	7.23	7.73**	7.27*	7.5*
	Clinton					
	Eaton					
Benton Harbor	Berrien	Coloma	7.99			7.7
Bay Co	Bay	Bay City	6.75	7.15	6.78	6.9
Missaukee Co	Missaukee	Houghton Lake	4.81	5.42	5.8*	5.4
Manistee Co	Manistee	Manistee	5.84	6.13	4.93*	5.6
Schoolcraft Co	Schoolcraft	Seney		4.1*	4.30	4.2
Chippewa Co	Chippewa	Sault Ste. Marie #1	6.10*			6.1*

*Indicates the site does not have a complete year of data.

**Indicates site was moved during the year and concentrations were averaged together for both locations

[9] For comparison to the standard, the average annual means is rounded to the nearest 0.1 µg/m^3.

Table 7.2 provides the 24-hour 98th percentile $PM_{2.5}$ concentrations for 2017-2019 showing Michigan's levels are below the 35 µg/m³ standard (3-year average).[10]

Table 7.2: 24-Hour 98th Percentile $PM_{2.5}$ Values Averaged over 3 Years

Areas	County	Monitoring Sites	2017	2018	2019	2017-2019 Mean
Detroit-Ann Arbor	Lenawee	Tecumseh	17.5	23.4	22.1	21
	Livingston					
	Macomb	New Haven	17.0	18.9	18.7	18
	Oakland	Oak Park	20.1	20.1	18.2	19
	St. Clair	Port Huron	19.2	19.6	20.3	20
	Washtenaw	Ypsilanti #1	18.8	21.3	21.2	20
		Ypsilanti #2	19.0	19.1	22.9	20
	Wayne	Allen Park	21.8	22.8	20.0	22
		Detroit-Linwood	25.0	18.6		22
		Detroit-E. 7 Mile	16.6	21.5	19.6	19
		Detroit-W. Fort St.	30.0	28.1	22.5	27
		Detroit-W. Lafayette	19.5	26.9		23
		Wyandotte	19.3	20.4		20
		Dearborn #1	24.5	26.1	24.0	25
		Dearborn #2	23.5	26.6	24.2	25
		Livonia	19.1	18.1		19
		Livonia-Roadway	19.0	29.0	22.8*	24
Flint	Genesee	Flint	16.8	16.9	17.5	17
	Lapeer					
Grand Rapids	Ottawa	Jenison		22.3	24.4	23
	Kent	Grand Rapids-Wealthy	26.2			24
		Grand Rapids #1	22.6	18.9	23.2	22
		Grand Rapids #2	22.8	26.5	18.9	23
Allegan Co	Allegan	Holland	24.6	21.2	18.2	21
Monroe Co	Monroe	Luna Pier				
		Sterling State Park	20.5			21
Kalamazoo-Battle Creek	Calhoun					
	Kalamazoo	Kalamazoo #1	22.6	19.1	16.9	20
		Kalamazoo #2	22.5	19.1	15.8	19
	Van Buren					
Lansing-East Lansing	Ingham	Lansing	17.1	19.5**	22.3*	20
	Clinton					
	Eaton					
Benton Harbor	Berrien	Coloma	26.2			26
Bay Co	Bay	Bay City	22.4	17.8	17.5	19
Missaukee Co	Missaukee	Houghton Lake	14.9	16.2	15.1	15
Manistee Co	Manistee	Manistee	19.2	16.9	14.9	17
Schoolcraft Co	Schoolcraft	Seney		19*	14.3	17
Chippewa Co	Chippewa	Sault Ste. Marie #1	8.3*			8

*Indicates the site does not have a complete year of data.

**Indicates site was moved during the year and concentrations were averaged together for both locations.

[10] The 98th percentile value was obtained from the USEPA AQS. To comparing calculated values, the 3-year 24-hour average is rounded to the nearest 1 µg/m³.

Figures 7.11 through **7.14** illustrate the current annual mean $PM_{2.5}$ trend for each monitoring site in Michigan. For clarity, the monitoring sites within the Detroit-Warren-Flint CSA have been broken down into two graphs.

Figure 7.11 shows the 2019 levels in Wayne County remained below the $PM_{2.5}$ NAAQS standard. Historically, Dearborn has had the highest concentrations in the state, but W. Fort St. now has the highest concentrations. All sites are below the annual $PM_{2.5}$ NAAQS standard. The Gordie Howe International Bridge sites are included in these graphs.

Figure 7.12 contains the remainder of those sites in the Detroit-Warren-Flint CSA that are outside of Wayne County. These sites also show readings in 2019 are below the $PM_{2.5}$ NAAQS.

Figure 7.13 combines the $PM_{2.5}$ monitoring sites located in West Michigan-Grand Rapids-Muskegon-Holland CSA, Kalamazoo, and Benton Harbor MSAs. All sites are below the annual $PM_{2.5}$ NAAQS.

Figure 7.14 displays the remaining monitoring sites in the Northern Lower and Upper Peninsula. All sites are below the annual $PM_{2.5}$ NAAQS standard.

Figure 7.11: Detroit-Warren-Flint CSA (Wayne County Only)
Annual Arithmetic Means for $PM_{2.5}$ from 2014-2019

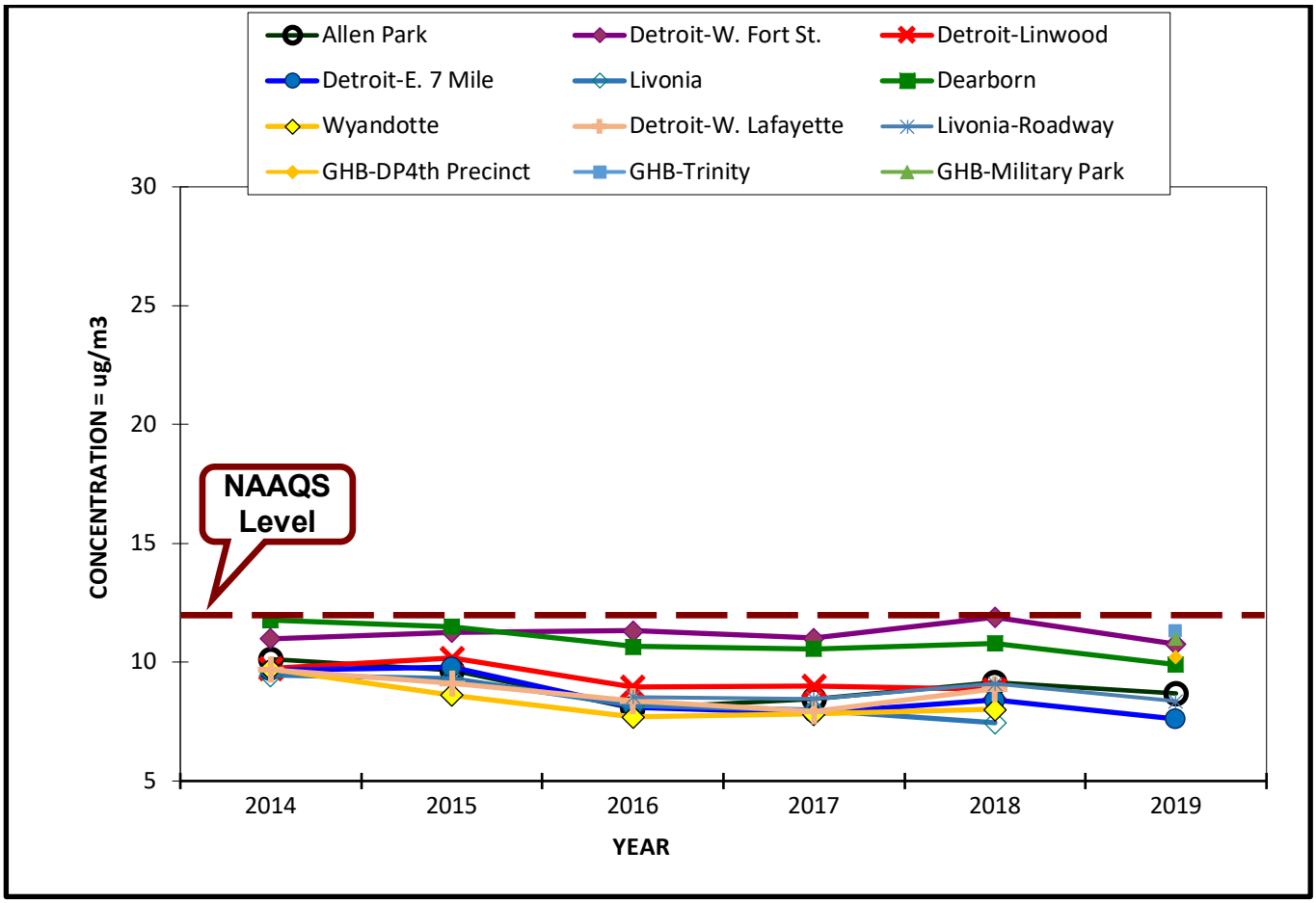


Figure 7.12: Detroit-Warren-Flint CSA (without Wayne County) Annual Arithmetic Means for $PM_{2.5}$ from 2014-2019

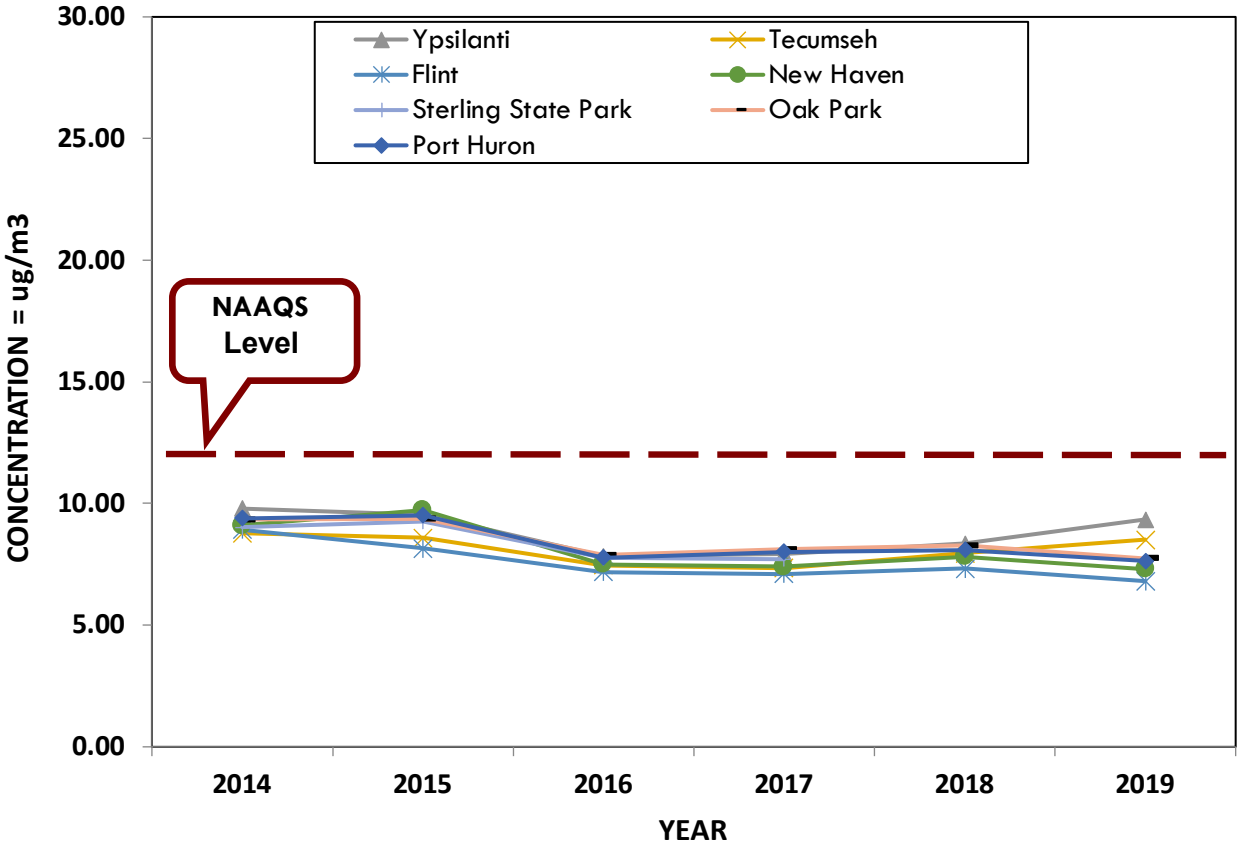


Figure 7.13: West MI - Grand Rapids-Muskegon-Holland CSA, Kalamazoo and Benton Harbor MSAs Annual Arithmetic Means for $PM_{2.5}$ from 2014-2019

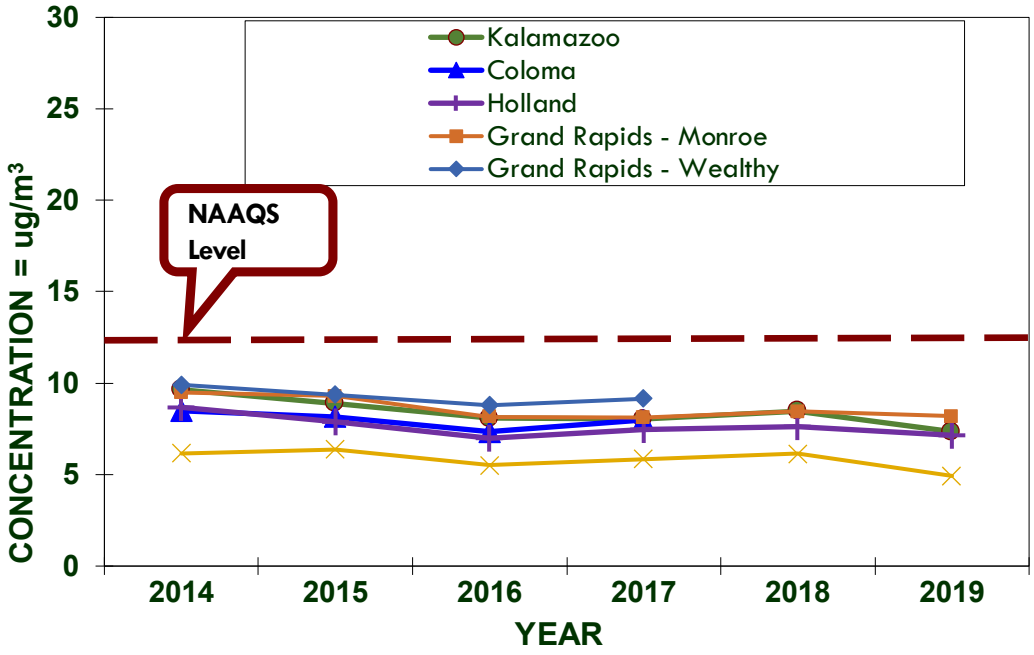
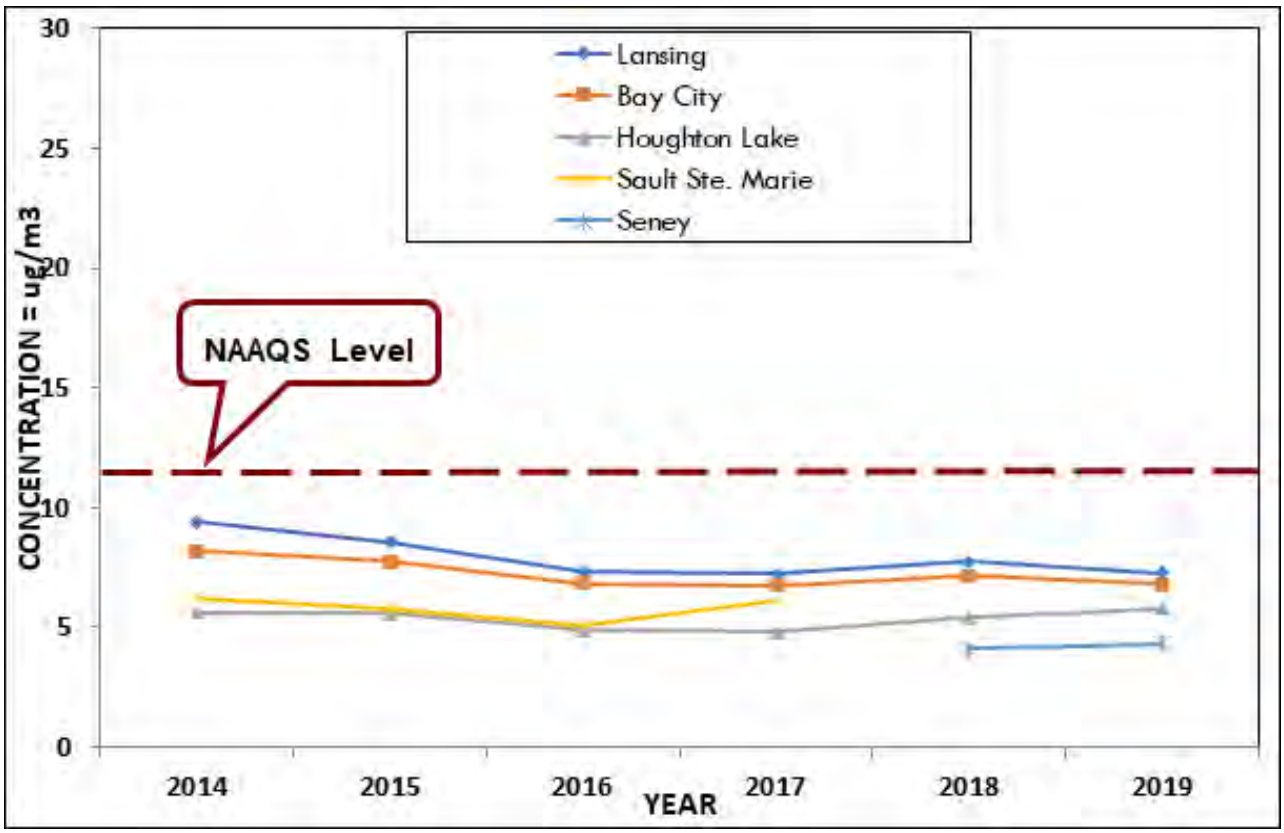


Figure 7.14: Lansing-E. Lansing CSA, Saginaw-Bay City CSA, Cadillac MiSA and Upper Peninsula Annual Arithmetic Means for $PM_{2.5}$ from 2014-2019



CHAPTER 8: TOXIC AIR POLLUTANTS

In addition to the six criteria pollutants discussed in previous chapters, the AQD monitors for a wide variety of substances classified as toxic air pollutants, and/or Hazardous Air Pollutants (HAPs). Under the Clean Air Act, the USEPA specifically addresses a group of 187 HAPs. Under Michigan's air regulations, Toxic Air Contaminants (TACs) are defined as all non-criteria pollutants that may be "*…harmful to public health or the environment when present in the outdoor atmosphere in sufficient quantities and duration.*" The definition of TACs lists 42 substances that are not TACs, indicating that all others are TACs. The sources and effects of toxics are as follows:

Sources: Air toxics come from a variety of mobile, stationary, and indoor man-made sources as well as outdoor natural sources. Mobile sources include motor vehicles, stationary sources include industrial factories and power plants, indoor sources include household cleaners, and natural sources include forest fires and eruptions from volcanoes.

Effects: Once air toxics enter the body, there is a wide range of potential health effects. They include: the aggravation of asthma; irritation to the eyes, nose, and throat; carcinogenicity; developmental toxicity (birth defects); nervous system effects; and various other effects on internal organs. Some effects appear after a shorter period of exposure, while others may appear after long-term exposure or after a long period of time has passed since the exposure ended. Most toxic effects are not unique to one substance, and some effects may be of concern only after the substance has deposited to the ground or to a water body (e.g., mercury, dioxin), followed by exposure through an oral pathway such as the eating of fish or produce. This further complicates the assessment of air toxics concerns due to the broad range of susceptibility that various people may have.

Population most at risk: People with asthma, children, and the elderly are generally at the highest risk for health effects from exposure to air toxics.

Air Toxics can be categorized as:

- **Metals:** Examples include aluminum, arsenic, beryllium, barium, cadmium, chromium, cobalt, copper, iron, mercury, manganese, molybdenum, nickel, lead, vanadium, and zinc.
- **Organic Substances:** Further divided into sub-categories that include -
    - VOCs, include benzene (found in gasoline), perchloroethylene (emitted from some dry-cleaning facilities), and methylene chloride (a solvent and paint stripper used by industry);
    - carbonyl compounds (formaldehyde, acetone, and acetaldehyde);
    - semi-volatile compounds (SVOCs);
    - polycyclic aromatic hydrocarbons (PAHs)/polynuclear aromatic hydrocarbons (PNAs);
    - pesticides and;
    - polychlorinated biphenyls (PCBs).

Other substances: Asbestos, dioxin, and radionuclides such as radon.

Because air toxics are such a large and diverse group of substances, regulatory agencies sometimes further refine these classifications to address specific concerns.

For example:

- Some initiatives have targeted those substances that are persistent, bioaccumulative and toxic (PBT), such as mercury, which accumulates in body tissues.
- The USEPA has developed an Integrated Urban Air Toxics Strategy with a focus on 30 substances (the Urban HAPs List).11

The evaluation of air toxics levels is difficult due to several factors.

- There are no health-protective NAAQS. Instead, air quality assessments utilize various short- and long-term screening levels and health-based levels estimated to be safe considering the critical effects of concern for specific substances.
- There is incomplete toxicity information for many substances. For some air toxics, the analytical detection limits are too high to consistently measure the amount present, and in some cases, the risk assessment-based levels are below the detection limits.
- Data gaps are present regarding the potential for interactive toxic effects for co-exposure to multiple substances present in emissions and in ambient air. Air toxics also pose a challenge due to monitoring and analytical methods that are either unavailable for some compounds or cost-prohibitive for others (e.g., dioxins).

These factors make it difficult to accurately assess the potential health concerns of all air toxics. Nevertheless, it is feasible and important to characterize the potential health hazards and risks associated with many air toxics.

Table 8.1 shows the monitoring stations and what air toxic was monitored at each station in 2019. This table can also be found in **Appendix B** with the Air Toxics Monitoring Summary.

The PM_{10} metals sampling for Mn was also shut down at River Rouge to reduce cost and workload. TSP Metals were added to the three new GHB sites, DP4th Precinct, Military Park, and Trinity.

[11] USEPA's Air Toxics website: Urban Strategy is located at www.epa.gov/urban-air-toxics.

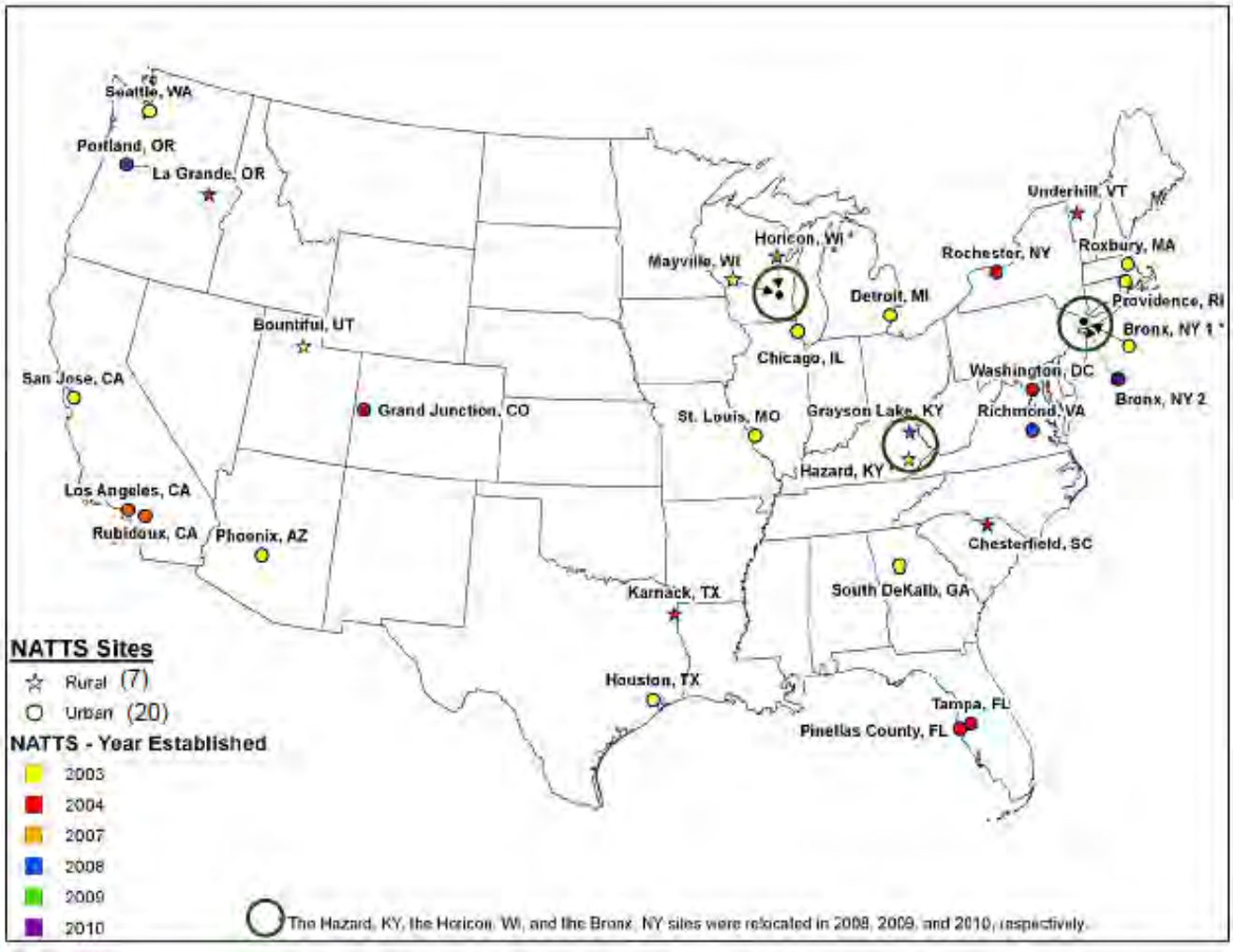
Table 8.1: 2019 Toxics Sampling Sites

Site Name	VOC	Carbonyl	PAHs	Metals TSP	Metals PM_{10}	Speciated $PM_{2.5}$
Allen Park				x		x
Dearborn	x	x	x	x	x	x
Detroit-W. Fort St.	x	x		x		x
Detroit-W. Jefferson				x		
Grand Rapids-Monroe				x		x
Belding-Merrick St.				x		
NMH 48217				x		
Port Huron-Rural St.				x		
River Rouge		x		x		
GHB-DP4th Precinct				x		
GHB-Military Park				x		
GHB-Trinity				x		

National Monitoring Efforts and Data Analysis

The USEPA administers national programs that identify air toxics levels, detect trends, and prioritize air toxics research. EGLE participates in these programs. In addition, the AQD operates a site in Dearborn that is part of the USEPA's NATTS. The purpose of the NATTS network is to detect trends in high-risk air toxics such as benzene, formaldehyde, chromium, and 1,3-butadiene and to measure the progress of air toxics regulatory programs at the national level. Currently, the NATTS network contains 27 stations; 20 urban and 7 rural (see **Figure 8.1**). The USEPA requires that the NATTS sites measure VOCs, carbonyls, PAHs, and trace metals on a once-every-six-day sampling schedule. The Dearborn NATTS site measures trace metals as TSP, PM_{10}, and $PM_{2.5}$.

Figure 8.1: National Air Toxics Trends Sites



CHAPTER 9: METEOROLOGICAL INFORMATION

Figures 9.1 through **9.3** show average daily temperatures, and **Figures 9.4** through **9.6** show total monthly precipitation amounts compared to their climatic norms for sites in the Northern, Southern Lower and Upper Peninsula. These figures were constructed by averaging data from several National Weather Service stations and therefore are not meant to be representative of any one single location in Michigan. Instead, they are intended to depict the regional trends that occurred during the year 2019.

Figure 9.1: Southern Lower Peninsula Observed Average Monthly Temperatures vs. Normal Average Monthly Temperatures

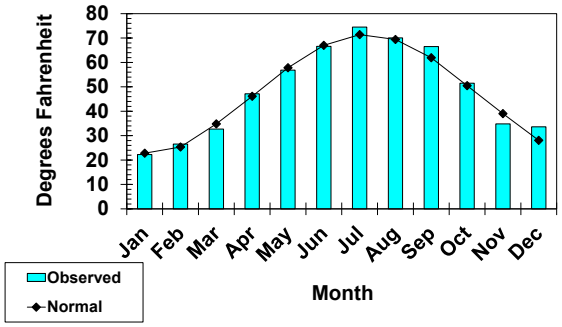


Figure 9.2: Northern Lower Peninsula Observed Average Monthly Temperatures vs. Normal Average Monthly Temperatures

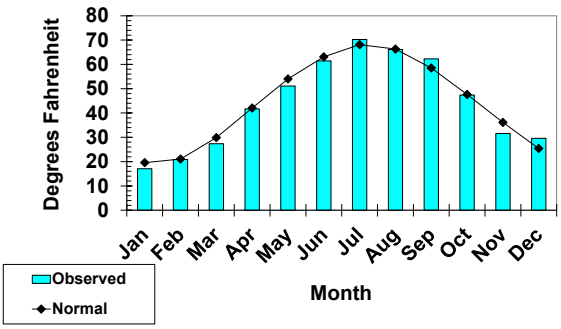


Figure 9.3: Upper Peninsula Observed Average Monthly Temperatures vs. Normal Average Monthly Temperatures

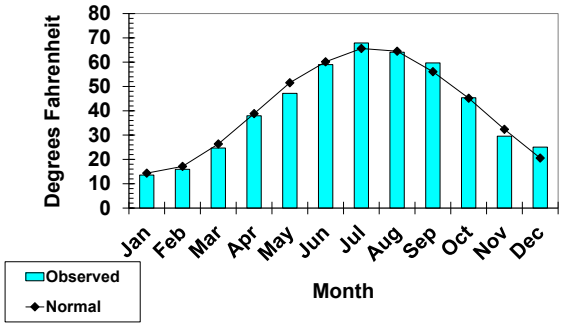


Figure 9.4: Southern Lower Peninsula Observed Monthly Precipitation vs. Normal Monthly Precipitation

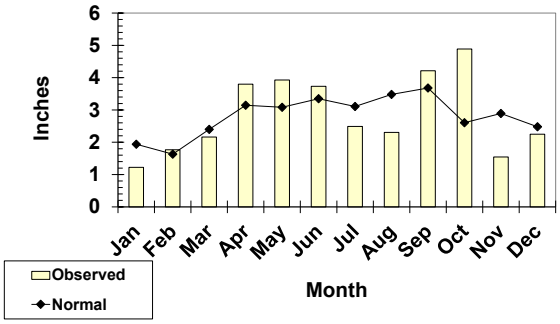


Figure 9.5: Northern Lower Peninsula Observed Monthly Precipitation vs. Normal Monthly Precipitation

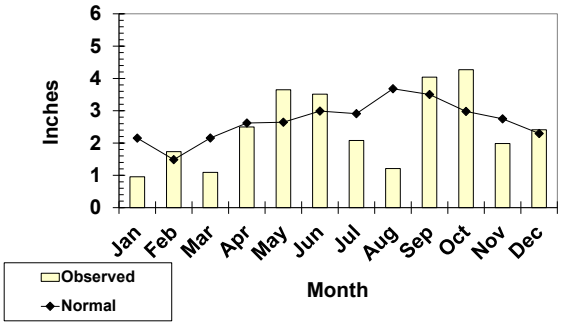
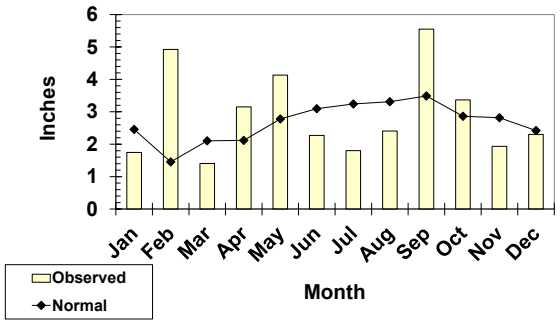


Figure 9.6: Upper Peninsula Observed Monthly Precipitation vs. Normal Monthly Precipitation



CHAPTER 10: SPECIAL PROJECTS

EGLE completed the sampling for one special project and began a new project for the Gordie Howe International Bridge. Each of these projects are discussed below.

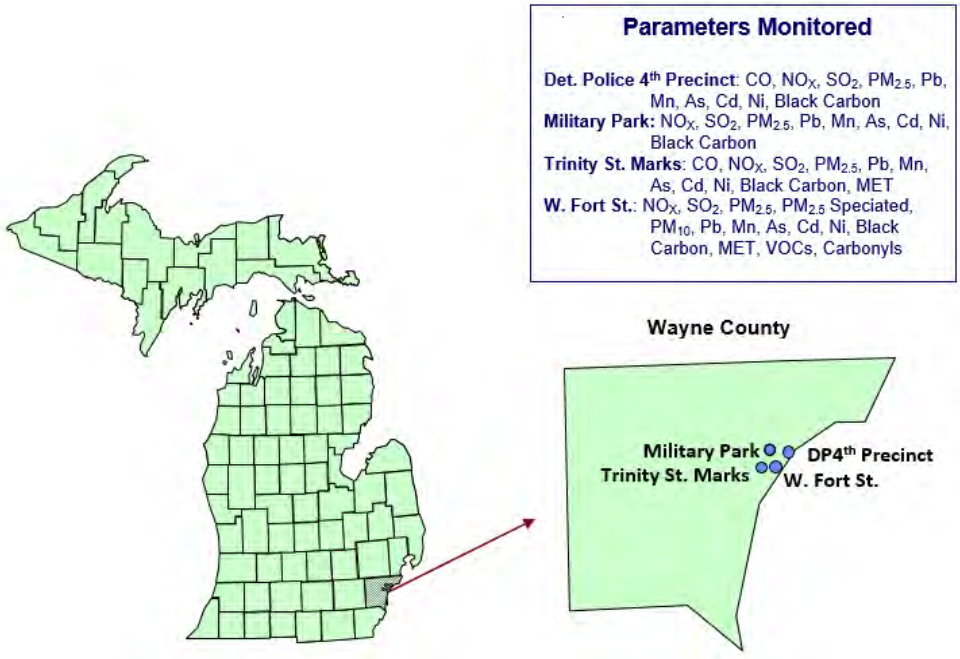
Near-road Air Toxics Grant: The Community Scale Air Toxics Ambient Monitoring (CSATAM) grant completed data collection in 2018 and the final report was received October 2019. This report can be found on EGLE's website under Monitoring[12].

Gordie Howe International Bridge Project: The second special purpose monitoring project is related to a joint Canadian-American venture. The Gordie Howe International Bridge will be built linking Windsor, Ontario and Detroit, Michigan. Construction is slated to begin in 2019-2020.

EGLE is conducting ambient air quality monitoring in the Delray community to ascertain air pollution levels in the community. The three new sites, indicated below, will monitor air pollutants before, during, and after construction of the bridge. In addition, NOx, continuous $PM_{2.5}$, and black carbon was added to the Detroit-W. Fort St. (261630015) monitoring site for this project.

- **Trinity (261630098)**: meteorological parameters, NOx, SO_2, CO, continuous $PM_{2.5}$, black carbon, and five trace metals including lead.
- **DP4TH Precinct (261630099)**: NOx, SO_2, CO, continuous $PM_{2.5}$, black carbon, and five trace metals including lead.
- **Military Park (261630100)**: NOx, SO_2, continuous $PM_{2.5}$, black carbon, and five trace metals including lead.

Figure 10.1: Gordie Howe International Bridge Sites



The data from these sites is reported along with the other sites in the previous chapters and in the following appendices.

[12] For the full report Michigan.gov/documents/egle/egle-aqd-amu-detroit_near_road_air_pollution_eval_669319_7.pdf

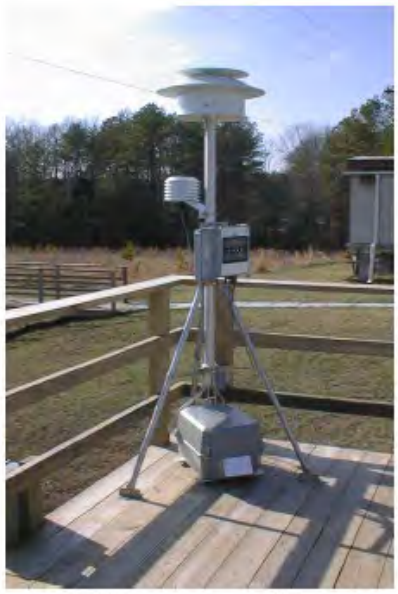
APPENDIX A: CRITERIA POLLUTANT SUMMARY FOR 2019

Appendix A utilizes the USEPA's 2019 Air Quality System (AQS) Quick Look Report Data to present a summary of ambient air quality data collected for the criteria pollutants at monitoring locations throughout Michigan. Concentrations of non-gaseous pollutants are generally given in $\mu g/m^3$ and in ppm for gaseous pollutants. The following define some of the terms listed in the **Appendix A** reports.

Site I.D.: The AQS site ID is the USEPA's code number for these sites.

POC: The Parameter Occurrence Code or POC is used to assist in distinguishing different uses of monitors, i.e., under Pb, NO_2, and SO_2, POC #1-5 are used to help differentiate between individual monitors. For PM, the POC numbers are used more for the type of monitoring, such as:

- 1 - FRM;
- 2 - Co-located FRM;
- 3 - TEOM hourly PM_{10} and $PM_{2.5}$ measurements; and
- 5 - $PM_{2.5}$ speciation monitors (shown at right is a Met One SASS – speciation air sampling system).



 # OBS: For Pb, TSP, $PM_{2.5}$, and PM_{10}, the # OBS (number of observations) refers to the number of valid 24-hour values gathered.

For continuous monitors (CO, NO_2, O_3, $PM_{2.5}$ TEOM, BAM and SO_2), # OBS refers to the total valid hourly averages obtained from the analyzer.

Values: The value is listed for each criteria pollutant per its NAAQS (primary and secondary). The number of exceedances per site for the primary and secondary standards utilize running averages for continuous monitors (except for O_3) and does not include averages considered invalid due to limited sampling times. For example, a particulate-mean based only on six months could not be considered as violating the annual standard. As noted, each site is allowed one short-term standard exceedance before a violation is determined.

Criteria Pollutant Summary For 2019

CO measured in ppm

Site ID	POC	City	County	Year	# OBS	1-hr Highest Value	1-hr 2nd Highest Value	1-hr OBS > 35	8-hr Highest Value	8-hr 2nd Highest Value	8-hr OBS > 9
260810020	1	Grand Rapids-Monroe	Kent	2019	7901	1.7	1.7	0	1.3	1.3	0
261630001	1	Allen Park	Wayne	2019	8319	1.9	1.7	0	1.4	1.4	0
261630093	1	Eliza Howell-Roadway	Wayne	2019	7574	3.2	2.8	0	1.8	1.7	0
261630095	1	Livonia-Roadway	Wayne	2019	4099	2.1	1.8	0	1.4	1.2	0
261630098	1	GHB-DP4th Precinct	Wayne	2019	7599	5.6	3.9	0	3.0	1.8	0
261630099	1	GHB-Trinity*	Wayne	2019	8309	5.2	4.7	0	2.2	2.0	0

*Indicates site does not have a complete year of data.

Pb (24-hour) measured in µg/m^3

Site ID	POC	City	County	Year	# OBS	Highest rolling 3-month Arith Mean	Highest Value (24-hr)	2nd Highest Value (24-hr)
260670003	1	Belding-Merrick St.	Ionia	2019	61	0.09	0.752	0.194
260810020	1	Grand Rapids-Monroe	Kent	2019	60	0.01	0.045	0.011
261470031	1	Port Huron-Rural St.	St. Clair	2019	61	0.02	0.113	0.059
261630001	1	Allen Park	Wayne	2019	60	0.00	0.006	0.006
261630005	1	River Rouge	Wayne	2019	61	0.01	0.033	0.021
261630015	1	Detroit-W. Fort St.	Wayne	2019	59	0.02	0.062	0.039
261630027	1	Detroit-W. Jefferson	Wayne	2019	60	0.01	0.045	0.043
261630033	1	Dearborn	Wayne	2019	59	0.01	0.042	0.026
261630097	1	NMH 48217	Wayne	2019	61	0.01	0.018	0.009
261630098	1	GHB-DP4th Precinct	Wayne	2019	59	0.01	0.020	0.019
261630099	1	GHB-Trinity	Wayne	2019	60	0.03	0.303	0.040
261630100	1	GHB-Military Park	Wayne	2019	61	0.02	0.078	0.067

NO_2 measured in ppb

Site ID	POC	City	County	Year	# OBS	1-Hr Highest Value	1-Hr 2nd Highest Value	98th Percentile 1-hr	Annual Arith Mean
260650018	1	Lansing	Ingham	2019	8336	54.4	47.5	43.7	6.91
261130001	1	Houghton Lake	Missaukee	2019	7929	11.8	11.3	8.0	1.07
261390005	1	Jenison	Ottawa	2019	8145	50.0	45.0	36.0	5.65
261630015	1	Detroit-W. Fort St.	Wayne	2019	7424	55.5	53.5	50.1	14.05
261630093	1	Eliza Howell-Roadway	Wayne	2019	8105	56.2	51.7	45.4	15.55
261630095	1	Livonia–Roadway	Wayne	2019	4070	72.2	52.2	49.0	10.57*
261630098	1	GHB-DP4th Precinct	Wayne	2019	8270	60.7	56.1	49.6	14.83
261630099	1	GHB-Trinity	Wayne	2019	7781	55.3	49.9	46.1	13.86
161630100	1	GHB-Military Park	Wayne	2019	8312	54.7	53.3	47.3	12.92

*Indicates site does not have a complete year of data.

NO_Y measured in ppb

Site ID	POC	City	County	Year	# OBS	1-Hr Highest Value	1-Hr 2nd Highest Value	Annual Arith Mean
260810020	1	Grand Rapids-Monroe	Kent	2019	6935	210.0	200.0	11.40
261630001	1	Allen Park	Wayne	2019	7898	217.7	213.0	14.84
261630019	1	Detroit-E. 7 Mile	Wayne	2019	3474	109.7	77.5	9.17*

*Indicates site does not have a complete year of data.

O_3 (1-hour) measured in ppm

Site ID	POC	City	County	Year	Num Meas	Num Req	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Day Max >/= 0.125 Measured	Values >/= 0.125 Estimated	Missed Days < 0.125 Standard
260050003	1	Holland	Allegan	2019	245	245	0.093	0.084	0.081	0.078	0	0	0
260190003	1	Benzonia	Benzie	2019	238	245	0.072	0.072	0.066	0.065	0	0	0
260210014	1	Coloma	Berrien	2019	245	245	0.084	0.081	0.081	0.078	0	0	0
260270003	2	Cassopolis	Cass	2019	245	245	0.081	0.078	0.073	0.071	0	0	0
260370002	2	Rose Lake 2	Clinton	2019	233	245	0.066	0.063	0.060	0.060	0	0	0
260490021	1	Flint	Genesee	2019	245	245	0.070	0.070	0.065	0.065	0	0	0
260492001	1	Otisville	Genesee	2019	242	245	0.071	0.070	0.065	0.064	0	0	0
260630007	1	Harbor Beach	Huron	2019	245	245	0.077	0.075	0.074	0.068	0	0	0
260650018	1	Lansing-Filley St.	Ingham	2019	245	245	0.061	0.061	0.060	0.059	0	0	0
260770008	1	Kalamazoo	Kalamazoo	2019	242	245	0.072	0.068	0.067	0.067	0	0	1
260810020	1	Grand Rapids-Monroe	Kent	2019	354	365	0.077	0.075	0.072	0.068	0	0	2
260810022	1	Evans	Kent	2019	245	245	0.072	0.072	0.068	0.068	0	0	0
260910007	1	Tecumseh	Lenawee	2019	241	245	0.069	0.067	0.066	0.065	0	0	0
260990009	1	New Haven	Macomb	2019	244	245	0.084	0.081	0.079	0.079	0	0	1
260991003	1	Warren	Macomb	2019	241	245	0.080	0.078	0.073	0.071	0	0	1
261010922	1	Manistee	Manistee	2019	238	245	0.076	0.069	0.069	0.067	0	0	1
261050007	1	Scottville	Mason	2019	245	245	0.068	0.067	0.062	0.062	0	0	0

O_3 (1-hour) measured in ppm, continued

Site ID	POC	City	County	Year	Num Meas	Num Req	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Day Max >/= 0.125 Measured	Values >/= 0.125 Estimated	Missed Days < 0.125 Standard
261130001	1	Houghton Lake	Missaukee	2019	240	245	0.063	0.062	0.062	0.062	0	0	1
261210039	1	Muskegon	Muskegon	2019	244	245	0.091	0.080	0.080	0.078	0	0	1
261250001	2	Oak Park	Oakland	2019	245	245	0.088	0.085	0.083	0.076	0	0	0
261390005	1	Jenison	Ottawa	2019	245	245	0.080	0.074	0.071	0.069	0	0	0
261470005	1	Port Huron	St. Clair	2019	237	245	0.083	0.082	0.080	0.079	0	0	1
261530001	1	Seney	Schoolcraft	2019	245	245	0.077	0.068	0.066	0.063	0	0	0
261610008	1	Ypsilanti	Washtenaw	2019	245	245	0.087	0.076	0.071	0.071	0	0	0
261630001	2	Allen Park	Wayne	2019	342	365	0.072	0.072	0.069	0.067	0	0	2
261630019	2	Detroit-E. 7 Mile	Wayne	2019	242	245	0.083	0.081	0.081	0.077	0	0	0

* Indicates site was moved from Lansing to Lansing-Filley St.

O_3 (8-hour) measured in ppm

Site ID	POC	City	County	Year	% OBS	Valid Days Measured	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Day Max > 0.070
260050003	1	Holland	Allegan	2019	100	245	0.075	0.073	0.072	0.071	4
260190003	1	Benzonia	Benzie	2019	97	238	0.068	0.060	0.059	0.057	0
260210014	1	Coloma	Berrien	2019	100	245	0.074	0.071	0.069	0.066	2
260270003	2	Cassopolis	Cass	2019	100	245	0.067	0.065	0.064	0.064	0
260370002	1	Rose Lake 2	Clinton	2019	94	230	0.060	0.058	0.055	0.055	0
260490021	1	Flint	Genesee	2019	99	243	0.061	0.061	0.061	0.060	0
260492001	1	Otisville	Genesee	2019	98	241	0.062	0.062	0.060	0.060	0
260630007	1	Harbor Beach	Huron	2019	100	245	0.067	0.067	0.062	0.060	0
260650018	1	Lansing-Filley St.	Ingham	2019	100	245	0.057	0.057	0.057	0.055	0
260770008	1	Kalamazoo	Kalamazoo	2019	98	239	0.065	0.064	0.062	0.061	0
260810020	1	Grand Rapids	Kent	2019	96	352	0.067	0.067	0.066	0.065	0
260810022	1	Evans	Kent	2019	99	243	0.065	0.064	0.063	0.060	0
260910007	1	Tecumseh	Lenawee	2019	98	241	0.063	0.062	0.062	0.059	0
260990009	1	New Haven	Macomb	2019	100	244	0.071	0.064	0.063	0.063	1
260991003	1	Warren	Macomb	2019	98	240	0.070	0.068	0.067	0.062	0
261010922	1	Manistee	Manistee	2019	98	239	0.071	0.062	0.062	0.062	1
261050007	1	Scottville	Mason	2019	100	245	0.059	0.058	0.057	0.057	0
261130001	1	Houghton Lake	Missaukee	2019	98	239	0.059	0.059	0.058	0.058	0
261210039	1	Muskegon	Muskegon	2019	99	243	0.080	0.069	0.068	0.068	1
261250001	2	Oak Park	Oakland	2019	100	245	0.077	0.072	0.067	0.066	2
261390005	1	Jenison	Ottawa	2019	100	245	0.070	0.066	0.066	0.065	0
261470005	1	Port Huron	St. Clair	2019	96	236	0.073	0.072	0.072	0.070	3
261530001	1	Seney	Schoolcraft	2019	100	245	0.067	0.061	0.060	0.059	0
261610008	1	Ypsilanti	Washtenaw	2019	100	245	0.064	0.062	0.062	0.060	0
261630001	2	Allen Park	Wayne	2019	92	337	0.063	0.063	0.062	0.062	0
261630019	2	Detroit-E. 7 Mile	Wayne	2019	98	240	0.074	0.074	0.073	0.068	3

$PM_{2.5}$ (24-hour) FRM measured in µg/m³ at local conditions

Site ID	POC	Monitor	City	County	Year	# OBS	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	98%	Wtd. Arith. Mean
260050003	1	FRM	Holland	Allegan	2019	106	29.7	21.2	18.2	17.8	18.2	7.15
260170014	1	FRM	Bay City	Bay	2019	120	27.2	24.2	17.5	17.2	17.5	6.78
260490021	1	FRM	Flint	Genesee	2019	116	20.2	18.4	17.5	16.5	17.5	6.81
260650018	1	FRM	Lansing-Filley St.	Ingham	2019	54	23.7	22.3	20.9	19.0	22.3	7.27*
260770008	1	FRM	Kalamazoo	Kalamazoo	2019	106	25.8	17.8	16.9	16.7	16.9	7.35*
260770008	2	FRM	Kalamazoo	Kalamazoo	2019	60	28.3	17.8	16.7	15.8	17.8	6.83
260810020	1	FRM	Grand Rapids-Monroe	Kent	2019	113	26.5	25.1	23.2	21.0	23.2	8.20
260810020	2	FRM	Grand Rapids-Monroe	Kent	2019	54	25.1	18.9	17.9	14.8	18.9	7.20*
260990009	1	FRM	New Haven	Macomb	2019	119	28.5	20.0	18.7	18.7	18.7	7.30
261010922	1	FRM	Manistee	Manistee	2019	98	20.5	14.9	14.2	13.9	14.9	4.93*
261250001	1	FRM	Oak Park	Oakland	2019	115	28.3	21.7	18.2	17.8	18.2	7.74
261390005	1	FRM	Jenison	Ottawa	2019	114	30.1	29.4	24.4	22.9	24.4	8.30
261470005	1	FRM	Port Huron	St. Clair	2019	117	27.4	21.6	20.3	19.5	20.3	7.64
261610008	1	FRM	Ypsilanti	Washtenaw	2019	117	29.4	22.7	21.2	20.2	21.2	8.33
261610008	2	FRM	Ypsilanti	Washtenaw	2019	58	29.7	22.9	15.6	15.3	22.9	7.57
261630001	1	FRM	Allen Park	Wayne	2019	227	29.1	26.9	22.3	22.1	22.0	8.69
261630015	1	FRM	Detroit-W. Fort St.	Wayne	2019	103	29.9	23.0	22.5	20.7	22.5	10.76*
261630019	1	FRM	Detroit-E. 7 Mile	Wayne	2019	115	28.2	20.6	19.6	18.1	19.6	7.61
261630033	1	FRM	Dearborn	Wayne	2019	118	34.6	24.0	24.0	22.4	24.0	9.90
261630033	2	FRM	Dearborn	Wayne	2019	55	34.7	24.2	20.7	19.8	24.2	9.08
261630095	1	FRM	Livonia-Roadway	Wayne	2019	59	30.5	22.8	19.5	15.1	22.8	8.36*

*Indicates the site does not have a complete year of data.

$PM_{2.5}$ (24-hour) FEM measured in µg/m³ at local conditions

Site ID	POC	Monitor	City	County	Year	# OBS	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	98%	Wtd. Arith. Mean
260490021	3	BAM	Flint	Genesee	2019	318	22.2	20.4	19.3	19.1	18.6	7.33*
260910007	3	BAM	Tecumseh	Lenawee	2019	358	30.8	28.9	25.4	25.3	22.7	8.44
261130001	3	BAM	Houghton Lake	Missaukee	2019	327	21.7	21.0	20.9	20.7	15.1	5.79*
261530001	3	BAM	Seney	Schoolcraft	2019	347	23.2	21.1	18.1	16.8	14.1	4.25
261610008	3	BAM	Ypsilanti	Washtenaw	2019	184	26.2	24.8	23.8	22.0	22.0	8.60*

* Indicates the site does not have a complete year of data.

$PM_{2.5}$ Continuous, Non-Regulatory (1-Hour) Measured in µg/m³

Site ID	POC	Monitor	City	County	Year	# OBS	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Wtd. Arith. Mean
260170014	3	TEOM	Bay City	Bay	2019	6955	50.0	39.0	35.0	34.0	6.66
260650012	3	TEOM	Lansing-Filley St.	Ingham	2019	7774	63.8	63.7	60.3	45.6	7.43
260770008	3	TEOM	Kalamazoo	Kalamazoo	2019	7722	53.0	42.0	40.0	36.0	7.54
260810020	3	TEOM	Grand Rapids-Monroe	Kent	2019	7461	155.0	69.0	56.0	45.0	7.58
261470005	3	TEOM	Port Huron	St. Clair	2019	7790	56.0	53.0	45.0	44.0	7.49
261630001	3	TEOM	Allen Park	Wayne	2019	6415	62.0	53.0	53.0	51.0	8.49
261630015	3	BAM	Detroit-W. Fort St.	Wayne	2019	8345	270.6	227.9	188.8	183.8	12.60
261630033	3	TEOM	Dearborn	Wayne	2019	6502	72.0	66.0	52.0	45.0	9.54*
261630097	3	TEOM	NMH 48217	Wayne	2019	6472	75.7	71.2	71.2	65.7	8.33*
261630098	3	BAM	GHB-DP4th Precinct	Wayne	2019	8727	157.9	137.0	128.3	104.6	10.27
261630099	3	BAM	GHB-Trinity	Wayne	2019	8680	157.9	137.0	128.3	104.6	11.35
261630100	3	BAM	GHB-Military Park	Wayne	2019	8731	388.0	263.6	171.3	151.3	11.04

* Indicates the site does not have a complete year of data.

PM10 (24-hour) measured in µg /m3

Site ID	POC	Monitor	City	County	Year	# OBS	# Req.	ValidDays	% OBS	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Wtd Arith Mean
260810020	1	GRAV	Grand Rapids-Monroe	Kent	2019	57	61	57	93	104	49	43	35	15.9*
261390005	1	GRAV	Jenison	Ottawa	2019	59	61	59	97	180	104	68	50	17.2
261630001	1	GRAV	Allen Park	Wayne	2019	59	61	57	93	29	24	24	24	13.1*
261630015	1	GRAV	Detroit-W. Fort St.	Wayne	2019	60	61	60	98	67	65	63	55	25.3
261630033	1	GRAV	Dearborn	Wayne	2019	60	61	56	92	45	44	41	38	20.5
261630033	9	GRAV	Dearborn	Wayne	2019	34	30	27	90	44	38	35	33	20.4*

PM_{10} TEOM (1-hour) measured in µg/m³

Site ID	POC	Monitor	City	County	Year	# OBS	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Wtd. Arith. Mean
261630033	3	TEOM	Dearborn	Wayne	2019	8457	48	47	42	42	17.5

$PM_{10-2.5}$ (24-hour) measured in µg/m³

Site ID	Monitor	City	County	Year	# OBS	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Wtd. Arith. Mean
260810020	GRAV	Grand Rapids-Monroe	Kent	2019	94	21.7	21.3	15.8	14.3	6.46*
261630001	GRAV	Allen Park	Wayne	2019	103	25.6	19.5	17.0	16.2	7.33*

SO_2 measured in ppb

Site ID	POC	City	County	Year	# OBS	1-hr Highest Value	1-hr 2nd Highest Value	99th %ile: 1-hr	24-hr Highest Value	24-hr 2nd Highest Value	OBS >0.5	Arith Mean
260650018	1	Lansing-Filley St.	Ingham	2019	8363	4.2	3.9	3.5	1.8	1.7	0	0.84
260810020	2	Grand Rapids-Monroe	Kent	2019	8299	4.4	4.4	2.4	1.0	0.9	0	0.40
261150006	1	Sterling State Park	Monroe	2019	8229	10.9	9.6	8.8	3.4	3.0	0	0.64
261390011	1	West Olive	Ottawa	2019	8275	93.1	18.6	13.6	6.2	5.3	0	0.58
261470005	1	Port Huron	St. Clair	2019	8353	73.4	71.9	63.9	16.3	14.4	0	2.52
261630001	1	Allen Park	Wayne	2019	8227	33.0	26.2	21.5	4.8	4.1	0	0.66
261630015	1	Detroit-W. Fort St.	Wayne	2019	8330	68.2	65.3	60.7	16.1	15.7	0	3.03
261630097	1	NMH 48217	Wayne	2019	8316	34.8	33.2	26.6	7.3	7.1	0	0.97
261630098	1	GHB-DP4th Precinct	Wayne	2019	8324	28.6	26.2	18.9	5.9	5.4	0	1.07
261630099	1	GHB-Trinity	Wayne	2019	8365	46.2	42.0	26.0	11.5	6.6	0	1.15
261630100	1	GHB-Military Park	Wayne	2019	8352	37.4	34.2	31.9	12.2	9.4	0	0.81

APPENDIX B: 2019 AIR TOXICS MONITORING SUMMARY FOR METALS, VOCS, CARBONYL COMPOUNDS, PAHS, HEXAVALENT CHROMIUM & SPECIATED $PM_{2.5}$

Appendix B provides summary statistics of ambient air concentrations of various substances monitored in Michigan during 2019. At each monitoring site, air samples were taken over a 24-hour period (midnight to midnight). These air samples represent the average air concentration during that 24-hour period. The frequency of air samples collected is typically done once every 6 or 12 days. Sometimes the sampled air concentration is lower than the laboratory's analytical method detection level (MDL). When the concentration is lower than the MDL, two options are used to estimate the air concentration. The calculation of the minimum average ("Average (ND=0)") uses 0.0 µg/m³ for a value less than the MDL. In the calculation of the maximum average ("Average (ND=MDL/2)") the MDL divided by 2 (i.e., ½ the MDL) is substituted for air concentrations less than the MDL.

Table B shows the monitoring stations and what types of air toxics were monitored at each station in 2019. The following terms and acronyms are used in **Appendix B-1** and **B-2** data tables:

- Num Obs: Number of Observations (number of daily air samples taken during the year)
- Obs>MDL: Number of daily samples above the MDL
- Average (ND=0): average air concentration in 2019, assuming daily samples below MDL were equal to 0.0 µg/m³.
- Average (ND=MDL/2): average air concentration in 2019, assuming daily samples below MDL were equal to one half the MDL.
- MDL: Analytical MDL in units of µg/m³
- Max1: Highest daily air concentration during 2019
- Max2: Second highest daily air concentration during 2019
- Max3: Third highest daily air concentration during 2019
- µg/m³: Micrograms per cubic meter (1,000,000 µg = 1 g)

Table B: 2019 Toxics Sampling Sites

SITE NAME	VOC	Carbonyl	PAHs	Metals TSP	Metals PM_{10}	Speciated $PM_{2.5}$
Allen Park				x	x	x
Dearborn	x	x	x	x	x	x
Detroit-W. Fort St.	x	x		x		x
Detroit-W. Jefferson				x		
Grand Rapids-Monroe				x		x
Belding-Merrick St.				x		
NMH 48217				x		
Port Huron-Rural St.				x		
River Rouge		x		x		
GHB-DP4th Precinct				x		
GHB-Military Park				x		
GHB-Trinity				x		

VOC = volatile organic compound; PAHs = polycyclic aromatic hydrocarbon; TSP = total suspended particulate
PM_{10} = particulate matter with aerodynamic diameter less than 10 µm; Mn = manganese.

APPENDIX B-1 DATA TABLES

Allen Park (261630001) Concentrations in micrograms per cubic meter (µg/m^3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Arsenic (Tsp) Stp	60	60	0.00109	0.00109	0.0000342	0.00458	0.00304	0.00298
Arsenic Pm10 Stp	30	30	0.000687	0.000687	0.000033	0.00404	0.00123	0.00119
Cadmium (Tsp) Stp	60	60	0.000119	0.000119	0.0000161	0.00035	0.00032	0.00026
Cadmium Pm10 Stp	30	30	0.000166	0.000166	0.0000133	0.00077	0.00036	0.00033
Lead (Tsp) Lc Frm/Fem	60	60	0.00306	0.00306		0.0067	0.00655	0.00595
Lead Pm10 Lc	30	30	0.00182	0.00182		0.0036	0.0033	0.00307
Manganese (Tsp) Stp	60	60	0.0185	0.0185	0.000614	0.0504	0.0421	0.0374
Manganese Pm10 Stp	28	28	0.00795	0.00795	0.000181	0.0241	0.0174	0.0163
Nickel (Tsp) Stp	60	60	0.00116	0.00116	0.000592	0.00597	0.00292	0.00263
Nickel Pm10 Stp	30	30	0.000739	0.000739	0.000542	0.00123	0.00113	0.00105

Dearborn (261630033) Concentrations in micrograms per cubic meter (µg/m3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/ 2)	MDL	Max 1	Max 2	Max 3
1,1,2,2-Tetrachloroethane	58	8	0.00661	0.0516	0.105	0.0748	0.0645	0.0597
1,1,2-Trichloroethane	58	2	0.000216	0.0302	0.0622	0.00655	0.006	0
1,1-Dichloroethane	58	5	0.000705	0.0143	0.0296	0.0146	0.00809	0.00688
1,1-Dichloroethylene	58	0	0	0.0246	0.0492	0	0	0
1,2,4-Trichlorobenzene	58	18	0.00907	0.292	0.893	0.0423	0.0416	0.0356
1,2,4-Trimethylbenzene	58	58	0.927	0.927	0.125	4.61	4.21	3.52
1,2-Dichlorobenzene	58	8	0.000674	0.0768	0.175	0.00541	0.00541	0.00481
1,2-Dichloropropane	58	3	0.000971	0.0252	0.0513	0.0226	0.018	0.0157
1,3,5-Trimethylbenzene	58	58	0.272	0.272	0.0539	1.41	1.23	1.18
1,3-Butadiene	58	57	0.0487	0.0489	0.0243	0.182	0.124	0.0943
1,3-Dichlorobenzene	58	2	0.00106	0.074	0.151	0.0583	0.00301	0
1,4-Dichlorobenzene	58	21	0.0179	0.0752	0.168	0.24	0.155	0.0848
2,5-Dimethylbenzaldehyde	17	0	0	0.00339	0.00678	0	0	0
9-Fluorenone (Tsp) Stp	13	13	0.000976	0.000976	4.04E-05	0.00261	0.00138	0.00136
Acenaphthene (Tsp) Stp	59	56	0.0065	0.0065	0.000132	0.0308	0.0256	0.0248
Acenaphthylene (Tsp) Stp	59	55	0.000308	0.000309	8.72E-06	0.00129	0.00116	0.000881
Acetaldehyde	65	65	1.94	1.94	0.0345	2.96	2.91	2.89
Acetone	65	65	2.78	2.78	0.507	6.73	6.08	5.67
Acetonitrile	58	58	0.496	0.496	0.105	1.41	1.35	1.15
Acetylene	61	56	0.61	0.612	0.0883	3.56	2.85	1.94
Acrylonitrile	58	16	0.0382	0.0554	0.0475	0.243	0.194	0.193
Anthracene (Tsp) Stp	59	58	0.000376	0.000376	3.47E-05	0.00184	0.00171	0.0011
Arsenic (Tsp) Stp	91	91	0.00195	0.00195	4.50E-05	0.0234	0.0175	0.0108
Arsenic Pm10 Stp	94	94	0.00111	0.00111	5.35E-05	0.0029	0.00286	0.0028
Barium (Tsp) Stp	91	91	0.0311	0.0311	0.00645	0.265	0.248	0.201
Barium PM_{10} Stp	90	90	0.0112	0.0112	5.81E-04	0.0225	0.0215	0.0207
Benzaldehyde	65	65	0.171	0.171	0.00788	0.42	0.405	0.369
Benzene	58	58	0.589	0.589	0.0314	1.35	1.23	1.04
Benzo[A]Anthracene (Tsp) Stp	59	59	0.000172	0.000172	9.32E-06	0.000802	0.000686	0.000539
Benzo[A]Pyrene (Tsp) Stp	59	59	0.000141	0.000141	1.43E-05	0.000375	0.000374	0.000356
Benzo[B]Fluoranthene (Tsp) Stp	59	58	0.000473	0.000473	8.32E-06	0.00204	0.00164	0.00137
Benzo[E]Pyrene (Tsp) Stp	59	59	0.000273	0.000273	5.51E-06	0.00108	0.00105	0.000808
Benzo[G,H,I]Perylene (Tsp) Stp	59	56	0.000209	0.000209	6.70E-06	0.000955	0.000539	0.000482

Dearborn (261630033) Concentrations in micrograms per cubic meter (µg/m3) - continued

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/ 2)	MDL	Max 1	Max 2	Max 3
Benzo[K]Fluoranthene (Tsp) Stp	59	58	0.000137	0.000137	4.21E-06	0.00056	0.000472	0.000383
Beryllium (Tsp) Stp	91	91	0.000119	0.000119	2.96E-05	0.00121	0.00117	0.00098
Beryllium PM_{10} Stp	95	88	1.89E-05	1.92E-05	8.86E-06	7.00E-05	7.00E-05	6.00E-05
Bromochloromethane	61	0	0	0.0249	0.0524	0	0	0
Bromodichloromethane	58	8	0.00617	0.0382	0.0744	0.0898	0.059	0.0583
Bromoform	58	20	0.00606	0.0431	0.124	0.0403	0.0279	0.0258
Bromomethane	58	49	0.0703	0.0733	0.0384	0.905	0.505	0.387
Butyraldehyde	63	63	0.882	0.882	0.0546	3.3	2.89	2.84
Cadmium (Tsp) Stp	91	91	0.000373	0.000373	2.25E-05	0.00356	0.00269	0.00264
Cadmium PM_{10} Stp	95	95	0.000216	0.000216	1.68E-05	0.00115	0.00112	0.0011
Carbon Disulfide	61	58	0.0708	0.0708	0.13	0.433	0.258	0.171
Carbon Tetrachloride	58	58	0.625	0.625	0.0686	1.03	0.937	0.818
Chlorobenzene	58	19	0.00596	0.0209	0.0453	0.0281	0.0249	0.0239
Chloroethane	58	32	0.02	0.0295	0.0425	0.117	0.0826	0.0602
Chloroform	58	58	0.817	0.817	0.0405	1.42	1.22	1.18
Chloromethane	58	58	1.21	1.21	0.0624	1.61	1.56	1.48
Chloroprene	61	0	0	0.0281	0.0592	0	0	0
Chromium (Tsp) Stp	91	91	0.00944	0.00944	0.00146	0.0972	0.0887	0.0779
Chromium PM_{10} Stp	95	95	0.00235	0.00235	0.00158	0.0048	0.00441	0.00425
Chrysene (Tsp) Stp	59	59	0.00041	0.00041	6.84E-06	0.0017	0.00137	0.00135
Cis-1,2-Dichloroethene	58	0	0	0.0666	0.133	0	0	0
Cis-1,3-Dichloropropene	58	0	0	0.0225	0.045	0	0	0
Cobalt (Tsp) Stp	91	91	0.000324	0.000324	3.96E-05	0.00299	0.00277	0.00229
Cobalt PM_{10} Stp	95	91	9.25E-05	9.32E-05	3.07E-05	0.00023	0.00021	0.0002
Copper (Tsp) Stp	91	91	0.0396	0.0396	0.00152	0.397	0.231	0.224
Copper PM_{10} Stp	95	95	0.0338	0.0338	0.000631	0.125	0.107	0.1
Coronene (Tsp) Stp	59	59	0.00011	0.00011	3.46E-06	0.000579	0.000229	0.000227
Crotonaldehyde	61	60	0.152	0.152	0.0102	0.876	0.735	0.62
Cyclopenta[Cd]Pyrene (Tsp) Stp	13	13	3.81E-05	3.81E-05	4.16E-06	0.00015	9.48E-05	3.82E-05
Dibenzo[A,H]Anthracene (Tsp) Stp	59	44	3.18E-05	3.35E-05	1.50E-05	0.000134	0.00011	8.93E-05
Dibromochloromethane	58	5	0.00113	0.0439	0.0947	0.0281	0.0162	0.0136
Dichlorodifluoromethane	58	58	2.31	2.31	0.183	2.97	2.73	2.67
Dichloromethane	58	58	5.39	5.39	0.173	58.4	15.4	13.5
Ethyl Acrylate	58	1	0.000498	0.00801	0.0153	0.0289	0	0
Ethylbenzene	58	58	0.368	0.368	0.073	2.62	0.869	0.79
Ethylene Dibromide	58	0	0	0.0507	0.101	0	0	0
Ethylene Dichloride	58	57	0.0764	0.0767	0.0348	0.108	0.105	0.105
Fluoranthene (Tsp) Stp	59	59	0.00447	0.00447	3.58E-05	0.0228	0.0202	0.0176

Dearborn (261630033) Concentrations in micrograms per cubic meter (µg/m3) - continued

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Fluorene (Tsp) Stp	59	59	0.00594	0.00594	0.000135	0.0253	0.0238	0.023
Formaldehyde	65	65	2.86	2.86	0.0537	6.95	6.05	5.96
Freon 114	61	58	0.108	0.108	0.072	0.146	0.131	0.131
Hexachlorobutadiene	61	18	0.006	0.178	0.602	0.0277	0.0267	0.0224
Hexanaldehyde	64	62	0.0925	0.0927	0.0125	0.245	0.245	0.208
Indeno[1,2,3-Cd]Pyrene (Tsp) Stp	59	59	0.000215	0.000215	1.64E-05	0.00059	0.000503	0.000469
Iron (Tsp) Stp	91	91	2.05	2.05	0.023	17.1	17.1	17
Iron Pm10 Stp	95	95	0.571	0.571	0.00862	1.54	1.52	1.29
Isovaleraldehyde	17	0	0	0.0162	0.0324	0	0	0
Lead (Tsp) Lc Frm/Fem	90	90	0.00862	0.00862		0.043	0.0384	0.0267
Lead Pm10 Lc	95	95	0.00667	0.00667		0.0435	0.0421	0.0221
M/P Xylene	58	58	1.17	1.17	0.124	9.21	2.83	2.81
Manganese (Tsp) Stp	91	91	0.124	0.124	0.000795	1.19	1.08	1.01
Manganese PM_{10} Stp	95	95	0.0287	0.0287	0.000273	0.101	0.082	0.0761
Methyl Chloroform	58	29	0.00871	0.029	0.0813	0.03	0.0273	0.0256
Methyl Ethyl Ketone	62	62	0.396	0.396	0.317	0.931	0.869	0.828
Methyl Isobutyl Ketone	58	58	0.301	0.301	0.0418	0.848	0.75	0.701
Methyl Methacrylate	61	16	0.00569	0.0948	0.266	0.0565	0.0459	0.0438
Methyl Tert-Butyl Ether	58	1	0.000212	0.0283	0.0568	0.0123	0	0
Molybdenum (Tsp) Stp	91	91	0.00203	0.00203	0.000142	0.0373	0.0287	0.0136
Molybdenum PM_{10} Stp	95	95	0.000929	0.000929	0.000201	0.00395	0.0038	0.00254
Naphthalene (Tsp) Stp	59	59	0.0687	0.0687	0.00221	0.181	0.161	0.148
Nickel (Tsp) Stp	91	91	0.00347	0.00347	0.000767	0.0723	0.0281	0.0182
Nickel PM_{10} Stp	93	93	0.00135	0.00135	0.000986	0.00786	0.00287	0.00258
N-Octane	61	58	0.119	0.119	0.109	0.279	0.266	0.255
O-Xylene	58	58	0.396	0.396	0.0846	2.26	0.921	0.829
Perylene (Tsp) Stp	59	35	1.74E-05	1.93E-05	1.05E-05	8.55E-05	6.93E-05	6.87E-05
Phenanthrene (Tsp) Stp	59	59	0.0115	0.0115	0.000224	0.0477	0.0449	0.0406
Propionaldehyde	65	65	0.409	0.409	0.0693	1.02	0.805	0.745
Propylene	61	58	0.48	0.48	0.168	1.23	1.17	1.04
Pyrene (Tsp) Stp	59	59	0.00228	0.00228	5.35E-05	0.00916	0.00811	0.00811
Retene (Tsp) Stp	13	13	0.000192	0.000192	0.000347	0.000422	0.000293	0.000282
Styrene	58	57	0.533	0.533	0.0643	4.98	1.77	1.56
Tert-Butyl Ethyl Ether	61	2	0.000178	0.0144	0.0309	0.00627	0.0046	0
Tetrachloroethylene	58	58	0.25	0.25	0.0812	1.42	1.35	1.04
Tolualdehydes	5	2	0.0876	0.0974	0.0323	0.312	0.126	0
Toluene	58	58	0.987	0.987	0.0686	2.85	2.38	2.25
Trans-1,2-Dichloroethylene	58	16	0.00446	0.0211	0.046	0.103	0.0214	0.019

Dearborn (261630033) Concentrations in micrograms per cubic meter (µg/m3) - continued

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/ 2)	MDL	Max 1	Max 2	Max 3
Trans-1,3-Dichloropropene	58	1	0.00061	0.0314	0.0626	0.0354	0	0
Trichloroethylene	58	29	0.0159	0.0324	0.0661	0.0639	0.0586	0.058
Trichlorofluoromethane	58	58	1.25	1.25	0.0676	1.64	1.59	1.51
Valeraldehyde	64	63	0.0792	0.0793	0.012	0.183	0.166	0.165
Vanadium (Tsp) Stp	91	91	0.00437	0.00437	6.44E-05	0.0538	0.0376	0.0338
Vanadium PM_{10} Stp	94	94	0.00113	0.00113	5.38E-05	0.00843	0.00248	0.00246
Vinyl Chloride	58	3	0.000366	0.0127	0.0261	0.0133	0.00511	0.00281
Zinc (Tsp) Stp	91	91	0.183	0.183	0.00509	2.12	0.984	0.892
Zinc PM_{10} Stp	94	94	0.0935	0.0935	0.00199	0.527	0.394	0.388

Detroit-W. Fort St. (N. Delray-SWHS) (261630015) Concentrations in micrograms per cubic meter ($\mu g/m^3$)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
1,1,2,2-Tetrachloroethane	29	0	0	0.161	0.323	0	0	0
1,1,2-Trichloroethane	29	0	0	0.049	0.0981	0	0	0
1,1-Dichloroethane	29	0	0	0.0857	0.171	0	0	0
1,1-Dichloroethylene	29	0	0	0.0778	0.156	0	0	0
1,2,4-Trichlorobenzene	29	0	0	0.693	1.39	0	0	0
1,2,4-Trimethylbenzene	29	1	0.0203	0.169	0.307	0.59	0	0
1,2-Dichlorobenzene	29	0	0	0.184	0.369	0	0	0
1,2-Dichloropropane	29	0	0	0.55	1.1	0	0	0
1,3,5-Trimethylbenzene	29	0	0	0.12	0.24	0	0	0
1,3-Butadiene	29	0	0	0.06	0.12	0	0	0

Detroit-W. Fort St. (N. Delray-SWHS) (261630015) Concentrations in micrograms per cubic meter (µg/m^3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
1,3-Dichlorobenzene	29	0	0	0.141	0.283	0	0	0
1,4-Dichlorobenzene	29	0	0	0.193	0.386	0	0	0
2,2,4-Trimethylpentane	29	0	0	0.0734	0.147	0	0	0
Acetaldehyde	30	30	2.06	2.06		4.26	4.06	2.9
Acetone	30	30	2.95	2.95		5.91	5.29	4.26
Acetonitrile	29	19	2.68	2.77	0.5	44	20	1.3
Acrolein - Unverified	30	28	0.0762	0.0816		0.129	0.122	0.115
Acrylonitrile	29	0	0	0.398	0.796	0	0	0
Arsenic (Tsp) Stp	61	61	0.0015	0.0015	0.0000345	0.00497	0.00402	0.00364
Benzaldehyde	30	30	0.27	0.27		0.616	0.497	0.48
Benzene	29	26	0.636	0.64	0.0951	2.7	1.2	1.1
Bromodichloromethane	29	0	0	0.075	0.15	0	0	0
Bromoform	29	0	0	0.174	0.349	0	0	0
Bromomethane	29	0	0	0.111	0.221	0	0	0
Cadmium (Tsp) Stp	61	61	0.000266	0.000266	0.0000163	0.00259	0.00077	0.00065
Carbon Tetrachloride	29	0	0	0.114	0.228	0	0	0
Chlorobenzene	29	0	0	0.103	0.207	0	0	0
Chloroethane	29	0	0	0.06	0.12	0	0	0
Chloroform	29	0	0	0.06	0.12	0	0	0
Chloromethane	29	28	1.34	1.34	0.16	2.5	2.3	2.2
Cis-1,2-Dichloroethene	29	0	0	0.0631	0.126	0	0	0
Cis-1,3-Dichloropropene	29	0	0	0.065	0.13	0	0	0
Crotonaldehyde	30	0	0			0	0	0
Dibromochloromethane	29	0	0	0.148	0.296	0	0	0
Dichlorodifluoromethane	29	28	2.24	2.25	0.251	2.7	2.6	2.5
Dichloromethane	29	11	0.215	0.323	0.347	1.1	0.79	0.74
Ethylbenzene	29	3	0.0641	0.195	0.293	0.76	0.6	0.5
Ethylene Dibromide	29	0	0	0.149	0.297	0	0	0
Ethylene Dichloride	29	0	0	0.0964	0.193	0	0	0
Formaldehyde	30	30	3.27	3.27		6.14	5.48	5.27
Hexanaldehyde	30	30	0.395	0.395		0.811	0.678	0.678
Lead (Tsp) Lc Frm/Fem	62	59	0.0112	0.0112		0.0626	0.0397	0.0358
M/P Xylene	29	9	0.32	0.574	0.737	1.3	1.3	1.2
Manganese (Tsp) Stp	62	62	0.0587	0.0587	0.000612	0.2	0.197	0.168
Manganese PM_{10} Stp	28	28	0.0257	0.0257	0.000181	0.0804	0.0781	0.0565
Methacrolein	30	30	0.134	0.134		0.354	0.341	0.21
Methyl Chloroform	29	0	0	0.106	0.211	0	0	0
Methyl Ethyl Ketone	29	3	0.145	0.638	1.1	1.5	1.5	1.2
Methyl Isobutyl Ketone	29	0	0	0.432	0.864	0	0	0
Methyl Tert-Butyl Ether	29	1	0.0621	0.154	0.191	1.8	0	0

Detroit-W. Fort St. (N. Delray-SWHS) (261630015) -continued

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
N-Hexane	29	17	0.404	0.422	0.087	1.4	1.2	1
Nickel (Tsp) Stp	61	61	0.003	0.003	0.000598	0.00761	0.00731	0.0058
O-Xylene	29	6	0.151	0.282	0.331	1.3	0.74	0.69
Propionaldehyde	30	30	0.406	0.406		0.909	0.833	0.731
Styrene	29	21	12.3	12.4	0.77	140	98	84
Tetrachloroethylene	29	23	3.2	3.22	0.233	25	15	13
Tolualdehydes	30	2	0.00368	0.0552		0.0603	0.0501	0
Toluene	29	26	0.915	0.938	0.443	1.8	1.7	1.7
Trans-1,2-Dichloroethylene	29	1	0.0414	0.114	0.15	1.2	0	0
Trans-1,3-Dichloropropene	29	1	0.0483	0.0917	0.0901	1.4	0	0
Trichloroethylene	29	1	0.0552	0.136	0.167	1.6	0	0
Trichlorofluoromethane	29	28	1.38	1.39	0.231	2.3	2.1	2
Valeraldehyde	30	30	0.366	0.366		0.757	0.718	0.686
Vinyl Chloride	29	1	0.0269	0.0897	0.13	0.78	0	0

Detroit, W. Jefferson, South Delray (261630027) Concentrations in micrograms per cubic meter ($\mu g/m^3$)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Arsenic (Tsp) Stp	60	60	0.00171	0.00171	0.0000358	0.00499	0.00429	0.0036
Cadmium (Tsp) Stp	60	60	0.000317	0.000317	0.0000163	0.00312	0.0008	0.00068
Lead (Tsp) Lc Frm/Fem	61	60	0.0108	0.0108		0.046	0.0432	0.0265
Manganese (Tsp) Stp	60	60	0.151	0.151	0.000651	0.663	0.648	0.575
Nickel (Tsp) Stp	60	60	0.00301	0.00301	0.000628	0.00729	0.00718	0.00714

Port Huron-Rural St. (261470031), Speciated $PM_{2.5}$ (µg/m^3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Arsenic (Tsp) Stp	61	61	0.00111	0.00111	0.0000346	0.0118	0.00831	0.00512
Cadmium (Tsp) Stp	61	60	0.0002	0.0002	0.0000162	0.00112	0.00091	0.00085
Lead (Tsp) Lc Frm/Fem	91	91	0.0176	0.0176		0.122	0.114	0.067
Manganese (Tsp) Stp	61	61	0.00726	0.00726	0.000622	0.0268	0.024	0.0195
Nickel (Tsp) Stp	61	61	0.000881	0.000881	0.000599	0.0025	0.0019	0.00182

River Rouge (261630005) Concentrations in micrograms per cubic meter (µg/m^3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Acetaldehyde	30	30	2.52	2.52		3.78	3.66	3.09
Acetone	30	30	2.75	2.75		5.85	5.02	4.15
Acrolein - Unverified	30	29	0.0786	0.0813		0.141	0.137	0.125
Arsenic (Tsp) Stp	61	61	0.00155	0.00155	0.0000348	0.0118	0.00813	0.00341
Benzaldehyde	30	30	0.165	0.165		0.547	0.299	0.281
Cadmium (Tsp) Stp	61	61	0.000315	0.000315	0.0000163	0.0016	0.00092	0.00086
Crotonaldehyde	30	0	0			0	0	0
Formaldehyde	30	30	3.37	3.37		6.58	6.47	5.38
Hexanaldehyde	30	30	0.211	0.211		0.774	0.526	0.469
Lead (Tsp) Lc Frm/Fem	62	61	0.00615	0.00615		0.0332	0.0213	0.0174
Manganese (Tsp) Stp	61	61	0.0438	0.0438	6.33E-04	0.152	0.105	0.0999
Methacrolein	30	30	0.15	0.15		0.474	0.378	0.238
Nickel (Tsp) Stp	61	61	0.00131	0.00131	0.000609	0.00298	0.00252	0.00233
Propionaldehyde	30	30	0.385	0.385		1.01	0.837	0.649
Tolualdehydes	30	5	0.0117	0.0699		0.0865	0.0774	0.0702
Valeraldehyde	30	30	0.18	0.18		0.799	0.395	0.336

Grand Rapids-Monroe St. (260810020) Concentrations in micrograms per cubic meter (µg/m³)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Arsenic (Tsp) Stp	61	61	0.000853	0.000853	0.0000335	0.00515	0.00219	0.00214
Cadmium (Tsp) Stp	61	61	0.0000782	0.0000782	0.0000163	0.00025	0.00021	0.00018
Lead (Tsp) Lc Frm/Fem	62	60	0.00373	0.00373		0.0451	0.0118	0.0101
Manganese (Tsp) Stp	61	61	0.0102	0.0102	0.000593	0.0271	0.0264	0.0251
Nickel (Tsp) Stp	61	61	0.000966	0.000966	0.000572	0.00515	0.00253	0.00219

Belding-Merrick St. (260670003) Concentrations in micrograms per cubic meter (µg/m³)

Chemical Name	**Num Obs**	**Obs > MDL**	**Average (ND=0)**	**Average (ND=MDL/2)**	**MDL**	**Max 1**	**Max 2**	**Max 3**
Arsenic (Tsp) Stp	61	61	0.00107	0.00107	0.0000348	0.00482	0.00394	0.00343
Cadmium (Tsp) Stp	61	61	0.00102	0.00102	0.0000161	0.0413	0.00392	0.00326
Lead (Tsp) Lc Frm/Fem	61	61	0.0304	0.0304		0.753	0.195	0.152
Manganese (Tsp) Stp	61	61	0.0061	0.0061	0.00062	0.0177	0.0118	0.0116
Nickel (Tsp) Stp	61	61	0.000653	0.000653	0.000598	0.00189	0.00148	0.00124

NMH 48217 (261630097) Concentrations in micrograms per cubic meter (µg/m³)

Chemical Name	**Num Obs**	**Obs > MDL**	**Average (ND=0)**	**Average (ND=MDL/2)**	**MDL**	**Max 1**	**Max 2**	**Max 3**
Arsenic (Tsp) Stp	61	61	0.001	0.001	0.0000334	0.00292	0.00273	0.00234
Cadmium (Tsp) Stp	61	61	0.000143	0.000143	0.000016	0.00144	0.00039	0.00034
Lead (Tsp) Lc Frm/Fem	61	61	0.00436	0.00436		0.0181	0.00984	0.00954
Manganese (Tsp) Stp	61	61	0.0199	0.0199	0.000604	0.0422	0.0394	0.0387
Nickel (Tsp) Stp	61	61	0.0016	0.0016	0.000583	0.0202	0.00901	0.00513

DP 4th Precinct (261630098) Concentrations in micrograms per cubic meter (µg/m^3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Arsenic (Tsp) Stp	60	60	0.00112	0.00112	0.0000354	0.00265	0.00233	0.00227
Cadmium (Tsp) Stp	60	60	0.000159	0.000159	0.0000162	0.00138	0.00034	0.00034
Lead (Tsp) Lc Frm/Fem	60	59	0.00732	0.00732		0.0203	0.0192	0.0179
Manganese (Tsp) Stp	60	60	0.0485	0.0485	0.00063	0.13	0.123	0.121
Nickel (Tsp) Stp	60	60	0.00207	0.00207	0.000607	0.00578	0.00555	0.00502

Military Park (261630100) Concentrations in micrograms per cubic meter (µg/m^3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Arsenic (Tsp) Stp	61	61	0.00122	0.00122	0.0000343	0.00276	0.00273	0.00263
Cadmium (Tsp) Stp	61	61	0.000235	0.000235	0.0000161	0.00142	0.00093	0.00072
Lead (Tsp) Lc Frm/Fem	61	61	0.0117	0.0117		0.0782	0.0678	0.0661
Manganese (Tsp) Stp	61	61	0.0456	0.0456	0.000619	0.15	0.134	0.132
Nickel (Tsp) Stp	61	61	0.00145	0.00145	0.000595	0.00369	0.00312	0.00282

Trinity (261630099) Concentrations in micrograms per cubic meter (µg/m^3)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Arsenic (Tsp) Stp	61	61	0.00149	0.00149	0.0000341	0.00941	0.00391	0.00304
Cadmium (Tsp) Stp	61	61	0.000219	0.000219	0.0000161	0.00093	0.00053	0.00052
Lead (Tsp) Lc Frm/Fem	60	60	0.0145	0.0145		0.303	0.041	0.0285
Manganese (Tsp) Stp	61	61	0.08	0.08	0.000614	0.265	0.224	0.223
Nickel (Tsp) Stp	61	61	0.00271	0.00271	0.000592	0.00784	0.0076	0.00719

APPENDIX B-2 Data Tables

Allen Park (261630001), Speciated $PM_{2.5}$ ($\mu g/m^3$)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND= MDL/2)	MDL	Max 1	Max 2	Max 3
Aluminum Pm2.5 Lc	119	87	0.0274	0.0274	0.0322	0.14	0.134	0.12
Ammonium Ion Pm2.5 Lc	119	118	0.525	0.525	0.0069	4.17	2.66	2.39
Antimony Pm2.5 Lc	119	71	0.00497	0.00497	0.0388	0.0333	0.0278	0.0247
Arsenic Pm2.5 Lc	119	54	0.0000371	0.000201	0.00186	0.0021	0.00011	0.00011
Barium Pm2.5 Lc	119	66	0.0105	0.0105	0.08	0.0535	0.0426	0.0423
Bromine Pm2.5 Lc	119	25	0.000387	0.00218	0.00454	0.00741	0.00654	0.00478
Cadmium Pm2.5 Lc	119	70	0.00421	0.00421	0.0158	0.0212	0.0212	0.0188
Calcium Pm2.5 Lc	119	119	0.089	0.089	0.00882	0.472	0.462	0.454
Cerium Pm2.5 Lc	119	57	0.00916	0.00916	0.0953	0.0639	0.0514	0.0482
Cesium Pm2.5 Lc	119	61	0.00805	0.00805	0.0537	0.0666	0.0547	0.0431
Chlorine Pm2.5 Lc	119	105	0.0203	0.0203	0.00433	0.918	0.325	0.0658
Chromium Pm2.5 Lc	119	97	0.00338	0.00338	0.00275	0.0309	0.0303	0.022
Cobalt Pm2.5 Lc	119	42	0.00031	0.00031	0.0033	0.00276	0.00252	0.00199
Copper Pm2.5 Lc	119	102	0.0074	0.0074	0.0113	0.0396	0.0335	0.0328
Ec Csn_Rev Unadjusted Pm2.5 Lc Tot	120	120	0.438	0.438	0.0117	1.5	1.46	1.03
Indium Pm2.5 Lc	119	59	0.00471	0.00487	0.038	0.0447	0.034	0.0281
Iron Pm2.5 Lc	119	119	0.0989	0.0989	0.0175	0.333	0.328	0.322
Lead Pm2.5 Lc	119	82	0.0038	0.0038	0.0122	0.024	0.0151	0.0147
Magnesium Pm2.5 Lc	119	72	0.0208	0.0238	0.0462	0.121	0.114	0.112
Manganese Pm2.5 Lc	119	103	0.00329	0.00329	0.00639	0.0132	0.0124	0.0109
Nickel Pm2.5 Lc	119	96	0.00124	0.00124	0.00186	0.0081	0.00795	0.00747
Oc Csn_Rev Unadjusted Pm2.5 Lc Tot	120	120	1.91	1.91	0.358	5.17	4.94	3.94
Phosphorus Pm2.5 Lc	119	112	0.000408	0.000484	0.00258	0.00675	0.00494	0.00416
Potassium Ion Pm2.5 Lc	119	119	0.0364	0.0364	0.0606	0.419	0.18	0.134
Potassium Pm2.5 Lc	119	119	0.0486	0.0486	0.00631	0.18	0.146	0.135
Rubidium Pm2.5 Lc	119	55	0.00075	0.00075	0.00887	0.00858	0.00612	0.00604
Selenium Pm2.5 Lc	119	74	0.001	0.00102	0.00526	0.00598	0.00589	0.00543
Silicon Pm2.5 Lc	119	112	0.0729	0.0729	0.0176	0.418	0.385	0.37
Silver Pm2.5 Lc	119	59	0.0038	0.0038	0.0164	0.0244	0.0203	0.0193
Sodium Ion Pm2.5 Lc	119	118	0.0599	0.0599	0.00879	2.56	0.84	0.489
Sodium Pm2.5 Lc	119	82	0.0624	0.0624	0.0915	0.591	0.506	0.372
Strontium Pm2.5 Lc	119	76	0.00112	0.00112	0.00722	0.00639	0.0061	0.00573
Sulfate Pm2.5 Lc	119	119	0.905	0.905	0.0217	2.78	2.65	2.17

Allen Park (261630001), Speciated $PM_{2.5}$ (µg/m^3) - cotinued

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND= MDL/2)	MDL	Max 1	Max 2	Max 3
Sulfur Pm2.5 Lc	119	119	0.335	0.335	0.00371	0.997	0.902	0.836
Tin Pm2.5 Lc	119	65	0.00477	0.00477	0.0488	0.0403	0.0265	0.0251
Titanium Pm2.5 Lc	119	98	0.00363	0.00363	0.0035	0.0146	0.0139	0.0135
Total Nitrate Pm2.5 Lc	119	119	1.56	1.56	0.0394	12.4	8.33	7.77
Vanadium Pm2.5 Lc	119	33	0.000176	0.00066	0.00134	0.00188	0.00187	0.00142
Zinc Pm2.5 Lc	119	119	0.0165	0.0165	0.00316	0.151	0.057	0.0459
Zirconium Pm2.5 Lc	119	70	0.004	0.004	0.0359	0.0281	0.0261	0.0238

Dearborn (261630033), Speciated $PM_{2.5}$ ($\mu g/m^3$)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Aluminum Pm2.5 Lc	61	46	0.0336	0.0336	0.0322	0.255	0.122	0.122
Ammonium Ion Pm2.5 Lc	61	61	0.546	0.546	0.00684	2.4	2.33	1.57
Antimony Pm2.5 Lc	61	45	0.00674	0.00674	0.0388	0.0247	0.0212	0.018
Arsenic Pm2.5 Lc	61	26	2.03E-05	9.65E-05	0.00186	0.00011	0.00011	0.00006
Barium Pm2.5 Lc	61	35	0.0115	0.0115	0.0801	0.0679	0.056	0.0507
Bromine Pm2.5 Lc	61	25	0.000699	0.00204	0.00454	0.00927	0.00486	0.00413
Cadmium Pm2.5 Lc	61	33	0.00375	0.00375	0.0158	0.0176	0.0155	0.0143
Calcium Pm2.5 Lc	61	61	0.145	0.145	0.00887	0.864	0.836	0.624
Cerium Pm2.5 Lc	61	34	0.0127	0.0127	0.0954	0.079	0.0519	0.0505
Cesium Pm2.5 Lc	61	28	0.00574	0.00574	0.0538	0.036	0.0264	0.025
Chlorine Pm2.5 Lc	61	59	0.0391	0.0391	0.00433	0.271	0.222	0.177
Chromium Pm2.5 Lc	61	53	0.00259	0.00259	0.00276	0.0264	0.0128	0.00713
Cobalt Pm2.5 Lc	61	28	0.000569	0.000569	0.0033	0.00563	0.00336	0.00276
Copper Pm2.5 Lc	61	61	0.0259	0.0259	0.0114	0.0841	0.0711	0.0642
Ec Csn_Rev Unadjusted Pm2.5 Lc Tot	60	60	0.518	0.518	0.0117	1.17	1.17	1.01
Indium Pm2.5 Lc	61	38	0.00498	0.00498	0.0381	0.0266	0.0224	0.0179
Iron Pm2.5 Lc	61	61	0.359	0.359	0.0176	1.29	1.23	1.12
Lead Pm2.5 Lc	61	49	0.00614	0.00614	0.0122	0.0319	0.0188	0.0139
Magnesium Pm2.5 Lc	61	47	0.0387	0.041	0.0463	0.272	0.157	0.145
Manganese Pm2.5 Lc	61	57	0.0114	0.0114	0.0064	0.0421	0.0367	0.0347
Nickel Pm2.5 Lc	61	46	0.00137	0.00137	0.00186	0.0106	0.00729	0.00509
Oc Csn_Rev Unadjusted	60	60	2.1	2.1	0.356	4.6	4.36	4.29

Dearborn (261630033), Speciated $PM_{2.5}$ (µg/m^3) - continued

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Pm2.5 Lc Tot								
Phosphorus Pm2.5 Lc	61	57	0.000243	0.000343	0.00257	0.00605	0.00216	0.00141
Potassium Ion Pm2.5 Lc	61	61	0.0466	0.0466	0.0606	0.198	0.174	0.14
Potassium Pm2.5 Lc	61	61	0.0654	0.0654	0.00627	0.247	0.183	0.174
Rubidium Pm2.5 Lc	61	34	0.00128	0.00135	0.00888	0.00476	0.00473	0.00471
Selenium Pm2.5 Lc	61	42	0.0013	0.0013	0.00527	0.0042	0.00417	0.00393
Silicon Pm2.5 Lc	61	58	0.0889	0.0889	0.0177	0.706	0.361	0.345
Silver Pm2.5 Lc	61	36	0.00294	0.00294	0.0164	0.0158	0.0151	0.0124
Sodium Ion Pm2.5 Lc	61	61	0.0539	0.0539	0.00886	0.308	0.241	0.214
Sodium Pm2.5 Lc	61	48	0.0711	0.0711	0.0916	0.475	0.394	0.386
Strontium Pm2.5 Lc	61	33	0.0015	0.0015	0.00723	0.0178	0.0081	0.0077
Sulfate Pm2.5 Lc	61	61	1.15	1.15	0.0218	3.63	2.71	2.27
Sulfur Pm2.5 Lc	61	61	0.408	0.408	0.00372	1.16	1.02	0.889
Tin Pm2.5 Lc	61	35	0.00566	0.00566	0.0488	0.0339	0.0259	0.0256
Titanium Pm2.5 Lc	61	54	0.00462	0.00462	0.0035	0.0385	0.0166	0.0146
Total Nitrate Pm2.5 Lc	61	61	1.62	1.62	0.0393	12.3	7.23	5.74
Vanadium Pm2.5 Lc	61	20	0.000169	0.000619	0.00134	0.0018	0.00131	0.0011
Zinc Pm2.5 Lc	61	61	0.0667	0.0667	0.00317	0.475	0.3	0.297
Zirconium Pm2.5 Lc	61	35	0.00293	0.00293	0.0359	0.0183	0.0149	0.0105

Detroit, W Fort St. (N. Delray-SWHS) (261630015), Speciated $PM_{2.5}$ (µg/m³)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Aluminum Pm2.5 Lc	61	47	0.271	0.271	0.0322	11.2	0.818	0.605
Ammonium Ion Pm2.5 Lc	61	61	0.653	0.653	0.00684	4.71	2.7	2.39
Antimony Pm2.5 Lc	61	32	0.00571	0.00571	0.0388	0.0282	0.026	0.0246
Arsenic Pm2.5 Lc	61	24	0.0000193	0.0000955	0.00186	0.00011	0.00011	0.00006
Barium Pm2.5 Lc	61	37	0.0111	0.0111	0.0801	0.0527	0.0505	0.0487
Bromine Pm2.5 Lc	61	24	0.000897	0.00227	0.00454	0.0103	0.00743	0.00569
Cadmium Pm2.5 Lc	61	34	0.00463	0.00463	0.0158	0.0245	0.0245	0.0231
Calcium Pm2.5 Lc	61	61	0.0983	0.0983	0.00887	0.458	0.325	0.229
Cerium Pm2.5 Lc	61	23	0.00585	0.00585	0.0954	0.0434	0.0433	0.0296
Cesium Pm2.5 Lc	61	30	0.007	0.007	0.0538	0.056	0.0334	0.0314
Chlorine Pm2.5 Lc	61	56	0.0427	0.0427	0.00433	0.369	0.216	0.204
Chromium Pm2.5 Lc	61	52	0.00158	0.00158	0.00276	0.0105	0.00644	0.00516
Cobalt Pm2.5 Lc	61	22	0.000365	0.000365	0.0033	0.00401	0.00365	0.00182
Copper Pm2.5 Lc	61	60	0.00819	0.00819	0.0114	0.0368	0.021	0.0197
Ec Csn_Rev Unadjusted Pm2.5 Lc Tot	60	60	0.712	0.712	0.0117	1.53	1.52	1.49
Indium Pm2.5 Lc	61	31	0.00456	0.00456	0.0381	0.0251	0.021	0.0192
Iron Pm2.5 Lc	61	61	0.173	0.173	0.0175	0.684	0.576	0.507
Lead Pm2.5 Lc	61	50	0.00595	0.00595	0.0122	0.0368	0.0301	0.0156
Magnesium Pm2.5 Lc	61	30	0.0277	0.0324	0.0463	0.427	0.128	0.107
Manganese Pm2.5 Lc	61	57	0.00513	0.00513	0.0064	0.0199	0.0147	0.0146
Nickel Pm2.5 Lc	61	48	0.000974	0.000974	0.00186	0.00592	0.00384	0.00349
Oc Csn_Rev Unadjusted Pm2.5 Lc Tot	60	60	3.13	3.13	0.348	8.95	6.08	5.15
Phosphorus Pm2.5 Lc	61	58	0.000317	0.000394	0.00257	0.00343	0.00242	0.00224
Potassium Ion Pm2.5 Lc	61	61	0.187	0.187	0.0606	2.49	2.24	1.26
Potassium Pm2.5 Lc	61	60	0.209	0.209	0.00627	2.67	2.36	1.23
Rubidium Pm2.5 Lc	61	29	0.000929	0.000929	0.00887	0.00498	0.00483	0.00457

Detroit, W Fort St. (N. Delray-SWHS) (261630015), Speciated $PM_{2.5}$ ($\mu g/m^3$) - continued

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Selenium Pm2.5 Lc	61	40	0.00124	0.00124	0.00526	0.00511	0.00423	0.00421
Silicon Pm2.5 Lc	61	59	0.122	0.122	0.0177	2.32	0.399	0.312
Silver Pm2.5 Lc	61	34	0.00392	0.00392	0.0164	0.0212	0.0195	0.019
Sodium Ion Pm2.5 Lc	61	61	0.0432	0.0432	0.00885	0.209	0.197	0.161
Sodium Pm2.5 Lc	61	53	0.0549	0.0549	0.0916	0.192	0.162	0.15
Strontium Pm2.5 Lc	61	42	0.00142	0.00142	0.00722	0.00622	0.00509	0.00481
Sulfate Pm2.5 Lc	61	61	1.36	1.36	0.0218	3.78	3.28	3.1
Sulfur Pm2.5 Lc	61	61	0.47	0.47	0.00371	1.23	1.15	1.12
Tin Pm2.5 Lc	61	36	0.00434	0.00434	0.0488	0.0273	0.0262	0.0253
Titanium Pm2.5 Lc	61	58	0.0183	0.0183	0.0035	0.308	0.159	0.0535
Total Nitrate Pm2.5 Lc	61	61	1.85	1.85	0.0393	12	7.34	7.19
Vanadium Pm2.5 Lc	61	27	0.000621	0.000995	0.00134	0.0135	0.00402	0.00322
Zinc Pm2.5 Lc	61	61	0.0373	0.0373	0.00317	0.46	0.134	0.106
Zirconium Pm2.5 Lc	61	35	0.00385	0.00385	0.0359	0.0172	0.0158	0.0144

Grand Rapids-Monroe St. (260810020), Speciated $PM_{2.5}$ ($\mu g/m^3$)

Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Aluminum Pm2.5 Lc	121	66	0.0146	0.0146	0.0322	0.146	0.142	0.134
Ammonium Ion Pm2.5 Lc	121	120	0.686	0.686	0.00692	4.44	4.23	3.56
Antimony Pm2.5 Lc	121	69	0.00517	0.00517	0.0388	0.0333	0.0289	0.0256
Arsenic Pm2.5 Lc	121	56	0.0000193	0.000165	0.00186	0.00011	0.00011	0.00011
Barium Pm2.5 Lc	121	71	0.0111	0.0111	0.0801	0.132	0.0759	0.0643
Bromine Pm2.5 Lc	121	27	0.000379	0.00215	0.00454	0.00651	0.00518	0.00514
Cadmium Pm2.5 Lc	121	70	0.00465	0.00465	0.0158	0.0248	0.0246	0.0242
Calcium Pm2.5 Lc	121	121	0.0298	0.0298	0.00885	0.162	0.0926	0.0876
Cerium Pm2.5 Lc	121	61	0.0119	0.0119	0.0954	0.0644	0.0593	0.0583
Cesium Pm2.5 Lc	121	66	0.00867	0.00867	0.0538	0.0469	0.0468	0.0385
Chlorine Pm2.5 Lc	121	82	0.00583	0.00583	0.00432	0.153	0.0986	0.0344
Chromium Pm2.5 Lc	121	92	0.00461	0.00461	0.00276	0.191	0.0588	0.0335
Cobalt Pm2.5 Lc	121	37	0.000252	0.000252	0.0033	0.00341	0.00306	0.00247
Copper Pm2.5 Lc	121	98	0.00404	0.00404	0.0114	0.0533	0.0171	0.0167
Ec Csn_Rev Unadjusted Pm2.5 Lc Tot	116	116	0.366	0.366	0.0117	1.11	0.984	0.93
Indium Pm2.5 Lc	121	65	0.00447	0.00447	0.0381	0.0249	0.0201	0.0196
Iron Pm2.5 Lc	121	121	0.072	0.072	0.0176	0.609	0.498	0.285
Lead Pm2.5 Lc	121	85	0.00372	0.00372	0.0122	0.0165	0.0144	0.0142
Magnesium Pm2.5 Lc	121	74	0.0196	0.0227	0.0463	0.252	0.0729	0.0708
Manganese Pm2.5 Lc	121	97	0.00259	0.00259	0.0064	0.0229	0.0149	0.0123

Grand Rapids-Monroe St. (260810020), Speciated $PM_{2.5}$ ($\mu g/m^3$) - continued

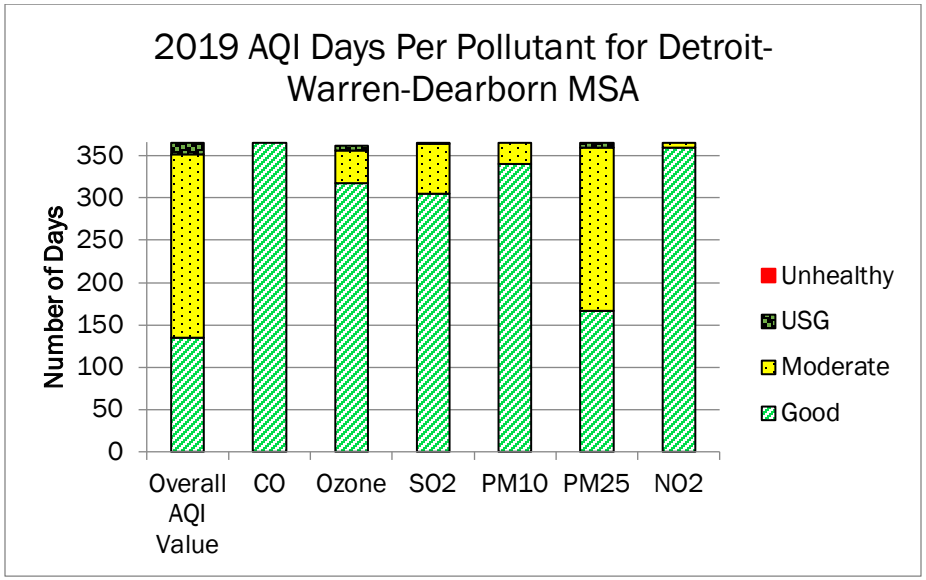
Chemical Name	Num Obs	Obs > MDL	Average (ND=0)	Average (ND=MDL/2)	MDL	Max 1	Max 2	Max 3
Nickel Pm2.5 Lc	121	84	0.00126	0.00127	0.00186	0.0415	0.0144	0.00932
Oc Csn_Rev Unadjusted Pm2.5 Lc Tot	116	116	1.89	1.89	0.362	4.87	4.55	4.14
Phosphorus Pm2.5 Lc	121	113	0.00101	0.0011	0.00258	0.0931	0.00392	0.00356
Potassium Ion Pm2.5 Lc	121	120	0.0495	0.0495	0.0606	1.79	0.193	0.174
Potassium Pm2.5 Lc	121	121	0.0606	0.0606	0.00631	1.76	0.211	0.197
Rubidium Pm2.5 Lc	121	69	0.000863	0.000936	0.00888	0.00787	0.00704	0.00445
Selenium Pm2.5 Lc	121	73	0.000867	0.000867	0.00527	0.00477	0.00453	0.00418
Silicon Pm2.5 Lc	121	108	0.0322	0.0322	0.0175	0.272	0.186	0.163
Silver Pm2.5 Lc	121	60	0.00358	0.00358	0.0164	0.0246	0.0211	0.02
Sodium Ion Pm2.5 Lc	121	119	0.024	0.024	0.00882	0.171	0.148	0.146
Sodium Pm2.5 Lc	121	82	0.0414	0.0414	0.0917	0.182	0.173	0.169
Strontium Pm2.5 Lc	121	71	0.0013	0.0013	0.00723	0.0407	0.0177	0.00478
Sulfate Pm2.5 Lc	121	121	0.948	0.948	0.0217	3.19	3.09	2.44
Sulfur Pm2.5 Lc	121	121	0.329	0.329	0.00372	1.08	0.969	0.904
Tin Pm2.5 Lc	121	76	0.00613	0.00613	0.0489	0.0323	0.0303	0.0226
Titanium Pm2.5 Lc	121	99	0.00293	0.00295	0.00351	0.0155	0.0129	0.00926
Total Nitrate Pm2.5 Lc	121	121	1.99	1.99	0.0393	13.5	12.4	9.93
Vanadium Pm2.5 Lc	121	35	0.000131	0.000608	0.00134	0.00135	0.0013	0.00115
Zinc Pm2.5 Lc	121	121	0.0134	0.0134	0.00317	0.0434	0.04	0.04
Zirconium Pm2.5 Lc	121	70	0.00487	0.00487	0.0359	0.0213	0.0184	0.0182

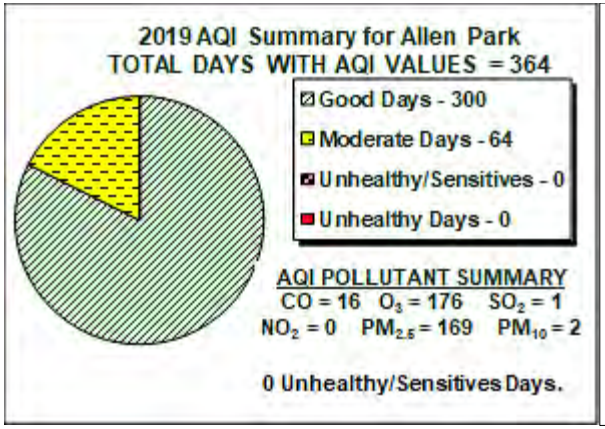
APPENDIX C: 2019 AIR QUALITY INDEX (AQI) PIE CHARTS

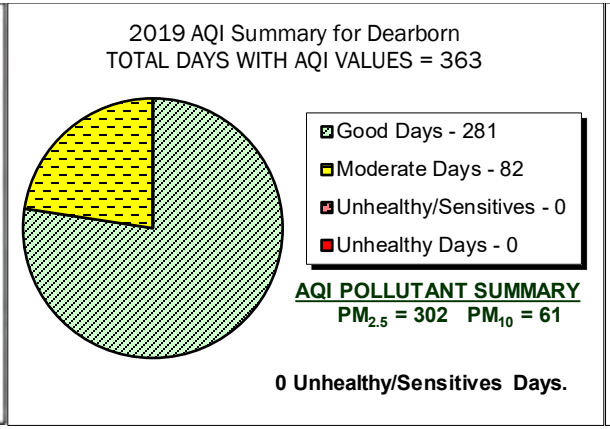
Appendix C contains pie charts that were created to show the AQI values for each of Michigan's 2019 monitoring sites and includes the total number of days measurements were taken, along with the pollutant distribution of the AQI values for those measurements. It is important to note that not all pollutants are measured at each site. In fact, some sites only obtain AQI measurements for that portion of the year corresponding to the ozone season; therefore, the number of days for each site may not be equivalent to 365. **Figures C.1** through **C.7** are grouped by Metropolitan Statistical Area (MSA). MSAs are geographic regions based on population and employment data that the US Census compiles. They are defined by the US Office of Management and Budget. More information on MSAs can be found on the US Census website: www.census.gov. **Figures C.8** and **C.9** show the remaining sites (not part of a CSA) located in Michigan's Upper and Lower Peninsulas, respectively.

See Legend for Appendix C Pie Charts

Figure C.1: AQI Summaries for Detroit-Warren-Dearborn MSA







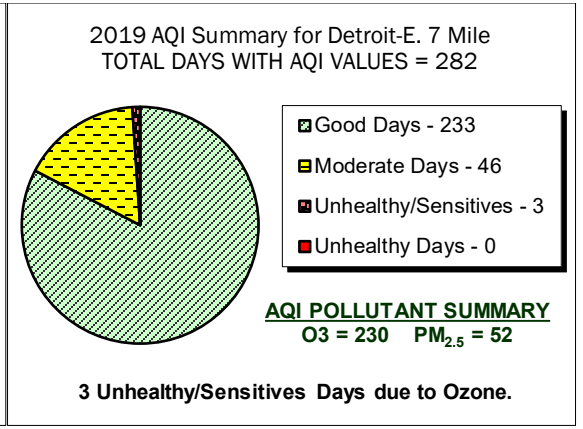
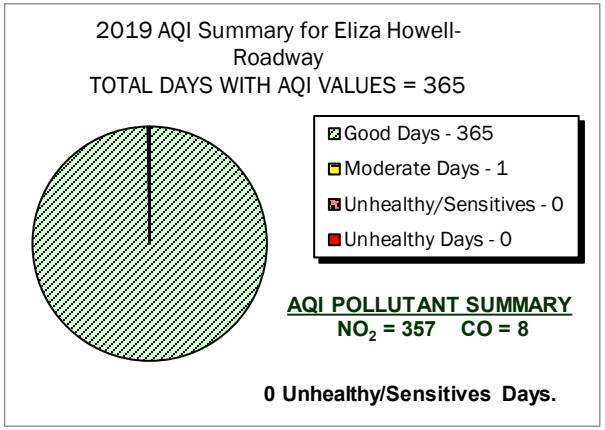
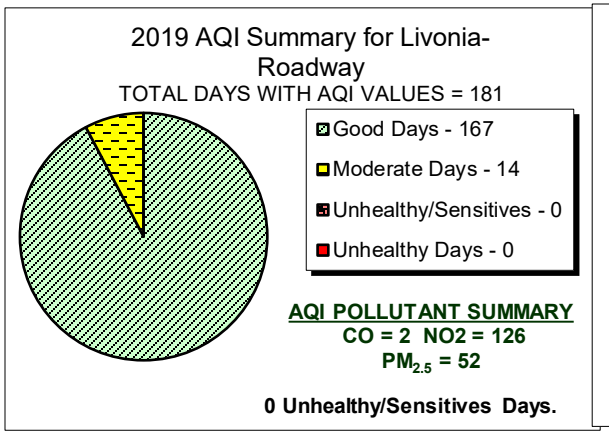
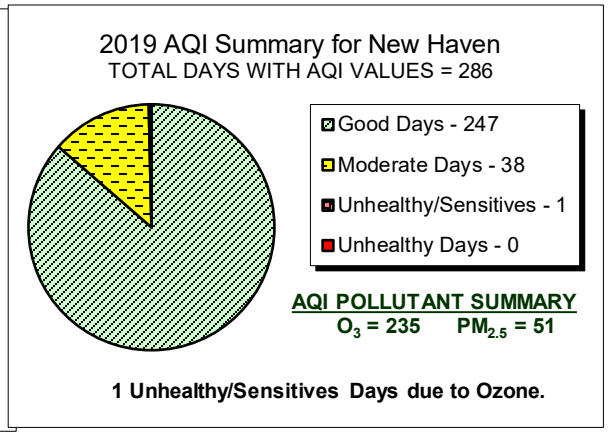
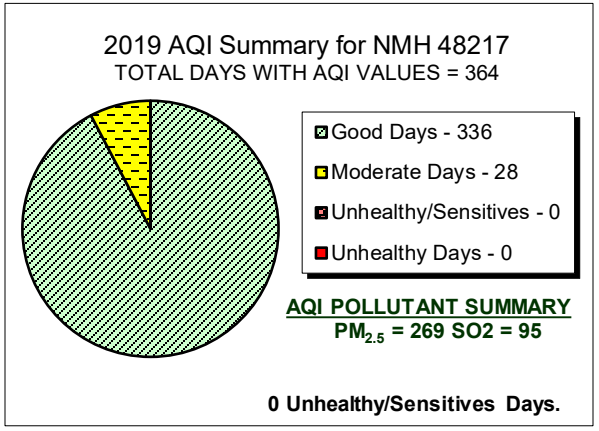


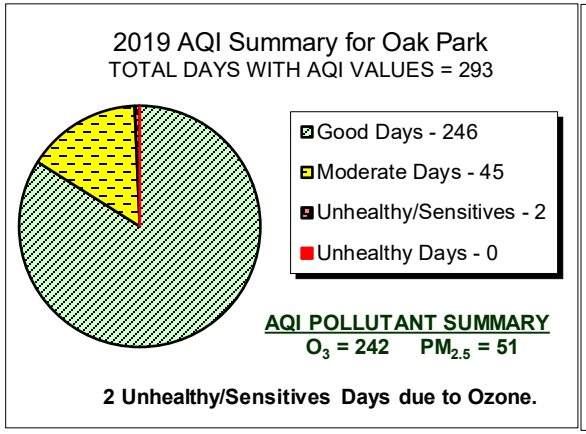
Figure C1, continued: AQI Summaries for Detroit-Warren-Dearborn-MSA











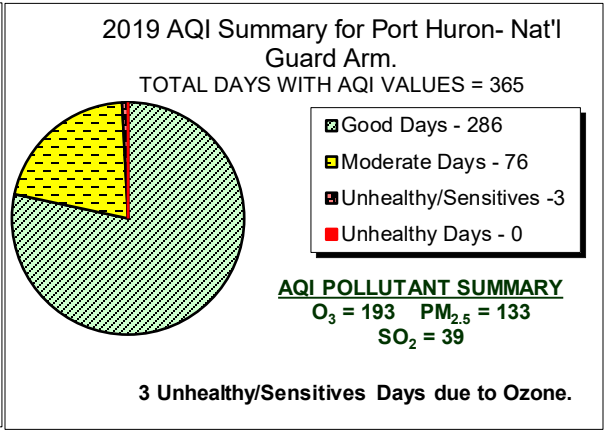
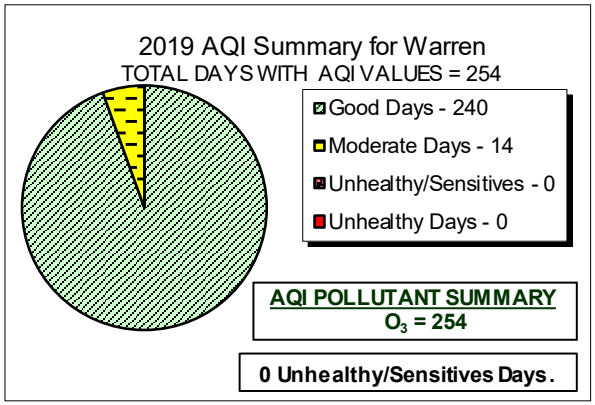
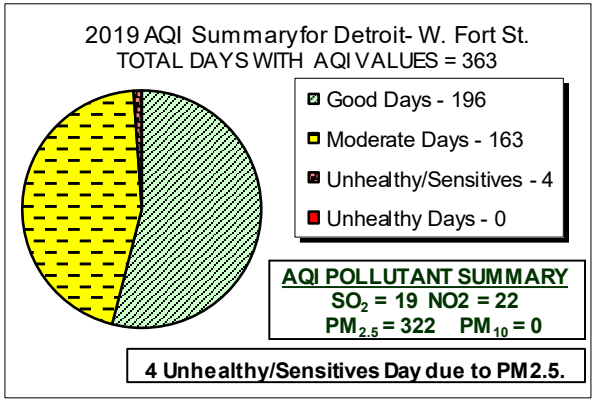
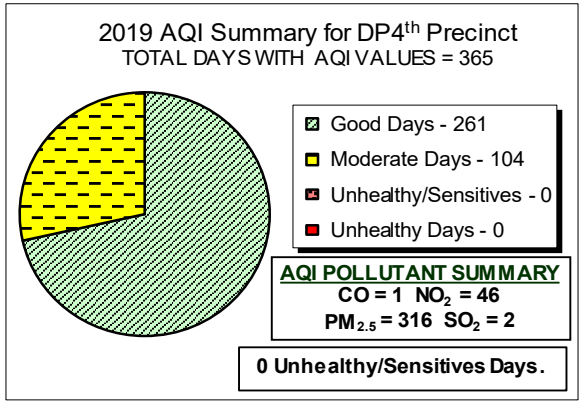
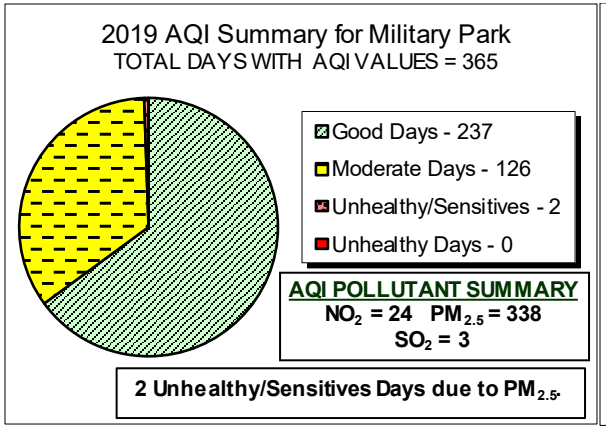


Figure C1, continued: AQI Summaries for Detroit-Warren-Dearborn-MSA









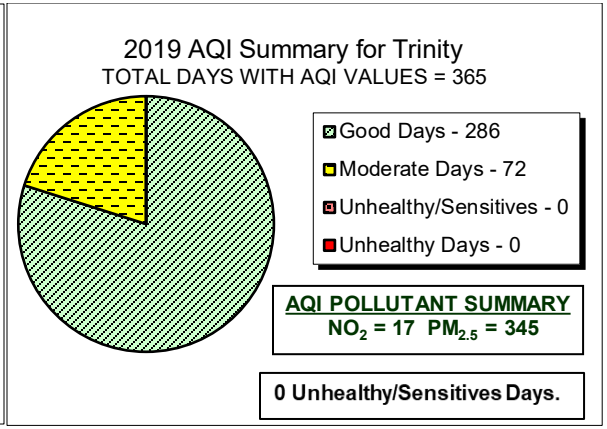
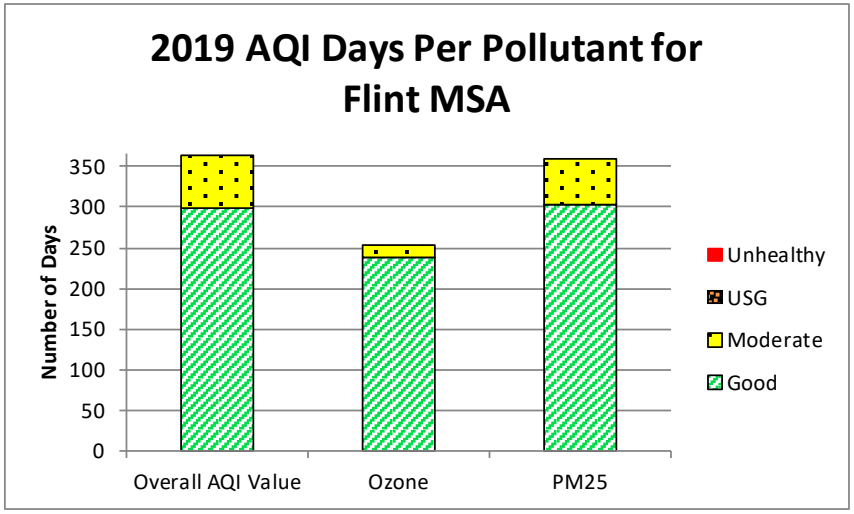
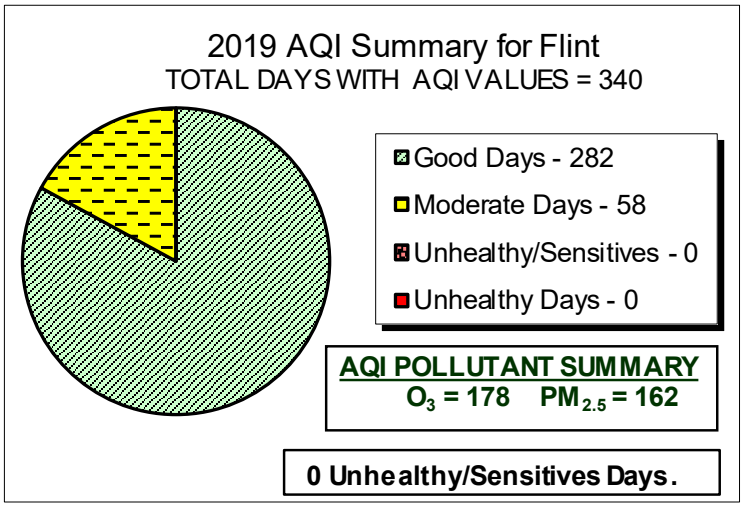


Figure C2: AQI Summaries for Flint MSA





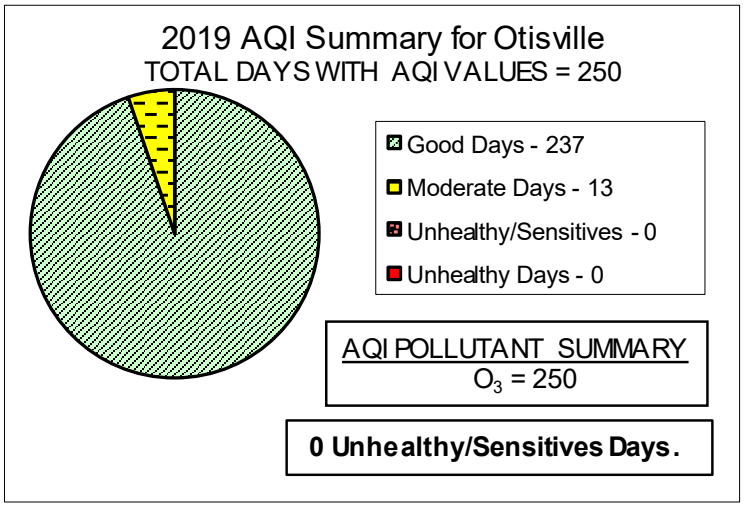
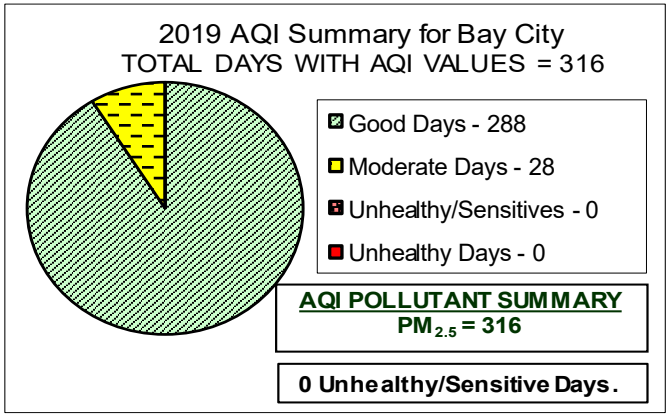
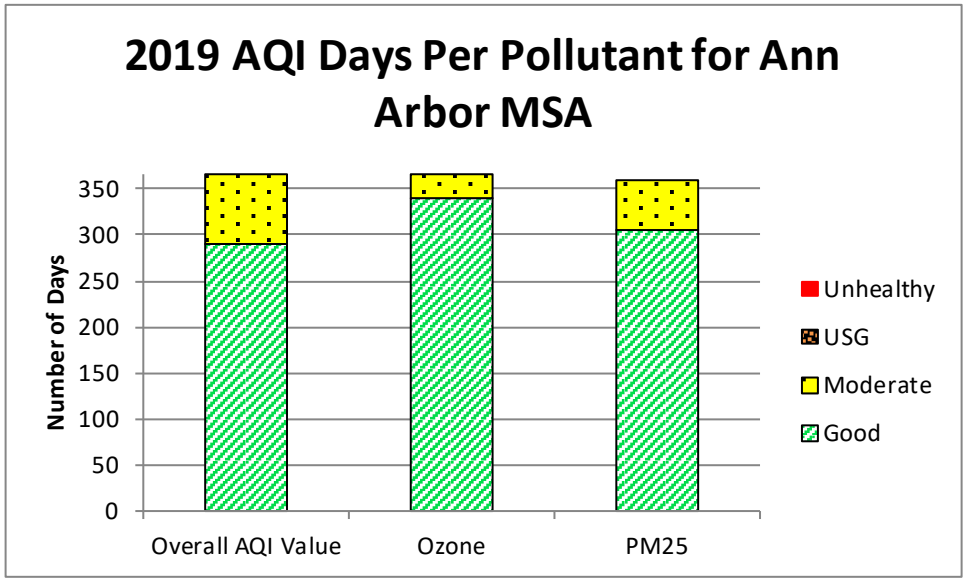


Figure C3: AQI Summary for Saginaw-Midland-Bay City-MSA



*Note: This site does not have AQI per pollutant graphs since only one pollutant is monitored in one location in these areas.

Figure C4: Ann Arbor MSA



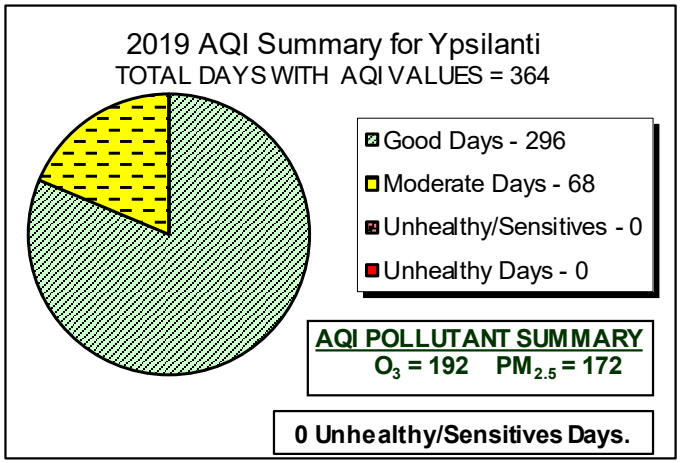
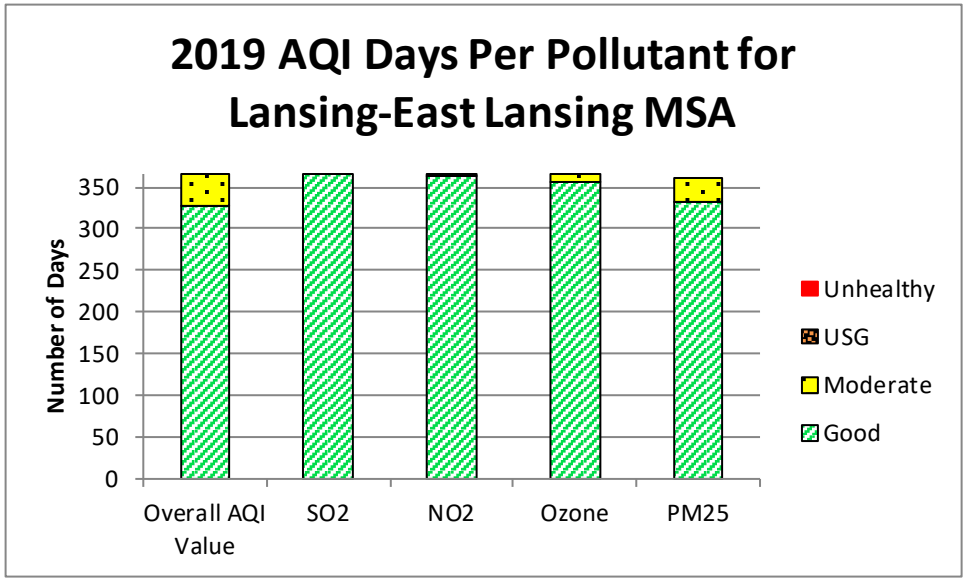
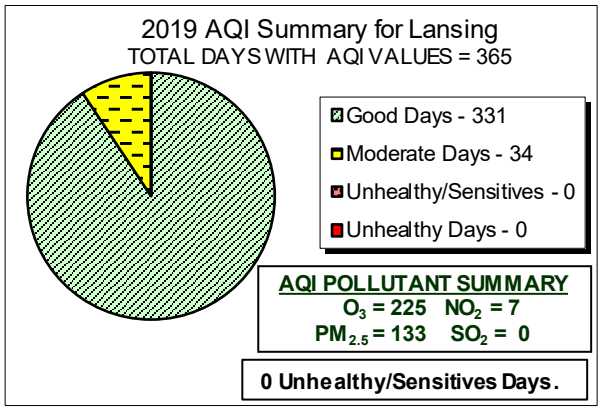


Figure C5: AQI Summaries for Lansing-East Lansing-MSA





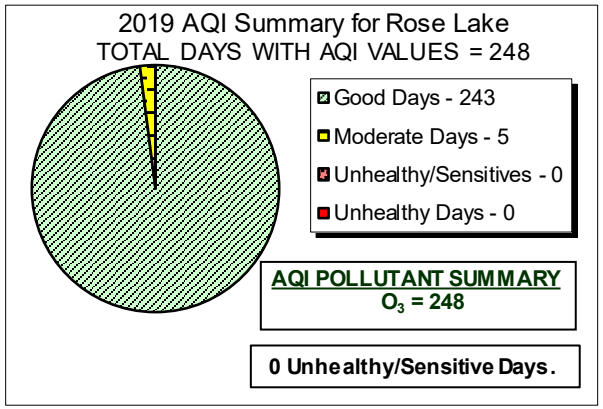
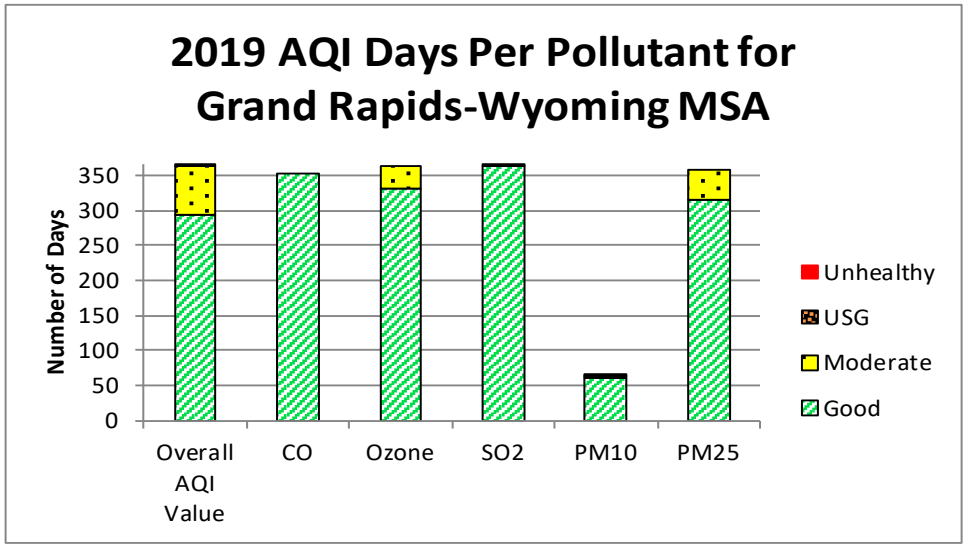
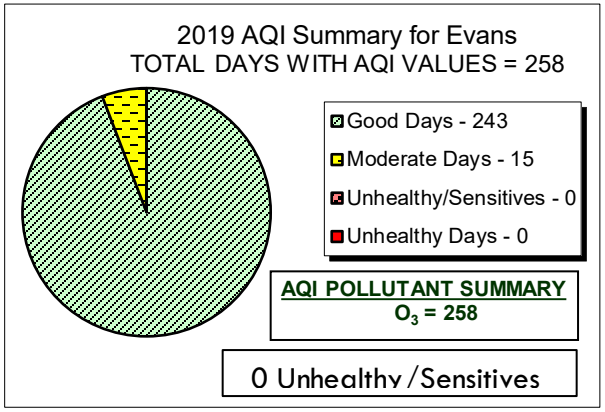
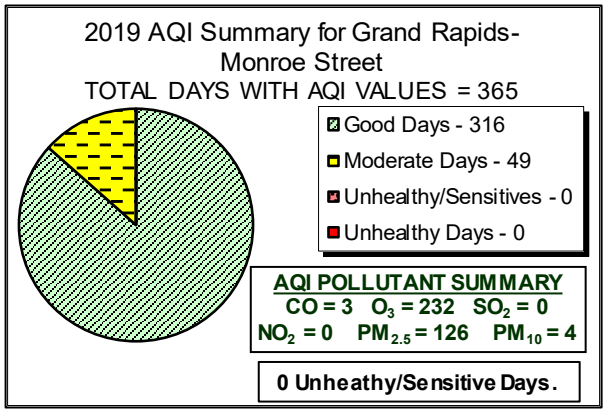
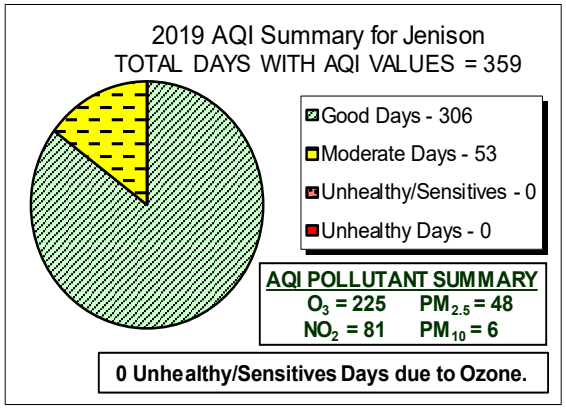


Figure C6: AQI Summaries for Grand Rapids-Wyoming MSA









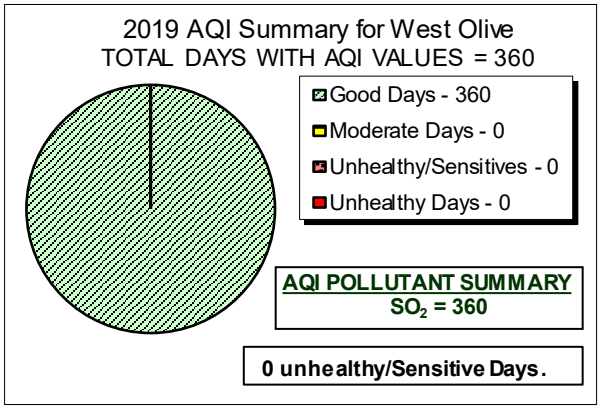
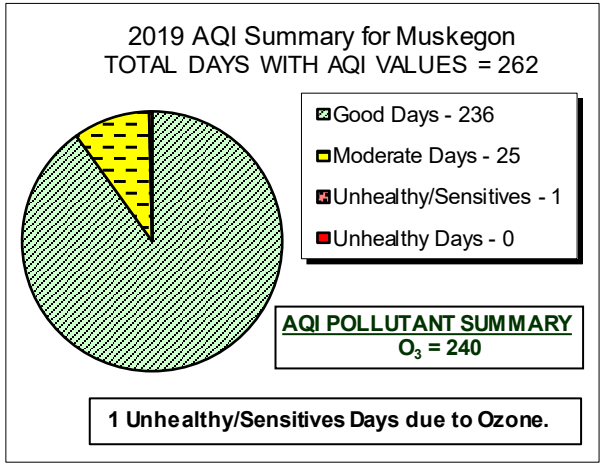
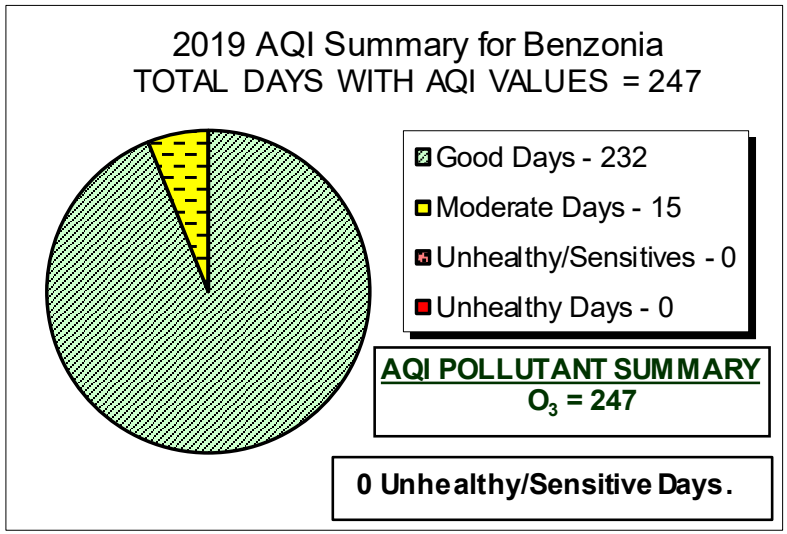


Figure C7: Muskegon MSA



*Note: This site does not have AQI per pollutant graphs since only one pollutant is monitored in one location in these areas.

Figure C8: AQI Summaries for Michigan's Other Lower Peninsula Areas



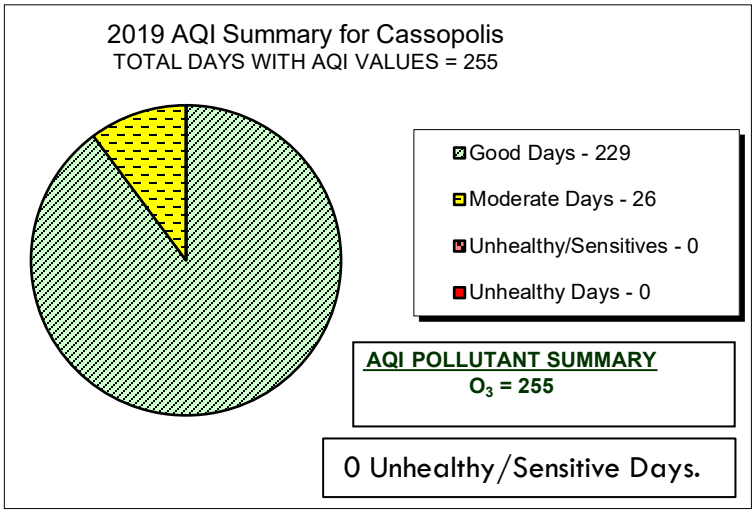
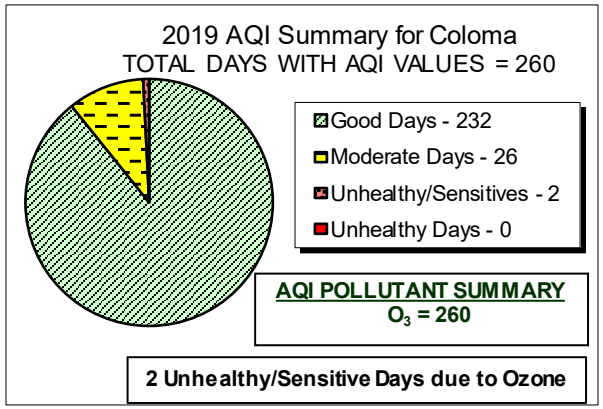
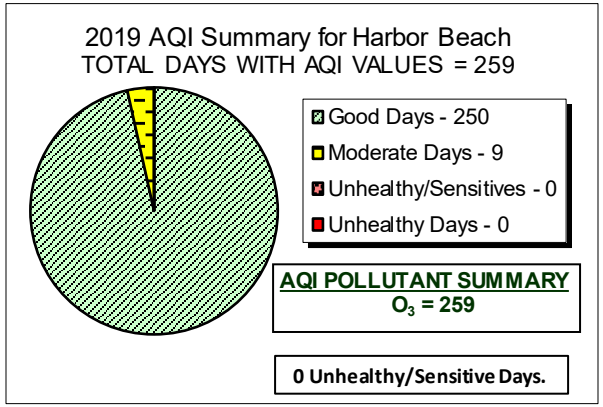
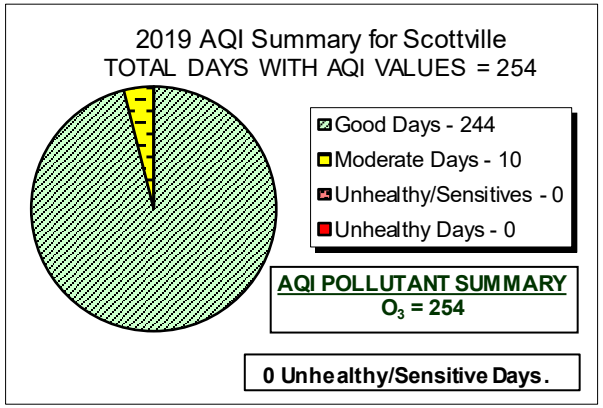


Figure C8, continued: AQI Summaries for Michigan's Other Lower Peninsula Areas

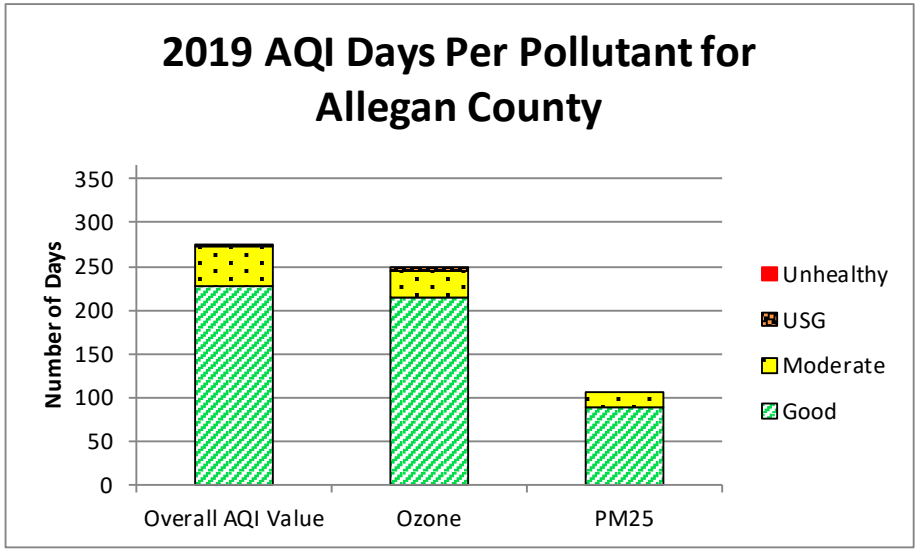


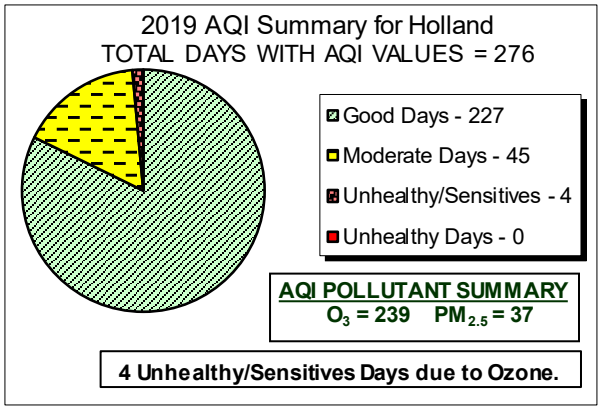


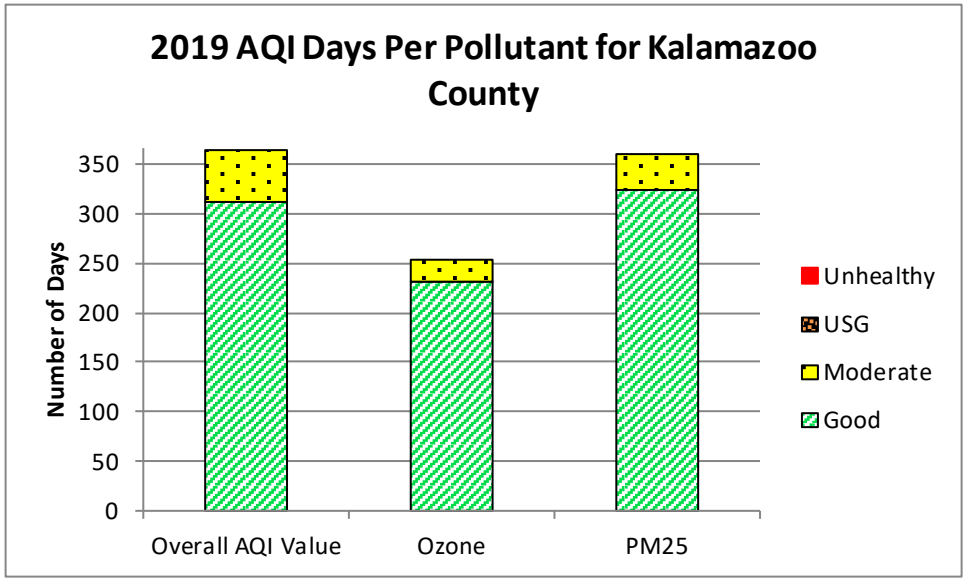


- Note: These sites do not have AQI per pollutant graphs since only one pollutant is monitored in one location in these areas.

Figure C8, continued: AQI Summaries for Michigan's Other Lower Peninsula Areas







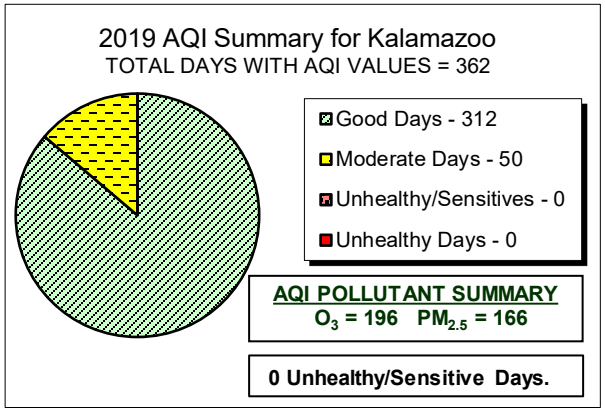
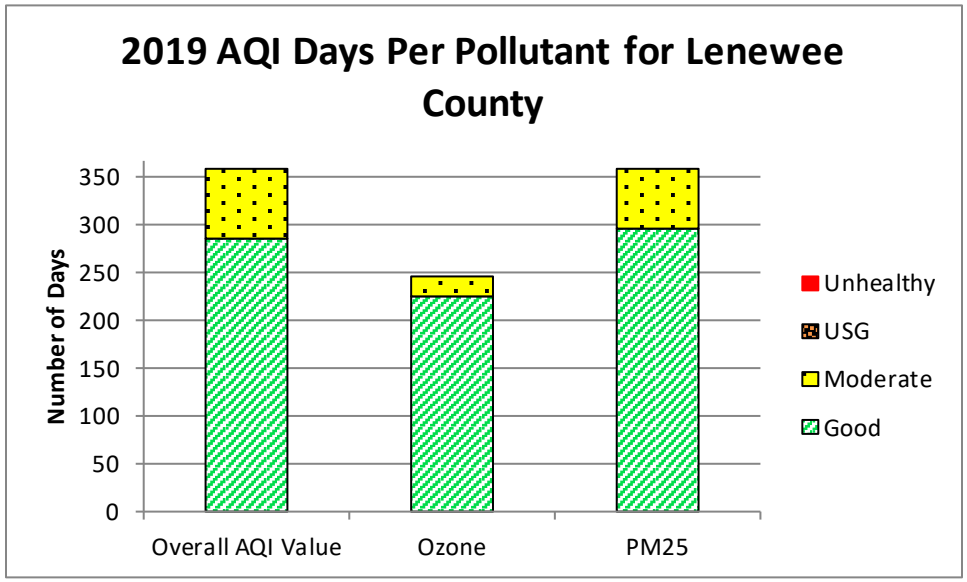
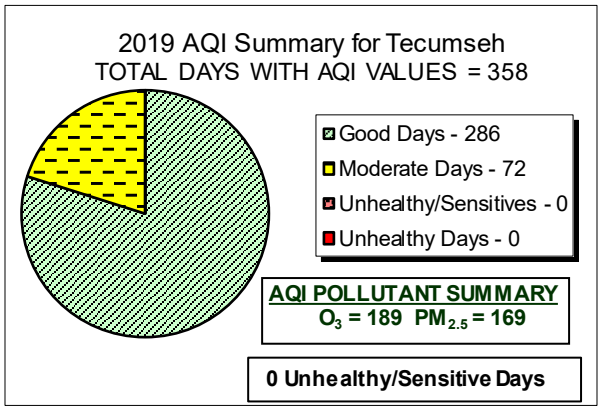
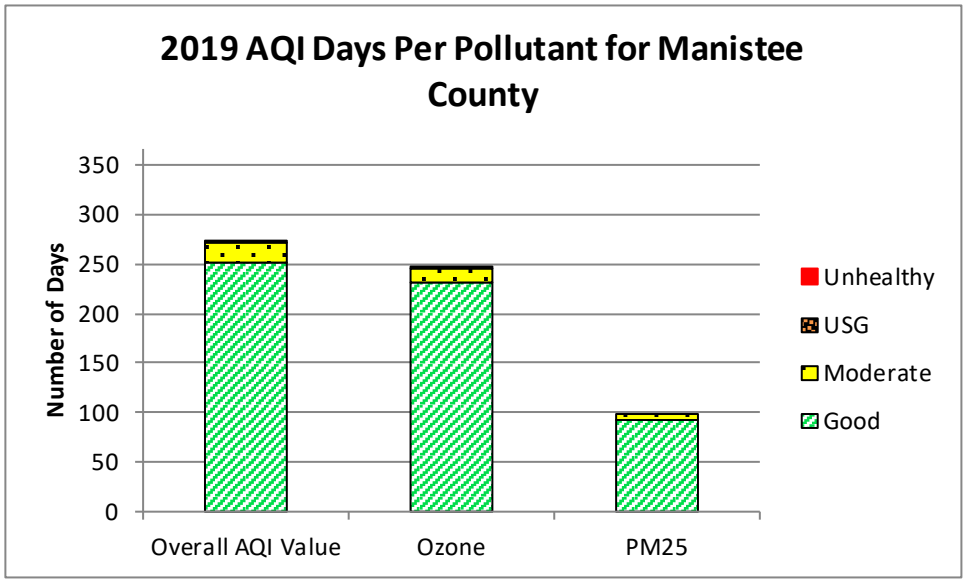


Figure C8, continued: AQI Summaries for Michigan's Other Lower Peninsula Areas


2019 AQI Days Per Pollutant for Lenewee County
Number of Days
350
300
250
200
150
100
50
0
Overall AQI Value
Ozone
PM25
Unhealthy
USG
Moderate
Good


2019 AQI Summary for Tecumseh
TOTAL DAYS WITH AQI VALUES = 358
Good Days - 286
Moderate Days - 72
Unhealthy/Sensitives - 0
Unhealthy Days - 0
AQI POLLUTANT SUMMARY
O3 = 189 PM2.5 = 169
0 Unhealthy/Sensitive Days


2019 AQI Days Per Pollutant for Manistee County
Number of Days
350
300
250
200
150
100
50
0
Overall AQI Value
Ozone
PM25
Unhealthy
USG
Moderate
Good

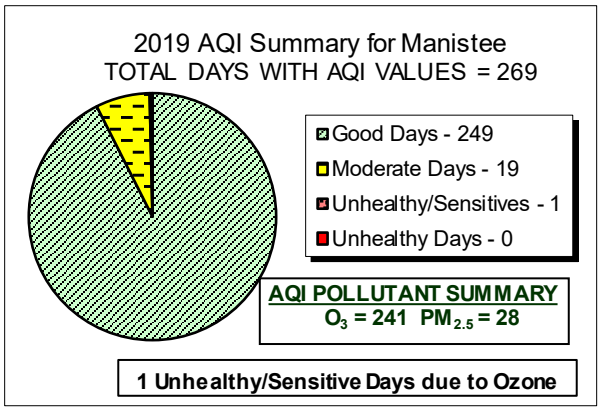
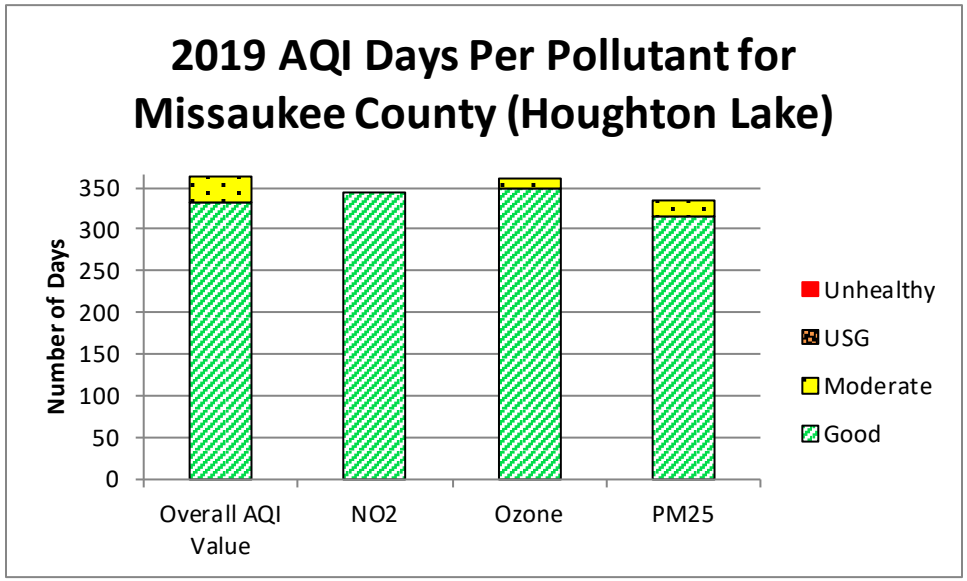
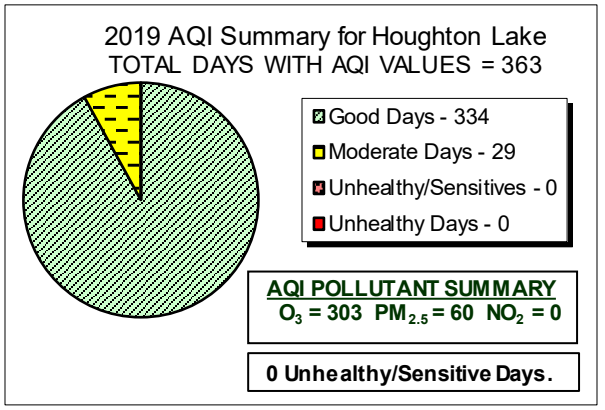
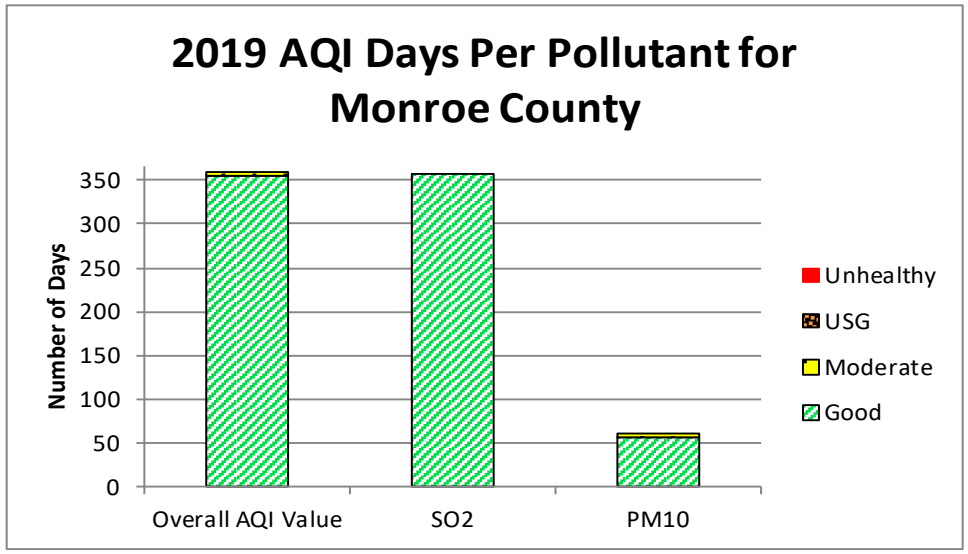

2019 AQI Summary for Manistee
TOTAL DAYS WITH AQI VALUES = 269
Good Days - 249
Moderate Days - 19
Unhealthy/Sensitives - 1
Unhealthy Days - 0
AQI POLLUTANT SUMMARY
O3 = 241 PM2.5 = 28
1 Unhealthy/Sensitive Days due to Ozone

Figure C8, continued: AQI Summaries for Michigan's Other Lower Peninsula Areas







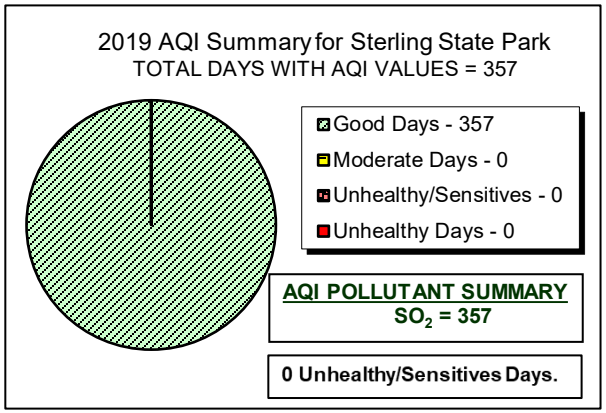
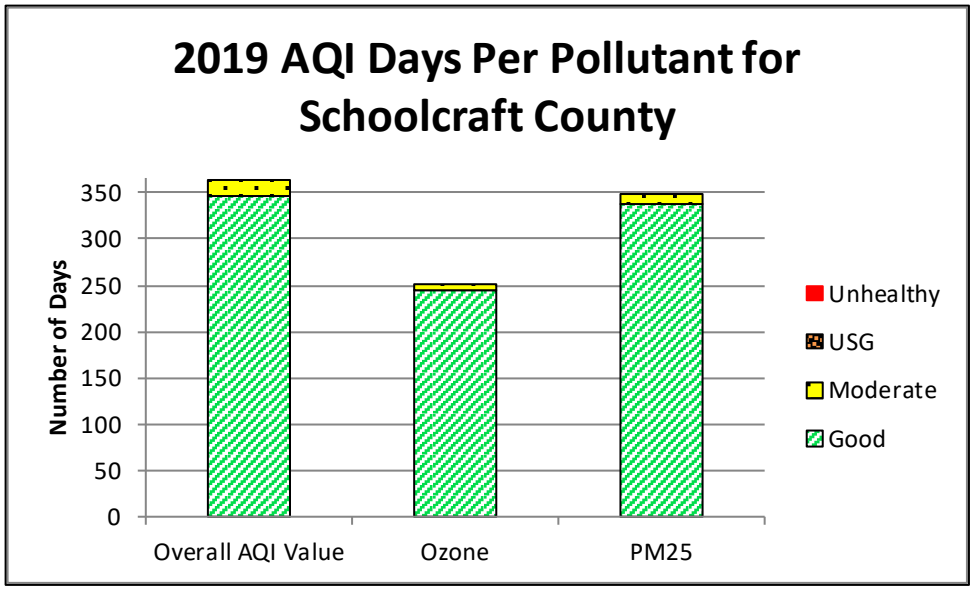
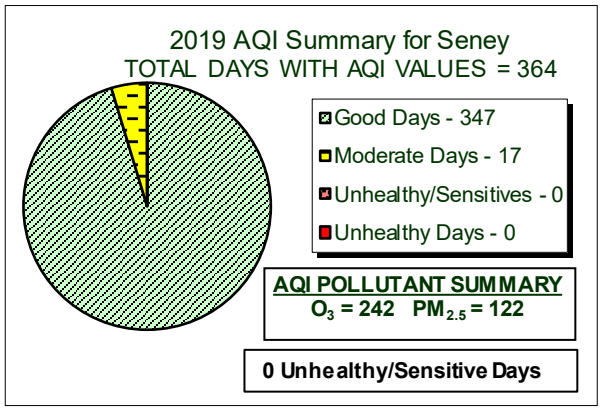


Figure C9: AQI Summary for Upper Peninsula





APPENDIX D - SUMMARY

Appendix D summarizes the development of the NAAQS and how compliance with these standards is determined. Also included is the variety of monitoring techniques, requirements used to ensure quality data is obtained, and a history of NAAQS changes that have occurred since the inceptions of the CAA.

National Ambient Air Quality Standards (NAAQS)

Under Section 109 of the CAA, the USEPA established a primary and secondary NAAQS for each pollutant for which air quality criteria have been issued. The primary standard is designed to protect the public health with an adequate margin of safety, including the health of the most susceptible individuals in a population, such as children, the elderly, and those with chronic respiratory ailments. Factors in selecting the margin of safety for the primary standard include the nature and severity of the health effects involved and the size of the sensitive population at risk. Secondary standards are chosen to protect public welfare (personal comfort and well-being) and the environment by limiting economic damage, impacts on visibility and climate, and harmful effects on soil, water, crops, vegetation, wildlife, and buildings.

In addition, the NAAQS have various averaging times to address health impacts. Short averaging times reflect the potential for acute (immediate) effects, whereas long-term averaging times are designed to protect against chronic (long-term) effects.

NAAQS have been established for CO, Pb, NO_2, PM, O_3, and SO_2. **Table 1.1** lists the primary and secondary NAAQS, averaging time and concentration level for each criteria pollutant in effect in 2018. The concentrations are listed as parts per million (ppm), micrograms per cubic meter ($\mu g/m^3$), and/or milligrams per cubic meter (mg/m^3).

Table D1.1: NAAQS in Effect during 2019 for Criteria Pollutants

Pollutant	Primary (health) Level	Primary Averaging Time	Secondary (welfare) Level	Secondary Averaging Time
Carbon Monoxide (CO) 8-hour average	9 ppm (10 mg/m^3)	8-hour average, not to be exceeded more than once per year *(1971)*	None*	None*
Carbon Monoxide (CO) 1-hour average	35 ppm (40 mg/m^3)	1-hour average, not to be exceeded more than once per year *(1971)*	None*	None*
Lead (Pb)	0.15 $\mu g/m^3$	Maximum rolling 3-month average *(2008)*	Same as Primary	Same as Primary
Nitrogen Dioxide (NO_2) Annual mean	0.053 ppm (100 $\mu g/m^3$)	Annual mean *(1971)*	Same as Primary	Same as Primary
Nitrogen Dioxide (NO_2) 1-hour average	0.100 ppm	98th percentile of 1-hour average, averaged over 3 years *(2010)*	Same as Annual	Same as Annual
Particulate Matter (PM_{10})	150 $\mu g/m^3$	24-hour average, not to be exceeded more than once per year over 3 years *(1987)*	Same as Primary	Same as Primary
Particulate Matter ($PM_{2.5}$) Annual average	12.0 $\mu g/m^3$	Annual mean averaged over 3 years *(2012)*	15.0 $\mu g/m^3$	Annual mean
Particulate Matter ($PM_{2.5}$) 24-hour average	35 $\mu g/m^3$	98th percentile of 24-hour concentration, averaged over 3 years *(2006)*	Same as Primary	Same as Primary
Ozone (O_3)	0.070 ppm	Annual 4th highest 8-hour daily max averaged over 3 years *(2015)*	Same as Primary	Same as Primary
Sulfur Dioxide (SO_2)	0.075 ppm	99th percentile of 1-hour daily max averaged over 3 years *(2010)*	0.5 ppm	3 hours

*In 1985, the USEPA revoked the secondary standard for CO (for public welfare) due to a lack of evidence of adverse effects on public welfare at or near ambient concentrations.

To demonstrate compliance with the NAAQS, the USEPA has defined specific criteria for each pollutant, which are summarized in **Table D1.2.**

Table D1.2: Criteria for the Determination of Compliance with the NAAQS

Pollutant	Criteria for Compliance
CO	Compliance with the CO standard is met when the second highest, non-overlapping, 35 ppm, 1-hour average standard and/or the 9 ppm, 8-hour average standard is not exceeded more than once per year.
Pb	Compliance with the Pb standard is met when daily values collected for three consecutive months are averaged and do not exceed the 0.15 µg/m^3 standard.
NO_2	Compliance is met when the annual arithmetic mean concentration does not exceed the 0.053 ppm standard and the 98th percentile* of the daily maximum 1-hour concentration averaged over 3 years does not exceed 100 ppb.
PM_{10}	The 24-hour PM_{10} primary and secondary standards are met when 150 µg/m^3 is not exceeded more than once per year on average over 3 years.
$PM_{2.5}$	The annual $PM_{2.5}$ primary and secondary standards are met when the annual arithmetic mean concentration is less than or equal to 12 µg/m^3 and 15 µg/m^3, respectively. The 24-hour $PM_{2.5}$ primary and secondary standards are met when the 3-year average of the 98th percentile** 24-hour concentration is less than or equal to 35 µg/m^3.
O_3	The 8-hour O_3 primary and secondary standards are met when the 3-year average of the 4th highest daily maximum 8-hour average concentration is less than or equal to 0.070 ppm.
SO_2	To determine compliance, the 99th percentile*** 1-hour concentration averaged over a 3-year period does not exceed 0.075 ppm, and the 3-hour average concentration shall not exceed 0.5 ppm more than once per calendar year.

**98th percentile daily maximum 1-hour value* is the value below which nominally 98 percent of all daily maximum 1-hour concentration values fall, using the ranking and selection method specified in section 5.2 of appendix S of CFR Part 50.

** *98th percentile* is the daily value out of a year of $PM_{2.5}$ monitoring data below which 98 percent of all daily values fall using the ranking and selection method specified in section 4.5(a) of appendix N of CFR Part 50.

*** *99th percentile daily maximum 1-hour value* is the value below which nominally 99 percent of all daily maximum 1-hour concentration values fall, using the ranking and selection method specified in section 5 of appendix T of CFR Part 50.

As part of the USEPA's grant to EGLE, the AQD provides an annual Network Review document[13] of all monitoring data collected from the previous year and recommendations on any network changes. These recommendations are based on each monitor's exceedance history, changes in population distribution, and modifications to federal monitoring requirements under the CAA. Under the amended air monitoring regulations that began in 2007, states are required to solicit public comment (in May of each year) on their future air monitoring network design prior to submitting the annual review to the USEPA in July.

[13] Most recent Network Reviews

Types of Monitors

Federal Reference Method (FRM): method of sampling and analyzing the ambient air for an air pollutant that USEPA uses as the "gold standard" for measuring that pollutant. FRM monitors are used to designate attainment/nonattainment areas. The gaseous pollutants CO, NO_2, O_3, and SO_2 are measured with continuous FRM monitors that provide real-time hourly data. The FRM for PM and Pb requires a filter that measure concentrations over a 24-hour period. These filters must be further analyzed in a laboratory; therefore, the samples results are delayed.

Rural background monitors: measure background air quality in non-urban areas

Aethalometers: measure carbon black, a combustion by-product typical of transportation sources, by concentrating particulate on a filter tape and measuring changes in optical transmissivity and absorption.

EC/OC instruments measure elemental carbon using pyrolysis coupled with a nondispersive infrared detector to separate the elemental and organic carbon fractions.

Federal Equivalent Method (FEM): method for measuring the concentration of an air pollutant in the ambient air that has been designated as equivalent to the FRM.

Continuous Monitors: measure data in real-time, meaning concentrations of the air pollutant are usually available within an hour on the Mlair website.

TEOM: tapered element oscillating monitors (TEOMs) are continuous PM monitor that is used only for real-time data indications since they are not FEMs and cannot be used for attainment/nonattainment designations.

BAM: Beta attenuation monitors (BAMs) are real-time, continuous PM2.5 monitor that is FEM, thus can be used for attainment/nonattainment designation.

$PM_{2.5}$ FRM Monitoring: The concentrations of $PM_{2.5}$ measured over a 24-hour time period are determined using the filter-based gravimetric FRM. Data generated by the FRM monitors are used for comparisons to the NAAQS in Michigan. The sites are located in urban, commercial, and residential areas where people are exposed to $PM_{2.5}$.

Chemical Speciation Monitoring: Speciated monitoring provides a better understanding of the chemical composition of $PM_{2.5}$ material and better characterizes background levels. Single event Met-One Speciation Air Sampling System (SASS) monitors are used throughout Michigan's speciation network

National Air Toxics Trend Station (NATTS): Network developed to fulfill the need for long-term hazardous air pollutants (HAPs) monitoring data of consistent quality. Among the principle objectives are assessing trends and emission reduction program effectiveness, assessing and verifying air quality models.

NCore Network: began January 1, 2011, as part of the USEPA's 2006 amended air monitoring requirements. National Core (NCore) sites provide a full suite of measurements at one location. NCore stations collect the following measurements: ozone, SO2 (trace), CO (trace), NOY (reactive oxides of nitrogen), PM2.5 FRM, continuous PM2.5, speciated PM2.5, wind speed, wind direction, relative humidity, and ambient temperature. In addition, filter-based measurements are required for PM coarse (PM10-2.5) on a once every three-day sampling frequency. This information will support scientific studies ranging across technological, health, and atmospheric process disciplines. Michigan has two NCore sites; Allen Park and Grand Rapids-Monroe Street.

Near-road Monitoring Network: focuses on vehicle emissions and how they disperse near-roadways, was approved by USEPA in 2011. This network, now referred to as the near-roadway network, is focused on high traffic urban roads in Core-Based Statistical Areas (CBSAs) with more than one million people. In 2011 Michigan took over the USEPA's pre-existing near-roadway site at Eliza Howell Park in Detroit. A second near-road site was added in Livonia in January 2015.

Population-Oriented Monitors: monitors that are located in an area where many people live, also considered ambient air.

Transport monitors: measure air pollutants that that have travelled a distance from the emission sources and are formed in the atmosphere when certain pollutants are present, like ozone.

Source-Oriented/Point-Source Monitors: monitors that are located near a specific emissions source (e.g., factory) of a pollutant.

Primary Monitor: data from these monitors are used to compare to the NAAQS and must meet quality assurance criteria.

Secondary/Precision/Co-located Monitor: two or more air samplers, analyzers, or other instruments that are operated simultaneously while located side by side. These are used for quality assurance purposes.

Urban Scale Monitors: measures air pollution concentrations in more populated urban areas.

Quality Assurance

The AQD's Air Monitoring Unit (AMU) ensures that all data collected and reported is of high quality and meets federal requirements. The AMU has a quality system in place that includes a Quality Assurance Project Plan (QAPP), standard operating procedures (SOPs), standardized forms and documentation policies, and a robust audit and assessment program.

The monitoring network adheres to the requirements in Title 40 of the Code of Federal Regulations (CFR), Parts 50, 53, and 58. This ensures that the monitors are correctly sited, operated in accordance to the federal reference methods, and adhere to the quality assurance requirements.

Quality assurance checks are conducted by site operators at the frequencies required in the regulations and unit procedures. Independent audits are conducted by the AMU's Quality Assurance (QA) Team, which has a separate reporting line of supervision. The quality assurance checks and audits are reported to the USEPA each quarter.

External audits are conducted annually by the USEPA. The USEPA conducts Performance Evaluation Program (PEP) audits for $PM_{2.5}$ samplers and the National Performance Audit Program (NPAP) checks for the gaseous monitors. The USEPA also conducts program-wide Technical Systems Audits (TSAs) every three years to evaluate overall program operations and assess adequacy of documentation and records retention. External audits are also conducted on the laboratory operations for certain analytical techniques using performance evaluation samples.

Historical NAAQS Changes

1971

CO: 1-hour maximum not to exceed 35 ppm more than once in a year / 8-hour maximum not to exceed 9 ppm more than once in a year.

NO_2: Annual average of 553 ppb or less

SO_2: 24-Hour concentration of 0.14 ppm not exceeded more than once per year / Annual average of 0.03 ppm or less.

Ozone: Total photochemical oxidants: 1-hour max of 0.08 ppm not exceeded once per yr

TSP: 24-hour average not to exceed 260 µg/m^3 more than once per yr / Annual geometric mean of 75 µg/m^3

1978

Lead: Calendar quarter average of 1.5 µg/m^3 not to be exceeded

1979

Ozone: 1-hour maximum concentration is 0.12 ppm one or less hour per yr

1987

PM_{10}: 24-hour average not to exceed 150 µg/m^3 more than once per yr on average over a 3-yr period / Annual mean of 50 µg/m^3 or less average over 3 yrs

1997

Ozone: 4th highest daily maximum 8-hour concentration averaged over 3 yrs is 0.08 ppm or less

$PM_{2.5}$: Annual mean of 15.0 µg/m^3 or less average over 3 yrs / 98th percentile of 24-hour average of 65 µg/m^3 or less averaged over 3 yrs

2006

TSP & PM_{10}: Annual average revoked / 24-hour average retained

$PM_{2.5}$: Annual mean retained / 98th percentile of 24-hour average of 35 µg/m^3 or less averaged over 3 yrs

2008

Lead: 3-month average of 0.15 µg/m^3 not to be exceeded

Ozone: 4th highest daily maximum 8-hour concentration averaged over 3 yrs is 0.075 ppm or less

2010

NO_2: 98th percentile of the 1-hour concentration averaged over 3 yrs is 100 ppb or less

SO_2: 1-hour average of 99th percentile is 75 ppb or less, averaged over 3 yrs. Previous revoked

2012

$PM_{2.5}$: Annual mean of 12.0 µg/m^3 or less average over 3 yrs.

2015

Ozone: 4th highest daily maximum 8-hour concentration averaged over 3 yrs is 0.070 ppm or less

APPENDIX E: ACRONYMS AND THEIR DEFINITIONS

> ..... Greater than
< ..... Less than
≥ ..... Greater than or equal to
≤ ..... Less than or equal to
% ..... Percent
µg/m^3 ..... Micrograms per cubic meter
µm ..... Micrometer
AIRS ID ..... Aerometric Information Retrieval System Identification Number
AMU ..... Air Monitoring Unit
AQD ..... Air Quality Division
AQES ..... Air Quality Evaluation Section
AQI ..... Air Quality Index
AQS ..... Air Quality System (EPA air monitoring data archive)
As ..... Arsenic
BAM ..... Beta Attenuation Monitor (hourly $PM_{2.5}$ measurement monitor)
BC ..... Black Carbon
BTEX ..... Benzene, Toluene, Ethylbenzene and Xylene
CAA ..... Clean Air Act
CBSA ..... Core-Based Statistical Area
Cd ..... Cadmium
CFR ..... Code of Federal Regulations
CO ..... Carbon monoxide
CSA ..... Consolidated Statistical Area
EC/OC ..... Elemental carbon/Organic carbon
EGLE ..... Michigan Department of Environment, Great Lakes and Energy
FDMS ..... Filter Dynamic Measurement System
FEM ..... Federal Equivalent Method
FIA ..... Family Independence Agency
FR ..... Federal Register
FRM ..... Federal Reference Method
GHB ..... Gordie Howe International Bridges
HAP ..... Hazardous Air Pollutant
hr ..... Hour
Lc ..... Local Conditions

MASN ..... Michigan Air Sampling Network
MDL ..... Method Detection Limit
mg/m^3 ..... Milligrams per meter cubed
MI ..... Michigan
MiSA ..... Micropolitan Statistical Area
Mn ..... Manganese
MSA ..... Metropolitan Statistical Area
NAAQS ..... National Ambient Air Quality Standard
NAMS ..... National Air Monitoring Station
NATTS ..... National Air Toxics Trend Sites
NCore ..... National Core Monitoring Sites
ND ..... Non-detect
NEI ..... National Emission Inventory
Ni ..... Nickel
NMH 48217 ... New Mount Hermon 48217 ZIP code monitoring site
NO ..... Nitric Oxide
NO_2 ..... Nitrogen Dioxide
NO_X ..... Oxides of Nitrogen
NO_Y ..... Oxides of Nitrogen + nitric acid + organic and inorganic nitrates
NPAP ..... National Performance Audit Program
O_3 ..... Ozone
Obs/OBS ..... Observations
PAMS ..... Photochemical Assessment Monitoring Station
PAH ..... Polynuclear Aromatic Hydrocarbon
Pb ..... Lead
PBT ..... Persistent, Bioaccumulative and Toxic
PCB ..... Polychlorinated Biphenyls
PEP ..... Performance Evaluation Program
PM ..... Particulate Matter
$PM_{2.5}$ ..... Particulate Matter with an aerodynamic diameter less than or equal to 2.5 microns
PM_{10} ..... Particulate Matter with a diameter of 10 microns or less
$PM_{10-2.5}$ ..... Coarse PM equal to the concentration difference between PM_{10} and $PM_{2.5}$
PNA ..... Polynuclear Aromatic Hydrocarbons
POC ..... Parameter Occurrence Code
ppb ..... Parts Per Billion
ppm ..... Parts Per Million = mg/kg, mg/L, µg/g (1 ppm = 1,000 ppb)
QA ..... Quality Assurance
QAPP ..... Quality Assurance Project Plan

SASS..... Speciation Air Sampling System ($PM_{2.5}$ Speciation Sampler)
SO_2 ..... Sulfur Dioxide
SOP ..... Standard Operating Procedures
STN..... Speciation Trend Network ($PM_{2.5}$)
Stp ..... Standard Temperature and Pressure
SVOC..... Semi-Volatile Compound
SWHS ..... Southwestern High School
TAC..... Toxic Air Contaminant
TEOM..... Tapered element oscillating microbalance (hourly $PM_{2.5}$ measurement monitor)
tpy ..... Ton per year
TRI..... Toxic Release Inventory
TSA ..... Technical Systems Audit
TSP..... Total Suspended Particulate
US ..... United States
USEPA..... United States Environmental Protection Agency
UV..... Ultra-violet
VOC ..... Volatile Organic Compounds

ACKNOWLEDGMENTS

This publication was prepared utilizing information provided by the Air Quality Evaluation Section (AQES) and other staff of the Michigan Department of Environment, Great Lakes, and Energy; Air Quality Division. Copies can be obtained online at: www.Michigan.gov/Air, under "Monitoring," then "Annual Air Quality Reports," or call 517-284-6747 to request a hard copy.

AQES Manager: Tom Shanley

AQES Secretary: Lorraine Hickman

Air Monitoring Unit Staff:
Peter DeHart
Jason Duncan
Marc Foreman
Eric Gafner
Tom Gauthier
Navnit Ghuman
David Gregory
Eric Hansen
Cynthia Hodges, Editor
Susan Kilmer, Supervisor
Steve Irrer
Dan Ling
Bryan Lomerson
Mark Lotoszinski
Rachel Eagen
Matt Riselay
Rebecca Robak
Amy Robinson

Other units within the AQES: Strategy Development Unit, BioWatch Unit, Toxics Unit, and the Emissions Reporting & Assessment Unit.

The Air Quality Division also wishes to acknowledge the many significant contributions of Mitch Toonstra of the **City of Grand Rapids, Air Pollution Control Division**, which operates and maintains air monitoring equipment in West Michigan.

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) provides equal opportunities for employment and for access to Michigan's natural resources. EGLE will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation. Questions or concerns should be directed to the Office of Human Resources, P.O. Box 30473, Lansing, MI 48909-7973.

For information or assistance regarding this publication, contact EGLE, Air Quality Division, P.O. Box 30260, Lansing, MI 48909-7760 or EGLE, Environmental Assistance Center, toll-free telephone number: 800-662-9278.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Michigan.gov/air

Air Quality Division District Office Contact Information

Cadillac District – Cadillac Office
(Northwest Lower Peninsula)
120 W Chapin Street
Cadillac, MI 49601-2158
231-775-3960 Fax: 231-775-4050

Counties: Benzie, Grand Traverse, Kalkaska, Lake, Leelanau, Manistee, Mason, Missaukee, Osceola, and Wexford

Cadillac District - Gaylord Office
(Northeast Lower Peninsula)
2100 West M-32
Gaylord, MI 49735-9282
989-731-4920 Fax: 989-731-6181

Counties: Alcona, Alpena, Antrim, Charlevoix, Cheboygan, Crawford, Emmet, Montmorency, Oscoda, Otsego, Presque Isle, and Roscommon

Detroit District
(Wayne County)
Cadillac Place, Suite 2-300
3058 West Grand Blvd.
Detroit, MI 48202-6058
313-456-4700 Fax: 313-456-4692

Counties: Wayne

Grand Rapids District
(Central West Michigan)
350 Ottawa Avenue, NW Unit 10
Grand Rapids, MI 49503
616-356-0500 Fax: 616-356-0201

Counties: Barry, Ionia, Kent, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, and Ottawa

Jackson District
(South Central Michigan)
State Office Building, 4th Floor
301 E Louis B Glick Highway
Jackson, MI 49201-1556
517-780-7690 Fax: 517-780-7855

Counties: Hillsdale, Jackson, Lenawee, Monroe, and Washtenaw

Kalamazoo District
(Southwest Michigan)
7953 Adobe Road
Kalamazoo, MI 49009-5026
269-567-3500 Fax: 269-567-3555

Counties: Allegan, Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph, and Van Buren

Lansing District
(Central Michigan)
P.O. Box 30242
Constitution Hall, 525 W. Allegan St., 1 South
Lansing, MI 48909-7760
517-284-6651 Fax: 517-241-3571

Counties: Clinton, Eaton, Genesee, Gratiot, Ingham, Lapeer, Livingston, and Shiawassee

Saginaw Bay District
(Central East Michigan)
401 Ketchum Street, Suite B
Bay City, MI 48708
989-894-6200 Fax: 989-891-9237

Counties: Arenac, Bay, Clare, Gladwin, Huron, Iosco, Isabella, Midland, Ogemaw, Saginaw, Sanilac, and Tuscola

Southeast Michigan District
(Southeast Michigan)
27700 Donald Court
Warren, MI 48092-2793
586-753-3700 Fax: 586-753-3731

Counties: Macomb, Oakland, and St. Clair

Upper Peninsula District
(Entire Upper Peninsula)
1504 West Washington Street
Marquette, MI 49855
906-228-4853 Fax: 906-228-4940

Counties: All counties in the Upper Peninsula

Section 3.7
Site Photographs

South Eton Street

Existing Curb Cut @ South Eton Street

South Eton Street

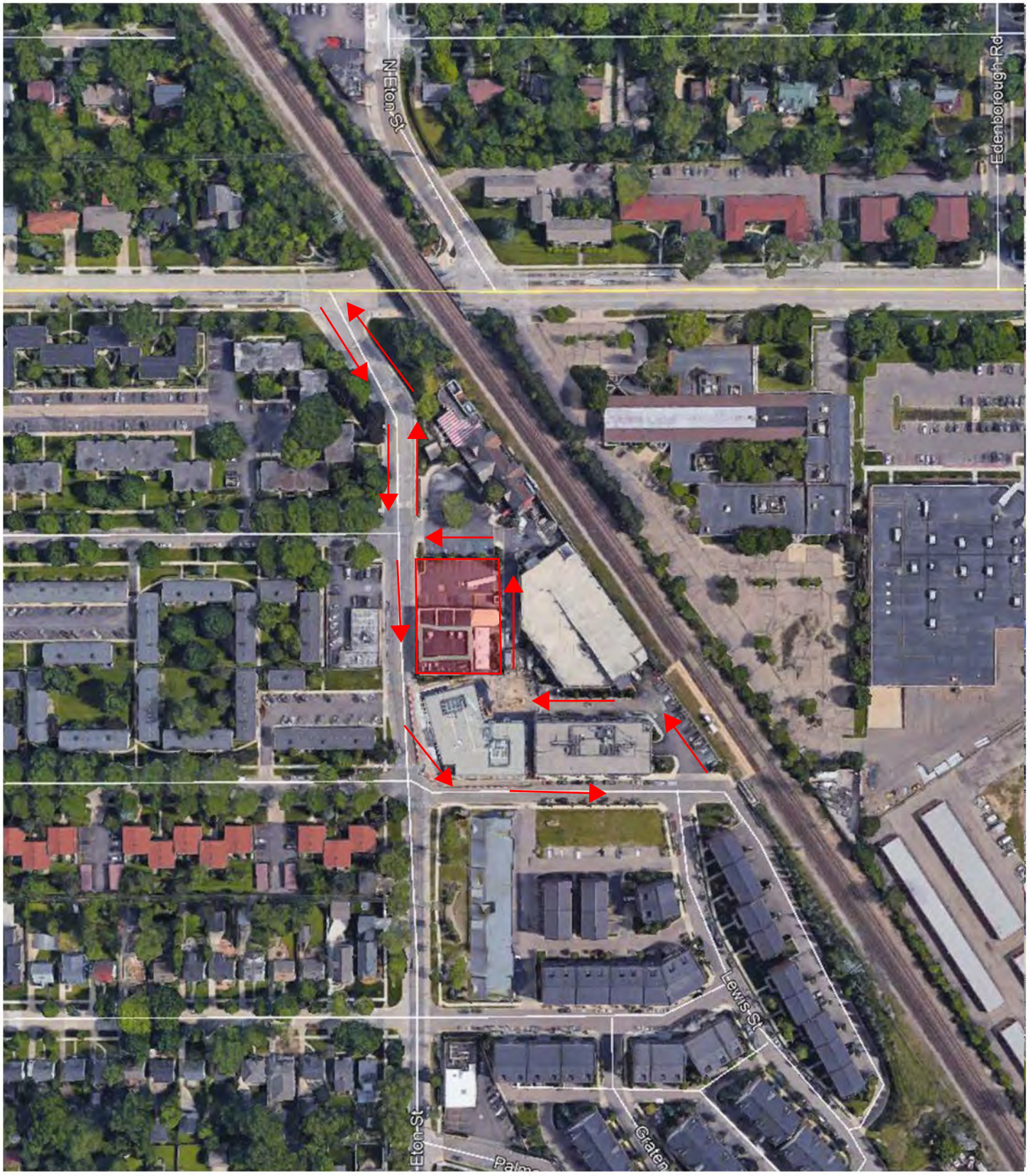
North Facade

North Facade

Aerial Photograph - East Facade

Section 3.8
Site Logistics

Proposed Haul Route Map
District Lofts - Phase 3



N

Section 3.9
Mechanical Equipment Specifications

AHU-3 / ACCU-3
1.5 TON

SUBMITTAL DATA SHEET

DHR18NDB21S/DHR18CSB21S **18,000 BTU/H Heat Pump Single Zone with Ducted Unit (208/230V)**

Job Name:			**Location:**	
Purchaser:			**Order No.:**	
Engineer:				
Submitted To:	**For:**	**Ref:**	**Approval:**	**Construction:**
Submitted By:			**Date:**	
Unit Designation:			**Schedule No.:**	**Model No.:**

DHR18NDB21S

DCCRMW
(Optional)

DHR18CSB21S

DWCR2
(Optional)

DWCR
(Standard)

FEATURES

- Multi-Speed Fan
- Simple Wired Controller DWCR
- Power Failure Recovery LCD Display
- Wall or Ceiling mount
- 4 Way Airflow Swing Operation
- Medium Static Pressure Capabilities
- Bottom or Rear Return

ACCESSORIES

- Advanced Wired Controller DWCR2
- Central Controller DCCRMW

System Rating		
System Type		Heat Pump
Rated Cooling Capacity	Btu/h	17,100
Cooling Capacity (Min-Max)	Btu/h	5,400-18,700
Rated Heating Capacity	Btu/h	18,800
Heating Capacity (Min-Max)	Btu/h	4,700-22,200
EER (Btu/h)/W		11
SEER		16
HSPF		9.5
Rated Voltage (IDU&ODU Require separate power source)	V-PH-Hz	208/230-1-60
Rated Cooling Current	Amps	12.8
Rated Heating Current	Amps	12.3
MCA / MOCP (Outdoor unit)	Amps	17 / 25
MCA / MOCP (Indoor unit)	Amps	1 / 15
Max. Total Piping Length	ft. (m)	164 (50)
Max. Piping Height	ft. (m)	49.2 (15)
Piping Connection Diameter - Liquid (O.D.)	in.	1/4
Piping Connection Diameter - Gas (O.D.)	in.	1/2

Outdoor Model Number		DHR18CSB21S
Operation Range - Cooling	F (C)	0~118 (-18—48)
Operation Range - Heating	F (C)	0~75 (-18—24)
Refrigerant		R410A
Refrigerant Charge	oz (kg)	49.38 (1.4)
Unit Dimension (WxHxD)	in. (mm)	37.59x27.55x15.55x (955x700x395)
Net / Gross Weight	lbs (kg)	105.82/114.64 (48/52)
Sound Pressure Level	dB(A)	56

Indoor Model Number		DHR18NDB21S
System Type		Heat Pump
Rated Cooling Capacity	Btu/h	17,100
Cooling Capacity (Min-Max)	Btu/h	5,400-18,700
Rated Heating Capacity	Btu/h	18,800
Heating Capacity (Min-Max)	Btu/h	4,700-23,200
Rated Voltage	V-PH-Hz	208/230-1-60
Airflow High to Low	CFM	590/531/413/384
Sound Pressure Level High to Low	dB(A)	40/39/36/28
Unit Dimension (WxDxH)	in.(mm)	40.74x28.34x10.43(1035x720x264)
Net / Gross Weight	lbs (kg)	72.75/83.77 (33/38)
Set Temperature Range	F (C)	61 ~ 86 (16~30)
External Static Pressure	(in w.g)	0~0.15
Piping Connection Diameter - Drain	(OD) in.	1

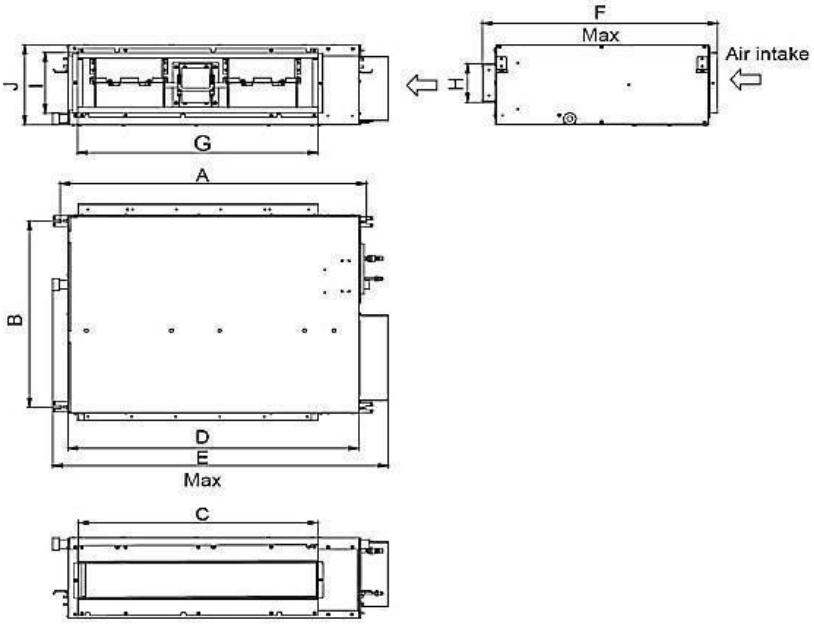
© 2020 Johnson Controls, Inc.

Specifications are subject to change without notice.

DHR18NDB21S/DHR18CSB21S

Unit: inch

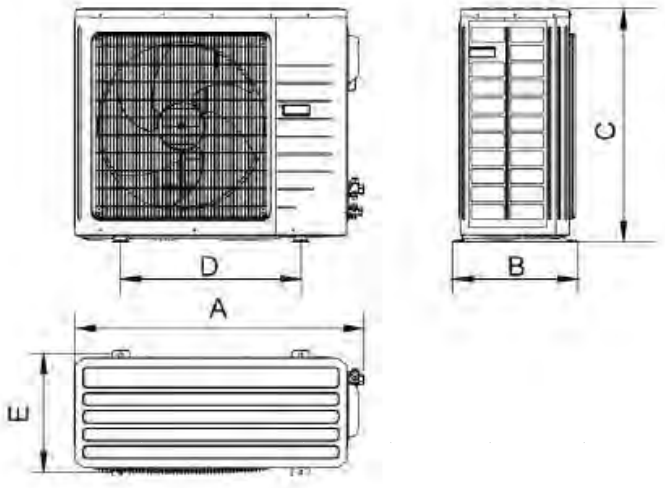
Indoor Unit Dimensions



Dimensions	
A	37 1/4
B	24 3/8
C	29
D	35 1/8
E	40 7/8
F	28 3/8
G	29
H	4 7/8
I	8
J	10 1/2

OutdoorUnitDimensions

Unit: inch



Dimensions	
A	37 5/8
B	15 5/8
C	27 1/2
D	22
E	14 1/8

Notes:

1. Recommended cable type, connecting the indoor and outdoor unit, 18-2 AWG Stranded Copper THHN 600V Wire
2. Power wiring cable size must comply with applicable national and local codes
3. Test conditions are based on AHRI 210/240

© 2020 Johnson Controls, Inc.

Specifications are subject to change without notice.

AHU-2 / ACCU-2
2 TON

SUBMITTAL DATA SHEET

DHR24NDB21S/DHR24CSB21S			**24,000 BTU/H Heat Pump Single Zone with Ducted Unit (208/230V)**	
Job Name:			**Location:**	
Purchaser:			**Order No.:**	
Engineer:				
Submitted To:	**For:**	**Ref:**	**Approval:**	**Construction:**
Submitted By:			**Date:**	
Unit Designation:			**Schedule No.:**	**Model No.:**

DHR24NDB21S

DHR24CSB21S

DCCRMW
(Optional)

DWCR2
(Optional)

DWCR
(Standard)

FEATURES

- Multi-Speed Fan
- Simple Wired Controller DWCR
- Power Failure Recovery LCD Display
- Wall or Ceiling mount
- 4 Way Airflow Swing Operation
- Medium Static Pressure Capabilities
- Bottom or Rear Return

ACCESSORIES

- Advanced Wired Controller DWCR2
- Central Controller DCCRMW

System Rating		
System Type		Heat Pump
Rated Cooling Capacity	Btu/h	23,800
Cooling Capacity (Min-Max)	Btu/h	8,200-29,000
Rated Heating Capacity	Btu/h	27,200
Heating Capacity (Min-Max)	Btu/h	8,200-32,400
EER (Btu/h)/W		10.65
SEER		16
HSPF		10
Rated Voltage (IDU&ODU Require separate power source)	V-PH-Hz	208/230-1-60
Rated Cooling Current	Amps	19.4
Rated Heating Current	Amps	20.5
MCA/MOCP (Outdoor unit)	Amps	24/40
MCA/MOCP (Indoor unit)	Amps	2/15
Max. Total Piping Length	ft. (m)	164 (50)
Max. Piping Height	ft. (m)	49.2 (15)
Piping Connection Diameter - Liquid (O.D.)	in.	3/8
Piping Connection Diameter - Gas (O.D.)	in.	5/8

Outdoor Model Number		DHR24CSB21S
Operation Range - Cooling	F (C)	0~118 (-18 48)
Operation Range - Heating	F (C)	0~75 (-18—24)
Refrigerant		R410A
Refrigerant Charge	oz (kg)	77.60 (2.2)
Unit Dimension (WxHxD)	in. (mm)	8.58x31.10x16.73 (980x790x425)
Net / Gross Weight	lbs (kg)	152.11/163.14 (69/74)
Sound Pressure Level	dB(A)	57

Indoor Model Number		DHR24NDB21S
System Type		Heat Pump
Rated Cooling Capacity	Btu/h	23,800
Cooling Capacity (Min-Max)	Btu/h	8,200-29,000
Rated Heating Capacity	Btu/h	27,200
Heating Capacity (Min-Max)	Btu/h	8,200-32,400
Rated Voltage	V-PH-Hz	208/230-1-60
Airflow High to Low	CFM	826/767/708/531
Sound Pressure Level High to Low	dB(A)	47/46/44/40
Unit Dimension (WxHxD)	in.(mm)	50.39x22.04x10.62 (1280x560x270)
Net / Gross Weight	lbs (kg)	74.95/85.98 (34/39)
Set Temperature Range	F (C)	61 ~ 86 (16~30)
External Static Pressure	(in w.g)	0~0.3
Piping Connection Diameter - Drain	(OD) in.	1

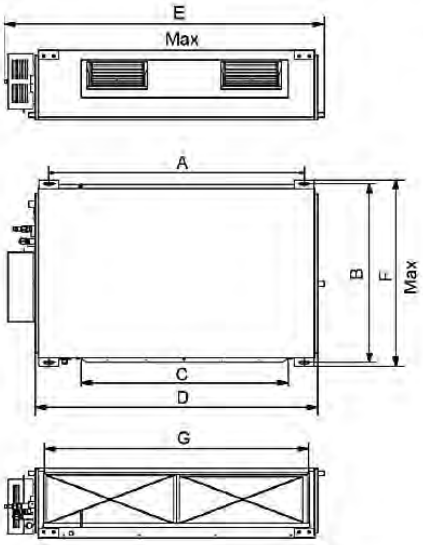
© 2020 Johnson Controls, Inc.

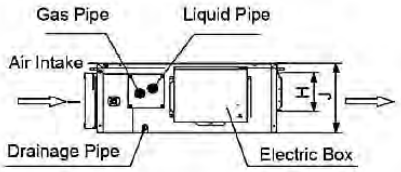
Specifications are subject to change without notice.

DHR24NDB21S/DHR24CSB21S

Unit: inch

Indoor Unit Dimensions

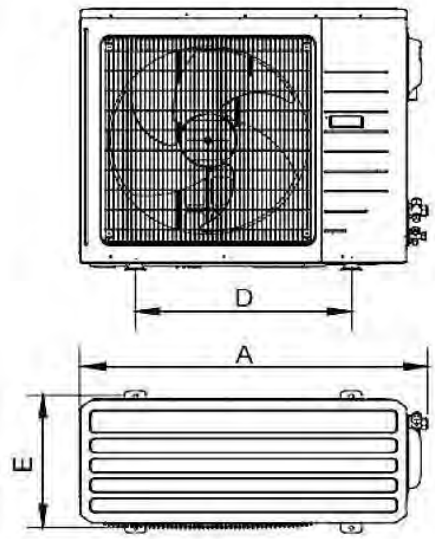


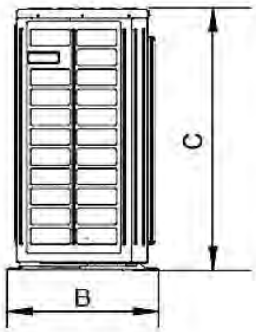


Dimensions	
A	43 3/8
B	20 3/8
C	32 1/4
D	45 5/8
E	50 3/8
F	22
G	39 1/2
H	6 1/4
I	9 1/4
J	10 1/2

Outdoor Unit Dimensions

Unit: inch





Dimensions	
A	38 5/8
B	16 3/4
C	31 1/8
D	24
E	15 1/2

Notes:

1. Recommended Cable Type, connecting the indoor and outdoor unit,18-2 AWG Stranded Copper THHN 600V Wire
2. Power wiring cable size must comply with applicable national and local codes
3. Test conditions are based on AHRI 210/240

© 2020 Johnson Controls, Inc.

Specifications are subject to change without notice.

AHU-1 / ACCU-1
3 TON

SUBMITTAL DATA SHEET

DHR36NDB21S/DHR36CSB21S			**36,000 BTU/H Heat Pump Single Zone with Ducted Unit (208/230V)**	
Job Name:			**Location:**	
Purchaser:			**Order No.:**	
Engineer:				
Submitted To:	**For:**	**Ref:**	**Approval:**	**Construction:**
Submitted By:			**Date:**	
Unit Designation:			**Schedule No.:**	**Model No.:**

DHR36NDB21S

DHR36CSB21S

DCCRMW
(Optional)

DWCR2
(Optional)

DWCR
(Standard)

FEATURES

- Multi-Speed Fan
- Simple Wired Controller DWCR
- Power Failure Recovery LCD Display
- Wall or Ceiling mount
- 4 Way Airflow Swing Operation
- Medium Static Pressure Capabilities
- Bottom or Rear Return

ACCESSORIES

- Advanced Wired Controller DWCR2
- Central Controller DCCRMW

System Rating		
System Type		Heat Pump
Rated Cooling Capacity	Btu/h	34,000
Cooling Capacity (Min-Max)	Btu/h	10,800-39,000
Rated Heating Capacity	Btu/h	41,000
Heating Capacity (Min-Max)	Btu/h	9,800-49,500
EER (Btu/h)/W		10.35
SEER		16
HSPF		9
Rated Voltage(IDU&ODU Require separate power source)	V-PH-Hz	208/230-1-60
Rated Cooling Current	Amps	23.8
Rated Heating Current	Amps	24.3
MCA / MOCP (Outdoor unit)	Amps	29 / 45
MCA / MOCP (Indoor unit)	Amps	2 / 15
Max. Total Piping Length	ft. (m)	164 (50)
Max. Piping Height	ft. (m)	49.2 (15)
Piping Connection Diameter - Liquid (O.D.)	in.	3/8
Piping Connection Diameter - Gas (O.D.)	in.	5/8

Outdoor Model Number		DHR36CSB21S
Operation Range - Cooling	F (C)	0~118 (-18 48)
Operation Range - Heating	F (C)	0~75 (-18—24)
Refrigerant		R410A
Refrigerant Charge	oz (kg)	123.45 (3.5)
Unit Dimension (WxDxH)	in. (mm)	43.50x43.30x17.32(1105x1100x440)
Net / Gross Weight	lbs (kg)	205/222.66 (93/101)
Sound Pressure Level	dB(A)	63

Indoor Model Number		DHR36NDB21S
System Type		Heat Pump
Rated Cooling Capacity	Btu/h	34,000
Cooling Capacity (Min-Max)	Btu/h	10,800-39,000
Rated Heating Capacity	Btu/h	41,000
Heating Capacity (Min-Max)	Btu/h	9,800-49,500
Rated Voltage	V-PH-Hz	208/230-1-60
Airflow High to Low	CFM	1180/1121/1003/826
Sound Pressure Level High to Low	dB(A)	55/52/48/45
Unit Dimension (WxHxD)	in.(mm)	48.22x30.51x11.41 (1225x775x290)
Net / Gross Weight	lbs (kg)	101.41/116.84 (46/53)
Set Temperature Range	F (C)	61 ~ 86 (16~30)
External Static Pressure	(in w.g)	0~0.4
Piping Connection Diameter - Drain	(OD) in.	1

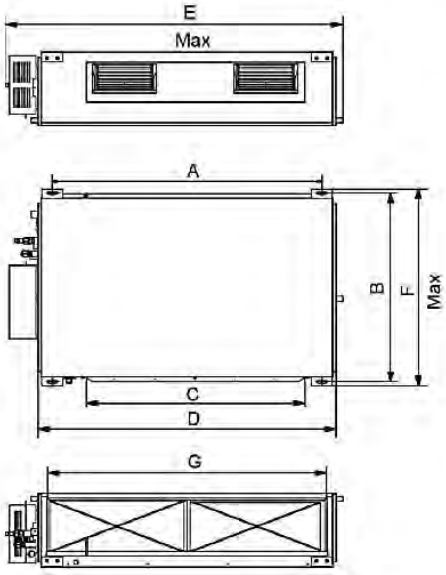
© 2020 Johnson Controls, Inc.

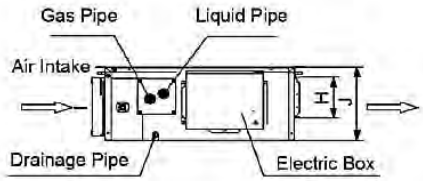
Specifications are subject to change without notice.

DHR36NDB21S/DHR36CSB21S

Unit: inch

Indoor Unit Dimensions

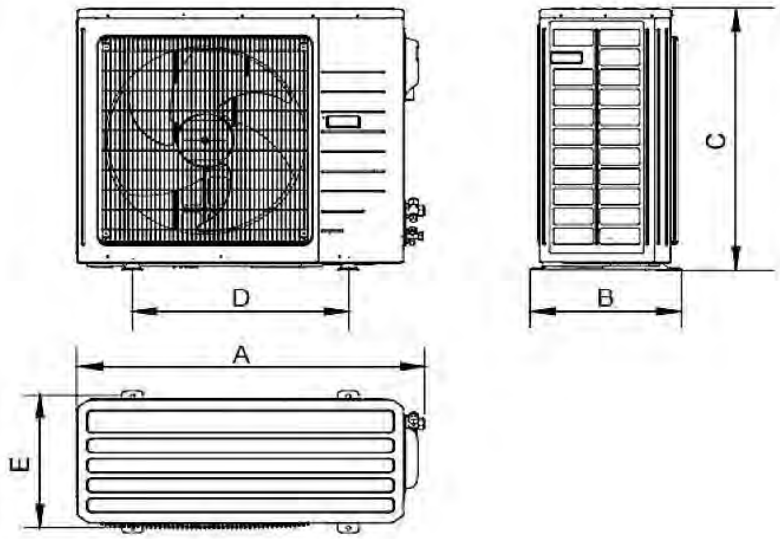




Dimensions	
A	39 3/4
B	29 1/2
C	32 1/4
D	43 7/8
E	48 1/4
F	30 1/2
G	38 1/2
H	6 1/4
I	9 1/8
J	11 3/8

Outdoor Unit Dimensions

Unit: inch



Dimensions	
A	43 5/8
B	17 3/8
C	43 1/4
D	24 7/8
E	15 3/4

Notes:

1. Recommended Cable Type, connecting the indoor and outdoor unit,18-2 AWG Stranded Copper THHN 600V Wire
2. Power wiring cable size must comply with applicable national and local codes
3. Test conditions are based on AHRI 210/240

© 2020 Johnson Controls, Inc.

Specifications are subject to change without notice.

Submittal

Project number: 15235
Project name: M1
Representative:
Location:

Note: This submittal is based on equipment and options listed on the attachment(s) and represents our interpretation of your requirements. It is the representative's responsibility to review this submittal and verify that it meets the job specifications.

Project Information

Project name: M1
Location:
Owner:
Architect:
MEP firm:
Mechanical contractor:
Date: 4/7/2021

Sales Representative

Submitted by:
Email:
Phone number:

Product Summary

Qty	Model Description	Unit Size	Tag(s)
1	JROA - Package Unit - DOAS	300	DOAS-1

Product Data - Package Unit - DOAS

Size	Qty	Description	Model Number
300	1	Package Unit - DOAS	JROA300G4A3DABGBG1B64DXB0E270FBCBGKF100B1T1AA00D0BBGD

Tag(s): DOAS-1

Unit Voltage: 230-3-60
MCA Range: 100.1-200
MOCP: 200 Amps
Cabinets: CXL Cab with 4 cond fan with Microchannel Condenser Coil (Copper tube / Aluminum fin on heat pumps)
Cabinet Options: Vertical Supply/Vertical Return
Cooling Coil: 6 row Copper Tube Aluminum Fin DX Coil
Compressor Type: Dual Scroll/Dual Circuit with lead Circuit VFD
Refrigeration Controls: Hot Gas Bypass (Dual Circuit)
Refrigeration Controls: Hot Gas Reheat, Modulating (Dual Circuit)
CAV VAV: CAV - Constant Air Volume
Evaporator Motor Type: High efficiency ODP with VFD
Evaporator Motor Horsepower: 10 Horsepower
Supply Blower Size: 20" Direct Drive, Backward Inclined Supply Blower
Supply Blower Options: Spring Isolation (Standard Only)
Energy Recovery & Conservation: ECW 486
Energy Recovery Options: VFD Temp Defrost
Exhaust Blower Motor Horsepower: 7½ Horsepower exhaust blower motor
Exhaust/Return Blower Motor type: High efficiency ODP with VFD
Exhaust Blower Size: 20” Direct Drive, Backward Incline Exhaust Blower
Exhaust Blower Options: Actuator Damper+Spring Isolation (Standard Only)
Heating Types: Natural Gas Heat
Heater Control: Modulating 10:1 (5:1 on LP Gas)
Gas Furnace: 800 MBH (400+400 MBH)
Controls: ALC, Standard Program, DOAS
Ventilation & Controls: Motorized 2-Position OA Damper with 2-Position Actuator (ALC, Field DDC, EM)
Control Options: Exhaust Fan Interlock
ALC Ship With Options: Equipment Touch 2 4.3" (Ship With)
ALC Ship With Options: ZS "Standard" Zone Sensor With Humidity
Maintenance Options: 115V Convenience Outlet
Safety Controls: None
Filters: 4 in. MERV 14 Pleated
Disconnect: Non Fused Disconnect
Roof Curbs: C XL Cab Roof Curb 14" with 4 Cond fan With Exhaust
Corrosion Protection - Package: None
Blower HP - 10
Blower RPM - 2244
Supply Fan - BI 20
Exhaust RPM - 2103
Exhaust HP - 7.5
Exhaust Fan - BI 20

YORK®

Tag: DOAS-1

JROA300G4A3DABGBG1B64DXB0E270FBCBGKF100B1T1AA00D0BBGD

Unit Information

Package Unit - DOAS

Model:	**JROA**	Unit Length:	**281**	in	Altitude:	**0**	ft
Size:	**300 C4XL**	Unit Width:	**87.125**	in	Unit Weight:	**5244**	lb.
Quantity:	**1**	Unit Height:	**81**	in			

Design Conditions

Supply Airflow:	**7500** CFM	Ambient Air DB:	**95.0** F	
Outside Airflow:	**7500** CFM			

Filter Information

Filters:	**25x20(2), 25x16(2)**	
Pleated Filter Media:	**40**	sq.ft

Cooling Performance

Gross Total Capacity:	**328**	MBh	Evaporator Face Area:	**16**	sq ft
Gross Sensible Capacity:	**225.8**	MBh	Evaporator Rows:	**6**	
Net Total Capacity:	**309.2**	MBh	Evaporator FPI:	**12**	
Net Sensible Capacity:	**207**	MBh	Condenser Face Area:	**53.44**	sq ft
Entering Air DB / WB (Coil):	**81.7 / 68.3**	F	Condenser Rows:	**1**	
Leaving Air DB / WB (Coil):	**54.5 / 54.4**	F	Condenser FPI:	**19**	
Leaving Air DB / WB (Subcooling):	/	F	Air Velocity:	**468**	fpm
Leaving Air DB / WB (Max. Reheat):	**76.4 / 62.69**	F	Cooling Coil Air PD:	**0.71**	in H2O
Leaving Air DB / WB (Unit):	**78.7 / 63.5**	F			
EER:	**13.3**		MRE:	**5.19**	lb/kWh
Watts:	**35338**		MRC:	**183.4**	lb/h

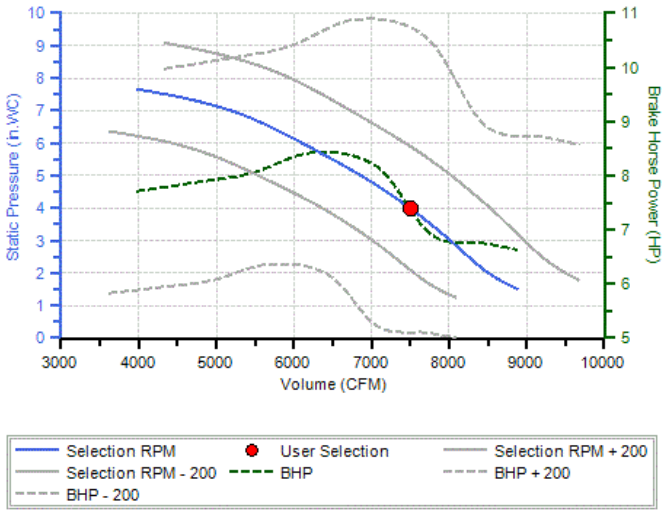
Heating Performance

Heat Type:	**Gas**	Entering Air DB:	**0.0** F
Input Capacity:	**800.0** MBh	Leaving Air DB:	**79.0** F
Output Capacity:	**640.0**	Heating Coil Air PD:	**0.18** in H2O

Energy Conservation Wheel ECW 486

			Cooling	Heating
Outside Airflow:	**7500** CFM	Outside Air DB / WB:	**91.0 / 74.0** F	**0.0 / 0.0** F
Pre-treated OA:	**7500** CFM	Pre-treated OA DB / WB:	**81.7 / 68.3** F	**36.6 / 35.1** F
Return Airflow:	**0** CFM	Return Air DB / WB:	**75.0 / 63.0** F	**70.0 / 58.0** F
Exhaust Airflow:	**7500** CFM	Exhaust Air DB / WB:	**83.9 / 69.1** F	**27.7 / 29.7** F
		Supply Air PD:	**1.40** in H2O	**1.50** in H2O
		Exhaust Air PD:	**1.41** in H2O	**1.41** in H2O
		Total Capacity:	**161.77** MBh	**409.11** MBh
Filters:		Latent Effectiveness:	**55** %	**55** %
Pleated Filter Media:	sq.ft	Sensible Effectiveness:	**61** %	**62** %
		Total Effectiveness:	**57** %	**59** %

Supply Fan BI 20



Supply Pressure Drop Summary

External Static Pressure:	**1.20**	in H2O
Internal Pressure Drop:	**2.77**	in H2O
Total Static Pressure:	**3.97**	in H2O

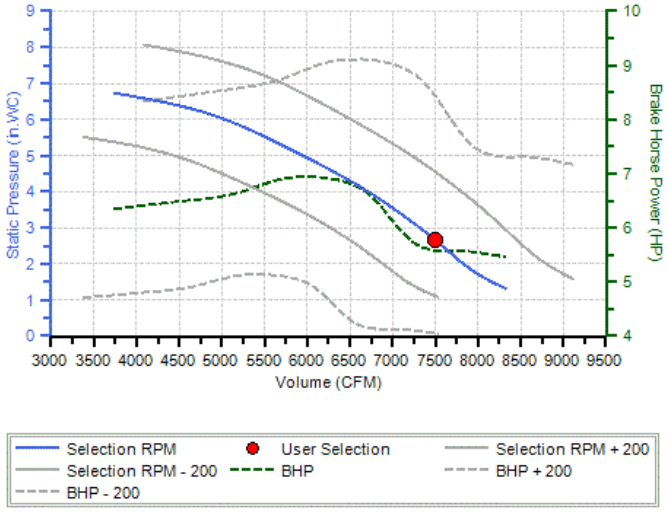
Supply Fan Conditions

Fan Motor BHP:	**7.40**	BHP
Fan RPM:	**2244**	RPM

Internal Pressure Drop Breakdown

Cabinet:	**0.26**	in H2O
Filter:	**0.22**	in H2O
Cooling Coil:	**0.71**	in H2O
Heating Coil:	**0.18**	in H2O
Energy Conservation Wheel:	**1.4**	in H2O

Exhaust Fan BI 20



Exhaust Pressure Drop

External Static Pressure:	**0.80**	in H2O
Total Static Pressure:	**2.66**	in H2O

Exhaust Fan Conditions

Fan Motor BHP:	**5.64**	BHP
Fan RPM:	**2103**	RPM

Unit Electrical Data

Unit Voltage-Ph-Hz:	**230-3-60**	
Unit Amps - FLA:	**154.2**	Amps
Min Circuit Ampacity - MCA:	**166.2**	Amps
Maximum Fuse Size - MFS:	**200**	Amps

Motors

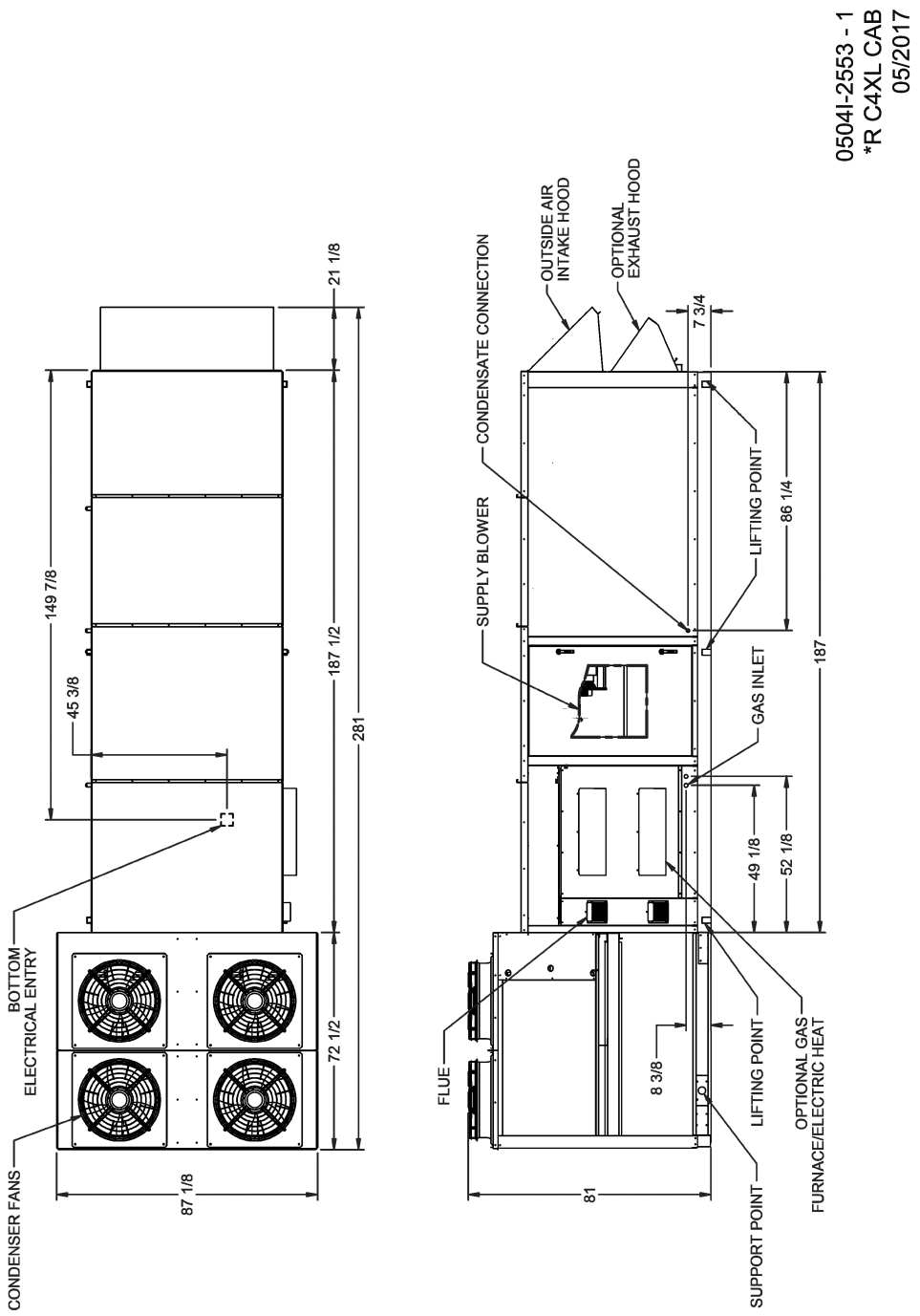
Name/Type	Fan Service	Qty	HP (ea.)	FLA (ea.)	RLA (ea.)	LRA (ea.)
ECW		**1**	**0.5**	**2.7**		
230-3 ODP Hi E (4 pole)	**Exhaust**	**1**	**7.5**	**18.5**		
Scroll		**2**			**48.1**	**245.0**
230-3 ODP Hi E (4 pole)	**Supply**	**1**	**10**	**24.8**		
630mm AC Condenser Fan	**Condenser**	**4**	**1.3**	**3.0**		

Sound Data

	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Total DBA
Cabinet	**69.5**	**87.1**	**85**	**89.9**	**88.3**	**83.5**	**78**	**72.8**	**92.01**
Supply	**55**	**62**	**74**	**75.0**	**78.0**	**78.0**	**78**	**70**	**84**
Exhaust	**55**	**62**	**74**	**75.0**	**78.0**	**78.0**	**78**	**70**	**84**

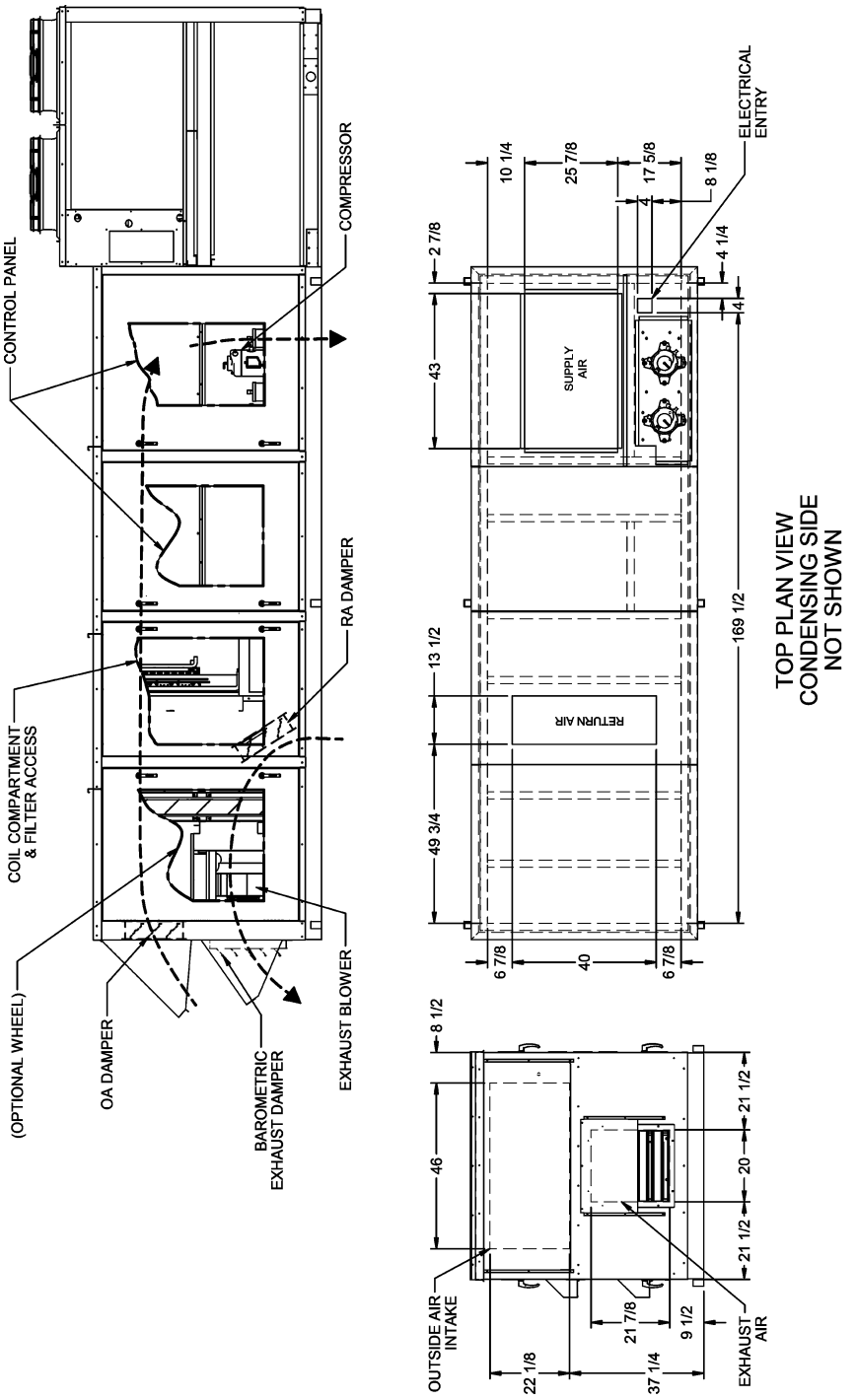
0504I-2553 - *R C4XL CAB-1

Qty: 1 Tags: DOAS-1



0504I-2553 - *R C4XL CAB-2

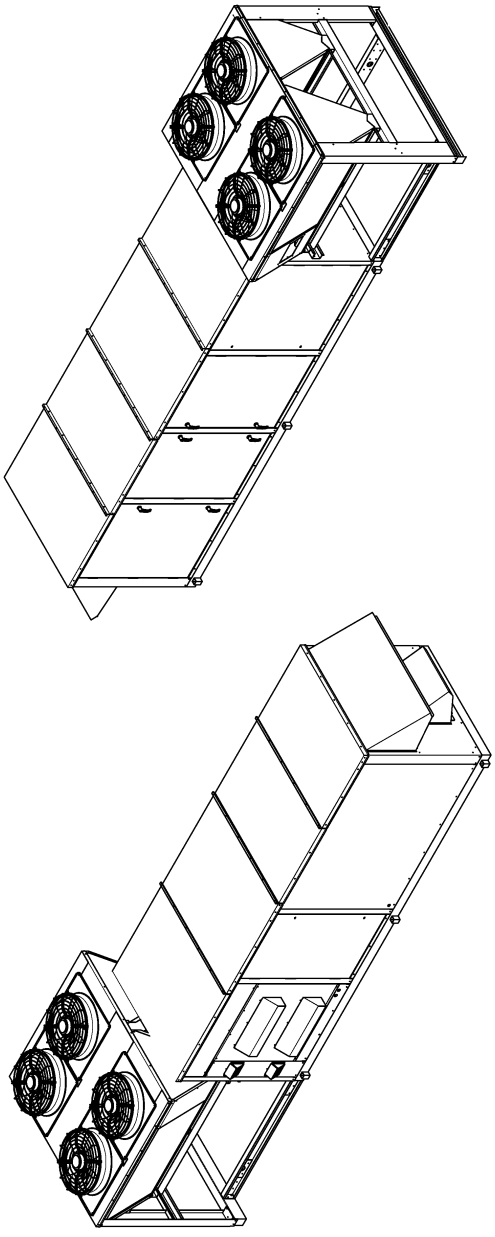
Qty: 1 Tags: DOAS-1



0504I-2553 - *R C4XL CAB-3

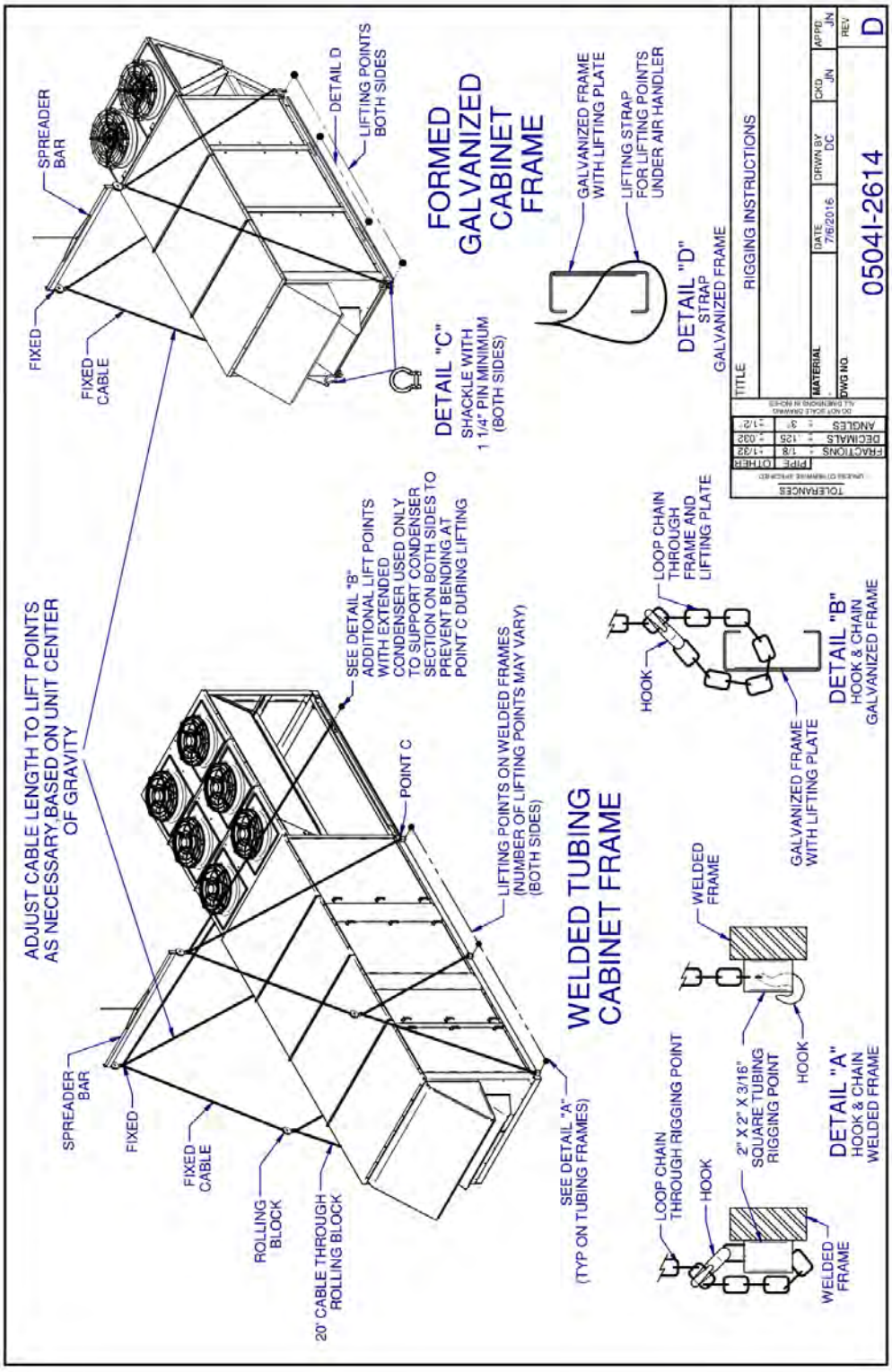
Qty: 1 Tags: DOAS-1

0504I-2553 - 3
*R C4XL CAB
05/2017



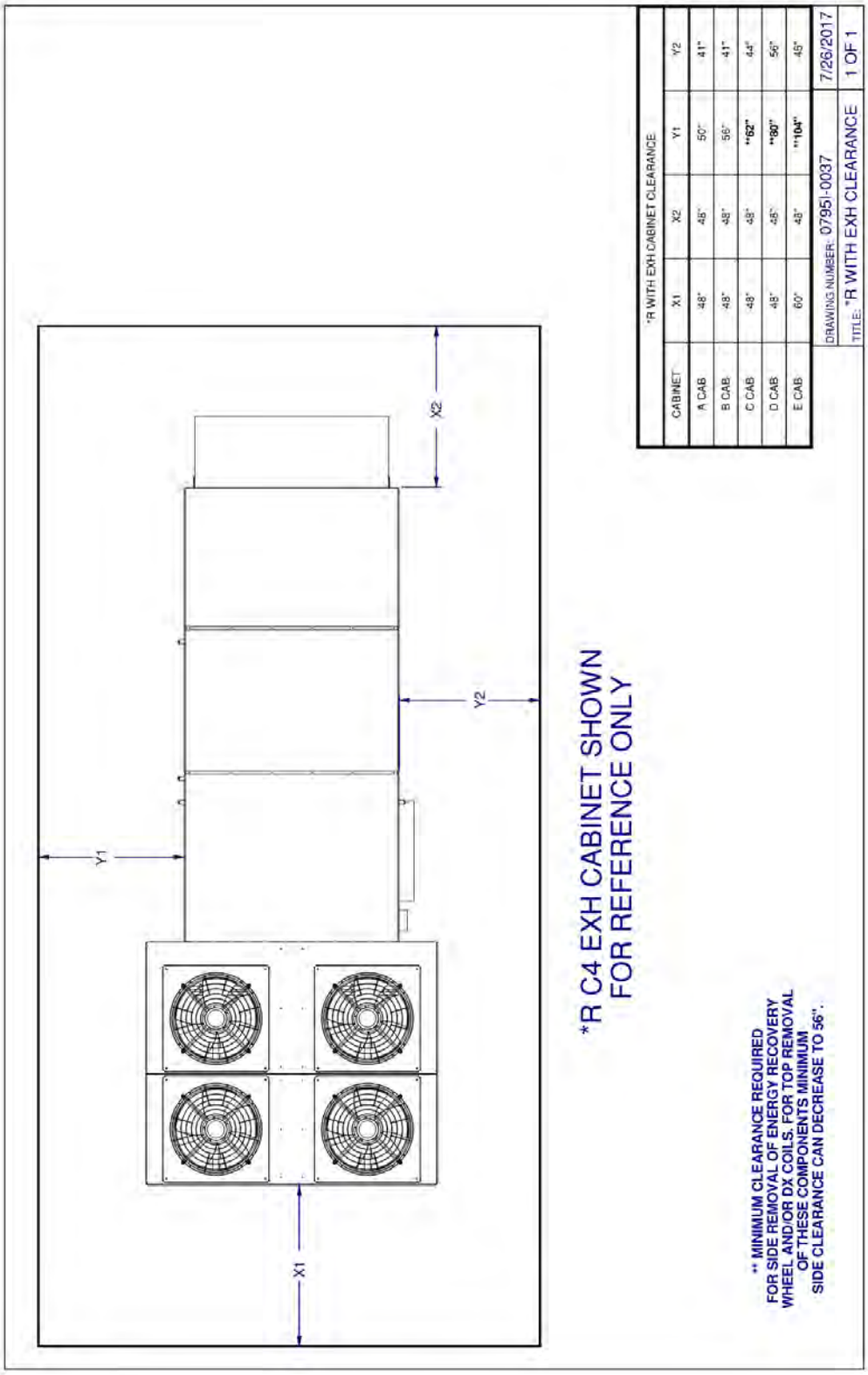
0504I-2614 - RIGGING INSTRUCTIONS

Qty: 1 Tags: DOAS-1



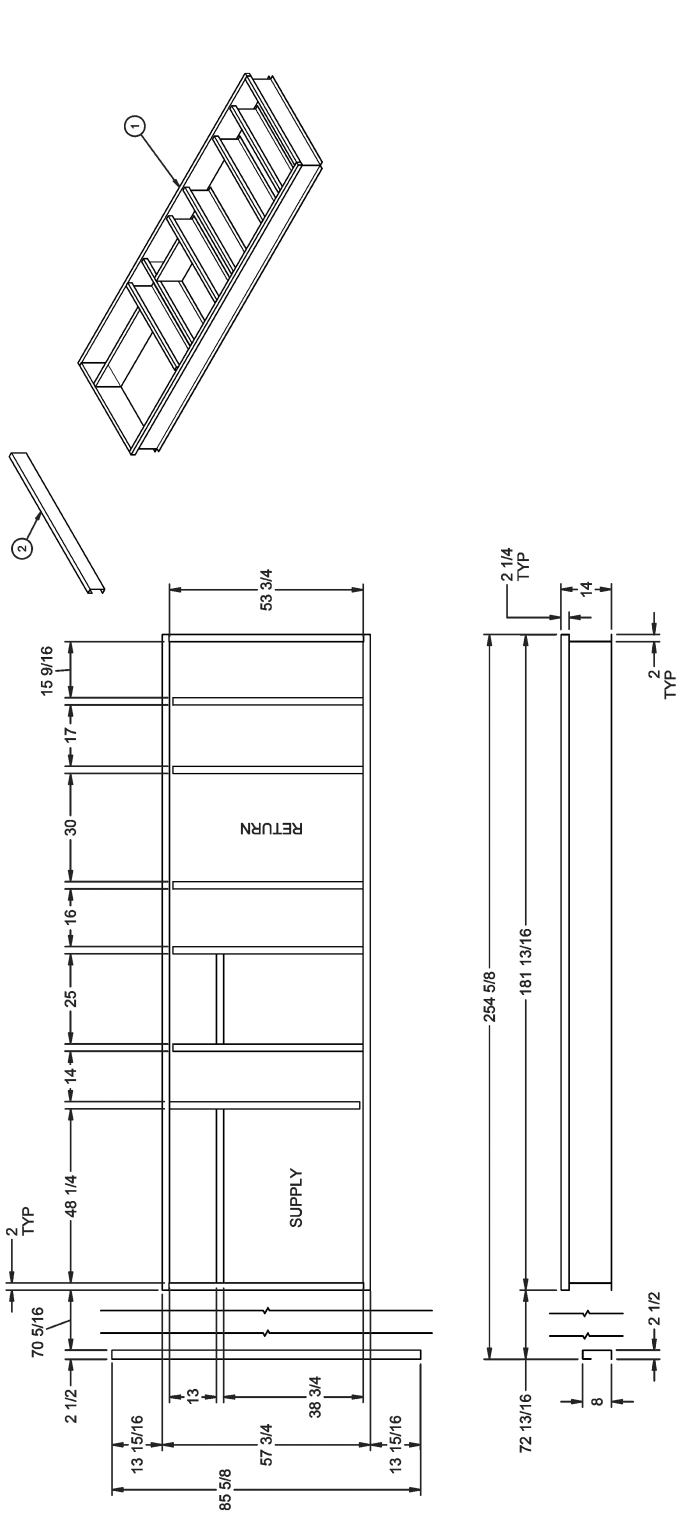
0795I-0037 - *R EXH CLEARANCE

Qty: 1 Tags: DOAS-1



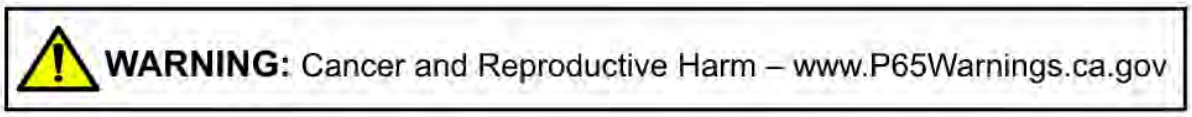
0851I-1890---CURB,EXH,PR-C4XL-CAB

Qty: 1 Tags: DOAS-1



PROP65 for JCI submittal

Qty: 1 Tags: DOAS-1



Mechanical Specifications - Tag(s): DOAS-1

Application/Unit Type JROA

JROA Series are designed for dedicated 100% outside air pre-conditioning. Units are DX air-source cooling only with or without optional heat, energy recovery wheel or exhaust.

Unit JROA

The JR Series packaged unit is a fully assembled heating and/or cooling system, ETL listed, with a single refrigerant circuit (sizes 036–096) or dual refrigerant circuits (sizes 120–1680). Standard features are hoods for outside air and exhaust (if included), factory wiring with a single point power connection, phase and voltage monitor, refrigerant piping, safeties and refrigerant/oil charge (R-410A). Also included are temperature controls (either factory or terminals for field furnished) and optional features listed below.

Unit Cabinet JROA

Cabinet is double wall design with heavy-duty frame and reinforced base. Double wall panels are constructed of G-90 galvanized steel inside and out with a polyester exterior finish for up to 2,500 hour salt-spray protection. Fixed panels on sides and top have two-inch thick, closed cell foam insulation; access panels have two-inch foam injection insulation provides an R-13 rating to reduce heat transfer losses. Access panels are fitted with one-quarter turn self-tightening latches (one lockable) and stainless steel hinges. Top panels are raised to improve water run-off and include drip edge. Heavy Duty 16-guage base pan has 0.375 inch closed cell insulation on the underside to serve as sound attenuation and as a moisture/thermal barrier and a positive seal to the curb. Bottom openings include a minimum one-half inch turned up flange. Stainless steel and/or MAGNI® 555-coated hardware reduce fastener corrosion. Efficient micro-channel condenser coils are standard (heat-pumps have fin and tube). The condenser section on units with four or more fans has removable channels for proper roof clearance. A double-sloped, extra-large, stainless steel drain pan equipped with drain fitting positioned on exterior of cabinet to facilitate removal of condensate and eliminate standing water.

Fans JROA

Direct-drive (air foil or backward inclined) supply and exhaust (if included) blowers are provided with high-efficiency, ODP or TEFC motors (optional ECM) and variable frequency drives (VFD). VFD's may be used to field-adjust airflow. Condenser fans have external rotor, direct driven, axial cast profiled blades with a 5-1/2" spun venturi for high efficiency and low noise. Motors are Totally Enclosed Air Over (TEAO) and operated with pre-programmed VFD for accurate head pressure control.

Cabinet Options: Vertical Supply/Vertical Return

Airflow Configuration, vertical (downflow) supply and return; may or may not have exhaust/relief

Cooling Coil: 6 row Copper Tube Aluminum Fin DX Coil

Cooling Coil, 6-row copper tube, aluminum fin DX coil will be enhanced surface aluminum fins, formed on multiple rows of seamless rifled copper tubing, arranged in staggered tube configuration with galvanized steel header plates. These tubes are mechanically expanded, firmly bonding the tube to the shoulder of each fin. Dual circuit units will have intertwined coils for optimal dehumidification at part-load operation.

Compressor Type: Dual Scroll/Dual Circuit with lead Circuit VFD

Compressors are hermetic scroll type with crankcase heaters, overload protection, short cycle protection and minimum on and off timers. Installed in an insulated compartment accessible through hinged access doors compressors are mounted on rubber-in-shear isolators and isolated from the treated air stream. Refrigerant lines include circuit access/service valves and reaction torque loops. Crankcase heaters will only be activated during compressor off mode. The lead refrigeration circuit has a variable capacity, variable speed compressor with a variable speed drive and modulating hot gas bypass for additional control. The control system will be capable of modulating the compressor from 100% capacity down to 58% capacity while staging the lag compressor. Unit sizes 480 and larger have tandem type compressors. The second compressor on each tandem set is staged via a refrigeration pressure control.

Refrigeration Controls: Hot Gas Bypass (Dual Circuit)

Refrigeration Controls/Options, Hot Gas Bypass, modulating valves without Head Pressure Control (Dual Circuit)

Refrigeration Controls: Hot Gas Reheat, Modulating (Dual Circuit)

Refrigeration Controls/Options, Hot Gas Reheat, Modulating with Variable Speed Head Pressure Control (Dual Circuit), Includes two one-row coils and Electronic valves

Evaporator Motor Type: High efficiency ODP with VFD

Supply Motor Type, the motor(s) will be premium efficiency, open drip proof nominal 1800 or 3600 RPM. For 1.0 horsepower and larger and it is externally protected (manual reset). Motors will be furnished with sealed ball bearings. A factory-mounted Variable Frequency Drive will be furnished for each motor

Evaporator Motor Horsepower: 10 Horsepower

Supply Motor Type, 10.0 horsepower

Supply Blower Size: 20" Direct Drive, Backward Inclined Supply Blower

Supply Blower size/Type, 20” diameter/backward-inclined; the direct-drive impeller is painted steel, statically and dynamically balanced to a grade of G=2,5 (ATE G=6,3) and designed along with the matching inlet cone to achieve the best possible aerodynamic performance. They are secured to the motor shaft with a steel hub that incorporates and keyway and locking screw.

Supply Blower Options: Spring Isolation (Standard Only)

Supply Blower Options, 1” spring isolation in between the blower frame and mount plus a flexible connection at the fan wall.

Energy Recovery & Conservation: ECW 486

The factory-installed enthalpy wheel will be certified to meet the requirements of AHRI Standard 1060 and will be AHRI listed. The rotor will be constructed of alternating layers of flat and corrugated synthetic fibrous media and will be fluted or formed honeycomb geometry so as to eliminate internal wheel bypass. The wheel will include a desiccant that is permanently bound and uniformly dispersed throughout the matrix. The desiccant material will be a 4 angstrom or smaller molecular sieve to minimize cross contamination. The wheel frames will be evenly spaced steel spokes with a galvanized steel outer band and rigid center hub. The wheel seals will be full contact nylon brush type. Wheel cassettes will be constructed of galvanized steel and will have an integral purge section. Bearings will be inboard mounted, permanently sealed roller type or externally flanged type. The wheel cassette will slide out of the cabinet side for service. Wheels up to 60” will be driven by a fractional horsepower AC motor and larger wheels will have a 1.0 or 1.5 horsepower premium efficiency AC motor via a multilink drive belt. Outside and exhaust air streams include 2” MERV 8 filters.

Energy Recovery Options: VFD Temp Defrost

Energy Recovery Options, VFD defrost, wheel speed is slowed as frost condition occurs

Exhaust Blower Motor Horsepower: 7½ Horsepower exhaust blower motor

Exhaust Motor size, 7.5 horsepower

Exhaust/Return Blower Motor type: High efficiency ODP with VFD

"Exhaust Motor Type
The motor(s) will be premium efficiency, open drip proof, nominal 1800 or 3600 RPM. For 1.0 horsepower and larger and it is externally protected (manual reset). Motors will be furnished with sealed ball bearings. A factory-mounted Variable Frequency Drive will be furnished for each motor
"

Exhaust Blower Size: 20” Direct Drive, Backward Incline Exhaust Blower

Exhaust Blower size/Type, 20” diameter/backward-inclined; the direct-drive impeller is painted steel, statically and dynamically balanced to a grade of G=2,5 (ATE G=6,3) and designed along with the matching inlet cone to achieve the best possible aerodynamic performance. They are secured to the motor shaft with a steel hub that incorporates and keyway and locking screw.

Exhaust Blower Options: Actuator Damper+Spring Isolation (Standard Only)

Exhaust Blower Options, exhaust air hood with gravity relief damper, 2-position actuator, 1" spring isolation in between the blower frame and mount plus a flexible connection at the fan wall (Standard only).

Heating Types: Natural Gas Heat

Natural Gas Heat, Gas heaters are induced-draft combustion type with energy saving direct spark ignition systems and redundant main gas valves. The tubular section type heat exchanger is constructed of a minimum of 20-gage type 409 stainless steel. Burners are in-shot type constructed of aluminum coated steel.

Heater Control: Modulating 10:1 (5:1 on LP Gas)

Heater control, modulating 10:1 (Gas furnace)

Gas Furnace: 800 MBH (400+400 MBH)

Gas Heating Capacity, 800.0 (400.0 + 400.0) MBH input, 80% AFUE

Controls: ALC, Standard Program, DOAS

Controls, ALC I/O OPTICORE LS-1628u digital controller, factory-mounted and wired with standard program for 100% outside air. Includes low voltage control circuit, remote access support over internet/intranet or modem and BACnet and Modbus protocols.

Ventilation & Controls: Motorized 2-Position OA Damper with 2-Position Actuator (ALC, Field DDC, EM)

Ventilation Option, outside air intake hood with birdscreen plus motorized Class 1 damper with 2-position actuator – may be used with ALC or field-installed DDC or electro-mechanical 24 Volt controls

Control Options: Exhaust Fan Interlock

Control Options, exhaust fan interlock relay factory-installed and wired. Provides start/stop of a remote exhaust fan with the supply fan.

ALC Ship With Options: Equipment Touch 2 4.3" (Ship With)

The Equipment Touch interface is designed as an equipment HMI and a diagnostic tool together in one compact interface. With Screens programmed in ViewBuilder, the interface has a color LCD touch screen display used to provide a custom graphic interface for control of equipment.

ALC Ship With Options: ZS "Standard" Zone Sensor With Humidity

ZS-H-BNK wall-mounted standard zone temperature and humidity sensor. This is used with PRR and PRM units.

Maintenance Options: 115V Convenience Outlet

Maintenance Options, 115 volt GFCI convenience outlet with cover – factory wired. Includes step down transformer and fused disconnect switch in NEMA 3R enclosures

Safety Controls: None

Safety Options, None

Filters: 4 in. MERV 14 Pleated

Pre-filter options, 4 in. filter rack with MERV 14 (pleated) filters pre-loaded in unit.

Roof Curbs: C XL Cab Roof Curb 14" with 4 Cond fan With Exhaust

ROOF CURB, 14” high, un-insulated curb with sleeper for PR_A/PR_H-C4 XL cabinet with exhaust fan and four condenser fans. Curb will be formed of minimum 16-gage galvanized steel with wood nailer strip and will be capable of supporting entire unit weight

Corrosion Protection - Package: None

Corrosion Protection, none

Section 4.0
Historic Documents

NPS Form 10-900
(3-82)

OMB No. 1024-0018
Exp. 10-31-84

United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
received AUG 13 1985
date entered SEP 12 1985

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Grand Trunk Western Railroad Birmingham Depot

and/or common Norman's Eton Street Station

2. Location

street & number 245 S. Eton St. n/a not for publication

city, town Birmingham n/a vicinity of

state Michigan code 026 county Oakland code 125

3. Classification

Category	Ownership	Status	Present Use	
X district	___ public	X occupied	___ agriculture	___ museum
___ building(s)	X private	___ unoccupied	X commercial	___ park
___ structure	___ both	___ work in progress	___ educational	___ private residence
___ site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	___ in process	___ yes: restricted	___ government	___ scientific
	___ being considered	X yes: unrestricted	___ industrial	___ transportation
	n/a	___ no	___ military	___ other:

4. Owner of Property

name Mr. Anthony S. Brown c/o Birmingham Train Station Associated Limited Partnership, Inc.

street & number 255 E. Brown Street, Suite #10

city, town Birmingham n/a vicinity of state Michigan 48011

5. Location of Legal Description

courthouse, registry of deeds, etc. Oakland County Register of Deeds

street & number 1200 North Telegraph Road

city, town Pontiac state Michigan 48053

6. Representation in Existing Surveys

title Oakland County Survey has this property been determined eligible? ___ yes X no

date 1981 ___ federal X state ___ county ___ local

depository for survey records Bureau of History

city, town Lansing state Michigan 48918

7. Description

Condition		Check one	Check one
___ excellent	___ deteriorated	___ unaltered	X original site
X good	___ ruins	X altered	___ moved date _____
___ fair	___ unexposed		

Describe the present and original (if known) physical appearance

The Grand Trunk Western Railroad Birmingham Depot is located southeast of the intersection of Maple Road (15 Mile Road) and Eton Street in Birmingham, in a mixed residential and commercial neighborhood. The depot is a rectangular, gable-roofed structure of red brown brick, fronted by a projecting white limestone, gabled, entranceway block containing a recessed round-head entrance. The Vermont slate roof is pierced by several gables displaying herringbone and basketweave brickwork. The structure has a concrete foundation and utilizes structural steel framing.

In 1983, the former train depot underwent rehabilitation as a restaurant and cocktail lounge now known as Norman's Eton Street Station. Exterior alterations to the building's front facade are cosmetic in nature and include canvas awnings over windows and entranceway, oak benches, fieldstone walks, period lighting, and formal landscaping, including surrounding trees and plantings.

The former train station's interior space has been divided into four dining rooms. Floors are carpeted and finished in terrazzo. The side walls have a painted plaster finish, and the arched ceiling is of painted plaster. The four dining rooms vary in motif and character. The Palms Room, the western half of the former waiting room, has a dramatic, barrel-vaulted and ribbed ceiling. The Loft Room, located on a balcony or loft at the east end of the waiting room area, is also topped by the barrel-vaulted ceiling and features vertical striped oak paneling. The former underground baggage tunnel now serves as a dining room with a dining car motif. A fourth dining room, called the Coach Room, features glass mirrors, oriental rugs, and wood paneling.

8. Significance

Period	Areas of Significance—Check and justify below				
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture
___ 1600–1699	X architecture	___ education	___ military	___ social/ humanitarian
___ 1700–1799	___ art	___ engineering	___ music	___ theater
___ 1800–1899	___ commerce	___ exploration/settlement	___ philosophy	X transportation
X 1900–	___ communications	___ industry	___ politics/government	___ other (specify)
		___ invention		

Specific dates 1930 - 1931 **Builder/Architect** George B. Walbridge and Albert H. Aldinger of Detroit, building contractors

Statement of Significance (in one paragraph)

The Grand Trunk Western Railroad Birmingham Depot is the principal manifestation in Birmingham of that city's long history of rail passenger service as a stop on the line between Detroit and Pontiac. It also recalls the response of a Michigan governor and a long-established rail line to changing transportational needs for Detroit's northern suburbs at the outset of the Great Depression. Constructed at a cost of $125,000 by Walbridge and Aldinger, Detroit building contractors, the Birmingham station has architectural note as a scaled-down imitation of the Birmingham, England, train station.

Railroad passenger service first came to the village of Birmingham in the spring of 1839. Albert Sault Williams, co-owner of the privately-financed Detroit and Pontiac Railroad, announced that "...after June 1, 1839, two steam trains would run from Detroit to Birmingham. The line reached Pontiac by 1840, following a north-south right-of-way alongside Woodward Avenue, which ran in a direct line for twenty-three miles from Detroit to Pontiac. The Detroit and Pontiac Railroad became part of another privately owned line, the Ottawa and Oakland, in 1848. The line was absorbed by the Grand Trunk Railroad in 1860.

Oakland County's population leaped from 90,050 to 211,251 between 1920 and 1930. Birmingham's population more than doubled during this period. As the number of automobiles using Woodward Avenue doubled and tripled after World War I, Michigan highway officials pressed the need for a wider right-of-way for Woodward Avenue. In November, 1923 the Michigan legislature passed the "Wider Woodward Act" calling for a 200-foot width. At a cost of 2.5 million dollars, an additional right-of-way was purchased covering the twenty-three miles from Detroit's city limits to Pontiac.

The Grand Trunk Railroad opposed the new legislation. Its tracks ran directly along the eastern edge of Woodward Avenue through most of the route from Detroit to Pontiac, including Birmingham. The railroad took a dim view of any suggestion that it vacate its right-of-way or spend the millions necessary to move the track away from Woodward Avenue. Governor Alexander Groesbeck induced the 1925 session of the Legislature to adopt a resolution declaring it "necessary to attain that end." This was a thinly veiled hint that unless Grand Trunk cooperated, its charter would be revoked. The threat produced a willingness to cooperate. In early 1926, for an annual consideration of $200,000 from the State of Michigan, Grand Trunk agreed to abandon its right-of-way and move its tracks to a location a mile east of Woodward Avenue.

Between 1926 and 1930 the Grand Trunk spent eight million dollars on land purchases and construction of a new right-of-way from Detroit to Pontiac. In October, 1930, ground was broken for a new passenger and freight station in Birmingham. The depot was completed at a cost of $125,000 by the Detroit building contractor firm of Walbridge and Aldinger and it and the new line were dedicated on August 1, 1931 in the presence of Governor Wilbur Brucker, former Governor Groesbeck, and an estimated 50,000 on lookers, inaugurating commuter train service to eleven cities and villages between Detroit and Pontiac.

In 1978 the Southeast Michigan Transportation Authority allowed its lease with Grand Trunk to expire and the depot was vacated. In 1979 the train depot was purchased by the present owner. It has since undergone conversion as a restaurant, Norman's Eton Street Station.

9. Major Bibliographical References

(attached)

10. Geographical Data

Acreage of nominated property Two acres

Quadrangle name Birmingham Quad Quadrangle scale 1:24000

UTM References

	Zone	Easting	Northing
A	17	319760	4712600
B			
C			
D			
E			
F			
G			
H			

Verbal boundary description and justification

(attached)

List all states and counties for properties overlapping state or county boundaries

state N/A	code	county	code
state	code	county	code

11. Form Prepared By

name/title Charles C. Cotman

organization Bureau of History date May 30, 1985

street & number 208 North Capitol Avenue telephone (517) 373-0510

city or town Lansing state Michigan 48918

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national ___ state X local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature Martha M. Bigelow

title Director, Bureau of History date 8/7/85

For NPS use only

I hereby certify that this property is included in the National Register

for Delores Byers Entered in the National Register date 9-12-85

Keeper of the National Register

Attest: date

Chief of Registration

9. Major Bibliographical References

Birmingham Eccentric. August 1, 1931, p. 1A.

Detroit Free Press. August 2, 1931, p. 1A.

Detroit News. August 1, 1931, p. 1A.

Durand, Samuel W. History of Oakland County, Michigan. Philadelphia: L. H. EVerts Publishing Company, 1877.

Hagman, Arthur A. (ed). Oakland County Book of History. Pontiac: Sesqui-Centennial Executive Committee, 1970.

McMechan, Jervis B. and al. The Book of Birmingham. Birmingham: Bicentennial Committee, 1976.

Pontiac Daily Press. August 1, 1931, p. 1 and 2A.

Woodford, Frank B. Alex J. Groesbeck: Portrait of a Public Man. Detroit: Wayne State University, 1962.

10. Verbal Boundary Description and Justification

PARCEL A

A parcel of land located in the North 1/2 of Section 31, Town 2 North, Range 11 East, Township of Troy (now City of Birmingham) now owned by Grand Trunk Western Railroad Company and previously platted as Lots 58 and 59, part of Lot 11, Lots 12 through 15 plus all or parts of Lots 55 through 59, plus part of vacated Yosemite Boulevard, Eton Road and 16 foot alley in BIRMINGHAM GARDENS SUBDIVISION, as recorded in Liber 31 of Plats, Page 38, Oakland County Records. Parcel more particularly described as: Beginning at a point on the Eastline of Eton Road (as relocated), said point being North 88 degrees 16 minutes 37 seconds West 117.95 feet along the East-West Section line in Maple Road (66 feet wide) and South 34° 11 minutes 27 seconds East 87.17 feet along the Easterly Right-of-Way line of Eton Road (50 feet wide) extended from the North 1/4 corner of said Section 31; thence continuing South 34 degrees 11 minutes 27 seconds East 112.57 feet along said right of way line; thence South 1° 59 minutes 10 seconds West 236.98 feet along the East line of Eton Road; thence South 88° 20 minutes 47 seconds East 245.76 feet; thence North 33 degrees 44 minutes 54 seconds West 390.56 feet parallel and 1.00 feet Westerly of an existing concrete retaining wall; thence South 56° 34 minutes 45 seconds West 16.90 feet; thence North 33° 36 minutes 11 seconds West 57.77 feet to the South line of Maple Road as widened for Railroad Bridge (43 feet=1/2 right of way); thence North 88° 16 minutes 37 seconds West 22.56 feet along said right of way; thence South 29° 04 minutes West 31.10 feet along the Easterly right of way of Eton Road as relocated to the point of beginning.

10. Continued

PARCEL B

Easements over the following described parcels

EASEMENT Parcel 1:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East, and the centerline of Track No. 690-1 (as shown by Grand Trunk Western Railroad's Plan No. A-30-80, dated September 24, 1980 File No. 70/5) thence Southeasterly 328.4 feet, more or less, along the centerline of said track; thence Southwesterly 32.5 feet at right angles to the outside Easterly corner of the former Birmingham Depot Baggage and Utility Rooms being the point of beginning; thence Northwesterly 45.1 feet, at right angles, to the outside Northerly corner of said Baggage and Utility Rooms; thence Southwesterly 11.3 feet, at right angles, to a point on Southwesterly right of way line; thence Southeasterly 45.1 feet along said right of way line; thence Northeasterly 11.3 feet, at right angle to the point of beginning.

EASEMENT Parcel 2:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East and the centerline of Track No. 690-1 (as disclosed by Grand Trunk Western Railroad's Plan No. A-30-80, dated September 24, 1980, file No. 70-53) thence Southeasterly 297.3 feet, more or less, along the centerline of said track to the outside face of the Northwesterly wall of the former Birmingham Depot Baggage Tunnel, being the point of beginning; thence Southwesterly 32.5 feet at right angles along the outside face of said wall to the Northeasterly outside face of the former Birmingham Depot Baggage Room wall; thence Southeasterly 9.4 feet, more or less, at right angles to the outside face of the Southeasterly wall of said tunnel; thence Northeasterly 76.0 feet at right angles along the outside face of said wall to Northeasterly right of way line; thence Northwesterly 9.4 feet, more or less, along said right of way line to the outside face of the Northwesterly wall of said baggage tunnel; thence Southwesterly 43.5 feet along the outside fence of said wall to the point of beginning.

EASEMENT Parcel 3:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East and the centerline of Grand Trunk Western Railroad Track No. 690-1 (as disclosed by Grand Trunk Western Railroad's Plan No. A-30-80, dated September 24, 1980, file No. 70-53); thence Southeasterly 253.3 feet, more or less, along the centerline of said track to the outside face of the Northwesterly wall of the former Birmingham Depot Passenger Tunnel, being the point of beginning; thence Southwesterly 43.8 feet at right angles along the outside face of said wall to Grand Trunk Western Railroad Southwesterly right of way line; thence Southeasterly 13.4 feet, more or less at right angles along said right of way line to the outside face of the Southeasterly wall of said passenger tunnel; thence Northeasterly 61.8 feet at right angles along the outside face of said wall; thence Northwesterly 13.4 feet at right angles to the outside face of the Northwesterly wall of said tunnel; thence Southwesterly 18.0 feet along the outside face of said wall to the point of beginning.

10. Continued
EASEMENT Parcel 4:
Commencing at the intersection of the North line of Section 31, Town 2 North, Range 11 East and the centerline of Grand Trunk Western Railroad Track No. 690-1 (as disclosed by Grand Trunk Western Railroad Plan No. A-30-80, dated September 24, 1980, file no. 70-53) thence Southeasterly 220.2 feet, more or less, along the centerline of said track; thence Southwesterly 43.8 feet at right angles to a point 1.3 feet Northwesterly of the Northwesterly face of the former Birmingham Depot, said point being the point of beginning; thence Southeasterly 79.4 feet, more or less, along Grand Trunk Western Railroad Southwesterly right of way line; thence Northeasterly 2.8 feet at right angles; thence Northwesterly 24.8 feet at right angles; thence Southwesterly 0.8 feet at right angles; thence Northwesterly 29.8 feet at right angles thence Northeasterly 0.8 feet at right angles; thence Northwesterly 24.8 feet at right angles; thence Southwesterly 2.8 feet to the point of beginning.

This is the entire property on which the depot stands.

AENR85158A AENR85158E

WASO Form - 177
("R" June 1984)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Ref# 85002148

Grand Trunk Western Railroad Birmingham Depot
Oakland County
MICHIGAN

AUG 13 1985

Working No. _____
Fed. Reg. Date: 2-4-86
Date Due: 9/12/85 – 9/27/85
Action: ✓ ACCEPT 9-12-85
___ RETURN _____
___ REJECT _____
Federal Agency: _____

Entered in the National Register

☐ resubmission
☐ nomination by person or local government
☐ owner objection
☐ appeal

Substantive Review: ☐ sample ☐ request ☐ appeal ☐ NR decision

Reviewer's comments:

Recom./Criteria _____
Reviewer _____
Discipline _____
Date _____
_____ see continuation sheet

Nomination returned for: _____ technical corrections cited below
_____ substantive reasons discussed below

1. Name

2. Location

3. Classification

Category	Ownership	Status	Present Use
	Public Acquisition	Accessible	

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Has this property been determined eligible? ☐ yes ☐ no

7. Description

Condition		Check one	Check one
☐ excellent	☐ deteriorated	☐ unaltered	☐ original site
☐ good	☐ ruins	☐ altered	☐ moved date _____
☐ fair	☐ unexposed		

Describe the present and original (if known) physical appearance

☐ summary paragraph
☐ completeness
☐ clarity
☐ alterations/integrity
☐ dates
☐ boundary selection

8. Significance

Period Areas of Significance--Check and justify below

Specific dates Builder/Architect

Statement of Significance *(in one paragraph)*

- ☐ summary paragraph
- ☐ completeness
- ☐ clarity
- ☐ applicable criteria
- ☐ justification of areas checked
- ☐ relating significance to the resource
- ☐ context
- ☐ relationship of integrity to significance
- ☐ justification of exception
- ☐ other

9. Major Bibliographical References

10. Geographical Data

Acreage of nominated property _____

Quadrangle name _____

UTM References

Verbal boundary description and justification

11. Form Prepared By

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

____ national ____ state ____ local

State Historic Preservation Officer signature

title date

13. Other

- ☐ Maps
- ☐ Photographs
- ☐ Other

Questions concerning this nomination may be directed to _____

Signed _____ Date _____ Phone: _____

Comments for any item may be continued on an attached sheet

Grand Trunk Western Railroad
Birmingham Station
(Norman's Eton Street Station)
245 South Eton
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Date: May, 1985
Bureau of History
Lansing, MI 48918
Camera facing N NE
Photo # 1 of 8

Grand Trunk Western Railroad
Birmingham Station
(Norman's Eton Street Station)
245 South Eton
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Date: May, 1985
Bureau of History
Lansing, MI 48918
Camera facing N
Photo #2 of 8

N

Grand Trunk Western Railroad
Birmingham Station
245 South Eton
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Date: May, 1985
Bureau of History
Lansing, MI 48918
Camera facing N NE
Photo # 3 of 8

GTE Bennington

Grant Trunk Western Railroad
Birmingham Station
(Norman's Eton Street Station)
245 South Eton
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Date: May 1985
Bureau of History
Lansing, MI 48918
Camera facing SE
Photo # 4 of 8

Grand Trunk Western Railroad
Birmingham Station
(Norman's Eton Street Station)
245 South Eton
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Date: May, 1985
Bureau of History
Lansing, MI 48918
Camera facing N NW
Photo# 5 of 8

Grand Trunk Western Railroad
(Norman's Eton Street Station)
245 South Eton
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Bureau of History
Lansing, MI 48918
Camera facing SE
Photo # 6 of 8

Grand Trunk Western Railroad
Birmingham Station
(Norman's Eton Street Station)
245 South Eton
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Date: May, 1985
Bureau fo History
Lansing, MI 48918
Camera facing NE
Photo # 7 of 8

1938 · BIRMINGHAM TRAIN STATION ~ NORMAN' S

Grand Trunk Western Railroad
Birmingham Station
(Norman's Eton Street Station)
Birmingham, Oakland County, Michigan
Photographer: Cathy Clements
Date: May, 1985
Bureau of History
Lansing, MI 48918
Camera facing S
Photo# 8 of 8

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BIRMINGHAM QUADRANGLE
MICHIGAN—OAKLAND CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Grand Trunk and Western Railroad Depot, Birmingham Station

245 S. Eton

Birmingham, Oakland County

Michigan

UTM Reference:

17/ 319760/ 4712600

Mapped, edited, and published by the Geological Survey in cooperation with State of Michigan agencies

Control by USGS and USC&GS

Planimetry by photogrammetric methods from aerial photographs
Topography by planetable surveys 1942–1943
Revised from aerial photographs taken 1967. Field checked 1968

Polyconic projection. 1927 North American datum
10,000-foot grid based on Michigan coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks,
zone 17, shown in blue

Red tint indicates areas in which only landmark buildings are shown

To place on the predicted North American Datum 1983
move the projection lines 7 meters west as shown by
dashed corner ticks

UTM GRID AND 1981 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
AND BY THE GEOLOGICAL SURVEY DIVISION
MICHIGAN DEPARTMENT OF NATURAL RESOURCES, LANSING, MICHIGAN 48909
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Primary highway, all weather, hard surface
Light-duty road, all weather, improved surface
Secondary highway, all weather, hard surface
Unimproved road, fair or dry weather
Interstate Route
U. S. Route
State Route

MICHIGAN
QUADRANGLE LOCATION

Revisions shown in purple compiled from aerial photographs taken 1973 and 1981. Map edited 1981
This information not field checked

Purple tint indicates extension of urban area

BIRMINGHAM, MICH.
N4230 —W8307.5/7.5

1968
PHOTOREVISED 1981
DMA 4369 II SW—SERIES V862

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1981

OAKLAND
COUNTY MICHIGAN

JUL 0

Daniel T. Murphy, Oakland County Executive

card sent 7/10/85 SJL

July 3, 1985

Dr. Martha M. Bigelow
State Historic Preservation Officer
Bureau of History
Michigan Department of State
Lansing, MI 48918

Dear Dr. Bigelow:

The information from your office regarding the Birmingham Grand Trunk Railroad Depot and the Affleck House in Bloomfield Hills has been received with interest. I am pleased that effort is being made to list these properties on the National Register of Historic Places.

We in Oakland County government are proud to support the preservation of our historic sites and buildings and thank you for endeavoring to register them at the national level.

Our Oakland County Historic Commission is dedicated to encourage citizens to seek restoration of properties important to our American history and culture. I understand that members of this organization have utilized the expertise of your fine staff on several occasions for workshops and information of current legislation related to historic preservation.

Please call on me if I can be of further assistance in the consideration of these two Oakland County properties when your Review Board meets in the near future.

Sincerely,

Daniel T. Murphy
COUNTY EXECUTIVE

DTM/jls

MICHIGAN DEPARTMENT OF STATE

RICHARD H. AUSTIN SECRETARY OF STATE

LANSING

MICHIGAN 48918

BUREAU OF HISTORY

ADMINISTRATION, PUBLICATIONS ARCHAEOLOGY AND HISTORIC PRESERVATION
208 N. Capitol Avenue
517—373-0510

STATE ARCHIVES
3405 N. Logan Street
517—373-0512

MICHIGAN HISTORICAL MUSEUM
208 N. Capitol Avenue
517—373-3559

July 30, 1985

Ms. Carol D. Shull, Supervisory Historian
National Register of Historic Places Branch
Interagency Resource Management Division
National Park Service
U.S. Department of the Interior
Washington, DC 20240

Dear Ms. Shull:

Enclosed are National Register of Historic Places nomination materials for the Grand Trunk Western Railroad Birmingham Depot, Birmingham, Michigan. I certify that the intent-to-nominate notification requirements have been fulfilled. This property is being submitted for listing in the National Register. All notarized statements of objection and written comments concerning this nomination submitted to us prior to the submission of this nomination to you are enclosed.

Please direct all questions concerning this nomination to Brian Conway, Historic Preservation Coordinator (517/373-0510).

Sincerely,

Martha M. Bigelow

Martha M. Bigelow
Director, Bureau of History
and
State Historic Preservation Officer

MMB/ROC/sl

enc.

AUG 13 1985

City of Birmingham
A Walkable Community

MEMORANDUM

Planning Division

DATE: **September 9th, 2021**

TO: **Planning Board**

FROM: **Nicholas Dupuis, City Planner**

SUBJECT: **Outdoor Dining Ordinance – Study Session #3**

On December 7, 2020, the City Commission discussed amending the Zoning Ordinance to consider allowing the enclosure of outdoor dining areas during the winter months. The City Commission asked the Planning Board to consider this issue, and any regulations they may recommend should outdoor dining enclosures be permitted.

On June 21st, 2021, the City Commission and Planning Board met at a joint meeting to further discuss outdoor dining, and to get a clear direction as to what elements of outdoor dining should be addressed. In general, the City Commission and Planning Board discussed several topics spanning from enclosures to private vs. public space, but ultimately asked the Planning Board to take a comprehensive look at the entire outdoor dining ordinance.

On June 23rd, 2021, the Planning Board discussed outdoor dining in further detail based on the joint meeting two days prior. The Planning Board settled on a list of goals that they would like to focus on in the ordinance review process, which includes the following:

- Incentivize outdoor off-season dining;
- Review the placement of decks and enclosures;
- Ensure that additional outdoor off-season dining does not become an extension of the indoor space;
- Solicit feedback from restauranteurs of all types in the City;
- Seek possible ideas from local, national and international examples;
- Review the current ordinance for issues;
- Review tickets that were given out to temporary outdoor dining operations;
- Review photos of the variety of temporary outdoor dining structures that were used around the City;
- Explore options for maintaining permanent aspects of outdoor dining structures even if the parts of the structures come down in different seasons;
- Discuss potential differences in policy for outdoor dining on public versus private property;
- Solicit feedback from Public Services and the BSD;

- Review agreements from temporary outdoor dining to see if any of the temporary policies might be worth integrating;
- Consider aspects like sidewalk widths and snow clearing in writing the policy;
- Maintain the current seating allowances for differently-sized establishments and maintain the differences for establishments holding different kinds of licenses for alcoholic beverage service; and,
- Recommend a permanent solution so that restauranteurs do not have to continue to adapt to changing policies.

Study Session #1 Summary

On July 14th, 2021, the Planning Board reviewed a high-level report on outdoor dining to guide future discussion. The topics included observations as to what constitutes "good" outdoor dining with national and local examples, as well as a local ordinance review for outdoor dining. The Planning Board discussed next steps and emphasized the need to (1) hear from different City Departments (code issues, retail neighbor conflicts, streetscape), (2) review available codes and ordinances from other areas of the country (enclosures, public vs. private, year-round), and (3) analyze information from national downtown associations or other related organizations (trends, social districts, success stories).

Study Session #2 Summary

On August 11th, 2021, the Planning Board reviewed another high-level report in which the Planning Division presented various departmental comments on outdoor dining, a national outdoor dining ordinance review, conversations with local cities, and a study of national organization input and trends. The Planning Division also provided some public feedback from Engage Birmingham, which surveyed the public for their opinion of the COVID-19 temporary outdoor dining expansions, which were overwhelmingly positive. Moving forward, the Planning Board expressed interest in getting into more detail on seasonal/year round dining and its effect on street activation, public versus public space, the potential for regulating different restaurants/licenses differently, and defining and establishing a purpose of outdoor dining in the City.

Study Session #3

Advisory Parking Committee Comments

During the August 4th, 2021 meeting of the Advisory Parking Committee, the committee expressed an interest in being involved in the process for the current outdoor dining study. The Planning Division brought the issue to the September 1st, 2021 meeting to solicit some comments for the Planning Board to consider. Their comments arose from their role in reviewing outdoor dining platforms, and their effect on parking specifically. Their comments may be summarized in the following bullet points:

- Regulating the number of platforms per block.
- Begin the platform review at the APC instead of Planning Board.
- Finding a balance between two desired commodities: outdoor dining and parking.
- Annual review of outdoor dining decks.
- Different uses, different rules.

- Platforms open at all hours of the day to foster activation, avoid empty decks/wasted space.
- The possibility of different outdoor dining districts.

Common Ordinance Issues

During Study Session #2, Planning Board members expressed an interest in reviewing some of the issues that arose during the temporary COVID-19 outdoor dining expansions, and which of the expansions received enforcement for violations of the temporary ordinance. Before reviewing these issues, the Planning Division felt it important to outline some of the more regular and/or routine issues with approved outdoor dining patios that are observed on a day-to-day basis:

- Maintenance of the required 5 ft. minimum clear path.
- Maintaining a valid outdoor dining license.
- Adherence to the approved outdoor dining/site plans.
- Exceeding approved/permitted outdoor dining seat counts.

These four issues come up on a regular basis during the outdoor dining season, but also a typically become a focal point during the annual liquor license review process for those establishments serving alcoholic beverages, which occurs in January/February every year. When it comes to the required 5 ft. minimum clear path, there are a number of variables to consider. For outdoor dining patios with more modular barriers separating the dining patio from the sidewalk, these barrier elements tend to migrate outward more easily, causing issues with pedestrian passage (or in the case of alleys, vehicular passage). Those dining patios that are enclosed with a more rigid barrier such as a fixed metal railing are better suited to maintain the required clear path, but may not offer as many opportunities for beautification/plantings.

In the absence of barriers, tables and chairs also have a tendency to migrate. In some recent reviews for outdoor dining proposals, it was observed that outdoor dining plans often show tables and chairs neat and tucked in without considerations for the space a person takes up after sitting at the table. While a 5 ft. clear path is often shown on the plans as required, reality is often observed to be different. To combat this, the Planning Division is considering either widening the required clear path to 6 ft. or more, or requiring outdoor dining plans to show a buffer around each table to reduce the likelihood of encroachments into the clear path. Finally, it has been noted by the Engineering Division that the exposed aggregate concrete in the streetscape amenity zones throughout Birmingham may not be considered ADA compliant and thus, may not be considered as clear path for the purposes of this ordinance.

The issue of maintaining a valid outdoor dining license also contains many layers. The outdoor dining license is an annual license required for all outdoor dining patios located on public property. The applicant is required to submit the application, as well as complete and sign an Outdoor Café License Agreement outlining their responsibilities in using public property. The Planning Division is currently reviewing the Outdoor Café License Agreement for any potential areas of improvement, but it has been observed over the years that there are often inconsistencies with the information entered by applicants in terms of their tables and chairs, and whether or not any changes have occurred from previous years.

The inconsistencies described above, along with other factors, often result in outdoor dining patios that do not adhere to the approved outdoor dining plans on file within the Planning Division.

Table and chair numbers, umbrellas, heaters, planters, and service stations are often added or changed without any approval from the Planning Division or Planning Board. These types of changes and the requirements for changes to the outdoor patio space is expected to be clarified in new ordinance language.

The deviations from the approved number of tables and chairs can become an issue not only for certain uses who are permitted to have a maximum seat count, but we now know that outdoor seating matters when it comes to the plumbing code and required restroom facilities.

Temporary COVID-19 Enforcements

The temporary COVID-19 outdoor dining expansions offered some new complications on top of what is typically observed in outdoor dining patios. During the pandemic, and through various emergency orders by state and local governments, the Police Department performed regular checks on restaurants to monitor all of the COVID-19 regulations associated with the emergency orders, as well as compliance with the temporary resolution adopted by the City Commission. A full log of checks is attached for your review containing comments from the Police and Fire Departments, as well as the Building Division. When the end date for the temporary resolution came up in June 2021, the Police Department also created a summary presentation for the City Commission with general information on some of the challenges that the City was facing in regards to the temporary patio expansions. Some of the main issues were as follows:

- ADA standards and requirements were compromised.
- Expansions encroached further into sidewalks, yellow curb zones, and streets.
- Expansions impaired access to neighboring retailers.
- Propane heaters and storage of propane tanks posed safety concerns.

These issues, in conjunction with the state of the overall COVID-19 pandemic, were the main drivers in ending the temporary resolution and bringing the City's outdoor dining patios back into compliance with pre-COVID outdoor dining plans. The Police Department presentation is also attached for your review.

In addition, the Fire Department performed an inspection of the temporary outdoor dining expansion and provided some photographs to the Planning Division which are attached to this report. Finally, the Planning Division kept a spreadsheet of which restaurants applied for expansions and recorded data on the outdoor dining conditions on site, which is also attached to this report. In most cases, due to the social distancing requirements, the number of outdoor dining seats pre-COVID and expansion related were comparable. However, the square footage of total outdoor dining space was not.

Purpose of Outdoor Dining

Also discussed at length during Study Session #2 was the need for the Planning Board to consider the purpose of the outdoor dining ordinance, and the potential to codify this purpose within the ordinance language. From an urban planning/urban design perspective, outdoor dining is beneficial in many ways:

- Outdoor dining is trendy, but also a permanent fixture;
- Spending time outdoors is beneficial to overall public health;
- Increased seating options frees up indoor space for the rapid growth in carry-out business;

- Added business fosters economic development;
- Well-designed patios activate public space;
- Outdoor dining offers more options for diners, including pet owners;

A purpose statement for outdoor dining could include any or all of these benefits, as well as general statements regarding the health, safety and welfare of the public. Other areas of our current Zoning Ordinance contain purpose statements, including the following:

- Screening Standards: The purpose of this section is to require a barrier, capable of containing noise, vehicular lights, visual disarray, debris and other factors detrimental to the health, safety and welfare of the community, between an open parking station, outdoor storage, dumpsters and adjacent properties. Flexibility in the materials, size, height and placement of walls is permitted in order to allow architectural harmony and usable open space and to accomplish a unified design.

- Landscaping Standards: Landscaping is an essential part of the design and development of a site. Landscape plantings are a benefit to the environment, public health, air quality, safety, comfort, convenience and general welfare of the community. These standards will result in the reduction of storm water runoff, heat buildup and will filter and reduce glare from car headlights. They may reduce energy costs in structures and will improve the aesthetics of the community.

- Alternative Energy: The purpose and intent of the city is to balance the need for clean and renewable energy resources with the necessity to protect the public health, safety and welfare of the city, as well as to preserve the integrity, character, property values, and aesthetic quality of the community at large.

Below is an example of how the outdoor dining purpose statement could look:

- Outdoor Dining: The purpose of this section is to provide an appropriate balance for outdoor dining patios across the city, and to encourage better spaces to improve public health, activate public space, foster economic development, and provide flexibility for current trends and future demands for outdoor dining.

Draft Ordinance Language
(*See next page*)

Article 4, Section 4.44 – Outdoor Dining Standards

This Outdoor Dining Standards section applies to the following districts:

B1 B2 B2B B2C B3 B4 MX O1 O2 TZ3

The following outdoor dining standards apply:

A. Purpose and Intent: The purpose of this section is to provide an appropriate balance for outdoor dining patios across the city, and to encourage better spaces to improve public health, activate public space, foster economic development, and provide flexibility for current trends and future demands for outdoor dining.

B. Outdoor Dining – General: Outdoor dining is permitted immediately adjacent to the principal use, subject to review by the Planning Board, or by the Planning Division at the discretion of the Planning Director, and the following conditions

1. Outdoor dining patios shall provide and service refuse containers within the outdoor dining patio and maintain the area in good order.
2. All outdoor activity must cease at the close of business or as noted in subsection 3 below.
3. When an outdoor dining patio is immediately adjacent to any single-family or multiple-family zoned residential district, all outdoor activity must cease at the close of business or 10:00 p.m., whichever is earlier.
4. The review of outdoor dining patios shall include, but are not limited to, the following elements: tables, chairs, umbrellas, portable heating elements, barriers, service stations, landscaping/plantings, awnings, canopies, lighting, host/hostess stands, and entertainment.
5. Outdoor dining patios shall not contain enclosures as defined in Article 9, Section 9.02 of the Zoning Ordinance.
6. All outdoor patios shall be designed to meet the requirements of this section, as well as all applicable building and fire codes.

C. Outdoor Dining – Public Property: Outdoor dining located on public property such as sidewalks, alleys and passages, and streets, shall be subject to the following requirements:

1. Outdoor dining may be permitted on public property throughout the year with a valid Outdoor Dining License, provided that the following conditions are met:

    i. Approval of an Outdoor Dining License shall be contingent on compliance with all city codes, including any conditions required by the Planning Board in conjunction with Site Plan approval.
    ii. Operators of outdoor dining patios shall be responsible for snow and ice removal, and shall remove of such in a manner consistent with that of the Department of Public Services.
    iii. Portable patio elements such as tables, chairs, heaters and umbrellas must be stored indoors each night between December 1 and March 1 to allow for complete snow and ice removal.

iv. An ADA compliant platform may be erected in the on-street parking space(s) in front of an eating establishment to create an outdoor dining patio from April 1 through November 1, subject to a review by the Advisory Parking Committee.

2. Design: Outdoor dining patios located on public property are subject to the following design standards:

   i. All tables and chairs provided in the outdoor dining patio shall be constructed primarily of metal, wood, or a material of comparable quality as determined by the Planning Board.
   ii. In order to safeguard the flow of pedestrians on the public sidewalk, such uses shall maintain an unobstructed sidewalk width as required by the Planning Board, but in no case less than 6 ft.
   iii. No such facility shall erect or install permanent fixtures in the public right-of-way.
   iv. Table umbrellas or other freestanding overhead weather protection shall not (1) impede sight lines into a retail establishment, (2) obstruct pedestrian flow in the outdoor dining area, (3) obstruct pedestrian or vehicular traffic flow outside the outdoor dining area, or (4) contain signage or advertising.
   v. Barriers delineating outdoor patios shall be constructed of a quality and durable material, and shall be maintained and placed in a consistent and organized fashion. Barriers may not exceed 42 inches in height, with the exception of planting material.
   vi. Portable heating elements must be maintained and kept in an orderly fashion. Propane or other fuels may not be stored on public property, and are subject to the Storage and Display Standards outlined in Article 4, Section 4.67 of the Zoning Ordinance.
   vii. Ancillary elements such as service stations or host/hostess stands must be located within the approved outdoor dining patio, contained, and kept in a neat and orderly fashion. Service stations and host/hostess stands may not exceed 4 feet in height. The storage of dirty dishware is prohibited.

D. Outdoor Dining – Private Property: Outdoor dining located on private property such as general private property, porches, recesses, courtyards decks and rooftops, shall be subject to the following conditions:

1. Design: Outdoor dining patios located on private property are subject to the following design standards:

   i. All tables and chairs provided in the outdoor dining patio shall be constructed primarily of metal, wood, or a material of comparable quality as determined by the Planning Board.
   ii. Table umbrellas or other freestanding overhead weather protection shall not (1) impede sight lines into a retail establishment, (2) obstruct pedestrian flow in the outdoor dining area, (3) obstruct pedestrian or

vehicular traffic flow outside the outdoor dining area, or (4) contain signage or advertising.

iii. Barriers delineating outdoor patios shall be constructed of a quality and durable material, and shall be maintained and placed in a consistent and organized fashion. Barriers may not exceed 42 inches in height, with the exception of planting material.

iv. Portable heating elements must be maintained and kept in an orderly fashion. The storage of propane or other fuels shall be subject to the Storage and Display Standards outlined in Article 4, Section 4.67 of the Zoning Ordinance.

v. Ancillary elements such as service stations or host/hostess stands must be located within the approved outdoor dining patio, contained and kept in an orderly fashion. Service stations and host/hostess stands may not exceed 4 feet in height. The storage of dirty dishware is prohibited.

Article 9, Section 9.02 – Definitions

Enclosure (outdoor dining): An area that may or may not contain a roof and as few as one wall, panel, or material that provides relief from weather and impedes physical and/or visual access to the space. For the purposes of this definition, enclosure does not include exterior building walls or landscaping.

Outdoor Dining Patio: A defined outdoor area accessory to an existing food and drink establishment designated for consumption of food and/or drink prepared within the restaurant and subject to the provisions of this ordinance.

Permanent Fixture (outdoor dining): Any element within an outdoor dining patio containing a foundation or other rigid attachment that prevents removal or that which requires extensive modifications to the public right-of-way.

PRIOR STUDY SESSION REPORTS

City of Birmingham
A Walkable Community

MEMORANDUM

Planning Division

DATE: **August 11th, 2021**

TO: **Planning Board**

FROM: **Nicholas Dupuis, City Planner**

SUBJECT: **Outdoor Dining Ordinance – Study Session #2**

On December 7, 2020, the City Commission discussed amending the Zoning Ordinance to consider allowing the enclosure of outdoor dining areas during the winter months. The City Commission asked the Planning Board to consider this issue, and any regulations they may recommend should outdoor dining enclosures be permitted.

On June 21st, 2021, the City Commission and Planning Board met at a joint meeting to further discuss outdoor dining, and to get a clear direction as to what elements of outdoor dining should be addressed. In general, the City Commission and Planning Board discussed several topics spanning from enclosures to private vs. public space, but ultimately asked the Planning Board to take a comprehensive look at the entire outdoor dining ordinance.

On June 23rd, 2021, the Planning Board discussed outdoor dining in further detail based on the joint meeting two days prior. The Planning Board settled on a list of goals that they would like to focus on in the ordinance review process, which includes the following:

- Incentivize outdoor off-season dining;
- Review the placement of decks and enclosures;
- Ensure that additional outdoor off-season dining does not become an extension of the indoor space;
- Solicit feedback from restauranteurs of all types in the City;
- Seek possible ideas from local, national and international examples;
- Review the current ordinance for issues;
- Review tickets that were given out to temporary outdoor dining operations;
- Review photos of the variety of temporary outdoor dining structures that were used around the City;
- Explore options for maintaining permanent aspects of outdoor dining structures even if the parts of the structures come down in different seasons;
- Discuss potential differences in policy for outdoor dining on public versus private property;
- Solicit feedback from Public Services and the BSD;

- Review agreements from temporary outdoor dining to see if any of the temporary policies might be worth integrating;
- Consider aspects like sidewalk widths and snow clearing in writing the policy;
- Maintain the current seating allowances for differently-sized establishments and maintain the differences for establishments holding different kinds of licenses for alcoholic beverage service; and,
- Recommend a permanent solution so that restauranteurs do not have to continue to adapt to changing policies.

Study Session #1 Summary

On July 14th, 2021, the Planning Board reviewed a high-level report on outdoor dining to guide future discussion. The topics included observations as to what constitutes "good" outdoor dining with national and local examples, as well as a local ordinance review for outdoor dining. The Planning Board discussed next steps and emphasized the need to (1) hear from different City Departments (code issues, retail neighbor conflicts, streetscape), (2) review available codes and ordinances from other areas of the country (enclosures, public vs. private, year-round), and (3) analyze information from national downtown associations or other related organizations (trends, social districts, success stories).

Study Session #2

Departmental Comments

Initially, the Planning Board requested that staff solicit comments from the Department of Public Services (DPS) and Birmingham Shopping District (BSD) regarding outdoor dining and its different aspects from their point of view. From the Department of Public Services, any issues surrounding snow removal, streetscape maintenance, or other relevant issues observed from DPS were topics of interest. As for the BSD, the Planning Board wanted to determine if expanded outdoor dining had any impact on neighboring, non-restaurant retail uses…positive or negative. During the discussion at the first study session, the Planning Board requested to include the Building Division, Fire Department, Police Department and Engineering Division for comments pertaining to their professions and expertise. Full comments from each department are attached.

- **Department of Public Services**

  In general, the Department of Public Services has some issues with snow removal and streetscape maintenance. They noted that although the plows have managed to get by without major incident thus far, snow and ice accumulates in the hard-to-reach areas, which necessitates more salt and more maintenance to mitigate the hazard. In addition, although private businesses are responsible for clearing their own platforms or dining areas, the snow is often placed right back into the street or sidewalk, which creates more of the same conditions noted above. As far as streetscape maintenance, DPS notes that tree pruning/trimming becomes challenging while working around platforms and patios, and these dining areas often get in the way of other streetscape programs such as hanging baskets, tree lighting, and possibly even landscaping beds in the future.

- **Birmingham Shopping District**
  The Birmingham Shopping District will make this a discussion item at their Board meeting in September. Comments will be provided to the Planning Board thereafter.

- **Engineering Division**
  The Engineering Division provided important comments relating to stormwater, infrastructure elements such as fire hydrants, manhole covers, drains, and catch basins, and patio placement. For dining platforms specifically, Engineering requires a channel between the curb and the deck structure for the passage of stormwater during rain events. Large rain events like those we have experienced recently (and will continue to experience) may exacerbate any issues will drainage and the placement of storm sewers and other infrastructure. Furthermore, they indicate that these patios should have provisions in place for emergency events such as water/sewer main repairs. As far as patio placement, Engineering noted that a 5 ft. clear path should be maintained, but also explained that traffic lanes should not be impeded for larger vehicles such as emergency vehicles and busses, and that sign lines may be impacted by dining patios.

- **Building Division**
  As far as Building Division comments go, they note that much of the outdoor dining elements, from patios to enclosures/coverings, must be built to the standards of the Michigan Building Code. In addition, the Building Division outlined some issues with encroachment into the pedestrian path of umbrellas, tents, awnings etc. as well as important points about the Michigan Plumbing Code and employee use of the pedestrian clear path.

- **Police Department**
  The Police Department has indicated that they do not have many issues with outdoor dining, nor concerns about any changes at this time. There has been no loss of revenue from the parking meters for outdoor dining platforms, as the owners of the platforms pay a fee to cover the costs. Additionally, they have not considered the loss of parking spaces as an issue at this time.

- **Fire Department**
  The Fire Department comments revolved heavily around heating elements, structures/coverings, and access for emergencies. When it came to portable outdoor heating elements, there are a laundry list of requirements that must be followed to meet the Fire Codes. These regulations include the size and storage of fuel tanks, clearance, and safety devices such as fire extinguishers and carbon monoxide detectors. In terms of structures/coverings, the Fire Department requires flame retardant certificates regardless of the presence of heating elements. For those structures attached to buildings, the Fire Department may require the facility to contain fire suppression.

National Ordinance Review

The Planning Board expressed interest in finding out what other areas of the country may have ordinance wise. These areas include the Midwest and east coast, but also other areas with weather conditions that may necessitate unique outdoor dining solutions such as Colorado, Seattle, and warm weather cities. Several cities and the relevant facets of their Zoning Ordinances are provided below. In general it appears that most all cities require review of outdoor dining

proposals on both private and public space. Full enclosures of outdoor dining do not appear to be permitted on public space in any city reviewed.

- Elmwood Park, IL (Chicago Area)
  - Parking requirements for outdoor dining which requires the greater of one parking space for every two seats or 3.5 parking spaces per 100 square feet of indoor and outdoor dining area.

- Highland Park, IL (Chicago Area)
  - Table and chair limits determined by City Manager.
  - Temporary barrier required to keep tables and chairs from migrating into the requires 5 ft. clear path.
  - Tables and chairs removed every night.

- Oak Brook, IL (Chicago Area)
  - No live entertainment.
  - 5 ft. pedestrian path.

- Columbus, OH
  - "Outdoor patio" means an outdoor area, open to the air at all times, that is either: enclosed by a roof or other overhead covering and not more than two walls or other side coverings; or has no roof or other overhead covering at all regardless of the number of walls or other side coverings.
  - Parking is required for dining patios at a rate of 50% of ratio required for primary structure.

- Edina, MN (Minneapolis Area)
  - The patio shall not be enclosed in such a manner that the space becomes an indoor area.
  - Patio screening may be required if the premises is adjacent to a residential district.

- Fishers, IN (Indianapolis Area)
  - Outdoor dining areas shall be adjacent to their tenant space.

- Columbia, MO (St. Louis Area)
  - Outdoor patio plan with requirements to include any existing light poles, sidewalk grates, parking meters, or other facilities located in the right-of-way.
  - Any tables, chairs, posts, cordons or other furniture be portable and not fastened or affixed to or over the public sidewalk unless the owner has obtained right-of-use approval from the city council.

- Arvada, CO (Denver Area)
  - Outdoor dining areas shall not be located within 100 feet of a residential zoning district.
  - Outdoor dining areas are allowed and shall be set back as required for the principal building. Outdoor dining on public property permitted within specific district.

- Golden, CO (Denver Area)

- Portable seating, movable chairs, tables for cafes and other furniture should be of substantial materials; preferably metal or wood rather than plastic.
- Permanent outdoor seating is recommended in and along all publicly-accessible pathways and spaces.

Local Strategies

Staff reviewed Ordinance requirements for local cities including Royal Oak, Rochester, Ferndale, Berkley, Northville, and Plymouth for the way outdoor dining was handled prior to the Covid-19 pandemic. The Planning Division was also able to speak with staff or an elected official from each of the localities. All cities mentioned above require board review and approval for restaurants proposing outdoor dining on private and/or public space. The only City that allows restaurants to rent an on-street parking space for outdoor dining is Northville. Full enclosures for outdoor dining on public property are not allowed in any of the cities mentioned. Rochester and Ferndale said they would allow a restaurant to have an enclosure such as a tent, igloo, or greenhouse on private property. Examples of private outdoor enclosures in Ferndale include igloos at Detroit Fleet and a tent on Rosie O'Grady's patio. Enclosure material on private space is not tightly regulated. The Planning Director of Berkley indicated full enclosures were not permitted on private property. In regards to placement, the outdoor dining on public property for all cities mentioned is required to stay within the frontage lines of the business, it may not extend in front of neighboring properties.

As in Birmingham, a number of Ordinance regulations mentioned above for outdoor dining were relaxed in a temporary resolution during the Covid-19 pandemic. All of the cities experimented with outdoor dining for on-street parking spaces and some allowed enclosures for outdoor dining on public sidewalks and/or streets. A number of the resolutions were extended into winter time 2021-2022 for the sampled cities and will be reviewed for what to extend, what to get rid of, and what to keep indefinitely.

Downtown/Restaurant Organizations

The Planning Division looked to various national and local associations or organizations that could potentially provide some information on trends and happenings within national or local communities that may help guide discussions regarding outdoor dining in Birmingham. It is worth noting that in recent news, blogs or publications from these groups, it was difficult to separate outdoor dining and the COVID-19 pandemic. However, the Planning Board did indicate that they wish to discuss the temporary COVID-19 outdoor dining expansions that were built in Birmingham. Additionally, Engage Birmingham survey results (attached) appeared to indicate that many residents and business owners in Birmingham were supportive of the various expansions and/or enclosures that were erected in the City.

- **Michigan Downtown Association**
  The Michigan Downtown Association has also provided some opinions on outdoor dining as an attraction for a downtown. In a 2021 article about creative ways to bring residents downtown this summer and boost economic growth, it was noted that the Michigan Economic Development Corporation has supported outdoor dining expansion efforts across the state through Match on Main funding. Restaurants have seen the value of a quality outdoor dining space and have been investing in such to use into the future, and potentially year-round.

- **Main Street America**
  Main Street America is an organization "committed to strengthening communities through preservation-based economic development in older and historic downtowns and neighborhood commercial districts." Digging into their website, the Planning Division found an interesting article based on a 2021 Main Street Forward Award Winner in the Argenta District in North Little Rock, Arkansas. The award was given based on the efforts to create the Argenta Outdoor Dining District, a designated outdoor seating area that has helped local restaurants stay in business despite the pandemic. Although created for the pandemic, the district has plans underway to reopen in the spring. "Given its success, city leaders want to keep the district going even after the pandemic recedes, and Argenta's restaurants are inspired to continue regular meetings to ensure the neighborhood's future as a culinary destination."

- **National Restaurant Association**
  In general, the National Restaurant Association is an important resource in understanding trends and data regarding the restaurant industry. In reading through two documents, "2021 Restaurant Trends" and "Restaurant Industry 2030" (both attached), it was apparent that this particular group do not appear to be overly concerned about outdoor dining. Interestingly enough, this group found that restaurants would need to dedicate more space and capitol to *off-premise consumption* (i.e. takeout) as opposed to on premise indoor or outdoor dining. Additionally, when it comes to weather volatility, the group is finding that the concern lies in supply chains and food costs as opposed to protecting diners with coverings or enclosures.

- **Independent Restaurant Coalition**
  The Independent Restaurant Coalition was created to "provide a strong, unified voice on legislative, regulatory, and policy issues that affect the restaurant industry; and provide advocacy, advice, networking and information to members." In obtaining data from this group (attached), it is clear that the restaurant industry is an important industry that has unique struggles when it comes to situations like the pandemic. Restaurants and bars have large economic impacts in business and job creation, which could benefit from new outdoor dining regulations that could possibly expand outdoor dining, or add more comfort to outdoor dining patios.

MEMORANDUM

Planning Division

DATE: **July 14th, 2021**

TO: **Planning Board**

FROM: **Nicholas Dupuis, City Planner**

SUBJECT: **Outdoor Dining Ordinance – Study Session #1**

On December 7, 2020, the City Commission discussed amending the Zoning Ordinance to consider allowing the enclosure of outdoor dining areas during the winter months. The City Commission asked the Planning Board to consider this issue, and any regulations they may recommend should outdoor dining enclosures be permitted.

On June 21st, 2021, the City Commission and Planning Board met at a joint meeting to further discuss outdoor dining, and to get a clear direction as to what elements of outdoor dining should be addressed. In general, the City Commission and Planning Board discussed several topics spanning from enclosures to private vs. public space, but ultimately asked the Planning Board to take a comprehensive look at the entire outdoor dining ordinance.

On June 23rd, the Planning Board discussed outdoor dining in further detail based on the joint meeting two days prior. The Planning Board settled on a list of goals that they would like to focus on in the ordinance review process, which includes the following:

- Incentivize outdoor off-season dining;
- Review the placement of decks and enclosures;
- Ensure that additional outdoor off-season dining does not become an extension of the indoor space;
- Solicit feedback from restauranteurs of all types in the City;
- Seek possible ideas from local, national and international examples;
- Review the current ordinance for issues;
- Review tickets that were given out to temporary outdoor dining operations;
- Review photos of the variety of temporary outdoor dining structures that were used around the City;
- Explore options for maintaining permanent aspects of outdoor dining structures even if the parts of the structures come down in different seasons;
- Discuss potential differences in policy for outdoor dining on public versus private property;
- Solicit feedback from Public Services and the BSD;

- Review agreements from temporary outdoor dining to see if any of the temporary policies might be worth integrating;
- Consider aspects like sidewalk widths and snow clearing in writing the policy;
- Maintain the current seating allowances for differently-sized establishments and maintain the differences for establishments holding different kinds of licenses for alcoholic beverage service; and,
- Recommend a permanent solution so that restauranteurs do not have to continue to adapt to changing policies.

At this early stage, the Planning Division would like to begin with a high-level general review of outdoor dining beginning with research into what "good" outdoor dining may look like. By beginning with an example driven discussion, the Planning Division hopes to work towards several of the goals listed above and guide more pointed discussions in future study sessions.

Discussing personal experiences with outdoor dining across the world was a large part of the Planning Board and City Commission discussions prior to embarking on this study session. Considering this approach, the Planning Division reviewed OpenTable's annual list 100 Best Al Fresco Restaurants in America for 2019. Naturally, California, Florida and Hawaii make up 67% of the list. However, the Midwest and Northeast (similar weather conditions to Birmingham) have strong representation on the list, making it an interesting place to start. Please see the following page for images of several outdoor dining spaces from restaurants present on the list.

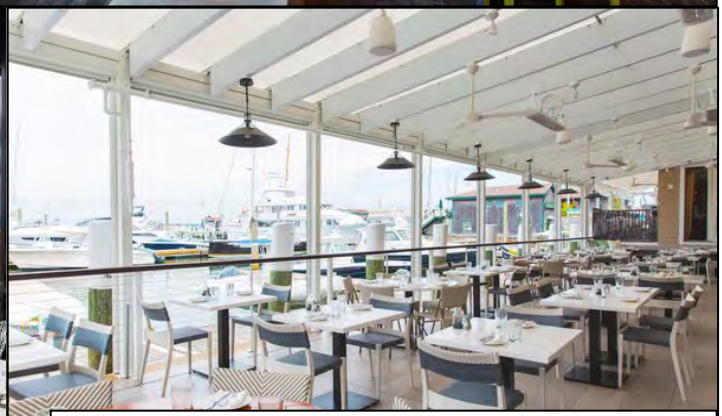
Upon researching many of the outdoor dining patios on the list, the Planning Division made several observations:

1. Overhead coverings are common in the form of umbrellas, awnings, and pergola-type structures. Other covering methods such as canvas shade sails, retractable fabric shade canopies, and even trees/vegetation were observed as well.
2. Several rooftop patios made the list.
3. Heaters, lights, and fire tables/pits were very common.
4. Dining chairs appeared to be constructed of a myriad of materials, including plastic, wicker, and fabric.
5. Full enclosures (roof/covering plus walls or partial walls) were rare. Most cases of perceived enclosures included variables such as below-grade placement, placement next to building facades or screening from nuisances such as parking areas.
6. The majority of outdoor dining patios contained greenery and plantings.
7. Patio placement was observed in public and private property, and patio design elements were consistent between those that were on both.

Cecconi's – Brooklynn, NY

Farmers Fishers Bakers – Washington D.C.

El Five – Denver, CO

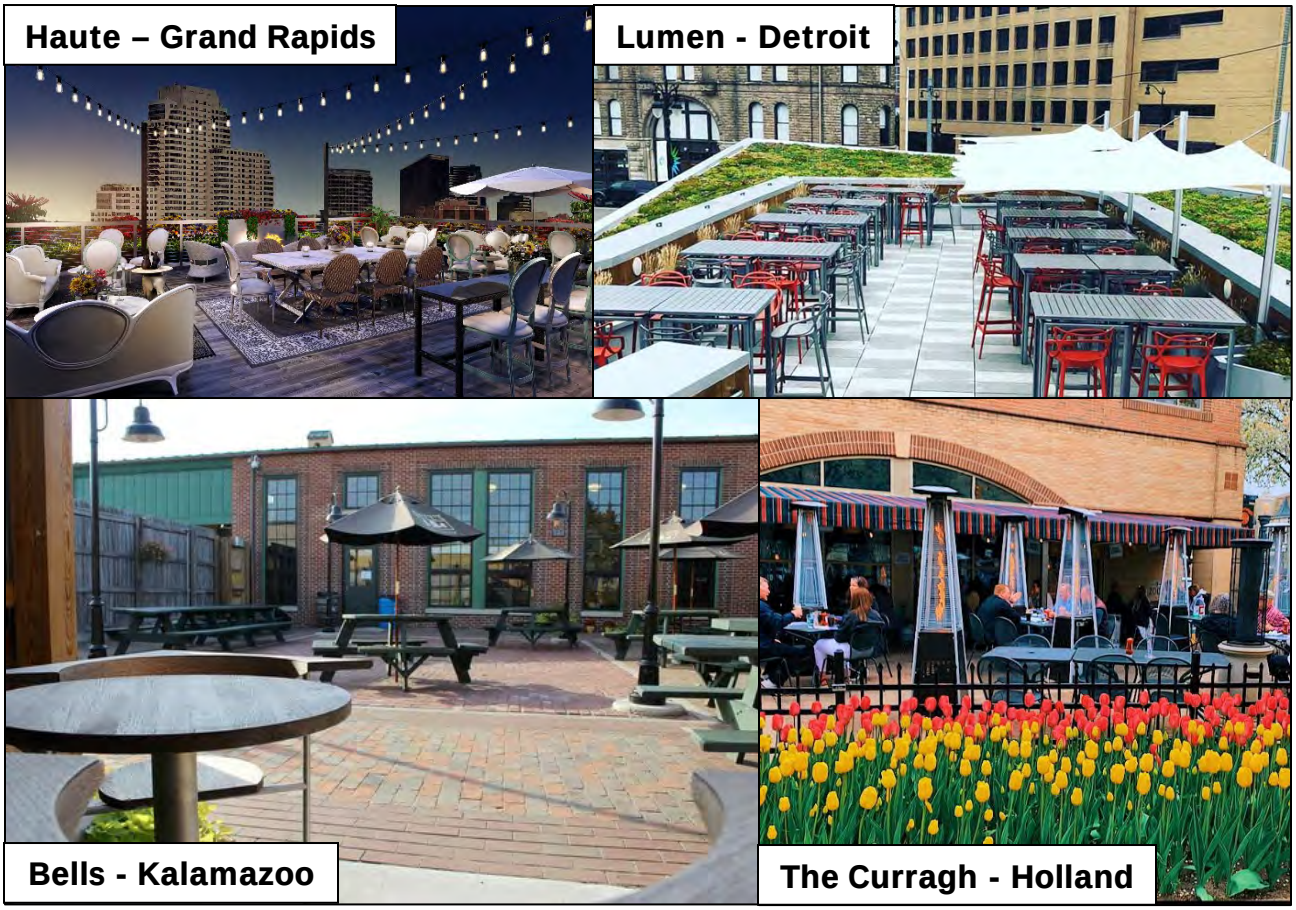


The Mooring Restaurant – Newport, RI

Campfire – Carlsbad, CA

The Pink Door – Seattle, WA

Similar observations were made while researching opinions of the "best" outdoor dining in Michigan. Pure Michigan's Top Outdoor Patios for Dining in Michigan and M-Live's list of Michigan's Best Outdoor Dining highlight several dining establishments that contain many of the same features.



On a more local level, Southeast Michigan contains several comparable cities with outdoor dining. The Planning Division was able to locate several cities that created specific regulations for outdoor dining within their Zoning Ordinances:

- Berkley
- Royal Oak
- Plymouth
- Rochester Hills (pg. 77)
- Lake Orion (pg. 60)

Other cities and Zoning Ordinances such as Northville, Detroit, Ferndale and Ann Arbor were also researched. However, the Zoning Ordinances of these cities either did not contain any specific ordinance language regarding outdoor dining, or proved too difficult to locate at this time. Of the above cities that yielded results, only one or two had detailed regulations regarding outdoor dining within their Zoning Ordinance. If requested, further research into the Zoning Ordinance regulations of other cities, local or national, will be provided for review. As a consequence, no

examples of different outdoor dining regulations for private versus public property, enclosures, maintenance, or other items from the list of goals above were discovered.

Republica - Berkley

Penny Black – Rochester Hills

Bigalora – Royal Oak

So how does the feedback from the City Commission, the Planning Board's current list of goals for the outdoor dining discussion, and the above high-level research relate to the current Outdoor Dining ordinance? At this time, there are outdoor dining standards spread across several areas of the Zoning Ordinance:

- Article 4, Section 4.44 – Outdoor Dining Standards
- Article 3, Section 3.04 (C)(10) – Bistros
- Article 3, Section 3.14, 3.16 – Via Activation Overlay
- Article 9, Section 9.02 – Definitions (Bistro, Outdoor Café)

This outdoor dining study affords an opportunity to ensure that ordinance language is consistent throughout, and addresses the issues of potentially regulating different restaurant and/or liquor license types (Bistro, Class C, Economic Development, Theaters & Hotels) separately, or affording them all the same outdoor dining standards, at least in terms of design. For example, rooftop dining is permitted for bistro license holders, but is not mentioned in the overall outdoor dining standards. Similarly, the bistro ordinance language prohibits enclosures facilitating year-round dining outdoors, but the Outdoor Dining Standards do not regulate enclosures.

Considering the information above, and before attempts are made at amending any zoning ordinance language, the Planning Division suggests a discussion based on the following questions and requests that the Planning Board provide some direction as to which items to move forward with for the next study session, including any that are not listed:

- Does the Planning Board want to see enclosures? If so, during what season(s)? Additionally, the City should define "enclosure" as a part of this study. This has also been advised by the City Attorney.
- Should restaurants be permitted to extend in front of neighboring properties on the sidewalk? In the street?
- Should a survey be created and sent to property owners to solicit feedback on several key discussion points before the Planning Board begins to draft ordinance amendments?
- Should the Planning Division do a broader ordinance search for other areas of the Midwest and/or Northeast? What should we be looking for?

OUTDOOR DINING MAP

Outdoor Dining in Birmingham

TEMPORARY COVID-19 DOCUMENTS

2020 Outdoor Dining	Admin. Approval	License Agreement Add.	License Agreement	Temp. Use Permit	Type of Use/ Expansion Area	Trash?	Sanitizing?	Indoor Seats Lost	Total Approved Outdoor Dining	
									Pre-COVID-19	COVID-19
220	6/2/2020	Y	Y	N/A	Outdoor Dining on Street & Sidewalk	Y	Y	N/A*	78	28 New on Public Property
7 Greens	-	-	-	-	-	-	-	-	-	-
Adachi	6/5/2020	Y	Y	N/A	Extended dining onto City sidewalk and Via	Y	Y	N/A*	67	98
Bella Piatti	6/4/2020	Y	Y	N/A	Extended dining platform in parking spots	Y	Y	32*	28	56
Big rock	-	-	-	-	-	-	-	-	-	-
Birmingham Roast	Submitted	Y	Y	N/A	Expanded sidewalk seating					
Bistro Joes	7/22/2020	N/A	N/A	6/5/2020	Platform in 8 parking spots	Y	Y	26*	60	86
Brooklyn Pizza	-	-	-	-	-	-	-	-	41	-
Cannelle	-	-	-	-	-	-	-	-	-	-
Churchills	-	-	-	-	-	-	-	-	12	-
Commonwealth	-	-	-	-	-	-	-	-	-	-
Community House	-	-	-	-	-	-	-	-	-	-
Dairy Mat	-	-	-	-	-	-	-	-	-	-
Dick O'Dow's	6/5/2020	Y	Y	N/A	Enlarging rear patio in alley	Y	Y	N/A*	20	28
Elies Mediterranean	6/29/2020	Y	Y	N/A	New sidewalk and street dining	Y	Y		24	40
Forest Grill	6/17/2020	Y	Y	N/A	Expanded sidewalk seating	Y	Y	36	30	40
Grabba Green	Submitted	Y	N/A	N/A	Expanded sidewalk seating					
Griffin Claw	6/1/2020	Y	Y	5/29/2020	Expanded outdoor dining in 3 parking spaces on Palmer	Y	Y	N/A*	110	130
Hunter House	-	-	-	-	-	-	-	-	-	-
Kroger	-	-	-	-	-	-	-	-	-	-
La Strada	6/5/2020	Y	Y	N/A	New platform in parking spaces	Y	Y	N/A*	14	32
Luxe	6/8/2020	Y	Y	N/A	Expanded outdoor dining on sidewalk	Y	Y	N/A*	12	28
Market North	7/17/2020	Y	Y	N/A	Expanded outdoor dining into sidewalk and 2 parking spaces	Y	Y	22	44	66
The Morrie	7/6/2020	Y	Y	N/A	New platform in parking spaces	Y	Y	100	16	32
Papa Joes	-	-	-	-	-	-	-	-	-	-
Pernoi					Expanded outdoor dining into Via	Y	Y		26	
Phoenicia	6/18/2020	Y	Y	N/A	New platform in parking spaces	Y	Y	35		32
Planthropie	6/22/2020	N/A	Y	N/A	New bistro tables on sidewalk	Y	Y	N/A	0	6
Qdoba	-	-	-	-	-	-	-	-	-	-
Rojo	-	-	-	-	-	-	-	-	-	-
Rugby Grille	6/11/2020	Y	Y	Y	New platform in 2 parking spaces	Y	Y	26	24	28
Salvatore Scallopini	6/8/2020	Y	Y	N/A	Expanded outdoor dining on sidewalk	Y	Y	N/A*	34	40
Sidecar	-	-	-	-	-	-	-	-	68	-
Starbucks	-	-	-	-	-	-	-	-	-	-
Streetside Seafood	6/29/2020	Y	Y	N/A	New sidewalk and street dining	Y	Y		20	26
Social	N/A	N	N	N/A	Expanded oudoor dining in Via	Y	Y	N/A	86	12 New
Tallulah	6/16/2020	Y	Y	N/A	Extended dining platform in parking spots	Y	Y	32	42	66
Toast	7/23/2020	Y	Y	N/A	Expaned dining into parking space (no platform)	Y	Y	33	59	43
Townhouse	6/1/2020	Y	Y	N/A	New outdoor dining platform in parking spaces	Y	Y	N/A*	82	78
Triple Nickel	-	-	-	-	-	-	-	-	-	-
Vinotecca								80		
Whole Foods/ Maple Rd. Tap	-	-	-	-	-	-	-	-	-	-

Application In Progress
Application Denied
* Approved under first resolution
Need to Confirm Numbers
Missing Information

MUST MAINTAIN
APPROVED SITE PLAN
AND 6 FT SOCIAL
DISTANCING

Temporary COVID-19 Off-Season Outdoor Dining Standards Expiration Date Analysis

Police/Fire/
Building/Planning/Finance/
Manager's Office

Purpose/Provisions:

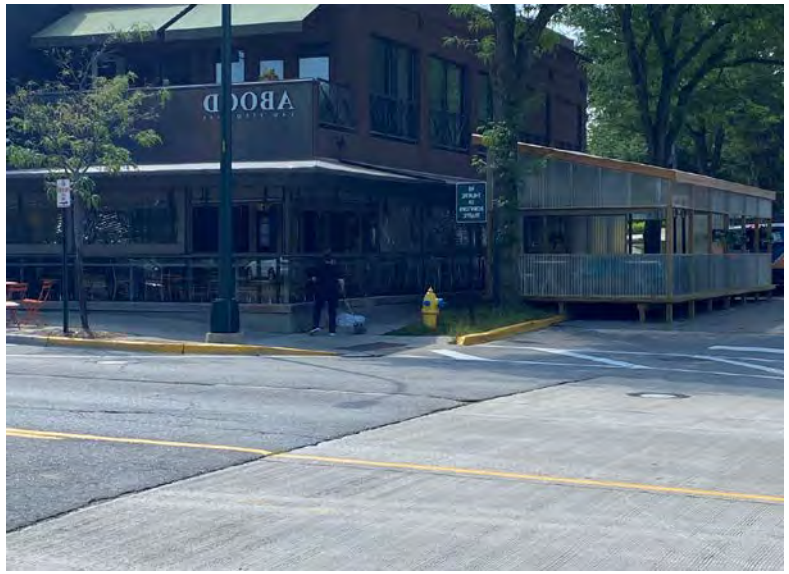
- The purpose of the temporary outdoor dining program was to provide our dining establishments with the opportunity to add additional outdoor seating to make up for lost indoor dining capacity from the State of Michigan's restrictions.
- The City implemented numerous economic relief efforts to assist business owners during the pandemic (free parking, waiving of fees & design standards, PPE distribution, temporary structures, gas heaters and propane tanks, etc.)
- All of the efforts were TEMPORARY measures enacted to address the COVID-19 pandemic.

Challenges Encountered by the City:

- Temporary plans poorly designed and not supported by proper engineering documents.
- Plan reviews were cursory compared to permanent plans.
- Lack of meaningful enforcement due to legal conflicts (prosecutorial jurisdiction) between state, county and local law enforcement.
- Inequity of allowing temporary outdoor dining to exist without payment for use of public property compared to approved outdoor dining which has continued to pay for their space.
- Lack of design review led to some haphazard structures and layouts.
- Americans with Disability Act (ADA) standards and requirements that may have been compromised by the temporary deck designs and implementation issues in terms of width of passage, ramps and accessibility.

Challenges Encountered by the City:

- Projects expanded beyond plans - creeping into sidewalks, yellow curb zones and streets.



Challenges Encountered by the City:

- Dining decks were allowed to be erected in front of adjacent businesses, impairing visibility to retail and other uses.

Challenges Encountered by the City:

- Safety concerns with propane heathers and storage tanks.

Expiration Date: June 30, 2021 – Why is This Date Recommended by City Staff?

- The City's current resolution allowing for temporary COVID-19 Outdoor Dining Standards is set to expire on June 30, 2021.
- Recent media releases from the State of Michigan are that all remaining COVID-19 restrictions will be lifted on July 1, 2021 – All restaurants will be able to return to their original (allowable) seating both for inside dining and at their City approved outdoor dining locations.
- Stop the interreference with the public right of way, the blocking of adjacent storefronts, use of public parking spaces and public areas without compensation.

Expiration Date: June 30, 2021 – Why is This Date Recommended by City Staff? (Cont.)

- Removes the risk that the temporary structures and dining platform "rules" would be allowed to continue to "drag-on" for extended periods of time.
- Other COVID-19 City initiatives have or are coming to an end on July 1: City Hall has begun a phased re-opening, parking decks will resume charging fees and in-person public meetings will commence.
- Desirable on-street parking spaces will return to service, hopefully reducing traffic issues, valet issues and assist retailer customers.
- Return to the City's established process of site plan and design review by our staff, boards and the City Commission.

555 South Old Woodward “Birmingham Pub”

575 South Eton “Griffin Claw”

325 South Old Woodward “Adachi”

260 North Old Woodward “The Morrie”

525 North Old Woodward “LUXE”

505 North Old Woodward “Sal’s”

474 North Old Woodward “ Market North End”

Willits ally “The Dow”

117 Willits “Side Car”

100 Townsend

263 Pierce “Elies”

263 Pierce “Elies”

167 Townsend “Bella”

167 Townsend

220 Merrill

220 Merrill

Bar/Restaurant Foot Patrols & Complaints

220 W. Merrill		
Date	Reported By	Findings
11/20/2020	Clemence	Spoke to owner (Ziad) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/4/2020	Fire Marshal	Inspection
11/9/2020	Assistant building Official	Inspection. They were informed they may not anchor the structure to the building. The structure must be supported on the ground.
11/11/2020	Assistant building Official	Inspection. They were complying with their instructions.
11/20/2020	Fire Marshal	Inspection
11/20/2020	Insp. Slanda	Inspection
11/20/2020	Police	Spoke to owner (Ziad) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/20/2020	Assistant building Official	Inspection. They were still in the process of building their structure.
11/23/2020	Police	Checked ok - closed to indoor service
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Insp. Wiseman	Inspection
12/11/2020	Police	Checked ok on patrol.
12/11/2020	Capt. Hughes	Inspection
12/12/2020	Lt. Crawford	Inspection
12/13/2020	Police	Ofc. Macumber Checked on patrol - closed for business. No violations.
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
3/12/2021	Police	Checked on patrol, In compliance.
3/12/2021	Police	21-3634 BIPD received an anonymous complaint that The Rose Room was not closing at 11PM. Ofc. Bukoski checked The Rose Room and it was completely empty.
3/26/2021	Police	220 and Rose Room checked ok on patrol
3/27/2021	Police	220 and Rose Room checked ok on patrol
Adachi - 325. S Old Woodward		
Date	Reported By	Findings

11/19/2020	Police	Complaint - business is open for indoor service against Gov/MDHHS order. Rothe responded; there was no indoor service. Advised Manger tent has to have three sides open to air per MDHHS restrictions. Warned.
11/20/2020	Clemence	Spoke to owner (Scott Young-vidal) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/6/2020	Fire Marshal	Inspection
11/18/2020	Fire Marshal	Inspection
11/20/2020	Fire Marshal	Inspection
11/20/2020	Insp. Slanda	Inspection
11/20/2020	Assistant Building Official	Inspection. The fire marshal and I inspected the enclosure. They were instructed to not use the propane heaters in a confined tent.
11/21/2020	Insp. Slanda	Inspection
11/25/2020	Code Enforcement	Issued ticket for failing to obtain a permit for the temporary structure or tent.
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Insp. Wiseman	Inspection
12/2/2020	Police	Checked ok - closed for business.
12/5/2020	Police	Complaint - Spoke with Acting manager Ashley Wenson who stated they were closed for indoor business. Pick-up only. Complaint was unfounded. Report was completed.
12/8/2020	Assistant Building Official	Permit is released for issue
12/10/2020	Assistant Building Official	Temp c of o issued
12/11/2020	Capt. Hughes	Inspection. Instructed management to remove decroative items for being too close to patio heaters.
12/12/2020	Police - Complaint	Ofc. Rothe responded to complaint. 2 patrons sitting in compliant area with 3 open air sides. Checked ok.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Ofc. Bouchard checked on patrol (twice). No patrons inside. No violations observed.
12/18/2020	Police	In compliance.
1/15/2021	Police	Checked ok on patrol

1/16/2021	Police	Checked ok on patrol
1/23/2021	Police	In compliance.
3/13/2021	Police	Checked ok on patrol
3/27/2021	Police	Checked ok on patrol
4/10/2021	Police	Checked ok on patrol
Bella Piatti - 167 Townsend		
Date	Reported By	Findings
11/6/2020	Assistant Building Official	Inspection. They had finished the west portion of the structure. I advised them that the exits were not to code.
11/18/2020	Police	Complaint - patrons being served in enclosed outdoor structure against Gov/MDHHS order - advised 3 sides must be open air, warned.
11/20/2020	Clemence	Spoke to owner (Nino) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/20/2020	Fire Marshal	Inspection
11/20/2020	Assistant Building Official	Inspection. The exits were now acceptable. They had electric heaters to replace the propane heaters.
11/20/2020	Insp. Slanda	Inspection
11/21/2020	Insp. Slanda	Inspection
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Fire Marshal	C of O inspection with Mike Morad. Items to be completed. Reinspection to be performed.
11/30/2020	Assistant Building Official	C of O inspection with Joel Campbell. Items to be completed.
11/30/2020	Insp. Wiseman	Inspection
12/4/2020	Police	No complaints checked ok on patrol
12/5/2020	Police	No complaints checked ok on patrol
12/10/2020	Fire Marshal	Met on site with Bruce, Mike, Jack, and Nino the business owner to discuss Nino's interpretation of the MDHHS guidelines. Nino was told that his interpretation does not match the Fire Departments. At this time it is the Fire Departments opinion his outdoor structure is not in compliance.
12/11/2020	Capt. Hughes	Inspection. Instructed management to relocate patio heater. Business owner instructed to obtain cage enclosure to securely store propane tanks.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Lt. Kearney checked on patrol - closed for business (on Sundays). No one present.

12/19/2020	Police	Ofc. McCanham checked on patrol and notice tent area not in compliance. Report was complated.
12/22/2020	Police	No complaints. Checked on patrol
1/9/2021	Police	No complaints. Checked on patrol
1/15/2021	Police	Checked ok on patrol
1/16/2021	Police	Checked ok on patrol
3/27/2021	Police	Checked ok on patrol

Big Rock - 245 S. Eton		
Date	Reported By	Findings
11/20/2020	Called in by BIFD	Advised they cant have all sides covered on tent. Said they would fix it
11/18/2020	Fire Marshal	Inspection
11/18/2020	Assistant Building Official	Inspection. Informed the manager of the process and documentation that was required for the outdoor temporary structures. She informed us she was interested in complying and would take care of it .
11/20/2020	Insp. Slanda	Inspection
11/21/2020	Insp. Slanda	Inspection
11/25/2020	Code Enforcement	Issued ticket for failing to obtain a permit for the temporary structure or tent.
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Insp. Wiseman	Inspection
12/4/2020	Assistant Building Official	Applies for permit for temporary structure
1/10/2020	Fire Marshal	Approved business to use igloo structures in place of tents, with conditions. Final inspection before use.
1/11/2020	Assistant Building Official	Issued permit for temporary structure
12/11/2020	Capt. Hughes	Inspection
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Lt. Kearney checked on patrol - closed for business (on Sundays). No one present.
12/18/2020	Police	Ofc. Bukoski observed several people dining inside Big Rock tent area with NO sides up. Manager Steve Cushing was advised of the E.O. Report was completed.

Birmingham Sushi - 377 Hamilton		
Date	Reported By	Findings
12/13/2020	Police	Ofc. Bouchard checked on patrol - No violations.
12/22/2020	Police	No complaints. Checked on patrol

Bistro Joe's - 34244 Woodward		
Date	Reported By	Findings

11/17/2020	Fire Marshal	Inspection
11/18/2020	Fire Marshal	Inspection
11/18/2020	Assistant Building Official	Met with the manager to explain the process. She was getting the necessary paperwork ready to submit.
11/19/2020	Police	Complaint - patrons being served in enclosed outdoor balcony against Gov/MDHHS order - advised 3 sides must be open air, warned. Owner Curtis advised and made adjustments.
11/20/2020	Police	Complaint - spoke to owner (Tony Curtis) and manager (Janet Smith) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/20/2020	Police	Manager Kurt Bender spoken with and advised of new orders.
11/24/2020	Police	Contacted manager Kurt Bender and advised their exsisting outdoor balcony does not meet the requirements of the new orders due to not being able to open wall 100% due to half wall. Manager advised they would likely operate anyways.
11/25/2020	Code Enforcement	Issued ticket for failing to obtain a permit for the temporary structure or tent.
11/27/2020	Police	Complaint of MHHS violations. Violations observed and management advised, management stated the would continue to operate. Report generated and submitted to prosecutors office and health deparmtment on 11/30/2020.
11/27/2020	Insp. Slanda	Inspection
11/27/2020	Police	Patrons being served on enclosed balcony - Ofc. Syts again advised Mgr. Kurt Bender, balcony must be open on 3 sides to be within compliance. Report completed for MDHHS.
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/29/2020	Police	Complaint of indoor balcony service. Macumber observed approx. 10 patrons sitting at tables within enclosed baclony.
11/30/2020	Insp. Wiseman	Inspection
12/5/2020	Police	Complaint- Patrons were being served on enclosed balcony (50+ people/photos were taken) Ofc. Bukoski advised Mgr. Kurt Bender balcony must be open on 3-sides within compliance. Bender said business will stay open. Report completed for MDHHS.
12/7/2020	Fire Marshal	Directed by Chief Wells to perform an inspection for fire code violations due to a complaint recieved over the weekend. Entry to conduct the inspection was refused by staff of the business. I warned the staff that I would issue a ticket for Right of Entry.
12/7/2020	Fire Marshal	After reporting back to Chief Wells, and communication with Mary, court appearance citations were issued.
12/8/2020	Fire Marshal	Continued fire ispection from previous day with FM Pesha. Noted many fire code violations.
12/8/2020	Fire Marshal	Meeting was held at Station 1 with Chief Wells, FM campbell, FM Pesha, and Tony Curtis- owner of Papa Joe's/ Bistro Joe's. Discussions were had regarding repeat fire code violations. Mr. Curtis was warned his SLUP, and liquor license may be revoked if

12/8/2020	Fire Mashal	Preliminary fire inspection report was emailed to Tony Curtis to enable him to start corrections of the fire code violations. Official inspection report to be emailed tomorrow.
12/10/2020	Police	RP Commissioner Sherman called dispatch in reference to upstairs balcony open for business in a inclosed area. Ofc. Bukoski spoke with Owner Tony Curtis who stated he would remain open until Health Inspect. next week. Curtis was advised again he was in violation of the new executive order. Pictures were taken and report was comlpeted.
12/10/2020	Fire Marshal	Was in contact with Tony Cutis. Mr. Curtis is in the process of correcting the outstanding violations. Inspection scheduled for 12/14/2020.
12/11/2020	Capt. Hughes	Inspection. No people occupying lower enclosure reported.
12/12/2020	Police - Complaint	Upstairs balcony open for business with patrons seated at partially closed walls. Ofc. Bouchard spoke with Manager Bender who stated he would remain open until Health Inspect. next week. Curtis was advised again of the current executive order indoor/outdoor defs./restrictions. Pictures were taken and report was completed.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police - FOP	Lt. Kearney checked on patrol. Observed 2 patrons dining in upstairs balcony. No occupants in prohibited structure under balcony. Again advised owner, tony Curtis of updated MDHHS restrictions, indoor/outdoor dining defs. Photographed and Report completed.
12/18/2020	Police	Complaint: Ofc. Bukoski observed 15-20 people dining and drinking. Ofc. Bukoski again advised Manager Kurt Bender of the current ex - order restrictions. Report was complted.
1/15/2021	Police	Sgt. Romanowski checked on patrol and observed patrons in outdoor dining area under balcony (mostly open air). Per previous communications, FD was called to check for possible Fire code violations...none found. D-card submitted to Code Enforcement/Building Dept. for follow-up re: whether
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
4/9/2021	Police	Checked on patrol, In compliance.
5/9/2021	police	checked on patrol, In compliance.
Brooklyn Pizza - 111 Henrietta		

Date	Reported By	Findings
11/27/2020	Complaint	Report of indoor service against MDHHS order. Determined customers were only sitting awaiting their carryout. Ofcs. advised of order, and to have customers wait outside or in vehicles.
Cannelle Patisserie		
Date	Reported By	Findings
11/6/2020	Assistant Building Official	Inspection. Spoke to manager about the temp structure that was built. Joel and I discussed the permitting process and informed the manager of what he needed to do. We discusssed exits and fire extinguisher requirements. The structure was not occupied
11/25/2020	Code Enforcement	Issued ticket for failure to obtain building permit
12/2/2020	Assistant Building Official	Applied for permit for temporary dining structure.
Churchills - 116 S. Old Woodward		
Date	Reported By	Findings
12/3/2020	Police	Checked ok - closed for business
3/12/2021	Police	Checked on patrol, in compliance
Dick O Dow's - 160 W. Maple		
Date	Reported By	Findings
12/4/2020	Police	No complaints checked ok on patrol
12/5/2020	Police	No complaints checked ok on patrol
12/12/2020	Police	Complaint about patrons inside. All patrons were outside upon arrival, no violation observed.
12/13/2020	Police	Lt. Kearney checked on patrol - 2 patrons at outdoor open air table, no inside service. No violations observed.
12/18/2020	Police	No complaints checked ok on patrol
12/19/2020	Police	No complaints checked ok on patrol
1/8/2021	Police	Checked on patrol. Closed for business, within compliance.
1/29/2021	Police	Checked ok on patrol
2/3/2021	Police	Checked ok on patrol
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
2/27/2021	Police	Checked ok on patrol
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
3/13/2021	Police	Checked ok on patrol
3/17/2021	Police	Checked ok on patrol
3/27/2021	Police	Checked ok on patrol
4/5/2021	Police	Checked ok on patrol
5/9/2021	Police	Checked on patrol, in compliance.
Elie's - 263 Pierce		
Date	Reported By	Findings

9/30/2020	Fire Marshal	Inspection
11/20/2020	Fire Marshal	Inspection
11/25/2020	Capt.Hughes	Inspection- No outdoor structure.
1/16/2021	Police	Checked ok on patrol
1/20/2021	Police	Checked ok on patrol
1/31/2021	Police	Checked ok on patrol
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
3/13/2021	Police	Checked ok on patrol
Forest Grill - 735 Forest		
Date	Reported By	Findings
12/13/2020	Police	Lt. Kearney checked on patrol - closed for business (on Sundays).
Greek Island - 221 Hamilton		
Date	Reported By	Findings
12/13/2020	Police	Lt. Kearney checked on patrol - carry-out service only . No violations observed.
12/22/2020	Police	No complaints. Checked on patrol
Griffin Claw - 575 S. Eton		
Date	Reported By	Findings
12/7/2020	Police	Checked ok on patrol - no indoor service.
12/10/2020	Fire Marshal	Business was approved to use igloo structures, with conditons, and final inspection before use.
12/11/2020	Police	Observed tent stucture with only 1 open air side. Advised Manager - Rachel Stemplewski, in order to be compliant with current MDHHS order, tents may only have 2 closed, opposite walls, and the other two must be open air. She agreed to comply in future. Verbal warning issued.
12/13/2020	Police	Checked ok on patrol - closed for business at time of check.
2/27/2021	Police	Checked ok on patrol
3/13/2021	Police	Checked ok on patrol
3/26/2021	Police	Checked ok on patrol
4/9/2021	Police	Checked ok on patrol
5/9/2021	Police	Checked ok on patrol
Hazel Ravines - 34977 Woodward		
Date	Reported By	Findings
Hunter House - 35075 Woodward		
Date	Reported By	Findings

Hyde Park - 201 S. Old Woodward		
Date	Reported By	Findings
Lastrada - 243 E. Merrill		
Date	Reported By	Findings
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
Leo's - 154 S. Old Woodward		
Date	Reported By	Findings
12/2/2020	Police	Checked ok - serving take-out only, no patrons inside.
12/4/2020	Police	Checked ok - serving take-out only, no patrons inside.
12/13/2020	Police	Lt. Kearney checked on patrol - carry-out service only, no violations.
12/22/2020	Police	Sgt Romanowski checked on patrol. Business open for carry-out only
12/22/2020	Police	No complaints. Checked on patrol
Luxe - 525 N. Old Woodward		
Date	Reported By	Findings
11/20/2020	Clemence	Spoke to manager (Iliana Alvarez) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/29/2020	Dispatched	Complaint of patron eating/drinking at bar, and cooks in kitchen w/out masks. Rothe responded, all employees wearing masks. Man was waiting for carryout w/out mask, but not eating/drinking. Advised/warned.
12/3/2020	Police	Checked ok - Carry-out only, within compliance.
12/5/2020	Police	Checked ok - Carry-out only, within compliance.
12/4//2020	Assistant Building Official	Applied for permit for temporary structure.
12/10/2020	Fire Marshal	Reviewd site plans for temporary outdoor structure. Approved with conditions, final inspection to be performed before use.
12/11/2020	Police	Checked ok on patrol
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Police	Checked ok on patrol
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Sgt. Romanowski checked on patrol. No violations.
12/16/2020	Police	Lt. Kearney checked on patrol. No violations.
12/18/2020	Police	No violations
12/22/2020	Police	Sgt Romanowski checked on patrol. Business open for carry-out only
1/9/2021	Police	No complaints. Checked on patrol
1/12/2021	Police	Checked on patrol, no violations.
1/15/2021	Police	Checked ok on patrol

1/16/2021	Police	Checked ok on patrol
1/23/2021	Police	In compliance.
1/29/2021	Police	Checked ok on patrol
2/3/2021	Police	Checked ok on patrol
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
3/14/2021	Police	Complaint of staff not wearing masks. Ofc's checked and did not see anyone not wearing a mask. Management advised
4/5/2021	Police	Checked ok on patrol
Market - 474 N. Old Woodward		
Date	Reported By	Findings
11/20/2020	Clemence	Spoke to manager (Snchacz) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/24/2020	Police	Manager Andrew Nicholes and advised the exsisting attached outdoor dining does not meet new orders requirments due to permanant half wall.
12/3/2020	Police	Checked ok - Carry-out only, within compliance.
12/4/2020	Assistant Building Official	Applied for permit for temporary structure.
12/5/2020	Police	Checked ok - Carry-out only, within compliance.
12/7/2020	Police	Checked ok on patrol
12/10/2020	Fire Marshal	Reviewed site plans for temporary outdoor structure. Approved with conditions, final inspection before use.
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Police	Checked ok on patrol
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Sgt. Romanowski checked on patrol (twice) - Only staff inside, no patrons. No violations observed.
12/16/2020	Police	Lt. Kearney checked on patrol. No violations.
12/22/2020	Police	Sgt Romanowski checked on patrol. Business open for outdoor dining with no violations observed
1/9/2010	Police	No complaints. Checked on patrol
1/16/2021	Police	Checked ok on patrol
1/23/2021	Police	In compliance.
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
2/27/2021	Police	Checked ok on patrol
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
3/13/2021	Police	Checked ok on patrol
5/9/2021	Police	Checked ok on patrol
Morrie - 260 N. Old Woodward		
Date	Reported By	Findings

10/15/2020	Fire Marshal	Inspection
12/8/2020	Police	Checked on patrol - no indoor service, business was closed.
3/12/2021	Police	Check on patrol, in compliance
4/10/2021	Police	Checked ok on patrol
Pernoi - 310 E. Maple		
Date	Reported By	Findings
11/20/2020	Clemence	Complaint - patrons being served in enclosed outdoor balcony against Gov/MDHHS order - advised 3 sides must be open air, warned.
11/20/2020	Fire Marshal	Inspection
11/20/2020	Assistant Building Official	Inspection. Informed the owner the process for appying for the permits.
11/20/2020	Insp. Slanda	Inspection- violation addressed
11/21/2020	Fire Marshal	Inspection for situation discovered the evening before.
11/21/2020	Insp. Slanda	Inspection
11/25/2020	Code Enforcement	Issued ticket for failing to obtain a permit for the temporary structure or tent.
11/25/2020	Capt. Hughes	Inspection- Violation noted. Ticket to be issued 11/30/2020.
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Fire Marshal	Court appearance citation issued.
11/30/2020	Insp. Wiseman	Inspection
12/2/2020	Assistant Building Official	Applied for permit for temporary structure.
12/10/2020	Complaint	Dining with three sides of a tent enclosed. report complete
12/11/2020	Police - Complaint	Ofc. Rothe responded. Dining with three sides of a tent enclosed. Report completed.
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Police - Complaint	Ofc. Rothe responded. Patrons dining in non-compliant tent area. Advised, report completed.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Ofc. Rothe/Lt. Kearney checked on patrol - closed for business (on Sundays). No violations observed.
12/18/2020	Police	Bar check: 10-15 people dining and drinking in back tented area. Tent NOT open to meet guide lines. Lt. Faes advised owner Luciano Delsignore of the Gov/MDHHS order. Report completed.
Phoneica - 588 S. Old Woodward		
Date	Reported By	Findings
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Lt. Kearney checked on patrol - closed for business (on Sundays). No violations.

12/18/2020	Police	Complaint: Ofc. Bukoski observed approx 30 people dining and drinking. Ofc. Bokoski advised manager Brooke Butler of the MDHHS order Report was completed.
1/15/2021	Police	Checked ok on patrol
3/12/2021	Police	Checked on patrol, in compliance
4/5/2021	Police	Checked ok on patrol
4/10/2021	Police	Checked ok on patrol
Reserve - 325 S. Eton		
Date	Reported By	Findings
I1/18/2020	Fire Marshal	Inspection
11/20/2020	Insp. Slanda	Inspection
11/21/2020	Insp. Slanda	Inspection
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Insp. Wiseman	Inspection
12/4/2020	Assistant Building Official	Applied for permit for temporary structure
12/10/2020	Fire Marshal	Approved business to use igloo structures, with conditions. Final inspection before use.
12/11/2020	Assistant Building Official	Issued permit for temporary structure
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
Salvatore Scallapini - 505 N. Old Woodward		
Date	Reported By	Findings
12/3/2020	Police	Checked ok - Carry-out only, within compliance.
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Sgt. Romanowski checked on patrol. No violations observed.
12/16/2020	Police	Lt. Kearney checked on patrol. No violations.
12/18/2020	Police	In compliance
12/22/2020	Police	Sgt Romanowski checked on patrol. Business open for carry-out only
1/16/2021	Police	Checked ok on patrol
2/3/2021	Police	Checked ok on patrol
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
Side Car - 117 Willits		
Date	Reported By	Findings
11/22/2020	FOP	No complaints checked ok on patrol
11/23/2020	FOP	

11/27/2020	FOP	Checked ok
11/4/2020	Police	No complaints checked ok on patrol
12/5/2020	Police	Checked ok - Carry-out only, within compliance.
12/10/2020	Complaint	No violations, all ok
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Lt. Kearney checked on patrol - Patrons seated at outdoor open air seating, no indoor service. No violations observed.
12/18/2020	Police	In compliance
12/19/2020	Police	Ofc. McCanham checked on patrol and observed the tent area not in compliance. Report was completed.
12/22/2020	Police	No complaints. Checked on patrol
12/30/2020	Police	Complaint that patrons were not social distancing. All patrons were properly distanced upon officers arrival.
1/9/2021	Police	No complaints. Checked on patrol
1/16/2021	Police	Checked ok on patrol
1/20/2021	Police	Checked ok on patrol
1/23/2021	Police	In compliance.
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
2/28/2021	Police	Checked ok on patrol
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
3/12/2021	Police	Checked on patrol, In compliance.
4/5/2021	Police	Checked ok on patrol
4/9/2021	Police	Checked ok on patrol
5/9/2021	Police	Checked ok on patrol
Social Kitchen - 225 E Maple		
Date	Reported By	Findings
12/12/2020	Police	Checked on patrol and observed non-compliant, partially closed tent/structure walls. Lt. Kearney met with Manager - Amanda Stutzman, and Executive Chef - Michael Shaw, advising of the current MDHHS indoor/outdoor defs./restrictions. They advised that Health Dept. employee - Sara Serota (serotas@oakgov.com) was onsite on 12/9/2020. Both she and her supervisor were unable to give an answer as to whether the tent was within compliance. Serota advised that the Health Dept. would get back to them ASAP. Shaw stated he was under the impression, they may remain open as is, unless they were told otherwise by the Health Dept. I advised him how to become compliant with the new health order - only 2 tent walls (opposite sides), the others must be 100% open air, everyone within 8 feet of open air.

12/13/2020	Police	Lt. Kearney checked on patrol. Again met with Manager - Amanda Stutzman. She stated she had made the owner (Joshua Humphrey) and GM - Dustin Walker (248-761-9255) aware of my contact, and the MDHHS restrictions. They were still under the impression they may operate as is, as they are waiting for the Health Dept. to get back to them with an answer re: their structure. I reiterated the city's opinion of only 2 walls, other 2 100% open air and everyone within 8 feet of open air. I advised her the info. would be documented and may be forwarded to the Health Dept.
1/8/2021	Police	Checked on patrol. Closed for business, within compliance.
1/16/2021	Police	Checked ok on patrol
1/29/2021	Police	Checked ok on patrol
2/27/2021	Police	Checked ok on patrol
Starbucks - 101 N. Old Woodward		
Date	Reported By	Findings
12/22/2020	Police	Sgt Romanowski checked on patrol. Business open for carry-out only
12/22/2020	Police	No complaints. Checked on patrol
Streetside - 273 Pierce		
Date	Reported By	Findings
9/30/2020	Fire Marshal	Inspection
11/17/2020	Fire Marshal	Inspection
11/20/2020	Fire Marshal	Inspection
11/20/2020	Assistant Building Official	Inspection. Joel and I met with manager to discuss the propane heaters in an enclosed tent and the heaters impeading the exit.
11/20/2020	Insp. Slanda	Inspection
11/21/2020	Insp. Slanda	Inspection- violation noted
11/23/2020	Fire Marshal	Citation issued
11/25/2020	Code Enforcement	Issued ticket for failing to obtain a permit for the temporary structure or tent.
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/29/2020	Police	Syts updated Mgr. on MDHHS order/city opinion, 3 sides of tent must be 100% open in order to be complaint.
11/30/2020	Fire Marshal	Inspection- The tent structure has been removed.
12/2/2020	Police	Checked ok - No tent, only outdoor service at tables outdoors w/ heaters.
12/5/2020	Police	Checked ok - within compliance.
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Lt. Kearney checked on patrol. Only open air outdoor dining. No violations observed.

12/22/2020	Police	Sgt Romanowski checked on patrol. Business open for outdoor dining with no violation observed
12/22/2020	Police	No complaints. Checked on patrol
1/9/2021	Police	No complaints. Checked on patrol
1/12/2021	Police	Checked on patrol, no violations.
1/16/2021	Police	Checked ok on patrol
1/20/2021	Police	Checked ok on patrol
1/23/2021	Police	In compliance.
1/31/2021	Police	Checked ok on patrol
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
3/13/2021	Police	Checked ok on patrol
Sy Thai - 315 Hamilton		
Date	Reported By	Findings
12/22/2020	Police	No complaints. Checked on patrol
1/25/2021	Police	In compliance
Tallulah - 155 S. Bates		
Date	Reported By	Findings
12/8/2020	Police	Checked on patrol - only open for carry-out, no one seated inside. Within compliance.
12/10/2020	Fire Marshal	Met on site with Bruce, Mike, Jack, and John Henke too look at tent structure that has been installed. Discussed MDHHS mandates. Fire Departments opinion is that this structure is not in compliance. John stated he is in the process of obtaining clarification on the MDHHS mandates.
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
12/18/2020	Police	Ofc. Bukoski observed several people dining and drinking inside the tent area which were not in compliance. Ofc. Bukoski advised Manager Marjan Camaj of the MDHHS order. Report was completed. Later in the night Camji did make adjustments to the tent area.
12/22/2020	Police	No complaints. Checked on patrol
1/8/20211	Police	Checked on patrol. Closed for business, within compliance.
1/12/2021	Police	Checked on patrol, no violations.
1/15/2021	Police	Checked ok on patrol
1/16/2021	Police	Checked ok on patrol
1/20/2021	Police	Checked ok on patrol
1/29/2021	Police	Checked ok on patrol
2/3/2021	Police	Checked ok on patrol
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.

2/27/2021	Police	Checked ok on patrol
3/12/2021	Police	Checked ok on patrol
Toast - 203 Pierce		
Date	Reported By	Findings
10/15/2020	Fire Marshal	Inspection
11/20/2020	Fire Marshal	Inspection
11/20/2020	Insp. Slanda	Inspection
11/21/2020	Insp. Slanda	Inspection
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Insp. Wiseman	Inspection
12/11/2020	Capt. Hughes	Inspection
12/12/2020	Lt. Crawford	Inspection
Townhouse - 180 Pierce		
Date	Reported By	Findings
11/20/2020	Police	Complaint - patrons being served in enclosed outdoor balcony against Gov/MDHHS order - advised 3 sides must be open air, warned.
11/20/2020	Clemence	Spoke to owner (Erin Zupicich) regarding new MHHS rules. Dining decks must be open on 3 sides.
11/17/2020	Fire Marshal	Inspection
11/17/2020	Assistant Building Official	Inspection with the fire marshal. Informed the manager of propane heaters in a confined space. storage of propane tanks, keeping exits clear, co detectors.
11/20/2020	Fire Marshal	Inspection
11/20/2020	Insp. Slanda	Inspection
11/21/2020	Insp. Slanda	Inspection
11/22/2020	Police	No complaints checked ok on patrol
11/24/2020	Fire Marshal	Inspection for complaint of fire code violation. No issues found. Warned manager on duty to mainttain openings in the tent walls. Photos taken.
11/24/2020	Assistant Building Official	Was present with inspection by fire marshal
11/25/2020	Code Enforcement	Issued ticket for failing to obtain a permit for the temporary structure or tent.
11/25/2020	Capt. Hughes	Inspection
11/26/2020	Chief	Inspection
11/27/2020	Insp. Slanda	Inspection
11/28/2020	Lt. Crawford	Inspection

11/29/2020	FOP	Kearney/Romanowski spoke with Manager James Ahee, updating him on new MDHHS order/city opinion on tents - In order to be compliant, 3 sides must be 100% open, no partials.
11/29/2020	Lt. Crawford	Inspection
11/30/2020	Fire Marshal	Inspection- Tent structure closed and unoccupied.
11/30/2020	Insp. Wiseman	Inspection
12/1/2020	Code Enforcement	Ticket written for enclosing a City tree. Business closed today, so the ticket will be served tomorrow when the business opens.
12/2/2020	Code Enforcement	Ticket for enclosing the City tree served to manager on site.
12/2/2020	Police	Checked ok - tent and business closed, no patrons.
12/3/2020	Police	Checked ok - tent and business closed, no patrons.
12/7/2020	Police	Checked ok - business closed, no patrons. Tent has been removed.
12/11/2020	Capt. Hughes	Inspection.
12/12/2020	Lt. Crawford	Inspection.
12/13/2020	Police	Lt. Kearney checked on patrol - closed for business at time of check. No tent or roof at outdoor dining area.
12/18/2020	Police	In compliance.
2/5/2021	Police	Checked on patrol, In compliance.
2/6/2021	Police	Checked on patrol, In compliance.
3/5/2021	Police	Checked on patrol, In compliance.
3/6/2021	Police	Checked on patrol, In compliance.
Vinotecca - 210 S. Old Woodward		
Date	Reported By	Findings
		Vinotecca is out of business.
Whole Foods Tap Room - 2100 E Maple		
Date	Reported By	Findings

FULL DEPARTMENTAL COMMENTS

City of Birmingham
A Walkable Community

MEMORANDUM

Building Department

DATE: **August 4, 2021**

TO: **Nicholas J. Dupuis**

FROM: **Bruce R. Johnson, Building Official**

SUBJECT: **Outdoor Dining Thoughts**

Dining platforms in the street:

- Must be constructed in accordance with the Michigan Building Code including accessibility (ADA) regulations.
- While not required by the building code, a 42-inch tall guardrail should be installed on the platform adjacent to vehicle drive lanes.

Enclosures/coverings:

- Must be constructed in accordance with the Michigan Building Code.
- Must not block or conceal any exits from the platform.

Sidewalk patios:

- Tend to creep into the required sidewalk width when they are not clearly defined by barriers such as rails/fencing. Especially when there is seating along both the building and the curb with the public walk between the two areas.

Heating elements:

- Must be UL listed for the proposed use and installed and utilized in accordance with manufactures recommendations

Full Enclosures/year-round dining:

- Would need to be constructed in accordance with the Michigan Building Code.
- A permanent power source will need to be installed for all electrical needs – lighting, emergency lighting, exit signs, etc.
- An approved heating system should be utilized rather than temporary portable heathers.

Weather protection:
Umbrellas, tent and awnings tend to define the dining areas and should not be allowed to encroach at any height into the clear path of sidewalk for public use.

General Comments:

- The Michigan Plumbing Code now requires that outdoor dining seats be included in the total number of occupants for the establishment when calculating the total number toilet room fixtures required.

- Barriers that define the approved limits of the outdoor dining areas work well in keeping the public portion of the sidewalk free and clear for pedestrians. A perfect example of this is Churchills.
- Designs should be such that servers do not have to utilize the pedestrian flow portion of the sidewalk while taking orders or serving patrons. We have received complaints about this.
- The current enforcement protocol is to inspect per the approved outdoor dining plan. Compliance for the number and type of tables and chairs, layout, barriers and planters, umbrellas, awnings, number of portable heaters, etc. are all checked. Anything not on the approved plan is a violation. Applicants should be encouraged to show on their plan all the items they intend to utilize during the various seasons.

Nicholas Dupuis <ndupuis@bhamgov.org>

DPS Issues with Outdoor Dining

Carrie Laird <Claird@bhamgov.org> Fri, Jul 23, 2021 at 1:24 PM
To: Nicholas Dupuis <ndupuis@bhamgov.org>
Cc: Lauren Wood <Lwood@bhamgov.org>, Brendan McGaughey <bmcgaughey@bhamgov.org>, Shon Jones <sjones@bhamgov.org>

Hi Nick,

Thank you for asking! We do have feedback on year-round dining platform decks and structures, as follows:

In the winter months especially, we have safety concerns. Snow plowing is challenging around these structures when they are located in the parking spots. Often, the street cannot be cleared properly in order to avoid hitting the platform deck, resulting in accumulating snow and ice that has to be salted more often than if we could eliminate it to begin with. In other words, we have to return to these locations with salt until the snow melts completely. Another safety concern is how narrow some of the roadways are in which the platforms are located. Visibility is decreased substantially in the snow, and it's frankly amazing that we haven't had an accident yet with a snow plow. In addition, if snow and/or ice must be removed from the platform, it's the business owner's responsibility to clear it, and it winds up back in the street or on the sidewalk, creating the same situation I explained above with several visits to the same area.

Further, we need access to the trees. Often the structure/platforms envelope the trees just by the nature of the sidewalk/building setting, and we are unable to perform preventative maintenance of our trees (routine pruning, elevating). Additionally, if a broken branch or dead tree becomes an issue or hazard, it is difficult or impossible to remove with the surrounding obstacles. We've also had an instance of illegal pruning by others of City trees in order to make a seating area on a deck more accomodating for their customers. Our holiday lights program is also affected by no access to the city trees, resulting sometimes in lack of decoration or inability to fix outages.

We haven't encountered any issues with access to the landscape boxes as of yet, however that could be a possibility in the future. We have had to relocate or eliminate hanging baskets due to the decks/structures because of inability to access by our watering trucks. This results sometimes in an off-pattern but we haven't had any complaints of "missing" baskets to my knowledge.

DPS would prefer a window from mid-December through March, but at minimum 3 month window in the winter months, i.e. Jan-March, to avoid most snow and ice issues and it would also allow for preventative care and maintenance of our trees downtown. We typically have all of the holiday lights downtown on by Thanksgiving, so this suggestion does not solve the decorating issues, nor the hanging baskets/landscape boxes concerns, but we are trying to be flexible because we understand the desire for the extended or year round season for outdoor dining.

Thanks again and if you have any further questions, please let me know!
[Quoted text hidden]
--
Carrie A. Laird
Parks & Recreation Manager
851 S. Eton
Birmingham, MI 48009
248-530-1714
[Quoted text hidden]

Nicholas Dupuis <ndupuis@bhamgov.org>

Outdoor Dining Study

Jim Surhigh <cityengineer@bhamgov.org> Tue, Aug 3, 2021 at 10:59 AM
To: Nicholas Dupuis <ndupuis@bhamgov.org>
Cc: Scott Zielinski <szielinski@bhamgov.org>

Nick,
Following are potential issues related to outdoor dining that the Engineering Dept would normally review when one is proposed:

- do not block, interrupt or redirect surface drainage
- do not cover or obstruct the access to underground infrastructure elements, such as manholes, gate wells and catch basins
- do not obstruct fire hydrants
- understand if constructed over sewers or water mains, that provisions are in place to remove features if emergency repairs are needed
- review with respect to upcoming city construction projects in area and possibly prohibit or restrict period of time that outdoor dining would be allowed to accommodate City projects
- consider placement with respect to traffic lanes, and providing adequate offsets for safe passage of all vehicles that use street, including emergency and DPS vehicles, buses, and delivery trucks.
- consider placement with respect to available sight-distance for vehicles and pedestrians at street intersections and crosswalks
- consider placement with respect to public sidewalk space (5-ft minimum clear distance required)
- consider impact to street parking, possibly prohibit if utilizing high-demand spaces, or spaces allocated or leased to neighboring businesses.

Scott - if you have anything to add, please do so.

Thanks,
Jim
[Quoted text hidden]

Nicholas Dupuis <ndupuis@bhamgov.org>

Outdoor Dining Study

Scott Zielinski <szielinski@bhamgov.org> Wed, Aug 4, 2021 at 8:37 AM
To: Jim Surhigh <cityengineer@bhamgov.org>
Cc: Nicholas Dupuis <ndupuis@bhamgov.org>

I would be tempted to prohibit enclosures near drive entrances, Alleys and intersections due to potential visual obstructions.

If they are using the space next to the curb at a parking location a minimum distance from the curb should be considered 12" minimum. TO prevent issues with parking and help limit issues with car doors.

On Tue, Aug 3, 2021 at 10:58 AM Jim Surhigh <cityengineer@bhamgov.org> wrote:
[Quoted text hidden]

--
Scott D. Zielinski, PE
Assistant City Engineer
City of Birmingham
Tel: 248-530-1838

CITY OF BIRMINGHAM FIRE DEPARTMENT

572 SOUTH ADAMS • BIRMINGHAM, MICHIGAN 48009 • 248.530.1900 FAX 248.530.1950

Outdoor Dining Survey

Dining platforms in the street: These structures and the footprint shall be clear of the right of way for traffic and emergency vehicles. No open flame devices on combustible structures (Fire pits on wood, vinyl, composite platforms, etc.).

Enclosures/Coverings: Tents have a use period of 180 days in a 12 month period, IFC '15 **sec. 3103.5.**

Year-round outdoor dining:

Sidewalk Patios:

- Proper clearance from fire department connections FDC: 36 inches wide, 36 inches in depth and 78 inches in height.
- Proper clearance around fire hydrants, 3 feet in circumference and no obstructions from the street.
- Clear path of egress from buildings (do not setup dining in path of egress).

Heating Elements:

Clearance: Heating devices shall meet the proper clearance from combustible material at all times. Sec. **603.4.2.1.2 Clearance to buildings** Portable outdoor gas-fired heating appliances shall be located not less than 5 feet from buildings.

603.4.2.1.3 Clearance to combustible materials. Portable outdoor gas-fired heating appliances shall not be located beneath, or closer than 5 feet to combustible decorations and combustible overhangs, awnings, sunshades or similar combustible attachments to buildings (regardless of a flame retardant rating certificate).

603.4.2.1.4 Proximity to exits. Portable outdoor gas -fired heating appliances shall not be located within 5 feet of exits or exit discharge.

Carbon monoxide detection: Shall be installed for enclosed or semi-enclosed structures regardless of heating device used.

Fire extinguisher mounting: Shall be installed in enclosed or semi-enclosed structures. AHJ to determine size, type and location(s) of devices.

Storage of LP gas: Storage of fuel cannot be inside of a building. LP gas must be stored in a cage. Cage must be a minimum of 10 feet from any type of building opening.

MATTHEW J. BARTALINO
ASSISTANT CHIEF / OPERATIONS

PAUL A. WELLS
FIRE CHIEF

JACK D. PESHA
FIRE MARSHAL

CITY OF BIRMINGHAM FIRE DEPARTMENT

572 SOUTH ADAMS • BIRMINGHAM, MICHIGAN 48009 • 248.530.1900 FAX 248.530.1950

Storage cannot be on the streetside of an establishment. Storage must be in a "cage" protected from vehicle strikes. This may mean that the cage may have to be protected by bollards. A permit would be required to install bollards.

Only 20 lbs. or smaller tanks would be approved.

Electric heaters in an enclosure or other assembly use would require clearance and carbon monoxide detection in an enclosed space and must meet proper clearance guidelines from combustible material at all times.

Full enclosures:

Weather protection (umbrellas, tents, awnings): Must provide a flame retardant certificate to the AHJ regardless of using outdoor heating or not. These items must meet the clearance of heating devices. Must meet clearance of portable heating devices.

Structures attached to buildings: Full fire suppression for structures attached to buildings with existing fire suppression is required on additions such as awnings, tents, sun rooms etc.

In some cases an assembly occupancy that currently does not have fire suppression required could be required to suppress the whole building with the addition of an attached outdoor structure depending on occupant load, layout and other aspects of design.

Anything else: My understanding is that rules were eased due to COVID dining rules. I would not want to continue the use of fuel supplied heating device clearances that were allowed during COVID. The clearance requirements were allowed to be less than what is required (5 feet) during COVID. Gas storage and use was a large part of target hazards and the issuance of citations during outdoor COVID dining. Some establishments would not be able to store fuel on their property due to location specifics.

Jack D. Pesha

Fire Marshal

Birmingham Fire Department

Nicholas Dupuis <ndupuis@bhamgov.org>

OD

Scott Grewe <Sgrewe@bhamgov.org> Fri, Jul 30, 2021 at 8:44 AM
To: Nicholas Dupuis <ndupuis@bhamgov.org>

Really we have had no issues with the decks at the PD level. They pay for the metered spaces to put their decks up so there is no loss of revenue but we do obviously lose the spaces which has not been an issue.

--
Scott Grewe
Operations Commander
Birmingham Police Department
151 Martin St.
Birmingham, MI. 48009
(248)530-1867

Important Note to Residents
Let's connect! Join the Citywide Email System to receive important City updates and critical information specific to your neighborhood at www.bhamgov.org/citywideemail.

RESTAURANT TRENDS / OUTLOOK

Help Protect 435,500 Michigan Jobs By Investing in Michigan's Restaurant and Bar Community

Future of Michigan's 16,543 restaurants and bars locations depend on refilling the Restaurant Revitalization Fund

Leisure and Hospitality Industry Has Accounted for 29.0% of All Jobs Lost in Michigan

Independent Restaurants and Bars Eligible for At Least $168 Billion in Relief; Only $28.6 Billion Appropriated to Date

Independent restaurants and bars accumulated 16 months of losses and need relief to pay down their debts. They will not be "back to normal" anytime soon.

- **The COVID-19 pandemic has cost restaurants and bars over $280 billion in sales**.[1]
- **One point of sale system estimates that restaurants and bars are eligible for at least $168 billion in RRF grants**.
- **Costs necessary for running a restaurant are rising.** The price of beef and veal (41.4%), grains (93.8%), and shortening and cooking oil (34.8%) have surged over the past year.[2]
- **36% of diners will not resume their regular dining behavior until at least after September 2021.**[3] Consumer hesitancy will continue to hamper restaurants' and bars' revenue generating abilities.
- After accumulating 16 months of debt, restaurants and bars cannot simply fix their balance sheets with a few weeks of near-capacity business operations afforded by loosened restrictions and summer outdoor dining. **Approximately 90,000 restaurants and bars have closed during the pandemic.**[4]

Investing in restaurants and bars protects Michigan's $17.9 Billion industry[5]

- The RRF would galvanize Michigan's tourism industry, encouraging travelers to eat in Michigan's establishments and spend money on lodging, other tourist attractions and retail.
- Refilling the RRF would support Michigan's vast restaurant supply chain, protecting the state's bakers, fisherman butchers and 41,550 small farms.[6]
- Since the beginning of March 2020, the **leisure and hospitality industry has accounted for 29.0% of all jobs lost in Michigan**; keeping many of Michigan's 435,500 leisure and hospitality workers employed would save the state millions in unemployment benefits and insurance taxes.[7]

[1] US Census.
[2] Bureau of Labor Statistics, Producer Price Index, June 2021.
[3] OpenTable Diner Q1 Insights.
[4] National Restaurant Association.
[5] National Restaurant Association, Michigan at a Glance.
[6] Independent Restaurants are a Nexus of Small Business in the United States and Drive Billions of Dollars of Economic Activity that is at risk of Being lost Due to the COVID-19 Pandemic, 11.
[7] Bureau of Labor Statistics, Michigan at a glance.

Refilling the RRF is a long term plan to return to full employment and growth.

- **Restaurant and bar employment is down 1.2 million from its pre-pandemic levels, stopping a decade of rapid job growth:** employment for restaurants and bars increased over 33% in the last decade. The third fastest growth of any industry.[8] Restaurants and bars account for one in five jobs lost during the pandemic.[9]

- **Until the pandemic, restaurants added middle class jobs at a rate over three times faster than the rest of the economy.**[10]

- 60% of all chefs are minorities. Restaurants also employ more minority employee-managers than any other industry.[11] **Failing to provide support for this beleaguered industry will cause an employment crisis disproportionately affecting women, people of color, immigrants, young people, the formerly incarcerated and single mothers.**

- Restaurants are uniquely hurting – providing relief to America's restaurants and bars will allow these businesses to pay down debt and keep their doors open, protecting the 11 million workers they employ nationwide and the more than 5 million others who work in the industry's vast supply chain.

The Restaurant Revitalization Fund provides restaurants and bars with the grant relief they need to keep their doors open.

- The RRF is modeled after the $120 billion RESTAURANTS Act, which independent restaurant and bar operators from the IRC specifically designed so their industry could access the relief they need.

- The RRF provides debt-free support in the amount of annual revenue lost from 2019 and 2020, with special provisions for businesses that opened in 2020 and 2019. Grants can only be used on eligible expenses: payroll, rent, mortgage, maintenance, outdoor seating constructions, supplies, protective equipment, food, beverage, operational expenses, and principal business payments for business debt.

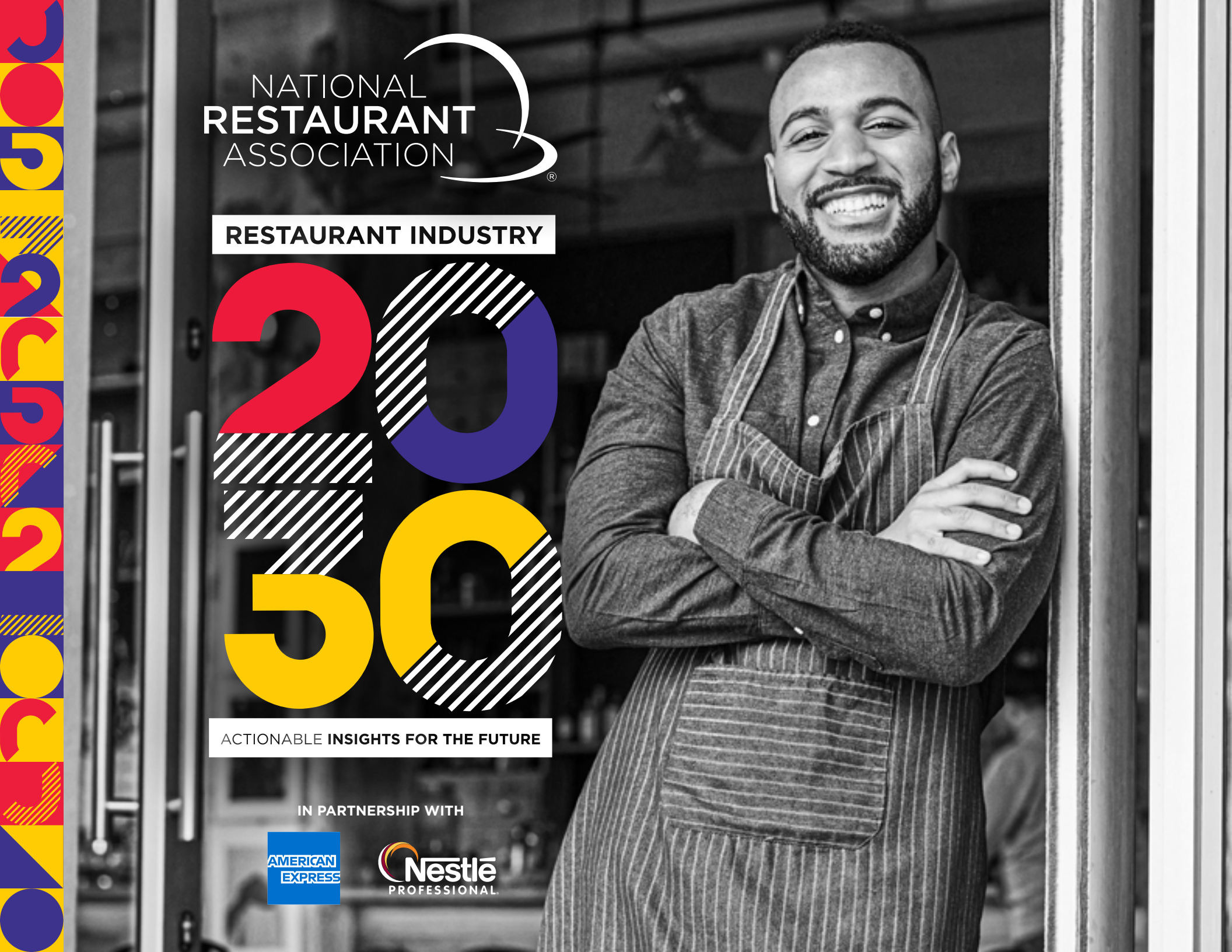
- The RRF has a track record of success: within the first three weeks of opening the application portal, over 372,000 restaurants, bars, and other eligible businesses have applied, requesting over $76 billion in funds.[12]

- Businesses unable to access other federal relief programs, like PPP, applied in droves: over half of applicants came from women (over 122,000 applications), Veterans (over 14,000 applications), and socially and economically disadvantaged businesses (over 71,000 applications).[13]

- This relief fund allows struggling small businesses a chance to survive the pandemic and caters to vulnerable businesses: grants cannot exceed $10,000,000 per restaurant group (which cannot have more than 20 entities) and $5,000,000 per business.

---

[8] Bureau of Labor Statistics, B - Tables, Food Service and Drinking Places; Independent Restaurants are a Nexus of Small Business in the United States and Drive Billions of Dollars of Economic Activity that is at risk of Being lost Due to the COVID-19 Pandemic, 18.
[9] Bureau of Labor Statistics, B - Tables.
[10] National Restaurant Association.
[11] Independent Restaurants are a Nexus of Small Business in the United States and Drive Billions of Dollars of Economic Activity that is at risk of Being lost Due to the COVID-19 Pandemic, 9; ibid.
[12] House Small Business Committee, An Examination of the SBA's COVID-19 Programs, Isabella Casillas Guzman.
[13] Small Business Administration, please note this data came from May 18, when 303,000 applications had been submitted. While the administrator disclosed an updated application amount during a May 26 House Small Business Committee Testimony, the SBA has not released a more specific breakdown.


NATIONAL
RESTAURANT
ASSOCIATION
RESTAURANT INDUSTRY
2030
ACTIONABLE INSIGHTS FOR THE FUTURE
IN PARTNERSHIP WITH
AMERICAN EXPRESS
Nestlé PROFESSIONAL

ABOUT THIS REPORT

This report was prepared by the National Restaurant Association Research and Knowledge Group.

Hudson Riehle, Senior Vice President, Research and Knowledge Group
Bruce Grindy, Chief Economist and Vice President, Research
Denise Roach, Beth Lorenzini, Editors
Daniela Smith, Brand and Creative Director

In partnership with AMERICAN EXPRESS Nestlé PROFESSIONAL

The National Restaurant Association would like to thank our partners American Express and Nestlé Professional for their support for the Restaurant Industry 2030 report.

About American Express
American Express is a globally integrated payments company, providing customers with access to products, insights and experiences that enrich lives and build business success.

Learn more at americanexpress.com and connect with us on:
Facebook.com/americanexpress
Instagram — @americanexpress
Linkedin.com/company/american-express
Twitter — @americanexpress
Youtube.com/americanexpress

About Nestlé Professional
Nestlé Professional is dedicated to being an inspiring growth partner that delivers creative, branded food and beverage solutions, enabling foodservice operators to delight their consumers. From Minor's®, Stouffer's®, Chef-Mate® and Trio® on-trend culinary items to innovative beverage systems under Nescafe® and Coffee-Mate® brands, Nestlé Professional meets the needs of foodservice operators while satisfying the tastes of the out-of-home consumer. Nestlé Professional is part of Nestlé S.A. in Vevey, Switzerland—the world's largest food company—with sales of over $98 billion. For foodservice product news and information, visit www.nestleprofessional.com.

Instagram — @chefsinitiative
Twitter — @NestleProUSA
Linkedin.com/company/nestleprofessional-northamerica/

ISBN
Print: 978-0-9978029-6-2 • Digital: 978-0-9978029-5-5

NATIONAL RESTAURANT ASSOCIATION
2055 L Street NW, Suite 700
Washington, DC 20036
(800) 424-5156
Restaurant.org

JOIN THE CONVERSATION
#RESTAURANTS2030

TABLE OF CONTENTS

Introduction: Looking to the Future **02**

2030: The Landscape **05**

Economic Roadmap to 2030 06

The Workforce in 2030 08

Consumers in 2030 12

2030: Pulse Check **16**

Industry Structure 17

Facilities & Operations 18

Profitability & Income 19

Financing 20

Technology & Data 21

Workforce 22

Training & Development 23

Marketing 24

Food Safety & Security 25

Government 26

Food & Menu 27

Health & Nutrition 28

Sustainability 29

2030: The Disruptors: Think Ahead. **30**

1. The Intelligent Restaurant 31
2. Virtual Restaurants & Ghost Kitchens 32
3. Apps Challenge Your Brand 33
4. Autonomous Vehicles 34
5. Big Tech Bundles Food 35
6. The Bionic Restaurant 36
7. Third-Space Restaurants 37
8. Weather Volatility 38
9. Culinary AI 39
10. Medical Meals 40

Appendix **41**

INTRODUCTION:

LOOKING TO THE FUTURE

RESTAURANTS HAVE BECOME A NOW INDUSTRY.

The only constant as we look toward 2030 will be the speed of change and the hyper-competition the restaurant and foodservice industry will face.

Succeeding in the restaurant industry will always be about great food and great service. In 2030, however, it's going to be about technology and data, too. For a long time now, restaurants have known that they need to get more innovative … and fast. Technology and data allow for quicker consumer response, and restaurants will need to be nimble. Restaurants will need to embrace new ways of using data and information to keep up — or get left behind.

Ordinary won't cut it in 2030. What constitutes a restaurant is rapidly changing. The off-premises market — carryout, delivery, drive-thru and mobile units — is where the majority of industry growth is going to come from over the next 10 years. But the only reason that growth can occur is that the technology is now in place to support it. Data-driven decisions will expand beyond sales and staffing applications to guest services, supply-chain logistics, and menu development, allowing restaurants to adapt what to sell in real time as demand dictates.

The other side of the off-premises coin is on-premises, which won't diminish but will likely change. The natural privacy that accompanies dining off-site could lead to an even more heightened demand for restaurants as community hubs delivering myriad new and shared social experiences.

When the National Restaurant Association began tracking industry sales in 1970, sales were $40 billion. Sales in 2019 are expected to reach $863 billion and by 2030, the Association projects the industry's sales will top $1.2 trillion. The industry's workforce, now 15.3 million, is likely to exceed 17 million by 2030.

We are at a crossroads in how people dine. Restaurants are swiftly adapting both the front- and back-of-the-house to meet the needs of guests — serving them wherever they want to be served. As the industry approaches its next decade, this report uncovers what may be around the corner.

WHAT'S INSIDE:

- **2030 Landscape**
  A look at where the economy, workforce and consumer demographics are headed in 2030.
- **2030 Pulse Check**
  Industry experts weigh in on the most and least likely developments by 2030.
- **2030 Disruptors**
  Some possible outliers and disruptors, driven by factors outside the restaurant industry.

10 SURE THINGS IN 2030

AS RESTAURANTS SHIFT AWAY FROM THE TRADITIONAL, OPERATORS MUST BE NIMBLE.

The world is changing fast, and business leaders will have to adapt with speed and agility. Constant innovation and speed-to-market will help restaurants thrive as they serve guests where and when they want to be served.

1. The definition of "restaurant" will change. The digital world and evolving consumer preferences are resulting in an array of restaurant models aimed at giving customers what they want, when and where they want it. Some restaurants will morph into a hybrid model, offering counter service, full service, takeout and delivery, and meal kits. The delivery-only restaurant is on the rise through virtual restaurants and "ghost kitchens." New food halls feature retail and restaurant pairings to make it easy for people both to eat and to shop for food they can take home.

2. Off-premises opportunities will drive industry growth. The increasing demand for off-premises meals is transforming the restaurant industry and operators will need to find ways to tap into this new revenue channel. Delivery orders are booming, and business models are shifting fast to find ways to serve that customer base. The shift affects everything from restaurant design to marketing, tech investment, operations, and site selection.

3. Margin pressures will continue. Labor costs, real-estate costs, and increasing investments in delivery and technology will continue to put pressure on the restaurant P&L. There will be a strong motivation to automate routine back-of-house tasks in restaurant kitchens and bars, as well as escalate the use of kiosks and digital ordering.

4. Data is king. Restaurants will see new opportunities to apply data analytics to predict and capitalize on consumer demand and optimize supply economics.

5. Restaurants will serve — and employ — a different demographic. The U.S. population and labor force will be the most diverse it's ever been, and the workforce will include more older Americans. Restaurant operators will need to accommodate both the dining preferences and work styles of an increasingly diverse American public.

6. Recruitment, retention and training will remain top priorities. The skills and talent restaurants seek in their workforce will evolve to support a new technology ecosystem. Restaurants will compete with other industries for tech talent. Benefits will be critical to recruiting and retaining employees. Technology-based training, certifications, and internal career paths will be increasingly important tools to retain valuable employees.

7. Technology will drive tremendous advances in food safety, food sourcing, and sustainability. As the supply chain grows increasingly complex, operators will leverage blockchain and other new traceability technologies, ingredient and sourcing data, automated food safety management systems, and advances in utility and waste management to become more efficient, transparent organizations.

8. Government will be a greater factor in everything operators do. In addition to the federal government, state and local governments may continue to add to the legislation, taxation and regulation affecting restaurant operators.

9. Sustainability isn't just a buzzword. It's an important way to drive costs down as well as showcase the industry's efforts to attract and serve the growing number of guests who are interested in everything about sustainability — from restaurant packaging to food sourcing.

10. Restaurants will continue to bring people together. Hospitality, excellence in service, and engagement in local communities will remain the hallmark of the restaurant industry. That strong commitment to guests and consumers of every type will be core to the industry's identity in 2030 as operators innovate and thrive in an age of increasing technology.

2030 BY THE NUMBERS

1.2 MILLION
fewer 16- to 24-year-olds in the labor force by 2028.

0.5%
Anticipated U.S. average annual labor force growth, 2018 to 2028.

RESTAURANT INDUSTRY PROJECTED SALES IN 2030:
$1.2 TRILLION

RESTAURANT & FOODSERVICE JOBS IN 2030:
17.2 MILLION

6.1 MILLION
Number of additional adults 65 and older who are expected to be in the labor force by 2028.

3%
Teens as an expected share of the U.S. labor force in 2028.

74.8 MILLION
Projected Hispanic-American population in the U.S. in 2030.

2030: THE LANDSCAPE

GROWTH IN THE RESTAURANT INDUSTRY FOR THE PAST SEVERAL DECADES HAS BEEN DRIVEN BY CONSUMERS' DESIRE FOR CONVENIENCE, SOCIALIZATION, AND HIGH-QUALITY FOOD AND SERVICE.

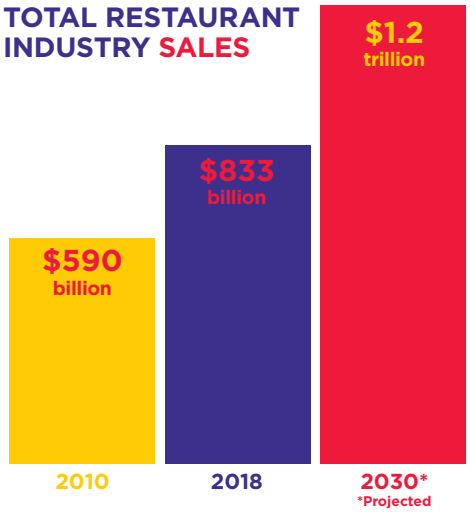
These same drivers will be the catalysts for expansion well into the future, as the restaurant industry continues to innovate and adapt to the ever-changing tastes and preferences of consumers.

By 2030, the National Restaurant Association expects total restaurant industry sales to top **$1.2 trillion,** and provide employment opportunities for **more than 17 million** individuals.

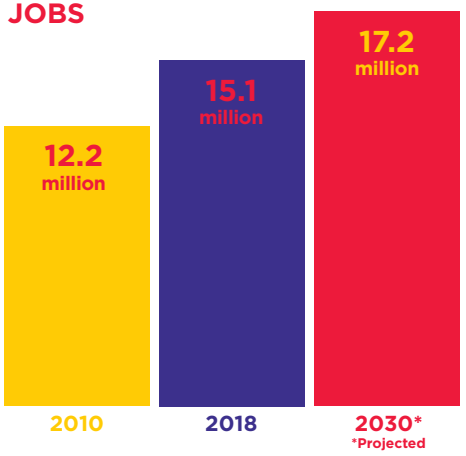
This section looks at some key drivers for the industry's success over the next decade, including the U.S. economic outlook, workforce changes, and the continued evolution of the American consumer.

RESTAURANT INDUSTRY SNAPSHOT IN 2030

TOTAL RESTAURANT INDUSTRY SALES



TOTAL RESTAURANT AND FOODSERVICE JOBS



ECONOMIC ROADMAP TO 2030

AT A GLANCE

The U.S. economy is expected to expand at a more moderate pace over the next decade, due in large part to slower growth of the population and labor force. Trends won't be uniform across the country. Opportunities for restaurant industry expansion will likely be much more significant in areas with faster-growing economies.

WHERE WE ARE NOW

As of September 2019, the U.S. economy had added jobs in 108 consecutive months, making for the longest uninterrupted streak of job growth on record, with the addition of more than 21 million jobs. But even with these steady gains, the economy during that time posted job growth of more than 2% in just one year: 2015. As a result, the decade that began in 2010 is on pace to be the second-weakest for job growth since the 1930s, in percentage terms. The projected 1.7% average annual employment growth between 2010 and 2020 would outpace only the 2000 to 2010 period — a decade that included two recessions.

WHERE WE'RE HEADED

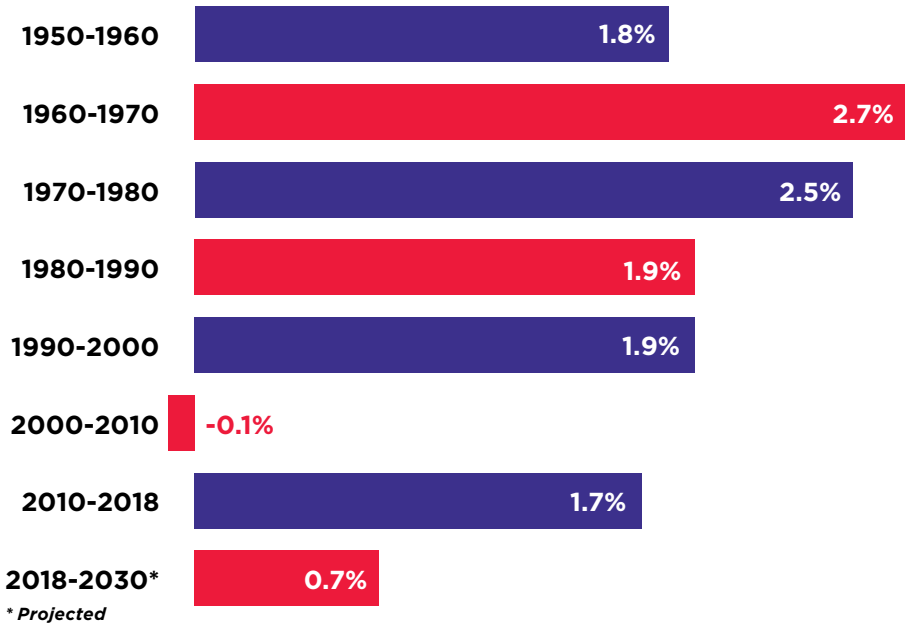
Employment growth is projected to slow even further over the next decade. The National Restaurant Association expects total U.S. employment to increase at a 0.7% average annual rate between 2018 and 2030. The 2018 to 2030 period is likely to feature stretches of stronger growth, as well as at least one recession.

JOB GROWTH IS PROJECTED TO BE MODEST DURING THE NEXT DECADE

AVERAGE ANNUAL GROWTH IN TOTAL U.S. EMPLOYMENT

Job growth is expected to average 0.7% a year from 2018 to 2030.

Source: *Bureau of Labor Statistics, National Restaurant Association projections*



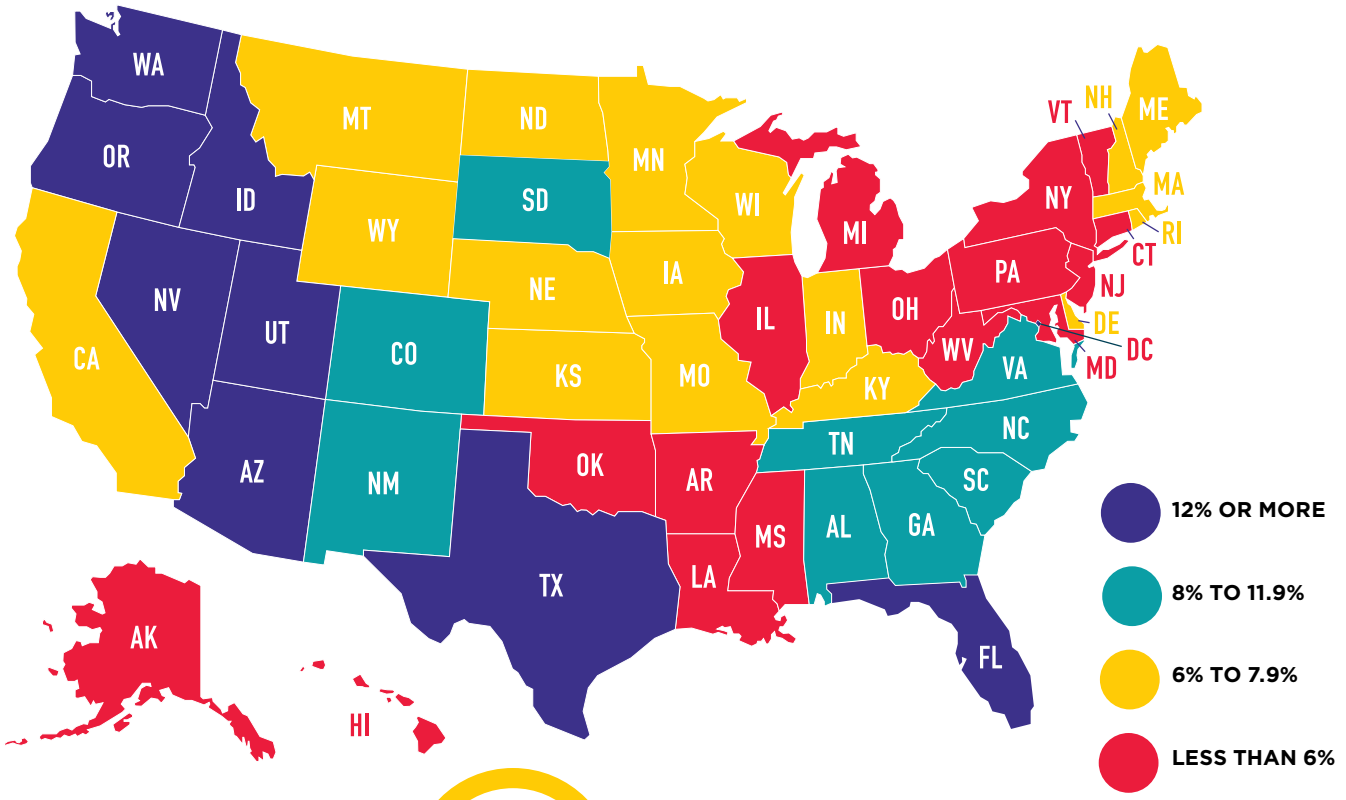
MAPPING THE STATE JOB MARKET

PROJECTED GROWTH IN TOTAL STATE EMPLOYMENT, 2018 TO 2030

Southern and western states are expected to post the strongest job growth.

Source: National Restaurant Association projections

U.S. TOTAL: 8.5% JOB GROWTH



MAKE A NOTE ...

Job growth will be highest in the South and West.

The National Restaurant Association is projecting job growth of 8.5% for the U.S. overall between 2018 and 2030, but some states — particularly in the southern and western regions — will see higher growth.

Texas and Nevada are expected to lead the way.

Both states are expected to expand their workforces by more than 17% between 2018 and 2030, according to National Restaurant Association projections. Arizona, Oregon, Utah, Florida, Idaho and Washington are also expected to register job growth well above the national average during the next decade.

2030: THE LANDSCAPE

THE WORKFORCE IN 2030

AT A GLANCE

Growth in the U.S. labor force is projected to slow over the next decade, which would make the upcoming decade the fifth consecutive decade of decelerating growth. Trends in labor force participation will vary by age group. Older adults are expected to register the largest inflows to the labor force over the next decade. While older adult workers should become more prevalent, the number of teenage workers will likely dwindle and by 2028, their numbers are expected to decline to their lowest level in 65 years.

WHERE WE ARE NOW

U.S. job growth has been somewhat tempered during the recent economic expansion. One reason for this is the relatively slow growth in the U.S. labor force. The total U.S. civilian labor force increased at an average annual rate of 0.6% between 2010 and 2018, according to data from the Bureau of Labor Statistics. If this trend continues, the current decade will be the slowest decade of labor force expansion on record.

WHERE WE'RE HEADED

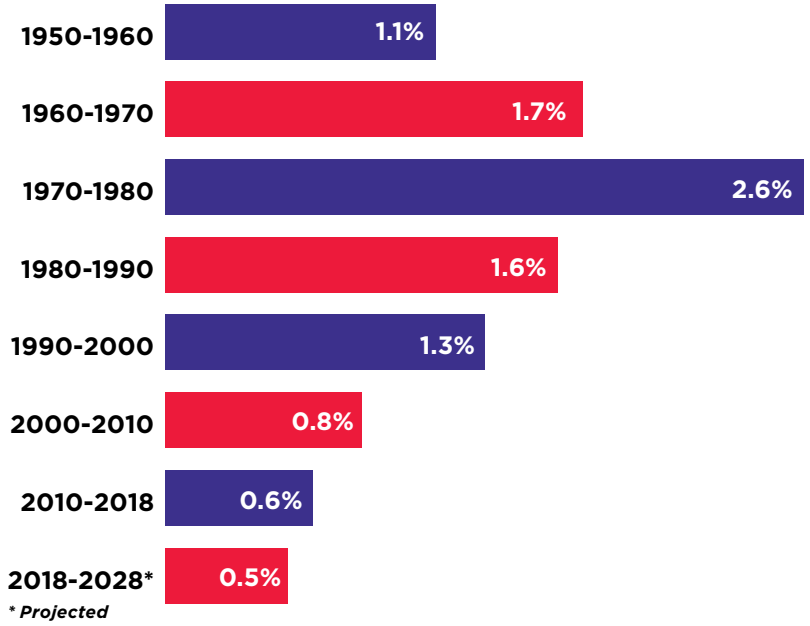
Labor force growth is expected to remain modest. The U.S. civilian labor force will grow at an average annual rate of just 0.5% between 2018 and 2028, according to BLS projections. Slower population growth and changing demographics are largely responsible for the dampened labor force growth.

PUTTING ON THE BRAKES

AVERAGE ANNUAL GROWTH IN THE TOTAL U.S. CIVILIAN LABOR FORCE

Labor-force growth is expected to average 0.5% a year over the next decade.

Source: *Bureau of Labor Statistics, National Restaurant Association*



THE WORKFORCE IN 2030

CHARTING A NEW COURSE WITH AN OLDER WORKFORCE

WHERE WE ARE NOW

There were 9.7 million teenagers in the U.S. labor force in 1978, which is the highest number ever recorded. At that time, there were 3.1 million adults age 65 and older in the labor force. The dynamics shifted over the next three decades. Teen representation in the labor force slumped, while more older adults remained in the workforce beyond the typical retirement age. By 2008, the U.S. labor force included 6.9 million teenagers and 6.2 million adults age 65 and older. That was the last year teenagers outnumbered their older counterparts in the labor force. The divergent trends accelerated during the next decade, and by 2018 older adults outnumbered teenagers by more than 4 million.

WHERE WE'RE HEADED

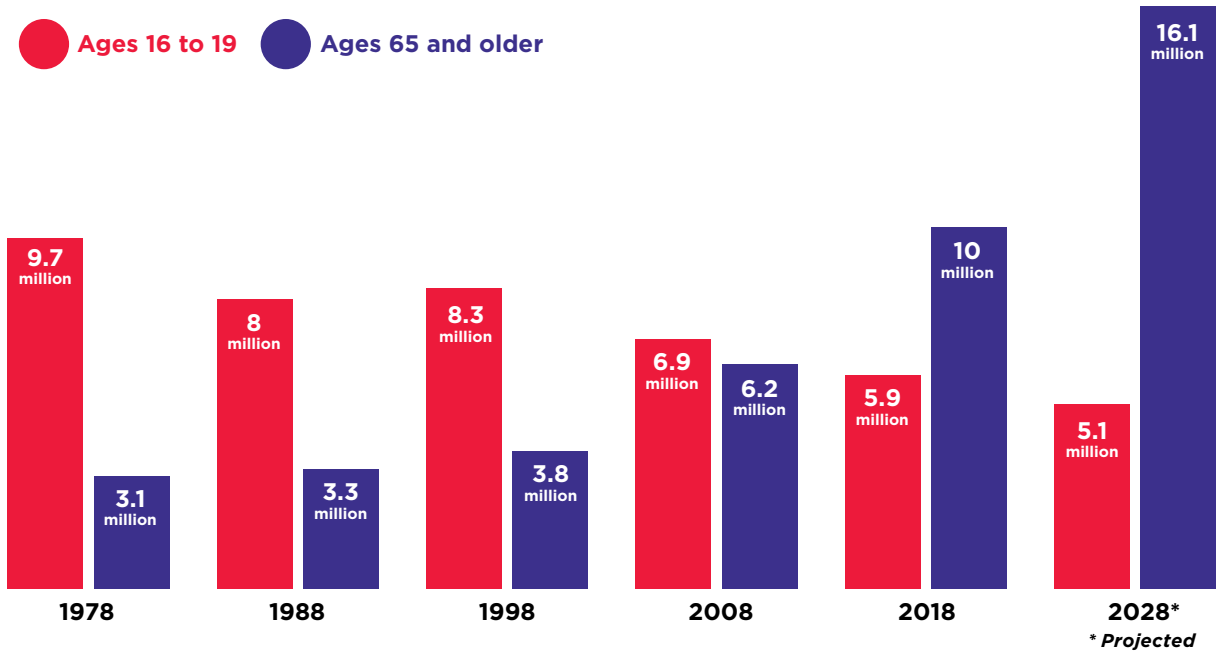
The Bureau of Labor Statistics expects this trend to continue over the next decade. By 2028, there are projected to be 16.1 million adults age 65 and older in the labor force — a record high. In contrast, BLS expects there to be only 5.1 million teenagers in the labor force in 2028, which would be the fewest number of teenagers in the labor force since 1963.

MORE OLDER WORKERS, FEWER YOUNGER WORKERS

NUMBER OF PEOPLE IN THE LABOR FORCE: TEENAGERS AND ADULTS AGE 65 AND OLDER

By 2028, workers age 65 and older will outnumber teenage workers by 11 million.

Source: *Bureau of Labor Statistics, National Restaurant Association*



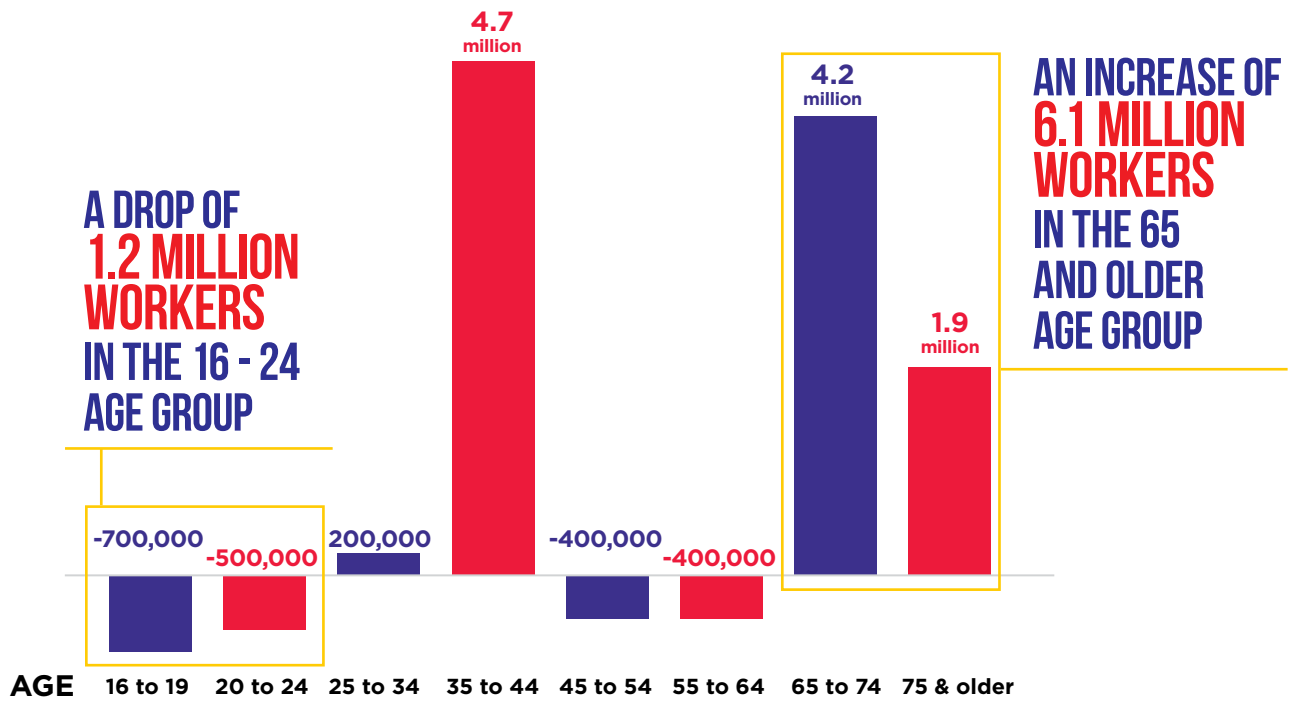
THE WORKFORCE IN 2030

OLDER ADULTS ARE A GROWING PROPORTION OF THE LABOR FORCE

PROJECTED CHANGE IN THE U.S. LABOR FORCE BY AGE, 2018 TO 2028

The number of 16- to 24-year-olds in the labor force is expected to drop by 1.2 million by 2028.

Source: *Bureau of Labor Statistics, National Restaurant Association*



MAKE A NOTE ...

Older Americans will increase their presence in the workforce.

The number of 65- to 74-year-olds in the labor force is projected to rise by 4.2 million during the next decade, and the number of workers age 75 and older is expected to increase by 1.9 million.

The number of working teens and young adults will shrink.

This will be particularly important for restaurants. Nearly 40% of today's restaurant workforce is made up of 16- to 24-year-olds, much higher than this group's 12% representation in the U.S. workforce overall. The number of 16- to 24-year-olds in the labor force is expected to drop by 1.2 million by 2028, according to BLS projections.

2030: THE LANDSCAPE

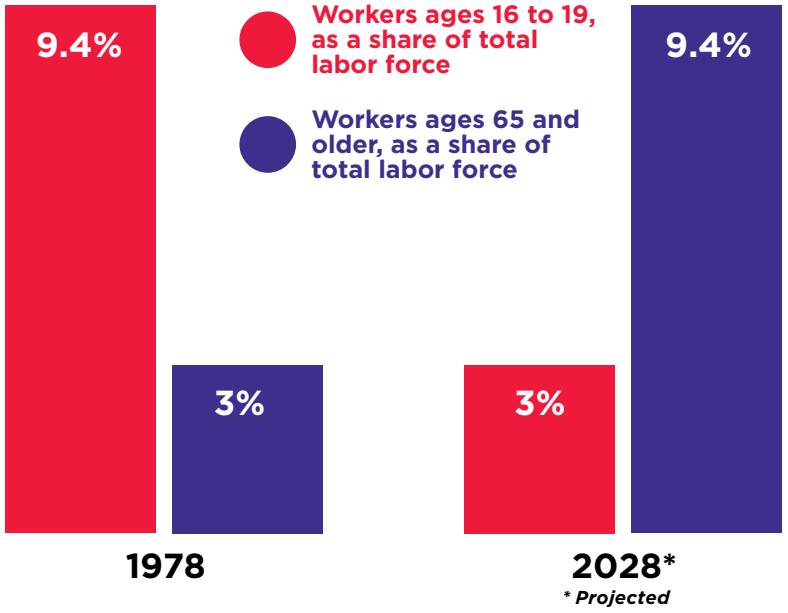
THE WORKFORCE IN 2030

SHARP TURN COMING UP

SHARE OF THE U.S. LABOR FORCE: TEENAGERS VS. ADULTS AGE 65 AND OLDER

What a difference a half-century makes: Teens made up 9.4% of the total U.S. labor force in 1978, and adults 65 and older made up 3%. Fast forward 50 years, and the numbers are expected to flip: According to BLS projections, adults 65 and older are expected to represent 9.4% of the labor force in 2028; teens are expected to make up only 3%.

Source: *Bureau of Labor Statistics, National Restaurant Association*



CONSUMERS IN 2030

AT A GLANCE

Population growth is a key driver of restaurant industry expansion. Any slowdown in U.S. population growth has a far-reaching impact on restaurants because it effectively constrains expansion in the economy, the workforce and the industry's customer base. **Population growth is projected to remain modest in the next decade**, and the U.S. population is expected to become older and more diverse.

WHERE WE ARE NOW

Population growth in the U.S. slowed in recent years. Total U.S. population increased at an average annual rate of 0.7% between 2010 and 2018, according to the U.S. Census Bureau. If the trend continues, the decade that began in 2010 will represent the slowest population growth since the 1940s.

WHERE WE'RE HEADED

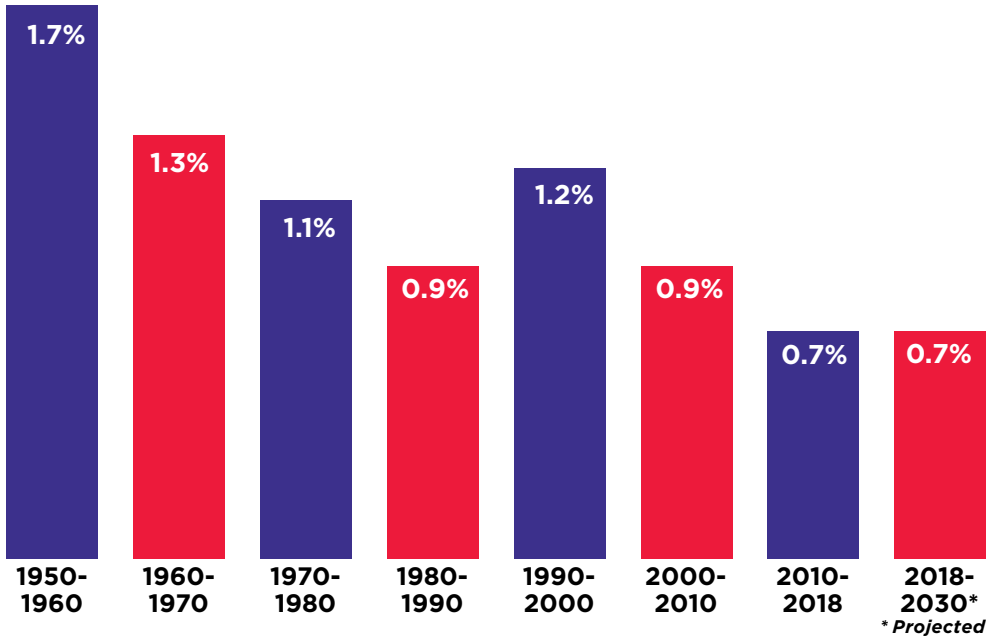
The U.S. population is expected to continue growing at a modest pace. **Total U.S. population will grow at an average annual rate of 0.7%** between 2018 and 2030, according to projections by the U.S. Census Bureau.

U.S. POPULATION GROWTH IS EXPECTED TO REMAIN MODEST

AVERAGE ANNUAL GROWTH IN TOTAL U.S. RESIDENT POPULATION

The U.S. population is expected to grow at an average annual rate of 0.7% between 2018 and 2030.

Source: *U.S. Census Bureau, National Restaurant Association*

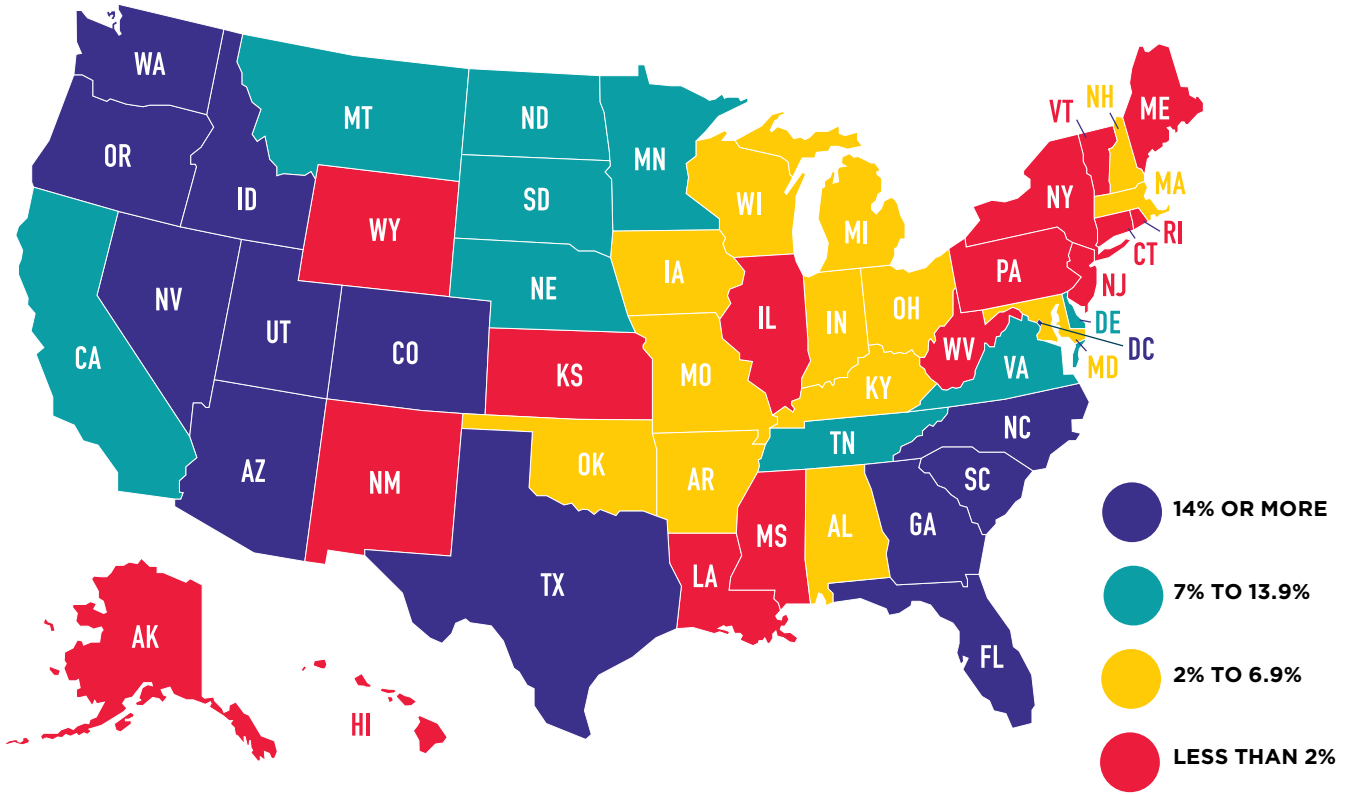


SET YOUR GPS FOR WEST AND SOUTH

PROJECTED GROWTH IN TOTAL STATE POPULATION, 2018 TO 2030

Source: *National Restaurant Association projections*

U.S. TOTAL:
8.5%
POPULATION GROWTH



MAKE A NOTE ...

Mountain states among the fastest-growing

Over the next decade, the top three states in terms of projected population gains are the Mountain-region states of Nevada, Utah and Idaho. States in the southeast and Pacific Northwest are also expected to see population growth well above the national average in the years ahead.

2030: THE LANDSCAPE

CONSUMERS IN 2030

SNAPSHOT OF THE U.S. POPULATION IN 2030

WE'LL BE OLDER ...

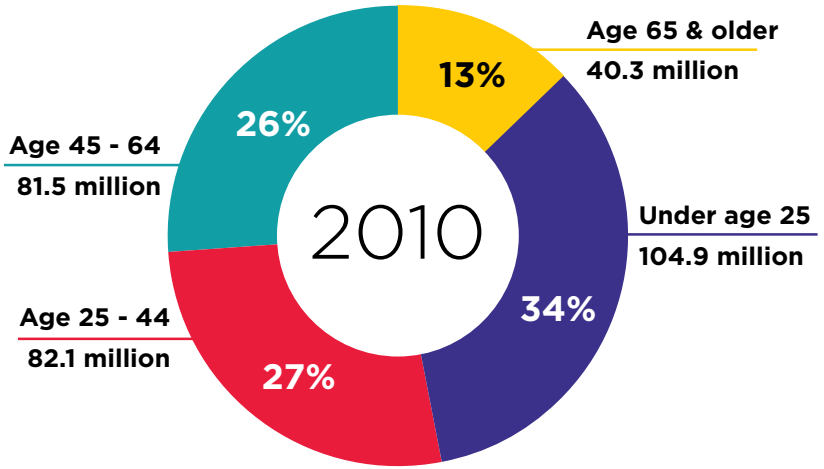
Older adults are expected to make up a larger proportion of the U.S. population over the next decade. According to projections from the U.S. Census Bureau, **there will be 73.1 million adults age 65 and older in the U.S. in 2030, comprising 21% of the total population.** This age group represented just 13% of the population in 2010, at 40.3 million people.

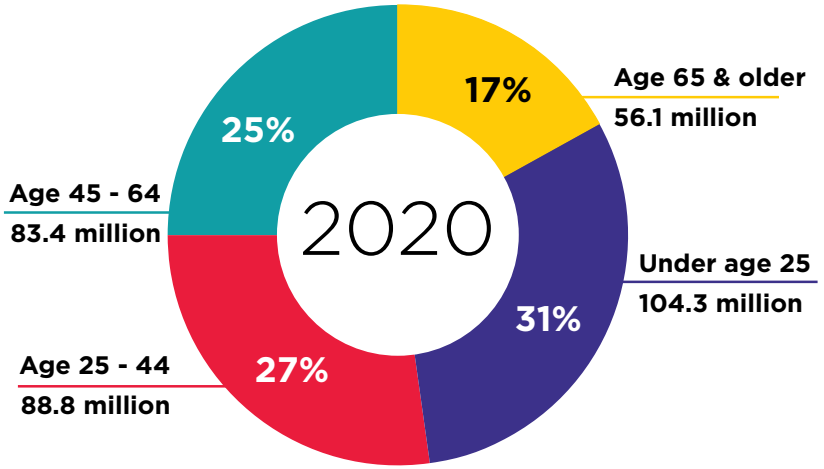
OLDER ADULTS CLAIM BIGGER SLICE OF THE PIE

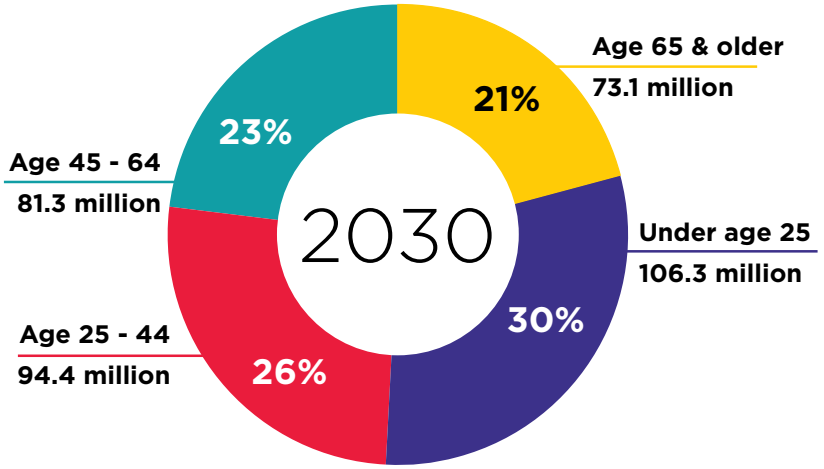
DISTRIBUTION OF U.S. POPULATION BY AGE GROUP, 2010 TO 2030

Americans age 65+ are expected to make up 21% of the U.S. population by 2030.

Source: *U.S. Census Bureau, National Restaurant Association*







... AND MORE DIVERSE

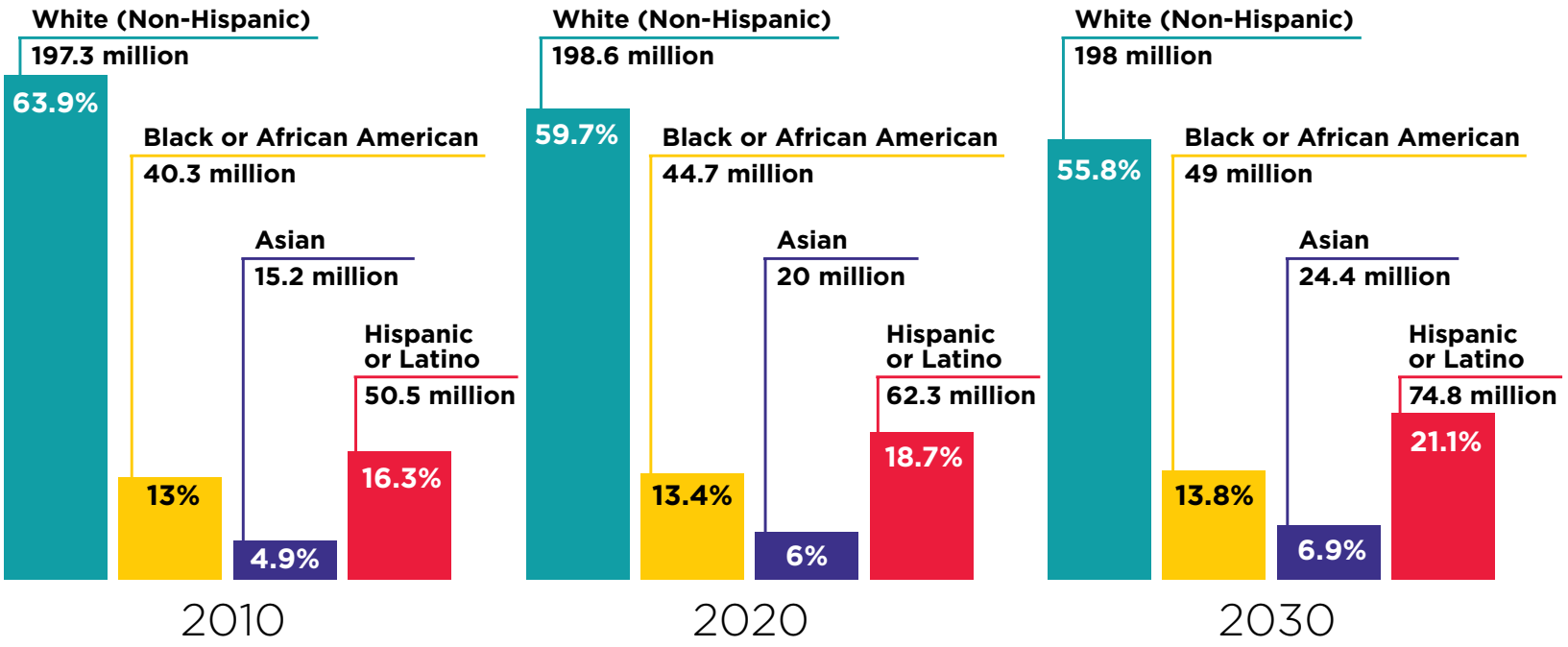
The Census Bureau projects that the **number of Hispanic-Americans will increase to 74.8 million by 2030, accounting for 21% of the U.S. population.** Asian and black or African-American residents are also expected to increase their share in the U.S. population.

DIVERSITY ON THE MENU FOR 2030

DISTRIBUTION OF U.S. POPULATION BY RACE AND ETHNICITY, 2010 TO 2030

Hispanics are expected to represent 21% of the U.S. population by 2030.

Source: *U.S. Census Bureau, National Restaurant Association*



2030: PULSE CHECK

THE NATIONAL RESTAURANT ASSOCIATION CONSULTED INDUSTRY EXPERTS TO GET THEIR TAKE ON THE MOST AND LEAST LIKELY DEVELOPMENTS FOR THE RESTAURANT INDUSTRY BY 2030, IN ABOUT A DOZEN CATEGORIES.

We used a Delphi approach for this part of our Restaurant Industry 2030 report, relying on a panel of industry thought leaders to identify issues and rank them in order of likelihood. This research method, originated by the Rand Corporation in the 1960s, has been found to work well when a topic lends itself more to subjective judgments than precise analytical techniques. (See "Delphi Methodology" in appendix for details.)

THE DELPHI PANEL'S PREDICTIONS FOR 2030

Industry experts were asked about the issues, events and developments that will shape the restaurant industry in the year 2030. Panelists rated 180 statements on a scale from +3 to -3, from "very likely to occur" to "very unlikely to occur." According to the panelists, these are the 25 most likely developments for 2030. A full ranking is available in the appendix.

25 MOST LIKELY DEVELOPMENTS BY 2030

1. Competition for customers will intensify.
2. It will be commonplace for restaurants to accept mobile payments.
3. Handheld payment terminals that allow for pay-at-the-table will be commonplace.
4. The vast majority of takeout and delivery orders will be placed digitally.
5. Packaging designed exclusively for delivery and carryout will be more sophisticated and effective.
6. Regardless of the nutritional content of the food, consumers will still want comfort foods.
7. Convenience stores and grocery stores will expand their foodservice offerings.
8. More restaurant layouts will include areas dedicated to delivery and carryout.
9. State and local governments will increase restaurant industry regulation.
10. Total employee compensation costs will increase as a percent of sales.
11. More training will be provided online and on smartphones.
12. The restaurant industry will continue to be a breeding ground for entrepreneurialism.
13. Equipment used in restaurants will be more energy-efficient.
14. The use of kiosks in limited-service restaurants will be commonplace.
15. There will be increased regulation around third-party delivery.
16. More employees will be certified in safe food handling through ServSafe products.
17. Video menu boards in limited-service restaurants will be commonplace.
18. More restaurants will be designed to reduce use of energy and water and minimize waste.
19. Turning point-of-sale (POS) data into actionable knowledge for operators will become easier.
20. Restaurant operators will be more likely to implement more local, targeted and customized promotions.
21. Technology will be more effectively used to control costs and enhance management efficiency.
22. Women will hold a larger proportion of upper management jobs in the restaurant industry.
23. Restaurants will offer more healthy options on their menus.
24. Restaurant inspection results will be readily available to the public.
25. The federal government will enact more data-privacy rules to regulate how businesses handle customer data.

> "Off-premises traffic will post stronger growth than on-premises traffic."
>
> *— Delphi panelist*

2030: PULSE CHECK

INDUSTRY STRUCTURE

THE RESTAURANT INDUSTRY IN 2030 WILL BE LIKE NOTHING YOU HAVE EVER SEEN BEFORE ... AND THAT'S EXACTLY HOW OPERATORS WILL THRIVE.

At the same time, the industry will continue to be the industry of the American dream, where low barriers to entry offer entrepreneurial opportunities in every community.

Our Delphi panelists believe that competition will intensify, and that the restaurant industry of the future will be a hybrid model. Convenience will be a huge priority and consumers will appreciate all the options offered by restaurants ... but they won't always be eating at the restaurant. Dining away from the restaurant will grow in importance. This could mean takeout, delivery and perhaps styles that haven't developed yet. Third-party delivery firms, virtual restaurants, and other models will enable new formats to appeal to guests.

When guests dine in the restaurant, the experience may be as important as the meal. Restaurant entrepreneurs will focus on a premium customer experience, whether that's inside or outside the restaurant.

MOST LIKELY DEVELOPMENTS BY 2030

- **Competition for customers will intensify.**
- **Convenience stores and grocery stores will expand their foodservice offerings.**
- **The restaurant industry will continue to be a breeding ground for entrepreneurialism.**
- **There will be more delivery options in smaller markets.**
- **Virtual or "ghost" restaurants that only offer delivery will be more common.**
- **Off-premises traffic will post stronger growth than on-premises traffic.**
- **Consolidation in food manufacturing and distribution will intensify.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Independent operators will be the primary innovators and new product developers.**
- **A larger number of American restaurant companies will expand internationally.**

See appendix for full survey results.

> Restaurant physical spaces will be smaller, requiring less square footage due to the increase in delivery and takeout.
>
> *— Delphi panelist*

2030: PULSE CHECK

FACILITIES & OPERATIONS

OFF-PREMISES IS WHERE MUCH OF THE FUTURE GROWTH WILL LIKELY BE.

That trend will accelerate thanks to technology and it will necessitate long-term changes in the design, flow and speed of service in restaurants.

The restaurant of the future will likely be smaller and more efficient. Smaller restaurants, as predicted by the Delphi panel, should mean more automated kitchen equipment and a change in how the typical kitchen lays out.

With delivery and takeout being key drivers of the industry's growth, the focus will be on preparing foods that travel safely with quality intact. Expect an intensified focus on delivery packaging and look for kitchen spaces configured for takeout and delivery.

The on-premises occasion is also predicted to change as well, with more self-service options and perhaps a heightened desire for dining "experiences" when and where customers gather.

> Design will become more experiential.
>
> *— Delphi panelist*

MOST LIKELY DEVELOPMENTS BY 2030

- **Packaging designed exclusively for delivery and carryout will be more sophisticated and effective.**
- **More restaurant layouts will include areas dedicated to delivery and carryout.**
- **More restaurants will be designed to reduce use of energy and water and minimize waste.**
- **The typical restaurant footprint will be smaller.**
- **Computerized cooking equipment will become more common in restaurant kitchens.**
- **Restaurant space utilization will be more flexible.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Restaurants will increase their hours of operation.**
- **Restaurants will include more retail space.**

See appendix for full survey results.

> Tighter margins are the new norm. How do we run even leaner? Simple, good menus are the future.
>
> *— Delphi panelist*

2030: PULSE CHECK

PROFITABILITY & INCOME

MARGIN PRESSURES WILL REMAIN INTENSE FOR RESTAURANTS OF ALL TYPES AND SIZES, MAKING COST MANAGEMENT MORE ESSENTIAL THAN EVER.

The restaurant of the future will see escalating expenses for employee compensation and real estate, our Delphi panel says. Tech costs are likely to become a standard line item on the restaurant P&L, as even smaller operators will access integrated data systems that increase their profitability.

Panelists were in strong agreement: Food and beverage costs as a percent of sales aren't likely to go down, and restaurant profit margins aren't likely to increase.

MOST LIKELY DEVELOPMENTS BY 2030

- **Total employee compensation costs will increase as a percent of sales.**
- **Real estate costs will escalate more rapidly as competition for prime sites increases.**
- **Smaller operators will have greater access to fully integrated software systems — from scheduling to ordering supplies to tracking sales/traffic metrics — which will increase their profitability.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Restaurant profit margins will increase.**
- **Food and beverage costs will decrease as a percent of sales.**
- **Operations with lower-check-per-person averages will have higher profit margins than higher-check operations.**

See appendix for full survey results.

> I love crowdfunding and hope it expands. ESOPs [employee stock ownership plans] and employee ownership are also attractive.
>
> *— Delphi panelist*

2030: PULSE CHECK

FINANCING

FINANCING MAY CONTINUE TO BE CHALLENGING FOR RESTAURANTS.

According to the Delphi panel, profit margins and stockholder demands will likely continue to deter the risk-averse, which means many in the restaurant industry will still turn to private investors in 2030 and beyond.

At the same time, panelists do not expect the restaurant industry overall to become more attractive to investors.

Panelists also do not see it getting any easier in 2030 for restaurants to access credit or for operators to find financing, including through local independent banks.

> More predatory lending will leave owners high and dry.
>
> *— Delphi panelist*

MOST LIKELY DEVELOPMENTS BY 2030

- **Private financing of restaurant operations will be more common than public financing.**
- **Meeting the demands of stockholders will force more public restaurant companies to go private.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Accessing credit will become easier for restaurant operators.**
- **Local independent banks will be more willing to finance restaurants.**
- **More funding will come from tax incentives offered to small businesses for job creation.**
- **The restaurant industry will be more attractive to investors.**
- **Suppliers will be more likely to invest in new restaurants and concepts.**

See appendix for full survey results.

> POS systems will need to become even more sophisticated, but training will be imperative. It is shocking how few of the functions restaurateurs learn how to use.
>
> — *Delphi panelist*

2030: PULSE CHECK

TECHNOLOGY & DATA

TECHNOLOGY AND DATA ARE GOING TO PLAY THE BIGGEST ROLE YET IN THIS FUTURE STATE OF THE INDUSTRY.

Most restaurants are already living it now. We're moving rapidly toward a restaurant industry that will fully adopt technology by 2030.

Guests of the future will demand technology. If you're not doing business through a phone or tablet — whether it's delivery, online ordering or even your tableside POS — you could find your business struggling, our panel suggests. Today's customers are interacting with restaurants digitally — to order takeout and delivery, pay, rate the experience, provide preferences in advance — and they expect the restaurant industry to keep up.

Technology will automate traditional tasks. Everything from inventory management to scheduling, payroll, taxes, and bill reconciliation will be more automated in the restaurant of the future. This means more need for tech support, cybersecurity, and restaurant managers and staff who are tech-savvy.

Innovation in many areas will drive productivity. Big data will have applications for restaurants of all sizes, and the Internet of Things (IoT) will allow data to be collected in even more ways. Making data-driven decisions will expand into every area of the operation — although panelists do not see it as highly likely that customers will embrace data collection.

MOST LIKELY DEVELOPMENTS BY 2030

- **It will be commonplace for restaurants to accept mobile payments.**
- **Handheld payment terminals that allow for pay-at-the-table will be commonplace.**
- **The vast majority of takeout and delivery orders will be placed digitally.**
- **The use of kiosks in limited-service restaurants will be commonplace.**
- **Video menu boards in limited-service restaurants will be commonplace.**
- **Turning point-of-sale (POS) data into actionable knowledge for operators will become easier.**
- **Technology will be more effectively used to control costs and enhance management efficiency.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Customers will embrace data collection in their everyday restaurant experiences, with their permission.**
- **Drones, self-driving vehicles and robots will play a larger role in delivery.**

See appendix for full survey results.

To reach its 2030 potential, the restaurant industry needs to enhance its status as a good career choice.

— Delphi panelist

2030: PULSE CHECK

WORKFORCE

RESTAURANTS ALREADY EMPLOY MORE WOMEN AND MINORITY MANAGERS THAN ANY OTHER PRIVATE-SECTOR INDUSTRY.

Our Delphi panel expects that to become even more so by 2030. The restaurant industry of the future will continue to grow its ranks of women and minority leaders as it remains one of America's most diverse sectors.

The Delphi panel agrees that there will be continued competition for employees in the restaurant industry, and that the average number of employees per restaurant is likely to decline. Employers are likely to use compensation and benefits to attract new talent. Technology skills will be needed to ensure the staff is able to deal with automation and robotics, data analytics and more. Yet even with enhanced use of technology to drive productivity, panelists expect the industry to remain very labor-intensive.

With demographic trends pointing to continued dips in the number of working teens, panelists predicted an increase in the restaurant industry's reliance on older workers.

Culture is the only way to keep staff.

— Delphi panelist

MOST LIKELY DEVELOPMENTS BY 2030

- **Women will hold a larger proportion of upper management jobs in the restaurant industry.**
- **Minorities will hold a larger proportion of upper management jobs in the restaurant industry.**
- **The average number of employees per restaurant location will decline.**
- **The restaurant industry workforce will become more diverse.**
- **The restaurant industry will remain very labor-intensive despite technological developments.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **The average tenure in the industry for a typical employee will increase.**
- **Younger workers will make up a larger proportion of the restaurant workforce.**

See appendix for full survey results.

> More developed career paths will create more lifetime employees in the industry.
>
> — *Delphi panelist*

2030: PULSE CHECK

TRAINING & DEVELOPMENT

THE FUNDAMENTALS WILL ALWAYS BE ESSENTIAL WHEN IT COMES TO TRAINING IN THE RESTAURANT INDUSTRY: HOSPITALITY, MANAGING RISK, AND OPERATING EFFICIENTLY.

Here's one thing that will be different about the restaurant of the future and training: Technology will be a skillset that requires training — and technology will also be the way restaurants train. Online and smartphone training will be common. And even as more tasks are automated or done digitally, restaurants will become more career-focused, the Delphi panelists said. Restaurants will increase their focus on internal career-pathing to retain employees and work more closely with schools and universities to recruit employees.

MOST LIKELY DEVELOPMENTS BY 2030

- **More training will be provided online and on smartphones.**
- **More employees will be certified in safe food handling through ServSafe products.**
- **Allergen training for employees will be mandatory.**
- **Independents will have greater access to professional training online.**
- **More restaurants will develop and promote internal career ladders to help retain employees.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **The typical restaurant employee will be more highly trained and educated.**
- **Video games designed for restaurant-employee training will be more popular.**

See appendix for full survey results.

> Data budgets will likely surpass today's marketing budgets for most restaurants.
>
> *— Delphi panelist*

2030: PULSE CHECK

MARKETING

SAY GOODBYE TO TRADITIONAL MARKETING.

Savvy operators have known for a while that social-media marketing connects well with consumers, but marketing will get more personal and localized in the restaurant of the future as the industry strives to deliver a customized experience at every touchpoint.

The Delphi panel believes that mastering personalization and targeted marketing will be the hallmarks of successful operations as we head toward 2030. That includes using technology to change menu offerings and prices depending on demand, and leveraging loyalty programs for online marketing.

The bottom line: Give consumers what they want when they want it ... even if it means you have to use facial recognition technology to figure it out.

> We will see more apps, digital ads and geo-tracking of customers.
>
> *— Delphi panelist*

MOST LIKELY DEVELOPMENTS BY 2030

- **Restaurant operators will be more likely to implement more local, targeted and customized promotions.**
- **Restaurants will be more likely to incorporate technology to allow menu offerings and prices to change depending on the time of day or day of the week.**
- **Frequent-diner databases and loyalty programs will be used more frequently for online advertising and promotion.**
- **Videos — both in-store and in digital marketing — will be used more frequently to market restaurants.**
- **Restaurants will be more susceptible to negative social media.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Discounting will be less common in restaurants.**
- **Customer loyalty at restaurants will decline.**

See appendix for full survey results.

> Food safety knowledge will increase as consumers become more educated.
>
> *— Delphi panelist*

2030: PULSE CHECK

FOOD SAFETY & SECURITY

FOOD SAFETY WILL CONTINUE TO BE A MISSION-CRITICAL AREA FOR RESTAURANTS.

The growing interest in on-demand food is likely to up the game, to ensure no reputational risks as delivery and takeout foods increase.

Technology will be a game-changer in food safety, the Delphi panel says. As consumers increasingly expect transparency, restaurant inspection reports are likely to be publicly available. Food-safety certification and comprehensive food safety management systems will be critical components of enhancing food safety. Supply-chain technologies such as bar coding and blockchain will help create digital records of a product's journey from farm to table. The dramatic increase in data from across the supply chain will quickly identify the source of foodborne-illness outbreaks and remove potentially contaminated foods.

> More automation, robotics and AI should improve food safety and security.
>
> *— Delphi panelist*

MOST LIKELY DEVELOPMENTS BY 2030

- **Restaurant inspection results will be readily available to the public.**
- **A majority of cases shipped in the supply chain will be equipped with universal bar codes or transponders.**
- **More of the handling of food products in the supply chain will be done by machines, rather than people.**
- **More food safety certification for hourly and management employees will enhance restaurant food safety.**
- **Technologies such as blockchain will improve traceability in the restaurant supply chain.**
- **More restaurants will implement comprehensive food safety management systems.**
- **Food-chain security and "food defense" will receive greater attention to prevent intentional food contamination.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **The complexity of traceability will be an increased barrier to the local-foods movement.**
- **Restaurants will spend a larger proportion of their budget on food safety.**

See appendix for full survey results.

> The industry is always entrepreneurial and will always survive. That is the nature of the individuals that go into the hospitality business.
>
> *— Delphi panelist*

2030: PULSE CHECK

GOVERNMENT

OUR PANEL OF EXPERTS FORESEES MORE RESTAURANT REGULATIONS AHEAD.

This includes regulations in emerging areas such as third-party delivery, data privacy, environmental rules, and packaging. The trend will be even more pronounced at the local and state levels, our panel predicts.

Some see more mandates coming on employee benefits, and more taxes on alcoholic beverages and foodservice-focused taxes.

The recommendation: Get on top of it now. And stay engaged with your lawmakers around issues and regulations that are key to the industry's success.

Despite concerns about new regulations, panelists say the industry's entrepreneurial spirit will be going strong in 2030.

> The industry will employ more lobbyists at city halls than at the state and federal levels, combined.
>
> *— Delphi panelist*

MOST LIKELY DEVELOPMENTS BY 2030

- **State and local governments will increase restaurant industry regulation.**
- **There will be increased regulation around third-party delivery.**
- **The federal government will enact more data-privacy rules to regulate how businesses handle customer data.**
- **New environmental regulations will increase operating expenses.**
- **There will be more government regulation of restaurant takeout and single-use packaging.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Government will increasingly regulate portion sizes of menu items.**
- **Restaurateurs will become more involved in donating to political candidates and causes.**

See appendix for full survey results.

> Menus will continue to be innovative and fresh; this is what the consumer demands.
>
> — *Delphi panelist*

2030: PULSE CHECK

FOOD & MENU

IF YOUR MENU HAS THE WORDS "SUSTAINABLY SOURCED," YOUR INGREDIENTS ARE CONSIDERED "CLEAN" AND YOU'RE PREPARED TO TELL THE STORIES BEHIND THE FOOD YOU'RE SERVING, THEN YOU'RE ALREADY LIVING IN THE RESTAURANT OF THE FUTURE.

It's not surprising that the Delphi panel predicts that the years ahead are going to focus increasingly on healthy options, sourcing, local foods, and a product's journey from farm to table. Look for increased demand for plant-based proteins and global cuisines.

MOST LIKELY DEVELOPMENTS BY 2030

- **Restaurants will offer more healthy options on their menus.**
- **Plant-based protein (vegetarian) food products will grow in popularity.**
- **Consumers will increasingly ask for allergen information.**
- **Consumers' palates will be more sophisticated.**
- **Global-cuisine-themed restaurants will grow in popularity.**
- **Restaurants will offer more fresh produce options on their menus.**
- **Consumers' interest in food sourcing will increase.**
- **Local food sourcing will become more commonplace.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Restaurants will be less likely to offer paper menus.**
- **Restaurant menus in general will offer fewer choices.**

See appendix for full survey results.

> Anyone serving food will have to be transparent about the health information of the product.
>
> *— Delphi panelist*

2030: PULSE CHECK

HEALTH & NUTRITION

IF EATING AT A RESTAURANT IS AN EXPERIENCE, THEN THE EXPERIENCE YOUR DINERS WANT WHEN IT COMES TO HEALTH AND NUTRITION IS A FLAVOR AND DISH THEY CAN'T GET AT HOME.

Sometimes that means "comfort food," regardless of the food's nutrition content, say our Delphi panelists.

The restaurant of the future is going to be expected to be creative and innovative about the healthy dishes it offers, including for children. The Delphi panel expects that more consumers will have dietary restrictions — and that operators will offer more options to satisfy specific diets. Many see a focus on reducing added sugars in menu items.

> Fresh, fresh, fresh.
>
> *— Delphi panelist*

MOST LIKELY DEVELOPMENTS BY 2030

- **Regardless of the nutritional content of the food, consumers will still want comfort foods.**
- **Restaurants will offer more healthy food and beverage options for children.**
- **Restaurants will be more creative and innovative in making dishes more healthful.**
- **Restaurants will offer more options to satisfy specific diets.**
- **A larger proportion of consumers will have dietary restrictions.**
- **Restaurants will offer more food and beverage items that are lower in added sugars.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **Restaurants will be more likely to retain the services of a registered dietitian, whether on staff or as a consultant.**
- **There will be restrictions on advertising "unhealthy" foods.**

See appendix for full survey results.

> Waste is a huge challenge, yet to be adequately addressed.
>
> — *Delphi panelist*

2030: PULSE CHECK

SUSTAINABILITY

SUSTAINABILITY WILL BE INTEGRATED INTO EVERY ASPECT OF RESTAURANT OPERATIONS IN 2030.

Environmentally friendly practices have been increasing over the last decade and our panelists expect them to increase even faster in the next one as innovative restaurants lead the way in sustainable operations. Look for more energy-efficient equipment, recycling programs, sustainably sourced menu items, and environmentally friendly restaurant design. With a surge in delivery, packaging considerations will become more important.

As sustainability becomes more top-of-mind for guests as they make restaurant decisions, promoting sustainability practices will become increasingly part of a restaurant's marketing efforts, panelists say.

> Packaging regulations will increase. This is a tremendous opportunity to be proactive.
>
> — *Delphi panelist*

MOST LIKELY DEVELOPMENTS BY 2030

- **Equipment used in restaurants will be more energy-efficient.**
- **More restaurant operators will promote their sustainability practices and efforts in marketing to consumers.**
- **More restaurants will implement recycling programs.**
- **Restaurants will offer more menu items that are sustainably sourced.**
- **There will be a decline in single-use restaurant packaging.**
- **Eco-friendly restaurant designs will be more common.**

LEAST LIKELY DEVELOPMENTS BY 2030

- **A larger proportion of restaurant energy will be supplied by nuclear power.**
- **Restaurant utility costs will decrease as a proportion of total operating costs.**

See appendix for full survey results.

2030: THE DISRUPTORS THINK AHEAD

WHILE DEVELOPING THE SCOPE OF THE RESTAURANT INDUSTRY 2030 REPORT, THE ASSOCIATION COLLABORATED WITH A TEAM OF FUTURISTS.

Foresight Alliance's team of futurists apply science and research to help companies build business plans that withstand, respond to, and even capitalize on developments that may arise in the coming decades.

The team excels in consequential thinking, and bringing in non-restaurant trends, to consider:

WHAT ARE THE POTENTIAL RAMIFICATIONS OF TODAY'S WAY OF LIFE ON TOMORROW'S WAY OF LIFE?

The firm maintains a list of "disruptors," developments and trends that have the potential to affect lifestyles and businesses. Each disruptor is a "space to watch." These are not predictions, nor even expected futures — but they are possible futures, based on external factors such as demographic trends and artificial intelligence.

Disruptors are opportunities, too. They can help us look ahead to spaces where there's a need, spaces where people aren't working in them yet. The trick is to get as many people working in them as possible, thinking about the future together.

We've selected a few we think could have a particular impact on the restaurant space. Of the 10, perhaps only three or four will happen, or maybe they'll happen in different ways with effects we didn't see coming.

1. THE INTELLIGENT RESTAURANT

KEEP AN EYE OUT FOR ...

- **A sufficiently intelligent restaurant may be able to do more of its own supply chain management.**

INFORMATION TECHNOLOGY WILL PERMEATE RESTAURANTS.

This will enable restaurants to interact in real time with an evolving digital ecosystem of apps, services and personal AI assistants (apps such as Siri (Apple) or Alexa (Amazon) that understand natural-language voice commands, complete tasks for the user, and over time "learn" their owners' preferences). All will deeply integrate into consumers' everyday decisions. It will be increasingly important for restaurants to provide accessible, detailed and accurate data. Restaurants will be able to use new data capabilities to develop dynamic menus with real-time pricing that can respond to supply-and-demand changes. Relevant data about restaurant operations will include details on nutrition, preparation methods, ingredients and supply-chain authentication.

WHY THIS COULD HAPPEN

- **Near-universal smartphone adoption.**
- **AI as personal assistant and gatekeeper between a brand and consumer.**
- **The spread of the Internet of Things (IoT), physical objects embedded with electronics, software, sensors and network connectivity that enable the objects to collect, send and receive data.**
- **Growth of voice search, which allows users to search the Internet by verbally asking a question via smartphone, smart device or a computer.**
- **Growing demand for personalized diets (e.g., allergies, weight, religion, ethics).**
- **Consumer choices as an expression of social and political values.**

WHY THIS MATTERS FOR RESTAURANTS

- **A growing information ecosystem will require upgrades and integration of restaurant data collection and IT systems.**
- **Brands will market directly on virtual-assistant platforms and may find the platforms' algorithms to be highly responsive to small tweaks in restaurant pricing or other data.**
- **All aspects of restaurant operations will be more transparent, such as health inspections, safety training, staff certifications and food sourcing.**
- **Effective management of food allergens will grow in importance as consumers expect documentation of food preparation, ingredients and practices.**

2. VIRTUAL RESTAURANTS & CLOUD KITCHENS

KEEP AN EYE OUT FOR ...

- In some cases, owners of virtual restaurants could discover opportunities to open permanent physical restaurants based on their precise knowledge of local tastes.
- Data mining could enable hyperlocal, rapidly created virtual restaurants to serve the demonstrated tastes of a market.

ACCELERATING TRENDS IN TECHNOLOGY AND CONSUMER DEMAND WILL LEAD TO MORE "CLOUD KITCHENS" AND "VIRTUAL RESTAURANTS" —

restaurants that exist only online or via an app. Growth will be fueled by the expansion of central kitchens for food prep, and social media marketing that showcases menus, philosophies and chefs. New chains could quickly emerge regionally or nationally.

WHY THIS COULD HAPPEN

- Proliferation of centralized kitchens serving delivery.
- Expansion of online delivery brands.
- Rising real estate and labor costs.
- Time-pressed consumers who don't want to cook.
- Expanded role of social media in brand marketing.
- Increasing demand for convenience.
- Lifestyles of "digital natives," those who have grown up in the digital age.
- Food-preparation robotics and new delivery options.

WHY THIS MATTERS FOR RESTAURANTS

- The rise of "placeless" restaurants will challenge and redefine the concept of what a restaurant is.
- Like other industries that have moved online, virtual restaurants would likely see a relative lowering of costs (such as staff and rent) and of other barriers to entry in launching a restaurant.
- Virtual restaurants could substantially alter the franchising model.
- The expansion of centralized kitchens for meal prep will support the ongoing growth of app-based meal delivery services.
- A shift to cloud kitchens would likely affect municipal real estate markets as well as local commercial and retail areas that serve the customers of physical restaurants.
- Surprise pop-up versions of these online-only restaurants could bring the experience of these restaurants to the real world and build exclusivity.

3. APPS CHALLENGE YOUR BRAND

KEEP AN EYE OUT FOR ...

- **Food halls could merge with — or could sometimes be cobranded with — large food delivery apps.**
- **Data collection/consumer profiles could lead to food delivery apps dictating menus to restaurants, including which restaurants are "allowed" to make certain kinds of food.**

CONSUMERS MAY GROW INCREASINGLY LOYAL TO THIRD-PARTY DELIVERY APPS, ECLIPSING LOYALTY TO INDIVIDUAL RESTAURANTS.

Third-party delivery apps are emerging as a key gatekeeper between consumers and restaurants, able to capture consumers' business with convenient, frictionless ordering. With a growing number of consumers using third-party apps as their primary interface with restaurants, app companies could build on these relationships by creating private-label brands, similar to what many big-box and grocery stores have done. By contracting with local restaurants to offer app-associated "house-brand" meals, app companies could further sever a direct connection between restaurant and consumers.

WHY THIS COULD HAPPEN

- **Rapid rise of food delivery and other off-premises options.**
- **Consumer expectations of seamless convenience.**
- **Consolidation among food-delivery apps.**
- **Success of private labeling in retail.**
- **Apps lock in customers through a "network effect" — the more users who use the apps, the more valuable the apps.**
- **Delivery services' acquisition of "shadow" restaurant URL domains.**

WHY THIS MATTERS FOR RESTAURANTS

- **Start-up independent restaurants could find opportunities in wholesaling to delivery apps.**
- **An industry-financed delivery app could preserve restaurants' direct brand relationships with consumers.**
- **Restaurants can use specialized, unique menu items to defend against brand disintermediation.**
- **Food-delivery packaging becomes an increasingly important touchpoint for brand interaction with consumers.**

4. AUTONOMOUS VEHICLES

KEEP AN EYE OUT FOR ...

- More restaurants may need drive-thrus, in effect — but geared toward online and automated interactions.
- Some automated food trucks could become automats on wheels, circulating with selections from a group of restaurants, or their own preparations.

AUTONOMOUS VEHICLES (AVS) PROMISE TO CHANGE HOW PEOPLE ON THE ROAD GET THEIR FOOD, AND WHAT THEY EAT AND DRINK IN CARS.

People will have more time to eat, with both hands, in their vehicles. Longer travel times will be possible, making it useful to carry and reheat food while on the road. Restaurants can geo-target their marketing. Eventually, driverless cars will go through drive-thrus.

WHY THIS COULD HAPPEN

- Artificial intelligence advances.
- Autonomous vehicle development.
- Consumer convenience expectations.
- Expanding online ordering and delivery infrastructure.
- Patterns of automobile and truck use.
- Advanced safety technology.
- Declining tolerance for risk.

WHY THIS MATTERS FOR RESTAURANTS

- Restaurants that engage early with AVs will get practice in processes that are likely to become common in the future.
- Software, including AI assistants that recognize voice commands and complete tasks for users, will increasingly choose destinations and will eventually interface with cars directly. Having a strong and clear marketing presence in all relevant channels — including screens in AVs — will grow more important for restaurants.
- Autonomous delivery vehicles may be feasible sooner than fully self-driving passenger cars and could change the economics of delivery.
- Restaurant layouts and drive-thrus will need to accommodate interactions with self-driving vehicles.
- Cars that are increasingly hands-free will mean different kinds of foods can be consumed in cars.

5. BIG TECH BUNDLES FOOD

KEEP AN EYE OUT FOR ...

- **Food ordering could become directly integrated with ordering media content.**

NON-FOOD COMPANIES COULD ADD FOOD AND PREPARED MEALS TO THEIR OFFERINGS AS AN ADDED SERVICE.

For example, a media-streaming service could buy or pair with existing meal delivery services to create an all-in-one dinner and entertainment experience. Or an online retailer could leverage one-click ordering, logistics and delivery expertise to add meals to their subscriptions. Restaurants could move beyond current loyalty or rewards programs and offer flat-rate monthly subscription plans to customers.

WHY THIS COULD HAPPEN

- **Growth in third-party delivery apps.**
- **More online retail options.**
- **Low-friction buying options (e.g., one-click purchases).**
- **Expectations and lifestyles of digital natives.**
- **Dominance of "big tech" companies with expertise in logistics and last-mile delivery.**
- **Proliferating delivery models and services.**

WHY THIS MATTERS FOR RESTAURANTS

- **Well-funded, non-traditional businesses could stake out positions within the restaurant industry and disrupt the status quo.**
- **Non-traditional operators will bring new ideas and new approaches to the restaurant industry.**
- **There will be opportunities for existing operators to partner with the new entrants.**
- **The scale, reach, and commitment to years-long losses to capture market of some online retailers will test competitors.**
- **There will likely be greater integration of industry segments — wholesalers, grocers, supply companies — as new-entrant companies use logistics experience to maximize efficiency and minimize costs.**

6. THE BIONIC RESTAURANT

KEEP AN EYE OUT FOR ...

- **Food engineer could be a job category that spreads into the restaurant industry.**

AUTOMATION AND ROBOTICS WILL BEGIN TO PLAY A GREATER ROLE IN FOOD PREPARATION AND THE KITCHEN LINE.

Automation technologies such as touchscreen ordering kiosks are already spreading in front-of-house restaurant operations. Back-of-house operations will become more fully automated as costs fall and flexible, reprogrammable robot systems grow more sophisticated. This will allow automation of more of the repetitive elements of food preparation and even permit motion-capture replication of the movements of chefs. Chefs will work in collaboration with these systems, using their physical senses and expert judgment.

WHY THIS COULD HAPPEN

- **Machine-learning advances (machines learn from data, identify patterns and make decisions with minimal human intervention).**
- **Development of flexible, reprogrammable robots.**
- **AI services provided by Google, Amazon, Microsoft, and others.**
- **Growth in data analytics.**

WHY THIS MATTERS FOR RESTAURANTS

- **Higher automation-backed kitchen productivity can reduce staffing needs and alter compensation patterns.**
- **Using robotic equipment will become part of the kitchen staff skillset, and part of restaurant kitchen workflows.**
- **Robotics will enhance food-quality consistency.**
- **Operations will have higher capital costs, and potentially lower labor costs.**

7. THIRD SPACE RESTAURANTS

KEEP AN EYE OUT FOR ...

• **Third-space restaurants could become an arena in which people actively try to undo some of the polarizations that can divide American society.**

THE DECLINE OF SHOPPING MALLS AND "BRICKS-AND-MORTAR" RETAIL WILL LEAD TO RESTAURANTS BECOMING EVEN MORE IMPORTANT FOR PUBLIC OUTINGS, COMMUNITY ENGAGEMENT AND SOCIALIZING.

With their expanded and versatile seating options, gastropubs and full-bar fast-casual restaurants could evolve into American versions of German biergartens, with less emphasis on table turnover and more emphasis on facilitating repeat socializing by customers. Café seating and local independent restaurants could help transform food courts in the direction of food halls and bustling Asian street-food markets.

WHY THIS COULD HAPPEN

- **Rise of ecommerce and decline of shopping malls.**
- **Need for social space as more people work remotely or at home.**
- **Aging of baby boomers.**
- **Retailers co-locating restaurants with stores.**
- **Rise of delivery, keeping people at home, or in offices.**
- **Mainstreaming of 'foodie' culture.**
- **Expansion of outdoor restaurant seating areas.**
- **Growth and popularity of coffee bars, craft breweries and food halls.**

WHY THIS MATTERS FOR RESTAURANTS

- **Growth in takeout and food delivery will increase the importance of the face-to-face restaurant experience.**
- **The need for more socializing space will change restaurant layouts and space allocation. Zoning laws could interfere with outdoor seating allowances.**
- **Embracing the social aspects of global food cultures can add an experiential component to restaurant visits and expand the appeal of international food offerings.**

8. WEATHER VOLATILITY

KEEP AN EYE OUT FOR ...

- **Food waste could be targeted, requiring adjustments in how food is sourced, prepared, served, and disposed of.**

WEATHER VOLATILITY COULD DRIVE UP FOOD COSTS BY CAUSING DISRUPTIONS IN AGRICULTURE AND THE FOOD DISTRIBUTION SYSTEM.

This would reverse the long-term trend of falling household food costs in developed countries. The issue: growing patterns of both staple and specialty crops may be disturbed as weather change affects agriculture, including shifts in water availability. Secondary factors may drive up food costs as well, such as carbon taxes on energy used in food production and transportation, or direct taxes on carbon-intensive foods.

WHY THIS COULD HAPPEN

- **Rising global temperature volatility.**
- **Weather-based shifts in agricultural seasons and growing areas.**
- **Weather-induced disasters such as floods and drought.**
- **Weather-conscious consumers ready to act on the impact of specific foods' carbon footprints.**
- **Global growth of middle classes, driving food demand.**
- **Development of vegetable-based meat alternatives.**

WHY THIS MATTERS FOR RESTAURANTS

- **Disrupted weather patterns may cause spikes and volatility in food prices even before food costs reach a relatively higher level.**
- **A sustained higher proportion of food costs would change the basic economics of restaurant operations.**
- **More consumers will have grown up with weather-related information and be more responsive to its effects in restaurants, such as the carbon footprint of foods and the impact of packaging.**
- **Weather-change issues may spur the perfection of alternative "meats" (for example, plant-based and lab-grown/cell-based meats) and consumer enthusiasm for them.**
- **Weather-related public policy could affect other operational costs for restaurants, such as transportation, energy expenses and packaging.**

9. CULINARY AI

KEEP AN EYE OUT FOR ...

- There may be attempts to patent recipes not as ingredient lists but as technological processes.
- The software and recipes to support automated cooking could be valuable digital intellectual property in need of security.

ARTIFICIAL INTELLIGENCES WITH KNOWLEDGE OF COOKING TECHNIQUES, FOOD CHEMISTRY, RECIPES, AND ALCOHOL WILL PRODUCE UNEXPECTED NEW CULINARY AND BEVERAGE EXPERIENCES.

An AI with the algorithmic ability to analyze and synthesize inhuman amounts of data and information about foods, beverages, ingredients, chemical compounds, and tastes will result in the creation of recipes, dishes and beverages beyond, and unlike, what humans would produce. Some AIs will become as well-known as human chefs, baristas and bartenders.

WHY THIS COULD HAPPEN

- Rapid advances in artificial intelligence.
- AI-derived new discoveries.
- AI-designed recipes.
- Algorithmic eating guidance.
- Machine-readable data (ingredients, processes, etc.).
- Popularization of AI chefs, baristas and bartenders in the media.

WHY THIS MATTERS FOR RESTAURANTS

- AI chefs and recipe builders could create entirely new categories of cuisine and beverages, which could lead to new kinds of restaurants.
- Because they "live" in software, AI chefs are placeless and thus could be run at many locations simultaneously.
- More facets of cooking will be organized to be readable by artificial intelligence.
- If provided with medicinal and health information, AI chefs driven by algorithms could be programmed to maximize the health benefits of recipes and foods.
- Backlash against automation of all kinds could create a "return to artisanal" movement — predicated on humans being the center of all parts of the food and beverage process.

10. MEDICAL MEALS

KEEP AN EYE OUT FOR ...

- **Personal digital assistants could manage people's diets with nudges, information-shaping "filter bubbles," and "choice architecture" to manage health, weight, etc.**
- **Insurance companies could begin to require information about what and how their customers are eating.**

AN AGING U.S. POPULATION, ADVANCED GENETIC KNOWLEDGE, AND THE RISING INCIDENCE OF LIFESTYLE DISEASES SUCH AS HEART DISEASE, OBESITY AND TYPE 2 DIABETES WILL CREATE GROWING DEMAND FOR MEALS THAT PROVIDE SPECIFIC HEALTH BENEFITS TO DINERS, ON AN INCREASINGLY PERSONALIZED LEVEL.

In some cases, these meals may be prescribed by doctors or as part of coverage by insurance companies. For restaurants, costs for providing these meals could be offset by relationships with health care and insurance providers, which would direct patients to eateries with the proper medical meal and portion for their condition.

WHY THIS COULD HAPPEN

- **Rise in health care spending, including prescription drugs.**
- **Aging populations.**
- **Efforts in preventative care.**
- **Menu personalization for diet and health.**
- **Ingredient restrictions for diet and health.**
- **Faster, cheaper, more accessible human-genome testing for personal health care data.**

WHY THIS MATTERS FOR RESTAURANTS

- **Prescription meals will be more precisely targetable with a growing understanding of how food can impact gut microbes or activate gene traits.**
- **People like to eat good food, even if they have medical restrictions. The growing recognition of chronic conditions that are helped or hindered by eating appropriate foods could make prescription meals an important new category of prepared foods.**
- **Restaurants will need to provide clearer, more thorough information about ingredients in dishes so that customers can make better-informed decisions about choosing a meal based on health.**

APPENDIX

Delphi Methodology

One of the most important aspects of a Delphi study is selecting the panel of experts who will lend their judgments to the topic being researched. For this study, Delphi was able to rely on an already-assembled group of experts — the National Restaurant Association Board of Directors. Based on their industry experience, these individuals are able to offer predictions on industry conditions in 2030. A variety of other experts were invited to join the panel, including the National Restaurant Association Educational Foundation Board of Trustees, state restaurant association leadership, suppliers, manufacturers, distributors and consultants.

Delphi Process

The research's first phase began in 2018 with an open-ended questionnaire that allowed panelists to raise any and all issues they believed would be important to the industry in 2030. Based on responses generated in the open-ended questionnaire, a second questionnaire was developed, asking respondents to rate 180 statements about possible developments in the industry on a scale from +3 to -3, where +3 equals "very likely to occur" and -3 equals "very unlikely to occur." All 180 statements are listed here. The Restaurant Industry 2030 research initiative was based on responses from more than 100 industry experts.

Detailed Survey Responses

Survey responses below are ranked according to the average rating they received on the +3 to -3 scale.

STATEMENTS RANKED BY CATEGORY

INDUSTRY STRUCTURE		AVERAGE
1	Competition for customers will intensify.	2.8
2	Convenience stores and grocery stores will expand their foodservice offerings.	2.4
3	The restaurant industry will continue to be a breeding ground for entrepreneurialism.	2.3
4	There will be more delivery options in smaller markets.	2.0
5	Virtual or "ghost" restaurants that only offer delivery will be more common.	2.0
6	Off-premises traffic will post stronger growth than on-premises traffic.	2.0
7	Consolidation in food manufacturing and distribution will intensify.	2.0
8	The limited-service segment (quickservice, fast casual, coffee and snack) will post stronger growth than the tableservice segment.	1.8
9	The tableservice segment will place a greater emphasis on growing off-premises traffic.	1.8
10	Chain unit growth will be driven more by franchising than adding company-owned stores.	1.8
11	There will be a greater emphasis on experiential restaurants to drive on-premise traffic.	1.6
12	The restaurant and foodservice industry will capture a larger share of consumers' food dollar.	1.6
13	Tipping in tableservice restaurants will still be commonplace.	1.4
14	Suppliers will become increasingly like partners with restaurant operators.	1.3
15	The number of restaurant and foodservice locations will continue to grow.	1.3
16	Chef-driven restaurant concepts will be more common.	1.1
17	Restaurant industry sales growth in the upcoming decade will be more moderate than in the prior decade.	1.0
18	A larger number of American restaurant companies will expand internationally.	0.9
19	Independent operators will be the primary innovators and new product developers.	0.8

RESTAURANT FACILITIES & OPERATIONS		AVERAGE
1	Packaging designed exclusively for delivery and carryout will be more sophisticated and effective.	2.4
2	More restaurant layouts will include areas dedicated to delivery and carryout.	2.3
3	More restaurants will be designed to reduce use of energy and water and minimize waste.	2.2
4	The typical restaurant footprint will be smaller.	2.0
5	Computerized cooking equipment will become more common in restaurant kitchens.	2.0
6	Restaurant space utilization will be more flexible.	1.9
7	Restaurants will be more likely to offer self-service options for customers.	1.7
8	Restaurant design will become more experiential.	1.5
9	More restaurants will have open-kitchen designs for display cooking.	1.1
10	Mobile foodservice (food trucks) will account for a larger share of sales and traffic.	0.5
11	Restaurants will include more retail space.	0.0
12	Restaurants will increase their hours of operation.	-0.3

APPENDIX

PROFITABILITY & INCOME		AVERAGE
1	Total employee compensation costs will increase as a percent of sales.	2.3
2	Real estate costs will escalate more rapidly as competition for prime sites increases.	1.6
3	Smaller operators will have greater access to fully integrated software systems — from scheduling to ordering supplies to tracking sales/traffic metrics — which will increase their profitability.	1.5
4	Investments in technology will increase restaurant profitability.	1.3
5	Operators will be more likely to invest in training to increase productivity.	1.1
6	Alcohol sales will increase as ride-sharing apps and self-driving vehicles reduce the risks of drunk driving.	0.9
7	Growth in alcohol delivery will increase profit margins for restaurants.	0.8
8	A higher proportion of restaurants will stop accepting cash.	0.8
9	Traditional brick and mortar restaurants will be more likely to create “pop-up” concepts as an additional source of revenue.	0.7
10	Restaurants will share a larger percentage of profits with third-party delivery firms.	0.6
11	Operations with lower-check-per-person averages will have higher profit margins than higher-check operations.	0.1
12	Food and beverage costs will decrease as a percent of sales.	-1.0
13	Restaurant profit margins will increase.	-1.2

FINANCING THE BUSINESS		AVERAGE
1	Private financing of restaurant operations will be more common than public financing.	1.4
2	Meeting the demands of stockholders will force more public restaurant companies to go private.	1.1
3	Financing for independents will be harder to obtain.	0.8
4	A greater foreign presence in restaurant financing will occur.	0.6
5	Crowd-sourcing of funds will become more important for niche foodservice concepts.	0.6
6	Suppliers will be more likely to invest in new restaurants and concepts.	0.0
7	The restaurant industry will be more attractive to investors.	-0.1
8	More funding will come from tax incentives offered to small businesses for job creation.	-0.2
9	Local independent banks will be more willing to finance restaurants.	-0.5
10	Accessing credit will become easier for restaurant operators.	-0.8

APPENDIX

TECHNOLOGY & DATA		AVERAGE
1	It will be commonplace for restaurants to accept mobile payments.	2.5
2	Handheld payment terminals that allow for pay-at-the-table will be commonplace.	2.5
3	The vast majority of takeout and delivery orders will be placed digitally.	2.4
4	The use of kiosks in limited-service restaurants will be commonplace.	2.2
5	Video menu boards in limited-service restaurants will be commonplace.	2.2
6	Turning point-of-sale (POS) data into actionable knowledge for operators will become easier.	2.1
7	Technology will be more effectively used to control costs and enhance management efficiency.	2.1
8	Artificial intelligence (AI) will be used in more ways, such as optimizing menu prices or having an app or tablet verbally suggest menu items for consumers.	1.9
9	Restaurant inventories will be calculated and transmitted automatically as product is removed from inventory.	1.8
10	Restaurants will provide more tools for customers to give real-time feedback electronically.	1.8
11	Restaurants will rely more on third parties for data hosting.	1.8
12	Handheld tablet menus in tableservice restaurants will be commonplace.	1.6
13	Restaurants will invest more in cybersecurity to protect consumer data.	1.6
14	Increased usage of virtual assistants by consumers to place voice orders as well as to initiate general restaurant and menu item searches will be an important productivity and sales driver.	1.4
15	Customers will be less forgiving when data breaches occur.	1.3
16	Drones, self-driving vehicles and robots will play a larger role in delivery.	1.2
17	Customers will embrace data collection in their everyday restaurant experiences, with their permission.	1.1

WORKFORCE		AVERAGE
1	Women will hold a larger proportion of upper management jobs in the restaurant industry.	2.1
2	Minorities will hold a larger proportion of upper management jobs in the restaurant industry.	2.0
3	The average number of employees per restaurant location will decline.	2.0
4	The restaurant industry workforce will become more diverse.	1.9
5	The restaurant industry will remain very labor-intensive despite technological developments.	1.8
6	The restaurant industry will increase compensation and benefit levels to attract and retain employees.	1.6
7	Immigrants will make up a larger proportion of the restaurant workforce.	1.5
8	Tech skills will be more highly valued in restaurant employees.	1.5
9	Older workers will make up a larger proportion of the restaurant workforce.	1.4
10	Restaurant operators will rely more on gig workers.	1.2
11	An increase in the use of automation and robotics will ease labor challenges for the restaurant industry.	1.1
12	Apprenticeship programs will become more popular in the restaurant industry.	1.1
13	Younger workers will make up a larger proportion of the restaurant workforce.	0.3
14	The average tenure in the industry for a typical employee will increase.	0.0

APPENDIX

TRAINING & DEVELOPMENT		AVERAGE
1	More training will be provided online and on smartphones.	2.3
2	More employees will be certified in safe food handling through ServSafe products.	2.2
3	Allergen training for employees will be mandatory.	1.9
4	Independents will have greater access to professional training online.	1.9
5	More restaurants will develop and promote internal career ladders to help retain employees.	1.8
6	More restaurant operators will partner with schools and universities to recruit staff.	1.7
7	Multi-lingual employees will be in higher demand by restaurant operators.	1.6
8	Virtual-reality technology will be used in employee training experiences.	1.5
9	Restaurants will place greater emphasis on internal training and development.	1.4
10	Employers will increasingly value certifications that show proof of employees' restaurant operational skills.	1.1
11	Video games designed for restaurant-employee training will be more popular.	0.9
12	The typical restaurant employee will be more highly trained and educated.	0.7

MARKETING		AVERAGE
1	Restaurant operators will be more likely to implement more local, targeted and customized promotions.	2.1
2	Restaurants will be more likely to incorporate technology to allow menu offerings and prices to change depending on the time of day or day of the week.	2.0
3	Frequent-diner databases and loyalty programs will be used more frequently for online advertising and promotion.	1.9
4	Videos — both in-store and in digital marketing — will be used more frequently to market restaurants.	1.8
5	Restaurants will be more susceptible to negative social media.	1.7
6	Digital marketing will offer the best operator ROI among marketing/advertising channels.	1.6
7	Consumers will be more value-conscious.	1.6
8	Tourism spending in restaurants will rise, due in part to operators marketing directly to tourists.	1.3
9	More restaurant companies will offer their branded retail products for sale in the restaurant and stores.	1.1
10	Biometrics/facial recognition will be more widely available as part of identity authentication in loyalty programs.	1.1
11	More restaurants will sell meal kits or "prepare at home" options.	0.7
12	Customer loyalty at restaurants will decline.	-0.1
13	Discounting will be less common in restaurants.	-0.7

APPENDIX

FOOD SAFETY & SECURITY		AVERAGE
1	Restaurant inspection results will be readily available to the public.	2.0
2	A majority of cases shipped in the supply chain will be equipped with universal bar codes or transponders.	1.8
3	More of the handling of food products in the supply chain will be done by machines, rather than people.	1.8
4	More food safety certification for hourly and management employees will enhance restaurant food safety.	1.7
5	Technologies such as blockchain will improve traceability in the restaurant supply chain.	1.6
6	More restaurants will implement comprehensive food safety management systems.	1.6
7	Food-chain security and "food defense" will receive greater attention to prevent intentional food contamination.	1.6
8	Background verifications of employees and suppliers will be more common.	1.5
9	The restaurant industry will develop a more comprehensive response to food security incidents.	1.5
10	There will be a greater push for global food safety standards.	1.5
11	Consumers will show an increasing awareness and interest in food safety.	1.5
12	The restaurant industry will develop a more comprehensive response to food safety incidents.	1.4
13	There will be greater oversight of foreign-grown food products.	1.3
14	Restaurants will spend a larger proportion of their budget on food safety.	0.8
15	The complexity of traceability will be an increased barrier to the local-foods movement.	0.5

GOVERNMENT		AVERAGE
1	State and local governments will increase restaurant industry regulation.	2.3
2	There will be increased regulation around third-party delivery.	2.2
3	The federal government will enact more data-privacy rules to regulate how businesses handle customer data.	2.0
4	New environmental regulations will increase operating expenses.	2.0
5	There will be more government regulation of restaurant takeout and single-use packaging.	2.0
6	The federal government will increase restaurant industry regulation.	1.9
7	The level of required benefits for employees will increase.	1.9
8	Alcoholic beverages will be more heavily taxed.	1.5
9	Taxes focused on foodservice will grow at all levels of government.	1.5
10	Providing nutrition information for food and beverage items will be mandatory, regardless of restaurant size.	1.1
11	The federal government will mandate food safety training for all restaurant employees.	0.9
12	Restaurateurs will become more involved in donating to political candidates and causes.	0.6
13	Government will increasingly regulate portion sizes of menu items.	0.3

APPENDIX

	FOOD & MENU	AVERAGE
1	Restaurants will offer more healthy options on their menus.	2.0
2	Plant-based protein (vegetarian) food products will grow in popularity.	2.0
3	Consumers will increasingly ask for allergen information.	1.9
4	Consumers' palates will be more sophisticated.	1.9
5	Global cuisine-themed restaurants will grow in popularity.	1.7
6	Restaurants will offer more fresh produce options on their menus.	1.7
7	Consumers' interest in food sourcing will increase.	1.6
8	Local food sourcing will become more commonplace.	1.6
9	Portion sizes in general will be smaller.	1.3
10	Restaurants will be more likely to offer CBD-infused options on their menus.	1.0
11	More food-and-beverage suppliers will have their products "branded" on menus.	1.0
12	Restaurant menus in general will offer fewer choices.	0.9
13	Restaurants will be less likely to offer paper menus.	0.8

	HEALTH & NUTRITION	AVERAGE
1	Regardless of the nutritional content of the food, consumers will still want comfort foods.	2.4
2	Restaurants will offer more healthy food and beverage options for children.	1.8
3	Restaurants will be more creative and innovative in making dishes more healthful.	1.8
4	Restaurants will offer more options to satisfy specific diets.	1.7
5	A larger proportion of consumers will have dietary restrictions.	1.6
6	Restaurants will offer more food and beverage items that are lower in added sugars.	1.6
7	Items that are lower in fat, calories, and sodium will become commonplace on menus.	1.3
8	There will be increased synchronization between POS systems and consumers' personal health-monitoring devices/apps.	1.0
9	Restaurants will be more likely to offer smaller portions at lower prices.	0.8
10	There will be restrictions on advertising "unhealthy" foods.	0.5
11	Restaurants will be more likely to retain the services of a registered dietitian, whether on staff or as a consultant.	0.3

APPENDIX

	SUSTAINABILITY	AVERAGE
1	Equipment used in restaurants will be more energy-efficient.	2.3
2	More restaurant operators will promote their sustainability practices and efforts in marketing to consumers.	1.8
3	More restaurants will implement recycling programs.	1.8
4	Restaurants will offer more menu items that are sustainably sourced.	1.7
5	There will be a decline in single-use restaurant packaging.	1.7
6	Eco-friendly restaurant designs will be more common.	1.7
7	Restaurants will be more likely to take steps toward reducing their environmental impact.	1.6
8	A larger proportion of operators will purchase products made from recycled materials.	1.6
9	More restaurants will track food waste.	1.3
10	Consumers will be more likely to patronize restaurants with robust sustainability programs.	1.3
11	A larger proportion of restaurant energy will be supplied by natural gas.	0.9
12	A smaller proportion of restaurant energy will be supplied by oil.	0.9
13	More restaurants will implement composting programs.	0.7
14	More restaurants will use their sourcing policies and practices to set higher animal-welfare standards.	0.7
15	A larger proportion of restaurant energy will be supplied on-site by solar power.	0.3
16	A larger proportion of restaurant energy will be supplied by wind power.	0.1
17	Restaurant utility costs will decrease as a proportion of total operating costs.	-0.5
18	A larger proportion of restaurant energy will be supplied by nuclear power.	-0.8

NATIONAL RESTAURANT ASSOCIATION®

IN PARTNERSHIP WITH

AMERICAN EXPRESS

Nestlé PROFESSIONAL

JOIN THE CONVERSATION
#RESTAURANTS2030

NOVEMBER 2019 • RESTAURANT.ORG/RESTAURANTS2030

2020 was a year unlike any other for the foodservice industry. It tested the limits of operator innovation, accelerated trends, and confirmed that customers miss their restaurant experiences.

The following food and menu trends didn't offset the industry's devastation; it's down nearly $240 billion in sales and nearly 2.5 million employees are still out of work. But they do show restaurateurs' resiliency, innovation and commitment. The following were the top operating means by which restaurants survived 2020, from a survey of 6,000 operators and consumer preferences from a survey of 1,000 adults.

1. Streamlined menus

Fullservice operators got lean fast, reducing inventories and developing menu items they could make well with a smaller staff. These items had to travel well and be what customers craved. Expect menus to stay trimmed in coming months.

2. Off-premises takes precedence

Prior to the pandemic, 80% of fullservice restaurant traffic was on-premises. Then in March 2020, most restaurants were forced to shut down on-premises dining. In what's likely the fastest pivot in industry history, focus quickly shifted to off-premises, via takeout and delivery.

3. Blended meals, a team effort

Homebound, customers like to mix up meals—maybe make the main dish but order appetizers, sides or dessert from a restaurant. Millennials are especially big fans of the blended meal.

4. Bundled meals? Considered deals!

Why do any cooking? Customers' restaurant choices can be influenced by the offer of a bundled meal that perhaps includes an appetizer, entrée and dessert in either family packs or for individual meals.

5. Meal kits make cooking fun

More than half of adults surveyed say they'd likely purchase a meal kit if it was offered by one of their favorite restaurants. That percentage rises to 75% for both millennials and Gen Z adults. Kits package pre-measured ingredients and instructions to make the restaurant meal at home.

6. Meal subscriptions

Customers sign up to get meals during the month for pickup or delivery—at a discounted price. More than half of consumers surveyed say they'd sign up if their favorite places offered this option.

7. Selling groceries

Seems like anything that saves a trip gets a thumbs up. More than half of consumers surveyed would buy groceries (fresh, uncooked food items such as meat, produce, dairy, bread or pasta) if restaurants offered them.

8. Alcohol to go

A third of off-premises customers (ages 21+) say they included an alcoholic beverage with a takeout or delivery order since the beginning of the COVID-19 outbreak, and they'll continue to in the future.

9. Comfort foods

Consumers say menus that offer a good selection of comfort foods influence their restaurant choice. From haute to homey, a third of fine dining operators surveyed are adding more comfort items—think burgers, pot pies, lasagna, soups, curries, sandwiches, pizza and noodle dishes.

10. Healthy and diet-specific food

To the same degree the availability of comfort foods influences restaurant choice, so do healthful menu options. Diet-specific items (gluten-free, vegan, etc.) however, are less important right now.

NATIONAL RESTAURANT ASSOCIATION

2020 TOP MENU SELLERS

Read more in our 2021 STATE OF THE RESTAURANT INDUSTRY

What Customers Crave. Each year, the National Restaurant Association publishes its annual What's Hot Culinary Forecast to identify the menu trends to watch in the coming year, as identified in a survey of American Culinary Federation chefs.

This year, to identify what's *truly selling best* during the pandemic, we asked restaurant operators for their single most popular menu item right now.

The vast majority say their current top-selling food and beverage items were already on menus prior to the coronavirus outbreak.

Top Sellers: Fullservice

(Fine Dining, Family Dining, Casual Dining)

1. Burgers
2. Seafood items
3. Pizza
4. Steak
5. Chicken items (excl. wings)
6. Breakfast items
7. Pasta
8. Mexican food
9. Sandwiches / Subs / Wraps
10. Chicken wings

Top Sellers: Limited Service

(Quickservice, Fast Casual, Coffee & Snack)

1. Sandwiches / Subs / Wraps
2. Pizza
3. Burgers
4. Chicken items (excl. wings)
5. Ice cream / cookies / cakes
6. Baked goods
7. Breakfast items
8. Mexican food
9. BBQ items
10. Seafood items

METHODOLOGY

National Household Survey, 2020: *The National Restaurant Association commissioned Engine to conduct an online survey of 1,000 adults in December 2020, asking questions about their personal finances and interaction with restaurants.*

Restaurant Trends Survey, 2020: *The National Restaurant Association conducted an online survey of 6,000 restaurant owners and operators in November-December 2020, asking questions about their business and operating environments.*

APPROVED
8/31/21
PAA21-0084

City of Birmingham

Administrative Approval Application
Planning Division

Form will not be processed until it is completely filled out.

1. Applicant
Name: Antonino Cutraro/Bella Piatti
Address: 167 Townsend

Phone Number: 248-343-3130
Fax Number:
Email Address: ncutraro@aol.com

2. Property Owner
Name: EPM Investments, LLC and Sean M. Monk Trust u/a/d/5/7/82-8/95
Address: ~~C/O David M. Fedida, Agent~~ 3830 Groveland Rd. Ortonville, MI 48462
Phone Number: ~~248-855-0220~~ (248) 787-9056
Fax Number: ~~248-626-2540~~
Email Address:

3. Applicant's Attorney/Contact Person
Name: Kelly Allen
Address: 39572 Woodward Ave, Bloomfield Hills, MI 48304

Phone Number: 248-540-7400
Fax Number: 248-540-7401
Email Address: kallen@anafirm.com

4. Project Designer/Developer
Name:
Address:

Phone Number:
Fax Number:
Email Address:

5. Project Information
Address/Location of Property: 167 Townsend St.

Name of Development: Bella Piatti
Parcel ID#:
Current Use: Bisto
Area in Acres:
Current Zoning: CBD

Name of Historic District if any:
Date of HDC Approval, if any:
Date of Application for Preliminary Site Plan:
Date of Preliminary Site Plan Approval:
Date of Application for Final Site Plan:
Date of Final Site Plan Approval:
Date of Revised Final Site Plan Approval:

6. Required Attachments
- Warranty Deed with legal description of property
- Authorization from Owner(s) (if applicant is not owner)
- Completed Checklist
- Material Samples
- Specification sheets for all proposed materials, fixtures, and/or mechanical equipment
- One (1) digital copy of plans
- Two (2) folded copies of plans including an itemized list of all changes for which administrative approval is requested, with the changes marked in color on all elevations
- Photographs of existing conditions on the site where changes are proposed

7. Details of the Request for Administrative Approval
Bella Piatti removed the additional seating and structure which was previously approved under resolution number 05-07/3-20 (Covid 19 Resolution). The outdoor dining area is as approved with the original site plan and SLUP. This request is to add an awning over the outdoor dining area.
A diagram of the awning is attached. It is a "Mary Grove Awning" which will shield customers from elements. The plan originally approved is on file with the City.

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and/or Building Division of any additional changes to the approved site plan.

Signature of Applicant: Date: 7/26/21

Office Use Only

Application #: PAA21-0084 Date Received: 7/26/21 Fee: $100.00
Date of Approval: 8/31/21 Date of Denial: N/A Reviewed By:

City of Birmingham

CONSENT OF PROPERTY OWNER

Sean C. Monk Trust / EPM Investments

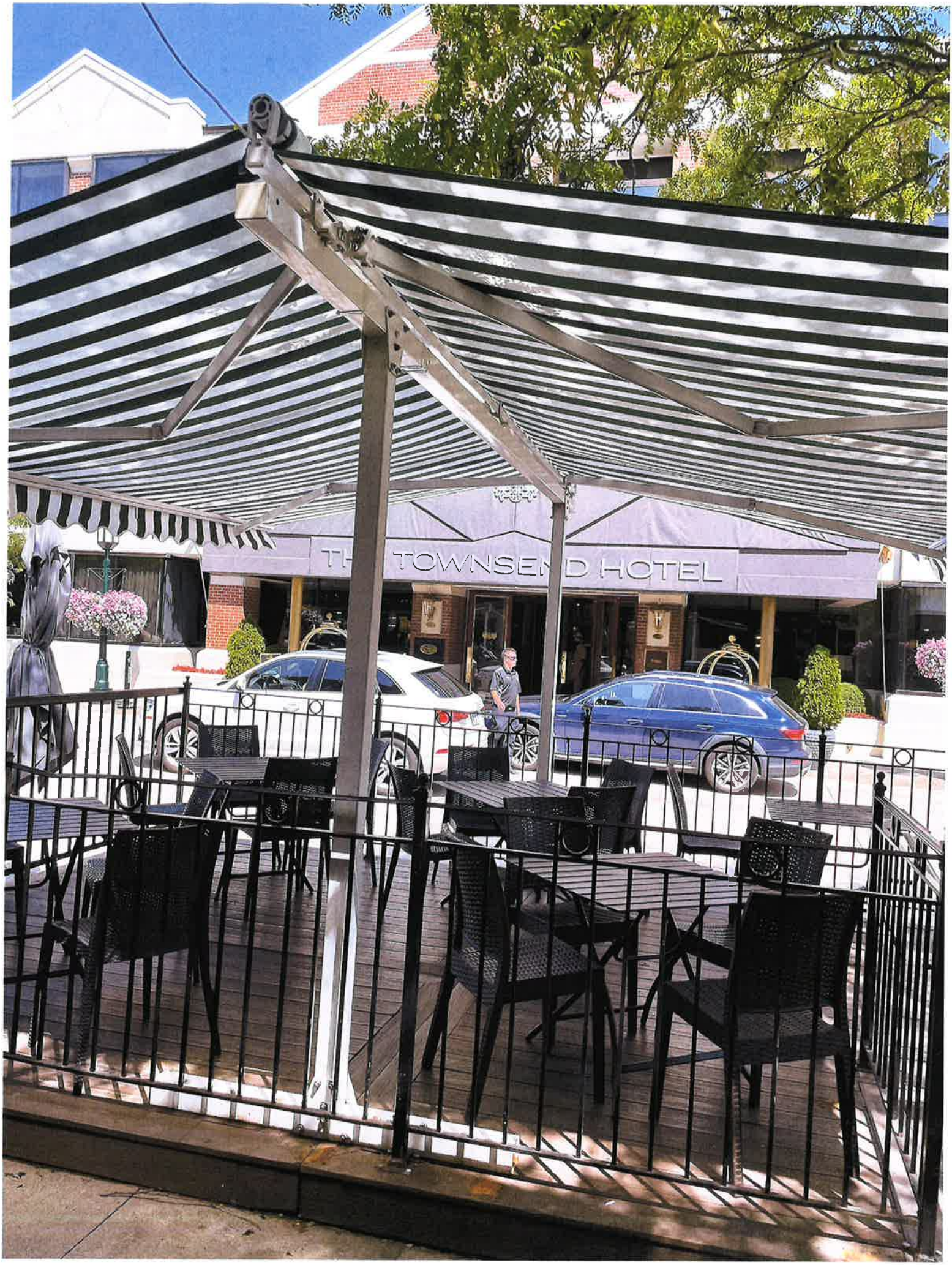
I, ~~David M. Tisdale~~ (Name of Property Owner), OF THE STATE OF Michigan AND COUNTY OF Oakland STATE THE FOLLOWING:

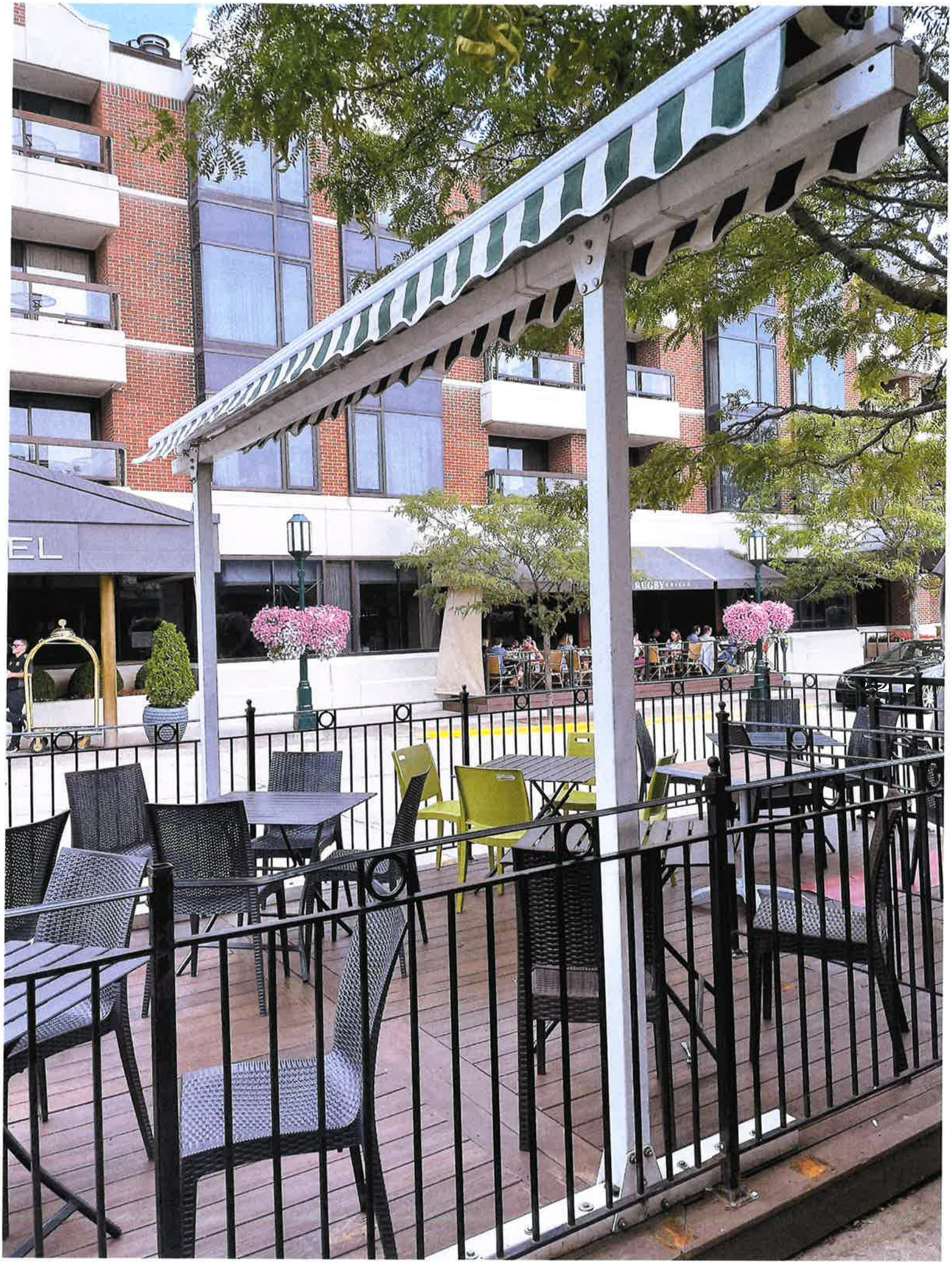
1. That I am the owner of real estate located at Agent for Owner of Property at 167 Townsend St. (Address of Affected Property);
2. That I have read and examined the Application for Administrative Approval made to the City of Birmingham by: Nino Cutraro (Name of Applicant);
3. That I have no objections to, and consent to the request(s) described in the Application made to the City of Birmingham.

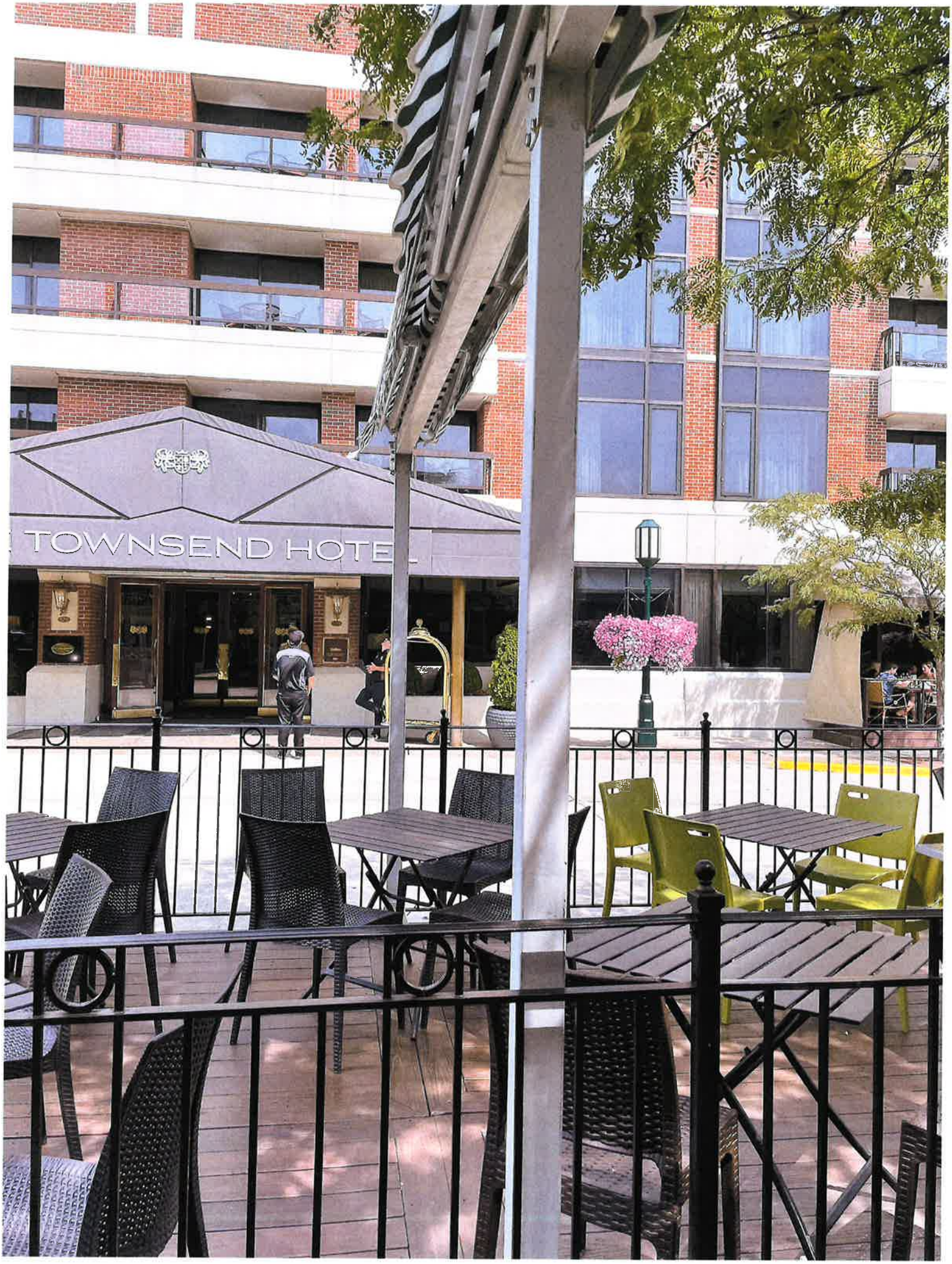
By providing your e-mail to the City, you agree to receive news notifications from the City. If you do not wish to receive these messages, you may unsubscribe at any time.

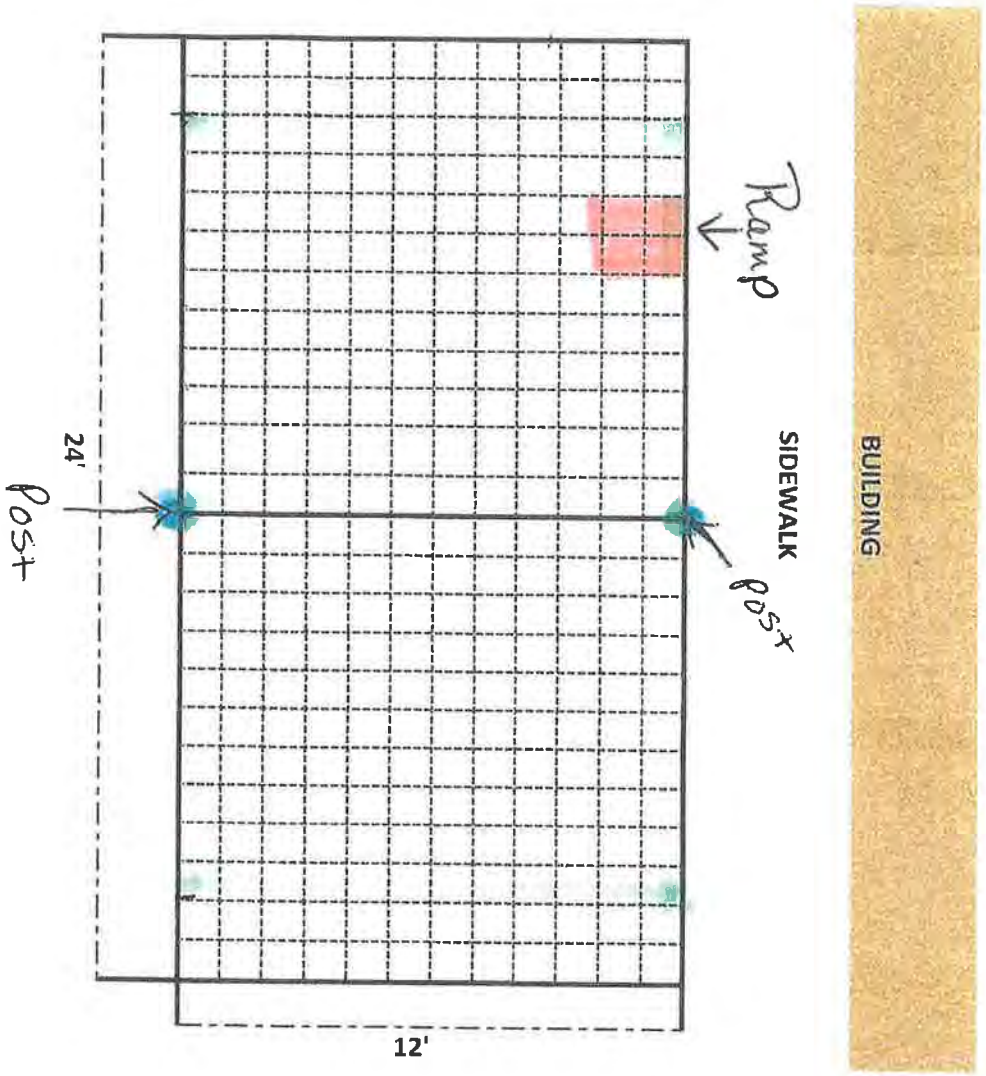
Name of Owner (Printed): ~~David M. Tisdale~~ Colleen M. Stevens, Trustee

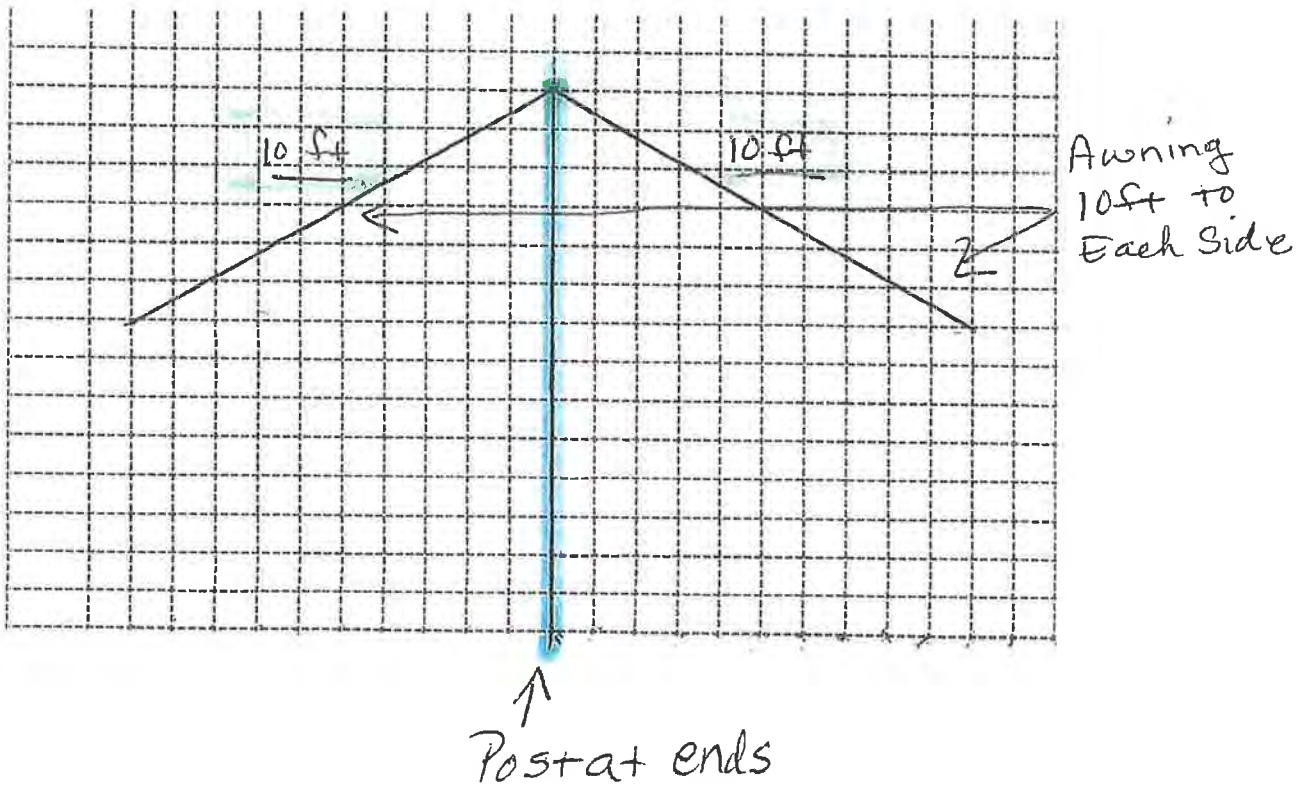
Signature of Owner: Colleen M. Stevens **Date:** 8/9/21

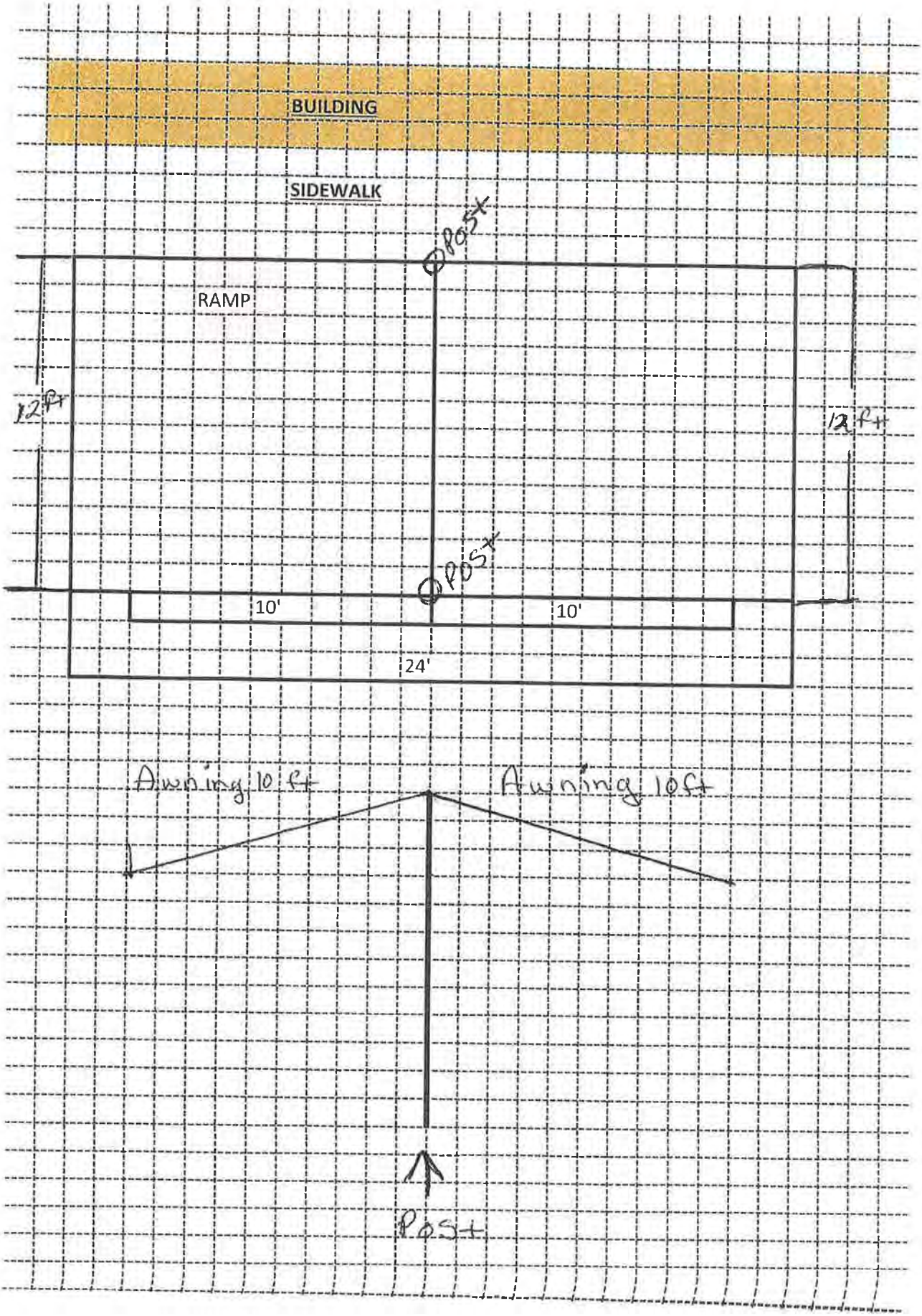

TOWNSEND HOTEL


EL
RUGBY


TOWNSEND HOTEL


Ramp
24'
Post
SIDEWALK
Post
BUILDING
12'


10 ft
10 ft
Awning
10ft to
Each Side
Post at ends


BUILDING
SIDEWALK
Post
RAMP
12 Ft
12 Ft
Post
10'
10'
24'
Awning 10 ft
Awning 10ft
Post

City of Birmingham
A Walkable Community

JERC2A 0009
Ref 00182079
Receipt 586191
Amount $100.00

APPROVED
8-26-21

Administrative Approval Application
Planning Division
Form will not be processed until it is completely filled out

1. Applicant
Name: DAVID BASTIANELLI, DDS
Address: 522 E. LINCOLN
BHAM 48009
Phone Number: 248-644-6688
Fax Number: 248-644-3470
Email: BASTIANELDDS@SBCGLOBAL.NET

Property Owner
Name: SAME
Address:
Phone Number:
Fax Number:
Email:

2. Applicant's Attorney/Contact Person
Name: SAME
Address:
Phone Number:
Fax Number:
Email:

Project Designer
Name: TOM BUSCEMI
Address: 22542 BRANTINGHAM
MACOMB, MI 48044
Phone Number: 586-243-8447
Fax Number:
Email: TBUSCEMI1972@ME.COM

3. Project Information
Address/Location of Property: 522 E. LINCOLN
Name of Development:
Parcel ID #: 08-19-36-403-004
Current Use: DENTAL OFFICE
Area in Acres: < 1 ACRE
Current Zoning: ROS.BJS

Name of Historic District site is in, if any:
Date of HDC Approval, if any:
Date of Application for Preliminary Site Plan:
Date of Preliminary Site Plan Approval:
Date of Application for Final Site Plan:
Date of Final Site Plan Approval:
Date of Revised Final Site Plan Approval:

4. Attachments

- Warranty Deed with legal description of property
- Authorization from Owner(s) (if applicant is not owner)
- Completed Checklist
- Six (6) folded copies of plans including an itemized list of all changes for which administrative approval is requested, with the changes marked in color on all elevations

5. Details of the Request for Administrative Approval

ADA Compliant Handicapped ramp - TBC

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and / or Building Division of any additional changes to the approved site plan.

Signature of Applicant: DAB DDS Date: 7/27/21

Office Use Only

Application #: 21-0071 Date Received: Fee:

Date of Approval: 8-26-21 Date of Denial: Reviewed by:

RECEIVED
JUL 29 2021
CITY OF BIRMINGHAM
COMMUNITY DEVELOPMENT DEPT.

City of Birmingham
A Walkable Community

CONSENT OF PROPERTY OWNER

I, DAVID BASTIANELLI, DDS, OF THE STATE OF MI AND COUNTY OF
(Name of property owner)

OAKLAND STATE THE FOLLOWING:

1. That I am the owner of real estate located at 522 E. LINCOLN BIRM 48009
(Address of affected property)

2. That I have read and examined the Application for Administrative Approval made to the City of Birmingham by: DAVID BASTIANELLI DDS;
(Name of applicant)

3. That I have no objections to, and consent to the request(s) described in the Application made to the City of Birmingham.

Dated: 7/27/21

DAVID BASTIANELLI, DDS
Owner's Name (Please Print)

DDS
Owner's Signature

City of Birmingham
A Walkable Community

ADMINISTRATIVE APPROVAL APPLICATION CHECKLIST – PLANNING DIVISION

Applicant: _____ Date: _____

Address: _____ Project: _____

All site plans and elevation drawings prepared for administrative approval shall be prepared in accordance with the following specifications and other applicable requirements of the City of Birmingham. If more than one page is used, each page shall be numbered sequentially. All plans must be legible and of sufficient quality to provide for quality reproduction or recording.

Administrative Approval of Design Changes

_____ 1. Name and address of applicant and proof of ownership;
_____ 2. Name of Development (if applicable);
_____ 3. Address of site and legal description of the real estate;
_____ 4. A separate location map;
_____ 5. Legend and notes, including a graphic scale, north point, and date;
_____ 6. A list of all requested design changes;
_____ 7. Elevation drawings with all requested design changes marked in color;
_____ 9. A list of all new materials to be used, including size specifications, color and the name of the manufacturer.

Administrative Approval of Site Plan Changes

A full site plan detailing the proposed changes for which administrative approval is requested shall be drawn at a scale no smaller than 1" = 100' (unless the drawing will not fit on one 24" X 36" sheet) and shall include:

_____ 1. Name and address of applicant and proof of ownership;
_____ 2. Name of Development (if applicable);
_____ 3. Address of site and legal description of the real estate;
_____ 4. Name and address of the land surveyor;
_____ 5. Legend and notes, including a graphic scale, north point, and date;
_____ 6. A separate location map;
_____ 7. A map showing the boundary lines of adjacent land and the existing zoning of the area proposed to be developed as well as the adjacent land;
_____ 8. A list of all requested changes to the site plan;
_____ 9. All changes requested marked in color on the site plan and on all elevations of any building(s);
_____ 10. A chart indicating the dates of approval of the Preliminary Site Plan, Final Site Plan; Revised Final Site Plans, and any dates of approval by the Historic District Committee ("HDC");
_____ 11. Existing and proposed layout of streets, open space and other basic elements of the plan;
_____ 12. Existing and proposed easements and their purpose;

_____ 13. Location of natural streams, regulated drains, 100-year flood plains, floodway, water courses, marshes, wooded areas, isolated preservable trees, wetlands, historic features, existing structures, dry wells, utility lines, fire hydrants and any other significant feature(s) that may influence the design of the development;

_____ 14. General description of, location of, and types of structures on the site;

_____ 15. Details of existing or proposed lighting, signage, landscaping, and other pertinent development features;

_____ 16. Any other information requested in writing by the Planning Division, the Planning Board, or the Building Official deemed important to the development.

PLEASE NOTE: All requests for administrative approval must comply with Ordinance No. _____, which outlines the terms and conditions under which administrative approval may be granted.

Thomas Robert
CONSTRUCTION LLC

WE TREAT YOUR HOME LIKE OUR OWN!

RESIDENTIAL & COMMERICIAL

LICENSED & INSURED

TOM BUSCEMI **586.243.8447**

FULL REMODELING

PAINTING • FLOORING • BASEMENTS

CARPENTRY • WINDOWS • MAINTENANCE

DOORS • SIDING • STAIRS • DECKS

DRIVEWAYS • PORCHES • ADDITIONS

INTERIOR & EXTERIOR REPAIRS

BUSCEMI1972@ME.COM

CITY	STATE	ADDRESS	
CELL PHONE NUMBER (Include Area Code)	FAX NUMBER (Include Area Code)	ZIP CODE	TELEPHONE NUMBER (Include Area Code)
		EMAIL ADDRESS	

C. Architect or Engineer

NAME		ADDRESS	
CITY	STATE	ZIP CODE	TELEPHONE NUMBER (Include Area Code)
CELL PHONE NUMBER (Include Area Code)	FAX NUMBER (Include Area Code)	EMAIL ADDRESS	
LICENSE NUMBER			EXPIRATION DATE

D. Contractor

NAME: THOMAS ROBERT CONSTRUCTION LLC		ADDRESS: 22542 BRADINGHAM MACOMB 48044	
CITY: MACOMB	STATE: MI	ZIP CODE: 48044	TELEPHONE NUMBER (Include Area Code): 586-243-8447
CELL PHONE NUMBER (Include Area Code): 586-243-8447	FAX NUMBER (Include Area Code): N/A	EMAIL ADDRESS: BUSCEMI1972@ME.COM	
INDIVIDUAL BUILDERS LICENSE NUMBER: 2101199227			EXPIRATION DATE: 5/31/23
COMPANY BUILDERS LICENSE NUMBER: 2101199227			EXPIRATION DATE: 5/31/23
FEDERAL EMPLOYER ID NUMBER (or reason for exemption): N/A			
WORKERS COMP INSURANCE CARRIER (or reason for exemption): MERCHANTS			
UNEMPLOYMENT INSURANCE AGENCY EMPLOYER ACCOUNT NUMBER (or reason for exemption): N/A			

Revised 02.06.20

PLEASE CALL
248-644-6688
BEFORE
ENTERING
DENTAL OFFICE

PLEASE CALL
FOR ASSISTANCE

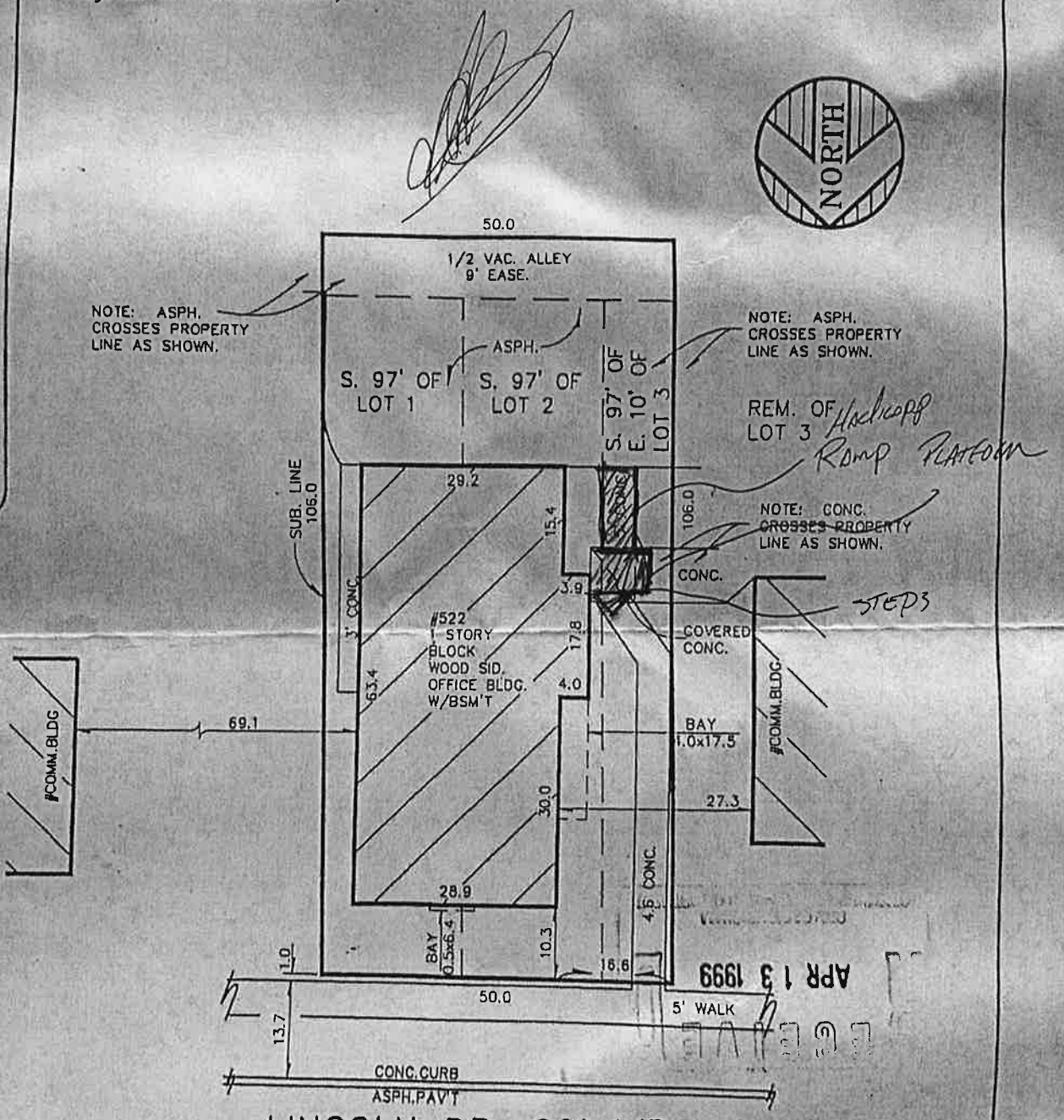
MORTGAGE SURVEY

Certified to: COMERICA BANK

Applicant: DAVID B. AND DEBORAH A. BASTIANELLI

Property Description:

(The South 97 feet of Lots 1 and 2, also the South 97 feet of the East 10 feet of Lot 3), and 1/2 of the vacated alley at the rear thereof; BIRMINGHAM–WOODWARD SUBDIVISION, of part of the N.W. 1/4 of Section 36, T.2 N., R.10 E., Bloomfield Twp. (now City of Birmingham), Oakland County, Michigan, as recorded in Liber 40 of Plats, Page 23 of Oakland County Records.



APR 13 1999

CERTIFICATE: We hereby certify that we have surveyed the above-described property in accordance with the description furnished for the purpose of a mortgage loan to be made by the forementioned applicants, mortgagor, and that the buildings located thereon do not encroach on the adjoining property, nor do the buildings on the adjoining property encroach upon the property heretofore described, except as shown. This survey is not to be used for the purpose of establishing property lines, nor for construction purposes, no stakes having been set at any of the boundary corners.

STATE OF MICHIGAN
MARCUS E. ZUHLKE JR.
SURVEYOR
NO. 17641
LICENSED LAND SURVEYOR

Marcus E. Zuhlke

JOB NO:

KEM-TEC
LAND SURVEYORS

KEM-TEC WEST
LAND SURVEYORS

David Bastianelli, D.D.S., PLLC

522 East Lincoln Ave.
Birmingham, Michigan 48009
drbastianelli@sbcglobal.net

Telephone: (248) 644-6688

Fax: (248) 644-3470

Mr. Brooks Cowan

City of Birmingham Planning Department

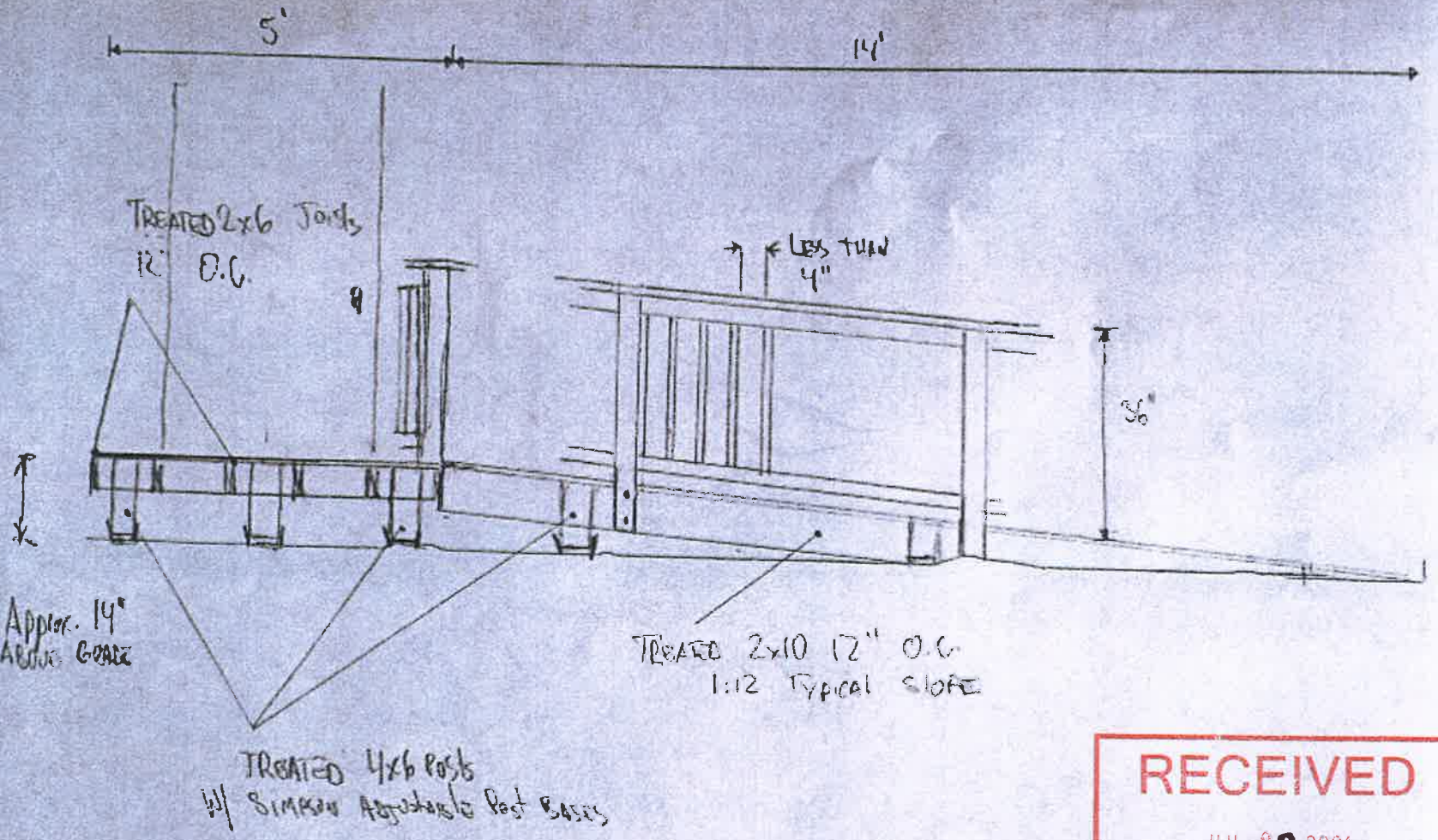
August 18, 2021

Dear Mr. Cowan

Enclosed is the 1999 Survey of my property at 522 East Lincoln. My contractor has drawn in the handicapped accessible ramp I want to add to my dental office to accommodate elderly patients. As you can see, it extends from my front door to the parking lot. The pitch is 1" per foot as required be the ADA act. I look forward to hearing from you on this minor project.

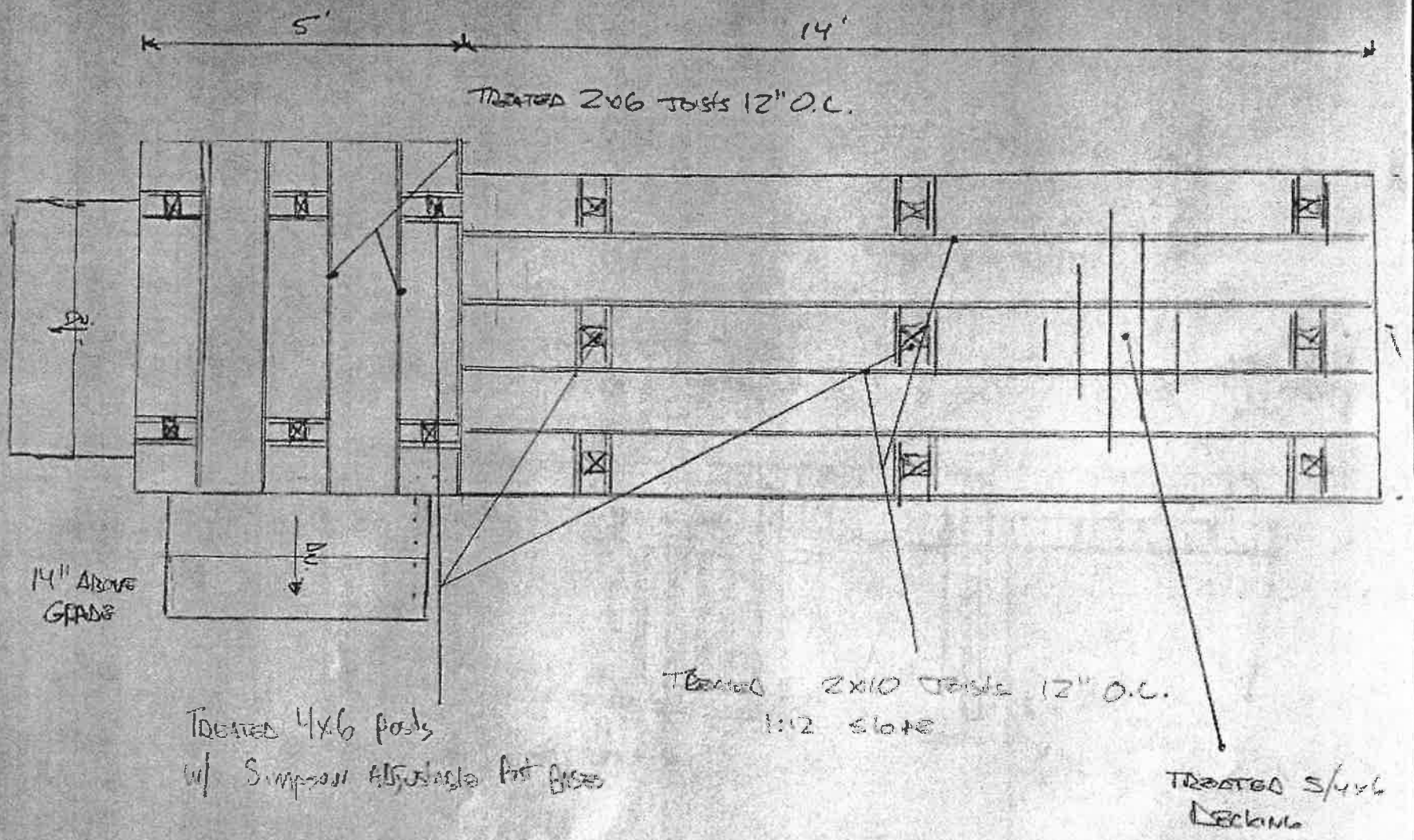
Sincerely,

David Bastianelli, DDS



RECEIVED
JUL 29 2021
CITY OF BIRMINGHAM
COMMUNITY DEVELOPMENT DEPT.

Scale : 1/2" = 1'


5'
14'
TREATED 2x6 JOISTS 12" O.C.
14" ABOVE GRADE
TREATED 4x6 POSTS
w/ SIMPSON ADJUSTABLE POST BASES
TREATED 2x10 JOISTS 12" O.C.
1:12 SLOPE
TREATED 5/4x6 DECKING

Scale: ½" = 1'

- $100.00
- consent of prop. owner
- plans
- proof of ownership

CITY OF BIRMINGHAM
Date 07/12/2021 3:47:54 PM
Ref 00181519
Receipt 583461
Amount $100.00

City of Birmingham
A Walkable Community

Administrative Approval Application
Planning Division

Form will not be processed until it is completely filled out.

1. Applicant
Name: Mitch Black
Address: 160 West Maple Rd
Birmingham MI 48009
Phone Number: 248-642-1135
Email: sembleck@sbcglobal.net

2. Property Owner
Name: Dave Leunson
Address: 2116 Fakers Cove
Beverly Hills, MI
Phone Number: 248-766-2226
Email: N/A

3. Project Contact Person
Name: Milton Black
Address: 160 West Maple Rd
Birmingham MI 48009
Phone Number: 248-642-1135
Email: sembleck@sbcglobal.net

4. Project Designer/Developer
Name: N/A
Address:
Phone Number:
Email:

5. Required Attachments
- Two (2) folded copies of project plans including an itemized list of all changes for which Administrative Approval is requested, with the changes marked in color on all elevations
- One (1) digital copy of project plans
- Warranty Deed with legal description of property
- Photographs of existing conditions on the site where changes are proposed
- Material samples
- Specification sheets for all proposed materials, fixtures, and/or mechanical equipment
- Completed Administrative Approval checklist

6. Project Information
Address/Location of Property: 160 W. Maple
Name of Development:
Parcel ID#:
Current Use:
Proposed Use:
Area of Site in Acres:
Current Zoning:

	Yes	No
Is the property located in a floodplain? -----	☐	☐
Is the property within a Historic District? ---	☐	☐
→ If so, which?		
Will the project require a variance? ---------	☐	☐
→ If so, how many?		
Has the project been reviewed by a Board?	☐	☐
→ If so, which?		

7. Details of the Request for Administrative Approval
Front patio - because of Maple Road Construction

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and/or Building Division of any additional changes to the approved site plan. By providing your e-mail to the City, you agree to receive news notifications from the City. If you do not wish to receive these messages, you may unsubscribe at any time.

Signature of Applicant: _____ Date: 6-29-21

Office Use Only

Application #: PA21-0065 Date Received: 6/29/21 Fee: $ 100.00

Date of Approval: 7/12/21 Date of Denial: N/A Reviewed By: _____

City of Birmingham
A Walkable Community

CONSENT OF PROPERTY OWNER

I, LEVINSON-LEVIN PROPERTIES, OF THE STATE OF MICHIGAN AND
(Name of Property Owner)

COUNTY OF OAKLAND STATE THE FOLLOWING:

1. That ~~I am~~ IT IS the owner of real estate located at 150-160 W. MAPLE, BIRMINGHAM, MI 48009
(Address of Affected Property)

2. That I have read and examined the Application for Administrative Approval made to the City of Birmingham by: ~~DICK~~ DOD ENTERPRISES, LTD
(Name of Applicant)

3. That I have no objections to, and consent to the request(s) described in the Application made to the City of Birmingham.

LEVINSON-LEVIN PROPERTIES, LLC

Name of Owner (Printed): DAVID C. LEVINSON
ITS CO-MANAGING MEMBER, TRUSTEE

Signature of Owner: David C Levinson **Date:** 6/29/2021

DICKODO-01 SANDYL

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 6/4/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER License # 958967 Johnston Lewis Associates, Inc. 5600 New King, Ste. 210 Troy, MI 48098	CONTACT NAME: Shelli Roehl PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS: shellir@jlains.com
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A : Auto Owners Insurance — 18988
INSURED Dick O'dow's DOD Enterprises Mitch Black 2144 Garland Sylvan Lake, MI 48320	INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY							
	CLAIMS-MADE X OCCUR			04762567	5/10/2020	5/10/2021	EACH OCCURRENCE	$ 1,000,000
	X Liquor Liability 1M						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 300,000
							MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS			04762567	5/10/2020	5/10/2021	BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The City of Birmingham, all elected and appointed officials, all employees and volunteers, all boards, commissions and/or authorities and their board members, including employees and volunteers thereof are included as Additional Insured with respects to General/Automobile Liability, on a primary and non-contributory basis. A 30 Day Notice of Cancellation will be provided with exception for non-payment where as a 10 Day Notice of Cancellation will be provided.

CERTIFICATE HOLDER

City of Birmingham
151 Martin Street
Birmingham, MI 48009

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

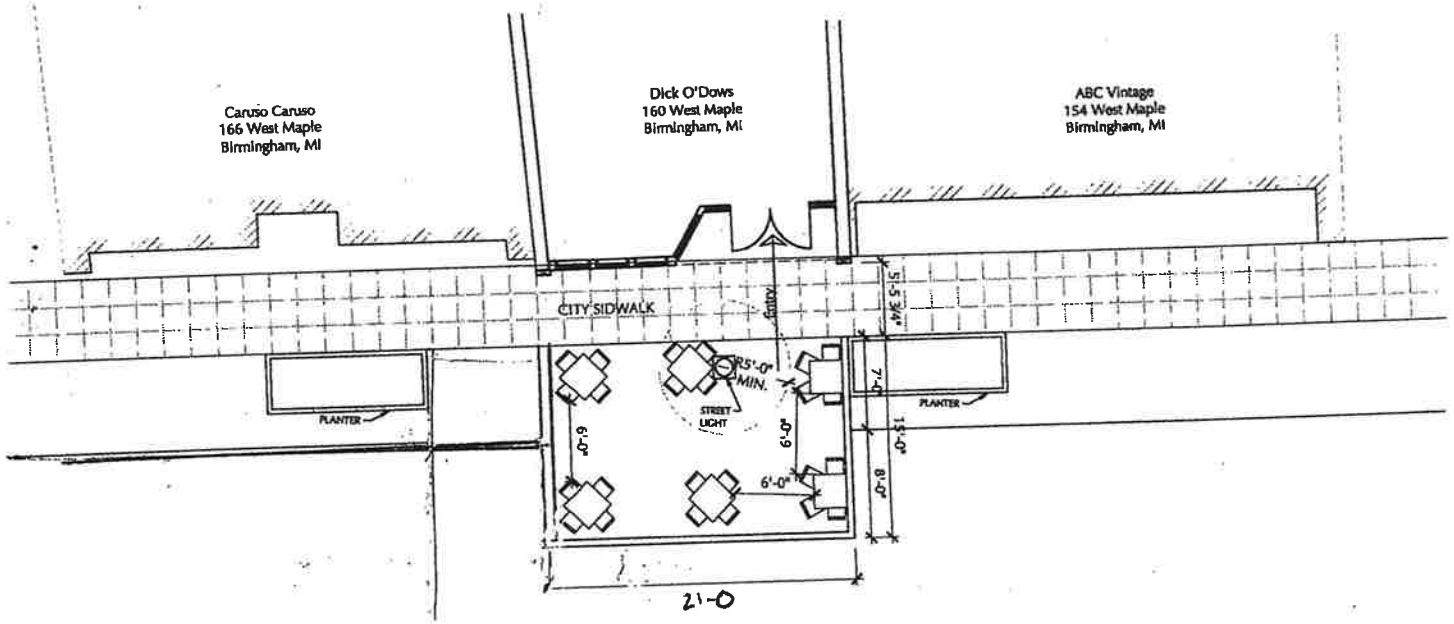
Jay D Swanson

© 1988-2015 ACORD CORPORATION. All rights reserved.

The ACORD name and logo are registered marks of ACORD

DICK O-DOWS

160 West Maple
Birmingham, Michigan



Maple Road (66" R.O.W.)

Approved:

OUTDOOR DINING PLAN

CHRISTOPHER J LONGE AIA
ARCHITECTURE
INTERIORS
184 Peabody, Birmingham, Michigan 48009 248.258.8902

05/14/2021
SCALE - 1/8" = 1'-0"

DENIED
(cancelled)
8/23/21
App. not required for Like-for-Like replace / repair.

City of Birmingham

Administrative Approval Application
Planning Division

Form will not be processed until it is completely filled out.

1. Applicant
Name: PAM HURLEY/MICHIGAN ASPHALT INC
Address: 725 S ADAMS, STE 160, BIRMINGHAM, MI 48009
Phone Number: 248-645-2986
Fax Number: None
Email Address: pam@michasphalt.com

2. Property Owner
Name: Pierre Deporre - Board Member
Address: 400 Southfield Rd
Birmingham, MI 48009
Phone Number: 248-703-1796
Fax Number: None
Email Address: skay@mgtbydesign.com

3. Applicant's Attorney/Contact Person
Name:
Address:
Phone Number:
Fax Number:
Email Address:

4. Project Designer/Developer
Name: Property Manager: Sherri Kay/Property Management By Design
Address: PO Box 102
Birmingham, MI 48012
Phone Number: 248-203-9404
Fax Number: None
Email Address: skay@mgtbydesign.com

5. Project Information
Address/Location of Property: 400 Southfield Rd, Birmingham, MI 48019
Name of Development:
Parcel ID#:
Current Use:
Area in Acres:
Current Zoning:

Name of Historic District if any:
Date of HDC Approval, if any:
Date of Application for Preliminary Site Plan:
Date of Preliminary Site Plan Approval:
Date of Application for Final Site Plan:
Date of Final Site Plan Approval:
Date of Revised Final Site Plan Approval:

6. Required Attachments
- Warranty Deed with legal description of property
- Authorization from Owner(s) (if applicant is not owner)
- Completed Checklist
- Material Samples
- Specification sheets for all proposed materials, fixtures, and/or mechanical equipment
- One (1) digital copy of plans
- Two (2) folded copies of plans including an itemized list of all changes for which administrative approval is requested, with the changes marked in color on all elevations
- Photographs of existing conditions on the site where changes are proposed

7. Details of the Request for Administrative Approval
Removal and replacement to a depth of 4" of existing parking lot on the NorthEast side of the lot

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and/or Building Division of any additional changes to the approved site plan.

Signature of Applicant: Pam Hurley Date: 8/12/21

Office Use Only

Application #: -
Date Received: 8/12/21
Fee: -
Date of Approval: -
Date of ~~Denial~~ Cancel: 8/23/21
Reviewed By:

City of Birmingham

CONSENT OF PROPERTY OWNER

I, Sherry Kay, Agent (Name of Property Owner), OF THE STATE OF Michigan AND COUNTY OF Oakland STATE THE FOLLOWING:

1. That I am the owner of real estate located at 400 Southfield Rd, Birmingham, MI (Address of Affected Property);
2. That I have read and examined the Application for Administrative Approval made to the City of Birmingham by: Pam Hurley/Michigan Asphalt Inc (Name of Applicant);
3. That I have no objections to, and consent to the request(s) described in the Application made to the City of Birmingham.

By providing your e-mail to the City, you agree to receive news notifications from the City. If you do not wish to receive these messages, you may unsubscribe at any time.

Name of Owner (Printed): Sherry Kay, Agent/Property by Design

Signature of Owner: See attached Contract **Date:** 08/12/21

City of Birmingham

ADMINISTRATIVE APPROVAL APPLICATION CHECKLIST – PLANNING DIVISION

Applicant: Pam Hurley/Michigan Asphalt Inc Date: 08/12/21

Address: 725 S Adams, Ste 160 Project: 400 Southfield Rd

All site plans and elevation drawings prepared for administrative approval shall be prepared in accordance with the following specifications and other applicable requirements of the City of Birmingham. If more than one page is used, each page shall be numbered sequentially. All plans must be legible and of sufficient quality to provide for quality reproduction or recording.

Administrative Approval of Design Changes

- [ ] 1. Name and address of applicant and proof of ownership;
- [x] 2. Name of Development (if applicable); Birmingham Town Square Condos
- [x] 3. Address of site and legal description of the real estate; 400 Southfield Rd PIN 19-36-103-05
- [ ] 4. A separate location map;
- [x] 5. Legend and notes, including a graphic scale, north point, and date;
- [x] 6. A list of all requested design changes;
- [ ] 7. Elevation drawings with all requested design changes marked in color;
- [x] 8. A list of all new materials to be used, including size specifications, color and the name of the manufacturer. 1100L HMAsphalt 1100T HMAsphalt

Administrative Approval of Site Plan Changes

A full site plan detailing the proposed changes for which administrative approval is requested shall be drawn at a scale no smaller than 1" = 100' (unless the drawing will not fit on one 24" X 36" sheet) and shall include:

- [ ] 1. Name and address of applicant and proof of ownership;
- [ ] 2. Name of Development (if applicable);
- [ ] 3. Address of site and legal description of the real estate;
- [ ] 4. Name and address of the land surveyor;
- [ ] 5. Legend and notes, including a graphic scale, north point, and date;
- [ ] 6. A separate location map;
- [ ] 7. A map showing the boundary lines of adjacent land and the existing zoning of the area proposed to be developed as well as the adjacent land;
- [ ] 8. A list of all requested changes to the site plan;

☐ 9. All changes requested marked in color on the site plan and on all elevations of any building(s);

☐ 10. A chart indicating the dates of approval of the Preliminary Site Plan, Final Site Plan; Revised Final Site Plans, and any dates of approval by the Historic District Committee ("HDC");

☐ 11. Existing and proposed layout of streets, open space and other basic elements of the plan;

☐ 12. Existing and proposed easements and their purpose;

☐ 13. Location of natural streams, regulated drains, 100-year flood plains, floodway, water courses, marshes, wooded areas, isolated preservable trees, wetlands, historic features, existing structures, dry wells, utility lines, fire hydrants and any other significant feature(s) that may influence the design of the development;

☐ 14. General description of, location of, and types of structures on the site;

☐ 15. Details of existing or proposed lighting, signage, landscaping, and other pertinent development features;

☐ 16. Any other information requested in writing by the Planning Division, the Planning Board, or the Building Official deemed important to the development.

PLEASE NOTE: All requests for administrative approval must comply with Article 7 of the Zoning Ordinance, which outlines the terms and conditions under which administrative approval may be granted.

City of Birmingham

FEE SCHEDULE

Application	Fees
Administrative Approval	$100
Administrative Sign Approval	$100
Board of Zoning Appeals*	
• Single Family Residential	$310
• All Other Zoning Districts	$510
Community Impact Study Review*	$2,050
Design Review*	$350
Division/Combination of Platted Lots	$200
Historic District Review*	
• Single Family Residential	No Charge
• All Other Zoning Districts	$350
Public Notice Sign	
• Notice Sign Rental	$50
• Returnable Sign Bond	$100
	➔ $150 total
Preliminary/Final Site Plan Review	
• R4 – R8 Zoning District	$850, plus $50 per dwelling unit
• Nonresidential Districts	$1,050, plus $50 per acre or portion of acre
Special Land Use Permit*	$800
• Plus Site Plan Review	$1,050
• Plus Design Review	$350
• Plus Publish of Legal Notice	$450
• Plus Sign Rental and Deposit	$150
	➔ $2,800 total
Special Land Use Permit Annual Renewal	$200
Temporary Use Permit	$100
Zoning Compliance Letter	$50

***The fees for Board of Zoning Appeals, Community Impact Study Review, Design Review, Site Plan Review, Historic District Review and Special Land Use Permits shall be double the listed amounts in the event the work is commenced prior to the filing of an application for review by the City of Birmingham.**

MICHIGAN ASPHALT, INC.
PAVING
AND SEALCOATING
248-645-2986
www.michasphalt.com

725 South Adams Road, Suite 160
Birmingham, MI 48009
248-645-2986 / fax 248-644-3012
www.michasphalt.com
Fully Insured • Serving Southeast Michigan Since 1983

BBB ACCREDITED BUSINESS

Commercial Estimate Submitted to:

Name: Birmingham Town Square Condos Contact Pierre Deporre
Address: 400 Southfield Rd
City: Birmingham State: MI Zip Code: 48009
Work: ( ) - - Fax: ( ) - -
Cell: (248) - 703 - 1796 Email: Pdeporre@Deporrevet.com

SCOPE OF WORK

Remove and Replace Parking lot Section..... $ 17,655.00

-Remove existing back parking lot (and small patches in front drive) and Grade area

-Grade for proper drainage and roll with vibratory roller

-Machine Install 1100L hot mix asphalt at a depth of 2"

-Compact with roller

-Machine Install premium 1100T hot mix asphalt at a depth of 2"

-Compact with finish roller, hand tamp small areas, and edge dress

-Remove all debris associated with job from site

-Supply Entrance Barricades

-Re-stripe Parking lot in section that was paved

****ONLY IF REQUIRED : Remove unsuitable base material, haul off site $35.00 per ton additional** SL
****ONLY IF REQUIRED : Install additional base material as required 21AA $35.00 per ton additional** SL

Acceptance

The cost, specifications and conditions are satisfactory, and are hereby accepted. You are authorized to do the work as specified. Payment of 1/2 of the total cost shall be made as a deposit, with the remainder of the balance to be paid upon completion of the paving work.

Acceptance: [signature]
Date: 6/29/21
Deposit Received: $ 8,827.50

Submitted

The above work is to be performed in accordance with the specifications indicated above for the sum of:

Dollars: ($ 17,655.00)
Submitted by: Caleb Cotter
Dated: 4-9-2021

Remove + Replace Grass Area Only. 4"

City of Birmingham
A Walkable Community

DENIED
(CANCELLED)
8/23/21

Administrative Approval Application
Planning Division
Form will not be processed until it is completely filled out

1. Applicant
Name: Frank Dalio, Black & Veatch agent for AT&T
Address: 900 Oakmont Lane Ste. 100
Westmont, IL 60559
Phone Number: 630-686-3402
Fax Number:
Email: DalioF@bv.com

Property Owner
Name: Teodor D. Robaciu / James D Oegena- President
Address: of Condos at Birmingham Place Assoc.
401 S Old Woodward Ave.Birmingham, MI 48009
Phone Number:
Fax Number:
Email:

2. Applicant's Attorney/Contact Person
Name:
Address:
Phone Number:
Fax Number:
Email:

Project Designer
Name: Black & Veatch, Ping Jiang
Address: 900 Oakmont Lane Ste. 100
Westmont, IL 60559
Phone Number: 630-686-3402
Fax Number:
Email: DalioF@bv.com

3. Project Information
Address/Location of Property: 401 S. Old Woodward Ave
Birmingham, MI 48009
Name of Development:
Parcel ID #: 08-19-36-208-017
Current Use:
Area in Acres:
Current Zoning:

Name of Historic District site is in, if any:
Date of HDC Approval, if any:
Date of Application for Preliminary Site Plan:
Date of Preliminary Site Plan Approval:
Date of Application for Final Site Plan:
Date of Final Site Plan Approval:
Date of Revised Final Site Plan Approval:

4. Attachments
- Warranty Deed with legal description of property
- Authorization from Owner(s) (if applicant is not owner)
- Completed Checklist
- Material Samples
- Digital Copy of plans
- Two (2) folded copies of plans including an itemized list of all changes for which administrative approval is requested, with the changes marked in color on all elevations

5. Details of the Request for Administrative Approval
Modification to an existing wireless communication rooftop facility. Swap (3) Antennas, Swap (6) RRH's, remove (11) RRH's, swap (1) DC power trunk, Install (1) DC power trunk, Install (3) fiber trunks, swap (1) DC power plant, swap (1) battery rack, remove (5) battery racks.

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and / or Building Division of any additional changes to the approved site plan.

Signature of Applicant: Frank Dalio Digitally signed by Frank Dalio DN: C=US, E=daliof@bv.com, O="Black & Veatch", OU="Telecom, Site Acquistion", CN="Frank Dalio" Date: 2019.08.21 15:40:11 -05'00' Date: 08/18/2021

Office Use Only

Application #: – Date Received: 8/19/21 Fee: ✓

Date of Approval: – Date of ~~Denial~~ Cancel: 8/23/21 Reviewed by:

BLACK & VEATCH
Building a world of difference.
BLACK & VEATCH CORPORATION
3550 GREEN COURT, ANN ARBOR, MI 48105
+1 913-458-4293 | HENRYJ@BV.COM

August 2, 2021

STRUCTURAL ANALYSIS EVALUATION LETTER

Site Number: 54308 (MI3165)
Site Name: WOODWARD
Site Address: 401 South Old Woodward Avenue, Birmingham, MI 48009

Market Name: AT&T TURF MIIN
Project Number: 129391
Project Name: 5G NR RADIO
B&V Work Order: 54308ATTMI2-L

B&V Ltd. of Michigan is pleased to submit this "Structural Analysis Evaluation Letter" to determine the structural integrity of the above-mentioned existing structure. The change in loading for this equipment installation is described in the attached "Loading Summary".

The differences proposed in gravity (vertical) loadings and wind (lateral) loadings are considered negligible. Based on International Existing Building Code (IEBC 2015) sections 1103.2 (for gravity) and 1103.3 (for lateral), and AT&T recommended guidelines, the loading changes are deemed to have minimum impacts to the existing structure/mounting system.

This evaluation letter is solely for loading comparison purposes. The existing structure is assumed to be designed and constructed correctly using applicable building codes and standards. Verification of the existing structure and previous structural analyses are out of scope for this evaluation letter.

The existing mounting system will be capable to support the existing and proposed equipment under the following assumptions:

- All existing structural members are in good condition.
- Contractor shall be responsible for the means and methods of construction.
- Contractor shall inspect the condition of all relevant members and connections and report any deficiencies to the engineer prior to installation of any new antennas and other equipment.

This document was prepared based on information provided to Black & Veatch. If existing conditions do not reflect those represented, this document is no longer valid.

Please contact Jordan Henry in our Ann Arbor Office at 913-458-4293 if you have any questions or comments.

Sincerely,
B&V Ltd. of Michigan

Prepared By: Rachata Uprasert
Submitted By: Yong Yu, P.E.

08/04/2021

BLACK & VEATCH

Owner:	AT&T	Computed By:	Rachata U.
Plant:	WOODWARD (MI3165)	Date:	8/2/2021
Project No.	129391.8265 File No. 54308ATTMI2-L	Verified By:	N HERRERA
Title:	EXISTING PIPE MOUNT AND WALL MOUNT CHECK	Date:	8-3-2021

Structural Analysis of Existing Pipe Mount and Wall Mount Check

Summary of Existing Loading

Antenna / Equipment							
Equipment Owner	Equipment RAD, ft	Mount Location	Position	Type	Quantity	Manufacturer	Model
AT&T	112	Pipe Mount	A1 B4 G4	Panel	3	Andrew	*SBNHH-1D65C
AT&T	112	Pipe Mount	A2 B2 G3	Panel	3	Powerwave	7772
AT&T	112	Pipe Mount	A3 B1 G1	Panel	3	KMW	EPBQ-654L8H8-L2
AT&T	112	Pipe Mount	A4 B3 G2	Panel	3	Commscope	NNH4-65C-R6-V3
AT&T	112	Pipe Mount	A2 B2 G3	TMA	6	Powerwave	LGP 21401
AT&T	112	Wall Mount	-	RRH	3	Alcatel Lucent	*RRH2x40W-07L
AT&T	112	Wall Mount	-	RRH	3	Alcatel Lucent	*RRH2x60-1900A-4R
AT&T	112	Wall Mount	-	RRH	3	Nokia	*FLEXI RRH 4T4R B14 160W FRBI
AT&T	112	Wall Mount	-	RRH	3	Alcatel Lucent	*B66A RRH4x45-4R
AT&T	112	Wall Mount	-	RRH	3	Airscale	RRH 4T4R B5 160W AHCA
AT&T	112	Wall Mount	-	RRH	3	Alcatel Lucent	*RRH4x25-B30
AT&T	112	Wall Mount	-	RRH	3	Alcatel Lucent	RRH4x25-WCS-4R
AT&T	112	Wall Mount	-	SS Box	6	Raycap	DC2-48-60-0-9E
AT&T	112	Wall Mount	-	SS Box	2	Raycap	FC12-PC6-10E
AT&T	112	Wall Mount	-	SS Box	3	Raycap	DC6-48-60-18

* Equipment to be removed.

Summary of Proposed and Future Loading

Antenna / Equipment							
Equipment Owner	Equipment RAD, ft	Mount Location	Position	Type	Quantity	Manufacturer	Model
AT&T	112	Pipe Mount	A1 B4 G4	Panel	3	Nokia	AEQK
AT&T	112	Wall Mount	-	RRH	3	AirScale	Dual RRH 4T4R B25/66 320W AHFIB
AT&T	112	Wall Mount	-	RRH	3	AirScale	B12/14/29 Triband RRH AHLBBA

Removed Loading (Pos. A1 B4 and G4(worst case))

Model	Height, in	Width, in	Quantity	Weight, lbs	Total EPA (ft^2)	Total Weight, lbs
Andrew-SBNHH-1D65C	96.4	11.9	1	49.6	7.966	49.6
					0.000	0.0
					0.000	0.0
					0.000	0.0
					0.000	0.0
					0.000	0.0

Proposed Loading (Pos. A1 B4 and G4(worst case))

Model	Height, in	Width, in	Quantity	Weight, lbs	Total EPA (ft^2)	Total Weight, lbs
Nokia-AEQK	29.5	17.7	1	99.2	3.626	99.2
					0.000	0
					0.000	0

Net proposed weight = 49.60 lbs
Net proposed front EPA = -4.34 ft^2

The proposed front EPA is less than the removed front EPA

By engineering judgment/inspection, the existing mouting system is SUFFICIENT to support the existing and proposed loads. In addition, the existing RRHs wall mount is sufficient by inspection/engineering judgment.

REVISED, SUPERSEDED AND VOID CALCULATIONS MUST BE CLEARLY IDENTIFIED,
INITIALED AND DATED BY THE RESPONSIBLE INDIVIDUAL.

Owner:	AT&T		Computed By:	Rachata U.
Plant:	WOODWARD (MI3165)		Date:	8/2/2021
Project No.	129391.8265	File No. 54308ATTMI2-L	Verified By:	N HERRERA
Title:	EXISTING BUILDING FLOOR STRUCTURE		Date:	8-3-2021

BLACK & VEATCH

Structural Analysis of Building Floor Structure

Removed Loading

Model	Quantity	Weight, lbs	Total Weight, lbs	
Unknow Battery Racks	1	2000.0	2000.0	*(Estimated Weight)*
Unknow DC Powerplant Cabinet	1	2500.0	2500.0	*(Estimated Weight)*
			0.0	
			0.0	
			0.0	
			0.0	

Proposed Loading

Model	Quantity	Weight, lbs	Total Weight, lbs
Emerson Netsure VRLA Battery Rack	1	2300.0	2300
Emerson Netsure 7100 Series	1	1800.0	1800
			0
			0
			0
			0

Net proposed weight = -400.00 **lbs** ***The proposed equipment weight is less than the removed weight***

By engineering judgment/inspection, the existing building floor structure is SUFFICIENT to support the proposed loads.

REVISED, SUPERSEDED AND VOID CALCULATIONS MUST BE CLEARLY IDENTIFIED,
INITIALED AND DATED BY THE RESPONSIBLE INDIVIDUAL.

SITE PHOTO

PROJECT INFORMATION

SITE ADDRESS:	401 SOUTH OLD WOODWARD AVENUE BIRMINGHAM, MI 48009
COUNTY:	OAKLAND
SITE NAME:	WOODWARD
SITE NUMBER:	MI3165
FA NUMBER:	10011534
USID NUMBER:	54308
LATITUDE:	42° 32' 39.58" N
LONGITUDE:	83° 12' 38.97" W
GROUND ELEVATION:	767' AMSL
BUILDING OWNER:	ROBACIU, TEODOR D. (MANAGED BY CROWN CASTLE) 401 S. OLD WOODWARD AVE. BIRMINGHAM, MI 48009
SITE ACQUISITION MANAGER:	KRISTEN CHASE 412.269.5950
CONSTRUCTION MANAGER:	FRANK VITTO 913.458.6194
LEAD ENGINEER:	JORDAN HENRY 913.458.4293

PROJECT MANAGER:	STEPHANIE HARDWICK
PHONE:	317.462.2269
APPLICANT:	AT&T MOBILITY
CONTACT:	–
PHONE:	–

AT&T MOBILITY

PROJECT: 5G NR 1SR CBAND
AT&T SITE ID: MI3165
AT&T FA#: 10011534

WOODWARD
BIRMINGHAM, MI 48009

AREA MAP

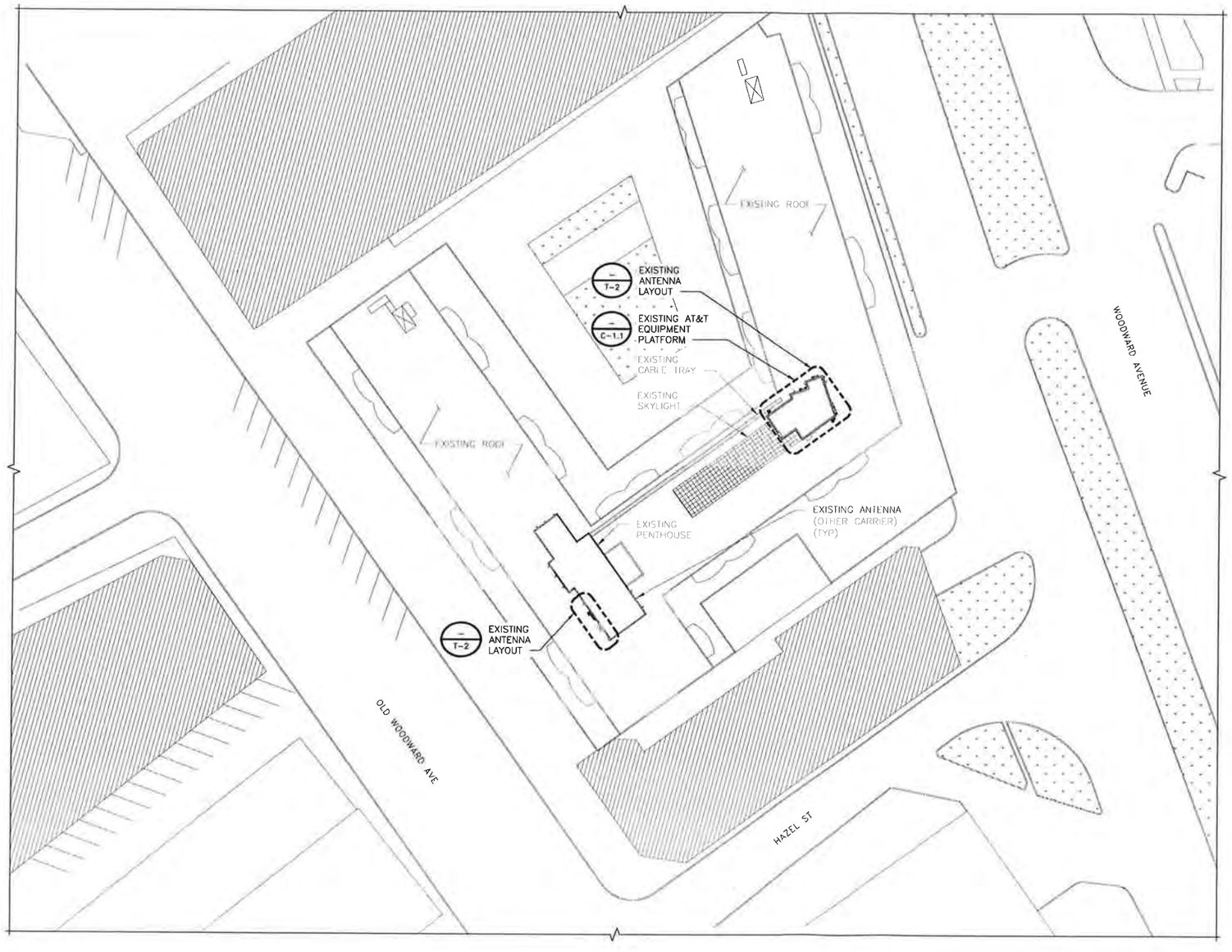
NO SCALE

ENGINEERING

2015 MICHIGAN BUILDING CODE
2017 MICHIGAN ELECTRICAL CODE
TIA-222-G OR LATEST EDITION

DRAWING INDEX

SHEET NO:	SHEET TITLE
TITLE PAGE	TITLE PAGE
–	–
C-1	ROOFTOP PLAN
C-2	EQUIPMENT ROOM PLAN & DC CIRCUIT SCHEDULE
C-3	EQUIPMENT DETAILS
–	–
T-1	ELEVATION
T-2	ANTENNA LAYOUTS
T-3	ANTENNA CONFIGURATION
T-4	EQUIPMENT DETAILS
T-5	STRUCTURAL NOTES
T-6	EQUIPMENT NOTES
–	–
E-1	ELECTRICAL SECTION NOTES
–	–
N-1	GENERAL NOTES
N-2	GENERAL NOTES
–	–
–	AT&T RF PLUMBING DIAGRAMS ATTACHED
–	–
–	–
–	–



1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE EXISTING/PROPOSED LTE GPS ANTENNA AND TRANSMITTING ANTENNAS.

NOTES

LEASE AREA

EXISTING CABLE TRAY

LEGEND

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

ROOFTOP PLAN

DRAWING NUMBER:

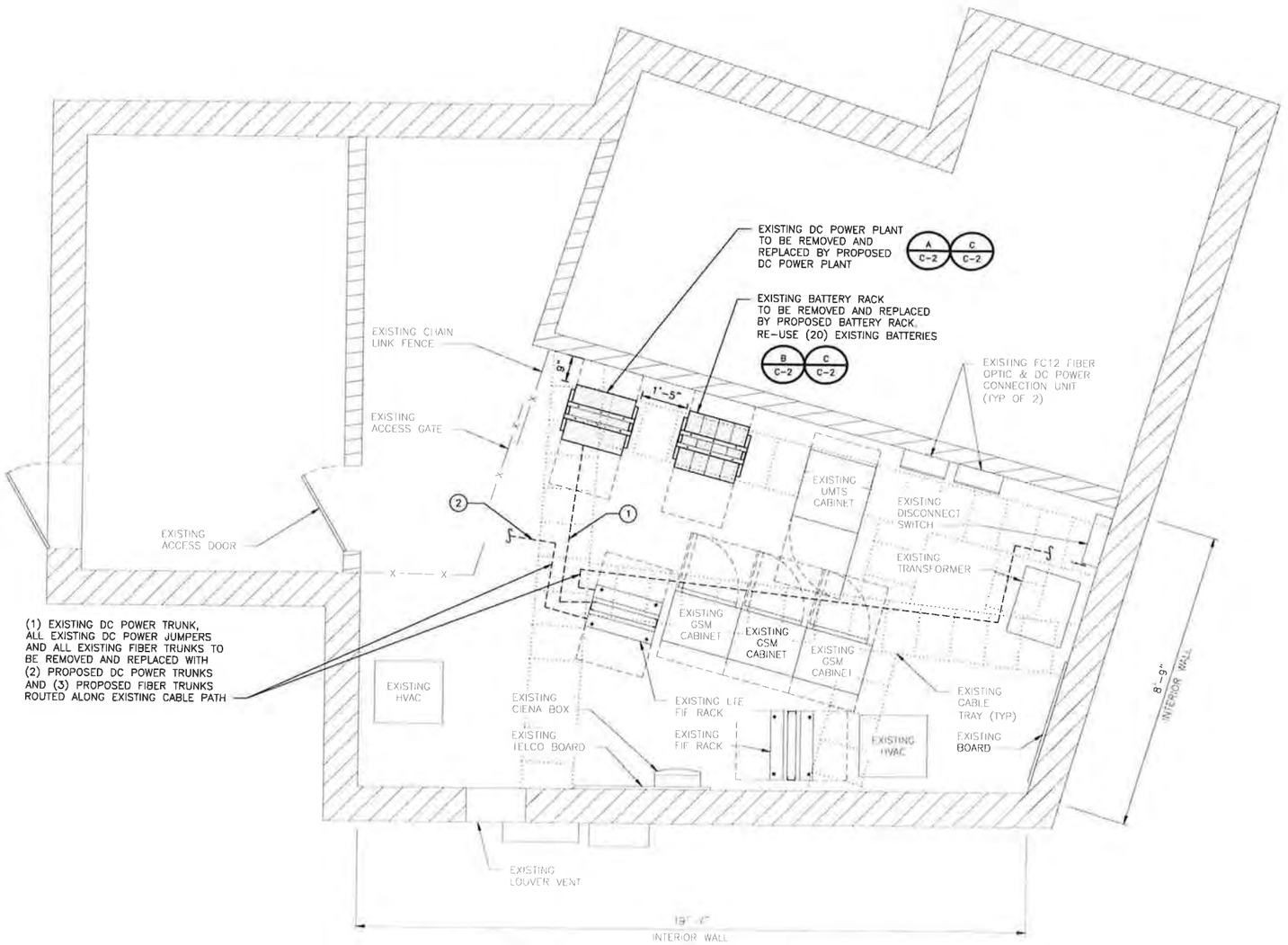
C-1

ROOFTOP PLAN

32' 24' 16' 8' 0 32' 64'
1/32"=1'-0"

1

NOT USED



FINAL EQUIPMENT ROOM PLAN

12" 6" 0 1' 2' 3' 4' 5'
1/2"=1'-0"

1

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE EXISTING/PROPOSED LTE GPS ANTENNA AND TRANSMITTING ANTENNAS.
3. DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY -48V. REFER TO ATT-002-290-701.
4. NON-LTE DC POWER WIRING SIZE 14 AWG TO 10 AWG SHALL BE TELCOFLEX III. DC POWER WIRING 8 AWG AND LARGER SHALL BE TELCOFLEX IV.
5. LTE POWER WIRING SHALL BE IN ACCORDANCE WITH ATT-002-290-531.
6. GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH ATT-TP-76416.
7. THE PROPOSED ELECTRICAL WORK FOR THE SCOPE OF THIS PROJECT IS LOW VOLTAGE DC POWER ONLY.
8. PROPOSED LTE BBU TO BE INSTALLED AND GROUNDED BY OTHERS, PER AT&T INSTALLATION STANDARDS.
9. EXISTING RACK MOUNTED DC SURGE PROTECTION UNIT SHALL BE SWAPPED OUT WITH PROPOSED RACK MOUNTED DC SURGE PROTECTION UNIT, WHEN REQUIRED FOR UPGRADE.

NOTES

NO	FROM	TO	CONFIGURATION
1	24VDC/48VDC DISTRIBUTION PANEL	RAYCAP SURGE PROTECTION DC12 (RACK MOUNTED)	(2) 1-#8 TELCOFLEX IV DC CABLE
2	RAYCAP SURGE PROTECTION DC12 (RACK MOUNTED)	RAYCAP SURGE PROTECTION DC6 (TOWER)	6-#6 THHN/THWN/XW-1 TYPE TC-ER DC CABLE

DC CIRCUIT SCHEDULE

INSTALL:
(1) PROPOSED DC POWER PLANT
(1) PROPOSED BATTERY RACK
(2) PROPOSED #6 DC POWER TRUNKS
(3) PROPOSED FIBER TRUNKS

REMOVE:
(1) EXISTING DC POWER PLANT
(6) EXISTING BATTERY RACK
(1) EXISTING DC POWER TRUNK
ALL EXISTING DC POWER JUMPERS
ALL EXISTING FIBER JUMPERS

SCOPE OF WORK

APPLICANT/OWNER:
AT&T MOBILITY
16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:
BLACK & VEATCH
6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

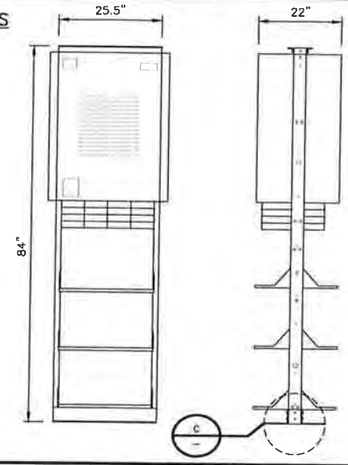
PROJECT LOCATION: USID (54308)
WOODWARD
401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:
EQUIPMENT ROOM PLAN & DC CIRCUIT SCHEDULE

DRAWING NUMBER:
C-1.1

EMERSON NETSURE 7100 SERIES

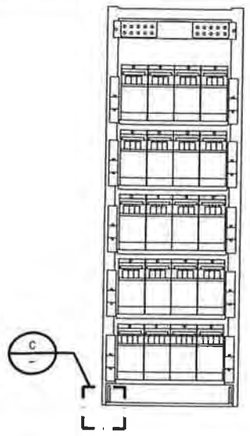
DIMENSIONS, HxWxD:	84"x25.5"x22"
LOAD RATING:	1200 lbs
COLOR:	GRAY
FINISH:	POWDER COAT



DC POWER PLANT SPECIFICATIONS | NO SCALE | A

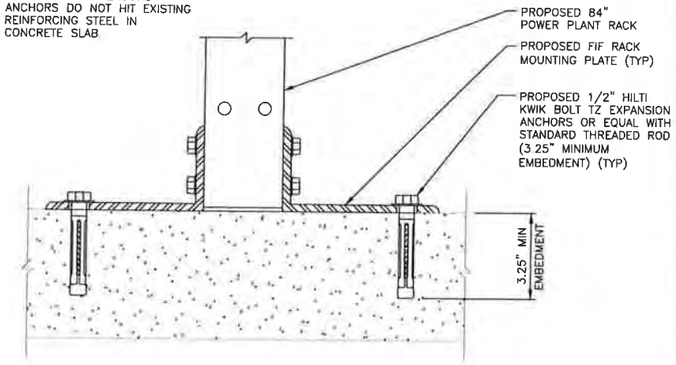
EMERSON-NETSURE VRLA BATTERY RACK

DIMENSIONS HxWxD:	84"x25.5"x25"
WEIGHT (WITHOUT BATTERIES):	600 LBS MAX
OUTPUT:	+24VDC OR -48VDC
CAPACITY:	1200 AMPS PER BAY
OPERATING TEMPERATURE:	-40°C TO +40°C (-40°F TO +104°F)
STORAGE RANGE:	-40°C TO +85°C (-40°F TO +185°F)



INDOOR BATTERY RACK DETAIL | NO SCALE | B

NOTE:
1. CONTRACTOR TO ENSURE ANCHORS DO NOT HIT EXISTING REINFORCING STEEL IN CONCRETE SLAB



CONCRETE ANCHOR DETAIL | NO SCALE | C

NOT USED | NO SCALE | D

NOT USED | NO SCALE | E

NOT USED | NO SCALE | F

NOT USED | NO SCALE | G

NOT USED | NO SCALE | H

NOT USED | NO SCALE | J

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

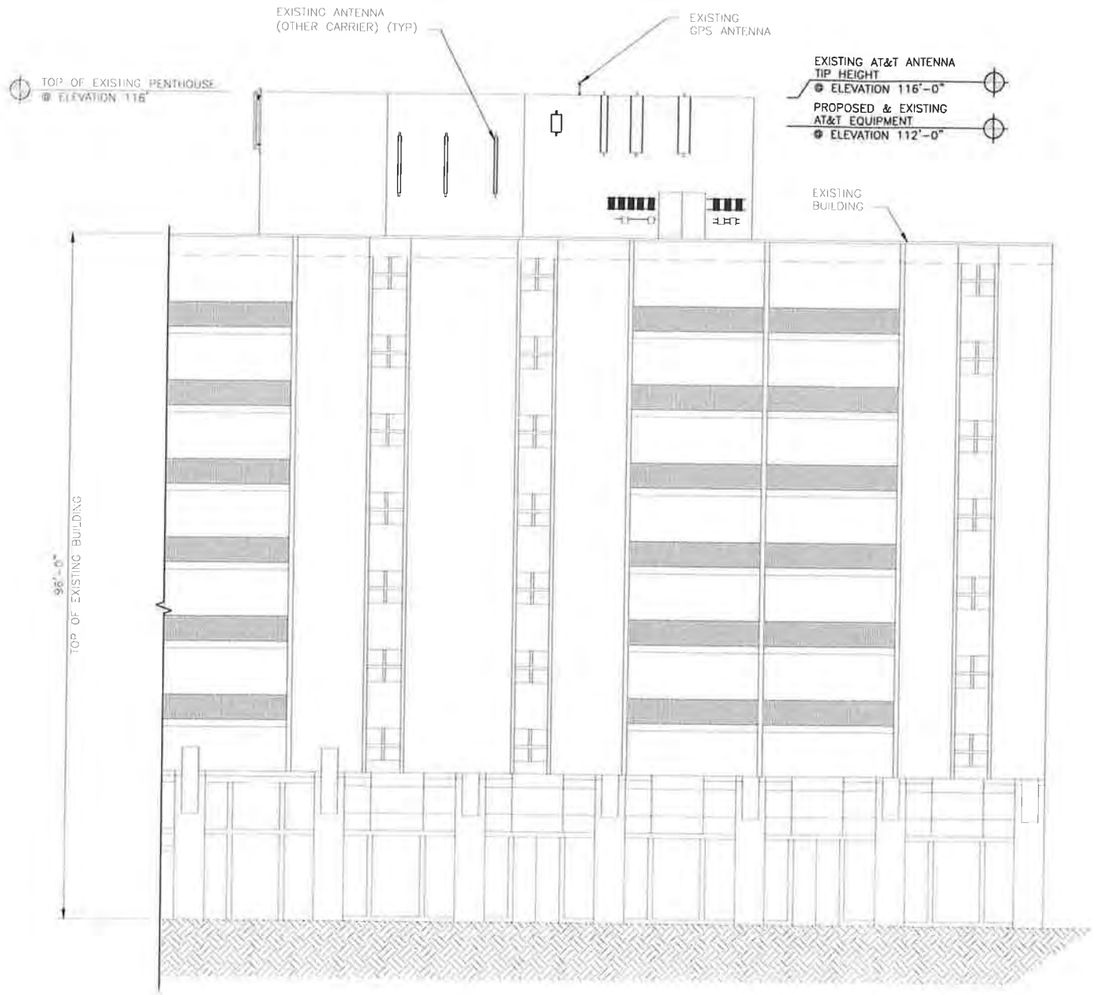
REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)
WOODWARD
401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:
EQUIPMENT DETAILS

DRAWING NUMBER:
C-2

THIS DOCUMENT WAS PREPARED BASED ON THE INFORMATION PROVIDED TO BLACK & VEATCH. IF EXISTING CONDITIONS DO NOT REFLECT THOSE REPRESENTED, THESE CONSTRUCTION DRAWINGS ARE NO LONGER VALID.



FINAL ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1

NOTES:

1. GROUND EQUIPMENT AND/OR EQUIPMENT SHELTERS OMITTED FOR CLARITY.

THE PASSING STRUCTURAL EVALUATION LETTER FOR THE EXISTING MOUNT AND BUILDING FLOOR WAS COMPLETED BY BLACK & VEATCH ON AUGUST 04, 2021. THE MOUNT AND BUILDING HAS SUFFICIENT CAPACITY FOR THE EXISTING AND PROPOSED LOADING OBSERVED ON THESE CONSTRUCTION DRAWINGS.

STRUCTURAL AND MOUNT ANALYSIS NOTE — 2

INSTALL:
(3) PROPOSED ANTENNAS
(6) PROPOSED RRHs
(2) PROPOSED #6 DC POWER TRUNKS
(3) PROPOSED FIBER TRUNKS

REMOVE:
(3) EXISTING ANTENNAS
(15) EXISTING RRHs
(1) EXISTING DC POWER TRUNK
ALL EXISTING DC POWER JUMPERS

SCOPE OF WORK — 4

1. WHEN STACKING CABLES 3 OR MORE DEEP, USE STACKABLE SNAP-INS, TALLEY PART NUMBER SSH-158-3 (OR ENGINEER APPROVED EQUAL).
2. CONTRACTOR SHALL CONFIRM THE FINAL CABLE ROUTING PLAN WITH THE STRUCTURAL ANALYSIS.

NOTES — 5

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

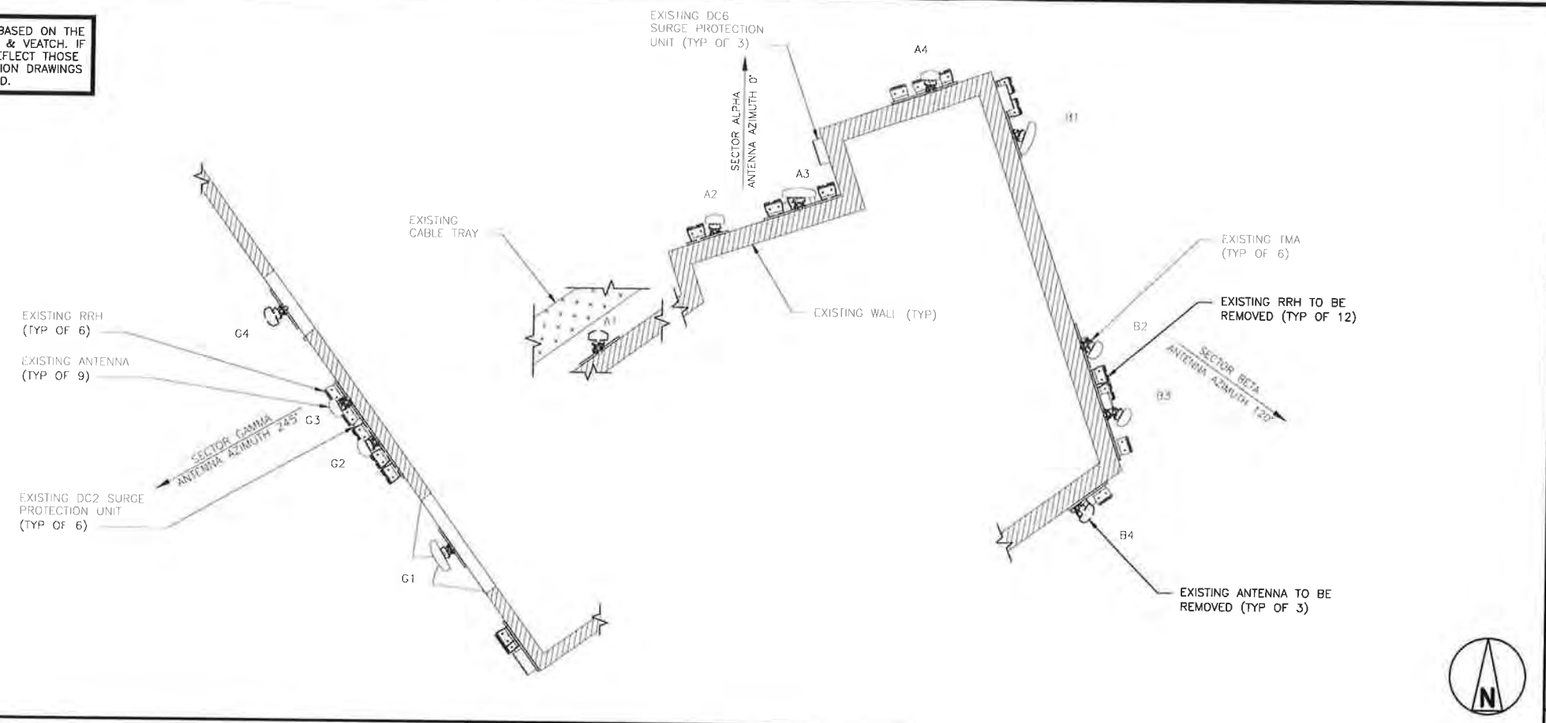
DRAWING DESCRIPTION:

ELEVATION

DRAWING NUMBER:

T-1

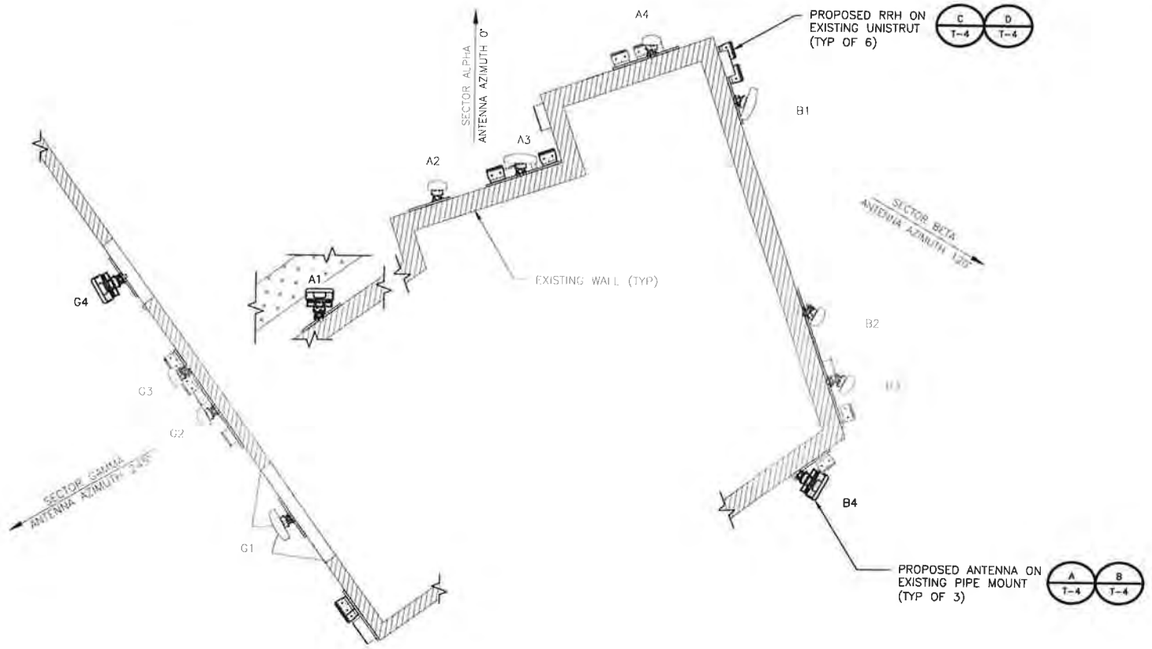
THIS DOCUMENT WAS PREPARED BASED ON THE INFORMATION PROVIDED TO BLACK & VEATCH. IF EXISTING CONDITIONS DO NOT REFLECT THOSE REPRESENTED, THESE CONSTRUCTION DRAWINGS ARE NO LONGER VALID.



EXISTING ANTENNA LAYOUT

4' 2' 0 4' 8'
1/4"=1'-0"

1



FINAL ANTENNA LAYOUT

4' 2' 0 4' 8'
1/4"=1'-0"

2

THE PASSING STRUCTURAL EVALUATION LETTER FOR THE EXISTING MOUNT AND BUILDING FLOOR WAS COMPLETED BY BLACK & VEATCH ON AUGUST 04, 2021. THE MOUNT AND BUILDING HAS SUFFICIENT CAPACITY FOR THE EXISTING AND PROPOSED LOADING OBSERVED ON THESE CONSTRUCTION DRAWINGS

STRUCTURAL AND MOUNT ANALYSIS NOTE — 3

1. CONTRACTOR SHALL REFER TO THE LATEST RFDS PRIOR TO THE CONSTRUCTION COMMENCING.
2. BLACK AND VEATCH RECOMMENDS EQUAL HORIZONTAL SPACING OF ANTENNAS TO ENSURE ADEQUATE WEIGHT DISTRIBUTION.
3. CONTRACTOR SHALL ENSURE 3'-0" MINIMUM SPACING BETWEEN LTE 700 B17 AND LTE 700 B14 (FIRSTNET) ANTENNAS. ANY VARIATION FROM THIS DIRECTIVE SHALL REQUIRE APPROVAL FROM THE AT&T PROJECT MANAGER PRIOR TO CLOSEOUT.

NOTES — 4

1. GROUNDING SHALL BE IN ACCORDANCE WITH ATT-TP-76416.
2. CONTRACTOR SHALL HAVE A COMPLETE UNDERSTANDING OF THE CONTENTS OF AT&T STANDARD TP-76416.
3. ALL INSTALLATIONS SHALL BE FIELD VERIFIED.
4. ALL GROUNDING CONDUCTORS SHALL BE #2 AWG SUNLIGHT RESISTANT-TINNED STRANDED COPPER UNLESS NOTED OTHERWISE.
5. ALL RRH4X25-B30 RRH MODELS WILL REQUIRE A #6 AWG SUNLIGHT RESISTANT-TINNED STRANDED COPPER DUE TO THE LIMITED SPACE AT THE GROUNDING TERMINATION POINT.
6. ALL 2X60W 850 & 1900 RRHS MODELS WILL REQUIRE A TOP AND BOTTOM CONNECTION.

GROUNDING NOTES — 5

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

ANTENNA LAYOUTS

DRAWING NUMBER:

T-2

THIS DOCUMENT WAS PREPARED BASED ON THE INFORMATION PROVIDED TO BLACK & VEATCH. IF EXISTING CONDITIONS DO NOT REFLECT THOSE REPRESENTED, THESE CONSTRUCTION DRAWINGS ARE NO LONGER VALID.

Antenna Requirements (verify with current RFDS)

Sector	Technology	Final Antenna Configuration	Antenna	Antenna Azimuth	Number of TMAs		Number of RRHs		RRH Model #	RRH Model #	Number of Surge Protection		Surge Protection Model #
			Final	Final	Exist.	Final	Exist.	Final	Final	Final	Exist.	Final	Final
A1	5G CBAND	Nokia AEQK	Proposed	0°	-	-	2	0	-	-	3	3	Raycap DC6
A2	UMTS	Powerwave 7772	Existing	-	2	2	-	-	-	-	6	6	Raycap DC2
A3	LTE 1C/5C/6C	KMW EPBQ-654L8H8-L2	Existing	-	-	-	2	2	Nokia B12/14/29 Triband RRH AHLBBA	AirScale Dual RRH 4T4R B25/66 320W AHFIB	2	2	Raycap FC12
A4	LTE 2C/3C/4C	Andrew NNH4-65C-R6-V3	Existing	-	-	-	3	2	AirScale RRH 4T4R B5 160W AHCA	Alcatel-Lucent RRH4x25-WCS-4R	-	-	-
B1	LTE 1C/5C/6C	KMW EPBQ-654L8H8-L2	Existing	-	-	-	2	0	Nokia B12/14/29 Triband RRH AHLBBA	AirScale Dual RRH 4T4R B25/66 320W AHFIB	-	-	-
B2	UMTS	Powerwave 7772	Existing	-	2	2	-	-	-	-	-	-	-
B3	LTE 2C/3C/4C	Andrew NNH4-65C-R6-V3	Existing	-	-	-	3	2	AirScale RRH 4T4R B5 160W AHCA	Alcatel-Lucent RRH4x25-WCS-4R	-	-	-
B4	5G CBAND	Nokia AEQK	Proposed	120°	-	-	2	2	-	-	-	-	-
G1	LTE 1C/5C/6C	KMW EPBQ-654L8H8-L2	Existing	-	-	-	2	2	Nokia B12/14/29 Triband RRH AHLBBA	AirScale Dual RRH 4T4R B25/66 320W AHFIB	-	-	-
G2	LTE 2C/3C/4C	Andrew NNH4-65C-R6-V3	Existing	-	-	-	3	2	AirScale RRH 4T4R B5 160W AHCA	Alcatel-Lucent RRH4x25-WCS-4R	-	-	-
G3	UMTS	Powerwave 7772	Existing	-	2	2	-	-	-	-	-	-	-
G4	5G CBAND	Nokia AEQK	Proposed	240°	-	-	2	0	-	-	-	-	-

FINAL ANTENNA CONFIGURATION

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

ANTENNA CONFIGURATION

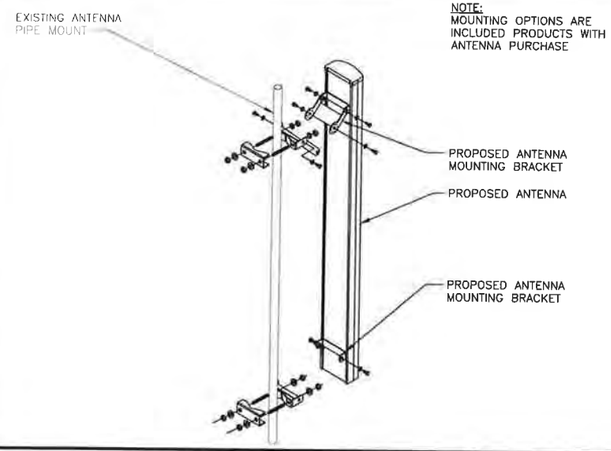
DRAWING NUMBER:

T-3

ANTENNA MOUNTING DETAIL

NO SCALE

A



ANTENNA SPECIFICATIONS

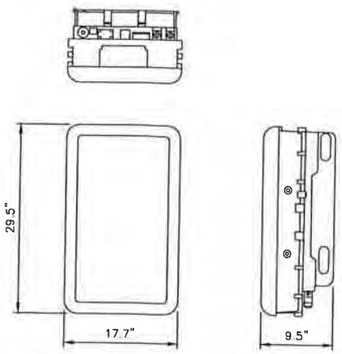
NO SCALE

B

AIRSCALE MAA 64T64R 192AE N77 200W AEQK

DIMENSIONS, HxWxD: 29.5"x17.7"x9.5" (749x450x241mm)

WEIGHT: 99.2 lbs (45kg)



RRH SPECIFICATIONS

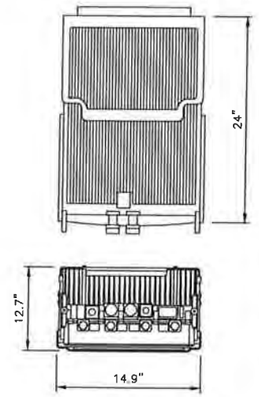
NO SCALE

C

NOKIA RRH B12/14/29 AHLBBA

DIMENSIONS, HxWxD: 24"x14.9"x12.7" (610x358x189mm)

WEIGHT: 101.4 lbs (46kg)



RRH SPECIFICATIONS

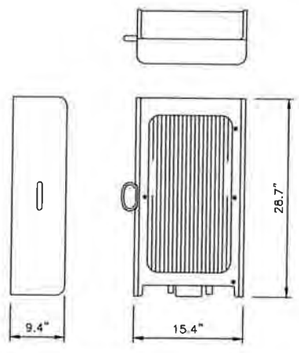
NO SCALE

D

AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB

DIMENSIONS, HxWxD: 28.7"x15.4"x9.4" (730x390x240mm)

WEIGHT: 88.2 lbs (40kg)



NOT USED

NO SCALE

E

NOT USED

NO SCALE

F

NOT USED

NO SCALE

G

NOT USED

NO SCALE

H

NOT USED

NO SCALE

J

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

EQUIPMENT DETAILS

DRAWING NUMBER:

T-4

PART 1 – GENERAL

1.1 SCOPE:

A. PROVIDE FABRICATION AND ERECTION OF STRUCTURAL STEEL AND OTHER ITEMS AS SHOWN ON THE DRAWINGS OR REQUIRED BY OTHER SECTIONS OF THESE SPECIFICATIONS

1.2 REFERENCES:

A. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). MANUAL OF STEEL CONSTRUCTION (13TH EDITION), ALLOWABLE STRESS DESIGN (ASD).

B. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
ASTM A36: STRUCTURAL STEEL
ASTM A53: PIPE, STEEL BLACK AND HOT DIPPED, ZINC-COATED WELDED AND SEAMLESS
ASTM A108: STEEL BARS, CARBON, COLD FINISHED, STANDARD QUALITY.
ASTM A123: ZINC (HOT-DIPPED GALVANIZED) COATING ON IRON AND STEEL PRODUCTS
ASTM A307: CARBON STEEL BOLTS AND STUDS, 60,000 PSI TENSILE STRENGTH.
ASTM A325: HIGH-STRENGTH BOLT FOR STRUCTURAL STEEL JOINTS.
ASTM A490: HEAT-TREATED, STRUCTURAL STEEL BOLTS, 150 (KSI) (1035MPA) TENSILE STRENGTH.
ASTM A500: COLD-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES.
ASTM A563: ARCBON AND ALLOY STEEL NUTS.
ASTM B695: COATINGS OF ZINC MECHANICALLY DEPOSITED ON IRON AND STEEL.
ASTM F436: HARDENED STEEL WASHERS.
ASTM F959: COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATOR FOR USE WITH STRUCTURAL FASTENERS.

C. AMERICAN WELDING SOCIETY (AWS):
AWS A5.1: COVERED CARBON STEEL ARC WELDING ELECTRODES.
AWS A5.5: LOW ALLOY STEEL COVERED ARC WELDING ELECTRODES.
AWS D1.1: STRUCTURAL WELDING CODE – STEEL.

D. RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC): "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS OR ASTM A490 BOLTS" AS ENDORSED BY AISC.

E. STEEL STRUCTURES PAINTING COUNCIL (SSPC):
SSPC-SP3: POWER TOOL CLEANING.
SSPC-PAINT 11: RED IRON OXIDE, ZINC CHROME, RAW LINSEED OIL OR ALKYD PAINT.

1.3 SUBMITTALS:

A. SUBMIT THE FOLLOWING FOR APPROVAL:

1. FABRICATION AND ERECTION DRAWINGS SHOWING ALL DETAILS, CONNECTIONS, MATERIAL DESIGNATIONS, AND ALL TOP STEEL ELEVATIONS.

B. WELDERS SHALL BE QUALIFIED AS PRESCRIBED IN AWS D1.1

PART 2 – PRODUCTS

2.1 STRUCTURAL STEEL:

A. SHAPES, PLATES AND BARS SHALL CONFORM TO ASTM A36 AND ASTM A992

B. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B.

2.2 ANCHOR BOLTS:

A. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 WITH HEAVY HEXAGONAL NUTS

2.3 BOLTS:

A. COMMON (MACHINE) BOLTS SHALL CONFORM TO ASTM A307 GRADE A AND NUTS TO ASTM A563. ONE COMMON BOLT ASSEMBLY SHALL CONSIST OF A BOLT, A HEAVY HEX NUT, AND A HARDENED WASHER.

B. HIGH STRENGTH BOLT SHALL CONFORM TO ASTM A325. ONE HIGH STRENGTH BOLT ASSEMBLY SHALL CONSIST OF A HEAVY HEX STRUCTURAL BOLT, A HEAVY HEX NUT, A HARDENED WASHER CONFIRMING WITH ASTM F436 AND A DIRECT TENSION INDICATOR CONFORMING WITH STM F959. THE HARDENED WASHER SHALL BE INSTALLED AGAINST THE ELEMENT TURNED IN TIGHTENING.UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS.

2.4 WELDING ELECTRODES:

A. WELDING ELECTRODES SHALL COMPLY WITH AWS D1.1 USING A5.1 OR A5.5 E70XX AND SHALL BE COMPATIBLE WITH THE WELDING PROCESS SELECTED.

2.5 PRIMER:

A. PRIMER SHALL BE RED OXIDE-CHROMATE PRIMER COMPLYING WITH SSPC PAINT SPECIFICATION NO 11.

PART 3 – EXECUTION

3.1 FABRICATION:

A. SHOP FABRICATE AND ASSEMBLY MATERIALS AS SPECIFIED HEREIN

1. FABRICATE ITEMS OF STRUCTURAL STEEL IN ACCORDANCE WITH THE AISC-ASD SPECIFICATION, AND AS INDICATED ON THE APPROVED SHOP DRAWINGS.

2. ALL EXPOSED STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED PER ASTM.

3. PROPERLY MARK AND MATCH-MARK MATERIALS FOR FIELD ASSEMBLY AND FOR IDENTIFICATION AS TO LOCATION FOR WHICH INTENDED.

4. FABRICATE AND DELIVER IN A SEQUENCE WHICH WILL EXPEDITE ERECTION AND MINIMIZE FIELD HANDLING OF MATERIALS

5. WHERE FINISHING IS REQUIRED, COMPLETE THE ASSEMBLY, INCLUDING THE WELDING OF UNITS, BEFORE START OF FINISHING OPERATIONS.

6. PROVIDE FINISH SURFACE OF MEMBERS EXPOSED IN THE FINAL STRUCTURE FREE FROM MARKINGS, BURNS, AND OTHER DEFECTS.

B. PROVIDE CONNECTIONS AS SPECIFIED HEREIN:

1. PROVIDE BOLTS AND WASHERS OF TYPES AND SIZE REQUIRED FOR COMPLETION OF FIELD ERECTION USE 3/4 INCH DIAMETER A325 BOLTS UNLESS NOTED OTHERWISE.

2. INSTALL HIGH STRENGTH THREADED FASTENERS IN ACCORDANCE WITH RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS."

3. WELDED CONSTRUCTION SHALL COMPLY WITH AWS D1.1 FOR PROCEDURES, APPEARANCE, QUALITY OF WELD, AND METHODS USED IN CORRECTING WELDED WORK.

4. THE FABRICATOR SHALL FURNISH AND INSTALL ERECTION CLIPS FOR FIT-UP OF WELDED CONNECTIONS.

5. DOUBLE ANGLE MEMBERS SHALL HAVE WELDED FILLERS SPACED IN ACCORDANCE WITH CHAPTER E4 OF THE AISC-ASD SPECIFICATION.

6. GUSSET AND STIFFENER PLATES SHALL BE 3/8 INCH THICK MINIMUM

3.2 PRIMING:

A. STRUCTURAL STEEL SHALL BE PRIMED AS SPECIFIED HEREIN, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

B. STRUCTURAL STEEL SURFACE PREPARATION SHALL CONFORM TO SSPC-SP3, "POWER TOOL CLEANING."

C. SURFACE PREPARATION AND PRIMER SHALL BE IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE AS INCLUDED IN THE ASD MANUAL OF STEEL CONSTRUCTION.

D. MATERIALS SHALL REMAIN CLOSED UNTIL REQUIRED FOR USE. MANUFACTURER'S POT-LIFE REQUIREMENTS SHALL BE STRICTLY ADHERED TO.

E. PRIMER SHALL BE APPLIED TO DRY, CLEAN, PREPARED SURFACE AND UNDER FAVORABLE CONDITIONS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER PRIMING SHALL NOT BE DONE WHEN AMBIENT TEMPERATURE IS LESS THAN 50 DEGREE F, THE RELATIVE HUMIDITY IS MORE THAN 90 PERCENT, OR THE SURFACE TEMPERATURE IS LESS THAN 5 DEGREE F ABOVE THE DEW POINT.

F. GENERALLY ALL PRIMER SHALL BE SPRAY APPLIED. BRUSH OR ROLLER APPLICATION SHALL BE RESTRICTED TO TOUCHUP AND TO AREAS NOT ACCESSIBLE BY SPRAY GUN.

G. PRIMER SHALL BE UNIFORMLY APPLIED WITHOUT RUNS, SAGS, SOLVENT BLISTERS, DRY SPRAY OR OTHER BLEMISHES. ALL BLEMISHES AND OTHER IRREGULARITIES SHALL BE REPAIRED OR REMOVED AND THE AREA RE-COATED. SPECIAL ATTENTION SHALL BE PAID TO CREVICES, WELD LINES, BOLT HEADS, CORNERS, EDGES, ETC., TO OBTAIN THE REQUIRED NOMINAL FILM THICKNESS.

H. THE DRY FILM THICKNESS OF THE PRIMER SHALL BE 2.0 MILS

I. IF THE PRIMER IS DAMAGED BY WELDING OR PHYSICAL ABUSE, THE AREA SHALL BE TOUCHED-UP AND REPAIRED. THE TOUCHUP PAINT SHALL BE COMPATIBLE WITH THE APPLIED PRIMER WITH MINIMUM DRY FILM THICKNESS OF 1.5 MILS.

3.3 INSTALLATION:

A. INSTALLATION OF STRUCTURAL STEEL SHALL COMPLY WITH AISC "CODE OF STANDARD PRACTICE."

B. STRUCTURAL FIELD WELDING SHALL BE DONE BY THE ELECTRIC SUBMERGED OR SHIELDED METAL ARC PROCESS. WELDED CONSTRUCTION SHALL COMPLY WITH AWS D1.1.

C. PROVIDE ANCHOR BOLTS AND OTHER CONNECTORS REQUIRED FOR SECURING STRUCTURAL STEEL TO ELEVATOR SHAFT WALLS AND OTHER IN-PLACE WORK. PROVIDE TEMPLATES AND OTHER DEVICES NECESSARY FOR PRESETTING BOLTS AND ANCHORS TO ACCURATE LOCATIONS.

D. SPLICE MEMBERS ONLY WHERE INDICATED ON THE DRAWINGS.

E. ANY GAS CUTTING TORCHES HAVE TO BE APPROVED IN WRITING BY THE PROJECT STRUCTURAL ENGINEER.

F. PROVIDE TEMPORARY SHORING BRACING WITH CONNECTIONS OF SUFFICIENT STRENGTH TO BEAR IMPOSED LOADS. REMOVE TEMPORARY CONNECTIONS AND MEMBERS WHEN PERMANENT MEMBERS ARE IN PLACE AND THE FINAL CONNECTIONS HAVE BEEN MADE.

G. ALIGN AND ADJUST MEMBERS, AND OTHER SURFACES WHICH WILL BE IN PERMANENT CONTACT, BEFORE ASSEMBLY.

H. HIGH-STRENGTH BOLTS, AT A MINIMUM, SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN THE LATEST AISC SPECIFICATION. ALL HIGH-STRENGTH BOLTS SPECIFIED ON THE DESIGN DRAWINGS TO BE USED IN PRETENSIONED OR SLIP-CRITICAL JOINTS SHALL BE TIGHTENED TO A BOLT TENSION NOT LESS THAN THAT GIVEN IN AISC TABLE J3.1. INSTALLATION SHALL BE BY ANY OF THE FOLLOWING METHODS: TURN-OF NUT METHOD, A DIRECT-TENSION-INDICATOR, TWIST-OFF-TYPE TENSION-CONTROL BOLT, CALIBRATED WRENCH, OR ALTERNATIVE DESIGN BOLT.

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST. SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

STRUCTURAL NOTES

DRAWING NUMBER:

T-5

ANTENNA MOUNTING

1. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.

2. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.

3. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE

4. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.

5. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, LOCK WASHERS, OR DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.

6. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.

7. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.

8. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO ND-00246.

9. JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATIONS IN EACH SECTOR.

10. CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.

11. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.

TORQUE REQUIREMENTS

12. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.

13. ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).

14. ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).

15. ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.

16. ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 – 29.8 NM).

17. ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 – 2.3 NM).

FIBER & POWER CABLE MOUNTING

18. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.

19. THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.

20. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

COAXIAL CABLE NOTES

21. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.

22. CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.

23. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 LATEST VERSION.

24. ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".

25. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0" OC.

26. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.

27. CONTRACTOR SHALL WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE. WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH AT&T STANDARDS.

28. CONTRACTOR SHALL GROUND ALL EQUIPMENT, INCLUDING ANTENNAS, RET MOTORS, TMA'S, COAX CABLES, AND RET CONTROL CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED WIREMEN IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.

29. CONTRACTOR SHALL PROVIDE STRAIN-RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES, COAX CABLES, AND RET CONTROL CABLES. CABLE STRAIN-RELIEFS AND CABLE SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

30. CONTRACTOR TO VERIFY THAT EXISTING COAX HANGERS ARE STACKABLE SNAP IN HANGERS. IF EXISTING HANGERS ARE NOT STACKABLE SNAP IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SNAP IN HANGERS IF APPLICABLE.

GENERAL CABLE AND EQUIPMENT NOTES

31. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.

32. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.

33. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

34. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.

35. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
    A. TEMPERATURE SHALL BE ABOVE 50° F.
    B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD
    C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
    D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.

36. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
    A. GROUNDING AT THE ANTENNA LEVEL
    B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING REQUIRED.
    C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL
    D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT
    E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.

37. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND

38. BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION

39. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAX CONFIGURATION IS THE CORRECT MAKE AND MODELS, PRIOR TO INSTALLATION.

40. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S SPECIFICATION & RECOMMENDATIONS.

GROUNDING NOTES

41. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY

42. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND AT&T GROUNDING AND BONDING REQUIREMENTS (ATT-TP-76416) AND MANUFACTURER'S SPECIFICATIONS.

43. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

44. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUNDING KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
    A. GROUNDING AT THE ANTENNA LEVEL
    B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200', ADDITIONAL CABLE GROUNDING REQUIRED.
    C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL
    D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT
    E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.

45. ALL PROPOSED GROUNDING BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUNDING BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

EQUIPMENT NOTES

DRAWING NUMBER:

T-6

PART 1 – GENERAL

1.1 GENERAL CONDITIONS:

A. CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.

B. THE CONTRACTOR SHALL OBTAIN PERMITS, LICENSES, MAKE ALL DEPOSITS, AND PAY ALL FEES REQUIRED FOR THE CONSTRUCTION PERFORMANCE FOR THE WORK UNDER THIS SECTION.

C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWING SHALL NOT BE SCALED TO DETERMINE DIMENSIONS.

1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES

A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES. CONDUIT BENDS SHALL BE THE RADIUS BEND FOR THE TRADE SIZE OF CONDUIT IN COMPLIANCE WITH THE LATEST EDITIONS OF NEC.

1.3 REFERENCES:

A. THE PUBLICATIONS LISTED BELOW ARE PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE. THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTED. EXCEPT AS MODIFIED BY THE REQUIREMENT SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISION OF THESE PUBLICATIONS.

1. ANSI/IEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
2. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
3. ICEA (INSULATED CABLE ENGINEERS ASSOCIATION)
4. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
5. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
6. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
7. UL (UNDERWRITERS LABORATORIES INC.)
8. AT&T GROUNDING AND BONDING STANDARDS TP-76416

1.4 SCOPE OF WORK

A. WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL, AND ASSOCIATED SERVICES REQUIRED TO COMPLETE REQUIRED CONSTRUCTION AND BE OPERATIONAL

B. ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED, AND ALIGNED BY THE CONTRACTOR.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL OF EXCESS DIRT.

D. THE CONTRACTOR SHALL FURNISH TO THE OWNER WITH CERTIFICATES OF A FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.

E. THE CONTRACTOR SHALL PREPARE A COMPLETE SET OF AS-BUILT DRAWINGS, DOCUMENT ALL WIRING EQUIPMENT CONDITIONS, AND CHANGES WHILE COMPLETING THIS CONTRACT. THE AS-BUILT DRAWINGS SHALL BE SUBMITTED AT COMPLETION OF THE PROJECT.

PART 2 – PRODUCTS

2.1 GENERAL:

A ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED, NEW, AND FREE FROM DEFECTS

B. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.

C ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

D. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 10,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PER THE GOVERNING JURISDICTION.

2.2 MATERIALS AND EQUIPMENT:

A. CONDUIT:

1 RIGID METAL CONDUIT (RMC) SHALL BE HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED INSIDE IN ADDITION TO GALVANIZING.

2. LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED.

3 CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON. ALL FITTINGS SHALL BE COMPRESSION AND CONCRETE TIGHT TYPE. GROUNDING BUSHINGS WITH INSULATED THROATS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.

4. NONMETALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC. INSTALL USING SOLVENT-CEMENT-TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.

B CONDUCTORS AND CABLE:

1 CONDUCTORS AND CABLE SHALL BE FLAME-RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THHN/THWN-2, 600 VOLT, SIZE AS INDICATED, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR USED.

2. #10 AWG AND SMALLER CONDUCTOR SHALL BE SOLID OR STRANDED AND #8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED.

3. SOLDERLESS, COMPRESSION-TYPE CONNECTORS SHALL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTORS.

4. STRAIN-RELIEF SUPPORTS GRIPS SHALL BE HUBBELL KELLEMS OR APPROVED EQUAL. CABLES SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC AND CABLE MANUFACTURER'S RECOMMENDATIONS.

5. ALL CONDUCTORS SHALL BE TAGGED AT BOTH ENDS OF THE CONDUCTOR, AT ALL PULL BOXES, J-BOXES, EQUIPMENT AND CABINETS AND SHALL BE IDENTIFIED WITH APPROVED PLASTIC TAGS (ACTION CRAFT, BRADY, OR APPROVED EQUAL).

C. DISCONNECT SWITCHES:

1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD-FRONT, QUICK-MAKE, QUICK-BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCK WITH COVER IN CLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE-D OR ENGINEER APPROVED EQUAL.

D. CHEMICAL ELECTROLYTIC GROUNDING SYSTEM:

1. INSTALL CHEMICAL GROUNDING AS REQUIRED. THE SYSTEM SHALL BE ELECTROLYTIC MAINTENANCE FREE ELECTRODE CONSISTING OF RODS WITH A MINIMUM #2 AWG CU EXOTHERMICALLY WELDED PIGTAIL, PROTECTIVE BOXES, AND BACKFILL MATERIAL. MANUFACTURER SHALL BE LYNCOLE XIT GROUNDING ROD TYPES K2-(*)CS OR K2L-(*)CS (*) LENGTH AS REQUIRED.

2. GROUND ACCESS BOX SHALL BE A POLYPLASTIC BOX FOR NON-TRAFFIC APPLICATIONS, INCLUDING BOLT DOWN FLUSH COVER WITH "BREATHER" HOLES, XIT MODEL #XB-22. ALL DISCONNECT SWITCHES AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS ID NUMBERING, AND THE ELECTRICAL POWER SOURCE.

3. BACKFILL MATERIAL SHALL BE LYNCONITE AND LYNCOLE GROUNDING GRAVEL.

E. SYSTEM GROUNDING:

1. ALL GROUNDING COMPONENTS SHALL BE TINNED AND GROUNDING CONDUCTOR SHALL BE #2 AWG BARE, SOLID, TINNED, COPPER. ABOVE GRADE GROUNDING CONDUCTORS SHALL BE INSULATED WHERE NOTED.

2. GROUNDING BUSES SHALL BE BARE, TINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION. STANDARD BUS BARS MGB, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD. ALL GROUNDING BUSES SHALL BE IDENTIFIED WITH MINIMUM 3/4" LETTERS BY WAY OF STENCILING OR DESIGNATION PLATE.

3. CONNECTORS SHALL BE HIGH-CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED. USE TWO-HOLE COMPRESSION LUGS WITH HEAT SHRINK FOR MECHANICAL CONNECTIONS. INTERIOR CONNECTIONS USE TWO-HOLE COMPRESSION LUGS WITH INSPECTION WINDOW AND CLEAR HEAT SHRINK.

4. EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.

5. GROUND RODS SHALL BE COPPER-CLAD STEEL WITH HIGH-STRENGTH STEEL CORE AND ELECTROLYTIC-GRADE COPPER OUTER SHEATH, MOLTEN WELDED TO CORE, 5/8"x10'-0". ALL GROUNDING RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES.

6. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS IN COMPLIANCE WITH THE AT&T SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.

F. OTHER MATERIALS:

1 THE CONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.

2. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC

G. PANELS AND LOAD CENTERS:

1. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN

PART 3 – EXECUTION

3.1 GENERAL:

A. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS

B EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS

3.2 LABOR AND WORKMANSHIP:

A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE INSTALLED BY EXPERIENCED WIREMEN, IN A NEAT AND WORKMAN-LIKE MANNER.

B ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE CONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.

C. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.

3.3 COORDINATION:

A. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER-FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.

3.4 INSTALLATION:

A. CONDUIT:

1. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH TRADE SIZE.

2 PROVIDE RIGID PVC SCHEDULE 80 CONDUITS FOR ALL RISERS, RMC OTHERWISE NOTED. EMT MAY BE INSTALLED FOR EXTERIOR CONDUITS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

3. INSTALL SCHEDULE 40 PVC CONDUIT WITH A MINIMUM COVER OF 24" UNDER ROADWAYS, PARKING LOTS, STREETS, AND ALLEYS. CONDUIT SHALL HAVE A MINIMUM COVER OF 18" IN ALL OTHER NON-TRAFFIC APPLICATIONS (REFER TO LATEST NEC, TABLE 300.5).

4. USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION TO EQUIPMENT WITH MOVEMENT, VIBRATION, OR FOR EASE OF MAINTENANCE. USE LIQUID TIGHT, FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS. INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORT TO ALLOW FOR EXPANSION AND CONTRACTION.

5. A RUN OF CONDUIT BETWEEN BOXES OR EQUIPMENT SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE QUARTER-BENDS. CONDUIT BEND SHALL BE MADE WITH THE UL LISTED BENDER OR FACTORY 90 DEGREE ELBOWS MAY BE USED.

6. FIELD FABRICATED CONDUITS SHALL BE CUT SQUARE WITH A CONDUIT CUTTING TOOL AND REAMED TO PROVIDE A SMOOTH INSIDE SURFACE.

7. PROVIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS

8. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION. TEMPORARY OPENINGS IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER. CONTRACTOR SHALL REPLACE ANY CONDUITS CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.

9. ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF CONDUCTORS OR CABLES. CONDUIT SHALL BE FREE OF DIRT AND DEBRIS.

10. INSTALL PULL STRINGS IN ALL CLEAN EMPTY CONDUITS. IDENTIFY PULL STRINGS AT EACH END.

11. INSTALL 2" HIGHLY VISIBLE AND DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUITS AND CONDUCTORS.

12. CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO ENSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.

13. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS TO ALLOW FOR RACEWAYS AND CABLES TO BE ROUTED THROUGH THE BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE EFFECTIVELY SEALED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FIRE STOPS AT FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE, AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

B. CONDUCTORS AND CABLE:

1. ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:

DESCRIPTION	208/240/120 VOLT SYSTEMS
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUNDING	GREEN

2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDUITS APPROVED FOR THIS PURPOSE.

3. PULLING LUBRICANTS SHALL BE UL APPROVED. CONTRACTOR SHALL USE NYLON OR HEMP ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE CONDUIT.

4. CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES & EQUIPMENT TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OR TERMINALS. CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS IS PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

C. DISCONNECT SWITCHES:

1. INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB. CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEM AS INDICATED.

D. GROUNDING:

1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, AT&T GROUNDING AND BONDING STANDARDS TP-76416, ND-00135, AND THE NATIONAL ELECTRICAL CODE.

2 PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.

3. ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHARPLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.

4. BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM. THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 AWG COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). SEE STANDARD 53.2.2.

5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.

6. CONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING GROUNDING SYSTEM. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

7. ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.

8 APPLY CORROSION-RESISTANT FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED. USE KOPR-SHIELD ANTI-OXIDATION COMPOUND ON ALL COMPRESSION GROUNDING CONNECTIONS.

9. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.

10. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE #6 AWG GROUNDING CONDUCTOR TO A GROUND BUS.

11 DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE THE GREATER OF THE TWO DISTANCES.

12. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.

13. THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.

14. DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.

15. IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT. FROM THE GROUNDING BAR AT THE BASE OF THE TOWER, A SECOND GROUNDING BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LINE ARRESTORS.

16 CONTRACTOR SHALL REPAIR, AND/OR REPLACE, EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.

3.5 ACCEPTANCE TESTING:

A. CERTIFIED PERSONNEL USING CERTIFIED EQUIPMENT SHALL PERFORM REQUIRED TESTS AND SUBMIT WRITTEN TEST REPORTS UPON COMPLETION.

B WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NON-COMPLYING ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED WITH ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE FOR NON-COMPLIANCE.

C TEST PROCEDURES:

1. ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION, BEFORE CONNECTION TO DEVICES. THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS. TESTING SHALL BE FOR ONE MINUTE USING 1000V DC. PROVIDE WRITTEN DOCUMENTATION FOR ALL TEST RESULTS.

2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.

3. MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE CONDUCTORS AND NEUTRALS. SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES.

4. PERFORM GROUNDING TEST TO MEASURE GROUNDING RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD 3-POINT "FALL-OF-POTENTIAL" METHOD. PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH. NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 OHMS.

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

ELECTRICAL SECTION NOTES

DRAWING NUMBER:

E-1

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE
(2) TWO LAMPS 48-T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW
LED-1-25A400/51K-SR4-120-PE-DDBTXD

CHAINLINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

PROPOSED ICE BRIDGE

EXISTING ICE BRIDGE

EXISTING CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

SECTION REFERENCE

DETAIL REFERENCE

PHOTO REFERENCE

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CEC	CALIFORNIA ELECTRIC CODE
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
NO (#)	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OPNG	OPENING
(P)	PROPOSED
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SUPPRESSION SYSTEM
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
W.P.	WORK POINT
WP	WEATHERPROOF
WT	WEIGHT

LEGEND & ABBREVIATIONS

1

NOT USED

2

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

GENERAL NOTES

DRAWING NUMBER:

N-1

GENERAL CONSTRUCTION

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   GENERAL CONTRACTOR – OVERLAND CONTRACTING INC. (B&V)
   CONTRACTOR: (CONSTRUCTION)
   OWNER – AT&T
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION
18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW, THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS
38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
39. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
40. ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS
41. CONTRACTOR WILL REFER TO LATEST RFDS SHEET PRIOR TO CONSTRUCTION COMMENCING

APPLICANT/OWNER:

AT&T MOBILITY

16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY:

BLACK & VEATCH

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER

08/17/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION
1	08.17.21	ISSUED FOR CONSTRUCTION
0	08.13.21	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USID (54308)

WOODWARD

401 SOUTH OLD WOODWARD AVENUE
BIRMINGHAM, MI 48009

DRAWING DESCRIPTION:

GENERAL NOTES

DRAWING NUMBER:

N-2

Diagram - Sector	A	Diagram File Name - MIU3165 BEFORE_SECTOR_A.vsd					
Atoll Site Name -	MI3165	Location Name -	WOODWARD	Market -	DETROIT	Market Cluster -	MICHIGAN/INDIANA
Comments:							

MIU3165_BEFORE_SECTOR_A

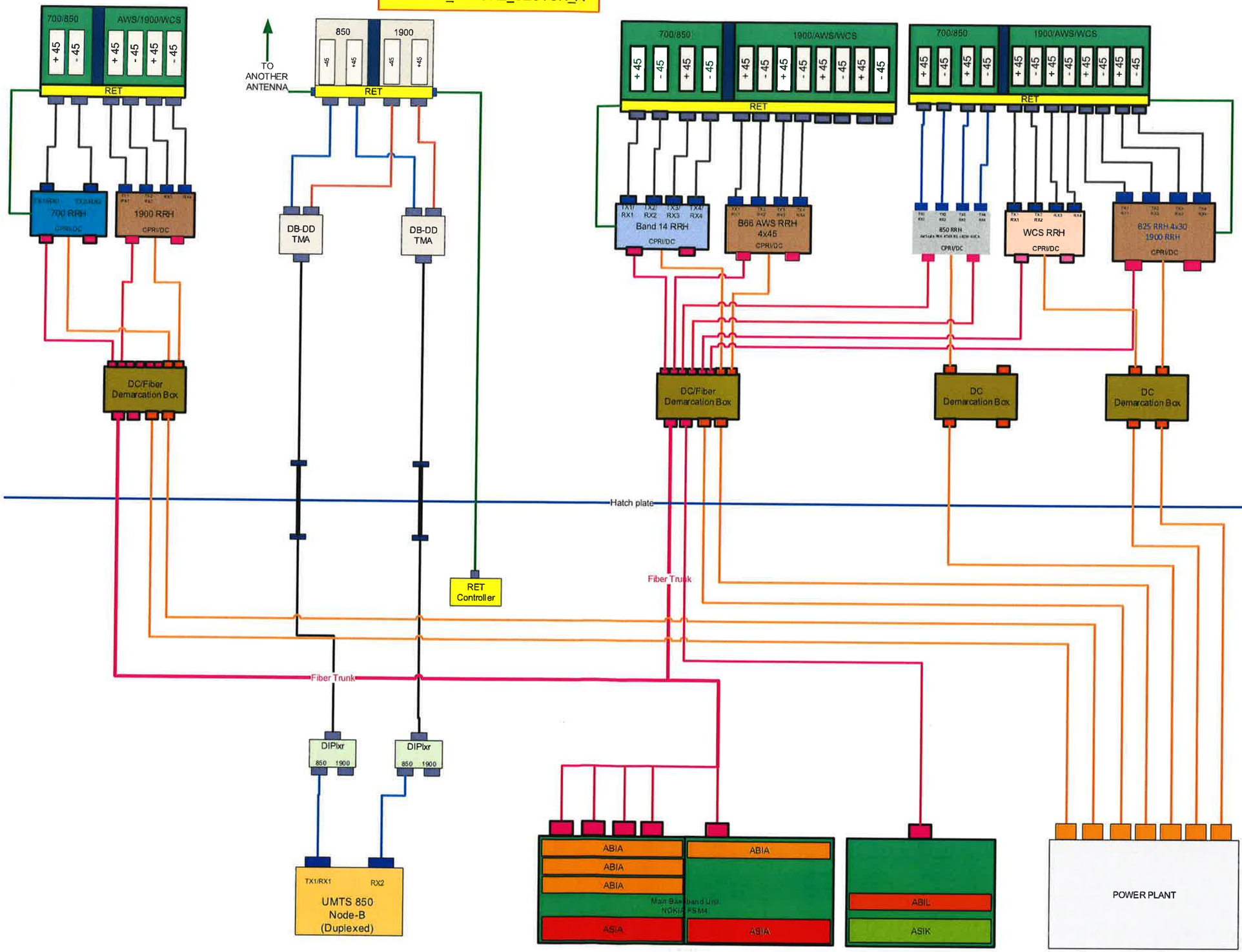


Diagram - Sector	B	Diagram File Name - MIU3165_BEFORE_SECTOR_B.vsd					
Atoll Site Name -	MI3165	Location Name -	WOODWARD	Market -	DETROIT	Market Cluster -	MICHIGAN/INDIANA
Comments:							

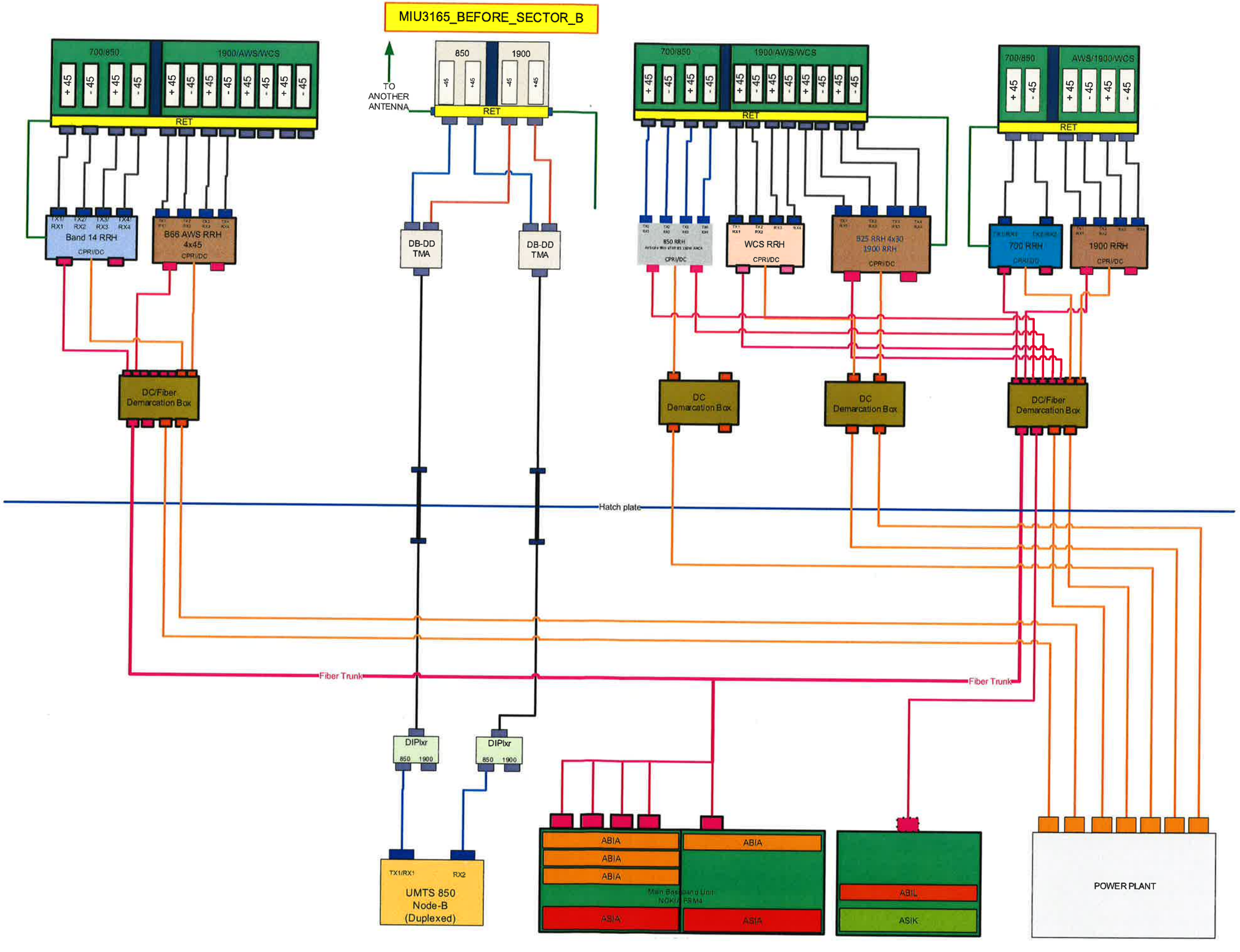


Diagram - Sector	C	Diagram File Name - MIU3165 BEFORE_SECTOR_C.vsd					
Atoll Site Name -	MI3165	Location Name -	WOODWARD	Market -	DETROIT	Market Cluster -	MICHIGAN/INDIANA
Comments:							

MIU3165_BEFORE_SECTOR_C

700/850 | 1900/AWS/WCS
+45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45
RET
Band 14 RRH
CPRI/DC
B66 AWS RRH 4x45
CPRI/DC
DC/Fiber Demarcation Box

700/850 | 1900/AWS/WCS
+45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45
RET
850 RRH
CPRI/DC
WCS RRH
CPRI/DC
B25 RRH 4x30 1900 RRH
CPRI/DC
DC Demarcation Box
DC Demarcation Box

850 | 1900
-45 | +45 | -45 | +45
RET
DB-DD TMA
DB-DD TMA

700/850 | AWS/1900/WCS
+45 | -45 | +45 | -45 | +45 | -45
RET
700 RRH
CPRI/DC
1900 RRH
CPRI/DC
DC/Fiber Demarcation Box

Hatch plate

Fiber Trunk

Fiber Trunk

POWER PLANT

DIPlxr 850 1900

DIPlxr 850 1900

TX1/RX1 RX2
UMTS 850 Node-B (Duplexed)

ABIA
ABIA
ABIA
ASIA
Main Baseband Unit NOKIA FSM4
ABIA
ASIA

ABIL
ASIK

Diagram - Sector	D	Diagram File Name - MIU3165 AFTER_SECTOR_A.vsd					
Atoll Site Name -	MI3165	Location Name -	WOODWARD	Market -	DETROIT	Market Cluster -	MICHIGAN/INDIANA
Comments:							

MIU3165_AFTER_SECTOR_A

C-Band TDD MAA

TO ANOTHER ANTENNA

850 | 1900

-45 | +45 | -45 | +45

RET

DB-DD TMA

DB-DD TMA

700/850 | 1900/AWS/WCS

+45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45

RET

Airscale Nokia B14/12/29 Triband RRH AHL8A

CPRI/DC

A/S B25/B66 320W AHFIB PCS/AWS Band

CPRI/DC

700/850 | 1900/AWS/WCS

+45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45

RET

850 RRH

CPRI/DC

WCS RRH

CPRI/DC

DC/Fiber Demarcation Box

DC/Fiber Demarcation Box

DC Demarcation Box

Hatch plate

Fiber Trunk

RET Controller

Fiber Trunk

DIPlxr 850 1900

DIPlxr 850 1900

C Band MIU Antenna TDD

TX1/RX1 RX2

UMTS 850 Node-B (Duplexed)

ABIA

ABIA

ABIA

Main Baseband Unit NOKIA FSM4

ASIA

ABIL

ABIL

ABIL

ASIK

POWER PLANT

Diagram - Sector	E	Diagram File Name - MIU3165 AFTER_SECTOR_B.vsd					
Atoll Site Name -	MI3165	Location Name -	WOODWARD	Market -	DETROIT	Market Cluster -	MICHIGAN/INDIANA
Comments:							

MIU3165_AFTER_SECTOR_B

700/850 | 1900/AWS/WCS

+45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45

RET

Airscale Nokia B14/12/29 Triband RRH AHL88A CPRI/DC

A/S B25/B66 320W AHFIB PCS/AWS Band CPRI/DC

TO ANOTHER ANTENNA

850 | 1900

-45 | +45 | -45 | +45

RET

FROM OTHER ANTENNA

DB-DD TMA

DB-DD TMA

700/850 | 1900/AWS/WCS

+45 | -45 | +45 | -45 | +45 | -45 | +45 | -45 | +45 | -45

RET

850 RRH CPRI/DC

WCS RRH CPRI/DC

C-Band TDD MAA

DC/Fiber Demarcation Box

DC/Fiber Demarcation Box

DC Demarcation Box

Hatch plate

Fiber Trunk

Fiber Trunk

DIPlxr 850 1900

DIPlxr 850 1900

C Band BBU Architecture TDD

TX1/RX1 RX2

UMTS 850 Node-B (Duplexed)

ABIA

ABIA

ABIA

Main Baseband Unit NOKIA FSM4

ASIA

ABIL

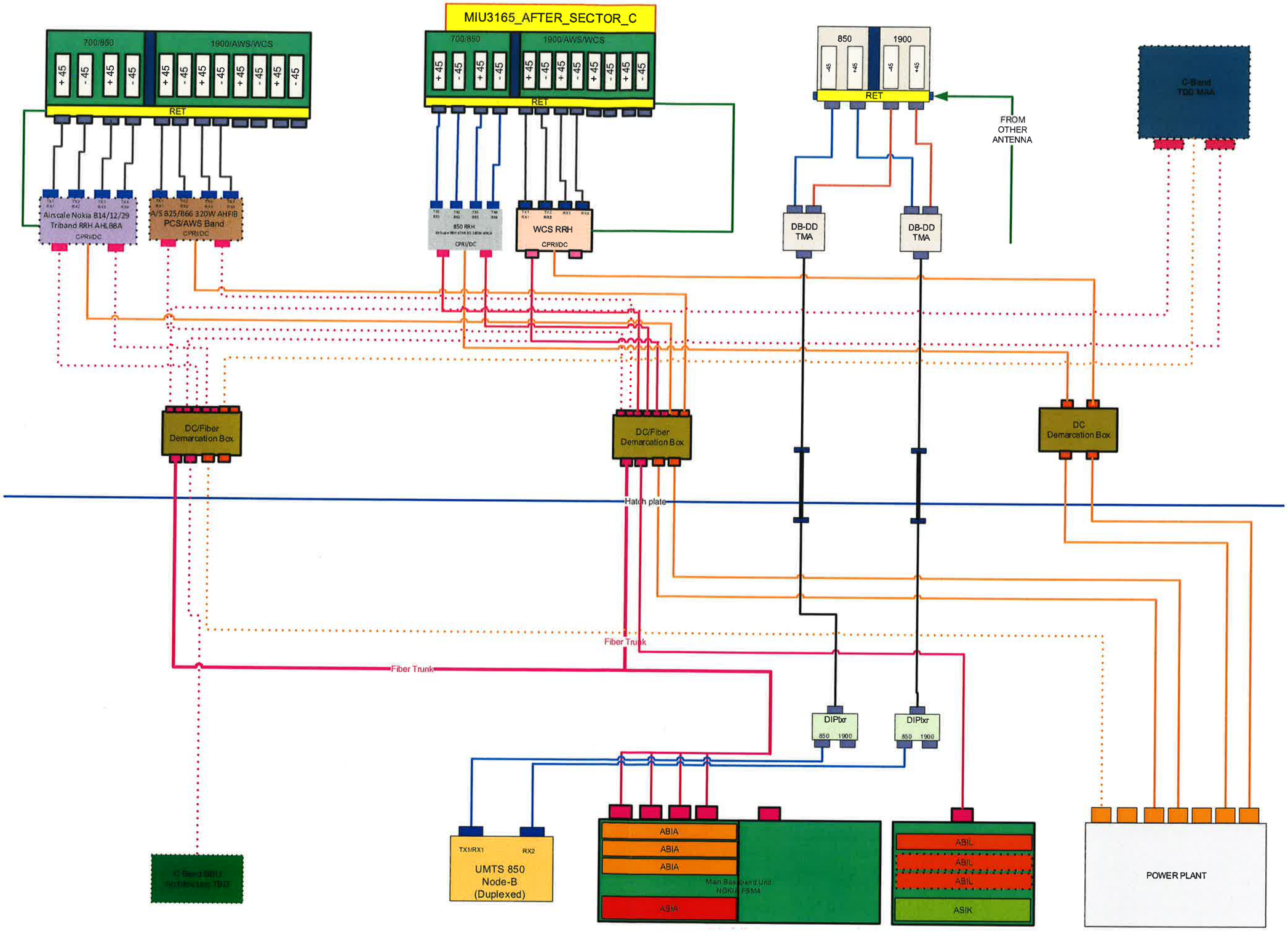
ABIL

ABIL

ASIK

POWER PLANT

Diagram - Sector	F	Diagram File Name -	MIU3165 AFTER_SECTOR_C.vsd				
Atoll Site Name -	MI3165	Location Name -	WOODWARD	Market -	DETROIT	Market Cluster -	MICHIGAN/INDIANA
Comments:							



City of Birmingham

Administrative Approval Application
Planning Division

APPROVED 8/23/21 PAA21-0092

Form will not be processed until it is completely filled out.

1. Applicant
Name: S- Three
Address: 117 Willits

Phone Number: 248-792-2380
Fax Number: —
Email Address: Stevesimon1114@Gmail

2. Property Owner
Name: Seligman Group
Address:

Phone Number: 248-651-4980
Fax Number: —
Email Address: rcoopersmith@seligmangroup.com

3. Applicant's Attorney/Contact Person
Name: Kelli Allen
Address: 39572 Woodward

Phone Number: 248-540-7400
Fax Number: —
Email Address: Kallen@dnafirm.com

4. Project Designer/Developer
Name: Cindy Lonie
Address: 124 Peabody

Phone Number: 248-258-6440
Fax Number: —
Email Address: clonie@cjongeward.com

5. Project Information
Address/Location of Property: 117 Willits

Name of Development:
Parcel ID#:
Current Use:
Area in Acres:
Current Zoning:

Name of Historic District if any:
Date of HDC Approval, if any:
Date of Application for Preliminary Site Plan:
Date of Preliminary Site Plan Approval:
Date of Application for Final Site Plan:
Date of Final Site Plan Approval:
Date of Revised Final Site Plan Approval:

6. Required Attachments

- Warranty Deed with legal description of property
- Authorization from Owner(s) (if applicant is not owner)
- Completed Checklist
- Material Samples
- Specification sheets for all proposed materials, fixtures, and/or mechanical equipment
- One (1) digital copy of plans
- Two (2) folded copies of plans including an itemized list of all changes for which administrative approval is requested, with the changes marked in color on all elevations
- Photographs of existing conditions on the site where changes are proposed

7. Details of the Request for Administrative Approval
new outdoor dining plan approval

The undersigned states the above information is true and correct, and understands that it is the responsibility of the applicant to advise the Planning Division and/or Building Division of any additional changes to the approved site plan.

Signature of Applicant: _____ Date: 8/19/21

Office Use Only

Application #: PAA21-0092 Date Received: 8/19/21 Fee: $100.00

Date of Approval: 8/23/21 Date of Denial: N/A Reviewed By:

City of Birmingham
A Walkable Community

CONSENT OF PROPERTY OWNER

I, Willits Retail, LLC (Name of Property Owner), OF THE STATE OF Michigan AND

COUNTY OF Oakland STATE THE FOLLOWING:

1. That I am the owner of real estate located at 117 Willits Avenue, Birmingham MI 48009 (Address of Affected Property)
2. That I have read and examined the Application for Administrative Approval made to the City of Birmingham by: S-Three Restaurants LLC (Name of Applicant);
3. That I have no objections to, and consent to the request(s) described in the Application made to the City of Birmingham.

By providing your e-mail to the City, you agree to receive news notifications from the City. If you do not wish to receive these messages, you may unsubscribe at any time.

Name of Owner (Printed): Ryan Coopersmith

Signature of Owner: _____ **Date:** 8-19-21

3. A full Design Review will be conducted at Final Site Plan Review, in which the applicant will be required to supply all required calculations, specification sheets and samples as required; and
4. The applicant comply with the requests of City departments.

The Board discussed requiring that the applicant secure an easement agreement with 450 N. Old Woodward before final site plan approval as one of the motion's conditions.

Mr. Hindo noted that while the easement agreement would be beneficial, the project's success did not hinge on securing it. Consequently he asked that securing the easement agreement not be made a condition in the motion.

The Board ultimately concurred with Mr. Hindo.

Mr. Koseck listed the positive features of the plans and expressed satisfaction that the project would create two moderately-sized residential units.

Vice-Chair Williams agreed with Mr. Koseck.

Mr. Emerine commended the applicant on the submitted plans.

Stephen Frank, representative for 450 N. Old Woodward, stated he was interested in working with the applicant on an easement agreement that would allow 450 N. Old Woodward to build to the property line.

Motion carried, 7-0.

ROLL CALL VOTE
Yeas: Jeffares, Emerine, Ramin, Whipple-Boyce, Williams, Boyle, Koseck
Nays: None

07-106-21

I. Miscellaneous Business and Communications
a. Communications
b. Administrative Approval Correspondence

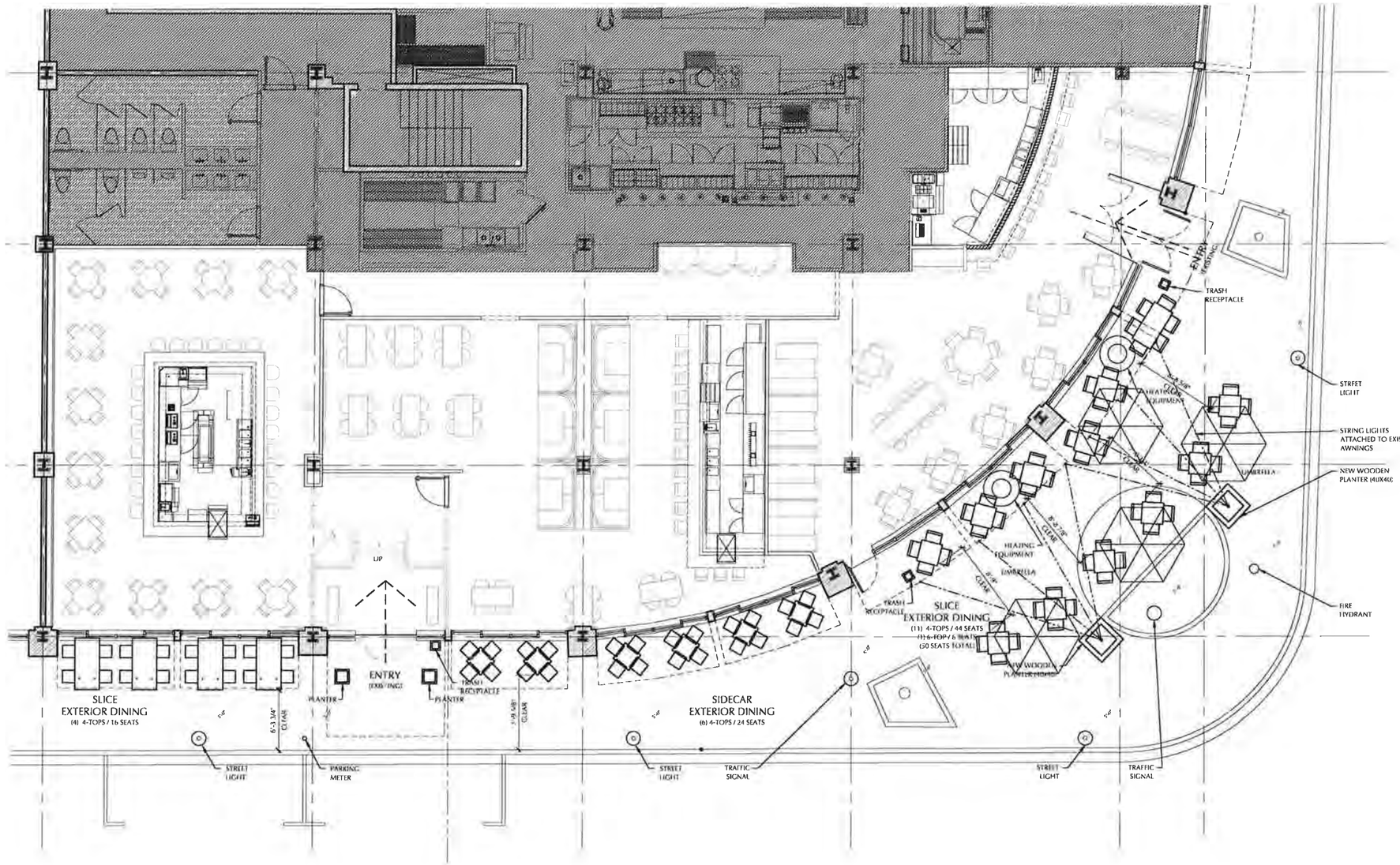
Planning Staff presented administrative approval requests from EM Bistro and Shift/Sidecar/Slice. The Board concurred both proposals could move ahead with administrative approval, with Shift/Sidecar/Slice's being contingent on maintaining the five foot pedestrian clearance outside the establishment.

c. Draft Agenda for next meeting
d. Other Business

As part of creating outdoor dining guidelines, Mr. Jeffares observed that the Fire Department would need to clarify whether restaurants are allowed to store liquid propane tanks on-site.

S-THREE RESTAURANTS
117 Wiliits
Birmingham, Michigan 48009

APPROVED
8/25/21
PAN21-0092



SEAT COUNT:

TABLE TYPE	No. OF TABLES	No. OF SEATS
4-TOP TABLE	21	184 SEATS; (ALL)
6-TOP TABLE	1	(6 SEATS) (SLICE)
TOTAL SEATS:	29	190 SEATS)

LEGEND:

	(8) STRINGS OF LIGHTS
	(4) RED UMBRELLAS

PROPOSED EXTERIOR DINING PLAN

SCALE: 3/32" = 1'-0"

CHRISTOPHER J LONGE AIA
ARCHITECTURE
INTERIORS
124 Peabody Birmingham, Michigan 48009 248.258.6940

08.18.2021
SD.1

500 West Big Beaver
Troy, MI 48084
troymi.gov

Planning Department
248.524.3364
planning@troymi.gov

August 10, 2021

Planning Commission Chairperson
City of Birmingham
151 Martin Street
P.O. Box 3001
Birmingham, MI 48012

SUBJECT: City of Troy
Notice of Intent to Amend the City of Troy Master Plan

The City of Troy Planning Commission initiated the process of amending the City of Troy Master Plan. A draft copy of the Plan will be available for your review and comment later in the process. The Planning Commission requests your comment during the development process.

Comments may be addressed to the following address:

City of Troy Planning Commission Chairman
c/o Planning Department
500 W. Big Beaver
Troy, MI 48084

If you have any questions, please contact the City of Troy Planning Department at (248) 524-3364 or email at planning@troymi.gov .

Sincerely,

R. Brent Savidant, AICP
Community Development Director

cc: G:\Master Plan Update 2021

U.S. Department of Justice

United States Attorney's Office
Eastern District of Michigan

Susan K. DeClercq
Assistant United States Attorney

211 W. Fort Street, Suite 2001
Detroit, Michigan 48226
Telephone: (313) 226-9100
Facsimile: (313) 226-3271
E-Mail: susan.declercq@usdoj.gov

August 13, 2021

Re: Americans with Disabilities Act Obligations for Outdoor Dining Areas

Dear Municipal Colleague:

We are aware that in response to COVID-19 pandemic restrictions, many local municipalities have allowed restaurants to expand their outdoor dining spaces onto streets, sidewalks, and parking lots. We are writing today to simply remind municipalities and any restaurant within your jurisdiction that the Americans with Disabilities Act ("ADA"), 42 U.S.C. §§12101 *et seq*., applies to all restaurant dining spaces, including outdoor areas.

Under the ADA, restaurants must ensure that all dining areas and routes to such areas are accessible. A portable ramp can be used to create an accessible path of travel from the restaurant building/sidewalk to the outdoor dining area if an outdoor dining space is placed in the street below curb level. Indoor and outdoor seating must include tables that are accessible to a person using a wheelchair, and tables must be arranged far enough apart so that a person using a wheelchair can maneuver around them while other diners are seated.

In addition, municipalities, who often must approve the use or expansion of outdoor dining, must ensure that outdoor dining areas do not obstruct the accessible path of travel on sidewalks. Specifically, outdoor dining spaces must not block access or reduce the width of nearby sidewalks to less than 36 inches. Additionally, outdoor dining spaces should not reduce the availability of accessible parking spaces in streets and parking lots.

We encourage you to consider and discuss the obligations of the ADA with any restaurant within your jurisdiction that seeks to create or expand an outdoor dining area. The U.S. Attorney's Office for the Eastern District of Michigan is committed to enforcing the Americans with Disabilities Act. This letter summarizes only a few of the ADA's requirements. Additional useful technical assistance on the ADA's requirements, including a detailed discussion of the ADA's requirements applicable to state and local governmental entities and public accommodations, such as restaurants, can be found at www.ada.gov.

Please contact us on the U.S. Attorney's Office Civil Rights Hotline, (313) 226-9151, if you have any questions or concerns. We hope that the warmer weather allows all diners in the Eastern District of Michigan to safely enjoy good food and friends at their favorite local restaurants.

Very truly yours,

SAIMA S. MOHSIN
Acting United States Attorney

SUSAN K. DeCLERCQ
Assistant U.S. Attorney
Civil Rights Unit, Chief

By using ArchDaily, you agree to our Terms of Use, Privacy Policy and Cookie Policy.

I ACCEPT

What Cities Get Wrong About Making Outdoor Dining Permanent

Written by **Kaley Overstreet**

2 days ago

Share

Over the last 18 months of the COVID-19 pandemic, restaurant owners around the globe have continuously suffered over the past year- especially small, independent establishments. If there's one glimmer of hope that many of them have experienced, as public health guidelines continue to evolve, it's that many cities have relaxed their policies and allowed restaurants to construct temporary shelters on sidewalks and in streets as a means to keep their businesses afloat. But in life after the pandemic, how should we address these setups? Should we turn them into something more permanent and allow outdoor dining to stay?

MORE ARTICLES

White Paint Can Cool Down Our Heating Cities

Factors to Consider During Site Analysis

What Role does Chess Play in Public Spaces?

More Articles »

MOST VISITED

Anupama Kundoo Receives The 2021 RIBA Charles Jencks Award

Terni Farm House / Shreyas Patil Architects

Save

By using ArchDaily, you agree to our Terms of Use, Privacy Policy and Cookie Policy.

I ACCEPT

Outdoor dining is hardly new but was another trend that was accelerated almost overnight as a result of the pandemic. Almost as fast as the workforce adopted working from home, restaurants evolved, set up tables outside, and the entire way we used the streets was changed. There is something that feels very European about the al fresco dining experience that many people in cities have been enjoying. Most of these temporary shelters feel more permanent, with igloos, pods, and roofed stands complete with air conditioning, heating units, televisions, cozy furniture, and electrical charging outlets, they almost feel like the indoors, but just on the sidewalk.

There are some downsides to this way of dining, and they have city dwellers and policymakers wondering what needs to be done to ensure that issues like safety, health, and public transit are accounted for, along with the profitability of the restaurants. All of this confusion and loose interpretation of the “rules” comes from the minimal federal and state regulations on how these setups should look and perform. After all, if there are four walls and a roof- is it really outdoor dining?

Related Article

Outdoor Dining Could Become Permanent in NYC as Architects Innovate

MOST VISITED PRODUCTS

Fiber Cement Facade Panel Natura|EQUITONE

Free Form Structures for Wood Projects|Blumer Lehmann

Curved Timber Battens|Sculptform

Save

Home Projects Products Folders Feed

By using ArchDaily, you agree to our Terms of Use, Privacy Policy and Cookie Policy.

I ACCEPT

While urban designers and architects are finding themselves busy creating innovative and modular designs for these outdoor spaces, engaging in competitions, all while reimagining the future of outdoor spaces, others are pushing back. While the restaurants gained areas for additional seating, what the public lost was parking spaces, loading areas, and many sidewalks. As pedestrians navigate the streets while diners sit at tables and waiters dash in and out, it's created a significant safety hazard. Many of these pop-ups are also located right in the street, exposing them to vehicular accidents as traffic builds up. All of this makes city life harder for people who are disabled, and those who want to reclaim their public spaces which were never intended for private use.

Some cities like Seattle, New York City, Los Angeles, Boston, Tampa, and Cincinnati, are already moving towards more permanent solutions that will benefit everyone. Some municipalities are examining who has to pay for these shelters, and who is also responsible for their maintenance. They're also looking to understand if there needs to be a baseline for design aspects and safety

Save

By using ArchDaily, you agree to our Terms of Use, Privacy Policy and Cookie Policy. I ACCEPT

allow diners to enjoy the warm weather, and keep their favorite restaurants in business.

Image gallery

Share

About this author

Kaley Overstreet
Author

FOLLOW

#TAGS

News | Articles | Outdoor Spaces | Restaurants | Walkable Cities | Dining | Architecture | Urbanism

Cite: Kaley Overstreet. "What Cities Get Wrong About Making Outdoor Dining Permanent" 21 Aug 2021. ArchDaily. Accessed 23 Aug 2021. <https://www.archdaily.com/967158/what-cities-get-wrong-about-making-outdoor-dining-permanent> ISSN 0719-8884

Save

Home | Projects | Products | Folders | Feed

By using ArchDaily, you agree to our Terms of Use, Privacy Policy and Cookie Policy.

I ACCEPT

3M
Sun Control Window Film in…

BRICKS

BoConcept
Osaka Chair KA29

SIDE TABLES

STACBOND
Composite Panel Finishes - Special

DOORS

Kvadrat Acoustics
Acoustic Panel System in Panum

DOORS

Randers Tegl
Facing Bricks - Ultima RT 159

PLANTERS

Zeitraum
Side Table - Twist Night

WOOD

Decorative Ceiling ...
Door Skins

WOOD

Sky-Frame
Sliding Door Feature -…

WAYFINDING

Jakob
Green Walls - GreenKit

Bruag
Acoustic Panels with LED

Mikodam
Vata Wall Panel

Karcher Design
Information Sign EZ202 (71)

More products »

Save

By using ArchDaily, you agree to our Terms of Use, Privacy Policy and Cookie Policy. I ACCEPT

LOG IN WITH

OR SIGN UP WITH DISQUS

Name

SD Roberts • a day ago

Extend the side walks to create pedestrian streets with ample breadth for pedestrian thoroughfare along the central spine and outdoor seating along the sides. 10 kph/mph speed limits for resident and delivery vehicles in a one-way direction if necessary. Lots of examples of this in Spain. See Calle San Jacinto in the barrio of Triana, in Seville.

https://www.google.com/maps...

Reply • Share ›

Jonathan Hauxwell • 2 days ago

There is the question of the seasonal nature of outdoor dining - winter will see the new structures abandoned for 2-3 months in some areas, so the cheaper wooden platforms that abound in some localities will be still a problem for access and transit, but also an eyesore and be deteriorating physically too.

Reply • Share ›

Eric ↗ Jonathan Hauxwell • 6 hours ago

This situation didn't have to wait for winter in Colorado. With the Covid situation being a bit better than elsewhere around the US many restaurants in Denver & Colorado Springs have already abandoned the temporary dining platforms due to customers wanting to sit inside in the comfort of air conditioned spaces. The smoke from wildfires exacerbated this situation.

Another result of this whole situation is that Colorado Springs increased the cost of parking in city owned structures due to cars being pushed into them because the parking that was on the streets is now being used "free of charge" by the restaurants.

Reply • Share ›

J Patrice Marandel • 2 days ago • edited

One issue no one seems to address is the accessibility of buildings in case of fire or other emergency. Jersey barriers may be useful to protect restaurants guests from being hit by a car, but they might also prove to be major obstacles to firetrucks .

Reply • Share ›

Subscribe Add Disqus to your siteAdd DisqusAdd Do Not Sell My Data

Save