

**CITY OF BIRMINGHAM
MEETING OF THE BOARD OF ZONING APPEALS
TUESDAY, NOVEMBER 12, 2024
7:30 PM**

The meeting will be held in the City Commission Room at City Hall, 151 Martin St. Birmingham, MI 48009. Should you have any statement regarding any appeals, you are invited to attend the meeting in person or virtually through ZOOM:

**[https://zoom.us/j/963 4319 8370](https://zoom.us/j/96343198370) or dial: 877-853-5247 Toll-Free,
Meeting Code: 963 4319 8370**

You may also provide a written statement to the Board of Zoning Appeals, City of Birmingham, 151 Martin Street,
P.O. Box 3001, Birmingham MI, 48012-3001 prior to the hearing

1. CALL TO ORDER

2. ROLL CALL

3. ANNOUNCEMENTS

4. APPROVAL OF THE MINUTES

a) October 8, 2024 Minutes

5. APPEALS

	Address	Petitioner	Appeal	Type/Reason
1)	1245 WESTBORO	PAUL CARROLL	24-27	DIMENSIONAL

6. CORRESPONDENCE

7. GENERAL BUSINESS

8. OPEN TO THE PUBLIC FOR MATTERS NOT ON THE AGENDA

9. ADJOURNMENT

Title VI

People with disabilities needing accommodations for effective participation in this meeting should contact the Clerk's Office at 248-530-1880 (voice) or 248-644-5115 (TDD) at least one day in advance to request 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 día 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).

The public entrance during non-business hours is through the police department at the Pierce Street entrance only. Individuals requiring assistance entering the building should request aid via the intercom system at the parking lot entrance gate on Henrietta Street.

La entrada pública durante horas no hábiles es a través del Departamento de policía en la entrada de la calle Pierce solamente. Las personas que requieren asistencia entrando al edificio debe solicitar ayudan a través del sistema de intercomunicación en la puerta de entrada de estacionamiento en la calle de Henrietta.



Birmingham Board Of Zoning Appeals Proceedings
Tuesday, October 8, 2024
City Commission Room
151 Martin Street, Birmingham, Michigan

1. Call To Order

Minutes of the regular meeting of the City of Birmingham Board of Zoning Appeals ("BZA") held on Tuesday, October 8, 2024. The meeting was convened at 7:30 p.m.

2. Rollcall

Present: Chair Erik Morganroth, Vice Chair Jason Canvasser; Board Members Kevin Hart, Richard Lilley, John Miller, Board Member Ron Reddy, Pierre Yaldo; Alternate Board Member Donald Rogers

Absent: Alternate Board Member Carl Kona

Staff: Building Official Johnson; City Transcriptionist Eichenhorn, Assistant Building Official Zielke

The Chair took rollcall of the petitioners. All petitioners were in attendance.

3. Announcements

The Chair welcomed those present and reviewed the meeting's procedures. He noted that the members of the Board of Zoning Appeals are appointed by the City Commission and are volunteers who serve staggered three-year terms. They are a quasi-judicial board and sit at the pleasure of the City Commission to hear appeals from petitioners who are seeking variances from the City's Zoning Ordinance. Under Michigan law, a dimensional variance requires four affirmative votes from this board, and the petitioner must show a practical difficulty. A land use variance requires five affirmative votes and the petitioner has to show a hardship. He pointed out that this board does not make up the criteria for practical difficulty or hardship. That has been established by statute and case law. Appeals are heard by the board as far as interpretations or rulings. In that type of appeal the appellant must show that the official or board demonstrated an abuse of discretion or acted in an arbitrary or capricious manner. Four affirmative votes are required to reverse an interpretation or ruling.

The Chair noted Mr. Miller's reappointment to the Board, as well as his own.

4. Approval Of The Minutes Of The BZA Meetings Of September 10, 2024

T# 10-36-24

Motion by Lilley

Seconded by Yaldo to approve the minutes of the BZA meeting of September 10, 2024 as amended.

Motion carried, 7-0.

VOICE VOTE

Yeas: Reddy, Yaldo, Morganroth, Miller, Canvasser, Hart, Lilley

Nays: None

5. Appeals

T# 10-37-24

**1) 2136 W Lincoln
Appeal 24-23**

ABO Zielke presented the item, explaining that the owner of the property known as 2136 W Lincoln was requesting the following variance to install a single garage door to an attached garage:

- A. Chapter 126, Article 4, Section 4.75 A (2)** of the Zoning Ordinance requires that garage doors on an attached garage which are facing a street may not exceed 9.00 feet in width. The proposed is 17.00 feet. Therefore, an 8.00 foot variance is being requested.

Staff answered informational questions from the Board.

Rolf Quisling, appellant, described why this variance was being sought and answered informational questions from the Board.

Motion by Miller

Seconded by Reddy with regard to Appeal 24-23, A. Chapter 126, Article 4, Section 4.75 A (2) of the Zoning Ordinance requires that garage doors on an attached garage which are facing a street may not exceed 9.00 feet in width. The proposed is 17.00 feet. Therefore, an 8.00 foot variance is being requested.

Mr. Miller moved to deny the appeal, noting that the City's present ordinances intend homes with smaller, less prominent garages. Addressing the appellant's comment that some nearby homes had more prominent, pre-existing non-conforming garages, he noted that two of the newer homes near the 2136 W. Lincoln had ordinance-compliant garages. Mr. Miller said that granting the variance would not do substantial justice to the neighborhood, that it would be contrary to the spirit and intent of the ordinance, and that there were no special conditions of the property that necessitated the variance. He continued that denying the ordinance would not result in any substantial hardship to the appellant since there were ordinance-compliant ways of resolving the concern.

VC Canvasser concurred with Mr. Miller. He noted that while the Board was sympathetic to the appellant's concerns, the Board was not permitted to take that sympathy into consideration when considering a variance.

The Chair concurred with Mr. Miller and VC Canvasser, and explained that the Board has to be consistent in its application of the ordinance.

Motion carried, 7-0.

ROLL CALL VOTE

Yeas: Reddy, Yaldo, Morganroth, Miller, Canvasser, Hart, Lilley

Nays: None

T# 10-38-24

**2) 695 E 14 Mile
Appeal 24-24**

ABO Zielke presented the item, explaining that the owner of the property known as 695 E 14 Mile was requesting the following variances to construct a second floor addition to the existing non-conforming home:

- A. Chapter 126, Article 2, Section 2.10.2** of the Zoning Ordinance requires that no side yard shall be less than 5.00 feet. The existing and proposed is 3.90 feet on the east side. Therefore, a variance of 1.10 feet is being requested.
- B. Chapter 126, Article 2, Section 2.10.2** of the Zoning Ordinance requires that the minimum total side yard setbacks are 14.00 feet or 25% of lot width, whichever is larger. The required is 14.00 feet. The existing and proposed is 11.30 feet. Therefore, a variance of 2.70 feet is being requested.
- C. Chapter 126, Article 4, Section 4.74(C)** of the Zoning Ordinance requires that a minimum distance between principal residential buildings on adjacent lots to be 14.00 feet or 25% of the lot width, whichever is larger. The required is 14.00 feet. The existing and proposed is 12.30 feet. Therefore, a variance of 1.70 feet is requested on the east side.

Staff answered informational questions from the Board.

Erik Heiderer, representative for the appellant, described why these variances were being sought and answered informational questions from the Board.

Motion by Reddy

Seconded by Canvasser with regard to Appeal 24-24, A. Chapter 126, Article 2, Section 2.10.2 of the Zoning Ordinance requires that no side yard shall be less than 5.00 feet. The existing and proposed is 3.90 feet on the east side. Therefore, a variance of 1.10 feet is being requested; B. Chapter 126, Article 2, Section 2.10.2 of the Zoning Ordinance requires that the minimum total side yard setbacks are 14.00 feet or 25% of lot width, whichever is larger. The required is 14.00 feet. The existing and proposed is 11.30 feet. Therefore, a variance of 2.70 feet is being requested; and C. Chapter 126, Article 4, Section 4.74(C) of the Zoning Ordinance requires that a minimum distance between principal residential buildings on adjacent lots to be 14.00 feet or 25% of the lot width, whichever is larger. The required is 14.00 feet. The existing and proposed is 12.30 feet. Therefore, a variance of 1.70 feet is requested on the east side.

Mr. Reddy moved to approve variances A, B, and C, and tied approval to the plans as submitted. He explained that it would be unfair to prevent the appellant from building

a second story, and that it would be unfair to prevent the appellant from aligning the second story walls with the load-bearing walls of the first floor. He said that literal enforcement of the ordinance would result in an unnecessary hardship for the appellant, and that granting the variance would not be contrary to the spirit and intent of the ordinance.

Mr. Hart supported the motion, stating that the appellant presented a good solution and a reasonable request, especially since the outer dimensions posed a challenge by being less than 28 feet in width.

Motion carried, 7-0.

ROLL CALL VOTE

Yeas: Reddy, Yaldo, Morganroth, Miller, Canvasser, Hart, Lilley

Nays: None

T# 10-39-24

**3) 303 Greenwood
Appeal 24-25**

Mr. Hart recused himself from the item, citing present involvement with the appellant and left the room for the duration of the item's discussion. Mr. Rogers participated in the Board's deliberation on the item.

ABO Zielke presented the item, explaining that the owner of the property known as 303 Greenwood was requesting the following variance to construct a new detached garage:

- A. Chapter 126, Article 2, Section 2.08.1** of the Zoning Ordinance requires a maximum 30% lot coverage for residential lots. The required 30% coverage for this lot is 1452 SF. The proposed is 32.7% (1584 SF). Therefore, a variance of 2.70% (132 SF) is requested.

Staff answered informational questions from the Board.

Eve Hadley, representative for the appellant, described why this variance was being sought and answered informational questions from the Board.

Motion by Miller

Seconded by Yaldo with regard to Appeal 24-25, A. Chapter 126, Article 2, Section 2.08.1 of the Zoning Ordinance requires a maximum 30% lot coverage for residential lots. The required 30% coverage for this lot is 1452 SF. The proposed is 32.7% (1584 SF). Therefore, a variance of 2.70% (132 SF) is requested.

Mr. Miller moved to approve the variance and tied approval to the plans as submitted. He noted that the present garage may or may not be able to be repaired, and that the present garage was pre-existing non-conforming. He explained that the proposed, new garage included enough mitigation that granting the variance would do substantial justice to the property owner and to the neighborhood. He noted that the proposed garage would eliminate the encroachment into the side setback, and that

the variance of 2.70% of lot coverage was a reasonable amount. The variance would comply with the spirit and intent of ordinance, and strictly applying the ordinance would unreasonably prevent the appellant from resolving the issue with the present garage. He noted that granting the variance would not be contrary to public health, safety, or welfare.

Mr. Rogers noted that if the ordinance were strictly enforced, the resulting garage would be impractically small. He noted that the proposed garage would comply with the setback requirements, would align with the spirit and intent of the ordinance, and would reduce the present lot coverage. Consequently, Mr. Rogers offered his support for the motion.

The Chair concurred with the prior comments on the motion, additionally noting that this was a request for a one car garage of minimal dimensions necessary to function. He continued that denying the variance would likely result in the present garage, with its greater nonconformities, remaining. As a result, granting the variance would do justice to the community and to the appellant.

Motion carried, 7-0.

ROLL CALL VOTE

Yeas: Reddy, Yaldo, Morganroth, Miller, Canvasser, Rogers, Lilley

Nays: None

T# 10-40-24

**4) 1155 E Lincoln
Appeal 24-26**

Mr. Hart returned for this item, replacing Mr. Rogers on the Board.

ABO Zielke presented the item, explaining that the owner of the property known as 1155 E Lincoln was requesting the following variances to construct a second floor and rear addition to the existing non-conforming home:

- A. Chapter 126, Article 2, Section 2.10.2** of the Zoning Ordinance requires that no side yard shall be less than 5.00 feet. The existing and proposed is 4.50 feet on the east side. Therefore, a variance of 0.50 feet is being requested.
- B. Chapter 126, Article 2, Section 2.10.2** of the Zoning Ordinance requires that the minimum total side yard setbacks are 14.00 feet or 25% of lot width, whichever is larger. The required is 14.00 feet. The existing and proposed is 11.92 feet. Therefore, a variance of 2.08 feet is being requested.
- C. Chapter 126, Article 4, Section 4.31 A(1)** of the Zoning Ordinance requires that a minimum of 65% of the front open space in all single-family districts shall be free of paved surfaces. The required 65% is 575.25 SF. The existing and proposed is 48.9% (433.00 SF). Therefore, a variance of 16.10% (142.25 SF) is being requested.

Staff answered informational questions from the Board.

Raymond Shisha, representative for the appellant, described why these variances were being sought and answered informational questions from the Board.

Motion by Yaldo

Seconded by Hart with regard to Appeal 24-26, A. Chapter 126, Article 2, Section 2.10.2 of the Zoning Ordinance requires that no side yard shall be less than 5.00 feet. The existing and proposed is 4.50 feet on the east side. Therefore, a variance of 0.50 feet is being requested; B. Chapter 126, Article 2, Section 2.10.2 of the Zoning Ordinance requires that the minimum total side yard setbacks are 14.00 feet or 25% of lot width, whichever is larger. The required is 14.00 feet. The existing and proposed is 11.92 feet. Therefore, a variance of 2.08 feet is being requested; and, C. Chapter 126, Article 4, Section 4.31 A(1) of the Zoning Ordinance requires that a minimum of 65% of the front open space in all single-family districts shall be free of paved surfaces. The required 65% is 575.25 SF. The existing and proposed is 48.9% (433.00 SF). Therefore, a variance of 16.10% (142.25 SF) is being requested.

Mr. Yaldo moved to approve the variances and tied approval to the plans as submitted. The appellant was dealing with challenging circumstances, including the width of the existing house, the structure of the neighboring properties, the layout of the driveway, and the need to access a neighboring property to use the driveway. These circumstances are particular to the property and constitute special conditions. Because of these conditions, literal enforcement of the ordinance would result in an unnecessary hardship for the appellant. Granting the variances would not conflict with the spirit and intent of the ordinance, and would not be contrary to public health, safety, or welfare. Granting the variances would also result in substantial justice to the appellant and the community by allowing the appellant to improve the property's aesthetic appeal without further impacting the neighbors.

Mr. Miller noted that the Board often has difficulty approving a more hardscape in the front yard than is allowed by ordinance. He said he would support the motion, but encouraged the appellant to soften the effect of the hardscape with landscaping.

The Chair noted that neither variance A nor B would expand the existing nonconformity. He noted that while the Board tends not to approve excess hardscape in the front open space, the complexity of the house's position on the lot, the width of the home, and the narrowness of the lot made variance C warranted. He said he would support the motion.

Motion carried, 7-0.

ROLL CALL VOTE

Yeas: Reddy, Yaldo, Morganroth, Miller, Canvasser, Hart, Lilley

Nays: None

6. Correspondence

All correspondence was provided to the Board and the relevant appellants.

- 7. General Business**
- 8. Open To The Public For Matters Not On The Agenda**
- 9. Adjournment**

No further business being evident, the Board motioned to adjourn at 8:47 p.m.



Bruce R. Johnson, Building Official

Laura Eichenhorn, City Transcriptionist

DRAFT

CASE DESCRIPTION

1245 Westboro (24-27)

Hearing date: November 12, 2024

Appeal No. 24-27: The owner of the property known **1245 Westboro**, requests the following variance to construct a pergola to the existing non-conforming home:

A. Chapter 126, Article 4, Section 4.74(C) of the Zoning Ordinance requires that a minimum distance between principal residential buildings on adjacent lots to be 14.00 feet or 25% of the lot width, whichever is larger. The required is 23.95 feet. The existing and proposed is 21.00 feet. Therefore, a variance of 2.95 feet is requested on the west side.

Staff Notes: This applicant is seeking to construct a pergola on an existing non-conforming home that was constructed in 1984.

This property is zoned R1 – Single family residential.

Jeff Zielke, NCIDQ, LEED AP, COSS
Assistant Building Official

1245 WESTBORO MAP



CHAPTER 126 - ZONING

ARTICLE 8: ENFORCEMENT AND PENALTIES

8.01 The Board of Zoning Appeals

3. Variances.

- a. The Board of Zoning Appeals shall hear and grant or deny requests for variances from the strict application of the provisions of the Zoning Ordinance where there are practical difficulties or unnecessary hardships in carrying out the strict letter of such chapter. In granting a variance, the Board of Zoning Appeals may attach such conditions as it may deem reasonably necessary to promote the spirit and intent of the Zoning Ordinance. The Board of Zoning Appeals shall not grant any variance unless it first determines that:
 - i. Because of special conditions applicable to the property in question, the provisions of the Zoning Ordinance, if strictly applied, unreasonably prevent the property owner from using the property for a permitted purpose;
 - ii. Literal enforcement of the chapter will result in unnecessary hardship;
 - iii. The granting of the variance will not be contrary to the spirit and purpose of the Zoning Ordinance nor contrary to the public health, safety and welfare; and
 - iv. The granting of the variance will result in substantial justice to the property owner, the owners of property in the area and the general public.

(EACH i-iv must be satisfied)

CITY OF BIRMINGHAM
Community Development - Building Department
151 Martin Street, Birmingham, MI 48009
Community Development: 248-530-1850
Fax: 248-530-1290 / www.bhamgov.org
APPLICATION FOR THE BOARD OF ZONING APPEALS

Received Date: _____

Hearing Date: _____

Received By: _____

Appeal #: _____

Type of Variance:	☐ Interpretation	☐ Dimensional	☐ Land Use	☐ Sign	☐ Admin Review
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I. PROPERTY INFORMATION:

Address: 1245 Westboro	Lot Number:	Sidwell Number:
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II. OWNER INFORMATION:

Name: Paul Carroll			
Address: 1245 Westboro	City: Birmingham	State: MI	Zip code: 48009
Email:* safeharborremodeling@gmail.com		Phone: 248-505-9080	

III. PETITIONER INFORMATION:

Name: Paul Carroll	Firm/Company Name:		
Address: 1245 Westboro	City: Birmingham	State: MI	Zip code: 48009
Email: safeharborremodeling@gmail.com		Phone: 248-505-9080	

IV. GENERAL INFORMATION:

The Board of Zoning Appeals typically meets the second Tuesday of each month. COMPLETE digital applications along with supporting documents must be submitted on or before the 12th day of the month preceding the next regular meeting. Please note that incomplete applications will not be accepted.

To insure complete applications are provided, appellants must schedule a pre-application meeting with the Building Official, Assistant Building Official and/or City Planner for a preliminary discussion of their request and the documents that will be required to be submitted. Staff will explain how all requested variances must be highlighted on the survey, site plan and construction plans. Each variance request must be clearly shown on the survey and plans including a table as shown in the example below. All dimensions to be shown in feet measured to the second decimal point.

The BZA application fee is **\$750.00** for single family residential; **\$950.00** for all others. This amount includes a fee for a public notice sign which must be posted at the property at least 15-days prior to the scheduled hearing date.

Variance Chart Example

Requested Variances	Required	Existing	Proposed	Variance Amount
Variance A, Front Setback	25.00 Feet	23.50 Feet	23.50 Feet	1.50 Feet
Variance B, Height	30.00 Feet	30.25 Feet	30.25 Feet	0.25 Feet

V. REQUIRED INFORMATION CHECKLIST:

Please provide the following in your electronic submission:

- ☐ Completed and signed application
- ☐ Signed letter of practical difficulty and/or hardship
- ☐ Certified survey
- ☐ Building plans including existing and proposed floor plans and elevations
- ☐ If appealing a board decision, provide a copy of the minutes from any previous Planning, HDC, or DRB board meeting

VI. APPLICANT SIGNATURE

Owner hereby authorizes the petitioner designated below to act on behalf of the owner.

By signing this application, I agree to conform to all applicable laws of the City of Birmingham. All information submitted on this application is accurate to the best of my knowledge. Changes to the plans are not allowed without approval from the Building Official or City Planner.

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

Signature of Owner: _____

Date: OCT 13, 24

Signature of Petitioner: _____

Date: _____

**CITY OF BIRMINGHAM
BOARD OF ZONING APPEALS
RULES OF PROCEDURE**

ARTICLE I - Appeals

- A. Appeals may be filed under the following conditions:
1. A property owner may appeal for variance, modification or adjustment of the requirements of the Zoning Ordinance.
 2. A property owner may appeal for variance, modification or adjustment of the requirements of the Sign Ordinance.
 3. Any aggrieved party may appeal the decision of the Planning Board and/or the Building Official in accordance with the City of Birmingham Zoning Ordinance, Article Eight, Section 8.01 (D) Appeals. If an appellant requests a review of any determination of the Building Official, a complete statement setting forth the facts and reasons for the disagreement with the Building Official's determination shall include the principal point, or points on the decision, order or section of the ordinance appealed from, on which the appeal is based.
- B. Procedures of the Board of Zoning Appeals (BZA) are as follows:
1. Regular BZA meetings, which are open to the public, shall be held on the second Tuesday of the month at 7:30 P.M. provided there are pending appeals. There will be a maximum of seven appeals heard at the regular meeting which are taken in the order received. If an appeal is received on time after the initial seven appeals have been scheduled, it will be scheduled to the next regular meeting.
 2. All applications for appeal shall be submitted to the Community Development Department on or before the 12th day of the month preceding the next regular meeting. If the 12th falls on a Saturday, Sunday, or legal holiday, the next working day shall be considered the last day of acceptance.
 3. All property owners and occupants within 300 feet of the subject property will be given written notice of a hearing by the City of Birmingham.
 4. See the application form for specific requirements. If the application is incomplete, the BZA may refuse to hear the appeal. The Building Official or City Planner may require the applicant to provide additional information as is deemed essential to fully advise the Board in reference to the appeal. Refusal or failure to comply shall be grounds for dismissal of the appeal at the discretion of the Board.
 5. In variance requests, applicants must provide a statement that clearly sets forth all special conditions that may have contributed to a practical difficulty that is preventing a reasonable use of the property.

6. Where the Birmingham Zoning Ordinance requires site plan approval of a project by the City Planning Board before the issuance of a building permit, applicants must obtain preliminary site plan approval by the Planning Board before appeal to the BZA for a variance request. If such appeal is granted by the BZA, the applicant must seek final site plan and design review approval from the Planning Board before applying for a building permit.
7. An aggrieved party may appeal a Planning Board decision. Such appeal must be made within 30 days of the date of the decision. The BZA, in its discretion, may grant additional time in exceptional circumstances.
8. Appeals from a decision of the Building Official shall be made within 30 days of the date of the order, denial of permit, or requirement or determination contested. The BZA, in its discretion, may grant additional time in exceptional circumstances.
9. An appeal stays all proceedings in accordance with Act #110, Public Acts of 2006, Article VI, Section 125.3604 (3).

C. The order of hearings shall be:

1. Presentation of official records of the case by the Building Official or City Planner as presented on the application form.
2. Applicant's presentation of his/her case—the applicant or his/her representative must be present at the appeal hearing.
3. Interested parties' comments and view on the appeal.
4. Rebuttal by applicant.
5. The BZA may make a decision on the matter or request additional information.

D. Motions and Voting

1. A motion is made to either grant or deny a petitioner's request
 - a) For a motion to grant or deny a non-use variance request, the motion must receive four (4) affirmative votes to be approved.
 - b) For a motion to grant or deny a use variance request, the motion must receive five (5) affirmative votes to be approved.
 - c) For a motion to grant or deny an appeal of a decision or order by an administrative official or board, the motion must receive four (4) affirmative votes to be approved.
 2. When a motion made is to approve or deny a petitioner's request and if there is a tie vote, then the vote results in no action by the board and the petitioner shall be given an opportunity to have his or her request heard the next regularly scheduled meeting when all the members are present.
-

3. When there are less than seven (7) members of the board present for a meeting, then a petitioner requesting a use variance shall be given an opportunity at the beginning of the meeting to elect to have it heard at the next regularly scheduled meeting.
4. When there are less than six (6) members present for a meeting, then all petitioners shall be given an opportunity at the beginning of the meeting to elect to have the request heard at the next regularly scheduled meeting.

ARTICLE II - Results of an Appeal

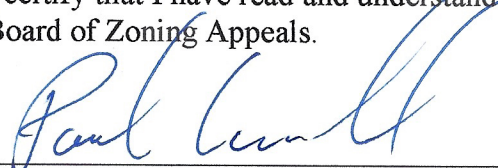
- A. The Board may reverse, affirm, vary or modify any order, requirement, decision or determination as in its opinion should be made, and to that end, shall have all the powers of the officer from whom the appeal has been taken.
- B. The decisions of the Board shall not become final until the expiration of five (5) days from the date of entry of such orders or unless the Board shall find that giving the order immediate effect is necessary for the preservation of property and/or personal rights and shall so certify on the record.
- C. Whenever any variation or modification of the Zoning Ordinance is authorized by resolution of the BZA, a Certificate of Survey must be submitted to the Community Development Department with the building permit application. A building permit must be obtained within one year of the approval date.
- D. Failure of the appellant, or his representative, to appear for his appeal hearing will result in the appeal being adjourned to the next regular meeting. If, after notice, the appellant fails to appear for the second time, it will result in an automatic withdrawal of the appeal. The appellant may reapply to the BZA.
- E. Any applicant may, with the consent of the Board, withdraw his application at any time before final action.
- F. Any decision of the Board favorable to the applicant is tied to the plans submitted, including any modifications approved by the Board at the hearing and agreed to by the applicant, and shall remain valid only as long as the information or data provided by the applicant is found to be correct and the conditions upon which the resolution was based are maintained.

ARTICLE III - Rehearings

- A. No rehearing of any decision of the Board shall be considered unless new evidence is submitted which could not reasonably have been presented at the previous hearing or unless there has been a material change of facts or law.
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B. Application or rehearing of a case shall be in writing and subject to the same rules as an original hearing, clearly stating the new evidence to be presented as the basis of an appeal for rehearing.

I certify that I have read and understand the above rules of procedure for the City of Birmingham Board of Zoning Appeals.



Signature of Applicant

Paul Carroll
1245 Westboro
Birmingham, MI 48009

Variance Committee
City of Birmingham
Birmingham, MI

Dear Variance Committee,

I hope this letter finds you well. I am writing to formally request a side yard variance to install a modest 12-foot wide by 15-foot-deep pergola in my backyard.

The proposed pergola would be aligned with the rear outside right corner of my home and would not extend past the side of my current residence. My lot is significantly wider than my neighbor's; he built his home after mine, which has a lot width of only 21 feet. In contrast, 25% of my lot width is 23.95 feet. Therefore, I am asking for a variance of 2.95 feet, as the current required setback is 23.95 feet, while the existing setback is only 21 feet. The proposed pergola would be positioned at the existing setback of 21 feet, which represents a variance from the required 23.95 feet.

If I were to reduce the width of the pergola from the proposed 12 feet to 9 feet in order to comply with the current setback rules, it would be positioned directly in front of my rear kitchen window, obstructing half of the window and making the space nonfunctional. This would result in an aesthetic compromise, effectively placing the pergola in the middle of my patio.

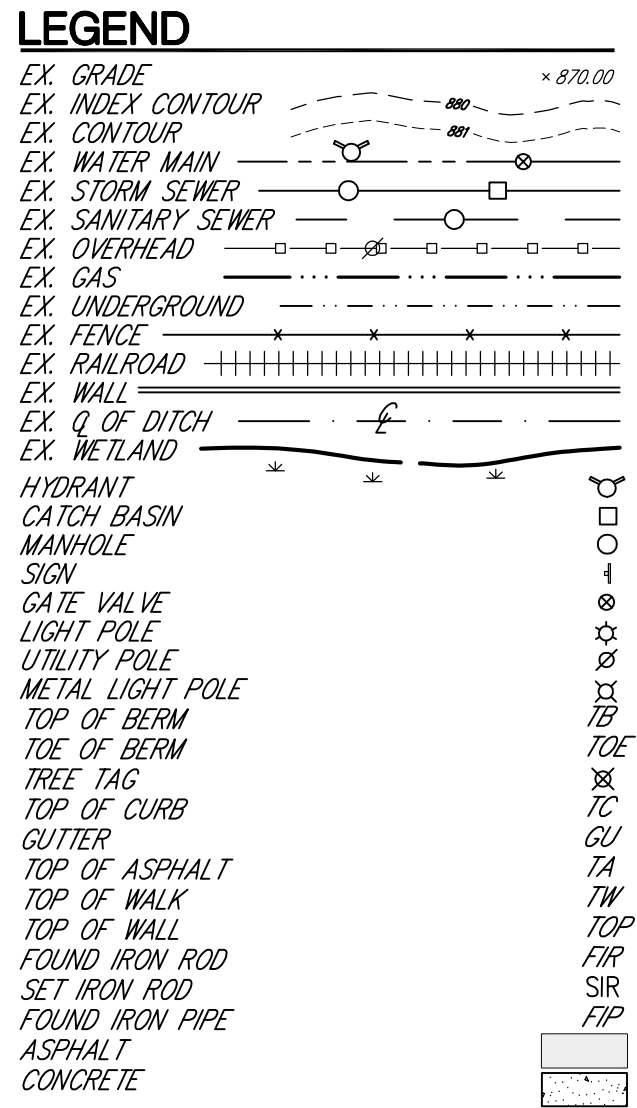
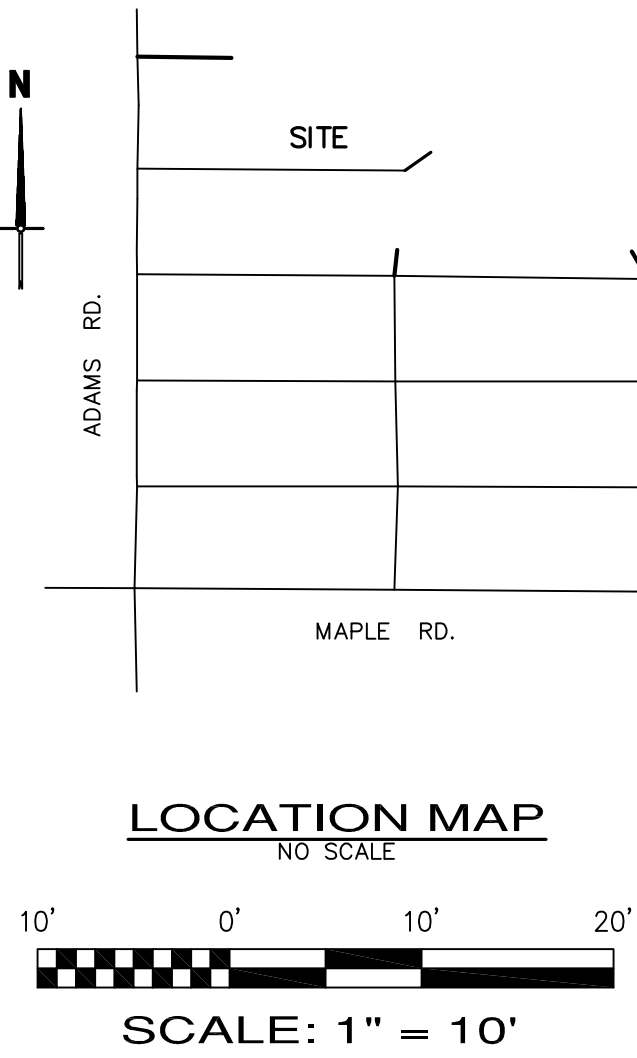
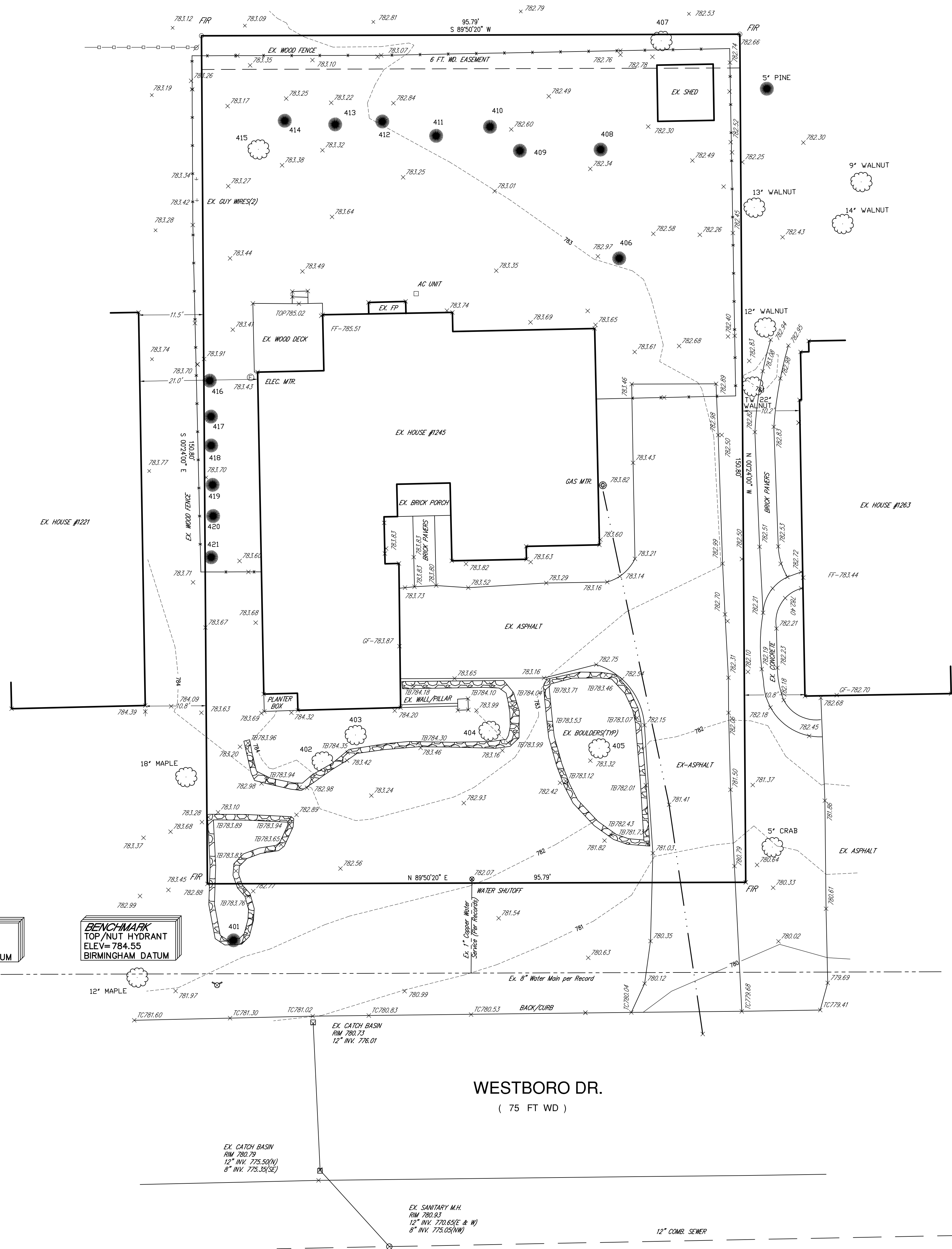
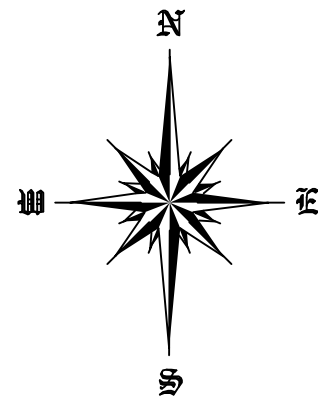
As indicated in my site plan, the pergola aligns perfectly with the existing sidewall of my home and is minimally intrusive. Additionally, there are large pine trees currently separating my home from my neighbor's, providing significant privacy between the two properties. Given the current layout of my house and my neighbor's, I do not anticipate any negative impact on my neighbor, either now or in the future.

I appreciate your consideration of my request and look forward to your favorable response.

Thank you for your attention to this matter.

Sincerely,

Paul Carroll



- TOPO. NOTES:**
- ALL ELEVATIONS ARE EXISTING ELEVATIONS
 - SUBJECT PROPERTY LOCATED IN ZONE X. AREA OF MINIMAL FLOODING. PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 26125C0537F EFFECTIVE DATE: SEPTEMBER 29, 2006.
 - THE LOCATION OF THE EXISTING UTILITIES AS SHOWN WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANIES RECORDS. NO GUARANTEE CAN BE MADE REGARDING THE COMPLETENESS OR EXACTNESS OF THE UTILITIES LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY IN THE FIELD THE LOCATION OF ALL UTILITIES. ANY POTENTIAL CONFLICT SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
 - THE CONTRACTOR SHALL CONTACT MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.
 - City of Birmingham has no Records on Sanitary Lead Location or Material

Legal Description:
Lot 227, Birmingham Estates No. 1 Subdivision, according to the recorded Plat thereof, as recorded in Liber 32 pf Plots. Page 16, Oakland County Records

TREE TAG NO.	TREE TYPE & SIZE
401	6" SPRUCE
402	5" DECID.
403	TW 7" CRAB
404	10" MAPLE
405	18" CATALPA
406	6" SPRUCE
407	10" WALNUT
408	7" SPRUCE
409	6" SPRUCE
410	6" SPRUCE
411	6" SPRUCE
412	5" SPRUCE
413	4" SPRUCE
414	4" SPRUCE
415	16" CATALPA
416	7" SPRUCE
417	6" SPRUCE
418	5" SPRUCE
419	5" SPRUCE
420	5" SPRUCE
421	5" SPRUCE

Note: All Trees IN "Good" Condition unless otherwise Noted

SE

Sujak Engineering PLC

CIVIL ENGINEERING

DESIGN

PLANNING

Phone: (248) 885-8431

Fax: (248) 885-8432

Email: SujakEngineering@Comcast.net

Team C. Sujak, P.E. No. 046896

1245 Westboro
Birmingham, MI 48009
Parcel # 20-30-301-02
Topographic Survey

Scale: 1"=10'
Drawn: TMS
Checked: TCS
Approved: TMS
Date: 9/22/2024
Job No. 24-069
Sheet No. CS1.0

Seal

ORIGINAL
SIGNATURE IN
BLUE

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
(TOLL FREE)

ADAMS RD.

MAPLE RD.

SITE

LOCATION MAP
NO SCALE

10' 0' 10' 20'

SCALE: 1" = 10'

LEGEND

EX. GRADE
EX. INDEX CONTOUR
EX. CONTOUR
EX. WATER MAIN
EX. STORM SEWER
EX. SANITARY SEWER
EX. OVERHEAD
EX. GAS
EX. UNDERGROUND
EX. FENCE
EX. RAILROAD
EX. WALL
EX. Q. OF DITCH
EX. WETLAND
HYDRANT
CATCH BASIN
MANHOLE
SIGN
GATE VALVE
LIGHT POLE
UTILITY POLE
METAL LIGHT POLE
TOP OF BERM
TOE OF BERM
TREE TAG
TOP OF CURB
CUTTER
TOP OF ASPHALT
TOP OF WALK
FOUND IRON ROD
SET IRON ROD
FOUND IRON PIPE
ASPHALT
CONCRETE

TOPO. NOTES:
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Legal Description:
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SITE PLAN KEY & CALCULATIONS

○ — ○ — ○ DENOTES NEW 6" HIGH FENCING

ZONED R-1 SINGLE FAMILY RESIDENTIAL

SIDE YARD SETBACK (PER TABLE 2.06.2-SETBACKS):

14' OR 25% OF TOTAL LOT WIDTH WHICHEVER IS LARGER FOR BOTH SIDE YARDS

95.79' TOTAL LOT WIDTH x 25% = 24' TOTAL SIDE YARD WIDTH ALLOWED
EXISTING EAST SIDE YARD = 10.8'
24' TOTAL - 10.8' = 13.2' MAXIMUM WEST SIDE YARD ALLOWED

EXISTING LOT AREA:

14,445 S.F. LOT X 30% COVERAGE ALLOWED = 4,333 S.F. LOT COVERAGE ALLOWED
EXISTING LOT COVERAGE (3,082 S.F.) = 21%

PROPOSED LOT COVERAGE:

EXISTING RESIDENCE: 2,830 S.F. FOOTPRINT
PROPOSED GARAGE ADDITION: 600 S.F.
PROPOSED PERGOLA: 167 S.F.

TOTAL LOT COVERAGE SHOWN: 3,597 S.F. (24.9% - MAX ALLOWED 30%)

PROPOSED OPEN SPACE:

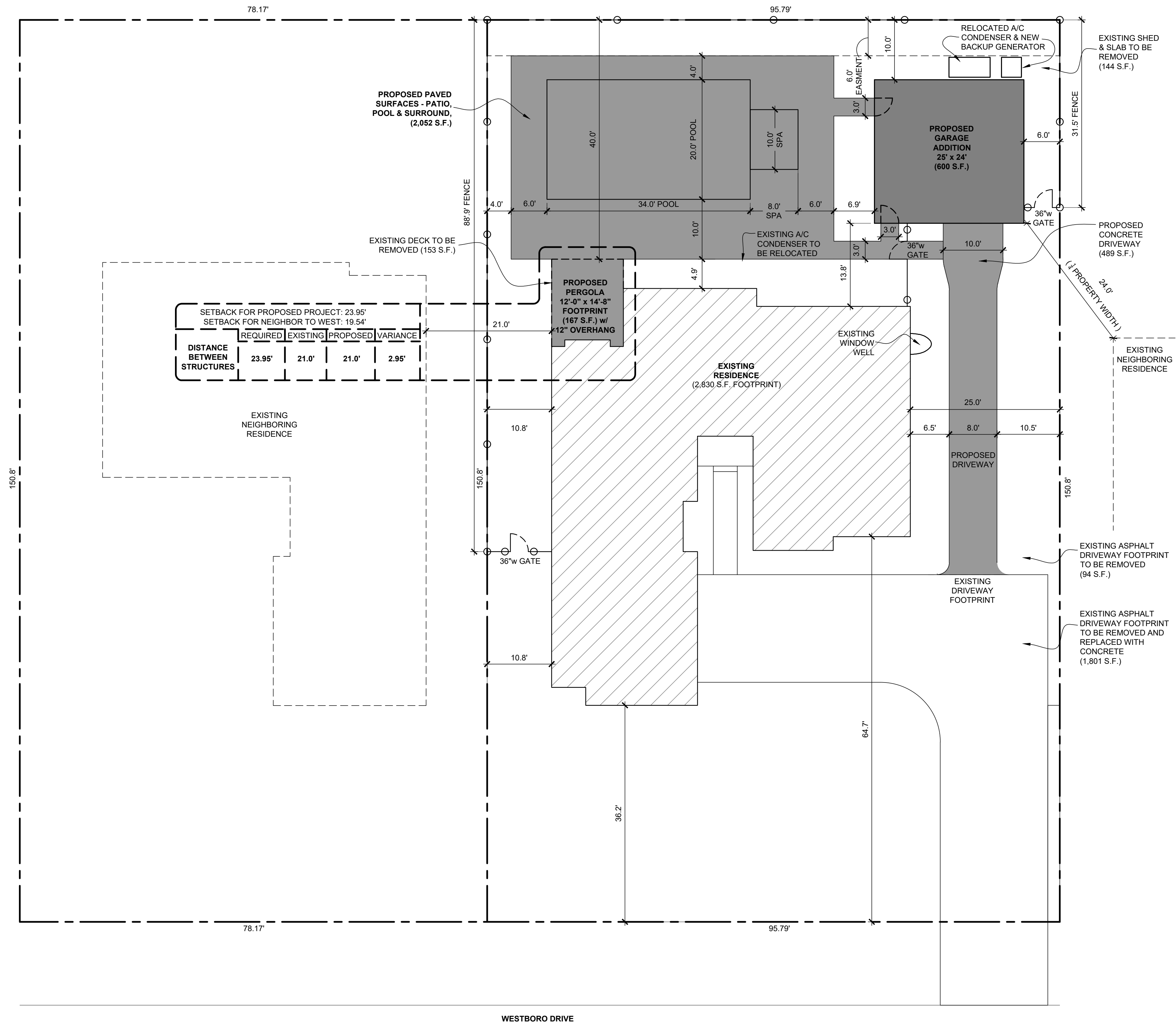
PROPOSED DRIVEWAY: 2,290 S.F.
PROPOSED POOL & SURROUND, PATIO, AND WALKS: 2,052 S.F.
TOTAL PAVED SPACE SHOWN: 4,342 S.F.

14,445 S.F. LOT - 3,597 S.F. LOT COVERAGE = 10,848 S.F. AVAILABLE LOT AREA
4,342 s.f. PAVED SPACE / 10,848 S.F. AVAILABLE LOT AREA = 40.0% - MAX ALLOWED 40%

FRONT YARD OPEN SPACE:

TOTAL IMPERVIOUS AREA: 655 S.F.
TOTAL FRONT YARD AREA: 3,467 S.F.

655 S.F. / 3,467 S.F. = 18.9%



SITE PLAN

SCALE: 1" = 10'-0"



NORTH

1



PROJECT NAME:

CARROLL RESIDENCE

1245 WESTBORO DR.
BIRMINGHAM, MI
48009

REV. #	DATE	ISSUED FOR:

SHEET TITLE:

SITE PLAN

DRAWN BY: TJL	DRAWING DATE: 08-28-2024
CHECKED BY: MJ, PC	PRINTED DATE:

This drawing, as an instrument of service, remains the property of T.J. Design. Any changes, publication, or unauthorized use is prohibited unless expressly approved.

PROJECT NUMBER:

23011

SHEET NUMBER:

SP100



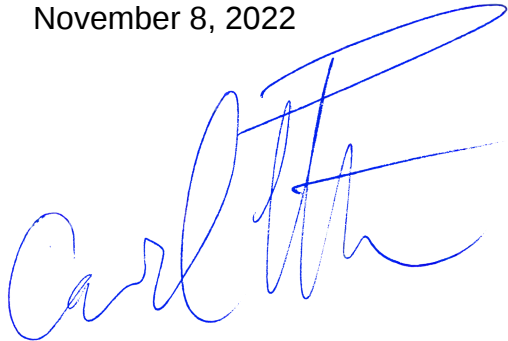
Omnimax Equinox™ Patio Cover, Carport and Commercial Structure Engineering 2018 IBC

This report covers these maximum conditions

Ground Snow Loads	20 25	psf psf
Wind Speed (Ultimate) and Exposure	115 mph Exp. B 115 mph Exposure C	or 130 mph Exp. B
Maximum Ss =	25%	Seismic Design Category B

PAGES	SECTION DESCRIPTION
Page 1-2 of 51	GENERAL NOTES
Pages 3-5 of 51	EQUINOX STRUCTURAL CONFIGURATIONS
Pages 6-18 of 51	COMPONENT PARTS AND CONNECTION DETAILS
Page 19 of 51	LOUVER SPANS FOR COMMERCIAL AND PATIO STRUCTURES
Page 20 of 51	Aa. Tables for Attached Structures with Single Span Louvers with Two Posts ONLY for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 21 of 51	Ba. Tables for Attached Structures with Single Span Louvers with at Least 3 Posts for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 22 of 51	Ca. Tables for Attached Structures with Multi Span Louvers and Single Span Headers for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 23 of 51	Da. Tables for Freestanding Structures with Single Span Louvers with 4 posts for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 24 of 51	Ea. Tables for Freestanding Structures with Single Span Louvers with at least 6 posts for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 25 of 51	Fa. Tables for Freestanding Structures with Multi Span Louvers and Single Span Headers for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 26 of 51	Ga. Tables for Attached Structures with Louvers Parallel w/ Building Wall w/ Post at Every Span for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 27 of 51	Ha. Tables for Attached Structures with Louvers Parallel w/ Building Wall w/ fewer Posts for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Page 28 of 51	Ia. Tables for Attached Structures with Louvers Parallel w/ Building Wall w/ fewer Posts and Overhang for Header 'a'= Single 0.125"x2"x8" Alum Header Detail B1
Pages 29-37 of 51	Sections Ab to Ib: Tables for Structure Types A-I for Header 'b'= Double 0.125"x2"x8" Alum Header Detail B2
Pages 38-46 of 51	Sections Ac to Ic: Tables for Structure Types A-I for Header 'c'= Single 0.25"x4"x8" Alum Header Detail B3
Page 47 of 51	Wa. ATTACHMENT TO WOOD FRAMED WALL
Page 48 of 51	Wb. ATTACHMENT TO MASONRY or CONCRETE WALL
Page 49 of 51	Xa. MOMENT RESISTING FOOTING SIZE for Constrained Footings
Page 50 of 51	Xb. MOMENT RESISTING FOOTING SIZE for Non Constrained Footings
Page 51 of 51	Y. REQUIRED FASTENERS FOR POST CONNECTIONS AND RETURN BEAM ALTERNATIVES

November 8, 2022



GENERAL NOTES:

1. DESIGNED IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE.
2. ALUMINUM DESIGN IN ACCORDANCE WITH THE 2015 EDITION OF ALUMINUM ASSOCIATION'S SPECIFICATIONS AND CHAPTER 20 OF THE INTERNATIONAL BUILDING CODE.
3. DESIGN LOADINGS: Ct = 1.2, I = 1.0, Ce = 1.0 (ALL EXPOSURES EXCEPT B AND C WHEN LOCATED TIGHT AMONG CONIFERS)

GROUND SNOW LOAD		ROOF DESIGN LOAD	
10 PSF		10 PSF	LIVE LOAD ONLY
20 PSF		20 PSF	LIVE LOAD ONLY
25 PSF		21 PSF	DESIGN ROOF SNOW LOAD
30 PSF		25.2 PSF	DESIGN ROOF SNOW LOAD
35.7 PSF		30 PSF	DESIGN ROOF SNOW LOAD
43 PSF		36.1 PSF	DESIGN ROOF SNOW LOAD
50 PSF		42 PSF	DESIGN ROOF SNOW LOAD
60 PSF		50.4 PSF	DESIGN ROOF SNOW LOAD

FOR 0.25/12 < SLOPE < 1/12

WIND SPEEDS IN THE 2018 IBC ARE "ULTIMATE DESIGN WIND SPEED." ALL STRUCTURES DESCRIBED IN THIS REPORT ARE DESIGNED USING PRESSURES CALCULATED FROM "ULTIMATE DESIGN WIND SPEEDS". FOR ATTACHED STRUCTURES THE MAXIMUM MEAN ROOF HEIGHT OF THE EXISTING STRUCTURE IS 30'. Kzt WAS ASSUMED AS 1.0 FOR ALL WIND LOADS. SITE LOCATIONS REQUIRING A HIGHER Kzt VALUE (ISOLATED HILLS, RIDGES, ESCARPMENTS) WILL REQUIRE HIGHER WIND LOADS AS PER ASCE7-16 SECTION 26.8 AND ARE OUTSIDE THE SCOPE OF THIS REPORT.

NOTE: EXPOSURE B: SHALL APPLY WHEN THE GROUND SURFACE ROUGHNESS CATEGORY B (URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN W/ NUMEROUS CLOSELY SPACED OBSTRUCTIONS HAVING THE SIZE OF A SINGLE FAMILY DWELLING OR LARGER) PREVAILS IN THE UPWIND DIRECTION FOR A DISTANCE OF AT LEAST 1500 FT.

EXPOSURE C: SHALL APPLY WHEN EXPOSURE B AND D (SMOOTH MUD FLATS, SALT FLATS, UNBROKEN ICE AND OTHER) DO NOT.

SEISMIC LOADING
Ss FOR STRUCTURE AS PER 2018 IBC FIGURE 1613.2.1(1)
Ss > 150% ARE NOT REQUIRED PER ASCE7-16 12.8.1.3 for Ss<215%
Ss USED FOR TABLES SHOWN ON TABLES SHEET
S1 NOT APPLICABLE TO THESE STRUCTURES
SITE CLASS = D
BASIC SEISMIC FORCE RESISTING SYSTEM
GENERIC SYSTEM >> R= 1.25
ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE

THESE ROOFS ARE NOT SUBJECT TO MAINTENANCE WORKERS AND HAVE NOT BEEN EVALUATED FOR A CONCENTRATED 300 LBF LOAD.

THE BASIS OF THE DESIGN FORCES ARE IN ACCORDANCE WITH THE BASIC LOAD COMBINATIONS DESCRIBED IN IBC SECTION 1605.3.1 AND NO FURTHER INCREASES ARE PERMITTED FOR PATIO COVERS RESISTING WIND OR SEISMIC FORCES EXCEPT AS ALLOWED FOR WOOD CONSTRUCTION IN CHAPTER 23.

4. THIS ENTIRE ENGINEERING PACKAGE IS NOT REQUIRED FOR MOST BUILDING PERMITS. SUBMISSION FOR A BUILDING PERMIT MUST INCLUDE:

a. GENERAL NOTES (2 PAGES)

b. STRUCTURAL CONFIGURATIONS (1 PAGE)

c. LOUVER SPAN TABLES (1 PAGE)

d. HEADER POST SPACING, FOOTING SIZE AND POST TABLE FOR LIVE/SNOW , SEISMIC AND WIND LOAD (1 PAGE)

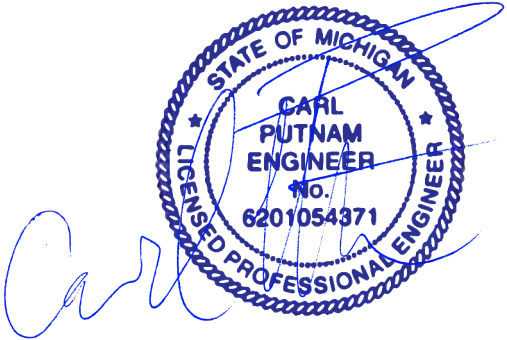
e. ALL APPROPRIATE DETAILS

f. OTHER DOCUMENTATION REQUIRED BY LOCAL BUILDING AUTHORITY.

5. CONCRETE MIX: Fc=2500 PSI FOR 28 DAYS AND THE DURABILTY REQUIREMENTS OF CHAPTER 19 OF ACI318-14. PATIO STRUCTURES MAY BE ATTACHED TO CONCRETE SLAB WITHOUT FOOTINGS WHEN THE POST LOAD IS 750# OR LESS AND THE FROST DEPTH IS ZERO. CONCRETE SHALL BE A MINIMUM OF 3.5 INCHES THICK AND NO CRACKS WITHIN 2'-6" OF POSTS. POSTS SHALL BE SET BACK A MINIMUM OF 4 INCHES FROM EDGE OR EXPANSION JOINT OF A SLAB.

6. FOOTINGS HAVE BEEN DESIGNED FOR CLASS 5 SOIL AS PER TABLE 1806.2. ALLOWABLE FOUNDATION PRESSURE IS 1500 POUNDS PER SQUARE FOOT. LATERAL BEARING PRESSURE IS 100 PSF/FT AND IS DOUBLED PER IBC SECTION 1806.3.4. THESE DESIGN VALUES DO NOT APPLY TO MUD, ORGANIC SILTS, ORGANIC CLAYS, PEAT OR UNPREPARED FILLS AND MAY REQUIRE FURTHER SOIL INVESTIGATION. THE BUILDING OFFICIAL MAY ASSIGN A LOAD BEARING CAPACITY. UNITS IN SNOW/LIVE LOAD AREA OF 25 PSF OR LESS MAY BE BUILT ON 1000 PSF BEARING SOIL W/O ADDITIONAL ENGINEERING. MINIMUM FOOTING DEPTH IS THE LOCAL FROST DEPTH.

7. 20 PSF AND HIGHER LIVE LOAD STRUCTURES MAY BE USED AS COVERS FOR PARKING OF MOTOR VEHICLES. CARPORTS MUST HAVE AT LEAST TWO OPEN SIDES AND HAVE FLOOR SURFACES MADE OF APPROVED NONCOMBUSTIBLE MATERIAL OR ASPHALT.
8. AT LEAST ONE HORIZONTAL DIMENSION (PROJECTION OR WIDTH) OF COVER SHALL BE LESS THAN 30'.
9. ALL STEEL SHALL BE GALVANIZED ASTM A-653 G90, A123 G45 OR A153 B-3, PAINTED ASTM A755 OR USE AN APPROVED COATING COMPLYING WITH IBC SECTION 2203.2.
10. ALTERNATE ALUMINUM ALLOYS OF EQUAL OR HIGHER STRENGTHS MAY BE USED. 6105T5 or 6005AT61 ALUMINUM MAY BE SUBSTITUTED FOR 6061T6.



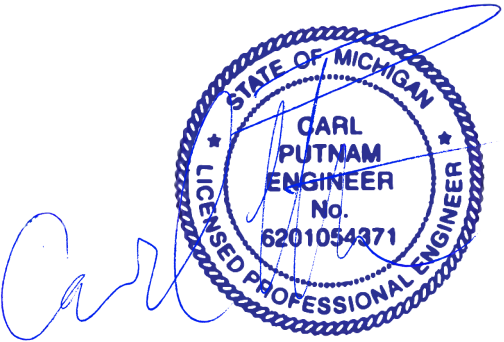
DEC 14 2022

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SCALE: NONE	DRAWING OR PART NAME	EQUINOX GENERAL NOTES	
DATE:	DRAWING OR PART NUMBER	GN01-2018	SHEET 1 OF 2

GENERAL NOTES:
(CONTINUED FROM SHEET NO. 1)

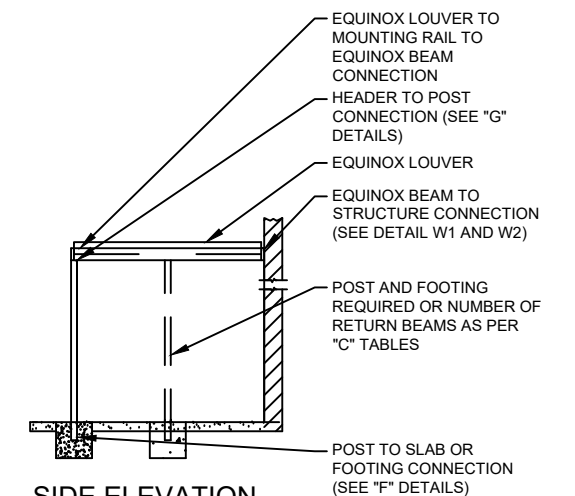
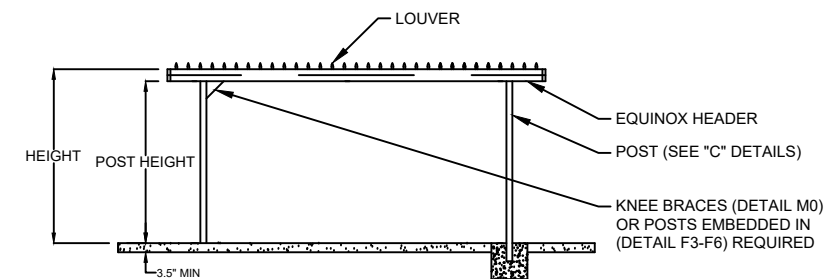
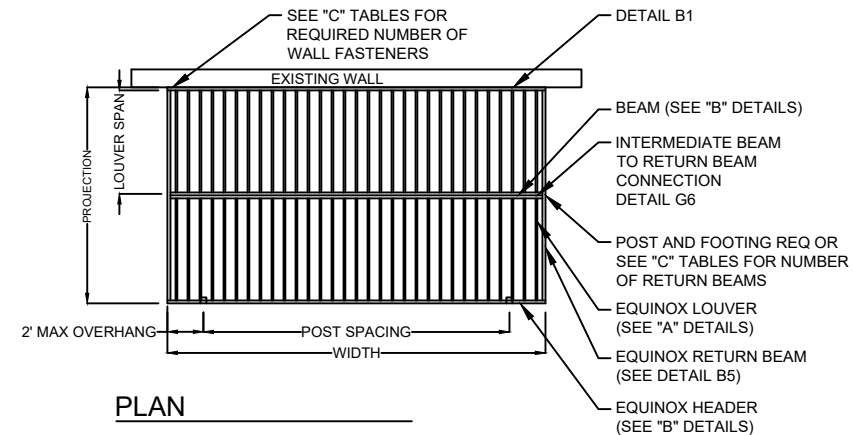
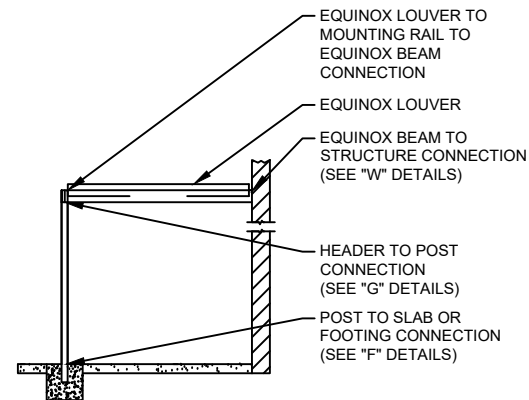
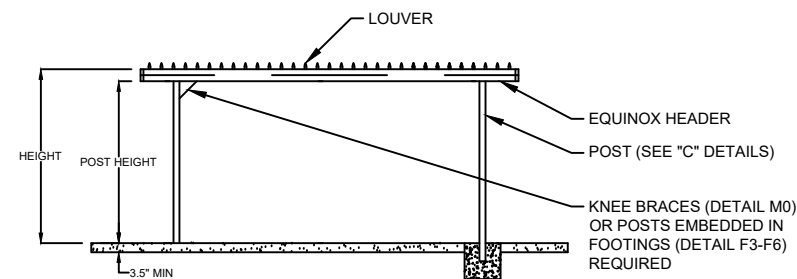
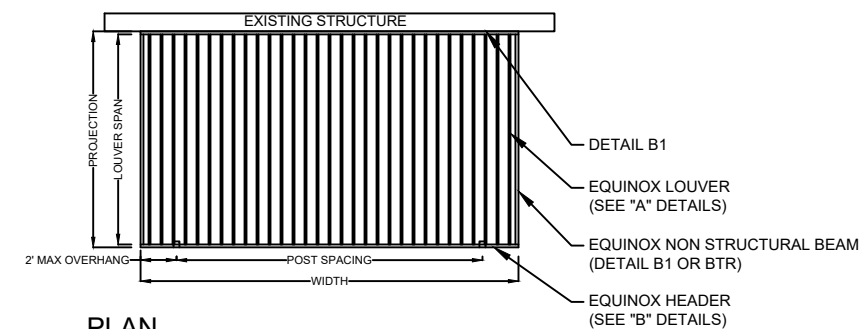
11. STEEL FASTENERS SHALL BE EITHER STAINLESS (300 SERIES) OR GALVANIZED. BOLTS SHALL BE ASTM A-307 HOT DIPPED GALVANIZED, MECHANICALLY GALVANIZED, ZINC ELECTROPLATED, ALUMINIZED OR 300 SERIES STAINLESS STEEL. CONCRETE ANCHOR BOLTS ARE SPECIFIED IN THE DETAILS. ALL WOOD SCREWS MUST COMPLY WITH ANSI/ASME STANDARD B18.6.1 AHD AND AWC NDS-2018 12.1.5. ALL LAG SCREWS MUST COMPLY WITH ANSI/ASME B18.2.1 AND AWC NDS-2018 12.1.4. ALL STEEL WASHERS TO BE ASTM F844 W/ DIMENSIONS IN ACCORDANCE WITH ASME B18.22.1, TYPE A. ALL STEEL NUTS TO BE ASTM A563. THE MINIMUM WASHER DIAMETER SHALL BE 1" FOR BOLTED CONNECTIONS. SCREWS AND BOLTS WILL HAVE A MINIMUM EDGE DISTANCE OF 2X FASTENER DIAMETER.
12. POSTS EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE FROM OILY SURFACES. ALUMINUM SHALL NOT BE EMBEDDED IN CONCRETE IF IT CONTAINS CHLORIDES OR CORROSIVE ADDITIVES. EMBEDDED ALUMINUM ELEMENTS WILL BE COVERED WITH PLASTIC TAPE OR OTHERWISE PROTECTED AS PER 2015 ADM M.7.3.
13. HEADER SPLICES SHALL NOT BE LOCATED NEARER TO THE END OF THE STRUCTURE THAN THE FIRST INTERIOR POST.
14. ALL SELF DRILLING AND SELF TAPPING SCREWS MUST COMPLY TO ICC- ESR 1271, 1408, 1976, 2196, 3006, 3215, 3223, 3231, 3294, 3528 OR 3558 AND USE HEADS W/ DIAMETERS EQUAL TO #8 = $\frac{5}{16}$ ", #10 = $\frac{3}{8}$ ", #12 = $\frac{13}{32}$ " AND #14 = $\frac{1}{2}$ " OR STEEL WASHERS OF SIMILAR DIAMETER AND AS PER GENERAL NOTE #11
15. STRUCTURES MAY NOT BE ENCLOSED IN ANY MANNER WITHOUT ADDITIONAL ENGINEERING ANALYSIS OR APPROVAL OF THE LOCAL BUILDING AUTHORITY.
16. ALUMINUM LOUVERS ARE CLASS A FIRE RATED AS INDICATED BY THE EXCEPTION #2 IN IBC SECTION 1505.2.
17. STRUCTURE TYPES A AND B MAY BE ATTACHED TO EAVE OVERHANGS PER DETAIL W7.
18. WHERE ALUMINUM ALLOY PARTS ARE IN CONTACT WITH DISSIMILAR METALS (OTHER THAN STAINLESS, ALUMINIZED OR GALVANIZED STEEL) OR ABSORBENT BUILDING MATERIALS, LIKELY TO BE CONTINUOUSLY OR INTERMITTENTLY WET, THE FAYING SURFACES SHALL BE PAINTED OR OTHERWISE SEPARATED IN ACCORDANCE WITH THE ALUMINUM DESIGN MANUAL M.7.

20. All structures must comply with one of the following:
- a. All structures with a roof snow load of 30 psf or less may be built in Seismic Design Category (SDC) A-D up to the maximum Ss shown .
 - b. Structures with flat roof design snow loads over 30 psf complying with IBC Section 1613.1 Exception #1 do not require additional seismic analysis.
 - c. Structures not complying with (a) or (b) require additional engineering seismic analysis.
21. DRIFTING SNOW IS ADDRESSED IN DETAIL W8. SLIDING SNOW IS BEYOND THE SCOPE OF THIS REPORT.
22. ALL MULTISPAN TABLES AND DETAILS ASSUME EQUAL SPANS WITHIN 20%. ALL SPECIFICATIONS MUST BE BASED ON LONGEST ACTUAL SPAN.
23. WOOD USED IN CONNECTIONS SHALL BE PROTECTED FROM WEATHER AS PER IBC SECTION 1403.2 (WALLS) AND/OR 1503 (ROOFS), WHICHEVER IS MORE APROPRIATE.
24. FREESTANDING STRUCTURES MUST USE A MOMENT RESISTING POST TO FOOTING CONNECTION LIKE F3-F6. ATTACHED STRUCTURES MAY USE F3-F6 DETAILS OR M DETAILS IF USING DETAILS F1-F2 .



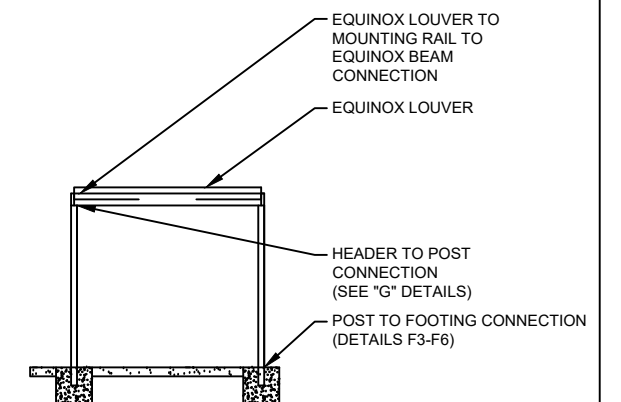
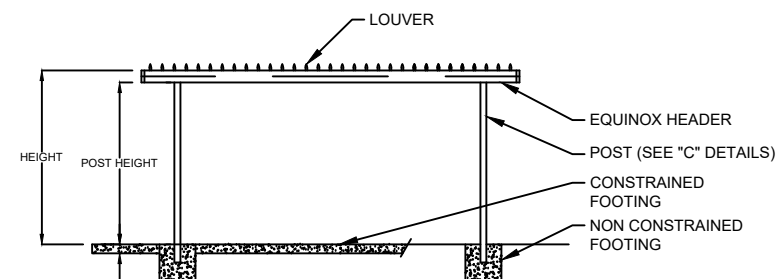
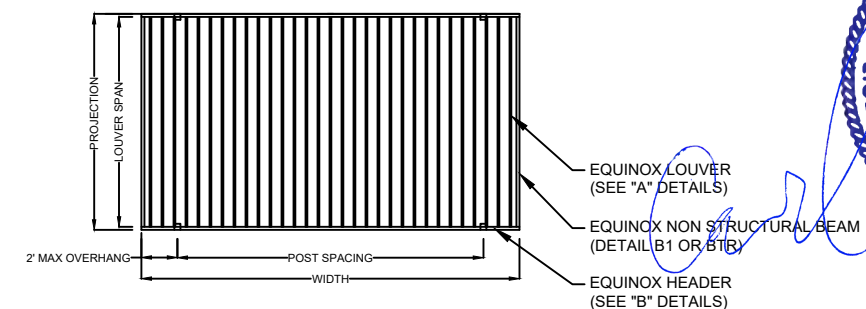
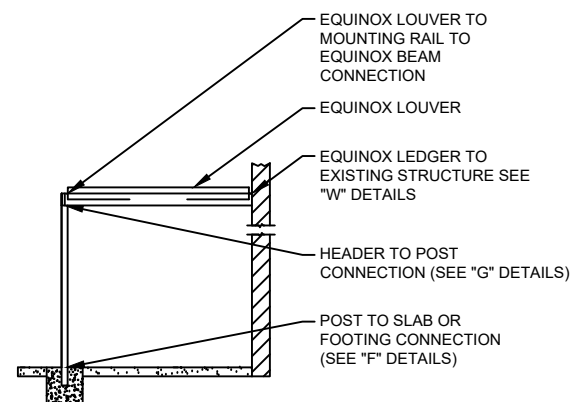
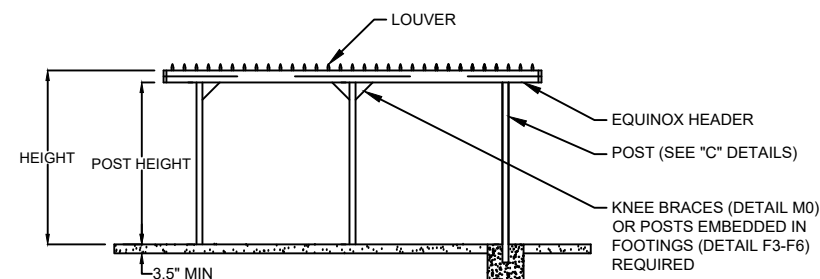
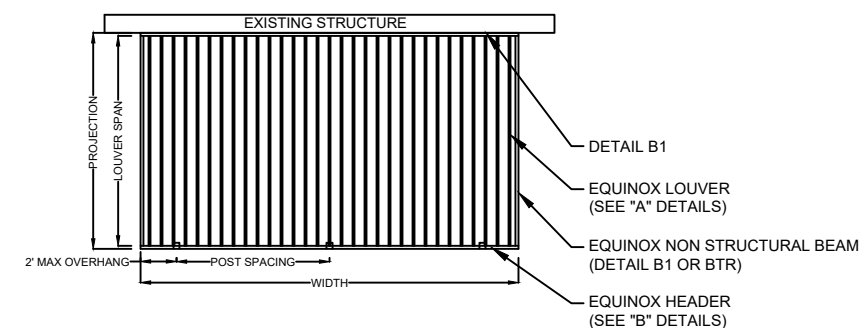
DEC 14 2022

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DATE:		DRAWING OR PART NUMBER	GN02-2018
			SHEET 2 OF 2



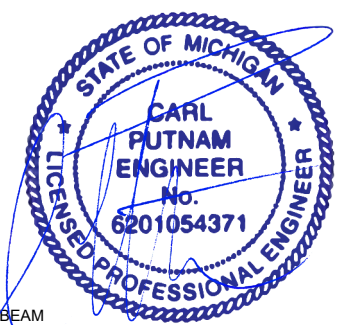
STRUCTURE TYPE A - ATTACHED STRUCTURES WITH SINGLE SPAN LOUVERS (2 POST ONLY)

STRUCTURE TYPE C - ATTACHED MULTI SPAN LOUVERS AND SINGLE SPAN HEADERS



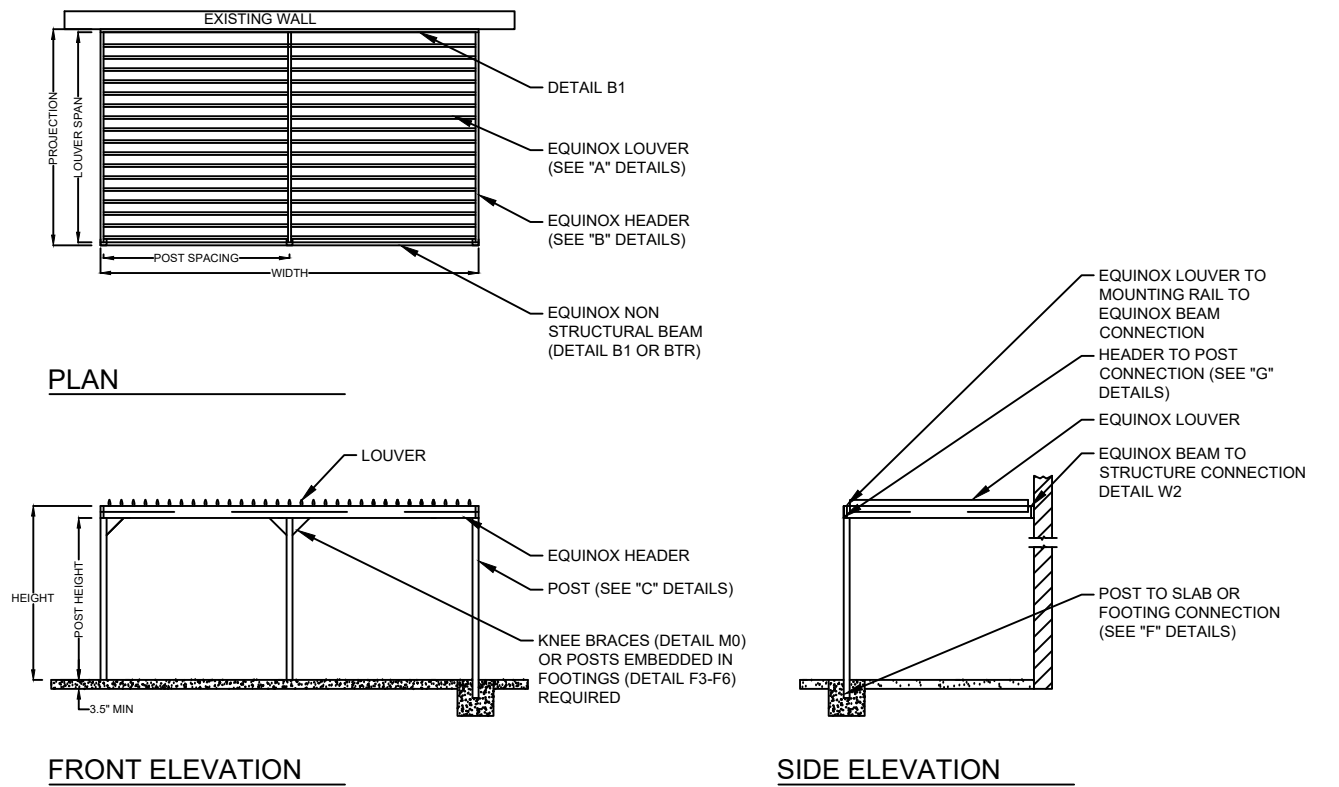
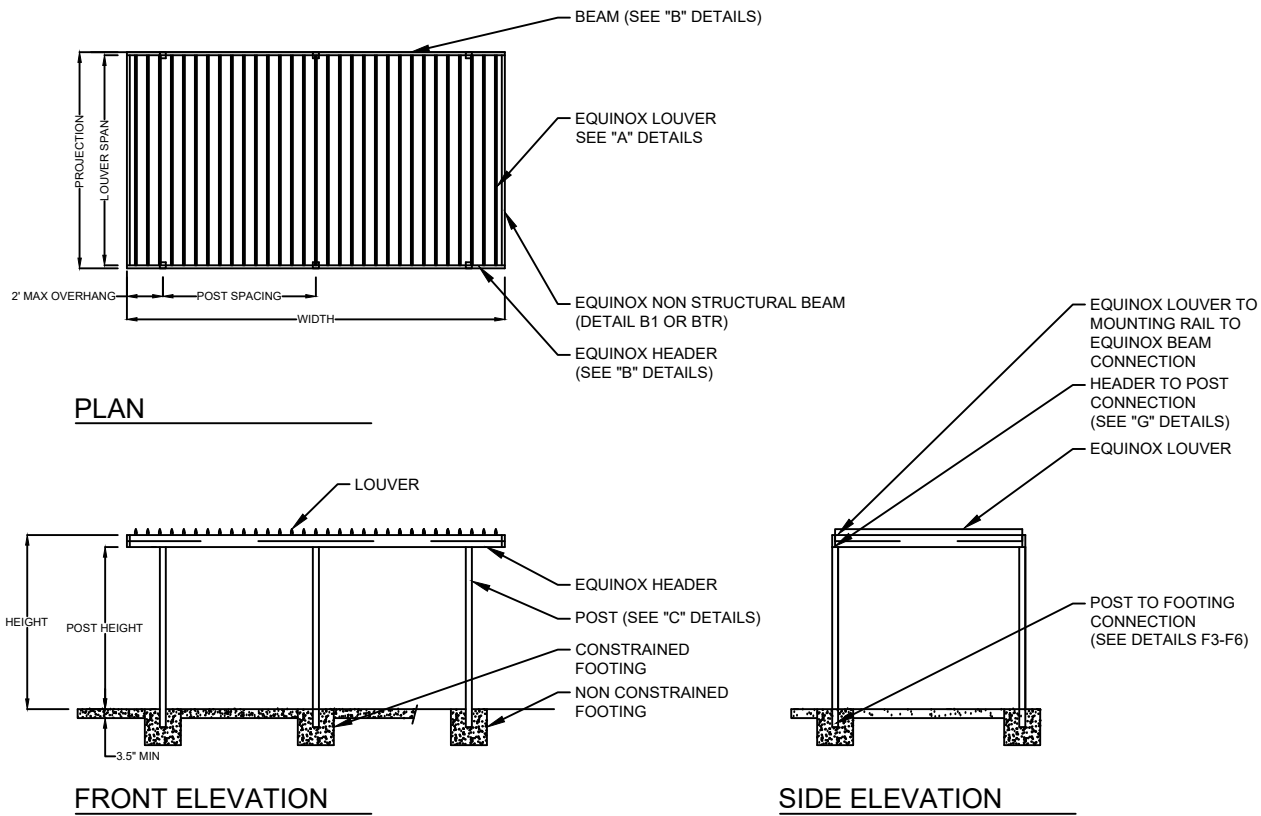
STRUCTURE TYPE B - ATTACHED STRUCTURES WITH SINGLE SPAN LOUVERS (3 POST MINIMUM)

STRUCTURE TYPE D - FREESTANDING STRUCTURE W/ SINGLE SPAN LOUVERS (4 POST ONLY)



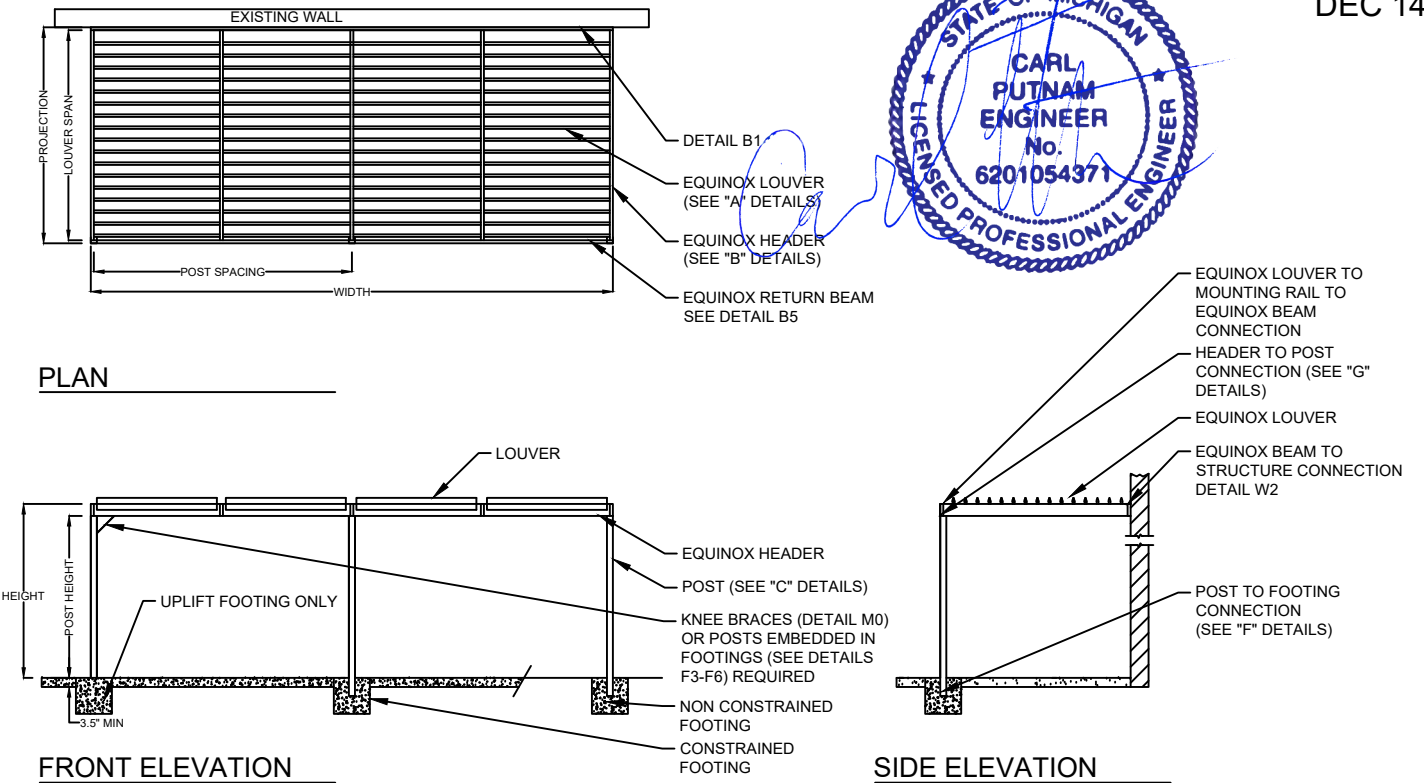
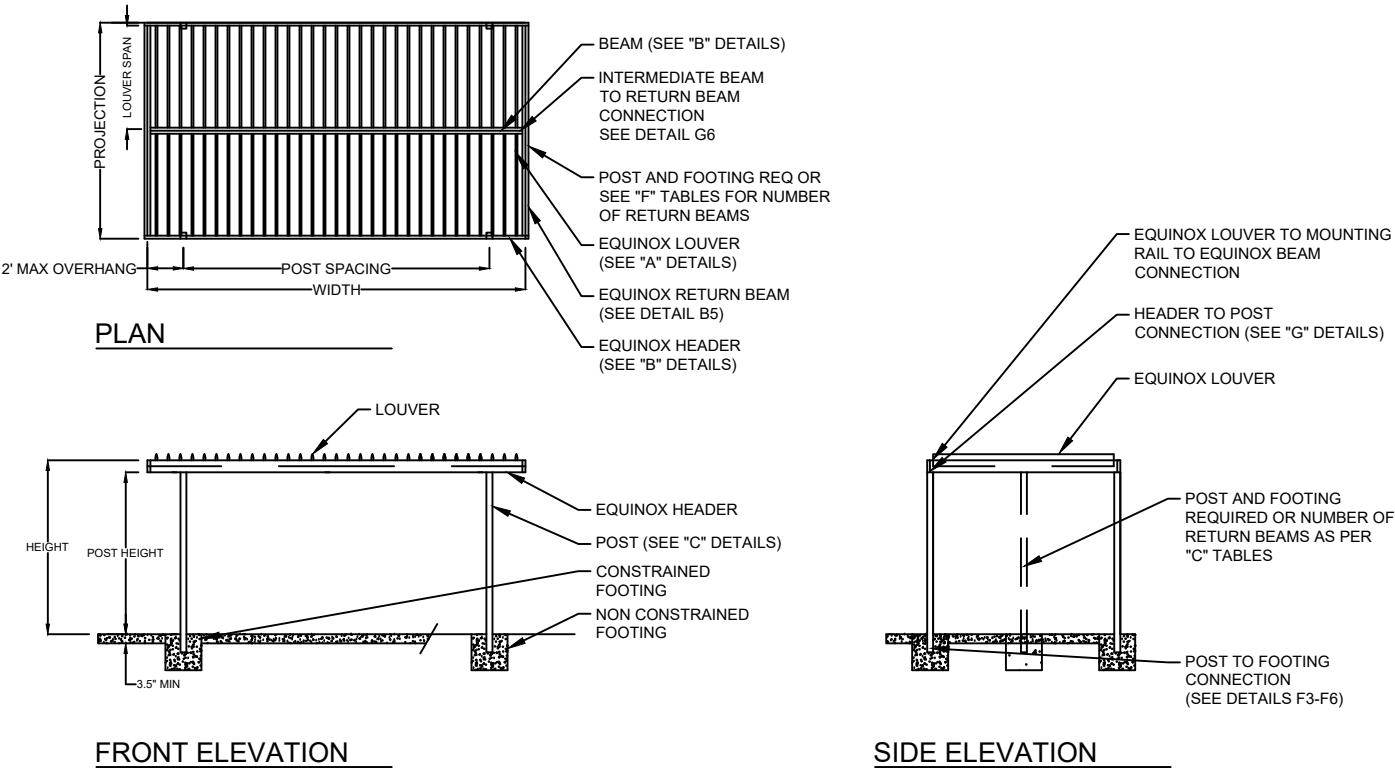
DEC 14 2022

DATE	DRAWN BY		
06-02-22	CMP	CARL PUTNAM P.E.	
		3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET	
		OMNIMAX	
		30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA	
		DESC STANDARD PLANS	3



STRUCTURE TYPE E - FREESTANDING STRUCTURE SINGLE SPAN LOUVERS (6 POST MIN)

STRUCTURE TYPE G - ATTACHED STRUCTURE W/ LOUVERS PARALLEL W/ BUILDING WALL

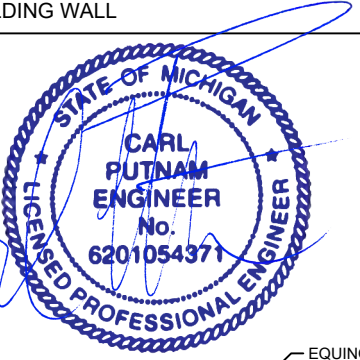


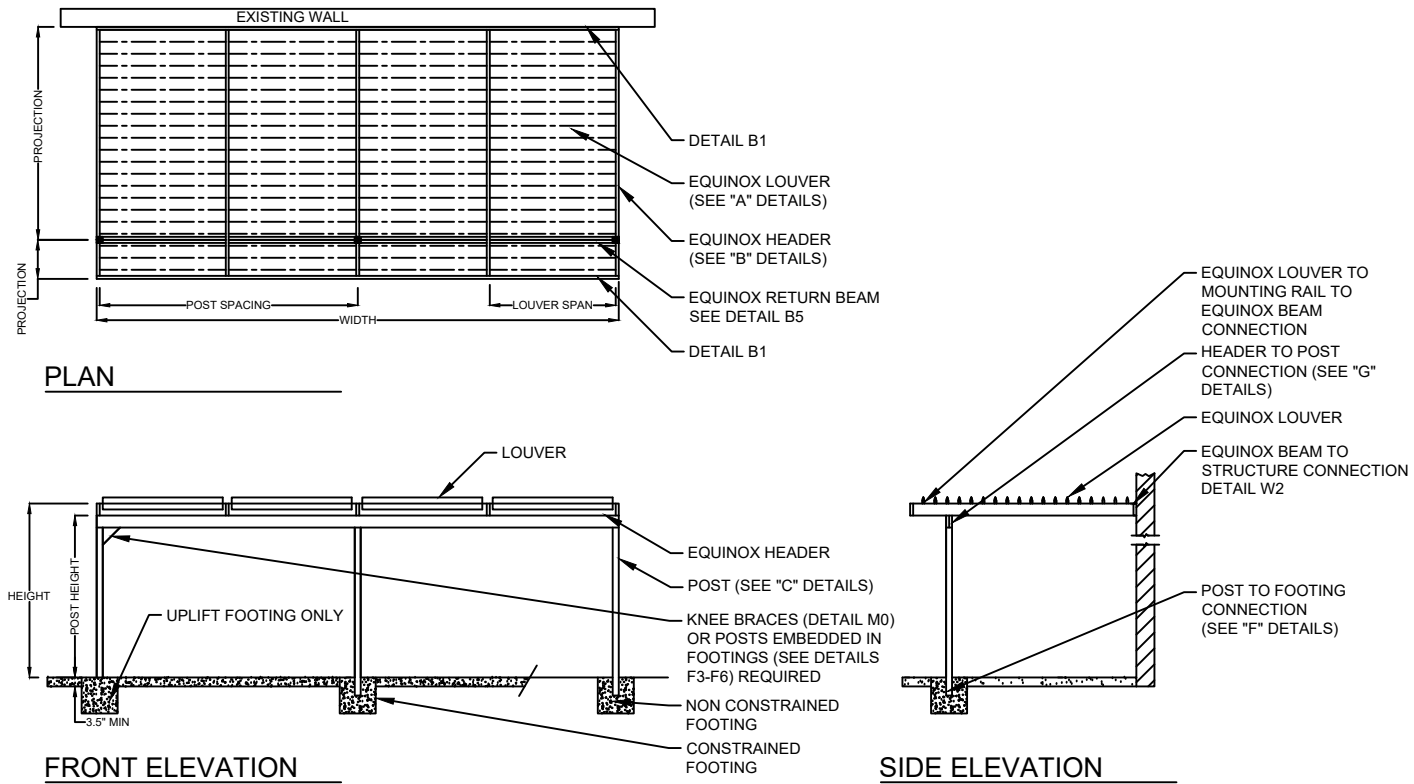
STRUCTURE TYPE F - FREESTANDING STRUCTURE W/ MULTI SPAN LOUVERS (4-6 POSTS ONLY)

STRUCTURE TYPE H - ATTACHED STRUCTURE W/ LOUVERS PARALLEL W/ BUILDING WALL AND RETURN BEAMS

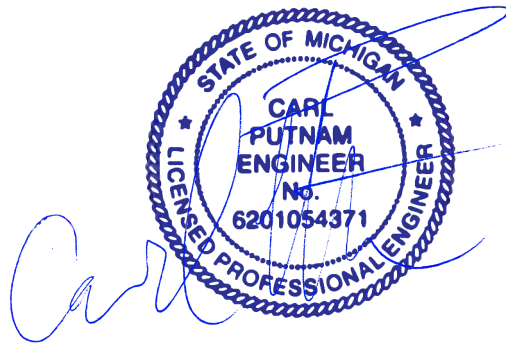
DATE	DRAWN BY	CARL PUTNAM P.E.		3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
06-02-22	CMP	OMNIMAX		30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC	STANDARD PLANS	4

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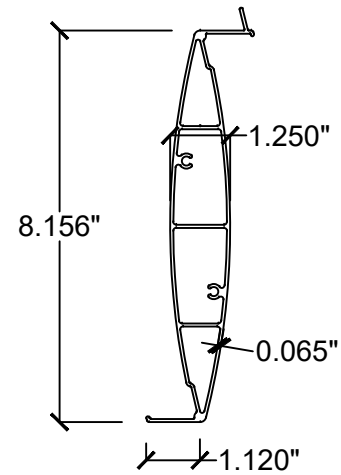


STRUCTURE TYPE I - ATTACHED STRUCTURE W/ LOUVERS
PARALLEL W/ BUILDING WALL AND RETURN BEAMS

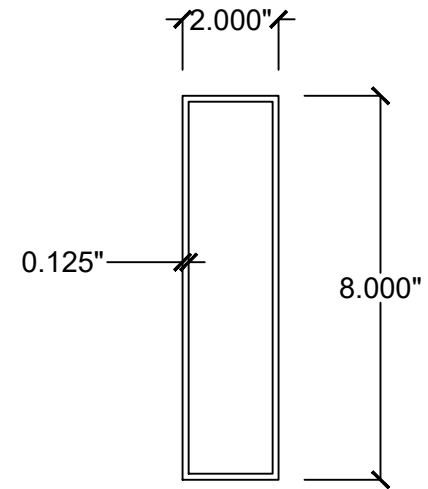


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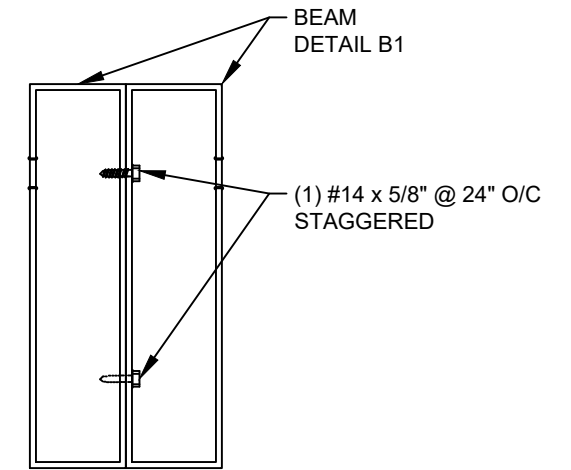
DATE	DRAWN BY		
06-02-22	CMP	CARL PUTNAM P.E.	
		3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET	
		OMNIMAX	
		30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA	
		DESC	STANDARD PLANS
			5



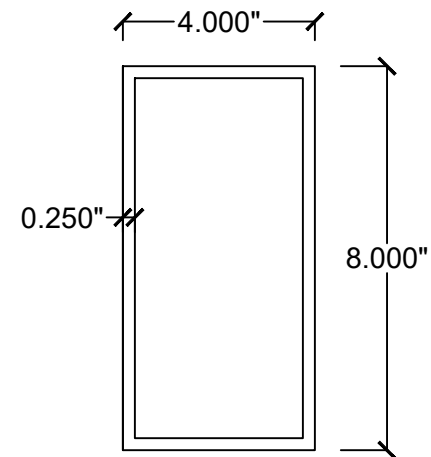
A1 EXTRUDED 6063-T6
ALUMINUM LOUVER



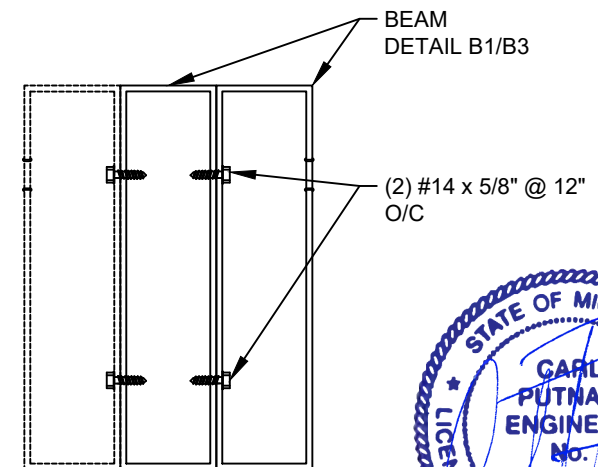
B1 EQUINOX 2x8 BEAM
6061-T6 ALUM ALLOY



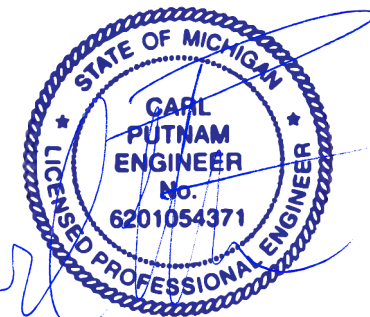
B2 DOUBLE EQUINOX BEAM
6061-T6 ALUM ALLOY



B3 EQUINOX 4x8 BEAM
6061-T6 ALUM ALLOY

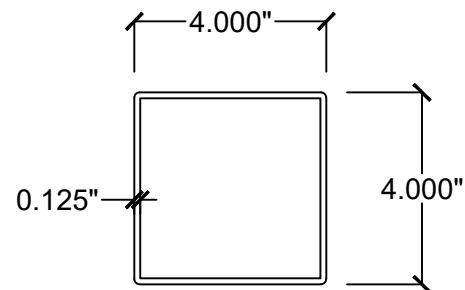


B5 MULTIPLE RETURN BEAM
6061-T6 ALUM ALLOY

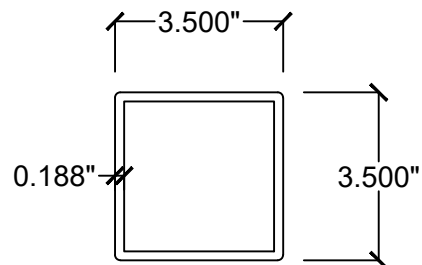


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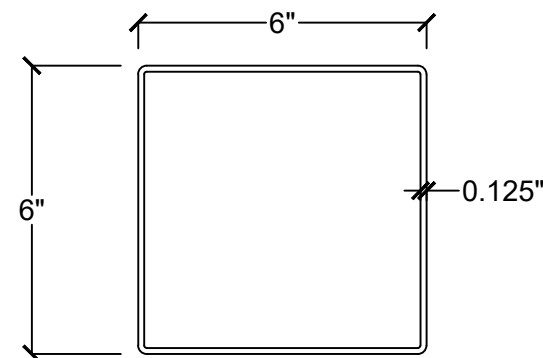
DATE	DRAWN BY	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
06-02-22	CMP		
		OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC COMPONENTS	6



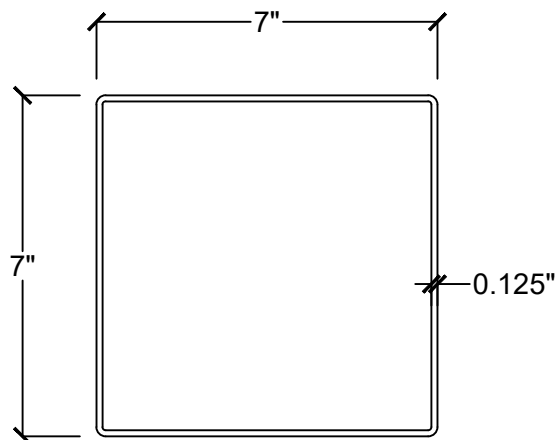
C1 EQUINOX POST
6061-T6 ALUM ALLOY
MAX MOMENT = 4048 lbf*ft



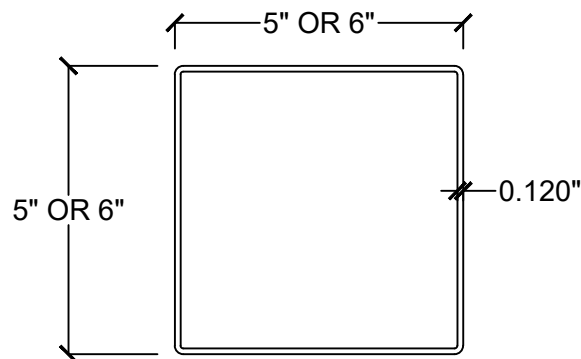
C2 ASTM A500 GRADE B
STEEL INSERT
MAX MOMENT = 5978 lbf*ft
(PAINTED/GALVANIZED FOR EXTERIOR
EXPOSURE)
*AVAILABLE FROM THIRD PARTY



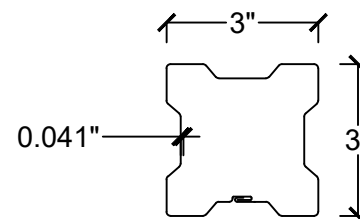
C3 0.125"x6"x6" 6061-T6 ALUM ALLOY
MAX MOMENT = 7070 lbf*ft



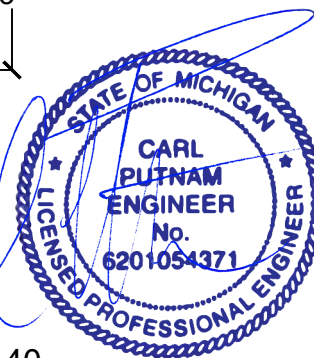
C4 EQUINOX POST
6061-T6 ALUM ALLOY
MAX MOMENT = 6706 lbf*ft



C5 ASTM A 500 GRADE B STEEL
INSERT
MAX MOMENT = PER DETAIL C3 OR C4
(PAINTED/GALVANIZED FOR EXTERIOR EXPOSURE)
*AVAILABLE FROM THIRD PARTY

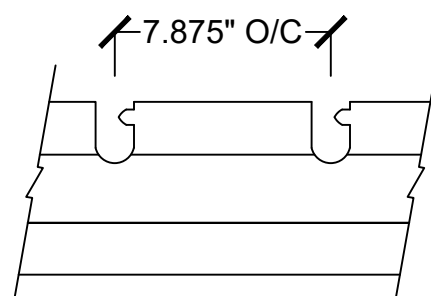
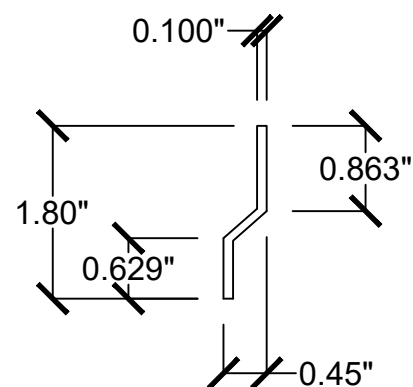


C6 ASTM A653 GRADE 40
STEEL CLOVER LEAF
(PAINTED/GALVANIZED FOR EXTERIOR
EXPOSURE)

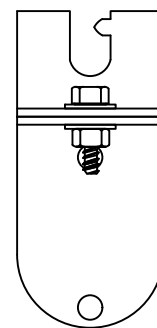


DEC 14 2022

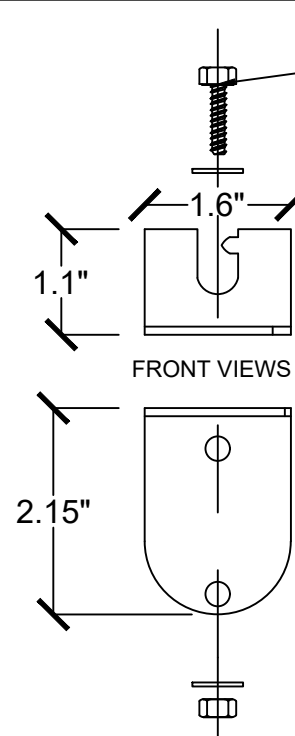
DATE	DRAWN BY	CARL PUTNAM P.E.		3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
06-02-22	CMP	OMNIMAX		30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC	COMPONENTS	7



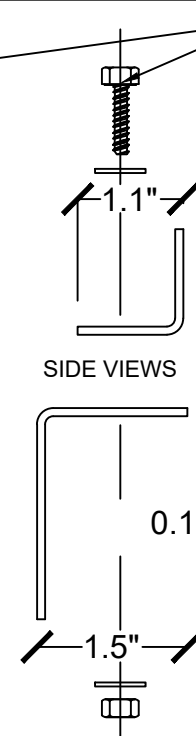
D1 EQUINOX LOUVER MOUNTING RAIL
6061-T6 ALUMINUM



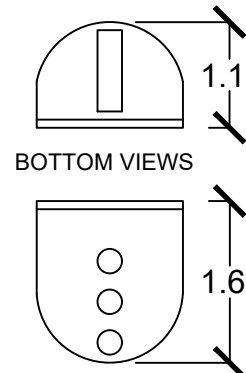
ASSEMBLED
PIVOT CLIP



FRONT VIEWS



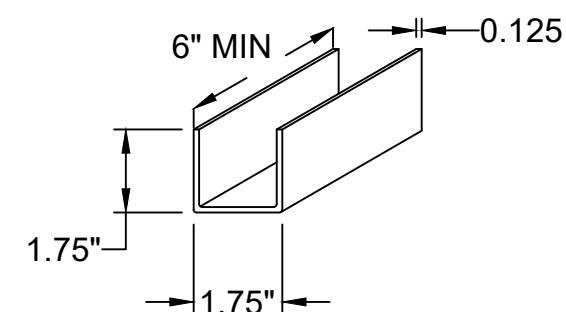
SIDE VIEWS



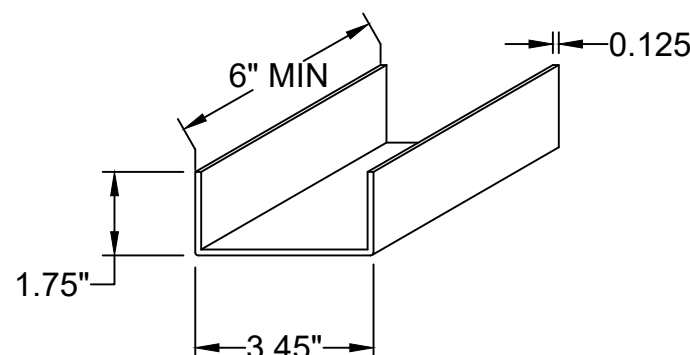
BOTTOM VIEWS

D2 EQUINOX PIVOT CLIP
ASTM A36 STEEL OR
6063T6 ALUM OR BTR

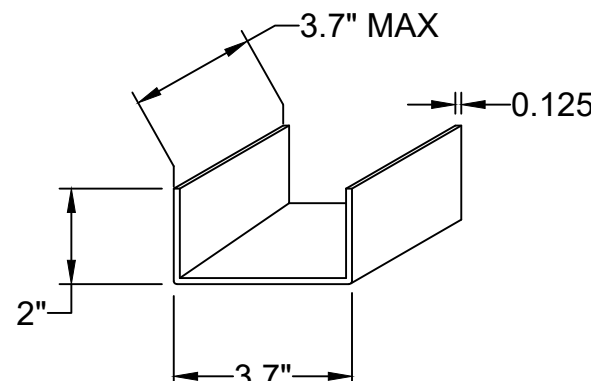
1/4" DIAMETER
STEEL BOLT



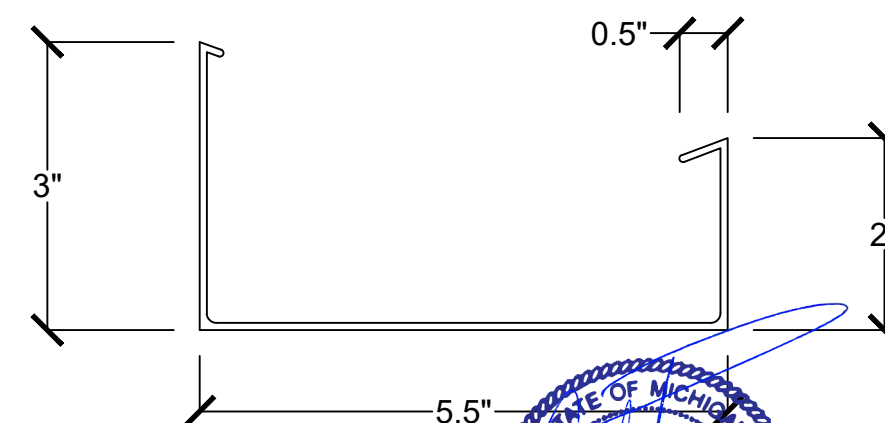
D3 2X8 INSIDE BEAM BRACKET
6063-T5 ALUM ALLOY



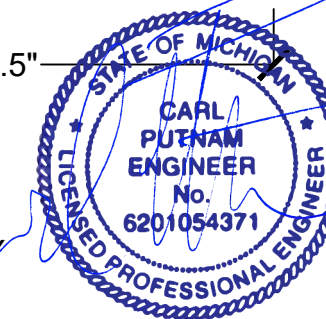
D4 4X8 INSIDE BEAM BRACKET
6063-T5 ALUM ALLOY
*AVAILABLE FROM THIRD PARTY



D5 4X4 INSIDE POST BRACKET
6063-T5 ALUM ALLOY

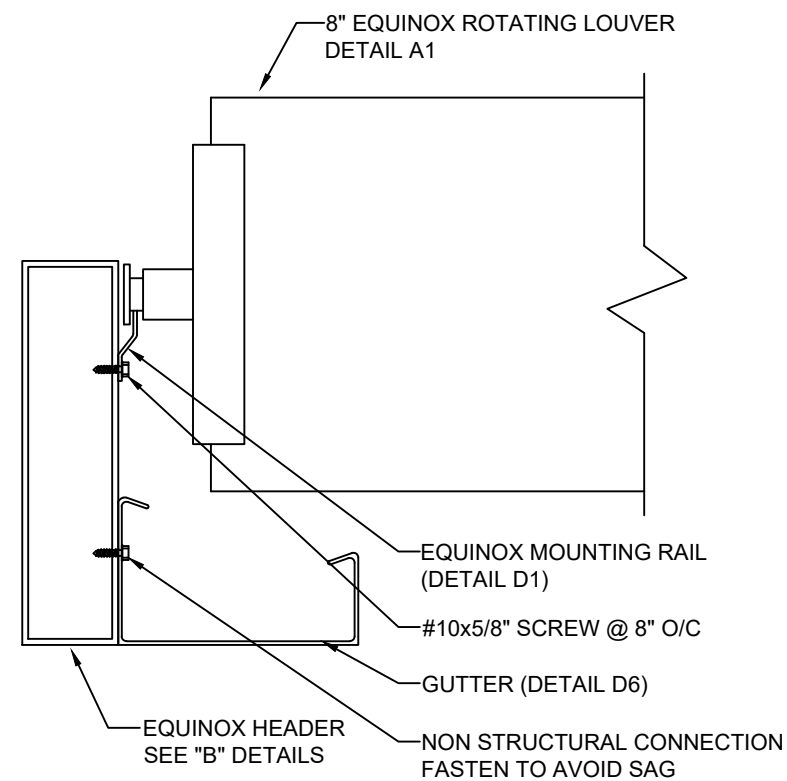


D6 GUTTER
6063-T5 ALUM ALLOY

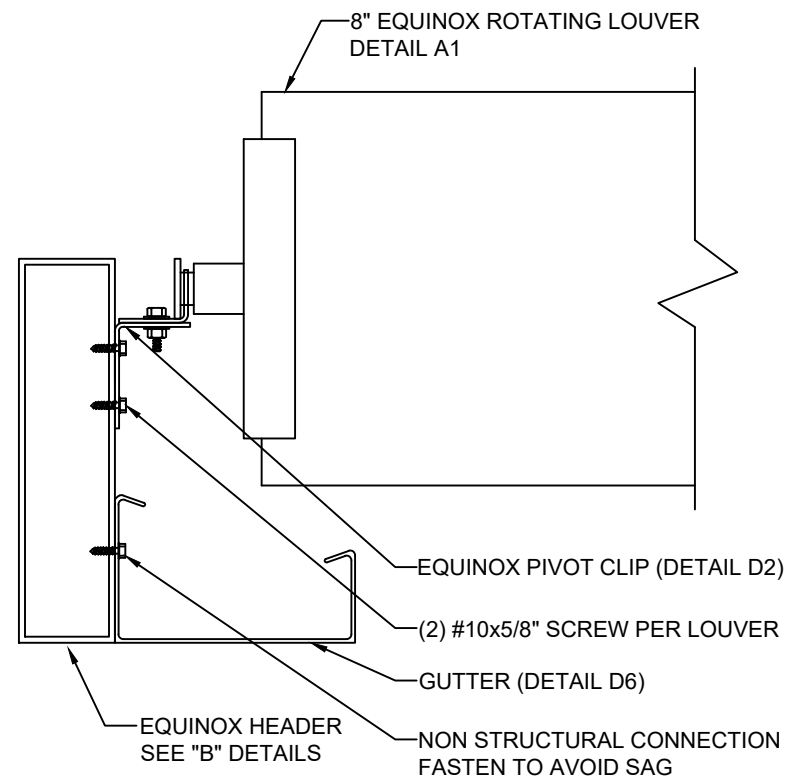


DEC 14 2022

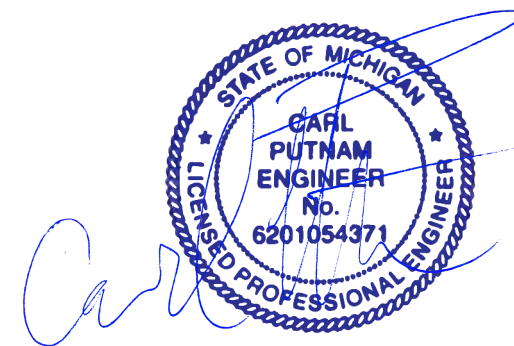
DATE	DRAWN BY	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
06-02-22	CMP		
		OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC COMPONENTS	8



E1 EQUINOX HEADER TO LOUVER CONNECTION

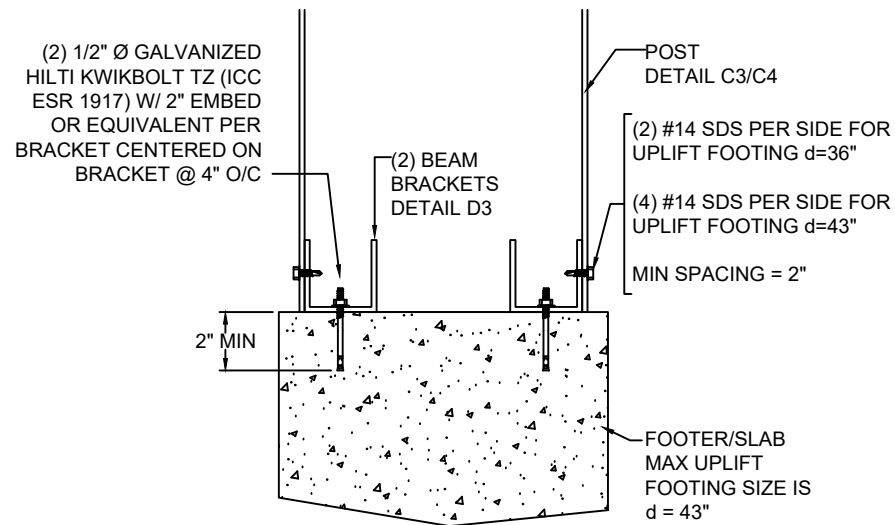


E2 ANGLED EQUINOX HEADER TO PIVOT CLIP CONNECTION

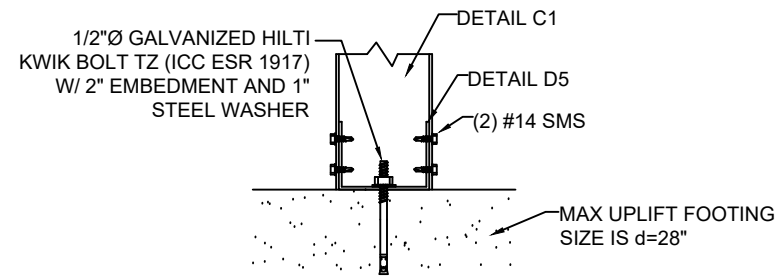


DEC 14 2022

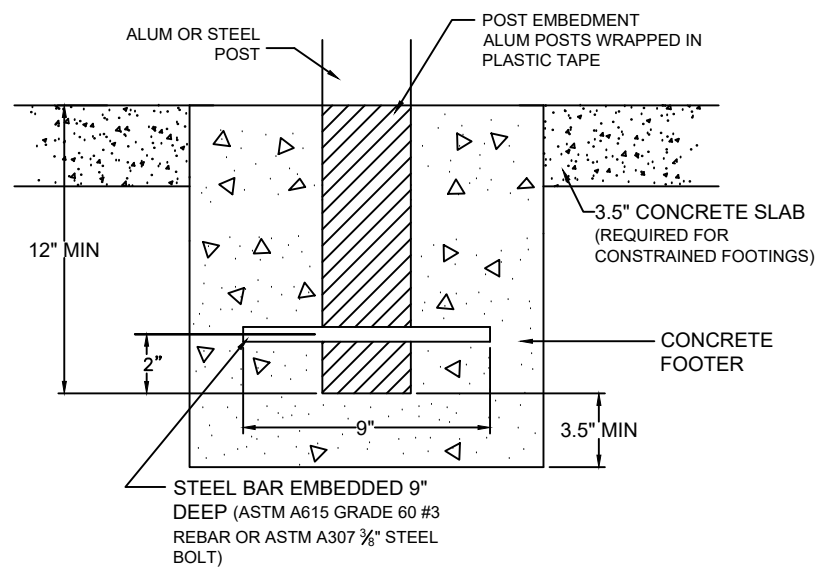
DATE	DRAWN BY		
06-02-22	CMP	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
		OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC COMPONENTS	09



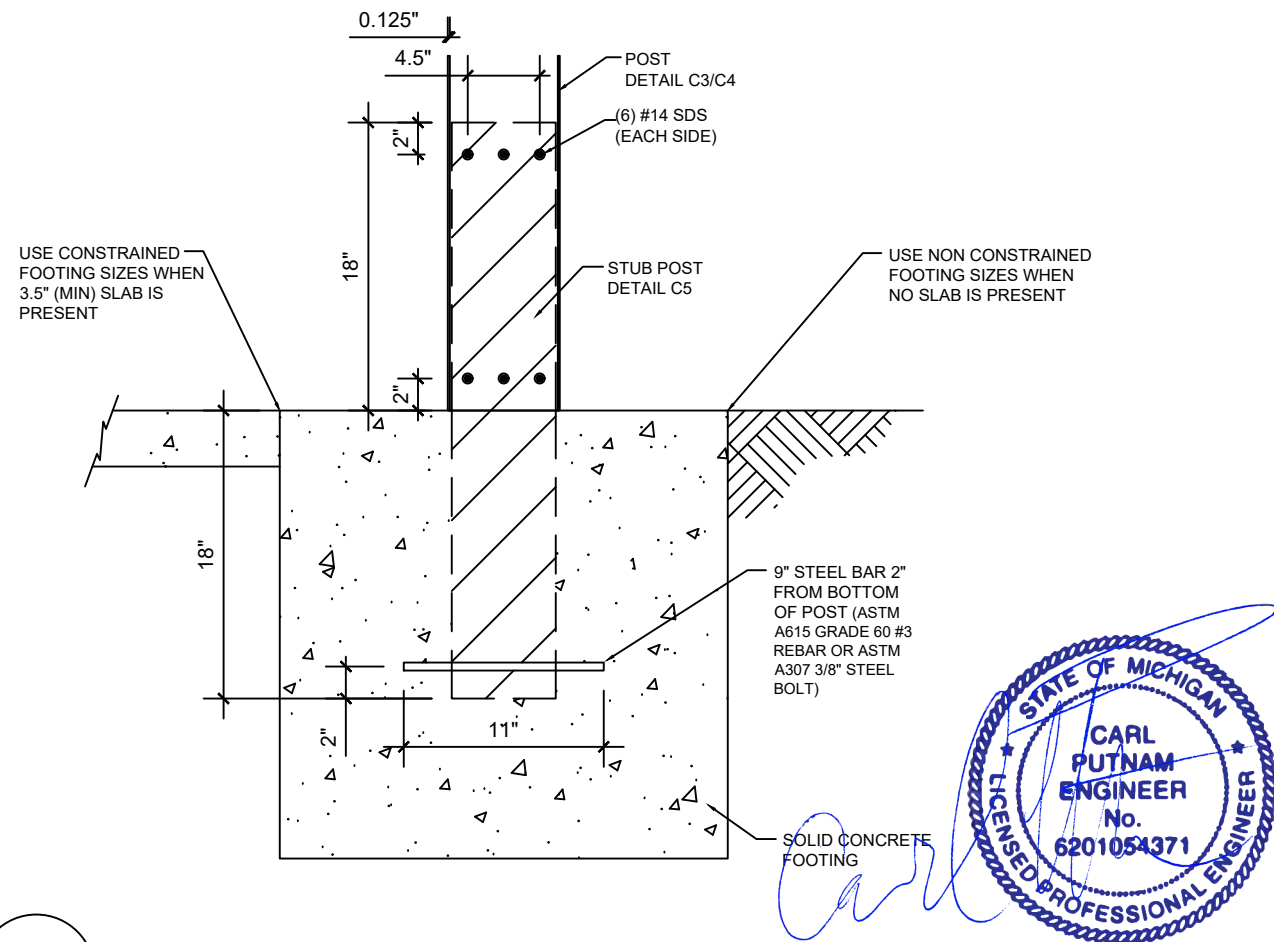
F1 6" AND 7" POST TO FOOTING/SLAB CONNECTION
DETAIL
UPLIFT ONLY



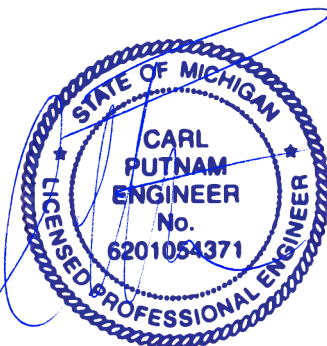
F2 POST TO FOOTING/SLAB CONNECTION DETAIL
UPLIFT ONLY



F3 POST TO FOOTING DETAIL
MOMENT RESISTING

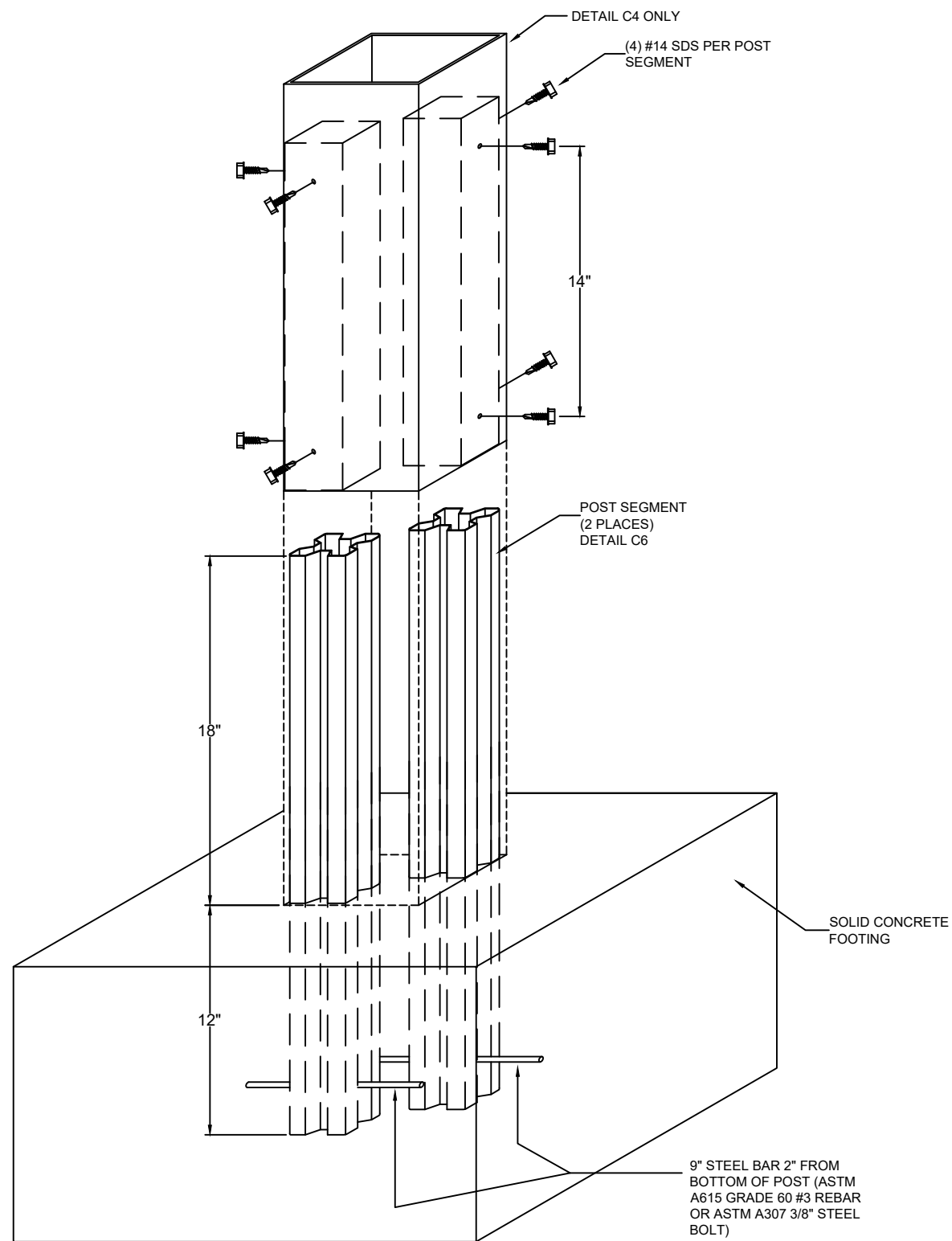


F4 7x7 OR 6x6 POST W/ STEEL INSERT TO
FOOTING CONNECTION
MOMENT RESISTING

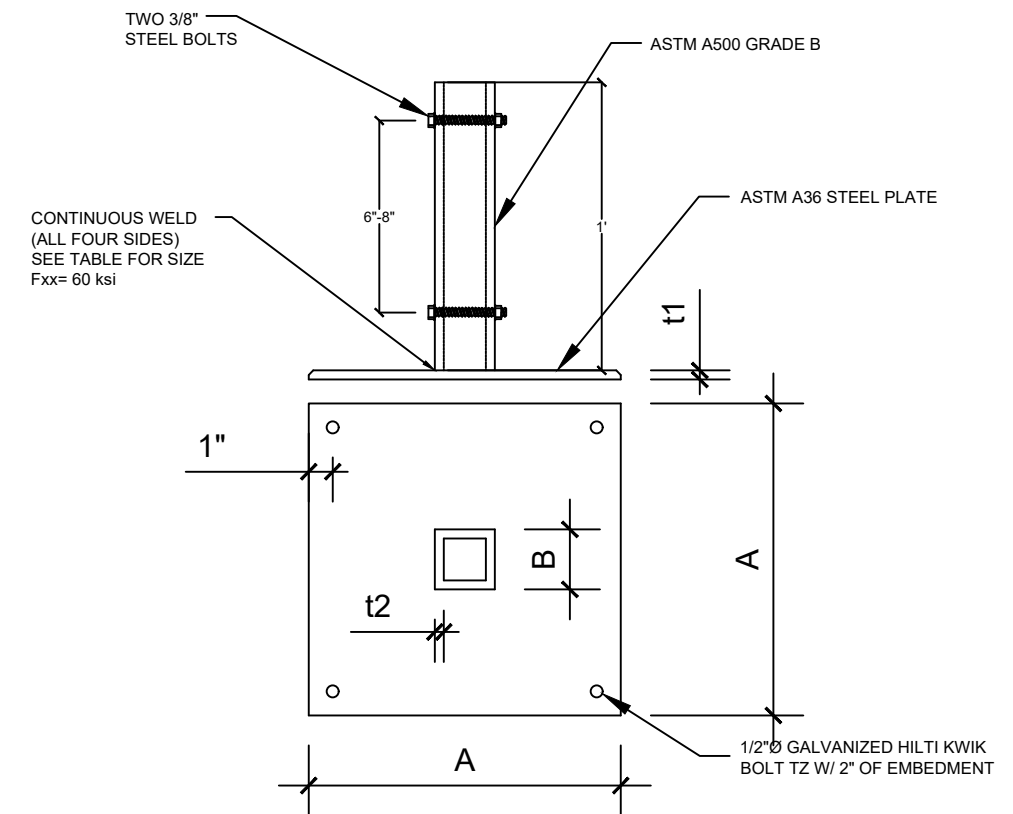


DEC 14 2022

DATE	DRAWN BY	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
06-02-22	CMP		
		OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC DETAILS	10

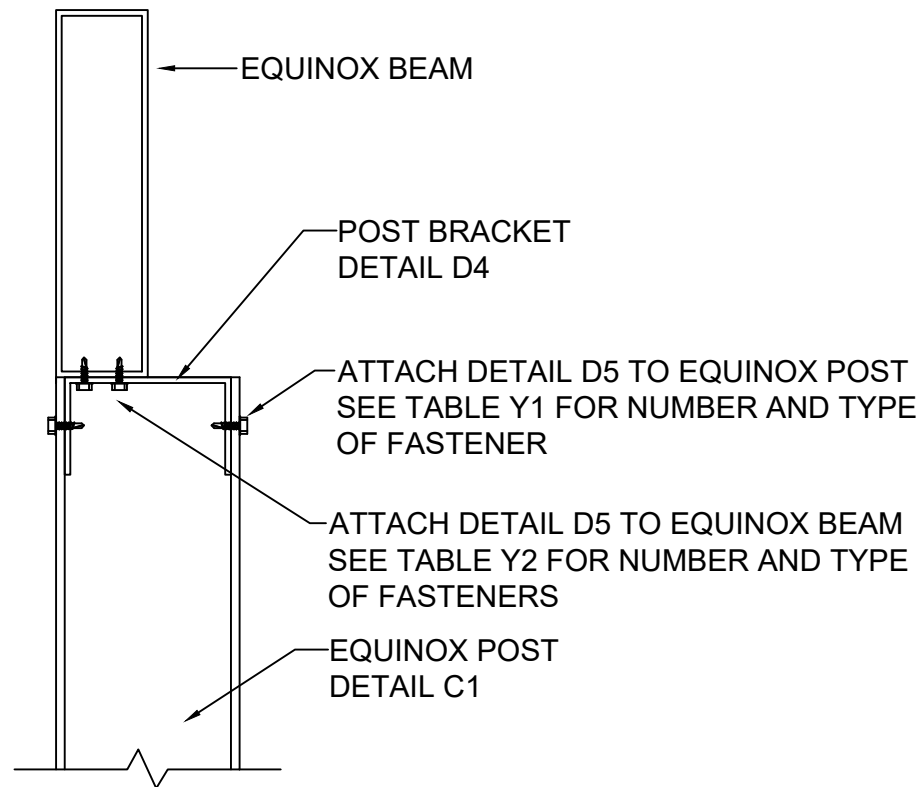


F5 POST TO FOOTING FOR OVERTURNING MOMENT $\leq 2056 \text{ LBFxFT}$

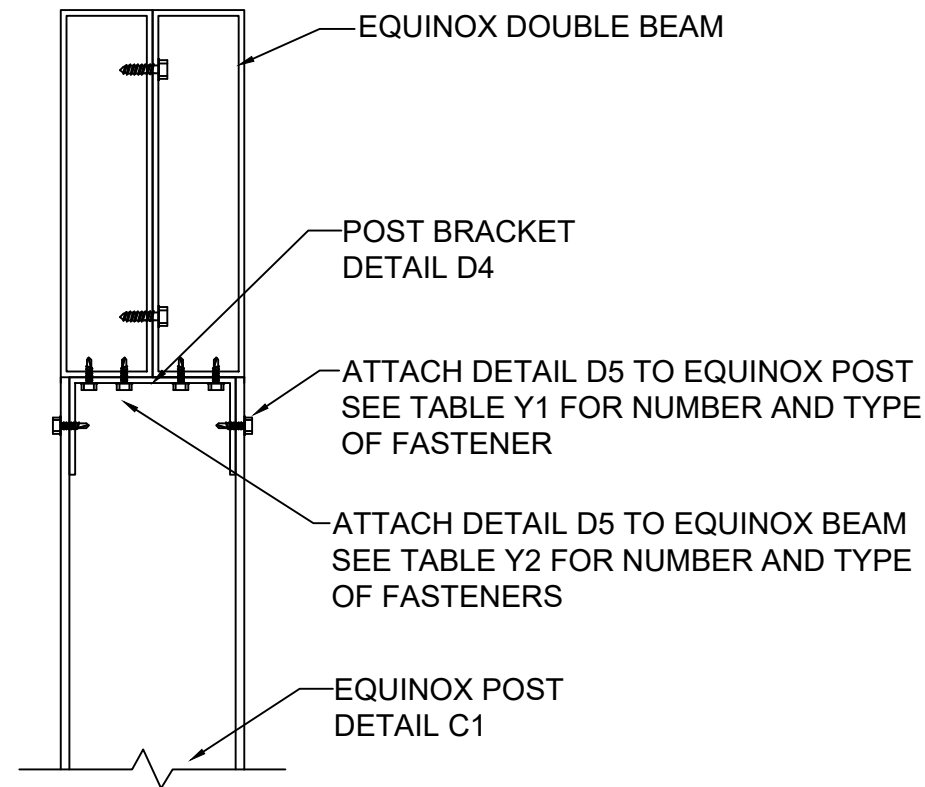


THE WELDED POST BRACKET MUST BE VERIFIED TO COMPLY WITH THE REQUIREMENTS IN THIS DETAIL AND FABRICATED IN ACCORDANCE W/ 2018 IBC SECTION 1704.2.5.1 BY AN APPROVED FABRICATOR TO THE SATISFACTION OF THE CODE OFFICIAL

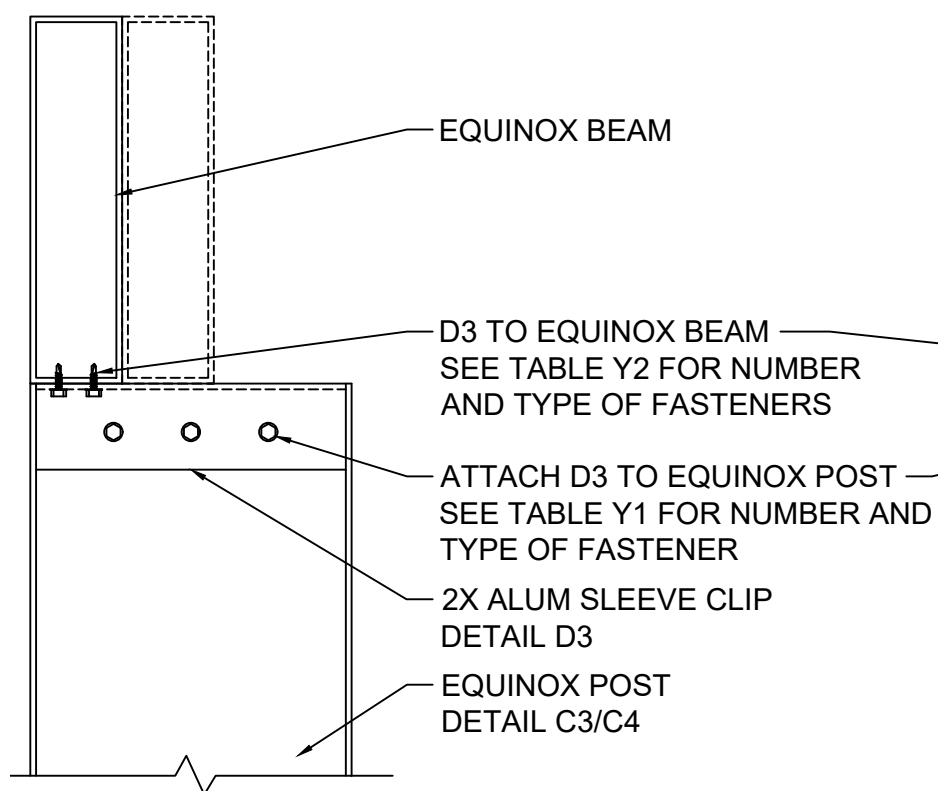
MOMENT CAPACITY (lb-ft)	PLATE SIZE A (in)	PLATE THICKNESS t1 (in)	STUB POST SIZE B (in)	STUB POST THICKNESS t2 (in)	MINIMUM WELD SIZE (in)
960	8	0.375	3.5	0.1875	0.125
1250	12	0.375	3.5	0.1875	0.125
2200					



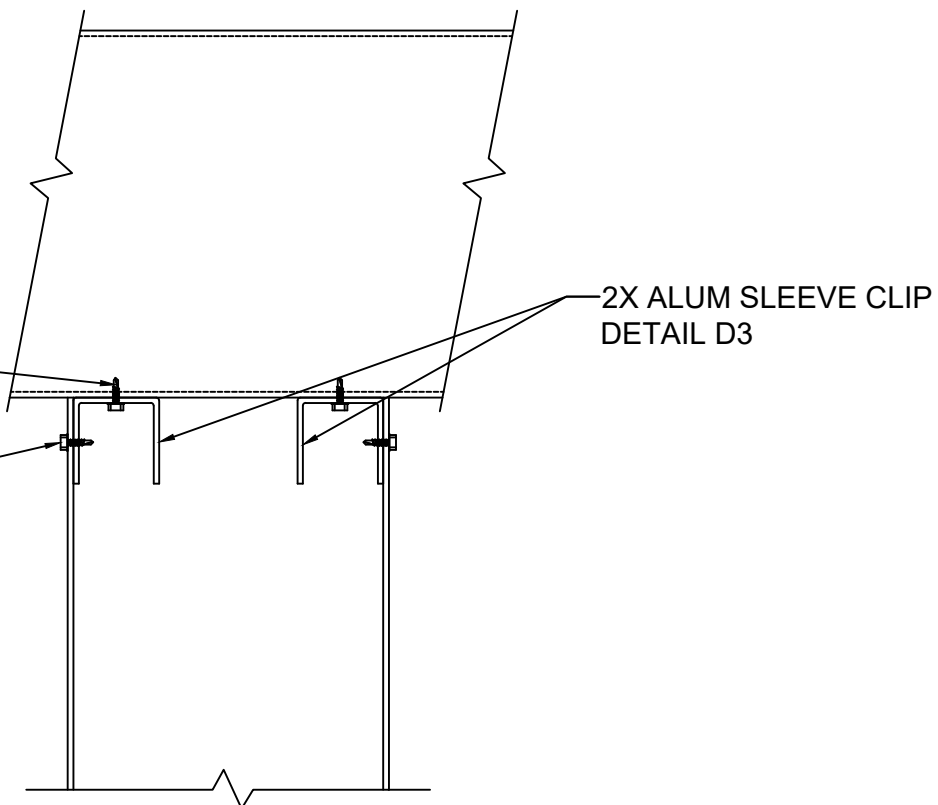
G1 EQUINOX HEADER TO 4" POST CONNECTION



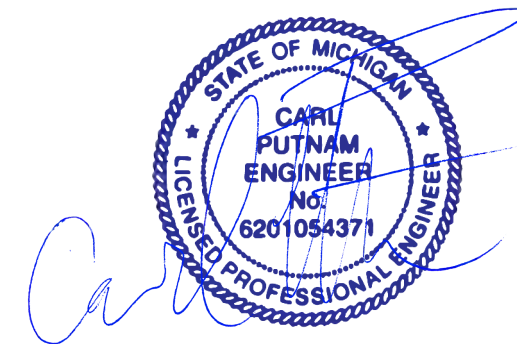
G2 EQUINOX DOUBLE HEADER TO 4" POST CONNECTION



G3 EQUINOX HEADER TO 6" AND 7" POST CONNECTION

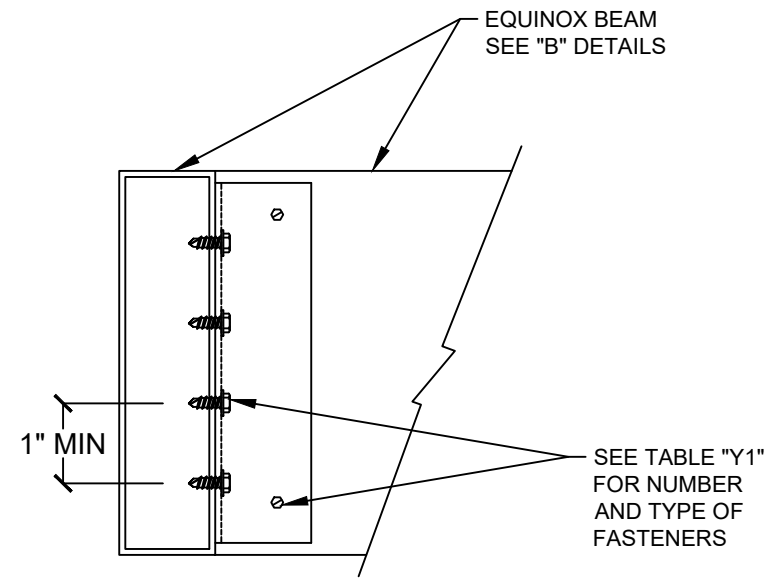


G3 SIDE VIEW

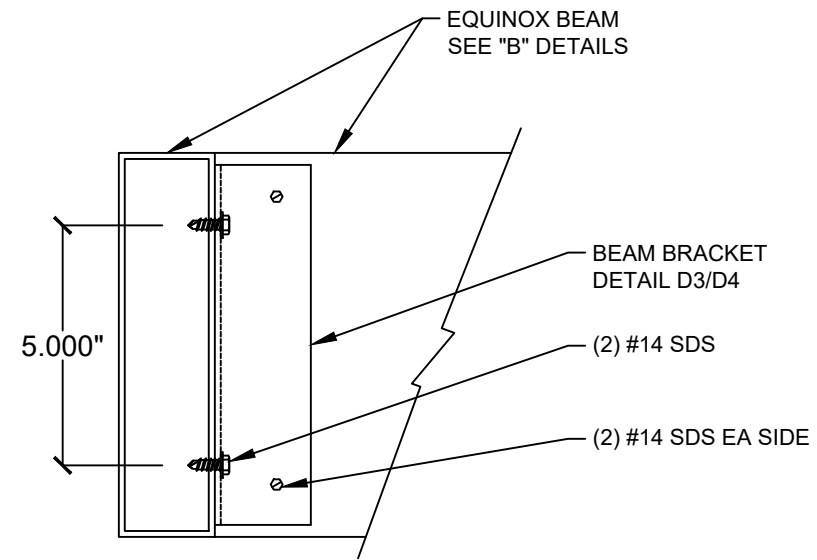


DEC 14 2022

DATE	DRAWN BY		
06-02-22	CMP	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
		OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC DETAILS	12



G6 BEAM TO BEAM CONNECTION



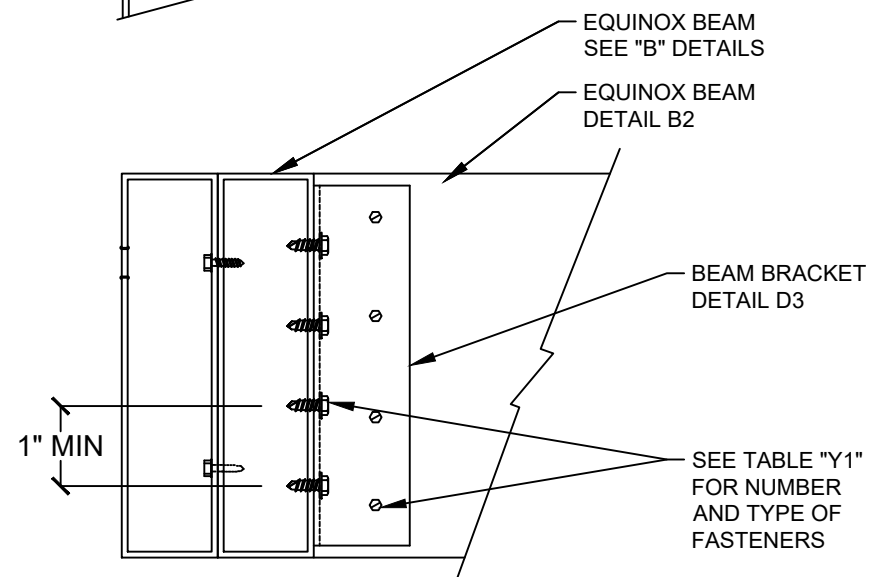
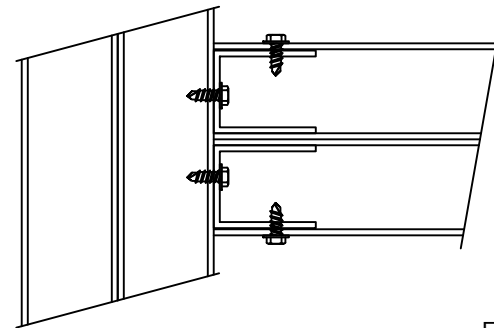
G7 NON STRUCTURAL BEAM TO BEAM CONNECTION

Carl Putnam

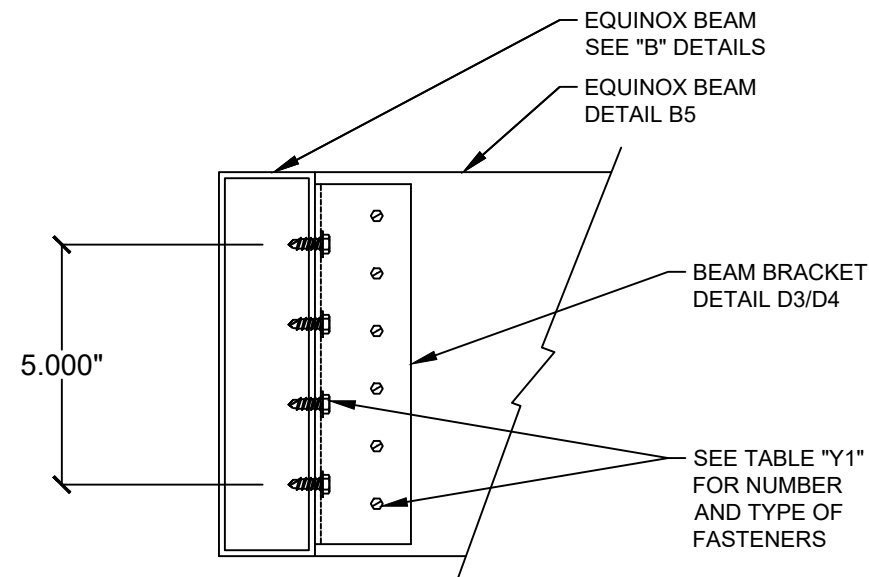
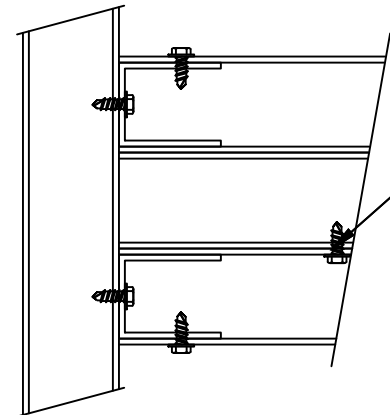
STATE OF MICHIGAN
CARL PUTNAM
ENGINEER
No. 6201054371
LICENSED PROFESSIONAL ENGINEER

DEC 14 2022

DATE	DRAWN BY		
06-02-22	CMP	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
		OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC DETAILS	13



G8 BEAM TO BEAM CONNECTION



G9 MULTI BEAM TO BEAM CONNECTION

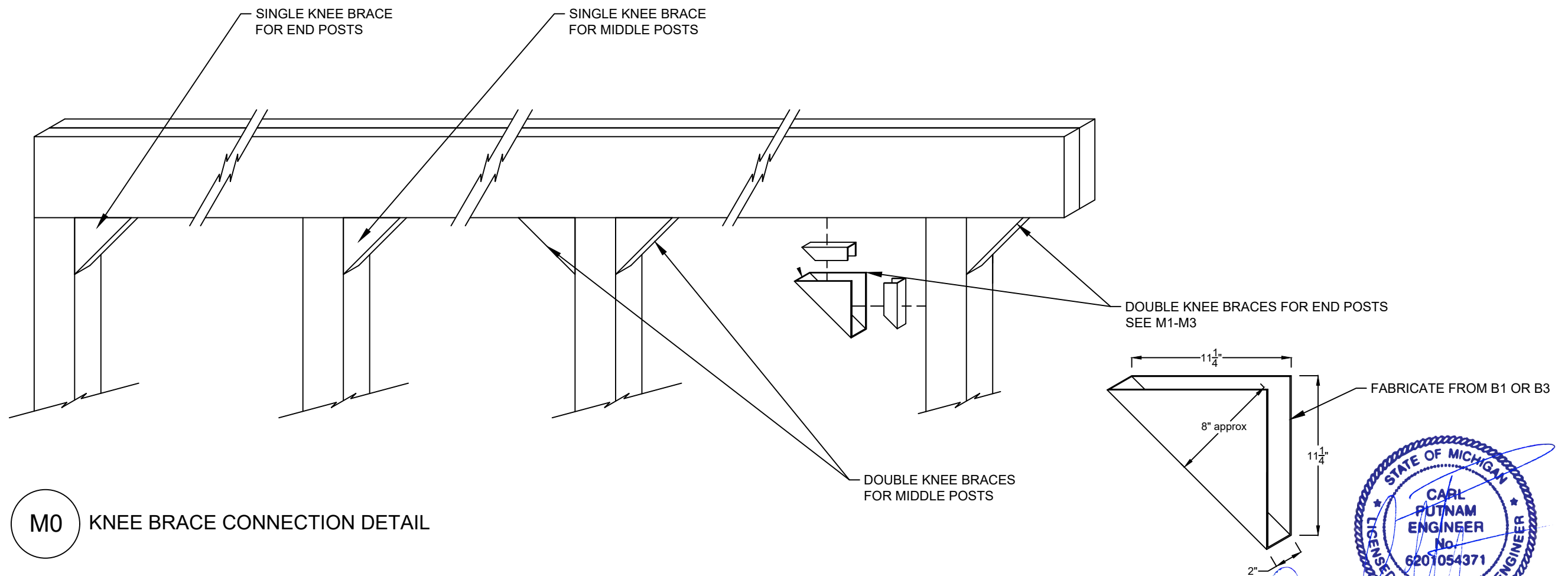
CONNECT PER DETAIL B5



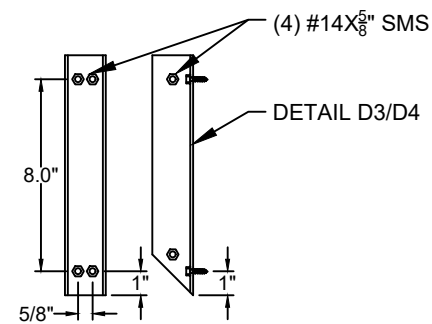
DEC 14 2022

DATE	DRAWN BY		
06-02-22	CMP	CARL PUTNAM P.E.	
		OMNIMAX	
		DESC	DETAILS
			14

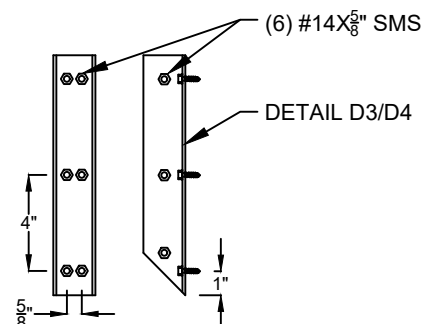
3441 IVY LINK PLACE
LYNCHBURG, VA 24503
CARLPUTNAM@COMCAST.NET
30 TECHNOLOGY PARK S. #400
PEACHTREE CORNERS, GA



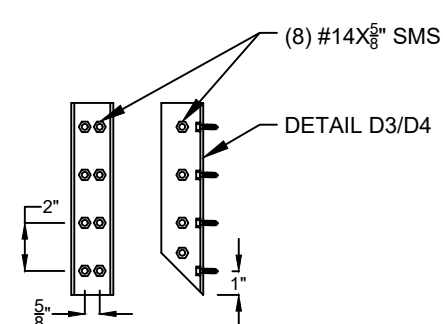
M0 KNEE BRACE CONNECTION DETAIL



M1 MOMENT CONNECTION #1
743 FOOT-POUNDS



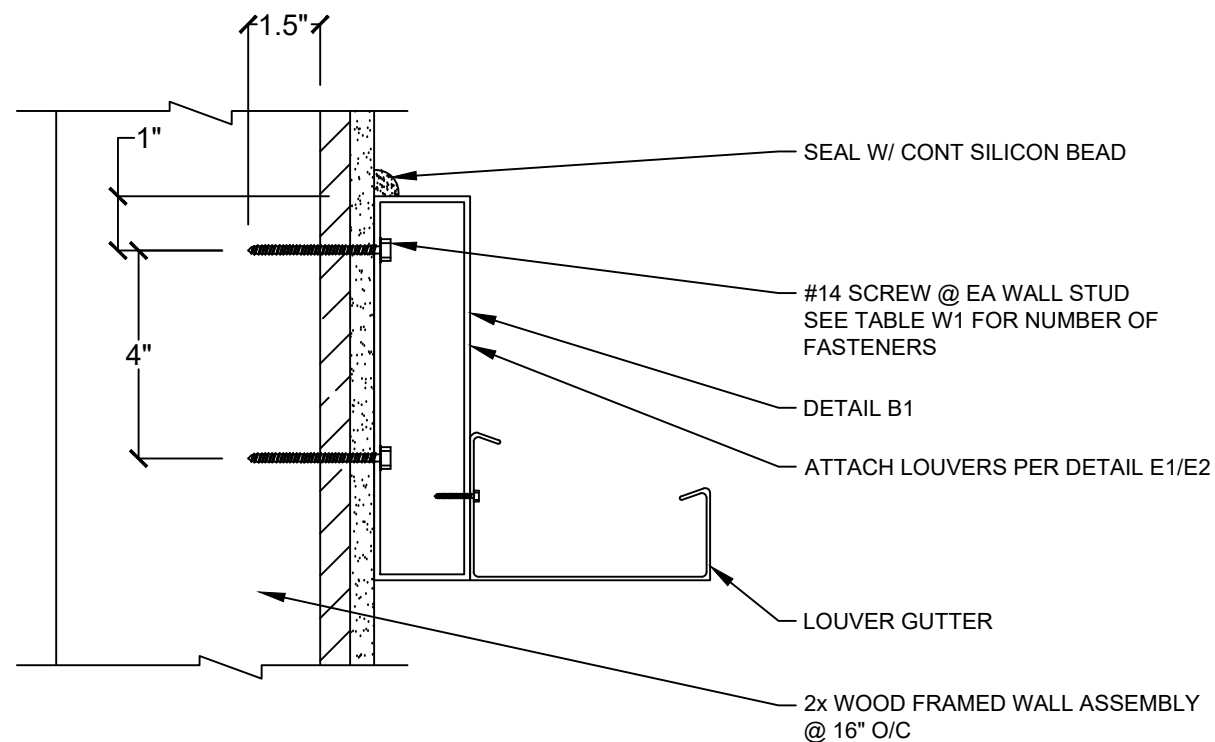
M2 MOMENT CONNECTION #2
1004 FOOT-POUNDS



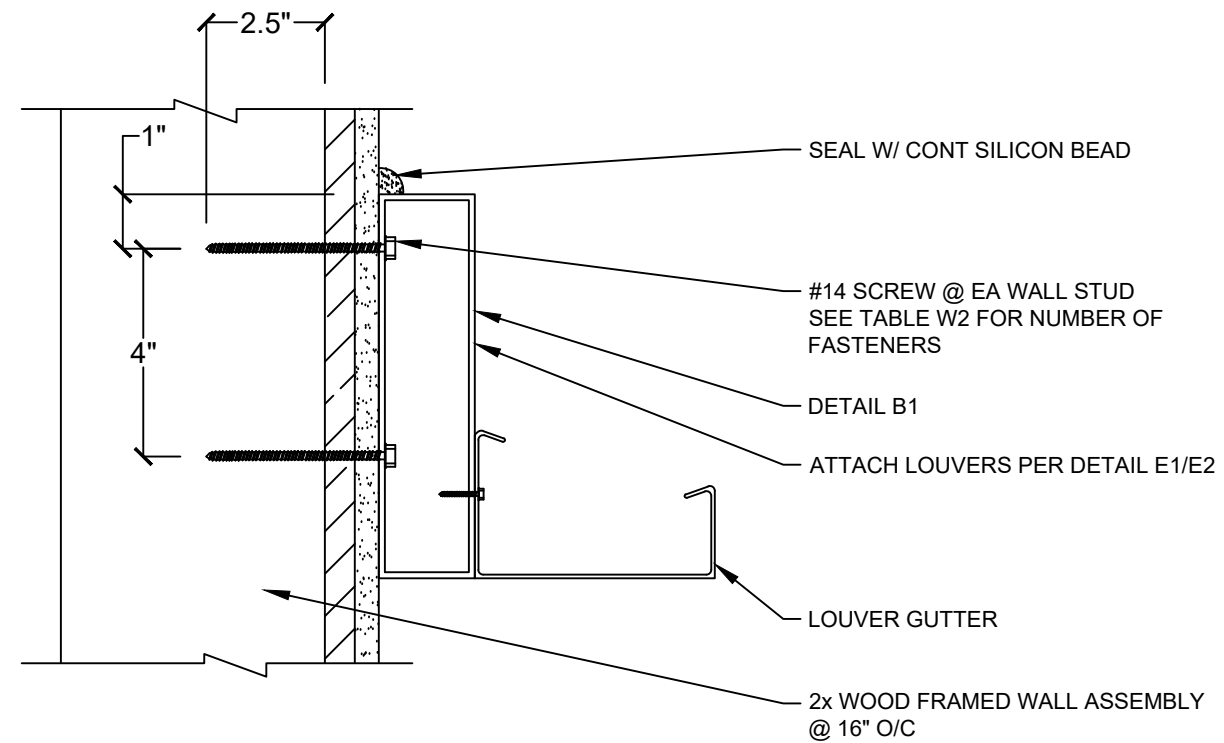
M3 MOMENT CONNECTION #3
1549 FOOT-POUNDS

- DEC 14 2022
- DETERMINE MOMENT CAPACITY FOR ALL POSTS
1. SINGLE KNEE BRACES ON ALL POSTS- USE MOMENT LISTED IN DETAILS.
 2. TWO POST STRUCTURE W/ DOUBLE KNEE BRACES- DOUBLE MOMENT LISTED IN DETAILS
 3. THREE OR MORE POST STRUCTURE W/ DOUBLE KNEE BRACES ON INTERIOR POSTS AND SINGLE KNEE BRACES ON END POSTS- DOUBLE MOMENT LISTED IN DETAILS

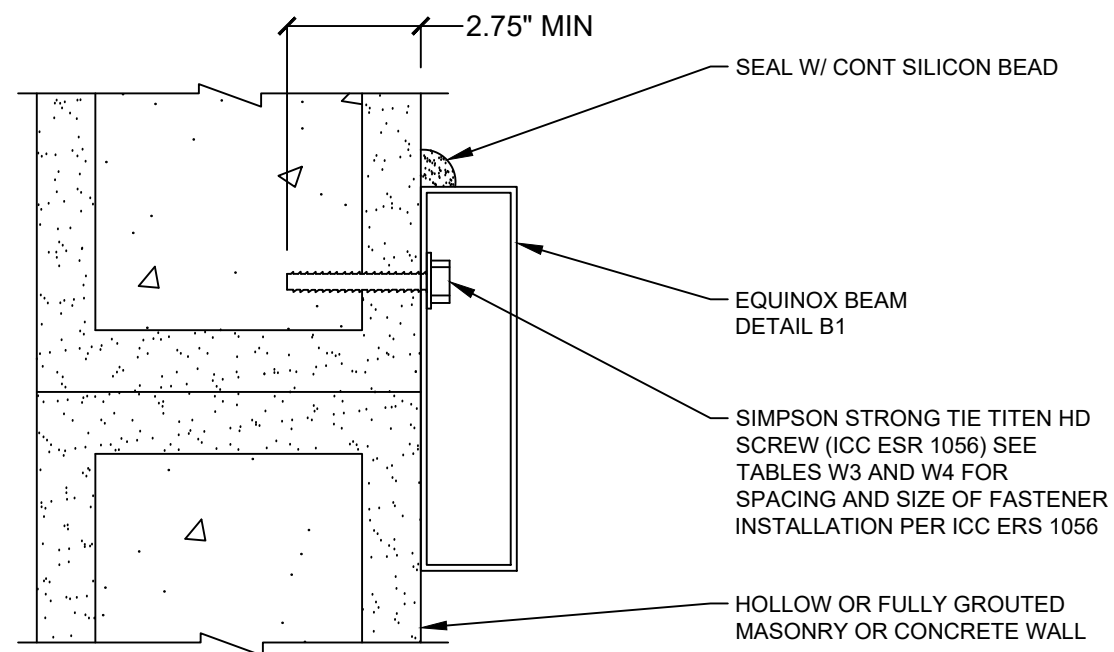
DATE	DRAWN BY	CARL PUTNAM P.E.	
06-02-22	CMP	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET	
		OMNIMAX	
		30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA	
		DESC DETAILS	15



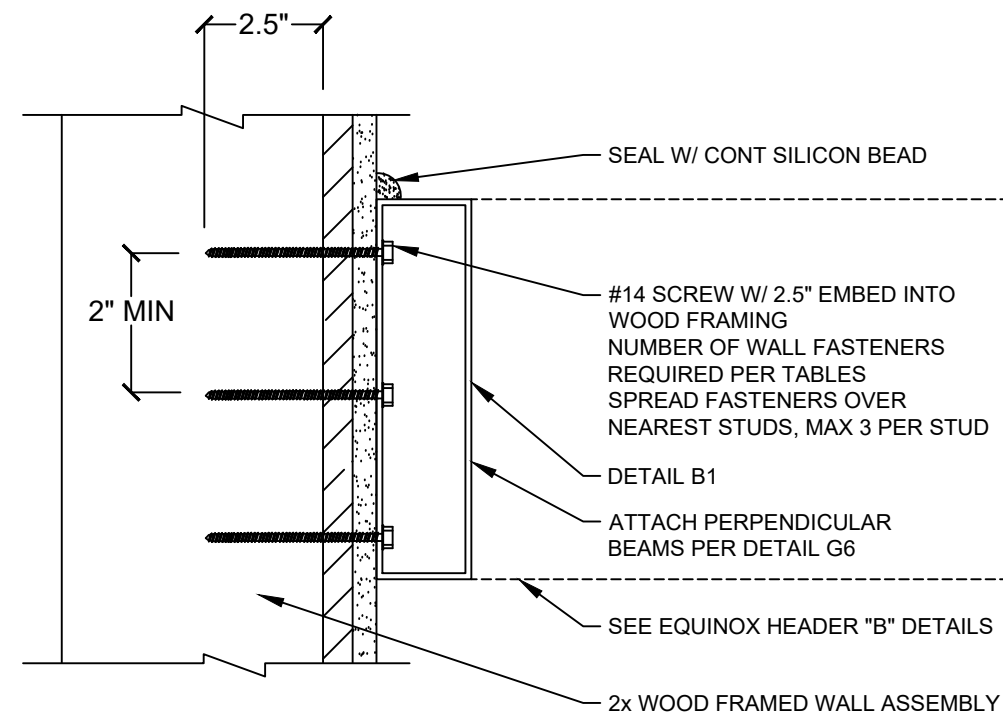
W1 EQUINOX LEDGER TO STRUCTURE CONNECTION



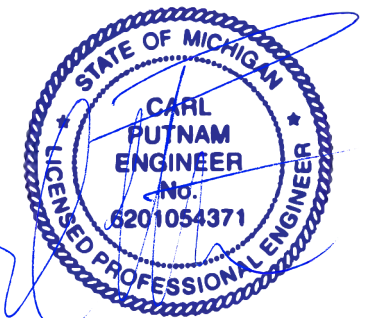
W2 EQUINOX LEDGER TO STRUCTURE CONNECTION



W3 EQUINOX LEDGER TO STRUCTURE CONNECTION



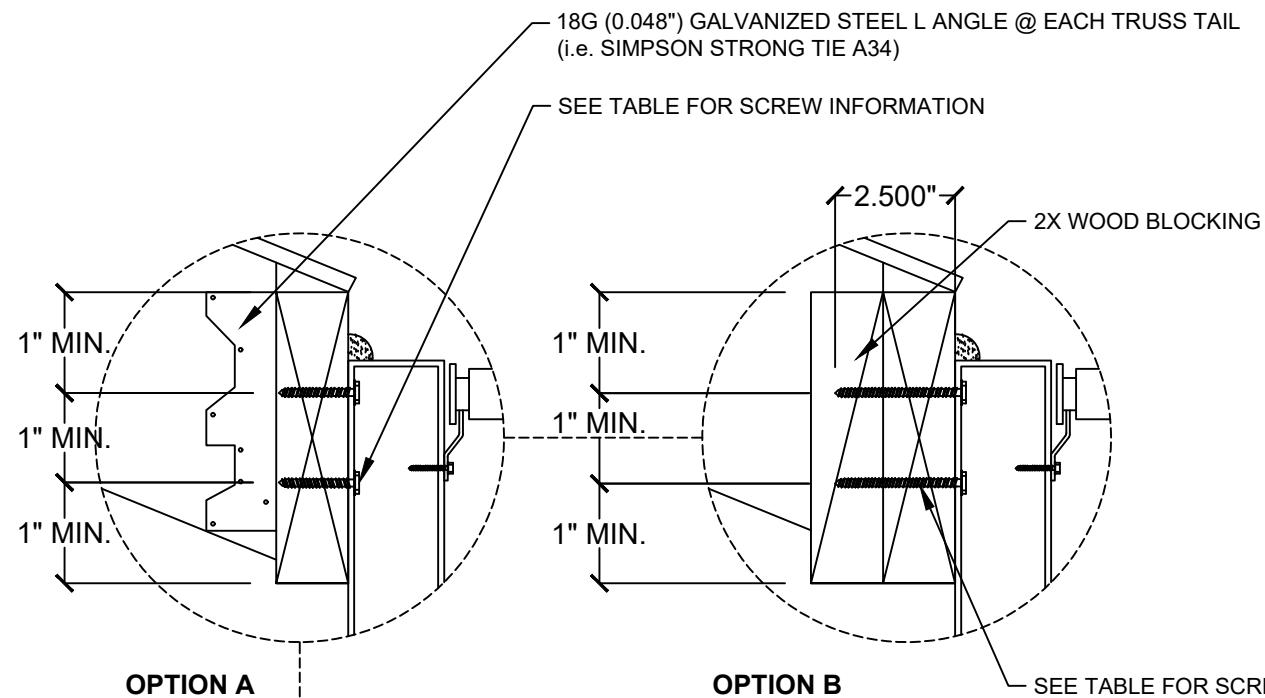
W4 EQUINOX LEDGER TO STRUCTURE CONNECTION
TYPE "C", "G", "H" AND "I" ONLY



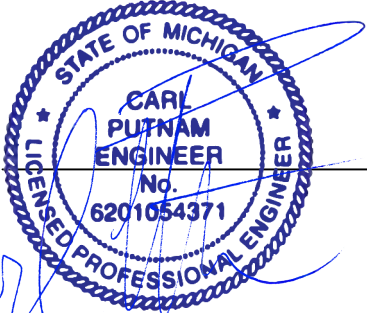
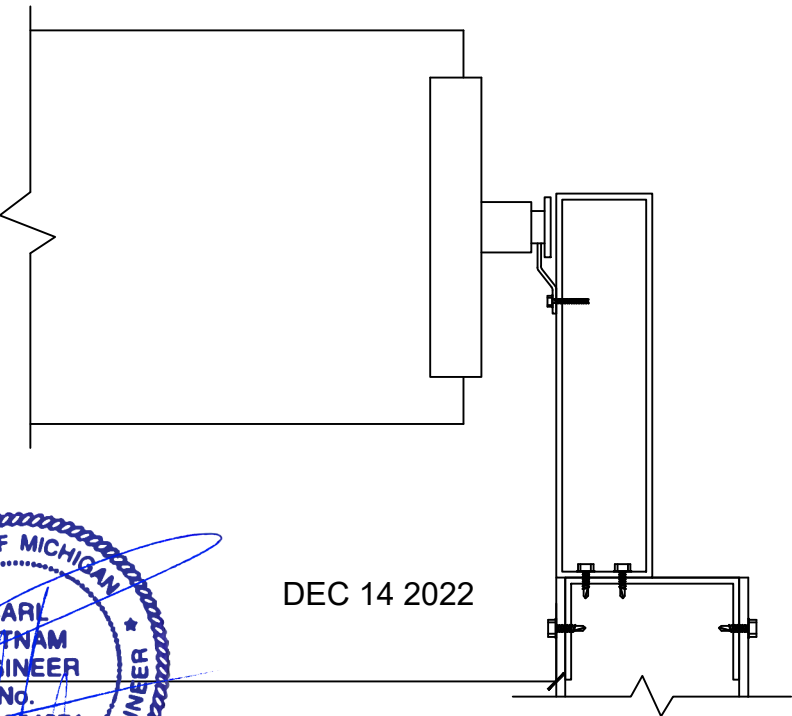
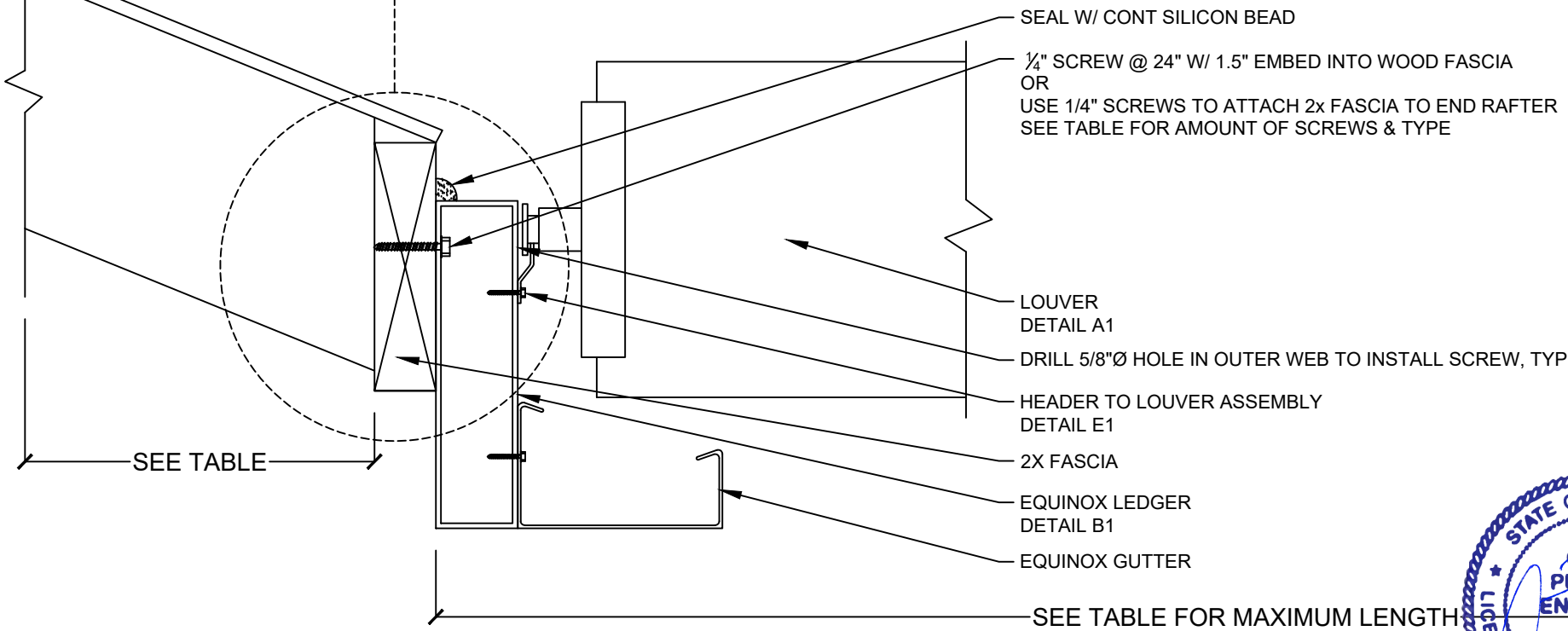
Carl

DEC 14 2022

DATE	DRAWN BY		
06-02-22	CMP	CARL PUTNAM P.E.	
		3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET	
		30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA	
		OMNIMAX	
		DESC	DETAILS
			16



Live Load Ground Snow Load	RAFTER SIZE (24\"/>
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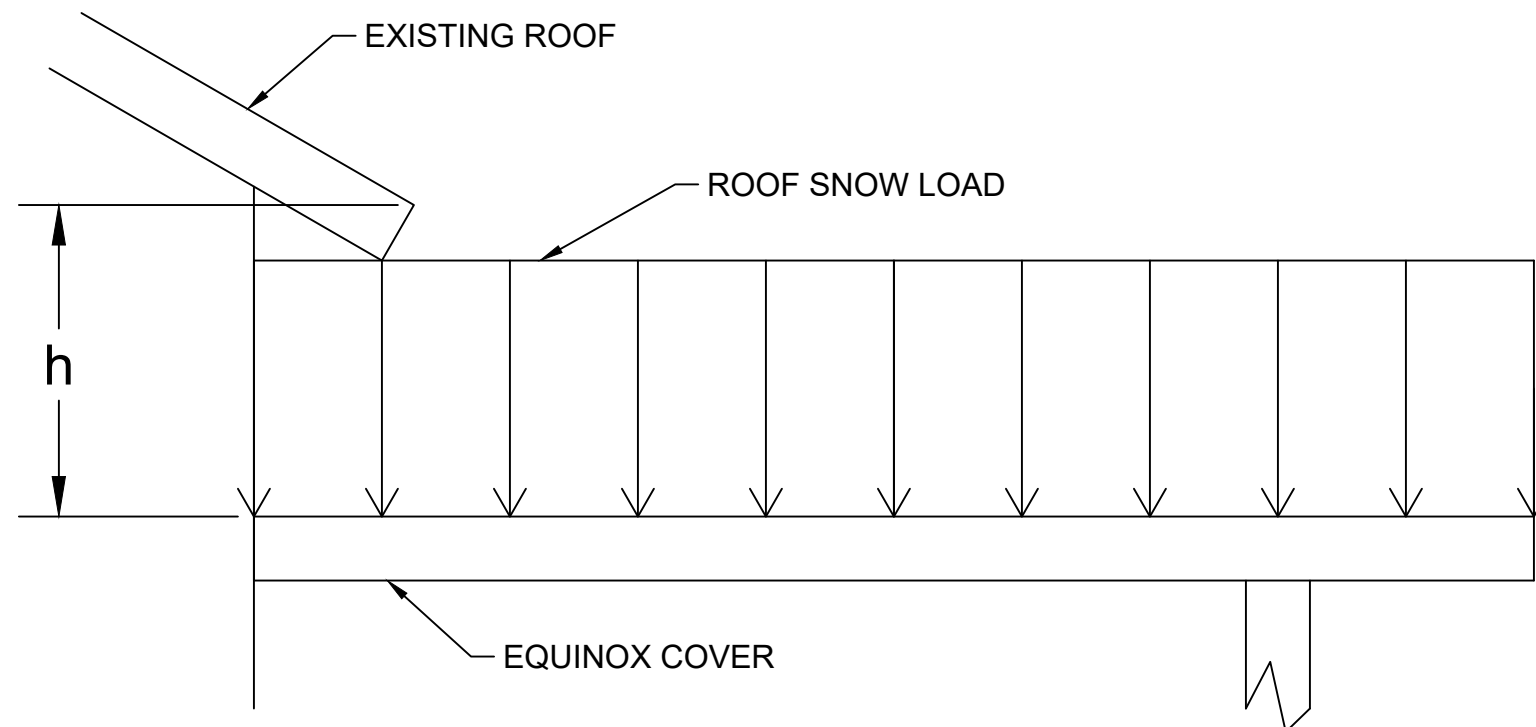


DEC 14 2022

**W7 EQUINOX HEADER TO
RAFTER CONNECTION**

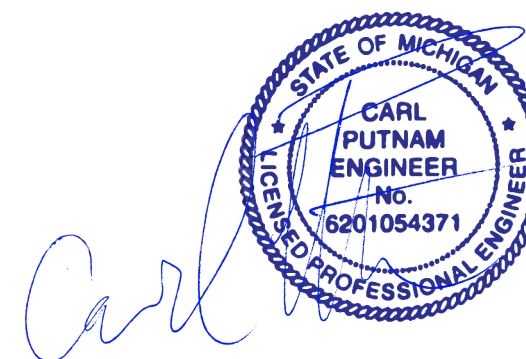
NOTE: THIS ATTACHMENT ONLY ALLOWED FOR
STRUCTURE TYPES A AND B.
STRUCTURE TYPE C IS ALLOWED IF MID SPAN POSTS
ARE USED ON RETURN BEAMS.

DATE	DRAWN BY	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
06-02-22	CMP	OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC	DETAILS



STRUCTURES COMPLYING WITH THIS
DETAIL DO NOT REQUIRE ADDITIONAL
DRIFTING SNOW CONSIDERATIONS

GROUND SNOW LOAD (PSF)	MAXIMUM "h" (IN)
25	18
30	20
35.7	23
40	25
42	27
50	30



W8 ALLOWABLE DRIFTING
SNOW CONDITIONS

DEC 14 2022

DATE	DRAWN BY	CARL PUTNAM P.E.	3441 IVY LINK PLACE LYNCHBURG, VA 24503 CARLPUTNAM@COMCAST.NET
06-02-21	CMP		
		OMNIMAX	30 TECHNOLOGY PARK S. #400 PEACHTREE CORNERS, GA
		DESC DETAILS	18

LOUVER SPANS FOR COMMERCIAL AND PATIO STRUCTURES

Attached Structures

Ground Snow Load (psf)	Design Roof Load (psf)		Exposure B (mph)										Exposure C (mph)									
			95	100	105	110	115	120	130	140	150	160	95	100	105	110	115	120	130	140	150	160
10	10	Live/Snow	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-4"	12'-0"	11'-1"
20	20	Live/Snow	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-4"	12'-0"	11'-1"
25	21		13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-1"	12'-8"	12'-0"	11'-1"
30	25.2		13'-3"	13'-3"	13'-3"	13'-3"	13'-3"	13'-3"	13'-2"	12'-11"	12'-0"	12'-0"	13'-3"	13'-3"	13'-3"	13'-2"	13'-0"	12'-11"	12'-6"	12'-2"	11'-5"	11'-1"
35.71	30.00		12'-7"	12'-7"	12'-7"	12'-7"	12'-7"	12'-7"	12'-7"	12'-4"	12'-0"	11'-6"	12'-7"	12'-7"	12'-7"	12'-7"	12'-5"	12'-3"	11'-8"	11'-4"	11'-0"	10'-8"
43	36.12		11'-9"	11'-9"	11'-9"	11'-9"	11'-9"	11'-9"	11'-8"	11'-5"	11'-2"	10'-11"	11'-9"	11'-9"	11'-9"	11'-8"	11'-6"	11'-4"	11'-1"	10'-9"	10'-6"	10'-3"
50	42		11'-2"	11'-2"	11'-2"	11'-2"	11'-2"	11'-2"	11'-1"	10'-11"	10'-8"	10'-5"	11'-2"	11'-2"	11'-2"	11'-1"	11'-0"	10'-10"	10'-7"	10'-4"	10'-1"	9'-10"
60	50.4		10'-4"	10'-4"	10'-4"	10'-4"	10'-4"	10'-4"	10'-4"	10'-3"	10'-1"	9'-10"	10'-4"	10'-4"	10'-4"	10'-4"	10'-4"	10'-3"	10'-0"	9'-9"	9'-7"	9'-4"

Freestanding Structures

Ground Snow Load (psf)	Design Roof Load (psf)		Exposure B (mph)										Exposure C (mph)									
			95	100	105	110	115	120	130	140	150	160	95	100	105	110	115	120	130	140	150	160
10	10	Live/Snow	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"
20	20	Live/Snow	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"
25	21		13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	12'-0"	12'-0"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-6"	13'-0"	12'-8"	12'-0"	11'-10"
30	25.2		13'-3"	13'-3"	13'-3"	13'-3"	13'-3"	13'-3"	13'-3"	13'-0"	12'-0"	12'-0"	13'-3"	13'-3"	13'-3"	13'-2"	13'-0"	12'-10"	12'-6"	12'-1"	11'-8"	11'-4"
35.71	30.00		12'-7"	12'-7"	12'-7"	12'-7"	12'-7"	12'-7"	12'-7"	12'-5"	12'-0"	11'-10"	12'-7"	12'-7"	12'-7"	12'-7"	12'-5"	12'-3"	11'-11"	11'-7"	11'-3"	10'-11"
43	36.12		11'-9"	11'-9"	11'-9"	11'-9"	11'-9"	11'-9"	11'-9"	11'-8"	11'-6"	11'-3"	11'-9"	11'-9"	11'-9"	11'-9"	11'-8"	11'-7"	11'-4"	11'-0"	10'-9"	10'-5"
50	42		11'-2"	11'-2"	11'-2"	11'-2"	11'-2"	11'-2"	11'-2"	11'-1"	10'-11"	10'-9"	11'-2"	11'-2"	11'-2"	11'-2"	11'-1"	11'-0"	10'-9"	10'-6"	9'-6"	9'-2"
60	50.4		10'-4"	10'-4"	10'-4"	10'-4"	10'-4"	10'-4"	10'-1"	9'-11"	9'-8"	9'-6"	10'-4"	10'-3"	10'-2"	10'-0"	9'-11"	9'-9"	9'-6"	9'-3"	9'-1"	8'-9"

Omnimax
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Louver Spans are measured inside to inside of the attaching header



Gb. Tables for Attached Structures with Louvers Parallel w/ Building Wall w/ Post at Every Span

max Ss= 25% Seismic Design Category B

Ground Snow Load 20 psf						Table G1b			
Beam 'b' Double 0.125"x2"x8" Alum Header Detail B2						Uplift Only		Post Height (ft)	
Roof Design	115 mph Exp. B		Max B (ft)	Required # of Wall Fasteners	Max B (ft)	Cube Footing		8	10
Load (psf)	A	trib	(on slab)			Middle d (in)	End d (in)	11	11
								Overturning Moment (lbf *ft)	
20.0	8	8	8.0	13	18.2	28	23	933	1157
20.0	10	10	6.4	16	17.0	30	24	879	1090
20.0	11	11	5.8	17	16.4	31	24	857	1063
20.0	12	12	5.3	18	15.9	31	25	837	1038
20.0	13	13	4.9	18	15.5	32	25	819	1015
20.0	14	14	4.6	19	15.1	32	26	803	996

Beam 'b' Double 0.125"x2"x8" Alum Header Detail B2	
--	--

Fc. Tables for Freestanding Structures with Multi Span Louvers and Single Span Headers

max Ss= 25% Seismic Design Category B

Ground Snow Load 20 psf					Table F1c		
Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3					Uplift Only	Post Height (ft)	
Roof Design Load (psf)	115 mph Exp. B	trib	Required # of 2x8 Return Beam	B	Cube Footing Exterior d (in)	8	10
					Overturning Moment (lbf *ft)		
20.0	8	8	2	20.1	24	688	853
20.0	10	10	3	18.7	26	683	848
20.0	11	11	3	18.1	26	752	932
20.0	12	12	4	17.6	27	820	1017
20.0	13	13	5	17.1	28	889	1102
20.0	14	14	6	16.7	28	957	1187

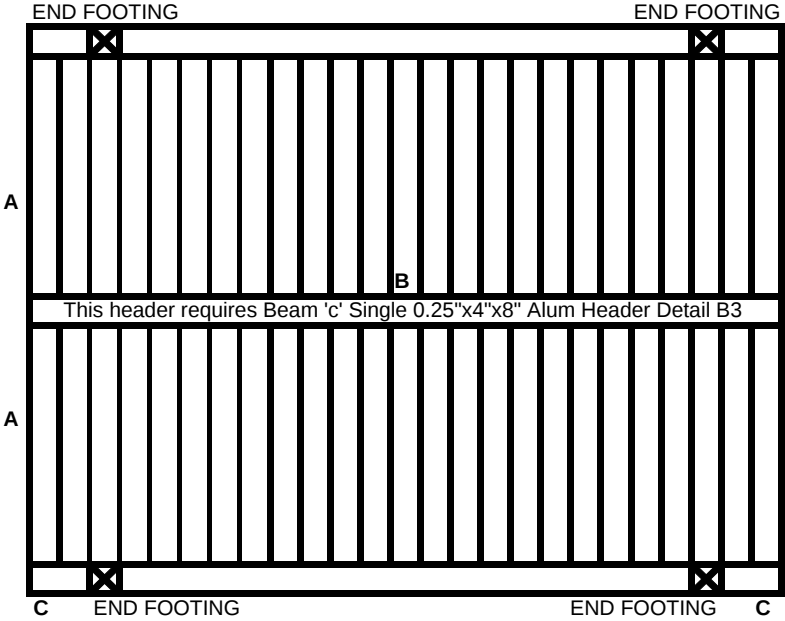
Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3					Uplift Only	Post Height (ft)	
Roof Design Load (psf)	115 mph Exposure C or 130 mph Exp. B	trib	Required # of 2x8 Return Beam	B	Cube Footing Exterior d (in)	8	10
					Overturning Moment (lbf *ft)		
20.0	8	8	2	19.3	28	981	1217
20.0	10	10	3	17.9	30	1019	1264
20.0	11	11	3	17.3	31	1121	1390
20.0	12	12	4	16.9	31	1223	1517
20.0	13	13	5	16.4	32	1325	1643
20.0	14	14	6	16.0	33	1427	1769

Table F2c

Ground Snow Load 25 psf					Table F3c		
Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3					Uplift Only	Post Height (ft)	
Roof Design Load (psf)	115 mph Exp. B	trib	Required # of 2x8 Return Beam	B	Cube Footing Exterior d (in)	8	10
					Overturning Moment (lbf *ft)		
21.0	8	8	2	20.0	24	682	846
21.0	10	10	3	18.5	26	683	848
21.0	11	11	4	17.9	26	752	932
21.0	12	12	4	17.4	27	820	1017
21.0	13	13	5	17.0	27	889	1102
21.0	14	14	6	16.6	28	957	1187

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3					Uplift Only	Post Height (ft)	
Roof Design Load (psf)	115 mph Exposure C or 130 mph Exp. B	trib	Required # of 2x8 Return Beam	B	Cube Footing Exterior d (in)	8	10
					Overturning Moment (lbf *ft)		
21.0	8	8	2	19.1	28	974	1207
21.0	10	10	3	17.8	30	1019	1264
21.0	11	11	3	17.2	31	1121	1390
21.0	12	12	4	16.7	31	1223	1517
21.0	13	13	5	16.3	32	1325	1643
21.0	14	14	6	15.8	32	1427	1769

Table F4c



USE THE BELOW TABLES WHEN USING A 'B' LESS THAN THE MAXIMUM ALLOWED (MAX ROOF SNOW LOAD FOR THIS TABLE IS 30 psf)

Gc. Tables for Attached Structures with Louvers Parallel w/ Building Wall w/ Post at Every Span

max Ss= 25% Seismic Design Category B

Ground Snow Load 20 psf						Table G1c					
Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)			
Roof Design	115 mph Exp. B		Max B (ft)	Required # of Wall Fasteners	Max B (ft)	Cube Footing		8	10	11	
Load (psf)	A	trib	(on slab)			Middle d (in)	End d (in)	Overturning Moment (lbf *ft)			
20.0	8	8	8.0	15	20.2	29	23	1017	1261	1383	
20.0	10	10	6.4	17	18.8	31	24	957	1187	1301	
20.0	11	11	5.8	18	18.2	32	25	932	1156	1268	
20.0	12	12	5.3	19	17.7	32	26	910	1128	1238	
20.0	13	13	4.9	20	17.2	33	26	890	1103	1210	
20.0	14	14	4.6	21	16.8	33	27	873	1082	1187	

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)			
Roof Design	115 mph Exposure C or 130 mph Exp. B		Max B (ft)	Required # of Wall Fasteners	Max B (ft)	Cube Footing		8	10	11	
Load (psf)	A	trib	(on slab)			Middle d (in)	End d (in)	Overturning Moment (lbf *ft)			
20.0	8	8	8.0	14	19.5	33	26	1384	1716	1882	
20.0	10	10	6.4	17	18.2	32	26	1302	1615	1771	
20.0	11	11	5.8	18	17.6	33	26	1269	1574	1726	
20.0	12	12	5.3	19	17.1	34	27	1240	1538	1686	
20.0	13	13	4.9	20	16.7	34	27	1214	1506	1651	
20.0	14	14	4.6	21	16.2	35	28	1188	1474	1616	

Table G2c

Ground Snow Load 25 psf						Table G3c					
Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)			
Roof Design	115 mph Exp. B		Max B (ft)	Required # of Wall Fasteners	Max B (ft)	Cube Footing		8	10	11	
Load (psf)	A	trib	(on slab)			Middle d (in)	End d (in)	Overturning Moment (lbf *ft)			
21.0	8	8	7.7	15	20.1	29	23	1009	1252		

Hc. Tables for Attached Structures with Louvers Parallel w/ Building Wall w/ fewer Posts

Ground Snow Load20psf

Table H1c

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)		
Roof Design	115 mph Exp. B	Required # of 2x8	Required # of Wall	Max		Cube Footing		8	10	11
Load (psf)	A	trib	Return Beams	Fasteners	B (ft)	Middle d (in)	End d (in)	Overturning Moment (lbf *ft)		
20.0	8	8	2	15	20.2	35	27	849	1052	1154
20.0	10	10	3	17	18.8	36	29	789	978	1073
20.0	11	11	3	18	18.2	37	29	764	948	1039
20.0	12	12	4	19	17.7	38	30	751	931	1021
20.0	13	13	5	20	17.2	39	31	791	981	1076
20.0	14	14	6	21	16.8	39	31	832	1032	1131

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3

Table H2c

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)		
Roof Design	115 mph Exposure C or 130 mph Exp. B	Required # of 2x8	Required # of Wall	Max		Cube Footing		8	10	11
Load (psf)	A	trib	Return Beams	Fasteners	B (ft)	Middle d (in)	End d (in)	Overturning Moment (lbf *ft)		
20.0	8	8	2	14	19.5	39	31	1149	1424	1562
20.0	10	10	3	17	18.2	41	32	1067	1323	1452
20.0	11	11	3	18	17.6	42	33	1034	1282	1406
20.0	12	12	4	19	17.1	43	34	1005	1246	1367
20.0	13	13	5	20	16.7	43	34	979	1214	1332
20.0	14	14	6	21	16.2	44	35	953	1182	1297

Ground Snow Load25psf

Table H3c

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)		
Roof Design	115 mph Exp. B	Required # of 2x8	Required # of Wall	Max		Cube Footing		8	10	11
Load (psf)	A	trib	Return Beams	Fasteners	B (ft)	Middle d (in)	End d (in)	Overturning Moment (lbf *ft)		
21.0	8	8	2	15	20.1	34	27	842	1044	1145
21.0	10	10	3	18	18.6	36	29	781	968	1062
21.0	11	11	4	19	18.0	37	29	757	938	1029
21.0										

Ic. Tables for Attached Structures with Louvers Parallel w/ Building Wall w/ fewer Posts and Overhang

max Ss= 25% Seismic Design Category B

Ground Snow Load20psf

Table I1c

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)		
Roof Design	115 mph Exp. B	Required # of 2x8	Required # of Wall	Max		Cube Footing		8	10	11
Load (psf)	A	trib	Return Beams	Fasteners	B (ft)	Middle d (in)	End d (in)	Overturning Moment (lbf *ft)		
20.0	8	8	2	15	20.2	37	29	1017	1261	1383
20.0	10	10	3	17	18.8	39	31	957	1187	1301
20.0	11	11	3	18	18.2	40	32	932	1156	1268
20.0	12	12	4	19	17.7	41	32	921	1142	1252
20.0	13	13	5	20	17.2	41	33	975	1209	1326
20.0	14	14	6	21	16.8	42	33	1030	1277	1401

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3

Roof Design	115 mph Exposure C or 130 mph Exp. B	Required # of 2x8	Required # of Wall	Max		Uplift Only		Post Height (ft)		
Load (psf)	A	trib	Return Beams	Fasteners	B (ft)	Middle d (in)	End d (in)	8	10	11
Overturning Moment (lbf *ft)										
20.0	8	8	2	14	19.5	41	33	1384	1716	1882
20.0	10	10	3	17	18.2	44	35	1302	1615	1771
20.0	11	11	3	18	17.6	45	35	1269	1574	1726
20.0	12	12	4	19	17.1	46	36	1240	1538	1686
20.0	13	13	5	20	16.7	46	37	1214	1506	1651
20.0	14	14	6	21	16.2	47	38	1188	1474	1616

Table I2c

Ground Snow Load25psf

Table I3c

Beam 'c' Single 0.25"x4"x8" Alum Header Detail B3						Uplift Only		Post Height (ft)		
Roof Design	115 mph Exp. B	Required # of 2x8	Required # of Wall	Max		Cube Footing		8	10	11
Load (psf)	A	trib	Return Beams	Fasteners	B (ft)	Middle d (in)	End d (in)	Overturning Moment (lbf *ft)		
21.0	8	8	2	15	20.1	37	29	1009	1252	1373
21.0	10	10	3	18						

Wa. ATTACHMENT TO WOOD FRAMED WALL

TABLE W1		#14 Screw w/ 1.5" EMBED in SG=0.5 WOOD (Doug Fir/So Yellow Pine) (DETAIL W1)																	
		Live Load						Ground Snow Loads											
		10 psf			20 psf			25 psf			30 psf			35.7 psf			43 psf		
Roof Design+ Dead Load		13.5 psf			23.5 psf			24.5 psf			28.7 psf			33.5 psf			39.6 psf		
Wind Speed and Exposure	Wind Uplift Load (psf)	Fastener Spacing						Fastener Spacing						Fastener Spacing					
		8"	16"	24"	8"	12"	16"	8"	12"	16"	8"	12"	16"	6"	8"	12"	6"	8"	12"
		ALLOWABLE Louver Span (ft)						ALLOWABLE Louver Span (ft)						ALLOWABLE Louver Span (ft)					
95 mph Exposure B	10.6	14	14	9	14	11	8	14	12	9	14	10	7	13	9	6	12	11	7
100 mph Exposure B	11.7	14	14	9	14	11	8	14	12	9	14	10	7	13	9	6	12	11	7
105 mph Exposure B	12.9	14	14	9	14	11	8	14	12	9	14	10	7	13	9	6	12	11	7
110 mph Exposure B	14.2	14	14	9	14	11	8	14	12	9	14	10	7	13	9	6	12	11	7
115 mph Exposure B	15.5	14	14	9	14	11	8	14	12	9	14	10	7	13	9	6	12	11	7
120 mph Exposure B	16.																		

Wb. ATTACHMENT TO MASONRY or CONCRETE WALL

TABLE W3		3/8" Diameter Simpson Strong Tie Titen HD Masonry Ancor w/ 1.75" embed into 8"Hollow CMU (Detail W3)																							
		Live Load						Ground Snow Loads																	
		10 psf		20 psf		25 psf		30 psf		35.7 psf		43 psf		50 psf		60 psf									
Roof Design+ Dead Load		13.5 psf		23.5 psf		24.5 psf		28.7 psf		33.5 psf		39.6 psf		45.5 psf		53.9 psf									
Wind Speed and Exposure	Wind Down (psf)	Wind Uplift Load (psf)	Fastener Spacing						Fastener Spacing						Fastener Spacing										
			16"	32"	48"	16"	32"	48"	16"	32"	48"	16"	32"	48"	16"	32"	48"	16"	32"						
			ALLOWABLE Louver Span (ft)						ALLOWABLE Louver Span (ft)																
95 mph Exposure B	9.6	10.6	14	10	6	14	7	4	14	7	4	12	6	4	11	5	3	9	4	3	8	4	2	6	3
100 mph Exposure B	9.6	11.7	14	10	6	14	7	4	14	7	4	12	6	4	11	5	3	9	4	3	8	4	2	6	3
105 mph Exposure B	9.6	12.9	14	10	6	14	7	4	14	7	4	12	6	4	11	5	3	9	4	3	8	4	2	6	3
110 mph Exposure B	9.6	14.2	14	10	6	14	7	4	14	7	4	12	6	4	11	5	3	9	4	3	8	4			

Xa. MOMENT RESISTING FOOTING SIZE for Constrained Footings

Limit for Detail F5>>																		Limit for Detail C1>>				Limit for Detail C4>>			
Table X1		CONSTRAINED CUBE FOOTING (in) d x d x d																							
Uplift	Overturning Moment (lb* ² ft)																								
Footing (in)	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2500	3000	3500	4000	4500	5000	6000	7000
18	19	20	21	22	22	23	24	24	25	25	26	26	27	27	27	28	28	30	31	32	33	34	35	37	38
20	20	20	21	22	22	23	24	24	25	25	26	26	27	27	27	28	28	30	31	32	33	34	35	37	38
21	21	21	21	22	22	23	24	24	25	25	26	26	27	27	27	28	28	30	31	32	33	34	35	37	38
22	22	22	22	22	22	23	24	24	25	25	26	26	27	27	27	28	28	30	31	32	33	34	35	37	38
23	23	23	23	23	23	23	24	24	25	25	26	26	27	27	27	28	28	30	31	32	33	34	35	37	38
24	24	24	24	24	24	24	24	24	25	25	26	26	27	27	27	28	28	30	31	32	33	34			

Xb. MOMENT RESISTING FOOTING SIZE for Non Constrained Footings

Limit for Detail F5>>																		Limit for Detail C1>>				Limit for Detail C4>>			
Table X3		NON CONSTRAINED CUBE FOOTING SIZE																							
Uplift	Overturning Moment (lb* ² ft)																								
Footing (in)	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2500	3000	3500	4000	4500	5000	6000	7000
18	22	24	25	26	27	27	28	29	29	30	31	31	32	32	33	33	33	35	37	38	40	41	42	44	46
20	22	24	25	26	27	27	28	29	29	30	31	31	32	32	33	33	33	35	37	38	40	41	42	44	46
21	22	24	25	26	27	27	28	29	29	30	31	31	32	32	33	33	33	35	37	38	40	41	42	44	46
22	22	24	25	26	27	27	28	29	29	30	31	31	32	32	33	33	33	35	37	38	40	41	42	44	46
23	23	24	25	26	27	27	28	29	29	30	31	31	32												

Y. REQUIRED FASTENERS FOR POST CONNECTIONS AND RETURN BEAM ALTERNATIVES

TABLE Y1		Required Number of Fasteners for Shearing Loads			
min t (in) >>>>>		0.125	0.125	0.125	0.1875
Uplift Footing d (in)	Net Uplift (lbf)	V1 625 #14 SDS	V2 1442 3/8" Bolt	V3 1923 1/2" Bolt	V4 2651 1/2" Bolt
20	417	1	1	1	1
21	482	1	1	1	1
22	555	1	1	1	1
23	634	2	1	1	1
24	720	2	1	1	1
25	814	2	1	1	1
26	915	2	1	1	1
27	1025	2	1	1	1
28	1143	2	1	1	1
29	1270	3	1	1	1
30	1406	3	1	1	1
31	1552	3	2	1	1
32	1707	3	2	1	1
33	1872	3	2	1	1
34	2047	4	2	2	1
35	2233	4	2	2	1
36	2430	4	2	2	1
37	2638	5	2	2	1
38	2858	5	2	2	2
39	3090	5	3	2	2
40	3333	6	3	2	2
41	3590	6	3	2	2
42	3859	7	3	3	2
43	4141	7	3	3	2
44	4437	8	4	3	2
45	4746	8	4	3	2
46	5070	9	4	3	2
47	5407	9	4	3	3
48	5760	10	4	3	3
49	6128	10	5	4	3
50	6510	11	5	4	3

TABLE Y2		Required Number of Fasteners for Tensile Loads				
min t (in) >>>>>		0.125	0.125	0.125	0.1875	0.1875
Uplift Footing d (in)	Net Uplift (lbf)	T1 266 #14 SDS	T2 721 3/8" Bolt	T3 962 1/2" Bolt	T4 1082 3/8" Bolt	T5 1442 1/2" Bolt
20	417	2	1			