



CITY OF WESTWOOD, KANSAS

PLANNING COMMISSION MEETING

4700 RAINBOW BLVD. WESTWOOD, KS 66205

Monday, January 06, 2025 at 7:00 PM

AGENDA

Welcome to your Westwood City Council meeting. This meeting may be attended remotely via Zoom:

Access Online: <https://us02web.zoom.us/j/89009964959>

Access by Phone: (312) 626-6799 / **Webinar ID:** 890 0996 4959

[Note: This agenda is subject to changes, additions, or deletions at the discretion of the Governing Body]

REGULAR MEETING AGENDA

I. CALL TO ORDER

II. APPROVAL OF THE AGENDA AND MEETING MINUTES

- A. Consider approving the January 6, 2025 Planning Commission meeting agenda
- B. Consider approving the December 2, 2024 Planning Commission meeting minutes

III. PUBLIC HEARINGS

- A. WE-2024-05: Application of Joe Hirleman, for a waiver/exception from Westwood Zoning Ordinance Article No. 4.3.2(D) to allow a primary structure to have less than 60% of its front façade on the front build-to line for a proposed new single-family residence on property located at 4831 Booth St., Westwood, Kansas 66205

IV. PRESENTATIONS

V. OLD BUSINESS

VI. NEW BUSINESS

- A. Consider application of Sarah Brown, owner of Blair & Blythe, for sign permit at 4812 Rainbow Blvd.
- B. Planning Commission discussion of 2025 issues of general interest and training needs and requests

VII. ANNOUNCEMENTS/PLANNING COMMISSIONER COMMENTS

VIII. STAFF REPORTS

- A. Administrative Report (City Administrator Leslie Herring)

B. Public Works Report (Public Works Director John Sullivan)

IX. UPCOMING ITEMS

X. ADJOURNMENT

UPCOMING MEETINGS

Regular meetings of the Westwood Planning Commission are held at 7:00 PM on the first Monday of each month. The next regular meeting of the Westwood Planning Commission will be held Monday, February 3, 2025, at 7:00 PM at Westwood City Hall or virtually, depending on current public health protocols in place. The City Calendar may be accessed at www.westwoodks.org. To receive further updates and communications, please see or sign up for the following:

Westwood Buzz Email: <https://bit.ly/3wA4DWx>

Facebook: [City of Westwood Kansas-Government](#)
[Westwood, KS Police Department](#)

**City of Westwood, Kansas
Planning Commission Meeting
4700 Rainbow Boulevard
December 2, 2024 – 7:00 PM**

Commissioners Present: Kevin Breer, Vice Chair
Ann Holliday
Samantha Kaiser
David Kelman
Emily Keyser
Mark Neibling
Sarah Page, Chair
Matt Prout

Commissioners Absent: Clay Fulghum

Staff Present: Leslie Herring, City Administrator
John Sullivan, Public Works Director
Spencer Low, City Attorney for Planning Commission

Call to Order

Chair Page called the meeting to order at 7:00 PM on December 2, 2024.

Approval of Agenda and Meeting Minutes

Chair Page called for modifications or discussion of the December 2, 2024 meeting agenda or November 4, 2024 meeting minutes or a motion for approval. Commissioner Breer moved to approve the agenda and meeting minutes. Commissioner Prout seconded. Motion passed unanimously.

Public Hearings

WE-2024-04: Application of Christopher Castrop, on behalf of Rick and Helen Ackmann, for a waiver/exception from Westwood Zoning Ordinance: (1) Article 4.3.2.(C) to allow lot coverage in excess of that allowable, (2) Article No. 4.3.2(D) to allow a primary structure to have less than 60% of its front façade on the front build- to line, (3) Article 4.3.2(J)4.b to allow a front yard setback less than 35', and (4) Article 4.3.2(J)4.c to allow the maximum lot width coverage at the front yard setback to exceed 70% for a proposed new single-family residence on property located at 2023 W. 48th St., Westwood, Kansas 66205

Chair Page invited Herring to present the staff report. Herring presented the staff report included in the meeting packet.

Chair Page invited the applicant to address the Planning Commission. Chris Castrop, Castrop Design Group architect for the property owner, 4318 W. 54th St., Roeland Park, Kansas, addressed the Planning Commission. Castrop shared context and background in support of the application.

Chair Page called for questions from the Planning Commission of the applicant. Commissioner Kelman noted that Westwood Zoning Ordinance provision 4.3.3.D.1 sets the front yard setback at 20', which if applicable to this application, would eliminate the need for a waiver from Article 4.3.2(J)4.b. Herring confirmed this is the case and thanked Commissioner Kelman for finding that provision and making note for the record and staff. Commissioner Kelman continued by commending the architect on creating a

design he feels complements the street, specifically by the decision to add a front porch and keeping the massing low in the front. Commissioner Breer inquired as to whether this home on a double lot was on one taxing parcel or two. The applicant confirmed that the lot is a single lot and does not need to be platted. Commissioner Prout inquired as to whether modifications to the use of the interior space in the house were considered to reduce the area of the overall footprint so as not to exceed maximum lot coverage. Castrop responded that they could reduce the area and depth of the front porch but that they desire to keep the depth to make it usable and also desire to maintain a symmetrical look. Commissioner Kelman asked several questions about surface materials and uses of areas shown on the footprint plan in an effort to ensure the lot coverage total was calculated correctly to ensure the waivers sought by the applicant are necessary and appropriate.

Chair Page invited the property owners to address the Planning Commission. Richard Ackmann shared that they have designed this house to allow them to age in place and that his wife, Helen, has mobility challenges and this design supports her. Helen Ackmann shared that they have lived in on the property for over forty years and they love the area and love their neighbors and want a home that supports them in their later years and enables them to stay.

Chair Page called for questions from the Planning Commission. Commissioner Neibling noted that since Westwood Zoning Ordinance provision 4.3.3.D.1 sets the front yard setback at 20', that an exception from Article 4.3.2(J)4.c to allow the maximum lot width coverage at the front yard setback to exceed 70% is no longer relevant since the lot width coverage at the front yard setback – 20' – no longer exceeds the allowable. Further, Commissioner Neibling noted that with the front yard setback being 20', Article No. 4.3.2(D) to allow a primary structure to have less than 60% of its front façade on the front build- to line also is no longer violated by the proposed design since more than 60% of the front façade is now set at 20' from the right of way. Neibling interprets the application to only exceed the allowable lot coverage and so only need a waiver from Article 4.3.2.(C) of the zoning ordinance. Herring recommended the Planning Commission – if they desire to approve this application – approve all four waivers with a caveat to be recorded in the meeting minutes that only those zoning ordinance waivers required shall apply. Herring noted that this is a conservative way to move the application along without creating potential issues for this property owner should not all waivers sought be granted and then following further review it is determined that they should have been granted to permit the building. Commissioner Neibling stated support for this recommended approach and noted that the effort of he and Commissioner Kelman raising these questions and issues about exact waivers approved is to ensure future applicants don't attempt to point to the approval of certain waivers in this case if they weren't needed as an argument of why the same waivers should be approved for them, in this hypothetical future scenario.

Chair Page called for public comment on the application.

Eddie Van Zandt, 2103 W. 48th St. stated support for the application. He noted that he lives two doors down but also owns the house next door to the applicant. He likes the design and especially the front porch.

Kathy Davis, 2006 W. 48th St., stated support for the application. She noted that she likes this more traditional architectural design and feels that since modern architectural designs have been granted waivers before to be built, she thinks a waiver should be granted for this design.

Chair Page closed the public comment portion of the hearing.

Chair Page called for discussion amongst the Planning Commission. Commissioner Kelman thanked the applicant for recessing the garage. Commissioner Breer noted support for the design and noted support for residents going through this effort to stay in the neighborhood.

Attorney Low recommended that the Planning Commission identify in-turn each of the waivers sought, to have a discussion about each individually, to ask amongst the Planning Commission to note their stance on the mootness of each waiver, and to note whether any Planning Commissioner would vote against each waiver individually causing them vote to deny the application.

No objection to Low's recommended approach was stated by the Planning Commission. Low called for discussion on the mootness of Westwood Zoning Ordinance Article No. 4.3.2(D) to allow a primary structure to have less than 60% of its front façade on the front build- to line. No discussion occurred; however, Commissioner Holliday indicated that the applicability of this provision would impact her approval of the application. Low stated that Holliday is welcome to vote nay on a future motion to approve if she so desires.

Low called for discussion on the mootness of Westwood Zoning Ordinance provision 4.3.2(J)4.c to allow the maximum lot width coverage at the front yard setback to exceed 70%. No discussion nor Planning Commissioner dissent noted.

Low called for discussion on the mootness of Westwood Zoning Ordinance provision 4.3.2(J)4.b to allow a front yard setback less than 35'. No discussion nor Planning Commissioner dissent noted.

Low noted that Westwood Zoning Ordinance provision 4.3.2.(C) to allow lot coverage in excess of that allowable was not disputed.

Motion that – given Planning Commission's responses to each of the questions called by Low, and the Planning Commission majority opinion that three of the four waivers sought do not apply to the design proposed by the application, and in an effort to not cause delay to the applicant in the issuance of their building permit – all four waivers sought by application WE-2024-04 for a proposed new single-family residence on property located at 2023 W. 48th St., Westwood, Kansas 66205 be approved. Motion made by Commissioner Breer. Seconded by Neibling. Motion passed 7-1, with Holliday against.

Presentations

None.

Old Business

None.

New Business

None.

Staff Reports

None.

Adjournment

Motion by Commissioner Breer to adjourn the meeting. Second by Commissioner Kelman. Motion passed unanimously. The meeting adjourned at 7:45 PM.

Upcoming Items

- A. January Public Hearing: WE-2024-05: Application of Joe Hirleman, for a waiver/exception from Westwood Zoning Ordinance Article No. 4.3.2(D) to allow a primary structure to have less than 1 60% of its front façade on the front build- to line for a proposed new single-family residence on property located at 4831 Booth St., Westwood, Kansas 66205

APPROVED: _____
Sarah Page, Chair

ATTEST: _____
Leslie Herring, Secretary

DRAFT

WESTWOOD PLANNING COMMISSION

Staff Report

Meeting Date: January 6, 2025

Staff Contact: Leslie Herring, City Administrator

WE-2024-04 – Application of homeowner Joseph Hirleman for a waiver/exception from Westwood Zoning Ordinance Article No. 4.3.2(D) to allow a primary structure to have less than 60% of its front façade on the front build-to line for a proposed new single-family residence on property located at 4831 Booth St., Westwood, Kansas 66205.

OWNER OF RECORD: Joseph and Kathryn Hirleman

APPLICANT: Joseph Hirleman, property owner

LOCATION: The property is located at 4831 Booth St. and is deeded as SWATZELL VIEW S 50 FT LOT 3 & N 10 FT LOT 4 BLK 5

ZONING: The property is zoned R-1B

PROPOSED PROJECT: Construct a new single-family dwelling

REQUESTED ACTION: A waiver/exception from Article No. 4.3.2(D) to allow a primary structure to have less than 60% of its front façade on the front build-to line.

ZONING ORDINANCE WAIVER & EXCEPTION: Pursuant to Ordinance No. 1000 passed by the Westwood Governing Body on March 14, 2019, the Westwood Zoning Code was amended to create a new Section 4.5 - Waivers & Exceptions to establish a new review and approval process as an alternative to consideration of a variance request by the Board of Zoning Appeals.

As provided for by Ordinance No. 1000, and in conformance with the Planning Commission's and Governing Body's intent to provide a process to consider waivers and exceptions from certain sections of Chapter 4 of the Westwood Zoning Ordinance, a waiver from Section 4.3.2(I) would need to be granted to allow the property owner to construct the home as proposed.

APPROVAL CRITERIA: Pursuant to Ordinance No. 1000, a waiver or exception shall not be approved if it is contrary to the public interest or unnecessarily burdens the City. The Approving Authority may approve the waiver or exception if the applicant demonstrates one (1) or more of the following:

1. An alternative higher quality development design is being proposed with no negative impacts to either nearby residential or nonresidential properties.
2. Relief of the development restrictions imposed on the property will ensure low impact land uses, and quality building and site design arrangements in which adjoining residential properties will not be negatively impacted by any deviations from the applicable regulations.

3. The granting of the wavier or exception will not be opposed to the general spirit and intent of the adopted Comprehensive Plan.

The waiver/exception is a condition of the underlying application for approval and has the same effect as any approval of that application. In such instances, findings shall be prepared that:

1. No private rights will be injured or endangered by granting of the waiver or exception.
2. The public will suffer no loss or inconvenience thereby and that in justice to the applicant or applicants the application should be granted.

STAFF ANALYSIS: Staff review of the application submittal concludes that all elements of the proposed single-family dwelling conform to the Westwood Zoning Ordinance except the percentage of the front of the house situated on the build-to line. Article No. 4.3.2(D) requires at least 60% of a primary structure's front façade to be on the front build- to line. The applicant's proposed design has 55% of the front on the build-to line.

STAFF RECOMMENDATION: The Planning Commission should review the application materials included in the meeting packet, should consider any public comment received¹, and should consider the applicant's presentation at the meeting to determine whether this application should be approved. Staff does not have any objection to the application being granted.

Suggested Motion

I move to approve/deny/conditionally approve a waiver/exception from Westwood Zoning Ordinance Article No. 4.3.2(D) to allow a primary structure to have less than 60% of its front façade on the front build-to line for a proposed new single-family residence on property located at 4831 Booth St., Westwood, Kansas 66205.

¹ Per Westwood zoning regulations, this public hearing was published at least 20 days prior and notice of the hearing was mailed to all property owners within 200' of the subject property, as shown in the map on the next page.

Waivers & Exceptions Application



City of Westwood
4700 Rainbow Blvd
Westwood, Kansas 66205
913-362-1550
www.westwoodks.org

Requested Waiver For: Minimum façade on build-to line is below 60%

General Location / Address of Subject Property: 4831 Booth Street, Westwood KS 66205

Legal Description: SWATZELL VIEW S 50 FT LOT 3 & N 10 FT LOT 4 BLK 5 WWC-0612

Current Land Use: Residential

Zoning District: Residential

Property Owner's Name(s): Joseph Hirleman **Phone:** 913-961-2348

Mailing Address: 2807 W. 49th Terrace, Westwood KS 66205

E-mail Address: jphirleman@gmail.com

Applicant / Agent's Name: SAME

Company: _____ **Phone:** _____

Mailing Address: _____

E-mail Address: _____

A waiver or exception for the building design or site development standards is allowed from only the following Westwood Zoning Ordinance sections:

- 4.3.2 Single-Family Primary Structure Requirements;
- 4.3.6 Garages;
- 4.3.7 Building Standards;
- 4.3.8 Building Additions – Special Conditions; and
- 4.4 New Infill Houses – Special Considerations.

Fee: \$90.00

List the specific Zoning Ordinance provisions that a waiver or exception is being requested from.

Minimum façade on build-to line is below 60%

A waiver or exception shall not be approved if it is contrary to the public interest or unnecessarily burdens the City of Westwood. The following provisions are evaluated before a waiver or exception can be granted.

Respond to each of the criteria as it pertains to the request.

- A. An alternative higher quality development design in being proposed with no negative impacts to either near-by residential or nonresidential properties. _____

Receiving a waiver or exception for the minimum facade requirement does not negatively effect anything.

- B. Relief of the development restrictions imposed on the property will ensure low impact land uses, and quality building and site design arrangements in which adjoining residential properties will not be negatively impacted by any deviations from the applicable regulations. _____

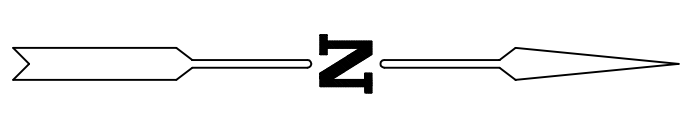
This has a low impact to surrounding properties.

- C. The granting of the wavier or exception will not be opposed the general spirit and intent of the adopted Comprehensive Plan.

Receiving this waiver or execption would not be opposed to the general spirit or plan.

Signature of Owner or Agent:  _____ **Date:** 11/27/2024

Note: Authorization of Agent must accompany any requests made by anyone other than the property owner(s).



0 5 10 20
SCALE 1"=10'
 BEARINGS = ASSUMED

CONTOUR INTERVAL = 1 FOOT

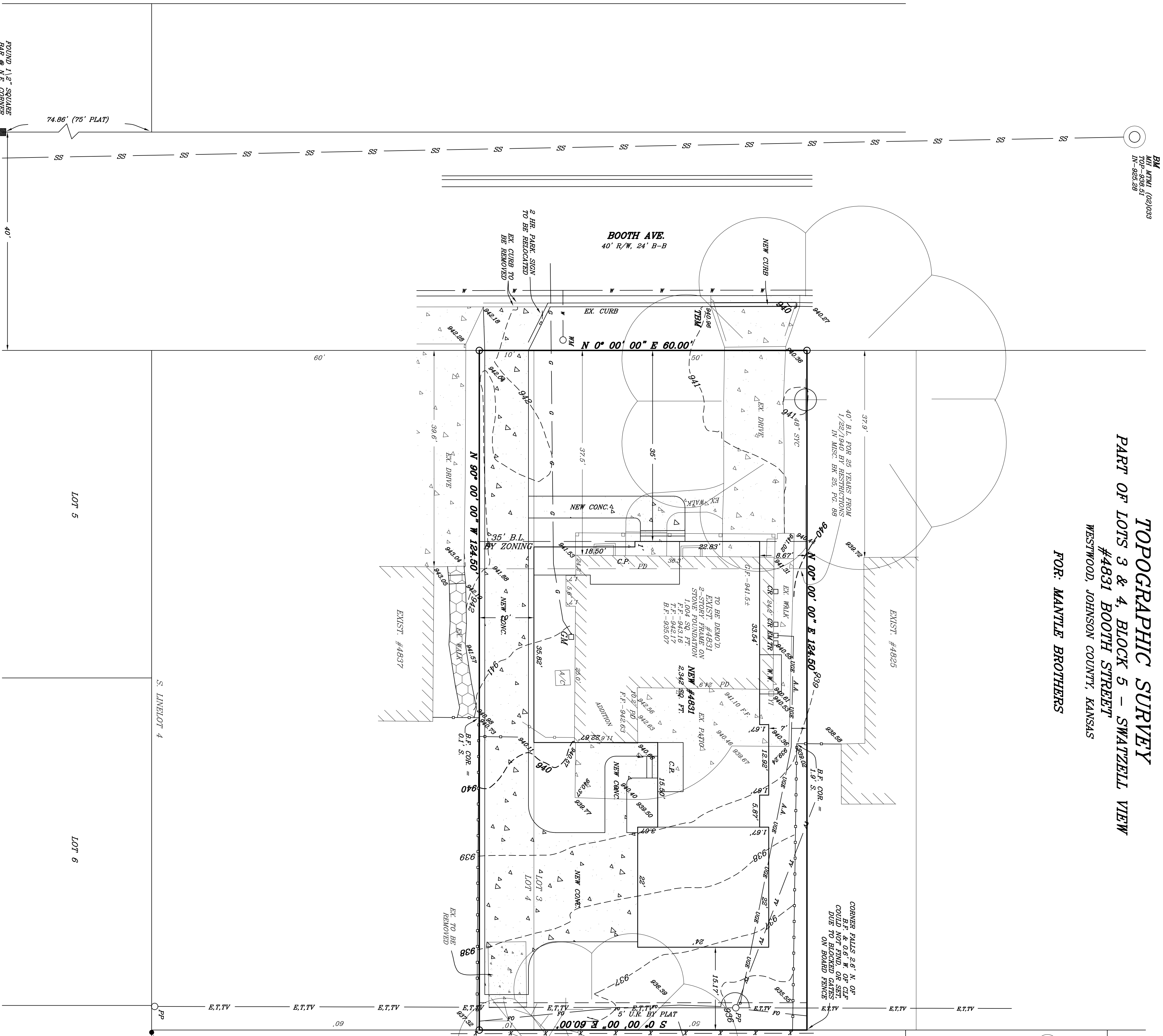
BM JOHNSON COUNTY AUTOMATIC INFORMATION MAPPING SYSTEM
 (LANS) MARKED TOP ELEVATION ON MANHOLE W/MI (02)033
 W. SIDE BOOTH BETWEEN #4825 & #4832
 ELEVATION = 939.51
 TBM TOP OF CURB @ S. CORNER DRIVE TO #4831 BOOTH
 ELEVATION = 940.96

- LEGEND**
- A.A. = APPROXIMATE ALIGNMENT
 - A.C. = AIR CONDITIONER
 - B-B = BACK TO BACK OF CURB
 - B.L. = BUILDING LINE
 - COVC. = CONCRETE
 - CONC. = CONCRETE
 - CON. = CORNER
 - CP = CONDUIT POCKET
 - CR = CONDUIT RISER
 - EM = ELECTRIC METER
 - ESMT = EARTHMAN FLOOR
 - F.F. = FINISHED FLOOR
 - GA = GAS METER
 - GM = GAS METER
 - PP = PEDESTAL DOOR
 - PP = POWER POLE
 - R/W = RIGHT-OF-WAY
 - TE = TOP OF FOUNDATION
 - TE = TV RISER
 - U/E = UTILITY EASEMENT
 - U.G. = UNDERGROUND (EASEMENT)
 - WM = WATER METER
 - W.W. = WINDOW WELL
 - YI = YARD INLET

- = ROUND MONUMENT, AS NOTED
- = SET 1/2" BAR W/ 789° CAP, UNLESS NOTED
- [Pattern] = CONCRETE
- [Pattern] = STONE
- [Symbol] = OVERHEAD ELECTRIC & TV
- [Symbol] = FIBER OPTIC, U.G. AIR
- [Symbol] = GAS
- [Symbol] = GAS METER
- [Symbol] = STORM SEWER
- [Symbol] = OVERHEAD TV
- [Symbol] = UNDERGROUND ELECTRIC
- [Symbol] = WATER LINK FENCE
- [Symbol] = BOARD FENCE
- [Symbol] = DECIDUOUS TREE
- [Symbol] = CONIFEROUS TREE

ROARK SURVEYING
 10233 NOLAND RD.
 LENEXA, KS 66215
 913-888-8289
 RoarkSurveying@aol.com

TOPOGRAPHIC SURVEY
PART OF LOTS 3 & 4, BLOCK 5 - SWATZELL VIEW
 WESTWOOD, JOHNSON COUNTY, KANSAS
FOR: MANTLE BROTHERS



LEGAL DESCRIPTION:
 The South 50 feet of Lot 3 and the North 10 feet of Lot 4, Block 5, SWATZELL VIEW, a subdivision in the City of Westwood, Johnson County, Kansas.
 The above described tracts contain 7,470 square feet, or 0.1715 acres, more or less.

TITLE INFORMATION TAKEN FROM SCHEDULE B OF CHICAGO TITLE INSURANCE COMPANY COMMITMENT: ORDER NO. 200818990, UNKNOWN DATE, FURNISHED BY OWNER.

ALL UNDERGROUND UTILITIES SHOWN HEREON ARE AS LOCATED BY THE RESPECTIVE UTILITIES AND SHOULD BE VERIFIED PRIOR TO ANY EXCAVATION.

ZONING = R-1(B)

EXISTING AREA CALC'S

HOUSE	1,004 SQ. FT.
DRIVE	127
FRONT WALK	632
PATIO & NORTH WALK	63
AND BY S.E. CORNER	18
WINDOW WELLS	18
TOTAL	2,270
TOTAL LOT	7,470 SQ. FT.
TOTAL LOT	2,270/7,470 = 30% IMPERVIOUS

PROPOSED AREA CALC'S

HOUSE	2,342 SQ. FT.
FRONT WALK	1,349
REAR WALK	78
WINDOW WELL	28
TOTAL LOT	3,829 SQ. FT.
TOTAL LOT	3,829/7,470 = 51% IMPERVIOUS

I HEREBY CERTIFY THAT THIS DRAWING IS A TRUE REPRESENTATION OF A FIELD SURVEY BY ME THIS 4TH DAY OF OCTOBER, 2024

DANIEL R. ROARK PS-6986



HD Engineering & Design

Solutions for all your engineering and design needs

Item A. Section III, Item

Dan Wessel

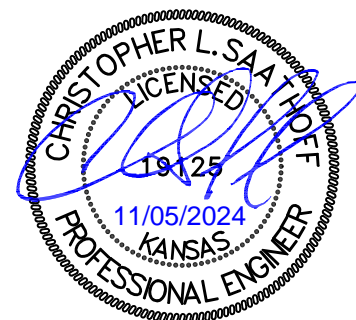
4831 Booth St.
Westwood, KS

Our firm has been asked to make structural clarifications to the plans of the house to be built at the address listed above. During the permit review process the AHJ has questioned items. Below is a list of our recommendations along with the corresponding city item.

1. Confirm/update plans to reference ASCE 7-16.
This note has been changed from 7-10 to 7-16. See clouded plan changes.
2. Include prescriptive design for braced wall lines and show locations of braced wall design on plans per IRC R106.1.3 Include end conditions for constantly sheathed walls.
As noted and detailed on the plans, we are not using prescriptive bracing we are using the alternative that corresponds with the notes, details, and calculations provided on the plans.
3. Clarify foundation drainage plan.
Any required drainage plans shall be provided by civil engineer.
4. Update S-4.0 to match adopted amended energy requirements per Westwood Municipal Code.
See attached clouded plan update.

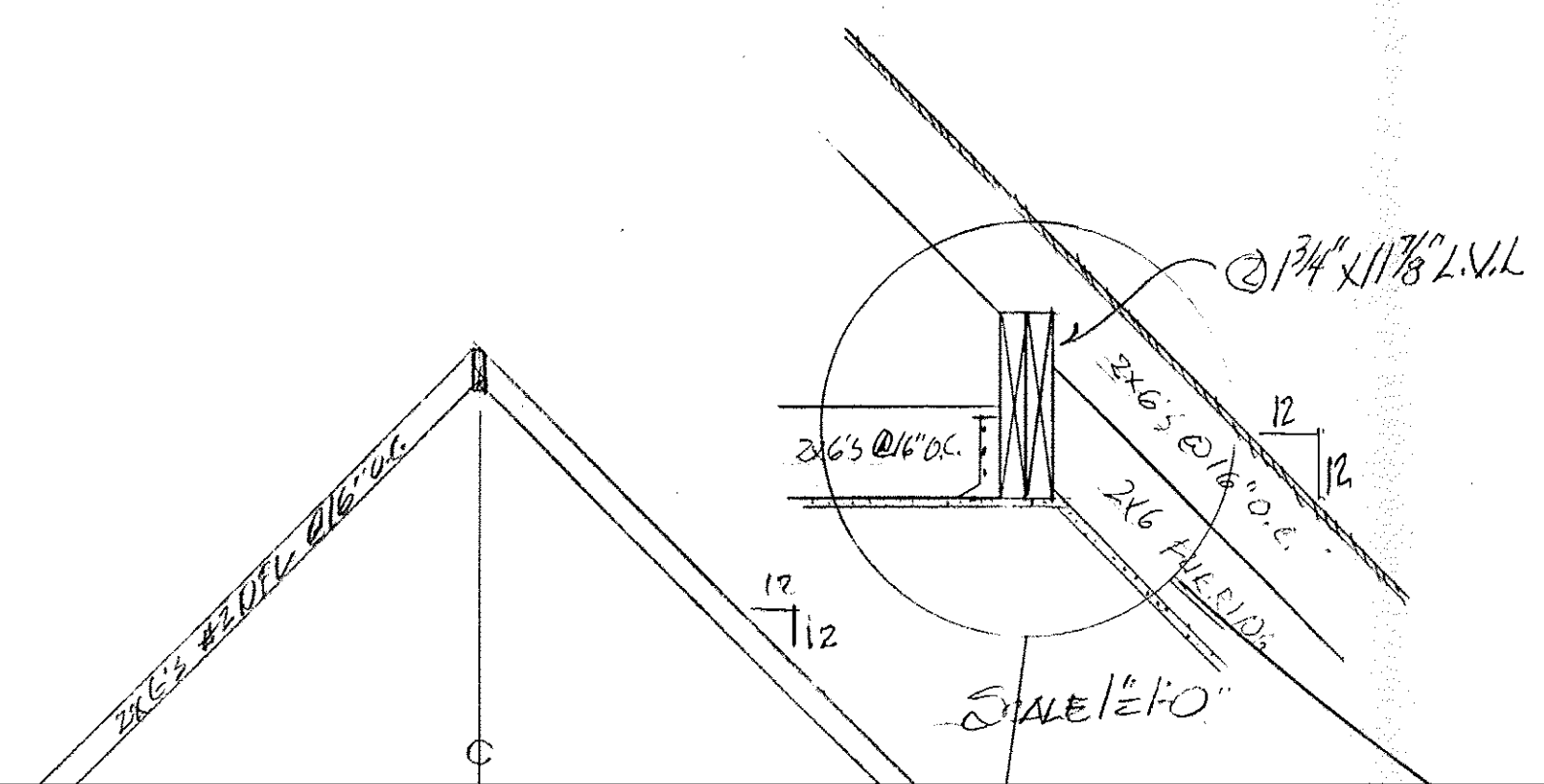
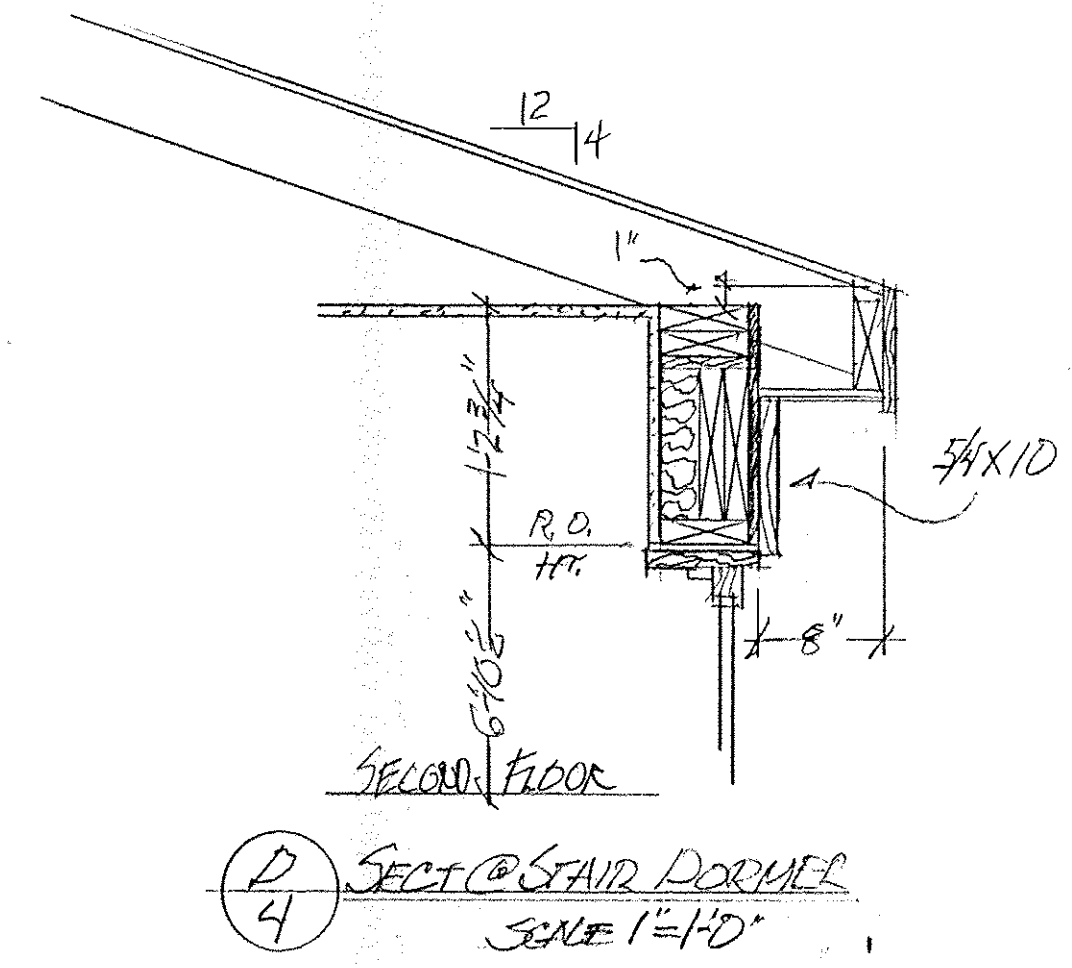
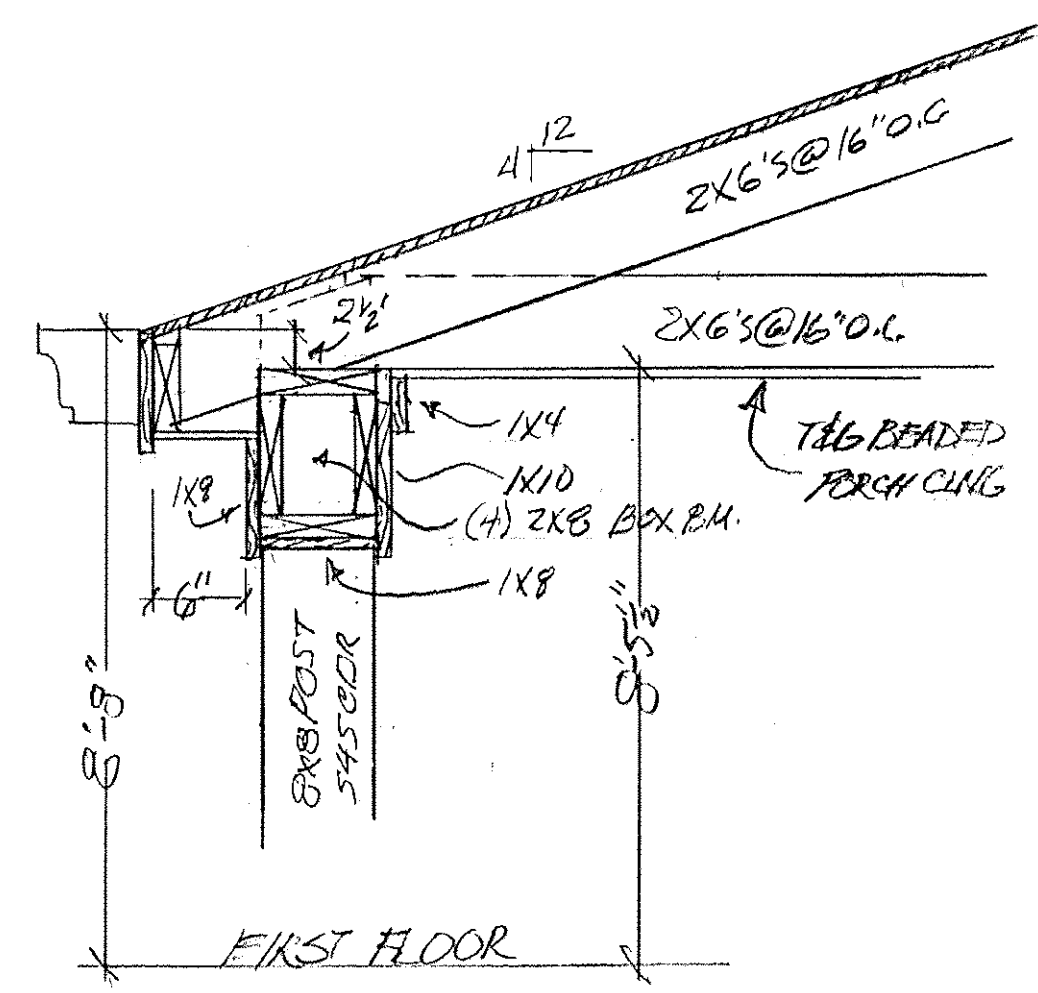
This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted engineering practices. No warranties, either express or implied, are intended or made.

We appreciate the opportunity to be of service to you on this project. If you have any questions regarding this report, please contact us.

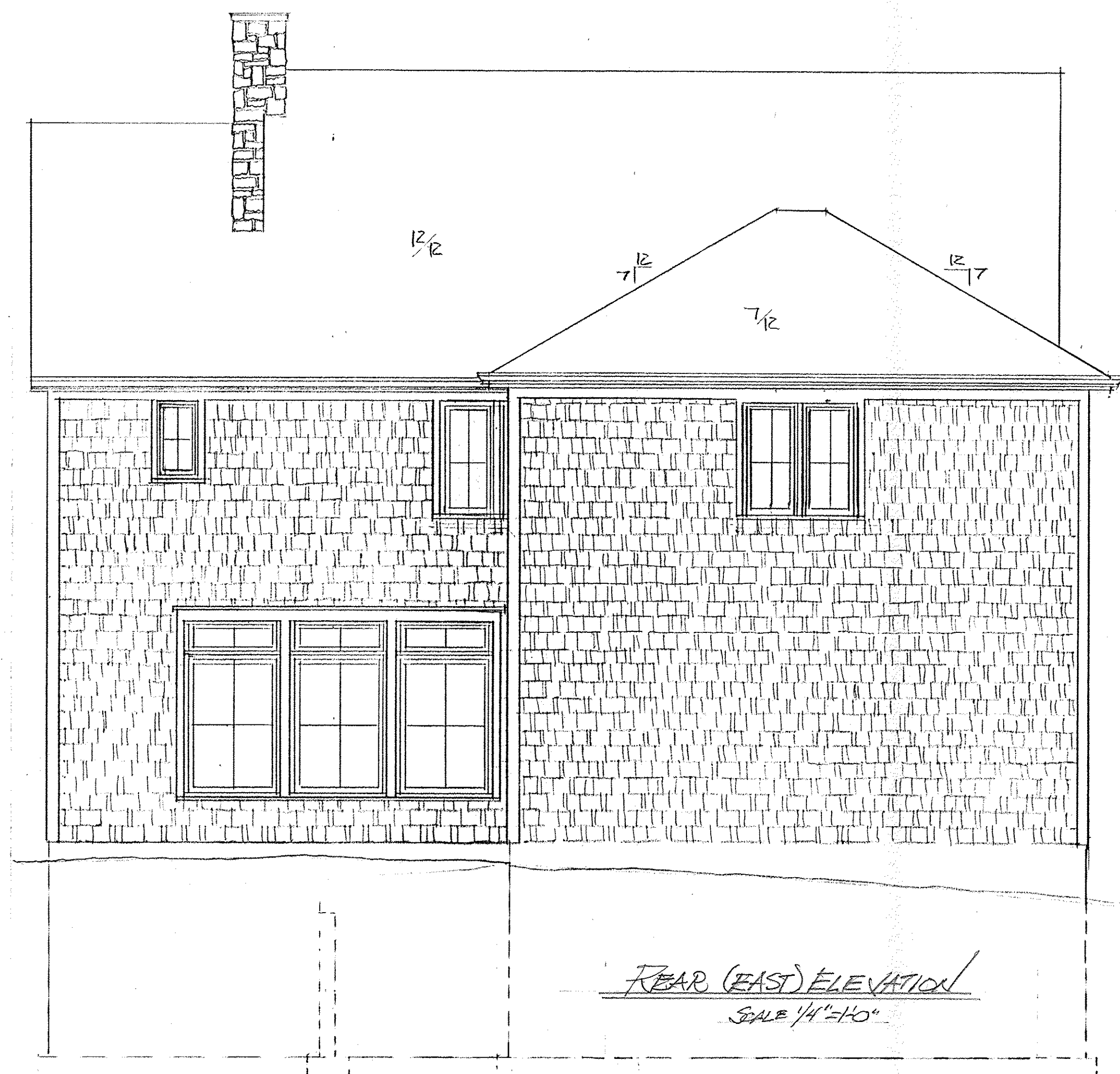


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STRUCTURAL REVIEW
HD ENGINEERING & DESIGN
HD: 48128 DATE: 11/5/2024



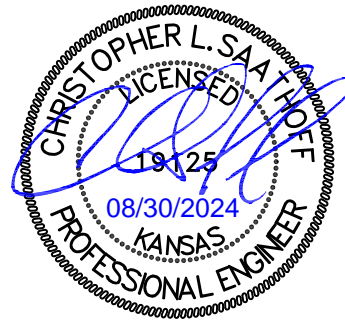
FRONT ELEVATION
SCALE 1/4"=1'-0"



REAR (EAST) ELEVATION
SCALE 1/4"=1'-0"

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11666 W. 75TH STREET
SHAWNEE, KS 66214
WWW.HDENGINEERS.COM
913.631.2222
SERVICE@HDENGINEERS.COM



DAN WESSEL DESIGN, INC.
HILEMAN RESIDENCE
4831 BOOTH ST., WESTWOOD, KS

STRUCTURAL DETAILS & NOTES

HD#: 48128
DATE: 08/30/2024
CHECKED BY: CLS

NO.	ISSUE/REVISION	Revision Date

PLANS DRAWN BY OTHERS

S-0.1



RIGHT SIDE (SOUTH) ELEVATION
SCALE 1/4" = 1'-0"

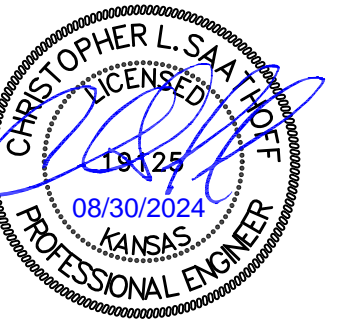


LEFT SIDE (NORTH) ELEVATION
SCALE 1/4" = 1'-0"

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HD ENGINEERING & DESIGN, INC

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SHAWNEE, KS 66214
WWW.HDENGINEERS.COM
913.631.2222
SERVICE@HDENGINEERS.COM



DAN WESSEL DESIGN, INC.
HILEMAN RESIDENCE
4831 BOOTH ST., WESTWOOD, KS

STRUCTURAL DETAILS & NOTES

HD#: 48128
DATE: 08/30/2024
CHECKED BY: CLS

NO.	ISSUE/REVISION	Revision Date

PLANS DRAWN BY OTHERS

S-0.2

HD ENGINEERING & DESIGN, INC.
 11666 W. 75TH STREET
 SHAWNEE, KS 66214
 WWW.HDENGINEERS.COM
 913.631.2222
 SERVICE@HDENGINEERS.COM



11/05/2024 CITY COMMENTS

DAN WESSEL DESIGN, INC.
 HILEMAN RESIDENCE
 4831 BOOTH ST., WESTWOOD, KS

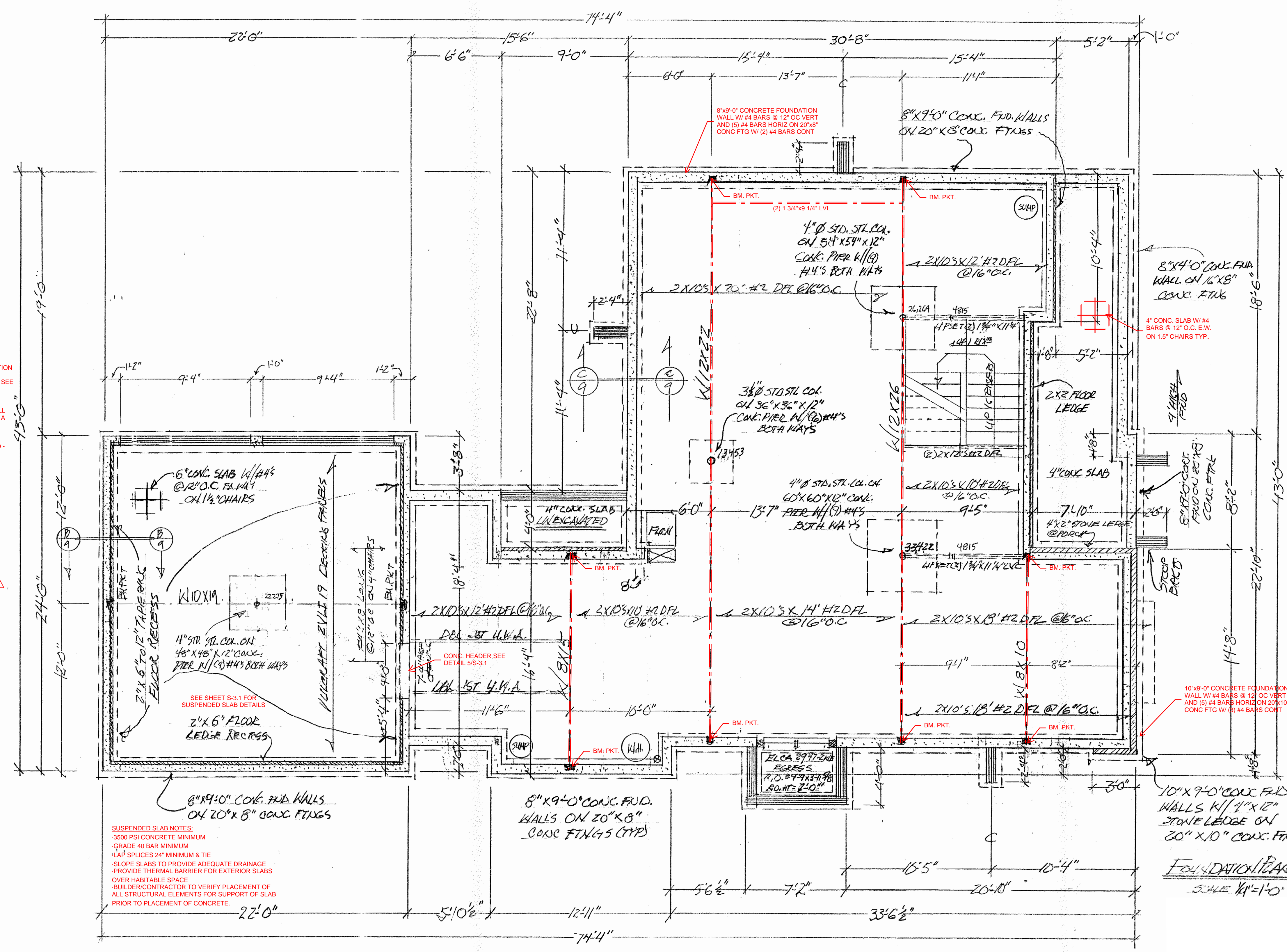
HD#: 48128

DATE: 08/30/2024
 CHECKED BY: CLS

NO.	ISSUE/REVISION	Revision Date

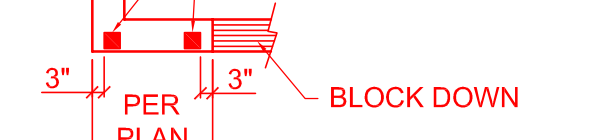
PLANS DRAWN BY OTHERS

S-0.3

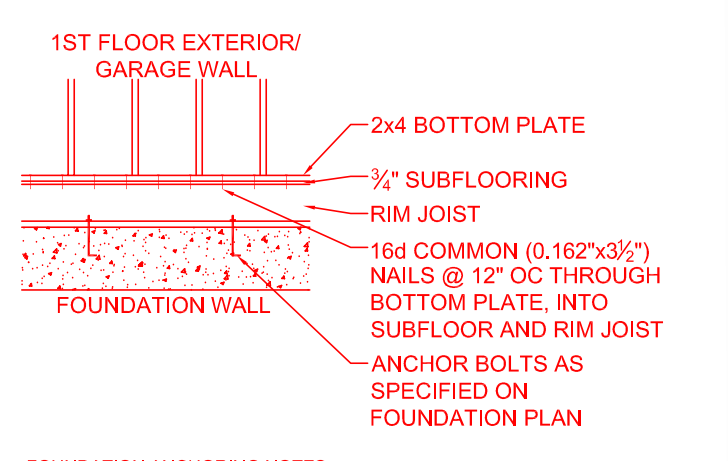


GENERAL NOTES:
 - WINDOW SHALL HAVE FALL PROTECTION PER IRC 312.2.4
 - HOUSE WILL BE PROVIDED WITH A "USER" GROUND PER IRC SECTION 3608.1.5
 - OVERHEAD GARAGE DOORS MUST MEET DASHA REQUIREMENTS SEE DETAIL SHEET S-1.0
 - DBL. ALL 1ST UNDER ISLAND
 - ALL HEADERS NOT LABELED SHALL BE MIN (2) #2-2X10 DFL
 - SOILS IN THIS AREA COMMONLY HAVE A VERY HIGH SHRINK SWELL CAPACITY. OUR FIRM RECOMMENDS ALL SITES BE EVALUATED BY A GEOTECHNICAL FIRM PRIOR TO PLACEMENT OF FOUNDATIONS
 - PROVIDE CARBON MONOXIDE AND SMOKE DETECTORS PER IRC REQUIREMENTS
 - ANY PORTION OF THESE PRINTS ISSUED WITHOUT A MIN. OF S-1.0 S-4.0 SHALL NOT BE CONSIDERED A COMPLETE SET OF CONSTRUCTION DOCUMENTS
 - FOUNDATION SHALL BE CONSTRUCTED PER JOHNSON COUNTY RESIDENTIAL FOUNDATION GUIDELINE. SEE ATTACHED
 - ICE AND WATER SHIELD AS REQUIRED PER IRC

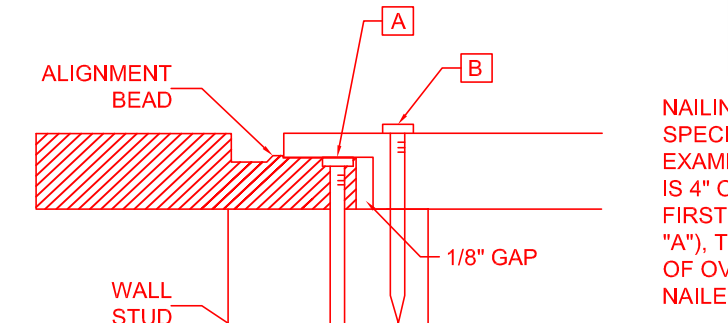
TYPICAL TIE DOWN AT NARROW WALL
 USP HPAHD 22 OR = (4200# STRAP)



BRACED WALLS:
 SEE CALCULATIONS ON SHEET S-2.0, PER ASCE7-16 REQUIREMENTS AS ALLOWED BY IRC 2018 R301.2.1
 ALL EXTERIOR WALLS SHALL BE SHEATHED PER ANY ONE OF THE FOLLOWING OPTIONS:
 - 7/16" APA-RATED PLYWOOD/OSB WITH 8d NAILS @ 6" O.C. AT EDGES AND @ 12" O.C. IN THE FIELD
 - 7/16" SHIPLAP PANEL SHEATHING (I.E. LP SMARTSIDE OR EQUIVALENT) WITH 8d NAILS @ 6" O.C. AT EDGES AND @ 12" O.C. IN THE FIELD
 - 3/8" SHIPLAP PANEL SHEATHING (I.E. LP SMARTSIDE OR EQUIVALENT) WITH 6d NAILS @ 4" O.C. AT EDGES AND @ 12" O.C. IN THE FIELD
 INTERIOR BRACED WALL LOCATIONS ONLY SHOWN WHEN REQUIRED BY ADDITIONAL BRACING SECTION OF CALCULATIONS ON SHEET S-2.0

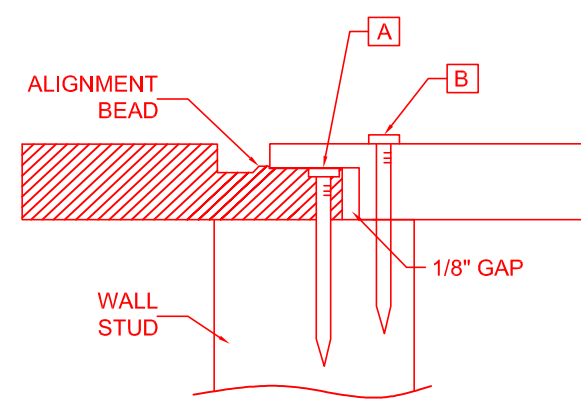


FOUNDATION ANCHORING NOTES:
 - MIN. 1/2" ANCHOR BOLTS SHALL BE INSTALLED @ 30" O.C. MAX AND WITHIN 6"-12" FROM THE END OF EACH SECTION OF SILL PLATE ALONG ENTIRE PERIMETER OF FOUNDATION



NAILING WITH SPACING AS SPECIFIED PER PLAN. FOR EXAMPLE, IF REQUIRED SPACING IS 4" O.C., BOTTOM LAP SHALL FIRST BE NAILED AT 4" O.C. (NAIL "A"), THEN FULL DEPTH SECTION OF OVERLAP PANEL SHALL BE NAILED @ 4" O.C. (NAIL "B")

SUSPENDED SLAB NOTES:
 - 3500 PSI CONCRETE MINIMUM
 - GRADE 40 BAR MINIMUM
 - LAP SPICES 24" MINIMUM & TIE
 - SLOPE SLABS TO PROVIDE ADEQUATE DRAINAGE
 - PROVIDE THERMAL BARRIER FOR EXTERIOR SLABS OVER HABITABLE SPACE
 - BUILDER/CONTRACTOR TO VERIFY PLACEMENT OF ALL STRUCTURAL ELEMENTS FOR SUPPORT OF SLAB PRIOR TO PLACEMENT OF CONCRETE.



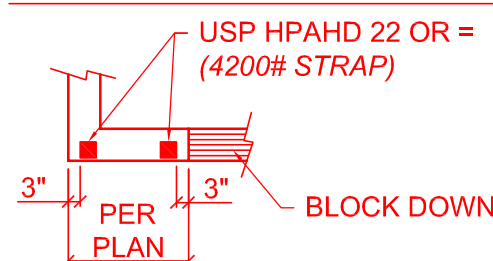
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3/8" APA REQUIRED NAILING PATTERN FOR SHIPLAP PANEL SHEATHING

- - LOAD BEARING WALL
- - - - - - LOAD BEARING BEAM
- SD - SMOKE DETECTOR
- CO - CARBON MONOXIDE SENSOR

GENERAL NOTES:
 - WINDOW SHALL HAVE FALL PROTECTION PER IRC 312.2.4
 - HOUSE WILL BE PROVIDED WITH A "UFER" GROUND PER IRC SECTION 3608.1.5
 - OVERHEAD GARAGE DOORS MUST MEET DASMA REQUIREMENTS SEE DETAIL SHEET S-1.0
 - ALL HEADERS NOT LABELED SHALL BE MIN (2) #2-2X10 DFL DBL ALL JST UNDER ISLAND
 - SOILS IN THIS AREA COMMONLY HAVE A VERY HIGH SHRINK SWELL CAPACITY. OUR FIRM RECOMMENDS ALL SITES BE EVALUATED BY A GEOTECHNICAL FIRM PRIOR TO PLACEMENT OF FOUNDATIONS
 - PROVIDE CARBON MONOXIDE AND SMOKE DETECTORS PER IRC REQUIREMENTS
 - ANY PORTION OF THESE PRINTS ISSUED WITHOUT A MIN. OF S-1.0 S-4.0 SHALL NOT BE CONSIDERED A COMPLETE SET OF CONSTRUCTION DOCUMENTS
 - FOUNDATION SHALL BE CONSTRUCTED PER JOHNSON COUNTY RESIDENTIAL FOUNDATION GUIDELINE. SEE ATTACHED ICE AND WATER SHIELD AS REQUIRED PER IRC

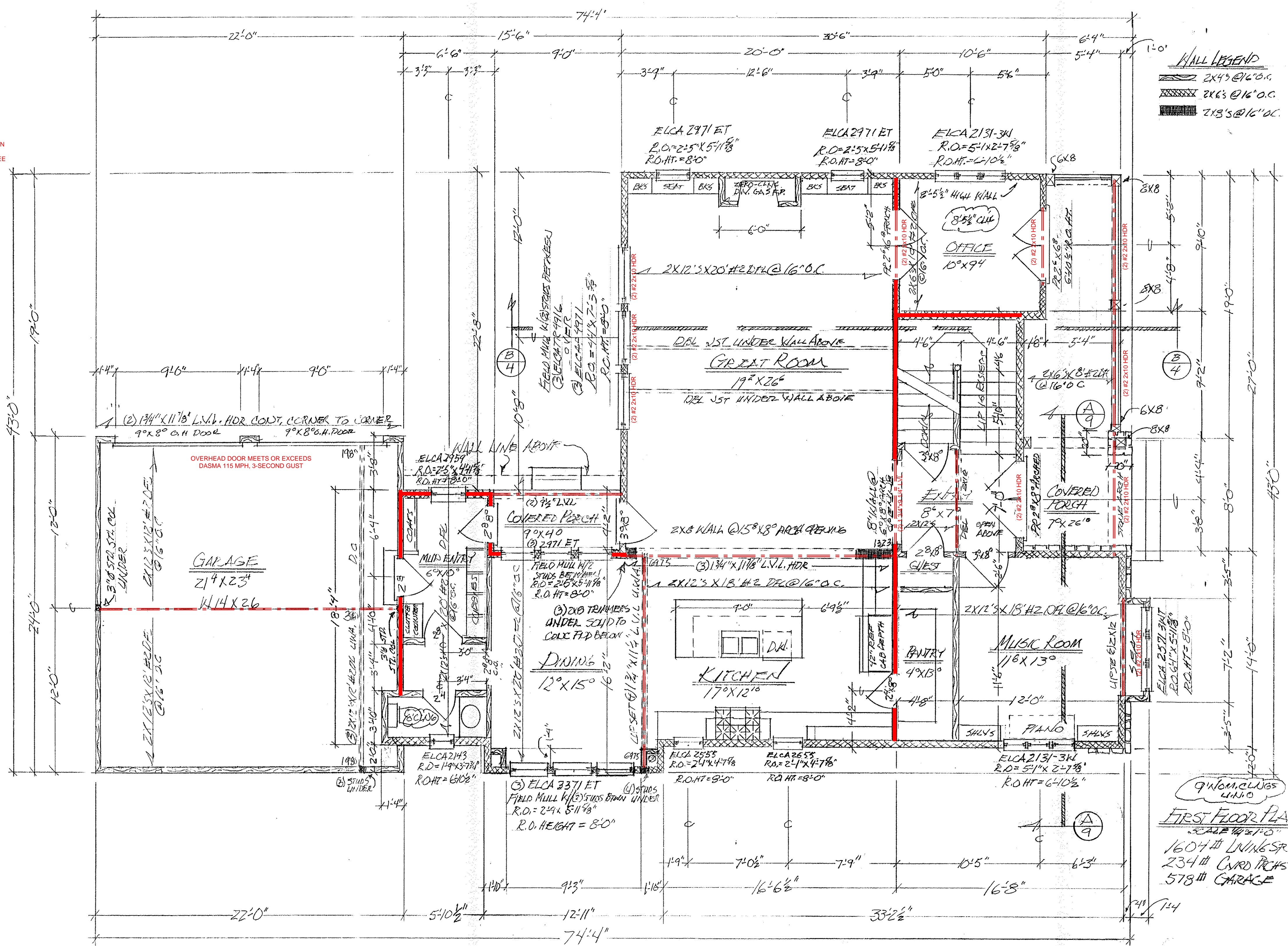
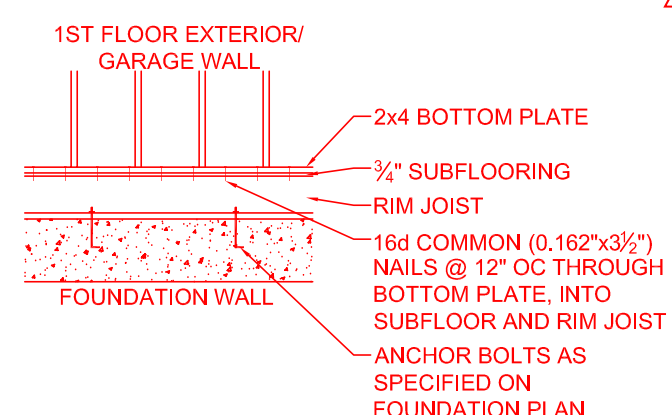
TYPICAL TIE DOWN AT NARROW WALL



BRACED WALLS:
 SEE CALCULATIONS ON SHEET S-2.0, PER ASCE 7-16 REQUIREMENTS AS ALLOWED BY IRC 2018 R301.2.1

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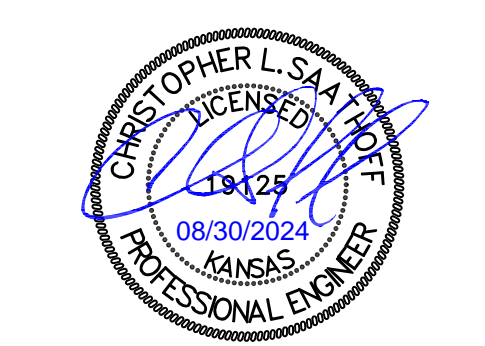
INTERIOR BRACED WALL LOCATIONS ONLY SHOWN WHEN REQUIRED BY ADDITIONAL BRACING SECTION OF CALCULATIONS ON SHEET S-2.0



WALL LEGEND
 [Symbol] 2x4's @ 16" O.C.
 [Symbol] 2x6's @ 16" O.C.
 [Symbol] 2x8's @ 16" O.C.

FIRST FLOOR PLAN
 1604# LIVING SR
 234# CURD PKGS
 578# GARAGE

HD ENGINEERING & DESIGN, INC.
 1166 W. 75TH STREET
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 913.631.2222
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11/05/2024 CITY COMMENTS

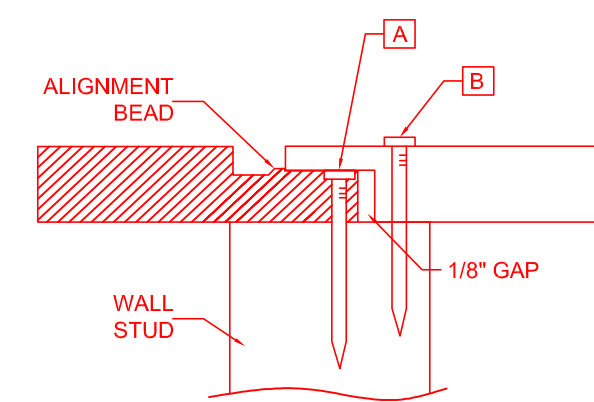
DAN WESSEL DESIGN, INC.
 HILEMAN RESIDENCE
 4831 BOOTH ST., WESTWOOD, KS

HD#: 48128
 DATE: 08/30/2024
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PLANS DRAWN BY OTHERS

S-0.4



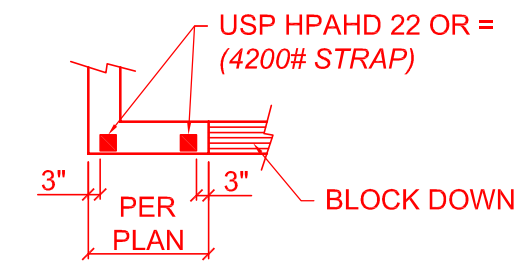
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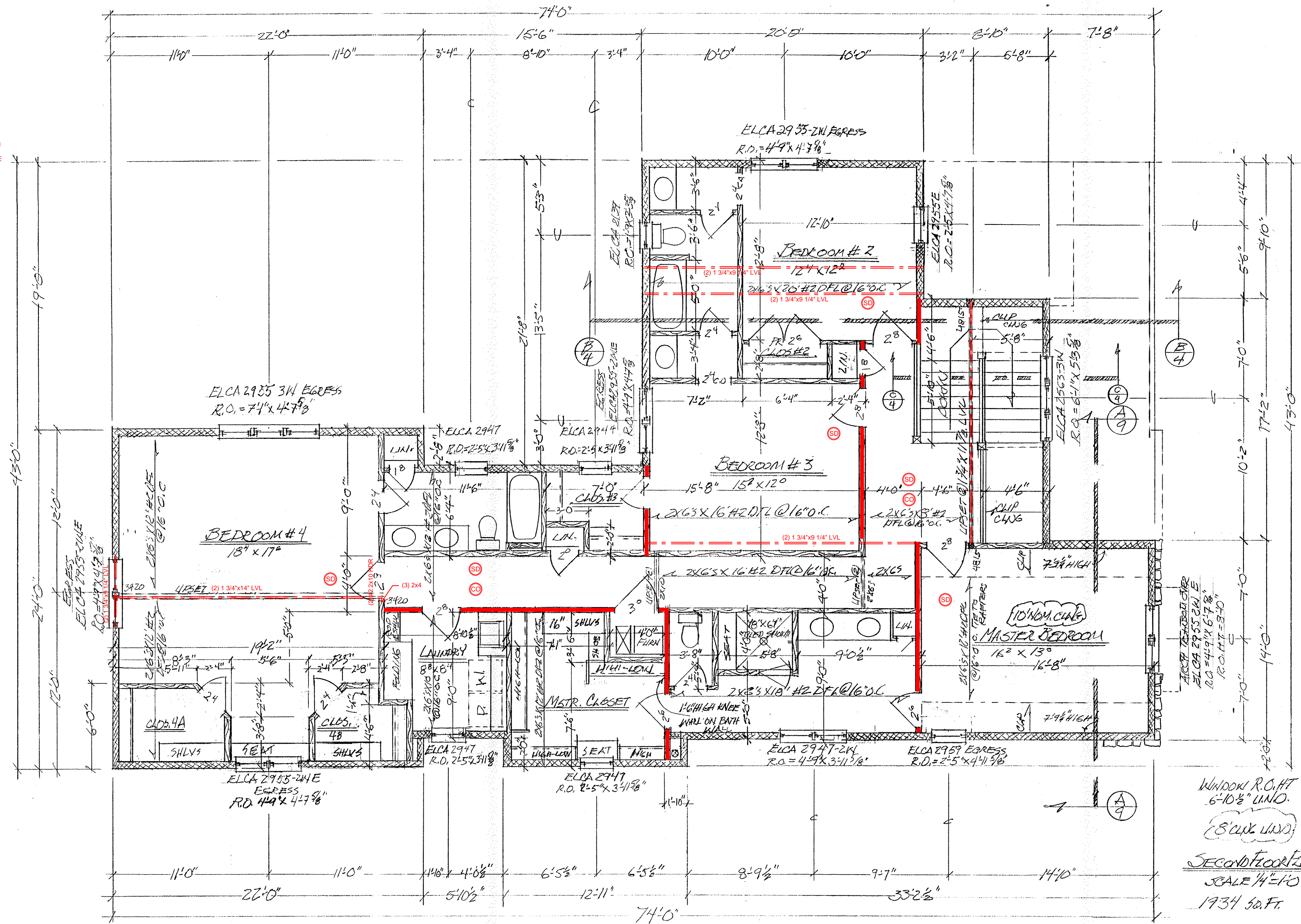
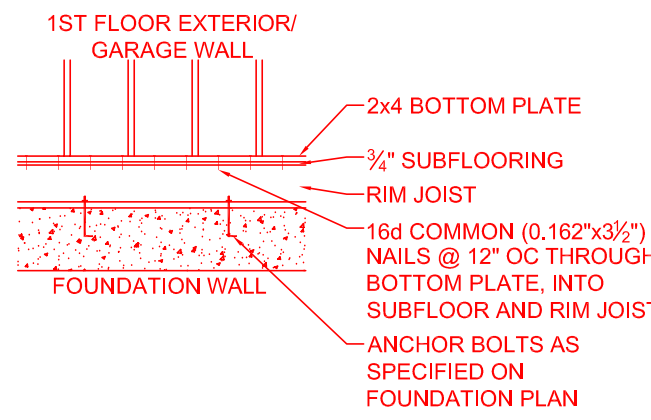
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TYPICAL TIE DOWN AT NARROW WALL



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WINDOW R.O. HT
 6'-10 1/2" UNO.
 (SINK UNO)
 SECOND FLOOR PLAN
 SCALE 1/4"=1'-0"
 1734 SQ. FT.

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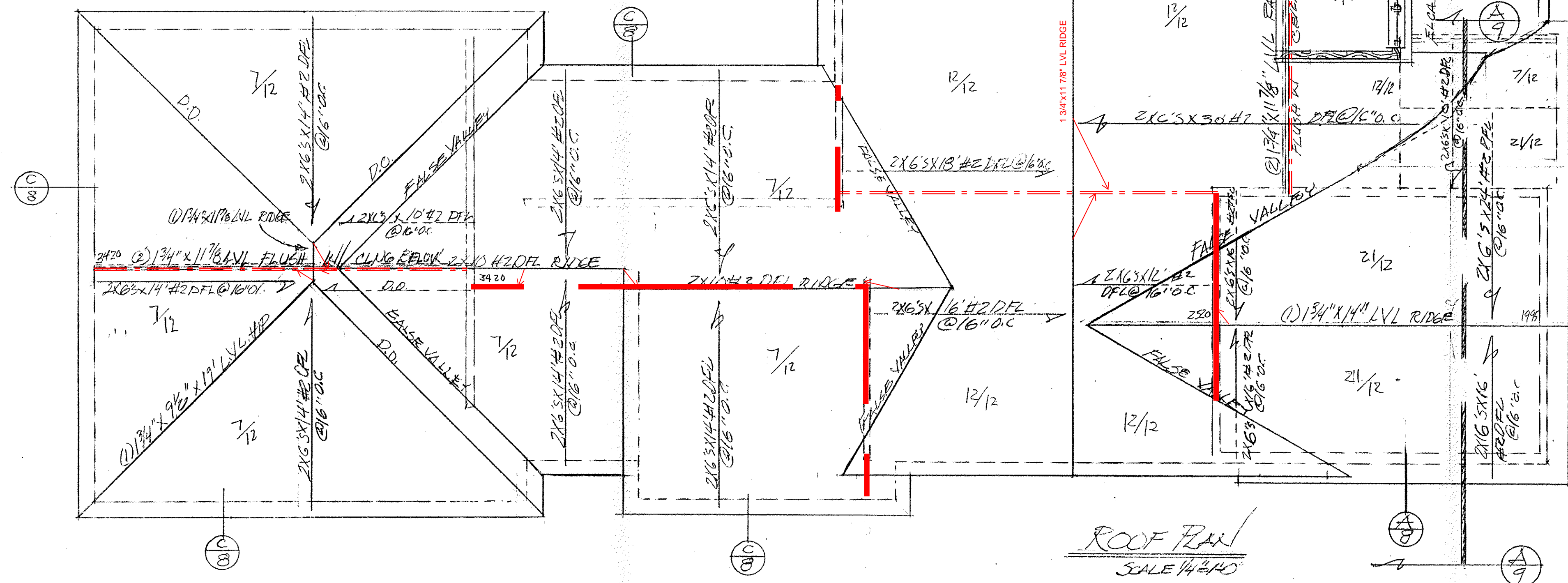
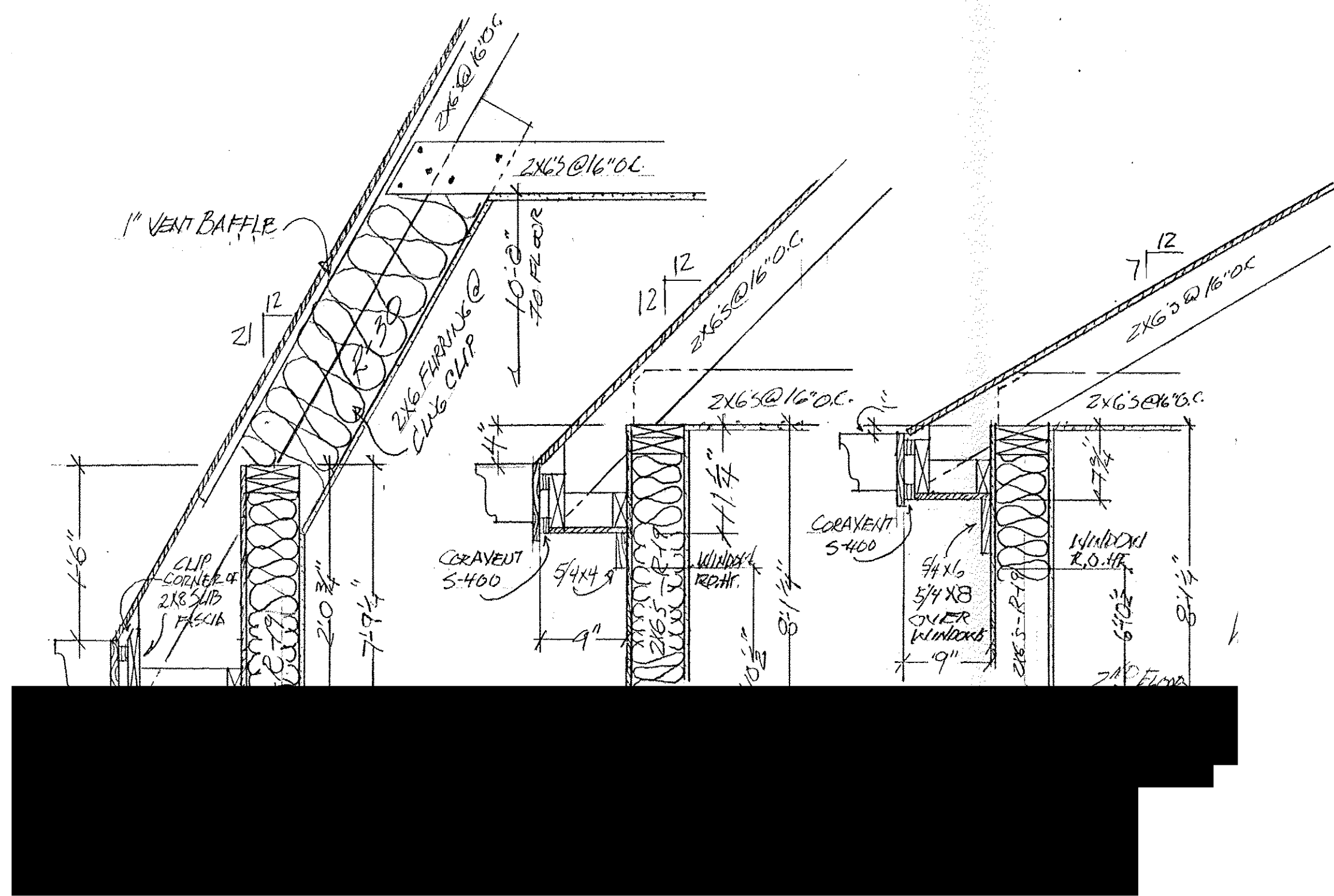
DAN WESSEL DESIGN, INC.
 HILEMAN RESIDENCE
 4831 BOOTH ST., WESTWOOD, KS
 STRUCTURAL DETAILS & NOTES

HD#: 48128
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PLANS DRAWN BY OTHERS

S-0.5



NOTES

ROOF DESIGNED FOR LIGHT ROOF COVERING 30PSF TOTAL LOAD [10PSF DL, 20PSF LL (SL)]

RAFTERS (DOUG-FIR, OR EQUAL): SEE SPAN CHARTS BELOW

CODE MINIMUM	RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	@24" O.C.	11'-11"	
#2-2x6	@18" O.C.	14'-1"	
#2-2x8	@24" O.C.	15'-1"	
#2-2x8	@18" O.C.	18'-5"	
#2-2x10	@24" O.C.	18'-5"	
#2-2x10	@18" O.C.	22'-6"	

NOTE: CODE MINIMUM L/240 DEFLECTION

GREATER THAN CODE

GREATER THAN CODE	RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	@24" O.C.	8'-6"	
#2-2x6	@18" O.C.	9'-9"	
#2-2x8	@24" O.C.	11'-3"	
#2-2x8	@18" O.C.	12'-9"	
#2-2x10	@24" O.C.	14'-3"	
#2-2x10	@18" O.C.	16'-3"	

DEFLECTION = L/360 LIVE LOAD, L/240 TOTAL LOAD VAULTS TO BE 2x10 DEPTH

ALL RIDGES, HIP, AND VALLEYS NOT MARKED SHALL BE (1) NOMINAL SIZE LARGER THAN THE INTERSECTING RAFTERS

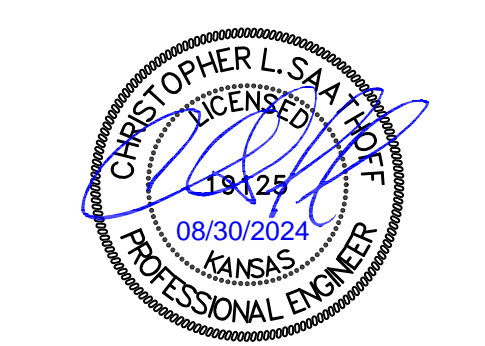
PURLINS ARE 2x6 MIN. PURLIN STRUTS ARE AT 4'-0" O.C. PURLIN STRUTS SHALL BE INSTALLED AT NOT LESS THAN A 45 DEGREE ANGLE WITH THE HORIZONTAL. ALL PURLIN STRUTS SHALL HAVE A MAXIMUM UNBRACED LENGTH OF 8'-0". PURLIN STRUTS SHALL BE CONSTRUCTED IN A "T" CONFIGURATION AND PER THE FOLLOWING CHART

PURLIN STRUT	MAX PURLIN STRUT LENGTH
(2) 2x4	8'-0"
(1) 2x4 & (1) 2x6	12'-0"
(1) 2x6 & (1) 2x8	20'-0"
(2) 2x6 & (1) 2x8	30'-0"
CONSULT ARCH.ENGR.	>30'-0"

SEE DETAILS 1, 5, 6, 7, 11, 12, 13, & 14 ON S-1.2 FOR ROOF FRAMING AND INSULATION OPTIONS

- PURLIN
- LOAD BEARING WALL
- LOAD BEARING BEAM/ GIRDER PER PLAN

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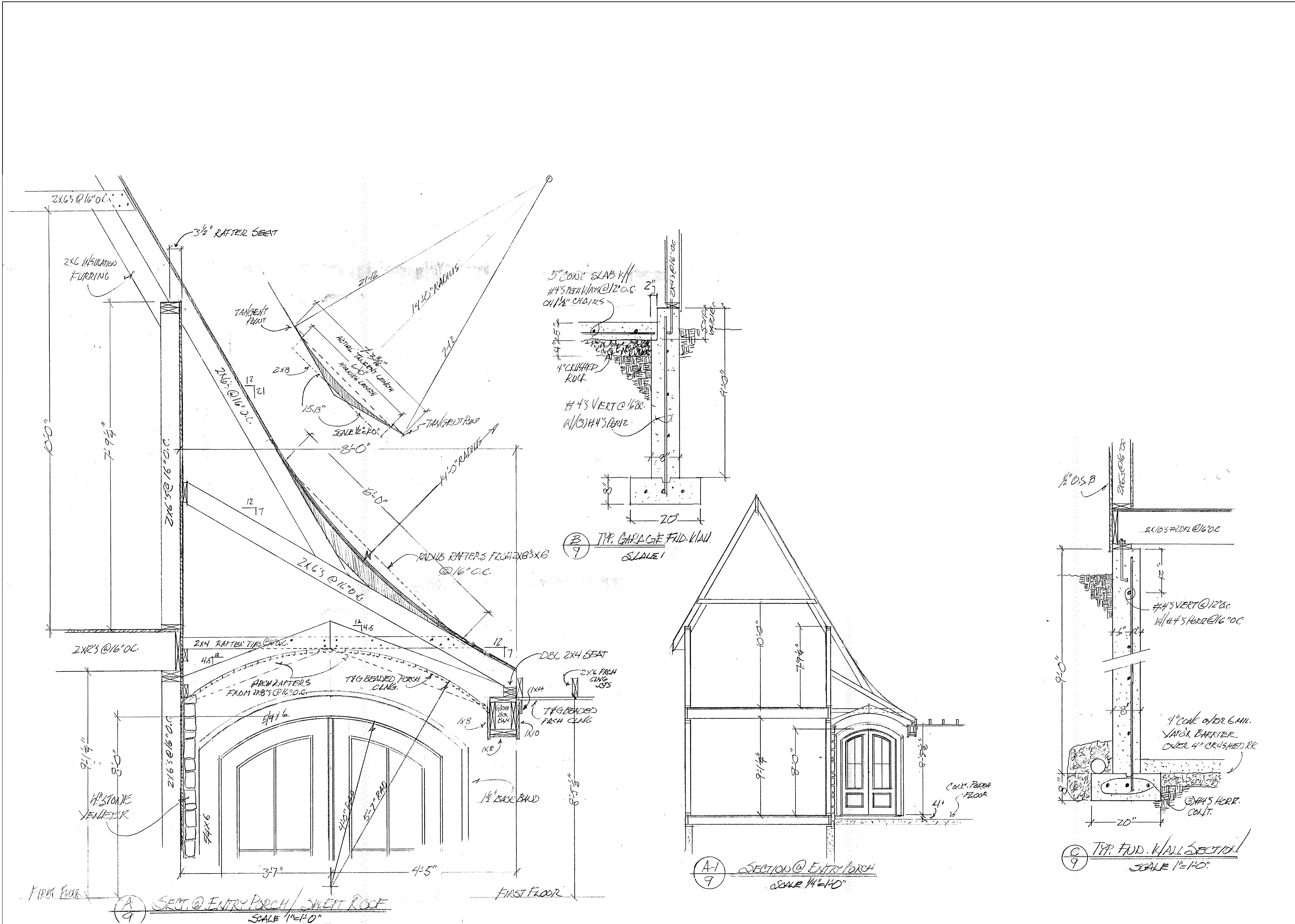
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S-0.6



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S-0.7

ALLOWABLE LOADS FOR PNEUMATIC OR MECHANICALLY DRIVEN NAILS AND STAPLES

FASTENER DESCRIPTION	NAIL GUN NAILS/ WIRE DIAMETER	WIRE GAGE	PENETRATION REQUIRED INTO MAIN MEMBER FOR LATERAL STRENGTH (INCHES)	ALLOWABLE LOADS (POUNDS)			
				LATERAL STRENGTH		WITHDRAWAL STRENGTH	
				SP	DF/L	SP	DF/L
16 GA. STAPLE	.063	16	1	51		36	32
15 GA. STAPLE	.072	15	1	64		42	37
14 GA. STAPLE	.080	14	1	75		46	41
6d COOLER NAIL	.092	13	1	46		27	23
6d SINKER NAIL							
6d BOX NAIL							
6d CASING NAIL	.099	12-1/2	1-1/8	61	55	31	24
7d COOLER NAIL							
6d COMMON NAIL							
8d COOLER NAIL							
8d SINKER NAIL	.113	11-1/2	1-1/4	79	72	35	28
8d BOX NAIL							
8d CASING NAIL							
6d RING SHANK NAIL							
6d SCREW SHANK NAIL	.120	11	1-3/8	89	81	41	32
8d RING SHANK NAIL							
8d SCREW SHANK NAIL							
10d COOLER NAIL							
10d SINKER NAIL	.128	10-1/2	1-1/2	89	81	36	31
12d SHORT							
10d BOX NAILS							
12d BOX NAILS	.128	10-1/2	1-1/2	101	93	40	31
10d CASING NAILS							
8d COMMON NAILS	.131	10-1/4	1-1/2	106	97	41	32
16d SHORT							
12d SINKERS	.135	10	1-1/2	113	103	42	33
16d BOX NAILS							
10d RING SHANK NAILS							
10d SCREW SHANK NAILS	.135	10	1-5/8	113	103	46	36
12d RING SHANK NAILS							
12d SCREW SHANK NAILS							
10d COMMON NAILS							
12d COMMON NAILS							
16d SINKER NAILS	.148	9	1-5/8	128	118	46	36
20d BOX NAILS							
30d BOX NAILS							
16d RING SHANK NAILS	.148	9	1-3/4	128	118	50	40
16d SCREW SHANK NAILS							
16d COMMON NAILS	.162	8	1-3/4	154	141	50	40
40d BOX NAILS							
20d RING SHANK NAILS	.177	7	2-1/8	178	163	59	47
20d SCREW SHANK NAILS							
20d SINKER NAILS	.177	7	2-1/8	178	163	54	43
20d COMMON NAILS	.148	9	2-1/8	170	166	59	47
30d SINKER NAILS							

MINIMUM SHEATHING REQUIREMENTS

BUILDING COMPONENT	MATERIAL
ROOF SHEATHING	7/16" PLYWOOD 1 x 4 #3 FURRING
FLOOR SHEATHING	3/4" T&G YELLOW PINE PLYWOOD
WALL COVERING	1/2" GYPSUM SHEATHING
CEILING COVERING	1/2" GYPSUM SHEATHING
EXTERIOR WALL SHEATHING	7/16" APA RATED SHEATHING RATED PANEL SIDING, RATED 16" O.C. 7/16" THICK

ALL SHEATHING MATERIALS TO BE APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED REFER TO TABLE R602.3(1) ON S-1.1 FOR FASTENING SCHEDULE

HIP/ VALLEY ALLOWABLE SPAN TABLE

TYPE	MAX. UNSUPPORTED SPAN				
	2x8	2x10	2x12	1 3/4"x9 1/2" LVL	1 3/4"x11 7/8" LVL
HIP RAFTER	11'-3"	13'-3"	15'-2"	15'-8"	18'-2"
VALLEY RAFTER	8'-11"	10'-6"	12'-0"	13'-2"	15'-3"

FRAME FASTENING SCHEDULE

BUILDING COMPONENT	FASTEN TO	FASTEN WITH
RAFTERS	RIDGE / VALLEY / HIP	TOENAIL W/ (4) 16D, FACENAIL W/ (3) 16D
	PLATE	TOENAIL W/ (3) 10D
	LEDGER STRIPS SUPPORTING JOISTS OR RAFTERS	FACENAIL W/ (3) 16D
	COLLAR TIE TO RAFTERS	FACENAIL W/ (3) 10D
CEILING JOISTS	TOP PLATE	TOENAIL W/ (3) 8D @ EACH END
	WHERE CLG JST RUN PARALLEL TO RAFTERS FACENAIL TO RAFTERS W/ (3) 10D MINIMUM	
	LAPS OVER PARTITIONS	FACENAIL W/ (3) 10D
	BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE	TOENAIL W/ (3) 8D
BEAMS	BUILT-UP BEAMS, 2" LUMBER LAYERS, FACENAIL OPPOSITE SIDES, (2) @ EACH END PLUS	10D @ 32" O.C. STAGGERED, TOP & BOTTOM, OPPOSITE SIDES
	BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES	(2) ROWS @ 12" O.C.
	BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER	16D @ 16" O.C. ALONG EDGES
	BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
	BEARING	TOENAIL W/ (2) 18D @ EACH END
	RIM JOIST TO SILL OR TOP PLATE	TOENAIL W/ 8D COMMON OR 10D BOX @ 6" O.C.
	JOIST TO SILL OR GIRDER	TOENAIL W/ (3) 8D
	JOIST TO RIM JOIST	FACENAIL W/ (3) 16D
	BRIDGING TO JOIST	TOENAIL W/ (2) 8D
FLOOR JOISTS	I-JOIST TO BEARING PLATE	TOENAIL W/ (2) 8D - ONE INTO EACH SIDE AT LEAST 1 1/2" FROM THE END
	RIM JOIST TO I-JOIST	FACENAIL W/ (2) 10D BOX - ONE INTO EACH FLANGE
	SOLE PLATE TO LSL RIM BOARD	16D BOX @ 12" O.C.
	SINGLE JOIST HANGERS*	10D FACENAILS AND TOENAILS
	DOUBLE JOIST HANGERS*	16D FACENAILS AND TOENAILS
	TOP AND SOLE PLATE TO STUD	END NAIL W/ (2) 16D
	STUD TO SOLE AND TOP PLATE	TOENAIL W/ (4) 8D
	DOUBLE TOP PLATES	FACENAIL W/ 16D @ 16" O.C.
	DOUBLE TOP PLATE LAP SPLICE	FACENAIL W/ (8) 16D
	TOP PLATE LAPS AND INTERSECTIONS	FACENAIL W/ (2) 16D
	DOUBLE STUDS	FACENAIL W/ 16D @ 24" O.C.
	BUILT-UP CORNER STUDS	FACENAIL W/ 16D - 2 ROWS @ 24" O.C.
	STEEL "X" BRACING	FACENAIL W/ (2) 16D IN EACH TOP AND BOTTOM PLATE AND (1) 8D PER STUD
WALLS	SOLE PLATE TO JOIST OR BLOCKING	FACENAIL W/ 16D @ 16" O.C.
	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PERPENDICULAR TO FRAMING	FACENAIL W/ (3) 16D @ 16" O.C. ALONG BRACED WALL PANEL
	TOP PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PERPENDICULAR TO FRAMING	TOENAIL W/ 8D @ 6" O.C. ALONG BRACED WALL PANEL
	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PARALLEL TO FRAMING, BLOCKING @ 16" O.C.	FACENAIL W/ (3) 16D @ 16" O.C. ALONG BRACED WALL PANEL AND AT EACH BLOCK
	TOP PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PARALLEL TO FRAMING, BLOCKING @ 16" O.C.	TOENAIL W/ 8D @ 6" O.C. ALONG BRACED WALL PANEL AND AT EACH BLOCK
	NON-STRUCT. SIDING OVER STRUCT. SHEATHING	(1) 6D BOX IN EACH STUD
	FIBER-CEMENT PLANK SIDING	(1) 6D GALVANIZED IN EACH STUD
	WINDOW INSTALLATION NAILING	1 3/4" - 2" RIVET NAILS @ 12" O.C. MAX.

- * JOIST HANGER NOTES:
a. NO JOIST HANGER NAILS ALLOWED FOR TOENAILS.
b. NO GUN NAILS OR SCREWS ALLOWED IN CONNECTORS.
c. TOENAILS SHALL ALWAYS BE A FULL 3" OR 3.5" NAIL.

COLUMN CONNECTION TO STEEL BEAMS SHALL BE WITH A CLIP POST CAP WITH ALL FOUR TAB EARS BENT AROUND THE BOTTOM FLANGE OF THE BEAM. FOR A BEARING PLATE, FOUR HOLES SHALL BE DRILLED IN THE BOTTOM FLANGE OF THE STEEL BEAM TO MATCH THE HOLE PATTERN OF THE PLATE. 1/2" x 2" BOLTS SHOULD THEN BE INSTALLED WITH A FLAT WASHER, LOCK WASHER, AND A NUT IN EACH OF THE HOLES. THE POST CAP MAY BE WELDED TO THE STEEL BEAM IN ACCORDANCE WITH AWS D1.1-92 AS AN ALTERNATIVE, AND WOULD NEED TO BE INSPECTED BY AN AWS-CERTIFIED INSPECTOR.

DUCT SEALING METHOD, PER 2018 IRC W1103.3.2

N1103.2.2 (R403.2.2) SEALING (MANDATORY) DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.4.1 OF THIS CODE.

- EXCEPTIONS:
1. AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED WITHOUT ADDITIONAL JOINT SEALS.
2. WHERE A DUCT CONNECTION IS MADE THAT IS PARTIALLY INACCESSIBLE, THREE SCREWS OR RIVETS SHALL BE EQUALLY SPACED ON THE EXPOSED PORTION OF THE JOINT SO AS TO PREVENT A HINGE EFFECT.
3. CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS AND SEAMS IN DUCTS OPERATING AT STATIC PRESSURE LESS THAN 2 INCHES OF WATER COLUMN (500 Pa) PRESSURE CLASSIFICATION SHALL NOT REQUIRE ADDITIONAL CLOSURE SYSTEMS.
DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING:
1. POST CONSTRUCTION TEST: TOTAL LEAKAGE SHALL NOT BE LESS THAN OR EQUAL TO 4 CFM (113.3 L/MIN) PER 100FT² (9.29m²) OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. (25 Pa) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.
2. ROUGH-IN TEST: TOTAL AIR LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM (113.3 L/MIN) PER 100FT² (9.29m²) OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. (25 Pa) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, TOTAL AIR LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM (85 L/MIN) PER 100FT² (9.29m²) OF CONDITIONED FLOOR AREA.
EXCEPTION: THE TOTAL LEAKAGE IS NOT REQUIRED FOR DUCTS AND AIR HANDLERS LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE.

GENERAL NOTES:

- PLANS SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE, ICC AS ADOPTED BY AHJ, AND ALL AMENDMENTS AS ADOPTED BY THE AHJ. IF ANY CHANGES OR DEVIATIONS ARE MADE FROM THESE PLANS THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AUTHORITY AND THE ENGINEER TO EVALUATE THE CHANGES AND MAKE ANY APPROPRIATE MODIFICATIONS TO THE PLANS.
- WHERE DISCREPANCIES EXIST BETWEEN THE STANDARD COMMENTS, NOTES FOR THE DESIGN PROFESSIONAL OR THE CODE, THE MOST RESTRICTIVE SHALL APPLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE OWNER/BUILDER AND THE AHJ WITH A SET OF PLANS THAT MEET AHJ AND CODE REQUIREMENTS FOR A SINGLE SITE CONSTRUCTION PROJECT. UNLESS REQUESTED BY OUR CLIENT, CODE/AHJ MINIMUM DESIGNS WILL BE UTILIZED. ALSO, UNLESS REQUESTED BY THE OWNER, OUR FIRM CAN NOT AND WILL NOT BE AUTHORIZED TO VISIT THE SITE TO EVALUATE THE SITE OR ANY CONSTRUCTION FOR THIS PROJECT. IMPLEMENTATION OF ALTERNATES TO THE DESIGNS INCLUDING BUT NOT LIMITED TO PIER DESIGNS, FOUNDATION ALTERATIONS, OR ANY STRUCTURAL CHANGES NOT PROVIDED BY HD ENGINEERING OR A PROFESSIONAL REFERRED BY HD ENGINEERING SHALL RELEASE HD ENGINEERING FROM ALL LIABILITY ASSOCIATED WITH THIS DESIGN.
- OUR FIRM HIGHLY RECOMMENDS THAT ANY SITE WITH GREATER THAN A 15% GRADE, ANY SITE WHERE A PREVIOUS STRUCTURE WAS LOCATED, OR ANY SITE WITH POTENTIAL FILL MATERIAL OR A POTENTIAL SOIL BEARING CAPACITY BELOW 1500 PSF SHOULD BE EVALUATED BY OUR FIRM OR AN HD ENGINEERING REFERRED GEOTECHNICAL FIRM PRIOR TO PLACING FOOTINGS. THE ATTACHED PLANS HAVE BEEN DESIGNED WITH THE UNDERSTANDING THAT OUR FIRM HAS NOT AND CAN NOT VISIT OR INSPECT THE SITE WITHOUT WRITTEN CONSENT/REQUEST OF THE OWNER/BUILDER. DUE TO THIS FACT, OUR FIRM CAN ONLY DESIGN THE ATTACHED PLANS TO CERTAIN CODE REQUIREMENTS WHICH ARE DETAILED THROUGHOUT THE PLAN AND ATTACHED DETAIL SHEETS, IF THE OWNER DESIRES GREATER THAN CODE DESIGNS THAT REQUEST MUST BE MADE CLEARLY AND IN WRITING PRIOR TO ENGINEERING OF THE PLAN.
- DUE TO THE WIDE VARIETY OF SOIL CONDITIONS, PLASTICITY INDEXES, AND SOIL BEARING CAPACITIES IN OUR AREA, OUR FIRM RECOMMENDS ALL SITES BE EVALUATED BY HD ENGINEERING OR AN HD ENGINEERING REFERRED GEOTECHNICAL FIRM PRIOR TO PLACEMENT OF ANY "STANDARD" FOUNDATIONS.

FOUNDATION NOTES:

- THE FOUNDATION DESIGN SHALL COMPLY WITH THE ENFORCING JURISDICTION RESIDENTIAL FOUNDATION STANDARD IN LIEU OF ENGINEERING REPORT REQUIREMENTS BASED ON ACTUAL SITE CONDITIONS.
- FOUNDATION WALLS SHALL BE DAMP-PROOFED PER IRC SECTION R406.
- PROVIDE A MINIMUM 4" PERFORATED DRAIN AROUND USABLE SPACE BELOW GRADE OR OTHER EQUIVALENT MATERIALS PER IRC SECTION 405.1. THE PIPE SHALL BE COVERED WITH NOT LESS THAN 6" OF WASHED GRAVEL OR CRUSHED ROCK. THE DRAIN SHALL DAYLIGHT TO THE EXTERIOR BELOW THE FLOOR LEVEL OR TERMINATE IN A MINIMUM 20 GALLON SUMP PIT.
- FOUNDATION DESIGN SHALL BE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.
- FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS, LOCATED A MINIMUM OF 3" CLEAR FROM THE BOTTOM. FOOTINGS SHALL BE A MINIMUM OF 36" BELOW GRADE FOR FROST PROTECTION.
- COLUMN PADS SHALL BE A MINIMUM OF 24"x24"x8" WITH (3) #4 BARS EACH WAY.
- FOUNDATION WALLS SHALL BE A MINIMUM OF 8" THICK WITH MINIMUM #4 BARS @ 24" O.C. HORIZONTAL AND VERTICAL WITH THE TOP BAR WITHIN 8" OF THE TOP OF THE WALL UNLESS NOTED OTHERWISE ON PLAN.
- REINFORCEMENT SHALL LAP A MINIMUM OF 24".
- INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB.
- INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING, SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE BY A SEPARATION OF 1/2".
- CONCRETE FLOOR SLABS ON GRADE SHALL BE A MINIMUM OF 4" THICK OVER A MINIMUM 4" BASE OF SAND, GRAVEL, OR CRUSHED STONE. BASEMENT SLABS SHALL HAVE A MINIMUM 6 MIL POLYETHYLENE OR APPROVED VAPOR RETARDER WITH JOINTS LAPPED NOT LESS THAN 6" AND SHALL BE PLACED BETWEEN THE FLOOR SLAB AND THE BASE COURSE.
- FLOOR SLABS SUPPORTED BY FILL CONSISTING OF MORE THAN 24" OF GRANULAR FILL OR 8" OF EARTH SHALL BE REINFORCED PER A SEPARATE ENGINEERING DESIGN.
- BASEMENT FOUNDATION SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH MINIMUM 1/2" DIAMETER ANCHOR BOLTS EMBEDDED AT LEAST 7" INTO THE CONCRETE AND SPACED NOT MORE THAN 3' ON CENTER AND WITHIN 12" OF EACH END OF THE PLATE SECTION PER IRC SECTION R403.1.6.
- FOUNDATION WINDOW WELLS FOR SECONDARY MEANS OF EGRESS SHALL PROVIDE A MINIMUM 3'x3' HORIZONTAL AREA.
- THE BASE OF ALL FOOTING EXCAVATIONS SHOULD BE FREE OF ALL WATER AND LOOSE MATERIAL PRIOR TO PLACING CONCRETE. CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATING SO THAT EXCESSIVE DRYING OR DISTURBANCE OF BEARING MATERIALS DOES NOT OCCUR. SHOULD THE MATERIALS AT BEARING LEVEL BECOME EXCESSIVELY DRY OR SATURATED, WE RECOMMEND THAT THE AFFECTED MATERIAL BE REMOVED PRIOR TO PLACING CONCRETE. IT IS RECOMMENDED THAT ALL FOOTING EXCAVATIONS BE EVALUATED AND TESTED BY A GEOTECHNICAL ENGINEER IMMEDIATELY PRIOR TO PLACEMENT OF FOUNDATION CONCRETE. UNSUITABLE AREAS IDENTIFIED AT THIS TIME SHOULD BE CORRECTED. CORRECTIVE PROCEDURES WOULD BE DEPENDENT UPON CONDITIONS ENCOUNTERED AND MAY INCLUDE THE DEEPENING OF FOUNDATION ELEMENTS, OR THE UNDERCUTTING OF UNSUITABLE MATERIALS AND REPLACEMENT WITH ENGINEERED FILL.

STAIRWAY NOTES:

- STAIRWAYS SHALL PROVIDE A MAXIMUM 7 3/4" RISE AND A MINIMUM 10" RUN.
- PROVIDE MINIMUM 36" GUARDRAILS ON THE OPEN SIDES OF RAISED FLOORS, PORCHES, AND BALCONIES. PROVIDE MINIMUM 34" GUARDRAILS ON THE OPEN SIDES OF STAIRWAYS LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW. GUARDRAIL ENCLOSURES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL PATTERNS THAT DO NOT ALLOW PASSAGE OF A 4" DIAMETER SPHERE.
- EACH STAIRWAY OF 3 OR MORE RISERS SHALL PROVIDE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE NOSING OF THE TREADS.
- HANDRAILS SHALL HAVE A CIRCULAR CROSS-SECTION OF 1 1/4" MINIMUM TO 2" MAXIMUM OR ANOTHER APPROVED GRASPABLE SHAPE PER IRC SECTION R311.7.8.5.
- PROVIDE A MINIMUM 6'-8" OF HEADROOM CLEARANCE IN STAIRWAYS.
- ENCLOSED ACCESSIBLE SPACE UNDER STAIRWAYS SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON THE ENCLOSURE SIDE.
- WINDERS SHALL PROVIDE A MINIMUM TREAD OF 6" AT ANY POINT WITHIN CLEAR WIDTH OF STAIRS. WINDER TREAD PROPORTION IS TO COMPLY WITH IRC SECTION R311.7.5.2.1.

GLAZING NOTES:

- GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS. GLASS IN STORM DOORS, INDIVIDUAL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARCH OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS WITHIN 60" OF THE FLOOR, WALLS ENCLOSED STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS AND WHIRLPOLS, GLAZING IN FIXED OR OPERABLE PANELS EXCEEDING 9 S.F. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".
- IN DWELLING UNITS WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72" ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4" DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED WITHIN 24" OF THE FINISHED FLOOR.

FRAMING NOTES:

- ALL LUMBER SIZES ARE FOR DOUGLAS FIR-LARCH UNLESS NOTED OTHERWISE.
- ALL HEADERS ARE TO BE A MINIMUM OF (2) #2 2x10S UNLESS NOTED OTHERWISE.
- BLOCK CANTILEVERS, DOOR JAMBS, AND OVER BEAMS.
- ALL HEADERS/BEAMS ARE TO BEAR ON A MINIMUM OF (2) 2x4 POSTS UNLESS NOTED OTHERWISE.
- INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING, SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE.
- WHERE JOISTS RUN PARALLEL TO FOUNDATION WALLS, SOLID BLOCKING FOR A MINIMUM OF (2) JOIST SPACES SHALL BE PROVIDED AT A MAXIMUM OF 4' ON CENTER TO TRANSFER LATERAL LOADS ON THE WALL TO THE FLOOR DIAPHRAGM. THE BLOCKING SHALL BE SECURELY NAILED TO THE JOISTS AND FLOORING. NAIL JOISTS AND BLOCKING TO SILL PLATE WITH (4) 10D NAILS.
- IF DUCTS ARE INSTALLED IN THE FIRST JOIST SPACE(S), NAIL 2x4S FLAT AT 4' ON CENTER WITHIN THE JOIST SPACE(S) AND THEN PROVIDE SOLID BLOCKING, INSTALLED UPRIGHT, IN THE NEXT TWO JOIST SPACES. SECURE THE 2x4S TO THE SILL PLATE WITH (4) 10D NAILS.
- ALL SILLS AND SLEEPERS SUPPORTED ON CONCRETE OR MASONRY AND FURRING ATTACHED TO CONCRETE OR MASONRY SHALL BE OF DECAY RESISTANT MATERIALS.
- JOISTS UNDER BEARING PARTITIONS SHALL BE SIZED TO CARRY THE DESIGN LOAD IN ACCORDANCE WITH IRC SECTION R502.4.
- JOIST FRAMING FROM OPPOSITE OVER BEARING SUPPORTS SHALL LAP A MINIMUM OF 3" AND SHALL BE NAILED TOGETHER WITH MINIMUM 10D FACE NAILS.
- JOISTS FRAMING INTO A WOOD GIRDER OR BEAM SHALL BE SUPPORTED BY APPROVED FRAMING ANCHORS OR ON MINIMUM 2"x2" LEDGER STRIPS.
- HEADER AND TRIMMERS SHALL BE OF SUFFICIENT CROSS SECTION TO SUPPORT THE FLOOR FRAMING. TRIMMER JOISTS SHALL BE DOUBLED WHEN THE HEADER IS SUPPORTED MORE THAN 3' FROM THE TRIMMER JOIST BEARING. WHEN THE HEADER SPAN EXCEEDS 4', THE HEADER AND TRIMMER SHALL BE DOUBLED.
- JOISTS AT SUPPORTS SHALL BE SUPPORTED Laterally AT THE ENDS BY FULL-DEPTH SOLID BLOCKING NOT LESS THAN 2" IN NOMINAL THICKNESS OR BY ATTACHMENT TO A HEADER, BAND, OR RIM JOIST OR TO AN ADJOINING STUD OR OTHERWISE PROVIDED WITH LATERAL SUPPORT TO PREVENT ROTATION.
- ALL WALL COVERINGS ARE TO COMPLY WITH IRC SECTIONS 702 AND 703.
- ALL RAFTER / COLLAR TIES ARE TO COMPLY WITH IRC SECTION 802.
- ALL RAFTERS ARE TO HAVE 2x4 COLLAR TIES @ 48" O.C. IN THE UPPER 1/3 OF DISTANCE BETWEEN THE CEILING AND ROOF.
- BLOCKING BETWEEN JOISTS UNDER A PERPENDICULAR LOAD-BEARING WALL IS NOT REQUIRED.
- THE BOTTOM OF ALL FLOOR ASSEMBLIES SHALL BE PROVIDED WITH A 1/2" GYPSUM WALLBOARD MEMBRANE (IF REQUIRED BY LOCAL CODE).
- I-JOIST AND FLOOR TRUSS SYSTEMS SHALL BE FIRE PROTECTED PER IRC AS ADOPTED BY AHJ.
- STUDS SHALL BE CONTINUOUS FROM THE FLOOR TO THE ROOF / CEILING DIAPHRAGM PER IRC SECTION 602.3.

CONCRETE NOTES:

- CONCRETE SHALL BE AIR-ENTRAINED (5%-7%) WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2500 PSI FOR BASEMENT AND INTERIOR FLOOR SLABS, 3000 PSI FOR BASEMENT AND FOUNDATION WALLS, AND 3500 PSI FOR PORCHES, CARPORTS AND GARAGE FLOOR SLABS.

EMERGENCY EGRESS AND RESCUE NOTES:

- PROVIDE ONE WINDOW FOR EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 S.F. WITH A MINIMUM OPENABLE HEIGHT OF 24" AND BOTTOM OF 21". IN ADDITION, THE OPENABLE PORTION OF EGRESS WINDOWS SHALL NOT EXCEED 44" ABOVE THE ADJOINING FLOOR OR PERMANENT STEP.
- PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA, AND ON EACH FLOOR INCLUDING BASEMENTS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.
- PROVIDE CARBON MONOXIDE ALARMS AS REQUIRED PER IRC. CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA, WHERE FUEL-BURNING APPLIANCES ARE LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED IN THE BEDROOM.

GARAGE NOTES:

- THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS OR SLOPE TO A TRENCH OR UNTRAPPED DRAIN THAT DISCHARGES DIRECTLY TO THE EXTERIOR ABOVE GRADE.
- DOORS BETWEEN THE GARAGE AND DWELLING - MINIMUM 1 3/8" THICK SOLID WOOD, MINIMUM 1 3/8" THICK SOLID OR HONEY-COMB-CORE STEEL DOOR, OR 20-MINUTE FIRE-RATED EQUIPPED WITH A SELF-CLOSING DEVICE PER IRC SECTION R302.5.1.
- GARAGE VEHICLE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET THE 115-MPH 3-SECOND GUST LOADING PER DASHA 108 AND ASTM E 330-96 PER IRC SECTION R301.2.1.
- THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY MINIMUM 5/8" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE, THE FLOOR/CEILING ASSEMBLY SHALL BE PROTECTED WITH MINIMUM 5/8" TYPE X GYPSUM BOARD ON THE GARAGE CEILING. WHERE A FLOOR/CEILING SPACE IS PROVIDED ABOVE THE GARAGE, COLUMNS AND BEAMS SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED WITH 5/8" GYPSUM BOARD OR EQUIVALENT.
- GARAGE DOOR H-FRAME FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM FLOOR TO CEILING ATTACHED WITH 1 1/2"x0.120" NAILS AT 7" ON CENTER STAGGERED WITH (7) 3 1/2"x0.120" NAILS THROUGH THE JAMB INTO THE HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT OF THE COUNTER BALANCE SYSTEM.
- ANY ATTACHED GARAGE TO THE MAIN HOUSE SHALL BE PROVIDED WITH A SINGLE DETECTOR. THE HEAT DETECTOR SHALL BE HARDWIRED AND INTERCONNECTED WITH THE HOUSEHOLD SMOKE ALARM SYSTEM. THE HEAT DETECTOR SHALL BE LISTED FOR THE AMBIENT ENVIRONMENT AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

MECHANICAL/INSULATION:

- BUILDING ENVELOPE INSULATION SHALL COMPLY WITH IRC TABLE N1102.1.2 OR THE 2018 IECC. (SEE S-6.0 FOR MORE DETAILS)

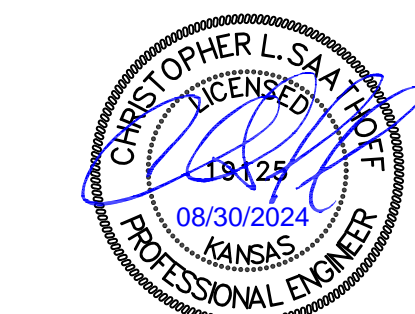
VENTILATION:

- ENCLOSED ATTICS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. VENTILATING OPENINGS SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE MESH, WITH 1/8" TO 1/4" OPENINGS. THE TOTAL FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150th OF THE AREA OF SPACE VENTILATED. WHERE THE VENTILATORS ARE LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED, THE REQUIRED AREA MAY BE REDUCED TO 1/300th.

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STRUCTURAL

TABLE R602.3(1) FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION
ROOF			
1	BLOCKING BETWEEN CEILING JOISTS OR RAFTERS TO TOP PLATE	4-8D BOX (2 1/2" x 0.113"); OR 3-8D COMMON (2 1/2" x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	TOE NAIL
2	CEILING JOISTS TO PLATE		PER JOIST, TOE NAIL
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (SEE SECTION R802.5.2 AND TABLE R802.5.2)	4-10D BOX (3" x 0.128"); OR 3-16D COMMON (3 1/2" x 0.162"); OR 4-3" x 0.131" NAILS	FACE NAIL
4	CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT) (SEE SECTION R802.5.2 AND TABLE R802.5.2)	TABLE R802.5.2	FACE NAIL
5	COLLAR TIE TO RAFTER, FACE NAIL OR 1 1/4" x 20 GA. RIDGE STRAP TO RAFTER	4-10D BOX (3" x 0.128"); OR 3-10D COMMON (3" x 0.148"); OR 4-3" x 0.131" NAILS	FACE NAIL EACH RAFTER
6	RAFTER OR ROOF TRUSS TO PLATE	3-16D BOX NAILS (3 1/2" x 0.135"); OR 3-10D COMMON NAILS (3" x 0.148"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS	2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS
7	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS OR ROOF RAFTER TO MINIMUM 2" RIDGE BEAM	4-16D (3 1/2" x 0.135"); OR 3-10D COMMON (3" x 0.148"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS 3-16D BOX (3 1/2" x 0.135"); OR 2-16D COMMON (3 1/2" x 0.162"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	TOE NAIL END NAIL
WALL			
8	STUD TO STUD (NOT BRACED WALL PANELS)	16D COMMON (3 1/2" x 0.162") 10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS	24" O.C. FACE NAIL 16" O.C. FACE NAIL
9	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16D BOX (3 1/2" x 0.135"); OR 3" x 0.131" NAILS	12" O.C. FACE NAIL
10	BUILT-UP HEADER (2" TO 2" HEADER WITH 1/2" SPACER)	16D COMMON (3 1/2" x 0.162") 16D BOX (3 1/2" x 0.135")	16" O.C. EACH EDGE FACE NAIL 12" O.C. EACH EDGE FACE NAIL
11	CONTINUOUS HEADER TO STUD	5-8D BOX (2 1/2" x 0.113"); OR 4-8D COMMON (2 1/2" x 0.131"); OR 4-10D BOX (3" x 0.128")	TOE NAIL
12	TOP PLATE TO TOP PLATE	16D COMMON (3 1/2" x 0.162") 10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS	16" O.C. FACE NAIL 12" O.C. FACE NAIL
13	DOUBLE TOP PLATE SPLICE	8-16D COMMON (3 1/2" x 0.162"); OR 12-16D BOX (3 1/2" x 0.135"); OR 12-10D BOX (3" x 0.128"); OR 12-3" x 0.131" NAILS	FACE NAIL ON EACH SIDE OF END JOINT (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
14	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16D COMMON (3 1/2" x 0.162") 16D BOX (3 1/2" x 0.135"); OR 3" x 0.131" NAILS	16" O.C. FACE NAIL 12" O.C. FACE NAIL
15	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (AT BRACED WALL PANEL)	3-16D BOX (3 1/2" x 0.135"); OR 2-16D COMMON (3 1/2" x 0.162"); OR 4-3" x 0.131" NAILS	3 EACH 16" O.C. FACE NAIL 2 EACH 16" O.C. FACE NAIL 4 EACH 16" O.C. FACE NAIL
16	TOP OR BOTTOM PLATE TO STUD	4-8D BOX (2 1/2" x 0.113"); OR 3-16D BOX (3 1/2" x 0.135"); OR 4-8D COMMON (2 1/2" x 0.131"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS 3-16D BOX (3 1/2" x 0.135"); OR 2-16D COMMON (3 1/2" x 0.162"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	TOE NAIL END NAIL
17	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	3-10D BOX (3" x 0.128"); OR 2-16D COMMON (3 1/2" x 0.162"); OR 3-3" x 0.131" NAILS	FACE NAIL
18	1" BRACE TO EACH STUD AND PLATE	3-8D BOX (2 1/2" x 0.113"); OR 2-8D COMMON (2 1/2" x 0.131"); OR 2-10D BOX (3" x 0.128"); OR 2 STAPLES 1 1/2"	FACE NAIL
19	1" x 6" SHEATHING TO EACH BEARING	3-8D BOX (2 1/2" x 0.113"); OR 2-8D COMMON (2 1/2" x 0.131"); OR 2-10D BOX (3" x 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG	FACE NAIL
20	1" x 8" AND WIDER SHEATHING TO EACH BEARING	3-8D BOX (2 1/2" x 0.113"); OR 3-8D COMMON (2 1/2" x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 3 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG WIDER THAN 1" x 8" 4-8D BOX (2 1/2" x 0.113"); OR 3-8D COMMON (2 1/2" x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 4 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG	FACE NAIL
FLOOR			
21	JOIST TO SILL, TOP PLATE OR GIRDER	4-8D BOX (2 1/2" x 0.113"); OR 3-8D COMMON (2 1/2" x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	TOE NAIL
22	RIM JOIST, BAND JOIST OR BLOCKING TO SILL OR TOP PLATE (ROOF APPLICATIONS ALSO)	8D BOX (2 1/2" x 0.113") 8D COMMON (2 1/2" x 0.131"); OR 10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS	4" O.C. TOE NAIL 6" O.C. TOE NAIL
23	1" x 6" SUBFLOOR OR LESS TO EACH JOIST	3-8D BOX (2 1/2" x 0.113"); OR 2-8D COMMON (2 1/2" x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG	FACE NAIL
FLOOR			
24	2" SUBFLOOR TO JOIST OR GIRDER	3-16D BOX (3 1/2" x 0.135"); OR 2-16D COMMON (3 1/2" x 0.162")	BLIND AND FACE NAIL
25	2" PLANKS (PLANK & BEAM-FLOOR AND ROOF)	3-16D BOX (3 1/2" x 0.135"); OR 2-16D COMMON (3 1/2" x 0.162")	AT EACH BEARING, FACE NAIL
26	BAND OR RIM JOIST TO JOIST	3-16D COMMON (3 1/2" x 0.162"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS; OR 4-3" x 14 GA. STAPLES, 7/16" CROWN	END NAIL
27	BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	20D COMMON (4" x 0.192"); OR 10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS AND: 2-20D COMMON (4" x 0.192"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	NAIL EACH LAYER AS FOLLOWS: 32" O.C. AT TOP AND BOTTOM AND STAGGERED. 24" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES FACE NAIL AT ENDS AND AT EACH SPLICE
28	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	4-16D BOX (3 1/2" x 0.135"); OR 3-16D COMMON (3 1/2" x 0.162"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS	AT EACH JOIST OR RAFTER, FACE NAIL
29	BRIDGING OR BLOCKING TO JOIST	2-10D BOX (3" x 0.128"); OR 2-8D COMMON (2 1/2" x 0.131"); OR 2-3" x 0.131" NAILS	EACH END, TOE NAIL

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s, 1 ksi = 6.895 MPa.
 a. NAILS ARE SMOOTH-COMMON, BOX OR DEFORMED SHANKS EXCEPT WHERE OTHERWISE STATED. NAILS USED FOR FRAMING AND SHEATHING CONNECTIONS SHALL HAVE MINIMUM AVERAGE BENDING YIELD STRENGTHS AS SHOWN: 80 KSI FOR SHANK DIAMETER OF 1/8 INCH (200 COMMON NAIL), 90 KSI FOR SHANK DIAMETERS LARGER THAN 1/8 INCH BUT NOT LARGER THAN 1/4 INCH, AND 100 KSI FOR SHANK DIAMETERS OF 1/4 INCH OR LESS.
 b. STAPLES ARE 16 GAUGE WIRE AND HAVE A MINIMUM 7/16-INCH DIAMETER CROWN WIDTH.
 c. NAILS SHALL BE SPACED AT NOT MORE THAN 12 INCHES ON CENTER AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER.
 d. FOUR-FOOT BY 8-FOOT OR 4-FOOT BY 8-FOOT PANELS SHALL BE APPLIED VERTICALLY.
 e. SPACING OF FASTENERS NOT INCLUDED IN THIS TABLE SHALL BE BASED ON TABLE R602.3(2).
 f. FOR WOOD STRUCTURAL PANEL, ROOF SHEATHING ATTACHED TO GABLE END ROOF FRAMING AND TO INTERMEDIATE SUPPORTS WITHIN 48 INCHES OF ROOF EDGES AND RIDGES, NAILS SHALL BE SPACED AT 6 INCHES ON CENTER WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN 130 MPH AND SHALL BE SPACED 4 INCHES ON CENTER WHERE THE ULTIMATE DESIGN WIND SPEED IS 130 MPH OR GREATER BUT LESS THAN 140 MPH.
 g. GYPSUM SHEATHING SHALL CONFORM TO ASTM C1396 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE FRAMING MEMBERS NEED NOT BE PROVIDED EXCEPT AS REQUIRED BY OTHER PROVISIONS OF THIS CODE. FLOOR PERIMETER SHALL BE SUPPORTED BY FRAMING MEMBERS OR SOLID BLOCKING.
 h. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE, PROVIDE TWO TOE NAILS ON ONE SIDE OF THE RAFTER AND TOE NAILS FROM THE CEILING JOIST TO TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE. THE TOE NAIL ON THE OPPOSITE SIDE OF THE RAFTER SHALL NOT BE REQUIRED.
 i. RRSR-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING THE SPECIFICATIONS IN ASTM F1667.

CONTINUED TABLE R602.3(1) FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING OF FASTENERS	
			EDGES (INCHES)	INTERMEDIATE SUPPORTS ^d (INCHES)
WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING [SEE TABLE R602.3(3) FOR WOOD STRUCTURAL PANEL EXTERIOR WALL SHEATHING TO WALL FRAMING]				
30		6D COMMON (2" x 0.113") NAIL (SUBFLOOR, WALL); 8D COMMON (2 1/2" x 0.131") NAIL (ROOF); OR RSRS-01 (2 3/8" x 0.113") NAIL (ROOF)	6	12'
31		8D COMMON NAIL (2 1/2" x 0.131"); OR RSRS-01 (2 3/8" x 0.113") NAIL (ROOF)	6	12'
32		10D COMMON (3" x 0.148") NAIL; OR 8D (2 1/2" x 0.131") DEFORMED NAIL	6	12
OTHER WALL SHEATHING^g				
33	1/2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 1/2" GALVANIZED ROOFING NAIL, 7/16" HEAD DIAMETER, OR 1 1/4" LONG 16 GA. STAPLE WITH 7/16" OR 1" CROWN	3	6
34	25/32" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 3/4" GALVANIZED ROOFING NAIL, 7/16" HEAD DIAMETER, OR 1 1/2" LONG 16 GA. STAPLE WITH 7/16" OR 1" CROWN	3	6
35	1/2" GYPSUM SHEATHING ^d	1 1/2" GALVANIZED ROOFING NAIL, STAPLE GALVANIZED, 1 1/2" LONG, 1 1/4" SCREWS, TYPE W OR S	7	7
36	5/8" GYPSUM SHEATHING ^d	1 3/4" GALVANIZED ROOFING NAIL, STAPLE GALVANIZED, 1 3/8" LONG, 1 3/8" SCREWS, TYPE W OR S	7	7
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING				
37		6D DEFORMED (2" x 0.120") NAIL; OR 8D COMMON (2 1/2" x 0.131") NAIL	6	12
38		8D COMMON (2 1/2" x 0.131") NAIL; OR 8D DEFORMED (2 1/2" x 0.120") NAIL	6	12
39		10D COMMON (3" x 0.148") NAIL; OR 8D DEFORMED (2 1/2" x 0.120") NAIL	6	12

TABLE R602.3(2) ALTERNATE ATTACHMENTS TO TABLE R602.3(1)

NOMINAL MATERIAL THICKNESS (INCHES)	DESCRIPTION ^{a, b} OF FASTENER AND LENGTH (INCHES)	SPACING ^c OF FASTENERS	
		EDGES (INCHES)	INTERMEDIATE SUPPORTS (INCHES)
WOOD STRUCTURAL PANELS SUBFLOOR, ROOF AND WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING^d			
UP TO 1/2	STAPLE 15 GA, 1 3/4"	4	8
	0.097 - 0.099 NAIL 2 1/4"	3	6
19/32 AND 3/8	STAPLE 16 GA, 1 3/4"	3	6
	0.113 NAIL 2"	3	6
21/32 AND 3/4	STAPLE 15 AND 16 GA, 2"	4	8
	0.097 - 0.099 NAIL 2 1/4"	4	8
1	STAPLE 14 GA, 2"	4	8
	STAPLE 15 GA, 1 3/4"	3	6
1 1/4	STAPLE 16 GA, 2 1/4"	4	8
	STAPLE 14 GA, 2 1/4"	4	8
1 1/2	0.113 NAIL 2 1/4"	3	6
	STAPLE 15 GA, 2 1/4"	4	8
1 3/4	0.097 - 0.099 NAIL 2 1/2"	4	8
	FLOOR UNDERLAYMENT; PLYWOOD-HARDBOARD-PARTICLEBOARD-FIBER-CEMENT^e		
FIBER-CEMENT			
1/4	3D, CORROSION-RESISTANT, RING SHANK NAILS (FINISHED FLOORING OTHER THAN TILE)	3	6
	STAPLE 18 GA., 7/16" LONG, 3/4" CROWN (FINISHED FLOORING OTHER THAN TILE)	3	6
	1 1/4" LONG x .121 SHANK x .375 HEAD DIAMETER CORROSION-RESISTANT (GALVANIZED OR STAINLESS STEEL) ROOFING NAILS (FOR TILE FINISH)	8	8
	1 1/4" LONG, NO. 8 x .375 HEAD DIAMETER, RIBBED WAFER-HEAD SCREWS (FOR TILE FINISH)	8	8
PLYWOOD			
1/4 AND 5/16	1 1/4" RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099") SHANK DIAMETER	3	6
	STAPLE 18 GA., 7/16" CROWN WIDTH	2	5
11/32, 3/16, 15/32 AND 1/2	1 1/4" RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099") SHANK DIAMETER	6	8
	1 1/2" RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099") SHANK DIAMETER	6	8
19/32, 5/16, 23/32 AND 3/4	STAPLE 16 GA, 1 1/2"	6	8
HARDBOARD^f			
0.200	1 1/2" LONG RING-GROOVED UNDERLAYMENT NAIL	6	6
	4D CEMENT-COATED SINKER NAIL	6	6
1/4	STAPLE 18 GA., 7/16" LONG (PLASTIC COATED)	3	6
	PARTICLEBOARD		
1/4	4D RING-GROOVED UNDERLAYMENT NAIL	3	6
	STAPLE 18 GA., 7/16" CROWN	3	6
3/8	6D RING-GROOVED UNDERLAYMENT NAIL	6	10
	STAPLE 16 GA., 1 1/8" LONG, 3/8" CROWN	3	6
1/2, 5/8	6D RING-GROOVED UNDERLAYMENT NAIL	6	10
	STAPLE 16 GA., 1 1/8" LONG, 3/8" CROWN	3	6

For SI: 1 inch = 25.4 mm.
 a. NAIL IS A GENERAL DESCRIPTION AND SHALL BE PERMITTED TO BE T-HEAD, MODIFIED ROUND HEAD OR ROUND HEAD.
 b. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16-INCH ON DIAMETER EXCEPT AS NOTED.
 c. NAILS OR STAPLES SHALL BE SPACED AT NOT MORE THAN 12 INCHES ON CENTER AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER. NAILS OR STAPLES SHALL BE SPACED AT NOT MORE THAN 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR FLOORS.
 d. FASTENERS SHALL BE PLACED IN A GRID PATTERN THROUGHOUT THE BODY OF THE PANEL.
 e. FOR 5-PLY PANELS, INTERMEDIATE NAILS SHALL BE SPACED NOT MORE THAN 12 INCHES ON CENTER EACH WAY.
 f. HARDBOARD UNDERLAYMENT SHALL CONFORM TO CANADIAN A1934.
 g. SPECIFIED ALTERNATE ATTACHMENTS FOR ROOF SHEATHING SHALL BE PERMITTED WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN 130 MPH. FASTENERS ATTACHING WOOD STRUCTURAL PANEL ROOF SHEATHING TO GABLE END WALL FRAMING SHALL BE INSTALLED USING THE SPACING LISTED FOR PANEL EDGES.
 h. FIBER-CEMENT UNDERLAYMENT SHALL CONFORM TO ASTM C1396 OR ISO 9506, CATEGORY C.

DESIGN LOADS (PSF)

THE DWELLING SHALL COMPLY WITH THE FOLLOWING LOAD CONDITIONS

AREA	MIN. DEAD LOAD	MIN. LIVE LOAD
EXTERIOR BALCONIES	10	60
DECKS, STAIRS	10	40
CEILING JOISTS / ATTICS NO STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE 3:12 OR LESS	10	10
CEILING JOISTS / ATTICS NO STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE OVER 3:12	10	10
CEILING JOISTS / ATTICS WITH STORAGE - DOOR PULL DOWN LADDER ACCESS	10	20
ROOMS: NON-SLEEPING	10	40
ROOMS: SLEEPING	10	30
ROOF: LIGHT ROOF COVERING	10	20
ROOF: HEAVY ROOF COVERING / CONCRETE / TILE / SLATE	20	20
GUARDRAILS, HANDRAILS	200# LL NORMAL	

HEAVY ROOF COVERING MATERIAL (TILE, CONCRETE, SLATE, ETC.) SHALL NOT BE USED UNLESS 20 PSF DEAD LOAD AND HEAVY ROOF IS NOTED ON THE ROOF PLAN. IF HEAVY ROOFING IS TO BE USED AND IS NOT NOTED ON THE ROOF PLAN, NOTIFY ENGINEER PRIOR TO ANY CONSTRUCTION, INCLUDING FOUNDATION AND SITE WORK. IF THE PLAN HAS BEEN DESIGNED FOR HEAVY ROOF LOADS IT WILL BE NOTED IN THE ROOF NOTES ON THE ROOF PLAN.

COLUMN SCHEDULE

BASED ON FOOTING SIZE (ASSUME 1500 PSF SOIL)

PAD SIZE	REINFORCEMENT	COL. MIN.	COL. TYPE	MAX. LOAD
24"x24"x12"	(4) #4 BARS E/W	3"	SCH40	6K
30"x30"x12"	(5) #4 BARS E/W	3"	SCH40	9.4K
36"x36"x12"	(6) #4 BARS E/W	3"	SCH40	13.5K
42"x42"x14"	(7) #4 BARS E/W	3 1/2"	SCH40	18.4K
48"x48"x16"	(8) #4 BARS E/W	3 1/2"	SCH40	24.0K
54"x54"x16"	(9) #4 BARS E/W	3 1/2"	SCH40	30.4K
60"x60"x18"	(10) #4 BARS E/W	3 1/2"	SCH40	37.5K

COLUMN CONNECTION TO STEEL BEAMS SHALL BE WITH A CLIP POST CAP WITH ALL FOUR TAB EARS BENT AROUND THE BOTTOM FLANGE OF THE BEAM. FOR A BEARING PLATE, FOUR HOLES SHALL BE DRILLED IN THE BOTTOM FLANGE OF THE STEEL BEAM TO MATCH THE HOLE PATTERN OF THE PLATE. 1/2" x 2" BOLTS SHOULD THEN BE INSTALLED WITH A FLAT WASHER, LOCK WASHER, AND A NUT IN EACH OF THE HOLES. THE POST CAP MAY BE WELDED TO THE STEEL BEAM IN ACCORDANCE WITH AWS D1.1-92 AS AN ALTERNATIVE, AND WOULD NEED TO BE INSPECTED BY AN AWS-CERTIFIED INSPECTOR.

ENGINEERED LUMBER

MIN. DESIGN REQUIREMENTS

	F _t (psi)	E (psi)	F _v (psi)
LVL	2600	1.8x10	285
GLULAM	2400	1.8x10	190
PARALAM	2600	2.0x10	290

BUILDER'S PLANS: THE TERM "BUILDER'S PLANS" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS. AS THE NAME IMPLIES, THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION AND A THOROUGH UNDERSTANDING OF THE INTERNATIONAL RESIDENTIAL CODE (IRC). THE CONTRACTOR WARRANTS TO HD ENGINEERING & DESIGN THAT THEY POSSESS THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES. THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED "BUILDER'S PLANS" IN RECOGNITION OF THE CONTRACTOR'S SOPHISTICATION. ALTHOUGH HD ENGINEERING & DESIGN HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO HD ENGINEERING. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDER'S PLANS" TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMENSION AND QUANTITY. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF HD ENGINEERING & DESIGN ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL AND PLUMBING CODE REQUIREMENTS (WHICH IS EXCLUDED FROM THESE PLANS). IN THE EVENT ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER FOR CONSTRUCTION OF ANY ASPECT OF THE PROJECT, HD ENGINEERING & DESIGN OR A QUALIFIED ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY US OF THESE NEEDS OR OF CHANGES TO THE PLANS SHALL RELIEVE HD ENGINEERING & DESIGN OF ALL RESPONSIBILITIES OF THE CONSEQUENCES.

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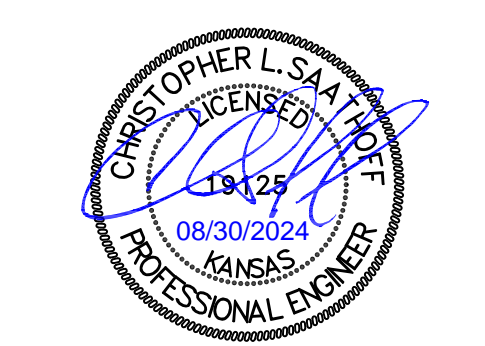
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GENERAL NOTES

S-1.1

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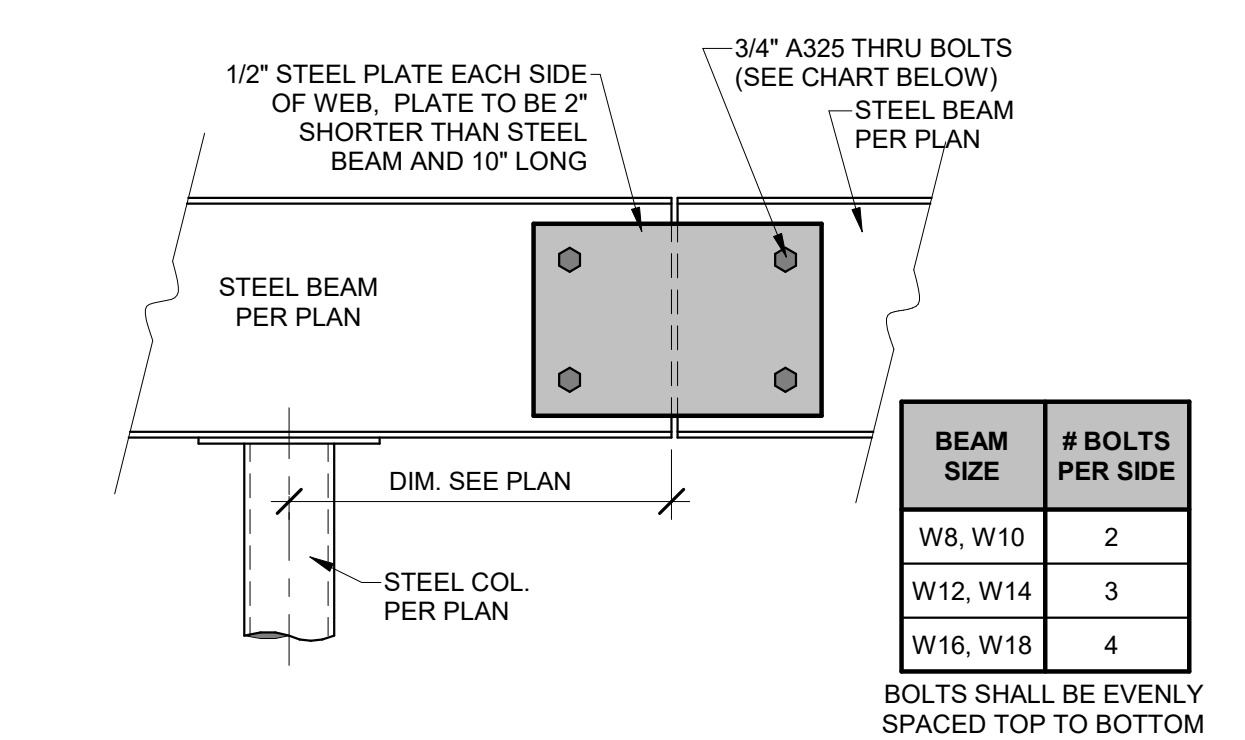
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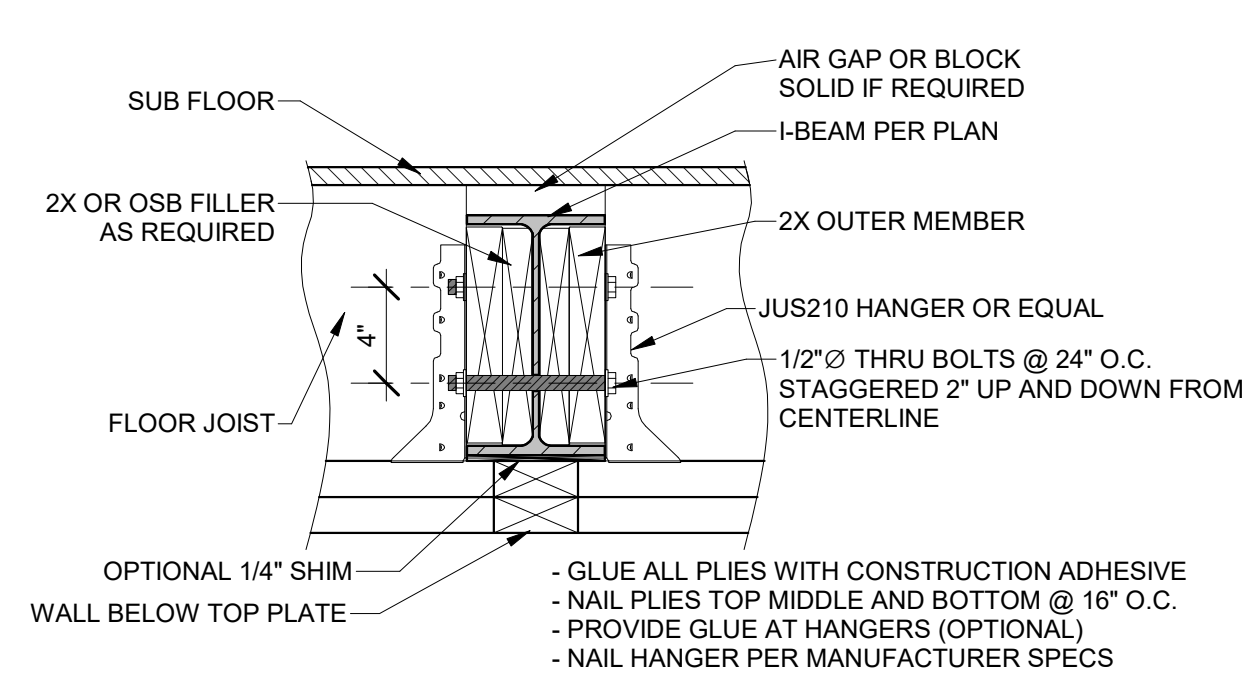
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FRAMING SECTIONS

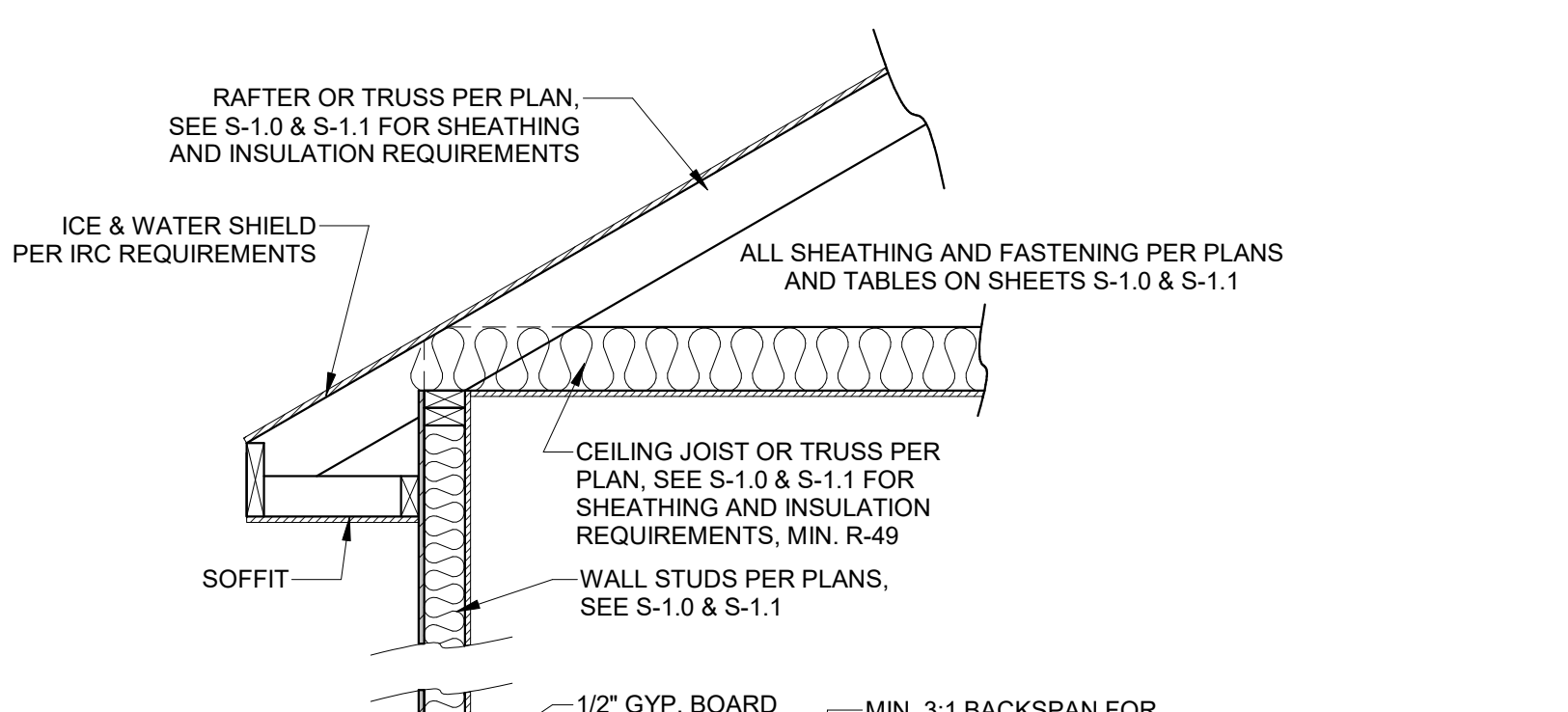
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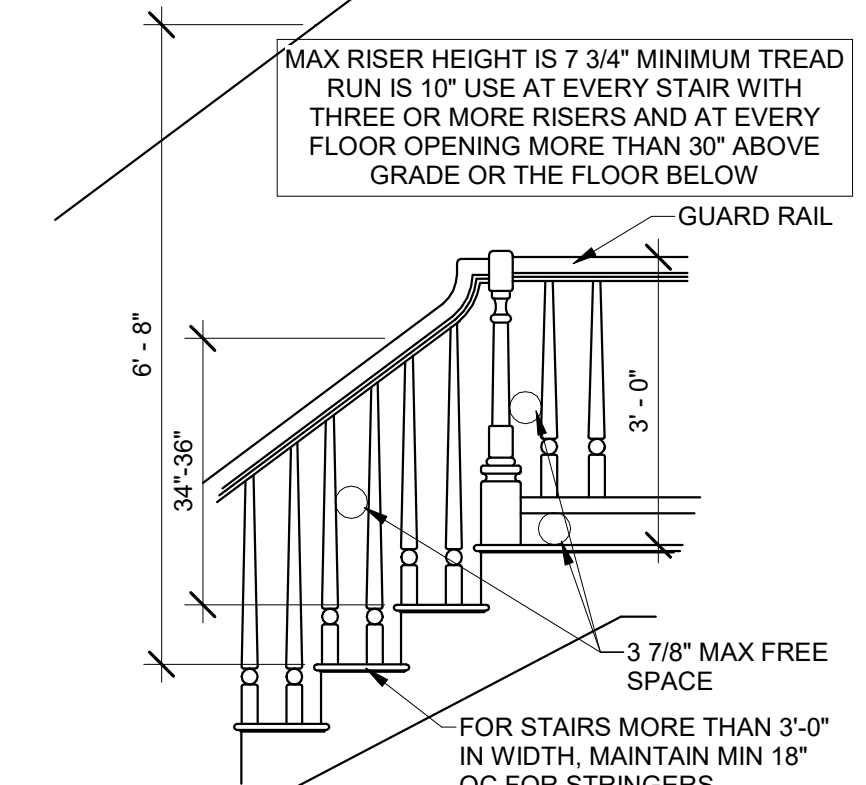
9 STEEL BEAM SPLICE DETAIL
 1 1/2" = 1'-0"



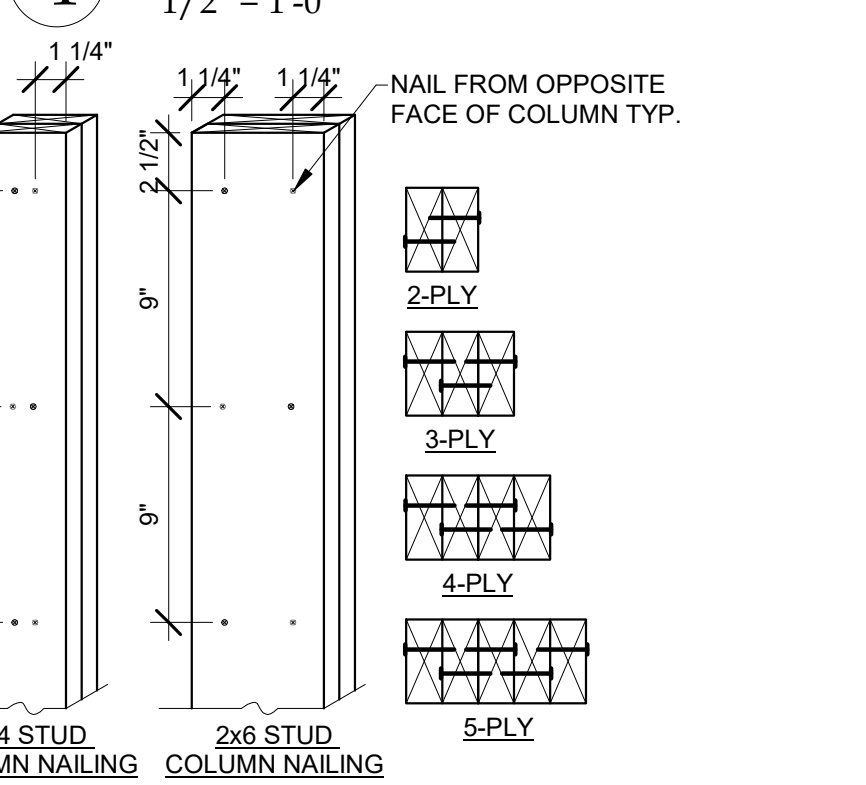
8 UPSET STEEL BEAM DETAIL
 1 1/2" = 1'-0"



1 TYPICAL WALL SECTION
 3/4" = 1'-0"



4 STAIR/RAIL DETAIL
 1/2" = 1'-0"



3 BUILT-UP STUD COLUMN
 1 1/2" = 1'-0"

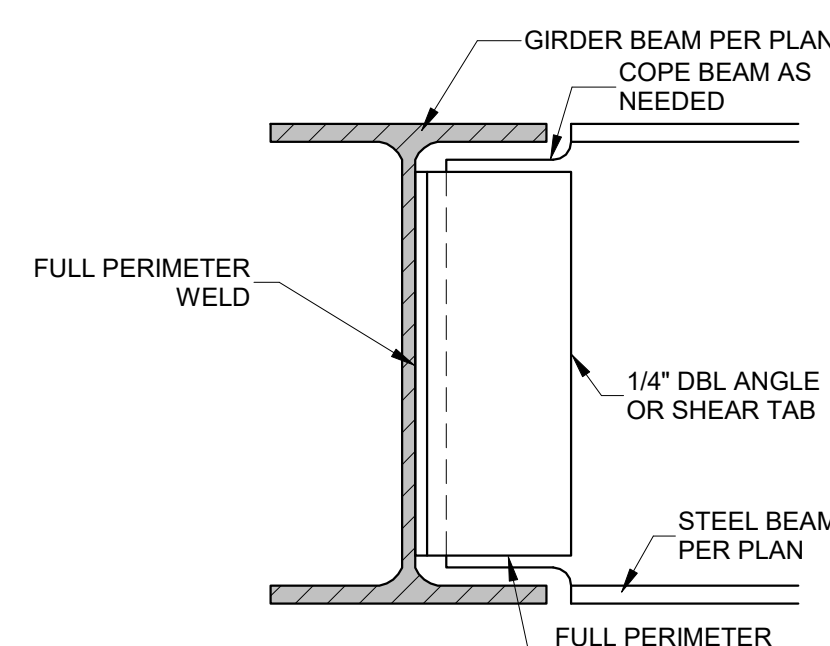
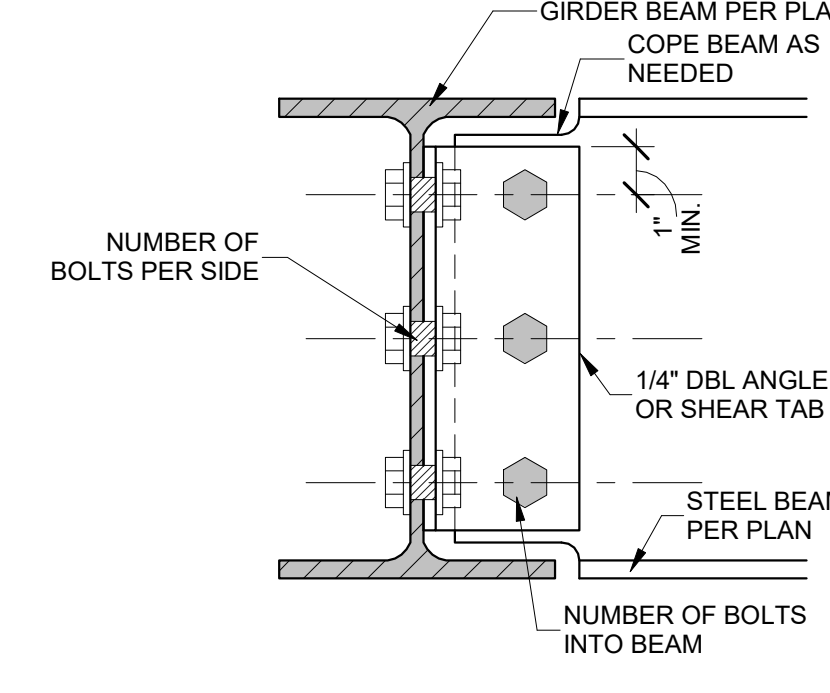
BEAM CONNECTION SCHEDULE

BEAM SIZE	# OF BOLTS PER SIDE	ANGLE
W8, W10	2	(4" LONG)
W12, W14	3	(8" LONG)
W16, W18	4	(10" LONG)

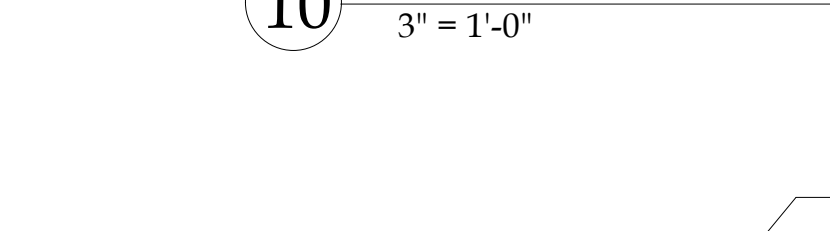
NOTES:
 1. NUMBER OF BOLTS DETERMINED BY SMALLER OF TWO BEAMS BEING CONNECTED
 2. ALL BOLTS, 3/4" DIAMETER A325-N, UNO
 3. BOLTS SHALL BE EVENLY SPACED TOP TO BOTTOM

BEAM CONNECTION SCHEDULE

BEAM SIZE	ANGLE
W8, W10	1.5x1.5x1/4 (4" LONG)
W12, W14	3x3x3/8 (8" LONG)
W16, W18	3.5x3.5x3/8 (10" LONG)



10 BEAM TO GIRDER CONNECTION
 3" = 1'-0"



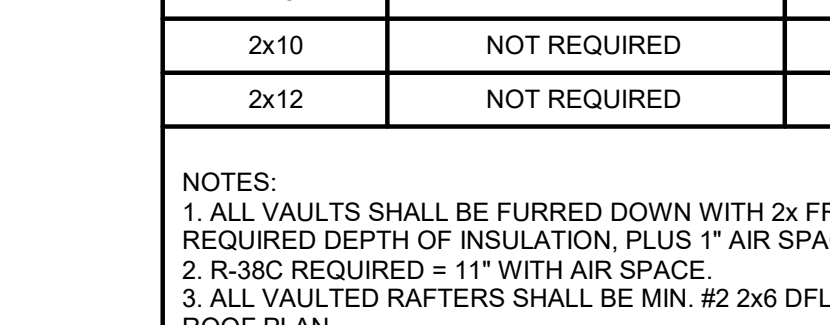
14 VAULTED RAFTER INSULATION
 3/4" = 1'-0"

VAULT FURR DOWN SCHEDULE

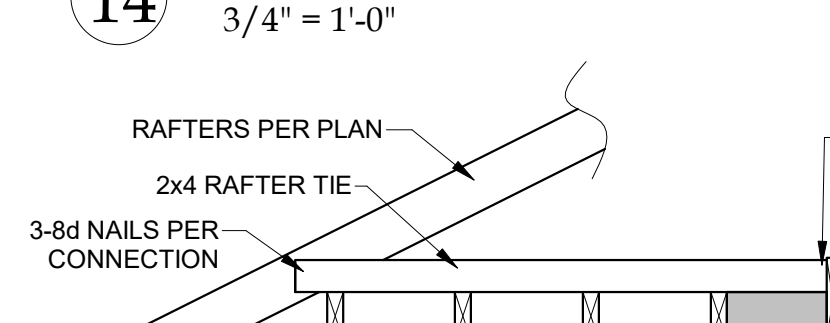
RAFTER SIZE	R-30C INSULATION (X = 9 1/4")	R-38C INSULATION (X = 11 1/4")
2x6	2x6	2x8
2x8	2x4	2x6
2x10	NOT REQUIRED	2x4
2x12	NOT REQUIRED	2x2

NOTES:
 1. ALL VAULTS SHALL BE FURRED DOWN WITH 2x FRAMING TO THE REQUIRED DEPTH OF INSULATION, PLUS 1" AIR SPACE.
 2. R-38C REQUIRED = 11" WITH AIR SPACE.
 3. ALL VAULTED RAFTERS SHALL BE MIN. #2 2x6 DFL @ 16" O.C. OR PER ROOF PLAN.

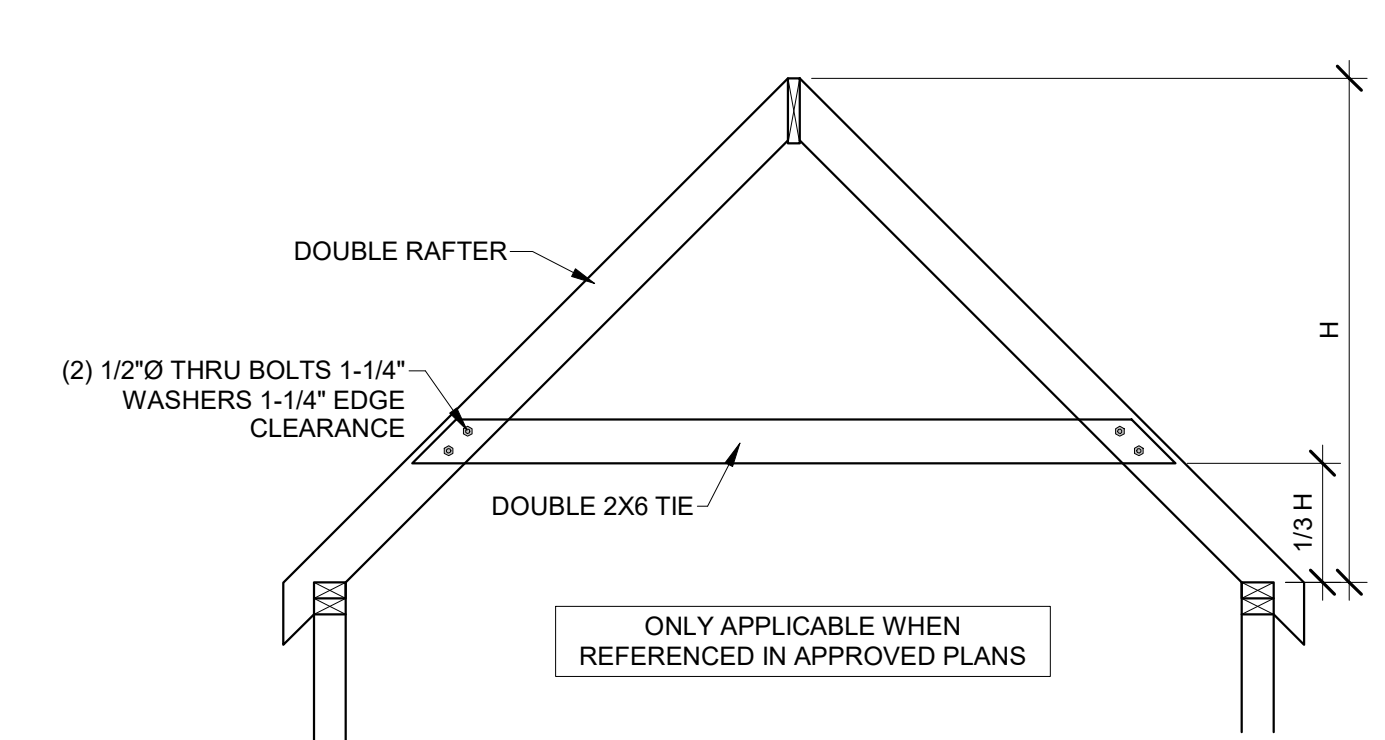
12 RAFTER TIE CONNECTION
 1/2" = 1'-0"



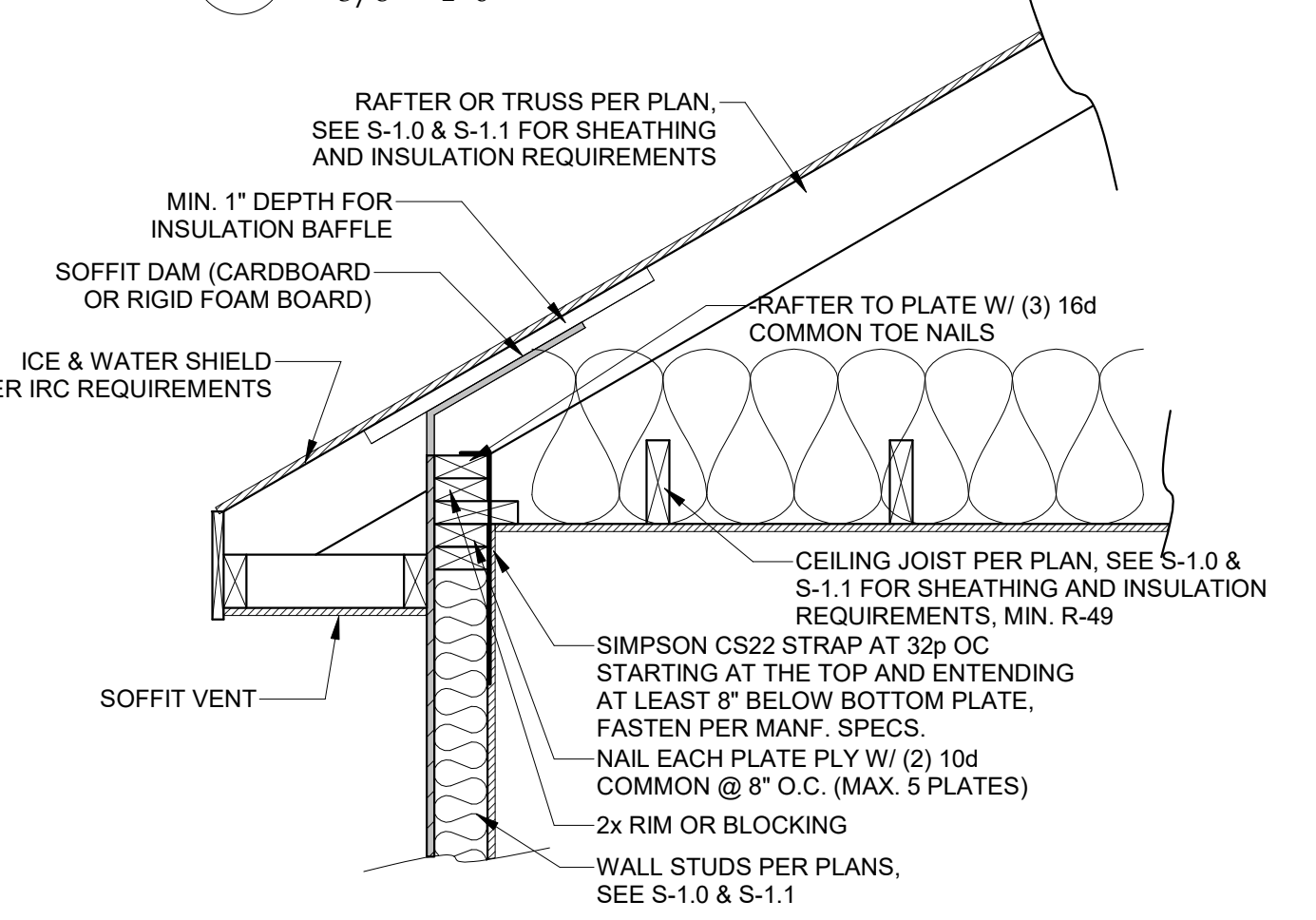
12 RAFTER TIE CONNECTION
 1/2" = 1'-0"



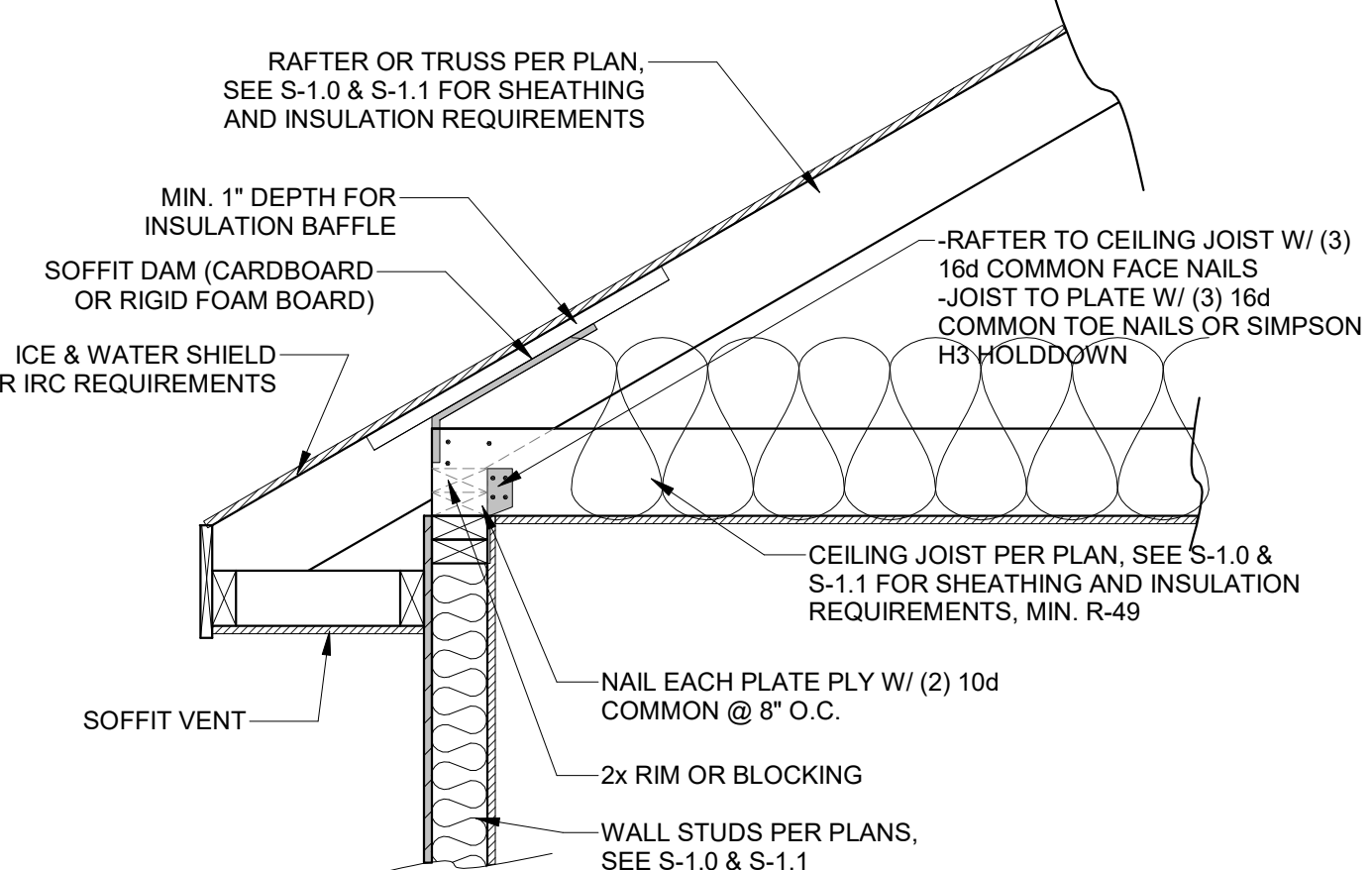
13 RIDGE SUPPORT
 1/2" = 1'-0"



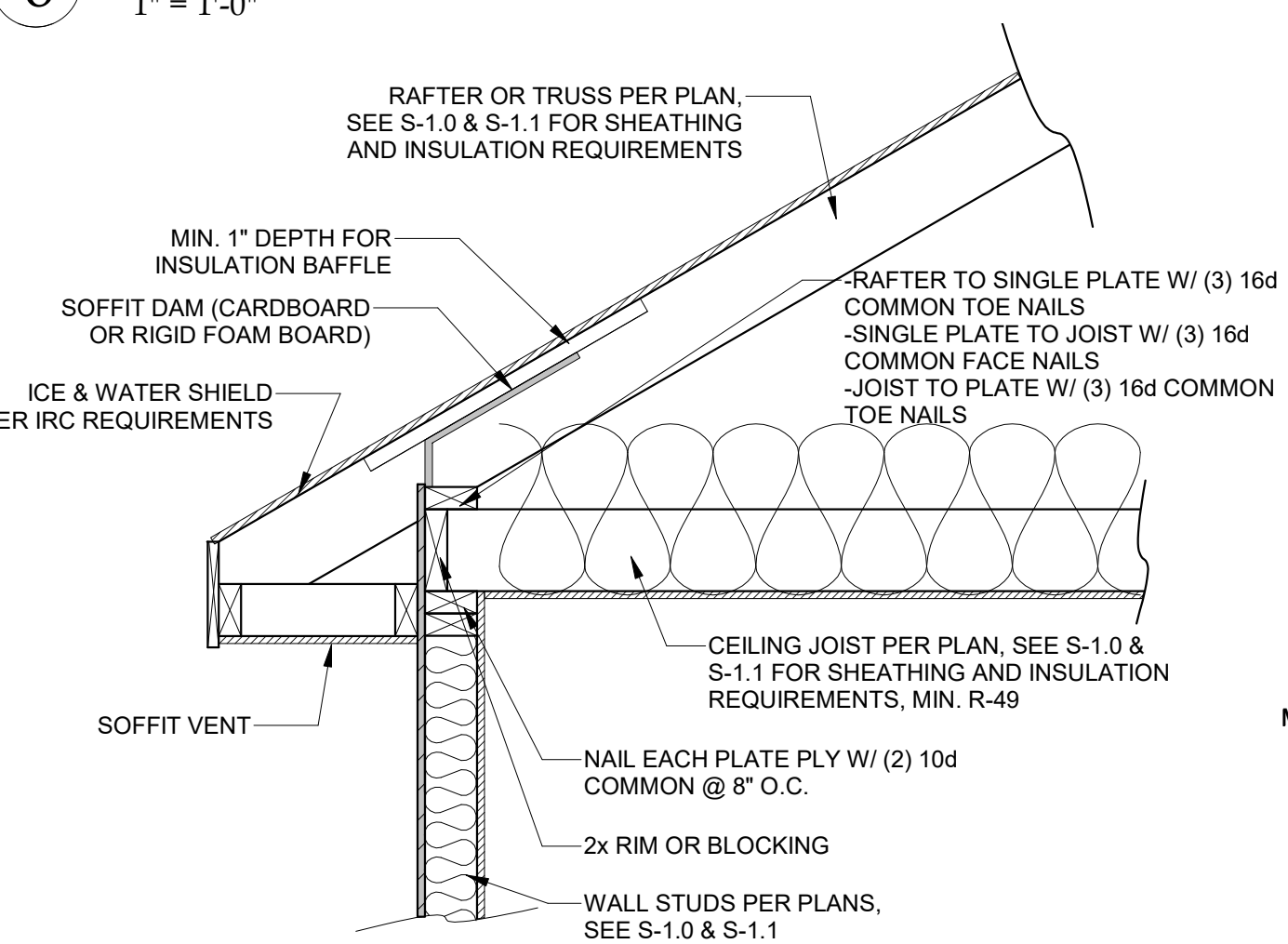
11 HIP SUPPORT FRAME
 3/8" = 1'-0"



7 OPTION 4 RAFTER BEARING
 1" = 1'-0"



6 OPTION 3 RAFTER BEARING
 1" = 1'-0"

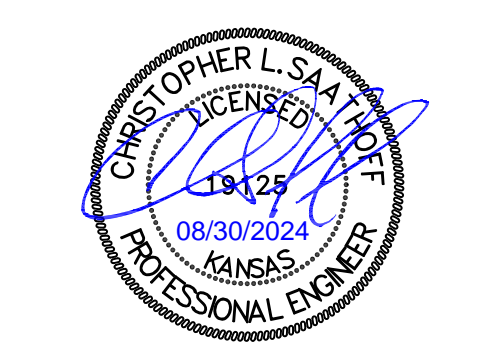


5 OPTION 2 RAFTER BEARING
 1" = 1'-0"

THIS OPTION NOT AVAILABLE IN KC, MO

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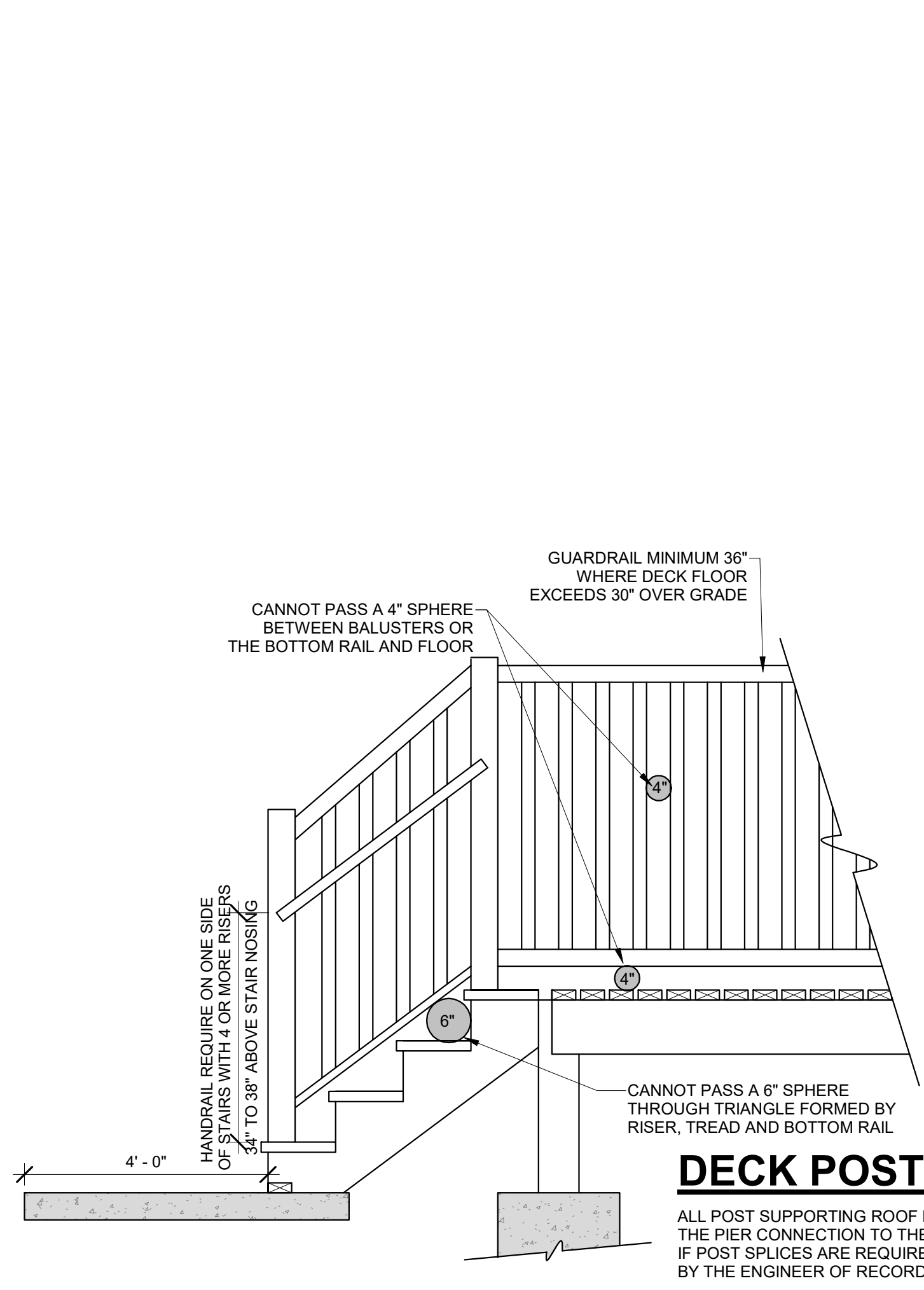
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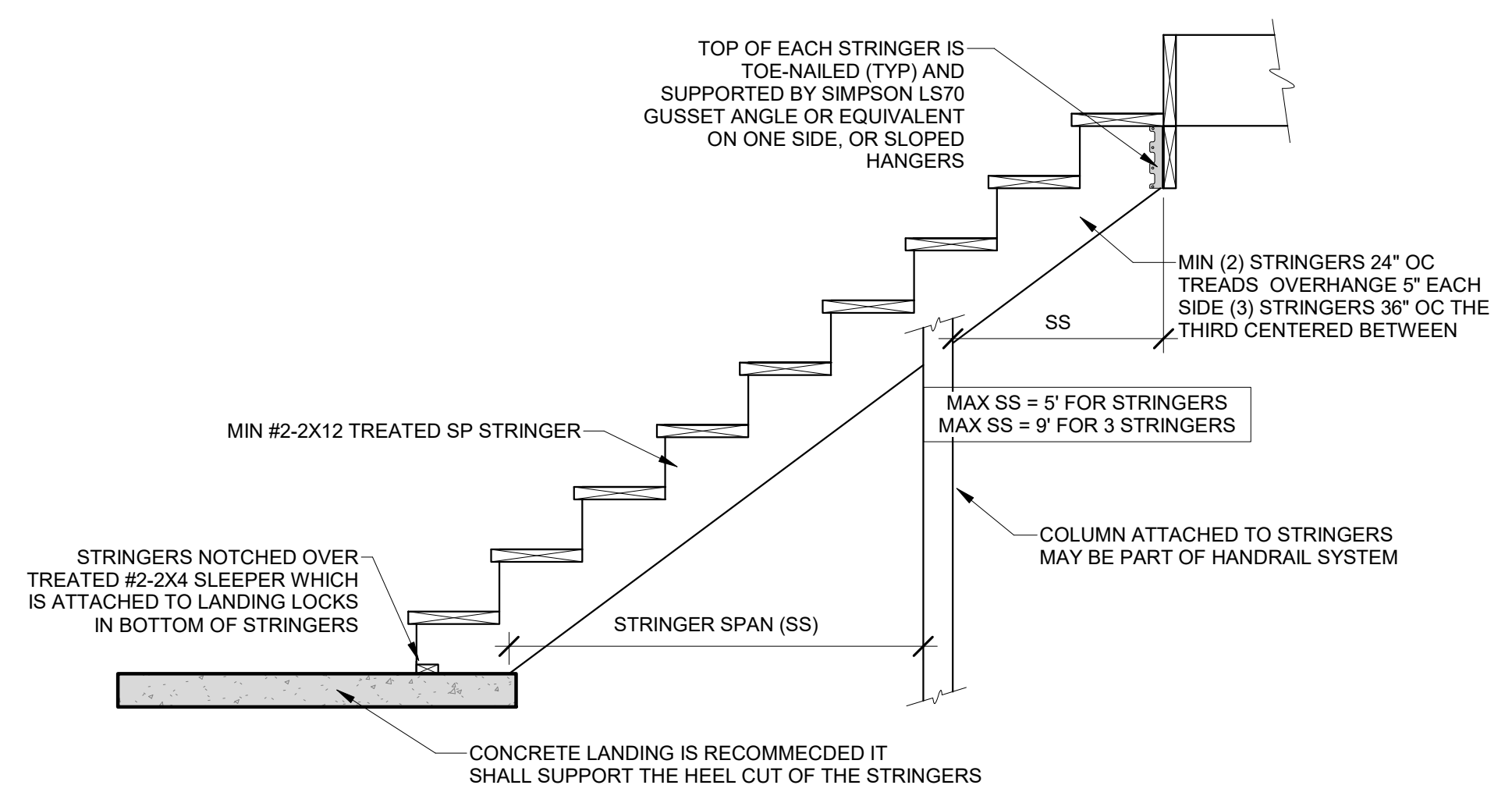
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DECK DETAILS

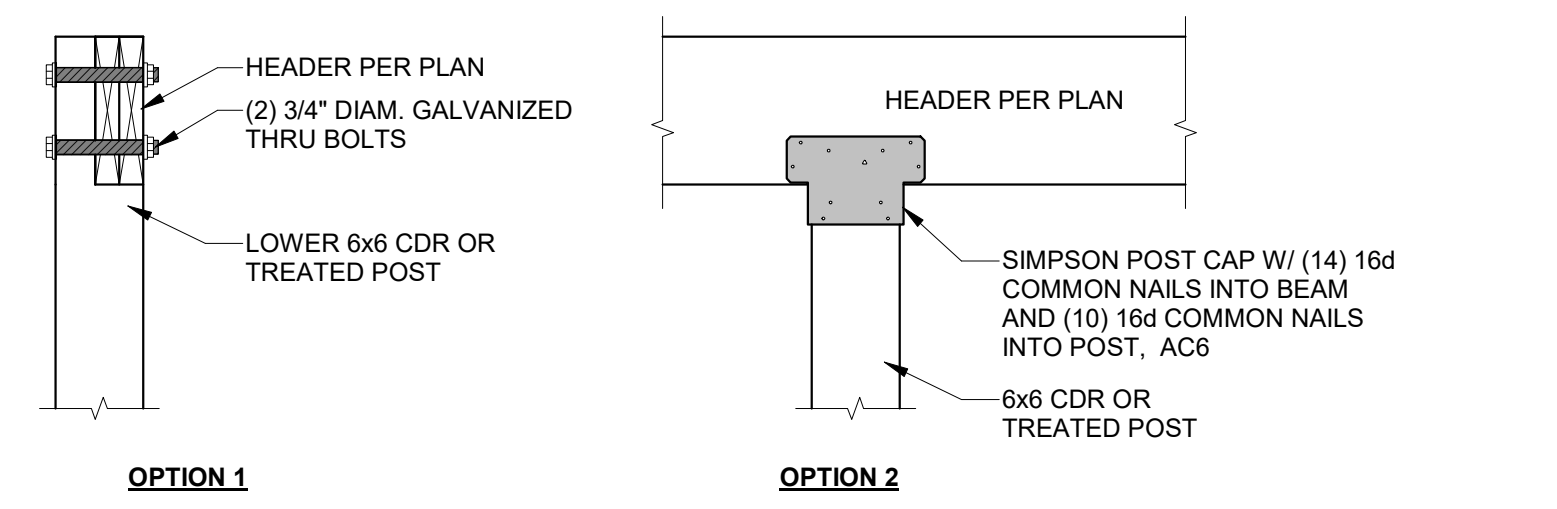
S-1.3



8 GUARD RAIL
 1/2" = 1'-0"



9 STAIR STRINGER DETAIL
 1/2" = 1'-0"



7 ROOF LEVEL INTERIOR BEAM TO COLUMN
 1" = 1'-0"

TABLE IRC2018 R507.9.1.3(1) DECK LEDGER CONNECTION TO BAND JOIST
 (DECK LIVE LOAD = 40 PSF, DECK HEAD LOAD = 10 PSF, SNOW LOAD ≤ 40 PSF)

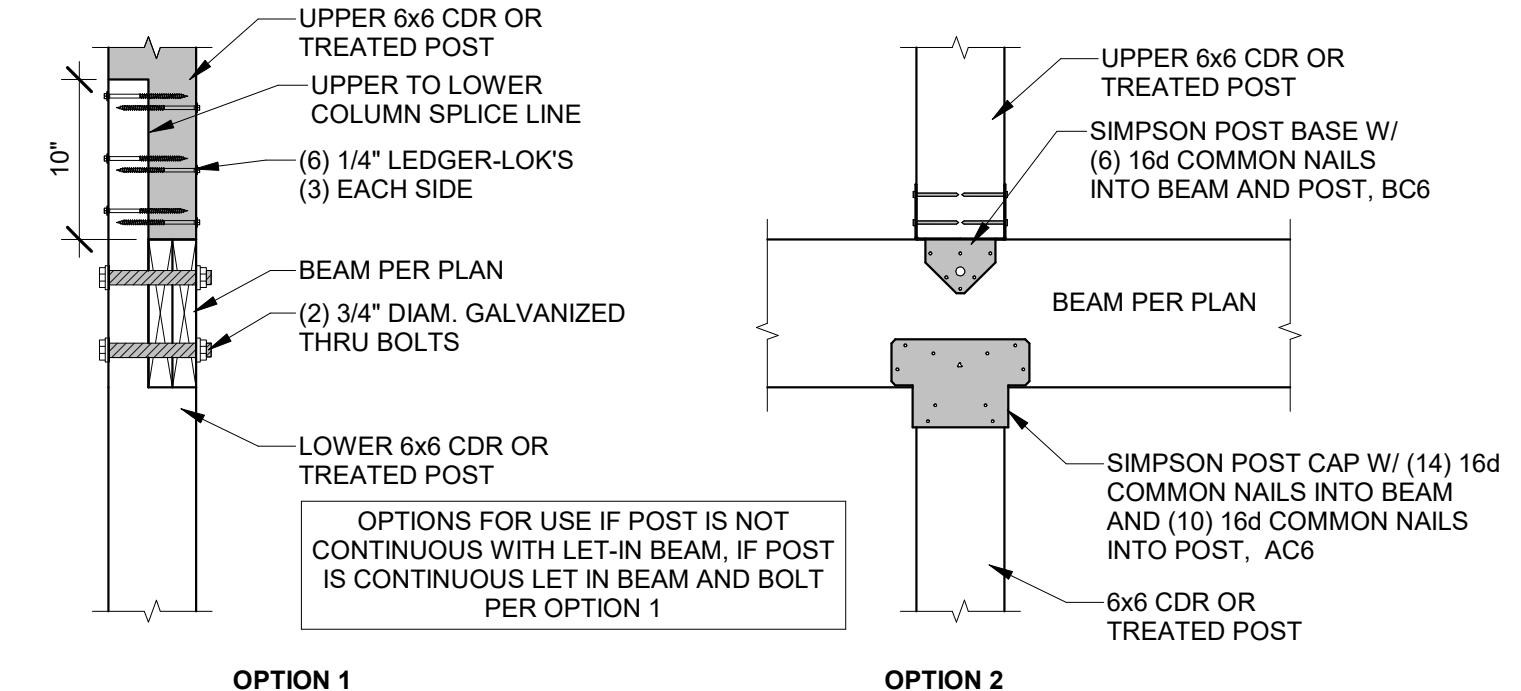
JOIST SPAN	6' AND LESS	6'-1" TO 8'	8'-1" TO 10'	10'-1" TO 12'	12'-1" TO 14'	14'-1" TO 16'	16'-1" TO 18'
CONNECTION DETAILS	ON-CENTER SPACING OF FASTENERS ^{a, b}						
1/2" LAG SCREW WITH 15/32" MAX. SHEATHING ^{c, d}	30	23	18	15	13	11	10
1/2" DIAM. BOLT WITH 15/32" MAX. SHEATHING ^d	36	36	34	29	24	21	19
1/2" DIAM. BOLT WITH 15/32" MAX. SHEATHING & 1/2" STACKED WASHERS ^e	36	36	29	24	21	18	16

For SI: 1 inch = 25.4mm, 1 foot = 304.8mm, 1 pound per square foot = 0.0479 kPa
 a. Ledges shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
 b. Snow load shall not be assumed to act concurrently with live load.
 c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
 d. Sheathing shall be wood structural panel or solid sawn lumber.
 e. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard lumber or foam sheathing. Up to 1/2" thickness of stacked washers shall be permitted to substitute for you to 1/2" of allowable sheathing thickness where combined with wood structural panel or lumbers sheathing.

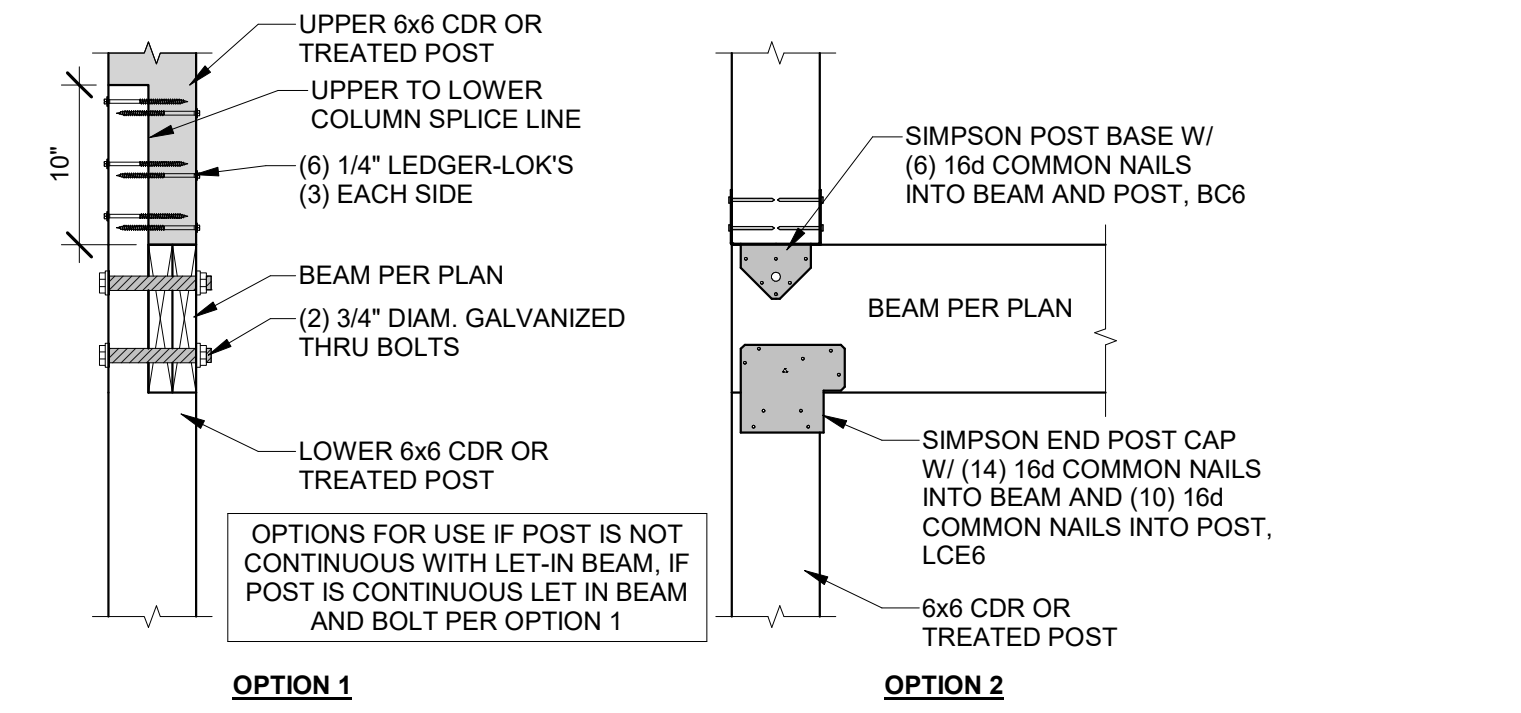
TABLE IRC2018 R507.9.1.3(2) PLACEMENT OF LAG SCREWS AND BOLT IN DECK LEDGERS AND BAND JOISTS

	MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS			
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
LEDGER ^a	2 inches ^d	3/4 inches	2 inches ^b	1 5/8 inches ^b
BAND JOIST ^c	3/4 inches	2 inches	2 inches	1 5/8 inches ^b

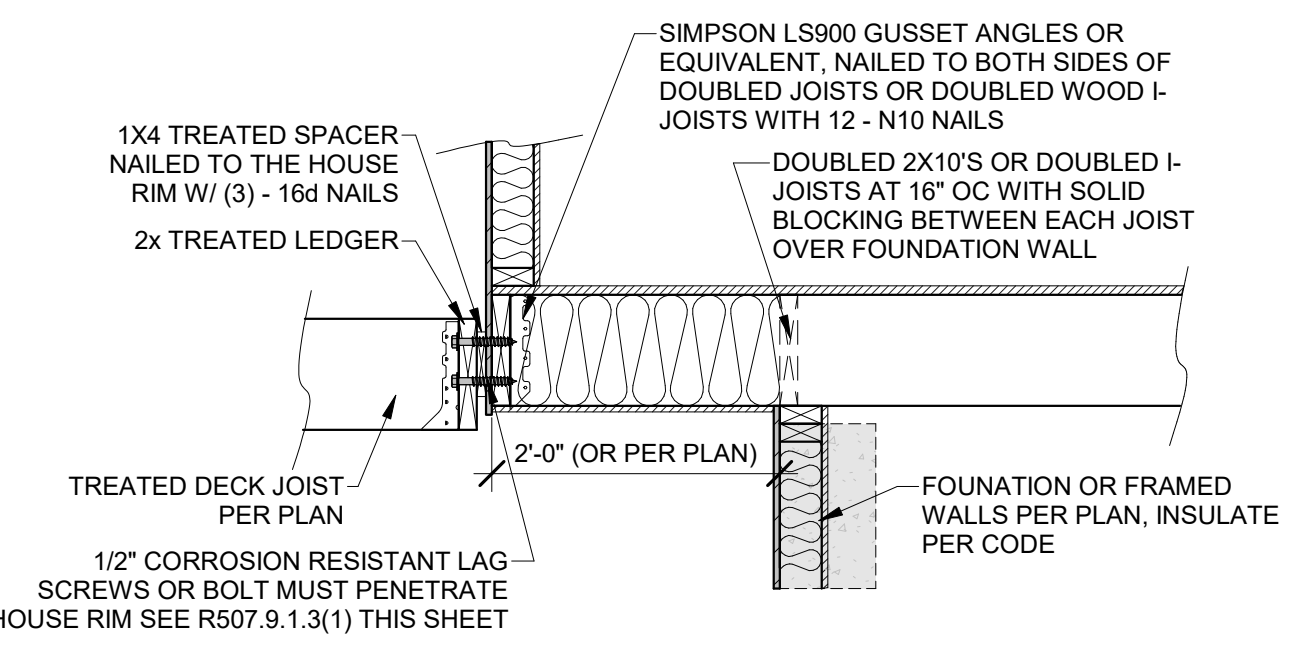
For SI: 1 inch = 25.4mm.
 a. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.9.1.3(1)
 b. Maximum 5 inches
 c. For engineered rim joists, the manufacturer's recommendations shall govern.
 d. The minimum distances from bottom row of lag screws or bolts to the top of the ledger shall be in accordance with Figure R507.9.1.3(1)



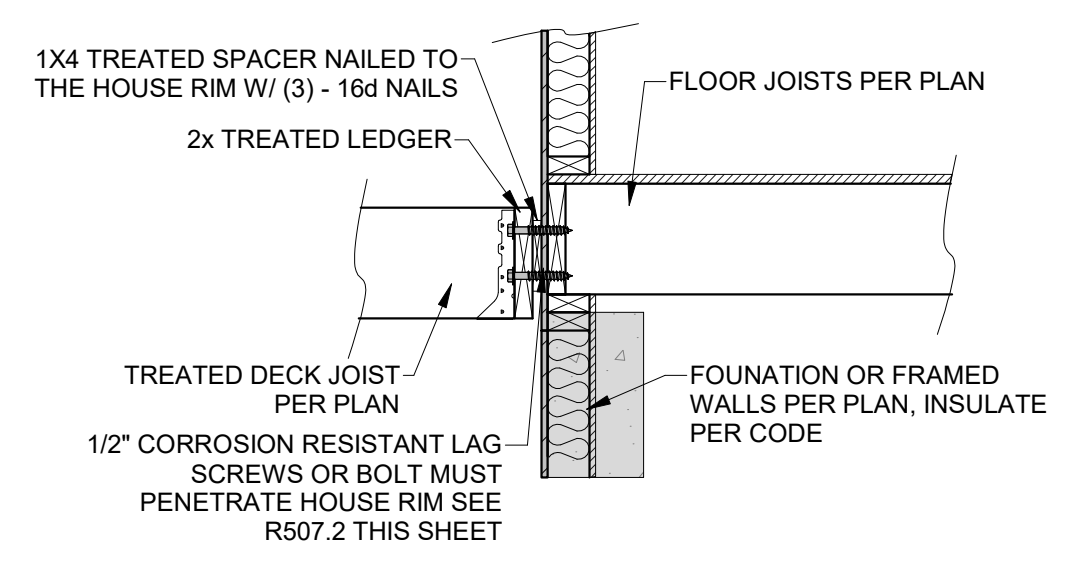
6 DECK LEVEL INTERIOR BEAM TO COLUMN
 1" = 1'-0"



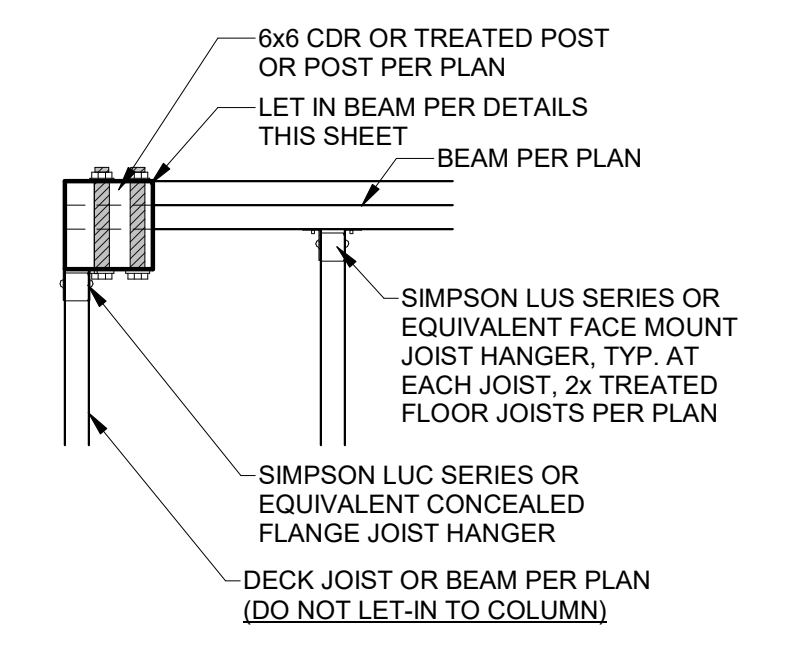
5 DECK LEVEL EXTERIOR BEAM TO COLUMN
 1" = 1'-0"



4 DECK LEDGER TO CANTILEVER
 3/4" = 1'-0"



2 DECK LEDGER ATTACHMENT
 3/4" = 1'-0"



1 DECK CORNER COLUMN
 1" = 1'-0"

TABLE R602.3(5) SIZE, HEIGHT AND SPACING OF WOOD STUDS^a

STUD SIZE (INCHES)	BEARING WALLS				NON-BEARING WALLS	
	LATERALLY UNSUPPORTED STUD HEIGHT ^b (FEET)	MAXIMUM SPACING WHERE SUPPORTING A ROOF-CEILING ASSEMBLY OR A HABITABLE ATTIC ASSEMBLY, ONLY (INCHES)	MAXIMUM SPACING WHERE SUPPORTING ONE FLOOR, PLUS A ROOF-CEILING ASSEMBLY OR A HABITABLE ATTIC ASSEMBLY (INCHES)	MAXIMUM SPACING WHERE SUPPORTING TWO FLOORS, PLUS A ROOF-CEILING ASSEMBLY OR A HABITABLE ATTIC ASSEMBLY (INCHES)	MAXIMUM SPACING WHERE SUPPORTING ONE FLOOR HEIGHT ^c (INCHES)	MAXIMUM SPACING (INCHES)
2 x 3 ^d	---	---	---	---	10	16
2 x 4	10	24 ^e	16 ^e	---	24	24
3 x 4	10	24	24	16	24	24
2 x 5	10	24	24	---	16	24
2 x 6	10	24	24	16	24	24

For S1: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
^a LISTED HEIGHTS ARE DISTANCES BETWEEN POINTS OF LATERAL SUPPORT PLACED PERPENDICULAR TO THE PLANE OF THE WALL. BEARING WALLS SHALL BE SHEATHED ON NOT LESS THAN ONE SIDE OR BRIDGING SHALL BE INSTALLED NOT GREATER THAN 4 FEET APART MEASURED VERTICALLY FROM EITHER END OF THE STUD. INCREASES IN UNSUPPORTED HEIGHT ARE PERMITTED WHERE IN COMPLIANCE WITH EXCEPTION 2 OF SECTION R602.3.1 OR DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.
^b SHALL NOT BE USED IN EXTERIOR WALLS.
^c A HABITABLE ATTIC ASSEMBLY SUPPORTED BY 2 x 4 STUDS IS LIMITED TO A ROOF SPAN OF 32 FEET. WHERE THE ROOF SPAN EXCEEDS 32 FEET, THE WALL STUDS SHALL BE INCREASED TO 2 x 6 OR THE STUDS SHALL BE DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.

RESIDENTIAL SEISMIC & WIND ANALYSIS

DETERMINE WEIGHT OF HOUSE:				INPUT CALCULATED VALUE			
LOCATION	DEAD LOAD (psf)	AREA (SF)	WEIGHT (lbs)	LOCATION	DEAD LOAD (psf)	AREA (SF)	WEIGHT (lbs)
ROOF	10	2336	23360	CEILING	10	2322	23220
SECOND FLOOR	10	1934	19340	FIRST FLOOR	10	1934	19340
SECOND FLOOR EXT. WALL DL	WALL LENGTH (ft)	WALL HEIGHT (ft)	WALL UNIT WT. (psf)	WEIGHT (lbs)	---	---	---
FIRST FLOOR EXT. WALL DL	243	9	2187	---	---	---	---
SECOND FLOOR INT. PARTITION WALL DL	247	9	2223	---	---	---	---
FIRST FLOOR INT. PARTITION WALL DL	6	1634	16340	---	---	---	---

PROJECTED AREAS (WIND DESIGN PER 15 MPH 3-SECOND GUST, EXPOSURE C AND MEAN ROOF HEIGHT <= 30 FT ASSUMED)			
FRONT-TO-BACK		SIDE-TO-SIDE	
AREA	LOAD	AREA	LOAD
SLOPED ROOF	573	557	4560
VERT. ROOF	85	115	1374
CUMULATIVE	658	672	5934
2ND FLOOR	430	1584	7920
1ST FLOOR	338	740	3710
CUMULATIVE	768	2324	11640

SEISMIC SHEAR From ASCE7 (Eq. 12.8-1) $V = 1.25 * S_{vs} * W / R$ (lbs.)

LOCATION	2ND FLOOR	1ST FLOOR
SEISMIC SHEAR	785	1482

LOCATION	2ND FLOOR	1ST FLOOR
SEISMIC SHEAR	785	1482

EXTERIOR STRUCTURAL WALL LENGTHS (ft) & RESISTANCES

LOCATION	SEISMIC		WIND	
	FRONT-TO-BACK	SIDE-TO-SIDE	FRONT-TO-BACK	SIDE-TO-SIDE
2ND FLOOR	179	3330	119	4848
1ST FLOOR	121	3389	131	4742

WIND UPLIFT ANALYSIS

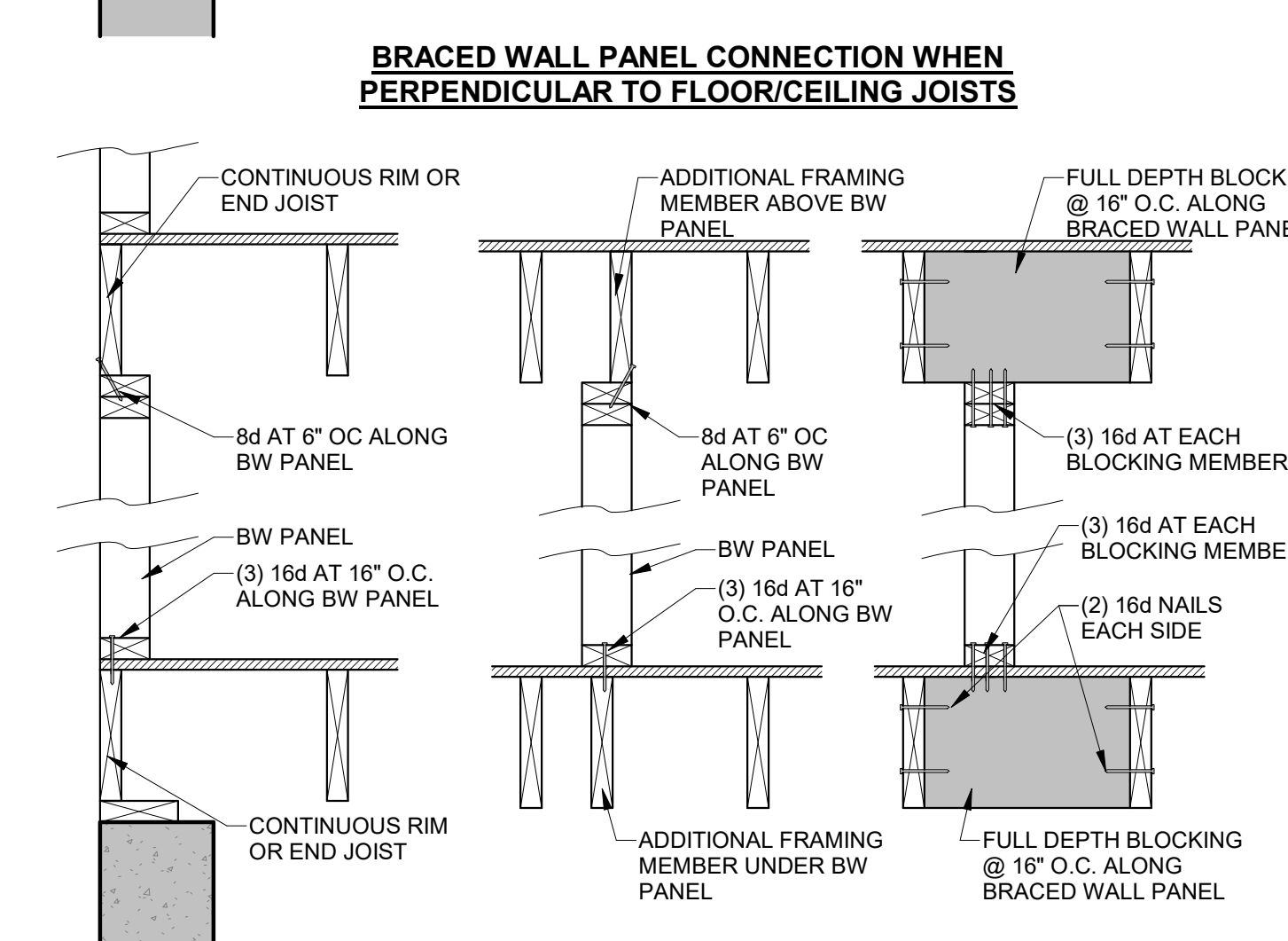
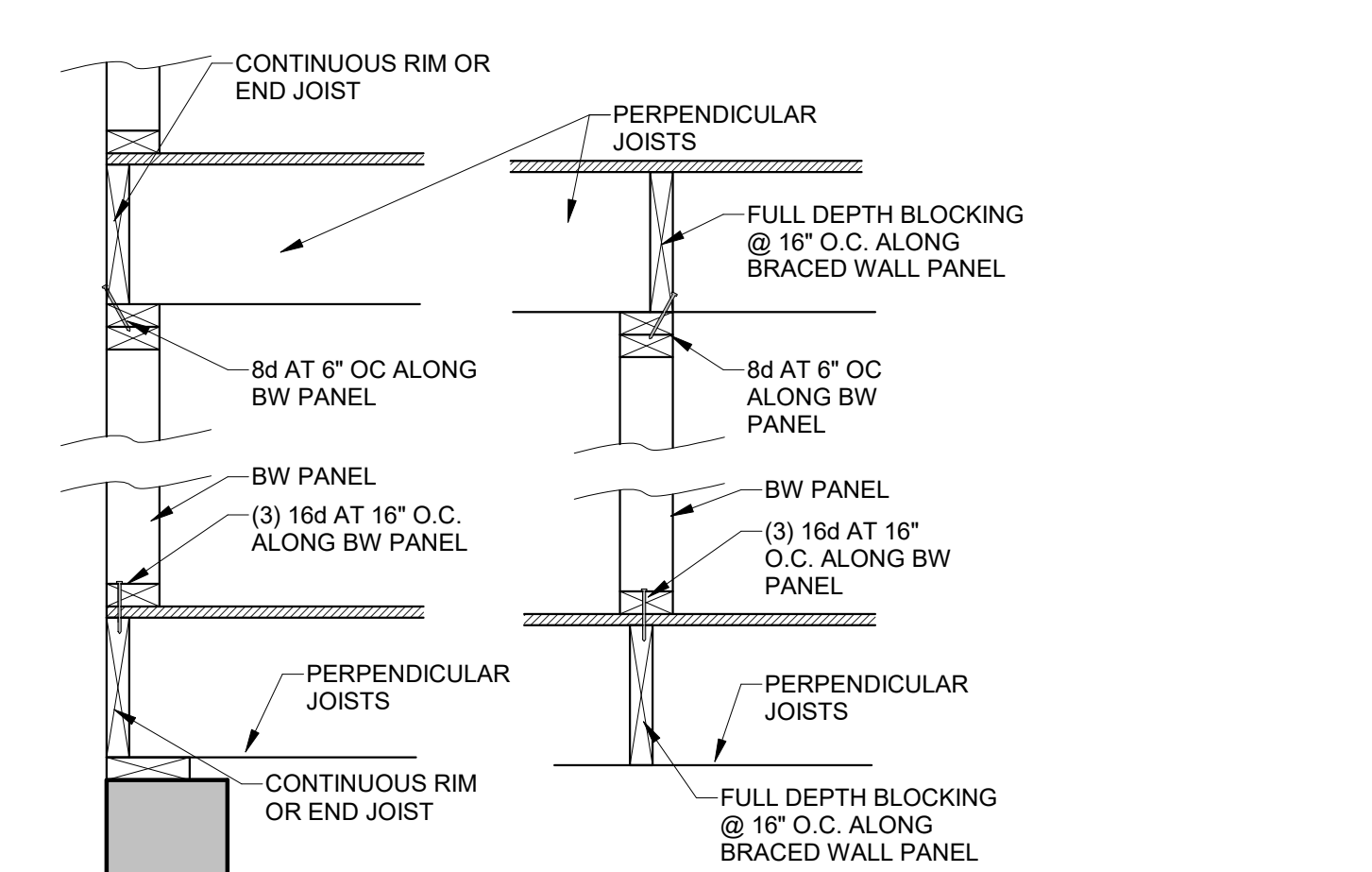
ROOF PITCH (MAX)	DEGREES	PITCH OF 6 OR LESS: EOH-13.3, E-7.2, G-5.2
12	45.0	ASCE 7
OVERHANG	---	---
TOTAL AREA (FT ²)	1718.56	1465.44

BRACED WALL PANEL CONNECTIONS

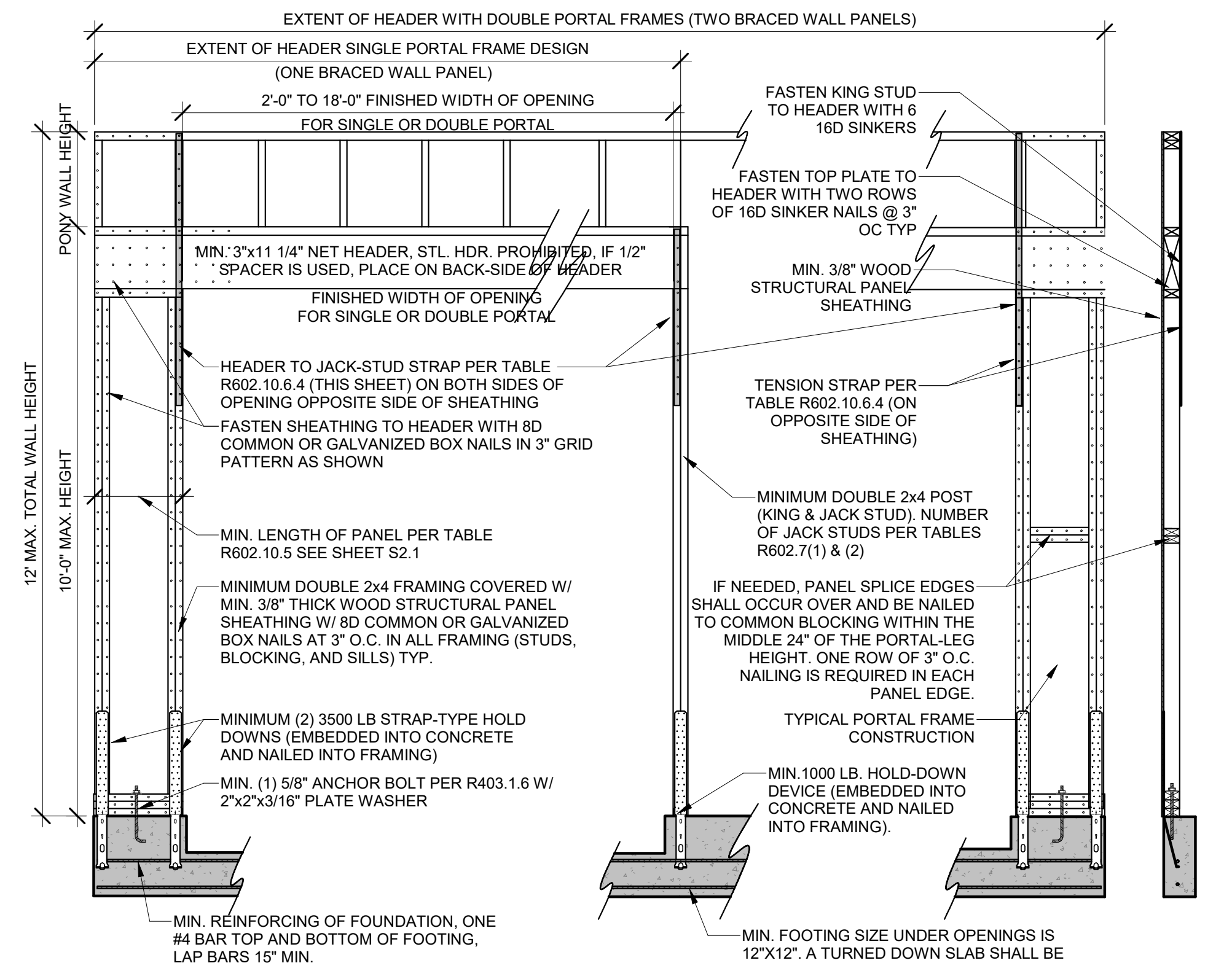
LOCATION	2ND FLOOR	1ST FLOOR
WIND UPLIFT PER LINEAL FOOT ALONG EXTERIOR (POUNDS)	11.3	291.6

NOTE FOR CONSTRUCTION: THE CONTINUOUS STRUCTURAL PANEL SHEATHING BRACING METHOD REQUIRES USE OF THE ABOVE TABLE FOR SHEATHING OF THE ENTIRE STRUCTURE. IN ADDITION, FRAMING MEMBERS SHALL BE @ 16" O.C. MAJ UNBLOCKED, AND W/ SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS.

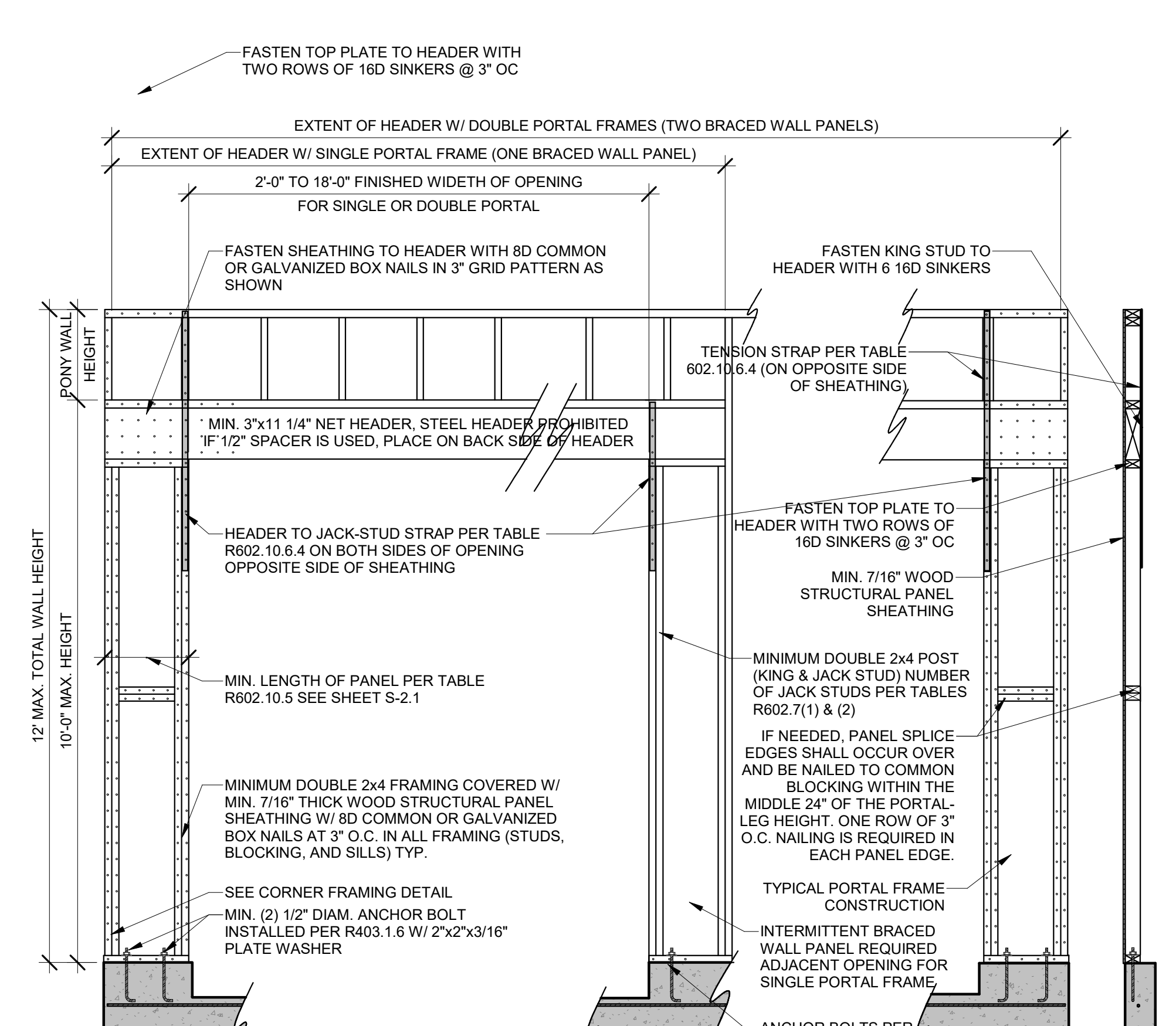
NOTE FOR DESIGN: ALL WALLS USED IN THE CALCULATION OF THE RESISTANCE FOR THIS STRUCTURE SHALL HAVE A MINIMUM UNINTERRUPTED HEIGHT OF 8'-0" AND LENGTH OF 2'-6". ALLOWABLE RESISTANCES HAVE BEEN INCREASED BY 40% FOR WIND LOADS. PER VALUES IN 2015 IBC SECTION 2306 AND AFPA SDPWS TABLE 4.3A. FOR EXAMPLE, 7/16" APA-RATED SHEATHING WITH 8d @ 6" & 12" HAS A SEISMIC SHEAR VALUE OF 2.1 A WIND SHEAR VALUE OF 335#/FT. 40% GREATER THAN THAT OF SECTION.



BRACED WALL PANEL CONNECTIONS
1" = 1'-0"



1 PFG PORTAL FRAME W/ HOLD DOWNS (R602.10.6.2)
1/2" = 1'-0"



2 PFG PORTAL FRAME W/OUT HOLD DOWNS (R602.10.6.3)
1/2" = 1'-0"

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913.651.2222
SERVICE@HDENGINEERS.COM



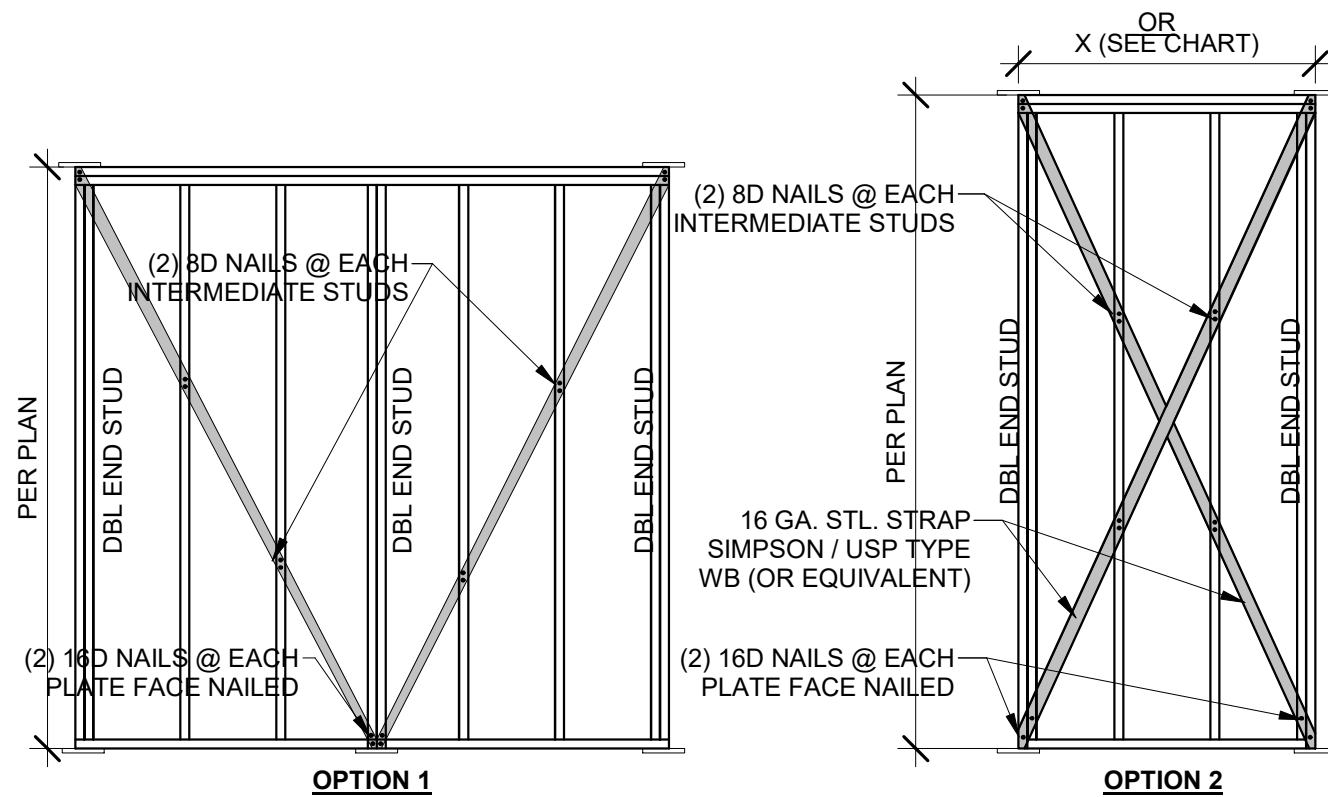
DAN WESSEL DESIGN, INC.
HILEMAN RESIDENCE
4831 BOOTH ST., WESTWOOD, KS
STRUCTURAL DETAILS & NOTES

HD#: 48128
DATE: 08/30/2024
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BRACED WALL NOTES & DETAILS
S-2.0

TENSION STRAP CAPACITY REQUIRED FOR RESISTING WIND PRESSURES PERPENDICULAR TO METHOD PFH, PFG AND CS-PF BRACED WALL PANELS IRC2018 TABLE R602.10.6.4



6 LIB BRACING
3/8" = 1'-0"

BRACED WALL PANEL LENGTH BASED ON WALL HEIGHT FOR IRC, LIB		
WALL HEIGHT	MIN. WALL LENGTH (X)	MAX. WALL LENGTH (X)
8'-0"	4'-7"	8'-0"
9'-0"	5'-2"	9'-0"
10'-0"	5'-9"	10'-0"
11'-0"	NP	---
12'-0"	NP	---

FOR IRC CODE PRESCRIPTIVE METHOD
TABLE R602.10.5 MINIMUM LENGTH OF BRACED WALL PANELS

METHOD (SEE TABLE R602.10.4)	MINIMUM LENGTH (INCHES) ^a					CONTRIBUTING LENGTH (INCHES)	
	WALL HEIGHT						
	8 FEET	9 FEET	10 FEET	11 FEET	12 FEET		
DWB,WSP,SFB,PBS,PCP,HPS,BV-WSP	48	48	48	53	58	ACTUAL ^b	
GB	48	48	48	53	58	DOUBLE SIDED = ACTUAL SINGLE SIDED = .5xACTUAL	
LIB	55	62	69	NP	NP	ACTUAL ^b	
ABW	SDC A, B, AND C ULTIMATE DESIGN WIND SPEED <140	28	32	34	38	42	48
	SDC D, D, D ULTIMATE DESIGN WIND SPEED <140	32	32	34	NP	NP	
PFH	SUPPORTING ROOF ONLY	16	16	16	NOTE C	NOTE C	48
	SPTNG. ONE STORY & ROOF	24	24	24	NOTE C	NOTE C	
PFG	24	27	30	NOTE D	NOTE D	1.5 x ACTUAL ^b	
CS-G	24	27	30	33	36	ACTUAL ^b	
CS-PF	16	18	20	NOTE E	NOTE E	ACTUAL ^b	
ADJACENT CLEAR OPENING HEIGHT (INCHES)	≤64	24	27	30	33	36	ACTUAL ^b
	68	26	27	30	33	36	
	72	27	27	30	33	36	
	76	30	29	30	33	36	
	80	32	30	30	33	36	
	84	35	32	32	33	36	
	88	38	35	33	33	36	
	92	43	37	35	35	36	
	96	48	41	38	36	36	
	100	-	44	40	38	38	
	104	-	49	43	40	39	
	108	-	54	46	43	41	
	112	-	-	50	45	43	
	116	-	-	55	48	45	
	120	-	-	60	52	48	
	124	-	-	-	56	51	
128	-	-	-	61	54		
132	-	-	-	66	58		
136	-	-	-	-	62		
140	-	-	-	-	66		
144	-	-	-	-	72		

a. LINEAR INTERPOLATION SHALL BE PERMITTED
 b. USE THE ACTUAL LENGTH WHEN IT IS GREATER THAN OR EQUAL TO THE MINIMUM LENGTH
 c. MAX. HEADER HEIGHT FOR PFH IS 10' IN ACCORDANCE WITH R602.10.6.2. WALL HEIGHT MAY BE INCREASED TO 12' WITH PONY WALL
 d. MAX. OPENING HEIGHT FOR PFG IS 10' IN ACCORDANCE WITH R602.10.6.3. WALL HEIGHT MAY BE INCREASED TO 12' WITH PONY WALL
 e. MAX. OPENING HEIGHT FOR CS-PF IS 10' IN ACCORDANCE WITH R602.10.6.4. WALL HEIGHT MAY BE INCREASED TO 12' WITH PONY WALL

BRACED WALL PRESCRIPTIVE METHOD:
CONTINUOUS EXTERIOR SHEATHING (CS-WSP) PER WSP METHOD (BELOW) UNLESS OTHERWISE NOTED ON THE PLAN

EXTERIOR BRACED WALL METHOD: (SEE ON THIS SHEET)

WSP METHOD:
WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" O.C. STUD SPACING WITH 6d COMMON NAILS @ 6" O.C. EDGES AND 12" O.C. FIELD OR SHEATHING THICKNESS NOT LESS THAN 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24" O.C. SPACING WITH 8d COMMON NAILS @ 6" O.C. EDGES AND 12" O.C. IN FIELD
(NOTE: FRAMING MEMBERS 16" O.C. MAX. UNBLOCKED, AND W/ SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS).

INTERIOR BRACED WALLS (SEE ON THIS SHEET)

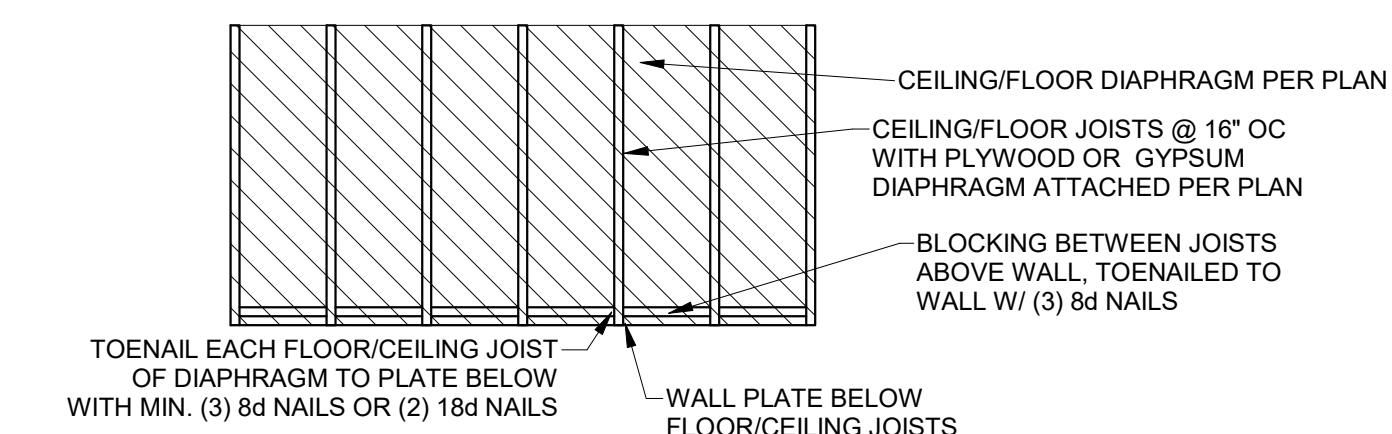
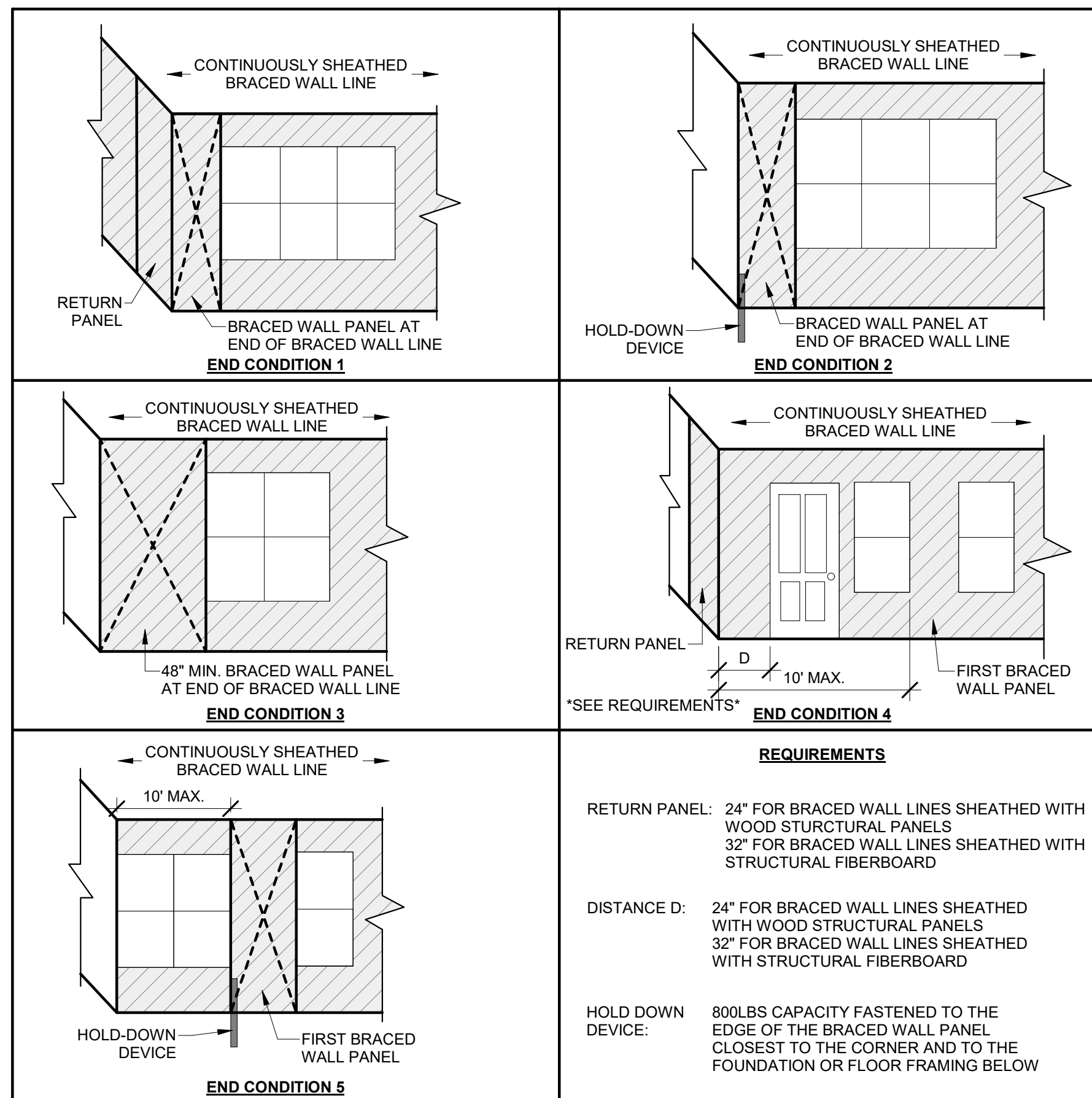
GB METHOD:
1/2" MINIMUM GYPSUM BOARD OVER STUDS SPACED @ 24" MAXIMUM FASTENED W/ #6 - 1 1/4" TYPE "W" OR "S" DRYWALL SCREWS @ 7" O.C. EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES)
OR
LIB METHOD:
1x4 WOOD FASTENED W/ (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA. TYPE WB (OR EQUIVALENT) STL. X-BRACE(S) @ 45° TO 60° ANGLES, MAXIMUM 16" O.C. STUDS FASTENED PER MANUF. SPECS.

MINIMUM WALL STUD FRAMING NOMINAL SIZE & GRADE	MAX. PONY WALL HEIGHT (FEET)	MAX. TOTAL WALL HEIGHT (FEET)	MAX. OPENING WIDTH (FEET)	TENSION STRAP CAPACITY REQUIRED (POUNDS) ^a	
				ULTIMATE DESIGN WIND SPEED V (MPH)	
				115	115
				EXPOSURE B	EXPOSURE C
2x4 NO. 2 GRADE	0	10	18	1,000	1,000
			9	1,000	1,000
			16	1,025	2,500
			18	1,275	2,850
			9	1,000	1,875
			11	2,175	4,125
	2	10	18	2,500	DR
			9	1,500	3,175
			16	3,375	DR
			18	3,975	DR
			9	2,750	DR
			12	3,775	DR
2x6 STUD GRADE	2	12	9	1,000	2,025
			16	2,150	3,675
			18	2,550	DR
			9	1,750	3,125
			16	2,400	DR
			18	3,800	DR
	4	12	9	1,000	2,025
			16	2,150	3,675
			18	2,550	DR
			9	1,750	3,125
			16	2,400	DR
			18	3,800	DR

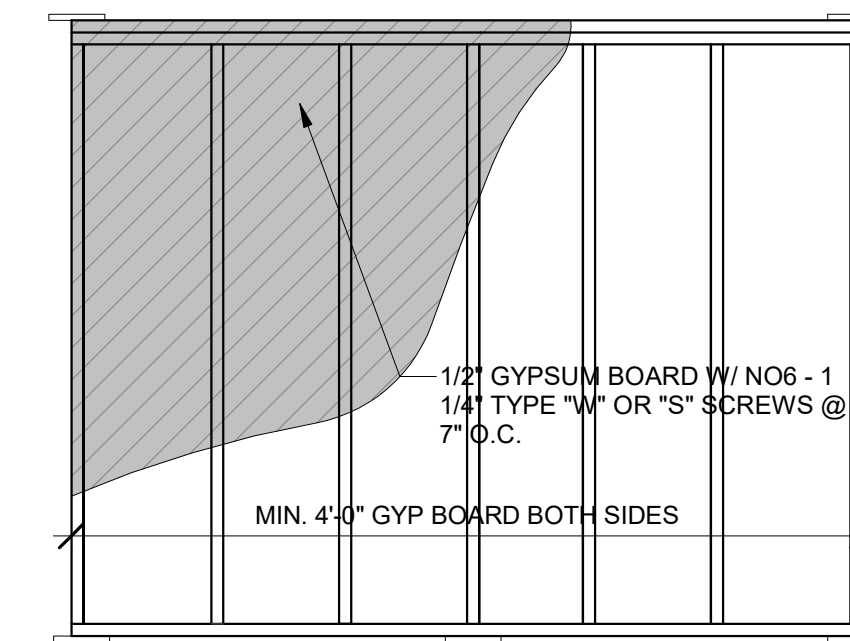
a. DR = DESIGN REQUIRED
 b. STRAP SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

END WALL CONDITIONS

FOR CONTINUOUSLY SHEATHED BRACED WALL LINES



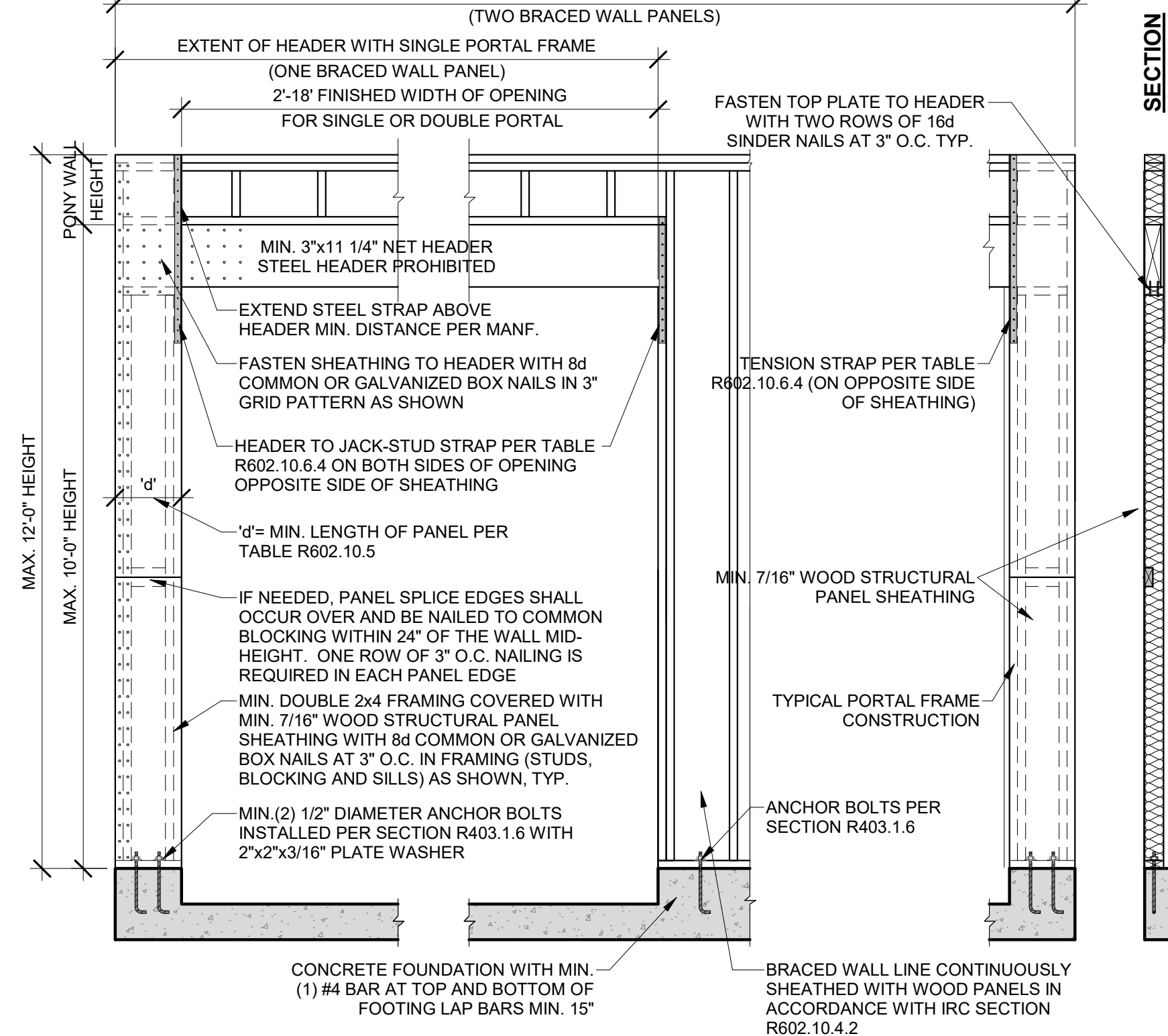
1 DIAPHRAGM CONNECTION TO INTERIOR WALL
3/8" = 1'-0"



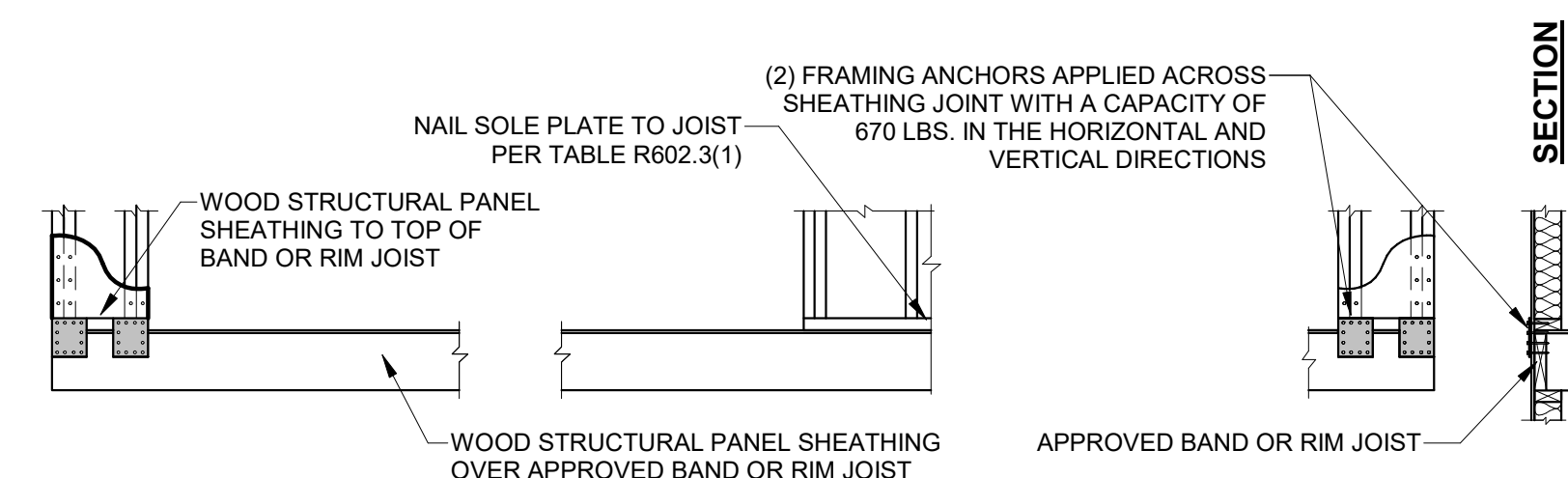
5 GB BRACING
1/2" = 1'-0"

FRONT ELEVATION

EXTENT OF HEADER WITH DOUBLE PORTAL FRAMES (TWO BRACED WALL PANELS)

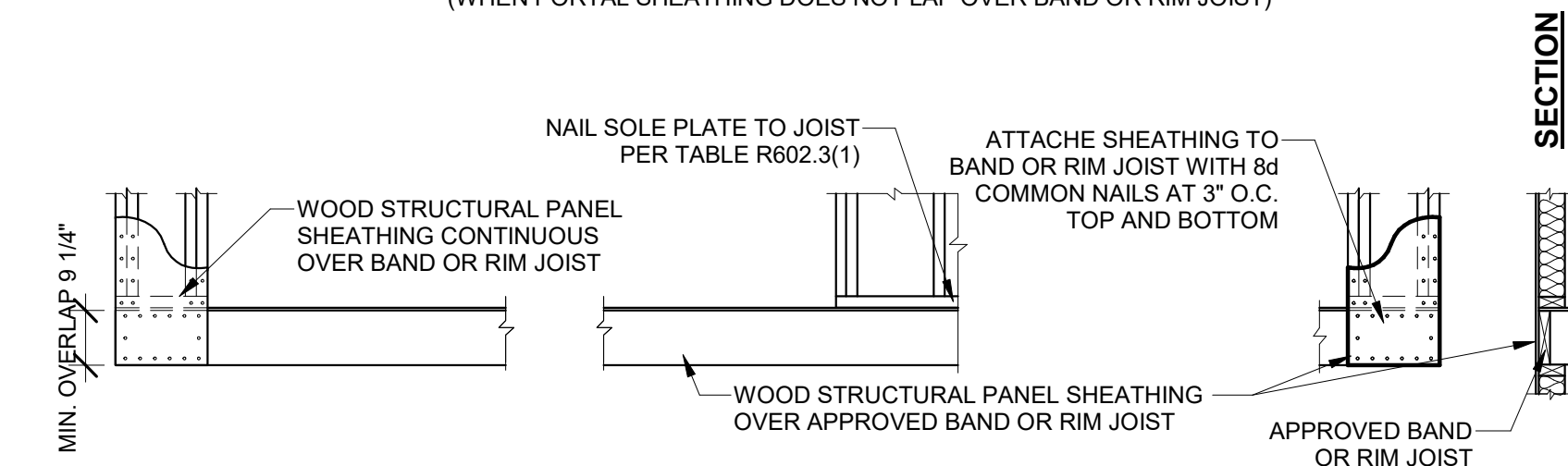


OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION

(WHEN PORTAL SHEATHING DOES NOT LAP OVER BAND OR RIM JOIST)



OVER RAISED WOOD FLOOR - OVERLAP OPTION

(WHEN PORTAL SHEATHING LAPS OVER BAND OR RIM JOIST)

4 CS-PF
1/2" = 1'-0"

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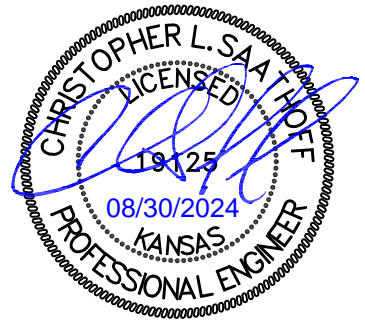
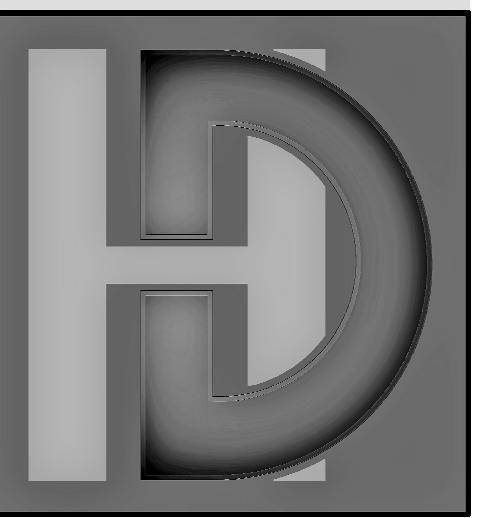
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BRACED WALLS NOTES & DETAILS

S-2.1

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 STRUCTURAL DETAILS & NOTES

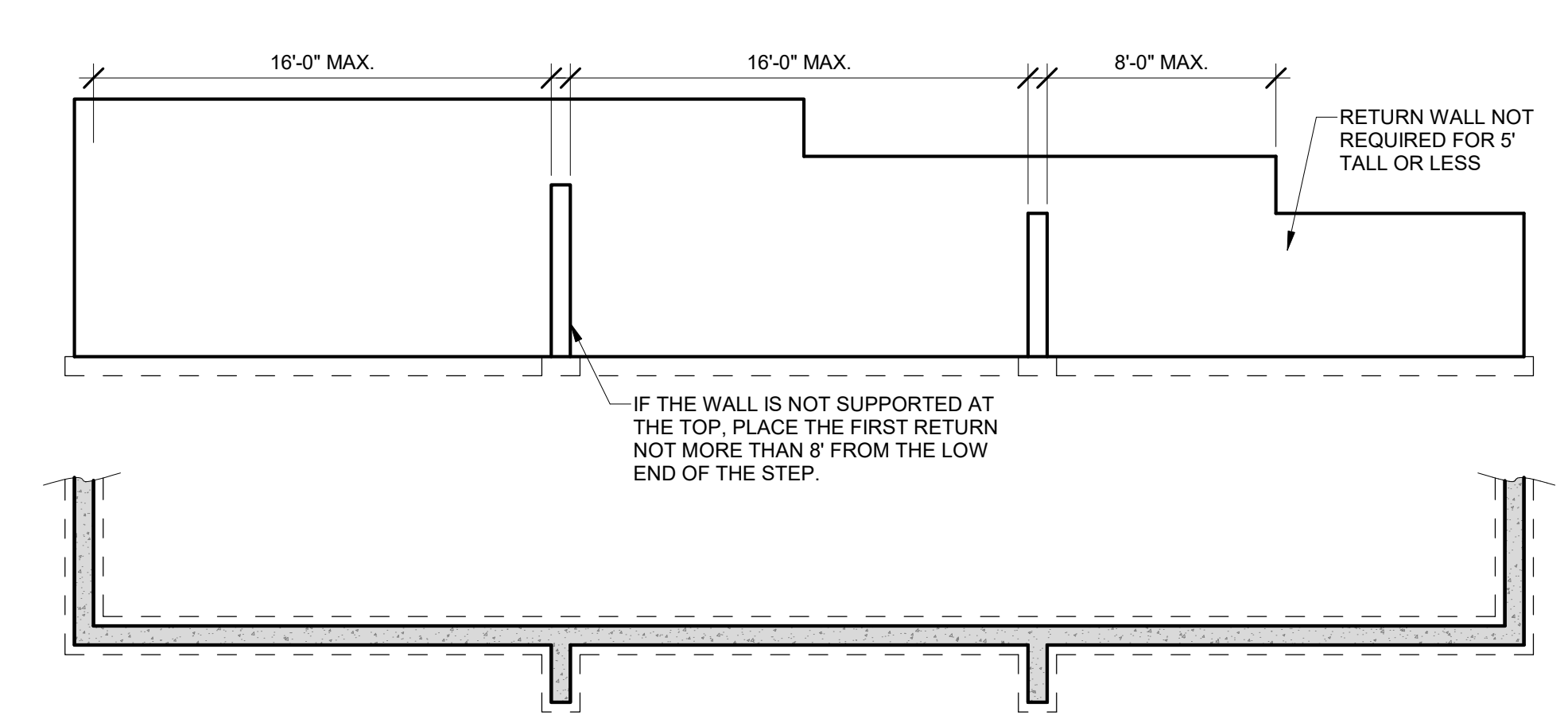
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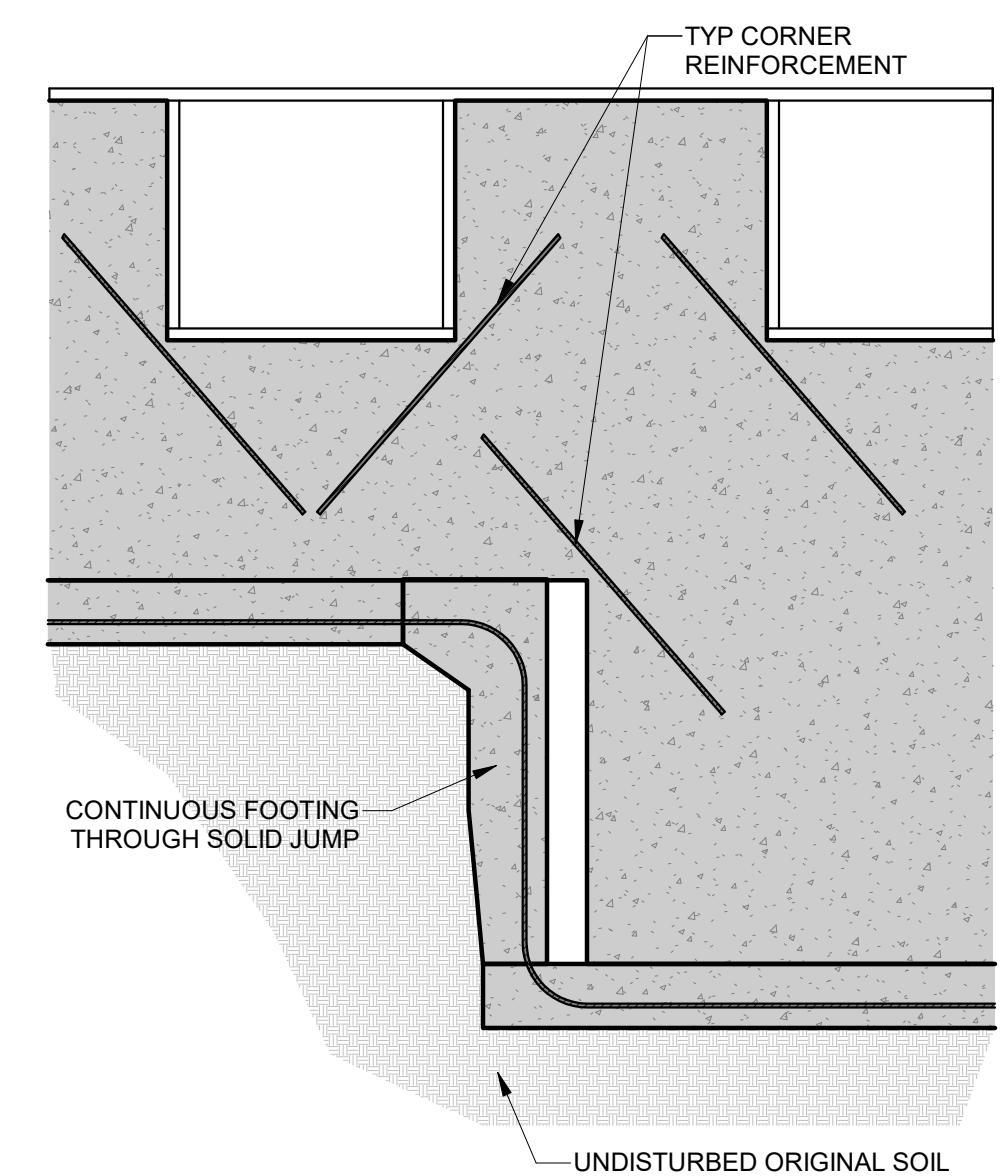
NO.	ISSUE/REVISION	Revision Date

CONCRETE DETAILS

S-3.0

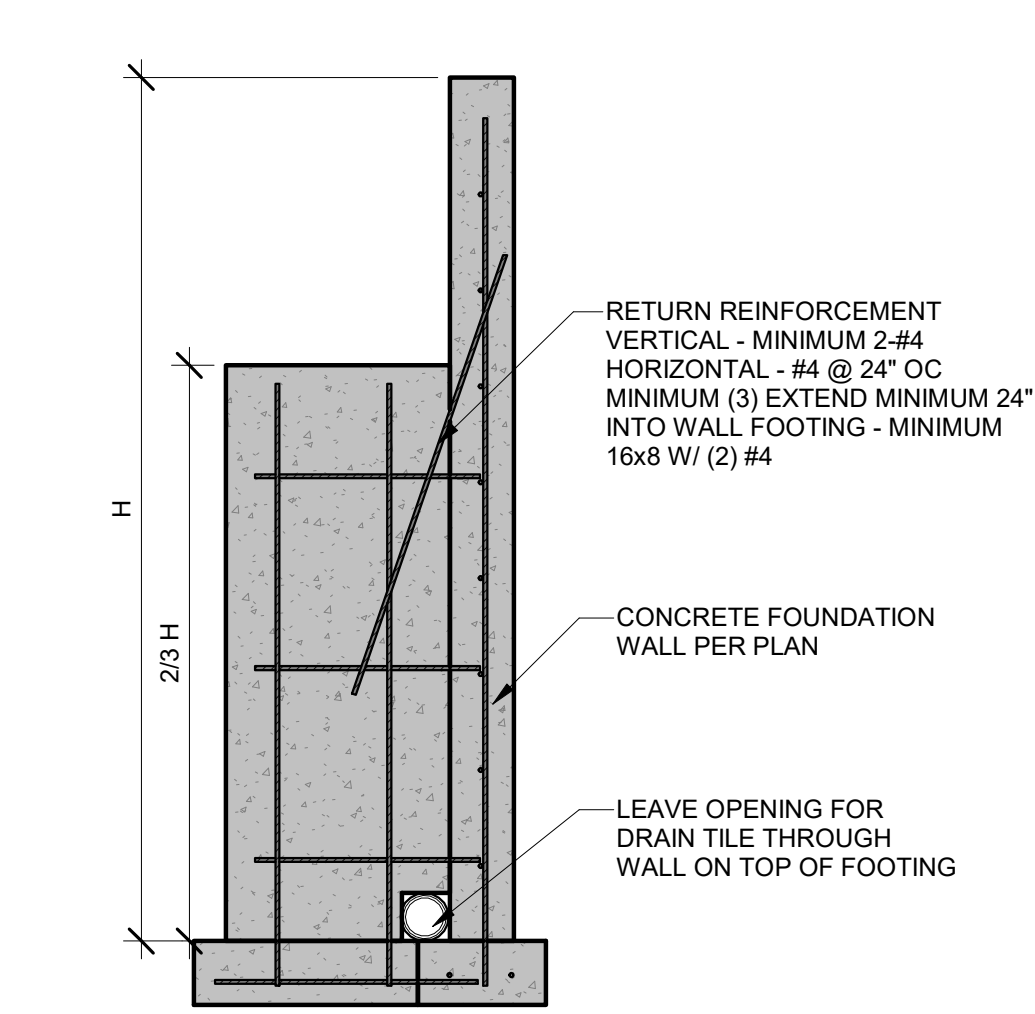


4 RETURN WALL PLACEMENT
 3/16" = 1'-0"

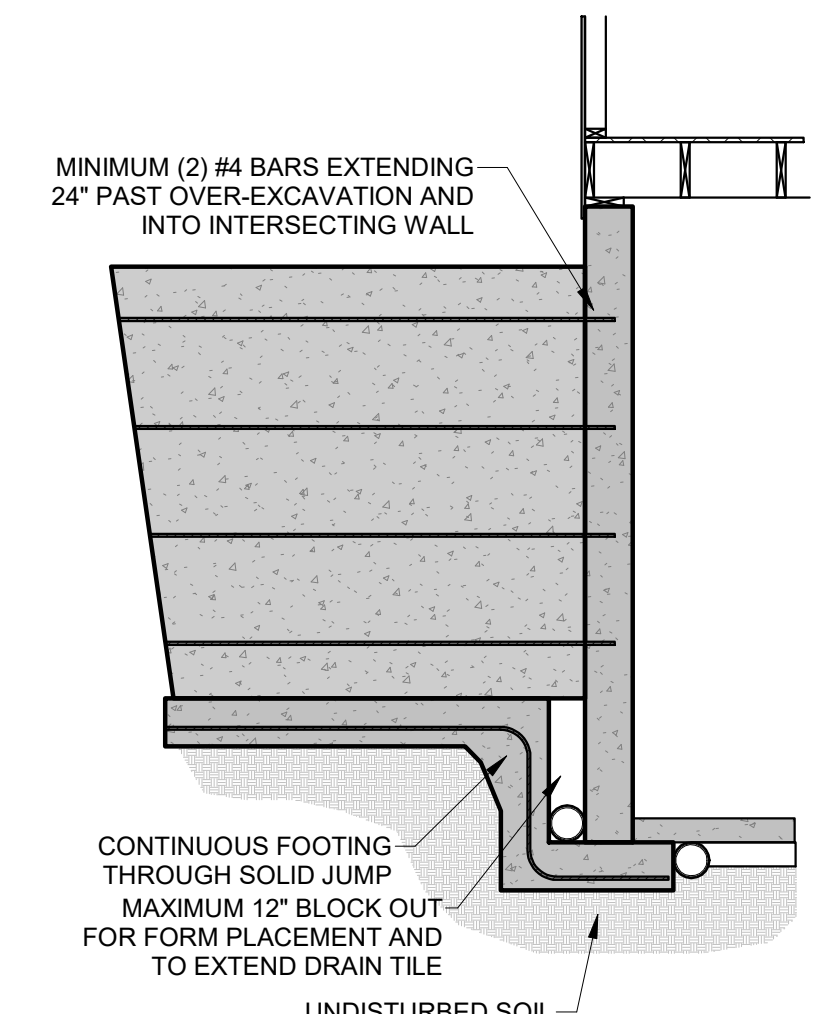


WHERE OPENINGS OR ABRUPT ELEVATION CHANGES OCCUR IN THE TOP OR BOTTOM OF THE WALL AT LEAST ONE #4 BAR 48" LONG SHALL BE DIAGONALLY AS CLOSE A PRACTICAL TO THE CORNER

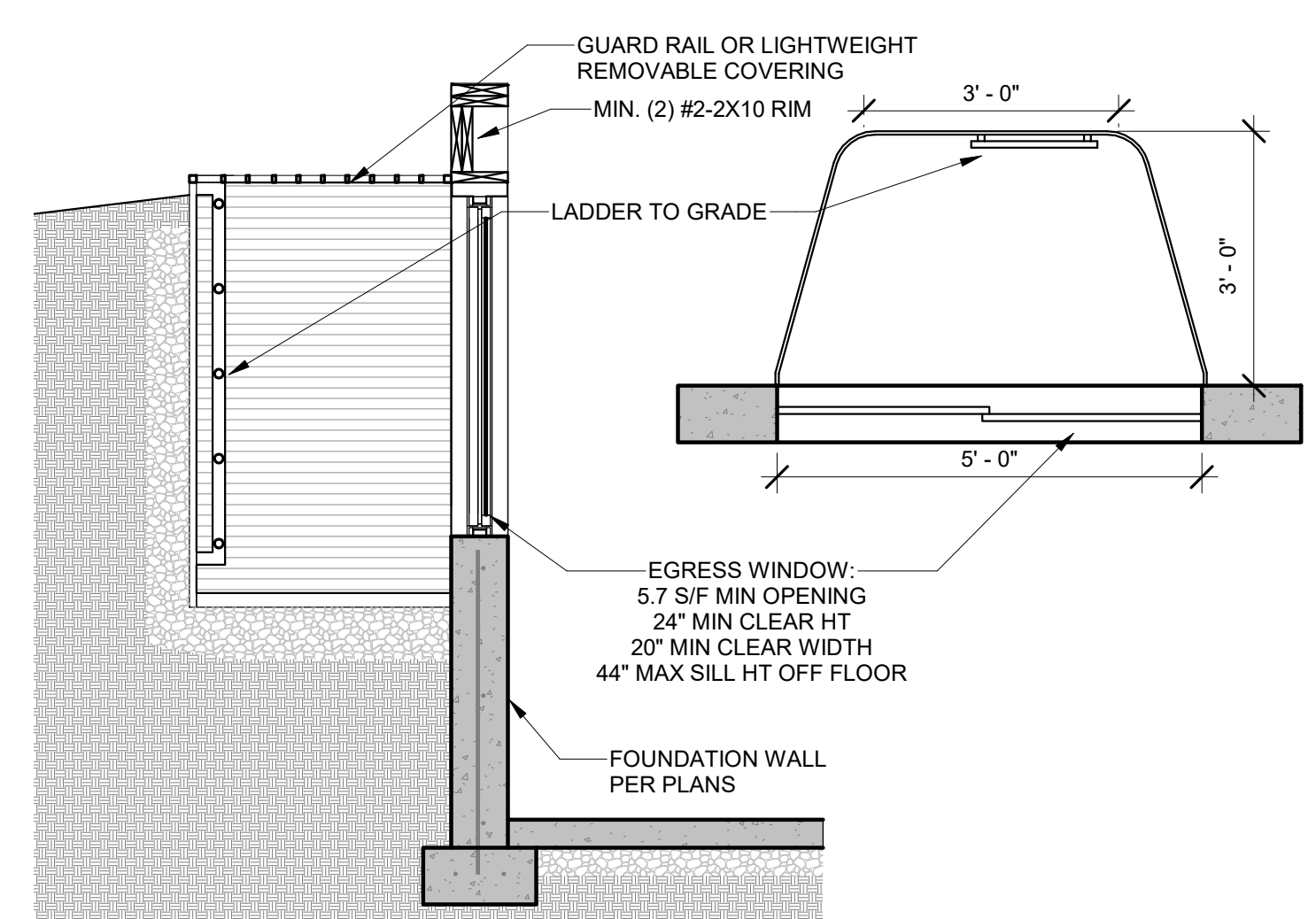
9 REINFORCEMENT AT CORNERS AND STEPS
 1/2" = 1'-0"



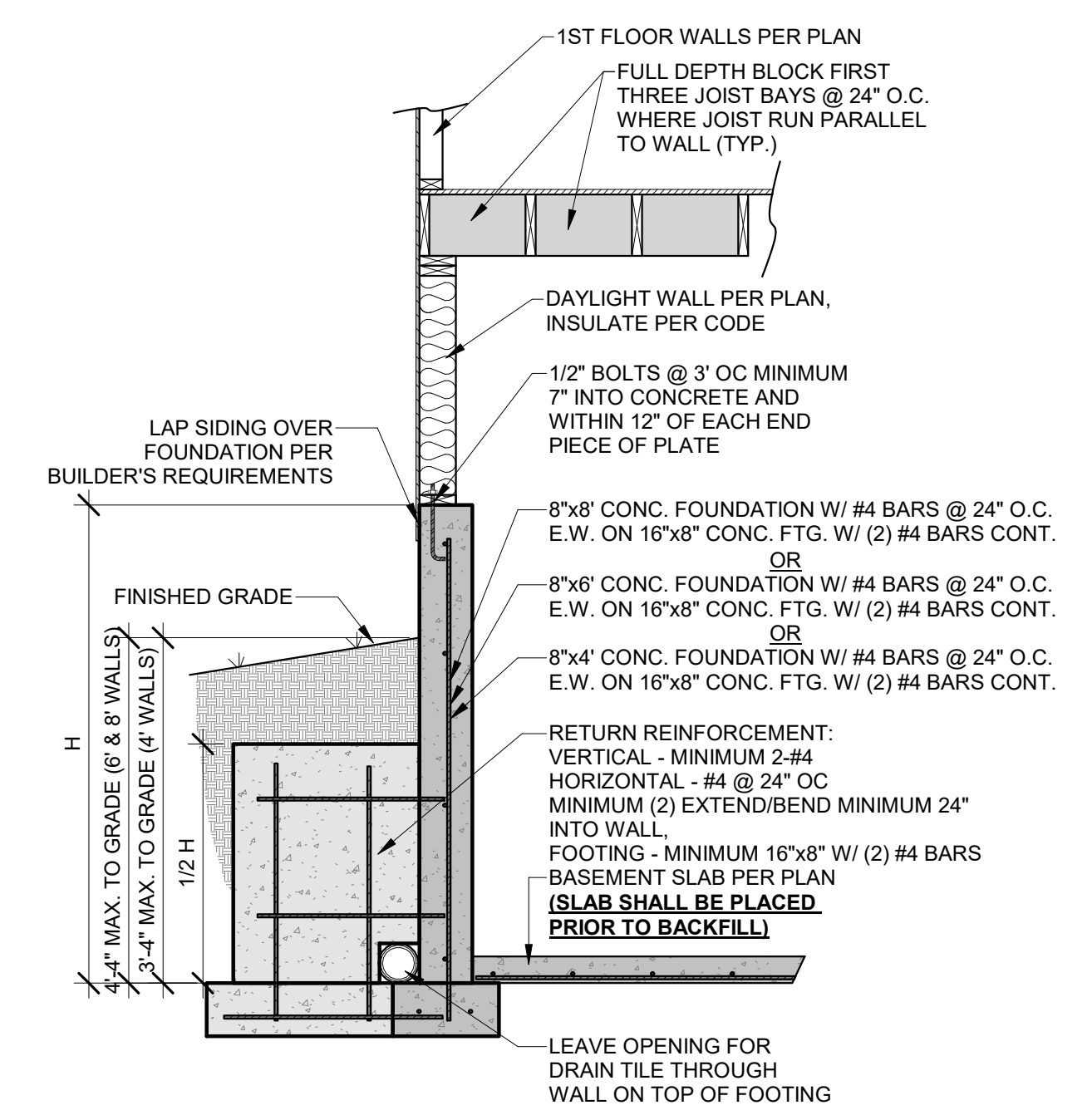
2 RETURN WALL DETAIL
 1/2" = 1'-0"



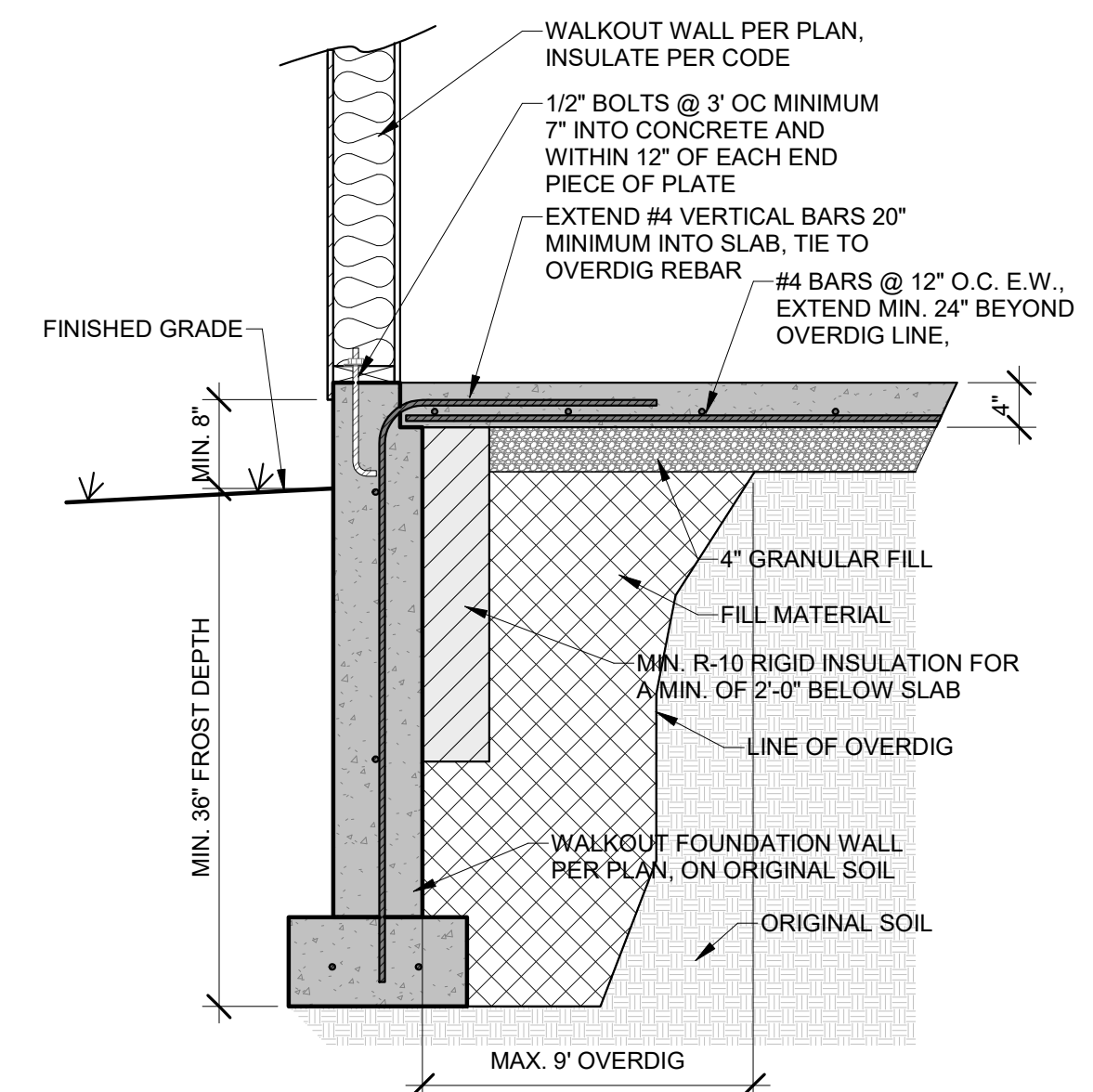
1 SOLID FOOTING JUMP DETAIL
 3/8" = 1'-0"



11 EGRESS WINDOW SECTION
 1/2" = 1'-0"



7 UNRESTRAINED FOUNDATION WALL
 1/2" = 1'-0"



10 WALKOUT DETAIL
 3/4" = 1'-0"

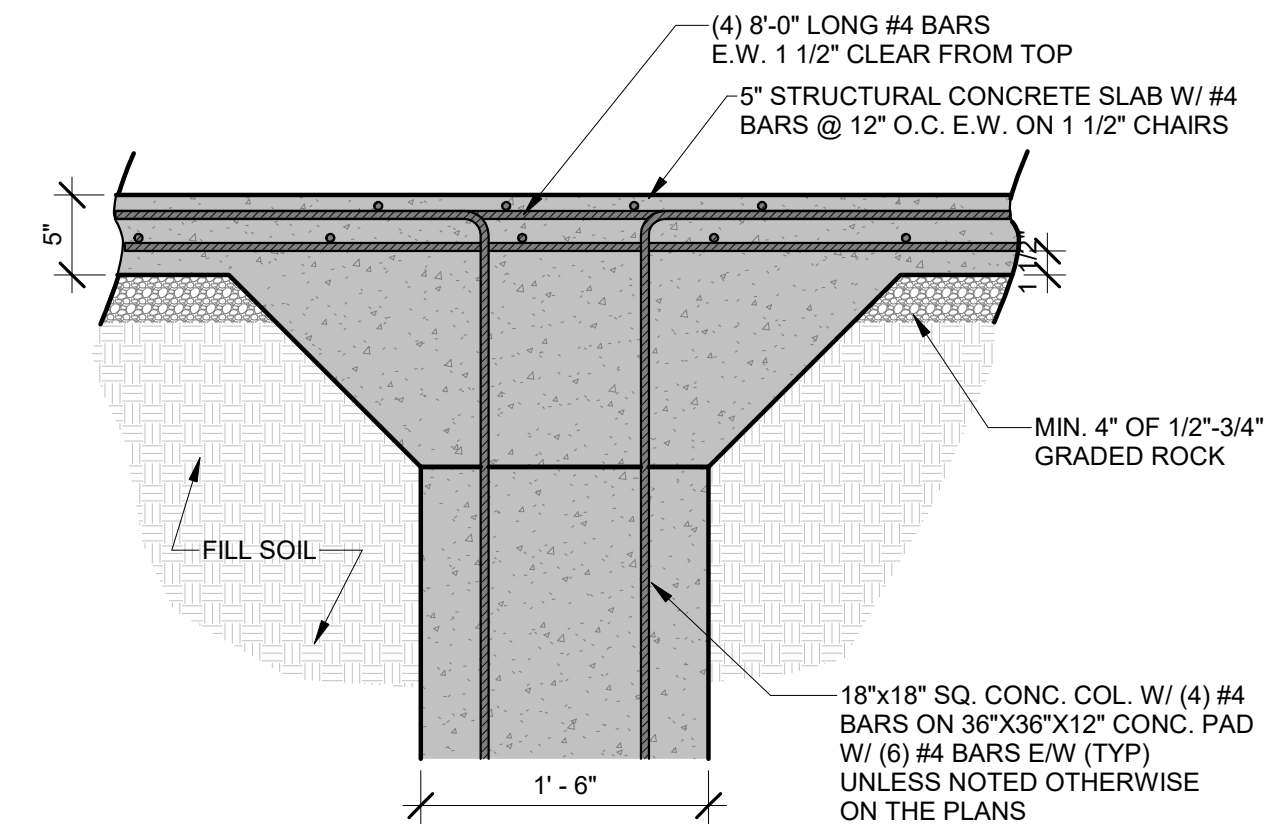
IMPORTANT NOTE:
 ANY SLAB WITH GREATER THAN 2' OF GRADED ROCK OR 8" OF FILL SOIL BELOW SHALL BE DESIGNED AS STRUCTURAL PER PLAN. OUR FIRM SHOULD BE CONTACTED IMMEDIATELY FOR DESIGN RECOMMENDATIONS. DESIGN MUST BE COMPLETED PRIOR TO PLACEMENT OF PIERS OR FOOTINGS.

8"x4', 8"x6', AND 8"x8' DAYLIGHT FOUNDATION
 IF SLAB IS NOT PLACED PRIOR TO BACKFILL, CONTRACTOR IS RESPONSIBLE FOR BRACING THE FOUNDATION AS REQUIRED

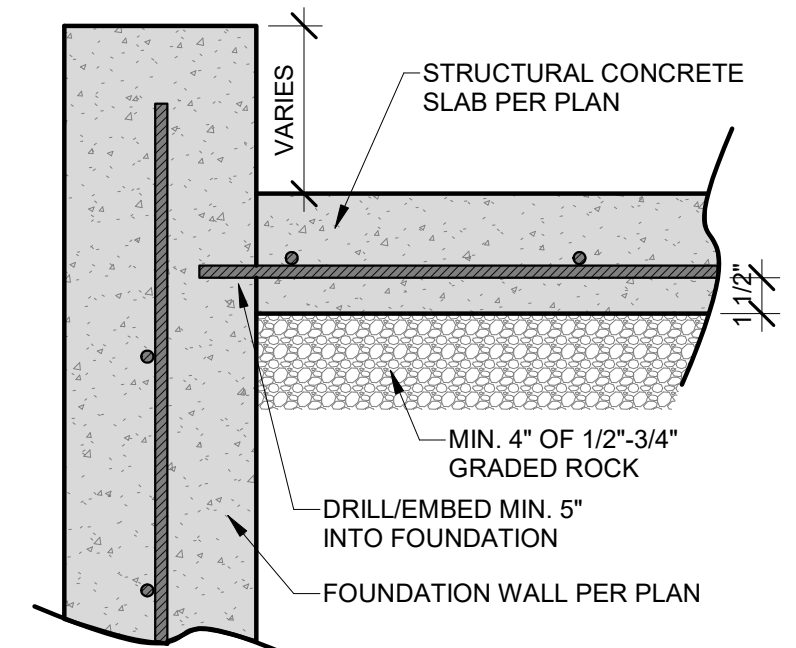
VERTICAL REINFORCEMENT SPACING* 60 PSF SOIL; 40 & 60 KSI STEEL					
CONCRETE STRENGTH	8" THICK WALL			10" THICK WALL	
	8'	9'	8'	9'	10'
3000 PSI/ 40 KSI	16	12	24	16	12
3500 PSI/ 40 KSI	16	12	24	24	12
3000 PSI/ 60 KSI	24	16	24	20	16
3500 PSI/ 60 KSI	24	16	24	24	16

HORIZONTAL REINFORCEMENT**					
ONE BAR 12" FROM TOP OF WALL; MAX. SPACING 24" O.C.	4-#4	5-#4	4-#4	5-#4	6-#4

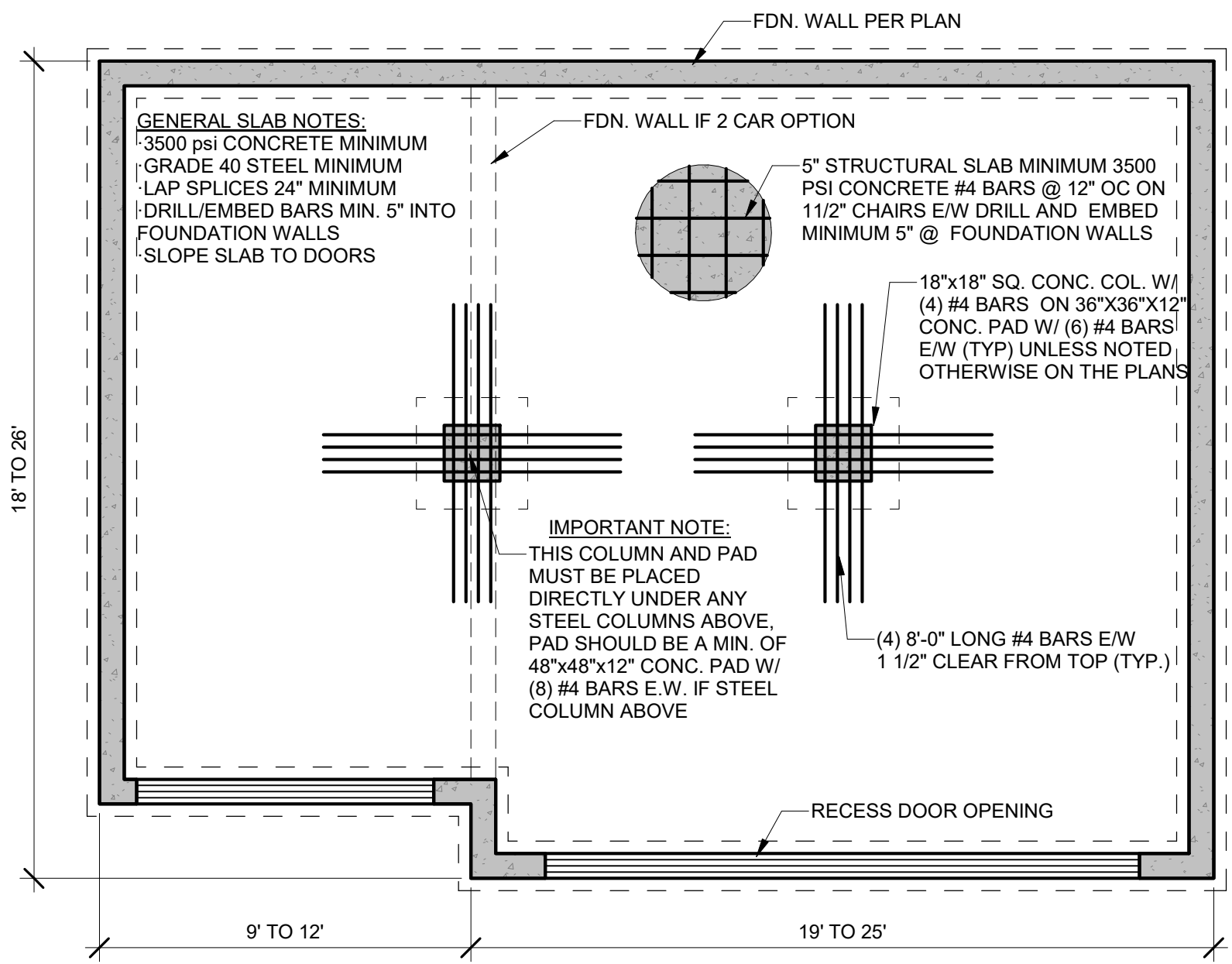
* CONCRETE SHALL HAVE AIR ENTRAINMENT OF 5-7%.
 * MINIMUM REQUIREMENT FOR VERTICAL REBAR IN PLAIN CONCRETE WALLS IS #4 @ 36" ON CENTER (ACI 332).
 * VERTICAL BARS SHALL BE CONTINUED UP TO WITHIN 8" OF THE TOP OF THE WALL.
 * REBAR SHALL BE POSITIONED AT THE TENSION FACE OF THE WALL (2" FROM THE INSIDE FACE).
 * REINFORCEMENT SHALL LAP A MINIMUM OF 24 INCHES AT ENDS, SPLICES, AND AROUND CORNERS.
 ** #4 BARS @ 24" ON CENTER.
 ** #4 BAR WITHIN 12 OF TOP AND BOTTOM OF WALL.
 ** MINIMUM GRADE 40 (40ksi) STEEL (PER ACI 332).
 ** HORIZONTAL REINFORCEMENT SHALL BE INSTALLED ON THE COMPRESSION SIDE (SOIL SIDE) OF THE VERTICAL REINFORCEMENT



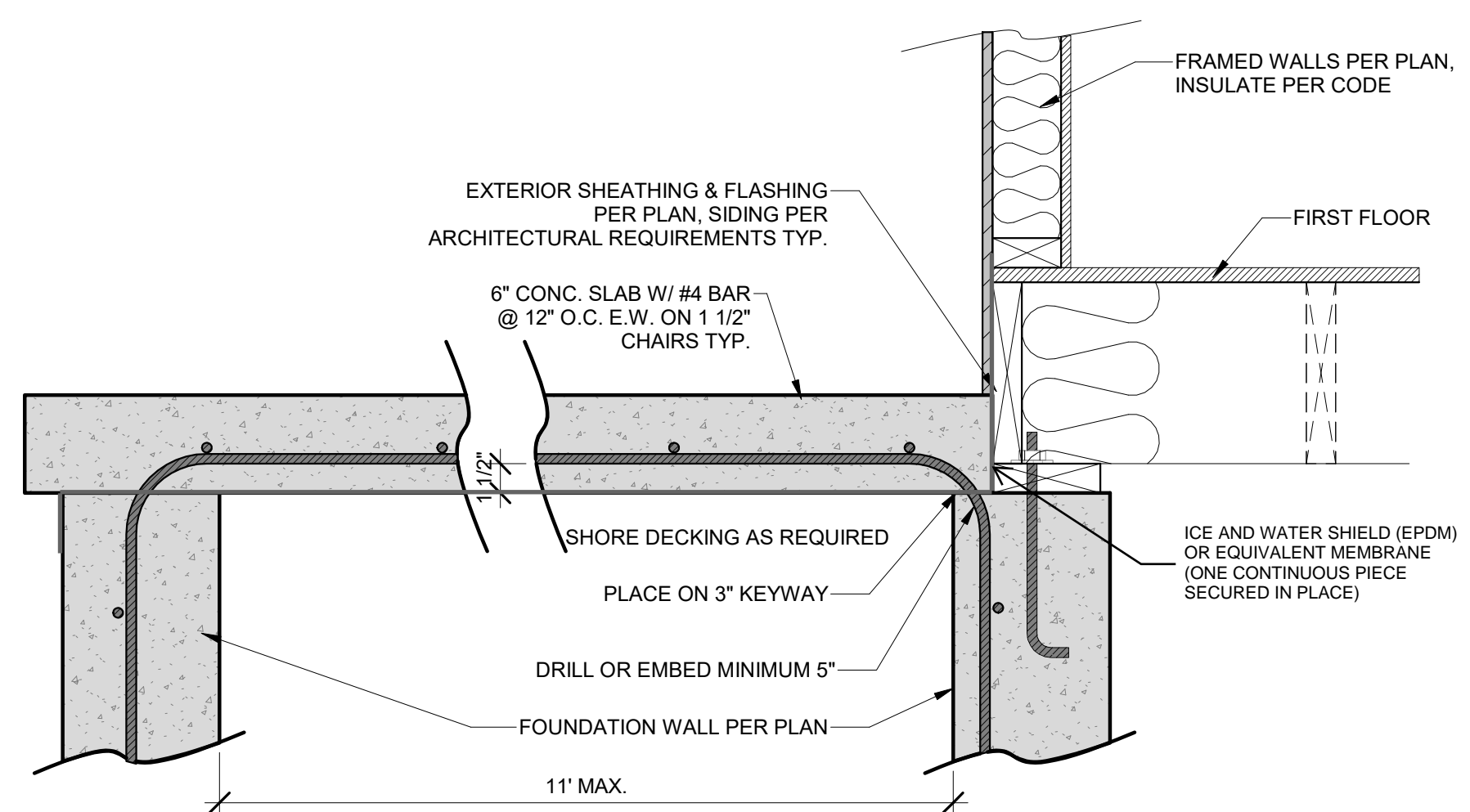
8 GARAGE SLAB COLUMN DETAIL
1" = 1'-0"



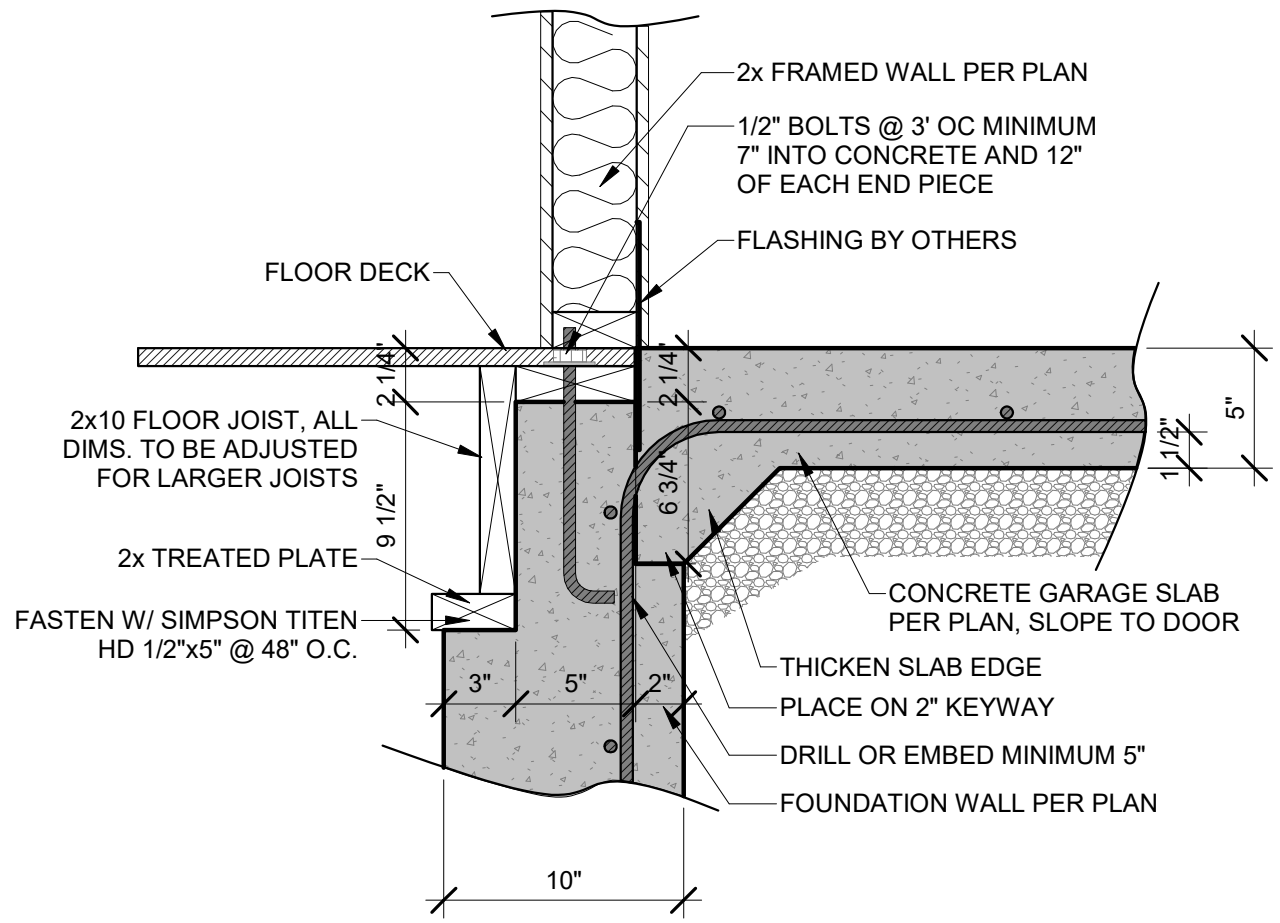
9 STRUCTURAL SLAB/ WALL
1 1/2" = 1'-0"



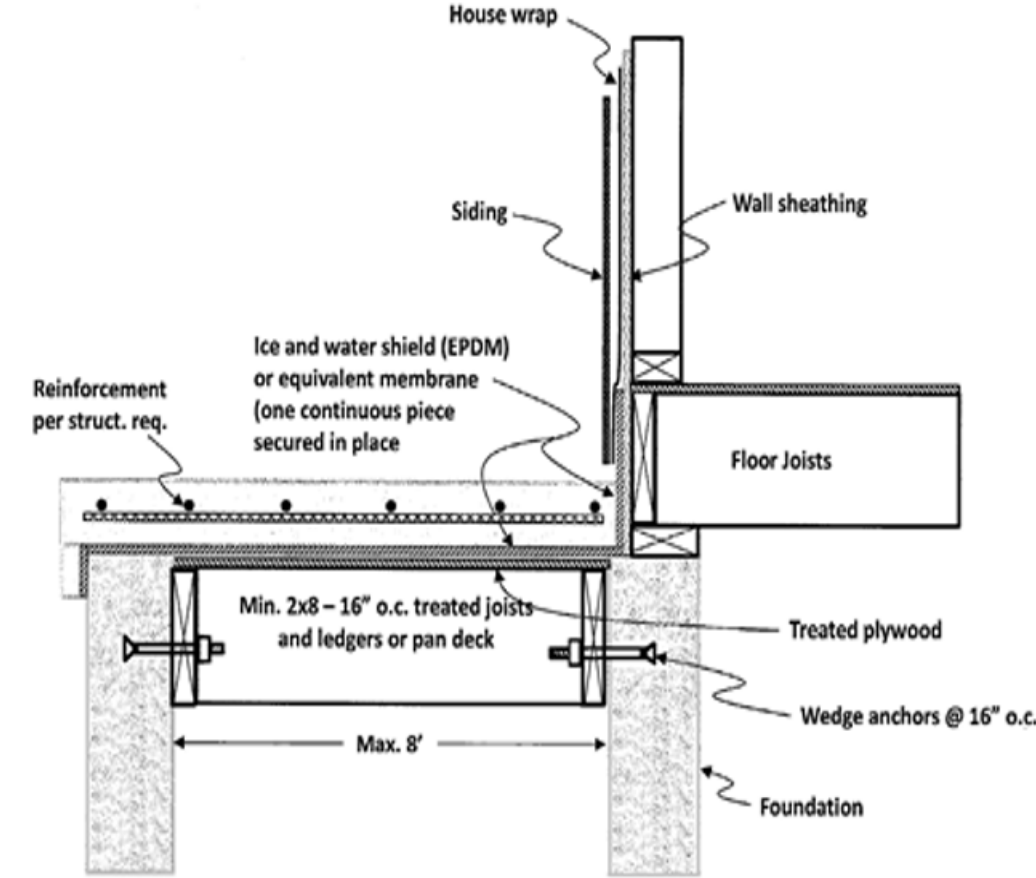
10 TYPICAL GARAGE SLAB
1/4" = 1'-0"



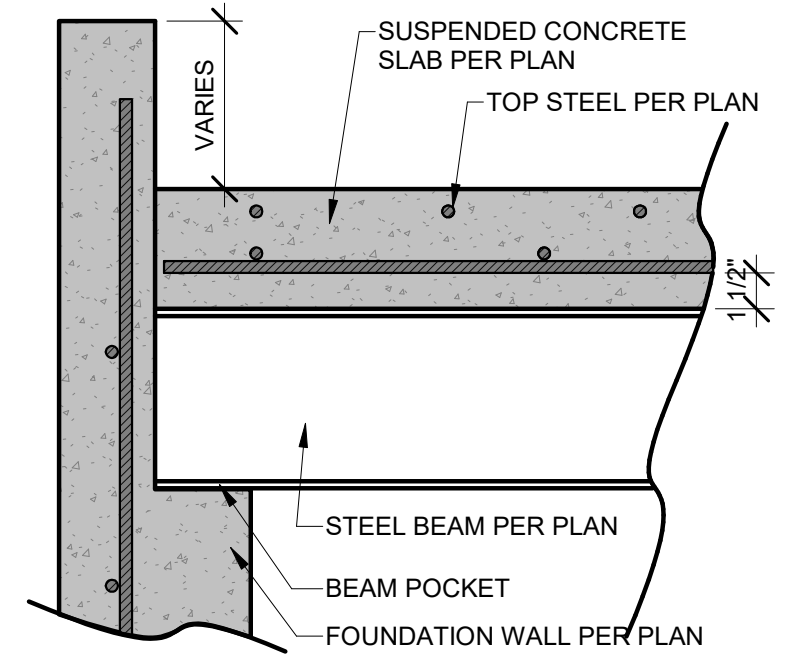
6 SUSPENDED PORCH STOOP SLAB
1 1/2" = 1'-0"
SEE JOCOBO FLASHING DETAIL FOR ADDITIONAL INFORMATION



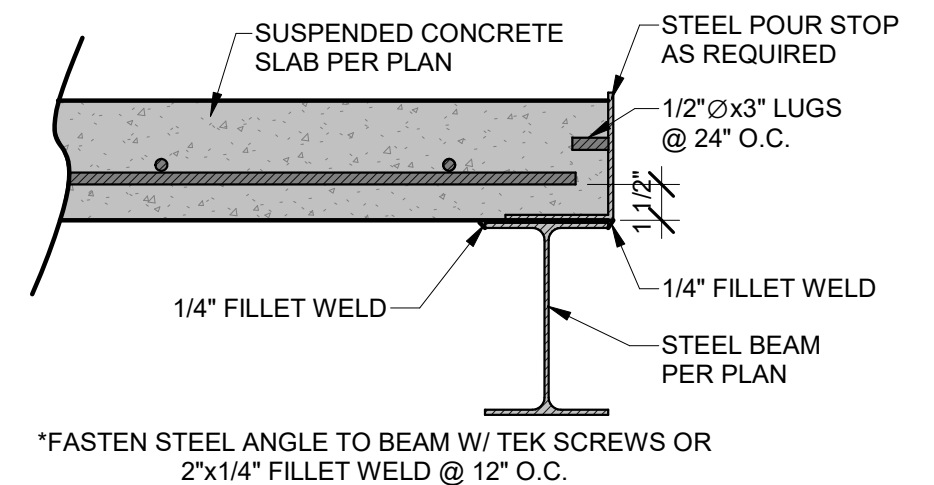
7 ZERO ENTRY GARAGE DETAIL
1 1/2" = 1'-0"



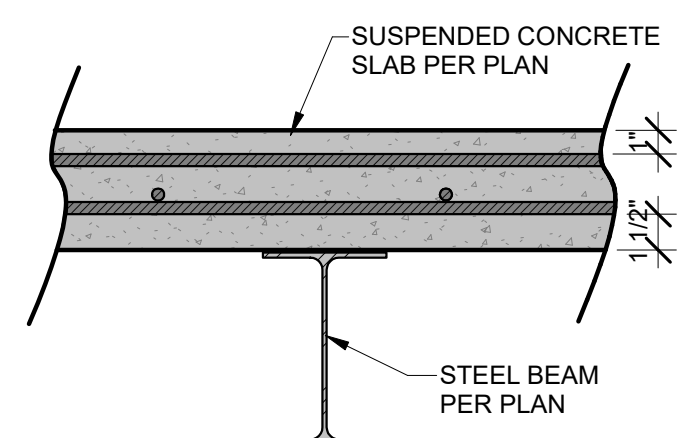
JOCOBO FLASHING DETAIL



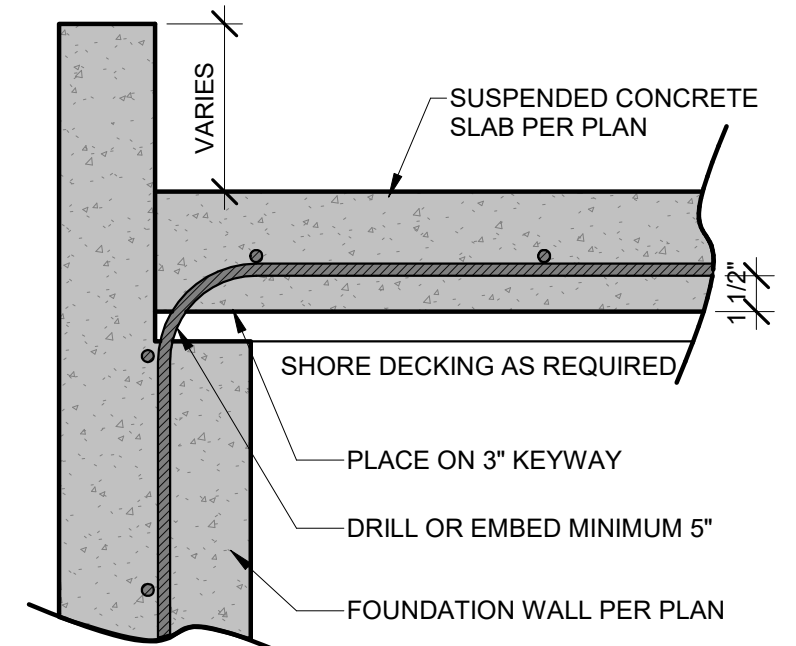
1 SUSPENDED SLAB BEAM/WALL CONNECTION
1 1/2" = 1'-0"



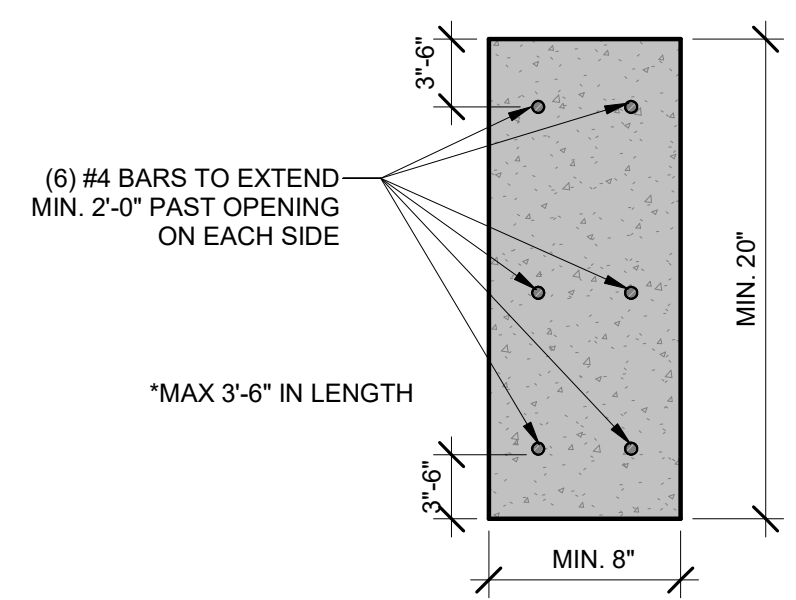
2 SUSPENDED SLAB POUR STOP
1 1/2" = 1'-0"
*FASTEN STEEL ANGLE TO BEAM W/ TEK SCREWS OR 2"x1/4" FILLET WELD @ 12" O.C.



3 SUSPENDED SLAB/STEELBEAM CROSS SECTION
1 1/2" = 1'-0"



4 SUSPENDED SLAB/WALL CONNECTION
1 1/2" = 1'-0"



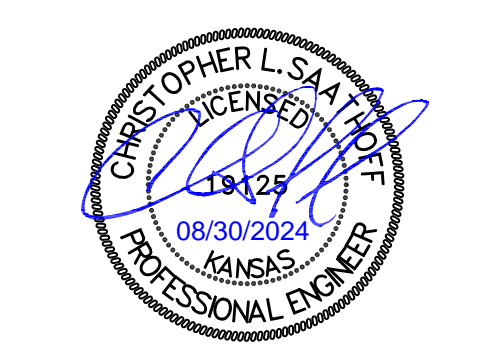
5 CONCRETE HEADER DETAIL
1 1/2" = 1'-0"

IMPORTANT NOTE:
FOR SUSPENDED SLABS A MAXIMUM OF 10' ABOVE FLOOR BELOW: TEMPORARY SHORING WALLS SHALL BE PLACED AT A MAXIMUM OF 4' O.C. / #2-2X4 STUDS AT 16" O.C. W/ TOP AND BOTTOM PLATE. WALL TO HAVE CONTINUOUS DIAGONAL BRACING. LATERAL BRACING TO BE RUN FROM WALL TO WALL AT MID HEIGHT 4' ON CENTER. SHORING TO REMAIN IN PLACE FOR AT LEAST 21 DAYS.
ANY CAST IN PLACE SLABS FORMED MORE THAN 10' ABOVE THE FLOOR BELOW SHALL HAVE A SITE SPECIFIC SHORING DESIGN DONE. OUR FIRM SHOULD BE CONSULTED FOR THIS DESIGN ONCE FOUNDATION WALLS ARE IN PLACE TO EVALUATE ALL FIELD CONDITIONS. IT SHOULD BE NOTED THAT FAILURE TO HAVE AN ADEQUATE SHORING DESIGN CAN RESULT IN FORM COLAPSE AND/OR CATASTROPHIC FAILURE.

HD ENGINEERING STRUCTURAL GARAGE SLAB DETAILS

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DAN WESSEL DESIGN, INC.
HILEMAN RESIDENCE
4831 BOOTH ST., WESTWOOD, KS
STRUCTURAL DETAILS & NOTES

HD#: 48128
DATE: 08/30/2024
CHECKED BY: CLS

NO.	ISSUE/REVISION	Revision Date

SUSPENDED SLAB DETAILS

S-3.1

CATHEDRAL / VAULTED CEILING FRAMING AND INSULATION

MINIMUM R-38 INSULATION REQUIRED, SEE DETAIL 14/S-1.2

WHERE THE CEILING IS APPLIED DIRECTLY TO THE BOTTOM OF THE RAFTERS, A MINIMUM 1" AIR SPACE SHALL BE PROVIDED BETWEEN THE TOP OF THE INSULATION AND THE SHEATHING FOR VENTILATION (R806.3)
 NOTE: RAFTER SIZES SPECIFIED ON PLANS ARE THE MINIMUM REQUIRED FOR STRUCTURAL PURPOSES ONLY. BUILDER TO VERIFY.
 IF FULL RAFTER DEPTH IS NOT ADEQUATE FOR MINIMUM INSULATION VALUE, RAFTER SIZES WILL NEED TO BE INCREASED, OR ADEQUATE FURRING SHALL BE USED TO OBTAIN THE MINIMUM JOIST DEPTH FOR THE REQUIRED INSULATION. IN ADDITION, IF THE RAFTER SIZE IS INCREASED IT SHALL BE VERIFIED THAT THE RIDGE BE A MINIMUM OF ONE NOMINAL SIZE LARGER THAN THE RAFTERS BEING RECEIVED. (SEE CHART BELOW)

MAXIMUM INSULATION VALUE 1" AIR SPACE (FIBERGLASS)	2x6	2x8	2x10	2x12
	R-13, 3 1/2"	R-19, 6 1/4"	CONDENSED R-38, 8 1/4"	R-38, 10 1/4"

TABLE N1103.6.1 (R403.6.1) WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY^a

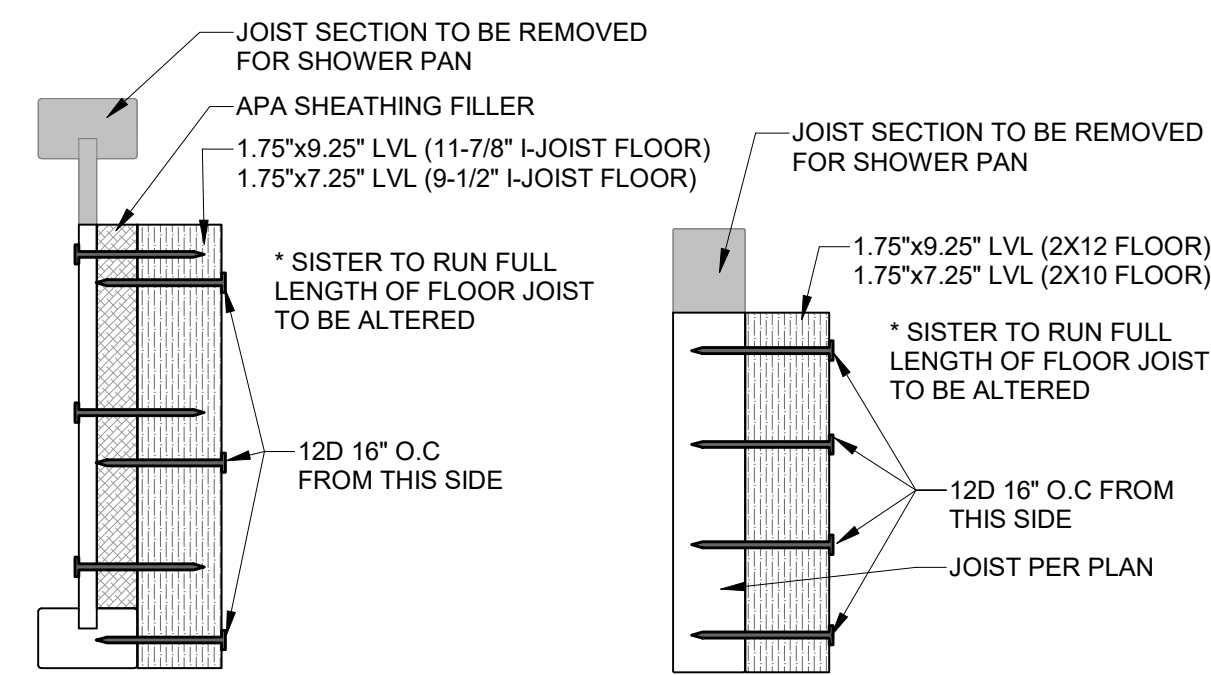
FAN LOCATION	AIR FLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY (CFM/WATT)	AIR FLOW RATE MAXIMUM (CFM)
HRV OR ERV	ANY	1.2 CFM/WATT	ANY
RANGE HOODS	ANY	2.8 CFM/WATT	ANY
IN-LINE FAN	ANY	2.8 CFM/WATT	ANY
BATHROOM, UTILITY ROOM	10	1.4 CFM/WATT	< 90
BATHROOM, UTILITY ROOM	90	2.8 CFM/WATT	ANY

For SI: 1 cubic foot per minute = 28.3 L/min.
 a. WHEN TESTED IN ACCORDANCE WITH ASHRAE STANDARD 91.6

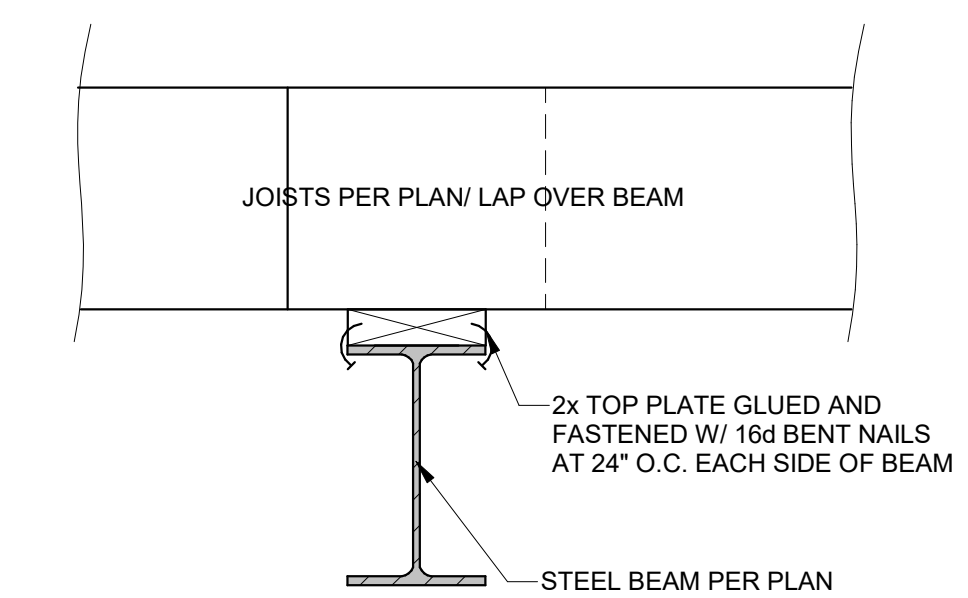
Table N1102.1.1
 Insulation and Fenestration Requirements by Component^a

Climate Zone	Fenestration U-Factor	Skylight U-Factor ^b	Glazed Fenestration SHGC ^c	Ceiling R-Value ^e	Wood Frame Wall R-Value ^f	Mass Wall R-Value ^f	Floor R-Value ^f	Basement Wall R-Value ^f	Slab R-Value & Depth ^g	Crawl Space Wall R-Value ^f
4	0.35	0.55	0.4	49	13	8/13	19	10/13	NR	10/13

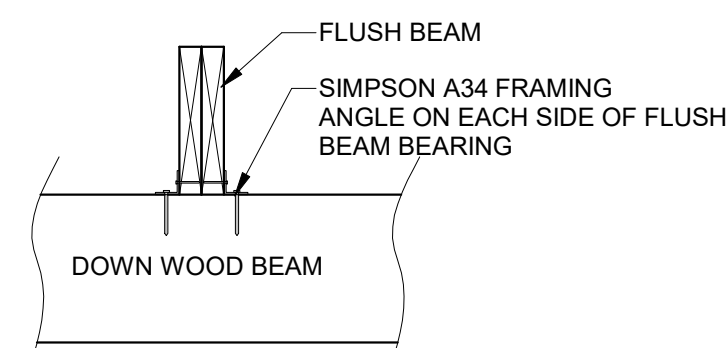
- a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.
- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement walls.
- d. R-5 shall be added to the required slab edge R-values for heated slabs.
- e. No change.
- f. No change.
- g. No change.
- h. Refers to wall cavity insulation minimum standards only.
- i. The second R-value applies when more than half the insulation is on the interior of the mass wall.
- j. Loose-fill insulation shall be installed at the rate recommended by the manufacturer's statement "so many bags per 1,000 sq. ft." Where the pitch of the roof restricts the minimum thickness at the exterior wall line, the insulation shall be blown into the cavity so as to achieve a greater compacted density to a point where the "minimum thickness" can be achieved. An alternative is to install high density batts around the perimeter edge per R1102.2.



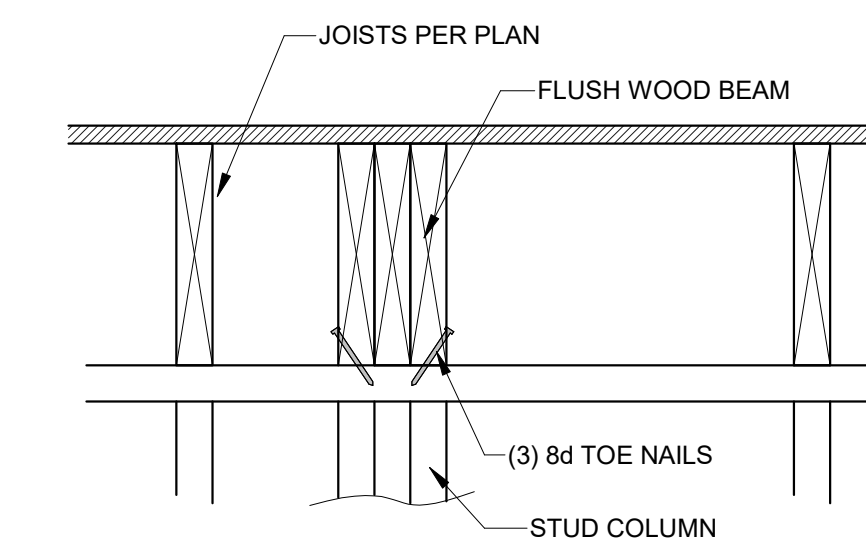
10 ZERO ENTRY SHOWER DETAIL
 1/4" = 1'-0"



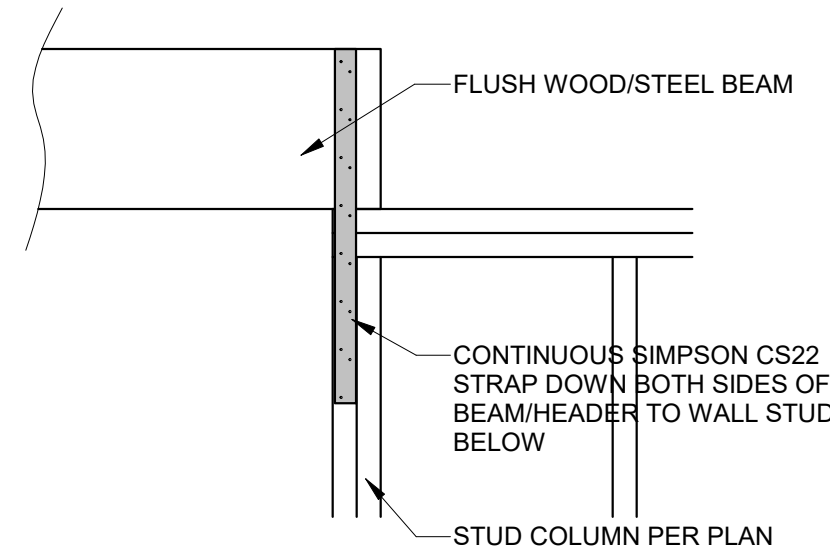
5 STEEL BEAM TO WOOD PLATE
 1 1/2" = 1'-0"



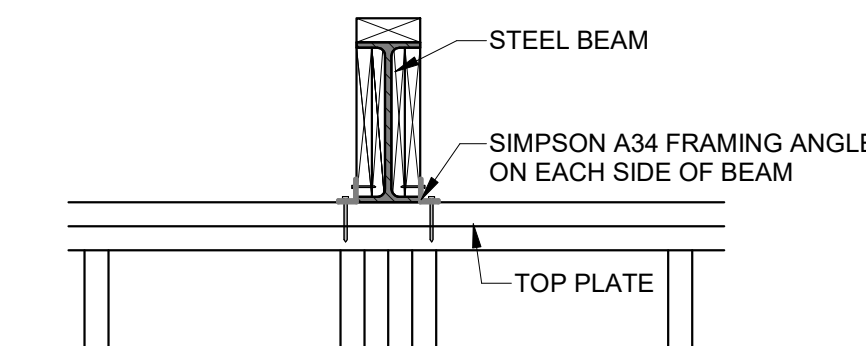
9 WOOD TO WOOD STACKED CONNECTION
 1" = 1'-0"



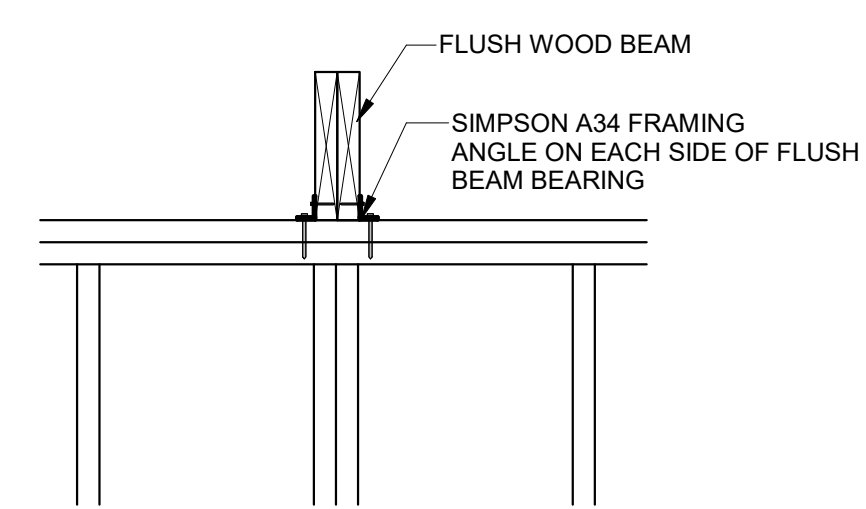
4 FLUSH WOOD BEAM CONNECTION
 1 1/2" = 1'-0"



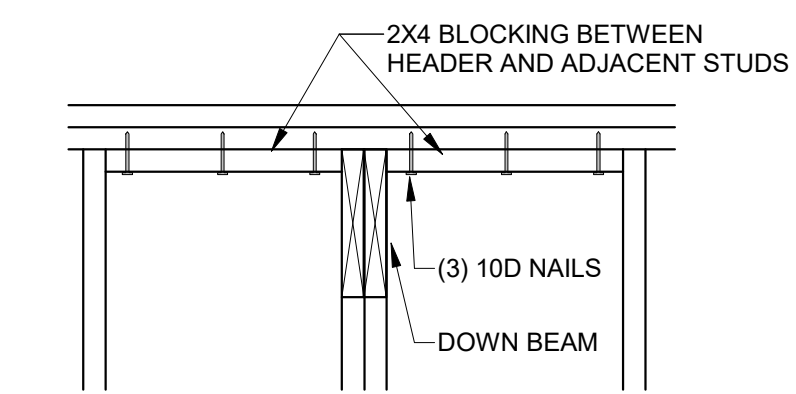
8 UPSET WOOD/STEEL PARALLEL TO WALL
 1" = 1'-0"



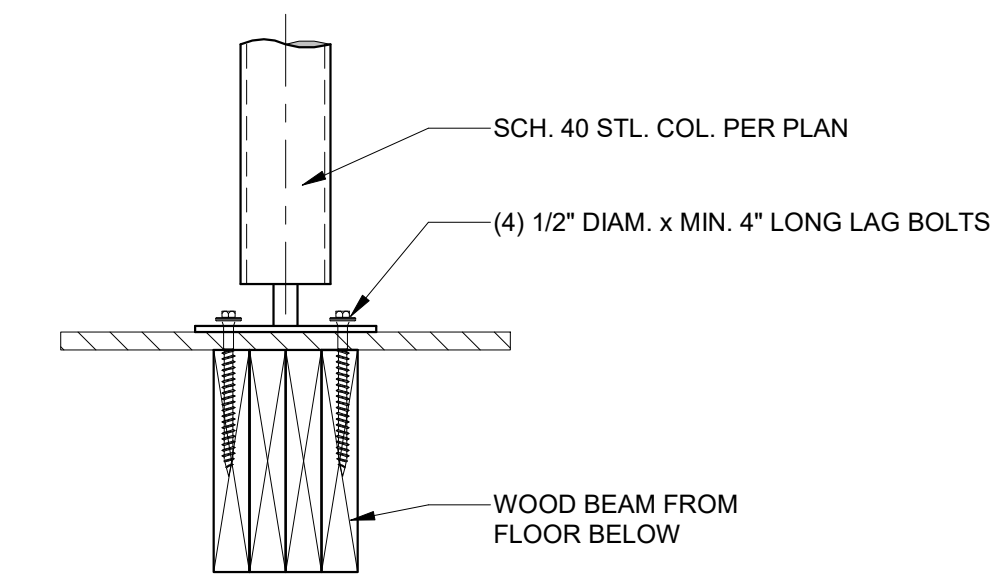
3 EXTERIOR WALL STEEL BEAM BEARING
 1" = 1'-0"



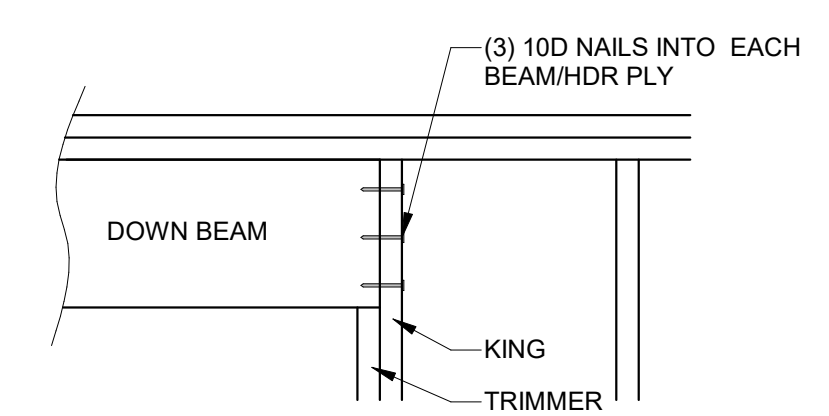
7 UPSET WOOD PERPENDICULAR TO WALL
 1" = 1'-0"



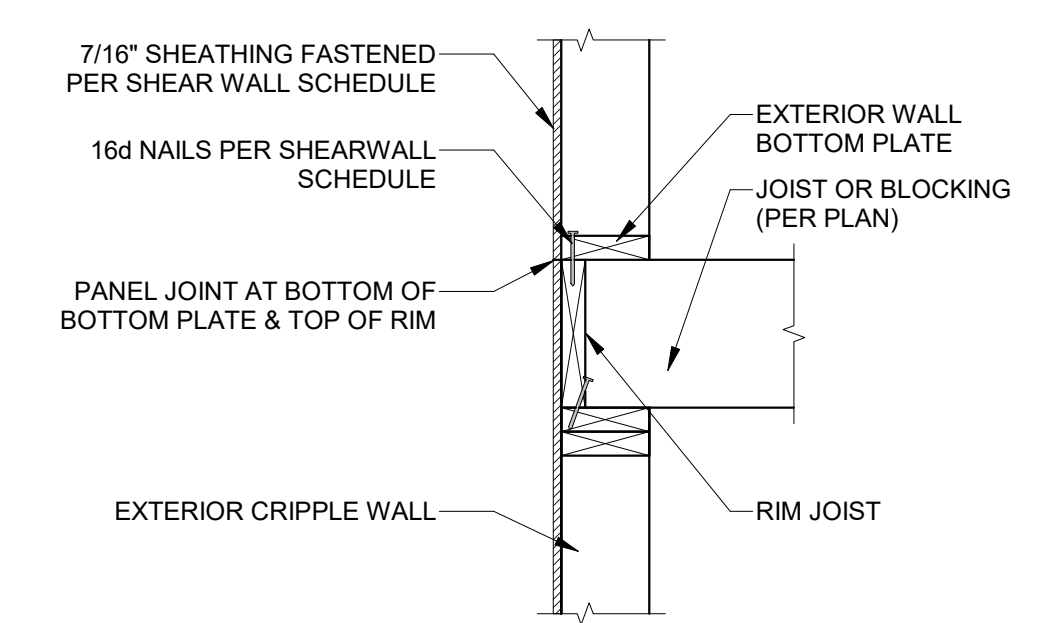
2 DOWN WOOD BEAM PERPENDICULAR
 1" = 1'-0"



6 STEEL COLUMN TO WOOD FLOOR
 1 1/2" = 1'-0"



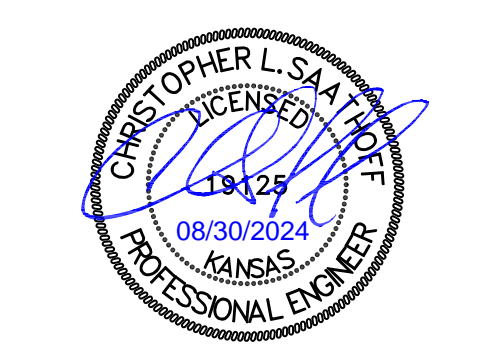
1 DOWN WOOD BEAM PARALLEL
 1" = 1'-0"



11 SHEATHING JOINT LOCATION
 1" = 1'-0"

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11/05/2024 CITY COMMENTS

DAN WESSEL DESIGN, INC.
 HILEMAN RESIDENCE
 4831 BOOTH ST., WESTWOOD, KS
 STRUCTURAL DETAILS & NOTES

HD#: 48128
 DATE: 08/30/2024
 CHECKED BY: CLS

NO.	ISSUE/REVISION	Revision Date

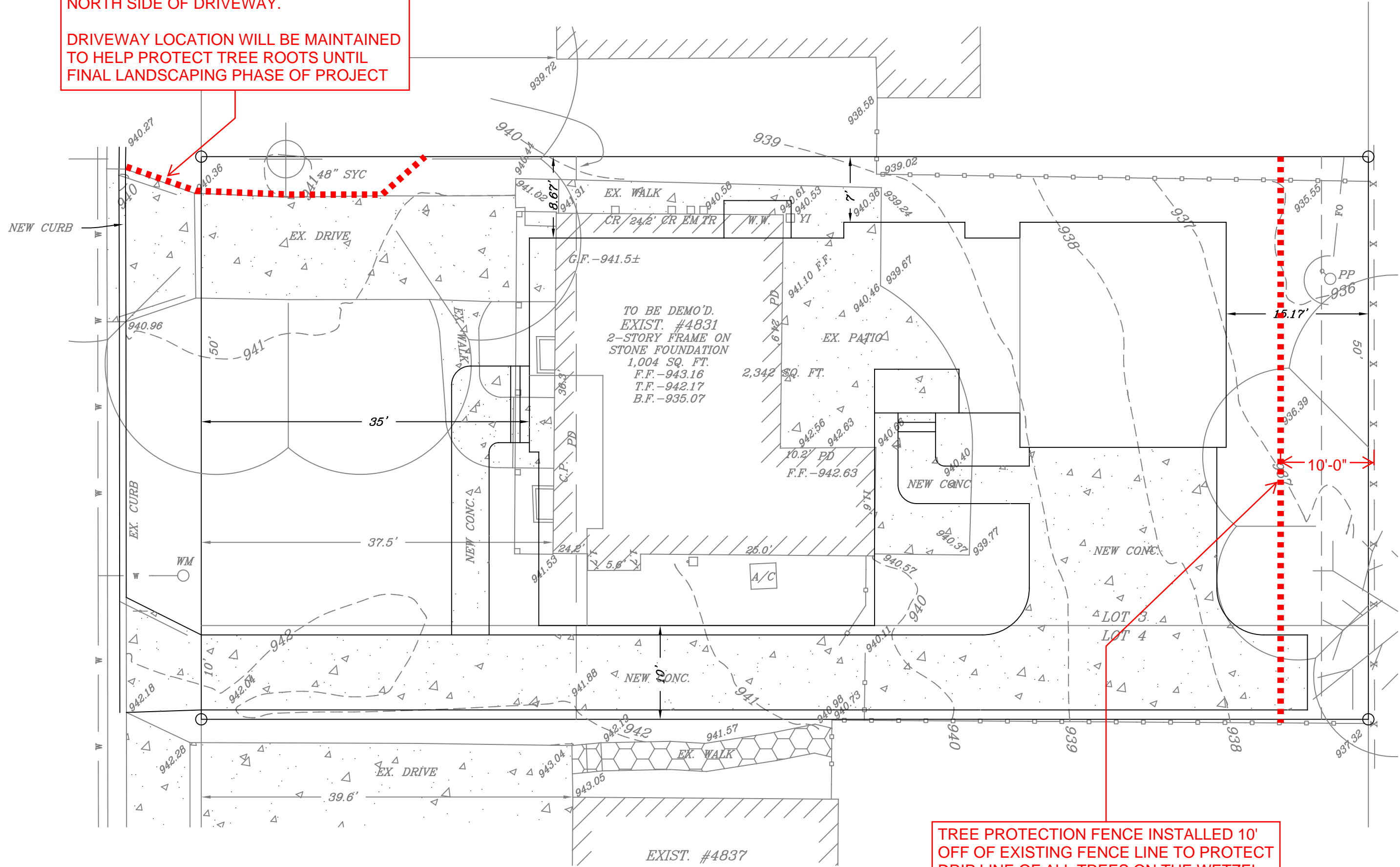
GENERAL DETAILS

S-4.0

4831 BOOTH TREE PROTECTION PLAN

INSTALL TREE PROTECTION FENCE ALONG NORTH SIDE OF DRIVEWAY.

DRIVEWAY LOCATION WILL BE MAINTAINED TO HELP PROTECT TREE ROOTS UNTIL FINAL LANDSCAPING PHASE OF PROJECT



TREE PROTECTION FENCE INSTALLED 10' OFF OF EXISTING FENCE LINE TO PROTECT DRIP LINE OF ALL TREES ON THE WETZEL PROPERTY NEAR PROPERTY LINE

WESTWOOD PLANNING COMMISSION

Staff Report
 Meeting Date: January 6, 2025
 Staff Contact: Leslie Herring, City Administrator

Discussion Item – 2025 Issues of General Interest and Training Needs and Requests

Background

In Fall 2021, the Planning Commission held a retreat and generated several actions to take to maintain a high level of functioning and service to the community. Those action items are excerpted from the Retreat Summary and are provided below for convenient reference.



CONSENSUS OUTCOMES

In addition to discussing the purpose and roles, significant discussion took place around information flows, board norms, orientation of new members and training of commissioners. These discussions yielded the following work items:

ACTIONS IDENTIFIED	WHO	WHEN
1. Provide annual training for roles and legal issues for PC	David Waters	TBD
2. Joint City Council / Planning Commission work session	David Waters	Jan. 2022
3. PC to hold work sessions re: "issues of general interest" in order to ensure that all members have the same information	Sarah Page	Feb. 2022 at "Agenda setting" session
4. Develop board norms	Kevin Breer	Feb. 2022
5. Develop Planning Commission orientation	Sarah Page	Dec. 2021
6. Training needs and requests (each commissioner to bring suggestions for training)	Sarah Page	Feb. 2022 at "Agenda setting" session

Staff Comments/Recommendations

Comments

In alignment with the consensus outcomes of the facilitated process, Planning Commission Chair Sarah Page and City Administrator Leslie Herring have recommended an annual work plan at the beginning of each year since. This annual work plan includes calendaring action items required of the Planning Commission by State statute and/or the Planning Commission's Bylaws. It also includes annual, predictable opportunities for Planning Commissioners to more deeply engage with planning and zoning in Westwood.

The Planning Commission should review and consider the following 2025 work plan.

Recommended 2025 Work Plan Outline for Planning Commission Consideration

January 6th

- Creation/discussion of work plan and calendar for the year, including modifications to annual standing calendar and also introduction of study topics for presentations at meetings by regional guests and topics for continued education of Planning Commission members)
- Secure confirmation of term renewal or non-renewal for Planning Commissioners whose term is expiring effective the last day of February (**Commissioners Holliday, Fulghum, and Prout are up for reappointment in 2025**)

February 3rd

- Approval of work plan and calendar for the year
- GUEST PRESENTATION: _____

March 3rd

- Appointment/reappointment of Planning Commissioners
- Annual joint work session between Planning Commission and Governing Body to discuss topics of joint interest, concern, etc. (possibly meeting would be preceded by updated professional photos of Planning Commission, City Council, and City staff and followed by joint annual off-site social mixer)
- GUEST PRESENTATION: _____

April 7th

- Annual legalities training (i.e. ethics, [KOMA/KORA](#), responsibilities set-out by State statute ([K.S.A. Chapter 12 Article 7](#)), City Code ([Westwood Municipal Code Chapter 16](#)), and [Planning Commission bylaws](#))
- GUEST PRESENTATION: _____

May 5th

- Election of officers (Chair, Vice-Chair, and Secretary), [per Article 3 Section 1 of the bylaws](#)
- INDEPENDENT STUDY TOPIC PRESENTATION: _____

June 2nd

- Review of the Planning Commission bylaws, [per Article 6 Section 4 of the bylaws](#); determine if any revisions are appropriate
- INDEPENDENT STUDY TOPIC PRESENTATION: _____

July 7th

- Introduction of zoning ordinance text amendments and/or comp plan changes by Planning Commissioners, City Council members, and/or City staff
- INDEPENDENT STUDY TOPIC PRESENTATION: _____

August 4th

- Check-in on amendments/changes introduced to zoning ordinance or comprehensive plan modifications
- Consideration of the City's next five-year CIP being recommended to the Governing Body for adoption
- INDEPENDENT STUDY TOPIC PRESENTATION: _____

September 8th

- Second work session on amendments/changes to zoning ordinance or comprehensive plan modifications
GUEST PRESENTATION: _____

October 6th

- Final discussion of amendments/changes to zoning ordinance or comprehensive plan modifications; set for public hearing in November
- Determination of any updates to the City's zoning map
- GUEST PRESENTATION: _____

November 3rd

- Public hearing on amendments/changes to zoning ordinance or comprehensive plan modifications
- Adoption of next year's application and review schedule

December 1st

- Public hearing extended date, if needed for amendment to zoning ordinance and/or comprehensive plan

As in years past, the Planning Commission should identify issues of general interest and training needs and requests for the year. Once a list is compiled, those issues and needs should be assigned to Planning Commission leads to develop the concept for presentation and a meeting date should be determined for each priority.

Any special guest speakers who represent organizations of interest to the Planning Commission should likewise be identified for the Secretary to coordinate a presentation date. Additionally, the Secretary can pursue resources for any training requested once directed by the Planning Commission.

Suggested Motion:

Not necessary.