



BOARD OF ZONING ADJUSTMENT
Regular Meeting Agenda
CITY OF PARKVILLE, MISSOURI
Tuesday, July 23, 2024 5:30 PM
City Hall Board Room

- 1. Call to Order**
- 2. Roll Call**
- 3. General Business**
 - A. Approval of the agenda for July 23, 2024
 - B. Approval of the minutes from the March 26, 2024 meeting
- 4. Public Hearing**
 - A. Application for variance to reduce required setbacks to construct a single-family residence.
Case No. BZA 2024-01, Russ Groshans, Casa Bella Construction, Applicant.
- 5. Other Business**
 - A. Upcoming Meetings:
 - Board of Zoning Adjustment Meeting: Tuesday, August 27 at 5:30 p.m.
- 6. Adjournment**

PARKVILLE BOARD OF ZONING ADJUSTMENT

Regular Meeting Minutes

City of Parkville, Missouri

Tuesday, March 26, 2024 5:30 PM

City Hall Board Room

1. Call to Order

Chair Newcomer called the meeting to order at 05:34 PM.

2. Roll Call

Board Members Present:

Kenneth Roberson

Clint Jayne

Robert Unger

Russ Newcomer

Absent:

Corky McCaffrey

Russ Downing

Jackson Carrizzo

A quorum of the Board was present.

Staff Present:

Stephen Lachky, Community Development Director

Brad Stanton, Planner

3. General Business

- A. Approval of the March 26, 2024 regular meeting agenda
3C Election of Secretary

ACTION: Motion Passed: 4-0.

AYES: Russ Newcomer, Kenneth Roberson, Clint Jayne, Robert Unger

NOES: None

ABSTAIN: None

- B. Approve the minutes for the February 27, 2024 regular meeting

ACTION: Motion Passed: 4-0.

AYES: Russ Newcomer, Kenneth Roberson, Clint Jayne, Robert Unger

NOES: None

ABSTAIN: None

- C. Election of Secretary

Kenneth Roberson unanimously elected Secretary.

4. Training

- A. Board of Zoning Adjustment Training (presented by John Mautino, Lauber Municipal Law)
"Board of Zoning Adjustment Training" presented by John Mautino, City Attorney, Lauber Municipal Law

5. Unfinished Business

- A. Application for variance to construct an over-sized accessory building at 6413 9 Highway. *Case No. BZA 2023-01, Frank Adam Jackson, Applicant.* (continued from February 26, 2024 meeting)
Frank Adam Jackson, 6413 N State Rt 9, applicant, stated that he spoke to his neighbors regarding his plans for the property. Neighbor Linda Arnold stated she would like a wooden fence rather than chainlink. The applicant stated the property was previously owned by his parents and they allowed overgrown foliage, but it has been cleaned up. He stated that his basement and existing structure were too small for his uses. He stated his property sloped away from Highridge Rd causing the building to be obscured. Chair Newcomer asked whether the building would be commercial or personal use. The applicant responded personal. Member Jayne asked about the finished sq. ft. of the building, the applicant responded it would be 30x50 = 1500 sq ft.

Chair Newcomer stated the property is currently not visually appealing due to the accumulation of items. He stated that allowing the variance may improve the aesthetics of the property for the neighbor. Member Roberson stated that his biggest concern is the heavy equipment (small backhoe, bobcat) currently on the property. The Applicant stated that the heavy equipment could be either stored in the building or off property. Member Jayne stated he doesn't have concerns with the size of the building on the property, but he shares aesthetic concerns.

2 Conditions:

- * No greater than 30x50 1500sf
- * 6' Wooden Fence

City Staff to prepare finding of fact and conclusions of law

ACTION: Russ Newcomer moved to approve the application, Kenneth Roberson seconded. Motion : 4-0.

AYES: Kenneth Roberson, Russ Newcomer, Clint Jayne, Robert Unger

NOES: None

ABSTAIN: None

6. Other Business

- A. Upcoming meetings & dates of importance:

- Planning and Zoning Commission Regular Meeting: Tuesday, April 9 at 5:30 p.m.
- Board of Aldermen Meeting: Tuesday, April 2 and April 16 at 7:00 p.m.

- Board of Zoning Adjustment Meeting: Tuesday, April 23 at 5:30 p.m. (TBD)

7. Adjournment

Chairman Newcomer called further discussion. Seeing none, he called for a motion to adjourn.

Submitted by:

Stephen Lachky, AICP
Community Development Director

Date

Brad Stanton
Planner

Date



Staff Analysis

- Agenda Item: 4.A.
- Proposal: Application for variance to reduce required set.
- Staff Recommendation: Approval
- Case No: BZA 2024-01
- Applicant: Russ Groshans, Casa Bella Construction
- Owner: Brian Colvin
- Zoning: "R-1" Single-Family Residential
- Parcel #s: Platte County parcel no. 20-6.0-23-400-005-001.001
- Exhibits:
 - A. This Staff Report
 - B. Application for Variance
 - C. Subject Property Area Map
 - D. Site Plan (provided by Applicant)
 - E. Building Plans & Elevations (provided by Applicant)
 - F. Additional exhibits as may be presented at the public hearing
- By Reference:*
 - A. Parkville Master Plan – <http://parkvillemo.gov/departments/community-development-department/master-plan/>
 - B. Parkville Municipal Code, Title IV – Development Code in its entirety (<https://www.ecode360.com/PA3395-DIV-05>)
 - a. Section 401.030 Administration and Review Bodies
 - b. Section 403.080 Variance
 - c. Section 405.010 Zoning Districts Established
 - d. Section 405.020 Districts and Uses
 - C. Hearing notice published in The Platte County Landmark newspaper on July 3, 2024
 - D. Public hearing announcement posted on the City webpage - <http://parkvillemo.gov/government/public-hearings/>

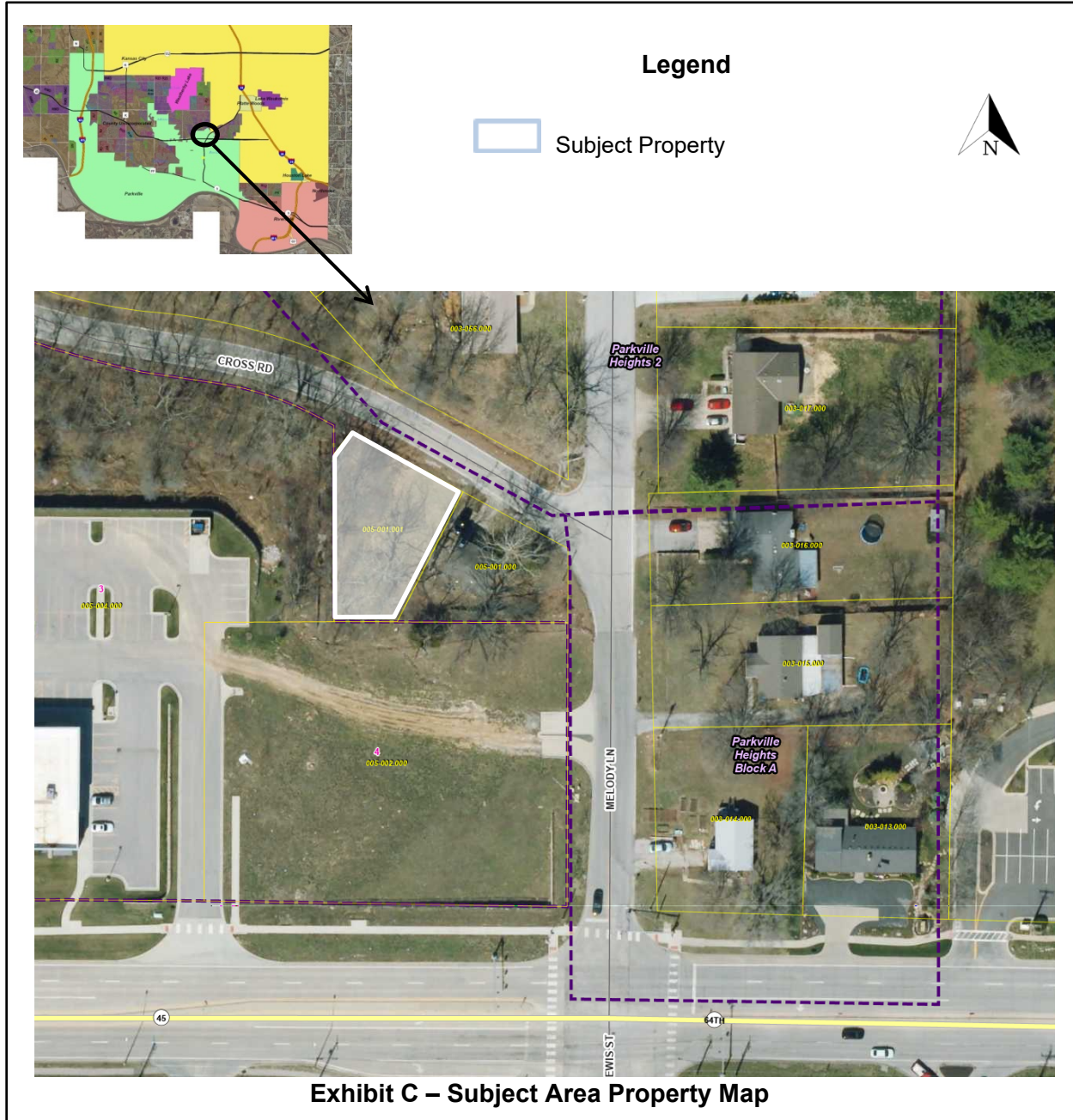
* Copies on file at Parkville City Hall and available on request

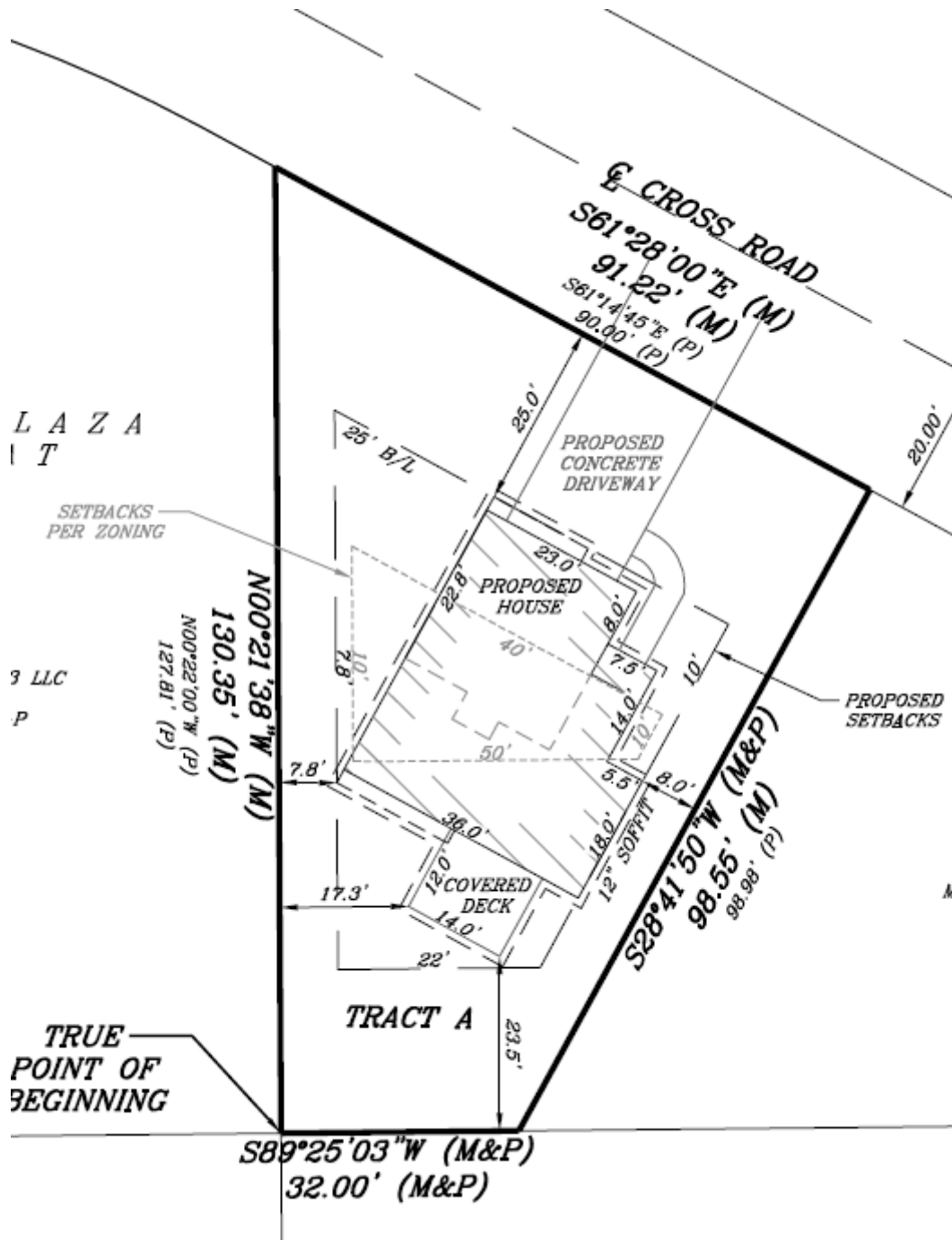
Comments

Received: The Community Development Department has not received any public comment letters as of the date of this staff analysis report.

Overview

The subject property is located along the south side of Cross Rd, immediately west of 6410 Melody Lane. This property includes one parcel — Platte County parcel #20-6.0-23-400-005-001.001 (0.16 acres, more or less) — and is zoned “R-1” Single-Family Residential. The subject property is currently undeveloped.





Proposed site plan (submitted by Applicant)

The owner wishes to construct a single-family residence on the 6,581+/- sq. ft. property. Table 405-3: Height, Area and Bulk Standards of the Parkville Municipal Code sets the standards for lot size and building setbacks. The setbacks required in the "R-1" zoning district render this lot unbuildable. As a result, an Application for Variance has been submitted for consideration by the BZA in order to relieve practical difficulty/hardship due to existing zoning standards.

Table 1 below lists the "R-1" zoning requirements compared to the proposed lot standards from the applicant.

Table 1. Zoning Standards compared to Proposed Standards

Standard	R-1 Zoning Code	Proposed	Change	Closest Zoning District
Minimum Lot Area	20,000 sq. ft.	6,581 sq. ft.	-13,419 sq. ft. (-67%)	R-4 Detached house – neighborhood lot (5,000 sq. ft.)
Minimum Lot Width	100 ft.	90 ft.	-10 ft. (-10%)	R-2 Single-Family (75 ft.)
Minimum Lot Depth	150 ft.	114.5 ft. (avg)	-35.5 ft. (-24%)	R-2 Single-Family (100 ft.)
Front Building Setback	40 ft.	25 ft.	-15 ft. (-38%)	R-2 Single-Family (25 ft.)
Side Building Setback	10 ft.	7.8 ft.	-2.2 ft. (-22%)	R-4 Detached house – neighborhood lot (5 ft.)
Rear Building Setback	50 ft.	22 ft.	-28 ft. (-56%)	R-5 Multi-Family Residential (20 ft.)

Review and Analysis

The application has been reviewed against the Parkville Municipal Code. Variances are a process to provide relief from strict interpretation of the standards of the Development Code — including applicable use standards — which when applied to a particular property and in a specific context, could create an unnecessary hardship and practical difficulty on reasonable use of the property.

Per Section 401.030, Subsection D. of the Parkville Development Code, the Board of Zoning Adjustment shall have and perform all powers and duties authorized by RSMo. Chapter 89, as provided in Chapter 403, including but not limited to, hearing and deciding special exceptions to the terms of the development code where specifically stated and authorized; and authorizing (upon appeal in specific cases) a variance from the terms of the Development Code.

Per Section 403.080, a variance shall be reviewed and approved only on the finding that all of the following conditions are met (the following are staff’s findings and conclusions):

- 1. The requested variance arises from conditions which are unique to the subject property, that are not ordinarily found in the same zoning district and that are not a result of the owner's intentional action**

This property is unique due to its small size. The subject property is 0.17 +/- acres/6,581 +/- sq. ft. An analysis of the surrounding properties (i.e. Parkville Heights) finds they are generally 0.30 acres to 0.50 acres or more. Staff finds that this situation is not ordinarily found in the same zoning district. The R-1 zoning district is generally applied to large-lot single-family residential development. This property appears to be a remnant parcel that was never platted. The property owner took no intentional action to make the lot the size that it is, they simply purchased an existing property and wish to construct a single-family residence as allowed by zoning.

2. The granting of the variance will not adversely affect the rights of adjacent property owners or residents

Staff does not find that the granting of this variance would adversely affect the rights of adjacent property owners or residents. As detailed in Table 1 above, the applicant's proposed zoning standards are similar to other zoning districts within the City of Parkville. It is also important to consider the context of the adjacent properties. Property immediately to the west and south is the APEX Plaza commercial development which is separated from the subject property by significant grade changes. Property immediately to the east is also a unique lot similar to this application, and has contained a single-family residence since 1983, according to Platte County records.

3. The strict application of the provisions of the zoning regulations for which the variance is requested will constitute unnecessary hardship or practical difficulties upon the property owner represented in the application

Strict application of the provisions of the zoning regulations for which the variance is requested would make the lot unbuildable in its current state.

4. The variance desired will not adversely affect the public health, safety, morals, order, convenience, prosperity or general welfare

The proposed variance does not appear to adversely affect the public health, safety, morals, order, convenience, prosperity or general welfare. The variance would not represent a substantial change to the development pattern in the surrounding area. The variance also does not represent an increase in demand for fire protection or police protection for health, safety and welfare reasons.

5. Granting the variance would not be opposed to the general spirit and intent of this Code.

The Development Code cannot predict every circumstance and unique lot conditions can impose hardships on property owners. The Development Code allows for relief from Code requirements through the variance process as established in Section 403.080.

Staff Conclusion and Recommendation

Upon review of the application and supporting materials, staff recommends approval of the application for variance.

It should be noted that the recommendation contained in this report is made without knowledge of facts, public comments or any additional information which may be presented during the public hearing. For that reason, the conclusions herein are subject to change as a result of evaluating additional information; additionally, staff reserves the right to modify or confirm the conclusions and recommendations herein based on consideration of any additional information that may be presented.

Necessary Action

Following consideration of the Application for Variance, supporting information, associated exhibits, factors discussed above and any testimony presented during the public hearing, the Board of Zoning Adjustment should decide if the request will preserve the intent and consistency of the zoning regulations, the general welfare of the community and the rights of the adjacent property owners without setting a precedent that will negatively affect administration of the regulations. If granting approval, conditions may be set to further mitigate any effects of the variance.

End of Memorandum



Brad Stanton, AICP
Planner

7-19-2024
Date



Application #: BZA 2024-01
 Date Submitted: June 19, 2024
 Public Hearing: July 23, 2024
 Date Approved: _____

CITY OF PARKVILLE • 8880 Clark Avenue • Parkville, MO 64152 • (816) 741-7676 • FAX (816) 741-0013



Application for Variance
 Pre-application meeting required per Parkville Municipal Code Title IV, Section 403.010, Subsection C

1. Applicant/Contact Information

Applicant(s)	Owner(s), if different from applicant(s)
Name: <u>Casa Bella Construction-Russ Groshans</u>	Name: <u>Brian Colvin</u>
Address: <u>6512 NW Eastside Drive</u>	Address: <u>6512 NW Eastside Dr</u>
City, State: <u>Parkville, Missouri</u>	City, State: <u>Parkville, Mo</u>
Phone: <u>(816) 436-9969</u> Fax: _____	Phone: <u>816-315-4704</u> Fax: _____
E-mail: <u>Russ@casabellaconstruction.com</u>	E-mail: <u>Brian@calvinb.com</u>

Engineer/Surveyor(s), preparing plans & legal desc.	Contact Person, if different from applicant(s)
Name: <u>R.L. Buford-Rob Young</u>	Name: _____
Address: <u>201 Main St., Suite 6</u>	Address: _____
City, State: <u>Parkville, Missouri</u>	City, State: _____
Phone: <u>(816) 741-6152</u> Fax: _____	Phone: _____ Fax: _____
E-mail: <u>rob@rlbuford.com</u>	E-mail: _____

We, the undersigned, do hereby authorize the submittal of this application and associated documents and certify that all information contained therein is true and correct. We acknowledge that development in the City of Parkville is subject to the Municipal Code of the City of Parkville. We do hereby agree to abide by and comply with the above-mentioned codes, and further understand that any violations from the provisions of such or from the conditions as stated herein shall constitute cause for fines, punishments and revocation of approvals as applicable.

Applicant's Signature (Required)  Date: 06-19-24
Property Owner's Signature (Required)  Date: 06-19-24

2. Property Information

Address and general location: West of 6410 Melody Lane, Parkville, MO. 64152

Attach a separate sheet with complete legal description of the property (if requested by Community Development Director).

Zoning district: R-1

Present use of the property: Vacant

Proposed variance (or use with variance):

Single Family Residential

Attach a narrative addressing:

1. How the requested variance arises from conditions which are unique to the subject property, that are not ordinarily found in the same zoning district and that are not a result of the owner's intentional action.
2. How the granted variance would not adversely affect the rights of adjacent property owners or residents.
3. How applying provisions of the zoning regulations for the requested variance constitutes unnecessary hardship or practical difficulties upon the property owner represented in the application.
4. How the variance desired will not adversely affect the public health, safety, morals, order, convenience, or general welfare.
5. How granting the variance would not oppose the general spirit and intent of the City Code.

Last modified July 2023

3. Neighboring land use, zoning, character and effects of variance on each

<u>Land use</u>	<u>Zoning</u>
North: <u>Residential</u>	<u>R-1</u>
South: <u>Commercial</u>	<u>B-4-P</u>
East: <u>Residential</u>	<u>R-1</u>
West: <u>Commercial</u>	<u>B-4-P</u>

General character of the neighborhood:
Residential and Commercial

Effects of the requested variance on adjacent and neighboring properties:

Other comments or factors relating to this request:

4. Checklist of required submittals

- Completed application, including all required details and supporting data.
- Nonrefundable application fee of \$300.00. Separately, the applicant will be billed to recover costs for required publication, posted and mailed notice per Parkville Municipal Code, Title IV, Section 403.010, Subsection E.
- Complete legal description of the applicable property (if requested by the Community Development Director).
- Authorized signature of the applicant and property owner.
- Three (3) copies 24" x 36" size, or larger sets, and one (1) electronic set (PDF format) of a site plan showing proposed variance in relation to property boundaries, existing and proposed topography, on and off-site, and other site features related to the proposed variance.

For City Use Only

Application accepted as complete by: Stephen Laehky, Community Development Dir June 21, 2024
Name/Title Date

Application Fee (25.0000): \$ 300.00 By: Check # 25728 MO# _____
 Date Paid: 6-20-24 Credit Card _____ Cash _____
 Payment by: _____ Received by: KL
 Final reimbursable costs paid (if applicable): _____ Date of Action: _____
 Hearing notice published in: _____ Date of publication: _____

Board of Zoning Adjustment Action: Approved Approved with Conditions Denied Date of Action: _____

Conditions if any: _____

1. How the requested variance arises from conditions which are unique to the subject property, that are not ordinarily found in the same zoning district and that are not a result of the owner's intentional action.
Pre-existing lot presumably created prior to zoning designation.
2. How the granted variance would not adversely affect the rights of adjacent property owners or residents.
Similar to adjoining lot.
3. How applying provisions of the zoning regulations for the requested variance constitutes unnecessary hardship or practical difficulties upon the property owner represented in the application.
Existing zoning requirements render the lot unbuildable.
4. How the variance desired will not adversely affect the public health, safety, morals, order, convenience, or general welfare.
No adverse affects. A residential use fits with the other properties on Cross Road.
5. How granting the variance would not oppose the general spirit and intent of the City Code.
If the variance is passed, the proposed use of the property fits with the surrounding neighborhoods.

CASA BELLA CONSTRUCTION, INC.
6512 NW EASTSIDE DRIVE
PARKVILLE, MO. 64152

FIRST FEDERAL BANK
KANSAS CITY, MO 64120

30-7159/3010 25728

PAY
TO THE
ORDER OF

City of Parkville

\$ 300.00

Three Hundred Dollars 00/100 — Cents

DOLLARS

MEMO

Zoning Variance Application

THIS RED IMAGE
FADES WITH HEAT

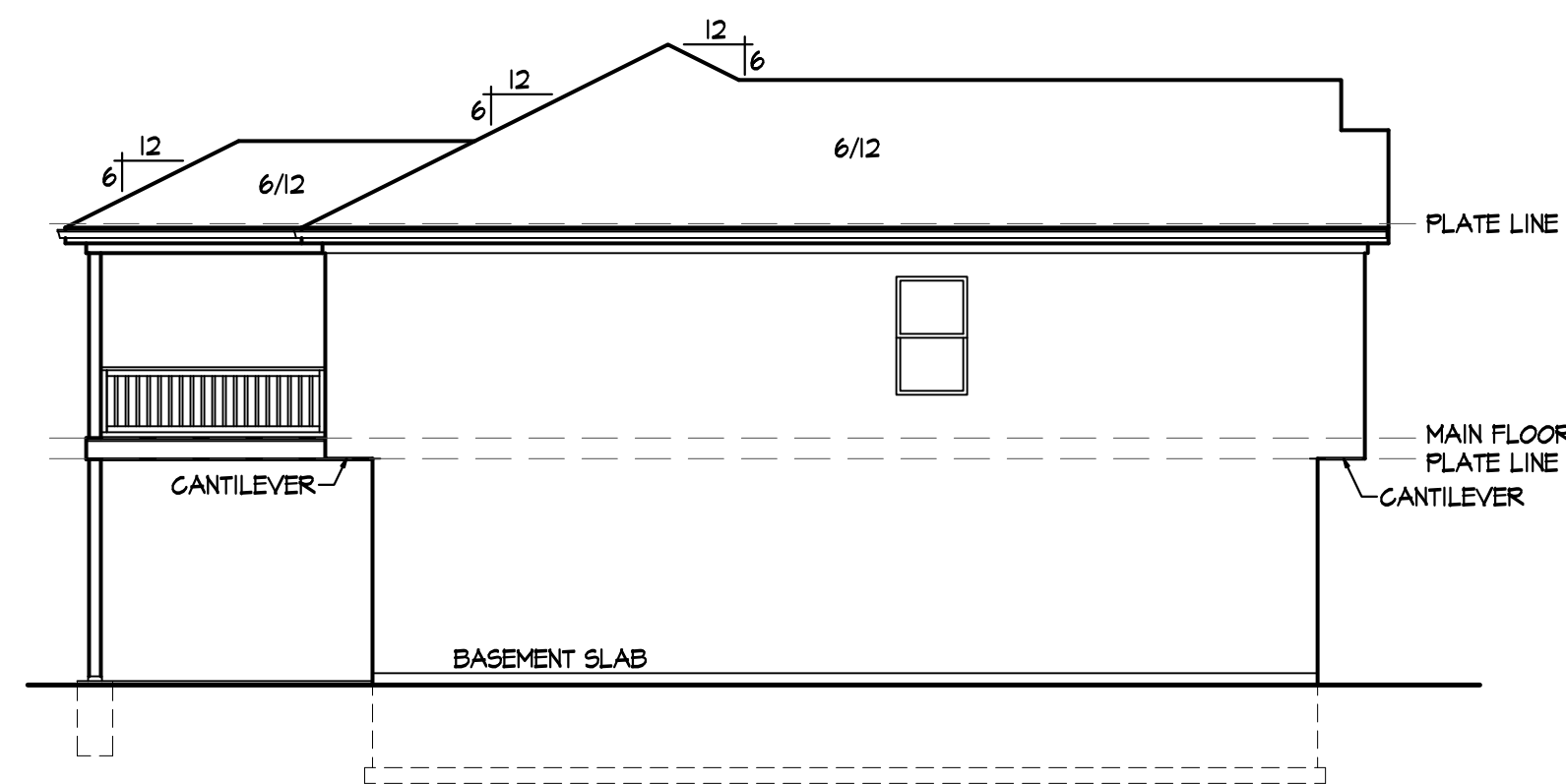
Lise Groshans

SECURITY FEATURES INCLUDED. DETAILS ON BACK.

025728 13010715921 1160390

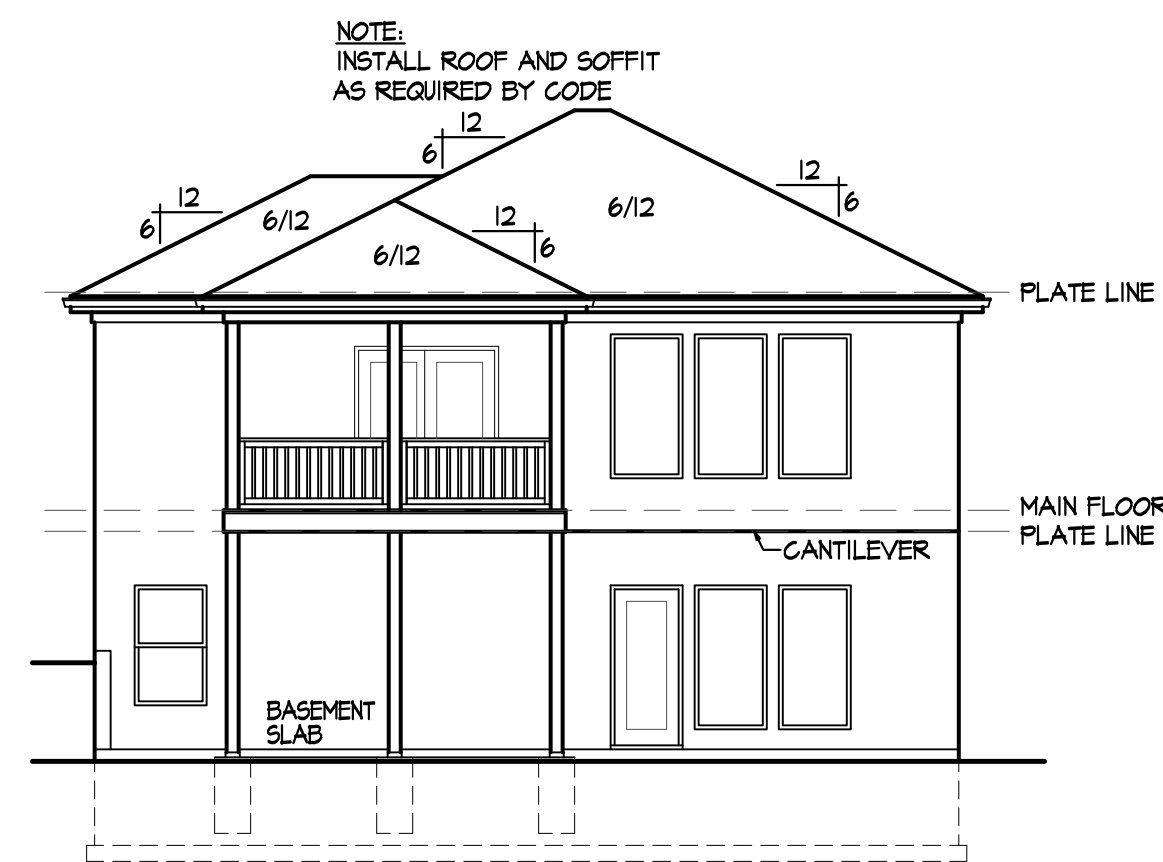
CASA BELLA CONSTRUCTION, INC.

25728



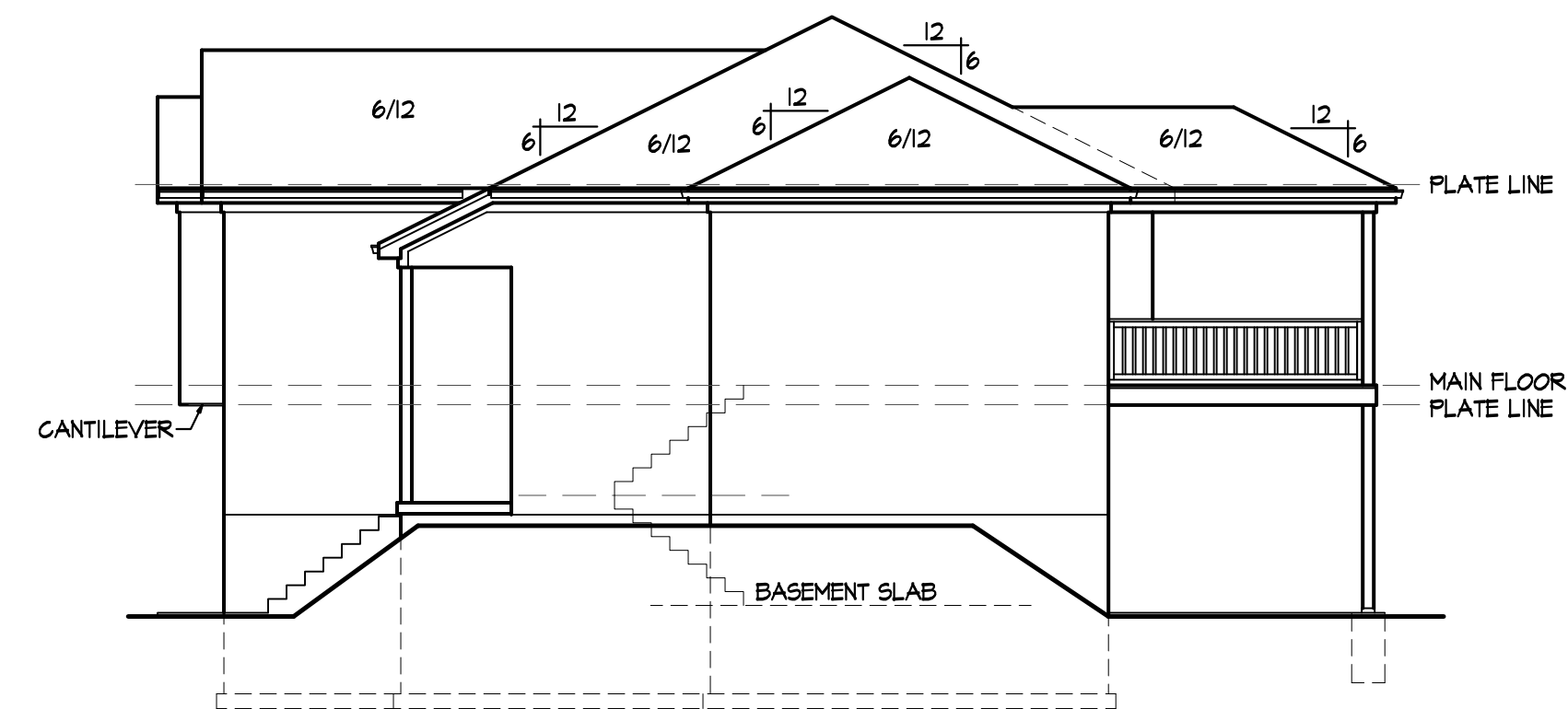
LEFT ELEVATION

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



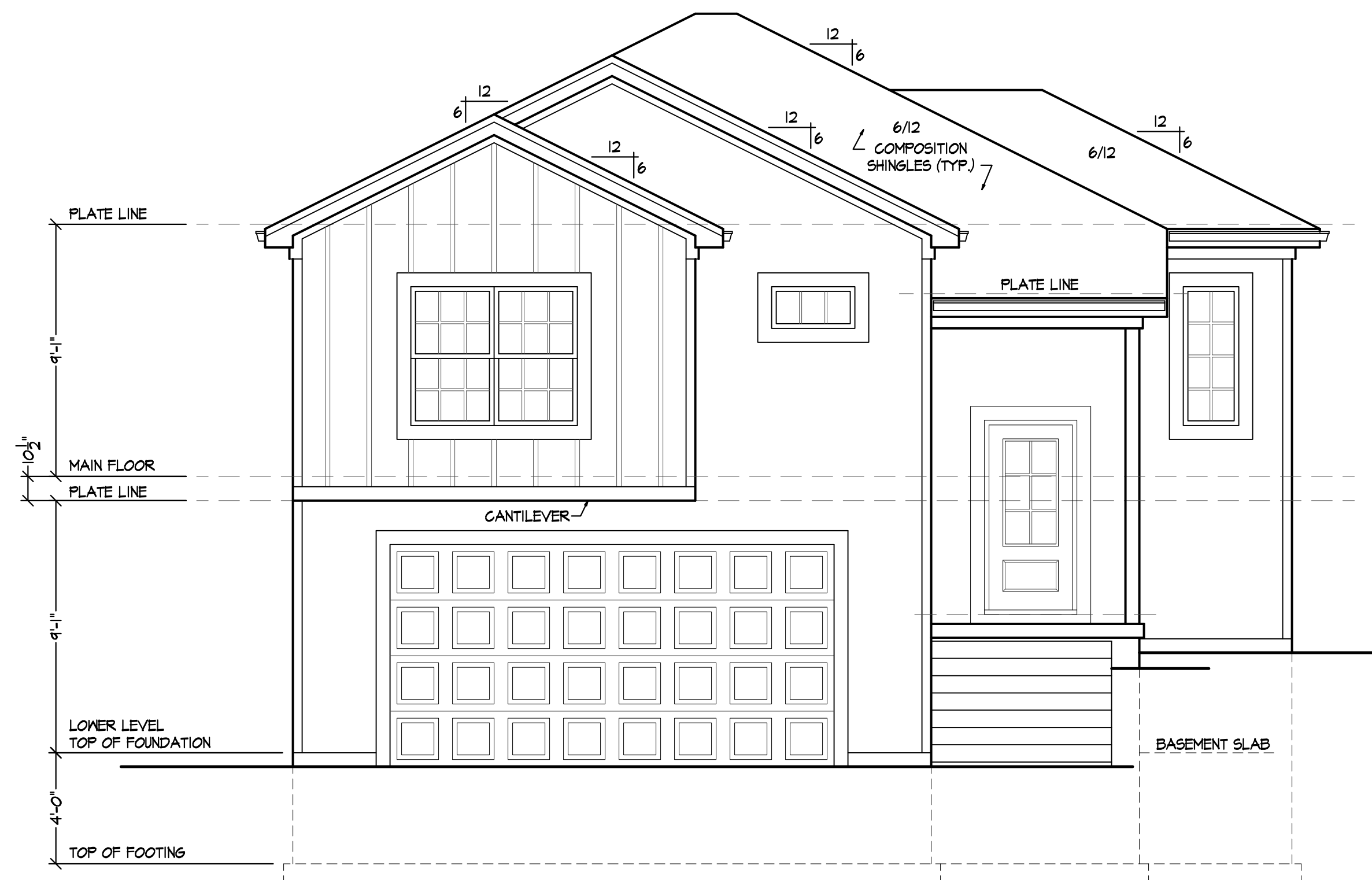
REAR ELEVATION

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



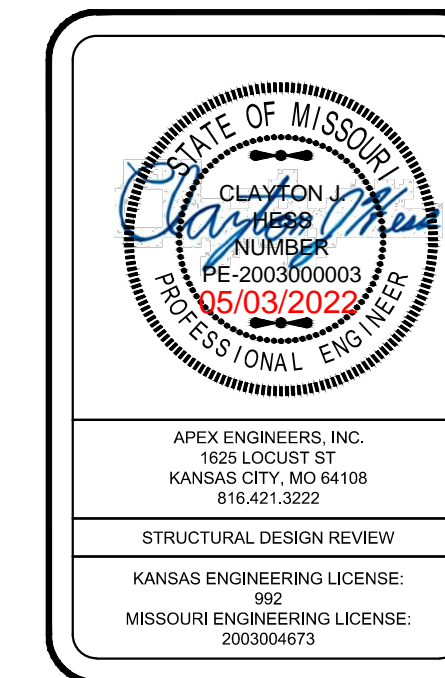
RIGHT ELEVATION

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



FRONT ELEVATION

SCALE: 1/4" = 1'-0"



APEX ENGINEERS, INC.
1625 LOCUST ST.
KANSAS CITY, MO 64108
816-421-3222

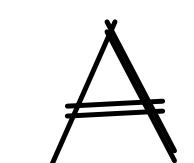
STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 992
MISSOURI ENGINEERING LICENSE: 2003004873

Platinum Homes KC

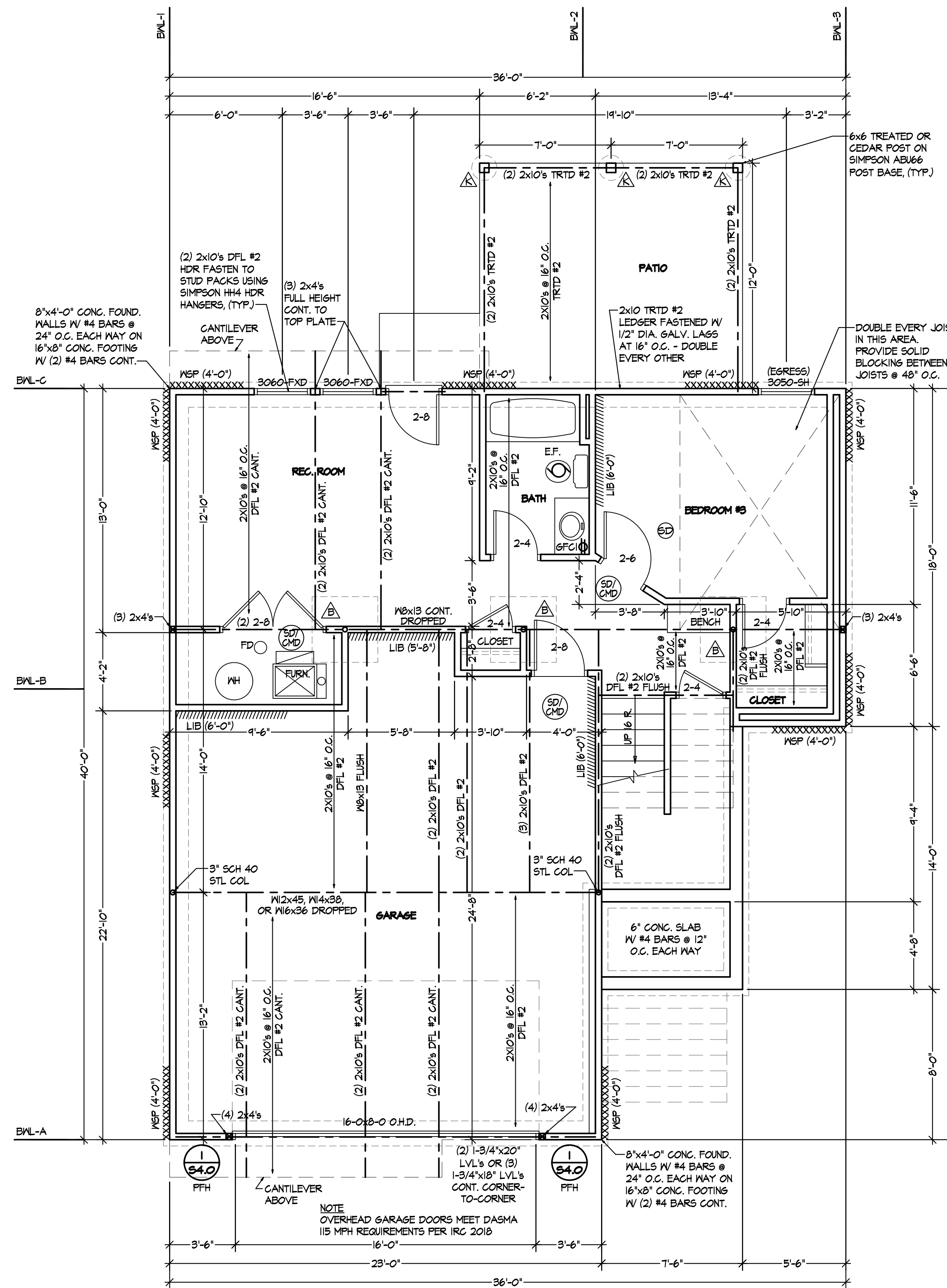
Residential Builder Resource, LLC
Custom Home Drafting & Design Service
Kansas City Metro
Rural Missouri & Eastern Kansas
Ph. (816) 472-5072

Bristol Split Entry
637 NW 109th Ter
Kansas City, Missouri
© Copyright 2022

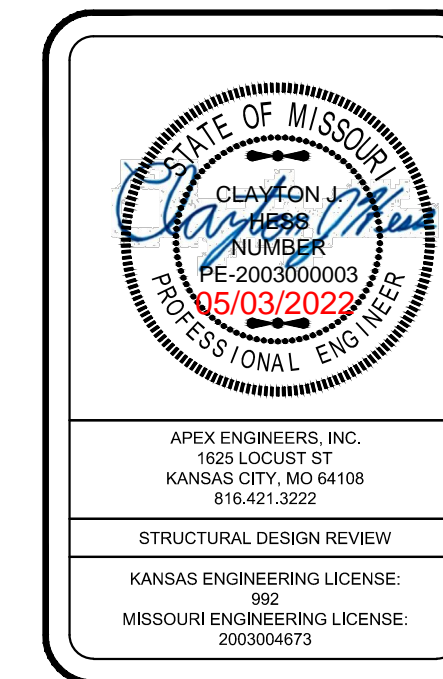
DRAWN BY: RBR
CHECKED BY: BC
DATE: 4-28-22



NOTE:
PLANS DESIGNED PER IRC AS
ADOPTED BY GOVERNING JURISDICTION



BASEMENT / FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



APEX ENGINEERS, INC.
1625 LOCUST ST
KANSAS CITY, MO 64108
816.421.3222

STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE:
992
MISSOURI ENGINEERING LICENSE:
2003004673

BRACED WALL METHODOLOGY
CONTINUOUS EXTERIOR SHEATHING PER CS-WSP METHOD
UNLESS OTHERWISE NOTED ON THE PLAN

CS-WSP: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/4" WITH MINIMUM SPAN RATING OF 2/10 FOR 16" OC STUD SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 1/2", WITH MINIMUM SPAN RATING OF 3/4", FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD.
(NOTE: FRAMING MEMBERS 16" OC MAX UNBLOCKED, AND WITH SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS)

IIII INTERIOR BRACED WALLS (REF 2-S4.0):

GB: 1/2" MIN. GYPSUM BOARD OVER STUDS SPACED 24" MAX. FASTENED WITH No 6 - 1 1/2" TYPE 'W' OR 'S' DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES.)

OR

LIB: 1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA. TYPE WB (OR EQUAL) STL. X-BRACE(S) AT 45° TO 60° ANGLES, MAXIMUM 16" O.C. STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.

COLUMN & PIER PAD SCHEDULE (REF. 5/S2.0)

COLUMN MARK	PAD SIZE	REINFORCEMENT	COLUMN SIZE
△	30" x 30" x 12"	(4) #4 BAR E.W.	3" SCH 40 (3.5" OD)
△	36" x 36" x 12"	(4) #4 BAR E.W.	3" SCH 40 (3.5" OD)
△	42" x 42" x 12"	(5) #4 BAR E.W.	3" SCH 40 (3.5" OD)
△	48" x 48" x 12"	(6) #4 BAR E.W.	3 1/2" SCH 40 (4" OD)
△	54" x 54" x 16"	(8) #4 BAR E.W.	REF PLAN
△	60" x 60" x 16"	(10) #4 BAR E.W.	REF PLAN

- COLUMN & PAD SIZES SHOWN ARE FOR MAXIMUM ADJUSTABLE COLUMN HEIGHT OF 9'-1". REQUIRES SEPARATE ENGR'D DESIGN IF GREATER THAN 9'-1" TALL. COLUMNS SIZED AS QWIK-ADJUST COLUMN, BY QUALITY WAY PRODUCTS, LLC. REFER TO SAFE LOADING CAPACITIES PER MANUF SPECS, OR SUBSTITUTION TO ANOTHER PRODUCT ONLY WITH PRIOR APPROVAL BY APEX ENGINEERS.
- COLUMN & PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2,000psf.

COLUMN & PIER SCHEDULE

MARK	COLUMN SIZE	PIER DIA.
△	6x6	12"
△	6x6	16"
△	6x6	18"
△	6x6	24"
△	6x6	28"

- STRUCTURAL NOTES:**
- ALL UNMARKED HEADERS MIN (2)#2-2x10
 - ALL HEADERS AND BEAMS MIN #2 GRADE DFL (OR EQ.)
 - INSTALL SIMPSON H2.5A OR CS16, TYP. BOTH FACES OF EACH END OF ALL BEAMS SUPPORTING ROOF, PER IRC R802.11 (UNLESS NOTED OTHERWISE) REF SHEET S3.1
 - BEARING WALL
 - SHIPLAP SIDING MUST BE FASTENED AT BOTH UNDERLAP AND OVERLAP

- ALL PIERS TO BEAR ON ORIGINAL UNDISTURBED SOIL OF 2,000psf BEARING CAPACITY OR FILL COMPACTED AND TESTED TO CONFORM TO THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.
- PIERS SHALL EXTEND BELOW THE FROST LINE: MIN. DEPTH OF 36" BELOW GRADE.
- POST SHALL BE TREATED OR CEDAR WITH SIMPSON ABU66 POST BASE

DETAIL REFERENCES

- | | | | |
|--------|-----------------------------------------------|--------|--------------------------------------------------------|
| ① S2.0 | TYPICAL FOUNDATION WALL DETAIL | ② S2.1 | STRUCTURAL GARAGE SLAB PIER PAD DETAIL |
| ② S2.0 | TYPICAL "UNRESTRAINED" FOUNDATION WALL DETAIL | ③ S2.1 | STRUCTURAL GARAGE SLAB / WALL SECTION |
| ③ S2.0 | TYPICAL DEAD MAN DETAIL | ④ S2.1 | TYPICAL OVERDIG DETAIL AT BASEMENT SLAB |
| ④ S2.0 | FOUNDATION WALL JUMP DETAIL | ⑤ S4.0 | ALTERNATE BRACED WALL PANEL DETAIL |
| ⑤ S2.0 | COLUMN PAD DETAIL | ⑥ S4.0 | APA NARROW WALL BRACING METHOD WITHOUT HOLD-DOWNS ALT. |
| ⑥ S2.1 | TYPICAL STRUCTURAL GARAGE SLAB PLAN | △ S2.0 | COLUMN AND PIER PAD SCHEDULE (SHEET S2.0) |

EXPANSIVE SOILS DISCLAIMER:

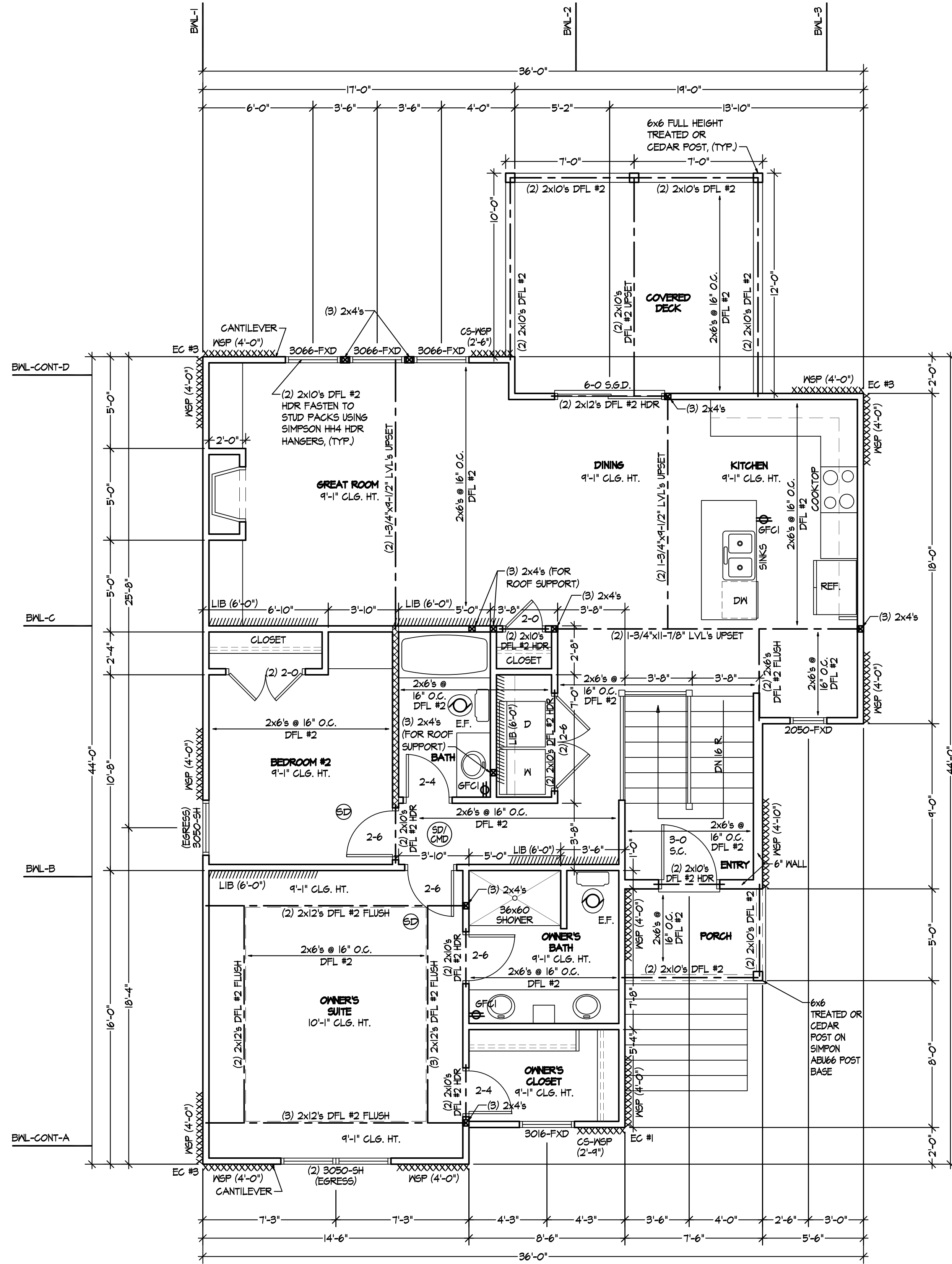
THESE PLANS HAVE BEEN PREPARED BASED ON A PRESUMPTIVE ALLOWABLE BEARING CAPACITY AS ALLOWED BY IRC CODE AND THE LOCAL ENFORCING JURISDICTION.

APEX ENGINEERS, INC. (APEX) RECOMMENDS THAT ALL FOOTING EXCAVATIONS BE EVALUATED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF ANY FOUNDATION ELEMENTS. GEOTECHNICAL INVESTIGATION AND/OR TESTING IS NOT A SERVICE PROVIDED OR OFFERED BY APEX.

APEX HAS NOT BEEN RETAINED TO DETERMINE THE EXPANSIVE SOIL CHARACTERISTICS OF THE SUBGRADE SOIL AND THEREFORE CANNOT BE HELD RESPONSIBLE FOR THE VOLUMETRIC CHANGES OF THE SOIL (INCLUDING BELOW THE BASEMENT SLAB). BY USE OF THESE PLANS WITHOUT AN ACCOMPANYING GEOTECHNICAL ENGINEERING REPORT, APEX SHALL NOT BE HELD LIABLE FOR ANY FUTURE MOVEMENT AND/OR DIFFERENTIAL MOVEMENT OF THE PROPOSED STRUCTURE AND THE POSSIBLE DAMAGE THAT MAY BE CAUSED AS A RESULT OF SUCH MOVEMENT. DAMAGE FROM EXPANSIVE SOILS AND/OR SETTLEMENT CAN RESULT IN AMONGST OTHER THINGS, THE FOLLOWING: BASEMENT SLAB HEAVE, SHEETROCK CRACKS, WINDOWS AND DOOR BECOMING OUT OF PLUMB AND STICKING AND/OR NOT OPENING, DAMAGE TO TILE, MOULDING, AND OTHER COSMETIC FINISHES.

NOTE:
ALL WINDOW SIZES ARE EXPRESSED IN FEET AND INCHES TO THE UNIT SIZE.

NOTE:
PLANS DESIGNED PER IRC AS ADOPTED BY GOVERNING JURISDICTION



MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

BRACED WALL METHODOLOGY
CONTINUOUS EXTERIOR SHEATHING PER CS-WSP METHOD
UNLESS OTHERWISE NOTED ON THE PLAN

CS-WSP: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/4" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 1/2" WITH MINIMUM SPAN RATING OF 24/0 FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD.
(NOTE: FRAMING MEMBERS 16" OC MAX UNBLOCKED, AND WITH SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS)

//// INTERIOR BRACED WALLS (REF 2-S4.0):

GB: 1/2" MIN. GYPSUM BOARD OVER STUDS SPACED 24" MAX. FASTENED WITH No 6 - 1 1/2" TYPE 'W' OR 'S' DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES.)
OR

LIB: 1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA. TYPE WB (OR EQUAL) STL. X-BRACE(S) AT 45° TO 60° ANGLES, MAXIMUM 16" O.C. STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.

- STRUCTURAL NOTES:**
- ALL UNMARKED HEADERS MIN (2) #2-2x10
 - ALL HEADERS AND BEAMS MIN #2 GRADE DFL (OR EQ.)
 - INSTALL SIMPSON H2.5A OR CS16, TYP. BOTH FACES OF EACH END OF ALL BEAMS SUPPORTING ROOF, PER IRC R802.11 (UNLESS NOTED OTHERWISE) REF SHEET S3.1
 - [Symbol] = BEARING WALL
 - SHIPLAP SIDING MUST BE FASTENED AT BOTH UNDERLAP AND OVERLAP



APEX ENGINEERS, INC.
625 LOCUST ST
KANSAS CITY, MO 64108
816.421.3222
STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 992
MISSOURI ENGINEERING LICENSE: 2003004873

MAIN FLOOR -	1,285 SQ. FT.
LOWER LEVEL -	525 SQ. FT.
TOTAL -	1,810 SQ. FT.

ALL WINDOWS SIZES ARE EXPRESSED IN FEET AND INCHES TO THE UNIT SIZE.

NOTE:
PLANS DESIGNED PER IRC AS ADOPTED BY GOVERNING JURISDICTION

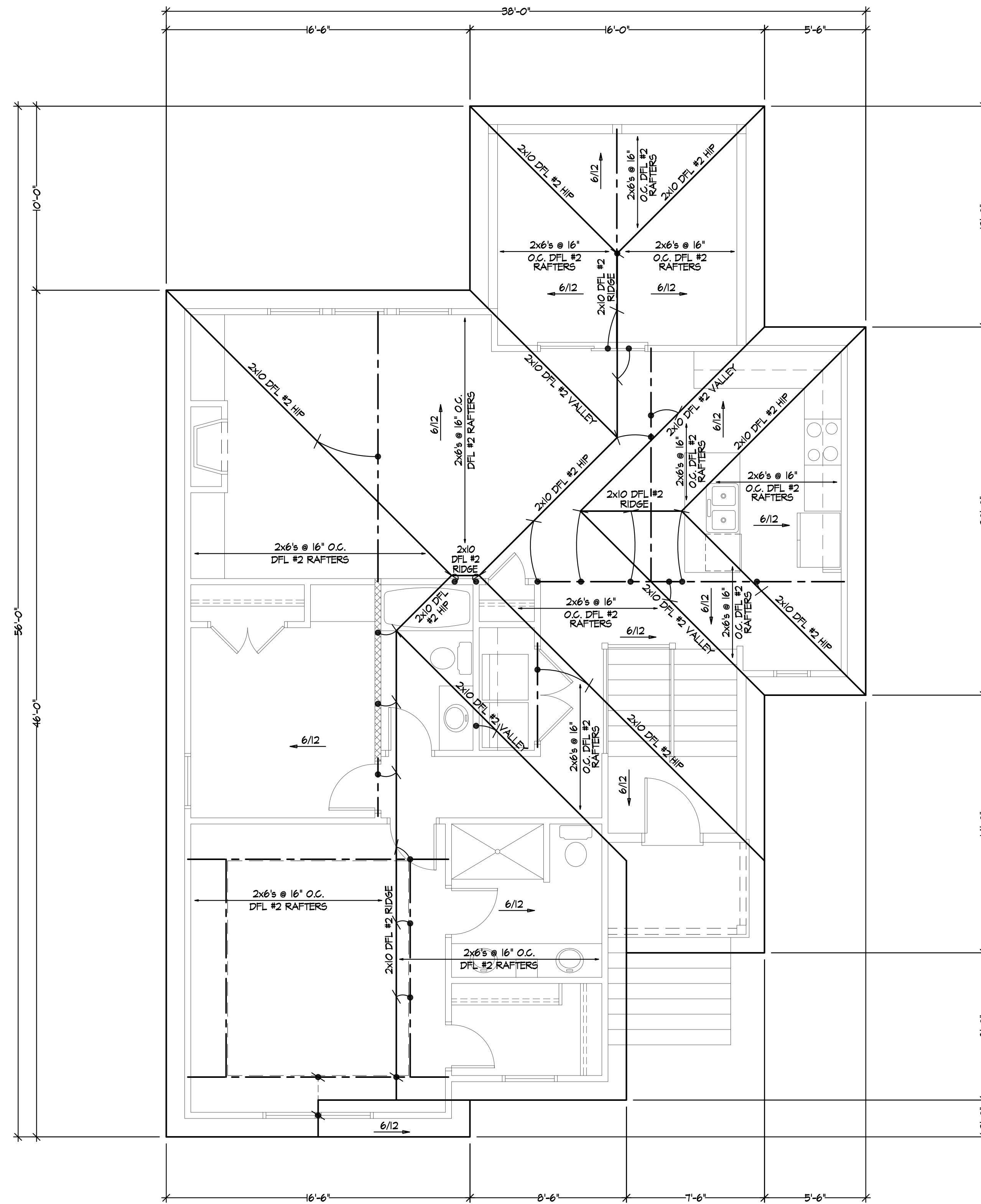
Platinum Homes KC

Residential Builder Resource, LLC
Custom Home Drafting & Design Service
Kansas City Metro
Rural Missouri & Eastern Kansas
Ph. (816) 472-5072

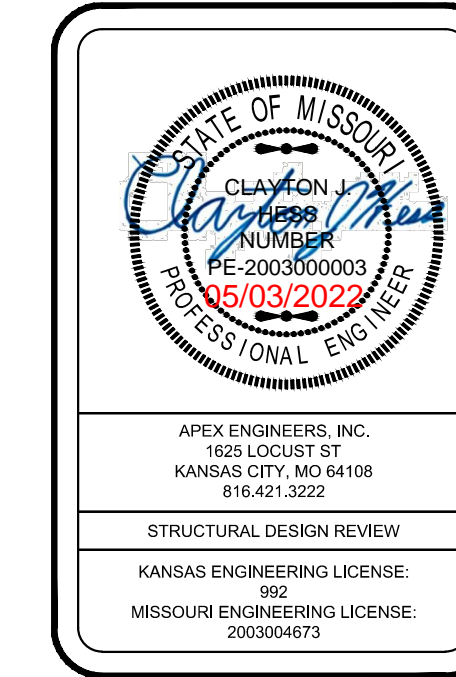
Bristol Split Entry
637 NW 109th Ter
Kansas City, Missouri
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CHECKED BY: BC
DATE: 4-28-22

A3



ROOF PLAN
SCALE: 1/4" = 1'-0"



ROOF FRAMING NOTES

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

ROOF SYSTEM IS DESIGNED TO MEET REQUIREMENTS
OF IRC 802

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

CODE MINIMUM

RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	11'-7"
#2-2x6	AT 16" OC	14'-2"
#2-2x8	AT 24" OC	14'-6"
#2-2x8	AT 16" OC	17'-11"
#2-2x10	AT 24" OC	17'-10"
#2-2x10	AT 16" OC	21'-11"

NOTE: CODE MINIMUM ALLOWS FOR A RAFTER DEFLECTION OF L/180 TOTAL LOAD

HIGHER PERFORMANCE

RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	8'-6"
#2-2x6	AT 16" OC	9'-9"
#2-2x8	AT 24" OC	11'-3"
#2-2x8	AT 16" OC	12'-9"
#2-2x10	AT 24" OC	14'-3"
#2-2x10	AT 16" OC	16'-3"

APEX ENGINEERS, INC. RECOMMENDED
DEFLECTION = L/360 LIVE LOAD, L/240 TOTAL LOAD

*RIDGE BOARDS ARE (UNLESS OTHERWISE NOTED)

#2-2x10 UP TO 9:12 PITCH
#2-2x12 OVER 9:12 PITCH

*ALL HIP AND VALLEYS ARE (UNLESS OTHERWISE NOTED)
#2-2x10 UP TO 9:12 PITCH
#2-2x12 OVER 9:12 PITCH

*2-2x10 HIP/VALLEY, MAX HORIZ CLEARSPAN: 11'-11"

*2-2x12 HIP/VALLEY, MAX HORIZ CLEARSPAN: 12'-11"

*BRACE AT EACH END PER HIP/VALLEY/RIDGE STRUT

SCHEDULE BELOW, UNLESS NOTED OTHERWISE

*PURLINS ARE 2x6 MIN

- PURLIN STRUTS ARE AT 4'-0" OC

- PURLIN STRUTS SHALL BE INSTALLED AT NOT LESS

THAN A 45 DEGREE ANGLE WITH THE HORIZONTAL

- ALL PURLIN STRUTS SHALL HAVE A MAX 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 AND (1)2x6	12'-0"
(1)2x6 AND (1)2x8	20'-0"
(2)2x6 AND (1)2x8	30'-0"
CONSULT ARCH ENGR	>30'-0"

*EACH END OF STRUT SHALL BE FASTENED WITH MIN (3)8d

OR (2)16d NAILS

*COMMON, BRACED RIDGE BRACES ARE SAME AS PURLIN

BRACES-SPACING, SIZE, CONFIGURATION, AND

INSTALLATION (SEE PURLIN BRACE NOTES ABOVE)

UNLESS NOTED OTHERWISE

*STRUCTURAL HIP/VALLEY/RIDGE STRUTS SHALL BE

CONSTRUCTED IN A "T" CONFIGURATION AND PER THE

FOLLOWING CHART:

HIP/VALLEY/RIDGE STRUT	MAX HIP/VALLEY/RIDGE STRUT LENGTH
(2)2x4	8'-0"
(2)2x4 AND (1)2x6	12'-0"
(2)2x6 AND (1)2x8	20'-0"
(2)2x6 AND (2)2x8	30'-0"
CONSULT ARCH ENGR	>30'-0"

▬ = ROOF BRACE/STRUT (PER CHART)

-SLASH IS TOP END OF BRACE

-CIRCLE IS BOTTOM END OF BRACE

▬ = PURLIN STRUTS AT 48" OC (PER CHART) U.N.O.

-SLASH IS TOP END OF BRACE

-ARROW IS BEARING LOCATION

▬ DENOTES BEARING WALL

▬ DENOTES PURLIN

▬ DENOTES BEARING STRUCTURE

STRUCTURAL NOTES:

- ALL UNMARKED HEADERS MIN

(2)#2-2x10

- ALL HEADERS AND BEAMS MIN #2

GRADE DFL (OR EQ.)

(H) INSTALL SIMPSON #2.5A OR CS16, TYP.

BOTH FRAGES OF EACH END OF ALL

BEAMS SUPPORTING ROOF, PER IRC

R802.11 (UNLESS NOTED OTHERWISE)

REF SHEET S3.1

- ▬ = BEARING WALL

- SHIPLAP SIDING MUST BE FASTENED

AT BOTH UNDERLAP AND OVERLAP

1. THIS IS AN ENGINEERED ROOF STRUCTURE DESIGNED FOR COMPLIANCE WITH IRC 802.3, BUILD AS SHOWN WITH NO DEVIATIONS.
2. ALL HIP AND VALLEYS ARE DESIGNED TO BE CONTROLLED BY BENDING.
3. SHEAR AT BEARING WITH MIN 5/8" DEPTH DOES NOT CONTROL DESIGN. FOR VALLEYS REF 4/S3.2

NOTE:
PLANS DESIGNED PER IRC AS
ADOPTED BY GOVERNING JURISDICTION

SHEATHING AND FRAMING FASTENING SCHEDULE		
BUILDING COMPONENT	MATERIAL	FASTENING
ROOF SHEATHING ¹	7/16" PLYWOOD	16 GA x 1-3/4" STAPLES AT 3" OC EDGES AND 6" OC IN FIELD
	1x4 #3 FURRING	1/2" CROWN STAPLES
FLOOR SHEATHING ¹	3/4" T&G YELLOW PINE PLYWOOD APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED	8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD 14 GA x 2" STAPLES AT 4" OC EDGES AND 8" OC IN THE FIELD 12.5 GA x 1-1/2" RING OR SCREW SHANK NAILS AT 6" OC EDGES AND 8" OC IN THE FIELD
CEILING COVERING ¹	1/2" GYPSUM SHEATHING	7" OC NAILED / 12" OC SCREWED WITH 13 GA, 1-3/8" LONG, 19/64" HEAD, 0.088 DIA, 1-1/4" LONG, ANG-RINGED, 5d COOLER NAIL, 0.086 DIA, 1-5/8" LONG, 15/64" HEAD, OR GYP BD NAIL, 0.086 DIA, 1-5/8" LONG, 9/32" HEAD
INTERIOR WALL COVERING ¹	1/2" GYPSUM SHEATHING	8d COMMON NAILS; 1-5/8" GALVANIZED STAPLES; 1-1/4" SCREWS, TYPE W OR S; AT 4" OC EDGES AND 8" OC IN THE FIELD
EXTERIOR WALL SHEATHING	MIN 3/8" APA RATED SHEATHING	8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD
CONVENTIONAL WOOD FRAMED WALLS	*SUPPORTING 2 FLOORS, ROOF, AND CEILING OR LESS. *HEIGHT: 10'-0" OR LESS *SIZE: NOM 2x4 (NOM 2x6 WHEN SUPPORTING 2 FLOORS, CEILING, AND ROOF) *SPECIES: DOUG-FIR, HEM-FIR, SOUTH PINE, SPRUCE-PINE-FIR *MAXIMUM SPACING 16" OC *STUDS 10' LENGTH OR LESS SHALL BE #3 STANDARD, OR STUD GRADE *STUDS OVER 10' LENGTH SHALL BE MIN #2 GRADE	*10E NAIL RIM JOIST TO SILL OR TOP PLATE: *10E NAIL STUD TO TOP AND SOLE PLATE: *END NAIL TOP AND SOLE PLATE TO STUD: *FACE NAIL BUILT-UP CORNER STUDS: *FACE NAIL BUILT-UP CORNER STUDS AT BRACED WALL PANELS: *FACE NAIL JACK STUDS/TRIMMERS SUPPORTING HEADERS WITH: *FACE NAIL DBL TOP PLATE: *DBL TOP PLATES WITH MIN 48" OFFSET OF EACH FACE NAIL LAPPED AREA WITH: *FACE NAIL DBL TOP PLATE AT LAPPED CORNERS AND INTERSECTIONS WITH: *FACE NAIL SOLE PLATE TO FRAMING SYSTEM WITH: *TOE NAIL BRIDGING TO JOIST EACH END: *FACE NAIL LEDGER STRIPS SUPPORTING JOISTS OR RAFTERS WITH:
CONVENTIONAL WOOD HEADER FRAMING	PER PLAN	*TOE NAIL HEADERS TO WALL STUDS WITH (4) 8d NAILS AT EACH END *FACE NAIL DOUBLE PIECE HEADERS WITH 16d NAILS AT 16" CENTERS ALONG EACH EDGE.
RAFTER TIES ¹	MIN 2x4 MEMBERS AT EACH RAFTER	REF TABLE R802.5.2
COLLAR TIES	MIN 1x4 MEMBERS AT 48" OC	FACENAIL TO RAFTERS IN UPPER 1/3 OF ATTIC SPACE WITH (3) 10d NAILS AT EACH
1. NOTE: ALL SHEATHING MATERIALS TO BE APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED. 2. RAFTER TIES SHALL NOT BE REQUIRED WHEN A STRUCTURAL RIDGE HAS BEEN PROVIDED AND ADEQUATELY DESIGNED (AS IN A FULLY VAULTED ROOM), SUCH SHALL BE NOTED AS "STRUCTURAL" ON THE PLAN.		
BUILDING COMPONENT	FASTEN TO	FASTEN WITH
RAFTERS	TO RIDGE/VALLEYHIP RAFTERS	TOENAIL WITH (4) 16d ENDNAIL WITH (3) 16d
	TO PLATE	TOENAIL WITH (3) 16d
CEILING JOISTS	TO TOP PLATE	TOENAIL WITH (3) 8d AT EACH END
	WHERE CEILING JOISTS RUN PARALLEL TO RAFTERS FACENAIL TO RAFTERS WITH (3) 10d MIN	
FLOOR JOISTS	TO SILL OR GIRDER	TOENAIL WITH: (3) 8d COMMON; (4) 3"x0.131"; (4) 3"x0.128"
	TO RIM JOIST	ENDNAIL WITH: (3) 16d COMMON; (4) 3"x0.131"; (4) 3"x0.128"
BRACED WALL PANELS PERP TO FRAMING MEMBERS ABOVE/BELOW: PARALLEL TO FRAMING MEMBERS ABOVE/BELOW:	TO FRAMING MEMBER	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131"
	TO FRAMING AND BLOCKING AT 16" OC	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" AND AT EACH BLOCK: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131" AND AT EACH BLOCK: (3) 8d COMMON; 3"x0.131"
NOTE: MEMBER THICKNESS AND FASTENING LISTED IN THIS SCHEDULE ARE MINIMUM IRC REQUIREMENTS. SPECIFIC PROJECT REQUIREMENTS NOTED WITHIN THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, IF REQUIRED BY APEX ENGINEERS DESIGN NEEDING TO BE MORE STRINGENT, SHALL BE FOLLOWED.		

ENERGY REQUIREMENTS

- LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE IC-RATED, LEAKAGE RATED, AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER M1102.4.5.
- PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103.1.1.
- AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER N1103.3.2.1.
- BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS PER N1103.3.5
- HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4.
- ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1501.1.
- MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER M1503.6.
- AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER M1601.6.

ENERGY CONSERVATION

THE ENERGY EFFICIENCY OF THE DWELLING SHALL COMPLY WITH THE FOLLOWING TABLE(S) (WHERE THERE ARE DISCREPANCIES BETWEEN THIS TABLE AND THE PLANS, THE MOST RESTRICTIVE SHALL APPLY). IF TABLE 1 IS NOT COMPLETED AND ACCOMPANIED BY RESCHECK CALCULATIONS, THEN TABLE 2 SHALL BE APPLIED.

TABLE 1 - ResCheck COMPLIANCE SOFTWARE (FILL IN APPLICABLE VALUES FROM ResCheck CALCS.)

BUILDING ELEMENT	MIN VALUE
WALLS - FRAMED	R-
WALLS - BASEMENT	R-
FLOORS - UNCONDITIONED SPACE	R-
FLOORS - OVER OUTSIDE AIR	R-
FLOORS - CRAWL SPACE	R-
SLAB - PERIMETER	R-
CEILING - FLAT	R-
CEILING - CATHEDRAL	R-
DOORS - GLASS	U-
DOORS - SOLID	U-
WINDOWS - OPERABLE	U-
WINDOWS - FIXED	U-
WINDOWS - OTHER	U-
FURNACE	AFUE-
AIR CONDITIONER	SEER-

NOTE: FOR USE OF TABLE 1 A ResCheck COMPLIANCE FORM MUST BE SUBMITTED WITH PLANS.

TABLE 2 - PRESCRIPTIVE ENVELOPE (MIN PRESCRIPTIVE APPROACH ACCEPTABLE FOR ANY DWELLING.)

BUILDING ELEMENT	MIN VALUE
CEILING - FLAT	R-49
CEILING - CATHEDRAL**	R-30
CEILING - CATHEDRAL	R-38
FLOORS - UNCONDITIONED SPACED	R-19
FLOORS - OVER OUTSIDE AIR	R-30
WALLS - BASEMENT	R-10 (CONT) OR R-13 (CAVITY)
CONCRETE SLAB ON GRADE	R-10 (FOR 2FT)
SKYLIGHTS	U=0.55
WALLS - EXTERIOR (2x4)	R-13 (CAVITY) + R-5 (CONT)
WALLS - EXTERIOR (2x6)	R-20
WALLS - CRAWL SPACE	R-19
GLAZING*	U<=0.32
GLAZING*	SHGF<=0.40

NOTE:
TABLE 2 PER IRC TABLE N1102.1.2
*DEFAULT U-FACTOR FOR DOUBLE PANE, ARGON FILLED LOW-E TREATMENT IS U=0.35
**LIMITED TO AREAS LESS THAN 500 SQ-FT OR 20% OF CEILING AREA.

DEFERRED SUBMITTALS

- THE ARCHITECT OR ENGINEER OF RECORD SHALL LIST THE DEFERRED SUBMITTALS ON THE PLANS FOR REVIEW BY THE BUILDING OFFICIAL. DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN THE GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITH A SPECIFIED PERIOD. DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL.
- DEFERRED SUBMITTAL ITEMS (WHEN APPLICABLE):
 - TRUSSES
 - I-JOISTS
 - GUARDRAILS AND HANDRAILS
 - STEEL FABRICATED STAIRS
 - PRE-MANUFACTURED CANOPIES AND AWNINGS
 - PRECAST HOLLOW CORE SLABS
 - GROUND IMPROVEMENT AND/OR STRUCTURAL FOUNDATION SOLUTIONS (SUCH AS DRILLED PIERS)

CONCRETE

CONCRETE SHALL BE AIR ENTRAINED WITH A MINIMUM COMPRESSIVE STRENGTH OF 28 DAYS OF 2,500 PSI FOR BASEMENT AND INTERIOR FLOOR SLABS, 3,000 PSI FOR BASEMENT AND FOUNDATION WALLS, AND 3,500 FOR PORCHES, CARPORTS, AND GARAGE FLOOR SLABS.

GLAZING

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 OPENABLE 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 WHIRLPOOLS; GLAZING IN FIXED OR OPENABLE PANELS EXCEEDING 9 SQUARE FEET AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".

EMERGENCY EGRESS AND RESCUE

- PROVIDE ONE WINDOW FROM EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPENABLE HEIGHT OF 24 INCHES AND WIDTH OF 20 INCHES
- BASEMENT EGRESS TO MEET THE REQUIREMENTS OF IRC SECTION 310.
- SMOKE ALARMS SHALL BE INSTALLED AS REQUIRED PER IRC 2018 SECTION R314.
- PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA, ON EACH FLOOR INCLUDING BASEMENTS AND HABITABLE ATTICS, AND NOT LESS THAN 3'-0" HORIZONTALLY FROM DOOR OR OPENING OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING(S).
- CARBON MONOXIDE ALARMS SHALL BE INSTALLED AS REQUIRED PER IRC 2018 SECTION R315.
- CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA, WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED WITHIN THE BEDROOM.

FRAMING GENERAL

- ALL LUMBER SIZES ARE FOR DOUGLAS FIR-LARCH UNLESS NOTED OTHERWISE.
- ALL HEADERS TO BE MIN (2) #2-2x10 UNLESS NOTED OTHERWISE.
- BLOCK CANTILEVERS, DOORJAMBS, AND OVER BEAMS.
- ALL HEADERS TO BEAR ON A MINIMUM OF (2) 2x4 STUD 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 (3) JOIST SPACES BE PROVIDED TO A MAXIMUM OF 2'-0" CENTERS 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 (3) 10d NAILS (IRC SECTION R602.3.(1)).
- IF DUCTS ARE INSTALLED IN THE JOIST SPACES, NAIL 2x4s FLAT AT 2'-0" CENTERS 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 DOUBLED AND COMPLY WITH IRC SECTION R502.4.
- JOISTS FRAMING FROM OPPOSITE SIDES OVER BEARING SUPPORTS SHALL LAP A MINIMUM 9" AND SHALL BE NAILED TOGETHER WITH A MINIMUM (3) 10d FACE NAILS.
- JOISTS FRAMING INTO A WOOD GIRDER OR BEAM SHALL BE SUPPORTED BY APPROVED FRAMING ANCHORS OR MINIMUM 2"x2" LEDGER STRIPS.
- FRAMING OF OPENINGS - HEADERS 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'-0" FROM THE TRIMMER JOIST BEARING. WHEN THE HEADER SPAN EXCEEDS 4'-0", 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" 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.
- WATER-RESISTIVE BARRIER SHALL BE PROVIDED OVER ALL EXTERIOR WALLS. ONE LAYER OF No 15 ASPHALT FELT OR ANY OTHER BARRIER THAT MEETS ASTM D226 TYPE "FELT" (R703.2)
- WHERE CEILING JOISTS ARE NOT INSTALLED CONNECTED TO THE RAFTERS AT THE TOP PLATE AND/OR WHERE CEILING JOISTS ARE NOT INSTALLED PARALLEL TO THE RAFTERS, RAFTER TIES SHALL BE INSTALLED IN THE LOWER 1/3 OF THE ATTIC SPACE AND IN ACCORDANCE WITH TABLE 1-S1.0.
- COLLAR TIES SHALL BE PROVIDED IN THE UPPER 1/3 OF THE ATTIC SPACE IN ACCORDANCE WITH TABLE 1-S1.0.
- DOORS AND EXTERIOR LIGHTING SHALL MEET REQUIREMENTS OF KCBRC SECTION R329 FOR PHYSICAL SECURITY.
- STUDS SHALL BE CONTINUOUS BETWEEN FLOOR, CEILING, AND/OR ROOF DIAPHRAGMS AS REQUIRED PER R602.3.
- WHERE THE ULTIMATE WIND SPEED DOES NOT EXCEED 115 MPH, THE WIND EXPOSURE CATEGORY IS B, THE ROOF PITCH IS 5:12 OR GREATER, AND THE ROOF SPAN IS 32 FEET OR LESS, RAFTERS AND TRUSSES SPACED LESS THAN 24" OC SHALL BE ATTACHED TO THEIR SUPPORTING WALL ASSEMBLIES IN ACCORDANCE WITH TABLE R602.3. IF NOT, RAFTERS AND TRUSSES SHALL BE ATTACHED TO THEIR SUPPORTING WALL ASSEMBLIES WITH A MECHANICAL CONNECTION CAPABLE OF RESISTING THE UPLIFT FORCE AS SPECIFIED IN TABLE R602.11.

ENGINEERED LUMBER SCHEDULE

TYPE	Fb (psi)	E (psi)	Fv (psi)
LVL	2600	1.9x10 ⁶	285
GLU-LAM	2400	1.85x10 ⁶	265
PARALLAM	2900	2.0x10 ⁶	290

GARAGE

- THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.
- DOORS BETWEEN THE GARAGE AND THE DWELLING - MINIMUM 1-3/8" SOLID CORE OR HONEY COMBED STEEL DOOR OR 20-MINUTE FIRE RATED.
- THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY A MINIMUM 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. WHERE A FLOOR/CEILING SPACE IS PROVIDED ABOVE THE GARAGE COLUMNS AND BEAMS SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED WITH 1/2" GYPSUM BOARD OR EQUIVALENT. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE THE GARAGE CEILING ASSEMBLY SHALL BE PROTECTED WITH MINIMUM 5/8" TYPE X GYPSUM BOARD ON THE GARAGE CEILING.
- GARAGE DOOR AND FRAME. THE H-FRAME FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM THE FLOOR TO CEILING ATTACHED WITH 1-3/4" x 0.120" NAILS AT 7" OC STAGGERED WITH (7) 3-1/4" x 0.120" NAILS THRU THE JAMB INTO THE HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.
- SELF-CLOSING DEVICES SHALL BE INSTALLED FOR GARAGE AND/OR DWELLING SEPARATION DOORS PER R302.5.1.
- GARAGE VEHICLE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET THE 115 MPH WIND LOAD REQUIREMENTS OF DASMA 108 AND ASTM E 330-96 (IRC R301.2.1).

STAIRWAYS

- STAIRWAYS SHALL PROVIDE A MAXIMUM 7-3/4" RISE AND MINIMUM 10" RUN.
- PROVIDE MINIMUM 36" GUARDRAILS ON THE OPEN SIDES OF RAISED FLOORS, PORCHES, AND BALCONIES; 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 SPHERE 4" IN DIAMETER.
- EACH STAIRWAY OF THREE 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 OTHER APPROVED GRASPABLE SHAPE PER IRC SECTION 311.7.8.5.
- 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 ENCLOSURE SIDE PER IRC SECTION 302.7.
- SPIRAL STAIRS TO BE CONSTRUCTED PER IRC SECTION 311.7.10.1.
- SPACE STRINGERS AT 16" OC MAX.

GENERAL

- PLANS SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE WITH AMENDMENTS AS ADOPTED BY THE GOVERNING JURISDICTION. IF ANY CHANGES OR DEVIATIONS FROM THE PLANS ARE MADE DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY THE APPROPRIATE AUTHORITY AND ENGINEER OF RECORD, EITHER (OR BOTH) OF WHOM MAY REQUIRE REVISED DRAWINGS OR CALCULATIONS AT ITS DISCRETION.
- REPRODUCTION, ALTERATION, OR RE-USE BY ANY METHOD OF ALL OR PORTIONS OF THESE STRUCTURAL PLANS OR VARIATIONS THEREOF WITHOUT WRITTEN PERMISSION FROM APEX ENGINEERS, INC. IS STRICTLY PROHIBITED. THE DRAWINGS AND DETAILS OF THIS SHEET SET, BEING INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF APEX ENGINEERS, INC. AN UNSEALED VERSION, OR A VERSION VOID OF APEX ENGINEERS LOGO AND/OR TITLE BLOCK, SHALL BE CONSIDERED AN UNAUTHORIZED REPRODUCTION.
- WHERE DISCREPANCIES EXIST BETWEEN THE STANDARD COMMENTS, NOTES FROM THE DESIGN PROFESSIONAL OR THE CODE, THE MOST RESTRICTIVE SHALL APPLY. THE DWELLING SHALL COMPLY WITH THE FOLLOWING LOAD CONDITIONS:

AREA	MIN DEAD LOAD	MIN LIVE LOAD
EXTERIOR BALCONIES	10 PSF	60 PSF
DECKS	10 PSF	40 PSF
CEILING JOISTS/ATTICS NO STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE 3:12 OR LESS	5 PSF	10 PSF
CEILING JOISTS/ATTICS WITHOUT STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE OVER 3:12 OR LESS	10 PSF	10 PSF
CEILING JOISTS/ATTICS WITH STORAGE - DOOR/PULL DOWN LADDER ACCESS	10 PSF	20 PSF
ROOMS - NON-SLEEPING	10 PSF	40 PSF
ROOMS - SLEEPING	10 PSF	30 PSF
ROOF - LIGHT ROOF COVERING	10 PSF	20 PSF
ROOF - HEAVY ROOF COVERING CONCRETE/TILE/SLATE	20 PSF	20 PSF

NOTE: HEAVY ROOF COVERING WILL NOT BE INSTALLED OR USED IN THE DESIGN CALCULATIONS UNLESS IT IS SPECIFICALLY NOTED ON THE PLANS THAT THE DESIGN IS FOR HEAVY ROOF COVERINGS.

FOUNDATIONS

- THE FOUNDATION DESIGN SHALL BE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2000 PSF, UNLESS OTHERWISE INDICATED ON THE PLANS OR IF MODIFIED BY A GEOTECHNICAL ENGINEERING REPORT BASED ON ACTUAL SITE CONDITIONS.
- CONCRETE SHALL MEET THE FOLLOWING SPECIFIED DESIGN STRENGTH CRITERIA:
 - 2500 PSI FOR BASEMENT FLOOR SLABS ON UNDISTURBED SOIL
 - 3000 PSI FOR FOOTINGS AND FOUNDATION WALLS
 - 3500 PSI FOR GARAGE FLOOR SLABS
- FOOTINGS SHALL EXTEND BELOW THE FROST LINE; MINIMUM DEPTH 36 INCHES BELOW GRADE.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IF SITE CONDITIONS REQUIRE OTHERWISE, FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS.
- COLUMN PADS SHALL BE A MINIMUM 30"x30"x12" WITH (4) #4 BARS EACH WAY UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE ON THE PLANS, FOUNDATION WALLS SHALL BE MINIMUM 8" THICK X 8'-0" (OR 9'-0") TALL AND REINFORCED PER DETAIL 1-S2.0 (AND 2-S2.0 WHERE APPLICABLE). FOUNDATION WALLS GREATER THAN 10'-0" TALL REQUIRE A SEPARATE ENGINEERED DESIGN. PROVIDE A 2'-0" LONG INTERIOR OR EXTERIOR DEAD-MAN FOR ANY STRAIGHT WALL PANELS EXCEEDING 20'-0" IN LENGTH (REF 3-S2.0)
- REINFORCEMENT SHALL BE MINIMUM GRADE 40 UNLESS NOTED OTHERWISE. REINFORCEMENT SHALL LAP A MINIMUM OF 24" AT ENDS, SPLICES, AND AROUND CORNERS.
- FOUNDATION WALLS SHALL BE BACKFILLED WITH A CLEAN LEAN CLAY (OR BETTER) LOW VOLUME CHANGE MATERIAL. ON-SITE MATERIAL MAY BE USED IF DEEMED ACCEPTABLE BY THE GEOTECHNICAL ENGINEER OF RECORD.
- FOUNDATION WALLS WILL NOT ACHIEVE FULL STRENGTH UNTIL THE BACKFILL SLAB AND THE FIRST FLOOR SLAB HAVE BEEN PROPERLY PLACED. IF BACKFILLING THE INTERIOR OF THE FOUNDATION WALL WITH GREATER THAN 8" OF EARTHEN FILL OR 24" OF GRANULAR FILL, A STRUCTURAL BASEMENT SLAB, OR ALTERNATE ENGINEERED SOLUTION (i.e. ENGINEERED FILL) WILL BE REQUIRED.
- WHERE JUMPS OR STEPS IN ELEVATION OCCUR FOUNDATION WALLS AND FOOTINGS SHALL BE FORMED CONTINUOUS AND POURED PER DETAIL 4-S2.0.
- CONCRETE FLOOR SLABS SHALL BE A MINIMUM 4" THICK OVER A MINIMUM 4" BASE OF 1/2" OR 3/4" CLEAN GRADED ROCK, UNLESS NOTED OTHERWISE OR IF SITE CONDITIONS REQUIRE OTHERWISE.
- PROVIDE A MIN 6 MIL THICK POLYETHYLENE MOISTURE BARRIER OVER POROUS GRAVEL BASE UNDER BASEMENT FLOOR SLAB PER R405.2.2. LAP JOINTS MINIMUM 6" (NOT REQUIRED FOR GARAGE SLABS OR DETACHED ACCESSORY BUILDINGS).
- FOR A STRUCTURAL REINFORCED CONCRETE FLOOR OVER A USABLE AREA, SUCH AS A GARAGE FLOOR LOCATED OVER A STORAGE AREA, SUBMIT SEABLE ENGINEERED DETAILS AND CALCULATIONS.
- GARAGE SLABS AND BASEMENT OVERDIGS SUPPORTED BY FILL CONTAINING OF MORE THAN 24" OF GRANULAR FILL OR 8" OF EARTH SHALL BE REINFORCED PER DETAILS 1-S2.1 AND 6-2.1 RESPECTIVELY. WHERE THE LIMITATIONS OF DETAILS 1-S2.1 AND 6-S2.1 ARE NOT MET, A SEPARATE ENGINEERED DESIGN SHALL BE REQUIRED.
- BASEMENT FOUNDATION SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WITH A MINIMUM OF 1/2" ANCHOR BOLTS EMBEDDED AT LEAST 7" INTO THE CONCRETE AND SPACED NOT MORE THAN 3'-0" ON CENTER AND WITHIN 12" OF EACH END PIECE.
- 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 PLACED ON A MINIMUM OF 2" OF WASHED GRAVEL OR CRUSHED ROCK AND COVERED WITH NOT LESS THAN 6". THE DRAIN SHALL DAYLIGHT TO THE EXTERIOR BELOW THE FLOOR LEVEL OR TERMINATE IN A MINIMUM 24" DIAMETER OR 20" SQUARE SUMP PIT EXTENDING A MINIMUM 24" BELOW THE BOTTOM OF BASEMENT FLOOR.
- 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.
- ALL EARTH RETAINING STRUCTURES ON THE SITE GREATER THAN 4'-0" TALL (EXCLUDING CONCRETE FOUNDATION WALLS RESTRAINED AT BOTH TOP AND BOTTOM) SHALL REQUIRE A SEPARATE ENGINEERED DESIGN (i.e. RETAINING WALLS, WING WALLS, ETC.).
- INSULATION SHALL BE INSTALLED FOR ALL BASEMENT WALLS AS REQUIRED PER M102.2.9.
- A CONCRETE ENCASED GROUNDING ELECTRODE CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICES PER E3608.1.
- ANY GEOTECHNICAL IMPROVEMENT METHODS AND/OR STRUCTURAL SOLUTIONS (SUCH AS DRILLED PIERS) EMPLOYED TO ADDRESS UNACCEPTABLE SUBGRADE CONDITIONS SHALL BE SUBMITTED TO EOR AS ENGINEERED SHOP DRAWINGS FOR REVIEW AND APPROVAL.

EXPANSIVE SOILS DISCLAIMER:

THESE PLANS HAVE BEEN PREPARED BASED ON A PRESUMPTIVE ALLOWABLE BEARING CAPACITY AS ALLOWED BY IRC CODE AND THE LOCAL ENFORCING JURISDICTION.

APEX ENGINEERS, INC. (APEX) RECOMMENDS THAT ALL FOOTING EXCAVATIONS BE EVALUATED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF ANY FOUNDATION ELEMENTS. GEOTECHNICAL INVESTIGATION AND/OR TESTING IS NOT A SERVICE PROVIDED OR OFFERED BY APEX.

APEX HAS NOT BEEN RETAINED TO DETERMINE THE EXPANSIVE SOIL CHARACTERISTICS OF THE SUBGRADE SOIL AND THEREFORE CANNOT BE HELD RESPONSIBLE FOR THE VOLUMETRIC CHANGES OF THE SOIL (INCLUDING BELOW THE BASEMENT SLAB). BY USE OF THESE PLANS WITHOUT AN ACCOMPANYING GEOTECHNICAL ENGINEERING REPORT, APEX SHALL NOT BE HELD LIABLE FOR ANY FUTURE MOVEMENT AND/OR DIFFERENTIAL MOVEMENT OF THE PROPOSED STRUCTURE AND THE POSSIBLE DAMAGE THAT MAY BE CAUSED AS A RESULT OF SUCH MOVEMENT. DAMAGE FROM EXPANSIVE SOILS AND/OR SETTLEMENT CAN RESULT IN AMONGST OTHER THINGS, THE FOLLOWING: BASEMENT SLAB HEAVE, SHEETROCK CRACKS, WINDOWS AND DOOR BECOMING OUT OF PLUMB AND STICKING AND/OR NOT OPENING, DAMAGE TO TILE, MOULDING, AND OTHER COSMETIC FINISHES.



STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: E-692
MISSOURI ENGINEERING LICENSE: 2003004673

PROJECT: 637 NW 109th Ter, Kansas City, MO 64155
CLIENT: Platinum Homes KC, LLC

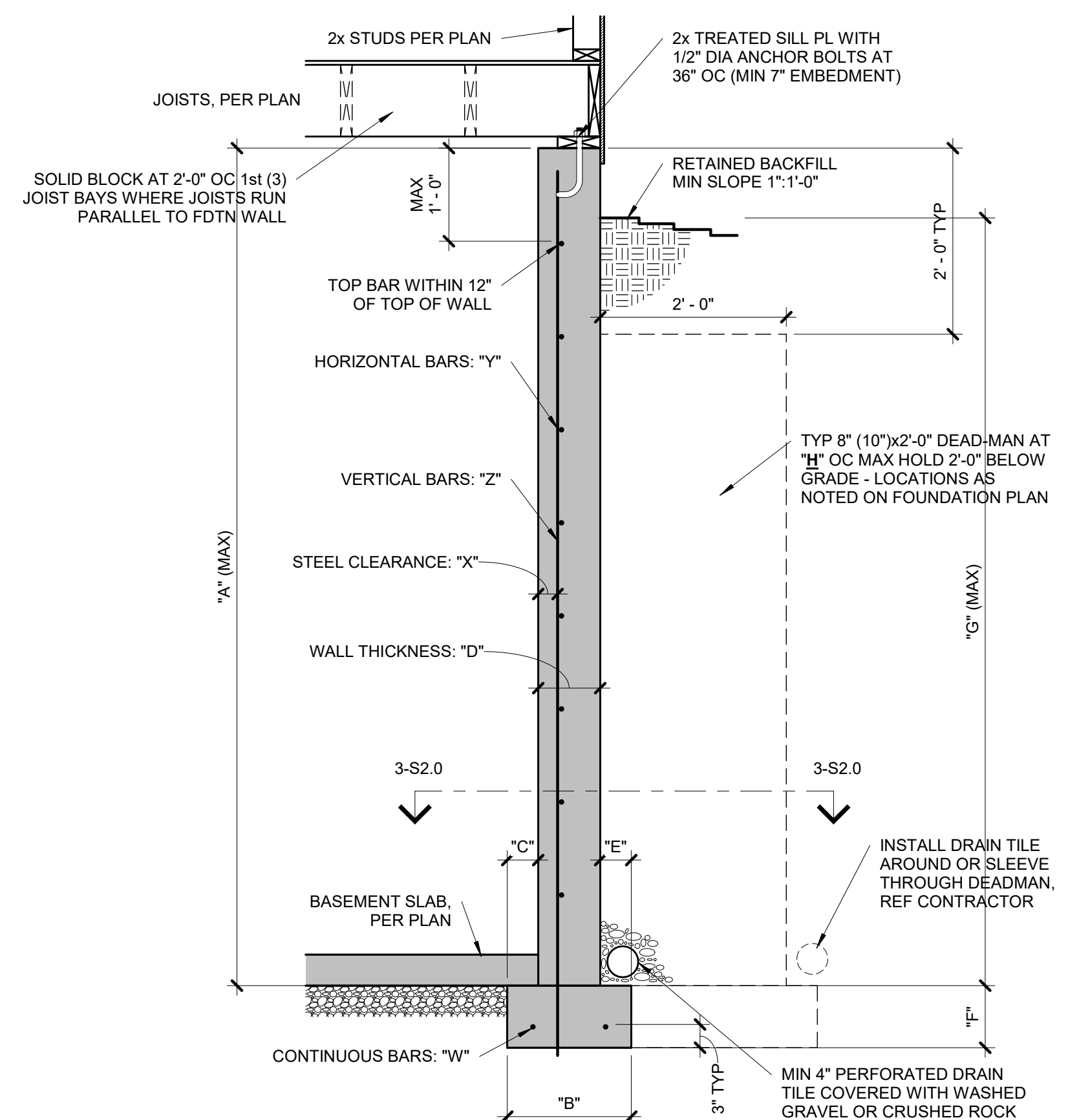
DRAWN BY:	22-1580
PROJECT #:	BCH
CHECKED BY:	BDC
SUBMITTAL DATE:	2022.04.29

DATE	COMMENTS
#	

SHEET: GENERAL NOTES

S1.0

DATE	COMMENTS



CONCRETE DIMENSIONS

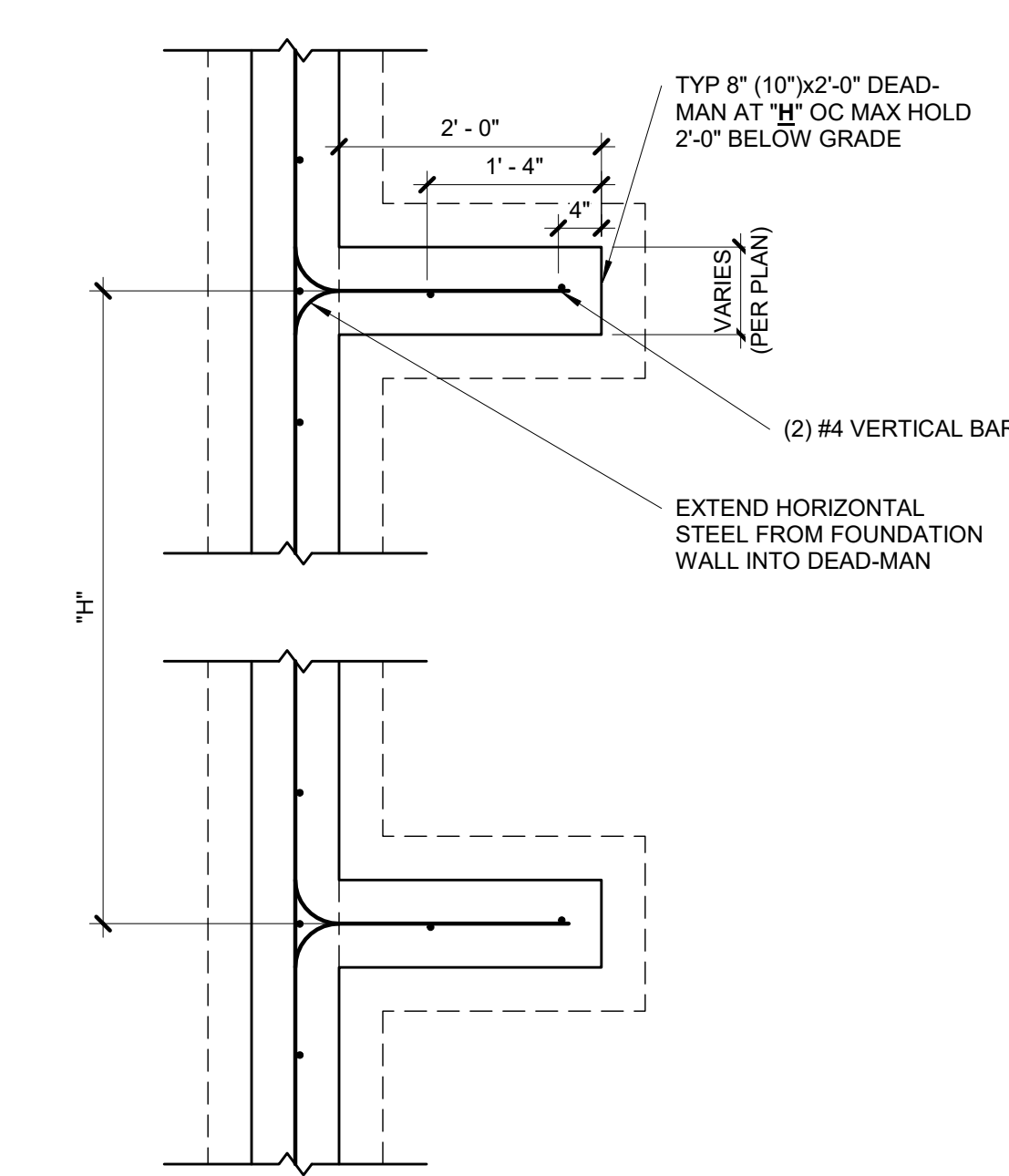
"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
8'-0"	1'-4"	4"	8"	4"	8"	7'-6"	20'-0"
9'-0"	1'-4"	4"	8"	4"	8"	8'-6"	20'-0"
10'-0"	1'-8"	5"	10"	5"	10"	9'-6"	20'-0"

REINFORCING BARS (GRADE 40 BARS)

"W"	"X"	"Y"	"Z"
(2) #4	2 1/2"	#4 BARS AT 24" OC	#4 BARS AT 16" OC
(2) #4	2 1/2"	#4 BARS AT 24" OC	#4 BARS AT 12" OC
(2) #4	2 1/2"	#4 BARS AT 24" OC	#4 BARS AT 12" OC

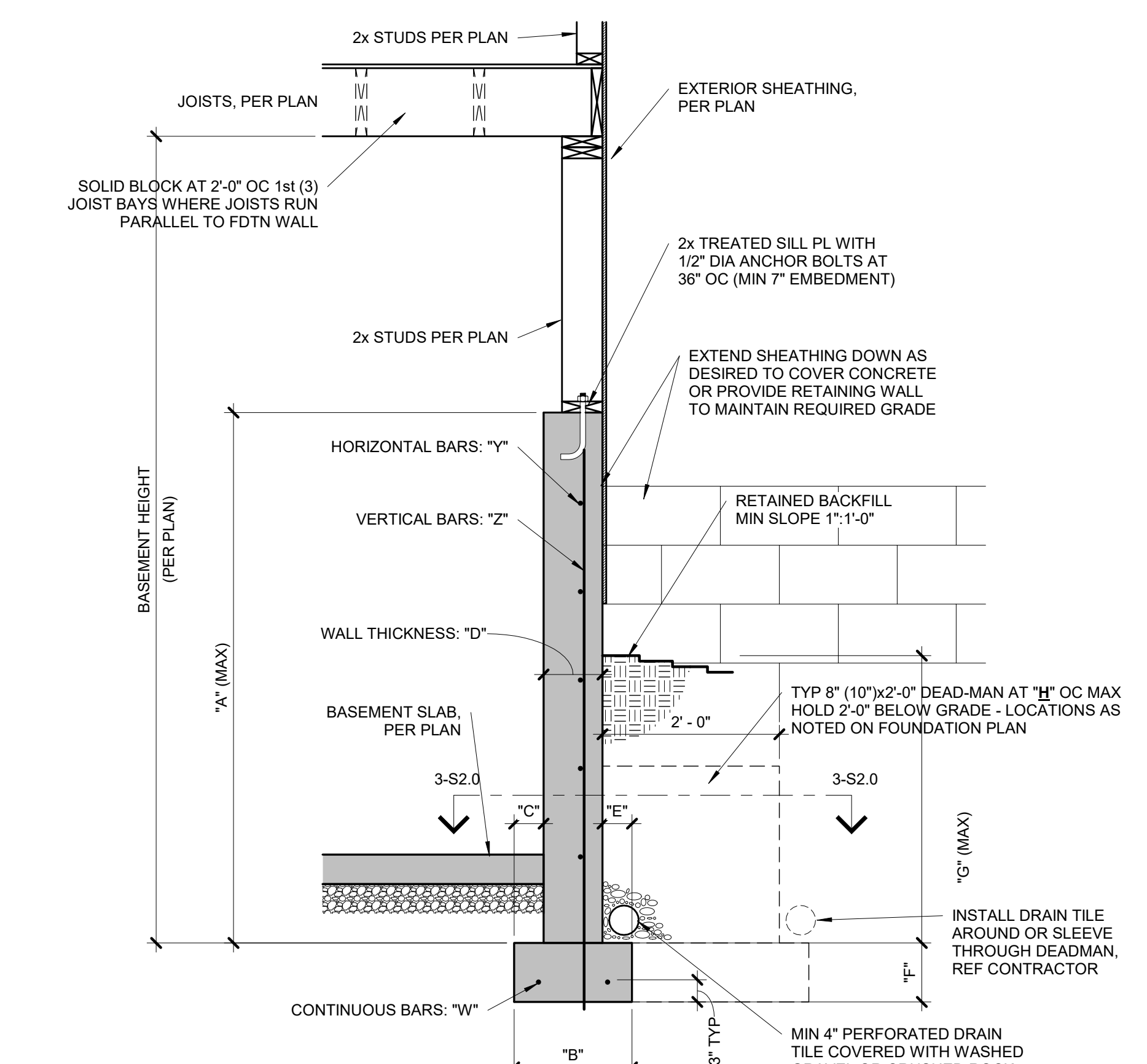
NOTES:
1. DIMENSION SHOWN IS FOR MAXIMUM UNINTERRUPTED WALL PANEL LENGTH BEFORE A DEAD-MAN SHALL BE INSTALLED. NOTE, A MINIMUM 2'-0" RETURN OR OFFSET IN THE FOUNDATION WALL SHALL SUBSTITUTE AS A DEAD-MAN AND/OR BREAK IN THE WALL PANEL LENGTH.
2. VERTICAL REINFORCING STEEL TO EXTEND TO WITHIN 8" OF TOP WALL. MINIMUM (1) #4 HORIZONTAL BAR WITHIN 12" OF TOP AND BOTTOM OF WALL.
3. BURIED CONCRETE FOUNDATION WALLS UP TO 9'-0" TALL MAY BE 8" NOMINAL THICKNESS WITH #4 BARS AT 24" OC BOTH WAYS OVER 16"x8" CONCRETE FOOTINGS WITH (2) #4 BARS CONTINUOUS, UNLESS OTHERWISE REQUIRED BY ENGINEERING REPORT BASED ON ACTUAL SITE CONDITIONS.
4. WALL WILL NOT ACHIEVE FULL STRENGTH UNTIL FIRST FLOOR DECK AND BASEMENT SLAB HAVE BEEN PLACED.

1 TYPICAL FOUNDATION WALL DETAIL
S2.0 3/4" = 1'-0"



NOTES:
1. MIN 3000 PSI FOOTING COMPRESSIVE CONCRETE STRENGTH.
2. MIN 3000 PSI WALL COMPRESSIVE CONCRETE STRENGTH.
3. AIR ENTRAINMENT BETWEEN 5% & 7% OF CONCRETE VOLUME.
4. GRADE 40 REINFORCING STEEL UNLESS OTHERWISE NOTED.
5. LAP SPLICES 24" MIN.
6. WALL SHALL BE BACK-FILLED WITH CLEAN, LEAN CLAY (OR BETTER) LOW VOLUME CHANGE MATERIAL. ON-SITE MATERIAL MAY BE USED IF DEEMED ACCEPTABLE BY THE GEOTECHNICAL ENGINEER.
7. ASSUMED 2,000 PSF BEARING (TO BE VERIFIED BY GEOTECHNICAL ENGINEER).

3 TYPICAL DEAD-MAN SECTION
S2.0 3/4" = 1'-0"



CONCRETE DIMENSIONS

"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
4'-0"	1'-4"	4"	8"	4"	8"	3'-4"	20'-0"
6'-0"	1'-4"	4"	8"	4"	8"	4'-4"	20'-0"
9'-0"	1'-8"	5"	8"	4"	8"	4'-4"	20'-0"

REINFORCING BARS (GRADE 40 BARS)

"W"	"X"	"Y"	"Z"
(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC
(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC
(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC

NOTES:
1. DIMENSION SHOWN IS FOR MAXIMUM UNINTERRUPTED WALL PANEL LENGTH BEFORE A DEAD-MAN SHALL BE INSTALLED. NOTE, A MINIMUM 2'-0" RETURN OR OFFSET IN THE FOUNDATION WALL SHALL SUBSTITUTE AS A DEAD-MAN AND/OR BREAK IN THE WALL PANEL LENGTH.
2. VERTICAL REINFORCING STEEL TO EXTEND TO WITHIN 8" OF TOP WALL. MINIMUM (1) #4 HORIZONTAL BAR WITHIN 12" OF TOP AND BOTTOM OF WALL.
3. THE BASEMENT SLAB IS AN INTEGRAL PART OF THE 'UNRESTRAINED' FOUNDATION WALL DESIGN THEREFORE, IF THE WALL IS BACKFILLED PRIOR TO PLACEMENT OF THE BASEMENT SLAB, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY BRACING THE WALL UNTIL THE BASEMENT SLAB HAS BEEN PLACED.

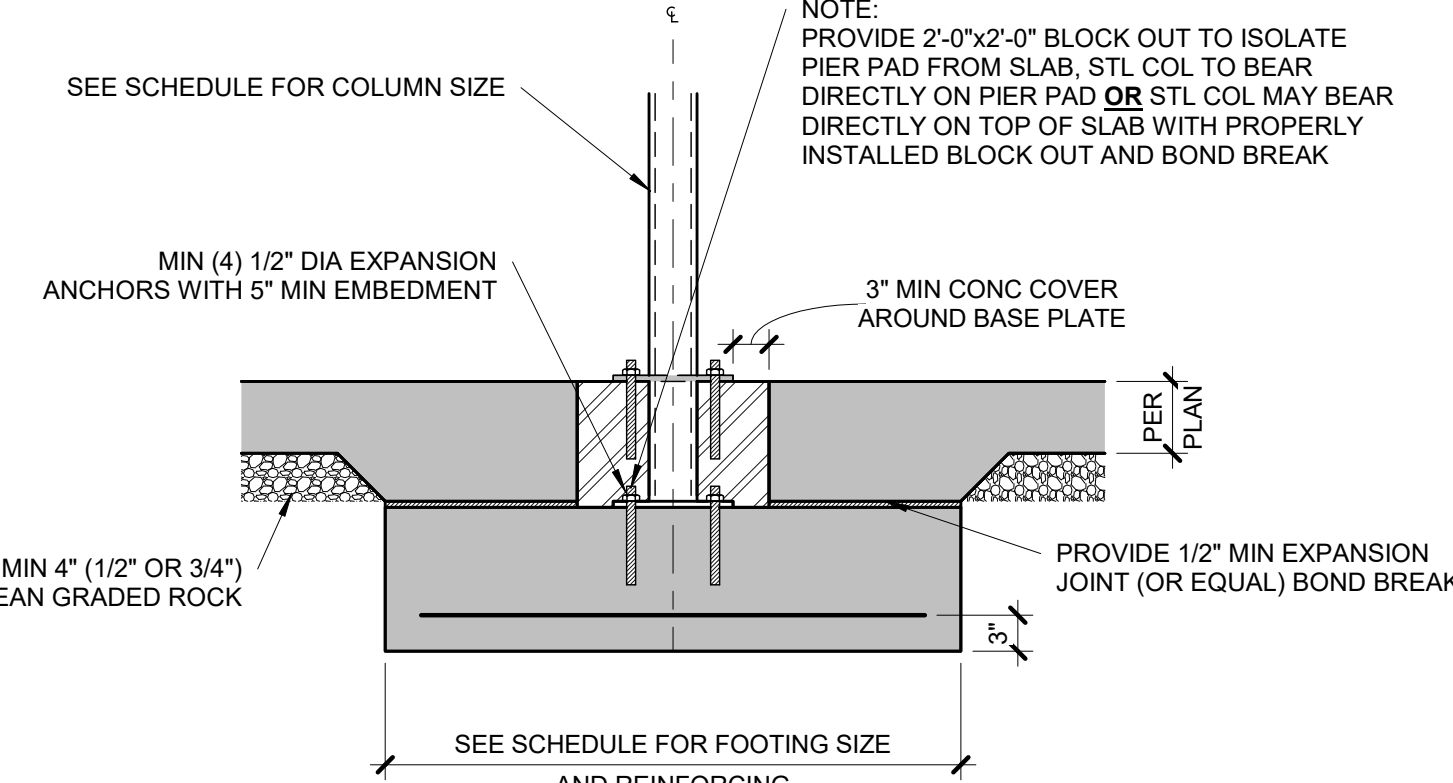
2 TYPICAL 'UNRESTRAINED' FOUNDATION WALL DETAIL
S2.0 3/4" = 1'-0"

PER KCMO CPD-DS STANDARDS

COLUMN AND PIER PAD SCHEDULE

COLUMN MARK	PAD SIZE	REINFORCING	COL SIZE
A	30"x30"x12"	(4) #4 BARS E-W	3" SCH 40 (3.5" OD)
B	36"x36"x12"	(4) #4 BARS E-W	3" SCH 40 (3.5" OD)
C	42"x42"x12"	(5) #4 BARS E-W	3" SCH 40 (3.5" OD)
D	48"x48"x12"	(6) #4 BARS E-W	3 1/2" SCH 40 (4" OD)
E	54"x54"x16"	(8) #4 BARS E-W	REF PLAN
F	60"x60"x16"	(10) #4 BARS E-W	REF PLAN

NOTES:
1. COLUMN AND PIER PAD SIZES SHOWN ARE FOR MAXIMUM ADJUSTABLE COLUMN HEIGHT OF 9'-1". REQUIRES SEPARATE ENGINEERED DESIGN IF GREATER THAN 9'-1" TALL. COLUMNS SIZED AS QWIK-ADJUST COLUMN, BY QUALITY WAY PRODUCTS, LLC. REFER TO SAFE LOADING CAPACITIES PER MANUF SPECS, OR SUBSTITUTION TO ANOTHER PRODUCT ONLY WITH PRIOR APPROVAL BY APEX ENGINEERS.
2. COLUMN AND PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF.



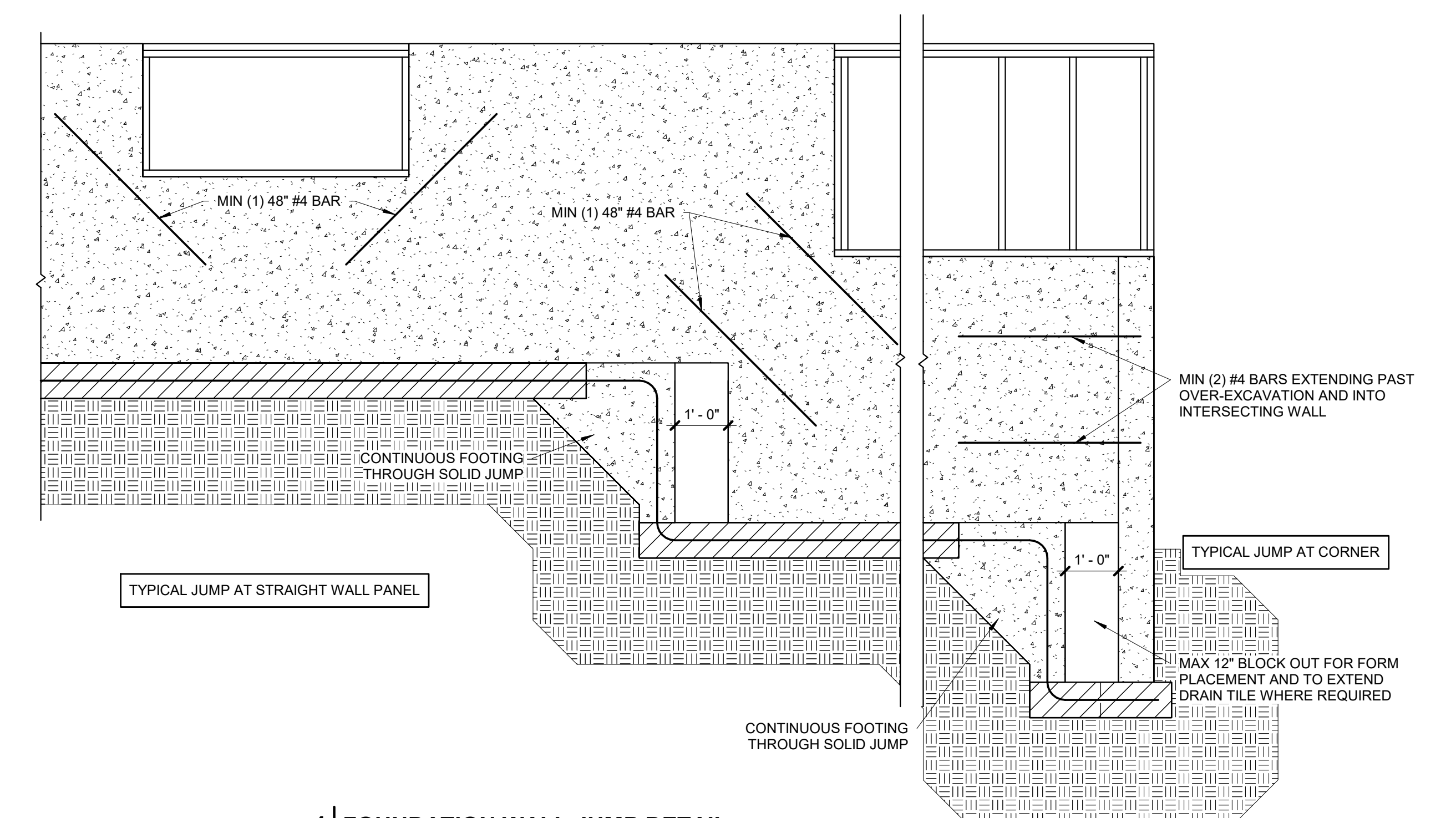
5 COLUMN PAD DETAIL
S2.0 3/4" = 1'-0"

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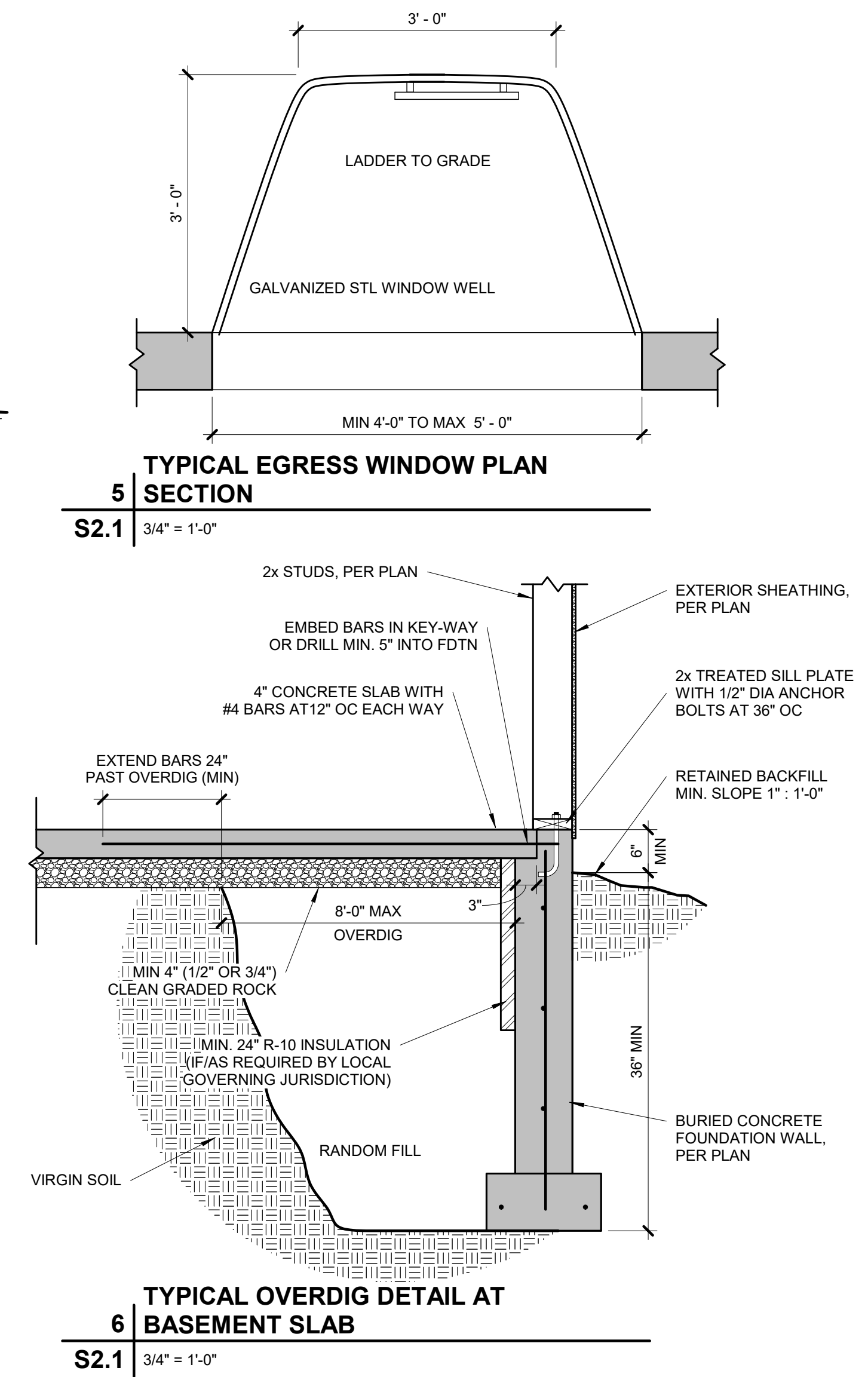
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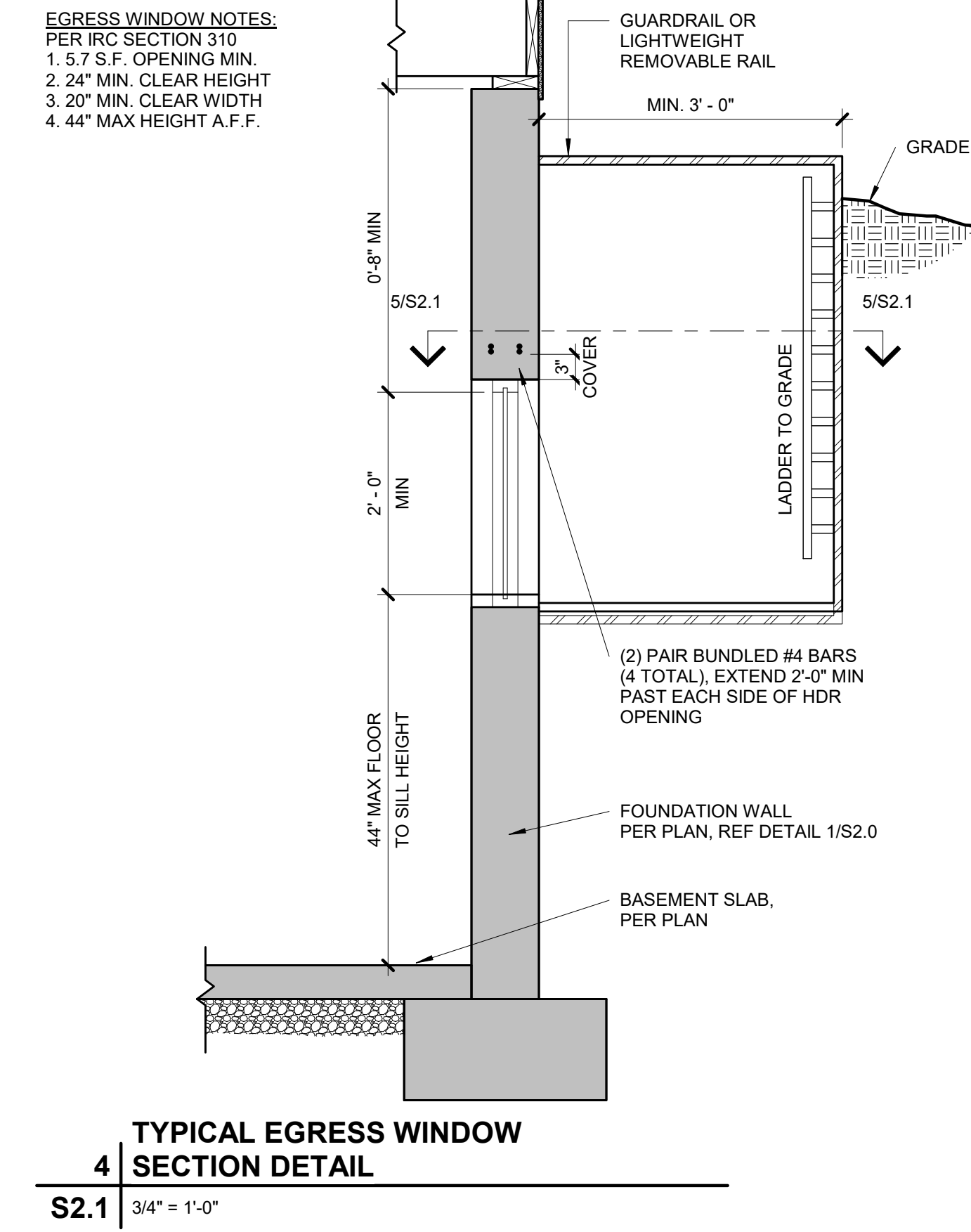
4 FOUNDATION WALL JUMP DETAIL
S2.0 1/2" = 1'-0"

DATE	COMMENTS

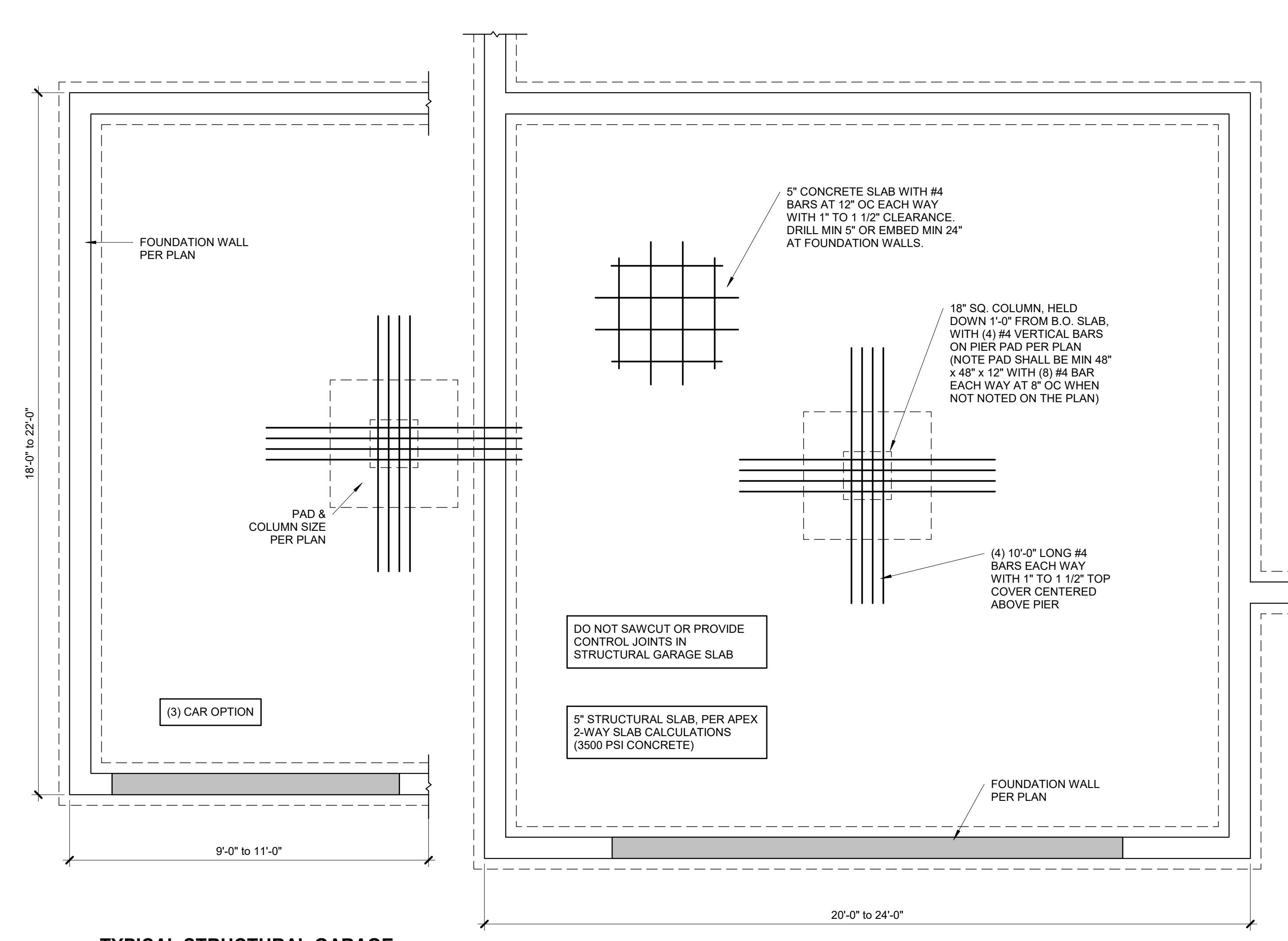


5 TYPICAL EGRESS WINDOW PLAN
S2.1 3/4" = 1'-0"

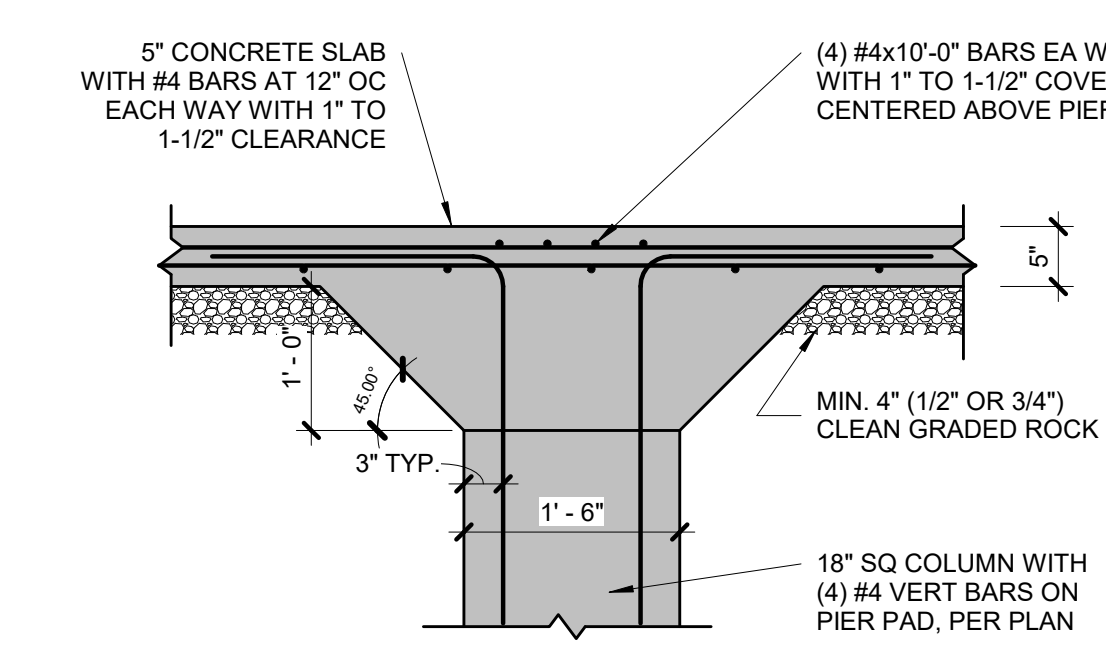
6 TYPICAL OVERDIG DETAIL AT BASEMENT SLAB
S2.1 3/4" = 1'-0"



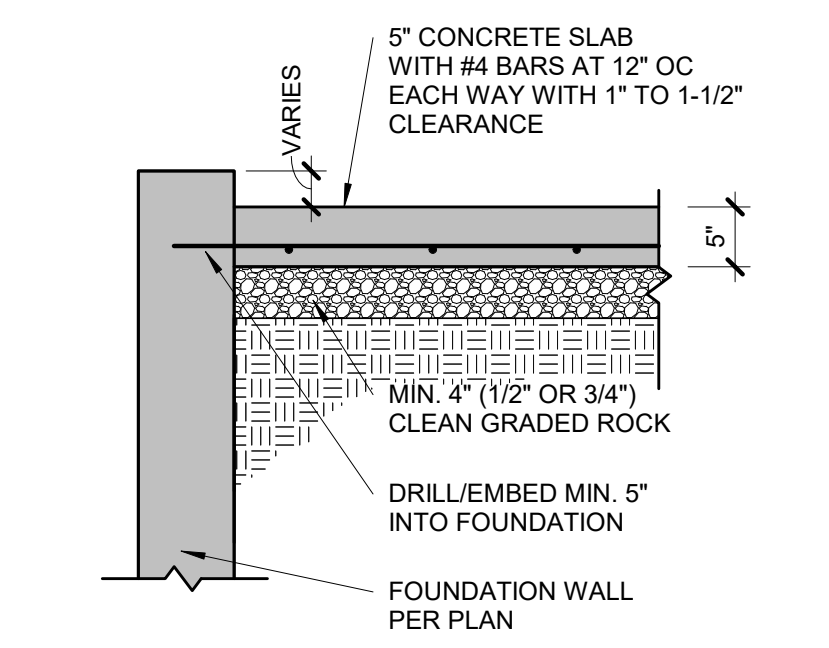
4 TYPICAL EGRESS WINDOW SECTION DETAIL
S2.1 3/4" = 1'-0"



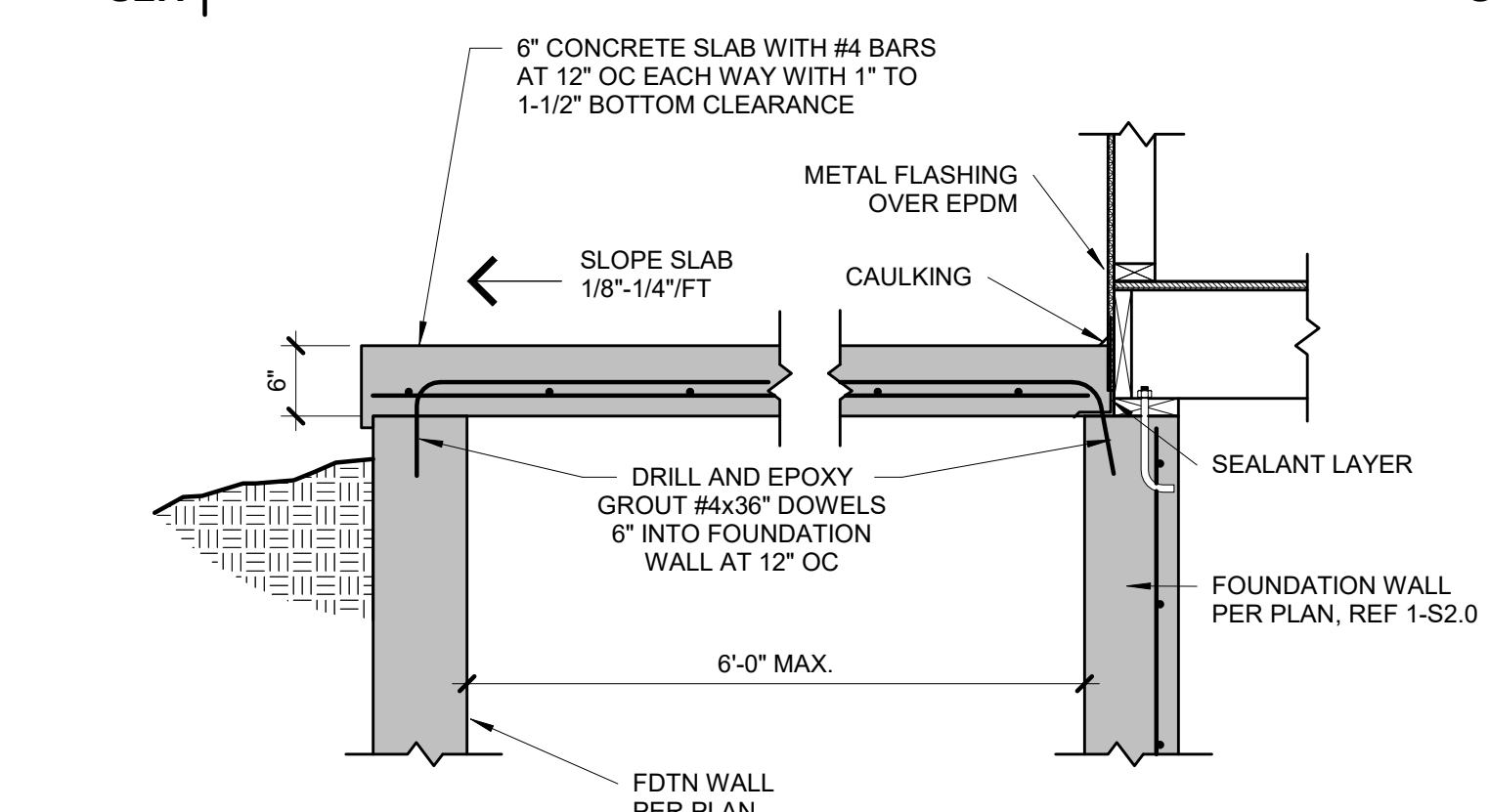
1 TYPICAL STRUCTURAL GARAGE SLAB PLAN
S2.1 3/8" = 1'-0"



2 STRUCTURAL GARAGE SLAB PIER PAD DETAIL
S2.1 3/4" = 1'-0"



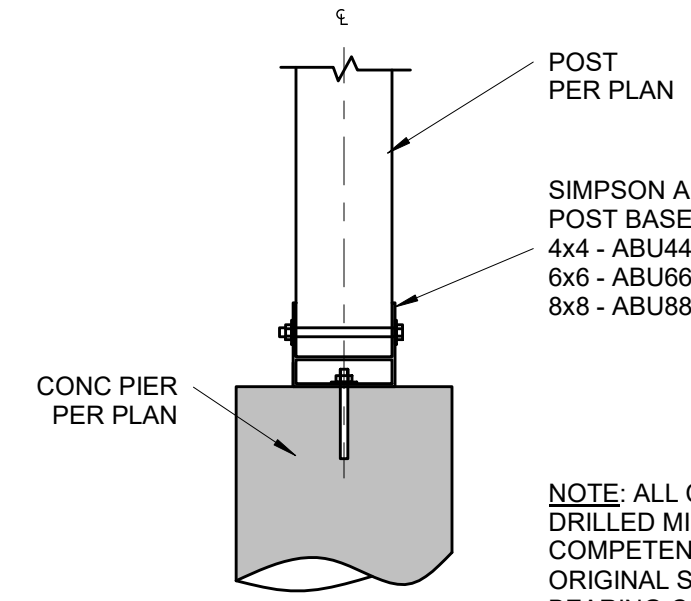
3 STRUCTURAL GARAGE SLAB/WALL SECTION
S2.1 3/4" = 1'-0"



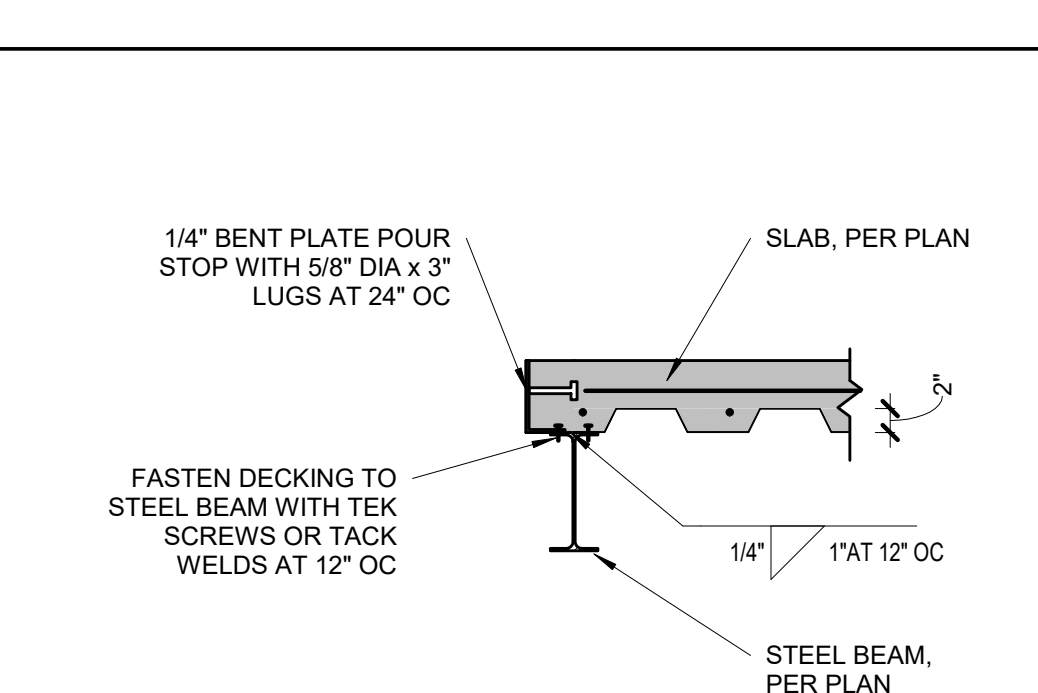
7 SUSPENDED PORCH STOOP DETAIL
S2.1 3/4" = 1'-0"

PIER SCHEDULE

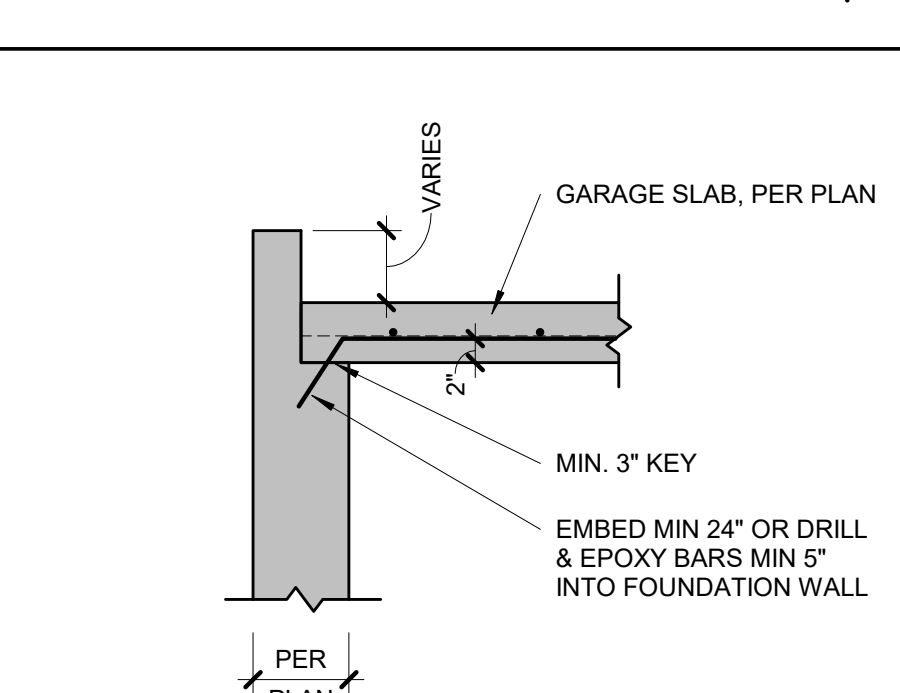
COLUMN MARK	COL SIZE	PIER DIAMETER
G	PER PLAN	12"
H	PER PLAN	16"
J	PER PLAN	18"
K	PER PLAN	24"
L	PER PLAN	28"



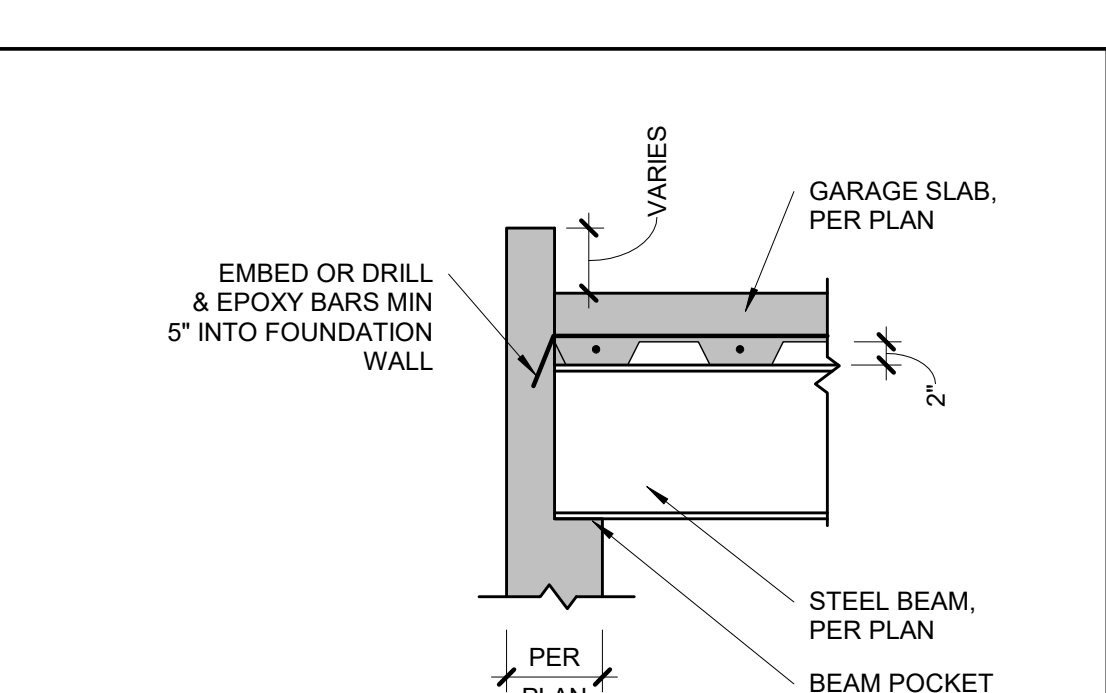
8 POST BASE DETAIL
S2.1 3/4" = 1'-0"



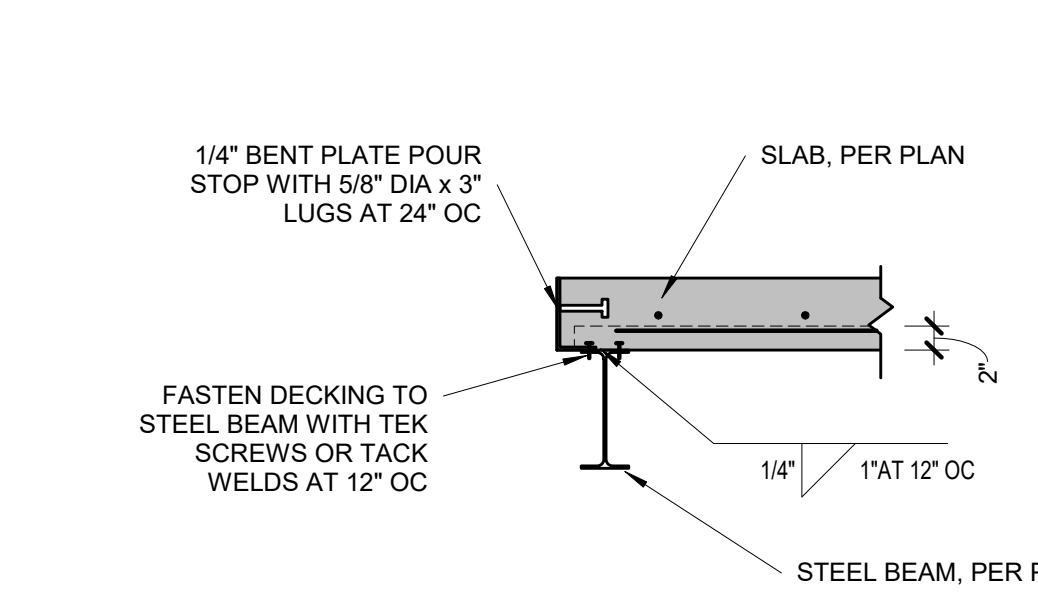
9 POUR STOP DETAIL
S2.1 3/4" = 1'-0"



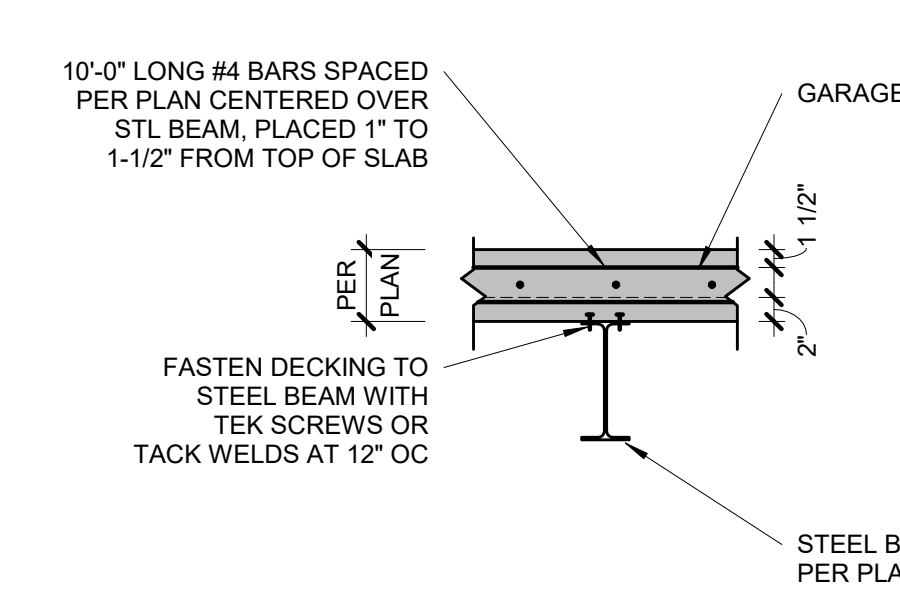
10 GARAGE SLAB BEARING
S2.1 3/4" = 1'-0"



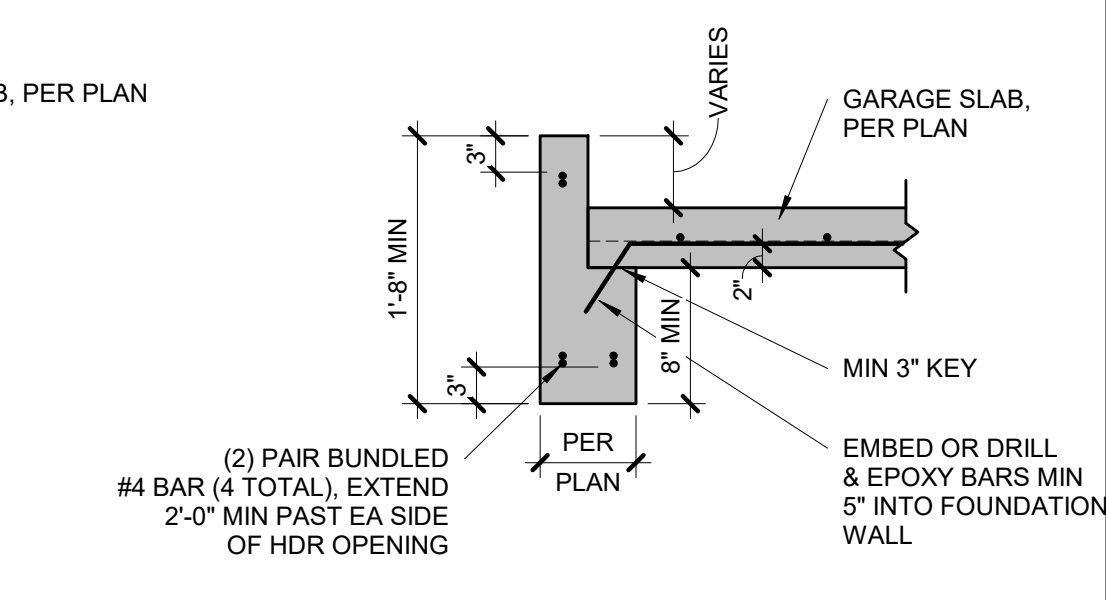
11 GARAGE SLAB BEAM BEARING
S2.1 3/4" = 1'-0"



12 POUR STOP DETAIL
S2.1 3/4" = 1'-0"



13 GARAGE SLAB BEAM BEARING
S2.1 3/4" = 1'-0"



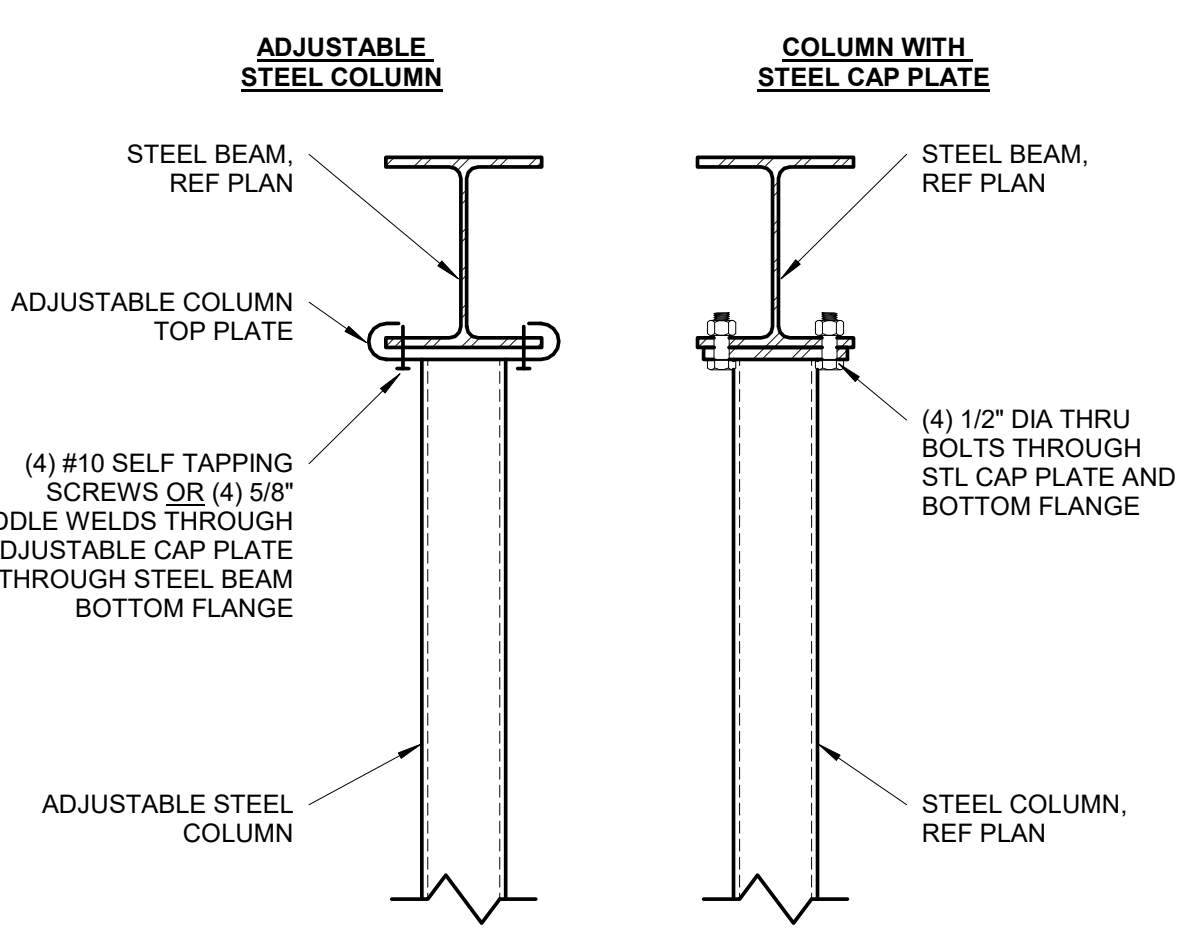
14 CONCRETE HEADER DETAIL
S2.1 3/4" = 1'-0"

TYPICAL SUSPENDED SLAB DETAIL

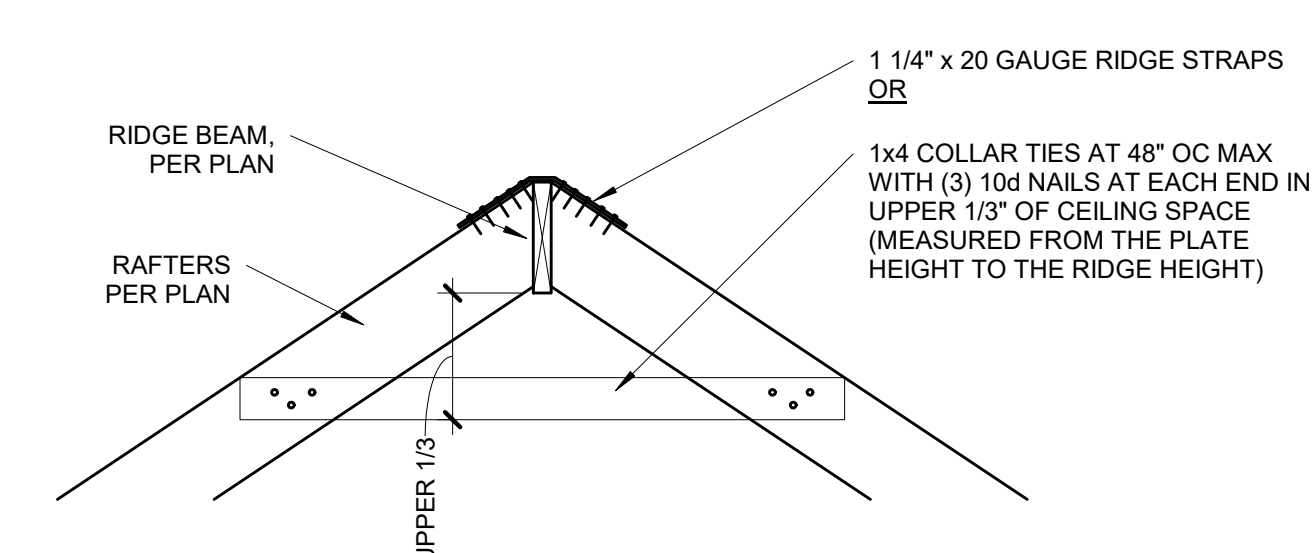
STEEL DECKING NOTES:

- MINIMUM 1-1/2" BEARING
- FASTEN TO SUPPORT STEEL WITH 5/8" VISIBLE PUDDLE WELDS AT EDGE RIBS AND 12" CENTERS ALONG END BEARING
- FASTEN SIDE LAPS AND PERIMETER EDGES AT 36" CENTERS WITH #10 TEK SCREWS OR 5/8" PUDDLE WELDS
- MAX UNSUPPORTED CONSTRUCTION SPAN 6'-0". UNO ON PLANS BY APEX

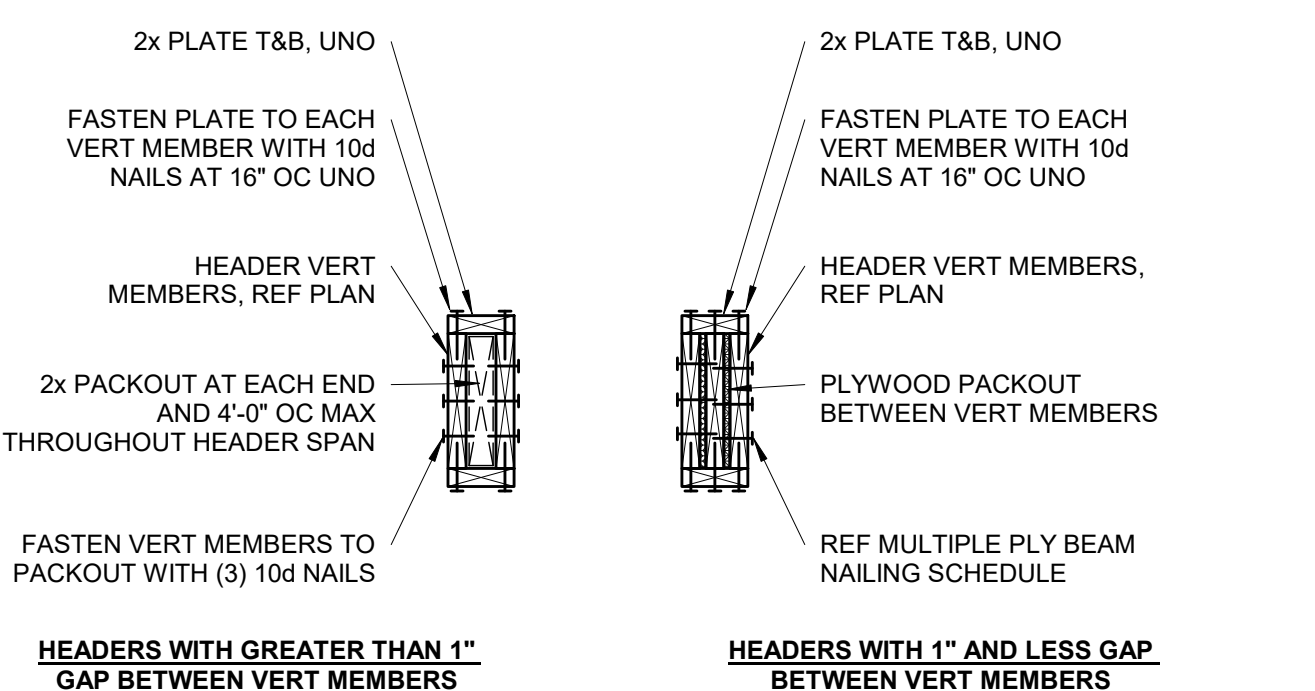
DATE	COMMENTS



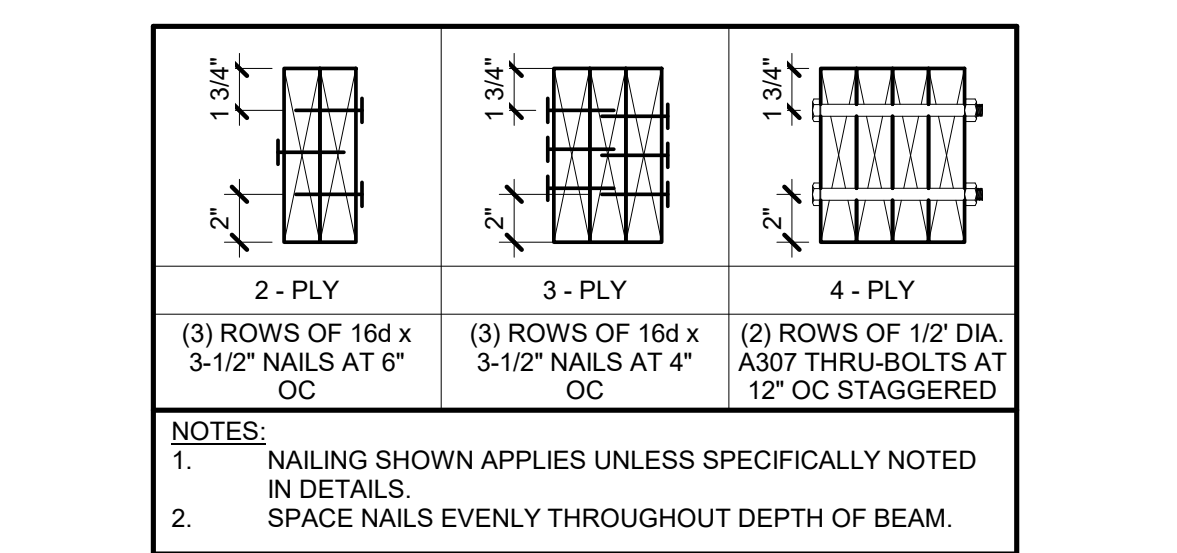
13 STEEL BEAM TO COLUMN
S3.1 1 1/2" = 1'-0"



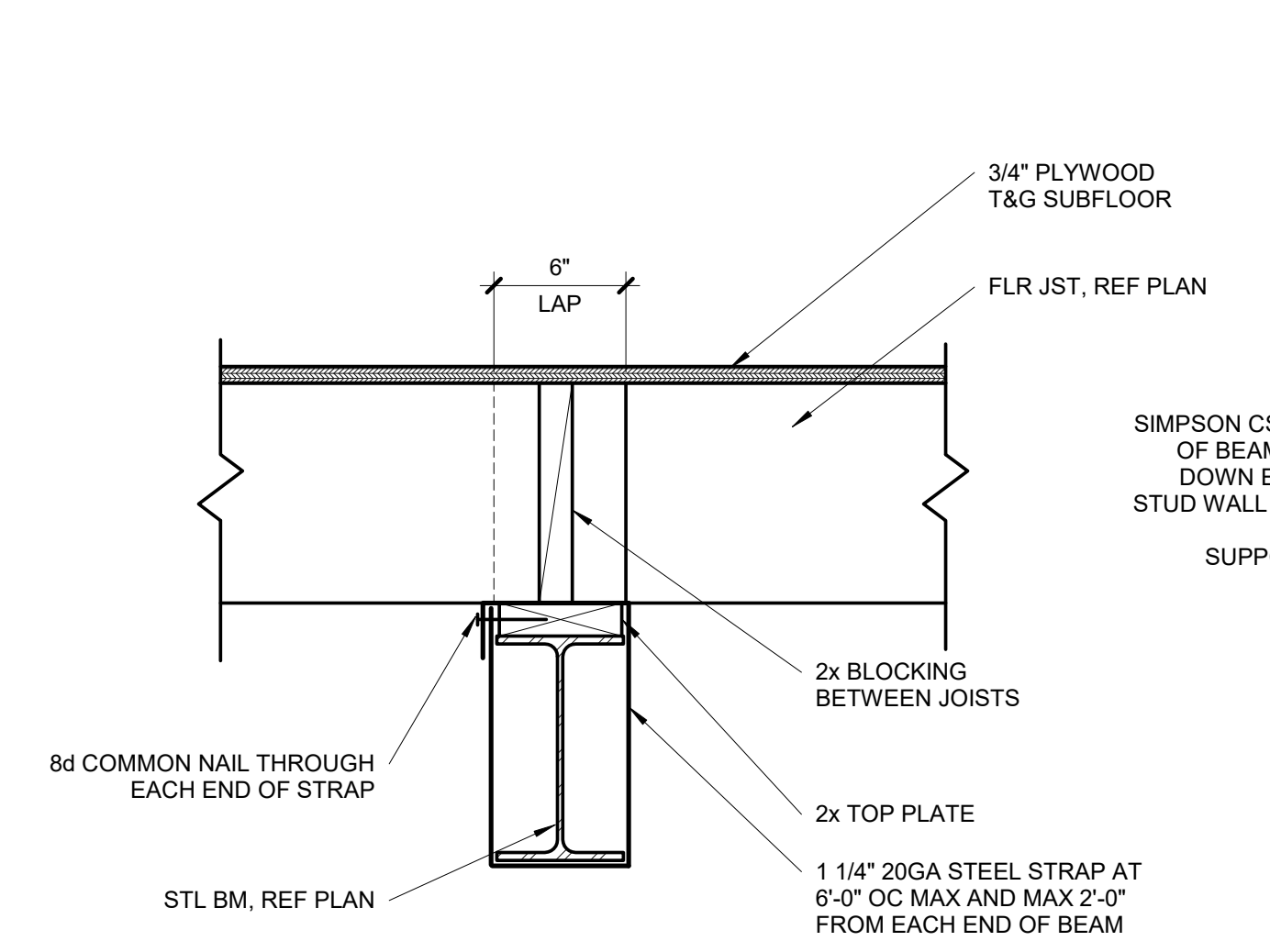
12 RIDGE BEAM DETAIL
S3.1 3/4" = 1'-0"



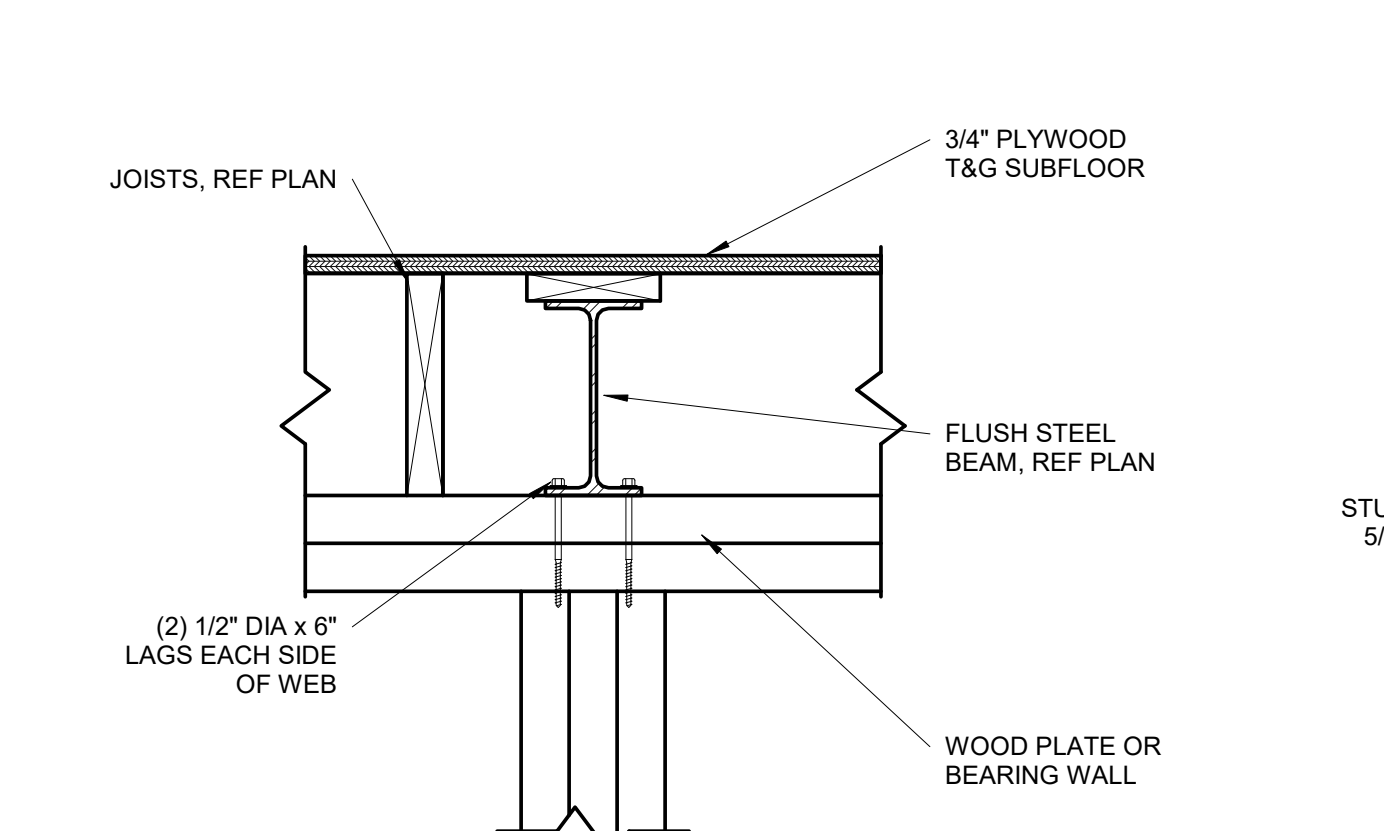
11 TYPICAL WOOD HEADER DETAIL
S3.1 NOT TO SCALE



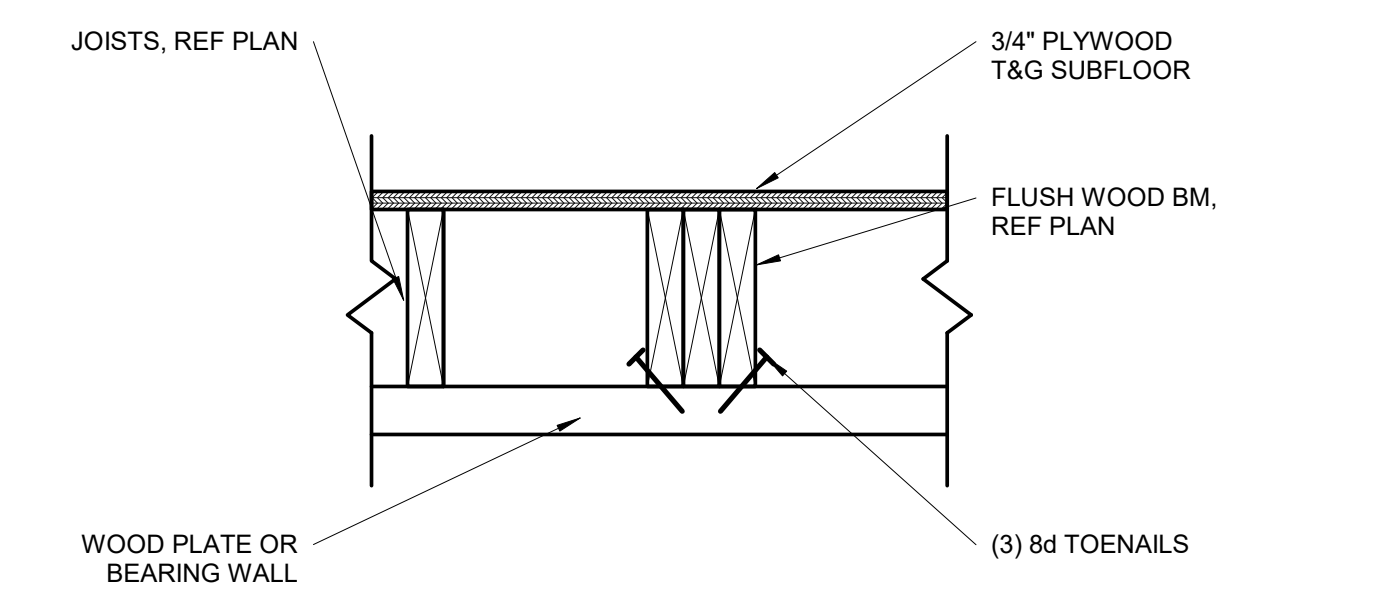
10 MULTIPLE PLY BEAM NAILING SCHEDULE
S3.1 NOT TO SCALE



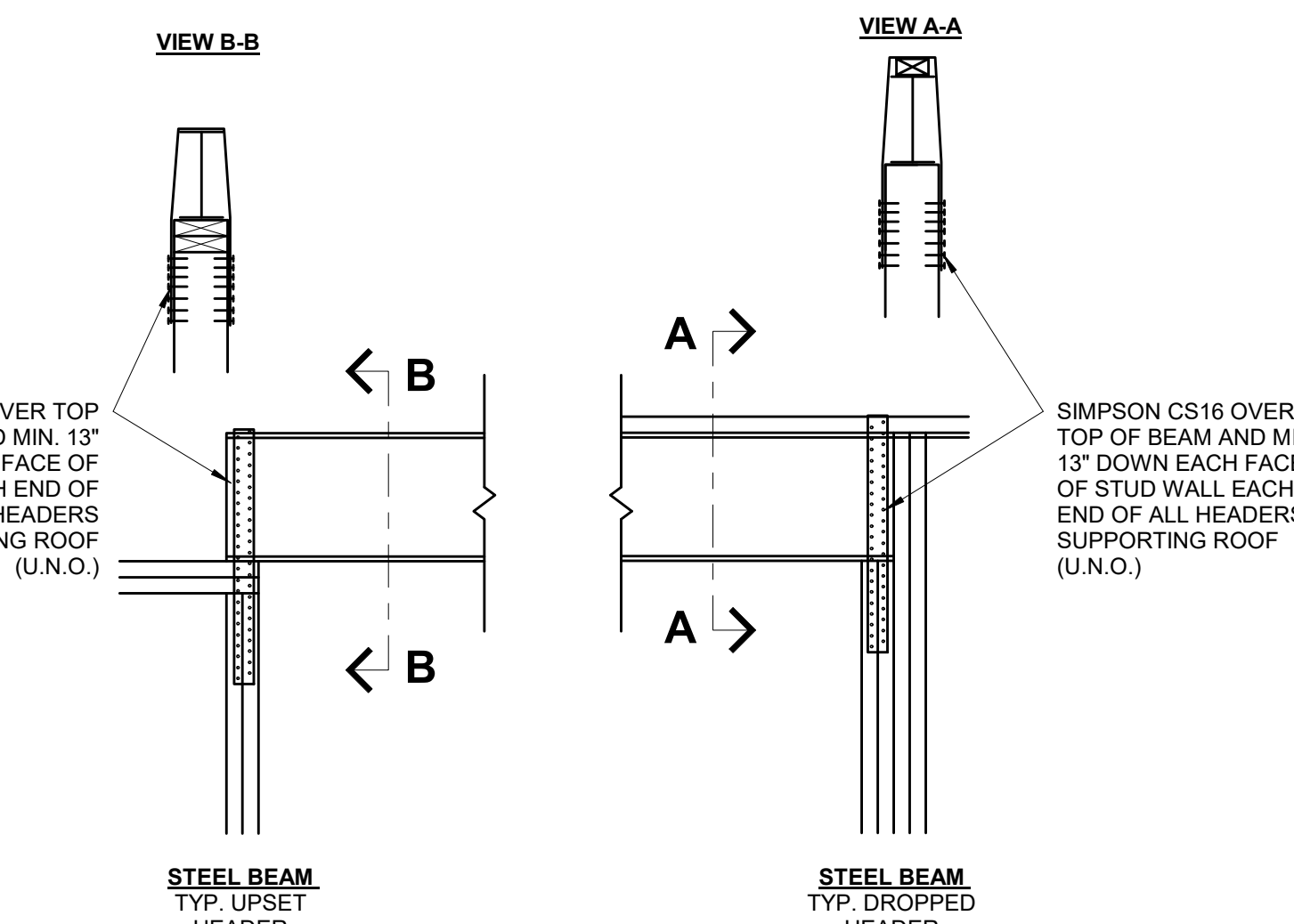
9 WOOD PLATE TO STEEL BEAM CONNECTION
S3.1 1 1/2" = 1'-0"



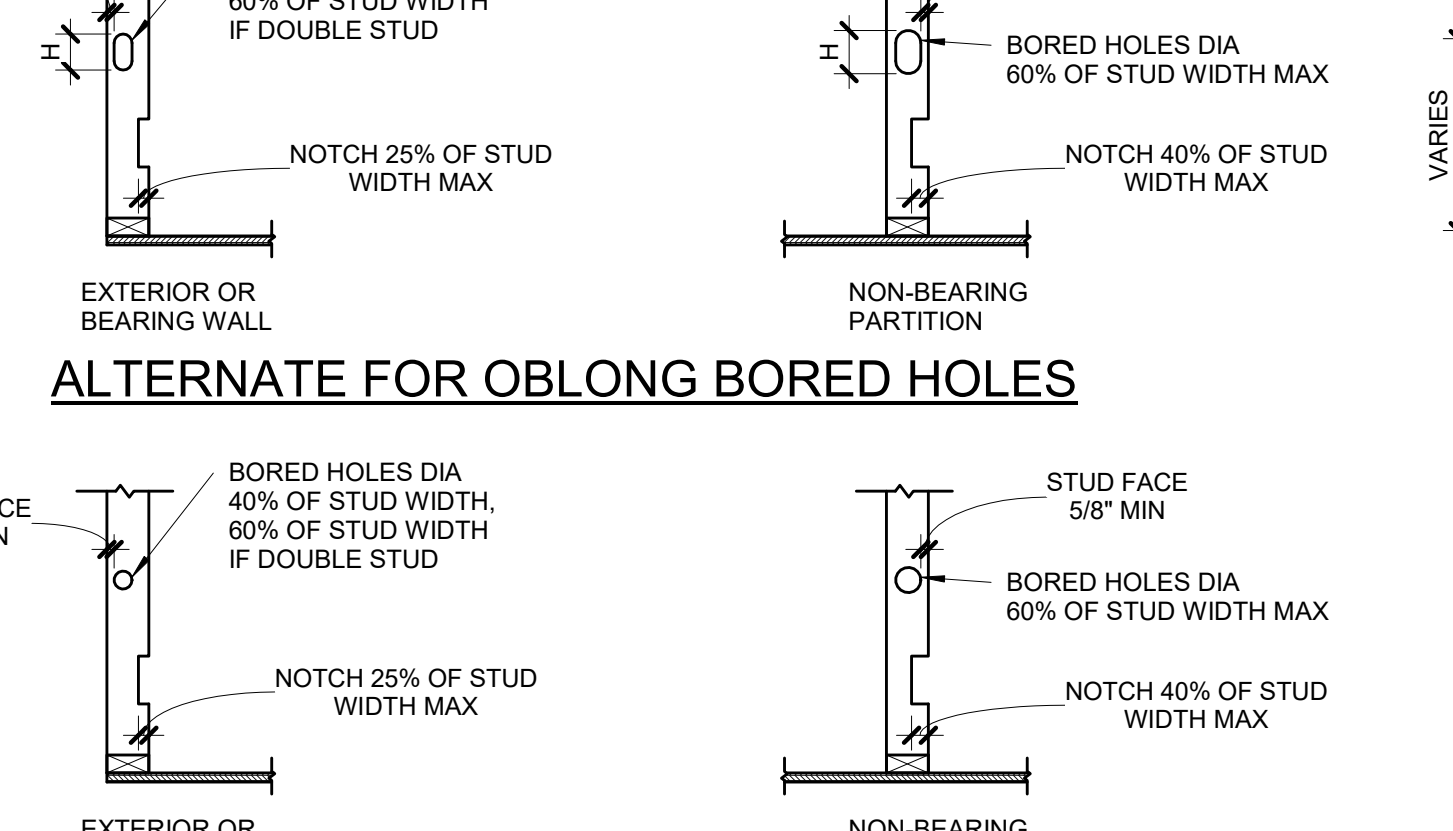
8 FLUSH STEEL BEAM CONNECTION
S3.1 1 1/2" = 1'-0"



7 FLUSH WOOD BEAM CONNECTION
S3.1 1 1/2" = 1'-0"



6 ROOF SUPPORTING BEAM HOLD DOWN
S3.1 3/4" = 1'-0" (COMPLIANCE WITH IRC R802.11)



5 DRILLING & NOTCHING DETAIL
S3.1 3/4" = 1'-0"

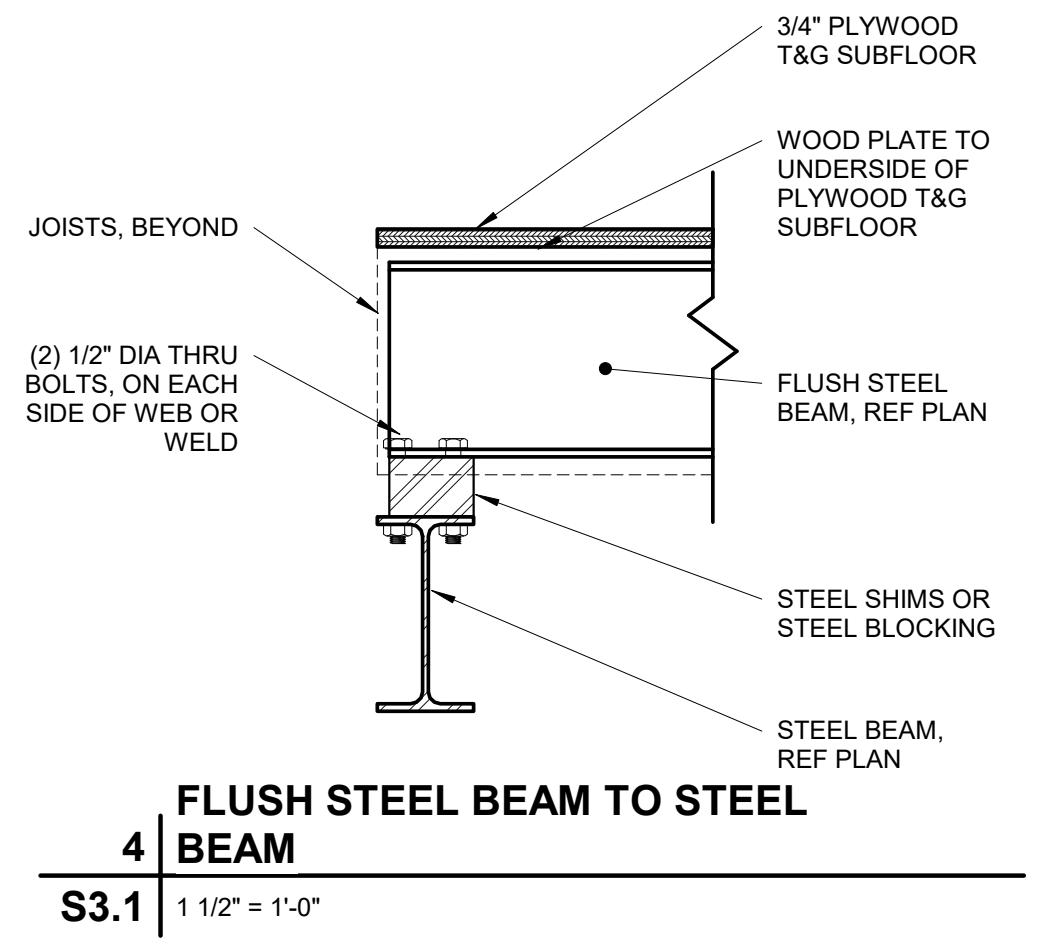
PENETRATIONS THRU STUDS

WALL SIZE	BORED HOLE SIZE		WALL NOTCH	
	STUDS LOAD BEARING OR EXTERIOR WALL	NON LOAD BEARING WALL	LOAD BEARING WALL	NON LOAD BEARING WALL
2x4	1 3/8"	2 1/8"	2 1/8"	7/8"
(2) 2x4	-	2 1/8"	7/8"	1 3/8"
2x6	2 1/4"	3 5/16"	3 15/16"	1 3/8"
(2) 2x6	-	3 5/16"	1 3/8"	2 1/4"
2x8	2 7/8"	-	4 3/8"	1 3/8"
(2) 2x8	-	4 3/8"	1 13/16"	2 7/8"

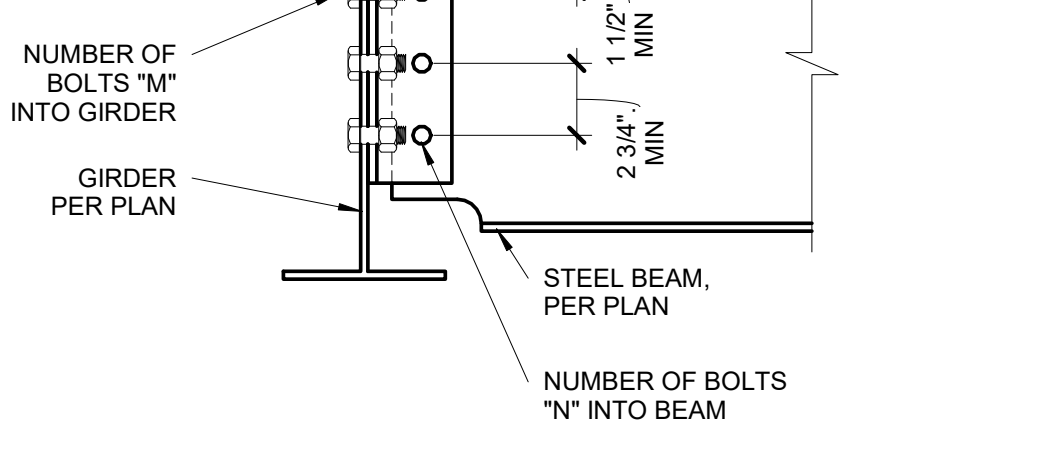
PLATES: TOP AND BOTTOM PLATE HOLE, CUT OR NOTCH THAT IS 50% MORE OF WIDTH MUST BE REPAIRED USING 16 GA (MIN) METAL TIE THAT IS AT LEAST 1-1/2" WIDE IF WALL IS A SHEAR WALL IT MUST BE REPAIRED USING HARDY FRAME SADDLE (HFS).

WALL SIZE	HOLE SIZE	VERTICAL HOLE SIZE (H)
2x4	1 3/4"	D+1/2" AT Lvl 1 & 2
2x6	2 3/4"	D+1" AT Lvl 3
2x8	3 5/8"	D+1 1/4" AT Lvl 4 D+1 1/2" AT Lvl 5

NOTE: SEE SECTION R602.6 AND FIGURES R602.6.1 AND R602.6.2



4 FLUSH STEEL BEAM TO STEEL BEAM
S3.1 1 1/2" = 1'-0"

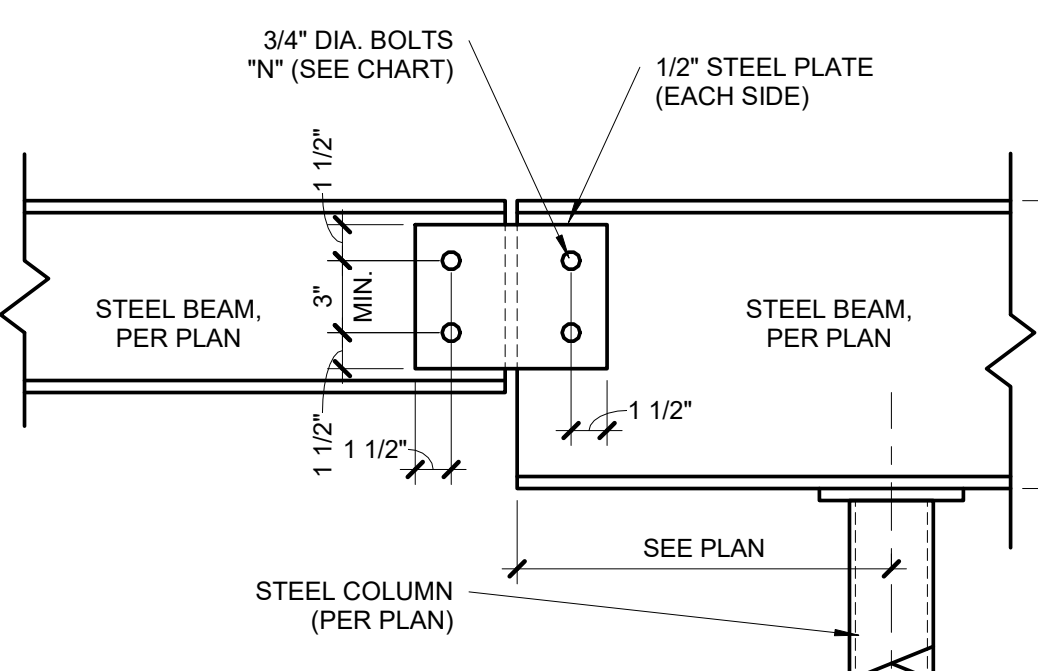


3 BEAM TO GIRDER CONNECTION
S3.1 1 1/2" = 1'-0"

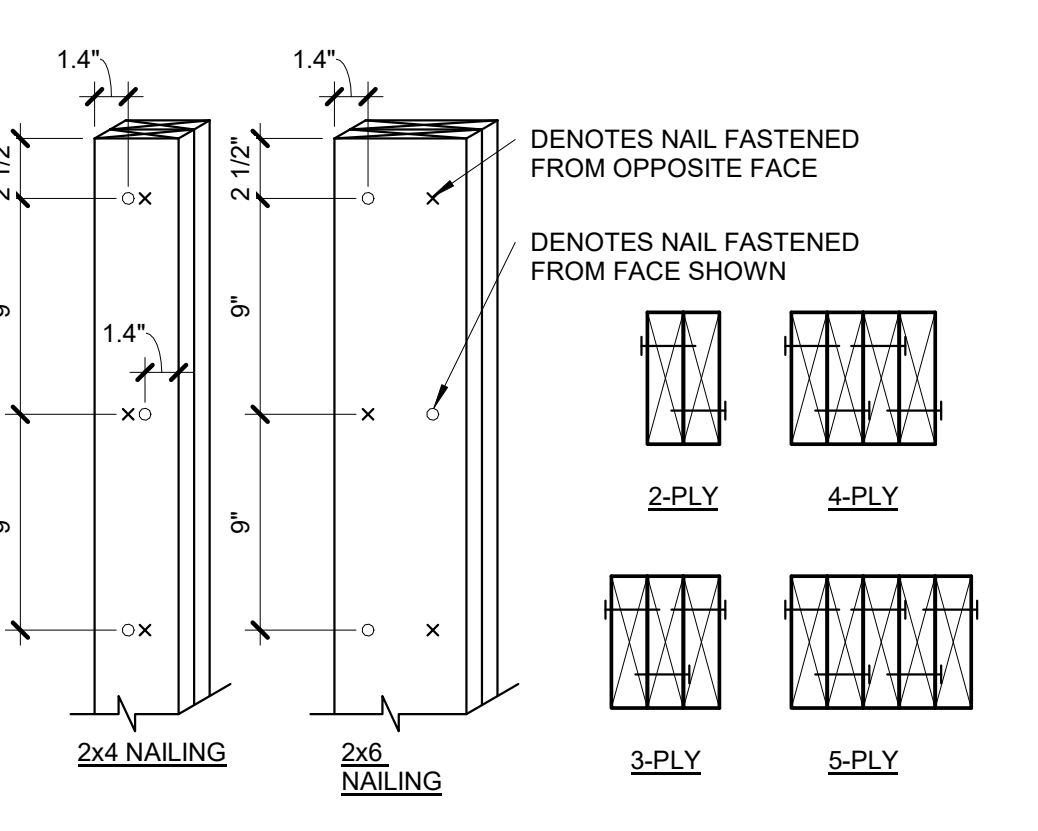
BEAM CONNECTION SCHEDULE

BEAM SIZE	# OF BOLTS "N"	# OF BOLTS "M"
W8, W10	2	4
W12, W14	3	6
W16, W18	4	8

NOTES:
1. THESE CONNECTIONS ARE TYPICAL, UNO.
2. NUMBER OF BOLTS IN UPSSET BEAM CONNECTIONS DETERMINED BY SMALLER OF TWO BEAMS AT CONNECTION.
3. ALL AROUND 1/4" FILLET WELD MAY BE SUBSTITUTED FOR EITHER BOLTED CONNECTION.
4. ALL BOLTS, 3/4" DIAMETER, A325-N, UNO.

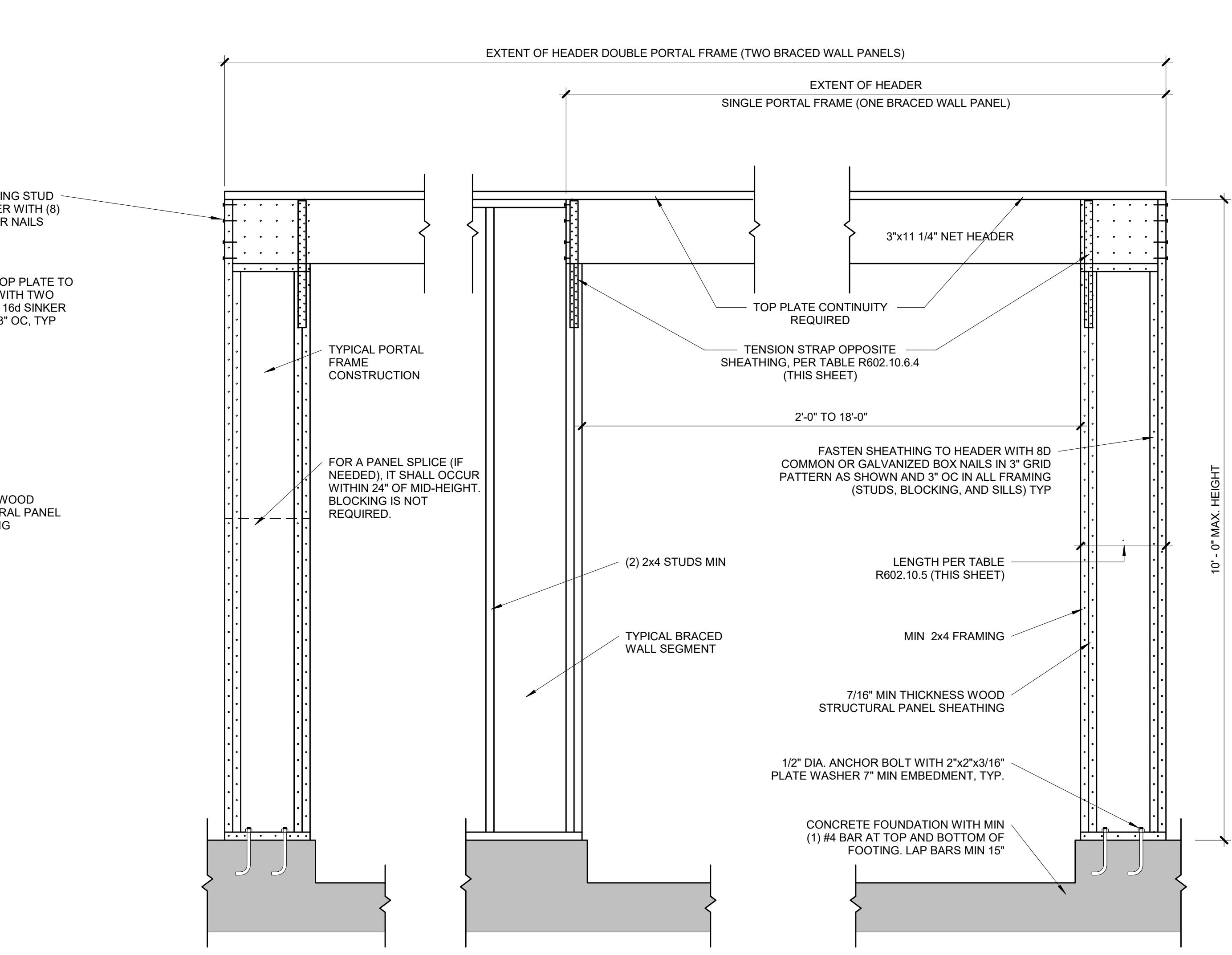
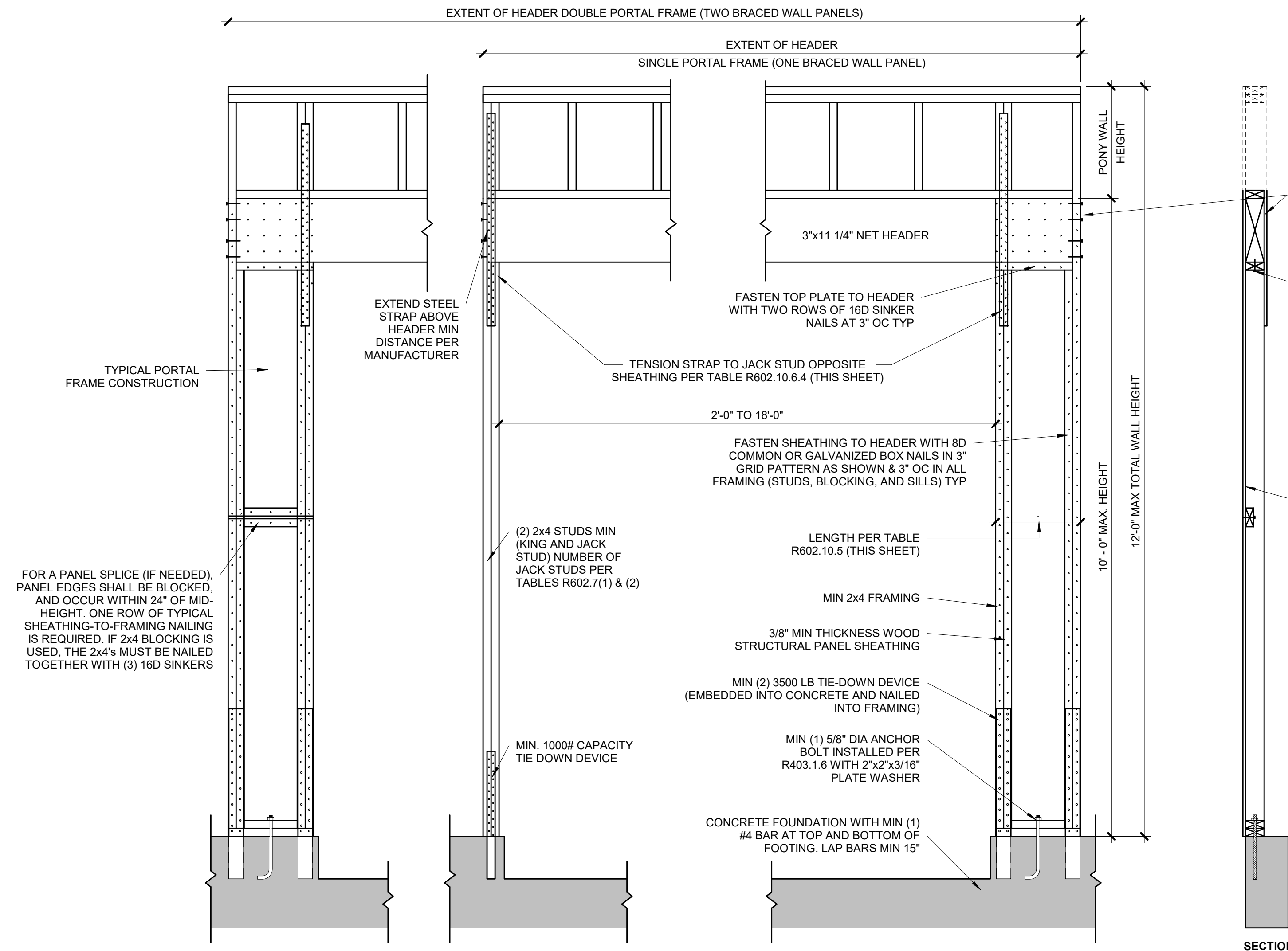


2 BEAM SPLICE DETAIL
S3.1 1 1/2" = 1'-0"



1 BUILT-UP STUD COLUMN
S3.1 1 1/2" = 1'-0" 1 1/2" = 1'-0"

DATE	COMMENTS



PORTAL FRAME AT GARAGE DOOR WITHOUT HOLD DOWNS (METHOD PFG)

S4.0 ALT 3/4" = 1'-0" (ALT ALLOWED AT GARAGE DOOR ONLY) (PER IRC R602.10.6.3)

TABLE R602.10.5 (PARTIAL)

METHOD	MINIMUM LENGTH OF BRACED WALL PANELS				
	MIN LENGTH (INCHES)				
	8 FEET	9 FEET	10 FEET	11 FEET	12 FEET
SUPPORTING ROOF ONLY	16	16	16	16	16
ONE STORY AND ROOF	24	24	24	24	24
PFG	24	27	30	30	30

NOTE: MAX HEADER HEIGHT IS 10'-0", BUT WALL HEIGHT SHALL BE PERMITTED TO BE INCREASED TO 12'-0" WITH PONY WALL

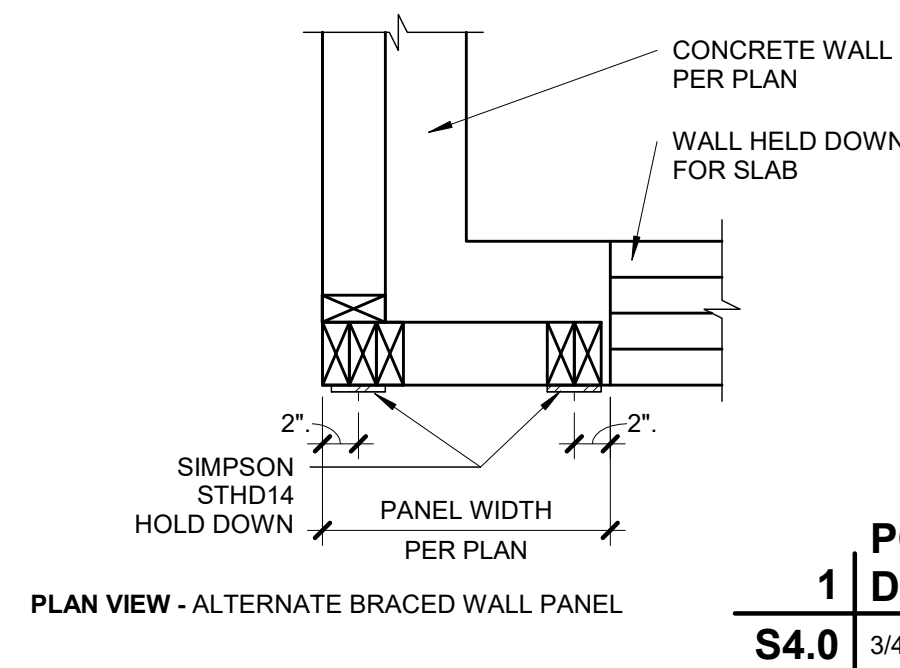
TABLE R602.10.6.4

MIN WALL STUD FRAMING NOMINAL SIZE AND GRADE	MAX PONY WALL HEIGHT (FEET)	MAX TOTAL WALL HEIGHT (FEET)	MAX OPENING WIDTH (FEET)	TENSION CAPACITY STRAP TABLE	
				TENSION STRAP CAPACITY REQ (LBS)	115 MPH, EXP B
2x4 #2 GRADE	0	10	18	9	1,000
				16	1,025
				18	1,275
	2	10	16	9	1,000
				16	2,175
				18	2,500
2x6 STUD GRADE	2	12	16	9	1,500
				16	3,375
				18	3,975
	4	12	12	9	2,750
				12	3,775
				18	3,800

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

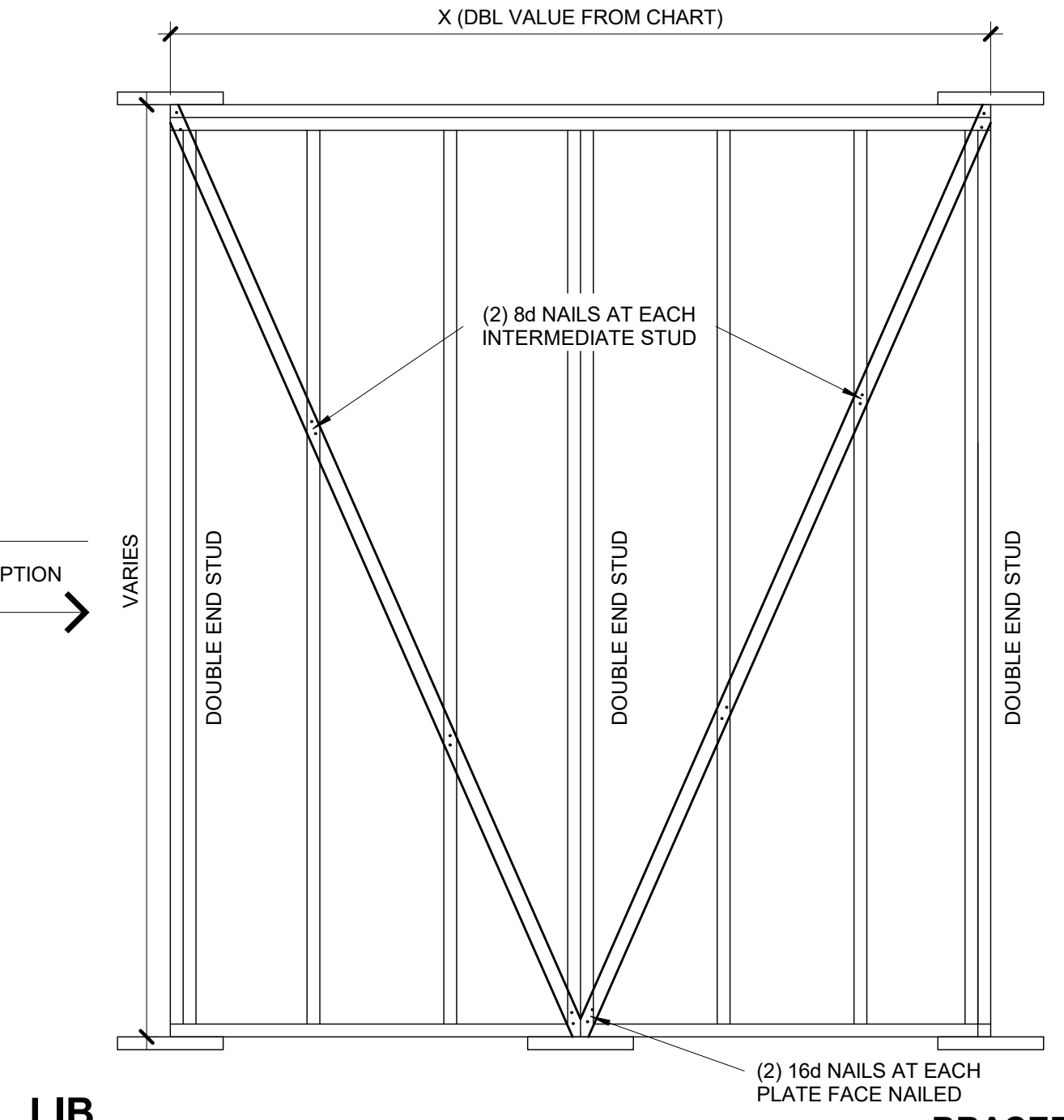
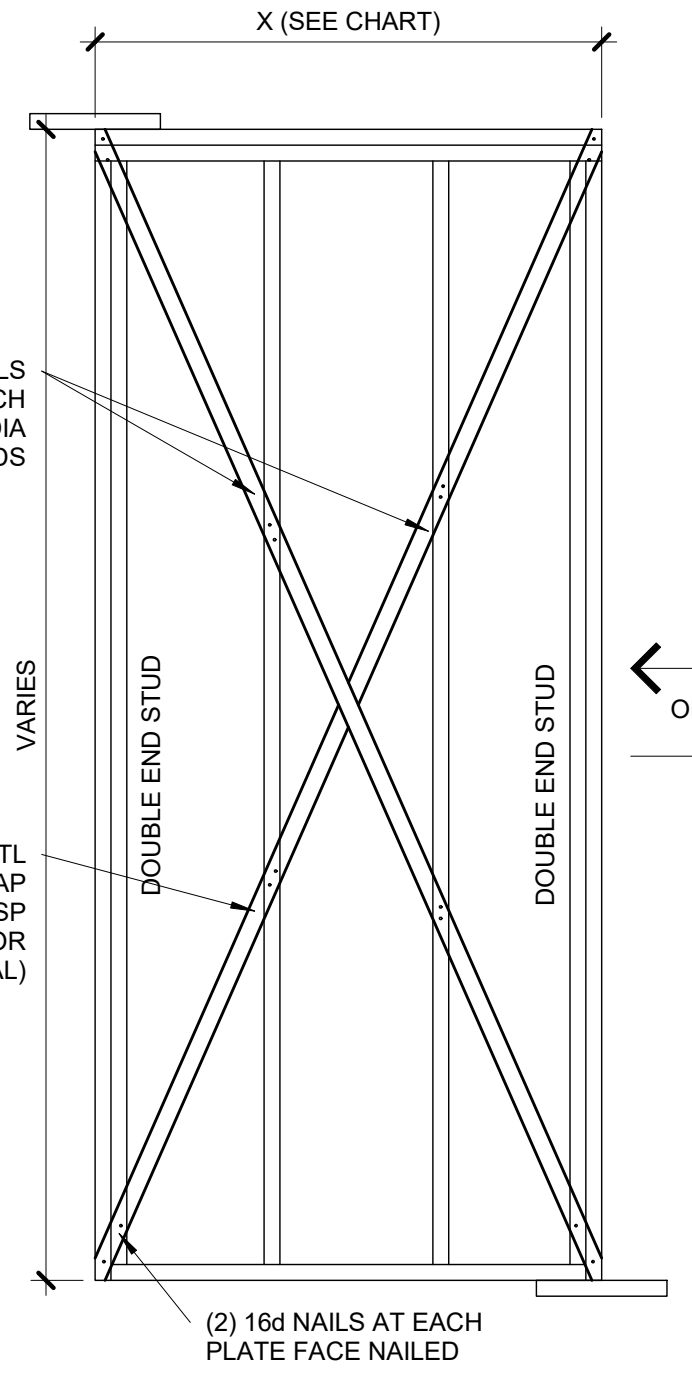
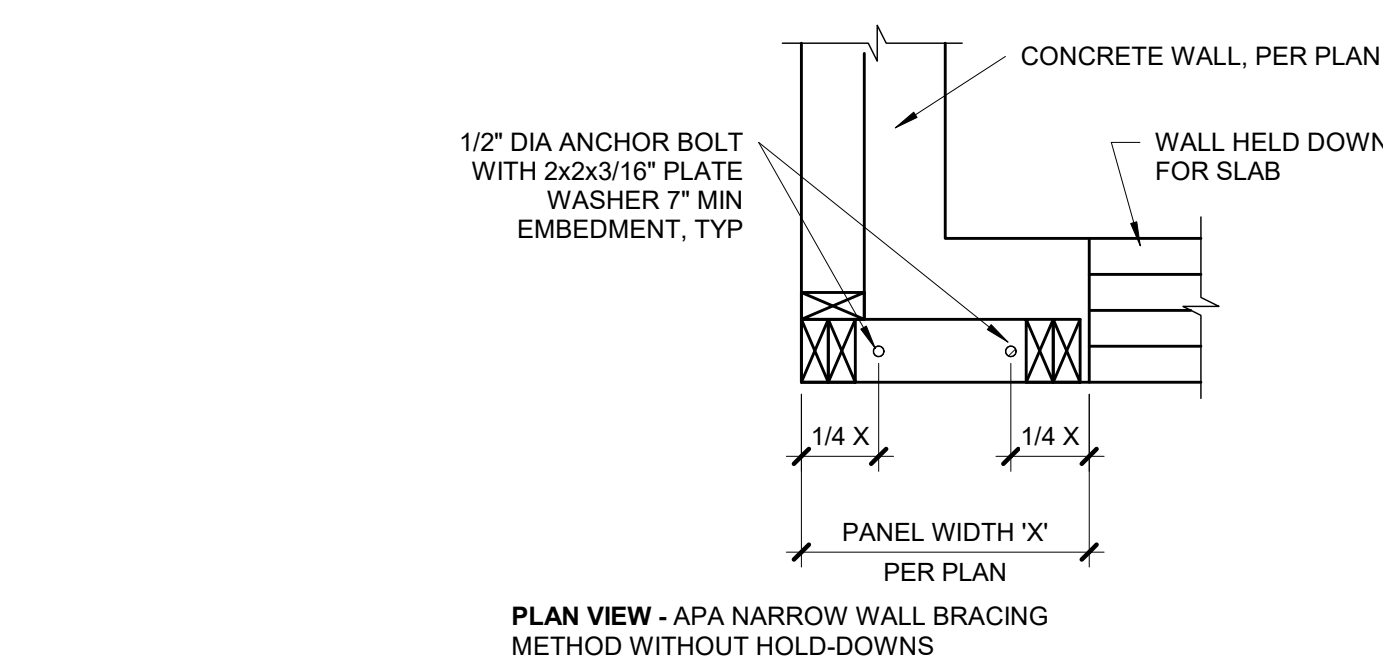
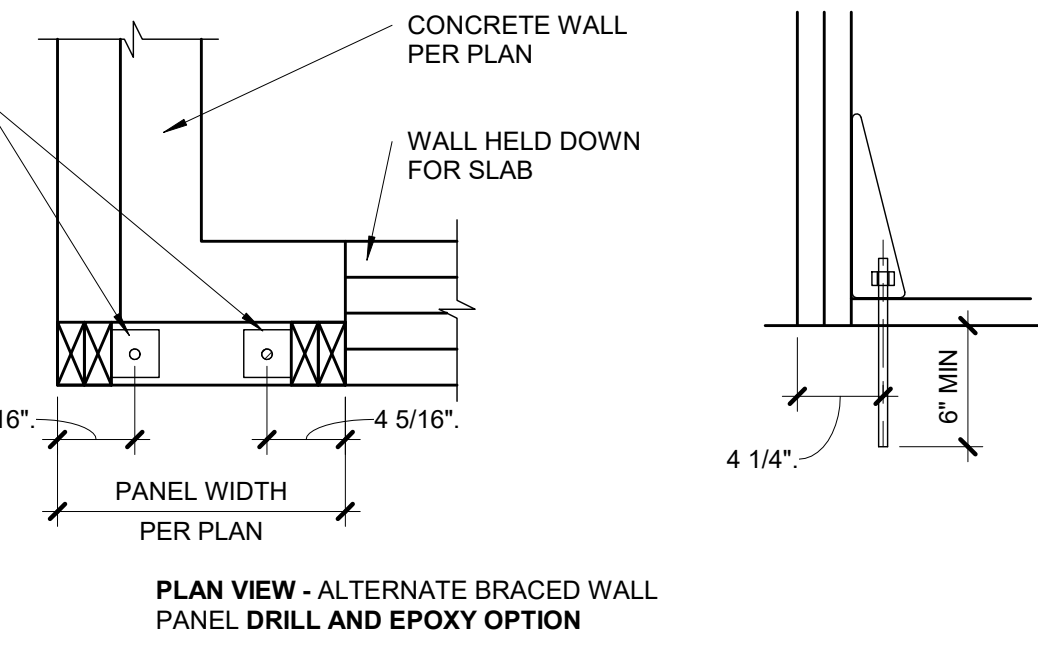
XXXX EXTERIOR BRACED WALLS:
WSP METHOD:
WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24"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

///// INTERIOR BRACED WALLS (REF 2/S4.0):
GB METHOD:
1/2" MIN GYPSUM BOARD OVER STUDS SPACED 24" MAX FASTENED WITH #6 - 1 1/2" TYPE "W" OR "S" DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES).
OR
LIB METHOD:
1/4" WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA TYPE WB (OR EQUAL) STL X-BRACE(S) AT 45° TO 60° ANGLES, MAXIMUM 16" OC STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.



PORTAL FRAME WITH HOLD DOWNS (METHOD PFF)

S4.0 3/4" = 1'-0" (PER IRC R602.10.6.2)



BRACED WALL PANEL SCHEDULE

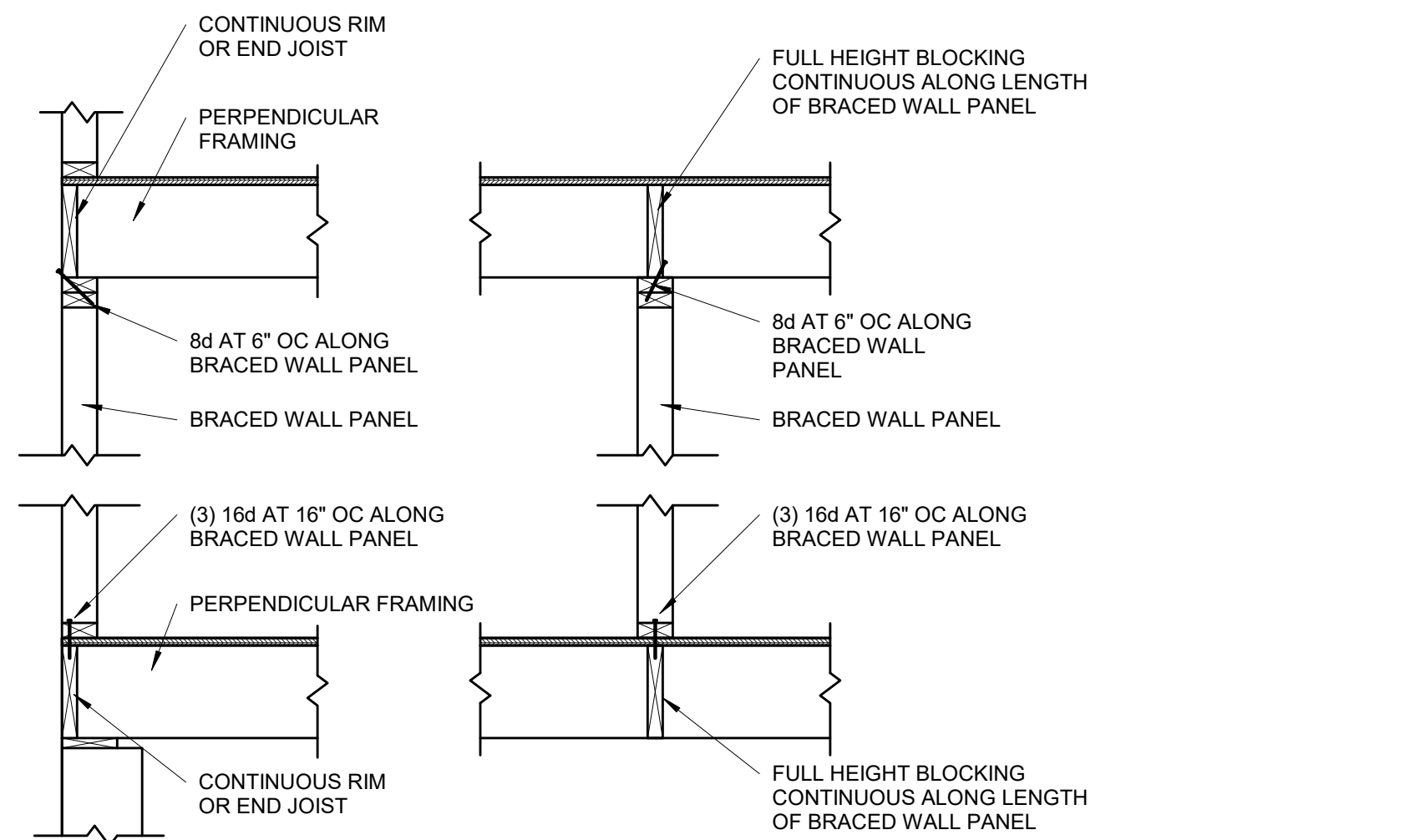
WALL HEIGHT	MIN WALL LENGTH (X)	MAX WALL LENGTH (X)
8'-0"	4'-7"	8'-0"
9'-0"	5'-2"	9'-0"
10'-0"	5'-9"	10'-0"
11'-0"	NP	-
12'-0"	NP	-

NOTE: BRACED WALL PANEL LENGTHS BASED ON WALL HEIGHT FOR IRC, LIB

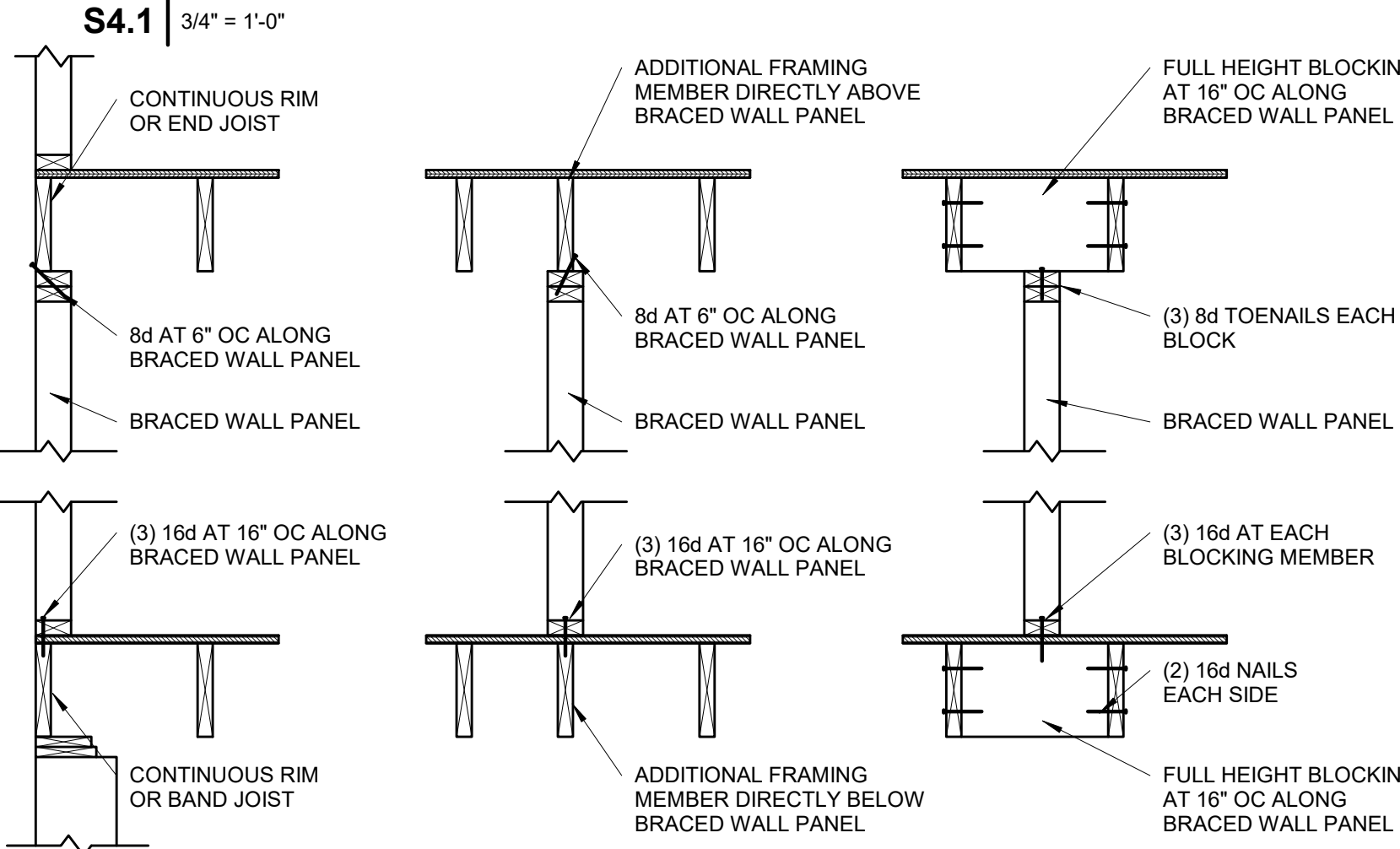
BRACED WALL PANEL-IRC 2) METHODS LIB AND GB

S4.0 3/4" = 1'-0"

DATE	COMMENTS

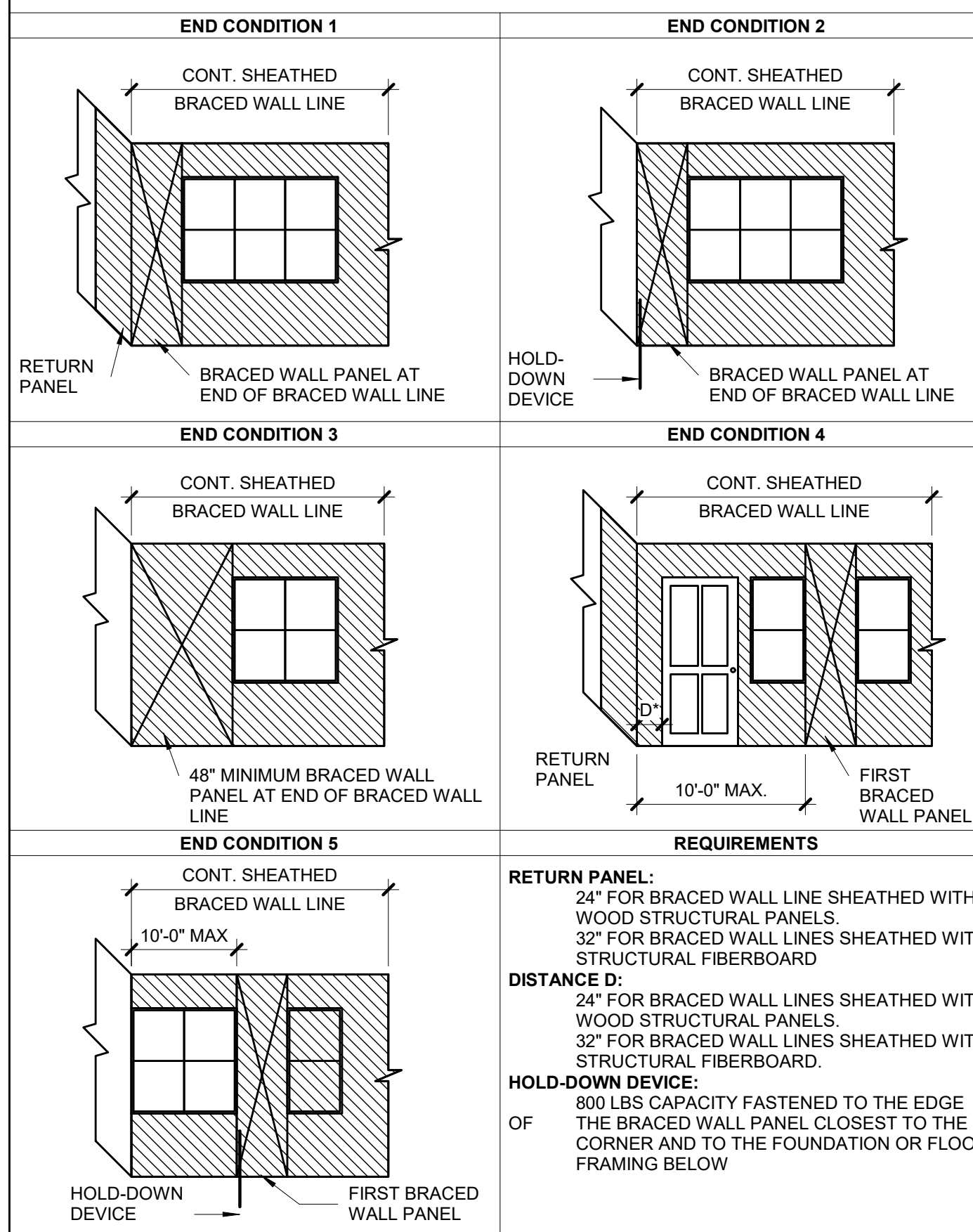


BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING

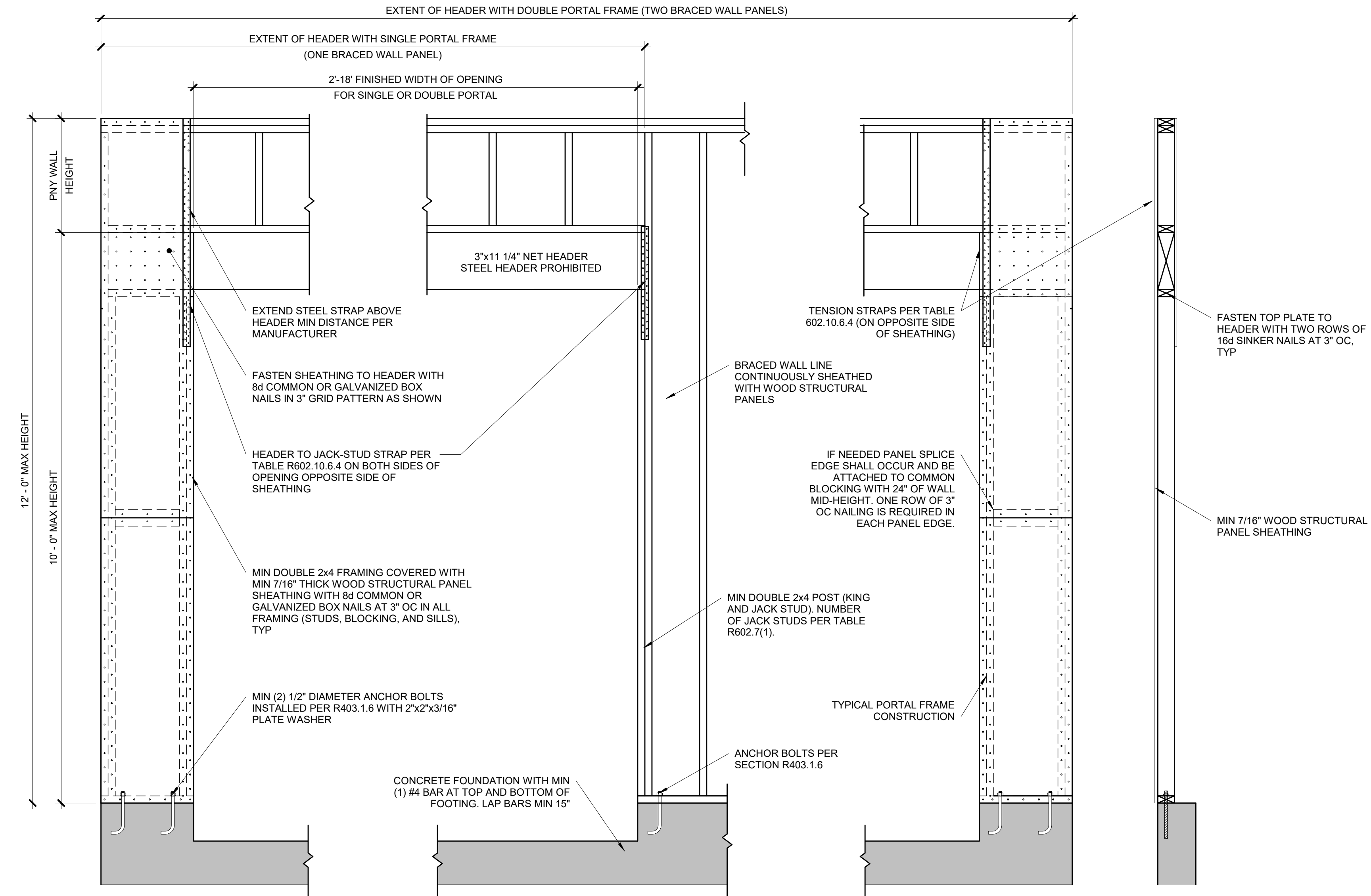


BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING

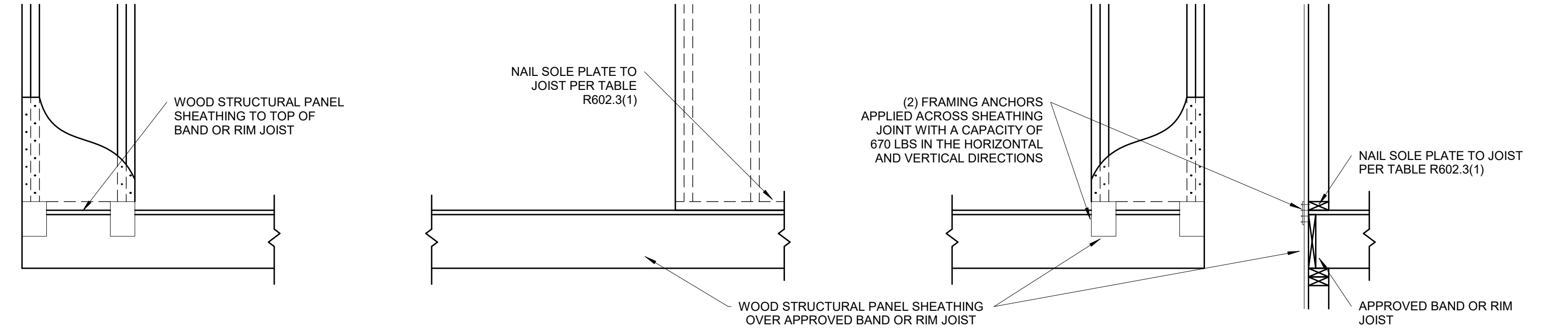
CONT. SHEATHED BRACED WALL END CONDITIONS



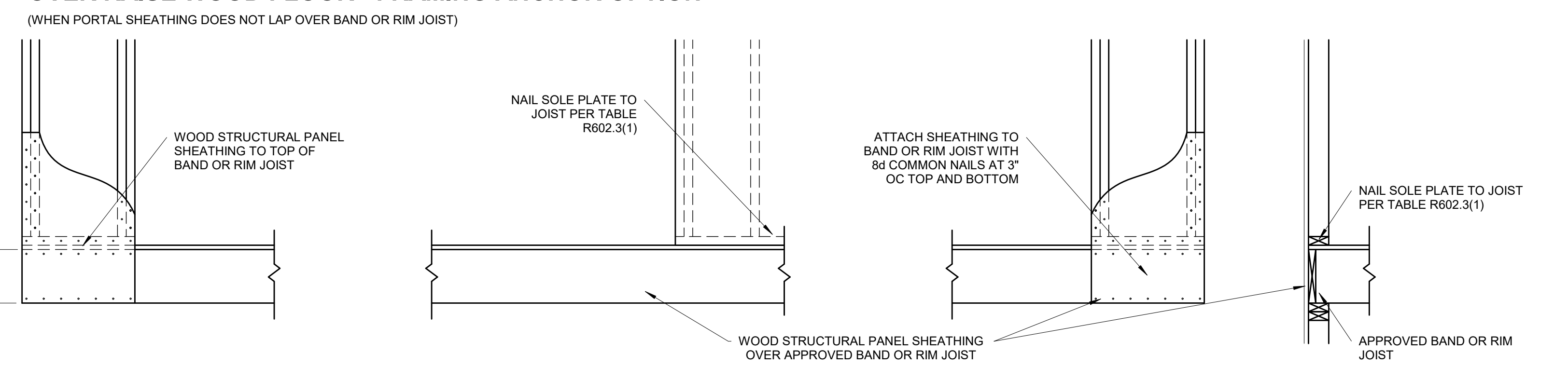
CONTINUOUS SHEATHED BRACED WALL END CONDITIONS



OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISE WOOD FLOOR - FRAMING ANCHOR OPTION



OVER RAISE WOOD FLOOR - OVERLAP OPTION



BRACED WALL PANEL-IRC METHOD CS-PF CONTINUOUSLY SHEATHED PORTAL FRAME

1 PANEL CONSTRUCTION

2 WALL END CONDITIONS

8752

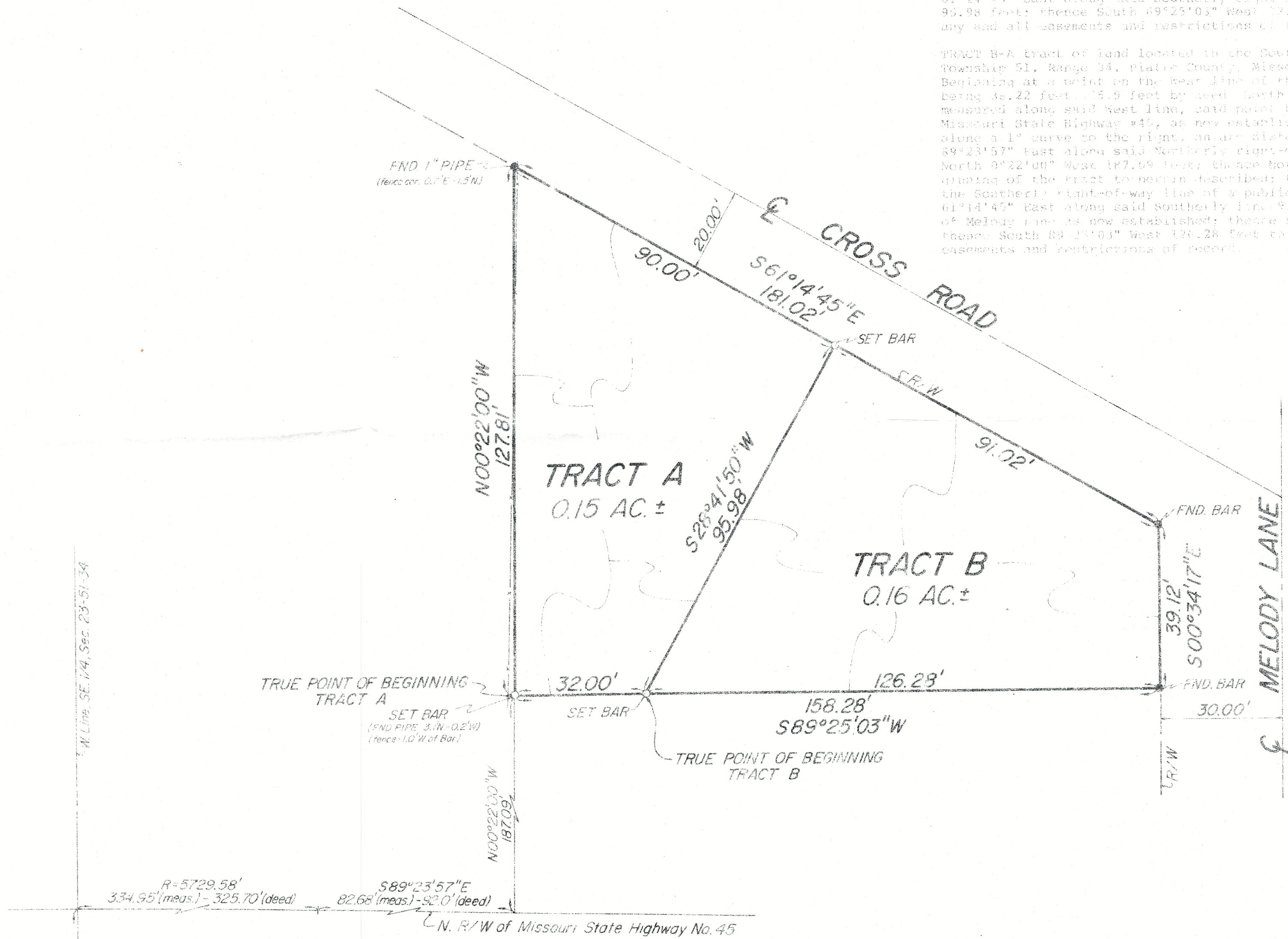
CERTIFICATE of SURVEY

STATE OF MISSOURI }
 County of Platte } ss.
 I, Ide Cox, Recorder of Deeds of said County, do hereby certify that the within instrument of writing was, on the 22nd day of April, A.D. 1983, at o'clock minutes M duly filed for record in this office and is recorded in the Records of this office in Book at page
 IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at Platte City, Mo. this 25th day of April, A.D. 1983.
 By Ide Cox Recorder
Dorothy Burnett Deputy

This is to certify that we have on this 22nd day of April, 1983, made a survey of premises described below, that the boundary lines are as shown hereon, that we have found no encroachments on said property except as shown.

TRACT A-A tract of land located in the Southwest Quarter of the Southeast Quarter of Section 23, Township 51, Range 34, Platte County, Missouri, being more particularly described as follows: Beginning at a point on the West line of the Southeast Quarter of said Section 23, said point being 38.22 feet (35.9 feet by deed) North of the Southwest corner of said Southeast Quarter as measured along said West line, said point being also a point on the North right-of-way line of Missouri State Highway #45, as now established; thence easterly along said right-of-way line, along a 1" curve to the right, an arc distance of 341.95 feet (325.70 feet by deed); thence South 89°23'57" East along said Northerly right-of-way line 82.68 feet (92.00 feet by deed); thence North 0°22'00" West 187.09 feet to the True Point of Beginning; thence continuing North 0°22'00" West 127.81 feet to a point on the Northerly right-of-way line of a public road; thence South 61°14'45" East along said Southerly right-of-way line 91.02 feet; thence South 28°41'50" West 95.98 feet; thence South 89°25'03" West 126.28 feet to the True Point of Beginning. Subject to any and all easements and restrictions of record.

TRACT B-A tract of land located in the Southwest Quarter of the Southeast Quarter of Section 23, Township 51, Range 34, Platte County, Missouri, being more particularly described as follows: Beginning at a point on the West line of the Southeast Quarter of said Section 23, said point being 38.22 feet (35.9 feet by deed) North of the Southwest corner of said Southeast Quarter as measured along said West line, said point being also a point on the North right-of-way line of Missouri State Highway #45, as now established; thence easterly along said right-of-way line, along a 1" curve to the right, an arc distance of 341.95 feet (325.70 feet by deed); thence South 89°23'57" East along said Northerly right-of-way line 82.68 feet (92.00 feet by deed); thence North 0°22'00" West 187.09 feet; thence North 56°14'45" East 181.02 feet to a point on the Southerly right-of-way line of a public road (Cross Road); thence South 61°14'45" East along said Southerly line 91.02 feet to a point on the Westerly right-of-way line of Melody Lane as now established; thence South 89°25'03" West 126.28 feet to the True Point of Beginning. Subject to any and all easements and restrictions of record.



SCALE: 1" = 20'

<p>BUFORD & LUTJEN Engineers and Surveyors 17 N. W. Barry Road Kansas City, MO 64112 (816) 761-6162</p>	FOR:	ANNE GARNEY	
	DATE:	4/22/83	SEC. NO.:
APPROVED BY:		FIELD BOOK:	
		JOB NO.:	P-8306P