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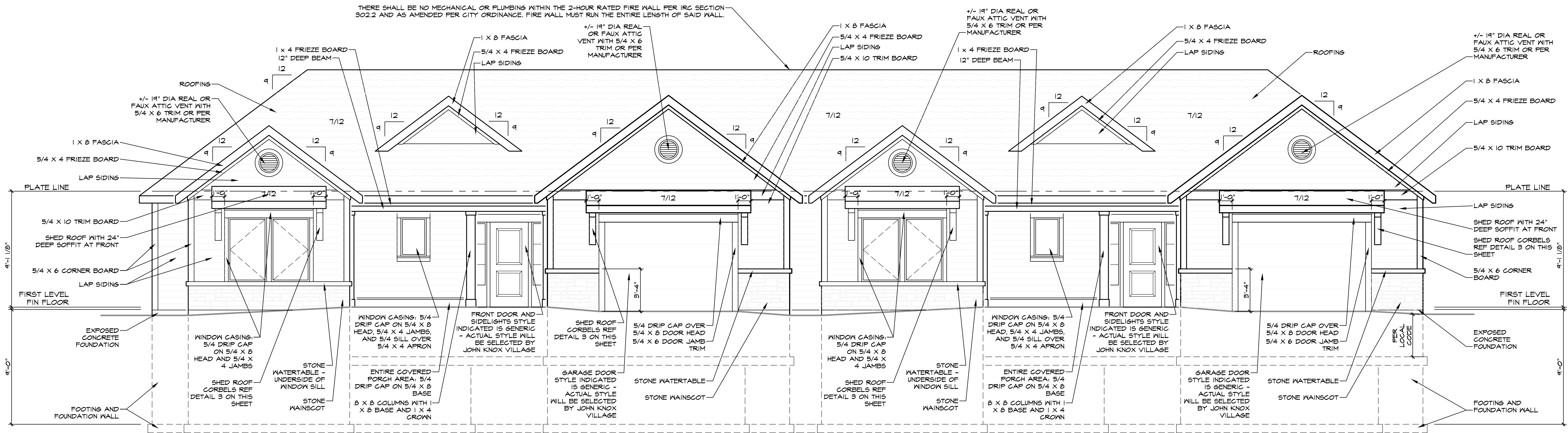


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STRUCTURAL DESIGN REVIEW
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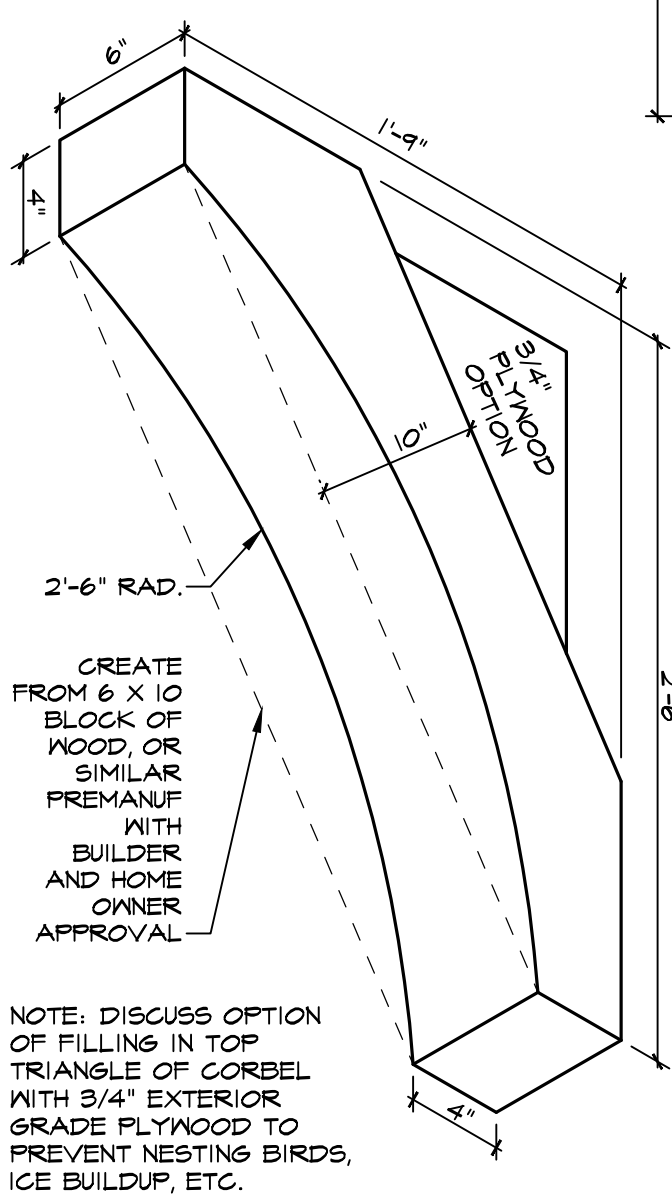
JOHN KNOX VILLAGE
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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Neilson
09/27/2021

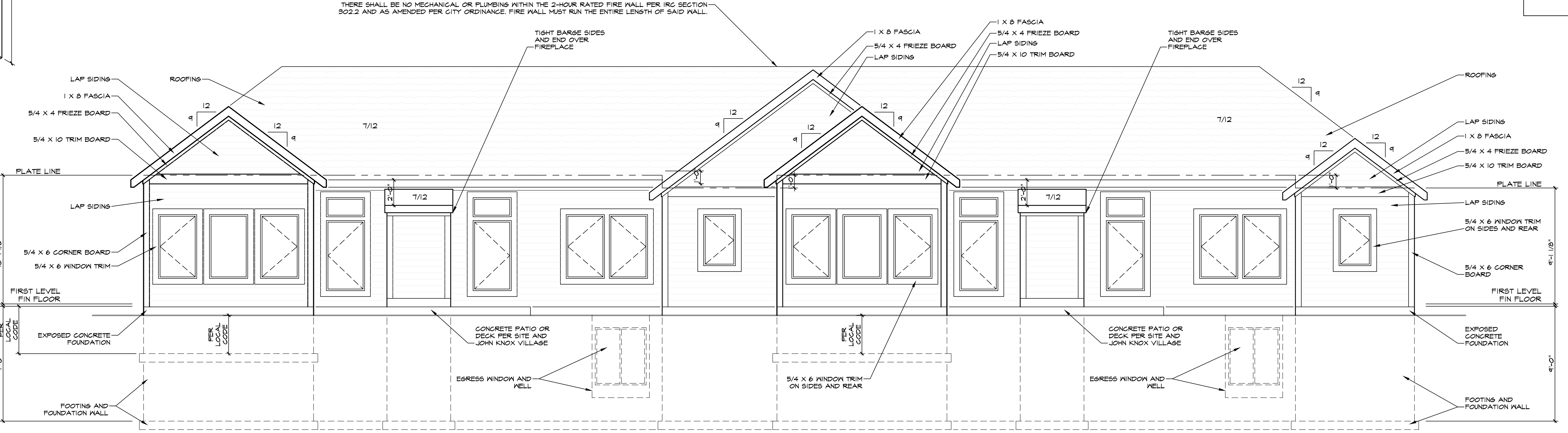


1 FRONT ELEVATION
SCALE: 1/4" = 1'-0"

NOTE: PER SURVEY FINISHED FLOOR OF EAST UNIT IS 8" HIGHER THAN WEST UNIT. VERIFY WITH FINAL SURVEY PRIOR TO STARTING CONSTRUCTION



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



2 REAR ELEVATION
SCALE: 1/4" = 1'-0"

NOTE: PER SURVEY FINISHED FLOOR OF EAST UNIT IS 8" HIGHER THAN WEST UNIT. VERIFY WITH FINAL SURVEY PRIOR TO STARTING CONSTRUCTION

GENERAL NOTES:
THE FOLLOWING WORKING DRAWINGS HAVE BEEN PREPARED BY ARCHITECTURAL CONCEPTS, INC. THE PURCHASER OF THESE PLANS SHOULD CONSULT A CONSTRUCTION PROFESSIONAL PRIOR TO UNDERTAKING CONSTRUCTION OF THIS STRUCTURE. THE PURCHASER AND ALL INDIVIDUAL OR ENTITIES INVOLVED IN THE CONSTRUCTION OR METHODS OF THIS STRUCTURE, HEREBY RELEASES ARCHITECTURAL CONCEPTS, INC. FROM ANY CLAIMS AND/OR LAWS SUITS THAT MAY ARISE DURING CONSTRUCTION PROCESS OR ANY TIME THEREAFTER. IF THE CONTRACTOR, IN THE COURSE OF HIS WORK FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE SITE OR STRUCTURE, OR ANY ERRORS IN THE PLANS OR SPECIFICATIONS, IT SHALL BE HIS RESPONSIBILITY TO IMMEDIATELY INFORM ARCHITECTURAL CONCEPTS, INC. WHO WILL PROMPTLY VERIFY AND IF NECESSARY CORRECT THE WORKING DRAWINGS. ANY WORK DONE AFTER A DISCOVERY, WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

ARCHITECTURAL CONCEPTS, INC. SHALL NEITHER HAVE CONTROL OVER OR CHARGE OF, NOR BE RESPONSIBLE FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, SINCE THESE ARE SOLELY THE CONTRACTOR'S RIGHTS AND RESPONSIBILITIES UNDER THE CONTRACT DOCUMENTS.

TO THE FULLEST EXTENT PERMITTED BY LAW AND TO THE EXTENT CLAIMS, DAMAGES, LOSSES OR EXPENSES ARE NOT COVERED BY PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE PURCHASED BY THE CONTRACTOR IN ACCORDANCE WITH PARAGRAPH 11.3, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER, ARCHITECTURAL CONCEPTS, INC., AND AGENTS AND EMPLOYEES OF ANY OF

THEM FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEY'S FEES, ARISING OUT OF OR RESULTING FROM PERFORMANCE OF THE WORK, PROVIDED THAT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN WORK ITSELF), BUT ONLY TO THE EXTENT CAUSED BY THE NEGLIGENT ACTS OR OMISSIONS OF THE CONTRACTOR, A SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM OR ANYONE FOR WHOM THEY MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED IN PART BY A PARTY INDEMNIFIED HEREUNDER. SUCH OBLIGATION SHALL NOT BE CONSTRUED TO NEGATE, ABRIDGE, OR REDUCE OTHER RIGHTS OR OBLIGATIONS OF INDEMNITY WHICH WOULD OTHERWISE EXIST AS TO A PARTY OR PERSON DESCRIBED IN THE PARAGRAPH.

THE GENERAL CONTRACTOR SHALL BE AWARE OF AND RESPONSIBLE FOR, BUT NOT LIMITED TO, THE FOLLOWING:
1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING CONSTRUCTION AND BE SOLELY RESPONSIBLE FOR ANY DAMAGES NECESSARY AS A RESULT OF CONDITIONAL OR DIMENSIONAL DIFFERENCES.
2. WHERE DISCREPANCIES EXIST BETWEEN THE STANDARD COMMENTS, THE NOTES FROM THE DESIGN PROFESSIONAL, AND/OR THE CODE, THE MOST RESTRICTIVE SHALL APPLY.
3. ALL DIMENSIONS SHALL BE READ OR CALCULATED AND NEVER SCALED.
4. ALL FOOTINGS TO BE BELOW FROST LINE (PER LOCAL CODE) AND MUST REST ON UNDISTURBED SOIL CAPABLE OF HANDLING THE BUILDING. CONSULT LOCAL ENGINEER FOR PROPER FOOTINGS AND REINFORCING SIZES.

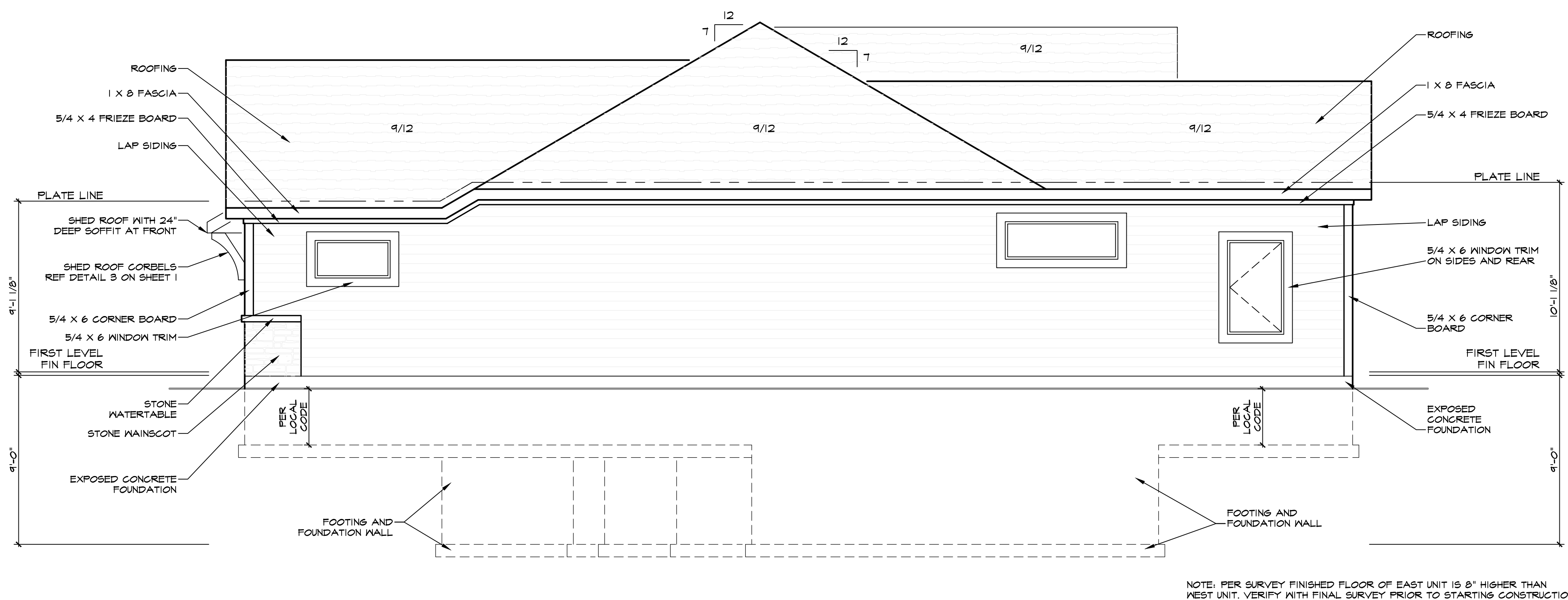
5. ALL FOUNDATION AND STRUCTURAL MEMBERS SHOULD BE VERIFIED AND STAMPED BY AN ENGINEER IN THE STATE WHERE CONSTRUCTION IS OCCURRING DUE TO A WIDE VARIANCE IN LOCAL CODES, SOIL BEARING CONDITIONS, FROST LINE DEPTH, GEOLOGICAL AND WEATHER CONDITIONS, ETC. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING AND VERIFYING ALL STRUCTURAL DETAILS AND CONDITIONS TO MEET ALL LOCAL CODES AND TO INSURE A QUALITY AND SAFE STRUCTURE.
6. ALL WOOD, CONCRETE, AND STEEL STRUCTURAL MEMBERS SHALL BE OF A GOOD GRADE AND QUALITY AND MEET ALL NATIONAL, STATE, AND LOCAL BUILDING CODES WHERE APPLICABLE.
7. ALL COLUMNS OR SOLID FRAMING SHOULD BE DESIGNED TO CARRY LOADS AND SHOULD EXTEND DOWN THRU THE LEVELS BELOW AND TERMINATE AT THE BASEMENT FLOOR OR AT OTHER BEARING POINTS DESIGNED TO CARRY THE LOAD.
8. ALL WORK SHALL CONFORM TO ANY LOCAL, STATE, AND NATIONAL BUILDING CODES HAVING JURISDICTION.
9. THESE PLANS AND SPECIFICATIONS WERE DESIGNED FOR COMPLIANCE WITH STANDARD INTERPRETATION OF THE IRC 2018 AND OTHER CODES HAVING JURISDICTION. PERMITS BY THE GOVERNING AGENCIES SHALL CONSTITUTE ACCEPTANCE OF COMPLIANCE BY SUCH AUTHORITIES.
10. SPECIAL INSPECTIONS SHALL BE MADE ON CONCRETE, REINFORCEMENT, STRUCTURAL STEEL, AND FRAMING.
11. CONTRACTOR SHALL ENSURE THAT ALL INSPECTIONS AND REVIEWS BE MADE ON CONCRETE, SHOP WELD CONNECTIONS, AND MISC. ATTACHMENT ITEMS.

- DRAWING LIST:**
1- FRONT AND REAR ELEVATIONS, CORBEL DETAIL, GENERAL NOTES, AND DRAWING LIST
2- LEFT AND RIGHT SIDE ELEVATIONS, LEFT AND RIGHT SIDE FRONT PORCH ELEVATIONS, SIDE SIDE 3 SEASONS ROOM ELEVATION, TYPICAL SEPARATION WALL SECTION, UL ASSEMBLY DESCRIPTION, AND TYPICAL WALL SECTION
3- FOUNDATION PLAN AND FOUNDATION NOTES
4- FIRST FLOOR PLAN, DWELLING AREA SUMMARIES, NOTES, AND STAIR DETAIL
5- ROOF PLAN, ROOF PLAN NOTES, AND GENERAL NOTES
6- TYPICAL ARCHITECTURAL ELECTRICAL PLAN
7- JOHN KNOX VILLAGE GENERAL NOTES

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2 RIGHT SIDE ELEVATION



STATE OF MISSOURI
CLAYTON J. DREES
Professional Engineer
PE-2003-000003
2021.09.24
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STRUCTURAL DESIGN REVIEW

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**RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Nelson
09/27/2021**

LIABILITY: The Architect / Consultant can only be held liable for the dollar amount paid to the Architect / Consultant for his / her services. Use of these drawings constitutes acceptance of this liability statement.

PROFESSIONAL SERVICES: The Professional services of the Consultant and/or Architect are undertaken for and are performed in the interest of the Project Owner. No contractual obligation is assumed by the Consultant and/or the Architect for the benefit of any other entities involved in this Project.

EXISTING CONDITIONS: The Consultant / Architect disclaims any responsibility for the existing building structure, site conditions, existing construction elements, or any other documents, drawings, or other instruments related to or intended to be used for any part or parts of the project, which do not bear the Architect's seal.

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BUILDERS PLANS: All the information contained in these drawings is considered "Builder's Plans" and requires the Contractor to possess competence in residential construction. Use of these drawings by the Contractor warrants to the Consultant / Architect that he possesses the necessary skill and expertise to construct this building as drawn without full engineering and design services. Although the Consultant / Architect have performed our services with due care and diligence, we cannot guarantee perfection.

During construction, the contractor may be required to adapt the "Bidder's Plans" to the field conditions and make logical adjustments. In the event additional information is needed by the Contractor or Home Owner for construction of an aspect of the project, he shall immediately relate Architectural Concepts, Inc. Failure to notify Consultant / Architect of any design or construction ambiguities discovered by the view of these plans, or making changes to the plans without the consent of Consultant / Architect immediately relieves Architectural Concepts, Inc. of any responsibilities or consequences.

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NOTES:

- 1) DIMENSIONS ARE TO FACE OF WOOD FRAMING AND FACE OF CONCRETE FOUNDATION WALLS.
- 2) DISCUSS AND LOCATE POSSIBLE FUTURE WALLS AND PLUMBING WITH OWNER PRIOR TO POURING BASEMENT FLOOR SLAB.
- 3) ALL EXTERIOR WALLS ARE 2X4 FRAMING. ALL INTERIOR WALLS ARE 2X4 FRAMING UNLESS NOTED OTHERWISE.

FOUNDATION PLAN NOTES:

- 1) LEVELS OF FOOTINGS AND FOUNDATION WALLS TO BE LOCATED TO PROVIDE FROST DEPTH AND ADEQUATE BEARING. WHERE PIERS ARE REQUIRED PER SIZES IN ACCORDANCE WITH BUILDING CODE.
- 2) DO NOT BACK FILL UNTIL FOUNDATIONS HAVE ADEQUATELY CURED.
- 3) LOCATE GRADE BEAMS UNDER ALL LOAD BEARING WALLS.
- 4) PROVIDE SUPPORT FOR PORCH AND STEPS TO GRADE AS REQ'D.
- 5) LOCATION OF FURNACE, WATER HEATER, FLOOR DRAINS, AND SUMP PIT ARE INDICATED ON THE PLAN AS A POSSIBLE LOCATION AND SHALL BE LOCATED WITH THE BUILDER AND VERIFIED WITH THE APPROPRIATE SUBCONTRACTORS PRIOR TO STARTING EXCAVATION.
- 6) STEP FOOTINGS AND FOUNDATION WALL AS REQUIRED BY SITE. MINIMIZE EXPOSED FOUNDATION WALL.
- 7) DRAWINGS INDICATE EITHER A FULL BASEMENT, DAYLIGHT BASEMENT OR WALKOUT BASEMENT. REVIEW DRAWINGS WITH SURVEY TO DETERMINE ANY ADJUSTMENTS IN THE FOUNDATION WALLS AND STRUCTURE.
- 8) EGRESS WINDOWS AND WELLS ARE LOCATED ON THE DRAWINGS. REVIEW WITH SURVEY TO DETERMINE ACTUAL LOCATIONS AND REQUIREMENTS WITH CODE.
- 9) DRAWINGS MIGHT NOT INDICATE FUTURE SLEEPING ROOMS OR BATHROOMS IN BASEMENT. DISCUSS POSSIBLE LOCATIONS WITH OWNER PRIOR TO STARTING EXCAVATION AND INSTALL SCAPENEL WINDOW SYSTEM OR SIMILAR FOR ANY FUTURE BEDROOMS AND PLUMBING STUB UPS FOR FUTURE BATHROOMS WHERE DIRECTED BY OWNER.
- 10) DRAWINGS MIGHT NOT INDICATE OTHER WINDOWS (BESIDE SCAPENEL). DISCUSS POSSIBLE LOCATIONS WITH OWNER PRIOR TO STARTING EXCAVATION AND INSTALL AS DIRECTED BY OWNER.

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

COLUMN MARK	PAD SIZE	REINFORCEMENT	COLUMN SIZE	COLUMN TYPE
A	30" x 30" x 12"	(4) #4 BAR E.W.	3" NOMINAL	SCHEDULE 40 PIER PAD (MIN.) (7'-36" MIN.)
B	36" x 36" x 12"	(4) #4 BAR E.W.	3" NOMINAL	
C	42" x 42" x 12"	(5) #4 BAR E.W.	3" NOMINAL	
D	48" x 48" x 12"	(6) #4 BAR E.W.	3" NOMINAL	
E	54" x 54" x 16"	(8) #4 BAR E.W.	3 1/2" NOMINAL (4" OD)	
F	60" x 60" x 16"	(10) #4 BAR E.W.	3 1/2" NOMINAL (4" OD)	

1. COLUMN & PAD SIZES SHOWN ARE FOR MAXIMUM COLUMN HEIGHT OF 10'-0". REQUIRES SEPARATE ENGR'D DESIGN IF GREATER THAN 10'-0" TALL.
2. COLUMN & PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 1,500PSF.

COLUMN & PIER SCHEDULE

MARK	COLUMN SIZE	PIER DIA.
A	6x6	12"
B	6x6	16"
C	6x6	18"
D	6x6	24"

1. ALL PIERS TO BEAR ON ORIGINAL UNDISTURBED SOIL OF 1,500 PSF BEARING CAPACITY OR FILL COMPACTED AND TESTED TO CONFORM TO THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.
2. PIERS SHALL EXTEND BELOW THE FROST LINE. MIN. DEPTH OF 36" BELOW GRADE.
3. POST SHALL BE TREATED OR CEDAR WITH SIMPSON ABUS6 POST BASE

DETAIL REFERENCES

- 1 S2.0 TYPICAL FOUNDATION WALL DETAIL
- 2 S2.0 TYPICAL "UNRESTRAINED" FOUNDATION WALL DETAIL
- 3 S2.0 TYPICAL DEAD MAN DETAIL
- 4 S2.0 FOUNDATION WALL JUMP DETAIL
- 5 S2.0 COLUMN PAD DETAIL
- 1 S2.1 TYPICAL STRUCTURAL GARAGE SLAB PLAN

- 2 S2.1 STRUCTURAL GARAGE SLAB PIER PAD DETAIL
- 3 S2.1 STRUCTURAL GARAGE SLAB / WALL SECTION
- 6 S2.1 TYPICAL OVERDIG DETAIL AT BASEMENT SLAB
- 1 S2.0 ALTERNATE BRACED WALL PANEL DETAIL
- 1 S2.0 APA NARROW WALL BRACING METHOD WITHOUT HOLD-DOWNS
- ALT. COLUMN AND PIER PAD SCHEDULE (SHEET S2.0)

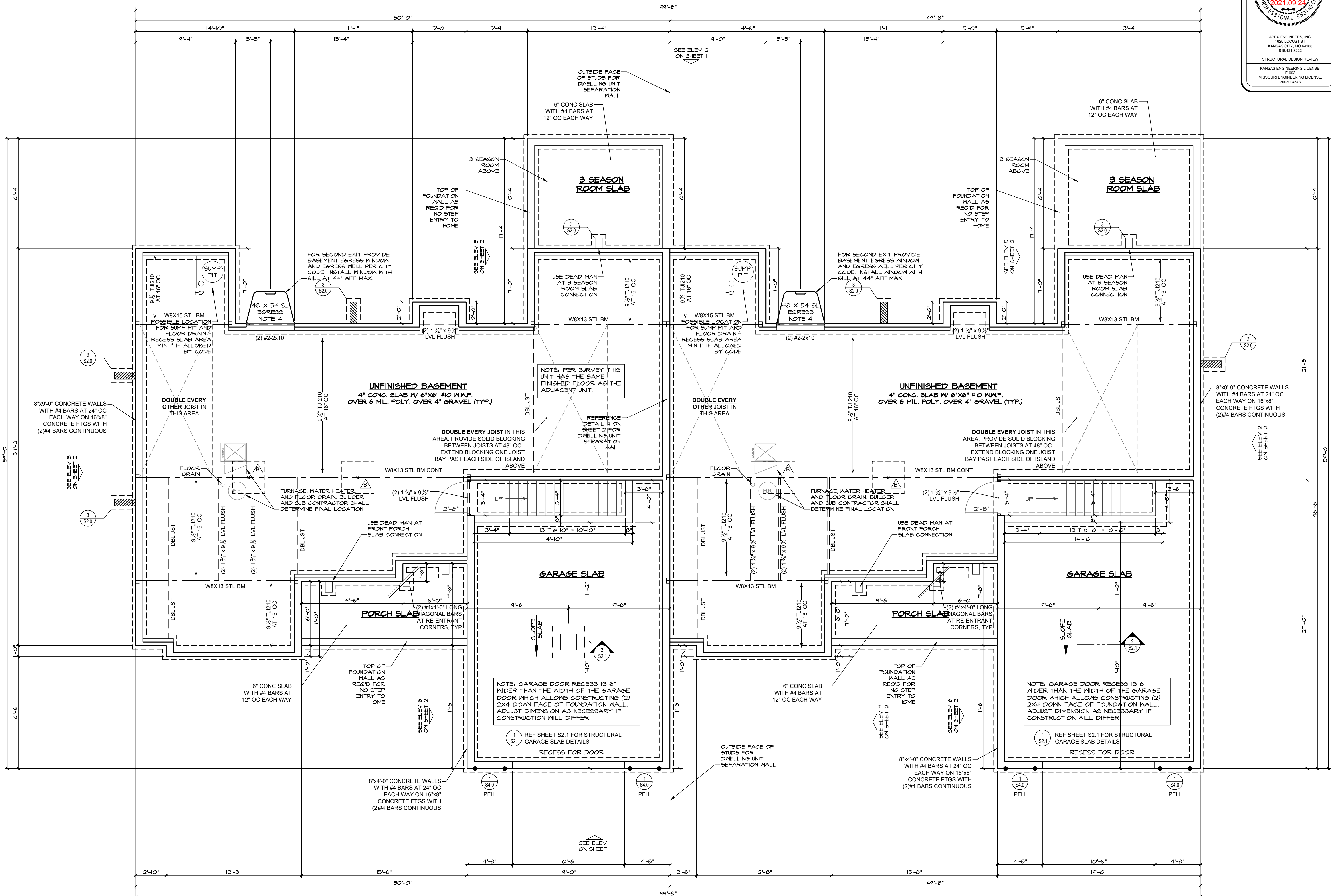
STRUCTURAL NOTES:

- ALL UNMARKED HEADERS MIN (3) #2-2X10
- ALL HEADERS AND BEAMS MIN #2 GRADE DFL (OR EQ.)
- ALL BEARING WALL
- XXXXXXXXXX = 4'-0" LONG PANEL, UNO

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**RELEASE FOR
CONSTRUCTION**
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Nelson
09/27/2021

TRUE JOIST TIMBERSTRAND LSL FLOOR
JOISTS ARE BEING USED AND PER
MANUFACTURER MEET IRC SECTION R302.13
FOR FIRE PROTECTION OF FLOORS IN
UNFINISHED AREAS UNDER FLOOR TRUSSES

1 FOUNDATION PLAN

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

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PROFESSIONAL SERVICES: The Architect / Consultant is not responsible for the quality of the work or the results of the work. The Architect / Consultant is not responsible for the quality of the work or the results of the work.

EXISTING CONDITIONS: The Consultant / Architect discloses any responsibility for the existing building structure, site conditions, existing construction elements, or any other documents, drawings, or other instruments related to or intended to be used for any part or parts of the project, which do not bear the Architect's seal.

CONTRACT: This drawing has been prepared by the Architect, under his supervision. This drawing is provided as an instrument of service by the Consultant / Architect and is not to be used for any other purpose without the written consent of the Consultant / Architect. The Consultant / Architect is not responsible for the quality of the work or the results of the work.

BUILDERS IN CHARGE: As the information contained in these drawings is considered "Builder's Plan" and requires the Contractor to possess competence in residential construction, use of these drawings by the Contractor warrants to the Consultant / Architect that he possesses the necessary skill and expertise to construct this building as drawn without full engineering and design services. Although the Consultant / Architect has performed or services with due care and diligence, we cannot guarantee perfection.

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Rev. Issue: Rev. Date:

2010103

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GENERAL FLOOR PLAN NOTES (APPLIES TO ALL PLANS):
A) ALL CEILING JOISTS AND RAFTER BRACING TO BEAR ON LOAD BEARING WALLS DESIGNED TO CARRY LOAD THRU ALL LEVELS AND TERMINATE AT FOUNDATION AND BE SUPPORTED BY THICKENED SLAB GRADE BEAM OR FOOTING DESIGNED TO CARRY LOAD.
B) SILLS OF OPERABLE WINDOWS LOCATED MORE THAN 12" ABOVE FINISHED GRADE OR SURFACE BELOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH IT IS LOCATED.
C) ALL ANGLES ARE 45 DEGREES UNLESS NOTED OTHERWISE.
D) CONSULT WITH BUILDER FOR NUMBERS AND LOCATIONS OF RODS AND SHELVEYS.
E) WALLS, CEILINGS, AND FLOORS SHALL HAVE THE FOLLOWING MINIMUM R VALUES: CEILING R-30, CATHEDRAL CEILING R-30, FLOOR OVER UNHEATED SPACE R-19, FLOOR OVER OUTSIDE AIR R-30, EXTERIOR WALL R-13, CRAWL SPACE R-4, GLAZING U LESS THAN OR EQUAL TO 0.40 (DEFAULT U-FACTOR FOR DOUBLE PANE, ARGON FILLED LOW-E TREATMENT IS U = 0.40; FOR ALL SKYLIGHTS USE U-FACTOR = 0.60). BASEMENT WALL R-10 (INSULATE CONCRETE WALLS ADJACENT TO FINISHED SPACE), DUCTS OUTSIDE OF THE CONDITIONED SPACE THE SUPPLY AND RETURN R-8 AND IN FLOOR OR CEILING ASSEMBLY R-6.
F) ALL EXTERIOR WALLS ARE 2 X 4 FRAMING UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS ARE 2 X 4 FRAMING UNLESS NOTED OTHERWISE.
G) DIMENSIONS ARE TO FACE OF WOOD FRAMING AND FACE OF CONCRETE FOUNDATION WALLS.
H) REFERENCE GENERAL NOTES FOR TYPICAL SAFETY GLAZING LOCATIONS.
I) ATTIC VENTILATION PER LOCAL CODES AND REQUIREMENTS.
J) PROVIDE MIN 22 X 30 ATTIC ACCESS AS DETERMINED BY BUILDER AND HOMEOWNER.
K) INSTALL RAILINGS AROUND WINDOW WELLS AS REQUIRED BY CODE.

WINDOWS

48 X 48	SUGGESTED WIDTH (INCHES) AND HEIGHT (INCHES)
5H	SINGLE HUNG
FX	FIXED
CS	CASEMENT
6B/OP	GLASS BLOCK OR OPAQUE DISCUSS WITH BUILDER
AM	AWNING
SL	SIDE SLIDING

WINDOW SIZES AND DESIGNATIONS ARE PROVIDED AS A GUIDE ONLY AND SHOULD NOT BE ORDERED UNLESS THE WINDOW SUPPLIER HAS VERIFIED THAT THE SIZES AND DESIGNATIONS DESCRIBE EXACTLY WHAT THE DRAWINGS INDICATE. WHAT THE BUILDER REQUIRES, AND WHAT THE CITY ALLOWS. FAILURE BY THE WINDOW SUPPLIER TO REVIEW EACH AND EVERY WINDOW WITH THE BUILDER WILL RESULT IN THE WINDOW SUPPLIER PROVIDING THE CORRECT WINDOWS AT NO ADDITIONAL COST TO THE BUILDER.

WINDOW SIZES INDICATED ON PLAN ARE GENERIC WITH GRILLES PER ELEVATIONS. WINDOWS CAN BE CHANGED TO FIXED PANE WHERE CODE DOES NOT REQUIRE EXITS. WINDOW SUPPLIER SHALL DISCUSS SIZE AND TYPE OF ALL NEW WINDOWS WITH BUILDER PRIOR TO ORDERING. ALL WINDOWS MUST MEET OR EXCEED ALL REQUIRED CODES AND ORDINANCES. VERIFY SAFETY GLAZING LOCATIONS PRIOR TO ORDERING WINDOWS.
GENERAL WINDOW NOTES:
A) FRAMER SHALL REVIEW HEADERS REQUIRED FOR EACH WINDOW AND DISCUSS HEIGHTS OF WINDOWS WITH BUILDER.
B) SILLS OF OPERABLE WINDOWS LOCATED MORE THAN 12" ABOVE FINISHED GRADE OR SURFACE BELOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH IT IS LOCATED.

SPECIFIC WINDOW NOTES (SEE WINDOW DESIGNATIONS AT FLOOR PLANS) MODIFY WINDOW SIZES AS REQUIRED FOR GENERAL WINDOW NOTE B.
1) INSTALL WINDOWS APPROX 1'-0" HEADER HEIGHT (ABOVE FINISHED FLOOR).
2) INSTALL WINDOWS APPROX 8'-0" HEADER HEIGHT (ABOVE FINISHED FLOOR).
3) MOUNT TOP OF TRANSOM WINDOW AT APPROX 8'-4" HEADER HEIGHT (ABOVE FINISHED FLOOR). 2 X 4 VERTICAL SPACER BETWEEN TRANSOM AND LOWER WINDOW.
4) INSTALL BASEMENT EGRESS WINDOWS APPROX 1'-0" HEADER HEIGHT (ABOVE FINISHED FLOOR).
5) HEIGHT OF TRANSOM TO BE DETERMINED BY JOHN KNOX VILLAGE.

DOOR NOTES
GENERAL DOOR NOTES:
DOOR SIZES AND DESIGNATIONS INDICATED ON THE FLOOR PLANS AND ELEVATIONS ARE PROVIDED AS A GUIDE ONLY AND SHOULD NOT BE ORDERED UNLESS THE DOOR SUPPLIER HAS VERIFIED THAT THE SIZES AND DESIGNATIONS DESCRIBE EXACTLY WHAT THE DRAWINGS INDICATE. WHAT THE BUILDER REQUIRES, AND WHAT THE CITY ALLOWS. FAILURE BY THE DOOR SUPPLIER TO REVIEW EACH AND EVERY DOOR WITH THE BUILDER WILL RESULT IN THE DOOR SUPPLIER PROVIDING THE CORRECT DOORS AT NO ADDITIONAL COST TO THE BUILDER.
SPECIFIC DOOR NOTES:
1) 12" SIDELIGHTS WITH DOUBLE STUD BETWEEN SIDELIGHT AND DOOR.

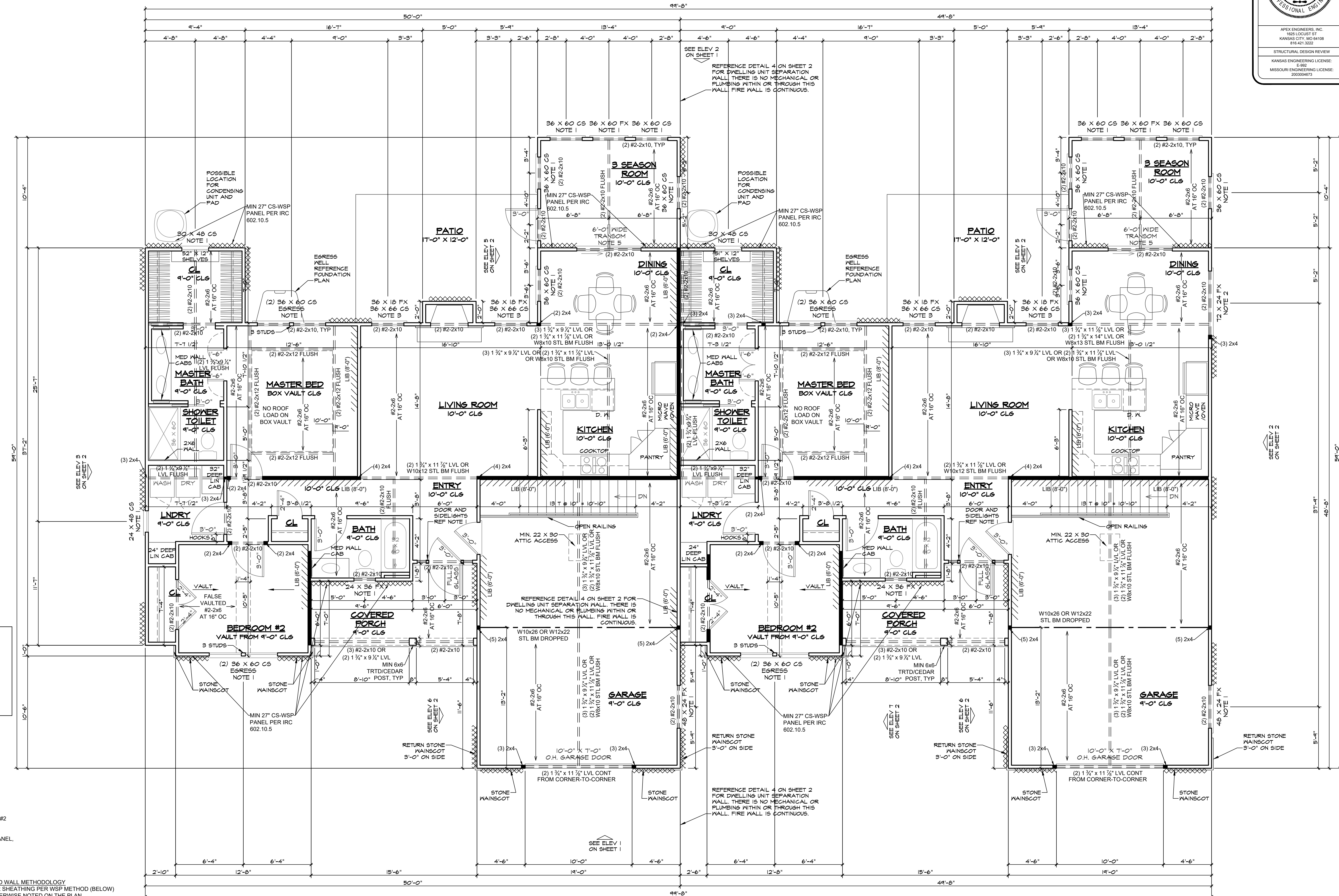
CEILING NOTES
A) BUILDER, FRAMER, AND TRUSS MANUFACTURER (IF APPLICABLE) SHALL VERIFY THAT ALL CEILING RECESSES AND VAULTS ALLOW FOR REQUIRED INSULATION PER IRC 2018 AND CITY REQUIREMENTS.

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CLAYTON J. Vanderschuer
Professional Engineer
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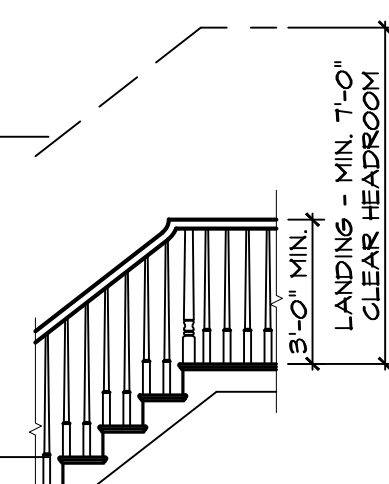
STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 000000003
MISSOURI ENGINEERING LICENSE: 000000003



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

DYELLING AREA SUMMARY: LEFT SIDE UNIT			
ELEMENT	AREA	ELEMENT	NUMBER
FIRST FLOOR SF	1278 SQ. FT.	GARAGE (# AUTOS)	1
TOTAL BSMT. SF	1170 SQ. FT.	# BEDROOMS	2
BSMT. FIN. SF	0 SQ. FT.	# FULL BATHS	2
GARAGE SF	311 SQ. FT.		
FRONT PORCH	128 SQ. FT.		
3 SEASON ROOM	138 SQ. FT.		
TOTAL FIN SF	1278 SQ. FT.		

DYELLING AREA SUMMARY: RIGHT SIDE UNIT			
ELEMENT	AREA	ELEMENT	NUMBER
FIRST FLOOR SF	1278 SQ. FT.	GARAGE (# AUTOS)	1
TOTAL BSMT. SF	1182 SQ. FT.	# BEDROOMS	2
BSMT. FIN. SF	0 SQ. FT.	# FULL BATHS	2
GARAGE SF	311 SQ. FT.		
FRONT PORCH	128 SQ. FT.		
3 SEASON ROOM	138 SQ. FT.		
TOTAL FIN SF	1278 SQ. FT.		



2 STAIR DETAIL
SCALE: 1/4" = 1'-0"

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LIABILITY: The Architect / Consultant is only held liable for the dollar amount paid to the Architect / Consultant for his / her services, less of those drawings created in accordance with the liability statement.

PROFESSIONAL SERVICES: The professional services of the consultant or Architect are undertaken for and are performed in the interest of the Project Owner. No contractual obligation is assumed by the Consultant or Architect for the work of any other entity involved in this Project.

EXISTING CONDITIONS: The Consultant / Architect discloses any responsibility for the existing building structure, site conditions, existing construction elements, or any other documents, drawings, or other instruments related to or intended to be used for any part or parts of the project, which do not bear the Architect's seal.

CONTRACT: This drawing has been prepared by the Architect, under his / her supervision. This drawing is provided as an instrument of service to the Consultant / Architect and is intended for use on this project only. Payment to the Consultant / Architect for the preparation of this drawing is not a contract. The Consultant / Architect shall not be responsible for the construction of the project, nor for the performance of the project, nor for the completion of the project, nor for the maintenance of the project, nor for the operation of the project, nor for the safety of the project, nor for the health of the project, nor for the environment of the project, nor for the community of the project, nor for the world of the project.

DESIGNER'S OATH: As the information contained in these drawings is considered "Builder's Plan" and requires the Contractor to possess competence in residential construction, the use of these drawings by the Contractor warrants to the Consultant / Architect that he / she possesses the necessary skill and expertise to construct this building as drawn without full engineering and design services. Although the Consultant / Architect has performed or services with due care and diligence, we cannot guarantee perfection.

Using Contract: The contractor may be required to accept the "Builder's Plan" to the field conditions and make logical adjustments. In the event additional information is needed by the Contractor or Home Owner for construction of or on any part of the project, he / she shall immediately retain Architectural Concepts, Inc. to revise the Consultant / Architect of any discrepancies or omissions discovered by the use of these plans, or making changes to the plans without the consent of Consultant / Architectural Concepts, Inc. of any responsibilities or consequences.

Date: June 15, 2021
Rev. Issue: Rev. Date:

2010103

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GENERAL PLAN NOTES:

WHERE DISCREPANCIES EXIST BETWEEN THE STANDARD COMMENTS, THE NOTES FROM THE DESIGN PROFESSIONAL, AND/OR THE CODE, THE MOST RESTRICTIVE SHALL APPLY. ALL CONSTRUCTION SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC).

PHYSICAL SECURITY

1. THIS HOME SHALL BE IN COMPLIANCE WITH ANY ORDINANCE, MUNICIPAL CODE, BUILDING CODE OR ANY AUTHORITY HAVING JURISDICTION THAT HAS ESTABLISHED MINIMUM STANDARDS THAT INCORPORATE PHYSICAL SECURITY TO MAKE DWELLING UNITS RESISTANT TO UNLAWFUL ENTRY.

EGRESS WINDOWS

1. PROVIDE ONE WINDOW FROM EACH BEDROOM AND ONE FROM THE BASEMENT THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET (5.0 FOR AT GRADE WINDOWS) WITH A MINIMUM OPENABLE HEIGHT OF 24 INCHES AND WIDTH OF 21 INCHES. IN BASEMENTS AN EXTERIOR DOOR CAN BE INSTALLED IN LIEU OF THE OPENABLE WINDOW.

2. THE WINDOW SILL HEIGHT SHALL NOT EXCEED 44 INCHES ABOVE THE FLOOR.

3. BASEMENT SECONDARY EGRESS - AN EXTERIOR DOOR OR WINDOW LEADING TO THE EXTERIOR SHALL BE PROVIDED FROM THE BASEMENT.

4. SILLS OF OPERABLE WINDOWS LOCATED MORE THAN 12" ABOVE FINISHED GROUND OR SURFACE BELOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH IT IS LOCATED.

GARAGE

1. THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS OR SLOPE TO A TRENCH OR UN-TRAPPED DRAIN THAT DISCHARGES DIRECTLY TO THE EXTERIOR ABOVE GRADE.

2. DOORS BETWEEN THE GARAGE AND THE DWELLING - MINIMUM 1-3/8 INCH SOLID CORE OR HONEY COMBED STEEL DOOR OR 20-MINUTE FIRE RATED, EQUIPPED WITH A SELF-CLOSING DEVICE.

3. THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY A MINIMUM 1/2-INCH 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 1/2-INCH GYPSUM BOARD OR EQUIVALENT.

4. GARAGE VEHICLE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET THE 90 MPH WIND LOAD RESISTANCE REQUIREMENTS OF DASHA 108 AND ASTM E 330-96 PER 2018 IRC R302.2.1.

ENERGY CONSERVATION

1. THE BUILDING ENVELOPE IS REQUIRED TO BE SEALED PER IRC N102.4.1.

2. RECESSED LIGHTING SHALL BE SEALED TO PREVENT LEAKAGE BETWEEN CONDITIONED AND UNCONDITIONED SPACE.

3. DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED PER 2018 IRC N103.2.

4. MINIMUM SEER RATINGS FOR THE AIR CONDITIONER IS 13.

5. MINIMUM EFFICIENCY RATINGS FOR FORCED AIR FURNACE IS 78%.

6. NOT LESS THAN 90 PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH-EFFICIENCY LAMPS.

7. THE ENERGY EFFICIENCY FOR THE DWELLING SHALL COMPLY WITH THE FOLLOWING TABLE (WHERE THERE ARE DISCREPANCIES BETWEEN THIS TABLE AND THE PLANS, THE MOST RESTRICTIVE SHALL APPLY).

STAIRWAYS

1. STAIRWAYS SHALL PROVIDE A MAXIMUM 7-3/4 INCH RISE AND MINIMUM 10-INCH RUN.

2. PROVIDE MINIMUM 36-INCH GUARDRAILS ON THE OPEN SIDES OF RAISED FLOORS, PORCHES AND BALCONIES; MINIMUM 34 INCH GUARDRAILS ON THE OPEN SIDES OF STAIRWAYS LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW. GUARDRAIL ENCLOSES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL PATTERNS THAT DO NOT ALLOW PASSAGE OF A SPHERE 4 INCHES IN DIAMETER.

3. EACH STAIRWAY OF THREE OR MORE RISERS SHALL PROVIDE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34 AND 38 INCHES ABOVE THE NOSINGS OF THE TREADS.

4. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1-1/4 INCHES MINIMUM TO 2-5/8 INCHES MAXIMUM OR OTHER APPROVED GRASPABLE SHAPE PER IRC SECTION R311.7.5.3.

5. MAINTAIN A MINIMUM 6 FOOT, 8 INCHES OF HEADROOM CLEARANCE IN STAIRWAYS.

6. ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS, UNDER-STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2-INCH GYPSUM BOARD PER IRC SECTION R302.7.

7. KINDER TREADS SHALL PROVIDE A MINIMUM TREAD OF AT LEAST 10" AT A POINT NOT MORE THAN 12" FROM THE SIDE WHERE THE TREADS ARE NARROW PER IRC SECTION R311.7.5.2.1.

GLAZING

1. GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS. GLAZING IN HAZARDOUS LOCATIONS MAY HAVE BEEN LOCATED ON THE PLANS AS A DESIGN GUIDE TO AID THE BUILDER IN THEIR WORK, BUT IN NO MEANS DOES IT RELIEVE THE BUILDER FROM REVIEWING THE CODE AND/OR ANY AUTHORITIES HAVING JURISDICTION REQUIRING ADDITIONAL GLAZING IN HAZARDOUS LOCATIONS.

SMOKE DETECTORS AND CARBON MONOXIDE ALARMS

1. SMOKE DETECTORS AND CARBON MONOXIDE ALARMS MIGHT BE SHOWN ON FLOOR PLANS. LOCATION ON PLANS IS PROVIDED AS A DESIGN GUIDE TO AID THE BUILDER IN THEIR WORK, BUT IN NO MEANS DOES IT RELIEVE THE BUILDER FROM REVIEWING THE IRC, NFPA, AND/OR ANY AUTHORITIES HAVING JURISDICTION THAT REQUIRES ADDITIONAL OR ALTERNATE LOCATIONS.

2. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, AND ON EACH ADDITIONAL STORY OF THE DWELLING INCLUDING BASEMENTS AND HABITABLE ATTICS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.

3. PROVIDE CARBON MONOXIDE ALARMS OUTSIDE OF EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLINGS WITH FUEL-FIRED APPLIANCES AND DWELLING UNITS THAT HAVE ATTACHED GARAGES AND IN ACCORDANCE WITH IRC SECTION R315. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.

2018 IRC Table N102.1.1

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT (ZONE 4)							
FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAMED WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT & CRAWL SPACE WALL R-VALUE
U <= 0.32	U <= 0.55 SHGC >= 0.40	44*	13	8/13	14	10/13	
SUNROOMS, WHICH ARE THERMALLY ISOLATED FROM THE CONDITIONED SPACE							
U <= 0.45	U <= 0.75 SHGC <= 0.45	14	13	8/13	14	10/13	
NOTES:							
* CEILING INSULATION CAN BE REDUCED TO R-38 WHERE THE UNCOMPRESSED INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES - N102.2.1							
* CEILING INSULATION CAN BE REDUCED TO R-30 IN CEILING WITHOUT ATTIC SPACES PROVIDED THE AREA DOES NOT EXCEED 500 SQUARE FEET OR 20% OF THE TOTAL CEILING AREA - N102.2.3							
DUCTS: R-8 IN ATTICS, R-6 IN OTHER LOCATIONS OUTSIDE OF THE BUILDING'S THERMAL ENVELOPE. AC REFRIGERANT PIPING - R-3. HOT WATER PIPING - R-3.							

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

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

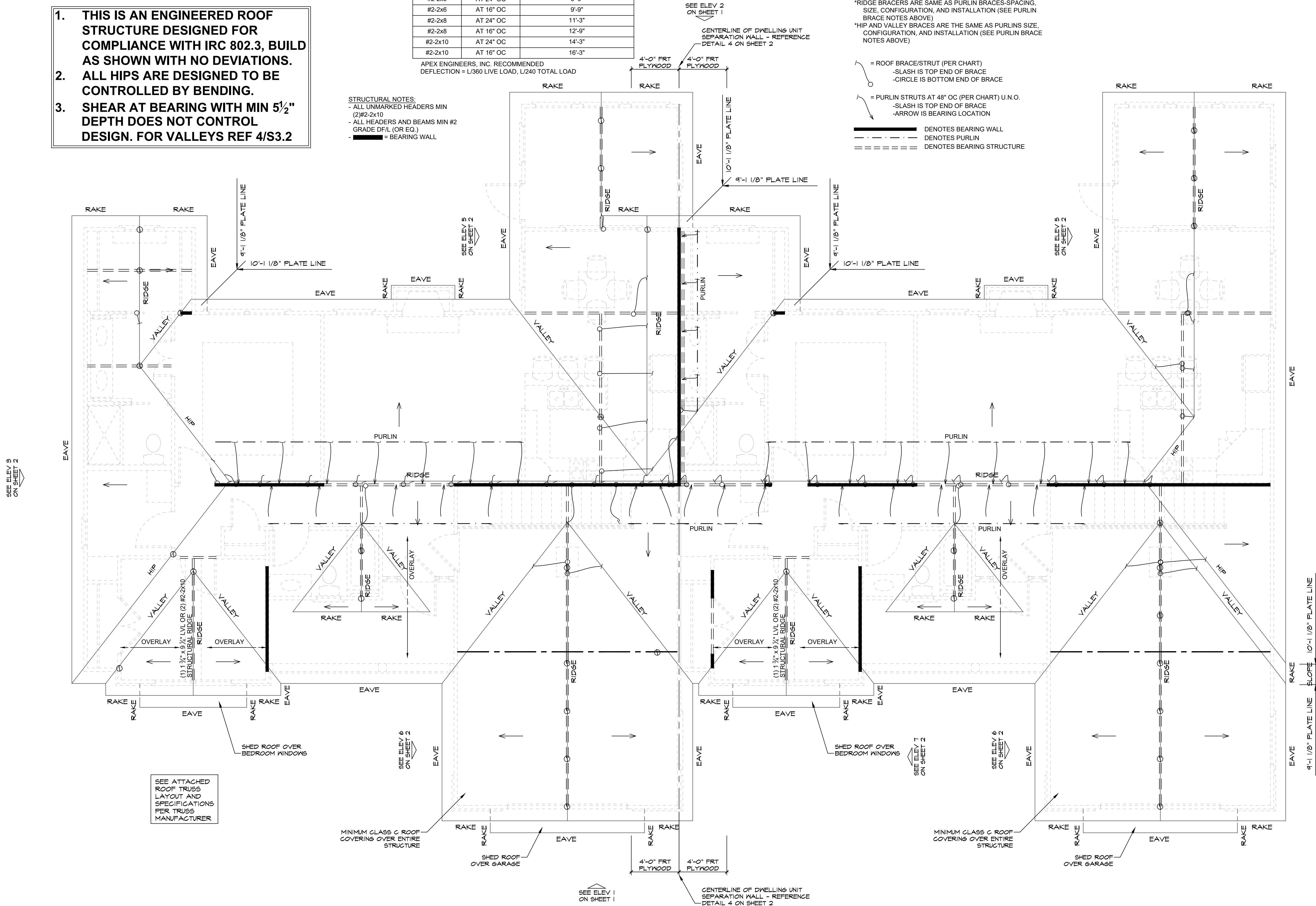
CODE MINIMUM	RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	11'-7"	
#2-2x6	AT 16" OC	14'-2"	
#2-2x8	AT 24" OC	14'-8"	
#2-2x8	AT 16" OC	17'-11"	
#2-2x10	AT 24" OC	17'-10"	
#2-2x10	AT 16" OC	21'-11"	

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'-0"	
#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

STRUCTURAL NOTES:
ALL UNMARKED HEADERS MIN (2)#2-2x10
ALL HEADERS AND BEAMS MIN #2 GRADE DFIL (OR EQ.)
--- = BEARING WALL



NOTE: THE STRUCTURAL INFORMATION INDICATED WITHIN THESE PLANS HAS BEEN PROVIDED BY A LICENSED STRUCTURAL ENGINEER AND APPEARS ON THEIR DESIGNATED SHEETS. ARCHITECTURAL CONCEPTS, INC. ARE NOT STRUCTURAL ENGINEERS.

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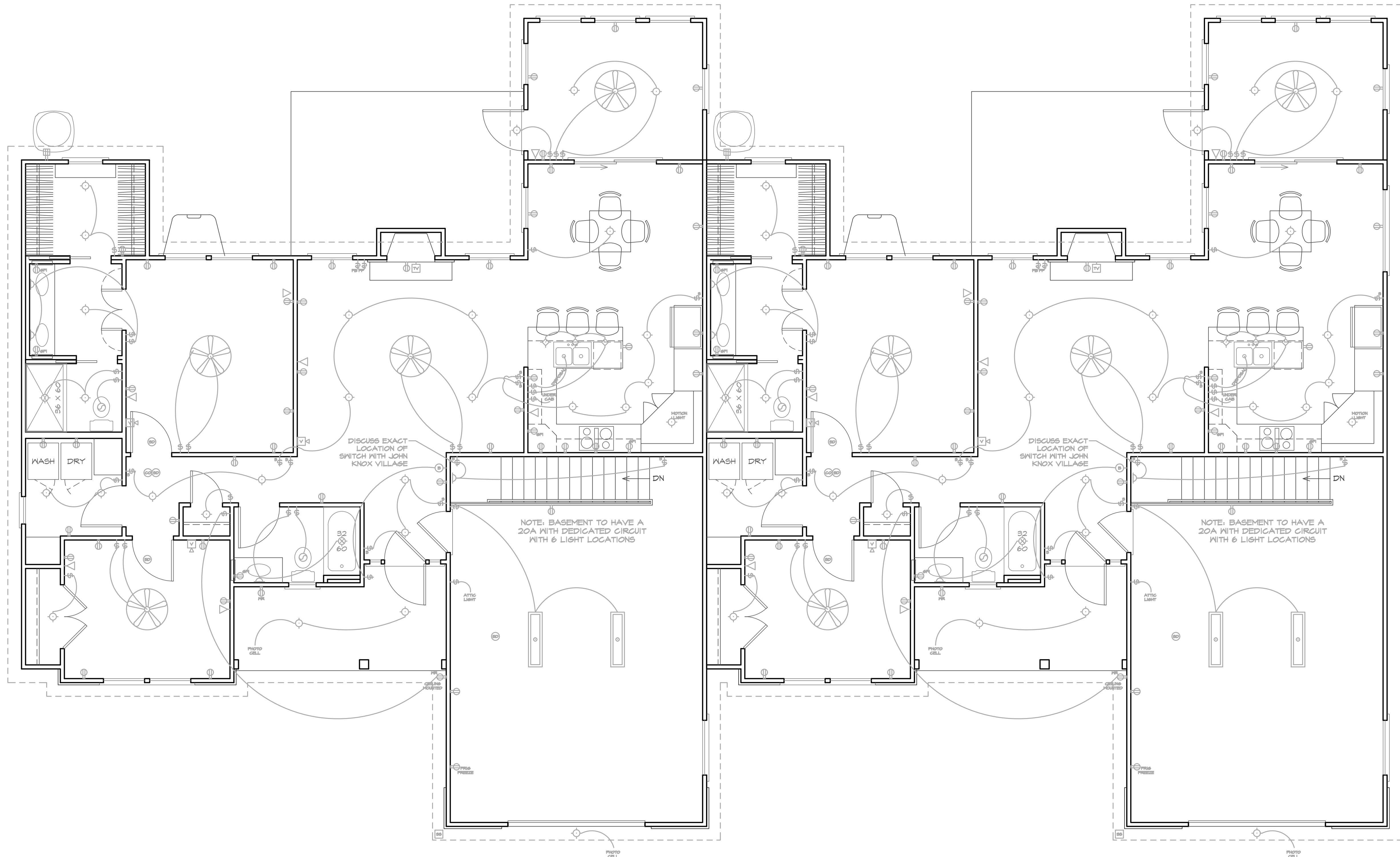
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Date: June 15, 2021
Rev. Issue: Rev. Date:

2010103

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1 TYPICAL ARCHITECTURAL ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

NOTE: ARCHITECTURAL CONCEPTS, INC. ARE NOT ELECTRICAL ENGINEERS. THIS DRAWING IS AN ARCHITECTURAL VERSION AND WAS COMPLETED BY COMPARING THIS DESIGN TO PREVIOUS DESIGNS FOR JOHN KNOX VILLAGE. THE APPROXIMATE LOCATION OF DEVICES AND SWITCHES MAY NOT BE COMPLETE. ANY AUTHORITY HAVING JURISDICTION MAY REQUIRE CHANGES TO THIS DRAWING.

**RELEASE FOR
CONSTRUCTION**
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Nelson
09/27/2021

- | | | | |
|---|--|---|---|
| Ⓛ | DUPLEX RECEPTACLE | Ⓢ | SMOKE DETECTOR |
| Ⓛ | GROUND-FAULT PROTECTED DUPLEX RECEPTACLE | Ⓢ | CARBON MONOXIDE |
| Ⓛ | WATER RESISTANT GROUND-FAULT PROTECTED DUPLEX RECEPTACLE | Ⓢ | DOOR BELL |
| Ⓛ | SERVICE RECEPTACLE OUTLET FOR CONDENSOR | Ⓢ | EXHAUST FAN |
| Ⓛ | LIGHT SWITCH | Ⓢ | CEILING FAN |
| Ⓛ | LIGHT SWITCH 3-WAY | Ⓢ | RECESSED CAN LIGHT |
| Ⓛ | FIREPLACE AND BLOWER | Ⓢ | IX4 SURFACE MOUNTED FLUORESCENT FIXTURE |
| Ⓛ | TELEVISION ONLY (OVER FIREPLACE) | Ⓢ | WALL SCONCE |
| Ⓛ | TELEPHONE/TELEVISION | Ⓢ | PENDANT LIGHT FIXTURE |
| | | Ⓢ | HORN/STROBE (INTERIOR) |
| | | Ⓢ | SIREN/STROBE (EXTERIOR) |

General Notes:

DIVISION 1 - MATERIAL REQUIREMENTS

- A. Unless otherwise indicated in the construction documents, the contractor shall furnish all labor, materials, equipment, tools, utilities, etc., including delivery, storage and security as required to execute the complete project.
- B. All construction shall conform to the minimum standards of the applicable codes indicated in the building summary column and all local codes presently in effect unless more stringent requirements are indicated.
- C. Contractor shall verify all setback requirements and easements as well as local zoning ordinances and/or covenants.
- D. The general contractor and all subcontractors shall verify all dimensions and conditions on the job site prior to the bidding of the contract documents. The contractor shall notify the owner or owner's representative immediately of any discrepancies and receive written instructions before bidding and/or executing the work.
- E. Dimensions on drawings are shown to the "unfinished" wood framed face of walls and partitions unless otherwise noted. Ceiling height dimensions and all vertical dimensions to the finished floor surface unless noted otherwise.
- F. The general contractor shall obtain and pay for all required permits and all utility charges, and arrange for all required inspections.
- G. Subcontractor(s) shall guarantee all work against fault of any material or workmanship for a period of not less than one year after completion or acceptance. Faulty work shall be repaired or replaced as required at no cost to the owner.
- H. All materials specified or noted shall be installed in accordance with the manufacturer's recommendations.

DIVISION 2 - CONCRETE

- DESIGN LOADS: FLOOR - 40 psf LL, ROOF - 20 psf LL, FLOOR - 10 psf LL, ROOF - 10 psf LL, SOIL - BEARING CAPACITY = 2000 psf, min. minimum.
- NOTE: Verify design loads w/local codes and site conditions. Check w/local building dept. officials for wind, seismic, snow or other special loading conditions.
- J. All wiring, conduit, piping, cables, etc. shall be independently supported and run parallel or perpendicular to framing.
- K. Prior to acceptance by the owner, the work must be cleaned, with walls wiped down, glass washed, fixtures cleaned, and floors mopped, vacuumed or swept as required.
- L. John Knox Village will carry the testing and special inspection services.
- M. John Knox Village will complete all landscape plantings and sod. Contractor is responsible to grade the work per the civil drawing and provide 3" of pulverized dirt to accept sod.
- N. ACTION SUBMITTALS- upon owner request.

- A. Product Data: Mark each copy to show applicable choices and options. Include the following:
1. Data indicating compliance with specified standards and requirements.
2. Notation of coordination requirements.
3. For equipment, include rated capacities, dimensions, weights, required clearances, and furnished specialties and accessories.
- B. Shop Drawings: Submit Project-specific information drawn to scale. Do not base Shop Drawings on reproductions of the contract documents or standard printed data. Submit three (3) copies of shop drawings on sheets at least 8 1/2" by 11 inches but no larger than 24 by 36 inches. Architect will return two (2) copies. Include the following:

1. Dimensions, fabrication and installation drawings, rough-in and setting diagrams, and relationship to adjoining construction.
2. Identification of products and materials.
3. Wiring diagrams showing field-installed wiring.
4. Notation of coordination requirements.
5. Notation of dimensions established by field measurement.
- C. Samples: Submit samples finished as specified and physically identical with material or product proposed for use. Where variations are inherent in the material, submit three (3) sets of paired units to show full range of variations. Include name of manufacturer and product name or label.

- DIVISION 2 - CONCRETE
- A. FOUNDATIONS: SEE FOUNDATION DWGS FOR GENERAL NOTES AND SPECIFICATIONS.
1. Spread footings and grade beams are designed to bear on suitable soil capable of safely sustaining 2,000psf. Refer to Geotechnical Engineering report for definition of suitable soil. Contractor is responsible for preparing site and subgrade per Geotechnical Engineering Report. Contractor responsible to assist in site sampling with excavation equipment.
2. Contractor shall provide dewatering at excavations from either surface water or seepage.
3. All foundation excavations shall be inspected by a qualified soil engineer and approved by owner prior to placement of steel or concrete.
4. All concrete in the structural portion retaining the backfill shall have attained its design strength prior to being backfilled.
5. Moisture content in soils beneath building locations should not be allowed to change after footing excavations and after grading for sides on grade are completed. If subgrade materials become desiccated or softened by water or other conditions re-compact materials to the density and water content specified for engineered fill. Do not place concrete on frozen ground.

- B. CONCRETE AND REINFORCING STEEL:
1. Concrete Reinforcing shall be a minimum of 4k psi mix with no fly ash. All steel to be 1/2" bars 2' on center tied. All concrete construction joints will be pinned minimum 4" Contractor to add (1) 4" PVC pipe under front sidewalk at each unit to connect to gutter drain and add (2) 4" PVC pipes under each unit driveway for future irrigation. (Owner to approve location).

DIVISION 3 - MASONRY

- A. MANUFACTURED STONE VENEER
1. By Stone Mountain, Style "Ledge Stone", Color San Francisco.

DIVISION 4 - STRUCTURAL STEEL

- A. All structural steel shall conform w/ASTM Specification A992 or other local governing codes.
- B. Reference foundation dwgs. for all structural steel sizing.

DIVISION 5 - CARPENTRY

- A. FRAMING LUMBER: Unless otherwise noted, framing lumber shall be Douglas FIR #2 construction grade. Beams, headers and floor joists shall have an allowable bending stress of 1200 psi.
1. Unless otherwise noted provide:
- A. Double header joists and trimmers at all floor openings
- B. Double joists under all parallel partitions and all other openings.
- C. Double 2x10 headers w/ 1/2" plywood between and 2x4 bottom plate at all door and window openings (UNO).
- D. Reference structural framing plan for long span joists and headers
- E. Bridging as required by joist mfr. based on joist type & span
2. Treated lumber shall be used in locations where lumber is exposed to weather or moisture. Use stainless steel or hot dip galv. fasteners in direct contact with all treated lumber.
- B. FLOOR SHEATHING: 3/4" Tongue and Groove OSB w/outdoor sheathing (Structure Wood sold) nail and glue w/interior construction grade glue on ea. joist.
- C. ROOF SHEATHING: 7/16" OSB or plywood sheathing (APA rated with exterior glue) and shall have a panel identification index of 24/16. Fasten w/16d nails at 6" spacing at each sheet perimeter and 12" spacing at each sheet interior. Panels shall have long dimension run perpendicular to main framing w/joints staggered from row to row.
- D. WALL SHEATHING: 1/2" OSB or plywood (APA rated w/interior glue) Fasten w/16d nails at 6" spacing at each sheet perimeter and 12" spacing at each sheet interior. Panels shall have long dimension run perpendicular to main framing w/joints staggered from row to row.
- E. STUDS: Studs to be "stud-grade" spruce-pine-fir or better.
- F. INTERIOR SHEATHING: All interior walls and ceilings are to be covered w/gyp. bd. w/mineral corner reinforcement, tape, joint and sand (1 coat), garage walls and ceilings to be covered w/ 1/2" type "x" firecode gyp. bd.

1. Use moisture resistant gypsum board for walls and ceilings in all both and toilet areas.
2. Use cement backer board below all ceramic tile floor installations and behind all ceramic tile wall installations in bathrooms.
3. All joints and dropped ceilings to be fire stopped.
4. Drilling Unit separation walls shall be 2-RF FR, construction w/2) layers of 5/8" type "x" fire code gyp. bd. on each side.
- B. METAL FRAMING FASTENERS- equal to Simpson strong-tie connectors in compliance with (ICBO No. 1258)
- H. WOOD TRUSSES: Wood trusses if utilized shall be designed by a pre-manufactured wood truss supplier. Drawings and calculations shall be submitted signed and sealed by a professional engineer registered in the state of Missouri.

- I. Hurricane tie down anchors shall be used at all roof truss bearing locations.
- FLOOR JOISTS: shall be 2x10" Timberstrand Joists. Joist mfr. shall provide design calculations, shop drawings and erection drawings prior to construction. Contractor shall install all blocking, load transfer assemblies, hangers, accessories etc. as recommended by joist manufacturer.
- J. ROOF FRAMING:

1. 2x6's @ 16" o.c. - max. span 12' or provide 2x6 purlins w/2x4 post downs to interior walls (typ.)
2. 2x12's @ 16" o.c. - max. span 16' at all "cathedral" vaulted ceilings (or) 2x10's w/2x4 bottom furring strips to achieve min. 11 1/4" cavity depth at 10' 1/4" insulation.
3. 2x10's @ all hip, valley & ridge lines (typ.)

DIVISION 6 - THERMAL & MOISTURE PROTECTION

- A. INSULATION:
1. R-19 batt insulation in all exterior walls and perimeter floor rim joints.
2. R-30 batt insulation in crawl space floors (if applicable)
3. R-38 (high density) batt insulation in vaulted ceilings adjacent to the exterior or to unheated spaces.
4. R-44 batt insulation in attic (min. 18" depth)
- B. ROOFING: Composition shingles w/the classic wood shake look. GAF Timberline "Natural Shaders", Color: Weathered Wood. TBD by owner. Provide roof leak barrier equal to GAF "WeatherWatch" mineral surfaced leak barrier at all valleys and at eave and rake edges. Provide GAF roof deck underlayment and starter strip shingles. Provide fltting warranty.
- C. SIDINGS: lap siding (Louisiana Pacific "LP SmartSide" 6"x10 1/2" Textured Lap Siding Natural Cedar) w/5" exposure and matching 5/4 trim (1x4) 5/4 Fascia (1x4), 24" "SmartSide" textured soffit panel with integral ventilation.
- D. VENTILATION: Provide attic ventilation per IRC 1202.2 and IRC 1202.2 w/soffit vents & area ridge vents correctly hand nailed per mfr. instructions.
- E. ROOF VENT: GAF "MasterFlow" roof lavers, 55B (60A, color to match "Weathered Wood" shingles. TBD by owner. Contractor to balance flow rate for roof and soffit vents.

F. SOFFIT VENT: Use LP "SmartSide" soffit panel as noted above.

- G. GUTTERS & DOWNSPOUTS: Prefinished aluminum to be selected by owner from manufacturer's full range of standard colors - 5" gutters and 3"x4" downspouts UNO. EZ Lock line mesh gutter screen to be installed on all gutters. Downspout locations and underground discharge locations to be approved by owner. (Contractor to correct front downspout drain to 4" PVC pipe under front walk)
- H. CALCULATIONS: Working at all eave, sliding glass doors, entrance doors and bottom and top corner plates.
1. Seal all subvents with mastic, tape and zip ties as required.
2. Seal all vents to the exterior.
- K. WATERPROOFING: Provide Tremco Patchdop III waterproofing on basement and/or crawl space walls at 60 mils application thickness (40 mils cured thickness).

DIVISION 7 - DOORS & WINDOWS

- A. EXTERIOR DOORS: (Reference Door Schedule)
1. ENTRY DOORS: Masonite Exterior Fiberglass Door or approved equivalent, (3'-0" x 6'-0") / Public Access ADA- Mil Finish sill (continuous)
2. GARAGE (EXTERIOR DOOR): Masonite Exterior Fiberglass Door or approved equivalent, (3'-0" x 6'-0") / Public Access ADA- Mil Finish sill (continuous)
3. GARAGE (INTERIOR DOOR): Masonite 20 minute fire rated 6-Panel or approved equivalent, (3'-0" x 6'-0") / Public Access ADA-Mil Finish sill (continuous)
4. BASEMENT DOOR: Masonite 20 minute fire rated 6-Panel or approved equivalent, (3'-0" x 6'-0") / Public Access ADA-Mil Finish sill (continuous)
5. SLIDING GLASS DOOR: ANDERSON, 100 series clad white casement unit with Low-E insulated glass & 4-1/8" jump out (glass stop profile opaque) (standard) (panel) (white hardware) (no brisdom) (frustrate insect screen) performance data to meet US ENERGY STAR requirements. Reference elevations for grille pattern.
6. ENTRY STORM DOORS: Columbia (King) full view glass storm door with screen inserts (Hutton Glass 604-844880 is a JKV approved vendor)
7. GARAGE EXTERIOR STORM DOOR: Columbia Self-Storing
8. OVERHEAD GARAGE DOOR: Clopay 4x80 steel 2 sided insulated door w/ 1/2 hp Lift Master opener to include 2 remotes and 1 keypad
- B. INTERIOR DOORS:
1. INTERIOR PASSAGE DOORS: Craftmaster Colonial, 6 Panel, smooth finish masonite passage door to be primed and painted
2. INTERIOR BIFOLD DOORS: Craftmaster Colonial, 6 Panel, smooth finish masonite bifold door to be primed and painted.
3. INTERIOR POCKET DOORS: Craftmaster Colonial, 6 Panel, smooth finish masonite pocket door to be primed and painted.
- C. WINDOWS: Anderson, 100 Series Clad White Casement unit with Low-E insulated glass & 4-1/8" jump out (glass stop profile) (Panel) (White Hardware) (no brisdom) (frustrate insect screen) (No Window Grilles) Performance Data to meet US ENERGY STAR requirements.
- D. GLASS & GLAZING:
1. Insulated double glazing at all exterior glass areas.
2. Glass shall be tempered in the following locations:
- a. All doors and within 24" of doors.
- b. Bath tubs and showers
- c. all railings and guardrails
- d. windows greater than 4 SF that have a sill that is less than 18" a.s.f.

EDDOR HARDWARE:

1. Hinges: Satin nickel finish
2. Latchesets and Locksets: Entry Function, Satin nickel finish (626) w/lever type operating trim. Reference schedule. Keyed locksets on exterior doors - Schlage "A155PFD JPM" with restricted 14/60 keyway. Key to JKV master system on file at the Schlage factory. (JKV to furnish and install cylinders)
3. Dead-bolt to be installed with standard passage lever handle on garage to house door.

DIVISION 8 - FINISHES

- A. EXTERIOR SIDING: Reference Division 6-C
- B. PAINTING: Paint all exposed surfaces UNO. Do not paint prefinished items, finished metal surfaces, operating parts, labels and materials obviously intended to be left exposed UNO. (Reference finish schedule, plans and elevations for color selections and paint finishes)
1. Exterior Finish: Flat coat latex primer/2 coats exterior latex house paint; Sherwin Williams "Super Satin" (note: primer not required w/prior-primed siding)
2. Exterior Wood: Flat 1 coat Alkyd primer/2 coats exterior latex house paint.
3. Galvanized Metal: Satin 1 coat galvanized metal primer/2 coats latex house paint
4. Interior Walls "General": 1 coat latex primer/2 coats interior latex house paint; Sherwin Williams Builders Solutions w/Flat Finish
5. Interior Walls Bathroom/Kitchen: 1 coat latex primer/2 coats interior latex house paint; Sherwin Williams Builders Solutions w/Semi-Gloss Finish
6. Interior Woodwork and Trim: Flat 1 coat oil base primer/2 coats interior oil base house paint; Sherwin Williams Porcelac 200w/Semi-Gloss Finish
7. Interior ceilings: 2 coats flat pure white paint
- C. INTERIOR PAINT COLORS:
- Reference owner provided schedule
- D. EXTERIOR PAINT COLORS: Reference exterior elevations and Finish Schedule for paint color selections. All exterior paint to be Sherwin Williams "Super Satin". Final colors to be approved by JKV.
- E. INTERIOR TRIM: Provide paint grade spruce/pine/fir for all interior door, window, base and misc. running trim boards UNO.
1. Base Trim: 5/12" standard colonial trim UNO - Ref. Finish Schedule)
2. Running Trim: 2-1/4" standard colonial trim
3. Window Sills: Full wrap to match joints and head.

- F. TILE: (Reference Finish Schedule)
1. Tile Type #1: 12 x 24 "TBD reference finish schedule"
1. Locations: bathroom showers and floors, laundry floor, entry floor, fireplace surround and hearth
2. Tile Type #2: 6x6 Subway Style "TBD reference finish schedule"
- 2.1. Locations: Kitchen backsplash (above counters/cabinets)
- 2.2. Bathroom trim, matching #2 w/16" wide baffle board at all sidewalls and top of backsplash where upper cabinets are not present
6. HARDWOOD FLOORING: 3/4" Pre-Finished Oak Style "Reference finish schedule"
- H. CARPET: Mohawk, Aladdin, "Bighorn Story", color TBD, provided and installed by contractor. Contractor shall provide and install 1/2" density rebound carpet pad.
- I. CEILING: All gyp. bd. ceilings shall have a light "knock-down" textured surface with flat painted finish. Soffits and horizontal surfaces below 8' shall have a smooth, flat painted finished surface.
- J. SPECIALTY: All visible construction behind grids shall be painted flat black.
- K. SOLID SURFACE COUNTERTOPS: Surfaces w/abrasive edge profile. All outside corners to have 1" radius. Match corresponding color of backsplash tile per UNIT specified

1. Option 1" Finish: TBD
2. Option 2" Finish: TBD
3. Locations: Kitchen, Master Bath and Hall Bath countertops, Laundry none applicable.
- DIVISION 9 - SPECIALTIES
- A. FIREPLACE: 36" vertical direct vent gas fireplace HEAT-N-GLO DV9752 with 6RK 160B blower.
- B. TOILET ACCESSORIES:
1. Medicine Cabinet: Furnish and install recessed cabinets to match adjacent vanity base cabinet per locations indicated on floor plan. (2) in master bath and (1) in hall both.
2. Mirrors: Framed mirrors- Decorative wood framed mirror (24"x24"), painted to match trim color (Ref. elevations)
3. Toilet Tissue Dispensers: Furnished by contractor to "Moon-Danbury RGS DN670B BN". Located 20" AFF - Contractor shall provide blocking as req'd.
4. Towel Bars: Furnished by contractor eq. to "Moon-Danbury #DN6724 BN". Located 40" AFF - Contractor shall provide blocking as required.
5. Barre Bars: 40" x 20" x 1/2" stainless steel in both showers. Furnished by contractor. Contractor shall provide blocking at all water closets, shower and both tubs for future installation. Locations to be approved by owner (JKV) prior to electrical installation.
- C. SHOWER DOOR: Cardinal shower enclosure, LEASE 60-70 brushed nickel, Light Euro Series with light euro header, 3/8" clear glass clamp - on single towel bar.
- D. SHOWER ROD: Moon HDN2428N curved shower rod w/brushed nickel finish.
- E. CLOSET SHELF & ROD: Coated wire shelving closet kits by Schulte. Reference owner provided elevations and sizes. Provide double blocking as required.
- F. GARAGE SHELVING: Coated wire shelving by Schulte. Provide blocking as required. 24ft. of 20" material located by owner.

DIVISION 10 - EQUIPMENT

- A. APPLIANCES (Ref. plans, elevations and Schedule Sheet)
1. Washer: Furnished and installed by contractor. Provide box and washer hookups.
2. Dryer: Furnished and installed by contractor. Provide dryer vent (Ref. Appliance Schedule Sheet)
3. Refrigerator: Furnished and installed by contractor. Provide box and hookups for ice maker. (Ref. Appliance Schedule Sheet)
4. Range, Microwave/Oven, Dishwasher: Furnished and installed by contractor. (Ref. Appliance Schedule Sheet)
- B. CABINETS:
1. Submittable: Product Data and Shop Drawings.
2. All cabinets will be custom built to include soft close hinges & soft close drawer glides.
3. Wood and finish type: TBD reference finish schedule.
4. Pulls: See owner provided selection
5. Countertops: Solid Surface. (See DIVISION 4-L)
6. Contractor to coordinate clear openings for all casework and appliance prior to start of millwork.
- DIVISION 11 - FURNISHINGS
- A. HORIZONTAL BLINDS: All windows-Furnish & install 2" composite horizontal blinds by Graber, Style Traditions with Classic Valance (Color "TBD by owner")
- B. VERTICAL BLINDS: All horizontal: Sliding doors - Furnish & install vertical blinds with standard valance and "One-Touch Control" by Graber with 5-1/2" Regal Valance (Color "TBD by owner")

DIVISION 12A - PLUMBING

1. Submittable: Contractor must submit shop drawings, product data (with capacities), and installation drawings for JKV approval UNO.
- 1.2. Scope: The work included in this contract consists of the contractor providing all labor, materials, tools, transportation, services, etc. Necessary to complete the installation of the plumbing systems, and all other potential obstructions. Determine register and inlet locations, duct lengths, and connections required to produce layout give construction constraints
2. General:
- A. All design, construction, and workmanship shall be in conformity with accepted engineering practices and shall be under the scrutiny of the authority having jurisdiction.
- B. Plumbing equipment shall be installed according to all applicable codes and manufacturers' installation instructions.
- C. All plumbing equipment shall be installed in such a manner to allow for the service, repair, and complete replacement of such equipment.
- D. All piping and related equipment shall have sufficient supports.
- E. GARAGE drain, waste, and vent systems shall have cleanouts.
- F. All units shall have cleanouts exterior to the structure extended to grade to allow for servicing.
- G. There shall be a valve and union between the water service and any equipment it serves to allow for the isolation and removal of such equipment.
- 2.1. Fixtures:

- A. Review all fixture locations with JKV project coordinator prior to installation.
- B. Comply with requirements of Public Law 102-486, "Energy Policy Act", regarding water flow rate and water consumption of plumbing fixtures.
- C. Install fixtures with flanges and gasket seals
- D. Secure piping supplies to structure within space behind fixture.
- E. Furnish and install water supply stop valves for all fixtures/equipment in accessible locations.
- F. Furnish and install escutcheons at wall, floor, and ceiling penetrations in exposed finish locations and within cabinets.
- G. Use deep pattern escutcheons where required to conceal protruding pipe fittings.
- H. Seal joints between fixtures and walls, floors, and counters using sanitary type one-part mildew resistant silicone sealant.
- I. Ground all equipment and tighten all electrical connectors and terminals according to UL 486A and UL 486B.
- J. There shall be a minimum requirement of two (2) 1/2 inch slots per living unit. Prior Brass frost proof with vacuum breaker. RC-144DDB, RC-144DIO or RC-144D2
- K. There shall be a minimum of one (1) sump pump installed in basement (or crawl space). Pump to be installed in a plastic pit. Pit location and discharge location to be approved by owner.

Part III - Equipment

1. Piping:
- A. Water piping that is not PEX shall be type 6H4 hard copper, or equivalent, with exception of ice-maker supply.
- B. All drains shall be schedule 40 PVC.
- C. All natural gas piping shall be schedule 40 black iron pipe or stainless flexible gas pipe.
- D. Typical 5/8 inch x 3/8 inch steps to be at the 1/4 turn type.
- E. All fixture supply lines shall be flexible steel braided.
- F. All piping in crawl spaces or basements shall be securely fastened to underside of floor construction.
- G. Quarter turn stops on all fixtures or per manufacturer's recommendation.
- H. Provide separate sewer house drain and cleanout on the exterior of each unit. (Establish cleanout below grade inside a sprinkler drain box)

2. Equipment:

- A. Water closet shall be Denver bowl cast as shown on the drawing: 31-825 White Elongated - 1" Brgnlight bowl w/church closed-end toilet seat and 28-540 tank with 21" rough-in (or approved equal as manufactured by Crane, Kohler or American Standard).
- B. Lavatory shall be Model H618 Syma undermount bathroom sink, white enameled cast iron.
- C. Lavatory faucet: Reference finish schedule.
- D. Shower basin shall be Kohler Tresham 60"x32" single threshold shower base with integral seat.
- E. Shower valve shall be Moen, solid-globe, pressure balanced single-lever, model 5184 w/ drain, overflow control and trap.
- F. Bathroom shall be Ameriscan with slip resistant bathtub enclosure, or approved equal.
- G. Tub faucet to be Moen, pressure balanced single-lever 5184 w/ drain, overflow control and trap.
- H. Provide handheld showerhead mounted on sliding chrome bar.
- I. Kitchen sink: Blanco Diamond undermount granite composite double bowl sink. Color: "Reference Finish Schedule"
- J. Kitchen faucet: Reference Finish schedule.
- K. J.A. Provide soap dispenser to match faucet.
- L. Disposal to be Evergreen Model E202, 12 hp motor.
- M. Water heater shall be 40-gallon natural gas fired.
- N. Laundry catch-a-drip to be OB-205-2 valve of the plastic fully recessed type with single handle lever for cold/hot water.
- O. Sump pump shall be Zoeller #5SD with check valve.
- P. Floor Drains shall be K&P Pattern 21" PVC 800-A.
- Q. Install ice maker wall box with valve assembly TB-VY-46.
- R. Plumbing System Manifold shall be "Manifold-PEX system" with remote manifold system design with all necessary mounting brackets, fittings, escutcheons, supply adapters and caps. Remote manifold shall be located in the crawlspace and/or basement, and shall be placed as close as possible to each set of fixtures served. The connection between each manifold and the recirculation loop shall not exceed 10'-0". Provide individual labeling on the manifold for each fixture. Use red colored piping for hot water and blue colored piping for cold water. All piping that is part of a water distribution system must be able to withstand 160 degree water at 100 pounds of pressure.
- S. Provide matching soap dispenser at Kitchen faucet.

Part III - Mechanical

- A. After installation, remove all aerators from faucets, flush cold and hot water piping systems to rid piping of debris.
- B. After flushing systems, check for debris, re-install all aerators.
- C. Check all water supply piping for leakage and repair if necessary.
- D. Light and start water heater and allow water to come up to temperature. Check temperatures at all faucets.
- E. Run water through all drain systems, check for any sign of leakage and repair if necessary.
- F. Check operation of disposal, repair or replace if necessary.
- G. Check operation of sump pump and repair or replace if necessary.
- H. Check operation of ice maker.

DIVISION 12B - MECHANICAL

- Part I - General
1. Submittable: Contractor must submit shop drawings, product data (with capacities), and installation drawings for owner approval UNO.
- 1.2. Scope: The work included in this contract consists of the contractor providing all labor, materials, tools, transportation, services, etc. necessary to complete the installation of the electrical systems and air condition systems) and other items herein listed as described in these specifications, or as directed by the owner. HVAC work is comprised of but not limited to the following principal items: air conditioning equipment (including condensing unit, evaporator coil, fan, etc.) and related piping for hot water and blue colored piping for cold water. All piping that is part of a water distribution system must be able to withstand 160 degree water at 100 pounds of pressure.
- 1.3. Intent: Mark indicated in this portion of the drawings is shown to document the intent of the architect and/or where minimum standards shall be exceeded. These systems shall be designed, documented and submitted for building permit and constructed by the general contractor or his agent. This work must meet or exceed the applicable codes, ordinances and regulations, the International Plumbing Code, and meet with approval of the authority having jurisdiction.
- 1.4. Warranties: Submit written warranties executed by the manufacturer of all electrical products and other items herein listed, as shown on the drawings, described in these specifications, or as directed by the owner. Electrical work is comprised of but not limited to the following principal items: electrical wiring, conduit, raceway, and related components, including disconnects, load centers, panel-boards, etc. System of conductors, boxes, receptacles, switches and light fixtures. Telephone, CATV, data outlets and wiring. Fire alarm system with related components and dual-panel system with related components.
- 1.5. Intent: Mark indicated in this portion of the drawings is shown to document the intent of the architect and/or where minimum standards shall be exceeded. These systems shall be designed, documented and submitted for building permit and constructed by the general contractor or his agent. This work must meet or exceed the applicable codes, ordinances and regulations, the National Electric Code, and meet with approval of the authority having jurisdiction.

Part II - Execution

1. General:
- A. Before start of work, the contractor shall be in conformity with accepted engineering practices and shall be under the scrutiny of the authority having jurisdiction.
- B. HVAC system shall:
- A. Be properly sized to provide correct airflow, and meet room-by-room calculated heating and cooling loads.
- B. Be installed so that the static air pressure drop across the air handler (furnace) is within manufacturer and design specifications to have the capacity to meet calculated loads.
- C. Have sealed supply ductwork that will provide proper airflow.
- D. Be installed with a return system sized to provide proper correct return airflow.
- E. Have sealed return ductwork that will provide proper airflow to the fan, and avoid air entering the HVAC system from polluted sources (e.g. fumes from auto and stored chemicals, attics, and crawlspaces).
- F. Have balanced airflow between supply and return systems to maintain a neutral pressure in living areas.
- G. Minimize duct air temperature gain/loss between the air handler (furnace) and room registers and between return grilles and the air handler (furnace) by insulation requirements listed in this specification.
- H. Be properly charged with refrigerant.
- I. Have proper burner operation and proper draft.

DIVISION 12C - ELECTRICAL

- A. HORIZONTAL BLINDS: All windows-Furnish & install 2" composite horizontal blinds by Graber, Style Traditions with Classic Valance (Color "TBD by owner")
- B. VERTICAL BLINDS: All horizontal: Sliding doors - Furnish & install vertical blinds with standard valance and "One-Touch Control" by Graber with 5-1/2" Regal Valance (Color "TBD by owner")

Part II - Execution

1. General:
- A. ACMA Manual "J" or Manual "N" Load Calculation, or one of the procedures listed in the 2001 ASHRAE Handbook of Fundamentals to be used.
- B. Outdoor design temperatures to be based from the 2001 ASHRAE Handbook of Fundamentals (Chapter 27) with the 4% values used for cooling and the 98% values used for heating.
- C. Indoor design temperatures based on a 75 degree dry bulb temperature with a relative humidity of 50% to 60% for summer and a 70 degree dry bulb temperature with a relative humidity of 50% for winter.
- D. Calculate heat loss/gain for each room.
- E. Determine maximum of room-by-room loads plus ventilation requirements to achieve total system capacities.
- F. Size duct system according to ACMA Manual D calculation procedures (or substantially equivalent).
- G. Calculate correct CFM for each room and total for building for both supply and return air.
- 2.2. Air Distribution System:
- A. Layout duct system on floor plan drawing accounting for the direction of joists, roof hips, firewalls, and other potential obstructions. Determine register and inlet locations, duct lengths, and connections required to produce layout give construction constraints
- B. Duct paths to provide minimal length and turns in direction to provide optimal airflow.
- C. Flex duct paths must be planned to avoid sharp turns that may kink duct.
- D. Provide a copy of the duct layout drawing to owner for approval prior to installation. Review proposed duct, register and grille locations with JKV project coordinator.
- E. Registers and grilles to be sized and located to optimize air distribution and static pressure
- F. Seal all metal duct joints and seams with mastic or pressure sensitive tape approved for use by the duct manufacturer and meeting UL 181 specifications ("approved tape"), this includes around junctions or collars to distribution boxes, boots and plenums.
- G. All sealants to be used in strict accordance with manufacturer's installation instructions and within sections moisture and temperature limitations.
- H. All tapes or mastics used to seal ducts should be applied to clean dry surfaces.
- I. Upon installation all floor registers shall be covered by contractor to protect from debris during construction.
- J. Flexible ducts shall be joined by a metal sleeve, collar, coupling or coupling system. At least two inches of the bonded sleeve, collar or coupling must extend into the inner cone while allowing a one inch attachment area on the sleeve, collar, or coupling for the application of a norm drive hose clamp or UV-resistant nylon tie tie. The inner cone shall be fastened to all fitting by use of draw-bands or nylon ties.
- K. Flexible duct suitable for attic installations only.
- L. All metal round pipes up to 12" in diameter shall be secured using 3 equally spaced #8 screws. All metal pipes with a diameter of 12" and above should have five equally spaced screws.
- M. All duct supports and hangers to meet requirements of the IMC.
- N. All duct systems to meet installation requirements set forth by the IMC (International Mechanical Code), and ASHRAE (Sheet Metal Air Conditioning Contractors Association).
- O. Install all vents, and piping terminating outdoors to protect against birds and insects.
- P. All ducts in attics, crawlspaces, and unconditioned areas, shall be externally wrapped with an insulation type mentioned in this specification.

2.3. Equipment Installation:

- A. Install and connect gas-fired furnaces and associated heat and vent features and systems according to the IMC, International Fuel Gas Code, all applicable codes and regulations, and manufacturers written installation instructions.
- B. Install split system air conditioning systems according to the manufacturer's installation instructions and all applicable codes.
- C. Evacuate refrigerant system to within 500 microns to ensure no non-condensable residue in the system.
- D. Provide (level) base for condensing unit.
- E. Secure all base mounted units to substrate.
- F. Provide and connect PVC condensate piping for all condensate drainage. Extend to nearest equipment drain or floor drain.
- G. Thermostats and humidistats to be mounted at a height of 48" AFF. Review location with JKV project coordinator.
- H. Seal all penetrations to the exterior of the structure with mastic or caulking.
- I. Provide for adequate access for the replacement of the furnace filter. Furnace filter to be located in crawlspace.
- J. Contractor required to replace dirty filters during construction as directed by JKV project coordinator. Contractor required to clean all ductwork at completion to include new pleated filter at time of turnover.

Part III - Equipment and Materials

- A. Equipment:
1. The HVAC equipment shall consist of a natural gas fired furnace with electric split system condensing unit and evaporator coil.
2. Minimum efficiencies shall be 42% AFUE for the natural gas fire furnace, and 16 SEER for the condensing unit/evaporator coil combination.
3. The condensing unit/evaporator coil system shall utilize R-410A (Puron) refrigerant.
4. HVAC equipment shall be RUUD and shall be furnished by the HVAC contractor.
5. From load calculations mentioned in this specification, and ACMA Manual "D" CFM, determine appropriate equipment sizes.
6. At bid, provide owner with submital data including model numbers and BTUH capacities.
7. At completion of installation and after all system commissioning, provide owner with 1 set of operation and maintenance (OM) manual per unit.
- H. Furnish and install a bagless type humidifier by RUUD, April-Air, General, or approved equal.
- I. Furnish and install in every bathroom an exhaust fan by Broan or approved equal.

2. Materials:

- A. All materials shall have minimum performance temperature ratings per ULBI and have a flame spread rating of no more than 25 and a maximum smoke developed rating of 50 (ASTM E 84).
- B. All pressure sensitive tapes and mastics used in the manufacture of flexible ducts shall be UL181B (Tape) or ULBI BM (mastics) listed.
- C. Sealants for exterior applications shall pass ASTM tests CTB1, CTB2 (artificial weathering tests), and D2222.
- D. Draw bands used to attach flexible ducts to collars and sleeves shall be either stainless-steel norm-drive hose clamps or UV-resistant nylon duct ties. E. Draw-bands to have a minimum performance temperature rating of 165 degrees F. (continuous, per ULBI-A type tests) and a minimum tensile strength rating of 50 pounds and shall be tapered with an adjustable tensiling tool.
- E. Duct insulation shall be a minimum of 1" foil-backed flexible fiberglass blanket duct wrap meeting ASTM C 558 Types I, II, and III, and ASTM C 1240, and have a maximum service temperature of 250 degrees F.
- F. Duct insulation shall have a minimum "K" value based on ASTM G177 of .28 @ 75 degrees F. The vapor-retarding jacket shall conform to ASTM C 136 Type II.

Part IV - System Commissioning

- A. Ensure room-by-room airflow once correct and total supply.
- B. Each register airflow should be within 10% of Manual EDA design airflow and the entire supply for the system should be within 5% of Manual "D" design airflow.
- C. Total return air to equal total supply air.
- D. Ensure tightness in ducts, plenum, and air-handling equipment.
- E. Measure air-handler (furnace) airflow and static pressure across fan, ensure that total is within 5% of design and manufacturers specifications at a static pressure within 0.1" w.g. of design.
- F. Test static pressure drop across blower to ensure that it is within 0.1" w.g. of design and manufacturers specifications.
- G. After proper airflow are determined, check air conditioning charge and furnace operation.
- H. Charge air conditioning systems with field metering devices, use evaporator superheat method, and for systems with a thermostatic expansion valve, use sub-cooling method of charging.
- I. Set furnace manual natural gas pressure to manufacturers specifications.
- J. Check furnace for correct flame at each burner chamber and check vent for proper draft.

DIVISION 13 - ELECTRICAL

- Part I - General
1. Submittable: Contractor to provide shop drawings upon request, product data (with capacities), and installation drawings for owner's approval.
- 1.2. Scope: The work included in this contract consists of the contractor providing all labor, materials, tools, transportation, services, etc. necessary to complete the installation of the electrical systems, and other items herein listed, as shown on the drawings, described in these specifications, or as directed by the owner. Electrical work is comprised of but not limited to the following principal items: electrical wiring, conduit, raceway, and related components, including disconnects, load centers, panel-boards, etc. System of conductors, boxes, receptacles, switches and light fixtures. Telephone, CATV, data outlets and wiring. Fire alarm system with related components and dual-panel system with related components.
- 1.3. Intent: Mark indicated in this portion of the drawings is shown to document the intent of the architect and/or where minimum standards shall be exceeded. These systems shall be designed, documented and submitted for building permit and constructed by the general contractor or his agent. This work must meet or exceed the applicable codes, ordinances and regulations, the National Electric Code, and meet with approval of the authority having jurisdiction.

Part II - Execution

1. General:
- A. Review actual box and device locations with JKV project coordinator prior to installation.
- B. Electrical panel will have (1) one and one half inch (1-1/2") conduit to the attic for future use.
- C. Each attic space shall have two (2) one and one half inch (1-1/2") conduit from attic to basement for future use. Location to be approved by owner.
- D. Use new materials only for construction.
- E. Exposed wiring and conductors is unacceptable. Conceal and protect all wiring and conductors.
- F. All 120-volt circuits to be a minimum of twenty (20)-amp circuits with exception of lighting, which may be fifteen (15)-amp.

- NOTE: THE STRUCTURAL INFORMATION INDICATED WITHIN THESE PLANS HAS BEEN PROVIDED BY A LICENSED STRUCTURAL ENGINEER AND APPEARS ON THEIR DESIGNATED SHE

1. THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.

2. DOORS BETWEEN THE GARAGE AND THE DWELLING - MINIMUM 1/3" SHORL CORE OR HONEY COMBED STEEL DOOR OR 20 MINUTE FIRE RATED

3. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY 5/8" TYPE X GYPSUM BOARD, OR EQUIVALENT MATERIALS APPROVED FOR ONE-HOUR FIRE-RESISTIVE CONSTRUCTION, APPLIED TO GARAGE SIDE WHERE THE SEPARATION IS A FLOOR-CEILING ASSEMBLY. THE STRUCTURE SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED BY 5/8" TYPE X GYPSUM BOARD, OR MATERIALS APPROVED FOR ONE-HOUR FIRE-RESISTIVE CONSTRUCTION OR EQUIVALENT, APPLIED TO THE GARAGE SIDE, PULL DOWN STARS LOCATED WITHIN GARAGE SHALL BE RATED TO BE ADEQUATELY PROTECTED WITH MATERIALS APPROVED FOR ONE-HOUR FIRE-RESISTIVE CONSTRUCTION. ATTIC ACCESS PANELS LOCATED WITHIN GARAGE SHALL BE OF 5/8" TYPE X GYPSUM BOARD, OR MATERIALS FOR ONE-HOUR FIRE-RESISTIVE CONSTRUCTION.

4. GARAGE DOOR AND FRAME- THE H-FRAME FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 JOIST JOISTS RUNNING FROM THE FLOOR TO CEILING ATTACHED WITH 1/3" x 120" NAILS AT 7" OC STAGGERED WITH (7) 3/4" x 120" NAILS THRU THE JAMB INTO THE HEADER, MINIMUM 2x6 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.

5. STAIRWAYS SHALL PROVIDE A MAXIMUM 7/32" RISE AND MINIMUM 10" RUN.

6. 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 PATTERNING THAT DO NOT ALLOW PASSAGE OF A SPHERE 4" IN DIAMETER.

7. 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.

8. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1 1/4" MINIMUM TO MAXIMUM OR OTHER APPROVED GRASPABLE SHAPE PER IRC SECTION 311.7.2.

9. PROVIDE A MINIMUM 6-8" OF HEADROOM CLEARANCE IN STAIRWAYS.

10. 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 307.7.

11. SPIRAL STAIRS TO BE CONSTRUCTED PER IRC SECTION 311.7.10.1.

12. SPACE STRINGERS AT 16" OC MAX.

13. 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 8" OF DRAIN SALT DAYLIGHT TO THE EXTERIOR BELOW THE FLOOR LEVEL OR TERMINATE IN A MINIMUM 20 GALLON SUMP PITT.

14. INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB.

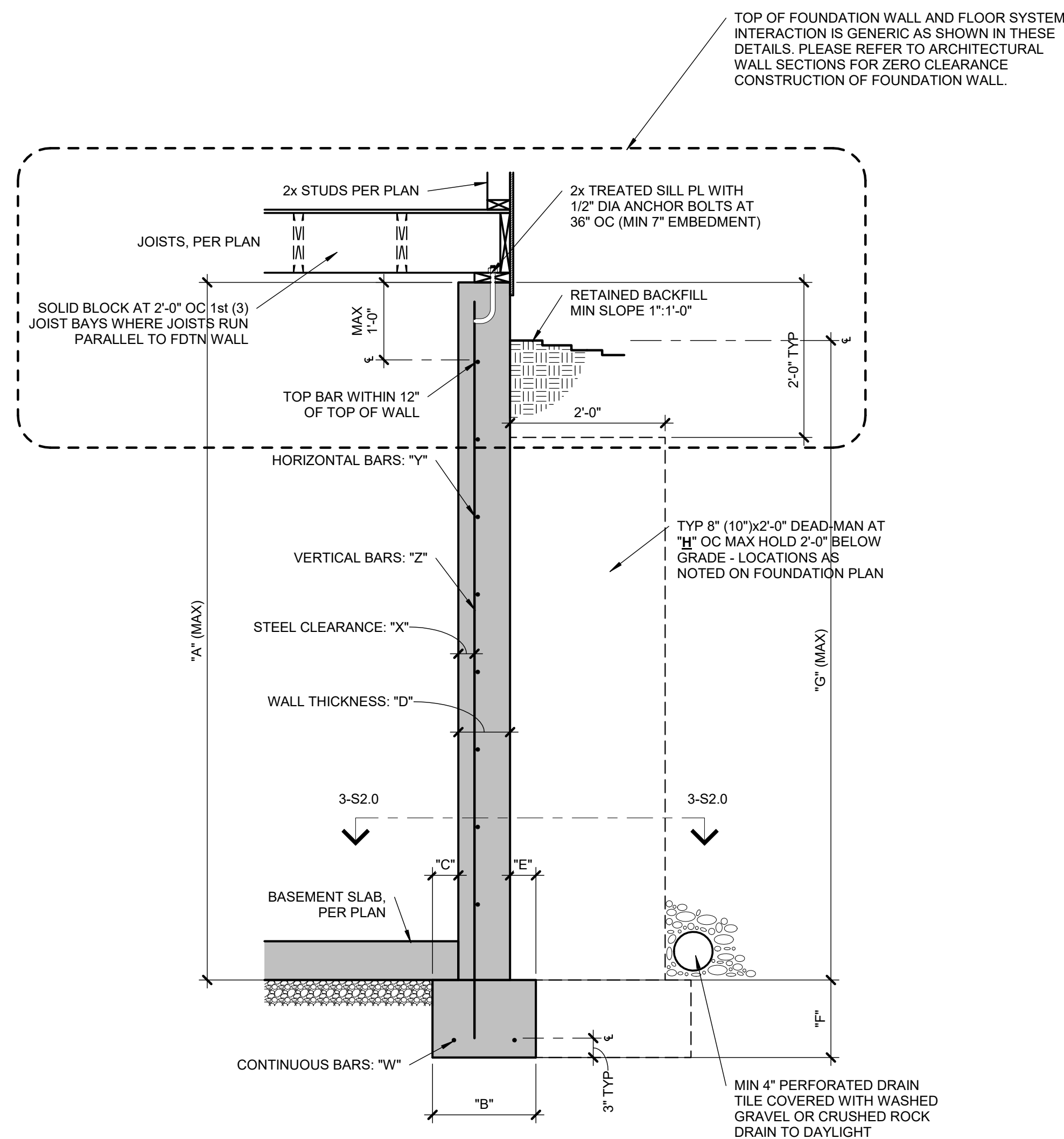
15. INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING, SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE.

16. ALL EARTH RETAINING STRUCTURES ON SITE GREATER THAN 4' TALL (EXCLUDING CONCRETE FOUNDATION WALLS RESTRAINED AT BOTH THEIR TOP AND BOTTOM) SHALL REQUIRE A SEPARATE ENGINEERED DESIGN AS REQUIRED BY THE CODE AUTHORITY.

17. ANY GEOTECHNICAL IMPROVEMENT METHODS AND/OR STRUCTURAL SOLUTIONS (SUCH AS DRILLED PIERS) EMPLOYED TO ADDRESS UNDESIRABLE SOIL CONDITIONS SHALL BE REVIEWED AND APPROVED TO EOR AS ENGINEERED SHOP DRAWINGS FOR REVIEW AND APPROVAL.

STAIRWAYS

1. STAIRWAYS SHALL PROVIDE A MAXIMUM 7/34" RISE AND MINIMUM 10" RUN.
2. PROVIDE MINIMUM 3/4" GUARDRAILS ON THE OPEN SIDES OF RAISED FLOORS.
3. PROVIDE MINIMUM 3/4" GUARDRAILS ON THE OPEN SIDES OF STAIRWAYS. STAIRWAYS LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW GUARDED ENCLOSURES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL BALUSTRADES.
4. 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.
4. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1-1/4" MINIMUM TO BE USED OR OTHER APPROVED GRASPABLE SHAPE.
5. PROVIDE A MINIMUM 6-8" CLEARANCE BETWEEN STAIRWAYS.
6. STAIRWAYS SHALL BE CONFINED TO THE INSIDE OF THE STAIRWAY ENCLOSURE AND THE UNDERSIDE OF THE STAIR AND LANDINGS PROTECTED WITH 1/2" GYPSUM BOARD ON ENCLOSED STAIR SECTION 302.7.
7. SPIRAL STAIRS BE CONFINED TO PER SECTION 311.70.1.
8. SPACE STAIRS AT 16" OC MAX.



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 24" OC
(2) #4	2 1/2"	#4 BARS AT 24" OC	#4 BARS AT 24" OC
(2) #4	2 1/2"	#4 BARS AT 18" OC	#4 BARS AT 18" OC

- NOTES:
- 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.
 - VERTICAL REINFORCING STEEL TO EXTEND TO WITHIN 8" OF TOP WALL. MINIMUM (1) #4 HORIZONTAL BAR WITHIN 12" OF TOP AND BOTTOM OF WALL.
 - BURIED CONCRETE FOUNDATION WALLS UP TO 9'-0" TALL MAY BE 8" NOMINAL THICKNESS WITH #4 BARS AT 24" OC BOTH WAYS OVER 10'x8" CONCRETE FOOTINGS WITH (2) #4 BARS CONTINUOUS. UNLESS OTHERWISE REQUIRED BY ENGINEERING REPORT BASED ON ACTUAL SITE CONDITIONS.
 - WALL WILL NOT ACHIEVE FULL STRENGTH UNTIL FIRST FLOOR DECK AND BASEMENT SLAB HAVE BEEN PLACED.

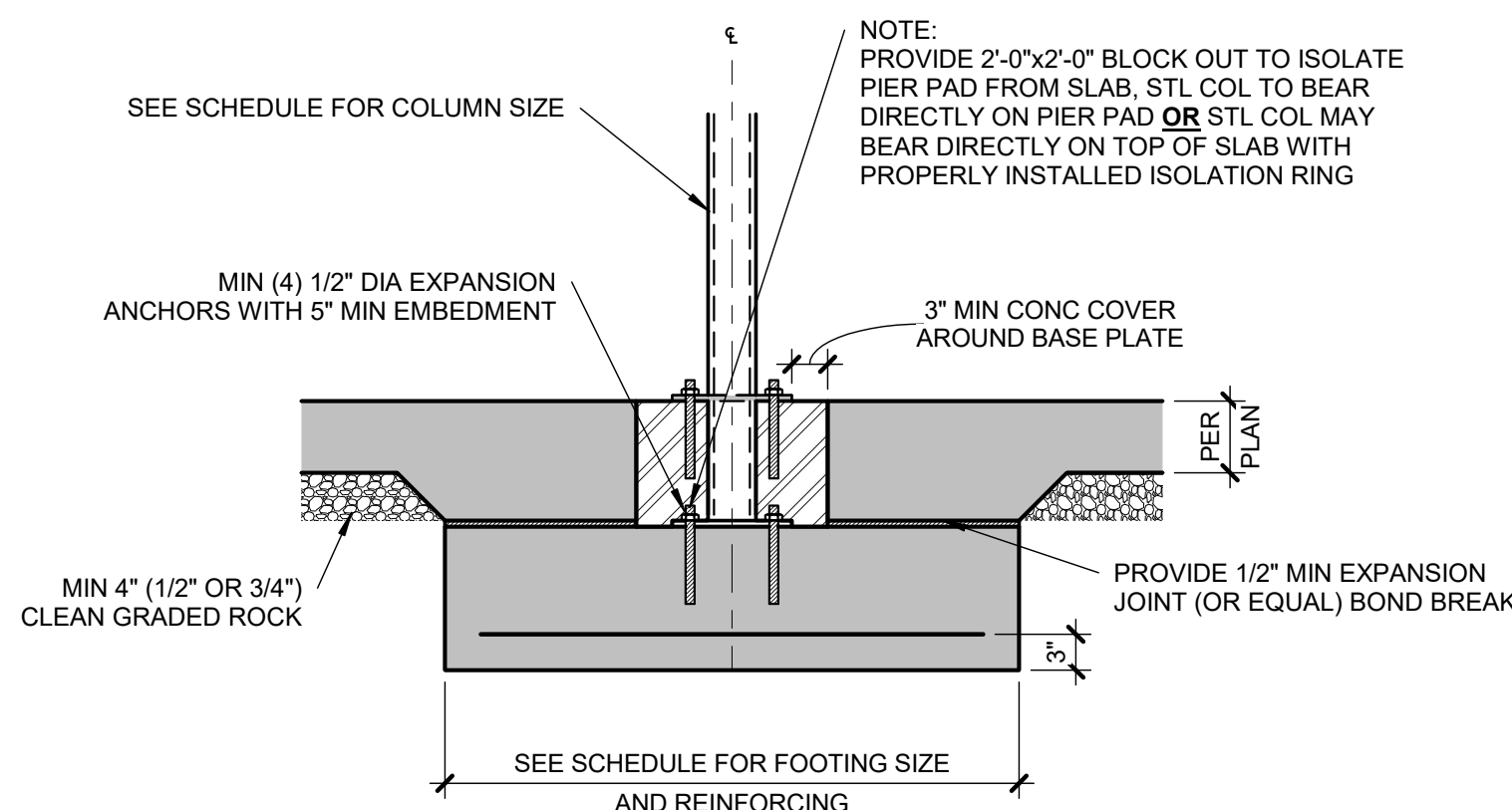
1 TYPICAL FOUNDATION WALL DETAIL

S2.0 3/4" = 1'-0"

COLUMN AND PIER PAD SCHEDULE

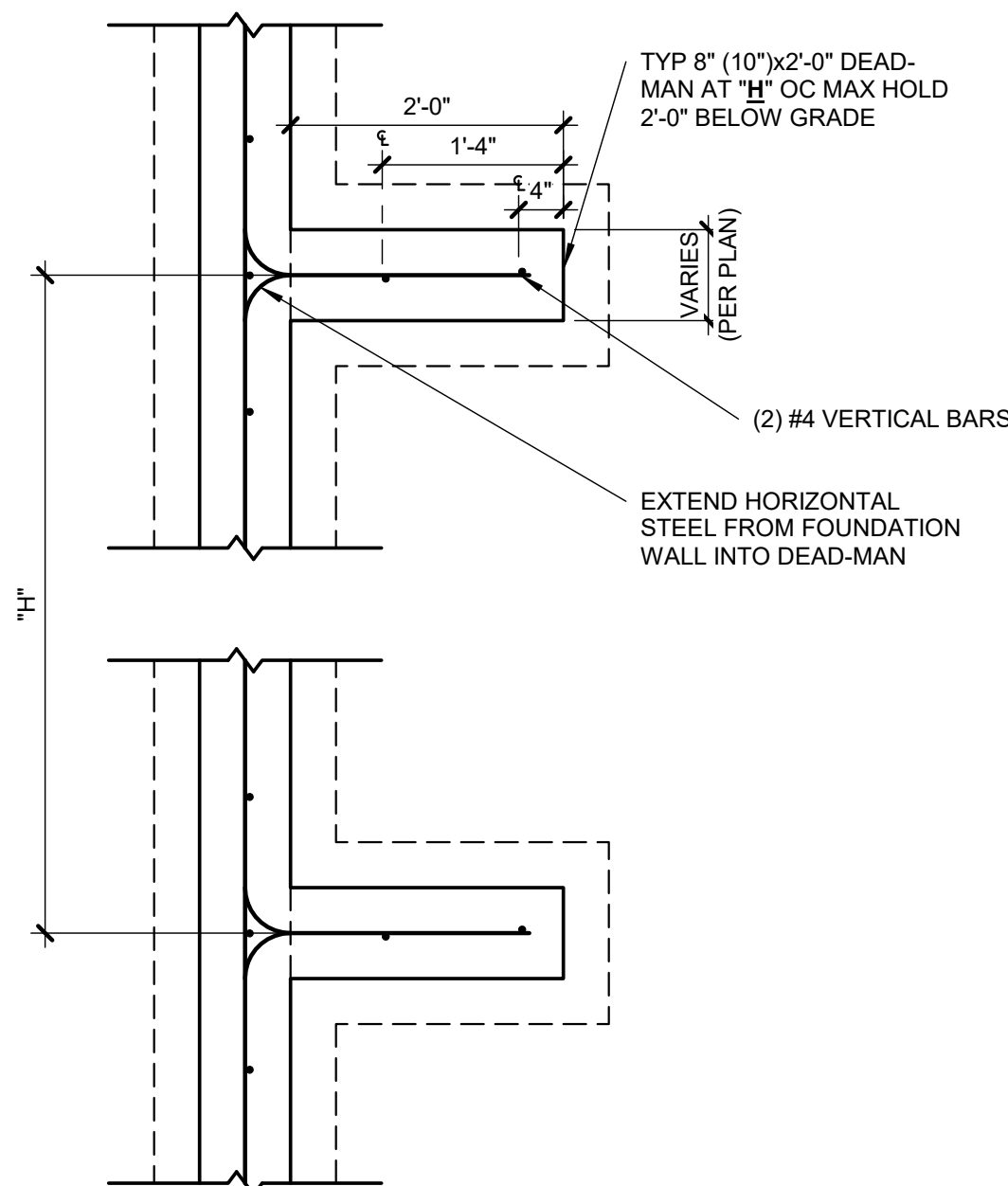
COLUMN MARK	PAD SIZE	REINFORCING	COL SIZE	COL TYPE
A	30"x30"x12"	(4) #4 BARS E-W	3" NOMINAL	SCHEDULE 40 STEEL COLUMN (F _y = 36 ksi MIN)
B	36"x36"x12"	(4) #4 BARS E-W	3" NOMINAL	
C	42"x42"x12"	(5) #4 BARS E-W	3" NOMINAL	
D	48"x48"x12"	(6) #4 BARS E-W	3" NOMINAL	
E	54"x54"x16"	(8) #4 BARS E-W	3 1/2" NOMINAL	
F	60"x60"x16"	(10) #4 BARS E-W	3 1/2" NOMINAL	

- NOTES:
- COLUMN AND PIER PAD SIZES SHOWN ARE FOR MAXIMUM COLUMN HEIGHT OF 10'-0". REQUIRES SEPARATE ENGINEERED DESIGN IF GREATER THAN 10'-0".
 - COLUMN AND PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF.



5 COLUMN PAD DETAIL

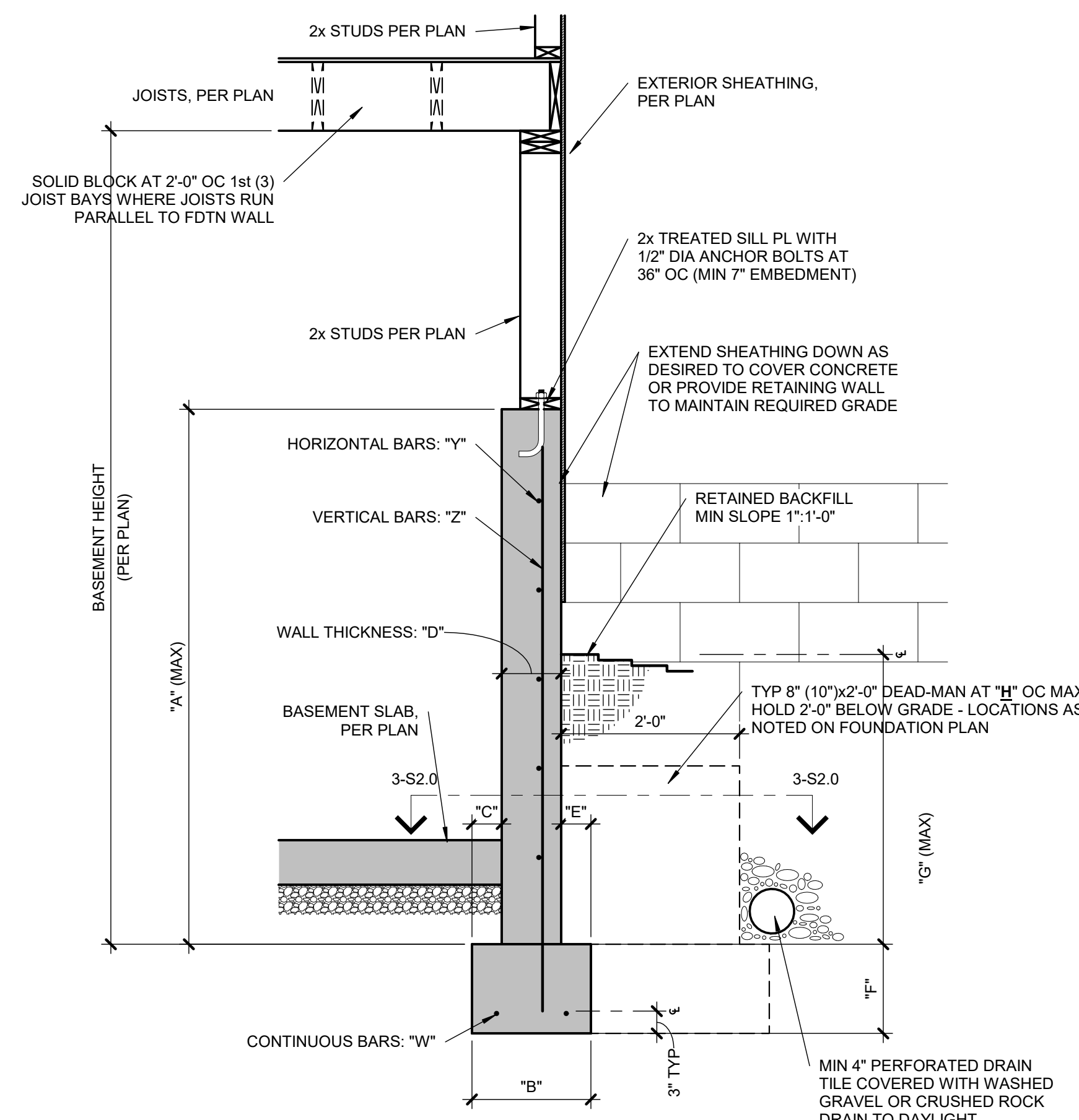
S2.0 3/4" = 1'-0"



- NOTES:
- MIN 3000 PSI FOOTING COMPRESSIVE CONCRETE STRENGTH.
 - MIN 3000 PSI WALL COMPRESSIVE CONCRETE STRENGTH.
 - AIR ENTRAINMENT BETWEEN 5% & 7% OF CONCRETE VOLUME.
 - GRADE 40 REINFORCING STEEL UNLESS OTHERWISE NOTED.
 - LAP SPLICES 24" MIN.
 - 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.
 - 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"

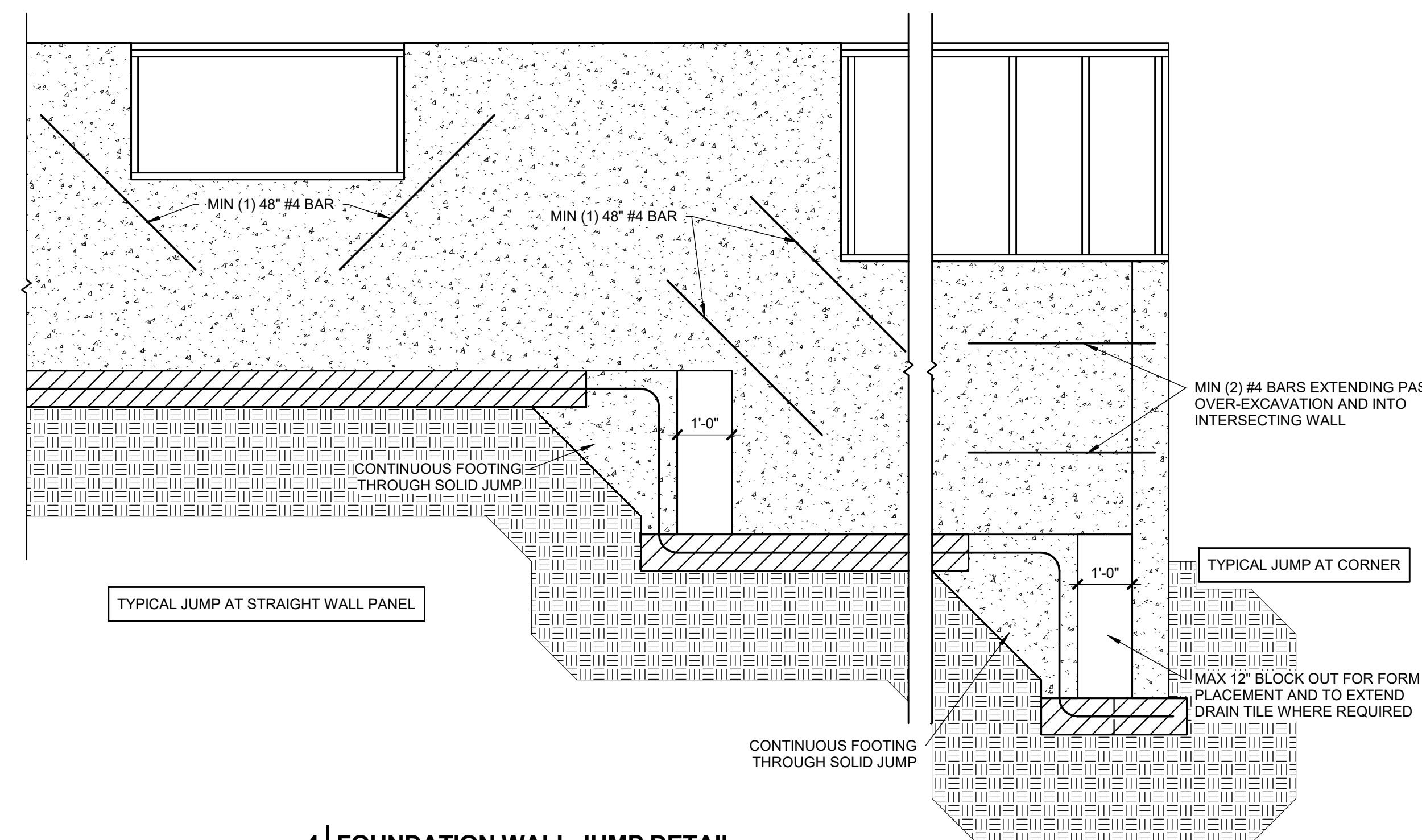
REINFORCING BARS (GRADE 40 BARS)

"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:
- 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.
 - VERTICAL REINFORCING STEEL TO EXTEND TO WITHIN 8" OF TOP WALL. MINIMUM (1) #4 HORIZONTAL BAR WITHIN 12" OF TOP AND BOTTOM OF WALL.
 - 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"



4 FOUNDATION WALL JUMP DETAIL

S2.0 1/2" = 1'-0"

RELEASE FOR
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AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Nelson
09/27/2021

PROJECT: John Knox Village Duplex
Unit A and B, 605 NW Redbud Dr
Lee's Summit, MO
CLIENT: Architectural Concepts, Inc.

PROJECT #: 40919
DRAWN BY: APEX
CHECKED BY: BDC
SUBMITTAL DATE: 5/8/2020

COMMENTS

DATE

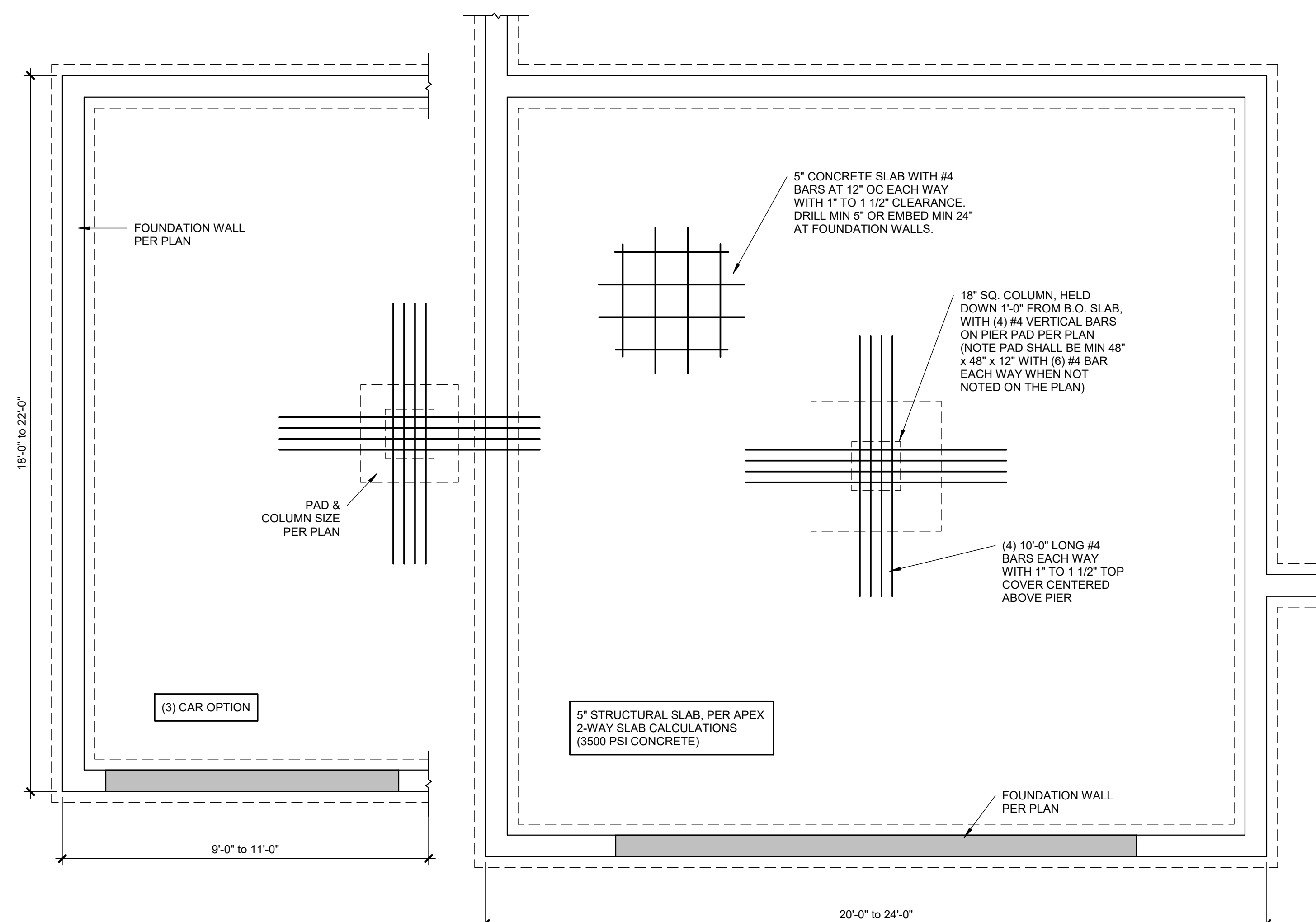
2021.09.21

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SHEET:

FOUNDATION DETAILS

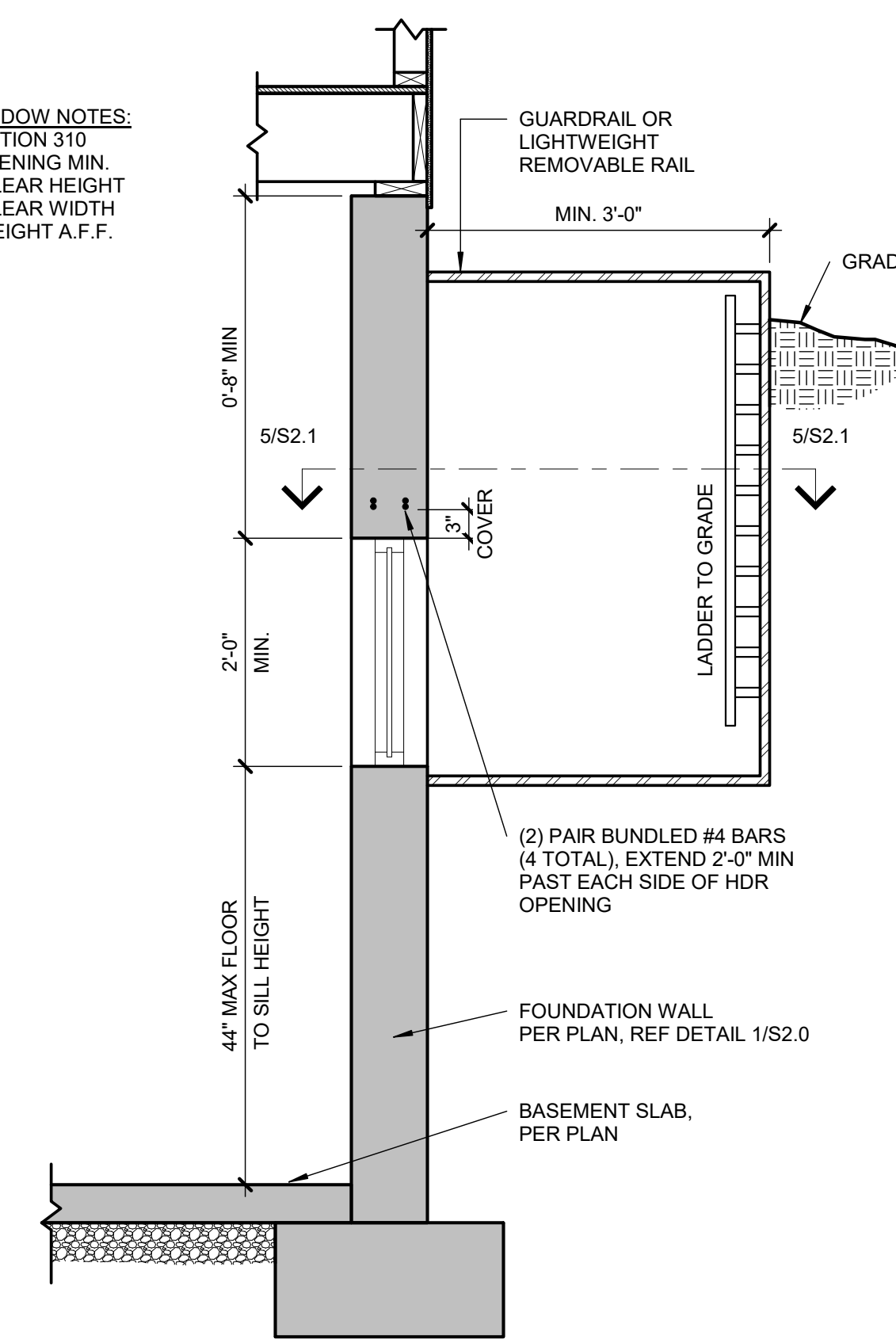
S2.0



1 TYPICAL STRUCTURAL GARAGE SLAB PLAN

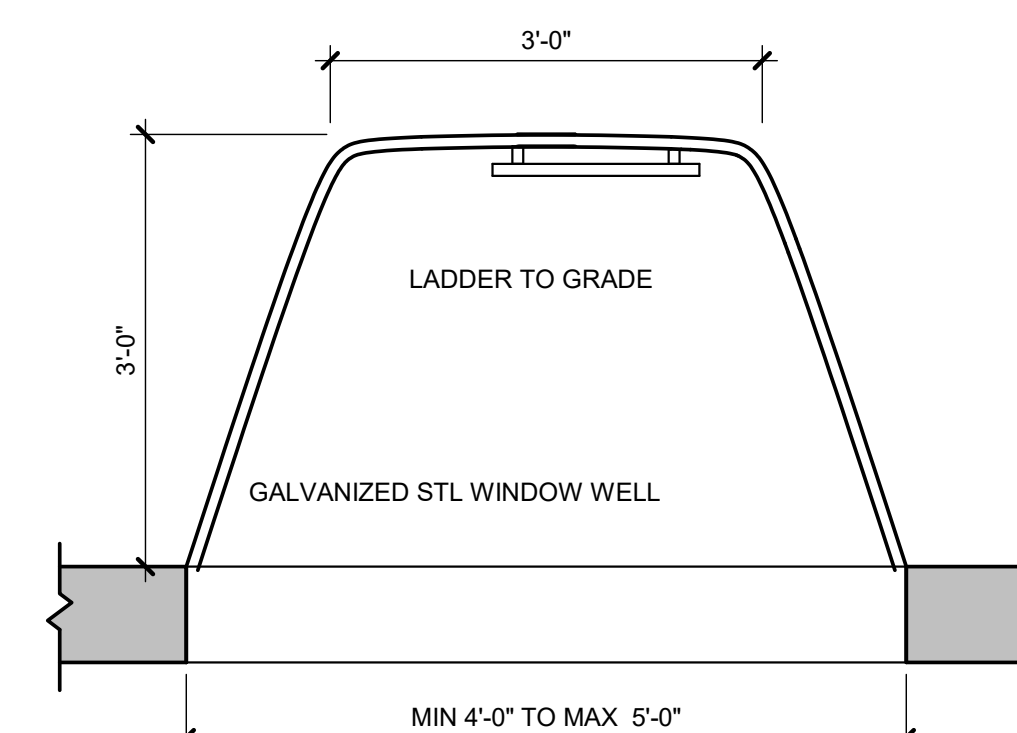
S2.1 3/4" = 1'-0"

EGRESS WINDOW NOTES:
PER IRC SECTION 310
1. 5/7 S.F. OPENING MIN.
2. 24" MIN. CLEAR HEIGHT
3. 20" MIN. CLEAR WIDTH
4. 44" MAX HEIGHT A.F.F.



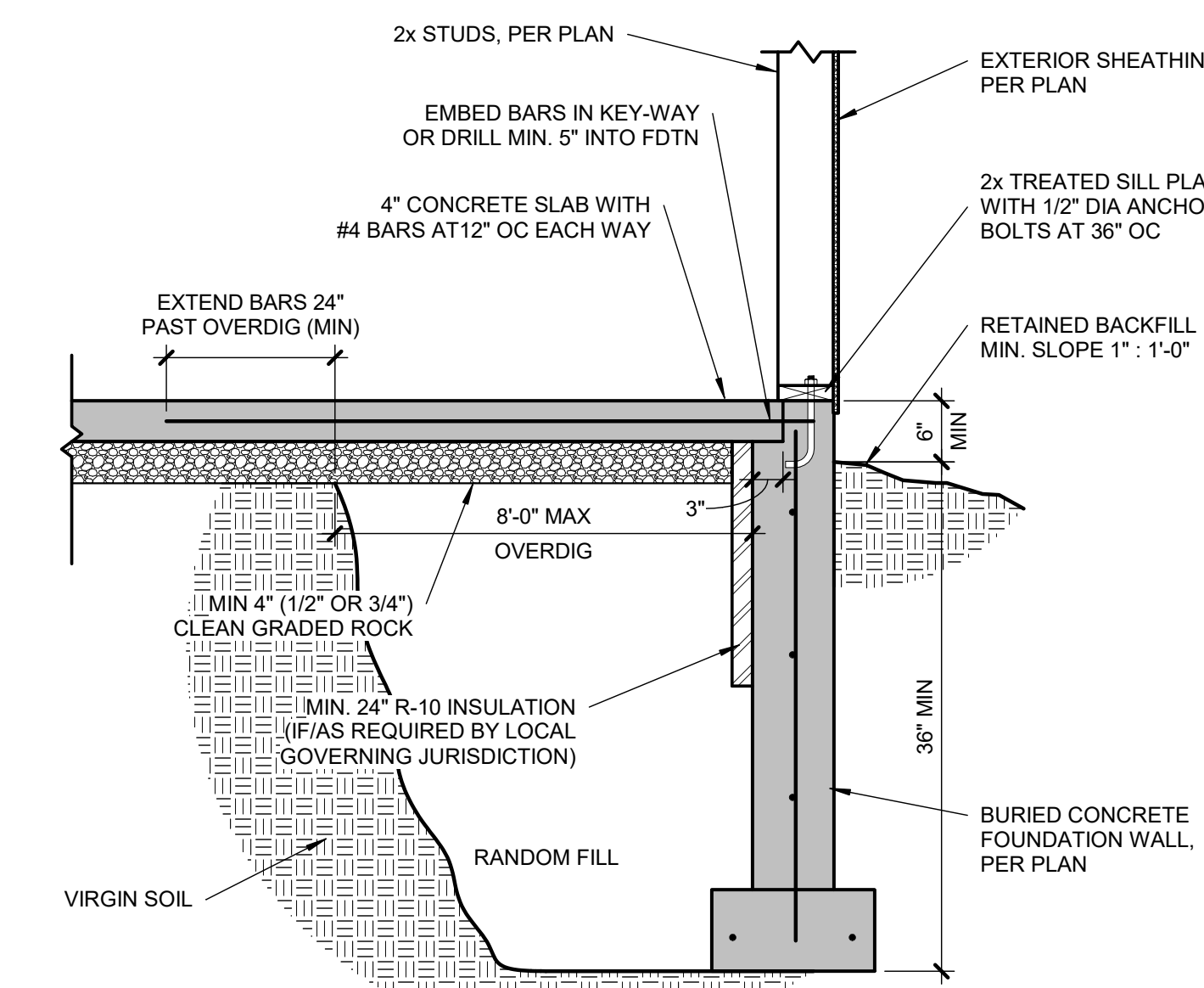
4 TYPICAL EGRESS WINDOW SECTION DETAIL

S2.1 3/4" = 1'-0"



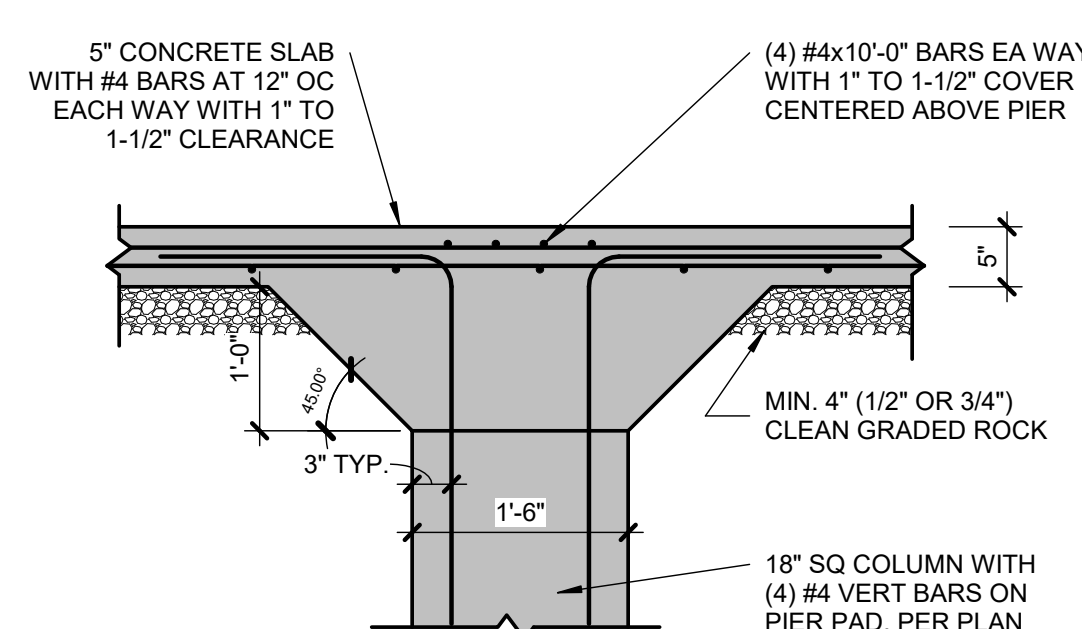
5 TYPICAL EGRESS WINDOW PLAN

S2.1 3/4" = 1'-0"



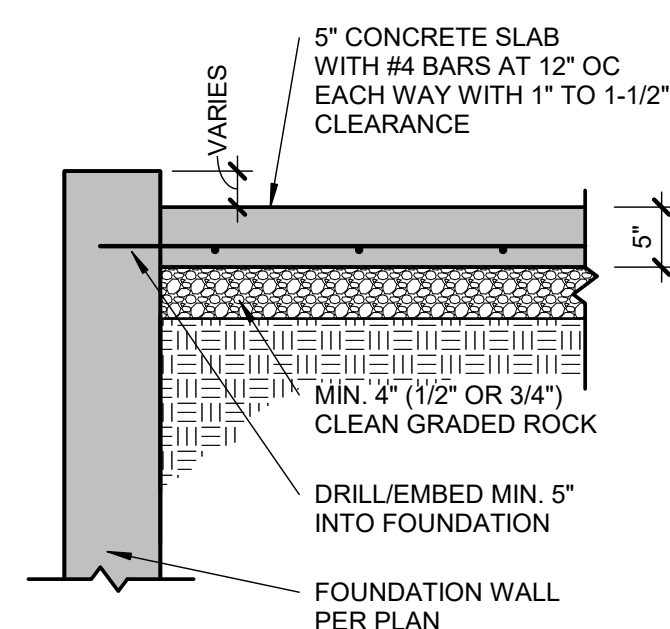
6 TYPICAL OVERDIG DETAIL AT BASEMENT SLAB

S2.1 3/4" = 1'-0"



2 STRUCTURAL GARAGE SLAB PIER PAD DETAIL

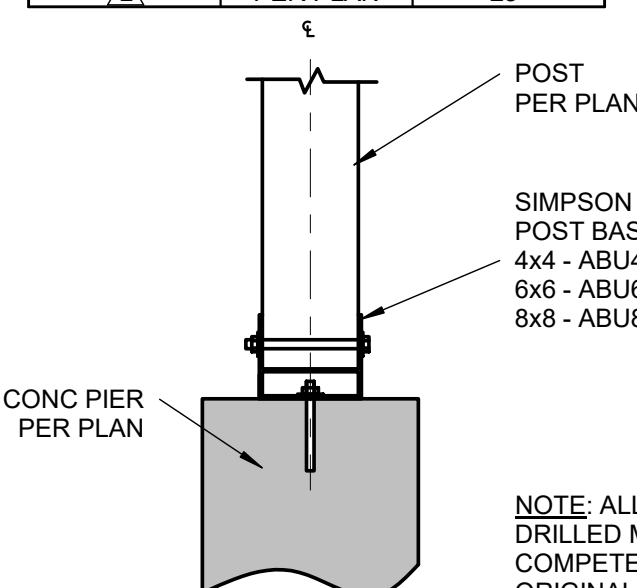
S2.1 3/4" = 1'-0"



3 STRUCTURAL GARAGE SLAB/WALL SECTION

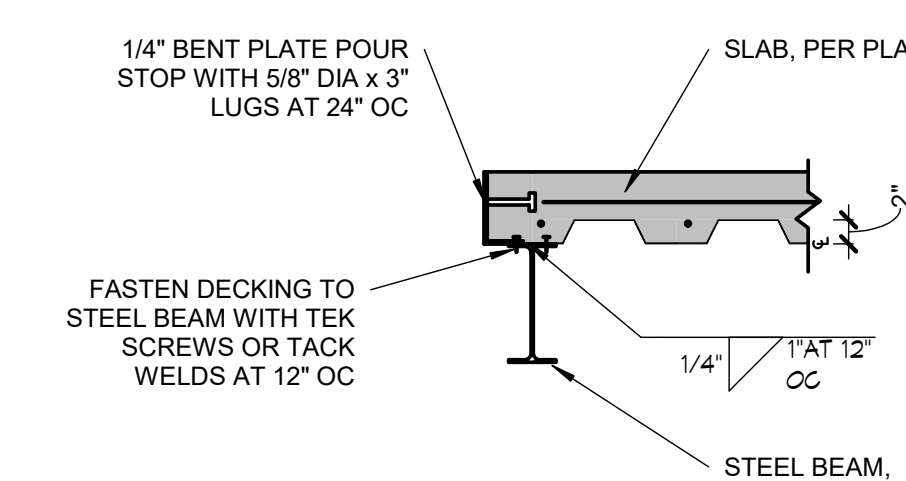
S2.1 3/4" = 1'-0"

PIER SCHEDULE		
COLUMN MARK	COL SIZE	PIER DIAMETER
△	PER PLAN	12"
△	PER PLAN	16"
△	PER PLAN	18"
△	PER PLAN	24"
△	PER PLAN	28"



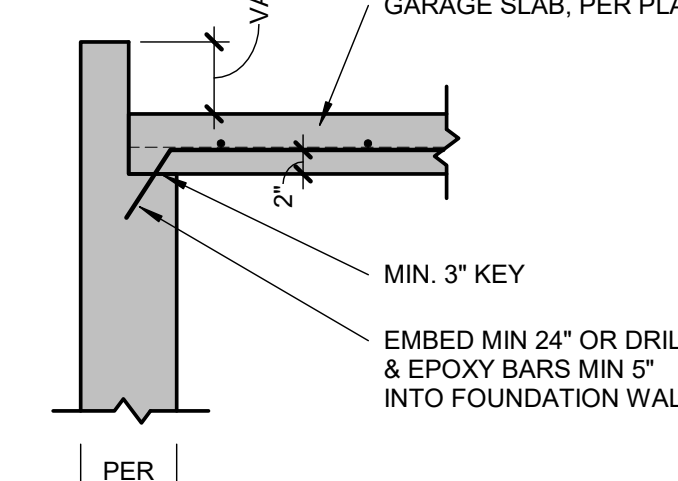
8 POST BASE DETAIL

S2.1 3/4" = 1'-0"



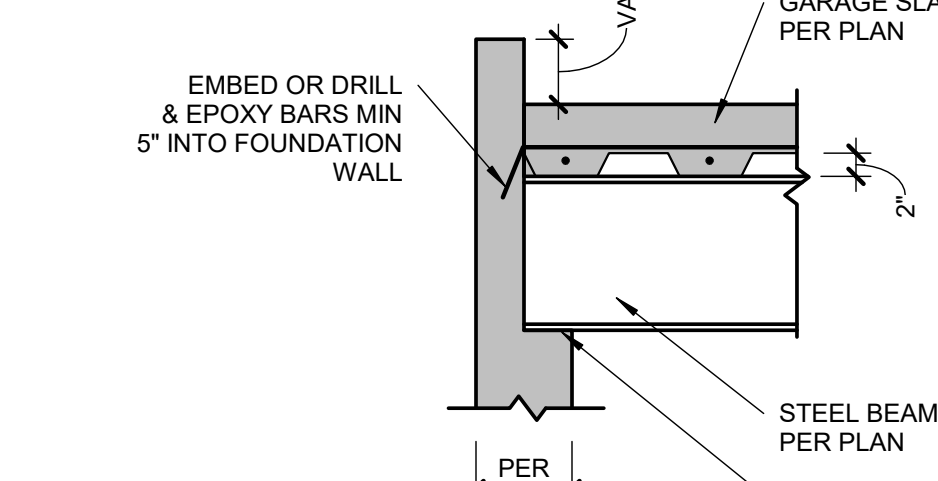
9 POUR STOP DETAIL

S2.1 3/4" = 1'-0"



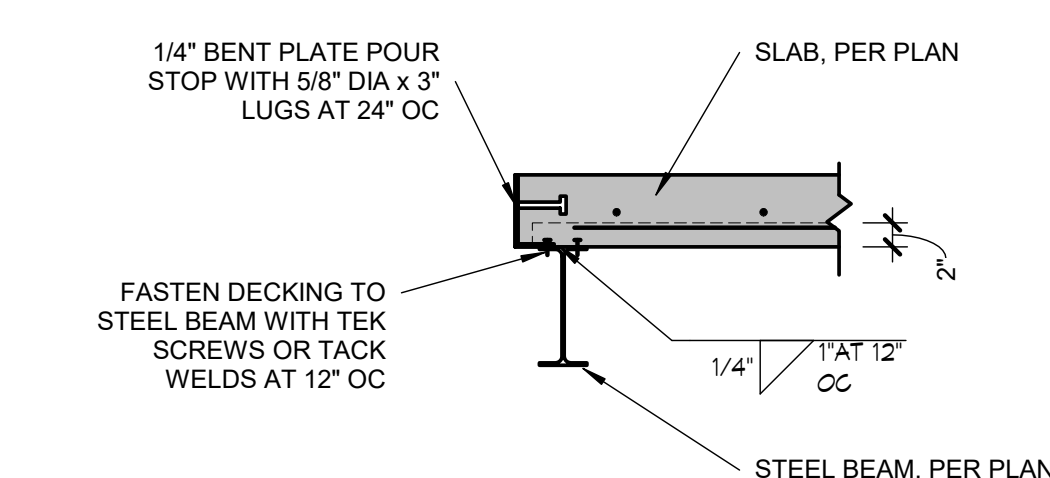
10 GARAGE SLAB BEARING

S2.1 3/4" = 1'-0"



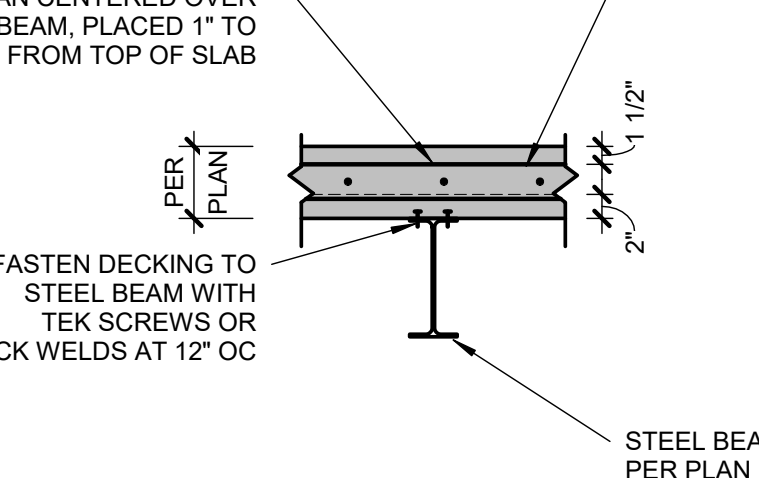
11 GARAGE SLAB BEAM BEARING

S2.1 3/4" = 1'-0"



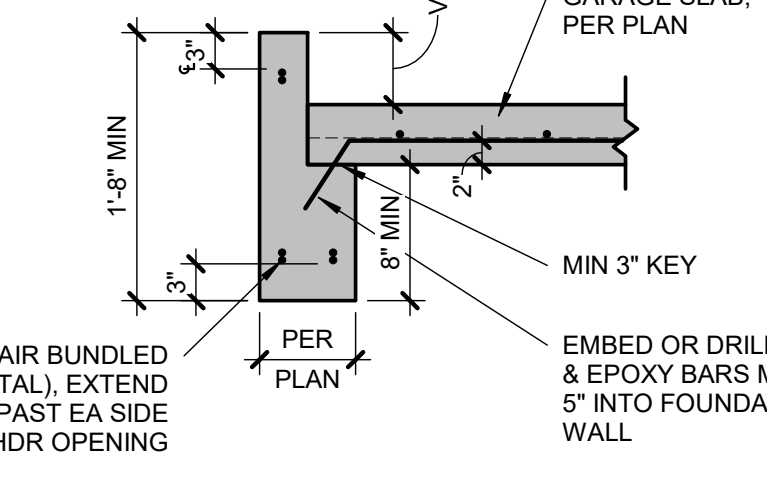
12 POUR STOP DETAIL

S2.1 3/4" = 1'-0"



13 GARAGE SLAB BEAM BEARING

S2.1 3/4" = 1'-0"



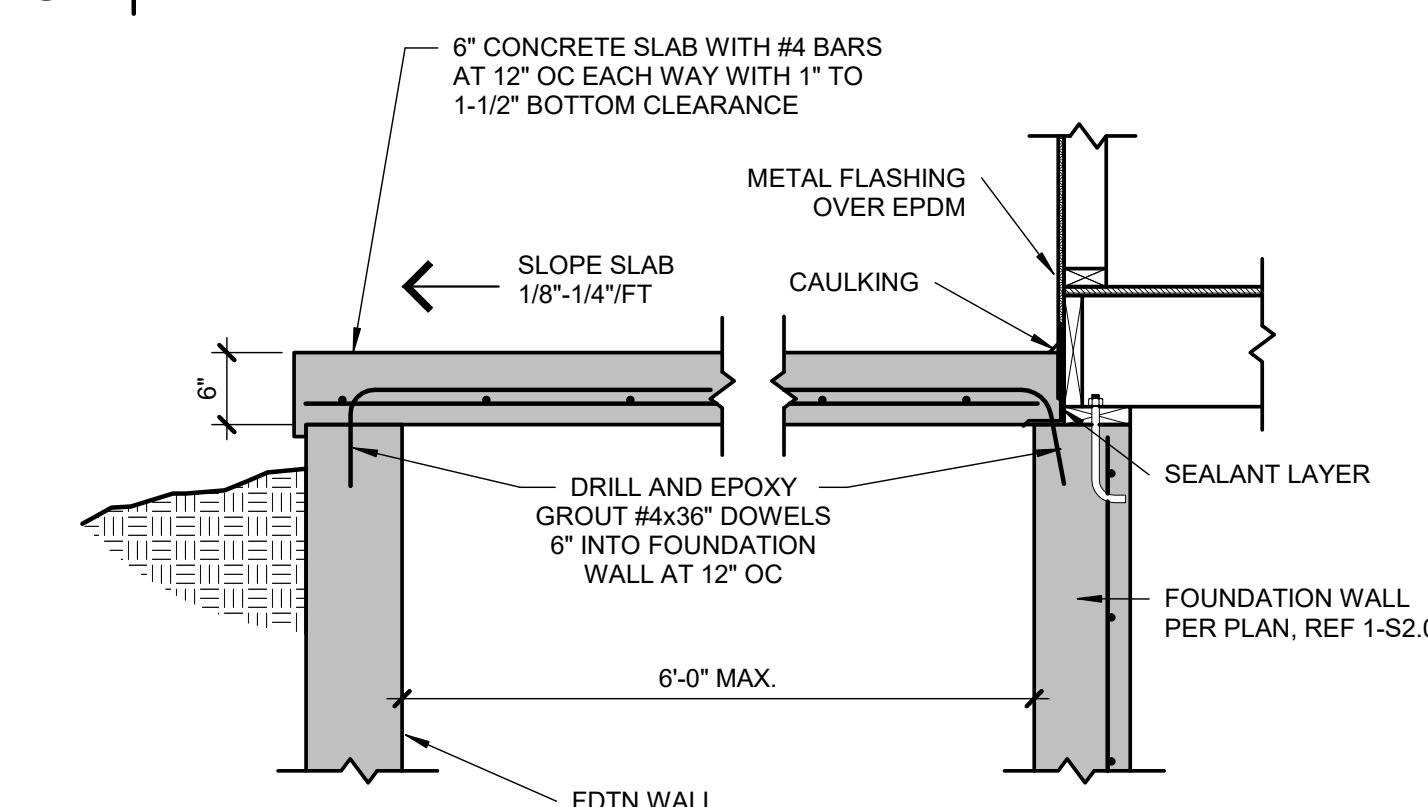
14 CONCRETE HEADER DETAIL

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

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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Nelson
09/27/2021



7 SUSPENDED PORCH STOOP DETAIL

S2.1 3/4" = 1'-0"

FORMWORK OPTIONS:
1. PROVIDE VULCRAFT 2VL (OR EQUAL) CORRUGATED DECKING (SHORE AT MID-SPAN DURING CONSTRUCTION).
OR
2. PLYWOOD FORMS WITH EXPANDABLE BAR JOISTS OR TEMPORARY FRAMED WALLS BY CONTRACTOR.

PROJECT: John Knox Village Duplex
Unit A and B, 605 NW Redbud Dr
Lee's Summit, MO
CLIENT: Architectural Concepts, Inc.

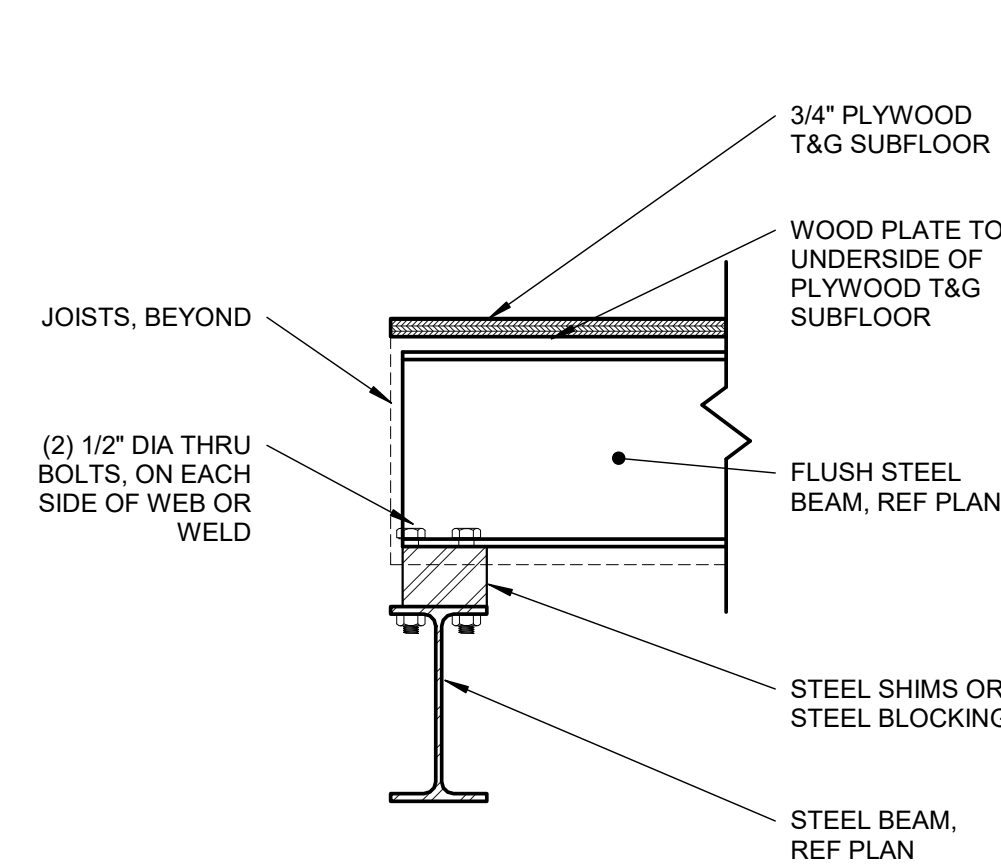
PROJECT #: 40919
DRAWN BY: APEX
CHECKED BY: BDC
SUBMITTAL DATE: 5/8/2020

COMMENTS	
DATE	2021.09.21
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SHEET: FOUNDATION DETAILS

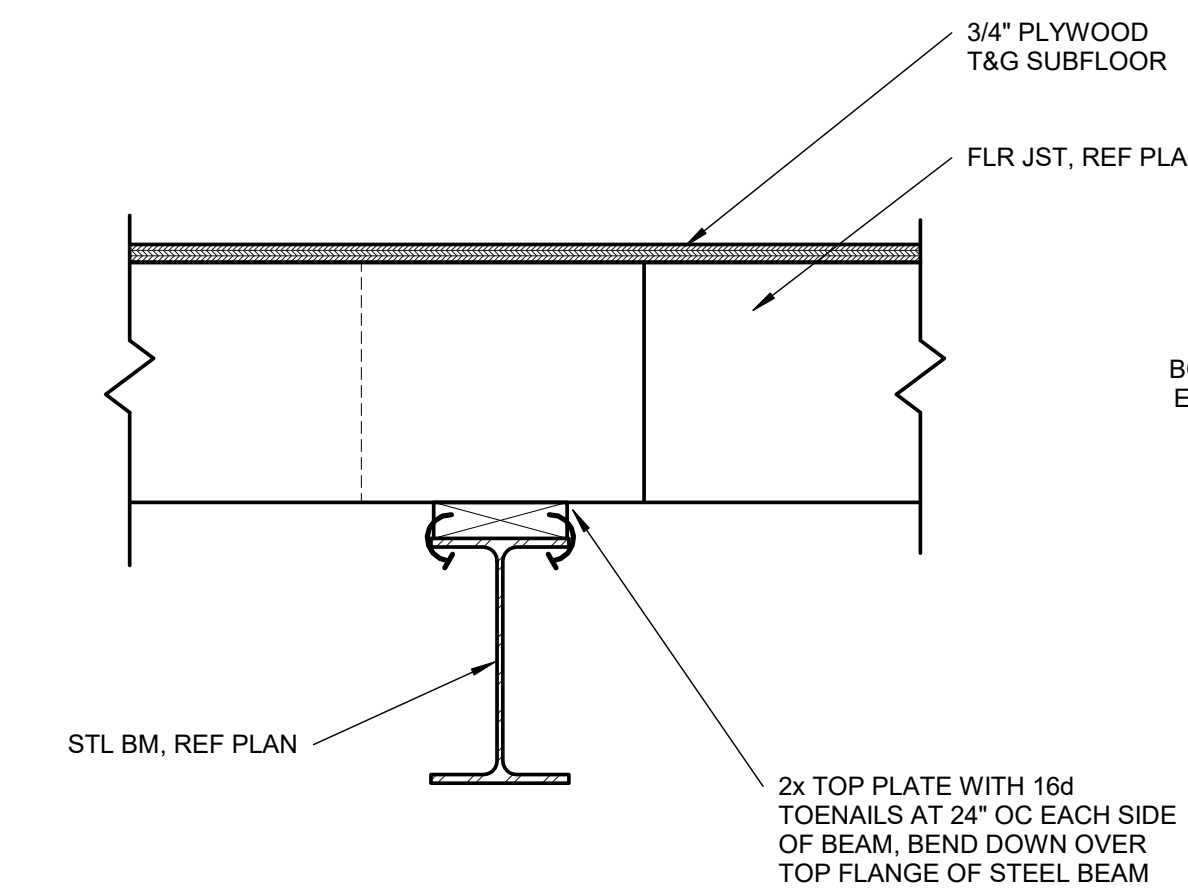
S2.1

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AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Nelson
09/27/2021**



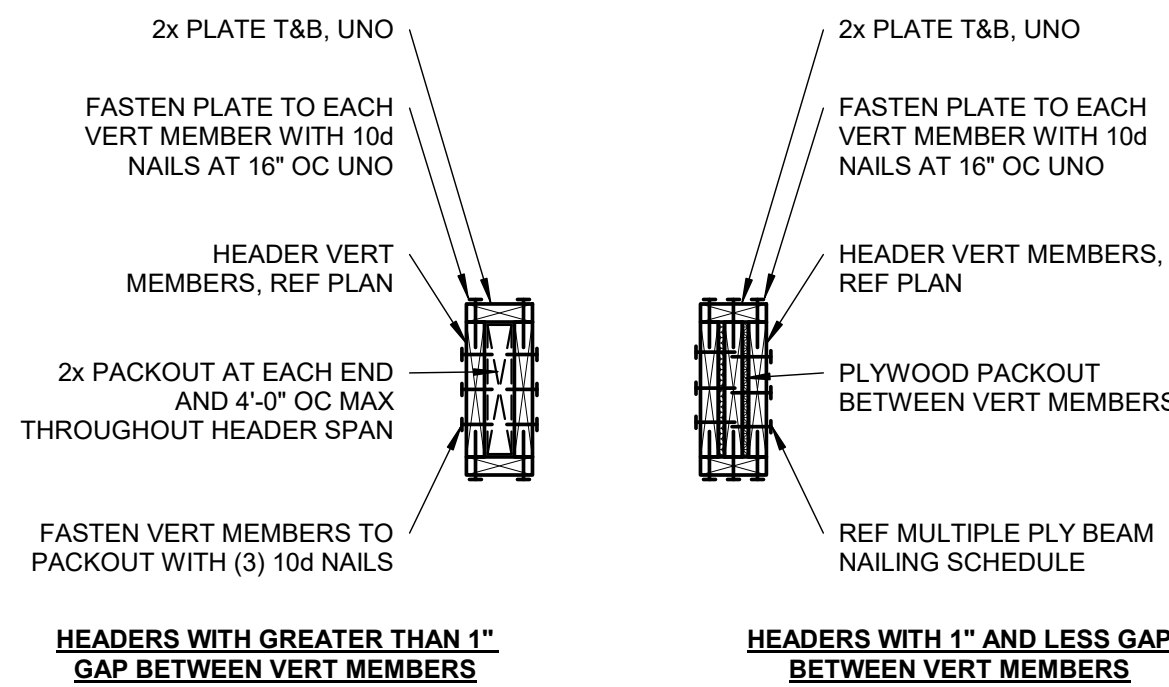
FLUSH STEEL BEAM TO STEEL BEAM
9

S3.1 1 1/2" = 1'-0"



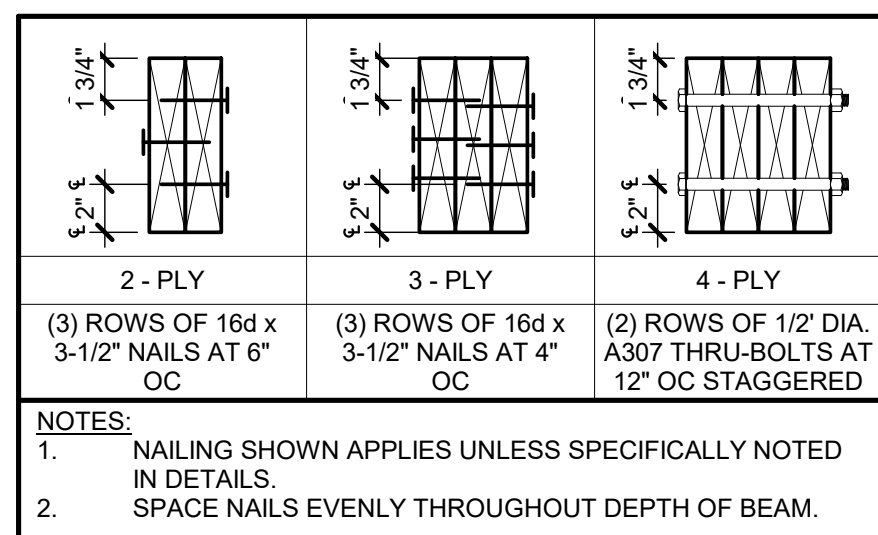
WOOD PLATE TO STEEL BEAM CONNECTION
8

S3.1 1 1/2" = 1'-0"



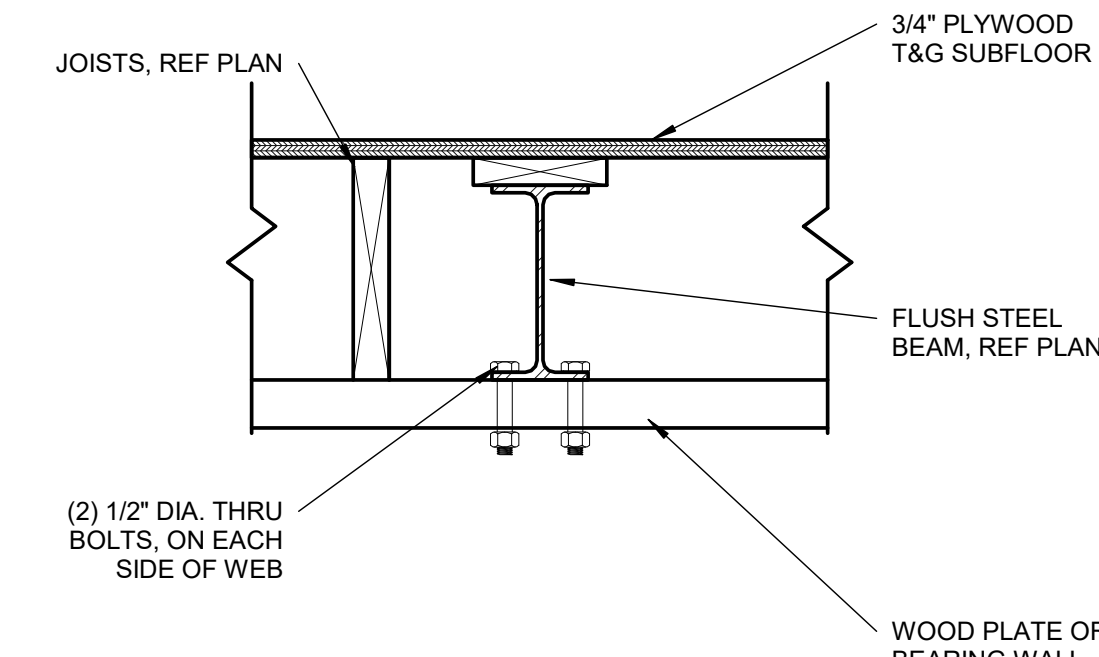
TYPICAL WOOD HEADER DETAIL
11

S3.1 NOT TO SCALE



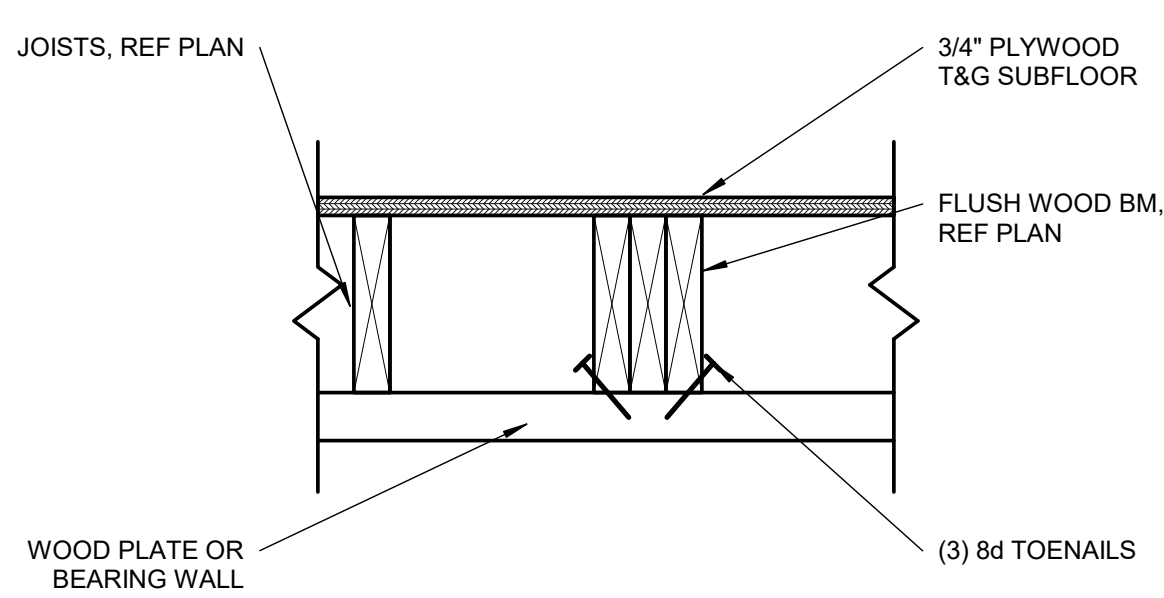
MULTIPLE PLY BEAM NAILING SCHEDULE
10

S3.1 NOT TO SCALE



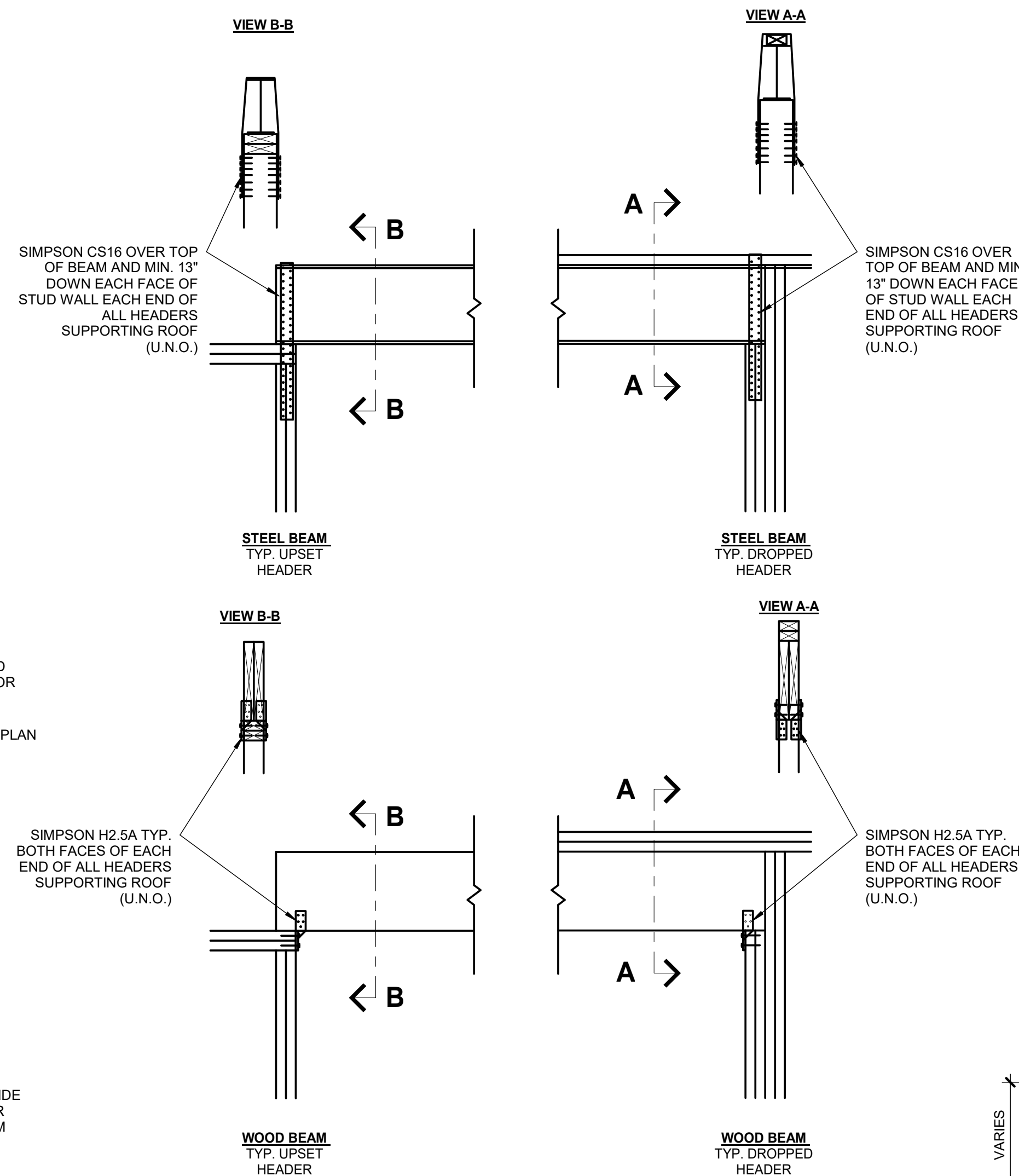
FLUSH STEEL BEAM CONNECTION
7

S3.1 1 1/2" = 1'-0"



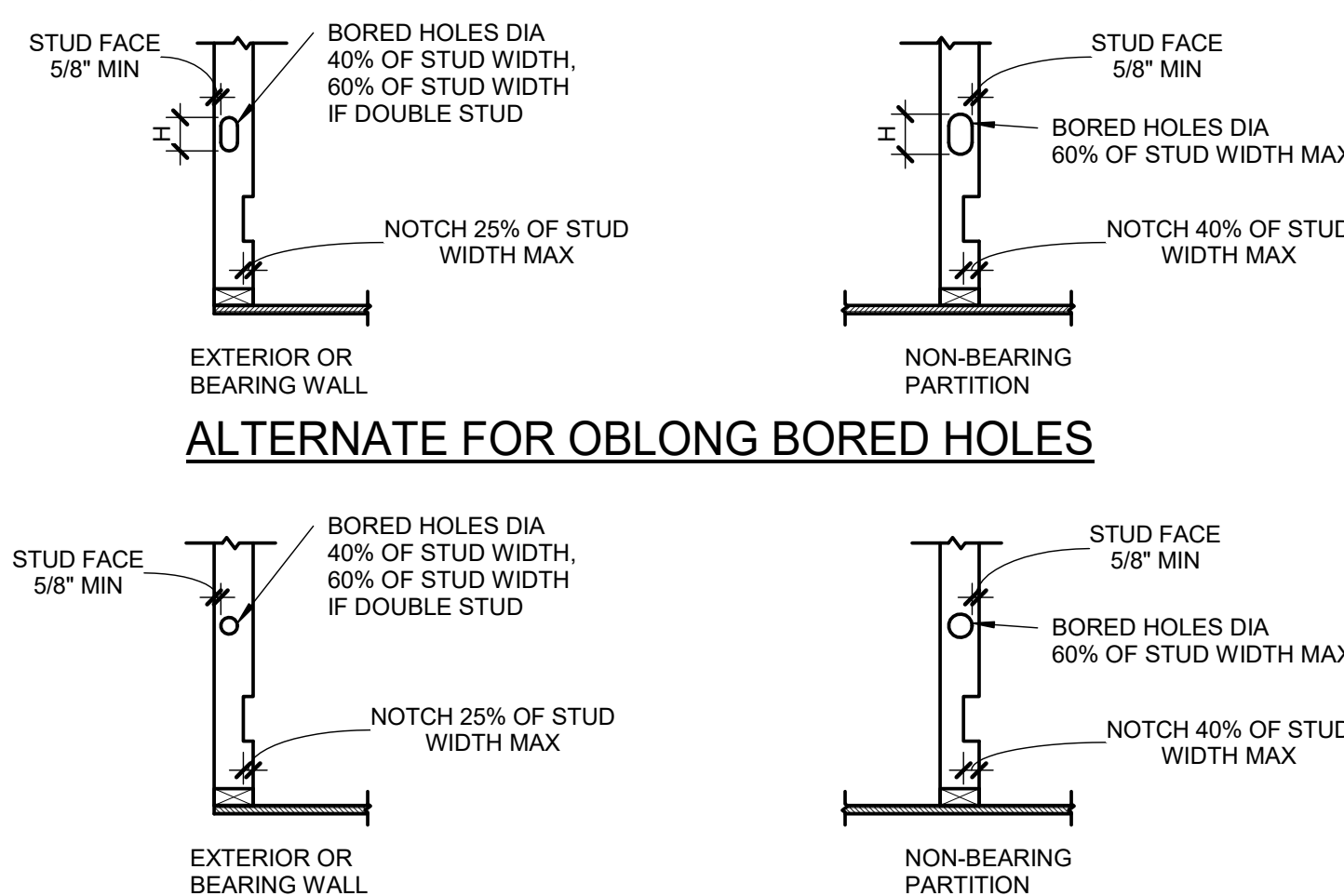
FLUSH WOOD BEAM CONNECTION
6

S3.1 1 1/2" = 1'-0"



ROOF SUPPORTING BEAM HOLD DOWN
5

S3.1 3/4" = 1'-0" (COMPLIANCE WITH IRC R802.11)



ALTERNATE FOR OBLONG BORED HOLES

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

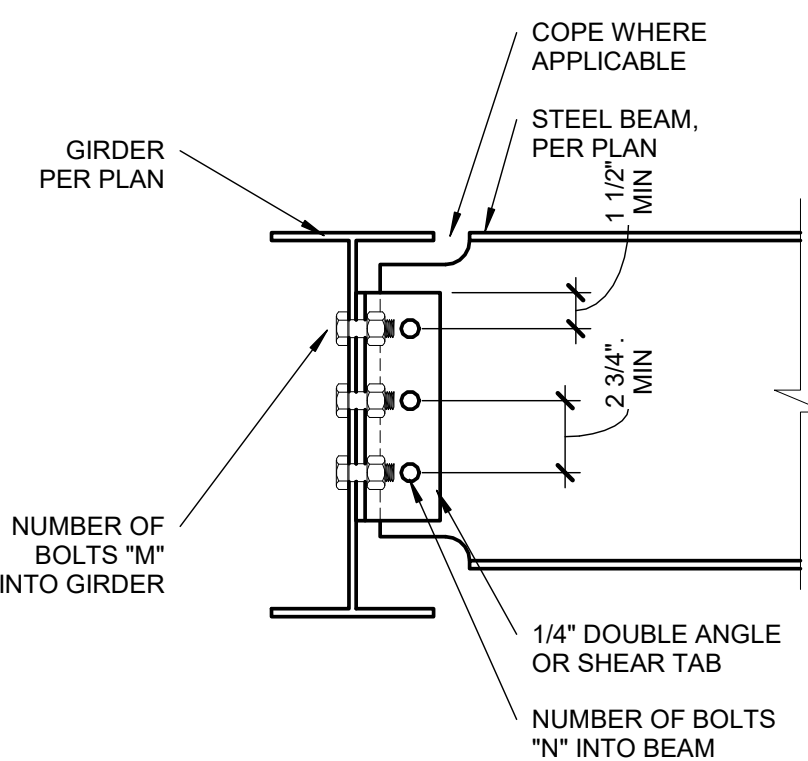
PLATES:
TOP AND BOTTOM PLATE HOLE, CUT OR NOTCH THAT IS 50% MORE OF WIDTH MUST BE REPAIRED USING 16 GA (MIN) METAL TIE THAT IS AT LEAST 1-1/2" WIDE IF WALL IS A SHEAR WALL IT MUST BE REPAIRED USING HARDY FRAME SADDLE (HFS).

WALL SIZE	HOLE SIZE	VERTICAL HOLE SIZE (H)
2x4	1 3/4"	D+1/2" AT Lvl 182
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 R802.6 AND FIGURES R802.6.1 AND R802.6.2

DRILLING & NOTCHING DETAIL
4

S3.1 3/4" = 1'-0"

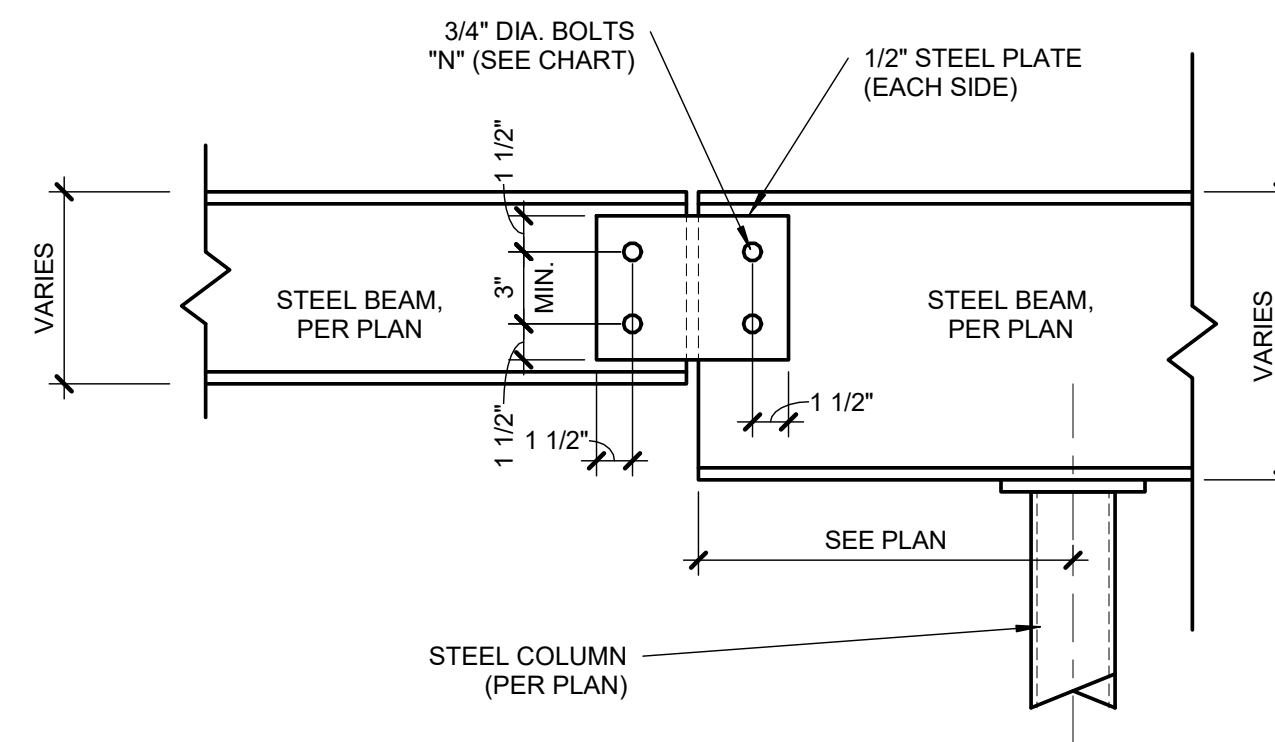


BEAM TO GIRDER CONNECTION
3

S3.1 1 1/2" = 1'-0"

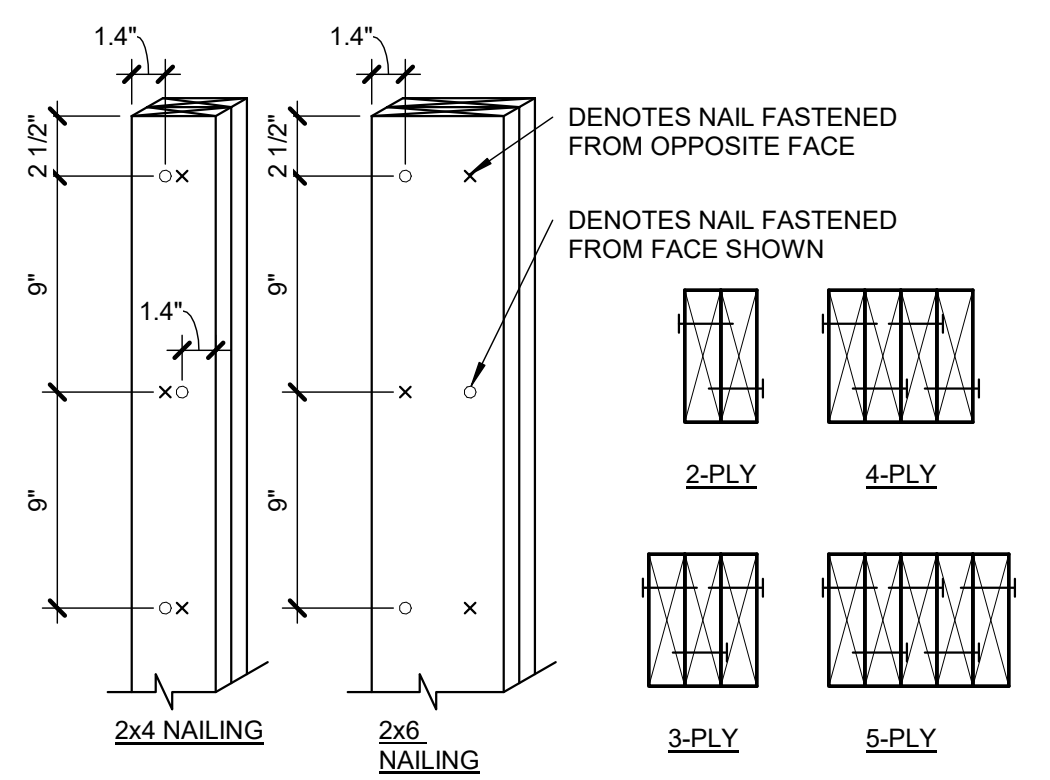
BEAM CONNECTION SCHEDULE		
BEAM SIZE	# OF BOLTS "N"	# OF BOLTS "M"
W8, W10	2	4
W12, W14	3	6
W16, W18	4	8

NOTES:
1. THESE CONNECTIONS ARE TYPICAL UNO.
2. NUMBER OF BOLTS IN UPSET 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.



BEAM SPLICE DETAIL
2

S3.1 1 1/2" = 1'-0"



BUILT-UP STUD COLUMN
1

S3.1 1 1/2" = 1'-0"

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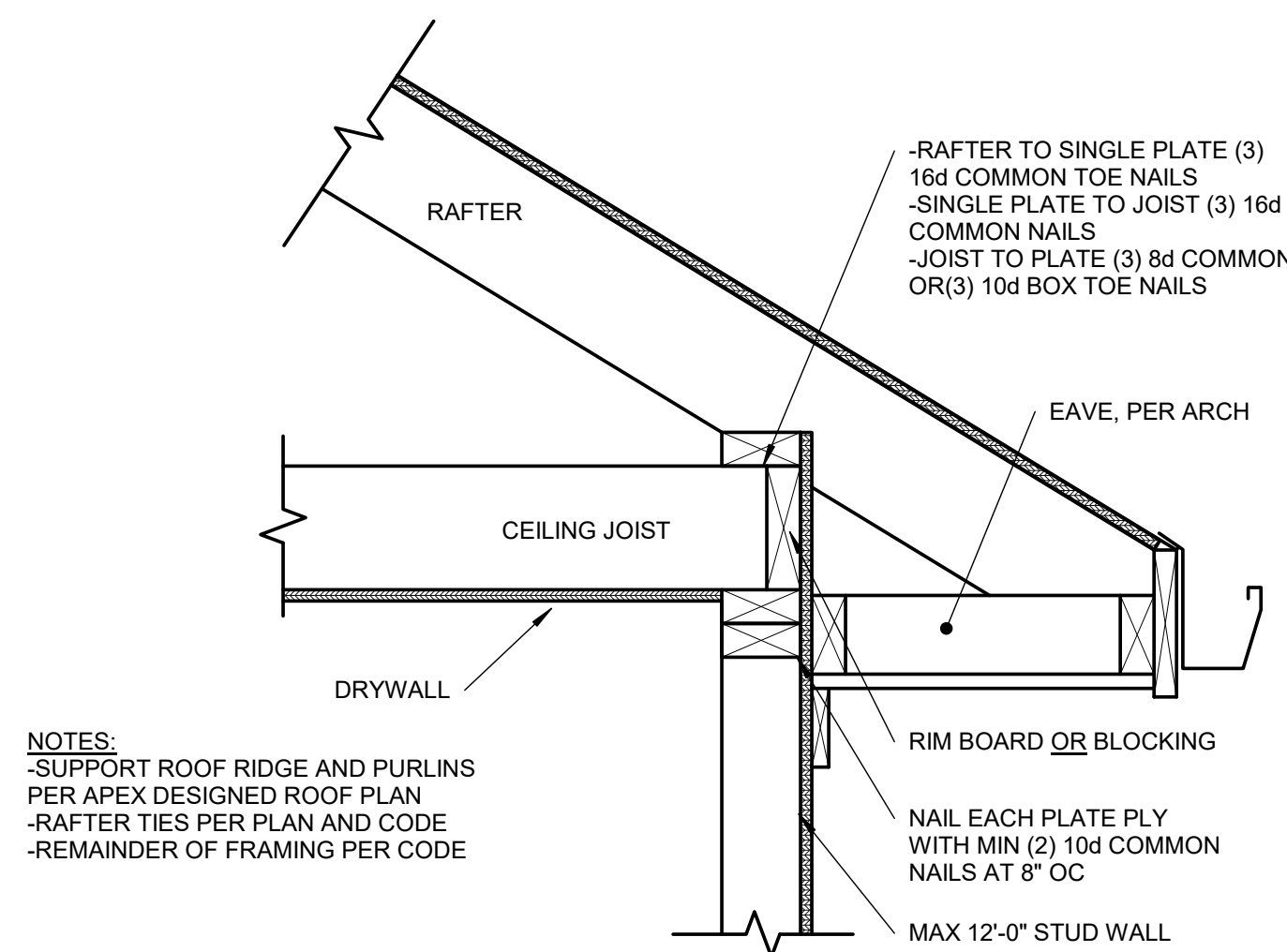
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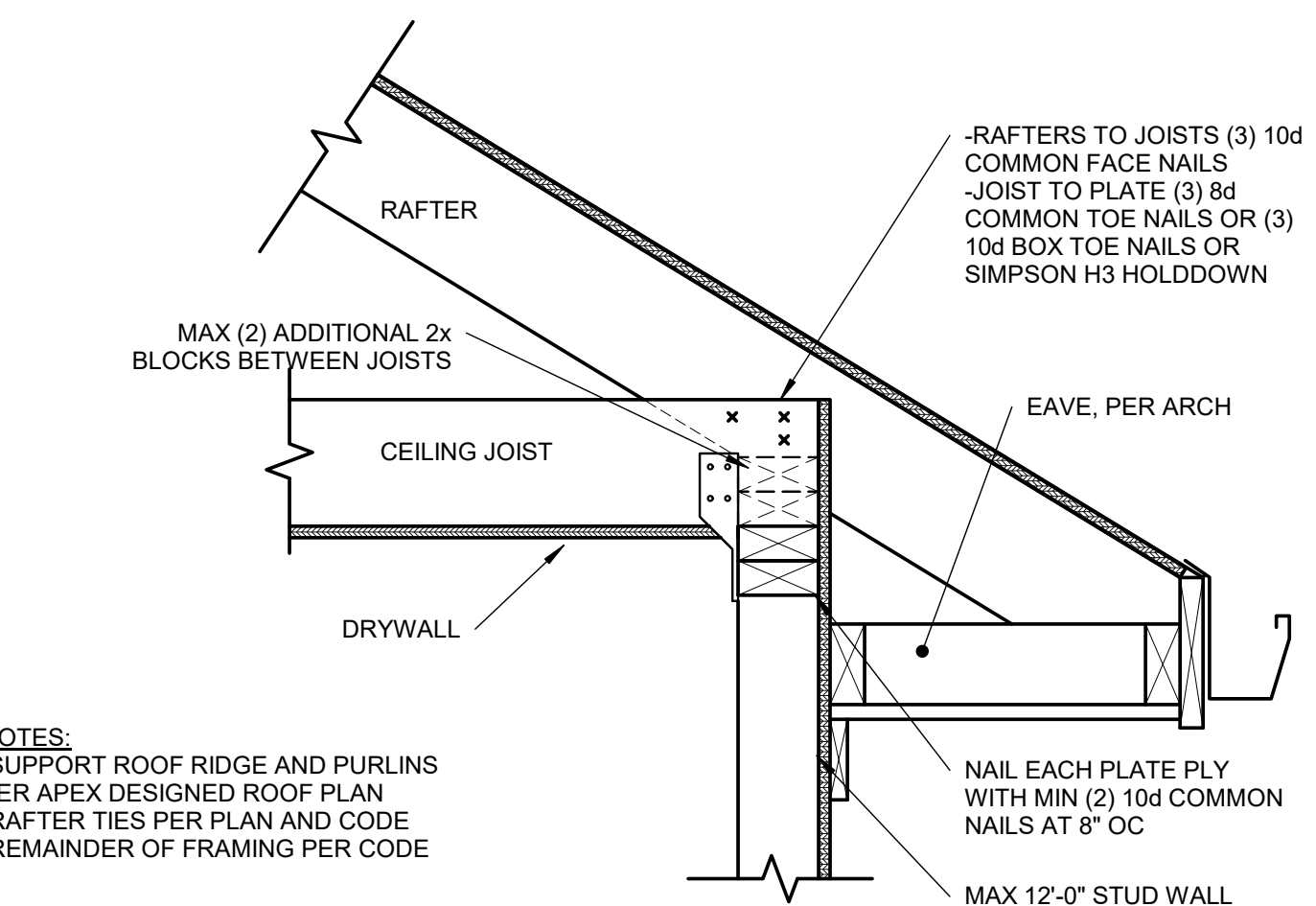
SHEET: FRAMING DETAILS

S3.1



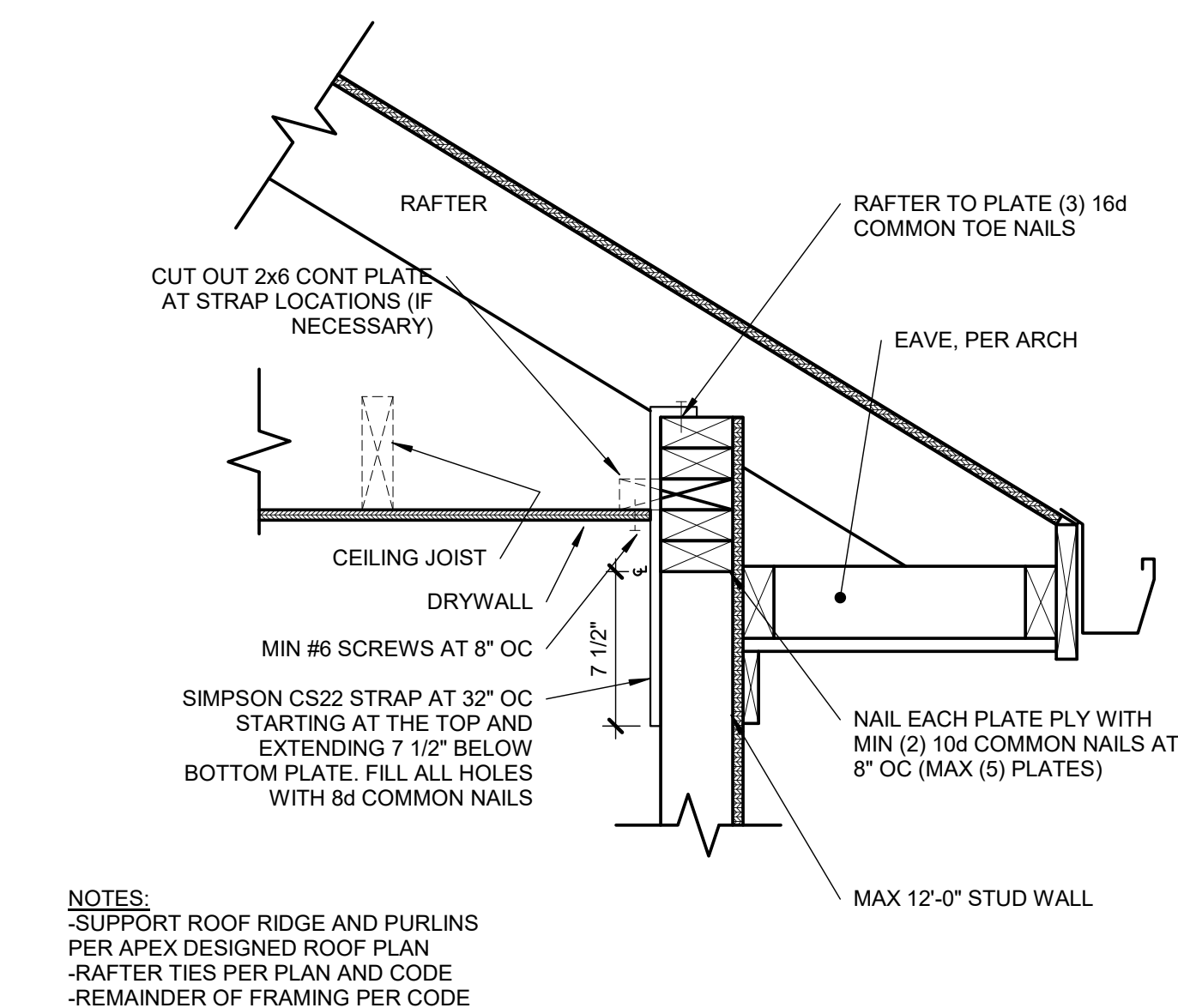
8 | OPTIONAL RAFTER BEARING

S3.2	$1\frac{1}{2}'' = 1'-0''$
-------------	---------------------------



7 | OPTIONAL RAFTER BEARING

S3 2	1 1/2" = 1'-0"
------	----------------



6 | OPTIONAL RAFTER BEARING

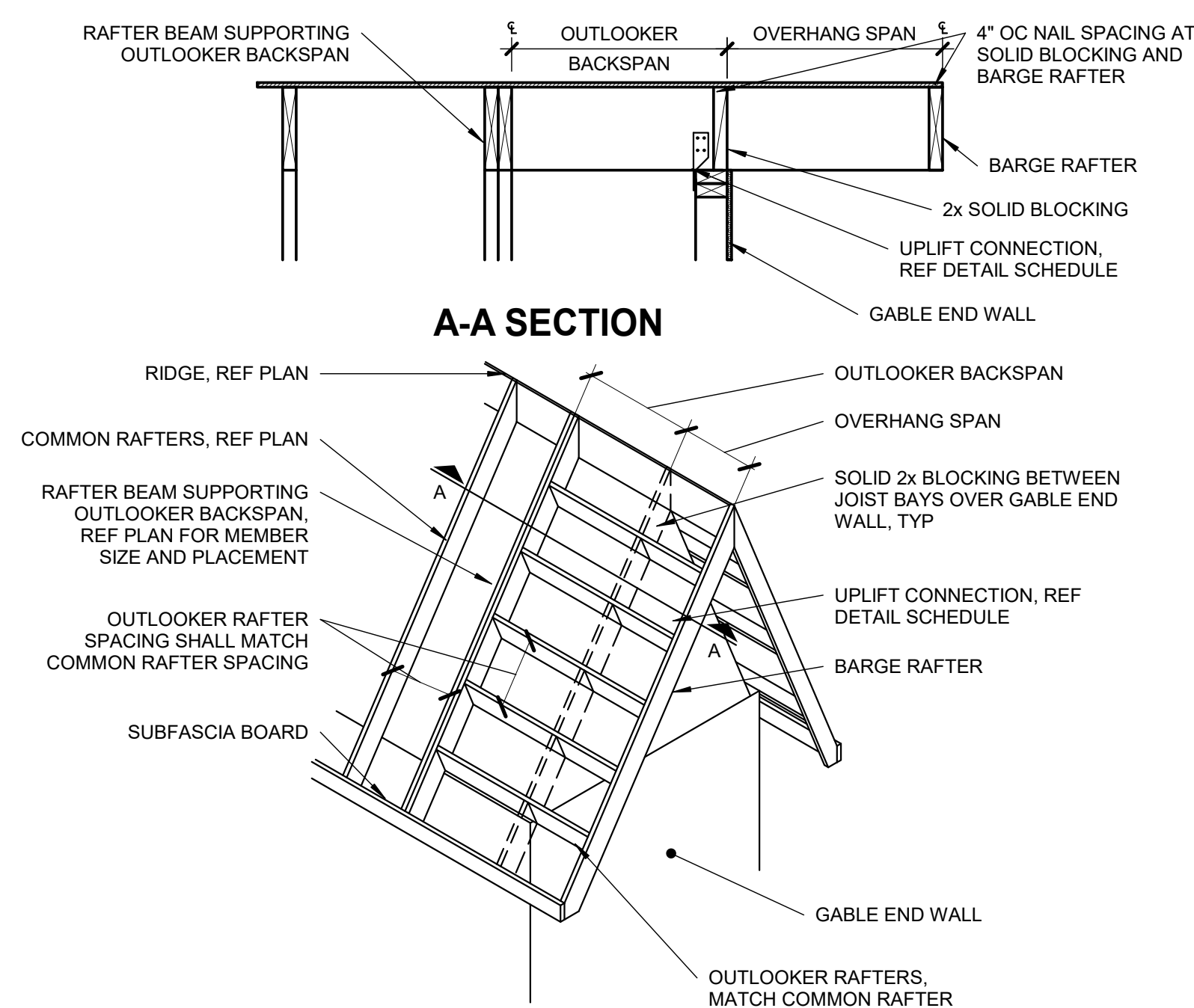
S3 2	1 1/2" = 1'-0"
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UPLIFT CONNECTION SCHEDULE

OVERHANG SPAN: 1'-4" TO 1'-9"			
RAFTER SPACING	UPLIFT CONNECTOR	EXPOSURE B	EXPOSURE C
12" OC	SIMPSON H2.5A	(1) AT 24" OC	(1) AT 24" OC
16" OC	SIMPSON H2.5A	(1) AT 32" OC	(1) AT 16" OC
24" OC	SIMPSON H2.5A	(1) AT 24" OC	(1) AT 24" OC
OVERHANG SPAN: 1'-10" TO 2'-6"			
RAFTER SPACING	UPLIFT CONNECTOR	EXPOSURE B	EXPOSURE C
12" OC	SIMPSON H2.5A	(1) AT 12" OC	(1) AT 12" OC
16" OC	SIMPSON H2.5A	(1) AT 16" OC	(1) AT 16" OC
24" OC	SIMPSON H2.5A	(2) AT 24" OC	(2) AT 24" OC
OVERHANG SPAN: 2'-7" TO 3'-9"			
RAFTER SPACING	UPLIFT CONNECTOR	EXPOSURE B	EXPOSURE C
12" OC	SIMPSON H2.5A	(2) AT 12" OC	(2) AT 12" OC
16" OC	SIMPSON H2.5A	(2) AT 16" OC	(2) AT 16" OC
24" OC	SIMPSON H2.5A	(2) AT 24" OC	N/A

OVERHANG SPAN	MIN BACKSPAN LENGTH
≤ 1'-0"	1'-0"
1'-1" to 2'-0"	EQUALS OVERHANG SPAN
≥ 2'-1"	OVERHANG SPAN x2

NOTES:
-CHART IS ONLY APPLICABLE IF NO
RAFTER BEAM SHOWN ON PLAN.
-CONTACT EOR IF OVERHANG LENGTH
EXCEEDS CHART OPTIONS.



OUTLOOKER RAFTERS ROOF

5	FRAMING
S3.2	NOT TO SCALE

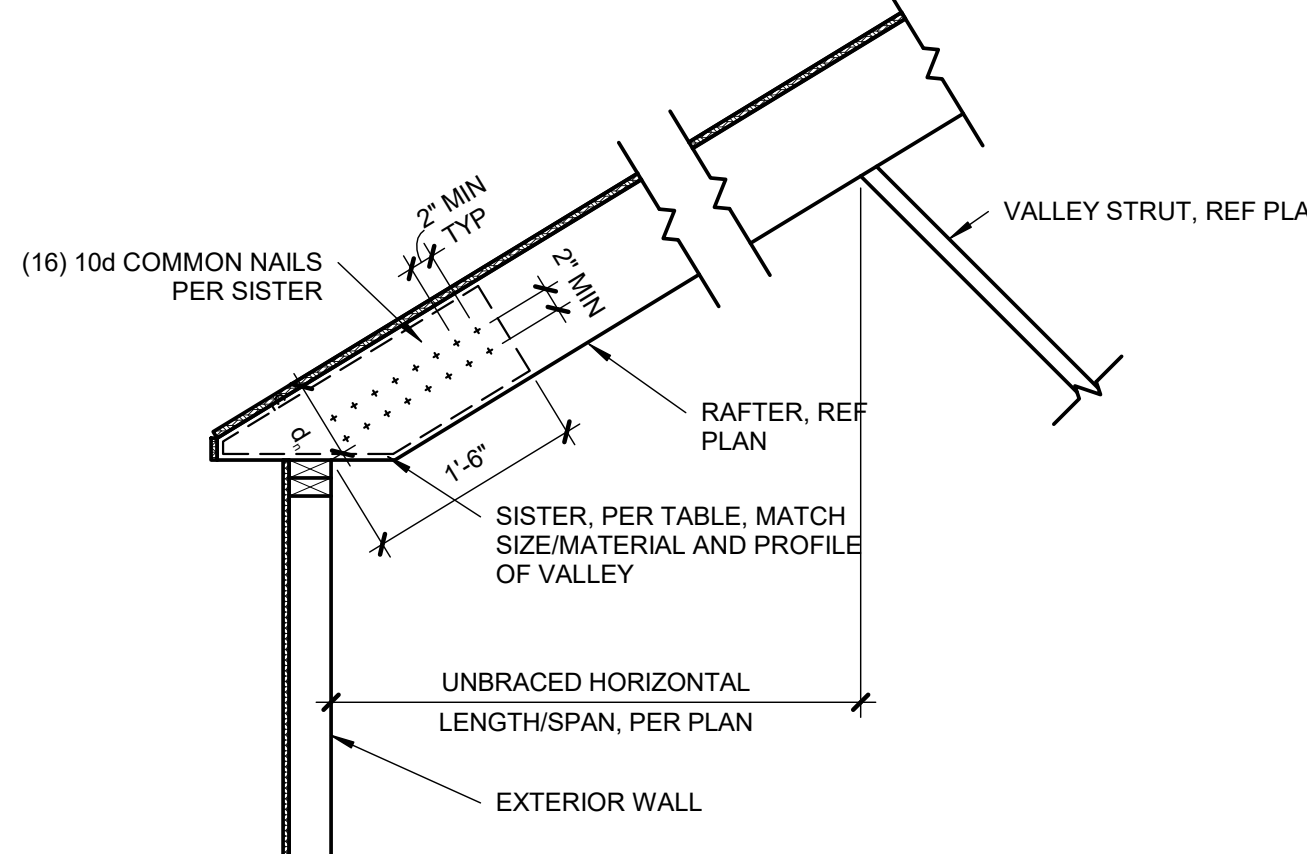
REQUIRED NUMBER OF SISTER PLIES									
LIGHT ROOF									
2x VALLEY					LVL VALLEY				
# OF SISTER PLIES	RAPPER SIZE		RAPPER SIZE		# OF SISTER PLIES	RAPPER SIZE		RAPPER SIZE	
	2x6	2x8	2x10	2x12		2x6	2x8	2x10	2x12
0	4'-8"	6'-2"	7'-11"	-	0	8'-8"	11'-5"	14'-7"	-
1	9'-5"	-	-	-	1	-	-	-	-
2	-	N/A	N/A	-	2	N/A	N/A	N/A	-
HEAVY ROOF									
2x VALLEY					LVL VALLEY				
# OF SISTER PLIES	RAPPER SIZE		RAPPER SIZE		# OF SISTER PLIES	RAPPER SIZE		RAPPER SIZE	
	2x6	2x8	2x10	2x12		2x6	2x8	2x10	2x12
0	3'-4"	4'-7"	5'-11"	-	0	6'-6"	8'-7"	-	10'-11"
1	7'-10"	9'-3"	-	-	1	13'-1"	-	-	-
2	-	-	-	-	2	-	-	-	-

RAFTERS OF A LENGTH GREATER THAN THAT FOUND IN THE CELL ABOVE ARE CONTROLLED BY BENDING. APPLY THE NUMBER OF SISTER PILES CORRESPONDING TO THIS ROW. THE NUMBER OF SISTERS IS INTENDED TO BE THE SAME AS THE NUMBER OF RAFTERS. ENGINEERED PLANS AS THEY ARE DRAWN BY A/E. BRACING LOCATIONS SHALL BE INDICATED ON THE HORIZONTAL RAFTER PLAN. THE NUMBER OF SISTERS REQUIRED TO DETERMINE THE NUMBER OF SISTERS REQUIRED. BRACING LOCATIONS ARE **NOT** TO BE INFERRED USING THIS TABLE.

TABLE VALUES ARE BASED ON: DEPTH OF MEMBER REMAINING, d , EQUAL TO THE DEPTH OF THE RAFTERS. IF d IS OBSERVED TO BE LESS THAN THE DEPTH OF THE CELL, THE VALLEY WALL SHALL BE USED TO DETERMINE THE NUMBER OF SISTERS. TABLE VALUES ARE VALID FOR TAPERED CUTS ONLY, REF. DETAIL 415/32.

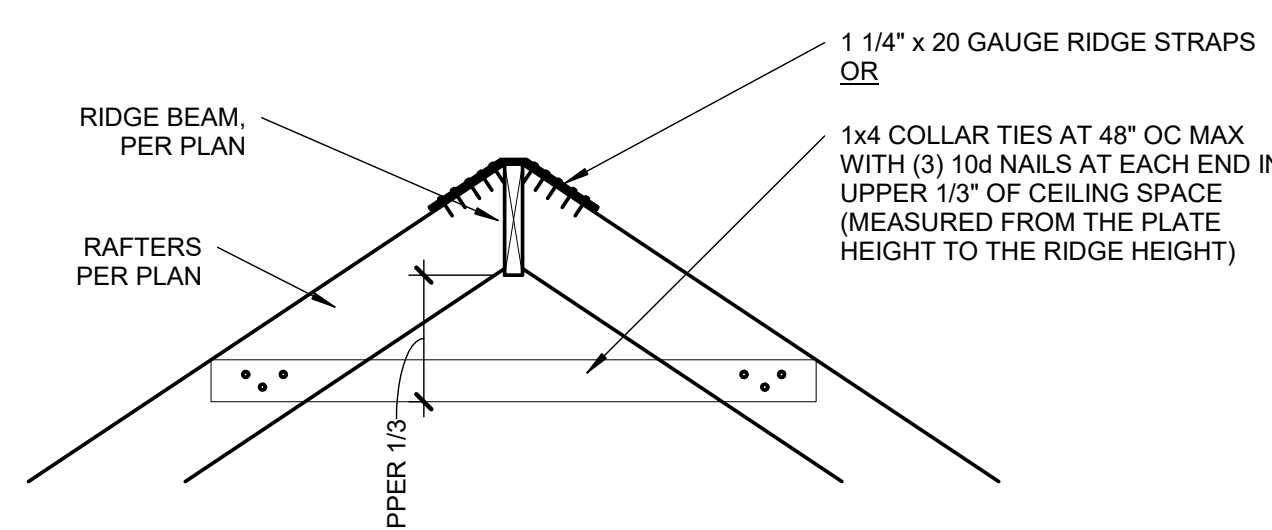
IF MULTIPLY VALLEY IS SPECIFIED ON PLAN TREAT EACH ADDITIONAL PLY AS A SISTER PILE. LOOKING IN MULTIPLE DIRECTIONS:

- MAX 1/4" HORIZONTAL RAFTER SPAN IN BOTH DIRECTIONS FROM VALLEY.
- ALL HIPS ARE DESIGNED TO BE CONTROLLED BY BENDING. SHEAR AT BEARING WITH PLYS AND JOINTS DOES NOT CONTROL DESIGN.



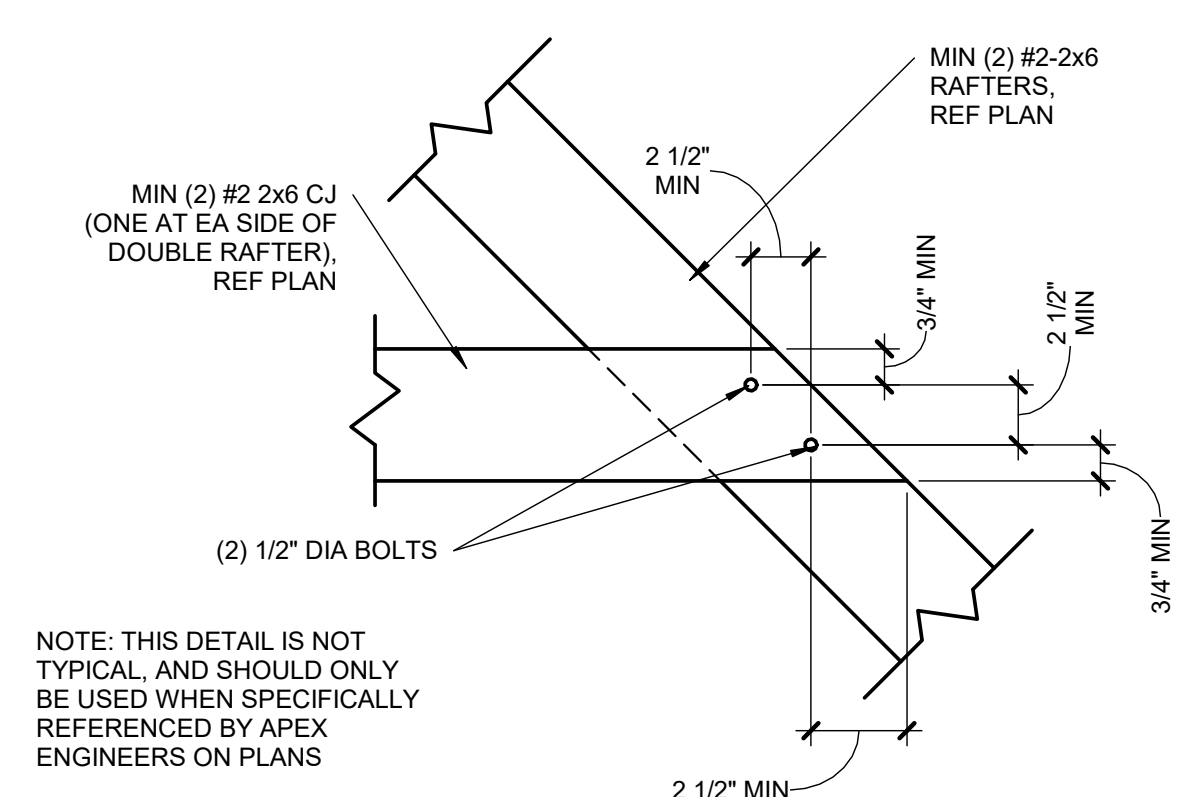
4 | TAPERED VALLEY

S3 2	3/4" = 1'-0"
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3 | RIDGE BEAM DETAIL

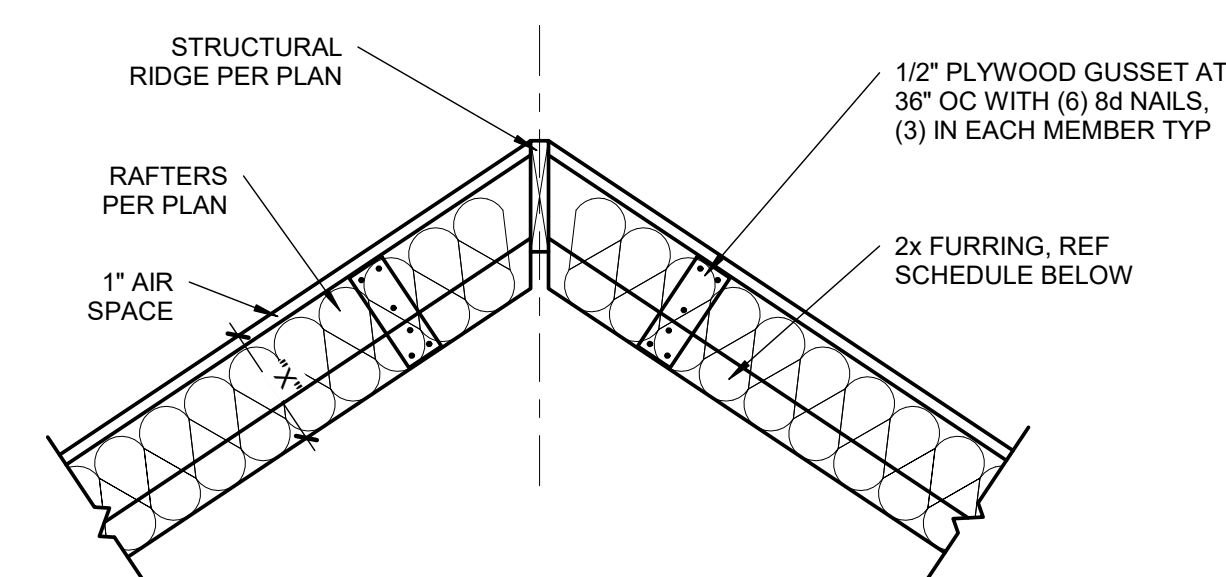
S3.2	$3/4" = 1'-0"$
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NOTE: THIS DETAIL IS NOT
TYPICAL, AND SHOULD ONLY
BE USED WHEN SPECIFICALLY
REFERENCED BY APEX
ENGINEERS ON PLANS

BOLTED RAFTER HIP

2	CONN
S3.2	1 1/2" = 1'-



FURR OUT 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	REQUIRED

NOTES:

1. ALL VAULTED RAFTERS SHALL BE #2-2x6 DF-L, MINIMUM, AT 16" OC, PER SPAN CHART, UNLESS NOTED OTHERWISE.
2. ALL VAULTS SHALL BE FURRED, JOISTS WITH 2x4 FRAMING TO THE REQUIRED DEPTH OF INSULATION, PLUS 1" AIR SPACE.
3. R-30C INSULATION = 8 1/4" THICK
4. R-38C INSULATION = 10 1/4" THICK

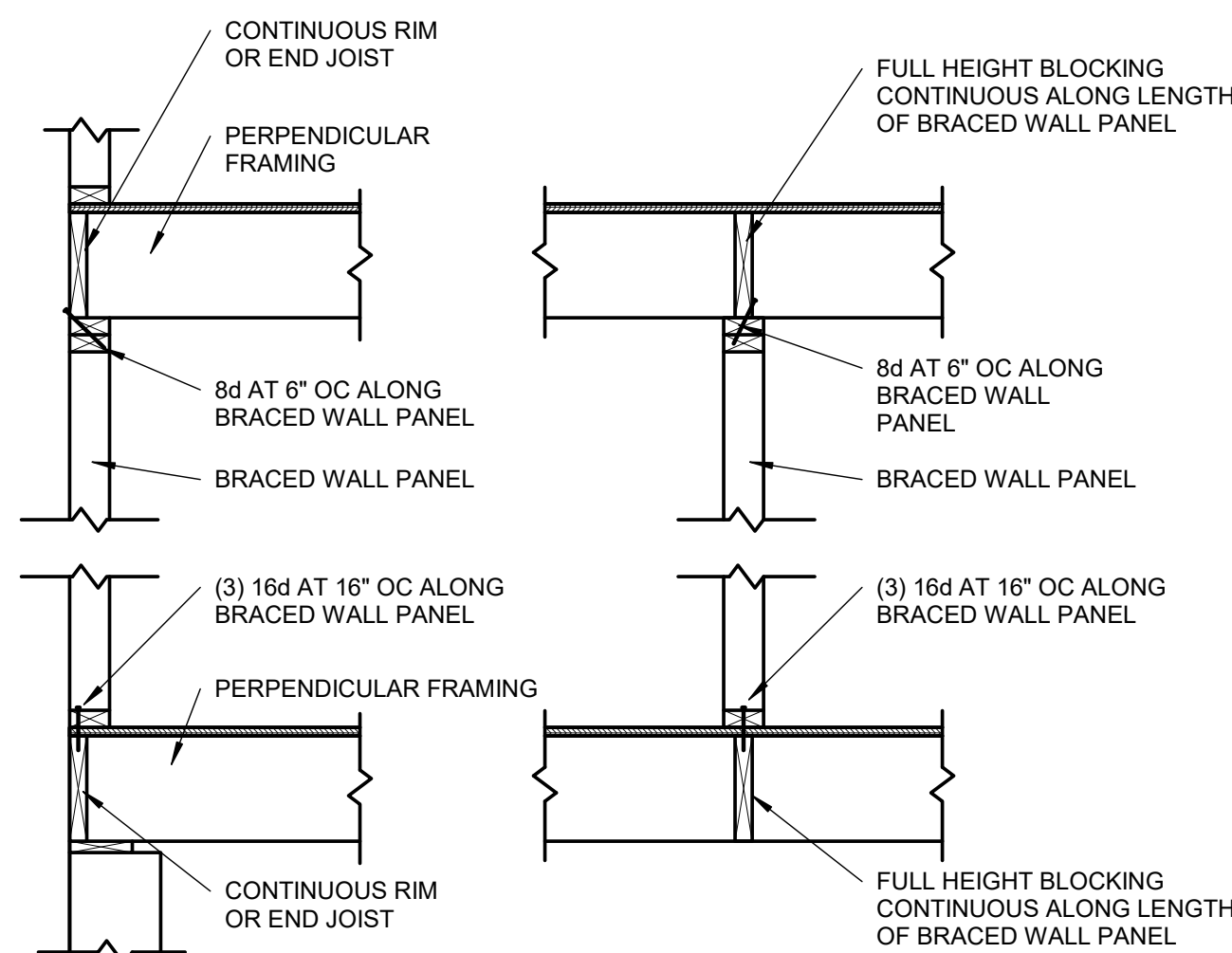
INSULATION REQUIREMENTS MAY BE REDUCED TO R30 IF ROOF/CEILING ASSEMBLY DOES NOT ALLOW SUFFICIENT SPACE BUT IS LIMITED TO VAULTED CEILING AREA THAT ARE LESS THAN 500 SQUARE FEET OR 20 PERCENT OF THE TOTAL INSULATED CEILING AREA, WHICHEVER IS LESS, (PER N1002.2.2)

VAULTED RAFTER INSULATION

1 | FURR OUT

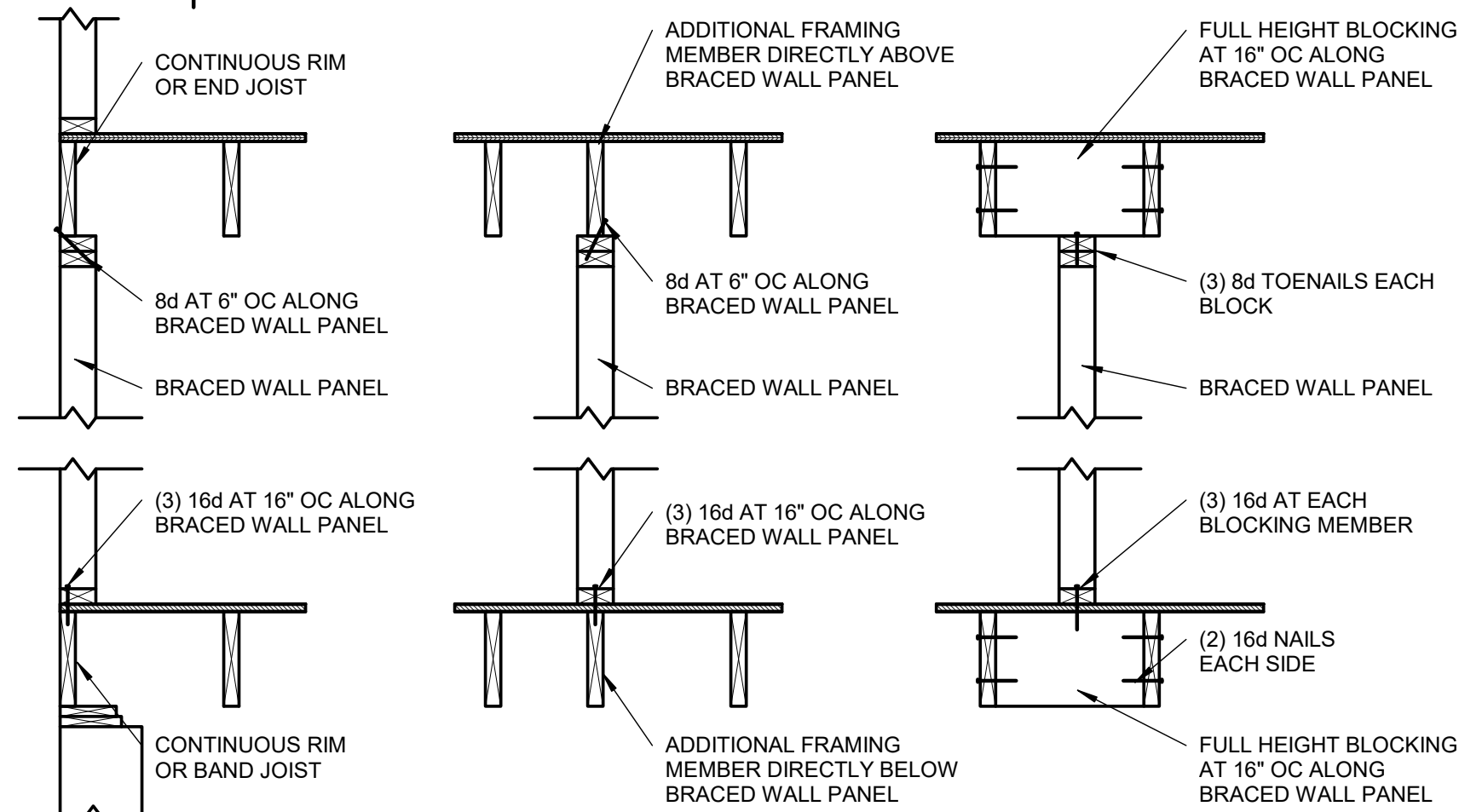
S3.2	$3/4" = 1'-0"$
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**RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Victoria Nelson
09/27/2021**



**BRACED WALL PANEL
CONNECTION WHEN
PERPENDICULAR TO
FLOOR/CEILING FRAMING**

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



**BRACED WALL PANEL
CONNECTION WHEN PARALLEL
TO FLOOR/CEILING FRAMING**

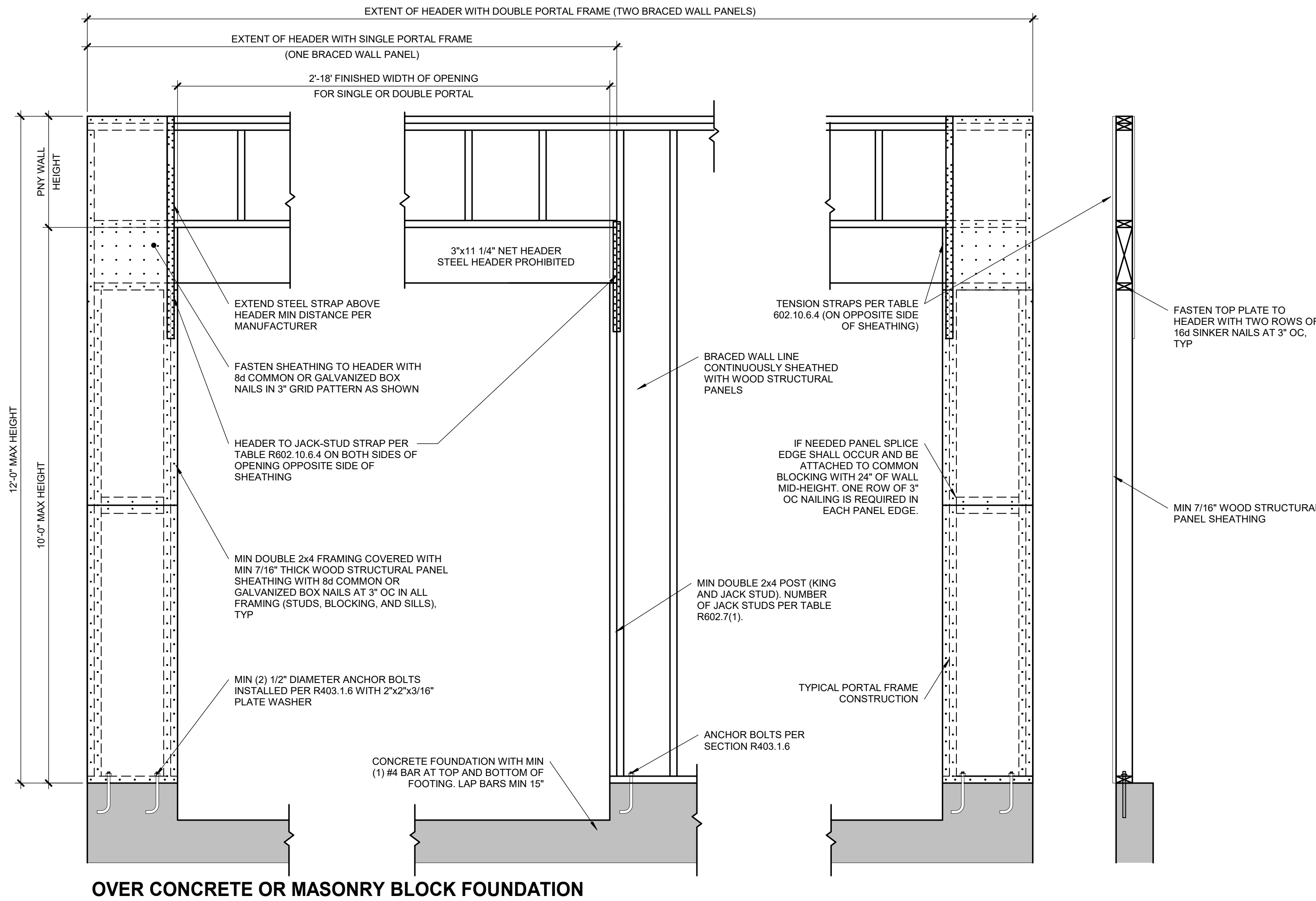
S4.1 3/4" = 1'-0"

CONT. SHEATHED BRACED WALL END CONDITIONS

END CONDITION 1	END CONDITION 2
END CONDITION 3	END CONDITION 4
END CONDITION 5	REQUIREMENTS
	<p>RETURN PANEL: 24" FOR BRACED WALL LINE SHEATHED WITH WOOD STRUCTURAL PANELS 32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD</p> <p>DISTANCE D: 24" FOR BRACED WALL LINES SHEATHED WITH WOOD STRUCTURAL PANELS 32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD</p> <p>HOLD-DOWN DEVICE: 600 LBS CAPACITY FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FLOOR FRAMING BELOW</p>

**CONTINUOUS SHEATHED BRACED
WALL END CONDITIONS**

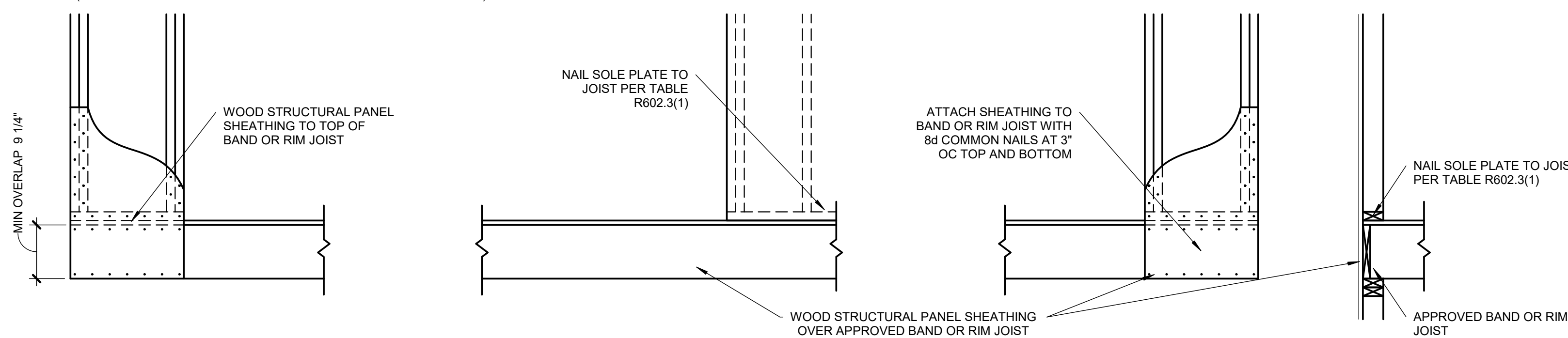
S4.1 NOT TO SCALE (COMPLIANCE WITH IRC R602.10.7)



OVER CONCRETE OR MASONRY BLOCK FOUNDATION

OVER RAISE WOOD FLOOR - FRAMING ANCHOR OPTION

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



OVER RAISE WOOD FLOOR - OVERLAP OPTION

(WHEN PORTAL SHEATHING LAPS OVER BAND OR RIMBOARD)

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

S4.1 3/4" = 1'-0" (PER IRC R602.10.6.4)

**RELEASE FOR
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DEVELOPMENT SERVICES
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09/27/2021**