



DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

MERCER ISLAND, WA 98040

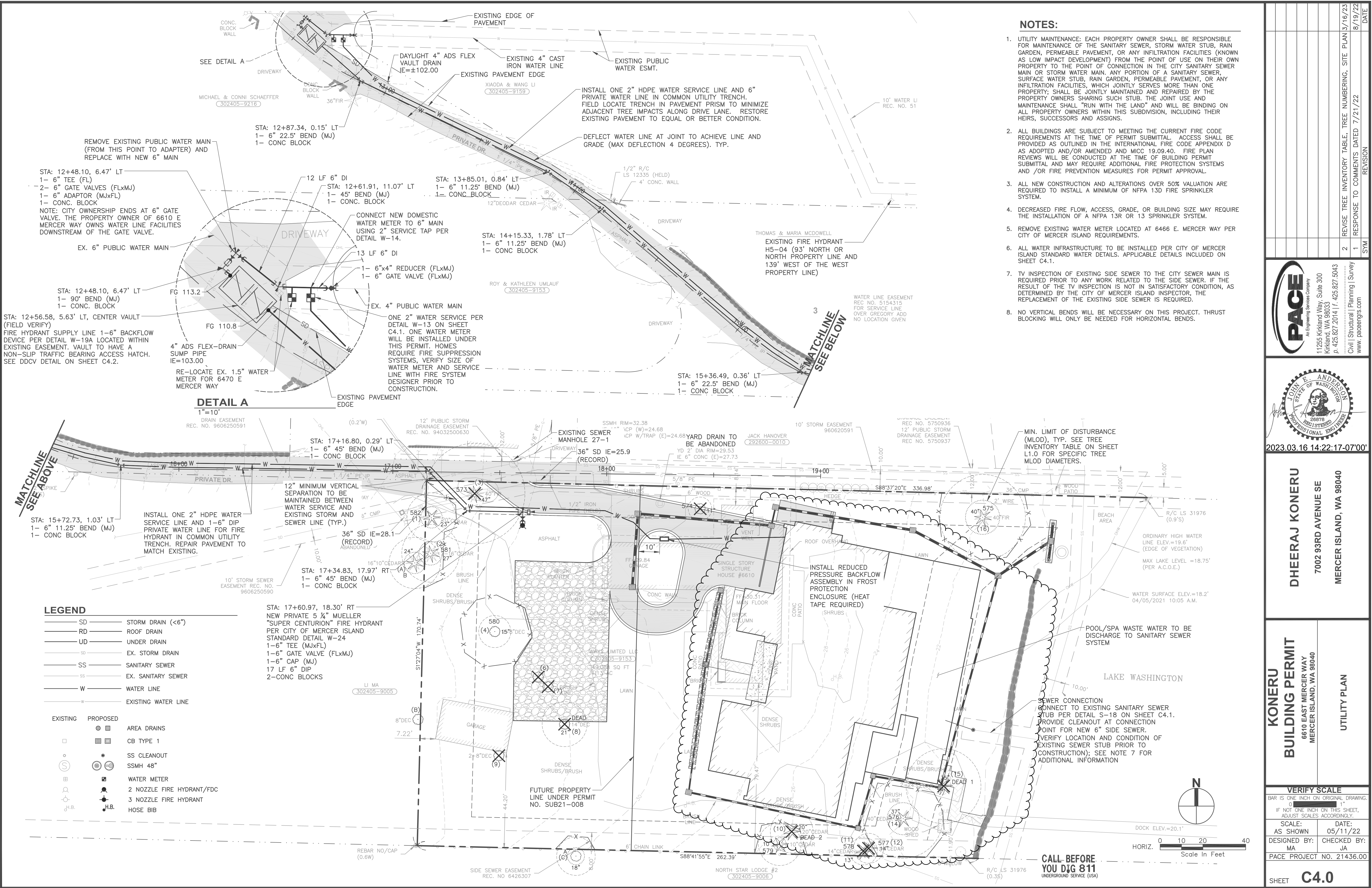
STORM & GRADING PLAN

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING	
0	1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	
SCALE:	DATE:
AS SHOWN	05/11/22
DESIGNED BY:	CHECKED BY:
MA	JA
PACE PROJECT NO. 21436.00	
SHEET C3.0	

[illegible]

FILE NAME: P:\KIP\P21\21436 KONEU RESIDENCE\CAD\ENGINEERING\SHEETS\STR BUILDING PERMIT\21436_SRUT-STR.DWG
 SAVE TIME: 3/15/2023 5:07:44 PM PLOT TIME: 3/16/2023 1:39 PM
 USER NAME: JAY PULLEN
 XREF FILES: X21436_BDR.dwg X21436-SW-DENVO.dwg X21436_SITE.dwg D21436_COR.dwg X21436_SD.dwg X21436_FG.dwg

FILE NAME: P:\WP21\21436 KONERU RESIDENCE\DWG\ENGINEERING\DWG\SPR BUILDING PERMIT\21436_UT-SPR.DWG
USER NAME: JAY
PLOT TIME: 3/16/2023 1:38 PM
XREF FILES: 21436_BDR.DWG 21436_SRV-DEM.DWG 21436_SITE.DWG 21436_HA.DWG 21436_WA-SFR.DWG 21436_TREESFR.DWG 9433-11-SRV.DWG



PACE	
An Engineering Services Company	
11255 Kirkland Way, Suite 300 Kirkland, WA 98033 p. 425.827.2014 f. 425.827.5043 Civil Structural Planning Survey www.paceengr.com	

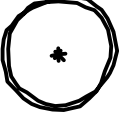
JOHN B. ANDERSON	
STATE OF WASHINGTON	
PROFESSIONAL ENGINEER	
2023.03.16 14:22:17-07'00"	

KONERU	
BUILDING PERMIT	
6610 EAST MERCER WAY MERCER ISLAND, WA 98040	
UTILITY PLAN	

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	
SCALE: AS SHOWN	DATE: 05/11/22
DESIGNED BY: MA	CHECKED BY: JA
PACE PROJECT NO. 21436.00	

SHEET C4.0	
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REPLACEMENT TREE SCHEDULE

SYMBOL	BOTANICAL NAME/ COMMON NAME	SIZE	QTY.	REMARKS
DECIDUOUS TREES				
	ACER CIRCINATUM	1-1/2"	11	MULTI-STEMMED
	VINE MAPLE	CAL.		
	ACER GLABRUM VAR DOUGLASII	1-1/2"		
	ROCKY MOUNTAIN MAPLE	CAL.		
	ACER RUBRUM 'SCARLET SENTINEL'	1-1/2"		
	SCARLET SENTINEL RED MAPLE	CAL.		
	CERCIDIPHYLLUM JAPONICUM	1-1/2"		
	KATSURA TREE	CAL.	15	
	CORNUS NUTTALLII	1-1/2"		
	PACIFIC DOGWOOD	CAL.		
	PINUS CONTORTA VAR CONTORTA	6-7' HT.		
	SHORE PINE	6-7' HT.		
	PSEUDOTSUGA MENZIESII	6-7' HT.		
	DOUGLAS FIR	6-7' HT.		
	THUJA PLICATA	6-7' HT.		
	WESTERN RED CEDAR	6-7' HT.		

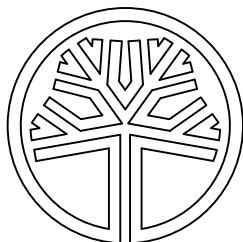
GENERAL NOTES

1. SEE CIVIL SHEET L1.0 TREE RETENTION PLAN FOR UPDATED ARBORIST REPORT.

Koneru
21.14

Darwin Webb
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Mercer Island, WA 98040



STATE OF
WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

DARWIN D. WEBB
CERTIFICATE NO. 564

ISSUES:

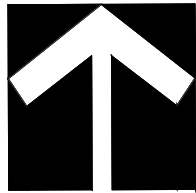
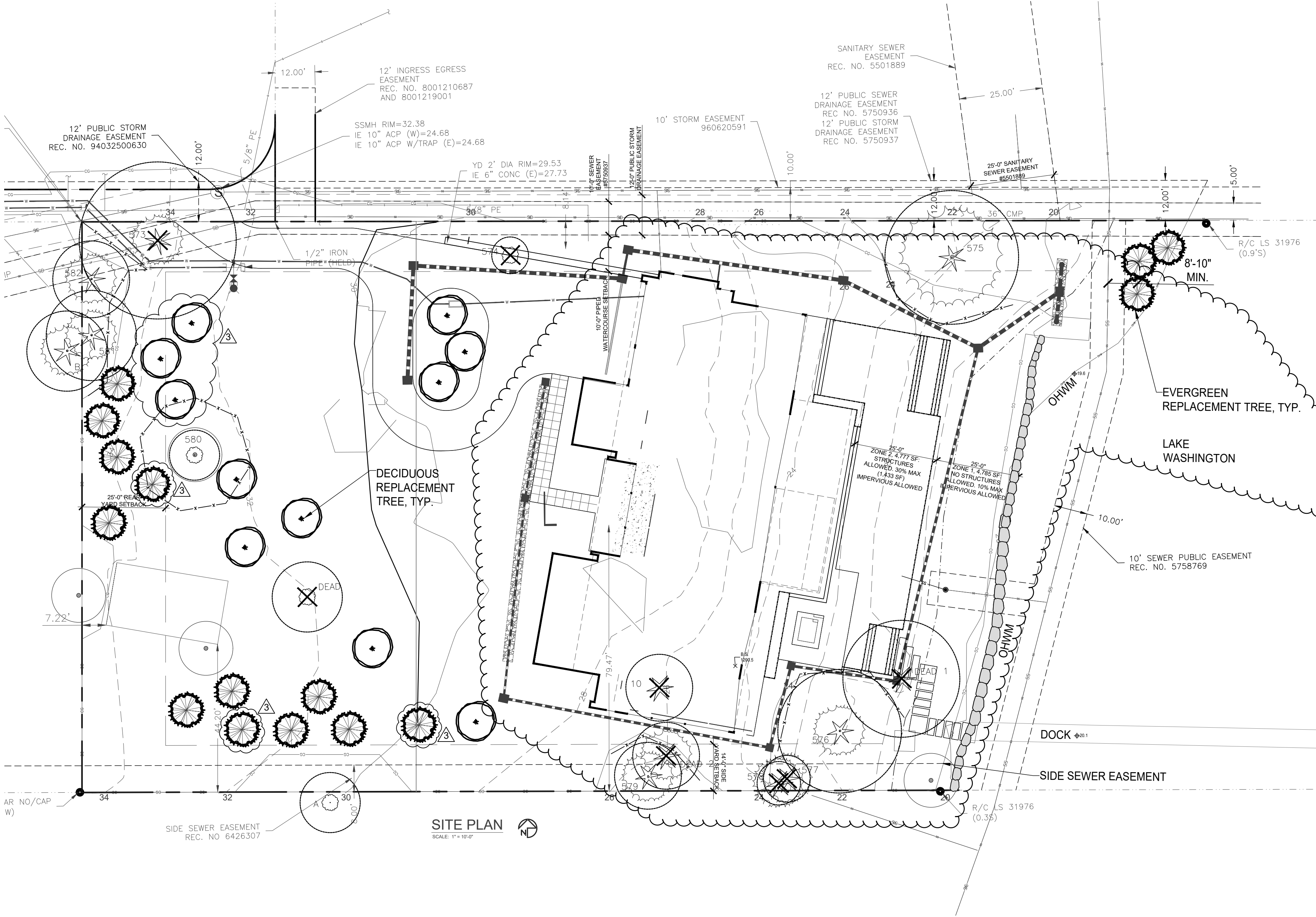
NO.:	DATE:	DESCRIPTION:
1	09.23.22	PERMIT REVISIONS
2	11.08.22	PERMIT REVISIONS
3	03.13.23	PERMIT RESUBMITTAL

PROJECT #: 21.14

DRAWN: NP
CHECKED: DW

TITLE: TREE REPLACEMENT
PLAN

SHEET: L1.1



5' 10' 20' 40'
SCALE: 1" = 10' - 0"



PLANT SCHEDULE

TREES

SYMBOL	BOTANICAL NAME/ COMMON NAME	SIZE	QTY.	REMARKS
	PINUS CONTORTA SHORE PINE	4'-5' SP.		

SHRUBS

	CORNUS SERICEA REDTIG DOGWOOD	1 GAL.		
	GAULTHERIA SHALLON SALAL	1 GAL.		
	SALIX SCOULERIANA SCOULER'S WILLOW	1 GAL.		

PERENNIALS AND GROUNDCOVERS

	ARCTOSTAPHYLOS UVA-URSI KINNIKINNICK	4" POT		SPACING @ 18" OC
	BLECHNUM SPICANT DEER FERN	1 GAL.		
	CAREX OBNUPTA SLOUGH SEDGE	4" POT		
	CAREX ROSTRATA BEAKED SEDGE	4" POT		
	POLYSTICHUM MUNITUM SWORD FERN	1 GAL.		
	SCIRPUS ACUTUS HARDSTEM BULLRUSH	4" POT		SPACING @ 18" OC

NOTE:
ALL PROPOSED PLANTS ARE PACIFIC NORTHWEST NATIVES

AREA CALCULATIONS

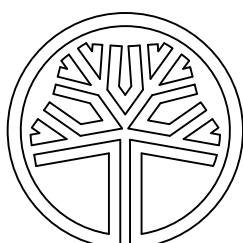
TOTAL AREA BETWEEN OHWM AND 20' SETBACK = 3,833 S.F.
3,833 X .751 = 2,878.58 S.F. REQUIRED NATIVE VEGETATION

TOTAL PROPOSED NATIVE VEGETATION (75.6%) 2,899 S.F.

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21.14

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DARWIN D. WEBB
CERTIFICATE NO. 564

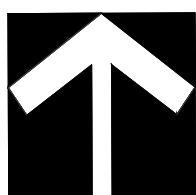
ISSUES:

NO.:	DATE:	DESCRIPTION:
1	12.17.21	REVIEW
2	05.25.22	REVISIONS
3	06.09.22	REVISIONS
4	09.23.22	PERMIT REVISIONS
5	11.08.22	PERMIT REVISIONS
6	03.13.23	PERMIT RESUBMITTAL

PROJECT #: 21.14

DRAWN: RB
CHECKED: DW

TITLE: SHORELINE
PLANTING PLAN
SHEET: L3.0



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

GENERAL NOTES & 2018 WSEC REQUIREMENTS + 2018 IRC REQUIREMENTS

1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2018 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODE, CHAPTER 51-20 AND 51-21 WAC, THE AMERICANS WITH DISABILITIES ACT, AND ALL RULES, REGULATIONS AND ORDINANCES OF THE GOVERNING AUTHORITY.
2. ENGINEERED DESIGN IN ACCORDANCE WITH THE IRC IS PERMITTED.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS, AND SITE CONDITIONS, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS PRIOR TO PROCEEDING WITH THE WORKS.
4. DO NOT SCALE THE DRAWINGS FOR CRITICAL DIMENSIONS. DIMENSIONS ARE SHOWN TO FACE OF STUDS, POSTS AND CONCRETE UNLESS INDICATED OTHERWISE.
5. THE PROJECT SHALL BE SCHEDULED FOR INSTALLATION OF ELEMENTS COORDINATED AS NECESSARY BY THE CONTRACTOR TO PERMIT WORK BETWEEN DIFFERENT TENDERS TO PROCEED WITHOUT UPSETTING PROPER CONSTRUCTION SEQUENCES OR DELAYING THE PROJECT SCHEDULE.
6. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH-OPENING DIMENSIONS WITH THE DOOR AND WINDOW MANUFACTURERS.
8. PLUMBING, ELECTRICAL, AND MECHANICAL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS FOR THE PROJECT AND COMPLY WITH ALL LOCAL CODES. SUBMIT PLANS FOR APPROVAL AND OBTAIN PERMIT BEFORE STARTING WORK.
9. SHOWN ONLY ONCE. TYPICAL DETAILS ARE NOT REFERENCED AT ALL LOCATIONS; THE INTENT IS THAT THEY APPLY THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
10. ALL REQUIRED SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
11. ALL DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL, IN RESPONSIBLE CHARGE WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING, THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENT HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
12. ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
13. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
14. INSPECTIONS ARE TO BE PER IRC SECTION 9109.
15. ADDRESS MUST BE POSTED AND VISIBLE AT CONSTRUCTION SITE. PER IRC SEC 9109, BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS. BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.

IRC M1505 (WA AMENDMENTS)

IRC M1505.4: WHOLE-HOUSE VENTILATION SYSTEM

WAC 51.1505 M1505.4: WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM. EACH DWELLING UNIT SHALL BE EQUIPPED WITH A VENTILATION SYSTEM, THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SECTIONS M1504.1 THROUGH M1504.4.

IRC M1505.4.1: SYSTEM DESIGN. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR EXHAUST FANS, OR AN EXHAUST FAN WITH INTEGRAL INLET AND OUTLET. THE SUPPLY AND EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVH) 915, HVH LOUDNESS AND RATING PROCEDURE, HVH AIRFLOW TEST PROCEDURE, AND HVH 910, HVH PRODUCT PERFORMANCE CERTIFICATION PROCEDURE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVH) 915, HVH LOUDNESS AND RATING PROCEDURE, HVH AIRFLOW TEST PROCEDURE, AND HVH 910, HVH PRODUCT PERFORMANCE CERTIFICATION PROCEDURE. AS APPLICABLE, EXHAUST FANS SHALL BE TESTED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.3.3. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN. W.G. (2.0 PA) STATIC PRESSURE IN ACCORDANCE WITH HVH PROCEDURES SPECIFIED IN SECTIONS M1505.4.1.2 AND M1505.4.1.3.

WAC 51.1505 M1505.4.1.2: EXHAUST FANS. EXHAUST FANS REQUIRED SHALL BE DUCTED DIRECTLY TO THE OUTSIDE. EXHAUST AIR OUTLETS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE AND EQUIPPED WITH BACKDRIFT DAMPERS OR MOTORIZED DAMPERS IN ACCORDANCE WITH THE WA STATE ENERGY CODE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVH) 915, HVH LOUDNESS AND RATING PROCEDURE, HVH AIRFLOW TEST PROCEDURE, AND HVH 910, HVH PRODUCT PERFORMANCE CERTIFICATION PROCEDURE. AS APPLICABLE, EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION, BATHROOM EXHAUST FANS THAT ARE USED FOR EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE M1505.4.3(3) SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST AIRFLOW FAN SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.

WAC 51.1505 M1505.4.1.3: SUPPLY FANS. SUPPLY FANS USED IN MEETING THE REQUIREMENTS OF THIS SECTION SHALL SUPPLY OUTDOOR AIR FROM INTAKE OPENINGS IN ACCORDANCE WITH SECTIONS 9109.2 AND 9109.3. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVH) 915, HVH LOUDNESS AND RATING PROCEDURE, HVH AIRFLOW TEST PROCEDURE, AND HVH 910, HVH PRODUCT PERFORMANCE CERTIFICATION PROCEDURE. AS APPLICABLE, EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION, BATHROOM EXHAUST FANS THAT ARE USED FOR EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE M1505.4.3(3) SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST AIRFLOW FAN SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.

WAC 51.1505 M1505.4.1.4: BALANCED WHOLE-HOUSE VENTILATION SYSTEM. A BALANCED WHOLE-HOUSE VENTILATION SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10 PERCENT OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10 PERCENT OR 5 CM, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. A BALANCED VENTILATION SYSTEM WITH BOTH SUPPLY AND EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.

WAC 51.1505 M1505.4.1.5: FURNACE INTEGRATED SUPPLY. SYSTEMS USING SPACE HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY DISTRIBUTION ARE NOT PERMITTED. EXCEPT FOR AIR HANDLER FANS SHALL HAVE A MINIMUM OF VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25 PERCENT OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE REQUIREMENTS OF SECTIONS 9109.2 AND 9109.3 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE-HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW WITHIN 10 PERCENT OF THE MINIMUM WHOLE-HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.

WAC 51.1505 M1505.4.1.6: TESTING. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A LOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTION 9109.2 AND 9109.3. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURERS INSTRUCTIONS, OR BY USING A FLOW-HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FANS INLET TERMINALS, OUTLET TERMINALS, OR GRILLES OR ON THE CONNECTED VENTILATION DUCTS, WHERE REQUIRED BY THE BUILDING OFFICIAL. TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL, AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7.

WAC 51.1505 M1505.4.1.7: CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING, WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE FLOW RATE DETERMINED FROM THE TESTED AND BALANCED WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE-HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.1.3.

WAC 51.1505 M1505.4.2: SYSTEM CONTROLS. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:

1. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE OCCUPANT.
2. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OF THE SYSTEM DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED LABELING TO INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION: "ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT.
3. WHOLE-HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHEN INTERMITTENT OFF CONTROLS AND SIZING ARE PROVIDED PER SECTION M1505.4.3.2.

WAC 51.1505 M1505.4.3: MECHANICAL VENTILATION RATE. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15-1.

EQUATION 15-1: VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.1 x TOTAL SQ. FT.) + (7.5 x NUMBER OF BEDROOMS + 1) BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT.

IRC TABLE 1505.4.3(1)

WHOLE-HOUSE MECHANICAL VENTILATION AIRFLOW RATE

EQUATION 15-1: VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.1 x TOTAL SQ. AREA OF HOUSE) + (7.5 x NUMBER OF BEDROOMS + 1) BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT

DWELLING UNIT FLOOR AREA (Square feet)	NUMBER OF BEDROOMS				
	0-1	2	4	5+	
AIRFLOW IN CFM					
< 500	30	30	35	45	50
501 - 1,000	30	35	40	50	55
1,001 - 1,500	30	40	45	55	60
1,501 - 2,000	30	45	50	60	65
2,001 - 2,500	40	50	55	65	70
2,501 - 3,000	45	55	60	70	75
3,001 - 3,500	50	60	65	75	80
3,501 - 4,000	55	65	70	80	85
4,001 - 4,500	60	70	75	85	90
4,501 - 5,000	65	75	80	90	95

CFM = (0.01 x 10,232 SF) + (7.5 x (5+1))
CFM = 102.32 + 45
CFM = 147.32

M1505.4.3.1 VENTILATION QUALITY ADJUSTMENT. THE MIN. WHOLE-HOUSE VENTILATION RATE FROM SECTION 1505.4.3 SHALL BE ADJUSTED BY THE SYSTEM COEFFICIENT IN TABLE M1505.4.3(2) BASED ON THE SYSTEM TYPE NOT MEETING THE DEFINITION OF A BALANCED WHOLE-HOUSE VENTILATION SYSTEM AND/OR NOT MEETING THE DEFINITION OF DISTRIBUTED WHOLE-HOUSE VENTILATION SYSTEM.

IRC TABLE 1505.4.3(2)

SYSTEM COEFFICIENT

SYSTEM TYPE	DISTRIBUTED	NOT DIST.
BALANCED	1.0	1.25
NOT BALANCED	1.25	1.5

M1505.4.3.2 INTERMITTENT OFF OPERATION. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH ADVANCED CONTROLS THAT ARE CONFIGURED TO OPERATE THE SYSTEM WITH INTERMITTENT OFF OPERATION SHALL OPERATE FOR AT LEAST TWO HOURS IN EACH FOUR-HOUR SEGMENT. THE WHOLE-HOUSE VENTILATION AIRFLOW RATE DETERMINED IN ACCORDANCE WITH SECTION M1505.4.3 AS CORRECTED BY SECTION M1505.4.3.1 IS MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(3).

IRC TABLE 1505.4.3(3)

INTERMITTENT OFF WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS

RUN TIME % EA AIR SEGMENT	50%	66%	75%	100%
FACTOR	2	1.5	1.3	1.0

FINAL VENTILATION RATE
(147.32 CFM x 1.25 Coefficient x 2 Factor)
= 368.3

M1505.4.4 LOCAL EXHAUST RATES. LOCAL EXHAUST SYSTEMS SHALL BE DESIGNED TO HAVE THE CAPACITY TO EXHAUST THE MIN. AIRFLOW RATE DETERMINED IN ACCORDANCE WITH TABLE M1505.4.4(1). IF THE LOCAL EXHAUST FAN IS INCLUDED IN THE WHOLE-HOUSE VENTILATION SYSTEM, IN ACCORDANCE WITH SECTION 1505.4.1, THEN THE EXHAUST FAN SHALL BE CONTROLLED TO OPERATE AS SPECIFIED IN SECTION M1505.4.2.

M1505.4.4(1) LOCAL EXHAUST. BATHROOMS, TOILET ROOMS, AND KITCHENS SHALL INCLUDE A LOCAL EXHAUST SYSTEM, SUCH AS LOCAL EXHAUST SYSTEMS SHALL HAVE THE CAPACITY TO EXHAUST THE MIN. AIRFLOW RATE IN ACCORDANCE WITH TABLE M1505.4.4(1). FANS REQUIRED BY THIS SECTION SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OR AUTOMATIC OCCUPANCY SENSOR, HUMIDITY SENSOR OR POLLUTANT SENSOR CONTROLS. AN "ON/OFF" SWITCH SHALL MEET THE REQUIREMENT FOR MANUAL CONTROLS. MANUAL FAN CONTROL SHALL BE READILY ACCESSIBLE IN THE ROOM SERVED BY THE FAN.

IRC TABLE 1505.4.4(1)

MIN. LOCAL EXHAUST RATES	INTERMITTENT	CONTINUOUS
AREAS TO BE EXHAUSTED		
KITCHEN	100 cfm	30 cfm
BATHROOMS - TOILET ROOMS	50 cfm	20 cfm

M1505.4.4 LOCAL EXHAUST FANS. EXHAUST FANS SHALL MEET THE FOLLOWING CRITERIA:

1. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVH) 915, HVH LOUDNESS AND RATING PROCEDURE, HVH AIRFLOW TEST PROCEDURE, AND HVH 910, HVH PRODUCT PERFORMANCE CERTIFICATION PROCEDURE. EXCEPT WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED FOR LOCAL EXHAUST FOR A KITCHEN, THE DEVICE IS NOT REQUIRED TO BE RATED PER THESE STANDARDS.
2. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BY TABLE M1505.4.4(1). THE AIRFLOW REQUIRED REQUIRED TO THE DELIVERED AIRFLOW OF THE SYSTEM AS INSTALLED AND TESTED USING A FLOW-HOOD, FLOW GRID, OR OTHER AIRFLOW MEASUREMENT DEVICE. LOCAL EXHAUST SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY THIS SECTION.
3. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
4. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BY TABLE M1505.4.4(1). THE AIRFLOW REQUIRED REQUIRED TO THE DELIVERED AIRFLOW OF THE SYSTEM AS INSTALLED AND TESTED USING A FLOW-HOOD, FLOW GRID, OR OTHER AIRFLOW MEASUREMENT DEVICE. LOCAL EXHAUST SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY THIS SECTION.

1. AN EXHAUST AIRFLOW RATING AT A PRESSURE OF 0.25 IN. W.G. MAY BE USED.
2. WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED TO SATISFY THE LOCAL VENTILATION REQUIREMENTS FOR KITCHENS, THE RANGE HOOD OR DOWN DRAFT EXHAUST FAN SHALL NOT BE LESS THAN 100 cfm at 0.10 in. w.g.

IRC TABLE 1505.4.4(2)

FAN TESTED (Square feet)	MIN. FLEX (IN. DIA.)	MIN. LENGTH (FT.)	MIN. SMOOTH (IN. DIA.)	MAX. LENGTH (IN. DIA.)	MAX. ELBOWS
20	4	25	4	20	3
50	5	30	5	100	3
80	4	NA	4	20	3
80	5	15	5	100	3
80	6	NA	6	5	NO LIMIT
100	5	NA	5	50	3
125	6	15	6	NO LIMIT	3
125	7	10	7	NO LIMIT	3

BUILDING THERMAL ENVELOPE

COMPLIANCE & CERTIFICATE POSTED

THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R402.1.1 THROUGH R404 OF THE WSEC. IN ADDITION, DWELLING UNITS AND SLEEPING UNITS IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SECTION R406 OF THE WSEC.

R401.3 CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING, WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION, SLAB, BELOW GRADE WALL, AND/OR FLOOR, AND LOCATED IN UNFINISHED SPACES, UNLESS OTHERWISE SPECIFIED IN THE CERTIFICATE. THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPE OF EFFICIENCIES OF HEATING, COOLING, WHOLE-HOUSE MECHANICAL VENTILATION, AND SERVICE WATER HEATING APPLIANCES, WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER," "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE LISTED FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS. THE CODE OFFICIAL MAY REQUIRE THAT DOCUMENTATION FOR ANY REQUIRED TEST RESULTS INCLUDE AN ELECTRONIC RECORD OF THE TIME, DATE, AND LOCATION OF THE TEST. A DATE-STAMPED SMART PHONE PHOTO OR AIR LEAKAGE TESTING SOFTWARE MAY BE USED TO SATISFY THIS REQUIREMENT.

FENESTRATION

AN AREA-WEIGHTED AVERAGE OF FENESTRATION PRODUCTS SHALL BE PERMITTED TO SATISFY THE U-FACTOR REQUIREMENTS. UP TO 15 PERCENT OF GLAZED FENESTRATION PER DWELLING UNIT SHALL BE PERMITTED TO BE EXEMPT FROM U-FACTOR. ONE-SIDE HINGED OPAQUE DOOR ASSEMBLY UP TO 24 SQUARE FEET IN AREA IS EXEMPTED FROM THE U-FACTOR REQUIREMENT.

INSULATION

- A. CEILING (U-VALUE) R-38 MIN.
 - 1. PROVIDE MINIMUM R-10 SPRAY FOAM INSULATION @ BOTTOM SIDE OF SHEATHING, COMPLETELY FILL REMAINING JOIST CAVITY WITH BATT INSULATION, TOTAL INSULATION VALUE (SPRAY FOAM + BATT) TO BE R-38 MIN.
 - 2. SPRAY FOAM INSULATION TO MEET THE REQUIREMENTS SET FORTH IN IRC R606.5, ITEM 5.1.33.
- B. WOOD FRAMED WALLS - R-21 MIN.
 - 1. ALL EXTERIOR WALL CAVITIES, INCLUDING CAVITIES ISOLATED DURING FRAMING, MUST BE FILLED WITH UNCOMPRESSED INSULATION.
 - 2. RIDGE BOARD INSTALLATION TO BE PLACED BEHIND ALL RECESSED FITTINGS IN EXTERIOR WALLS.
 - 3. FACED BATT IS LAPPED AND ARE TO BE STAPLED TO FACE OF STUDS.
 - 4. INSULATE BEHIND TUB SHOWER PARTITIONS AND CORNERS.
- C. FLOORS - R-38 MIN.
 - 1. FLOOR INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING.
 - 2. INSULATION SUPPORTS SHALL BE INSTALLED SO SPACING IS NO MORE THAN 24 INCHES ON CENTER.
 - 3. FOUNDATION VENTS SHALL BE PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION.
- D. SUB-ON-GRADE - R-10
 - 1. R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS. SEE SECTION R402.2.1.1.
 - 2. A TWO-CHamber TWO-CHamber MINIMUM PRESSURE-TESTED MAUER MAY BE PLACED AT THE FINISHED FLOOR ELEVATION FOR ATTACHMENT OF INTERIOR FINISH MATERIALS.
- E. 4x4 DUCTS - R-10
 - 1. DUCTS + DUCTS SHALL BE INSULATED TO A MINIMUM OF R-8.
 - 2. EXCEPT DUCTS OR PORTIONS THEREOF LOCATED COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE.
- G. PIPING - MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 100°F OR BELOW 50°F SHALL BE INSULATED TO A MINIMUM OF R-6.
- H. PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSED BY SOLAR RADIATION, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, AND SHALL PROVIDE SHELTERING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.

INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM THERMAL RESISTANCE (R-VALUE) OF R-4.

H. ELECTRIC WATER HEATERS & ALL ELECTRIC WATER HEATERS IN UNHEATED SPACES (OR ON CONCRETE FLOORS) SHALL BE PLACED ON AN INCOMPRESSIBLE INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE (R-VALUE) OF R-10, AND A MIN. COMPRESSIVE STRENGTH OF 40 psi OR ENGINEERED TO SUPPORT THE APPLIANCE.

MOISTURE CONTROL

- VAPOR RETARDERS
- | | |
|---------|---|
| SLABS | CONTINUOUS GGC PREPARE 300R PLUS UNDERSLAB WATERPROOFING SYSTEM |
| FLOORS | 3/4" GGC OR 1/4" GGC OR 3/4" GGC |
| WALLS | HEART FACED PINKGLASS Batts |
| CEILING | NO PVA PAINT @ UNVENTED CEILING PER IRC R606.5. INTERIOR VAPOR RETARDER SHALL NOT BE INSTALLED ON THE CEILING SIDE @ UNVENTED CEILING CONDITIONS. |
1. ATTIC ACCESS AND DOORS ARE TO BE BATTLED, WEATHER-STRIPPED AND INSULATED.
 2. EXTERIOR DOORS AND WINDOWS ARE TO BE CALKED AND WEATHER-STRIPPED.
 3. RECESSED LIGHT FIXTURES TO LIMIT AIR LEAKAGE PER WSEC 402.4.4.
 4. ALL PLUMBING, ELECTRICAL, AND HVAC PENETRATIONS IN FLOORS, WALLS AND CEILING ARE TO BE CAULKED AND SEALED.
 5. ELECTRICAL, OUTLET AND LIGHT SWITCH BOXES ON EXTERIOR WALLS MUST BE SEALED AT THE BACK OF THE RECEPTACLE WITH A FACE PLATE GASKET.
 6. SILL PLATE TO BE CALKED OR GULDED TO SUB-FLOOR.
 7. CAULK/SEAL RIM JOISTS BETWEEN STUDS.
 8. FIRE-STOP ALL PENETRATIONS AS REQUIRED BY THE CODE & BUILDING DEPARTMENT.

AIR LEAKAGE AND TESTING

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS R402.1.1 THROUGH R402.4.4.

THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NO MORE THAN 0.3 CFM PER SQUARE FOOT PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). FOR THIS TEST ONLY, THE VOLUME OF THE HOME SHALL BE THE CONDITIONED FLOOR AREA IN FT² MULTIPLIED BY 8.3 FEET, WHERE REQUIRED BY THE CODE OFFICIAL. TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE.

R402.4.1.1 INSTALLATION. THE COMPONENTS OF THE BUILDING THERMAL ENVELOPE AS LISTED IN TABLE R402.4.1.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND THE CRITERIA LISTED IN TABLE R402.4.1.1, AS APPLICABLE TO THE METHOD OF CONSTRUCTION, WHERE REQUIRED BY THE CODE OFFICIAL, AN APPROVED THIRD PARTY SHALL RESPECT ALL COMPONENTS AND VERIFY COMPLIANCE.

WINDOWS, SPLYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NO MORE THAN 0.3 CFM PER SQUARE FOOT, AND SWINGING DOORS NO MORE THAN 0.5 CFM PER SQUARE FOOT, WHEN TESTED ACCORDING TO NFRC 400 OR AMAM/AMCA/CSA 1011.5, AS ACCEPTED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER.

EXCEPTIONS:

1. FIELDS FABRICATED FENESTRATION PRODUCTS (WINDOWS, SPLYLIGHTS AND DOORS).
2. CUSTOM ORDERED FENESTRATION PRODUCTS MANUFACTURED BY A SMALL BUSINESS PROVIDED THEY MEET THE APPLICABLE PROVISIONS OF CHAPTER 24 OF THE INTERNATIONAL BUILDING CODE, ONCE VISUAL INSPECTION HAS CONFIRMED THE PRESENCE OF A GASKET, OPERABLE WINDOWS AND DOOR MANUFACTURED BY SMALL BUSINESS SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST.

RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE TYPE IC-RATED AND CERTIFIED UNDER ASTM E283 AS HAVING AN AIR LEAKAGE RATE NOT MORE THAN 2.0 CFM WHEN TESTED AT A 1.5 PSF PRESSURE DIFFERENTIAL AND SHALL HAVE A LABEL ATTACHED SHOWING COMPLIANCE WITH THIS TEST METHOD. ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.

ALL DUCTS MUST BE LEAK TESTED IN ACCORDANCE W/VSU R503 USING THE MAXIMUM DUCT LEAKAGE RATE SPECIFIED. TOTAL LEAKAGE MUST BE VERIFIED BY EITHER THE ROUGH-IN TEST OR POST-CONSTRUCTION TEST PER WSEC R402.3.3. TOTAL LEAKAGE MUST BE LESS THAN OR EQUAL TO 4 CFM PER 100 SF OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1" WG (25PA) ACROSS THE ENTIRE SYSTEM.

ELECTRIC POWER & LIGHTING

LIGHTING EQUIPMENT

R404.1 A MINIMUM OF 90 PERCENT OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH-EFFICIENCY LAMPS. R404.1.1 FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS.

WA STATE ENERGY CREDITS

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

EACH DWELLING UNIT IN ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R404.2.90 AS TO ACHIEVE THE REQUIRED MINIMUM NUMBER OF CREDITS.

2018 WSEC TABLE R402.1.1

CLIMATE ZONE 5 AND MARINE 4	R-VALUE	EQUR U-FACTORS
FENESTRATION U-FACTOR (FLEETWOOD SERIES-3 + 4070-T)	N/A	0.28"
CEILING (VAULT) R-VALUE	38	0.028
WOOD FRAMED WALL R-VALUE	21 INL	0.056
FLOOR R-VALUE	38	0.028"
SLAB R-VALUE	10, entire slab	N/A

2018 WSEC CREDITS SELECTED

SYSTEM	FUEL NORMALIZATION CREDIT TABLE R402.3	CREDIT
2	HOT PUMP, EQUIPMENT LISTED IN TABLE C403.3.2(1) OR C403.3.2(2).	1.0
OPTION	EFFICIENT BUILDING ENVELOPE OPTIONS	
1.3	PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE 402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.28 SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB FLOOR INSULATION R-38 MIN	0.5
3.3	CLOSED-LOOP GROUND SOURCE HEAT PUMP, w/ A MIN COP OF 3.3	1.5
5.3	WATER HEATING SYSTEM ENERGY STAR RATED GAS OR P WATER HEATER WITH MIN. UEF OF 0.91 OR SOLAR WATER HEATING SUPPLEMENTING A MIN. STD. WATER HEATER.	1.0
6.1	RENEWABLE ELECTRIC ENERGY (CREDITS MAX.) SOLAR PV MIN 3600 WH/yr OF ELECTRICAL GENERATION ANNUALLY BY ON-SITE SOLAR EQUIPMENT. SOLAR DESIGN TO MEET NATIONAL RENEWABLE ENERGY LABORATORY CALC. PVWATTS	3.0
TOTAL		7.0

FOR FULL TEXT AND INFORMATION, SEE WSEC, SECTION R406

6610 EAST MERCER WAY, MERCER ISLAND, WA 98040

KONERU [residence]

PROJECT CONTACTS

OWNER: DHEERAJ KONERU
7002 83RD AVE SE
MERCER ISLAND, WA 98040

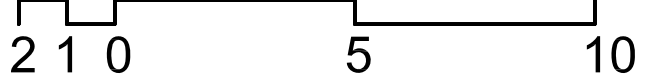
ARCHITECT: MCCULLOUGH ARCHITECTS
122 S JACKSON ST., SUITE 210
SEATTLE, WA 98104

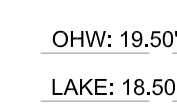
SURVEYOR & CIVIL ENGINEERING: PACE
11255 KIRKLAND WAY, STE 300
KIRKLAND, WA 98033

STRUCTURAL ENGINEER: MALSAM TSANG
122 S JACKSON ST., SUITE 210
SEATTLE, WA 98104

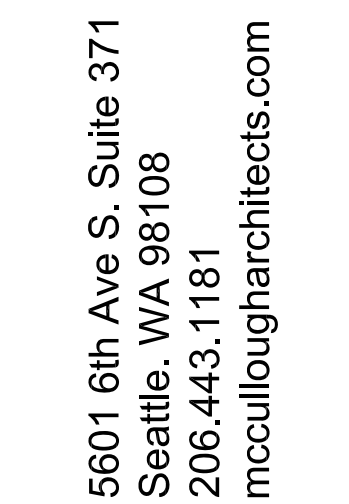
GENERAL CONTRACTOR: JMK HOMES LLC
PO BOX 317
RONALD, WA 98040

LANDSCAPE ARCHITECT: DARWIN WEBB LA
485 RAINIER BOULEVARD N, #1018
ISSAQUAH, WA 98027





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



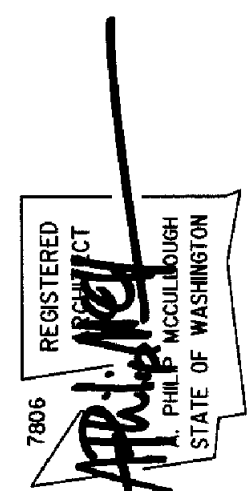
McCULLOUGH
ARCHITECTS

UNPUBLISHED WORK 2016 © McCullough Architects

Comment	Permit Plan Revision Submittal Set
Revised plans for distribution	
Revised floor elevation	
Client Rev Structural Backcheck 03	Client Site & Plan Rev - Backcheck 01
Client Rev Structural Backcheck 04	Client Site & Plan Rev - Backcheck 02
Client Site Plan Revision	Client Site & Plan Rev - Backcheck 03
	Client Site & Plan Rev - Backcheck 04

Revisions
2022.10.04
2023.01.18
2023.01.25
2023.02.03
2023.02.03
2023.02.16
2023.02.20
2023.02.24
2023.03.02
2023.03.06
2023.03.16

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

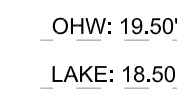


KONERU RESIDENCE
6610 E Mercer Way
Mercer Island WA 98040

PERMIT SET

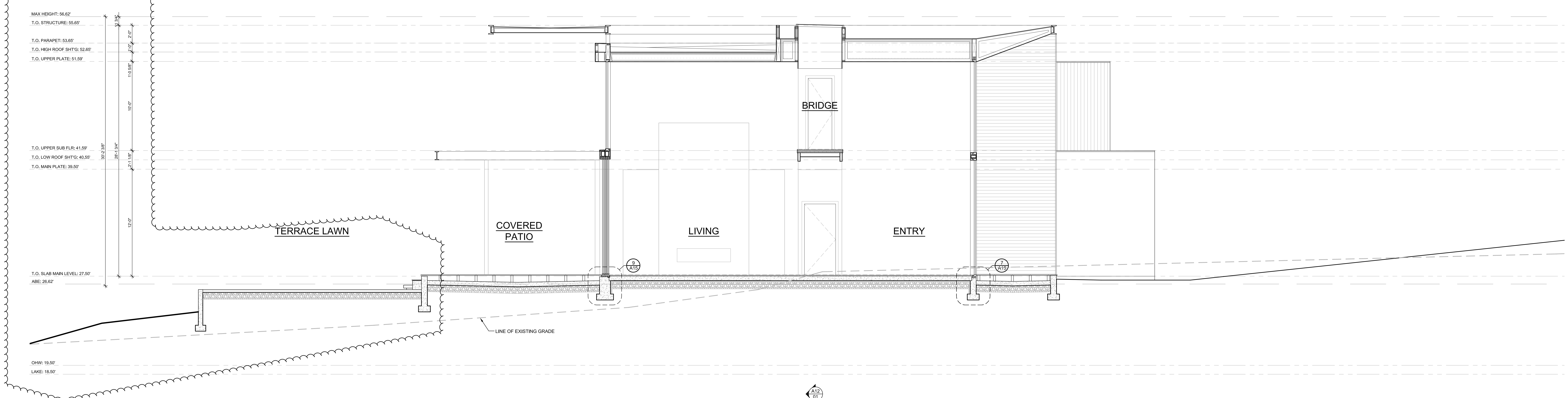
Exterior Elevations

A11

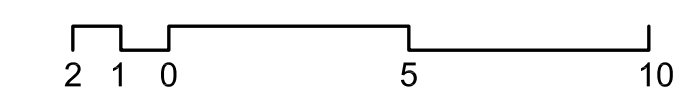


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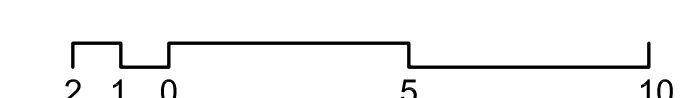


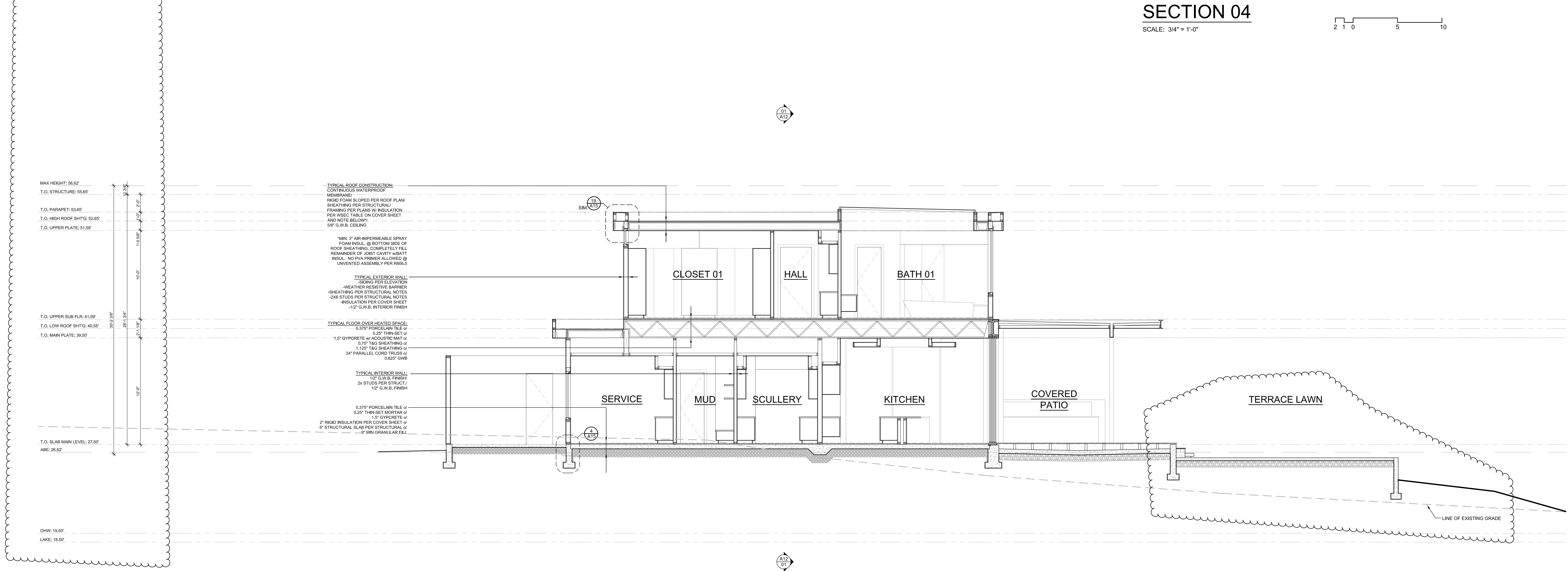


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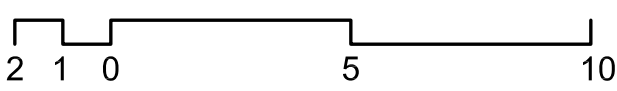


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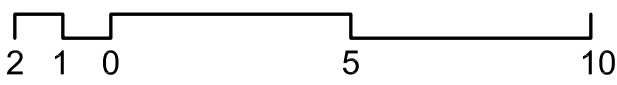




SCALE: $\frac{3}{4}" = 1'-0"$



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



REV	DESCRIPTION	DATE
1	PERMIT SET	12.23.21
2	PERMIT CORRECTIONS	5.5.22
3	PERMIT CORRECTIONS	7.13.22
4	PERMIT CORRECTIONS	8.19.22
5	PERMIT CORRECTIONS	11.22.22
6	CD SET	3.22.23

GENERAL STRUCTURAL NOTES

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CRITERIA

- ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) 2018 EDITION.
- DESIGN LOADING CRITERIA
FLOOR LIVE LOAD (RESIDENTIAL) 40 PSF
FLOOR LIVE LOAD (RESIDENTIAL DECKS AND BALCONIES) 25 PSF
SNOW 25 PSF
RAIN ON SNOW SURCHARGE 5 PSF
SOLAR PANEL WIND METHOD - DIRECTIONAL PROCEEDURE
Kz=1.0, GcPd=0.18, 110 MPH (RISK CATEGORY II), EXPOSURE "C"
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS
SDC D, SITE CLASS E, I=1.0, Ss=1.45, Si=0.50
SDs=1.059, Sd1=0.567, Cs=0.163, R=6.5
SEISMIC DESIGN BASE SHEAR Vxx=68.0 KIPS(ULTIMATE)
- EARTHQUAKE

- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

- PRIMARY STRUCTURAL ELEMENTS NOT DIMENSIONED ON THE STRUCTURAL PLANS AND DETAILS SHALL BE LOCATED BY THE ARCHITECTURAL PLANS. DIMENSIONAL CONTROL IS DEFINED BY THE ARCHITECTURAL WALL SECTIONS, BUILDING SECTIONS, AND PLANS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

- CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONFORM TO ASCE 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".

- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTOR'S WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

- CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

- DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION, WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN. SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED. SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

- ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERRECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT THE TIME OF INSPECTION FOR THE INSPECTORS USE AND REFERENCE.

- SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

REINFORCING STEEL
STRUCTURAL STEEL
METAL DECKING
GLUED LAMINATED MEMBERS
MANUFACTURED LUMBER (PSL'S, LSL'S, LVL'S)
PLYWOOD WEB JOISTS
CONNECTOR PLATE WOOD FLOOR TRUSSES
CONNECTOR PLATE WOOD ROOF TRUSSES
PREFABRICATED STAIR SYSTEM

APPROVED SETS OF SHOP DRAWINGS SHALL ALSO BE SUBMITTED TO THE BUILDING DEPARTMENT AS REQUIRED BY THE JURISDICTION. IF THERE IS A DOUBT WHETHER OR NOT A POST-PERMIT SUBMITTAL IS NECESSARY OR WILL BE ACCEPTED, CONSULT THE BUILDING CODE REVIEWER FOR THE ORIGINAL PERMIT. NO DRAWING SHOULD BE SUBMITTED TO THE BUILDING OFFICIAL THAT STILL BEARS THE DISPOSITION OF "REVISE AND RESUBMIT" OR SIMILAR LANGUAGE.

- SHOP DRAWING REVIEW OF DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY THE ENGINEER. THE CONTRACT DOCUMENTS ARE DISCOVERED WHEN DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND (1) COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED WITHIN (2) WEEKS OF RECEIPT WITH A NOTATION INDICATING THAT THE SUBMITTAL HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTED ITEMS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE BUILDING OFFICIAL AS REQUIRED BY THE JURISDICTION.

SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

- SHOP DRAWINGS OF DESIGN BUILD COMPONENTS INCLUDING AWNINGS, BALCONIES, BASE ISOLATORS, CANOPES, CURTAIN WALL SYSTEMS, ELEVATORS, EXTERIOR CLADDING, FALL PROTECTION ANCHORS, HOLD-DOWN SYSTEMS (MULTI-STORY), SKYLIGHT FRAMES, STAIR SYSTEMS, STEEL STUD FRAMING, STORAGE RACKS (GREATER THAN 6 FEET IN HEIGHT), AND SUNROOMS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO REVIEW BY THE ARCHITECT OR ENGINEER OF RECORD FOR GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE MADE AVAILABLE UPON WRITTEN REQUEST.

QUALITY ASSURANCE

- SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110, 1704 AND 1705 OF THE IBC BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER, THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION SHALL BE PERFORMED.

SOIL CONDITIONS, FILL PLACEMENT, AND DENSITY PER SOILS REPORT
PILE OR PIER FOUNDATIONS PER SOILS REPORT
EPOXY GROUTED INSTALLATIONS PER MANUFACTURER
STRUCTURAL STEEL FABRICATION AND ERECTION PER AISC 360
METAL DECK INSTALLATION (INCLUDING FIELD WELDING) PER SDI GA/QC

- STRUCTURAL OBSERVATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1704.6 OF THE IBC FOR THE FOLLOWING BUILDING ELEMENTS:

CONCRETE CONSTRUCTION
STRUCTURAL STEEL CONSTRUCTION
SHEARWALLS
HOLD-DOWNS

THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD ADEQUATE NOTICE TO SCHEDULE APPROPRIATE SITE VISITS FOR STRUCTURAL OBSERVATION.

STRUCTURAL OBSERVATION MEANS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED IN SECTION 110 OR SPECIAL INSPECTIONS IN SECTION 1705 OR OTHER SECTIONS OF THE IBC.

THE OWNER SHALL EMPLOY THE STRUCTURAL ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, TO PERFORM STRUCTURAL OBSERVATION. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE. SPECIAL INSPECTION, CONTRACTOR, AND AS BUILDING OFFICIAL, THE STRUCTURAL ENGINEER, SHALL NOT BE RESPONSIBLE FOR THE WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

GEOTECHNICAL

- SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN IN THE SOILS REPORT OR AS DIRECTED BY THE SOILS ENGINEER. FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTING DEPTHS/ELEVATIONS SHOWN ON PLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY; THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND SOILS ENGINEER. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SOILS REPORT.

LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED) SEE SOILS REPORT / 45 PCF
TRAFFIC SURCHARGE 90 PSF
SEISMIC SURCHARGE 300 PCF
PASSIVE PRESSURE 10 TONS
4" DIAMETER STANDARD WEIGHT PIPE PILE CAPACITY 10 TONS
6" DIAMETER EXTRA-STRONG PIPE PILE CAPACITY 15 TONS

SOILS REPORT REFERENCE: GEOTECHNICAL ENGINEERING STUDY AND CRITICAL AREA STUDY OF PROPOSED PROPERTY REDEVELOPMENT LOCATED AT 6610 EAST MERKER WAY, MECKER ISLAND, WASHINGTON, 98040. PREPARED BY GEOTECH CONSULTANTS, INC. REPORT NUMBER JN2151, DATED JUNE 8, 2021.

- DIAMETER STANDARD WEIGHT AND 6" DIAMETER EXTRA-STRONG PIPE PILLS SHALL BE DRIVEN TO REFUSAL AS DEFINED BY THE SOILS ENGINEER. PIPE PILLS SHALL BE INSTALLED IN STRICT CONFORMANCE TO SOILS ENGINEER'S REQUIREMENTS. TESTING OF PILLS SHALL BE ACCORDANCE WITH SOILS ENGINEER'S REQUIREMENTS AND AT A MINIMUM BE TESTED IN ACCORDANCE TO ASTM STANDARD D1145-91 FOR A MINIMUM OF (1) PILE OR 3% OF 3", 4" AND 6" DIAMETER PILLS UP TO (5) PILES OF EACH SIZE MAXIMUM: USE OF THE QUICK LOAD TEST METHOD IN THE STANDARD IS THE MINIMUM REQUIRED. STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE A OR B, FY = 35 KSI. PILLS SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED SLEEVE COUPLERS. PIPE JOINTS SHOULD NOT BE WELDED TOGETHER. PILLS SHALL BE PLACED WITHIN 3" OF SPECIFIED LOCATION. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILLS.

- SPECIAL INSPECTION OF PILLS SHALL BE REQUIRED FOR INSTALLATION AND TESTING.

CONCRETE

- CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318 AND ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF FC = 3000 PSI. SLUMP OF CONCRETE SHALL NOT EXCEED 6". STRUCTURAL DESIGN IS BASED ON A CONCRETE STRENGTH OF FC = 2500 PSI. THEREFORE NO CONCRETE STRENGTH TESTING REQUIRED. CONCRETE EXPOSURE CATEGORIES ARE F1, S0, W0, AND C1.

ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14, TABLE 19.3.3.1.

- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, FY = 60 KSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, FY = 40 KSI. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, FY = 40 KSI.

- DETAILING OF REINFORCING STEEL (INCLUDING HOOPS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 318-14 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT BARS AT 12" MINIMUM. DIAMETERS OR 2" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS #5 AND SMALLER 48 BAR DIAMETERS OR 2" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-14, CLASS B. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

NO BARS SPECIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

- CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER) 2"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER) 1-1/2"
COLUMN TIES OR SPIRALS AND BEAM STIRRUPS 1-1/2"
SLABS AND WALLS (NT FACE) GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"

ANCHORAGE

- EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BARS) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "SET-XP" EPOXY ADHESIVE AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2508 AND IAPMO UES REPORT ESR-265. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED. RODS SHALL BE ASTM A36, UNO.

- HEAVY DUTY THREADED CONCRETE ANCHORS SPECIFIED ON THE DRAWINGS SHALL BE "TIEEN HD SCREW ANCHOR" AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2713 AND ESR-1056, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE REQUIREMENTS. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED.

- EXPANSION BOLTS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "STRONG-BOLT Z" ANCHORS AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT CONFORMANCE TO ICC-ES REPORT ESR-3037 AND IAPMO UES REPORT ESR-240, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE REQUIREMENTS. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE FULLY GROUTED COLD. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED.

WOOD

- 2x LUMBER SHALL BE KILN DRIED OR MC-19, AND ALL LUMBER SHALL BE GRADED AND MARKED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS:

JOISTS AND BEAMS (2x, 3x, 4x MEMBERS) DOUGLAS FIR-LARCH NO 2
MINIMUM BASE VALUE, FB = 900 PSI
BEAMS (6x AND LARGER) DOUGLAS FIR-LARCH NO 2
MINIMUM BASE VALUE, FB = 875 PSI
POSTS (4x MEMBERS) DOUGLAS FIR-LARCH NO 2
MINIMUM BASE VALUE, FC = 1350 PSI
(6x AND LARGER) DOUGLAS FIR-LARCH NO 2
MINIMUM BASE VALUE, FC = 600 PSI
STUDS, PLATES AND MISC FRAMING DOUGLAS FIR-LARCH NO 2

- GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA-EWS IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA-EWS CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN GLULAM BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, FB = 2400 PSI, FV = 245 PSI, E = 1800 KSI, UNO. ALL CANTILEVER GLULAM BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, FB = 2400 PSI, FV = 245 PSI, E = 1800 KSI, UNO. GLUED LAMINATED COLUMNS SHALL BE DOUGLAS FIR COMBINATION 3, L2D GRADE, FC = 2300 PSI, FB = 2000 PSI, E = 1900 KSI.

- MANUFACTURED LUMBER: PSL, LVL AND LSL SHALL BE MANUFACTURED UNDER A PROCESS APPROVED BY THE NATIONAL RESEARCH BOARD. EACH PIECE SHALL BEAR A STAMP OR STAMPS NOTING THE NAME AND PLANT NUMBER OF THE MANUFACTURER, THE GRADE, THE NATIONAL RESEARCH BOARD NUMBER, AND THE QUALITY CONTROL AGENCY. ALL PSL, LVL, AND LSL LUMBER SHALL BE MANUFACTURED IN ACCORDANCE WITH ICC-ES REPORT ESR-1387 USING DOUGLAS FIR VENEER GLUED WITH A WATERPROOF ADHESIVE MEETING THE REQUIREMENTS OF ASTM D2659 WITH ALL GRAIN PARALLEL WITH THE LENGTH OF THE MEMBER. THE MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PSL (2.0E) Fb = 2900 PSI E = 2000 KSI Fv = 290 PSI
LVL (2.0E) Fb = 2600 PSI E = 2000 KSI Fv = 285 PSI
LSL (1.5SE) Fb = 2325 PSI E = 1550 KSI Fv = 310 PSI
PSL COLUMN (1.8E) Fb = 2800 PSI E = 1800 KSI Fv = 190 PSI

DESIGN SHOWN ON PLANS IS BASED ON LUMBER MANUFACTURED BY THE TRUS-JOIST CORPORATION. ALTERNATE MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE JOIST HANGERS AND OTHER HARDWARE MAY BE SUBSTITUTED FOR ITEMS SHOWN PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH MEMBERS PROVIDED.

MANUFACTURED LUMBER PRODUCTS SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%. EXCESSIVE DEFLECTIONS MAY OCCUR IF MOISTURE CONTENT EXCEEDS THIS VALUE.

- PREFABRICATED PLYWOOD WEB JOIST DESIGN SHOWN ON PLANS IS BASED ON JOISTS MANUFACTURED BY THE TRUS-JOIST CORPORATION. ALTERNATE PLYWOOD WEB JOIST MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE JOIST HANGERS AND OTHER HARDWARE MAY BE SUBSTITUTED FOR ITEMS SHOWN PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH PLYWOOD WEB JOIST PROVIDED.

- PLYWOOD SHEATHING SHALL BE GRADE CD, EXTERIOR GUE OR STRUCTURAL II, EXTERIOR GUE IN CONFORMANCE WITH ICC-PS1 OR PS-2, ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.

WALL SHEATHING SHALL BE 7/16" or 1/2" (NOMINAL) WITH SPAN RATING 24/0

FLOOR SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

WATERPROOF DECK SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

FLAT ROOF SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

ROOF SHEATHING SHALL BE 1/2" or 7/16" (NOMINAL) WITH SPAN RATING 32/16 FOR ROOFS WITH A PITCH GREATER THAN 2:12

REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

- WOOD IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESURE-TREATED WITH AN APPROVED PRESERVATIVE OR (2) LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER SHALL BE PROVIDED BETWEEN UNTREATED WOOD AND CONCRETE OR MASONRY.

- PRESSURE-TREATED WOOD (INCLUDES PRESERVATIVE AND FIRE TREATED) SHALL BE TREATED PER AWPA STANDARDS. PRESSURE TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO RETENTION OF 0.25 PCF. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO A RETENTION OF 0.40 PCF. SODIUM BORATE (SBX) TREATED WOOD SHALL NOT BE USED WHERE EXPOSED TO WEATHER. FASTENERS AND TIMBER CONNECTORS WITHOUT AMMONIA IN DIRECT CONTACT WITH ACQ-A TO A RETENTION LEVEL OF 0.40 PCF. CBA-A (UP TO A RETENTION LEVEL OF 0.41 PCF) (UP TO A RETENTION LEVEL OF 0.21 PCF). SHALL BE G185 OR A185 HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A653. FASTENERS AND TIMBER CONNECTORS WITH AMMONIA IN DIRECT CONTACT WITH ACQ-A COVER A RETENTION LEVEL OF 0.40 PCF. CBA-A COVER A RETENTION LEVEL OF 0.41 PCF. CBA-B COVER A RETENTION LEVEL OF 0.21 PCF. OR WITH ACQ-A TREATED WOOD SHALL BE TYPE 304 OR 316 STAINLESS STEEL.

- CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2019. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

ALL 2x JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL TJ JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL DOUBLE-JOISTS BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "MIJ" SERIES JOIST HANGERS.

WHERE CONNECTOR STRAPS CONTACT (2) MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER.

ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

WOOD FASTENERS

- ALL NAILS SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	TYPE	LENGTH	DIAMETER
8d	COMMON	2-1/2"	0.131"
10d	GUN	3"	0.131"
12d	GUN	3-1/4"	0.131"
16d	GUN	3-1/2"	0.135"

IF CONTRACTOR PROPOSES THE USE OF ALTERNATE NAILS, THEY SHALL SUBMIT NAIL SPECIFICATIONS TO THE STRUCTURAL ENGINEER (PRIOR TO CONSTRUCTION) FOR REVIEW AND APPROVAL.

NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED.

- ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2018 EDITION) WITH A LEAD BORE HOLE OF 40-70% OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS, BUT HOLES SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. HOLES SHALL BE ACCURATELY ALIGNED IN MAIN MEMBERS AND SIDE PLATES/MEMBERS. BOLTS SHALL NOT BE FORCIBLY DRIVEN.

- SDS AND SDWS SCREWS CALLED OUT ON PLANS ARE TIMBER SCREWS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. SCREWS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. EQUIVALENT SCREWS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. LAG SCREWS ARE NOT AN EQUIVALENT SUBSTITUTION.

- WOOD FRAMING NOTES - THE FOLLOWING APPLY UNLESS NOTED OTHERWISE ON THE PLANS:

- ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE IBC. THE AITC "TIMBER CONSTRUCTION MANUAL", AND THE APA "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". MINIMUM NAILING, SHALL CONFORM TO TABLE 2304.10.1. OF THE IBC, UNO. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

- WALL FRAMING: REFER TO ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16" OC, UNO. (2) STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. (2) 2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS IN STRUCTURAL WALLS, UNO. NAIL ALL MEMBERS HEADERS WITH (2) ROWS 10d AT 12" OC. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

ALL WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A DOUBLE TOP PLATE. END NAIL TOP PLATE AND BOTTOM PLATE TO EACH STUD WITH (3) 10d NAILS. FACE NAIL DOUBLE TOP PLATES WITH 10d AT 12" OC AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE (12) 10d NAILS AT 6" OC EACH SIDE OF JOINT. AT TOP PLATE INTERSECTIONS PROVIDE (3) 10d FACE NAILS.

- ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH (2) ROWS OF 12d NAILS AT 16" OC. ATTACH TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS AT 4'-0" OC EMBEDDED 7" MINIMUM, UNO. THERE SHALL BE A MINIMUM OF (2) BOLTS PER PLATE SECTION WITH (1) BOLT LOCATED MORE THAN 12" OR LESS THAN 4'-1/2" FROM EACH END OF THE PLATE SECTION. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH (2) ROWS OF 10d AT 16" OC. UNLESS NOTED OTHERWISE, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH 8d 1-1/4" TYPE S OR W SCREWS AT 12" OC. UNLESS NOTED OTHERWISE, 7/16" OR 1/2" (NOMINAL) APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS AT 6" OC AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES) AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d Nails AT 12" OC. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL ENDS.

- FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS, UNO. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. TORNAIL TIMBER JOISTS TO SUPPORTS WITH (3) 10d NAILS AND NAIL TJ JOISTS TO SUPPORTS WITH (2) 10d NAILS. ATTACH JOISTS TO BEAMS WITH SIMPSON JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTIPLE JOIST BEAMS TOGETHER WITH (2) ROWS 10d AT 12" OC. TORNAIL RIM JOIST TO TOP PLATE WITH 10d AT 6" OC. TORNAIL BLOCKING BETWEEN JOISTS TO TOP PLATE WITH (3) 10d NAILS.

- UNLESS NOTED OTHERWISE ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS WITH END JOINTS STAGGERED, AND NAILED AT 6" OC WITH 8d NAILS TO FRAMED PANEL EDGES, STRIPS AND OVER STUD WALLS AS SHOWN ON PLANS AND AT 12" OC TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TORNAIL BLOCKING TO SUPPORTS WITH 10d AT 12" OC, UNO.

- NOTCHES AND HOLES IN WOOD FRAMING:
A. SAWN LUMBER JOISTS AND RAFTERS: NOTCHES AT THE ENDS OF JOISTS SHALL NOT EXCEED 1/4 THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF JOISTS SHALL NOT EXCEED 1/6 THE JOIST DEPTH. BE LONGER THAN 1/3 THE JOIST DEPTH, OR BE LOCATED IN THE MIDDLE 1/2 OF THE SPAN. HOLES SHALL NOT BE WITHIN 2" OF THE TOP OR BOTTOM OF THE JOIST AND THE DIAMETER SHALL NOT EXCEED 1/3 THE JOIST DEPTH. SPACING BETWEEN HOLES SHALL BE A MINIMUM OF (2) TIMES THE DIAMETER OF THE LARGEST HOLE OR 2" AND SHALL BE LOCATED A MINIMUM OF 2" FROM ANY NOTCH.

- CUTS, NOTCHES, AND HOLES IN MANUFACTURED LUMBER, PREFABRICATED PLYWOOD WEB JOISTS, AND PREFABRICATED TRUSSES ARE PROHIBITED EXCEPT WHERE NOTED ON STRUCTURAL PLANS OR PERMITTED BY MANUFACTURER'S RECOMMENDATIONS.

- ELECTRICAL, MECHANICAL, PLUMBING, AND DRAINAGE SYSTEMS SHALL BE DESIGNED TO ACCOMMODATE THE DIFFERENTIAL SHRINKAGE OR MOVEMENT OF THE WOOD STRUCTURE (3/8" PER FOOT).

- DEFLECTION OF CANTILEVERS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR DURING CONSTRUCTION. CONTRACTOR TO VERIFY AND ENSURE ALL POST CAPS AND POST BEARING CONDITIONS ARE INSTALLED IN STRICT CONFORMANCE TO THE STRUCTURAL PLANS. CANTILEVERS IN WOOD FRAMING CAN DEFLECT UP TO 1/8" PER FOOT (IE. A CANTILEVER MAY DEFLECT 1/2"). IF DEFLECTION EXCEEDS 1/8" PER FOOT NOTIFY STRUCTURAL ENGINEER IMMEDIATELY. BEFORE FINISHES ARE INSTALLED, FLOORS AT OR ABOVE CANTILEVERS MAY REQUIRE LEVELING COMPOUND AND SOFFITS FURRED TO MAKE THEM LEVEL.

- PREFABRICATED CONNECTOR PLATE WOOD FLOOR TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION". ANSI(TP) 1 BY THE TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADING SHALL BE AS FOLLOWS:

TOP CHORD LIVE LOAD	40 PSF
TOP CHORD DEAD LOAD	25 PSF
BOTTOM CHORD DEAD LOAD	5 PSF
TOTAL LOAD	70 PSF

REFER TO PLAN FOR ADDITIONAL LOADING. ALL FLOOR TRUSSES SHALL BE DESIGNED FOR A MAXIMUM LIVE LOAD DEFLECTION OF THE SPAN DIVIDED BY 480.

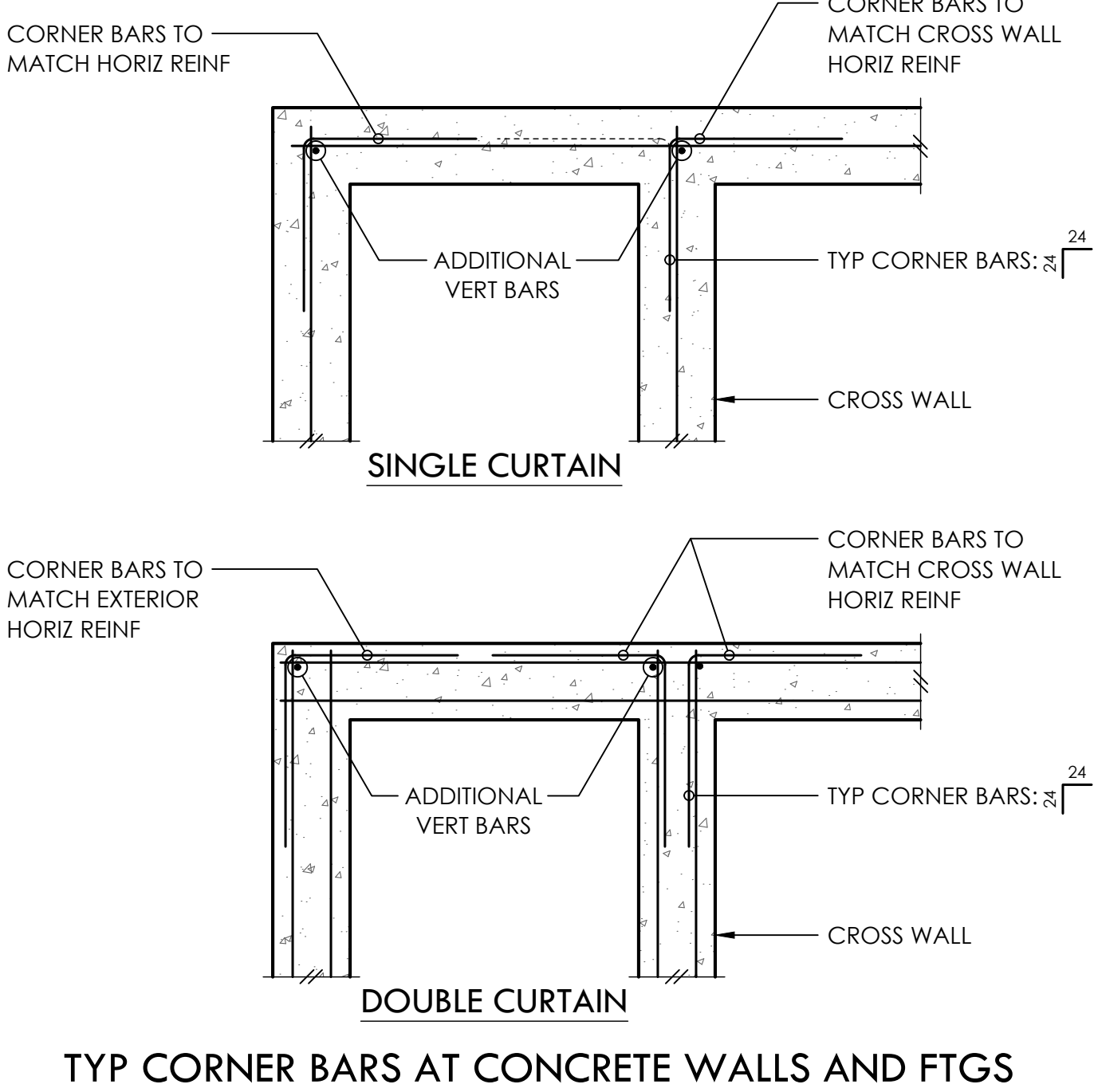
WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BE STAMPED AND SIGNED BY

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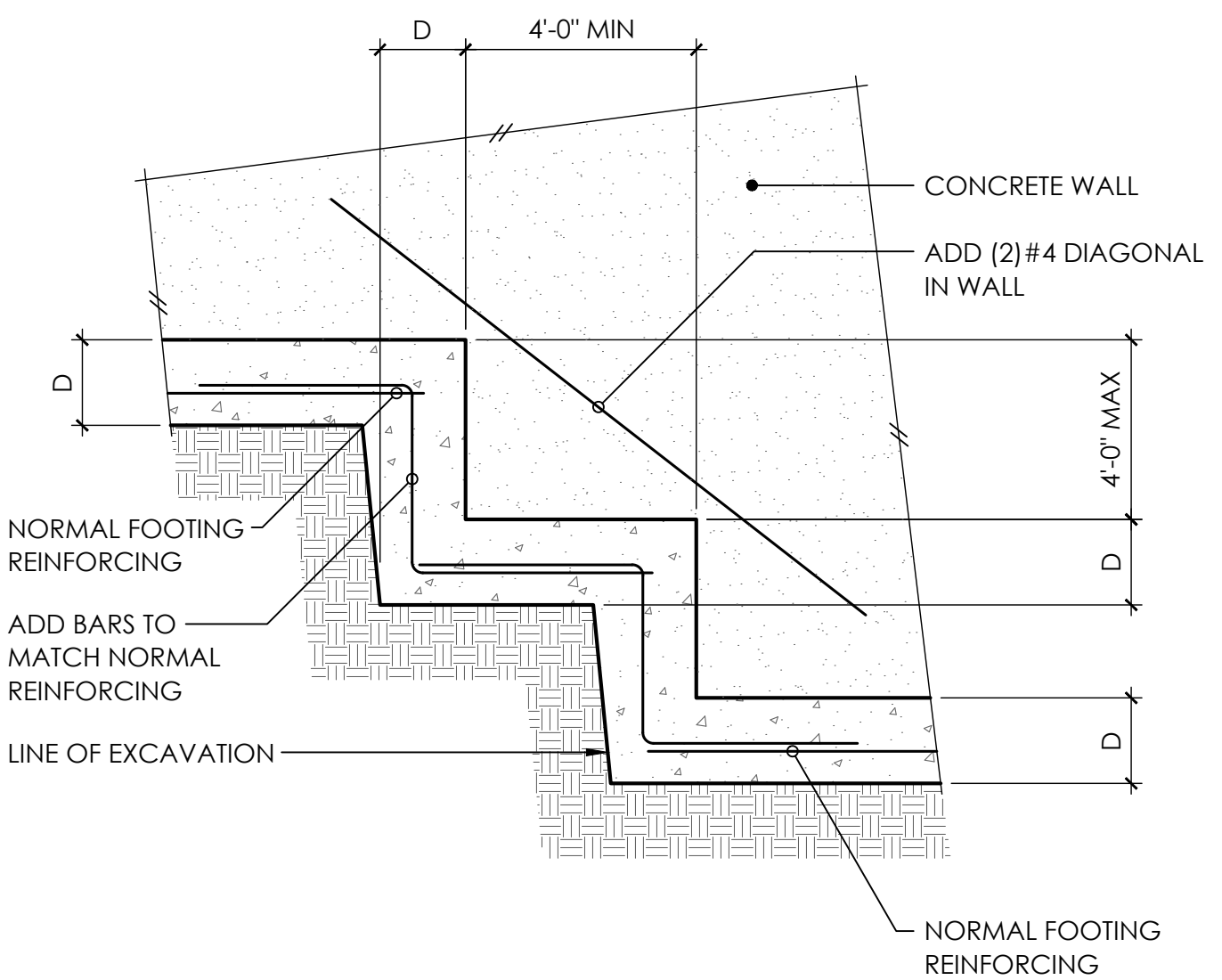
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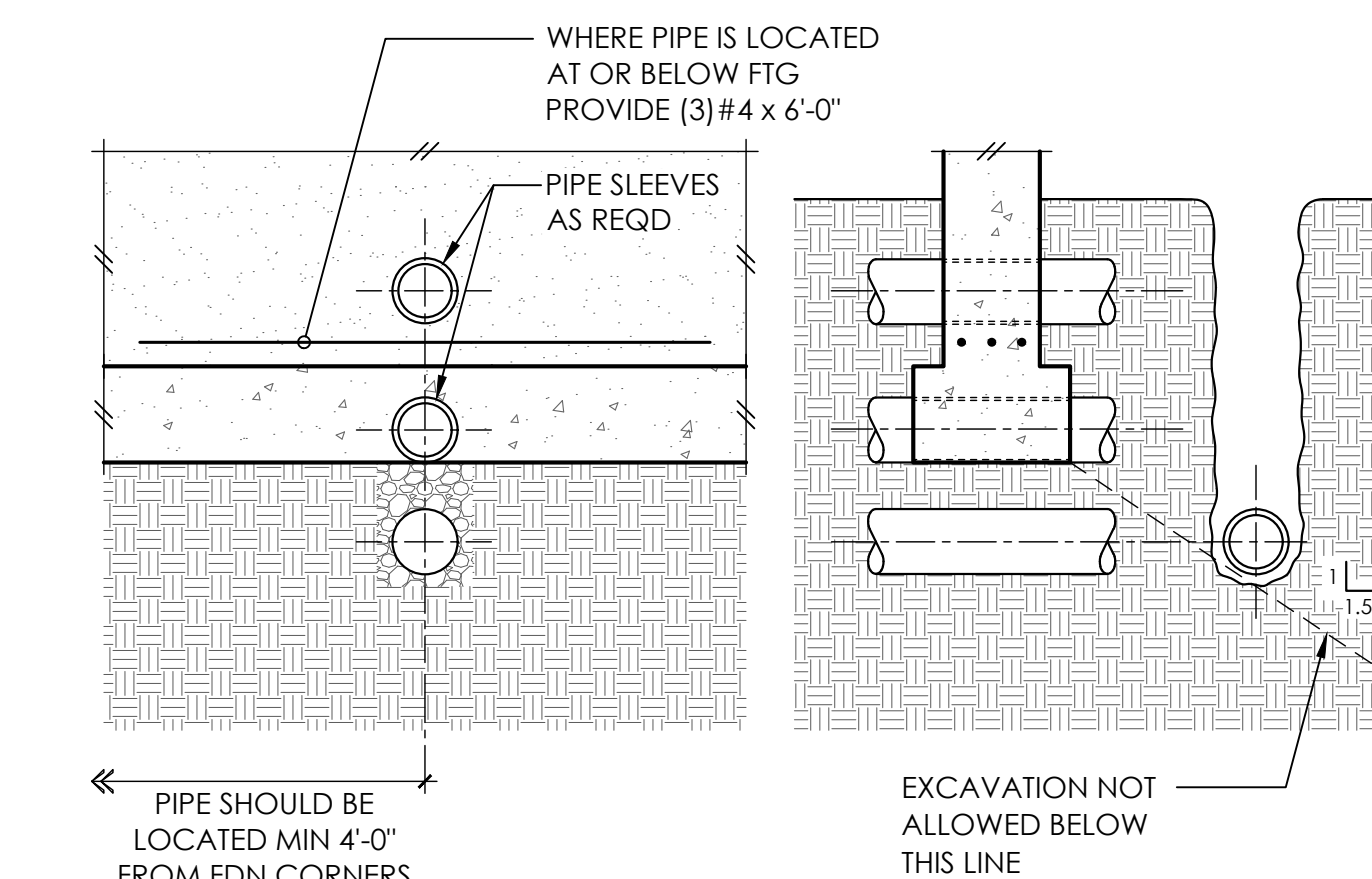
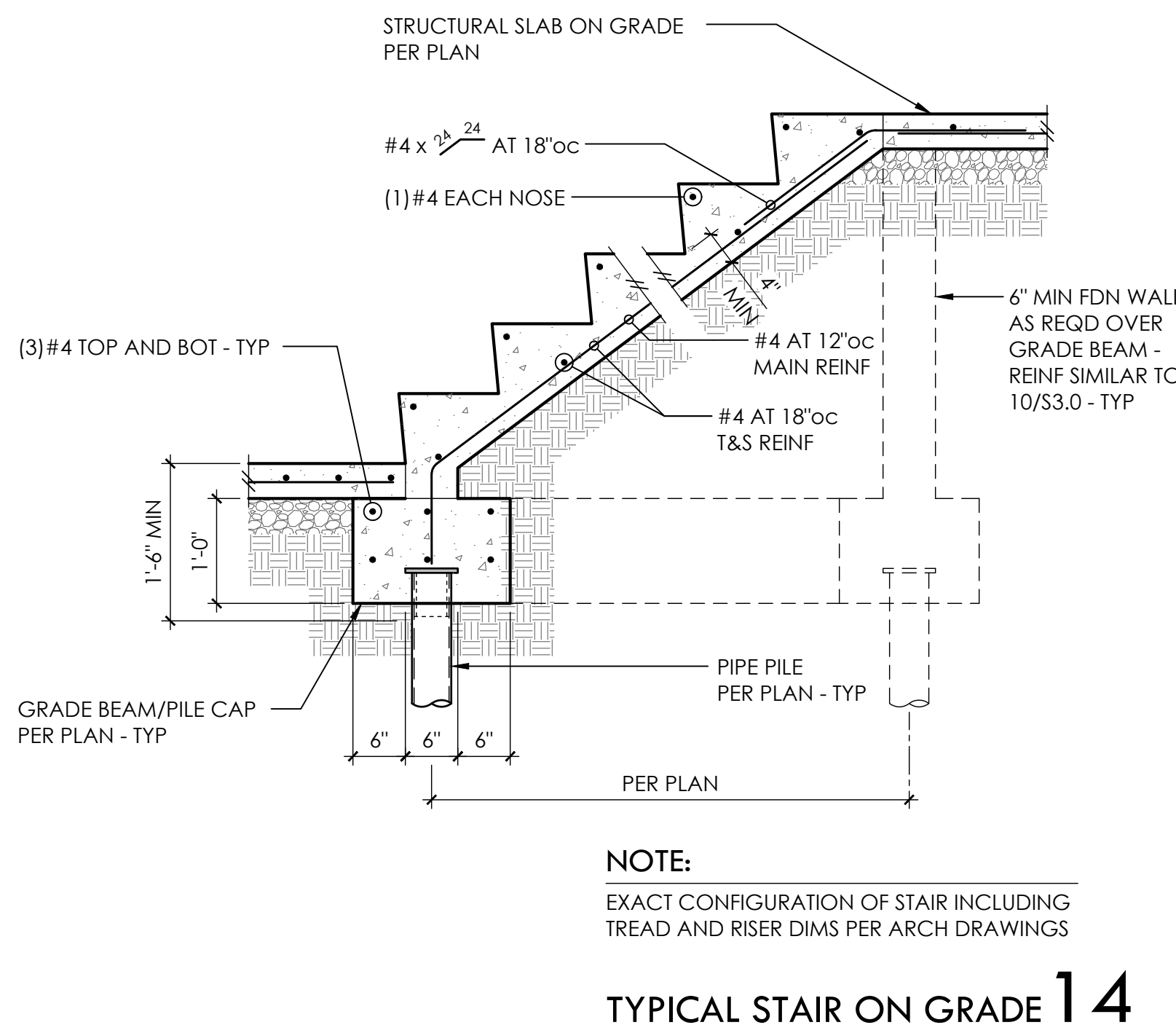


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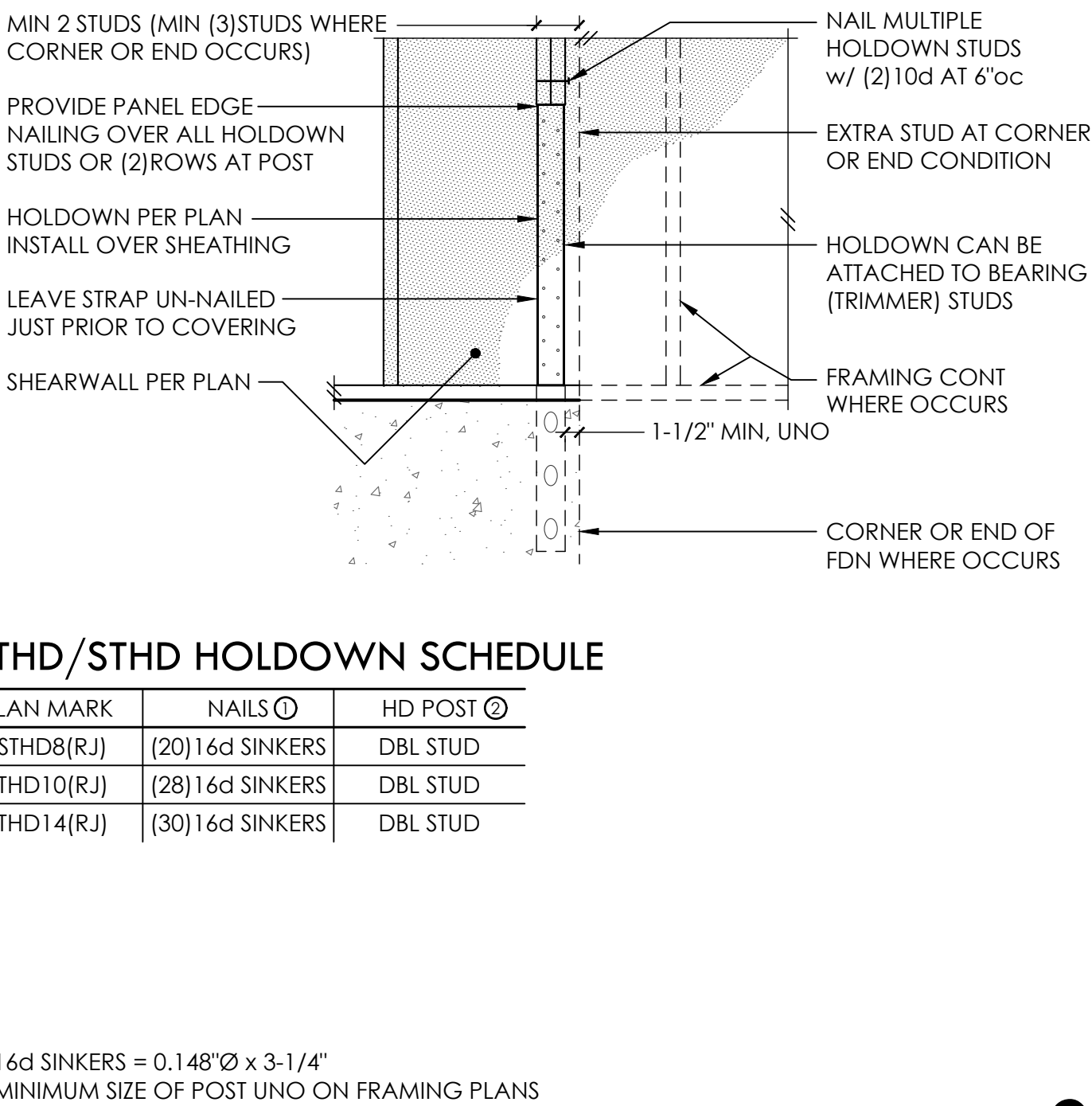
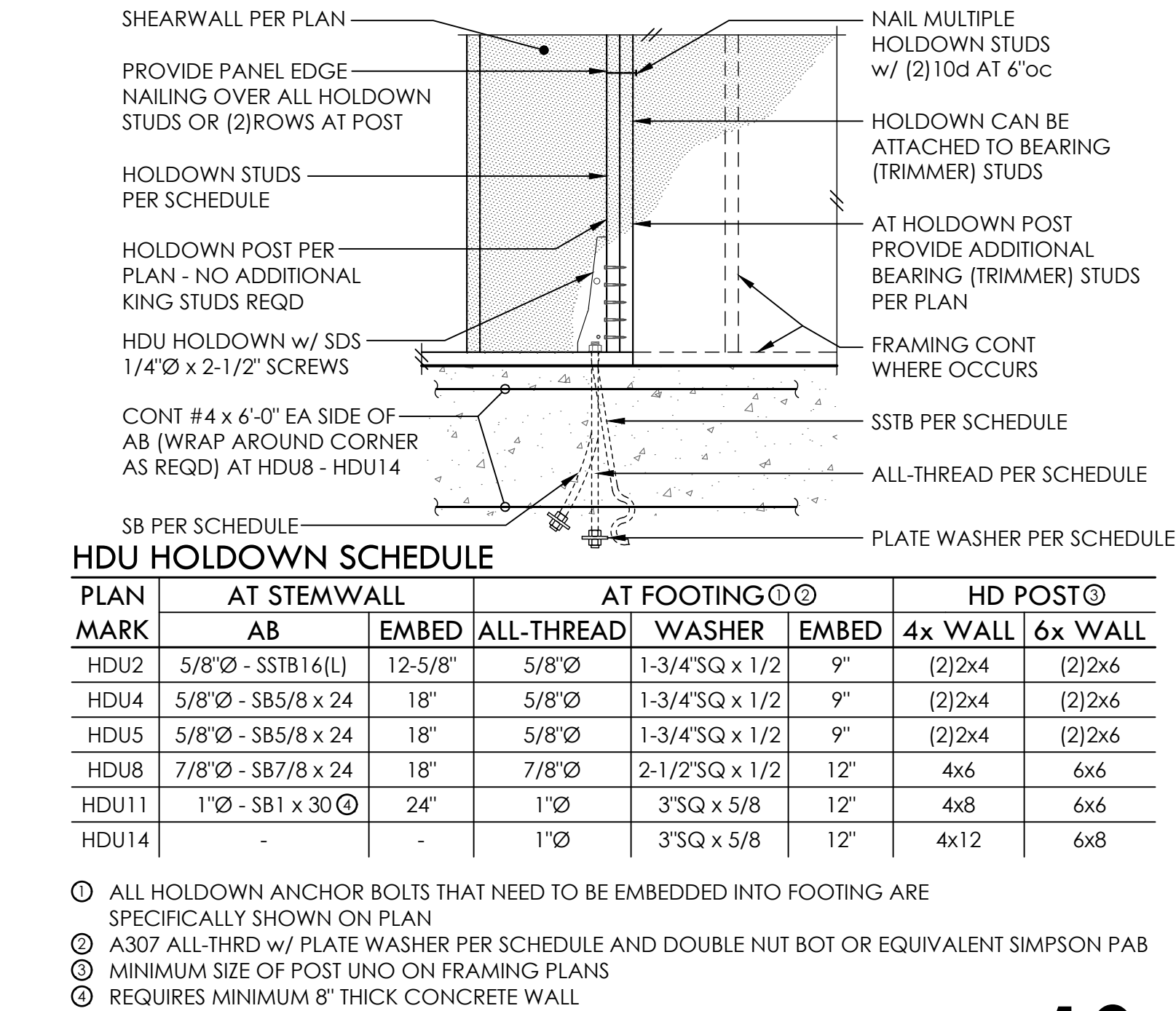
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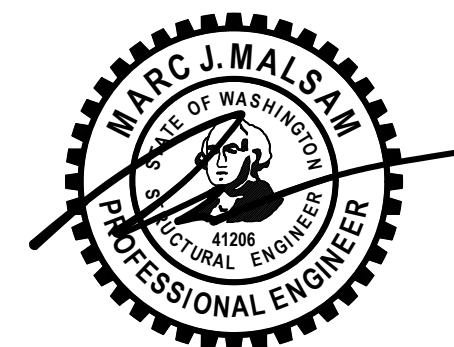
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PROJECT NO 0426-2021-03.01
PROJECT MANAGER WAC
DRAWN JAS
ENGINEER JOSEPH MARQUEZ
206.462.5122
JOSEPHM@MALSAM-TSANG.COM

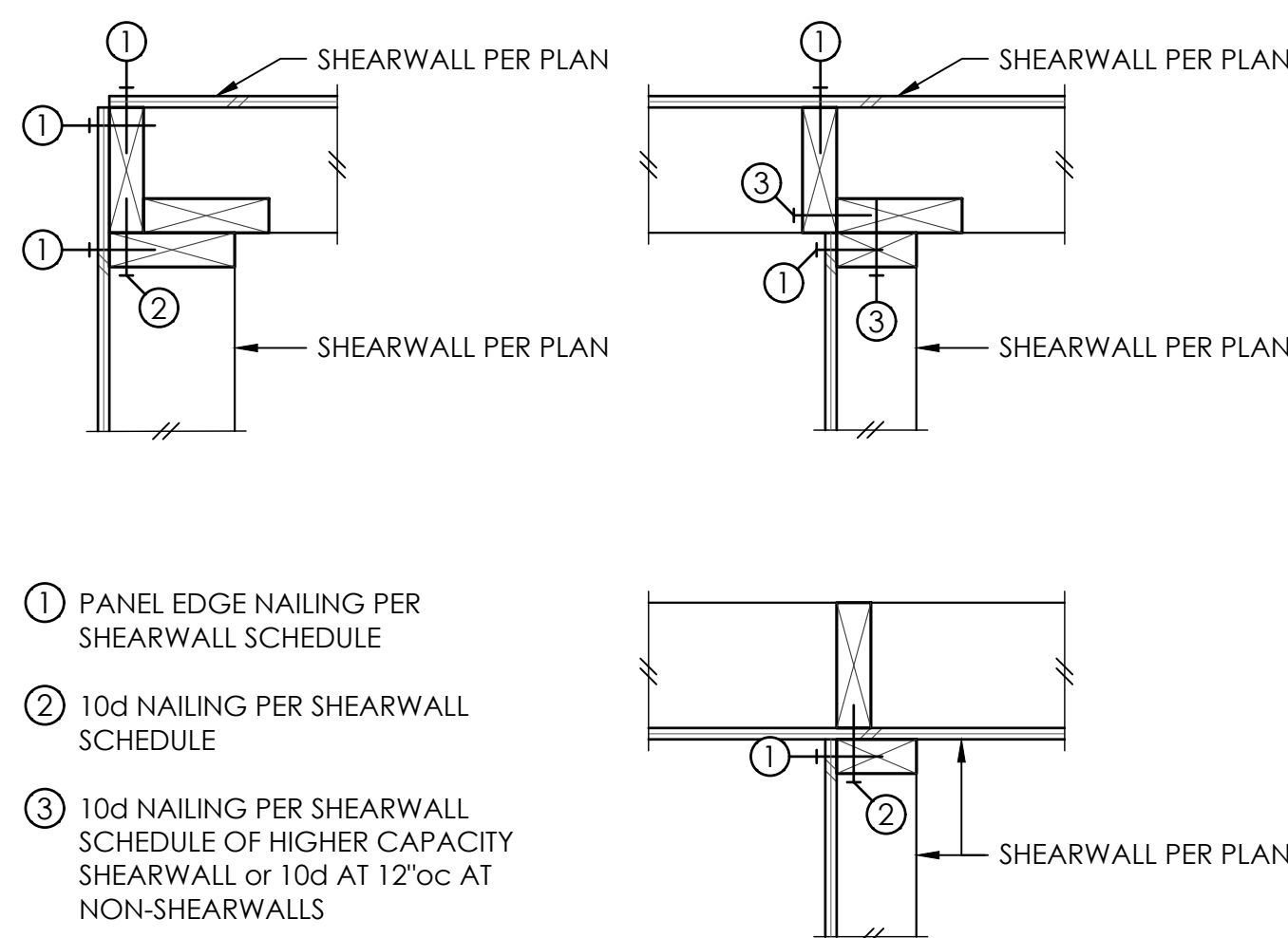
REV	DESCRIPTION	DATE
PERMIT SET		12.23.21
PERMIT CORRECTIONS		5.5.22
PERMIT CORRECTIONS		7.13.22
PERMIT CORRECTIONS		8.19.22
PERMIT CORRECTIONS		11.3.22
CD SET		3.7.22

ARCH MCULLOUGH ARCHITECTS
206.443.1181

TYPICAL CONCRETE
DETAILS

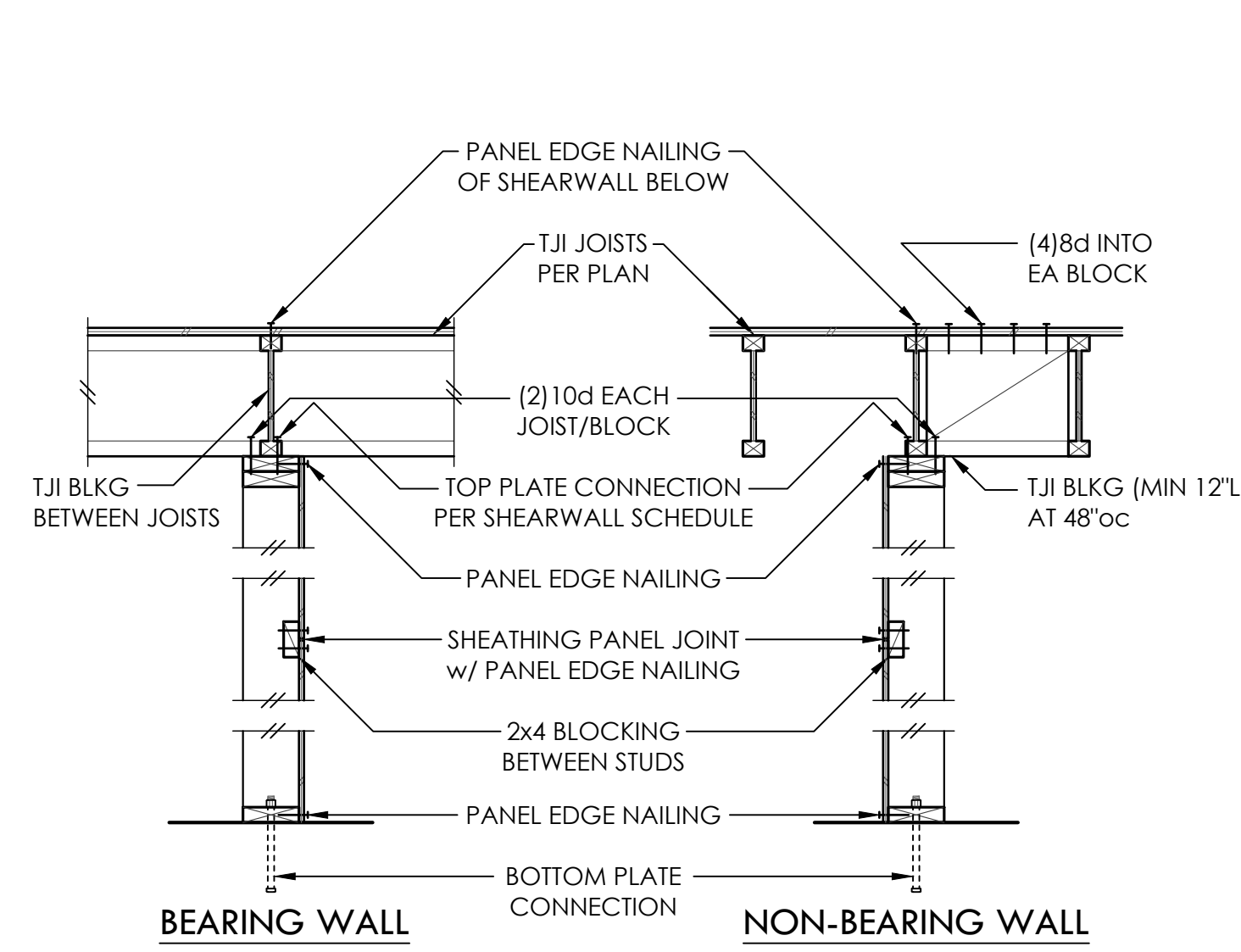
S3.0
SCALE - 3/4" = 1'-0"





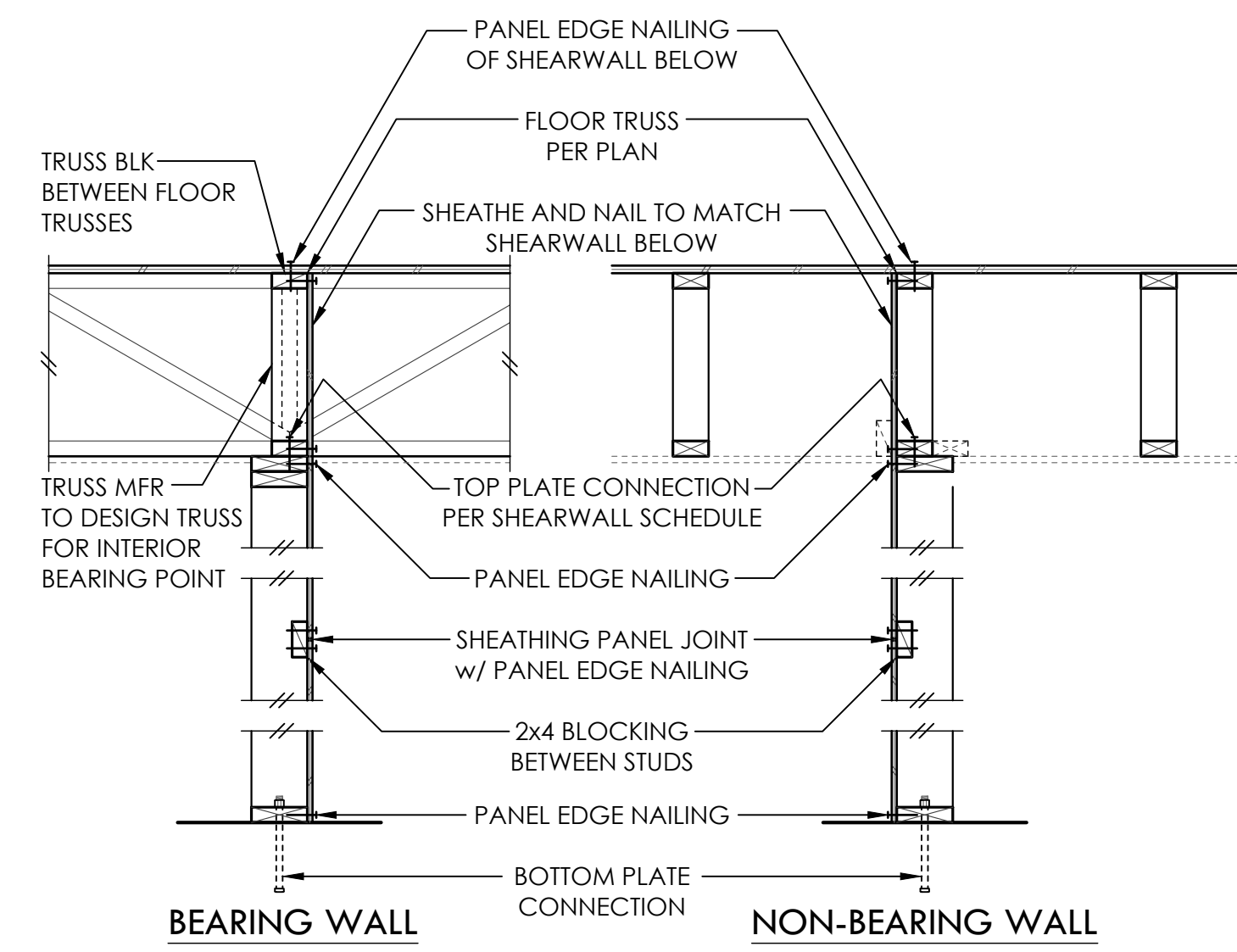
- 1 PANEL EDGE NAILING PER SHEARWALL SCHEDULE
- 2 10d NAILING PER SHEARWALL SCHEDULE
- 3 10d NAILING PER SHEARWALL SCHEDULE OF HIGHER CAPACITY SHEARWALL or 10d AT 12"oc AT NON-SHEARWALLS

SCALE: 1'-1 1/2" = 1'-0"
TYPICAL SHEARWALL INTERSECTIONS 1



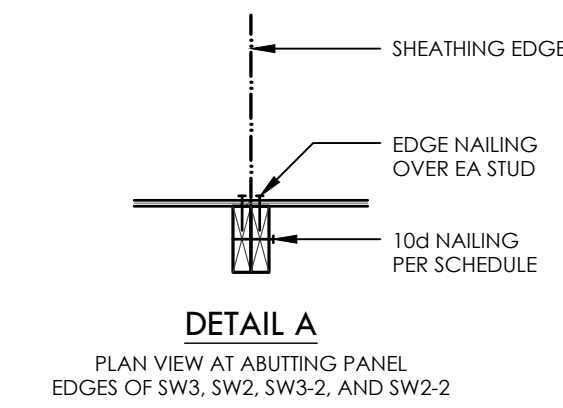
NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, UNO

TYPICAL SHEARWALL CONSTRUCTION 2



NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, NOT OTHERWISE NOTED

TYPICAL SHEARWALL CONSTRUCTION 3



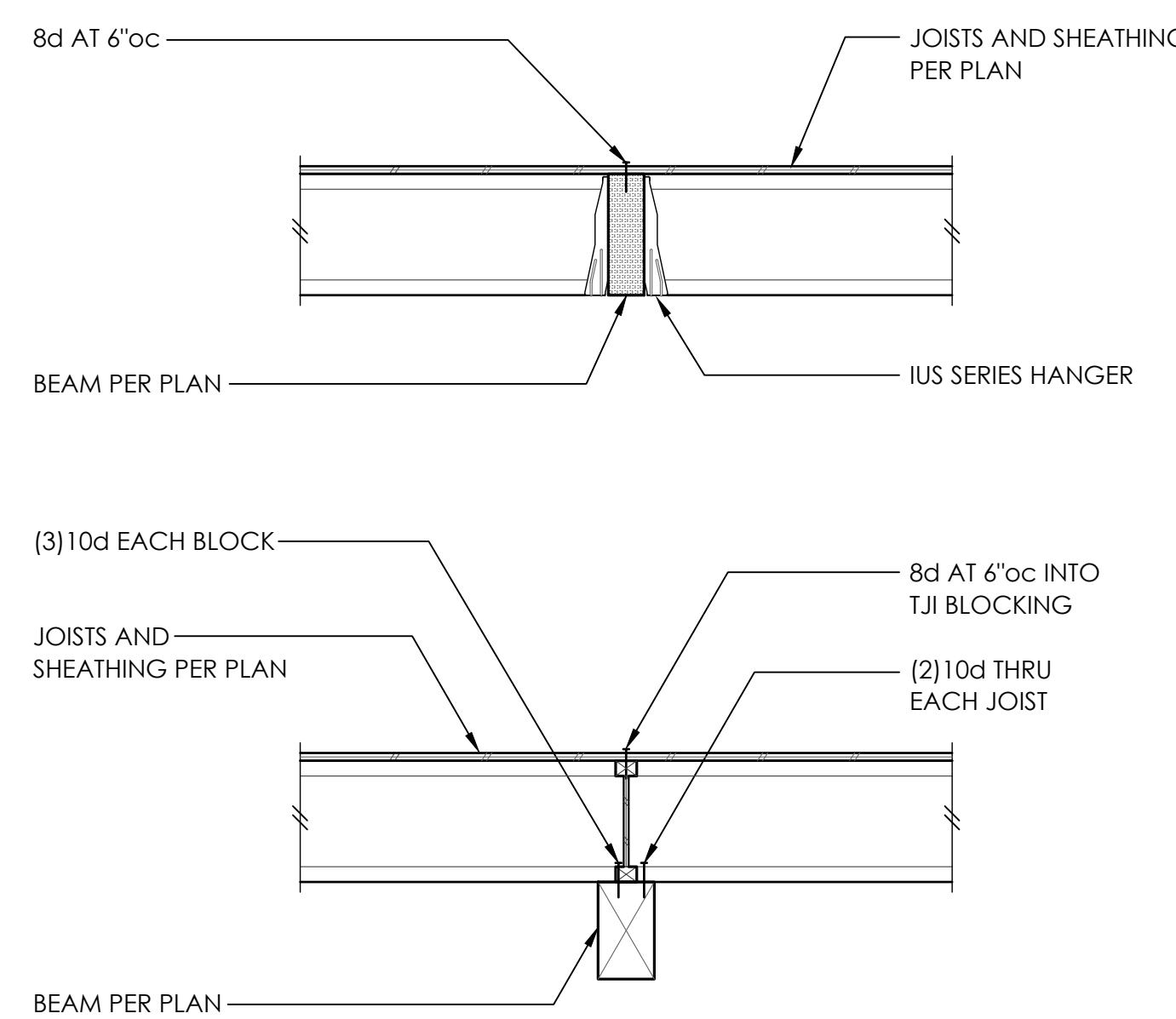
DETAIL A
PLAN VIEW AT ABUTTING PANEL EDGES OF SW3, SW2, SW3-2, AND SW3-2

SHEARWALL SCHEDULE

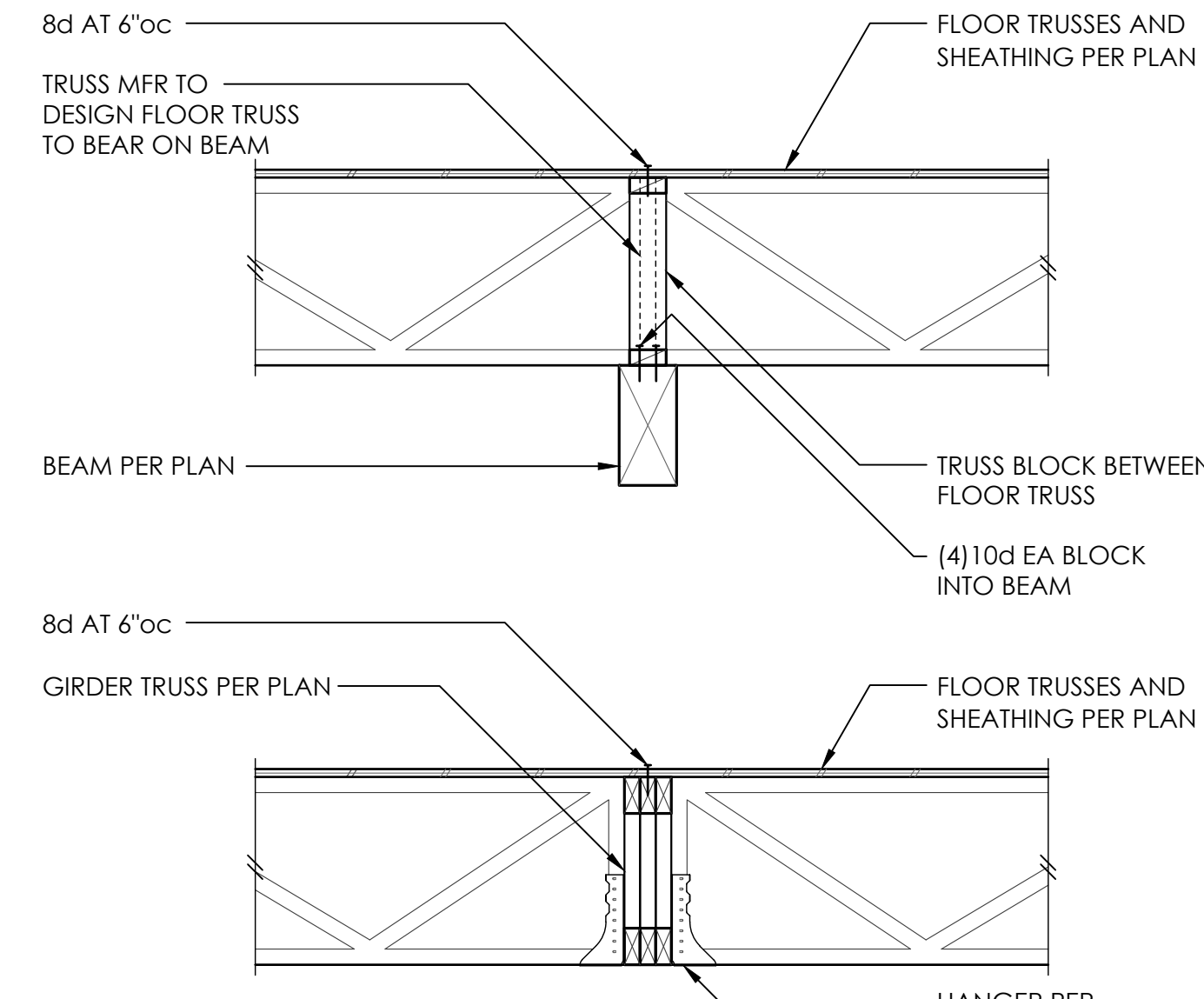
MARK	SHEATHING	PANEL EDGE NAILING	TOP PLATE CONNECTION		BASE PLATE CONNECTION	
			TRUSS	RIM/BEAM	AT WOOD	AT CONCRETE
SW6	1/2" PLY or 7/16" OSB	8d AT 6"oc	10d AT 4"oc	A35 AT 30"oc	12d AT 6"oc	5/8"Ø AB AT 48"oc
SW4	1/2" PLY or 7/16" OSB	8d AT 4"oc	10d AT 4"oc	A35 AT 18"oc	12d AT 4"oc	5/8"Ø AB AT 42"oc
SW3	1/2" PLY or 7/16" OSB	8d AT 3"oc	(2)ROWS 10d AT 6"oc	A35 AT 12"oc	(2)ROWS 12d AT 4"oc	5/8"Ø AB AT 36"oc
SW2	1/2" PLY or 7/16" OSB	8d AT 2"oc	(2)ROWS 10d AT 4"oc	A35 AT 12"oc	(2)ROWS 12d AT 4"oc	5/8"Ø AB AT 24"oc
SW3-2	1/2" PLY or 7/16" OSB EA SIDE	8d AT 3"oc EA SIDE	N/A	A35 AT 8"oc	(2)ROWS 12d AT 3"oc	5/8"Ø AB AT 18"oc
SW2-2	1/2" PLY or 7/16" OSB EA SIDE	8d AT 2"oc EA SIDE	N/A	A35 AT 6"oc	(3)ROWS 12d AT 3"oc	5/8"Ø AB AT 12"oc

- 1 BLOCK PANEL EDGES WITH 2x4 LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d AT 12"oc.
- 2 8d NAILS SHALL BE 0.131"Ø x 2-1/2", 10d NAILS SHALL BE 0.131"Ø x 3", AND 12d NAILS SHALL BE 0.131"Ø x 3-1/4".
- 3 EMBED ANCHOR BOLTS AT LEAST 7" OR USE 5/8"Ø x 8" TITEN HD SCREWS, UNO. ALL BOLTS SHALL HAVE 3" x 3" x 0.229" PLATE WASHERS. THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) w/ SHEATHING. AT 2x6 SW3-2 AND SW2-2 WALLS, PROVIDE 4-1/2" x 3" x 0.229" PLATE WASHERS CENTERED ON PLATE.
- 4 3x STUDS OR DBL STUDS NAILED TOGETHER w/ 10d NAILING IS REQD AT ABUTTING PANEL EDGES OF SW3, SW2, SW3-2, AND SW2-2. REFER TO DETAIL A. WHERE 3x STUDS ARE USED, STAGGER NAILS AT ADJOINING PANEL EDGES. ABUTTING PANEL EDGES SHALL BE OFFSET EACH SIDE OF WALL AT SW3-2 AND SW2-2.
- 5 TWO STUDS MINIMUM OR POST PER PLAN ARE REQUIRED AT EACH END OF ALL SHEARWALLS AND ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING.
- 6 ALL EXTERIOR WALLS SHALL BE SW6, UNLESS NOTED OTHERWISE.
- 7 NAILS SHALL NOT BE SPACED LESS THAN 3/8" FROM EDGES OF SHEATHING. SHEATHING NAILS SHALL BE DRIVEN SO THEIR HEADS ARE FLUSH WITH SHEATHING (NOT COUNTERSINK).
- 8 1TPs INSTALLED OVER SHEATHING WITH 8d (0.131"Ø x 2-1/2") NAILS MAY BE SUBSTITUTED FOR A35'S AT CONTRACTORS OPTION.

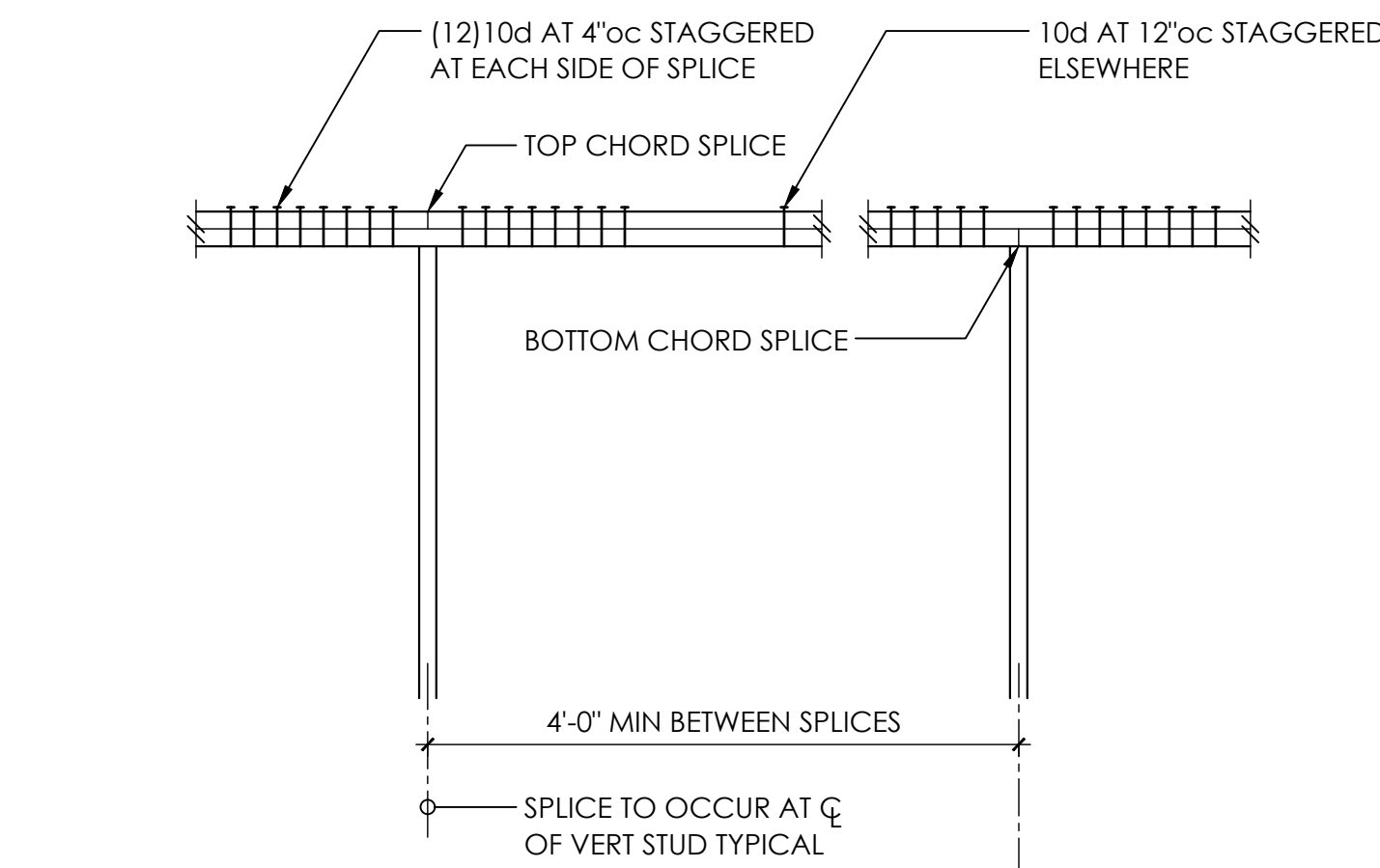
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TYPICAL FLUSH AND DROPPED BEAM 6

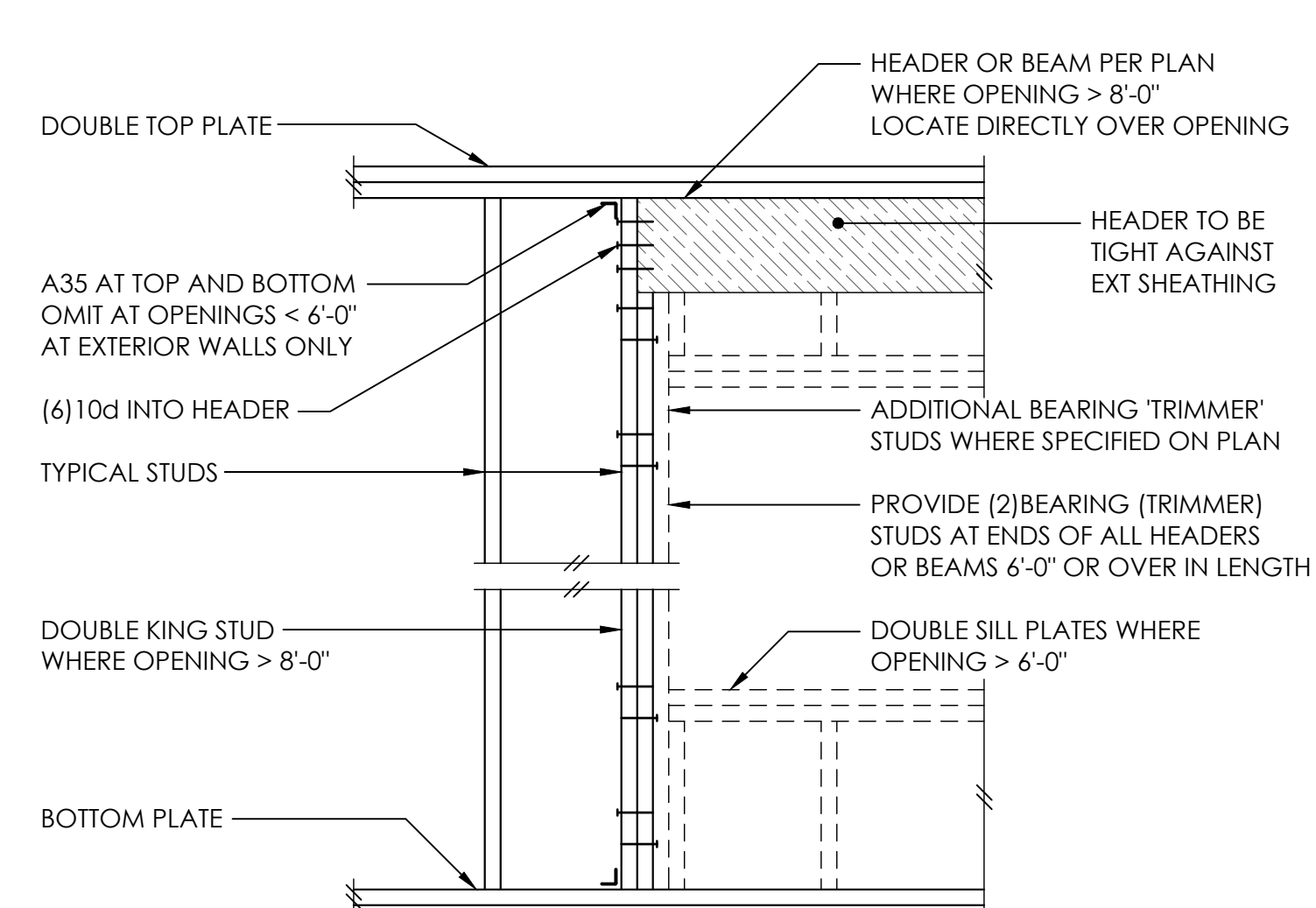


TYPICAL DROPPED BEAM AND GIRDER TRUSS 8

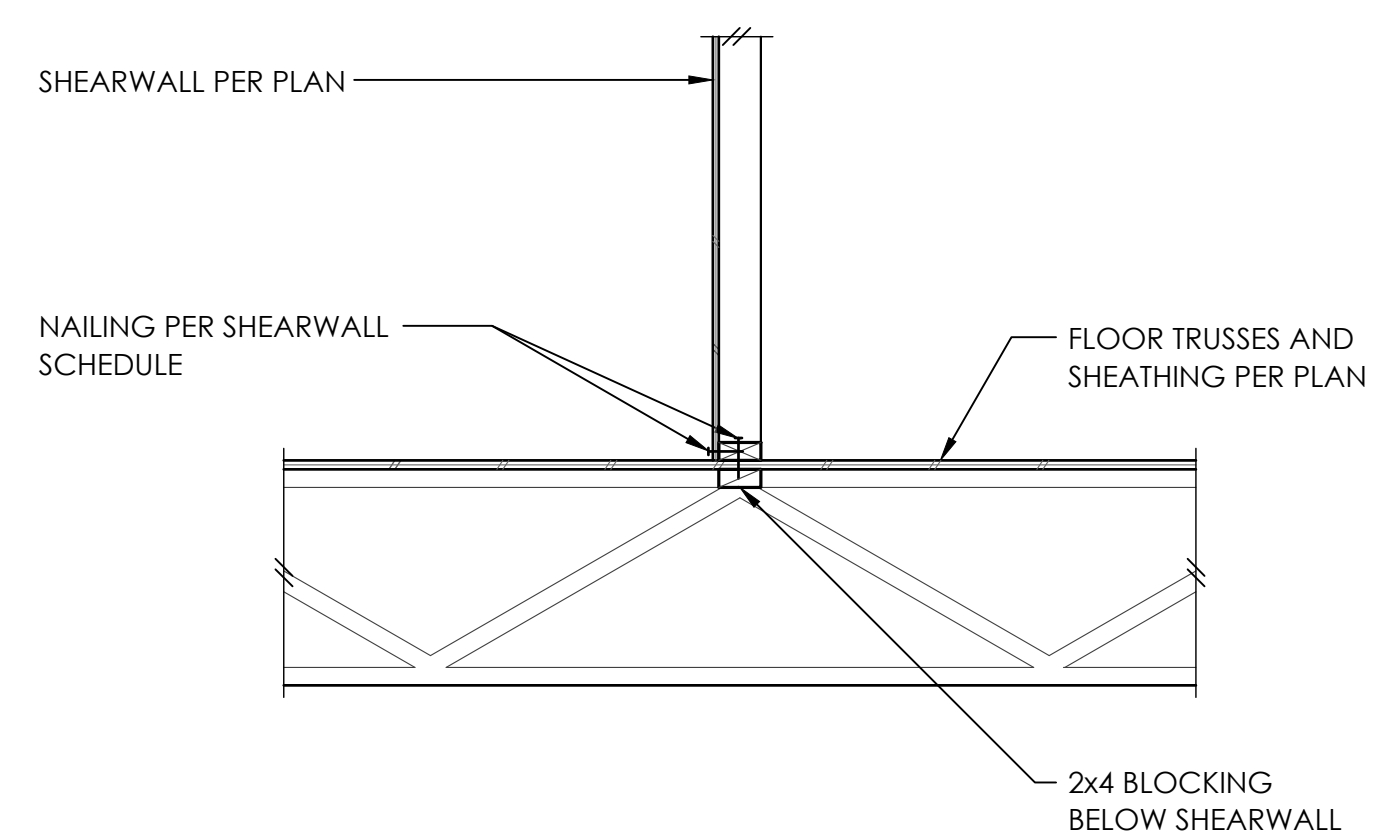


- NOTE:
1. NAILING AT TOP PLATE SPLICES MAY BE ELIMINATED w/ CS16 x 30".
 2. WHERE VERTICAL PENETRATIONS THRU PLATE EXCEED 1" FOR A 4x WALL OR 3" FOR A 6x WALL - PROVIDE CS16 x 30" AT TOP PLATE
 3. MINIMUM EDGE DISTANCE FOR VERTICAL PENETRATIONS THRU TOP PLATE IS 1-1/4"

TYPICAL TOP PLATE SPLICE 9

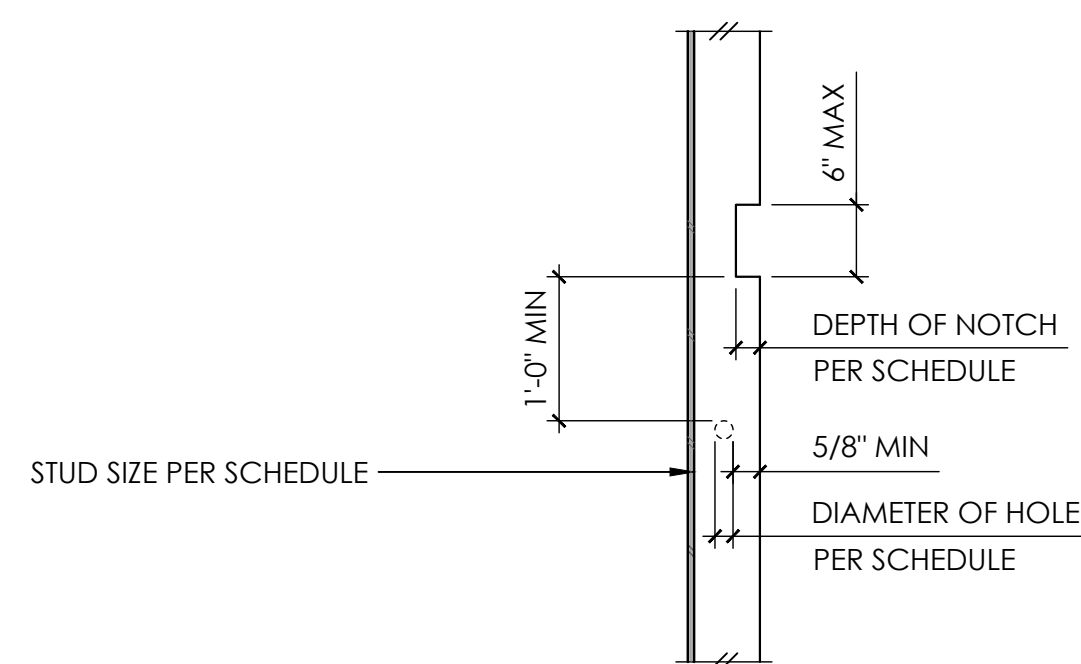


TYPICAL HEADER SUPPORT 10

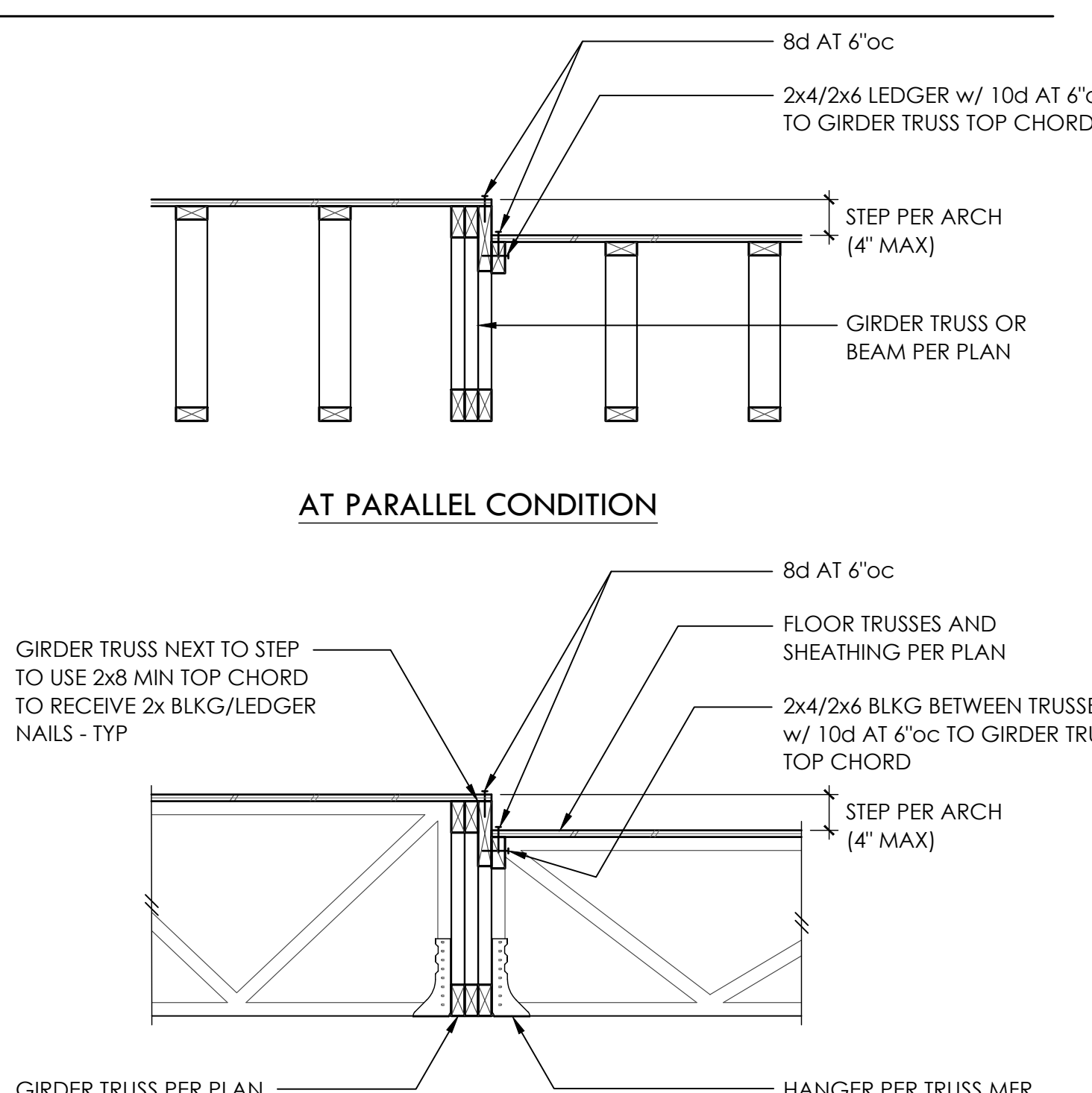


BEARING AND EXTERIOR WALLS			NON-BEARING WALLS		
STUD	MAX DEPTH OF NOTCH	MAX DIA. OF HOLE	STUD	MAX DEPTH OF NOTCH	MAX DIA. OF HOLE
2x4	3/4"	1-3/8"	2x4	1-3/8"	2"
2x6	1-1/4"	2-1/8"	2x6	2-1/4"	3-1/4"

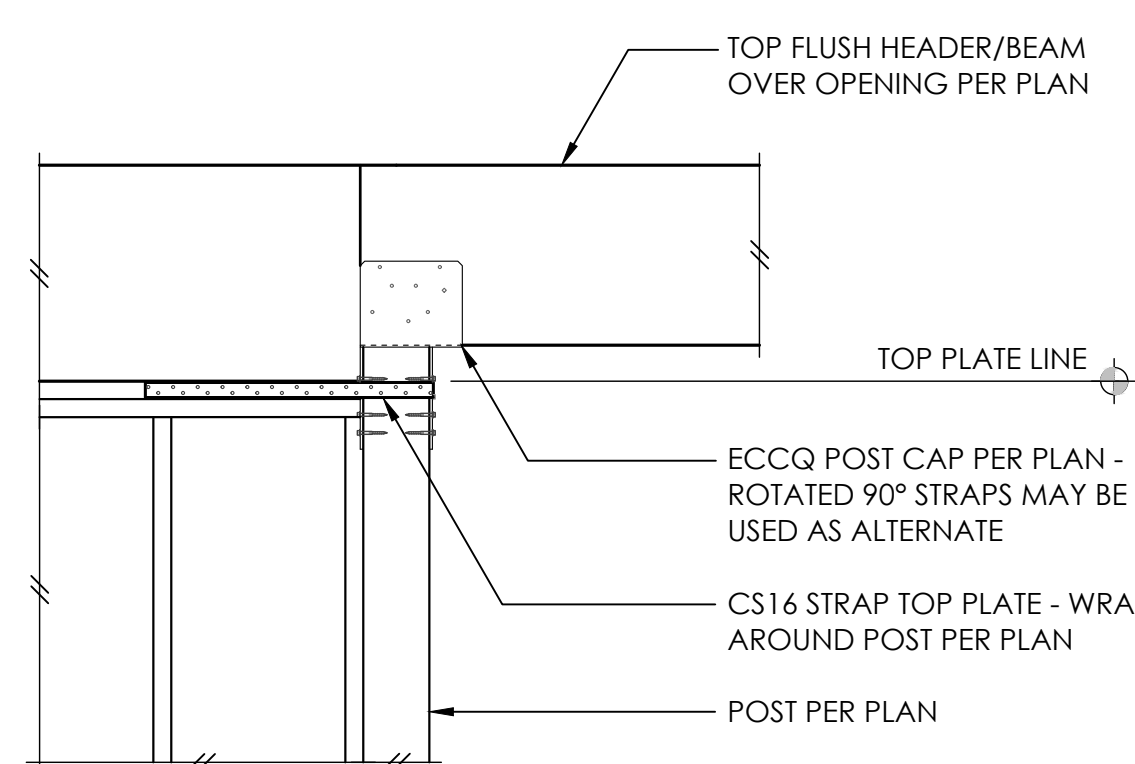
HOLE AND NOTCH SIZE FOR NON-BEARING WALLS MAY BE USED FOR BEARING WALLS IF REQUIRED NUMBER OF STUDS ARE DOUBLED. DOUBLED STUDS SHALL BE LIMITED TO TWO SUCCESSIVE STUDS.



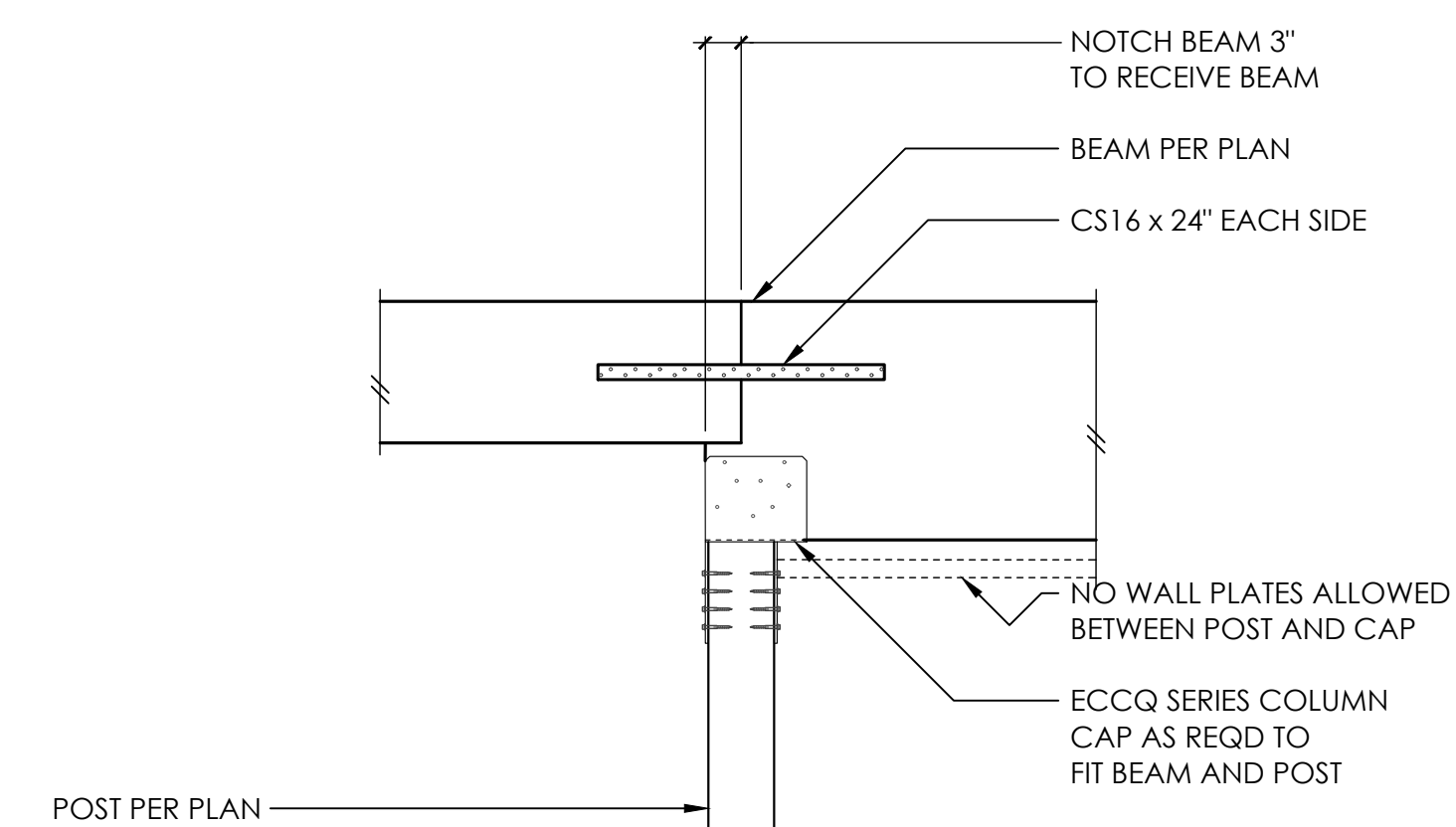
TYPICAL ALLOWABLE HOLES AND NOTCHES IN WALL STUDS 12



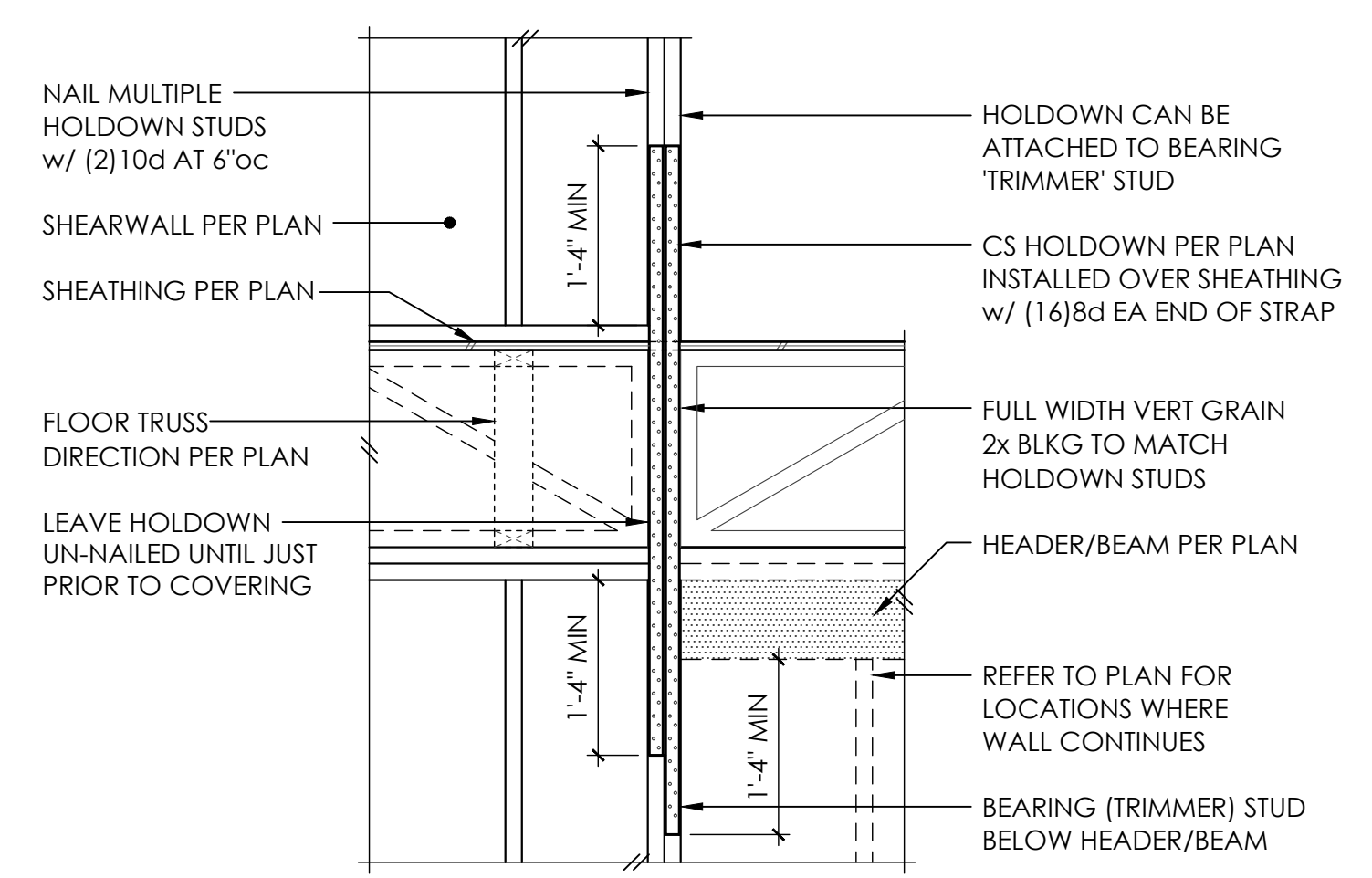
TYPICAL TRUSS TO GIRDER TRUSS STEP 17



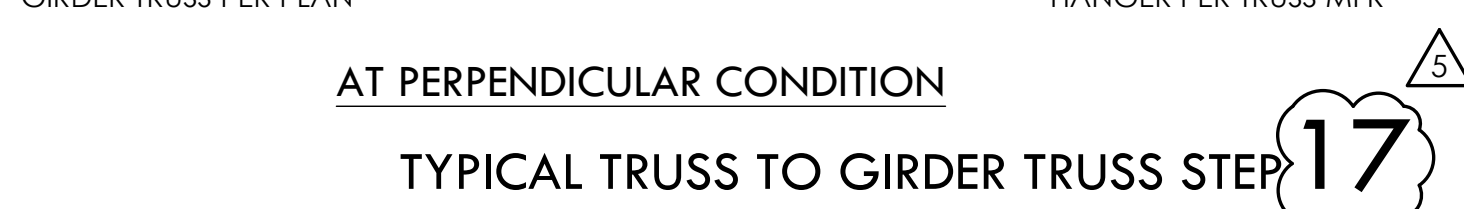
TYPICAL HEADER/BEAM END CONNECTION OVER WDO/SGD 18



TYPICAL HDU HOLDOWN 14



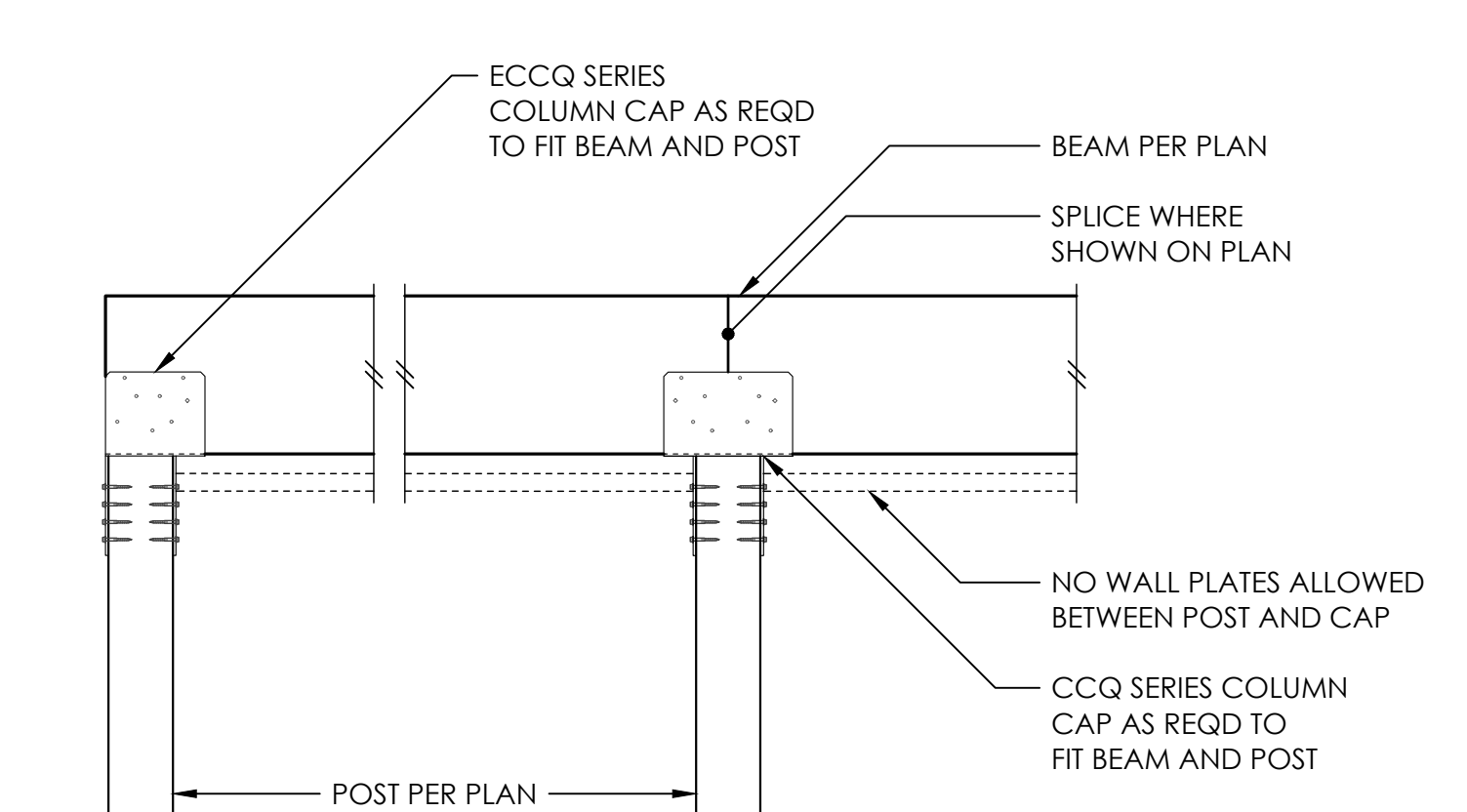
TYPICAL CS16 HOLDOWN 15



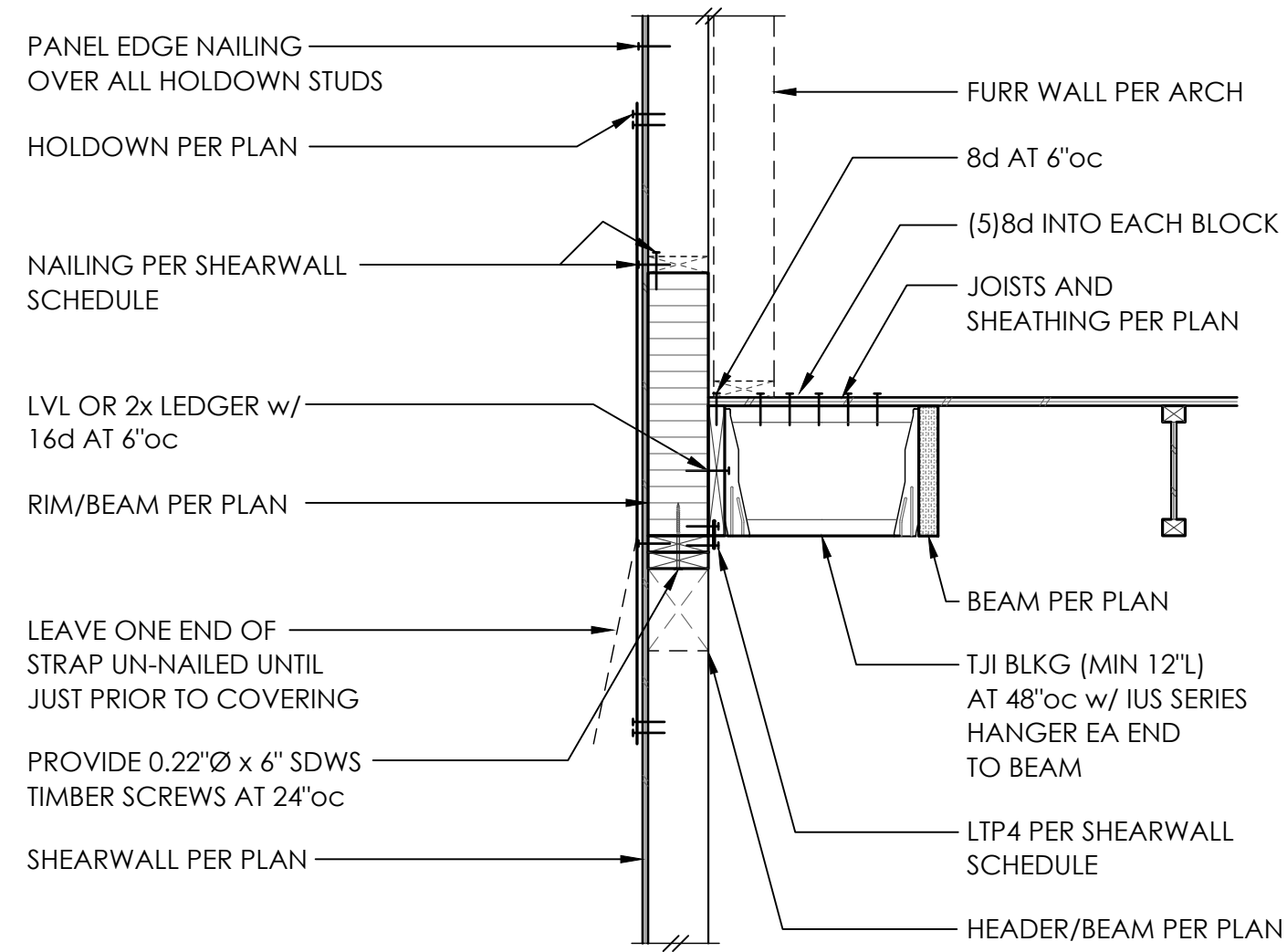
TYPICAL TRUSS TO GIRDER TRUSS STEP 17



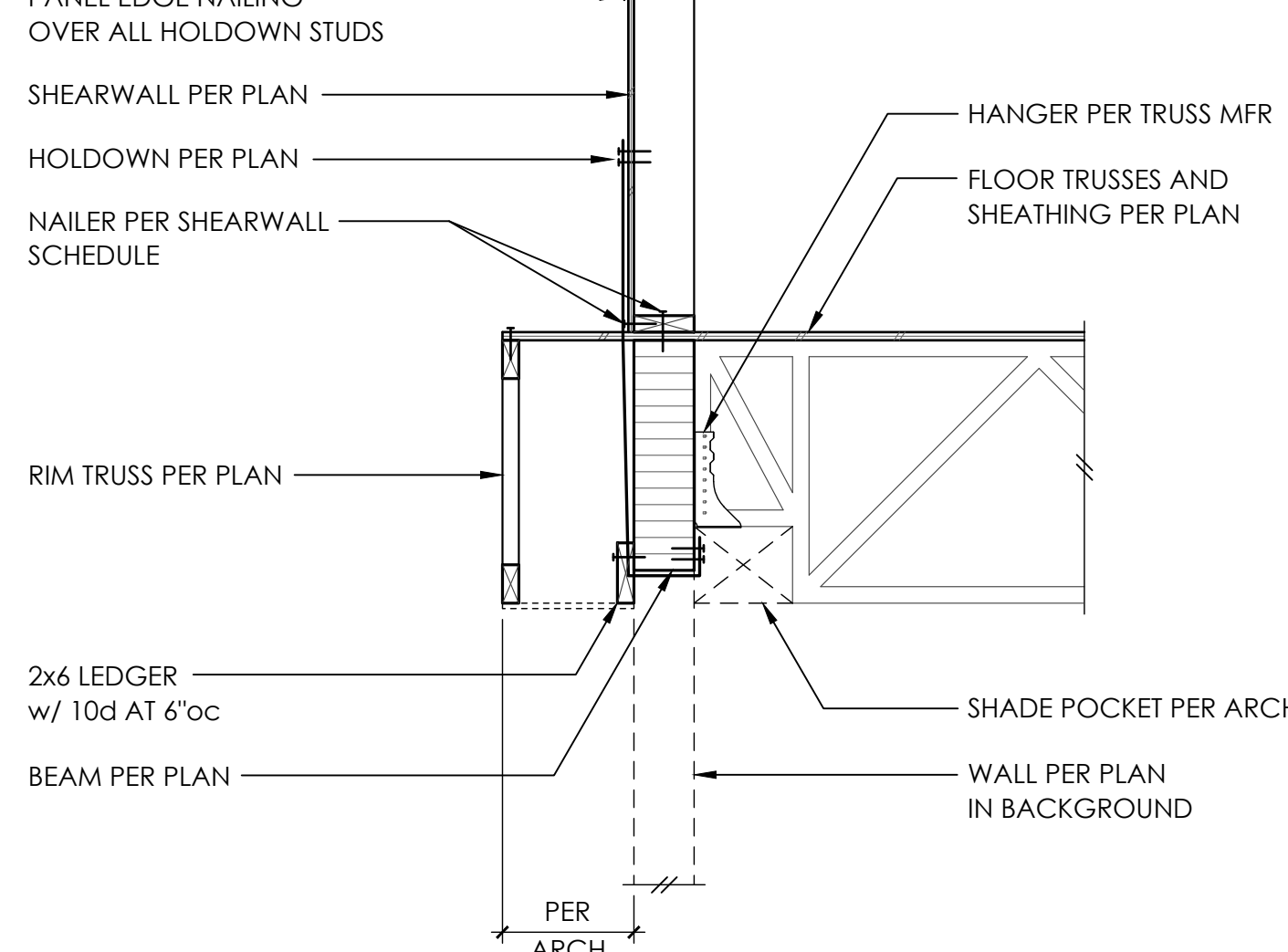
TYPICAL HDU HOLDOWN 14



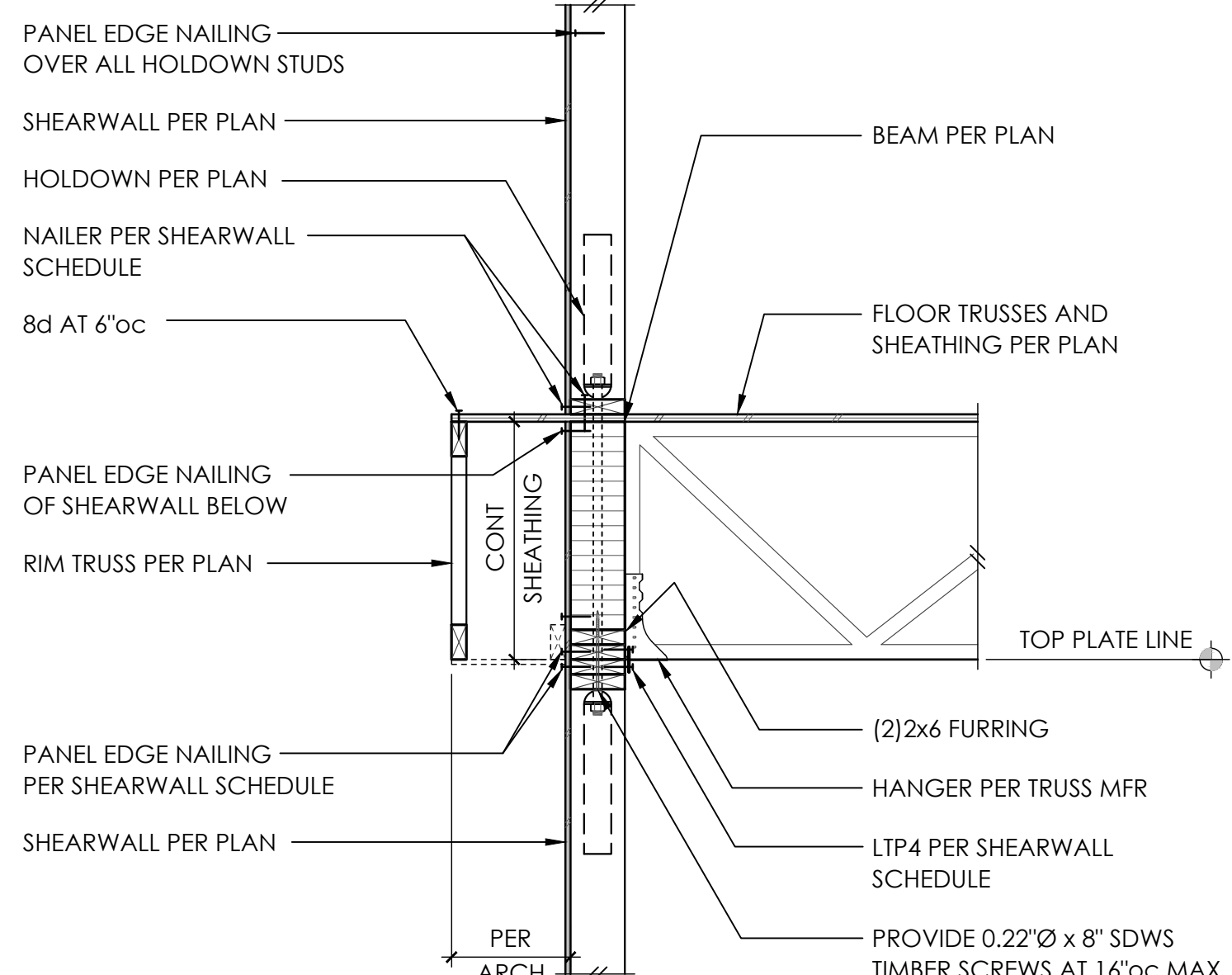
TYPICAL CS16 HOLDOWN 15



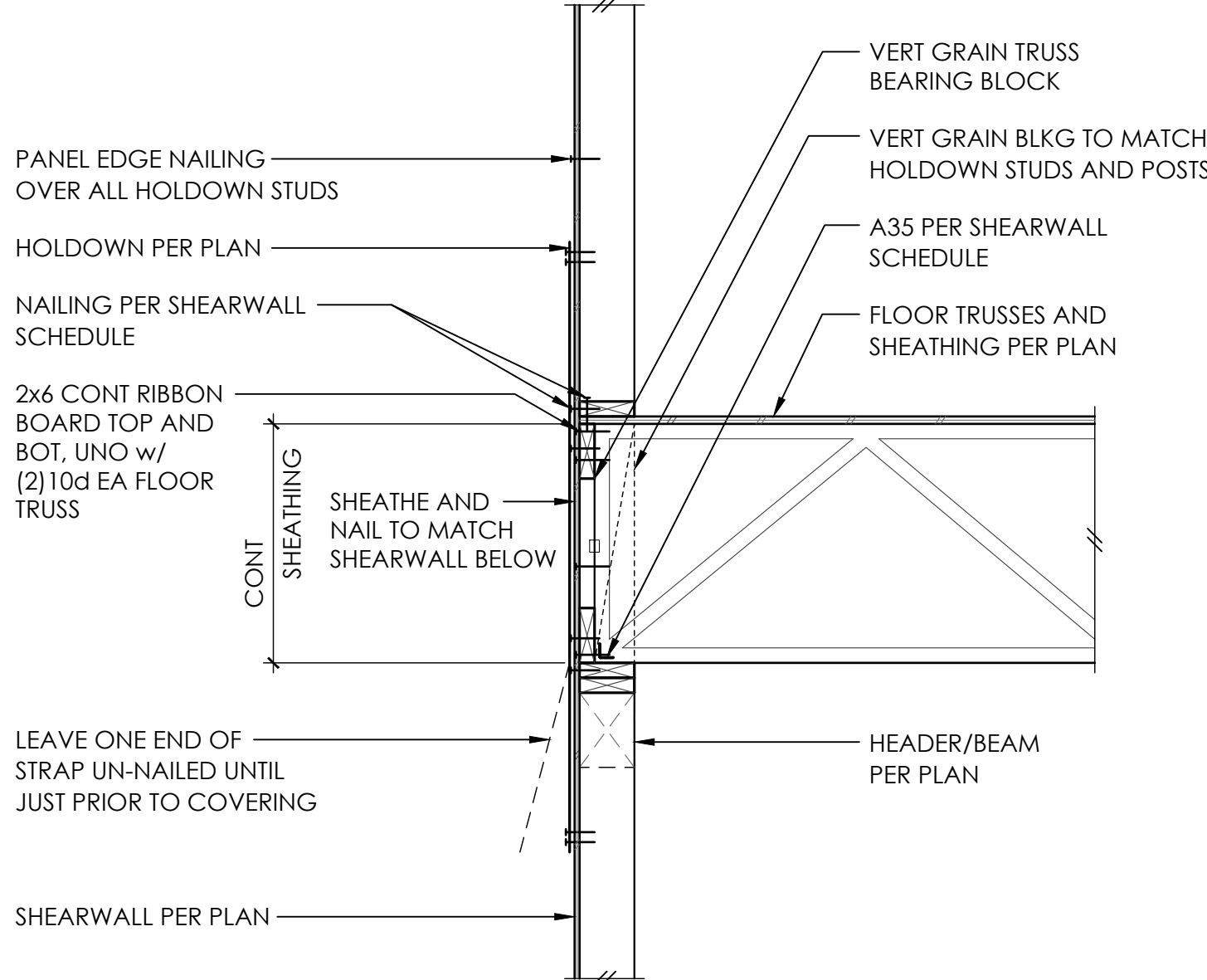
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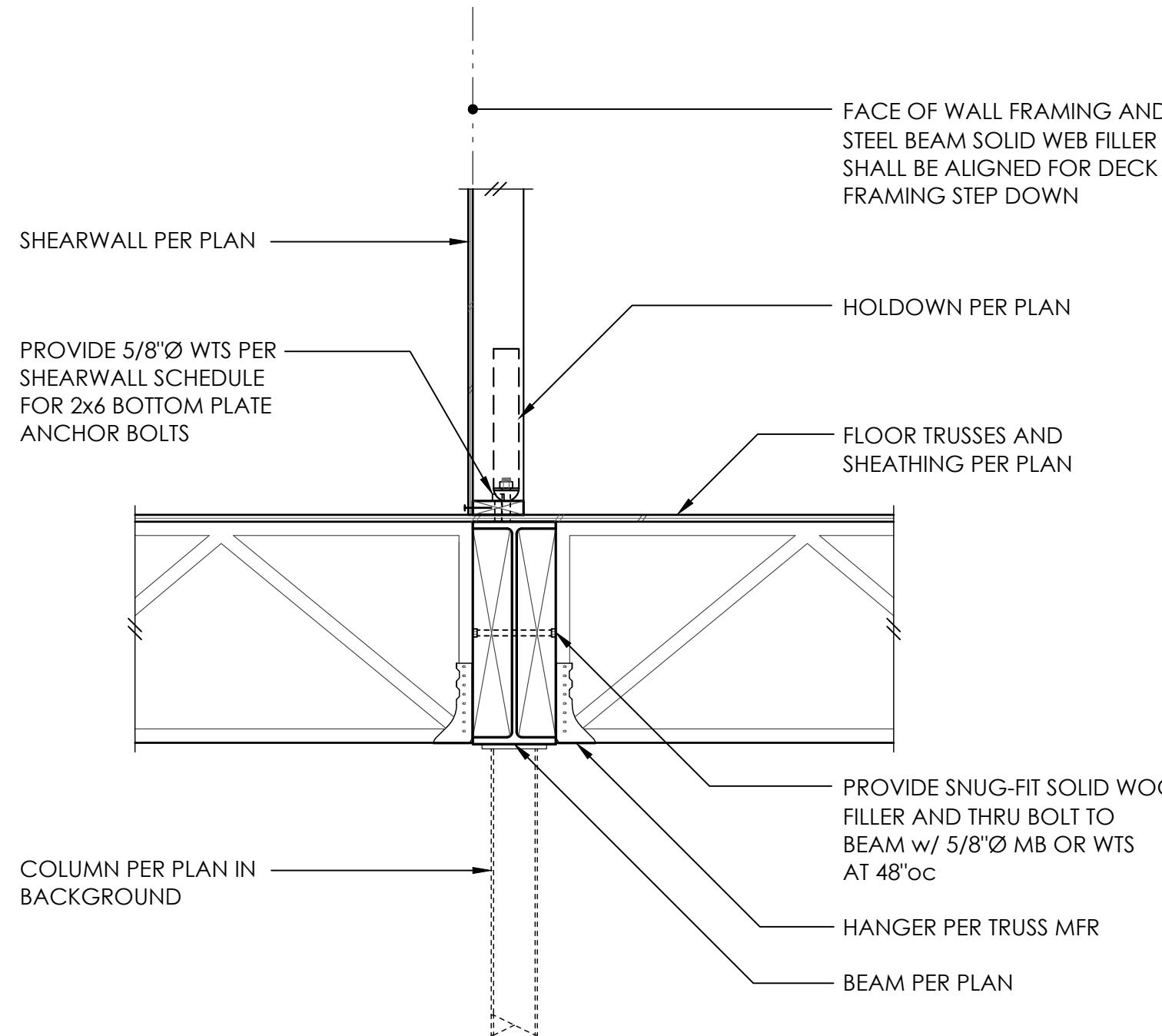
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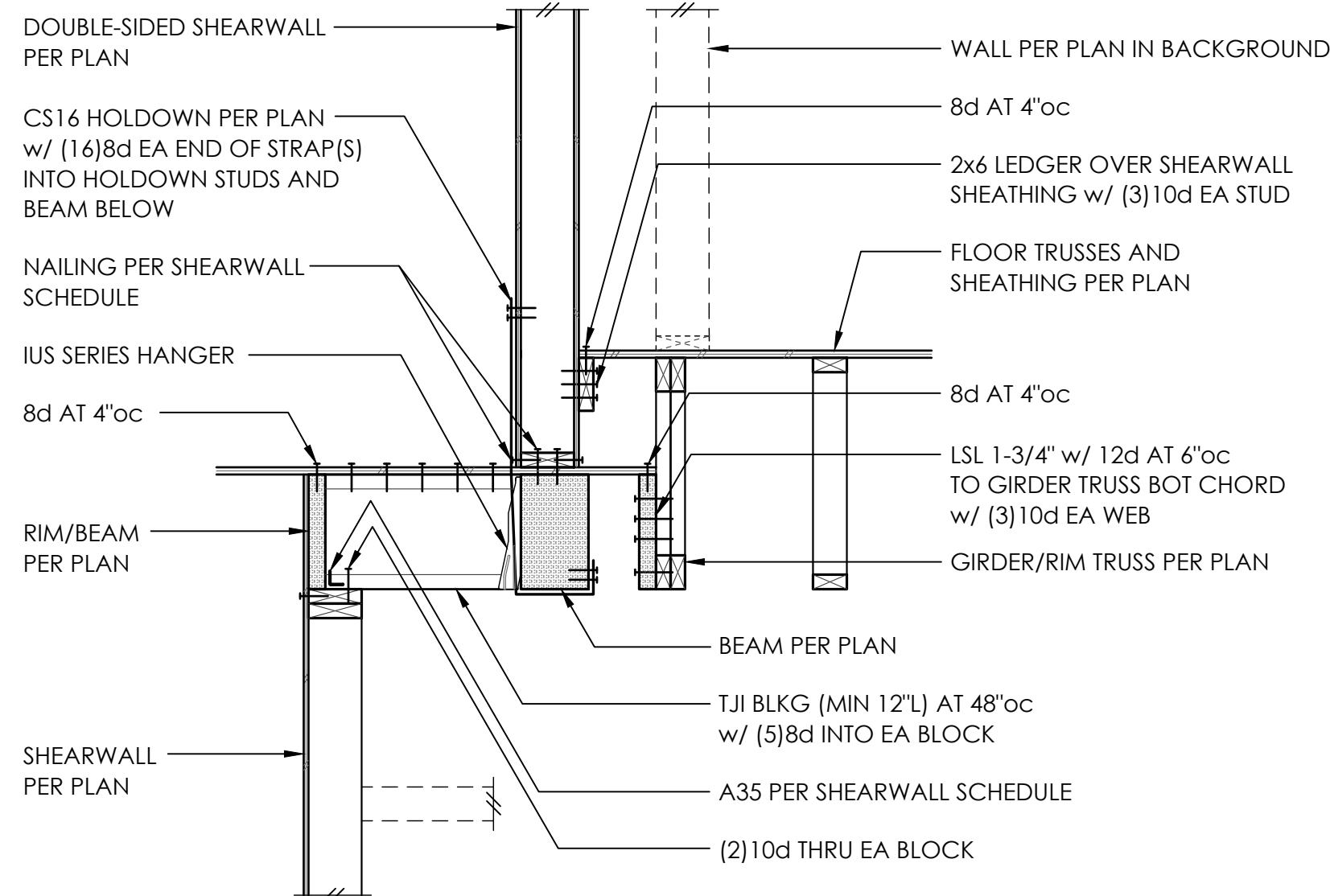
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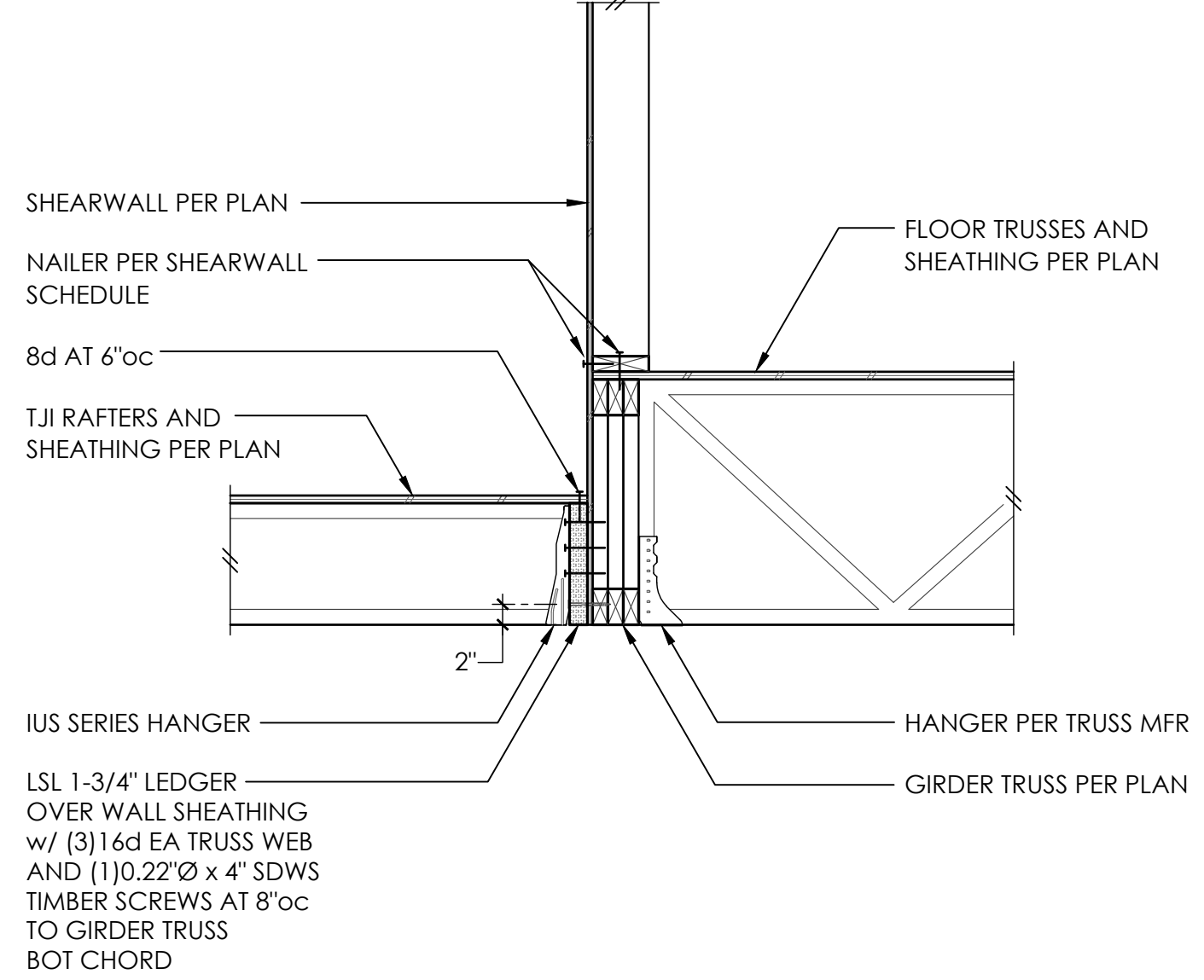
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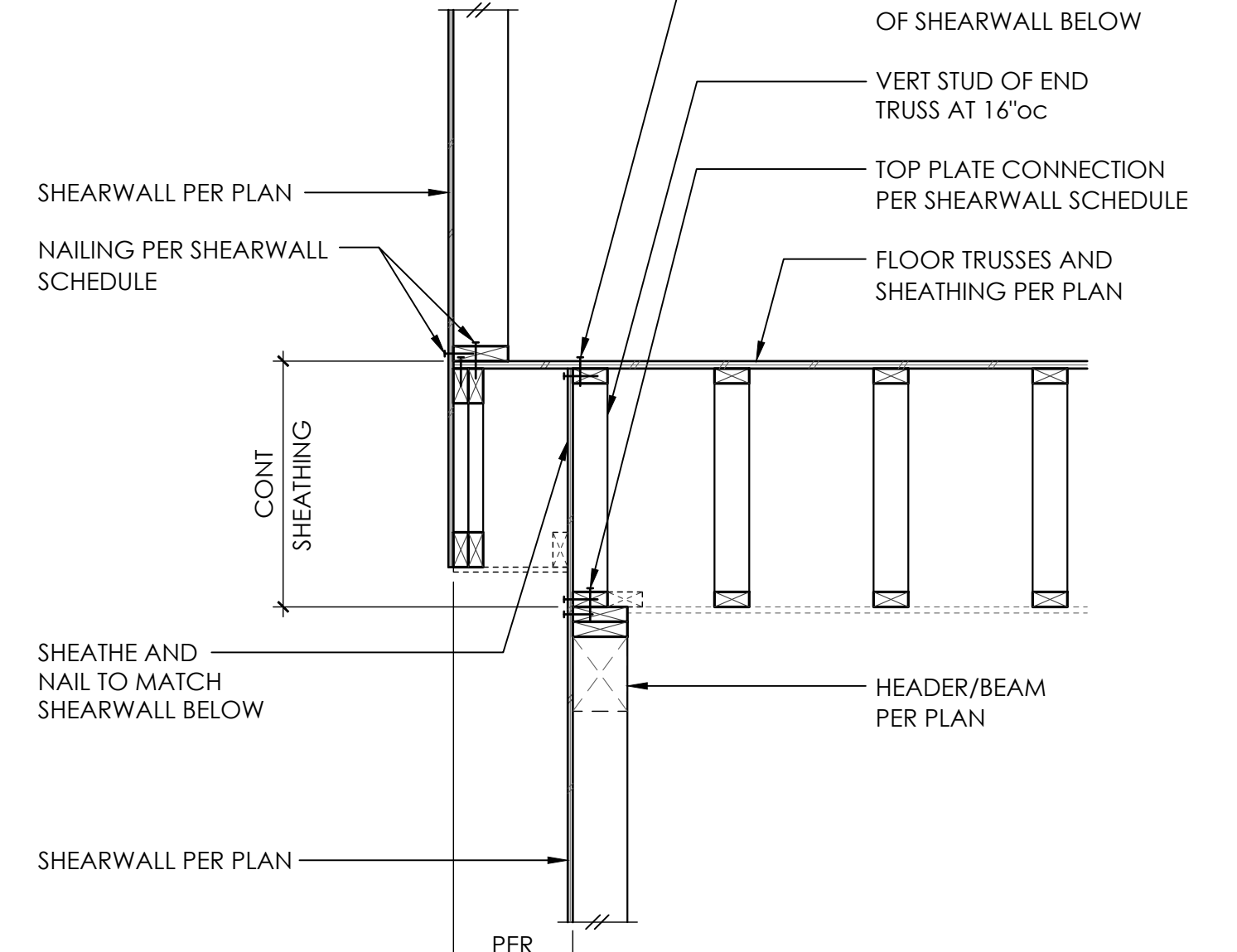
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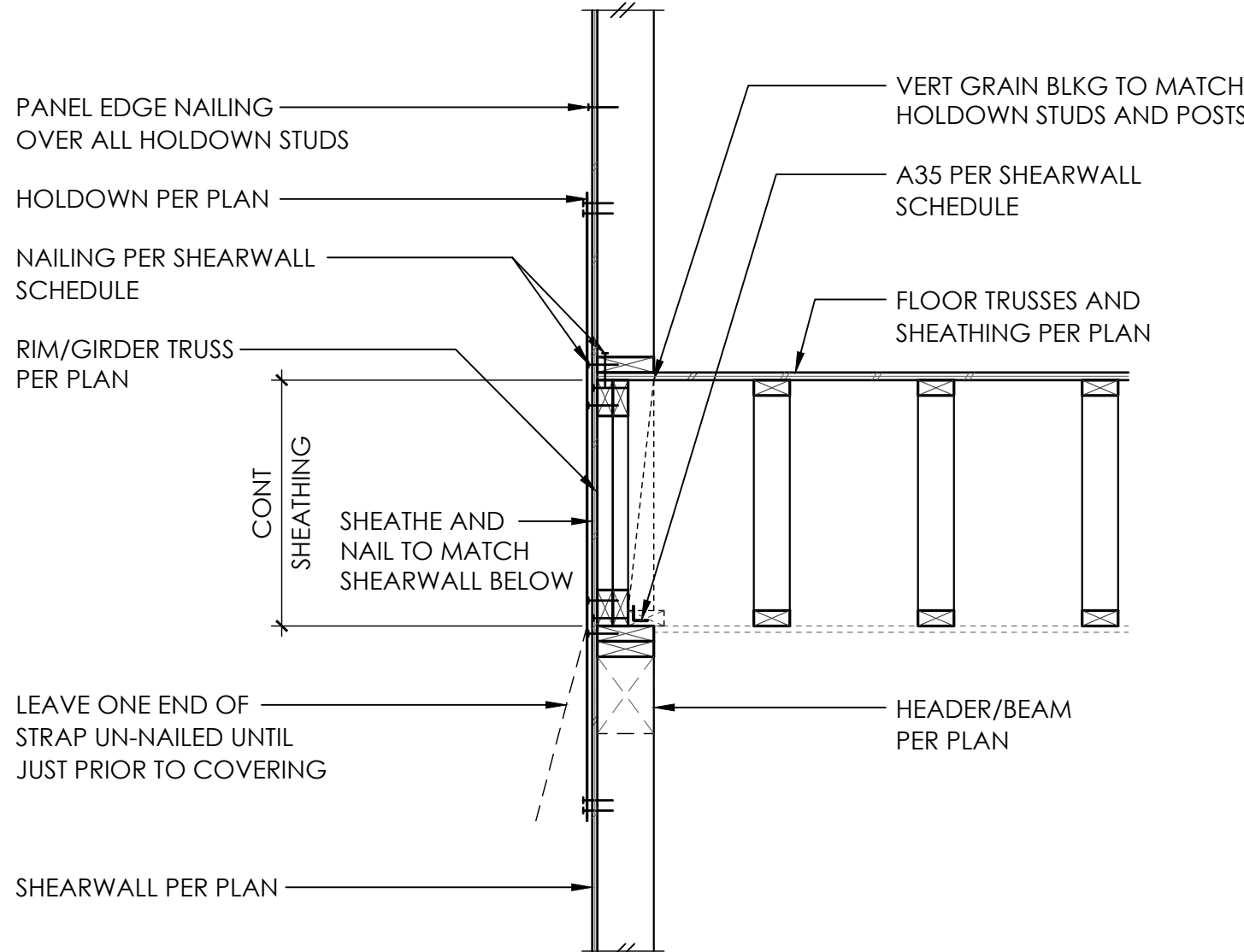
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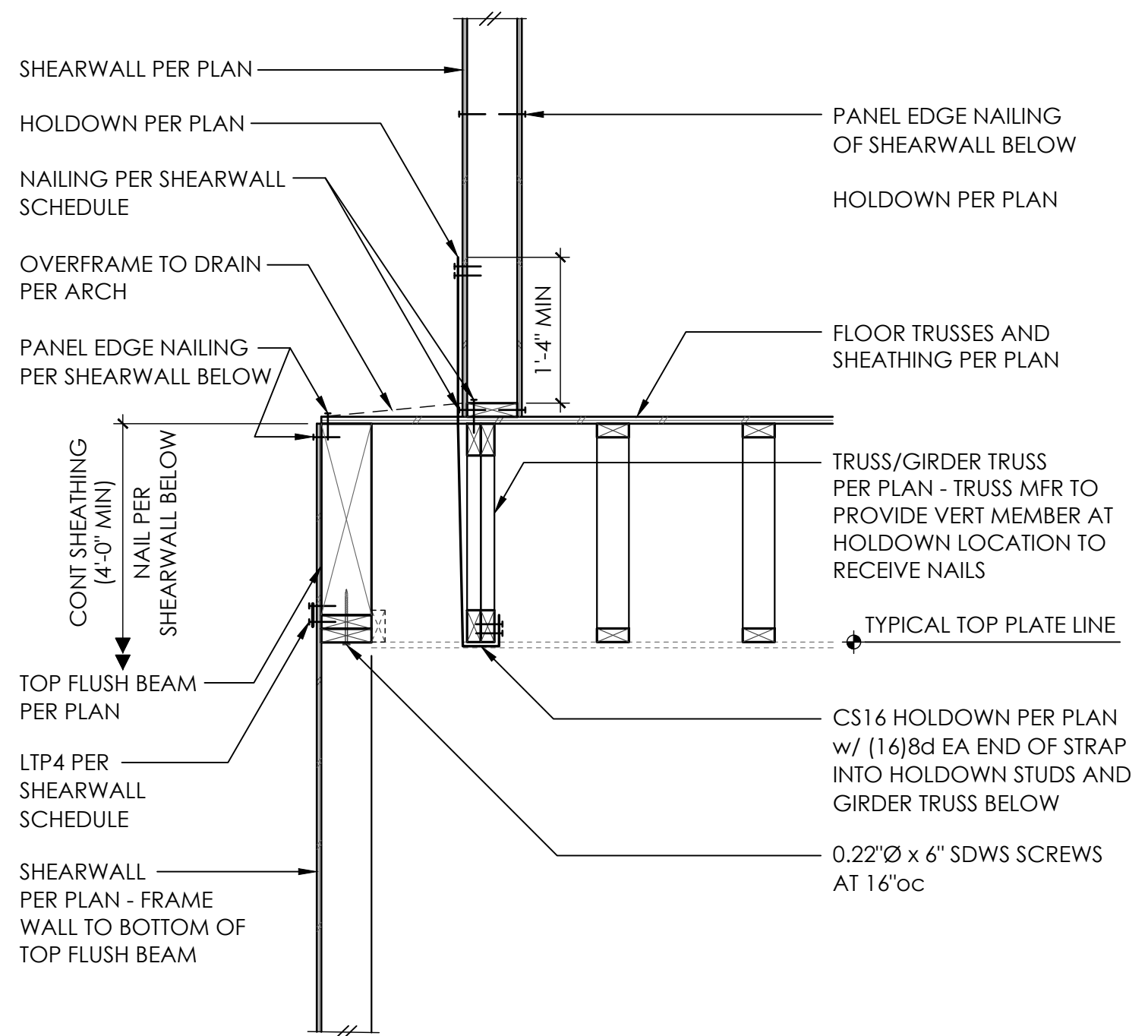
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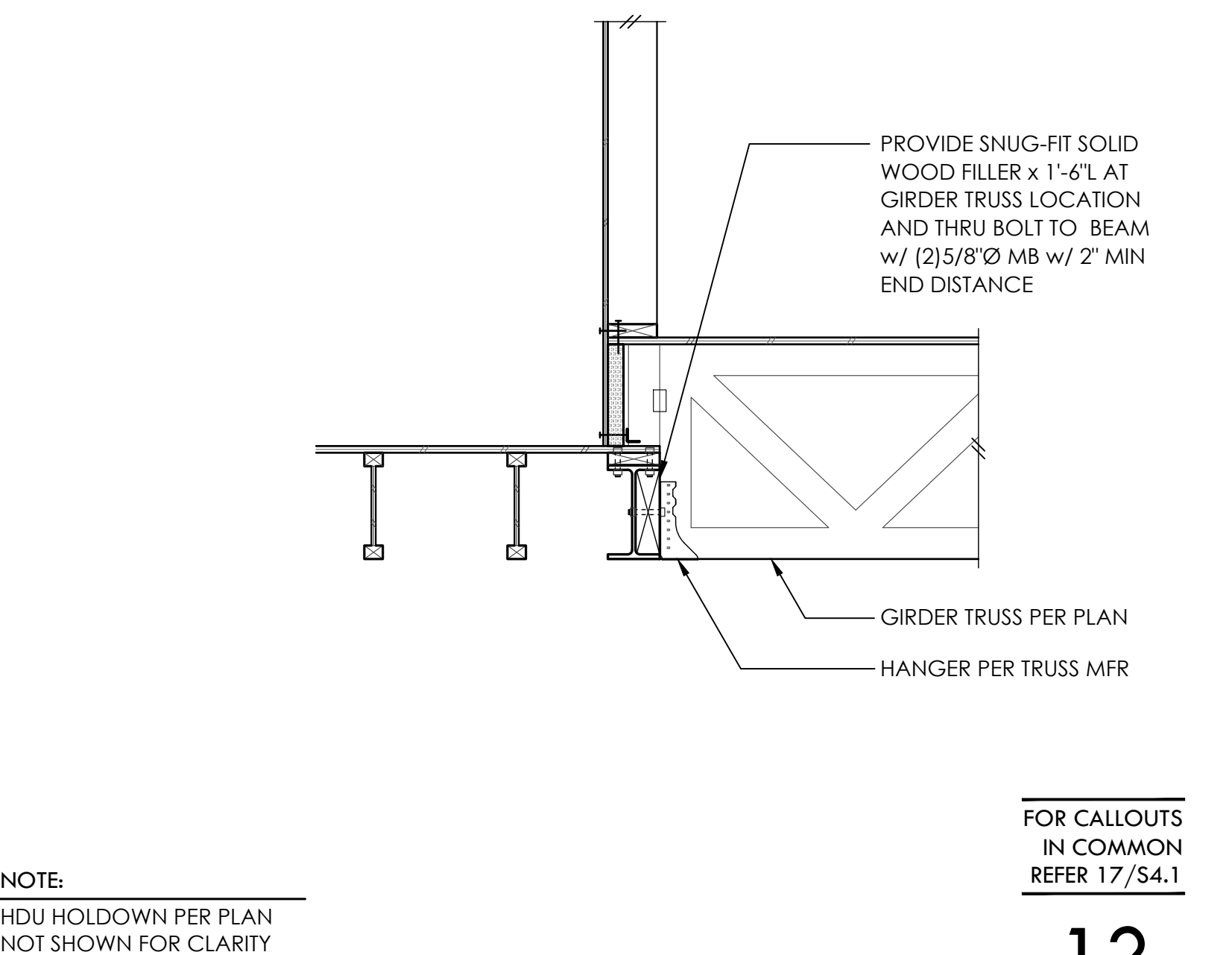
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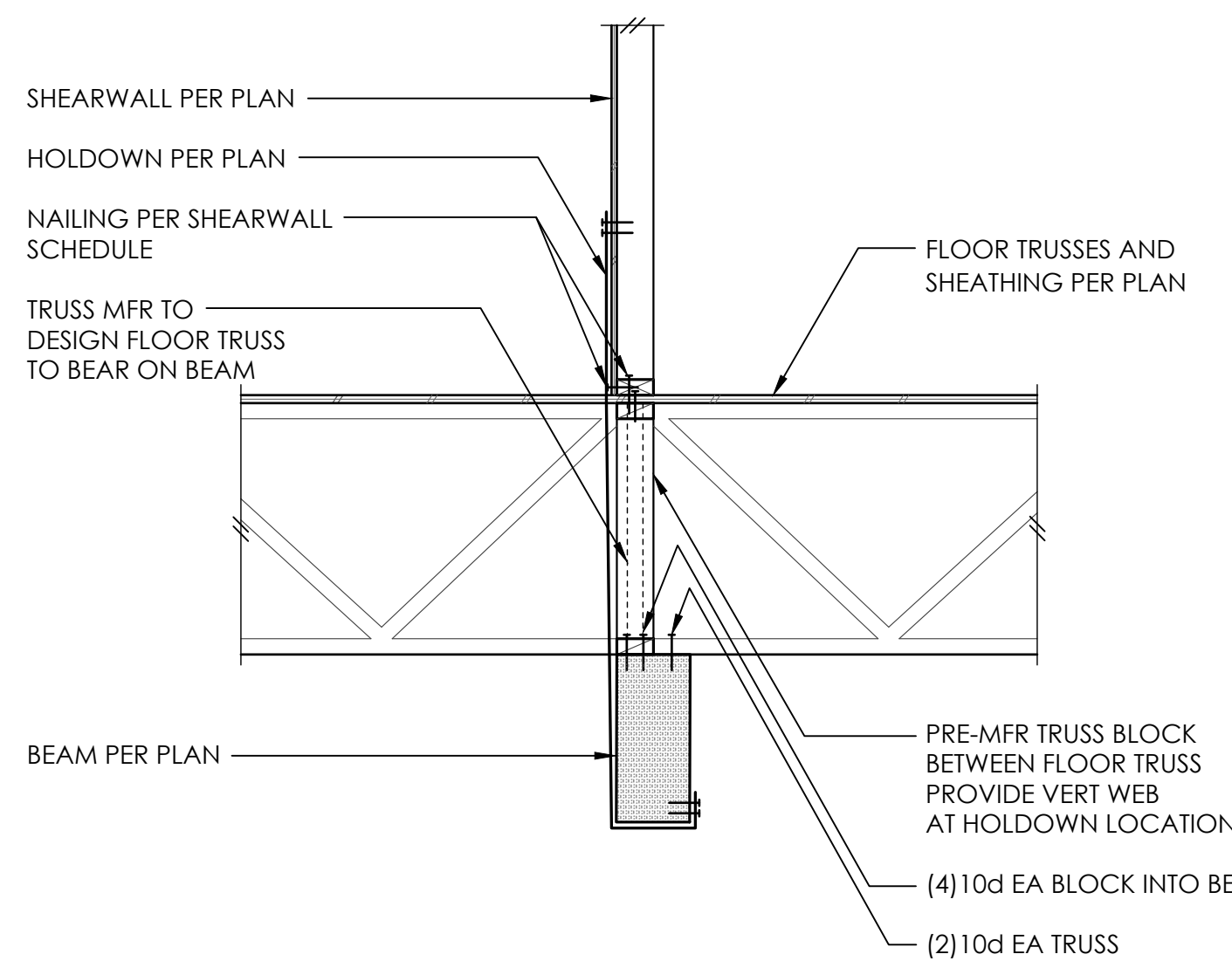
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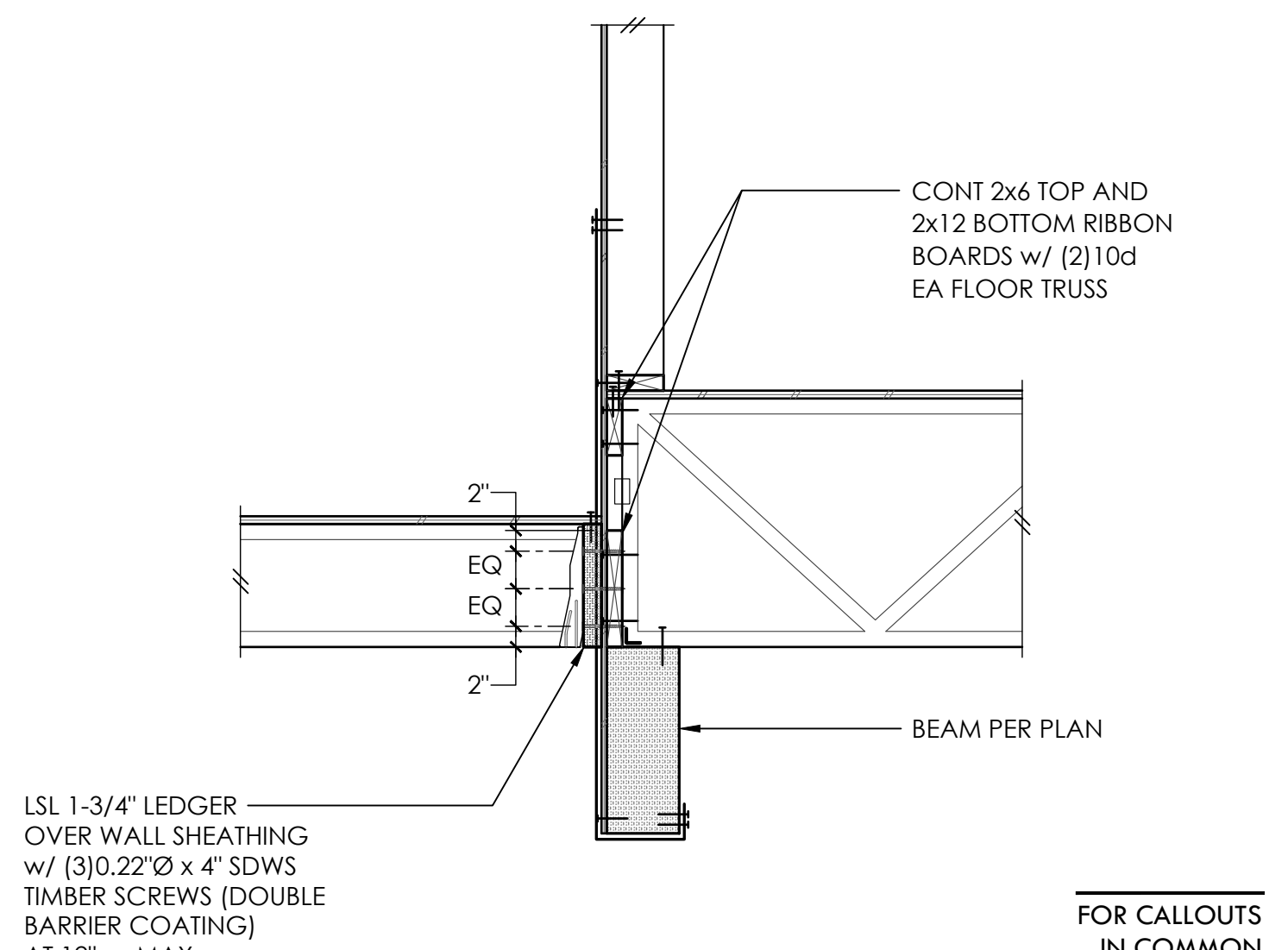
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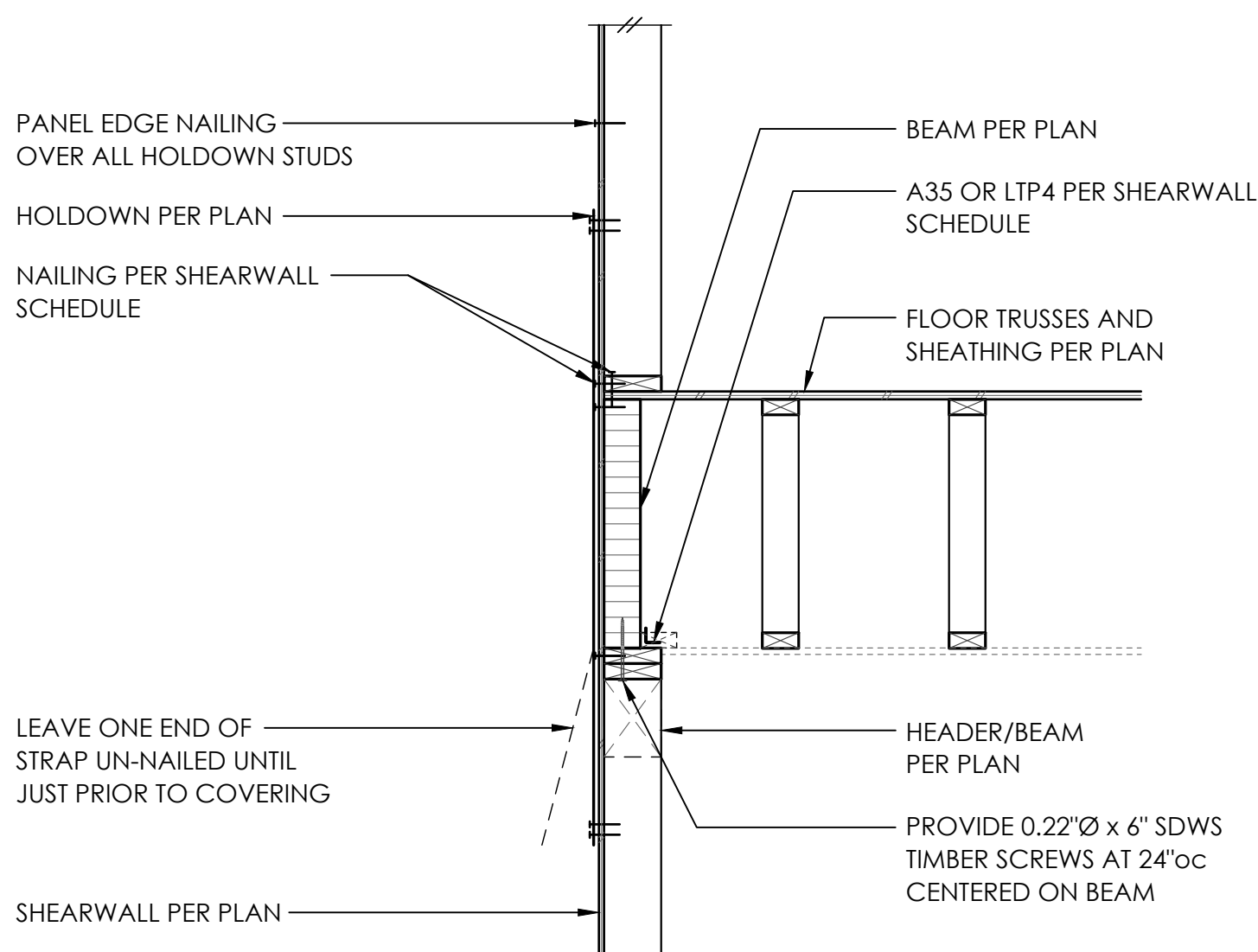
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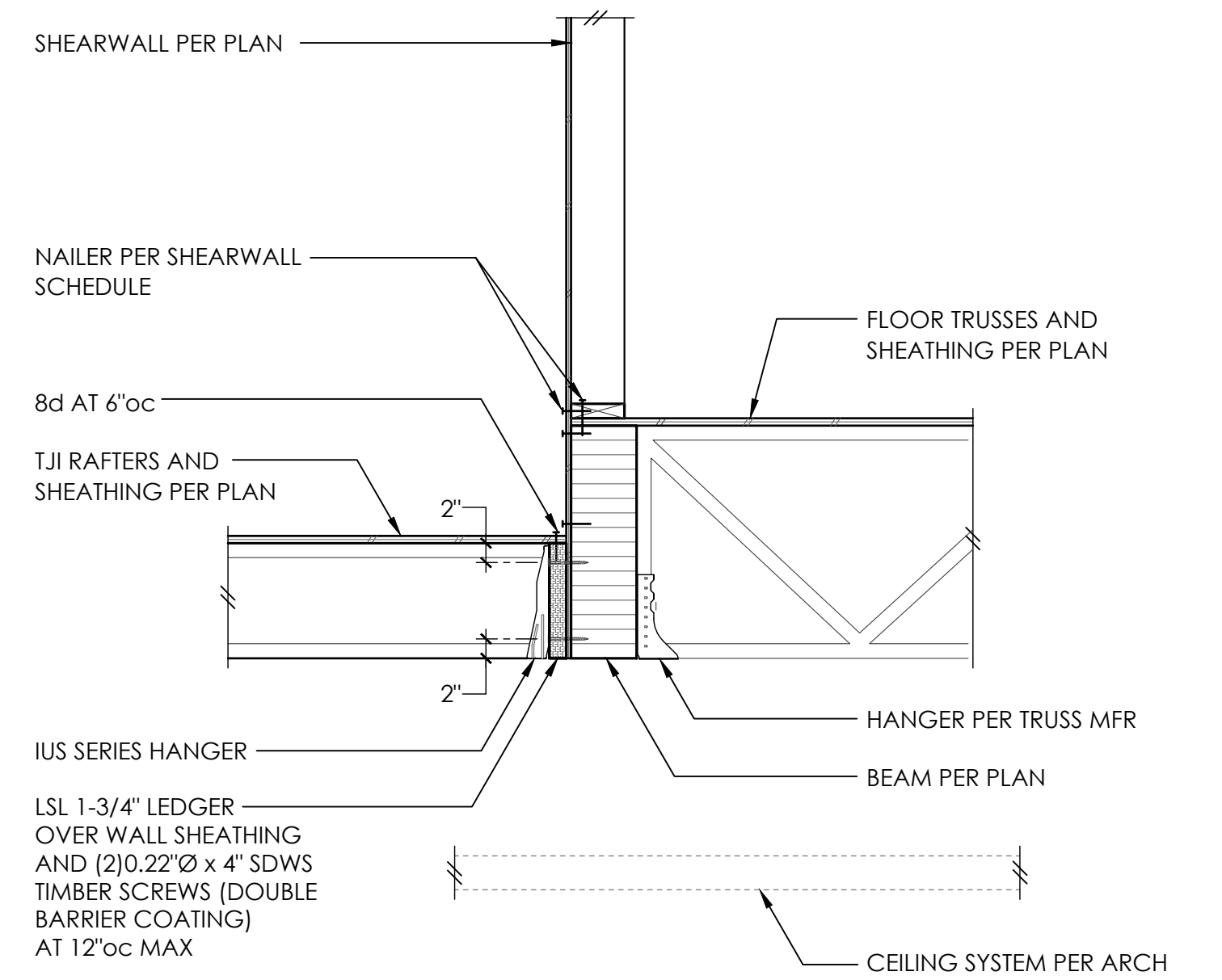
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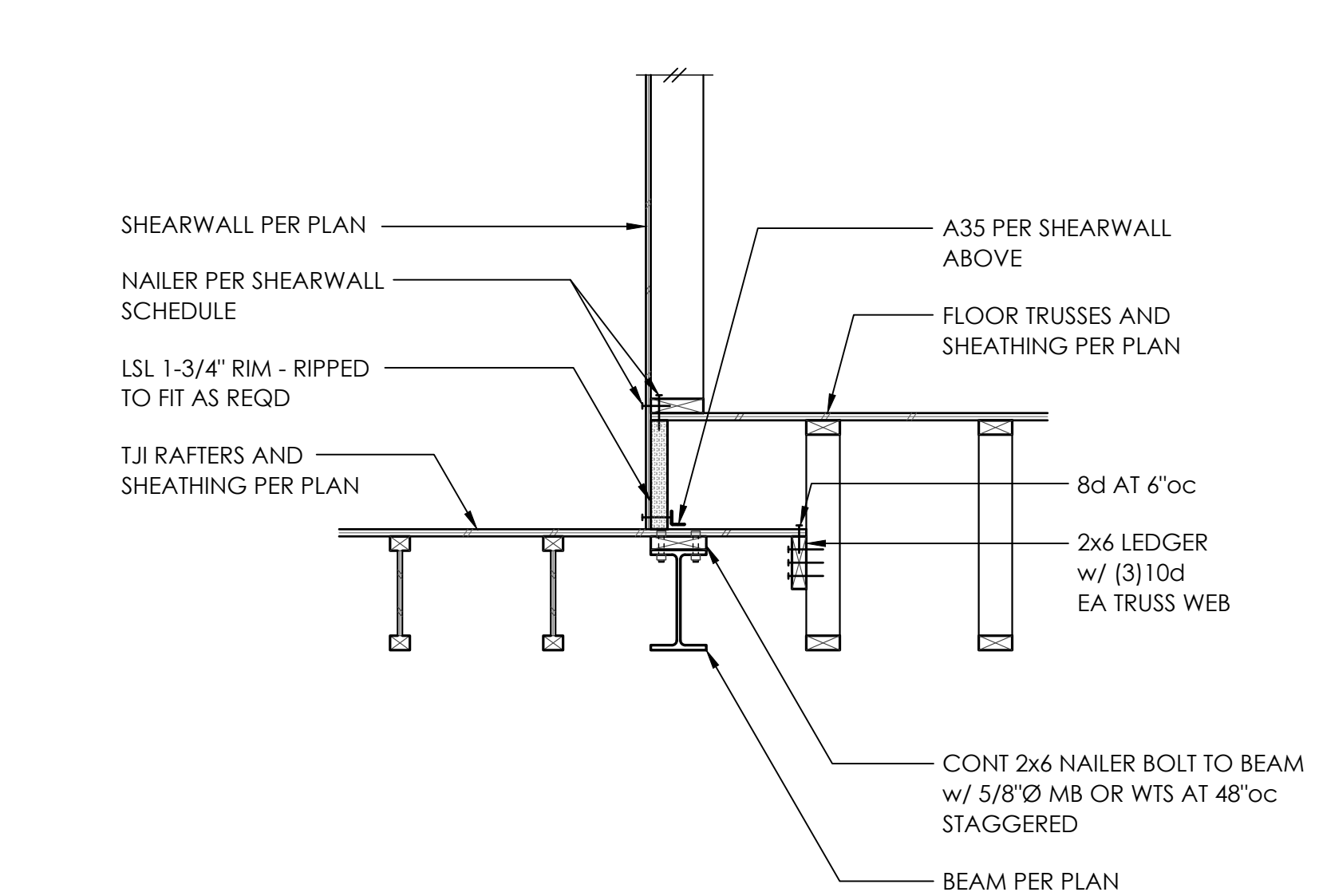
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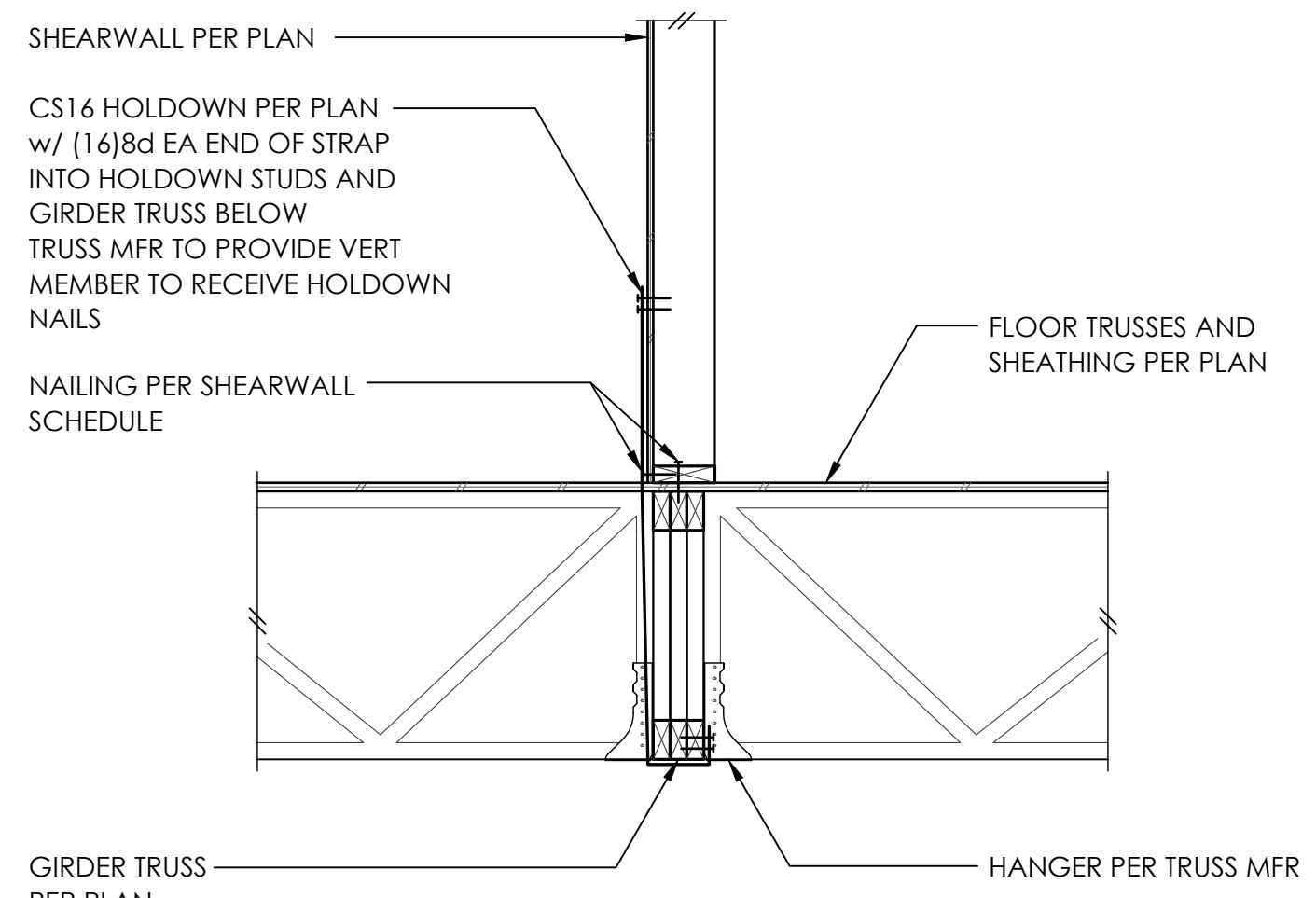
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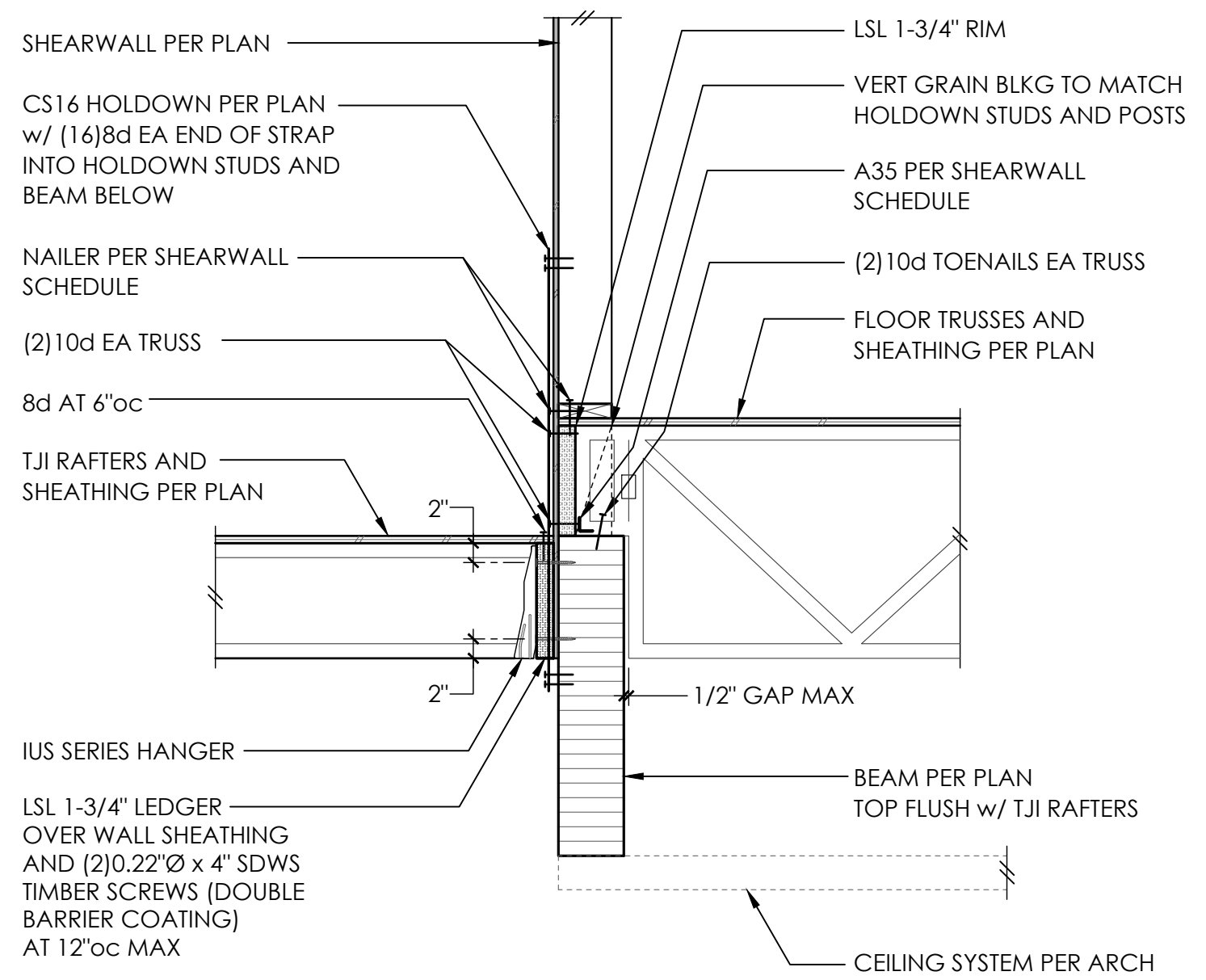
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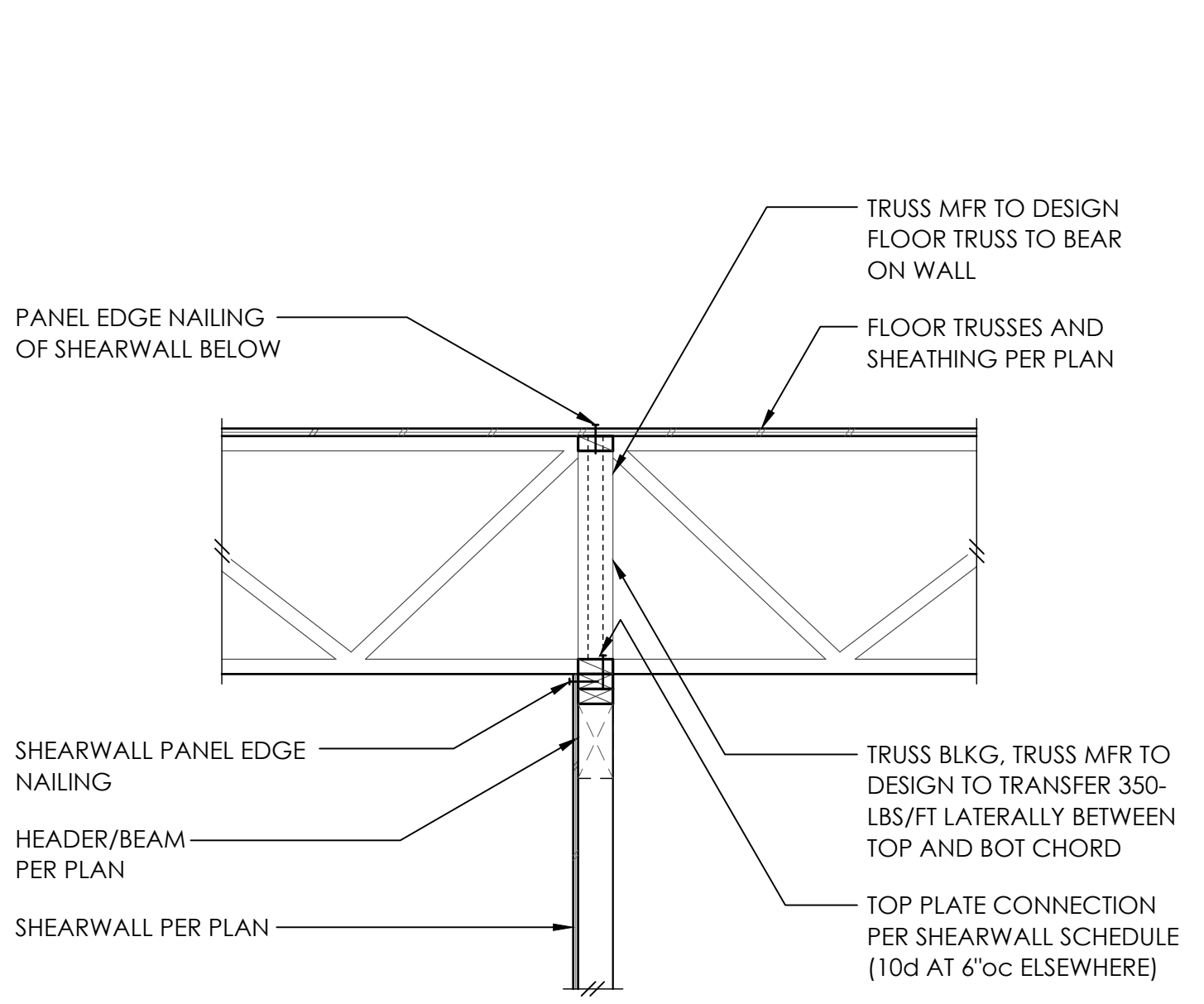
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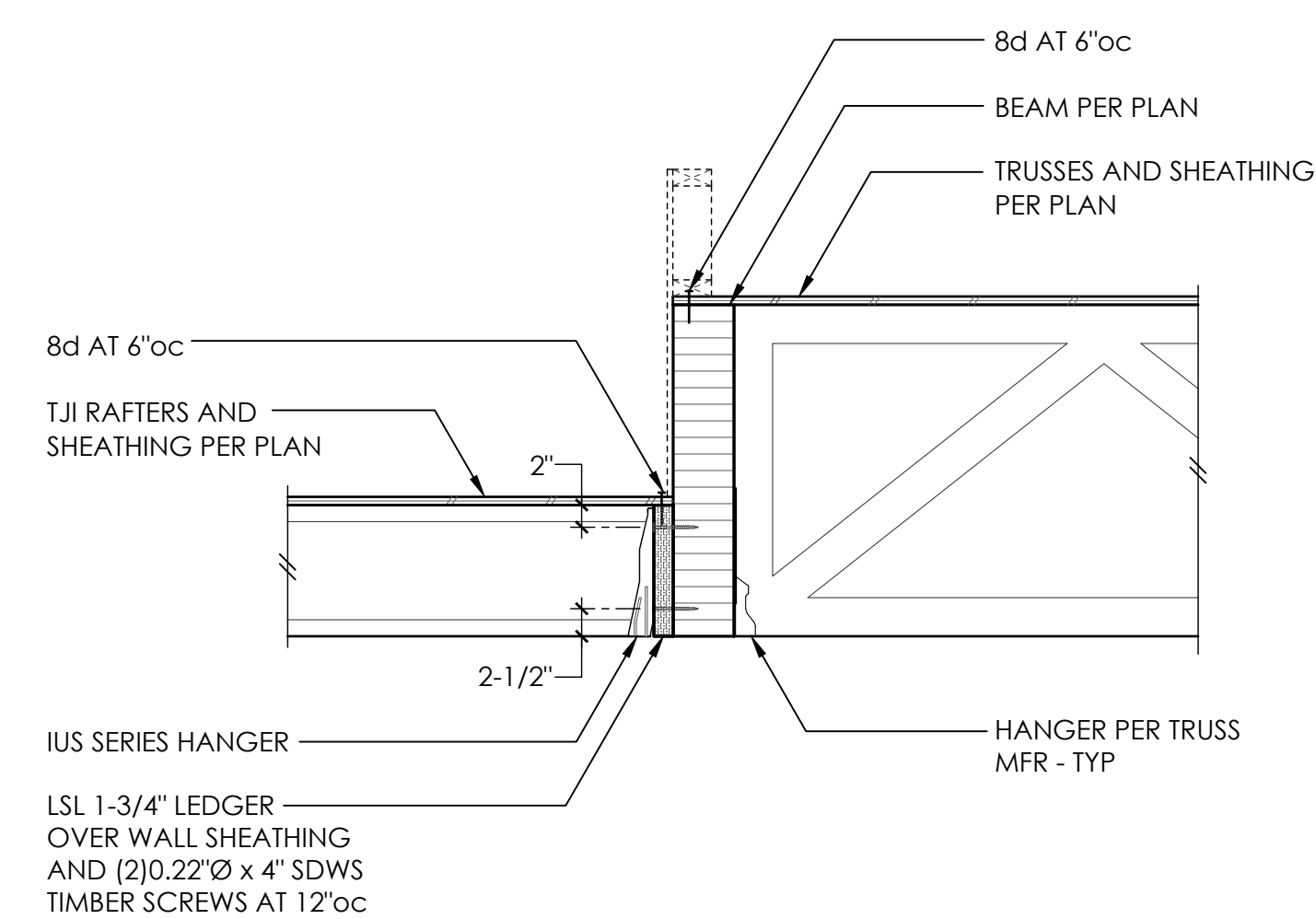
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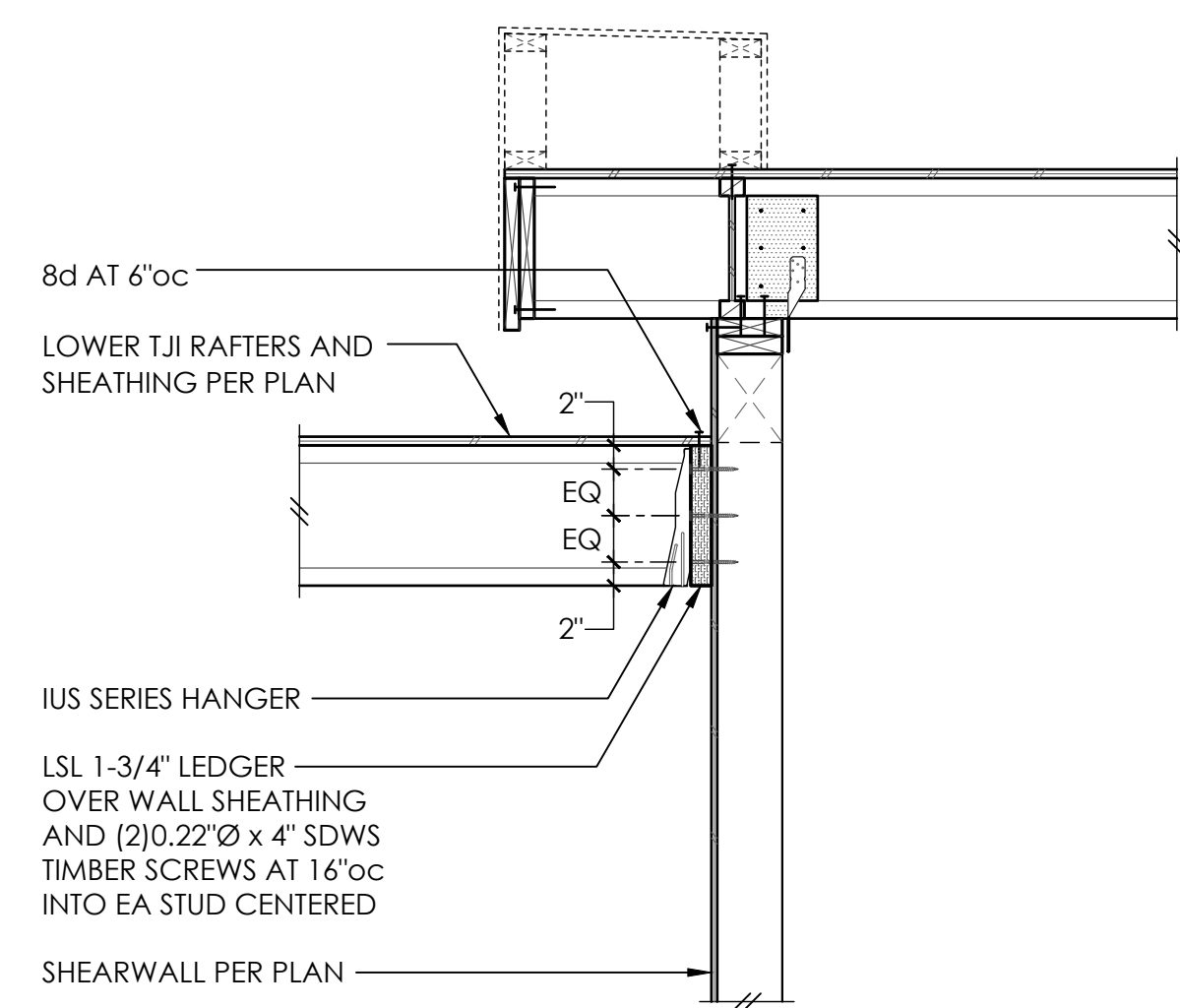
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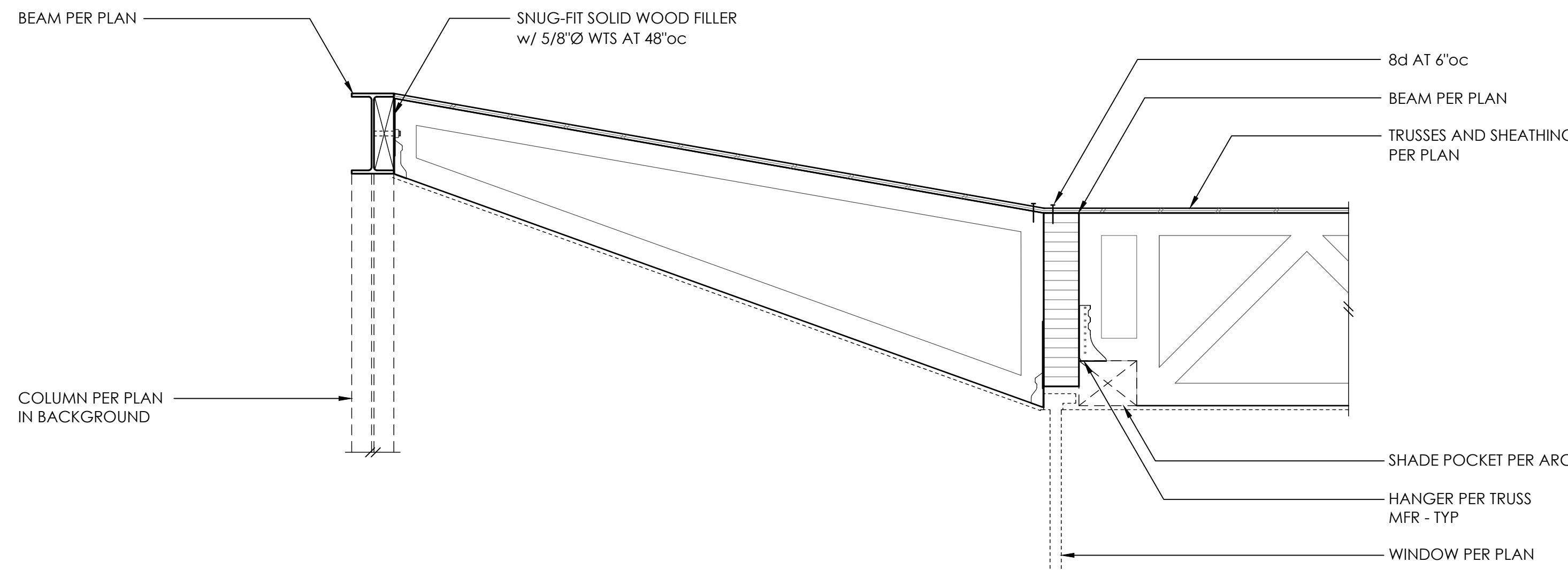


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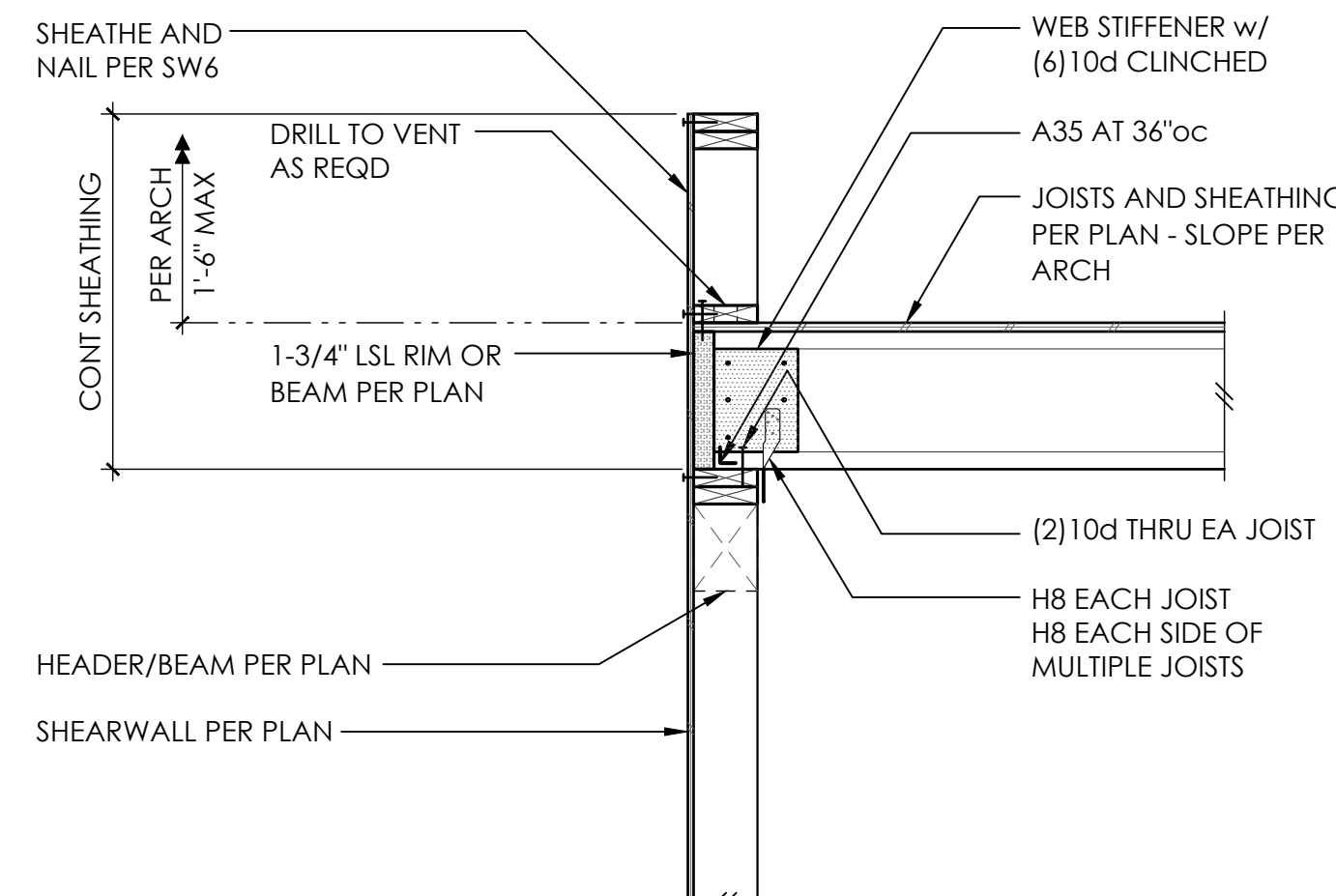


FOR CALLOUTS
IN COMMON
REFER 1.5/S4.2

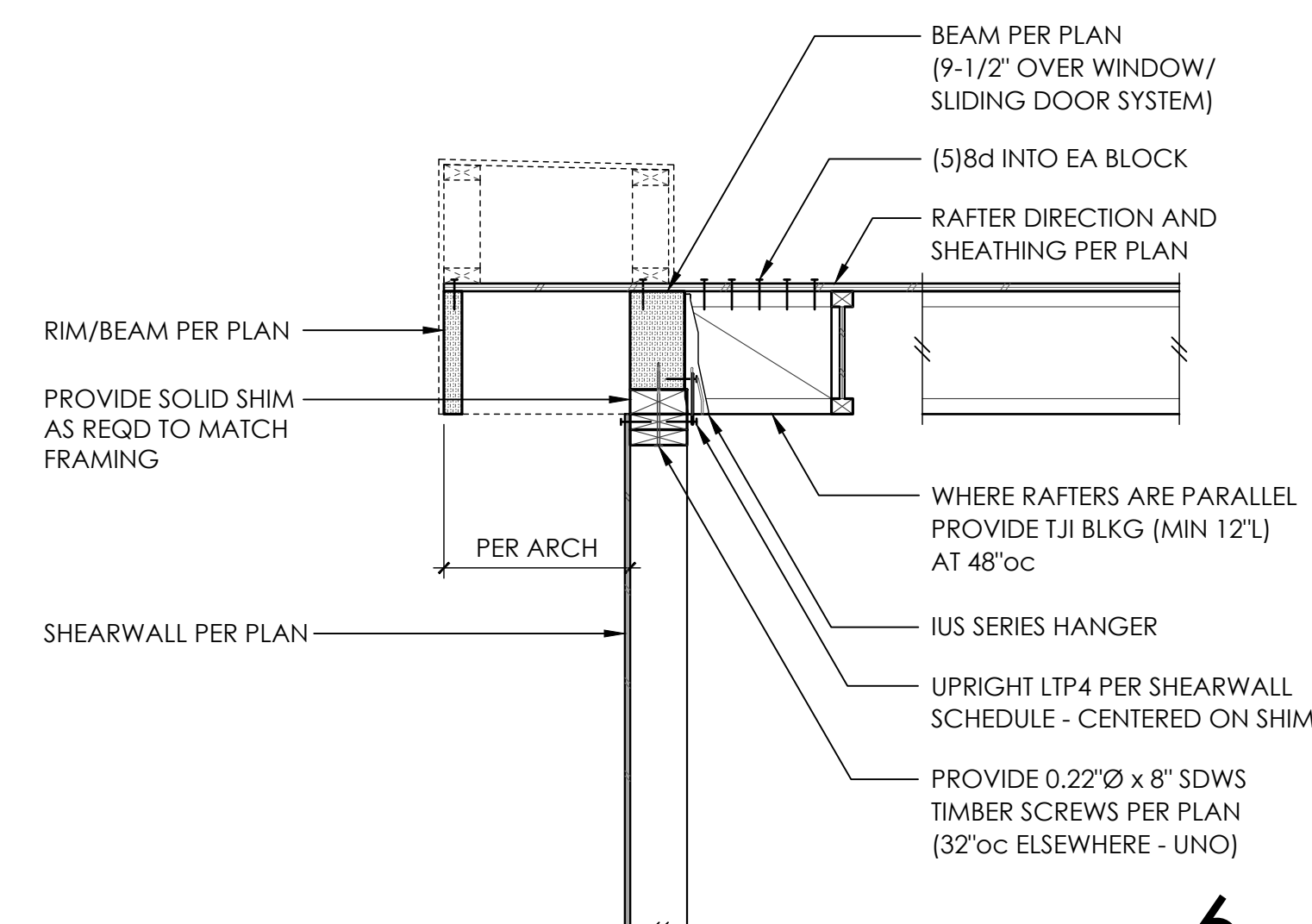
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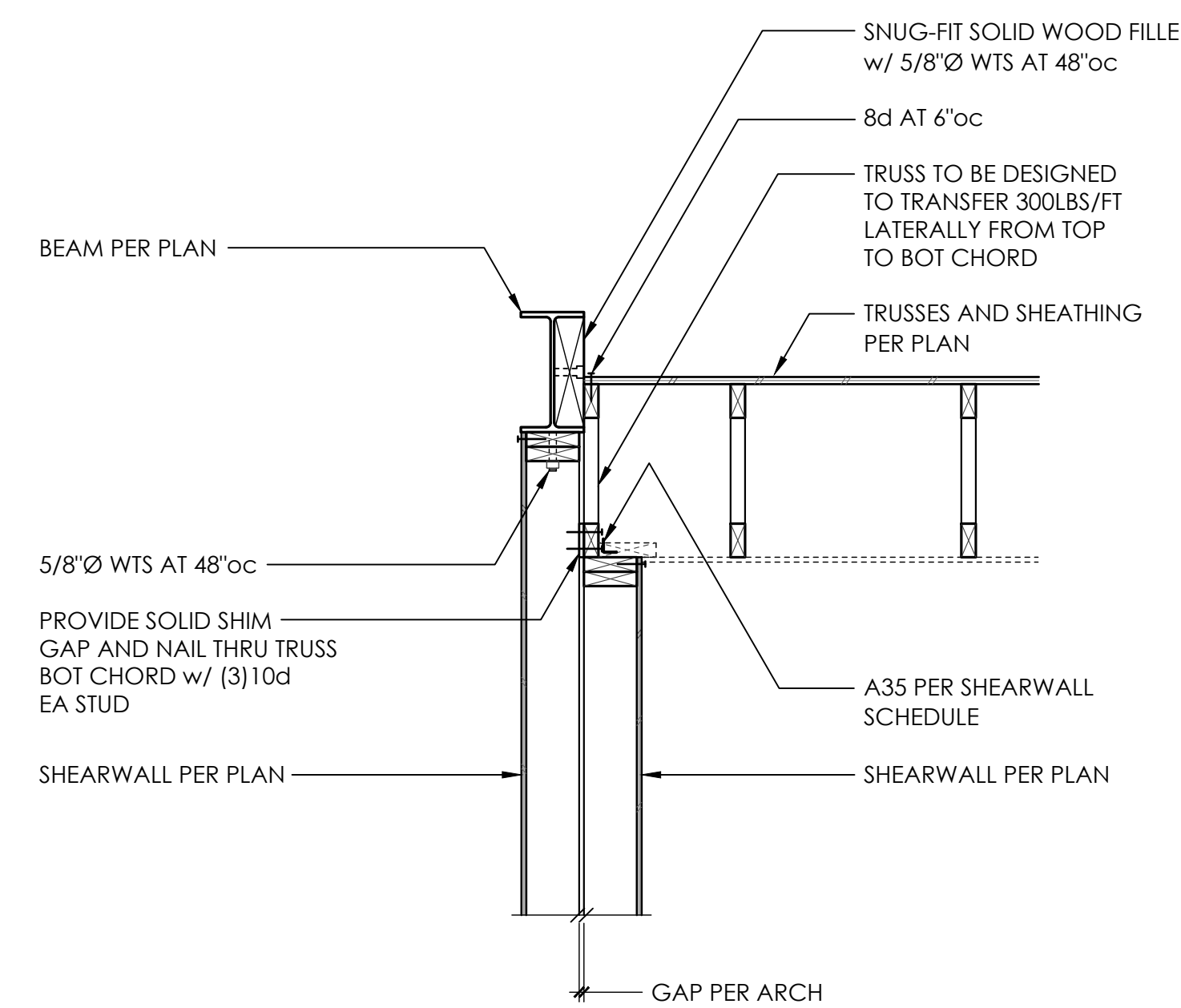
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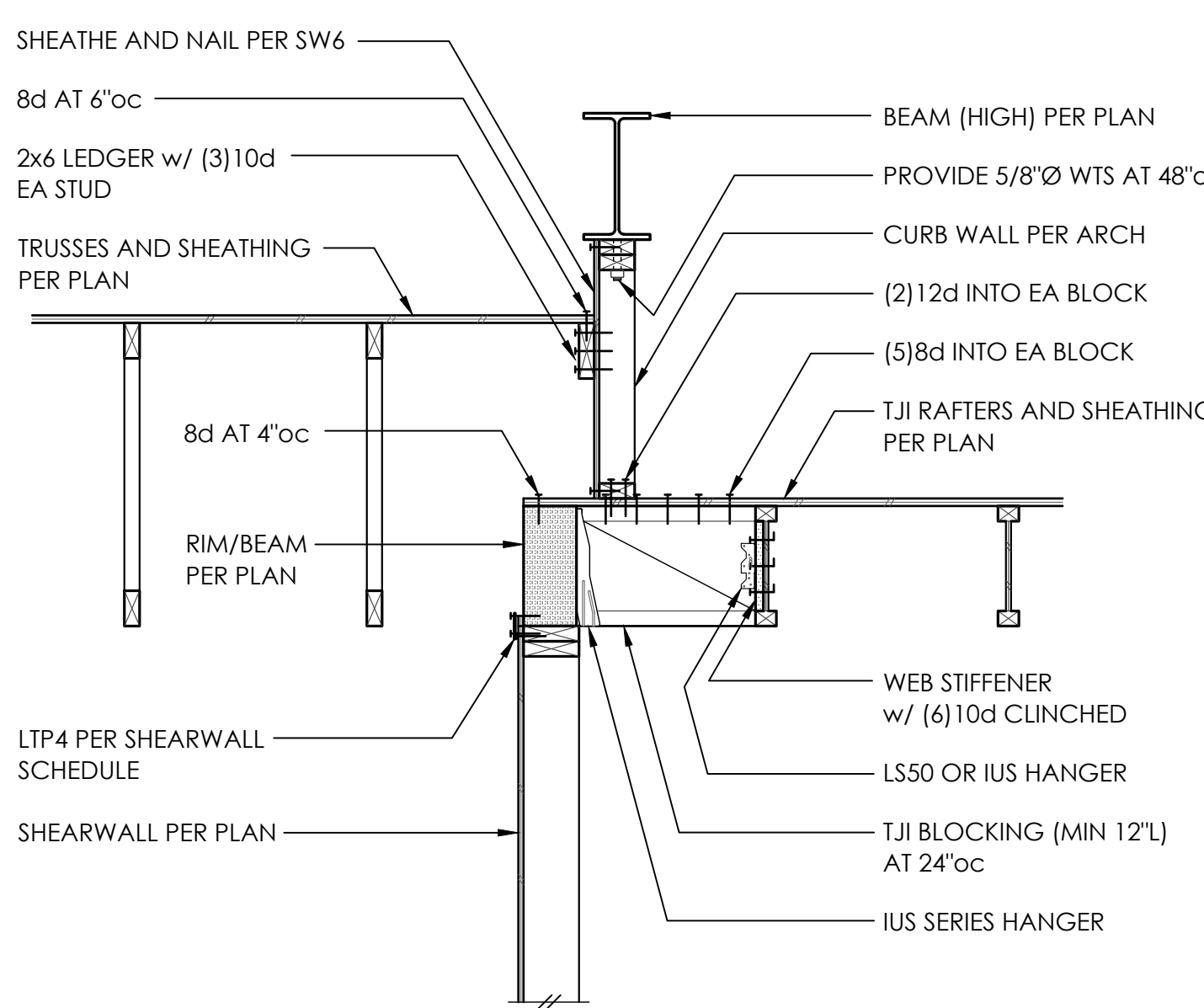
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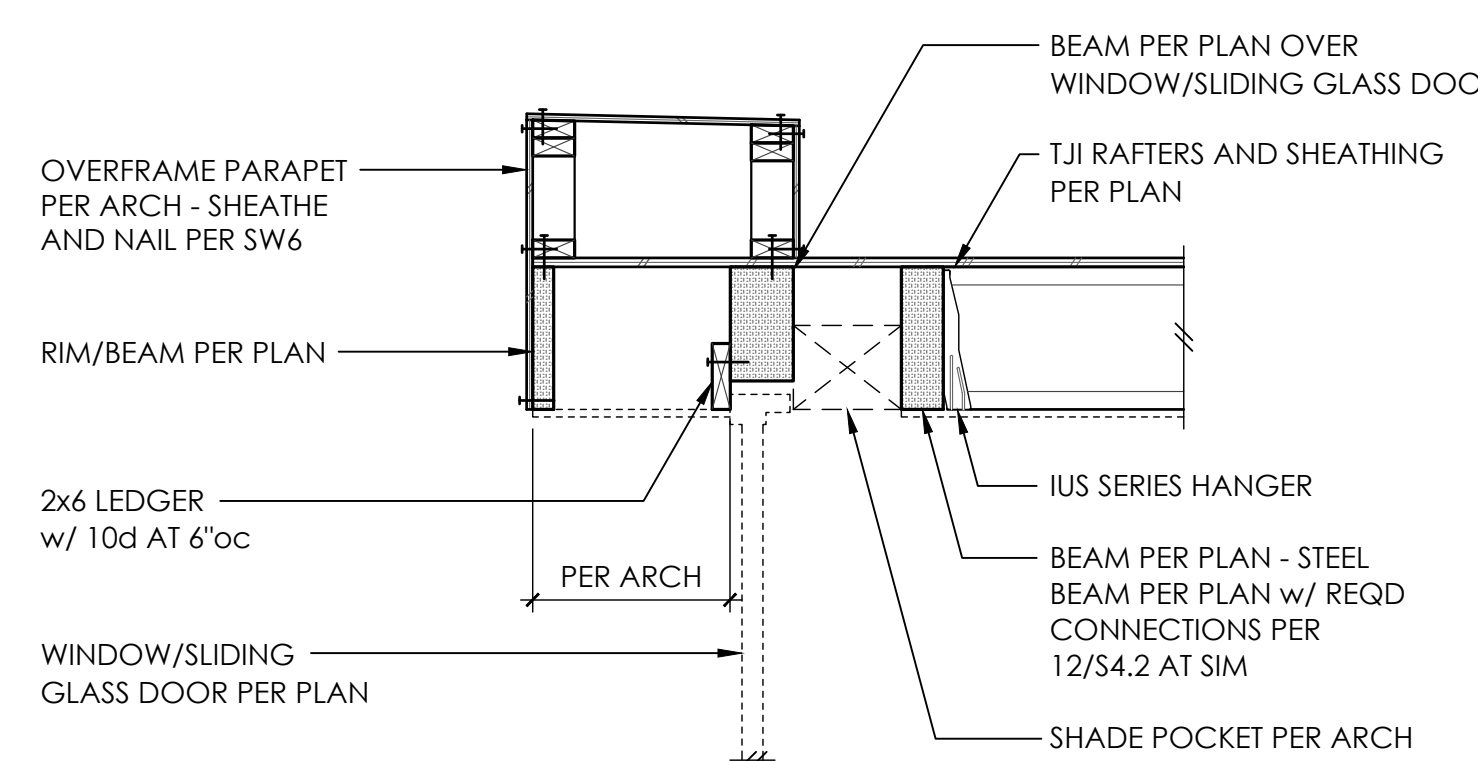
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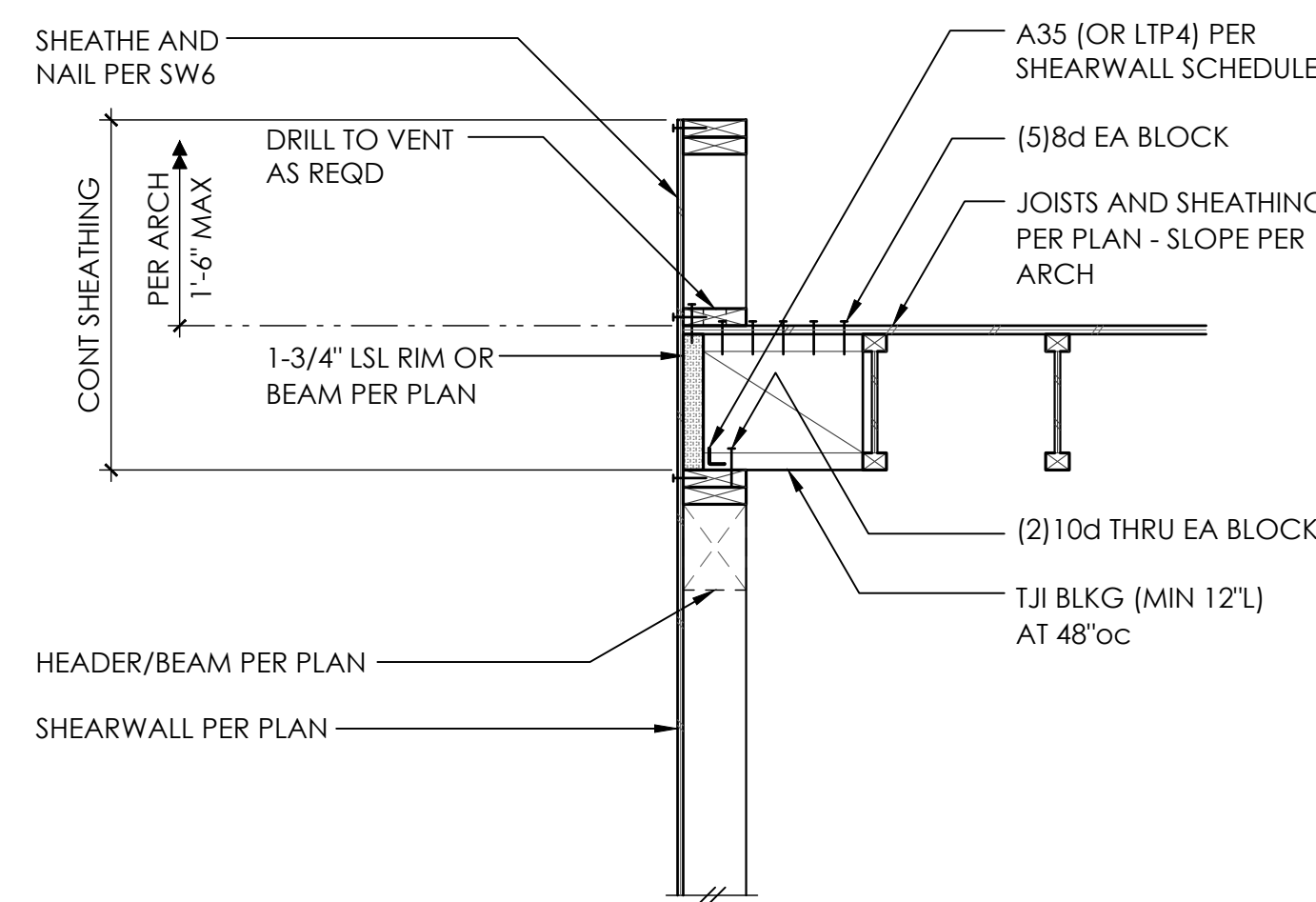
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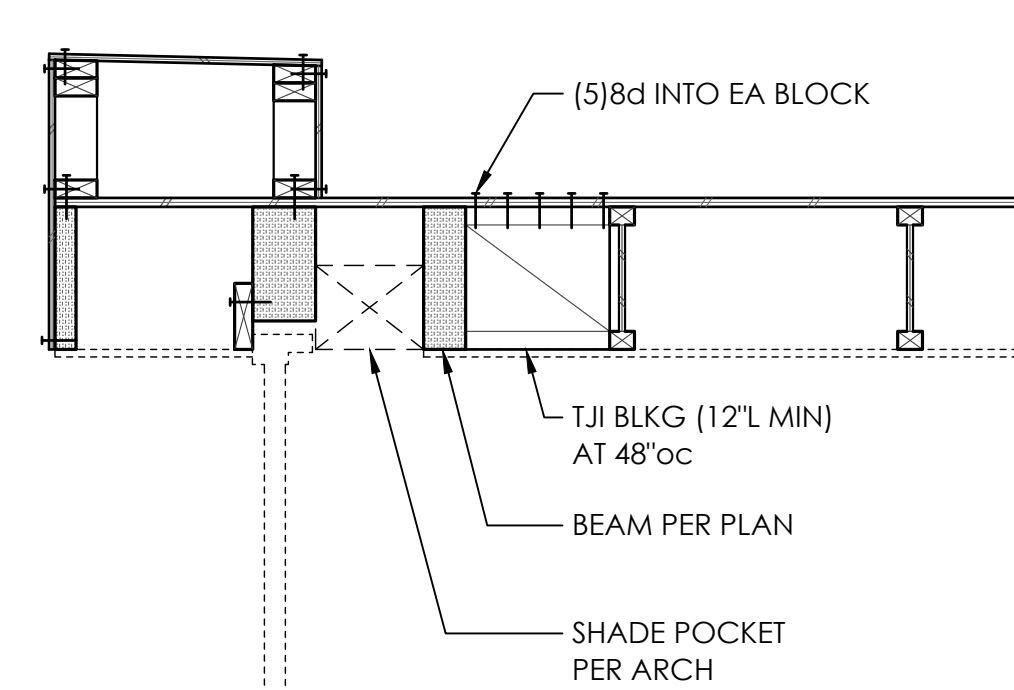
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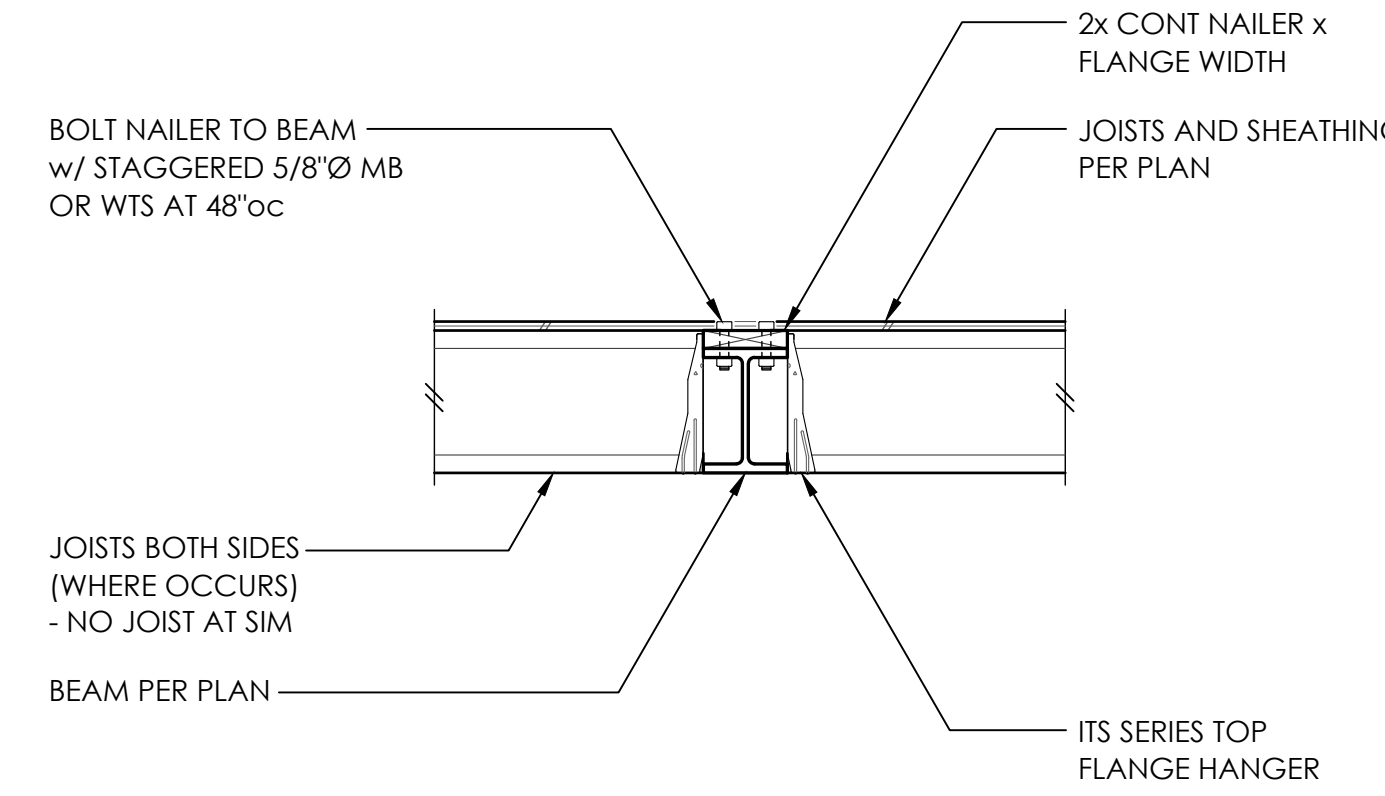


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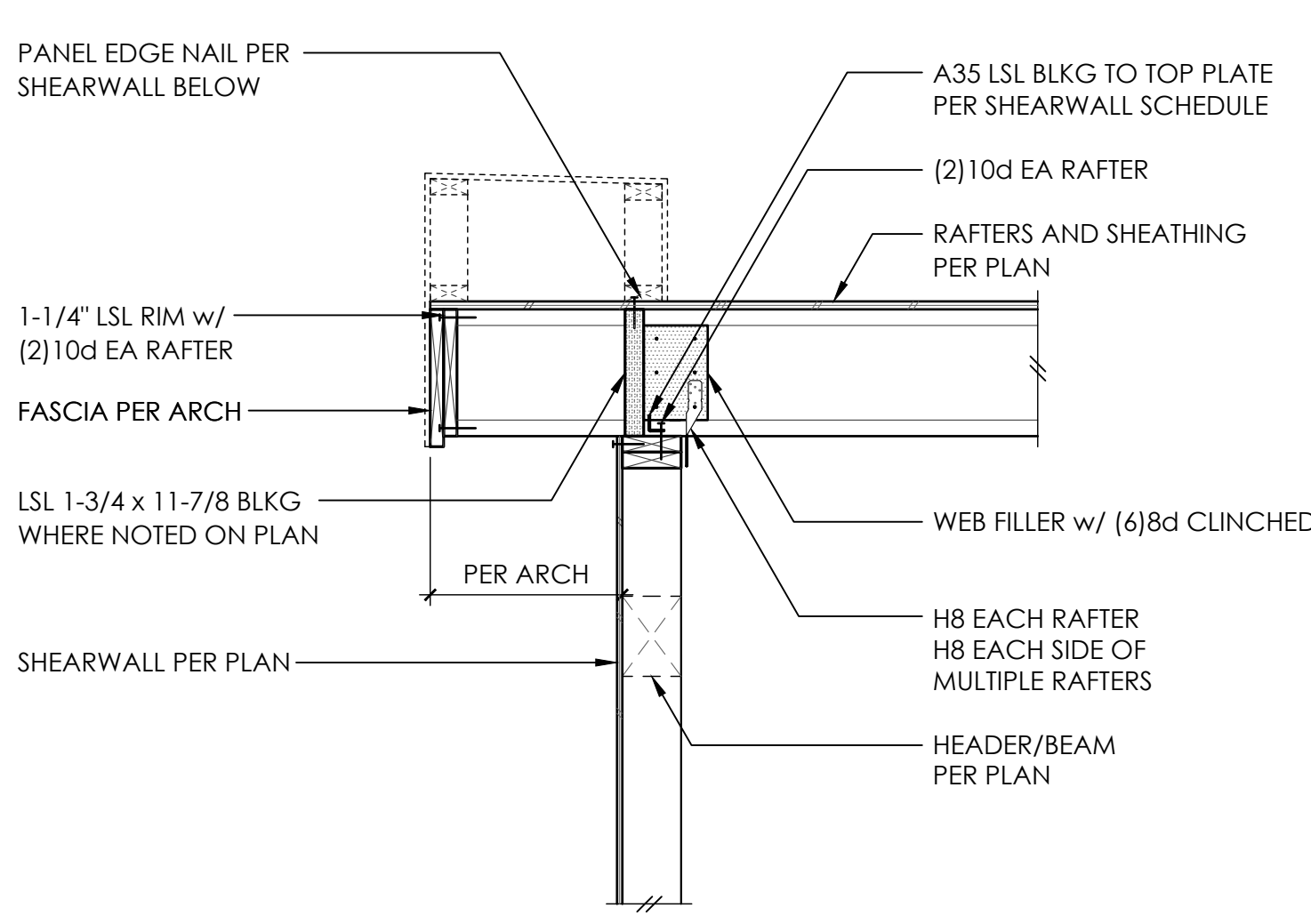


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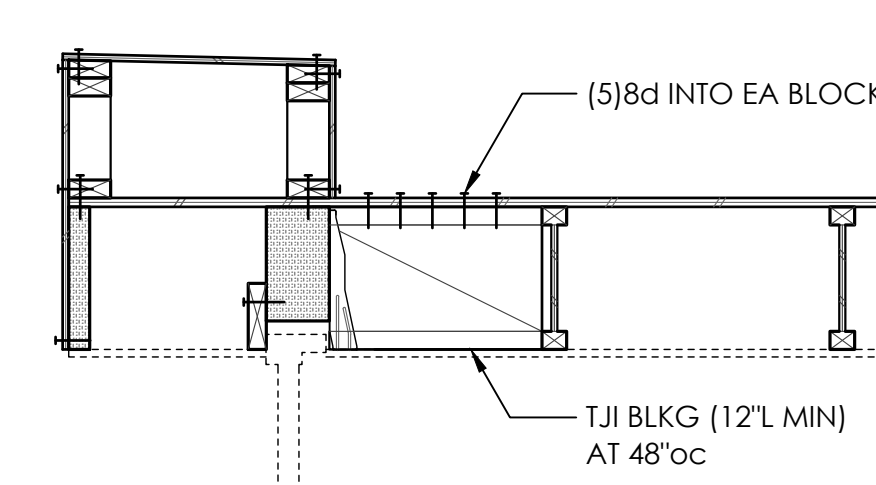
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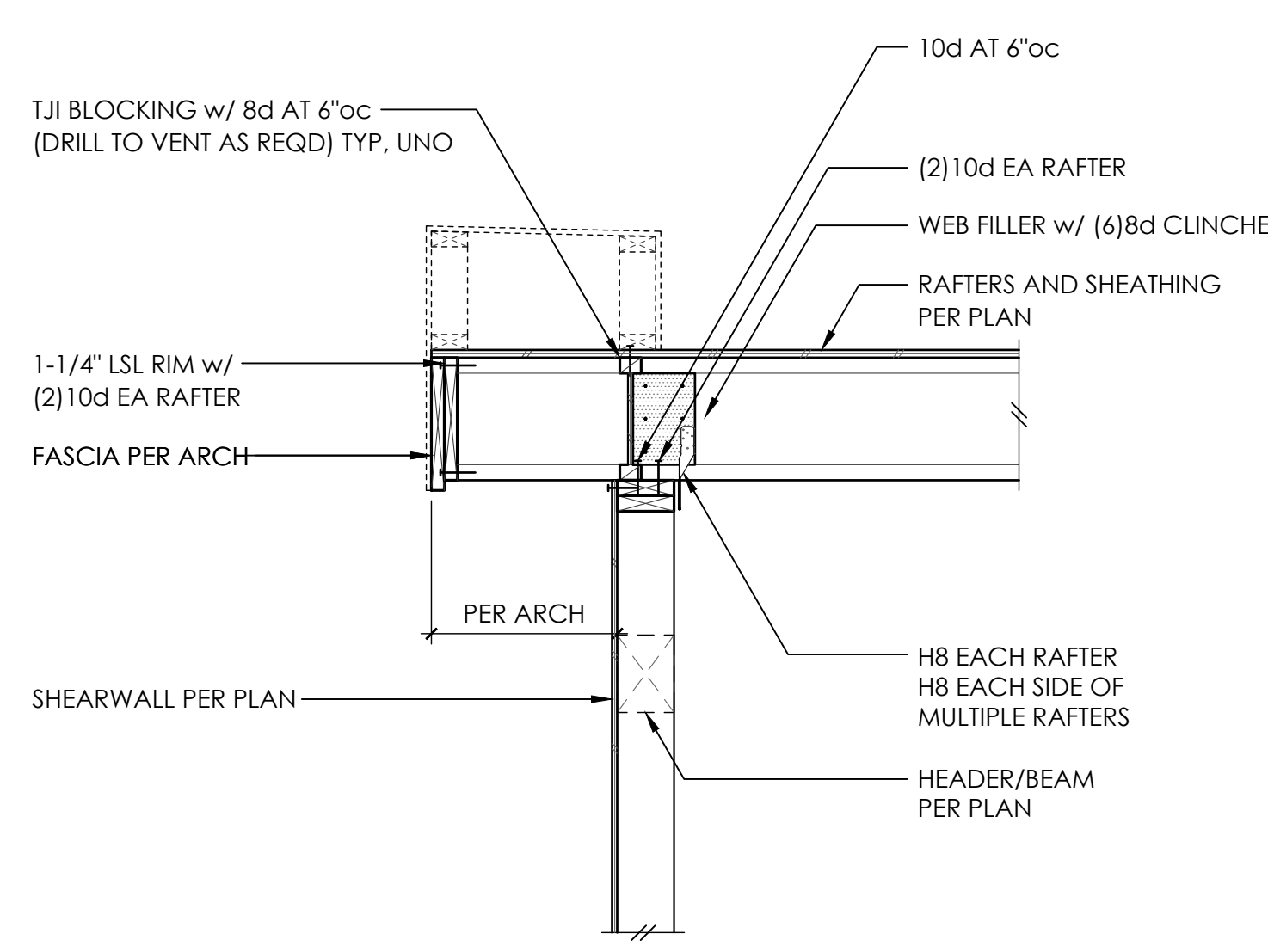


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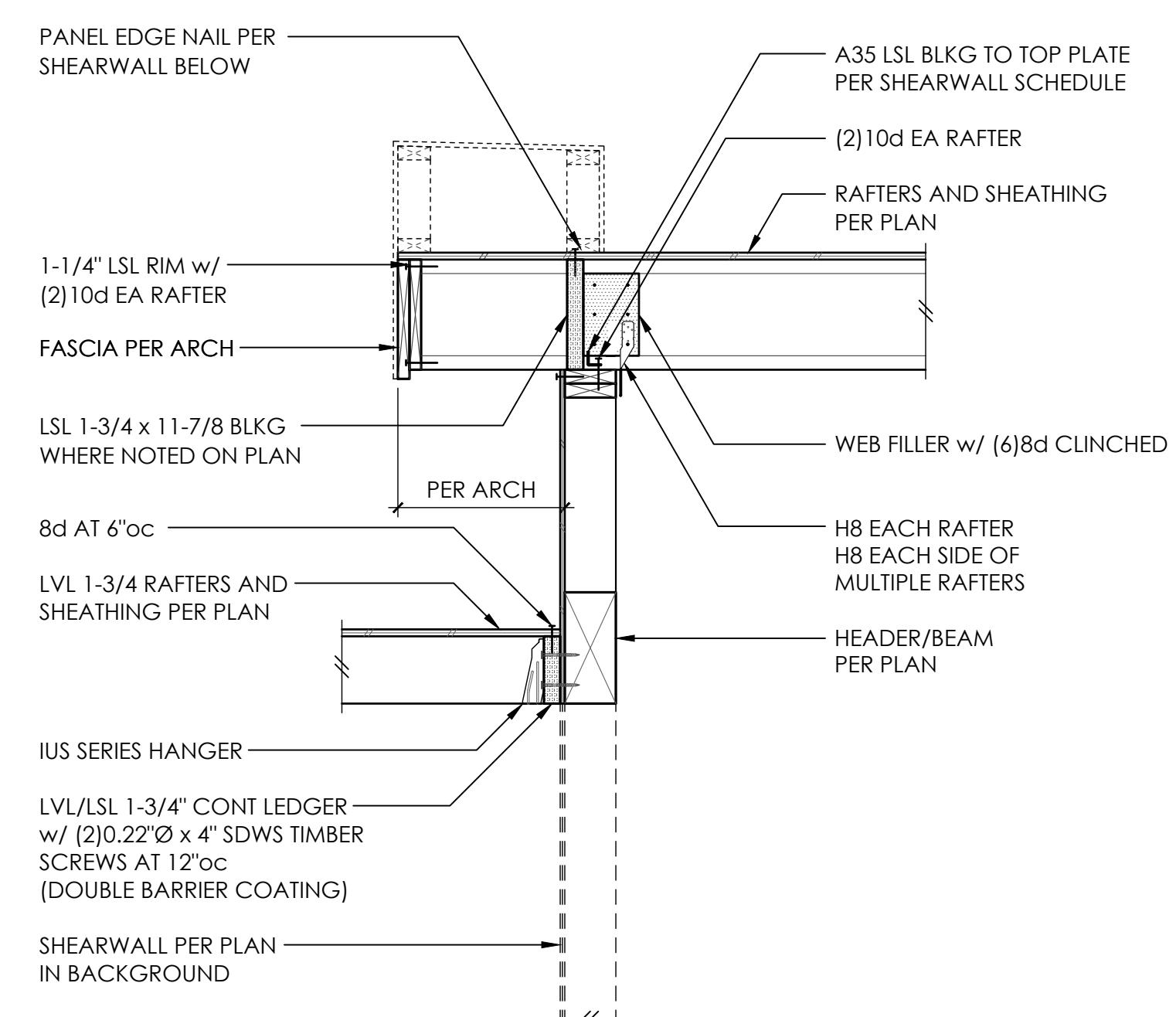


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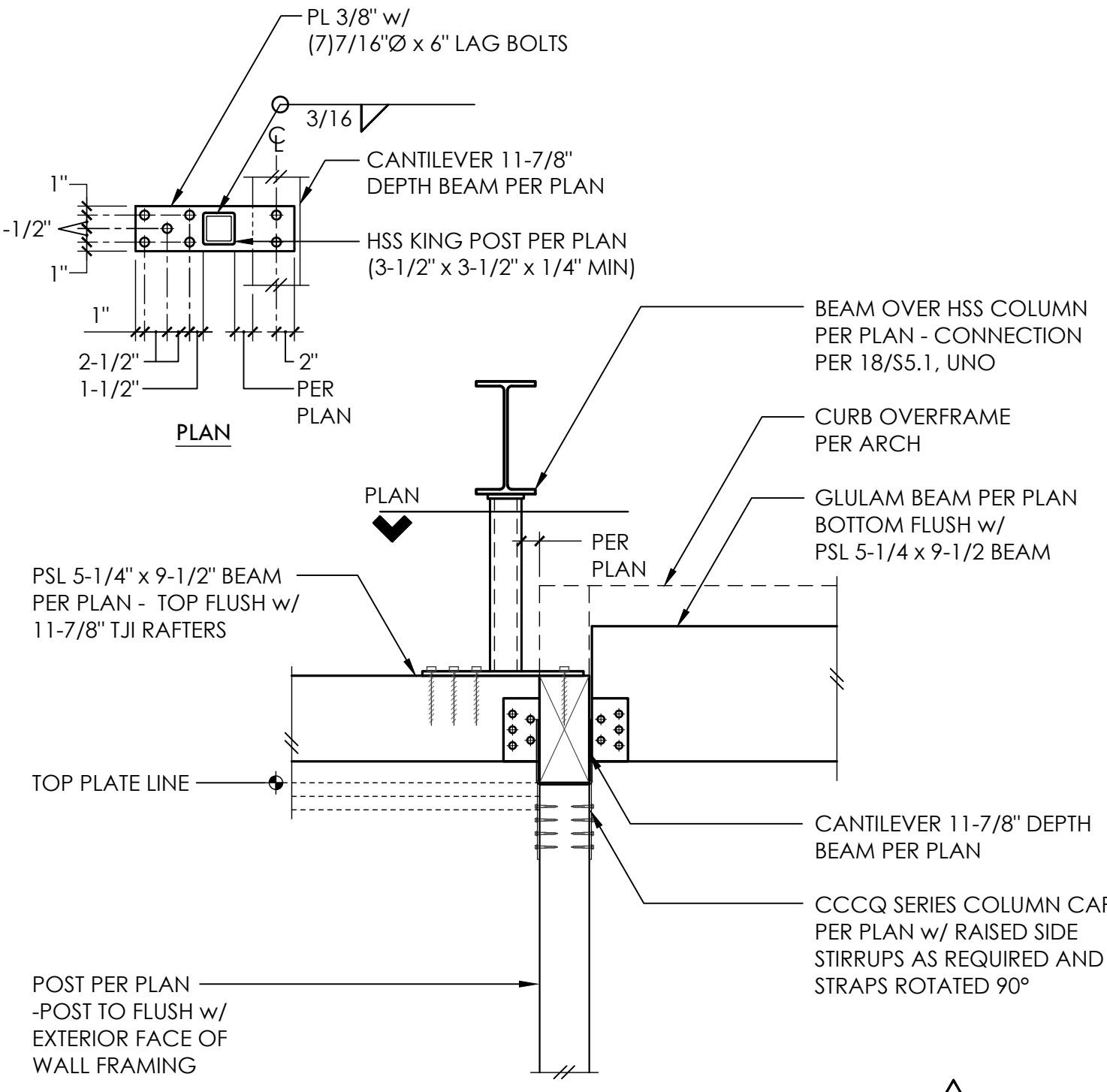
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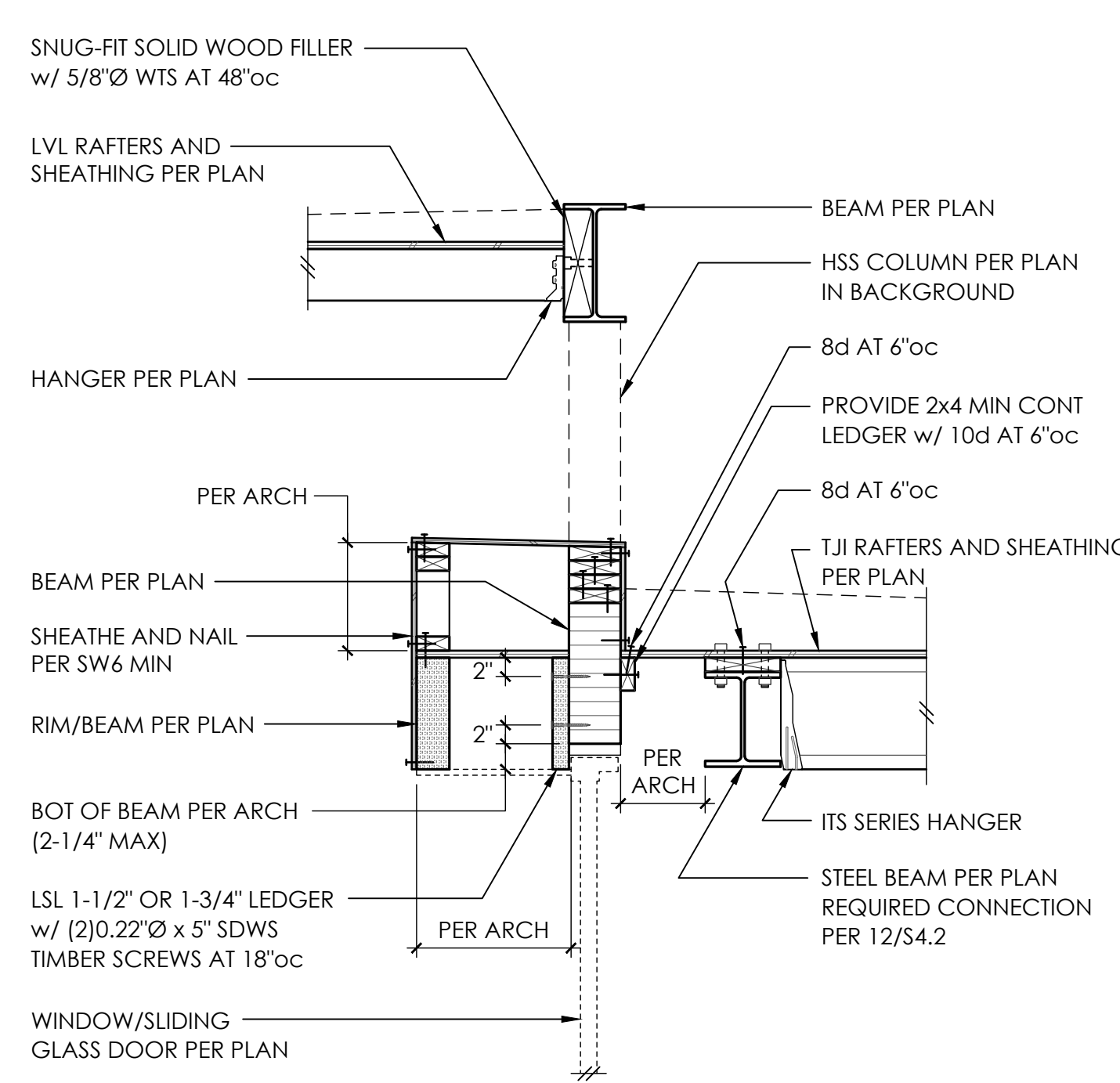
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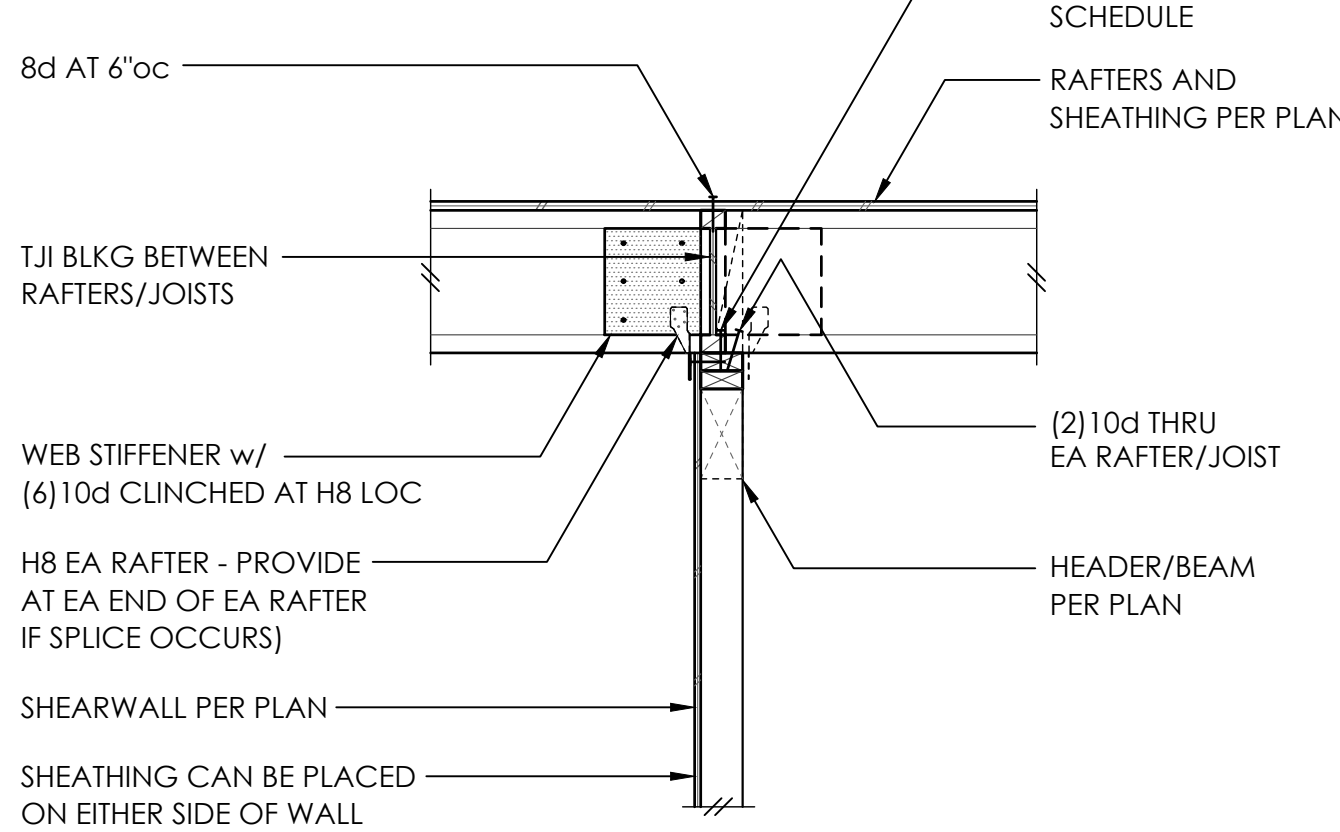
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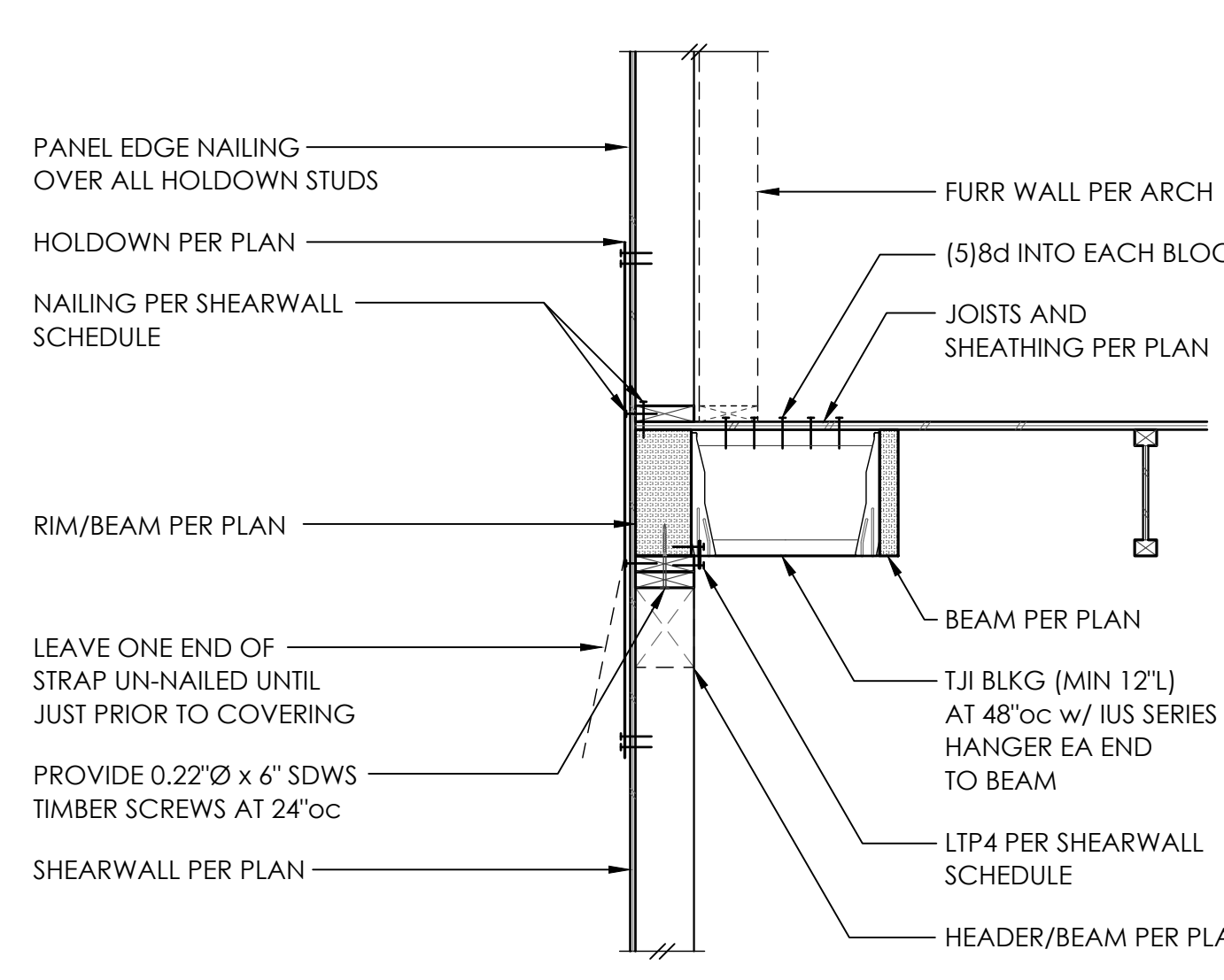
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