

1. ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND ORDINANCES OR AGENCIES HAVING JURISDICTION OVER THIS PROJECT.
2. ESTABLISH AND MAINTAIN PROJECT SAFETY DURING CONSTRUCTION TO PROTECT PERSONNEL, TENANTS, AND BUILDING OCCUPANTS. REQUIREMENTS INCLUDE, BUT SHALL NOT BE LIMITED TO OSHA PART 1926 LATEST EDITION.
3. THE GENERAL CONTRACTOR SHALL ARRANGE ALL INSPECTIONS AND TESTS AS SPECIFIED OR REQUIRED BY THE BUILDING DEPARTMENT AND SHALL PAY ALL COSTS AND FEES FOR SAME. THE CONTRACTOR SHALL SECURE ALL BUILDING PERMITS AND UPON COMPLETION OF THE PROJECT (PRIOR TO FINAL PAYMENT) DELIVER TO THE OWNER A CERTIFICATE OF OCCUPANCY OR USE FROM THE BUILDING DEPARTMENT.
4. ALL PLUMBING AND ELECTRICAL WORK SHALL BE PERFORMED BY STATE LICENSED CONTRACTORS. CONTRACTORS SHALL SUBMIT ALL REQUIRED PERMITS, CERTIFICATES, AND SIGN-OFFS TO GENERAL CONTRACTOR FOR THEIR RECORDS.
5. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, BE FAMILIAR WITH THE EXISTING CONDITIONS, AND BRING ANY DISCREPANCIES TO THE ATTENTION OF THE OWNER PRIOR TO SUBMISSION OF CONSTRUCTION PROPOSAL AND BEFORE COMMENCEMENT OF THE WORK. THE DRAWINGS REFLECT CONDITIONS REASONABLY INFERRED FROM THE EXISTING VISIBLE CONDITIONS BUT CANNOT GUARANTEED BY THE DESIGNER. DRAWINGS MAY BE SCALED FOR ESTIMATING PURPOSES AND FOR GENERAL REFERENCE ONLY. FOR ALL OTHER DIMENSIONS OR LOCATIONS CONSULT THE DESIGNER OR REFER TO DIMENSIONS ON DRAWINGS. VERIFY ALL DIMENSIONS IN THE FIELD.
6. CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS, LOCATIONS, AND CHARACTERISTICS OF ALL WORK AND EQUIPMENT (WHETHER SUPPLIED BY THE OWNER OR OTHERS) WITH THE SUPPLIER OR MANUFACTURER PRIOR TO THE START OF RELATED WORK.
7. THE GENERAL CONTRACTOR SHALL LAY OUT ALL WORK AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS FOR TRADES SUCH AS ELECTRICAL, PLUMBING, ETC.
8. THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER SHALL PROVIDE AND MAINTAIN ACCESS TO THE PREMISES AT ALL TIMES.
9. THE GENERAL CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE FREE AND CLEAR OF ALL DEBRIS AND KEEP OUT ALL UNAUTHORIZED PERSONS. UPON COMPLETION OF WORK, THE ENTIRE CONSTRUCTION AREA IS TO BE THOROUGHLY CLEANED AND PREPARED FOR OCCUPANCY BY OWNER. ALL MATERIALS AND DEBRIS RESULTING FROM THE CONTRACTOR'S WORK SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. CARE SHALL BE TAKEN DURING CONSTRUCTION THAT NO DEBRIS OR MATERIALS ARE DEPOSITED IN ANY RIGHT OF WAY AREA.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING AND NEW CONDITIONS AND MATERIALS AT THE SITE. ANY DAMAGE CAUSED BY OR DURING THE EXECUTION OF THE WORK IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
11. ANY VARIATIONS FROM INDICATED DIMENSIONS OR CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNER AND/OR DESIGNER.
12. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE OWNER.
13. PROVIDE BRACING, BLOCKING, AND/OR STRUCTURE AS REQUIRED TO FACILITATE INSTALLATION OF ALL WALL AND MILLWORK MOUNTED EQUIPMENT. IN NEW AND EXISTING WALLS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SUPPORT REQUIRED TO MAINTAIN THE INTEGRITY OF THE WALLS AND THE SECURITY OF THE EQUIPMENT.
14. ALL WOOD BLOCKING SHALL BE FIRE RETARDANT TREATED. PROVIDE WOOD BLOCKING IN ALL STUD WALLS AT MILLWORK AND SPECIAL ITEM ANCHORING POINTS. WOOD BLOCKING SHALL BE MOISTURE TREATED IF LOCATED IN DRIP LOCATIONS OR ADJACENT TO CONCRETE OR MASONRY CONSTRUCTION. IF WOOD BLOCKING IS NOT PERMITTED BY CODE, THEN METAL STRIPS SHALL BE USED.
15. THE CONTRACTOR IS RESPONSIBLE FOR FIELD DIMENSIONS OF ALL MILLWORK, GLASS, DOOR OPENINGS, AND OTHER STRUCTURES PRIOR TO COMMENCEMENT OF FABRICATION.
16. THE MATERIALS USED FOR CONSTRUCTION OF SPACE SHALL NOT CONTAIN ASBESTOS, P.C.B., OR ANY OTHER HAZARDOUS MATERIALS OF ANY TYPE. MANUFACTURERS' NAMES AND TRADEMARKS SHALL NOT BE PROMINENTLY VISIBLE TO THE PUBLIC.
17. ALL WALLS TO BE LAID OUT AT 90-DEGREE ANGLES UNLESS OTHERWISE NOTED.
18. THE SCOPE OF WORK OF ALL TRADES IS TO INCLUDE ALL MATERIALS AND LABOR REQUIRED TO TOTALLY COMPLETE THE PROJECT AND BE FUNCTIONALLY CONSISTENT WITH THE DESIGN INTENT AS EXPRESSED IN THE CONSTRUCTION DOCUMENTS.
19. ALL UTILITIES SHALL BE CONNECTED TO PROVIDE GAS, ELECTRIC, AND WATER TO ALL EQUIPMENT WHETHER SAID EQUIPMENT IS IN CONTRACT OR NOT. EQUIPMENT SHALL BE GUARANTEED TO FUNCTION PROPERLY UPON COMPLETION.
20. MANUFACTURER'S STANDARD SPECIFICATIONS AND MATERIALS APPROVED FOR PROJECT USE ARE HEREBY MADE PART OF THESE NOTES WITH SAME FORCE AND EFFECT AS IF WRITTEN OUT IN FULL HEREIN. ALL APPLIANCES, FIXTURES, EQUIPMENT, HARDWARE, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND PROCEDURES.
21. THERMOSTATS SHALL NOT BE LOCATED IN THE CENTER OF A WALL, ON AN ACCENT/SPECIALTY WALL, OR IN A LOCATION WHICH CONFLICTS WITH FURNISHINGS WITHOUT THE OWNER'S APPROVAL.
22. WRITTEN WORDS TAKE PRECEDENCE OVER DRAWN LINES. LARGE-SCALE DETAILS AND PLANS TAKE PRECEDENCE OVER SMALLER DETAILS AND PLANS. SHOULD A CONFLICT ARRIVE BETWEEN THE SPECIFICATIONS AND DRAWINGS, THE REQUIREMENTS DEEMED MOST STRINGENT SHALL BE USED.
23. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED BUT NECESSARY FOR PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION, OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE DESIGNER SHALL BE INCLUDED IN THE WORK AS IF IT WERE SPECIFIED OR INDICATED ON THE DRAWINGS.
24. NO DEVIATION FROM THE DRAWINGS OR SPECIFICATIONS OR INTENT OF SAME SHALL BE MADE WITHOUT THE OWNER'S WRITTEN AUTHORIZATION.
25. ALL WORK SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL APPROVAL. THE GENERAL CONTRACTOR SHALL SIGN THE WRITTEN GUARANTEE AS PROVIDED BY THE OWNER. THE GUARANTEE SHALL COVER ALL GENERAL AND SUBCONTRACTOR WORK. ALL DEFECTS DISCOVERED DURING THIS PERIOD SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
26. ALL DIMENSIONS ARE TO FACE OF STUD OR CENTERLINE OF STRUCTURE UNLESS OTHERWISE NOTED.
27. DOOR AND WINDOW DETAILS ARE INDICATED ON THE FLOOR PLAN. DOOR AND WINDOW DIMENSIONS ARE TO CENTERLINES OF UNITS UNLESS OTHERWISE NOTED.

	Wall Type (see wall type schedule)
	Door Type (see door schedule)
	Window Type (see window schedule)
	Building Section
	Wall Section
	Detail Number
	Building Elevation
	Interior Elevation
	Elevation Mark
	Room Name / Number
	Column Line
	Centerline
	Floor Plan Keynote
	Revision Tag

MECHANICAL:	
M0.1	MECHANICAL COVER SHEET
M1.0	FOUNDATION & FIRST FLOOR PLANS - MECHANICAL
M1.1	SECOND FLOOR PLAN - PLUMBING
M2.1	FIRST & SECOND FLOOR PLANS - VENTILATION
M3.1	FIRE SPRINKLER MECHANICAL DETAILS
M4.0	
ELECTRICAL:	
E0.0	ELECTRICAL SYMBOLS LEGEND
E1.0	GARAGE - FIRST FLOOR LIGHTING PLAN
E1.1	GARAGE - SECOND FLOOR LIGHTING PLAN
E2.0	GARAGE - FIRST FLOOR POWER PLAN
E2.1	GARAGE - SECOND FLOOR POWER PLAN
E3.0	GARAGE - ELECTRICAL SPECIFICATIONS
E3.1	GARAGE - ELECTRICAL SPECIFICATIONS

A0.0

SHEET

Q.C. _____

Code Research			
International Building Code 2024 (IBC) w/ND Amendments			
Information			Reference
Occupancy	Group S-2 and R-2		Section 311.3 (IBC 2024)
Construction Type	Type V-B		Table 601 (IBC 2024)
Square Footages	Total Area Per Floor		See Floor Plans
First Floor (B)	2,043 sf		
Second Floor (R-2)	1,941 sf		
Total:	3,984 sf		
Fully-Sprinklered	Yes	Group S-2 and R-2	Section 903 (IBC 2024)
Occupancy Separation	1 HR (Group S-2 and R-2)		Table 508.4 (IBC 2024)

Building Height

Maximum Height in Feet	33'-0"	Table 504.3 (IBC 2024)
Maximum Number of Stories	2 Stories	Table 504.4 (IBC 2024)

Construction Fire-Resistance Rating Requirements

	Construction Type: Type V-B		
Primary Structural Frame	0 Hr.		Table 601 (IBC 2024)
Exterior Bearing Walls	0 Hr.		Table 601 (IBC 2024)
Interior Bearing Walls	0 Hr.		Table 601 (IBC 2024)
Ext. Nonbearing Walls & Partitions	See Table 705.5		Table 601 (IBC 2024)
Int. Nonbearing Walls & Partitions	0 Hr.		Table 601 (IBC 2024)
Floor/Ceiling Construction & Assoc. Secondary Structural Members	0 Hr.		Table 601 (IBC 2024)
Roof Construction & Assoc. Secondary Structural Members	0 Hr.		Table 601 (IBC 2024)
Shaft Enclosures	N/A		Section 713 (IBC 2024)
Exit Corridors	N/A		Section 1020 (IBC 2024)
Interior Exit Stairways	1 Hr.		Section 1023 (IBC 2024)
Exit Passageways	N/A		Section 1024 (IBC 2024)
Exit Discharge	N/A		Section 1028 (IBC 2024)

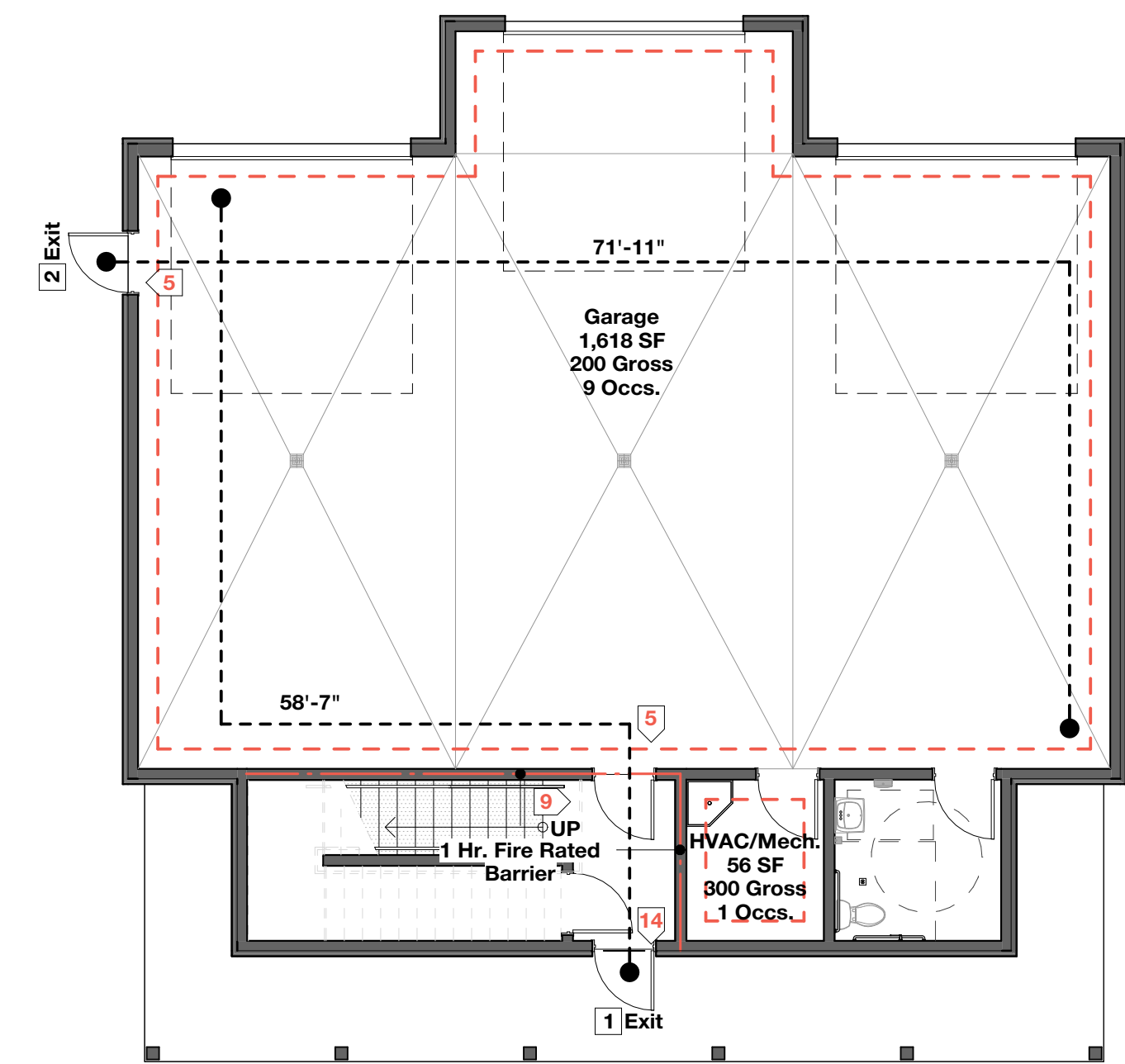
Light, Ventilation, & Sanitation

Lighting	Natural & Mechanical - By Others		
Ventilation	Natural & Mechanical - By Others		
	S-2 Occupancy = 10 Occs.		R-2 Occupancy = 9 Occs.
Group S-2 Occupancy	Men = 5 Occupants	Women = 5 Occupants	
Water Closets Required	1	1	1 per unit
Water Closets Provided	1	1	2
Lavatories Required	1	1	1 per unit
Lavatories Provided	1	1	3
Urinals Provided	Urinals shall not be substituted for more than 50% of all required water closets.	N/A	N/A
Drinking Fountains Required	N/A	N/A	Table 2902.1 (IBC 2024)
Drinking Fountains Provided	N/A	N/A	All Meet Barrier-Free Requirements
Service Sinks Required	1		1 kitchen sink per unit
Service Sinks Provided	1		1

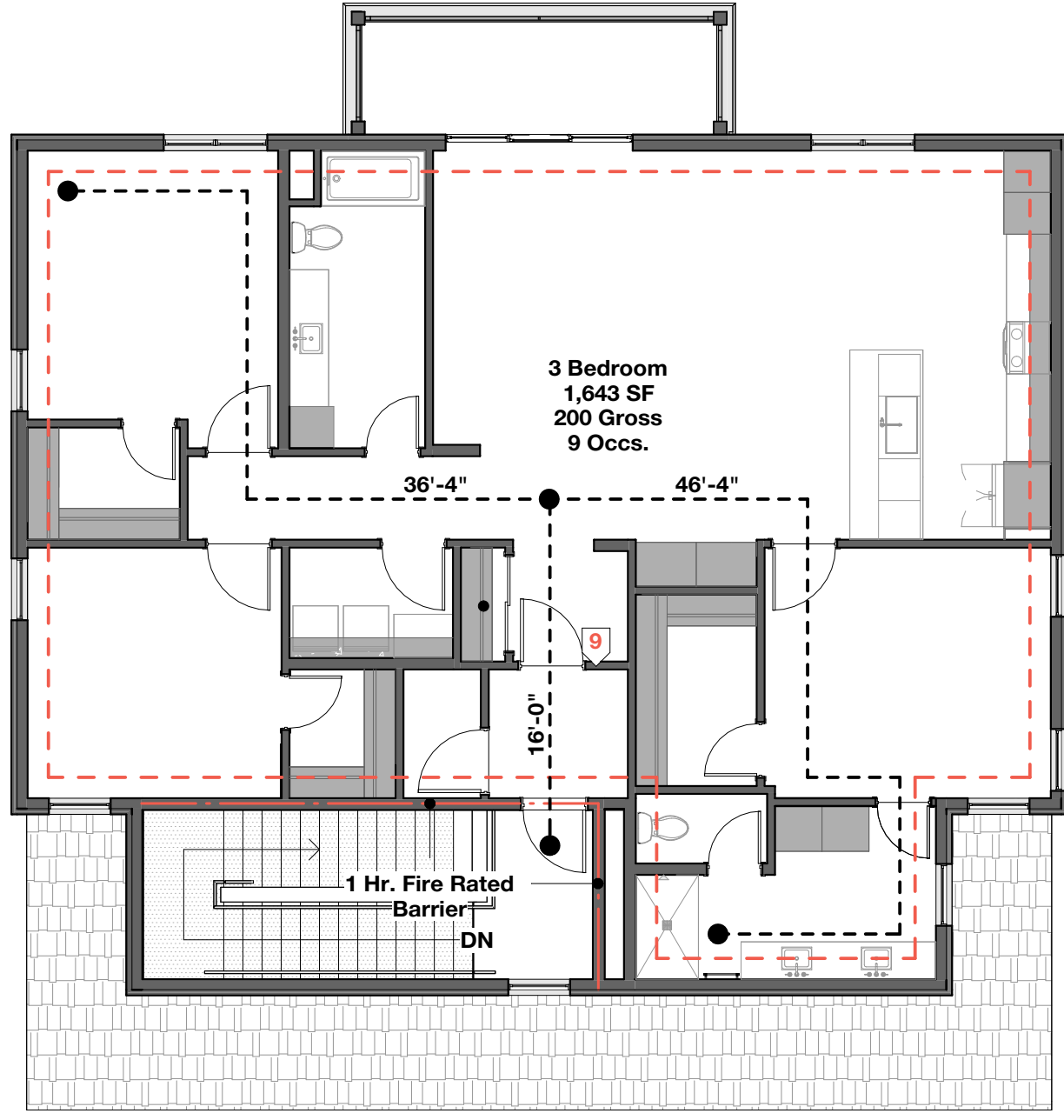
Egress Information

Total Occupant Load (Group S-2 and R-2)	Total for Building = 19 Occs.	
Minimum Egress Height	7'-6" Minimum	
Minimum Exit Width Req'd (Sprinklered Building)	First Floor Exits (19 x .15 = 2.85") 2.85" / 2 = 1.425" per Exit	
Exit Width Provided	2 Exits @ 32" = 64" CLR	
Minimum Egress Width	32" Clear	
Common Path of Egress Travel	S-2 = 100'-0" (Sprinklered Building)	
	R-2 = 125'-0" (Sprinklered Building)	
Number of Exits Req'd	1	
Exit Door Minimum Width	32" Clear	
Exit Door Minimum Height	80" Clear	
Exit Access Travel Distance	S-2 = 400'-0" (Sprinklered Building)	
	R-2 = 250'-0" (Sprinklered Building)	
Dead End Corridors	50' (Sprinklered Building)	
Smokeproof Enclosures	N/A	
Horizontal Exits	N/A	
Area of Refuge	N/A	

Exit Width at Doors				Exit Width at Stairs			
Doors	Occupant Load	Min. Required	Provided	Stairs	Occupant Load	Min. Required	Provided
Exit #1	14 Occs.	2.1 inches	32.0 inches	Stairs #1	9	1.80 inches	36.0 inches
Exit #2	5 Occ.	.75 inches	32.0 inches				

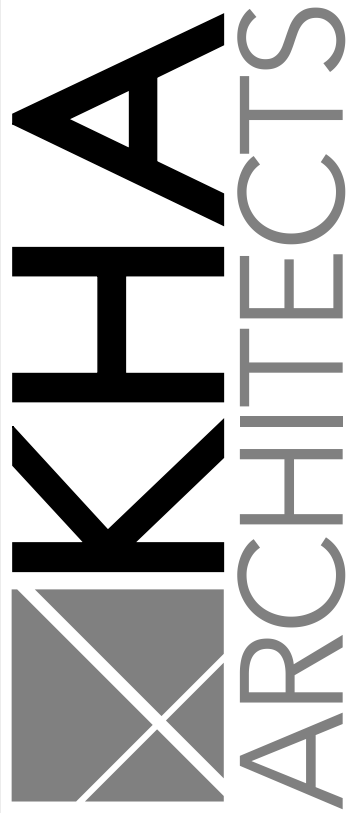
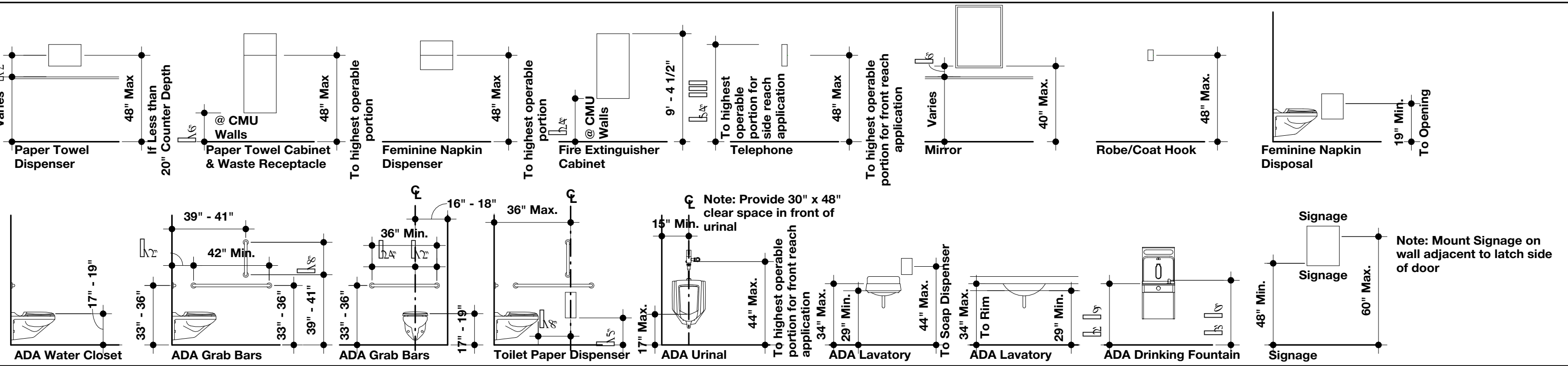


1 First Floor Code Plan
SCALE: 1/8" = 1'-0"



2 Second Floor Code Plan
SCALE: 1/8" = 1'-0"

Standard Mounting Heights/ADA Requirements



72-185 PAINTERS PATH
SUITE A
PALM DESERT, CA
92260
760.776.4068

INSTRUMENTS OF SERVICE
THESE DRAWINGS ARE AN INSTRUMENT
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ARCHITECTS, INC.

CITY APPROVAL:

TRMF RIDING STABLES - GARAGE
14532 L-94 Loop East
ND 58645



REVISION LIST	
SCHEMATIC	DESIGN REVIEW
DESIGN DEV.	
CONST. DOCS.	
	BUDG. DEPT.
CITY SUB. 1	
CITY SUB. 2	
	CONSTRUCTION
CONSTR. REV 1	
CONSTR. REV 2	
CONSTR. REV 3	

PROJECT # : 2515

CONTACT : KRISTI

SCALE: AS NOTED

CODE PLANS

DATE: 08/07/26
Q.C. _____

GENERAL STRUCTURAL NOTES

GENERAL DESIGN AND CONSTRUCTION:

- (1) ALL WORK SHALL COMPLY WITH THE 2024 INTERNATIONAL BUILDING CODE (IBC 2024).

(2) DESIGN LOADS:

PROJECT LOCATION: MEDORA, NORTH DAKOTA
BUILDING RISK CATEGORY = II

WIND LOADS: PER ASCE 7-22, EXPOSURE CATEGORY "C", $V_N = 1.0$
V, BASIC WIND SPEED (MAPPED 3-SECOND GUST) = 112 MPH (RISK CATEGORY II)

SNOW LOAD: PER ASCE 7-22 (ALSO SEE PLAN FOR POTENTIAL ADDITIONAL SNOW DRIFTING SPECIFIED AS ULTIMATE SNOW DRIFT)
CALCULATED ROOF SNOW, $P_F = 35$ PSF (ALLOWABLE) (AFTER 0.7 ASD FACTOR)
GROUND SNOW (MAPPED), $P_G = 54$ PSF (ULTIMATE)
 $I_S = 1.0$, $C_E = 1.0$, $C_T = 1.0$, $W_S = 0.45$

SEISMIC LOADS PER ASCE 7 (MEDORA, ND)
SITE CLASS = D (ASSUMED), $S_S = 0.058$, $S_1 = 0.025$, $I_E = 1.0$
SITE COEFFICIENT, $F_A = 1.6$, SITE COEFFICIENT, $F_V = 2.4$
SEISMIC DESIGN CATEGORY A

TOTAL ROOF DEAD LOAD = 20 PSF

TOTAL FLOOR DEAD LOAD = 25 PSF (W/ GYPCRETE)
EXTERIOR PATIO PAVR/FLOOR TOTAL DEAD LOAD = 45 PSF (INCLUDING 25 PSF PEDESTAL PAVR SYSTEM)

FLOOR LIVE LOAD = 40 PSF UNIFORM LOAD (RESIDENTIAL)

STAIR DEAD LOAD = 20 PSF

STAIR LIVE LOAD = 100 PSF

- (3) DESIGN PARAMETERS:
-HORSE STALL BUILDING WILL NOT BE PERMANENTLY HEATED
-GARAGE & MAIN BUILDING WILL BE PERMANENTLY HEATED

- (4) SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES.

- (5) THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE MEANS OR METHOD OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF THE STRUCTURE DURING ALL PHASES OF DEMOLITION, CONSTRUCTION AND INSTALLATION. PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS OR OTHER PERSONS BY MEANS OF SHORING, BRACING AND JOB SITE SAFETY MEASURES.

- (6) MEANS-AND-METHODS INCLUDING TEMPORARY BRACING AND SHORING AGAINST WIND AND ERECTION IS THE RESPONSIBILITY OF THE CONTRACTOR.

- (7) NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIAL OR EQUIPMENT THAT EXCEEDS FINAL DESIGN LOADING INDICATED.

- (8) VERIFY LOCATION OF BOX-OUTS AND OPENINGS WITH MECHANICAL AND ELECTRICAL CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR PIPES, DUCTS, ETC. ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED WITH THE MECHANICAL AND ELECTRICAL CONTRACTORS BEFORE COMMENCING WITH WORK.

- (9) VERIFY ALL MECHANICAL AND ELECTRICAL EQUIPMENT WEIGHT AND LOCATIONS WITH MECHANICAL AND ELECTRICAL CONTRACTORS AND COMPARE WITH THAT SHOWN ON THE DRAWINGS. IF WEIGHTS AND LOCATIONS DIFFER FROM THAT SHOWN, CONTACT THE STRUCTURAL ENGINEER TO PROVIDE FOR SUPPORT.

- (10)HOLES, PIPES, SLEEVES, ETC. THROUGH STRUCTURAL FRAMING AND FOUNDATIONS THAT ARE NOT SHOWN ON THE DRAWINGS ARE NOT ACCEPTABLE.

- (11) CONTRACTOR SHALL PROVIDE A CAST-IN SLEEVE WHERE DRAIN TILE PASSES THROUGH FOOTINGS OR FOUNDATION WALLS.

- (12)STRUCTURAL ENGINEER'S SEAL ON THE PLAN DOES NOT PROVIDE FOR CONSTRUCTION INSPECTION OR MATERIAL TESTING OF ANY KIND. SEE REQUIREMENTS IN THE PROJECT DOCUMENTS FOR TESTING LABORATORY SERVICES AND INSPECTIONS.

- (13)SHOP DRAWINGS PREPARED BY SUPPLIERS, SUBCONTRACTORS, ETC. SHALL BE DIMENSIONED, REVIEWED, COORDINATED, AND SIGNED/STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE STRUCTURAL ENGINEER. MANUFACTURED COMPONENTS SUCH AS PRE-MANUFACTURED TRUSSES SHALL BE ENGINEERED AND STAMPED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE THE PROJECT IS BEING BUILT PRIOR TO SUBMISSION.

- (14)ALL NECESSARY EGRESS EXIT/ENTRY DOORS MUST BE CONSTRUCTED AND MAINTAINED TO OPERATE FREELY AT ALL TIMES PROVIDING EGRESS FROM THE BUILDING AS WELL AS SATISFYING AND MAINTAINING ANY AND ALL ADA REQUIREMENTS DESIGN AND CONSTRUCTION OF EXTERIOR CONCRETE SIDEWALKS, STAIRS, PAVING, DOOR SILLS, ETC., TO PROVIDE AND MAINTAIN EGRESS IN A FROST-FREE MANNER VIA STUOP FOUNDATIONS, NON-FROST SUSCEPTIBLE FILL, FLOWABLE FILL, SHALLOW INSULATED FROST-PROTECTED FOUNDATION OR OTHER MEANS OTHER THAN WHAT IS SHOWN ON THESE CONSTRUCTION DOCUMENTS IS NOT THE RESPONSIBILITY OF STRUCTURAL ENGINEERS.

- (15)CONSTRUCTURAL MAY PROVIDE PERIODIC OBSERVATIONS TO ASSURE CONFORMANCE WITH DESIGN INTENT OF THE CONSTRUCTION DOCUMENTS. HOWEVER, THESE OBSERVATIONS ARE NOT MEANT TO FULFILL THE REQUIREMENTS OF THE IBC REQUIRED SPECIAL INSPECTIONS. CONSTRUCTURAL IS NOT CONSIDERED A QUALIFIED "SPECIAL INSPECTOR" AS IT RELATES TO REQUIRED BUILDING CODE. REFER TO THE SPECIAL INSPECTIONS NOTES BELOW.

- (16)CONSTRUCTURAL IS NOT RESPONSIBLE FOR LIFE SAFETY (I.E. EGRESS REQUIREMENTS) OR FIRE CODE (I.E. FIREWALLS, FIRE BARRIERS, STAIRS) REQUIREMENTS. G.C. AND/OR OWNER REQUIRED TO CONSULT DESIGN PROFESSIONAL FOR ALL LIFE SAFETY AND FIRE CODE REQUIREMENTS.

- (17)CONSTRUCTURAL IS NOT RESPONSIBLE FOR ANY MOISTURE PROTECTION, INSULATION, OR BUILDING ENVELOPE DESIGN. G.C. AND/OR OWNER REQUIRED TO CONSULT DESIGN PROFESSIONAL FOR ALL REQUIRED BUILDING ENVELOPE DESIGN AND DETAILS.

STATEMENT OF SPECIAL INSPECTIONS:

- (1) SPECIAL INSPECTIONS AND STRUCTURAL TESTING SHALL BE PROVIDED BY AN INDEPENDENT AGENCY EMPLOYED BY THE OWNER, UNLESS SPECIFIED DIFFERENTLY IN PROJECT SPECIFICATIONS. FOR THE ITEMS IDENTIFIED IN THIS SECTION AND IN OTHER AREAS OF THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS, UNLESS WAIVED BY THE BUILDING OFFICIAL

(SEE IBC CHAPTER 17).

- (2) THE NAMES AND CREDENTIALS OF THE SPECIAL INSPECTORS TO BE USED SHALL BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL.

(3) DUTIES OF THE SPECIAL INSPECTOR:

- a. THE SPECIAL INSPECTOR SHALL REVIEW ALL WORK LISTED BELOW FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS AND THE IBC.
b. THE SPECIAL INSPECTOR SHALL FURNISH SPECIAL INSPECTION REPORTS TO THE EOR, CONTRACTOR, OWNER AND BUILDING OFFICIAL ON A WEEKLY BASIS, OR MORE FREQUENTLY AS REQUIRED BY THE BUILDING OFFICIAL. ALL ITEMS NOT IN COMPLIANCE SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND IF UNCORRECTED, TO THE EOR AND THE BUILDING OFFICIAL.
c. ONCE CORRECTIONS HAVE BEEN MADE BY THE CONTRACTOR, THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE BUILDING OFFICIAL STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS AS WELL AS THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC.

(4) DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR:

- a. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE OWNER AND THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF WORK. IN ACCORDANCE WITH IBC 1704.4, THE STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED WITHIN THE "STATEMENT OF SPECIAL INSPECTIONS".
b. THE CONTRACTOR SHALL NOTIFY THE RESPONSIBLE SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORK DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED.
c. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT HAS BEEN OBSERVED BY THE SPECIAL INSPECTOR.

(1) REQUIRED SPECIAL INSPECTIONS (PER IBC 2024):

CONCRETE (IBC SECTION 1705.9): SPECIAL INSPECTIONS TO BE PERFORMED PER REQUIRED SPECIAL INSPECTION OF CONCRETE CONSTRUCTION TABLE LOCATED WITHIN THESE CONSTRUCTION DOCUMENTS AND ALSO CALLED OUT IN THE IBC TABLE 1705.9. (EXCEPTION: SPECIAL INSPECTIONS ARE NOT REQUIRED FOR CONCRETE IN THE FOLLOWING CASES:

- 1) ISOLATED SPREAD CONCRETE FOOTINGS OF BUILDINGS THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK.
2) CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILDINGS THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE:
1.1) THE FOOTINGS SUPPORTING WALLS OF LIGHT-FRAMED CONSTRUCTION
1.2) THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH TABLE 1804.7 OF THE IBC.
1.3) THE STRUCTURAL DESIGN OF THE FOOTING IS BASED ON A SPECIFIED COMPRESSIVE STRENGTH, F'_C , NOT MORE THAN 2,500 PSI, REGARDLESS OF THE COMPRESSIVE STRENGTH SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS OR USED IN THE FOOTING CONSTRUCTION.

- 3) NONSTRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON THE GROUND, INCLUDING PRESTRESSED SLABS ON GRADE, WHERE THE EFFECTIVE PRESTRESS IN THE CONCRETE IS LESS THAN 150 PSI.

- 4) CONCRETE FOUNDATION WALLS CONSTRUCTED IN ACCORDANCE WITH TABLE 1807.1.6.2.

- 5) CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS, ON GRADE.)

STRUCTURAL WOOD (IBC SECTION 1705.11.1 & IBC SECTION 1705.11.3): CONTINUOUS SPECIAL INSPECTION IS REQUIRED DURING FIELD GLUING OPERATIONS OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEMS. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR NAILING, BOLTING, ANCHORING, AND OTHER FASTENING OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUCT, BRACES, AND HOLD-DOWNS. (EXCEPTION: SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO OTHER ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM WHERE FASTENER SPACING OF THE SHEATHING IS MORE THAN 4 INCHES ON CENTER.)

WIND-RESISTING COMPONENTS (IBC SECTION 1705.11.3): PERIODIC SPECIAL INSPECTION IS REQUIRED FOR FASTENING OF THE FOLLOWING SYSTEMS AND COMPONENTS:
1) ROOF COVERINGS, ROOF DECK, AND ROOF FRAMING CONNECTIONS.
2) EXTERIOR WALL COVERING, AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.(I.E. WOOD STUDS, STEEL STUDS, CMU WALLS, ETC.)

SOIL (IBC SECTION 1705.6): SPECIAL INSPECTIONS TO BE PERFORMED PER TABLE 1705.6 LOCATED BOTH IN THE IBC AND WITHIN THESE CONSTRUCTION DOCUMENTS.

STRUCTURAL STEEL & STEEL JOISTS (IBC SECTION 1705.2, 1705.11, & 1705.12, AND ALSO 360): SPECIAL INSPECTIONS TO BE PERFORMED PER "REQUIRED SPECIAL INSPECTION OF STRUCTURAL STEEL" TABLE LOCATED WITHIN THESE CONSTRUCTION DOCUMENTS AND ALSO CALLED OUT IN THE IBC & AISC.

WOOD TRUSSES (IBC SECTION 1704.2.5 & 1705.9.2): PREFABRICATED WOOD TRUSSES ARE REQUIRED TO BE INSPECTED PER SECTION 1705.2. IN ADDITION TO SECTION 1705.2, WHERE TRUSS CLEAR SPAN IS 60 FEET OR GREATER, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.

- (6) PLEASE SEE THE "SPECIAL INSPECTION SCHEDULES/TABLES" FOR THE TYPES, EXTENTS AND FREQUENCY OF SPECIFIC ITEMS REQUIRING SPECIAL INSPECTIONS AND STRUCTURAL TESTS AS PART OF THIS PROJECT. INSPECTIONS AND TESTING INDICATED IN THE SPECIAL INSPECTION TABLES ARE GUIDELINES TO THE REQUIRED INSPECTION AND TESTING REQUIRED BY THE BUILDING CODE FOR THE PARTICULAR BUILDING. THE IBC AND REFERENCED TESTING/INSPECTION STANDARDS SHALL BE REVIEWED AND FOLLOWED BY THE INSPECTING AGENCY TO ENSURE THAT ALL REQUIRED TESTING/INSPECTION AND PROCEDURE FOR TESTING/INSPECTION IS ACHIEVED.

FOUNDATIONS:

- (1) ASSUMED GEOTECHNICAL DESIGN VALUES - ALL CONCRETE FOUNDATION DESIGNS ARE BASED ON ASSUMED GEOTECHNICAL DESIGN VALUES TO BE CONFIRMED BY A GEOTECHNICAL ENGINEER. ALL FOUNDATION EXCAVATIONS MUST BE OBSERVED AND ALL ASSUMED DESIGN VALUES STATED BELOW SHALL BE VERIFIED IN WRITING BY A LICENSED GEOTECHNICAL ENGINEER FOLLOWING ON-SITE OBSERVATION PRIOR TO FABRICATING STEEL AND PLACING CONCRETE ANY CONCRETE. ALL ASSUMED GEOTECHNICAL DESIGN VALUES ARE AS FOLLOWS:

- A. MINIMUM SOIL BEARING CAPACITY = 2,000 PSF
B. BACKFILL SOIL UNIT WEIGHT (γ) = 110 PCF (DRY)
C. MAXIMUM LATERAL PRESSURE VALUES (GRANULAR BACKFILL WITH DRAIN TILE):
1. ACTIVE PRESSURE: 41 PCF

- II. AT-REST PRESSURE: 60 PCF
III. PASSIVE PRESSURE: 250 PCF
IV. COEFFICIENT OF FRICTION (CONCRETE ON SOIL): 0.35

- (2) ALL FOOTINGS SHALL BEAR ON NATURAL, UNDISTURBED SOIL. ALL NATURAL BEARING MATERIAL SHALL BE APPROVED IN WRITING BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO PLACING FOOTING CONCRETE.

- (2) ALL SEEPAGE SHALL BE CONTINUOUSLY PUMPED FROM EXCAVATIONS UNTIL THE GEOTECHNICAL ENGINEER OF RECORD DETERMINES SUCH SEEPAGE NO LONGER IMPACTS THE BEARING SOILS OR ENGINEERED FILL OR CONSTRUCTION OF FOOTINGS AND FLOOR SLABS.

- (3) POSITIVE DRAINAGE SHALL BE OBTAINED AWAY FROM THE STRUCTURES AND CARE REQUIRED FOR BACKFILLING AND DRAINAGE OF UTILITY TRENCHES DURING CONSTRUCTION SHALL BE PROVIDED PER THE GEOTECHNICAL REPORT AND THE CIVIL DRAWINGS.

- (4) EXCAVATIONS SHALL BE PERFORMED IN ACCORDANCE WITH ALL GOVERNING SAFETY REGULATIONS INCLUDING OSHA. THERE SHALL BE NO SURCHARGE LOAD FROM VEHICLES, EQUIPMENT, MATERIALS, SOIL PILES ETC. NEAR THE CREST OF THE EXCAVATION SLOPES PER THE GEOTECHNICAL REPORT. THE RESPONSIBILITY FOR EXCAVATION SAFETY AND TEMPORARY CONSTRUCTION SLOPES LIES SOLELY WITH THE CONTRACTOR.

- (5) A 6" THICK AGGREGATE BASE COURSE ACTING AS A CAPILLARY BREAK AND A VAPOR BARRIER SHALL BE PLACED BELOW ALL INTERIOR SLABS-ON-GRADE PER THE GEOTECHNICAL REPORT AND THE PROJECT SPECIFICATIONS. A MINIMUM 15 MIL VAPOR BARRIER SHALL BE PLACED ON TOP OF THE AGGREGATE BASE AND DIRECTLY BELOW THE SLAB WITH ALL SEAMS OVERLAPPED A MINIMUM OF 6" AND TAPED. THE SLAB SHALL BE PROPERLY CURED AS INDICATED IN THESE GENERAL STRUCTURAL NOTES AND THE PROJECT SPECIFICATIONS AS WELL AS PER THE RECOMMENDATIONS OF THE AGI TO AVOID CURLING.

- (6) CLEAN FOOTING EXCAVATIONS OF SNOW, WATER, MUD, LOOSE SOIL AND DEBRIS PRIOR TO PLACING FOOTING CONCRETE.

- (7) FOOTINGS MAY NOT BE EARTH FORMED.

- (8) ALL FOOTINGS ARE CENTERED UNDER THE PIERS, COLUMNS OR WALLS THEY SUPPORT, EXCEPT AS NOTED OTHERWISE.

- (9) EXCAVATIONS AND BACKFILL SHALL BE EXECUTED AND TESTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SOILS REPORT.

- (10) FOOTING EXCAVATIONS SHALL BE TO PROPER LINE AND LEVEL TO INSURE MINIMUM CONCRETE COVER OF FOOTING REINFORCEMENT FOR FOOTING DEPTH.

- (11) BACKFILL SHALL BE COMPACTED BY MECHANICAL MEANS.

- (12) BACKFILL SHALL NOT BE PLACED AGAINST FOUNDATION WALLS UNTIL WALLS UNTIL THE CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO RESIST LATERAL PRESSURE AND HAS ADEQUATE DURABILITY.

- (13) PLACE ALL BACKFILL ACCORDING TO THE RECOMMENDATIONS OF AN INDEPENDENT TESTING AGENCY AND A LICENSED GEOTECHNICAL ENGINEER.

- (14) PROTECT ALL FOUNDATIONS FROM THE ACTION OF WATER AND FREEZING.

- (15) SEE MECHANICAL, ELECTRICAL AND ARCHITECTURAL CONTRACTORS FOR ALL OPENINGS AND INSERTS NOT SHOWN ON THE STRUCTURAL DRAWINGS. ALL OPENINGS AND INSERTS SHALL BE PLACED PRIOR TO CASTING CONCRETE.

- (16)NON-FROST SUSCEPTIBLE GRANULAR FILL IS TO CONSIST OF GRANULAR MATERIAL WITH LESS THAN 5% PASSING THE #200 SIEVE AND NO MORE THAN 40% PASSING THE #40 SIEVE.

CONCRETE:

- (1) CONCRETE MIX DESIGN(S) SHALL BE BY AN INDEPENDENT TESTING LABORATORY AND SHALL BE DEVELOPED TO MEET THE DESIGN DRAWINGS AND SPECIFICATIONS AT THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

- (2) CONCRETE MIX DESIGNS: ALL CEMENT IS TO BE PORTLAND LESTONE CEMENT (PLC) MEETING ASTM C595 WITH CEMENT TYPE AS INDICATED IN THE FOLLOWING MIX DESIGN(S) AND WITH MAXIMUM ALKALI CONTENT (NAEC) = 0.60%.

FOOTINGS ARE TO HAVE A CONCRETE MIX DESIGN CONSISTING OF TYPE 1L CEMENT (6 SACK MIN.) AND A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI, 25% MAX FLY ASH ALLOWED, 3/4" MAX AGGREGATE SIZE, 4" MAX SLUMP, 0.45 MAX WATER-TO-CEMENT RATIO, 5% TO 7% AIR ENTRAINMENT, WATER REDUCING ADMIXTURE OK, MID RANGE PLASTICIZER OK, SUPER PLASTICIZER REQUIRES PRIOR APPROVAL.

FOUNDATION WALLS ARE TO HAVE A CONCRETE MIX DESIGN CONSISTING OF PLC TYPE 1L (6 SACK MIN.) AND A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, 25% MAX FLY ASH ALLOWED, 3/4" MAX AGGREGATE SIZE, 4" MAX SLUMP, 0.45 MAX WATER-TO-CEMENT RATIO, 5% TO 7% AIR ENTRAINMENT, WATER REDUCING ADMIXTURE OK, MID RANGE PLASTICIZER OK, SUPER PLASTICIZER REQUIRES PRIOR APPROVAL.

INTERIOR SLABS-ON-GRADE ARE TO HAVE A CONCRETE MIX DESIGN CONSISTING OF TYPE 1L CEMENT (6 SACK MIN.) AND A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, 25% MAX FLY ASH (NOTE: FLY ASH WILL RETARD INITIAL SET TIME), 3/4" MAX AGGREGATE SIZE, 4" MAX SLUMP, 0.45 MAX WATER-TO-CEMENT RATIO, 5% TO 7% AIR ENTRAINMENT, WATER REDUCING ADMIXTURE OK, MID RANGE PLASTICIZER REQUIRES PRIOR APPROVAL.

FLOXABLE FILL CONCRETE (CONTROLLED DENSITY FILL - CDF) IS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 150 PSI AND A MAXIMUM STRENGTH OF 200 PSI AND IS TO CONSIST OF FINE PORTLAND LIME CEMENT, FINE AGGREGATE AND FLY ASH TO BE SELF-LEVELING NOT NEEDING VIBRATION OR COMPACTION WITH A DENSITY OF 100 TO 125 PCF.

EXTERIOR EXPOSED ELEVATED SLABS (STUOP SLABS) ARE TO HAVE A CONCRETE MIX DESIGN CONSISTING OF TYPE 1L CEMENT (6 SACK MIN.) AND A 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI, 30% MAX FLY ASH (NOTE: FLY ASH WILL RETARD INITIAL SET TIME), 3/4" MAX AGGREGATE SIZE, 3" MAX SLUMP, 0.41 MAX WATER-TO-CEMENT RATIO, 5% TO 7% AIR ENTRAINMENT, WATER REDUCING ADMIXTURE OK, MID RANGE PLASTICIZER REQUIRES PRIOR APPROVAL.

GROUT FOR STEEL BASE PLATES AND BEARING PLATES IS TO BE OF THE NON-SHRINK NON-METALLIC TYPE MEETING ASTM C1107 WITH A MAXIMUM SLUMP OF 3" AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI. FOLLOW MANUFACTURER'S DIRECTIONS FOR USE.

- (3) CONCRETE AGGREGATE SHALL MEET ASTM C33 WITH A MAXIMUM SHALE OR DELETERIOUS MATERIAL CONTENT OF 1%.

- (4) FLY ASH OF "TYPE C MEETING CLASS F" MAY BE SUBSTITUTED BY WEIGHT FOR CEMENT UP TO MAXIMUM LIMITS INDICATED IN EACH CONCRETE MIX DESIGN.

- (5) MID-RANGE PLASTICIZER MEETING ASTM C494 TYPE D IS ACCEPTABLE IF NOTED IN MIX DESIGN. MIX IS TO HAVE A MAXIMUM SLUMP AS INDICATED ABOVE FOR THE PARTICULAR MIX DESIGN PRIOR TO ADDING THE MID-RANGE. ADJUST AIR CONTENT AS REQUIRED BY THE SUPPLIER DUE TO THE USE OF THE MID-RANGE AND ITS PROJECTED EFFECT ON THE AIR CONTENT. TEST FOR AIR AFTER MID-RANGE ADDITION TO ACHIEVE RANGE SPECIFIED. SLUMP IS TO BE TESTED TO MEET THAT SPECIFIED ABOVE FOR PARTICULAR MIX DESIGN PRIOR TO ADDING MID-RANGE PLASTICIZER AND NO ADDITIONAL WATER MAY BE ADDED AFTER SLUMP TEST.

- (6) AIR ENTRAINING AGENTS SHALL MEET ASTM C260.

- (7) CONCRETE CONSTRUCTION SHALL CONFORM TO THE AGI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318.

- (8) HOT WEATHER CONCRETING PER ACI 308R AND COLD WEATHER PLACEMENT PER ACI 306R SHALL BE FOLLOWED WHERE WEATHER CONDITIONS WARRANT.

- (9) SLABS SHALL BE CURED WITH A CURING COMPOUND AS INDICATED IN THE SPECIFICATIONS AND PER THE RECOMMENDATIONS OF THE AGI CODE RELATIVE TO EXPOSURE TO SUNLIGHT, WIND, TEMPERATURE, ETC.

- (10)FORMS SHALL BE LEFT ON ALL WALLS FOR A MINIMUM OF 2 DAYS OR LONGER AS REQUIRED AT THE DISCRETION OF THE CONTRACTOR.

- (11) A CONTINUOUS BOND BREAK, SUCH AS 3/8" ASPHALTIC FIBER BOARD EXPANSION JOINT MATERIAL, SHALL BE PLACED BETWEEN THE CONCRETE SLAB AND THE PERIMETER FOUNDATION WALLS.

- (12)ALL CONCRETE POURS SHALL BE TESTED FOR STRENGTH (PER ASTM C31 AND C39), SLUMP AND AIR CONTENT. TEST ONE CYLINDER AT 7 DAYS, ONE AT 14 DAYS, TWO AT 28 DAYS AND HOLD ONE CYLINDER.

- (13)ALL CONCRETE REINFORCING SHALL MEET ASTM SPECIFICATION A615, GRADE 60.

- (14)REINFORCING STEEL SHALL BE BENT AND PLACED IN ACCORDANCE WITH THE AGI CODE. ALL TENSION SPLICES SHALL BE CLASS "B", 48 BAR DIAMETERS, MINIMUM. ALL COMPRESSION SPLICES SHALL BE 40 BAR DIAMETERS (MINIMUM), UNLESS NOTED OTHERWISE. LAP ALL CORNER BARS.

- (15)PROVIDE ADEQUATE SUPPORT BARS AND ACCESSORIES TO HOLD ALL REBAR FIRMLY IN PLACE.

- (16)ALL SLABS ARE TO BE REINFORCED WITH BARS LOCATED AS CALLED OUT ON STRUCTURAL DRAWINGS. G.C. MUST USE REBAR SUPPORT CHAIRS TO HOLD ALL SLAB BARS FIRMLY IN THEIR REQUIRED LOCATION DURING POURING. CHAIRS ARE TO BE PLACED FREQUENTLY ENOUGH TO ENSURE NO MORE THAN 1/4" OF SAG IS PRESENT IN ANY REINFORCING BARS.

- (17) CONCRETE COVER FOR REINFORCING SHALL BE PER ACI 318.

- (18)SLABS-ON-GRADE ARE TO BE REINFORCED AS SHOWN ON PLANS AND DETAILS. PLACE SLABS WITH CONSTRUCTION AND CONTRACTION JOINTS PER DETAILS.

- (19) OPENINGS IN CONCRETE SHALL BE REINFORCED WITH (2) - #5 BARS EACH SIDE, EXTENDING 30" PAST THE FACE OF THE OPENING UNLESS OTHERWISE NOTED.

- (20) INTERIOR CONCRETE SLABS-ON-GRADE WITHIN PERMANENTLY HEATED AREAS (NO AIR-ENTRAINMENT) MUST NOT BE ALLOWED TO FREEZE AFTER POURING. SUBGRADE SOIL TEMPERATURE BENEATH INTERIOR SLABS-ON-GRADE MUST BE MAINTAINED ABOVE FREEZING AT ALL TIMES AFTER POURING. CONCRETE SHALL NOT BE POURED ON FROZEN SOILS.

- (21)ALL REINFORCING SPECIFIED FOR INTERIOR SLABS-ON-GRADE AND ELEVATED SLABS SHALL BE SUPPORTED ADEQUATELY AND FIRMLY ON CHAIRS TO MAINTAIN THE CLEAR DISTANCES SPECIFIED.

- (22) NO ELECTRICAL CONDUITS OR OTHER PIPING SHALL BE DIRECTLY ATTACHED TO THE REINFORCING STEEL OR OTHERWISE SUSPENDED WITHIN IN CONCRETE SLAB-ON-GRADE OR ELEVATED SLABS NOR SHALL CONDUIT OR PIPING OF ANY KIND BE PLACED ON TOP OF METAL FORMDECK OR COMPOSITE DECKING. ALL CONDUIT OR PIPING MUST BE ATTACHED TO THE UNDERSIDE OF THE SLAB/DECKING AFTER THE CONCRETE HAS BEEN CAST AND CURED AND SHALL PENETRATE THE SLAB/DECKING AT PLANNED LOCATIONS. SEE PLANS AND TYPICAL DETAILS FOR PENETRATIONS IN ELEVATED SLABS.

- (23)ALL VERTICAL WALL AND PIER BARS MUST BE EXTENDED TO WITHIN 2' OF THE TOP OF FOUNDATION WALLS UNLESS SHOWN OTHERWISE ON THE DRAWINGS. ALL HORIZONTAL FOUNDATION WALL BARS MUST BE PLACED WITHIN 4" OF THE TOP AND BOTTOM OF THE WALL UNLESS SHOWN OTHERWISE.

- (24) ALL EPOXY-SET REBAR DOWELING TO CONCRETE SHALL BE HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM, DEWALT AC208+ WITH DUSTX+ HOLLOW DRILL BIT SYSTEM, OR EQUAL, EXCEPT AS NOTED OTHERWISE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

- (25)ALL ADHESIVE ANCHOR INSTALLATIONS IN THE HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE CONDUCTED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER AS CERTIFIED BY AGI PER ACI 318-11 9.2.2 OR ACI 318-14 17.9.2.2 OR ACI 318-19 17.2.3 OR APPROVED EQUIVALENT. CURRENT AGI CERTIFICATE MUST BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO COMMENCEMENT OF ANY ADHESIVE ANCHOR INSTALLATIONS.

STRUCTURAL STEEL:

- (1) STRUCTURAL STEEL WORK IS TO BE PER AISC SPECIFICATIONS. STEEL GRADE SHALL BE ASTM A992 (FY=50 KSI) FOR WIDE FLANGE SHAPES, ASTM A500, GRADE B (FY=46 KSI) FOR COLD-FORMED STEEL TUBES AND ASTM A36 (FY=36KSI) FOR OTHER SHAPES EXCEPT AS NOTED OTHERWISE ON THE DRAWINGS.

- (2) BEAMS AND COLUMNS SHALL BE ERECTED TRUE AND PLUMB. PROVIDE TEMPORARY BRACING.

- (3) BEARING PLATES FOR STEEL BEAMS AND COLUMNS SHALL BE DRY PACKED WITH DRY GROUT AS SPECIFIED.

- (4) ALL BOLTS IN STRUCTURAL STEEL CONNECTIONS SHALL BE ASTM F3125, GROUP A, STANDARD HEAVY HEX HEAD OR TWIST-OFF TENSION CONTROL (TC) HIGH-STRENGTH BOLTS, EXCEPT AS NOTED OTHERWISE.

- (5) ALL ANCHOR RODS FOR STRUCTURAL STEEL COLUMNS SHALL BE ASTM F1554, GRADE 36 (FY=36KSI) THREADED ROD WITH A NUT ON THE EMBEDDED END AS INDICATED ON THE DRAWINGS.

- (6) ALL SCREW ANCHORS SHALL BE CARBON STEEL HILTI KWIK-HU-Z-ER OR DEWALT SCREW-BOLT, EXCEPT AS NOTED OTHERWISE. INSTALL BOLTS PER MANUFACTURER'S RECOMMENDATIONS WITH BOLT EMBEDMENT DEPTH INTO CONCRETE AS INDICATED ON STRUCTURAL DRAWINGS.

- (7) ALL EPOXY-SET THREADED ROD ANCHORAGE TO CONCRETE SHALL BE HILTI HIT-HY 200 SAFE SET SYSTEM WITH CARBON-STEEL ANCHORS (ANCHORS ARE TO CONSIST OF #4S-B-10S (FY=105 KSI) THREADED ROD MATERIAL MEETING ASTM 193, GRADE B7 PLACED IN HOLES CLEANED WITH

THE HILTI HOLLOW DRILL BIT SYSTEM, EXCEPT AS NOTED OTHERWISE) OR DEWALT AC208+ ADHESIVE SYSTEMS WITH FY=105 KSI THREADED ROD MATERIAL MEETING ASTM 193, GRADE B7 PLACED IN HOLES CLEANED WITH THE DUSTX+ HOLLOW DRILL BIT SYSTEM). INSTALL PER MANUFACTURER'S RECOMMENDATIONS WITH BOLT EMBEDMENT DEPTH INTO CONCRETE AS INDICATED ON STRUCTURAL DRAWINGS. CONTRACTOR IS TO PROVIDE HEAT AS REQUIRED TO MAINTAIN MINIMUM REQUIRED CONCRETE BASE MATERIAL TEMPERATURE PER SUPPLIER RECOMMENDATIONS DURING EPOXY CURING.

- (8) NO FIELD WELDS ARE TO BE MADE UNTIL THE MEMBERS ARE PROPERLY ALIGNED. FIELD WELDS ARE TO BE MADE BY COMPETENT CERTIFIED WELDERS USING PROPER ELECTRODES AND AMPERAGE.

- (9) ALL STRUCTURAL STEEL STAIRS SHALL BE DESIGNED FOR A MAXIMUM MEMBER LIVE LOAD DEFLECTION = $L/600$ ALONG THE MEMBER SPAN OR A MAXIMUM DEFLECTION OF 3/8" WHICHEVER IS LESS. ALL STEEL STAIRS SHALL BE DESIGNED BY THE STAIR SUPPLIER WITH SHOP DRAWINGS SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE THE PROJECT IS BEING BUILT PRIOR TO SUBMISSION.

- (10)EXTERIOR EXPOSED STEEL SUPPORT FRAMING (SUCH AS ROOFTOP MECHANICAL & SCREENWALL SUPPORT FRAMING, ETC.) SHALL BE PAINTED WITH EXTERIOR WEATHER RESISTANT PAINT. PAINT SHALL HAVE A MINIMUM APPLIED DRY THICKNESS OF 6 MILS TOTAL, WHICH INCLUDES PRIMER, MID-COAT, AND TOP-COAT. PAINT OVER CONNECTIONS AND DO NOT DISASSEMBLE STRUCTURAL FRAMING. STEEL FABRICATOR TO COORDINATE SHOP & FIELD PAINTED COATS WITH CONTRACTOR.



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CITY APPROVAL

TRIM RIDING STABLES - GARAGE BUILDING
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REVISION LIST

SCHEMATIC	DESIGN REVIEW
DESIGN DEV.	
CONST. DOCS.	
	BUD. DEPT.
CITY SUB. 1	
CITY SUB. 2	
CONSTR. REV 1	CONSTRUCTION
CONSTR. REV 2	
CONSTR. REV 3	

PROJECT #: C2683A-A

CONTACT : CHRIS

SCALE: AS NOTED

GENERAL STRUCTURAL
NOTES



8/7/2026

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Q.C.

REQUIRED SPECIAL INSPECTIONS OF CONCRETE CONSTRUCTION (IBC Table 1705.3)			
	FREQUENCY		Comments:
	Continuous	Periodic	
1) Inspect Reinforcement			
Inspect reinforcement, including prestressing tendons, and verify placement.		•	Verify reinforcing and placement as shown on drawings and per ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 & IRC 1908.4
2) Reinforcing Bar Welding:			
Verify weldability of reinforcing bars other than ASTM A796:		•	Verify bar welding per AWS D1.4 & ACI 318-26.6.4
Inspect single-pass fillet welds, maximum 5/32in, and inspect all other welds.	•	•	
3) Inspect anchors cast in concrete.			
		•	Verify anchors are cast in concrete per structural drawings and ACI 318-17.8.2
4) Inspect anchors post-installed in hardened concrete members:			
Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	•		Verify anchors are post installed in concrete per structural drawings, ACI 318-17.8.2.2 (adhesive anchors) & 17.8.2 (mechanical anchors)
Mechanical anchors and adhesive anchors not defined in 4.a.		•	
5) Verify use of required design mix.			
		•	Verify mix designs meet strength and exposure requirements listed on approved plans; verify compliance with ACI 318-19, 26.4.3, 26.4.4, & IRC 1904.1, 1904.2, 1908.2, 1908.3
6) Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.			
	•		Verify, perform, & examine tests per ASTM C172, ASTM C31, ACI 318-26.4 & 26.12, and IRC 1908.10
7) Inspect concrete placement & application techniques.			
	•		Inspect concrete & photograph placement for proper application per ACI 318-26.5 & IRC 1908.6, 1908.7, & 1908.8
8) Verify curing temperature and techniques.			
		•	Verify concrete curing temperature and technique is being maintained per approved plans, ACI 318-26.5.3-26.5.5, & IRC 1908.9
9) Inspect prestressed concrete for:			
Application of prestressing forces: and	•		Verify prestressed concrete per ACI 318-26.10
Grouting of bonded prestressing tendons.	•		
10) Inspect erection of precast concrete.			
		•	Inspect erection per ACI 318-26.8
11) Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.			
		•	Verify strength per ACI 318-26.11.2
12) Inspect formwork for shape, location and dimensions of the concrete member being formed.			
		•	Inspect formwork for shape, locations, and dimensions of concrete member being formed per approved drawings and ACI 318-26.11.1-209
For 10' 1-inch x 24-in. max.			
1a) Where applicable, see also Section 1705.1.1. Special inspections for seismic resistance.			

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS (IBC 2015 Section 1705.6 & Table 1705.6)			
	FREQUENCY		Comments:
	Continuous	Periodic	
1) Minimum Testing:			
Verify Materials below shallow foundations are adequate to achieve the design bearing capacity.		•	
2) Prior to Construction:			
Verify excavations are extended to proper depth and have reached proper material.		•	
3) As Construction Begins:			
Perform classification and testing of compacted fill material.		•	
4) During Construction:			
Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	•		
Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.		•	

REQUIRED SPECIAL INSPECTIONS OF STRUCTURAL STEEL				
	FREQUENCY		Comments:	
	Continuous	Periodic		
OTHER THAN STRUCTURAL STEEL (IBC 1705.11.3)				
Steel Roof & Floor Deck: (SDI-QA/QC)				
Material verification of steel deck		•	Identification markings per applicable ASTM standard.	
Roof and Floor deck welds		•	Verify that welds conform to AWS D1.3.	
Installation of mechanical fasteners		•	Verify that fasteners conform to SDI C, SDI NC, SDI RO & manufacturer's instruction as well as construction documents.	
STRUCTURAL STEEL CONSTRUCTION (IBC 1705.2, 1705.11, 1705.12)				
Prior to Welding (Table N5.4-1, AISC 360-16):				
Verify welding procedures	•			
Material identification		•	Verify type and grade of material.	
Welder identification		•	Verify there is a system in place to identify the welder who has welded a joint or member.	
Fit-up groove welds		•	Verify joint preparation, dimensions, cleanliness, tacking and backing.	
Access holes		•	Verify configuration and finish.	
Fit-up fillet welds		•	Verify alignment, gap at root, cleanliness of steel surfaces, tack weld quality and location.	
During Welding (Table N5.4-02, AISC 360-16):				
Use of qualified inspectors		•	Verify that welders are appropriately qualified.	
Control and handling of welding consumables		•	Verify packaging and exposure control.	
Cracked tack welds		•	Verify welding is not over a cracked tack weld.	
Environmental conditions		•	Verify wind speed is within limits as well as precipitation and temperature.	
WPS followed		•	Verify items such as welding equipment settings, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.	
Welding techniques		•	Verify interpass and final cleaning, each pass is within profile limitations, and quality of each pass.	
Steel headed studs and/or anchor beams	•		Verify placement and installation of steel headed stud anchors. See general structural notes for additional commentary of the testing of headed stud anchors.	
After Welding (Table N5.4-3, AISC 360-16):				
Welds cleaned		•	Verify that welds have been properly cleaned.	
Size, length and location of welds	•			
Welds meet visual acceptance criteria	•			
Arc strikes	•			
k-area	•			
Backing & welding tabs removed	•			
Repair activities	•			
Document acceptance/rejection of weld	•			
No prohibited welds have been added without the approval of the EOR		•		
Nondestructive Testing (N5.5, AISC 360-16):				
CP welds (Risk Cat. II)		•	Ultrasonic testing shall be performed on 10% of CP groove welds in butt-, T- and corner joints subject to transverse applied tension loading in materials 5/16-inch thick or greater. Testing rate must be increased if > 5% of welds have unacceptable defects.	
CP welds (Risk Cat. III or IV)			Ultrasonic testing shall be performed on 100% of CP groove welds subjected to transverse applied tension loading in butt-, T- and corner joints, in materials 5/16-inch thick or greater. Testing rate must be increased if > 5% of welds have unacceptable defects.	
Access holes (flange > 2')	•			
Welded joints subject to fatigue	•			
Other Steel Inspections (Table N5.7, AISC 360-16; Tables J8-1 and J10-1, AISC 341-10):				
Structural steel details		•	All fabricated steel and their connections shall be inspected to verify compliance with the details shown in the approved plans.	
Anchor rods/embeds supporting structural steel		•	Shall be on the premises during the placement of anchor rods/embedments. Verify diameter, grade, type, and length of element and the extent or depth of embedment prior to placement of concrete.	
Reduced beam sections (RBS)		•	Verify contour and finish as well as dimensional tolerances (see Table J8-1 of AISC 341).	
Protected Zones		•	Verify that no holes or unapproved attachments are made within the protected zone (see Table J8-1 of AISC 341).	
OPEN-WEB STEEL JOIST AND JOIST GIRDERS (2015 IBC Section 1705.2.3 & TABLE 1705.2.3)				
Installation of Open-Web Steel Joists and Joist Girders				
End connections – welded or bolted		•	SI specifications listed in Section 2207.1.	
Bridging – horizontal or diagonal.				
Standard bridging		•	SI specifications listed in Section 2207.1.1.	
Bridging that differs from the SI		•	specifications listed in Section 2207.1.1.	

WOOD AND TIMBER CONSTRUCTION:

- ALL SAWN LUMBER, SHEATHING, ENGINEERED LUMBER, AND TIMBER CONSTRUCTION SHALL CONFORM TO JOB NOTES AND SPECIFICATIONS AS WELL AS AMERICAN WOOD COUNCIL (AWC), AND AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) STANDARDS.
- UNLESS NOTED OTHERWISE, ALL DIMENSION LUMBER (2" TO 4" THICK X 2" AND WIDER) SHALL BE HEM-FIR NO. 2 OR SPRUCE-PIKE-FIR NO.1/NO. 2 OR BETTER WITH A MINIMUM ALLOWABLE BENDING STRESS OF 250 PSI, SHEAR PARALLEL TO GRAIN STRESS OF 135 PSI, COMPRESSION PARALLEL TO GRAIN STRESS OF 1,150 PSI, COMPRESSION PERPENDICULAR TO GRAIN STRESS OF 405 PSI AND MODULUS OF ELASTICITY OF 1,300,000 PSI.
- ALL DIMENSIONAL LUMBER FOR WALL PLATES (2" TO 4" THICK X 2" AND WIDER) IN CONTACT WITH CONCRETE SHALL BE TREATED AND SHALL CONSIST OF PRESSURE TREATED SOUTHERN YELLOW PINE NO. 2 OR BETTER WITH DESIGN VALUES PER THE CURRENT ANSI/APA NATIONAL DESIGN SPECIFICATION (NDS) SUPPLEMENT. DESIGN VALUES WILL VARY BASED ON THE WIDTH OF THE MEMBER.
- ALL DIMENSIONS LUMBER NOTED AS MACHINE STRESS RATED (MSR) LUMBER (2" TO 4" THICK X 2" AND WIDER) IS TO BE GRADE 1650F-1.5E OR BETTER AND HAVE A MINIMUM ALLOWABLE BENDING STRESS OF 1,650 PSI, SHEAR PARALLEL TO GRAIN STRESS (HORIZONTAL SHEAR) OF 135 PSI, COMPRESSION PARALLEL TO GRAIN STRESS OF 1,100 PSI, COMPRESSION PERPENDICULAR TO GRAIN STRESS OF 405 PSI AND MODULUS OF ELASTICITY OF 1,500,000 PSI.
- ALL STRUCTURAL FRAMING MEMBERS INCLUDING BEAMS, JOISTS, ETC (2" TO 4" THICK X 2" AND WIDER) NOTED ON THE PLANS AS 'TREATED' SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE NO. 1 GRADE WITH THE FOLLOWING MINIMUM MATERIAL PROPERTIES: BENDING STRESS OF 1,000 PSI, SHEAR PARALLEL TO GRAIN STRESS OF 175 PSI, COMPRESSION PARALLEL TO GRAIN STRESS OF 1,400 PSI, COMPRESSION PERPENDICULAR TO GRAIN STRESS OF 565 PSI AND MODULUS OF ELASTICITY OF 1,600,000 PSI.
- WESTERN RED CEDAR DIMENSIONAL LUMBER (2" TO 4" THICK X 2" AND WIDER) IS TO BE NO. 2 OR BETTER GRADE WITH A MINIMUM ALLOWABLE BENDING STRESS OF 100 PSI, SHEAR PARALLEL TO GRAIN STRESS (HORIZONTAL SHEAR) OF 155 PSI, COMPRESSION PARALLEL TO GRAIN STRESS OF 650 PSI, COMPRESSION PERPENDICULAR TO GRAIN STRESS OF 425 PSI AND MODULUS OF ELASTICITY OF 1,000,000 PSI.
- ALL LAMINATED VENEER LUMBER (LVL) SHALL HAVE AN ALLOWABLE BENDING STRESS OF 3,100 PSI, COMPRESSION PERPENDICULAR TO GRAIN STRESS (PARALLEL TO GLUE LINE) OF 750 PSI, COMPRESSION PARALLEL TO GRAIN STRESS OF 3,000 PSI, HORIZONTAL SHEAR STRESS PERPENDICULAR TO GLUE LINE OF 285 PSI, AND MODULUS OF ELASTICITY OF 2,000,000 PSI.
- ALL PARALLAM (PL) WOOD MEMBERS FOR USE WITH EXTERIOR EXPOSURE SHALL BE PARALLAM PLUS PSL BY TRUS JOIST AND SHALL BE SERVICE LEVEL 2 (SL2) (NET USE), ANPA USE CATEGORY UC3B OR APPROVED EQUAL WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1,827 PSI, COMPRESSION PERPENDICULAR TO GRAIN STRESS OF 360 PSI, COMPRESSION PARALLEL TO GRAIN STRESS OF 1,505 PSI, HORIZONTAL SHEAR STRESS PERPENDICULAR TO GLUE LINE OF 197 PSI, AND MODULUS OF ELASTICITY OF 1,460,000 PSI.
- ALL WOOD CONSTRUCTION SHALL CONFORM TO CHAPTER 23 OF THE INTERNATIONAL BUILDING CODE (IBC), EXCEPT AS NOTED OTHERWISE. ALL NAILING SHALL CONFORM TO TABLE 2304.10.2 "FASTENING SCHEDULE" OF THE INTERNATIONAL BUILDING CODE UNLESS THOSE REQUIREMENTS NOTED ON THE PLANS AND SPECIFICATIONS ARE MORE STRICT.
- JOINTS IN LOAD BEARING WALL TOP PLATES ARE TO BE OFFSET AT LEAST 48". ALL JOINTS ARE TO ALSO OCCUR CENTERED ON WOOD STUD BELOW. IF STUD ISN'T PRESENT, G.C. MUST INSTALL NEW STUD DIRECTLY BELOW JOINT (STUD TO BE TYPICAL SIZE AND TYPE).
- HOLES IN SAWN LUMBER SHALL BE AS SPECIFIED IN THE INTERNATIONAL BUILDING CODE (IBC).
- DIMENSION LUMBER USED FOR HEADERS AND JAMB MEMBERS SHALL BE FREE OF CHECKS AND SPLITS.
- ALL WOOD HEADERS SHALL HAVE STUD SUPPORTS AS INDICATED ON THE PLANS AND HEADER SCHEDULES WITH A MINIMUM OF 2 FULL HEIGHT STUDS AND 1 CRIPPLE STUD AT EACH END OF EACH HEADER.
- NO NOTCHING OF STUDS, JOISTS, RAFTERS, BEAMS OR TRUSSES IS PERMITTED WITHOUT THE ENGINEER'S APPROVAL. HOLES BORED IN THE STUD OR JOIST SHALL BE IN THE MIDDLE ONE-THIRD OF THE DEPTH AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE-FOURTH THE DEPTH OF THE MEMBER.
- FASTENING OF STRUCTURAL WOOD MEMBERS SHALL BE AS SPECIFIED AND AS DETAILED.
- ENGINEERED WOOD SUPPLIER (LAMINATED VENEER LUMBER, PARALLAMS, ETC.) SHALL FURNISH ALL HANGERS AND HARDWARE FOR ALL WOOD TO WOOD AND WOOD TO MASONRY OR CONCRETE WALL CONNECTIONS, EXCEPT AS NOTED OTHERWISE.
- STUD WALLS ARE TO BE CONSTRUCTED WITH CONTINUOUS TREATED SILL PLATE AND WITH DOUBLE TOP PLATE. SEE PLANS AND DETAILS FOR STUD SIZES. FOUNDATION WALL PLATES ON CONCRETE OR MASONRY WALLS FOR LOAD BEARING WALLS SHALL BE AMFB FDN CGA TREATED SOUTHERN YELLOW PINE NO. 2 GRADE MINIMUM. FOUNDATION WALL PLATES FOR NON-LOAD BEARING WALLS SHALL BE AMFB LP-2 CGA TREATED PONDROSA PINE STANDARD AND BETTER OR STUD GRADE MINIMUM. SILLS SHALL BE ANCHORED TO CONCRETE OR MASONRY WITH 5/8" DIAMETER BY 9" GALVANIZED ANCHOR BOLTS WITH 3" HOOK SPACED AT 48" O.C. MAXIMUM OR AS NOTED OTHERWISE. THERE SHALL BE A MINIMUM OF 3 BOLTS PER PIECE WITH ONE BOLT LOCATED WITHIN 8" OF EACH END OF EACH PIECE. THERE SHALL BE NO SILL SPLICE UNDER ANY POST OR JAMB.
- ALL CONSTRUCTION ADHESIVE FOR WOOD-TO-WOOD, WOOD-TO-STEEL, WOOD-TO-CONCRETE SHALL MEET PERFORMANCE SPECIFICATIONS APA AFG-01 AND ASTM D-3498 AND SHALL HAVE A MINIMUM SHEAR STRENGTH AT 28 DAYS OF 400 PSI. G.C. TO FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS FOR ADHESIVE INSTALLATION TIME, TEMPERATURE, CONDITIONS, AND COVERAGE, PROVIDED THAT THE FULL SURFACE AREA OF BOTH MEMBERS/SURFACES TO BE BONDED ARE COVERED IN/ ADHESIVE AS RECOMMENDED.
- ALL FASTENERS INCLUDING NAILS, SCREWS, ANCHOR BOLTS, ETC. AND CONNECTORS IN CONTACT WITH TREATED LUMBER OR SHEATHING SHALL BE HOT-DIP GALVANIZED WITH A MINIMUM G90 COATINGS. INCLUDING ALL FASTENERS FROM WALL STUDS TO TREATED WALL SILL PLATES.
- ALL EXTERIOR EXPOSED FRAMING CONNECTORS AND FASTENERS PER IBC 2304.10.5 MUST MEET ASTM A659, TYPE G185 ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL OR EQUIVALENT.

HORIZONTAL WOOD STRUCTURAL PANEL SHEATHING (FLOORS):

- FLOOR SHEATHING DIAPHRAGM - FLOOR SHEATHING SHALL CONSIST OF 3/4" TAG APA RATED STURD-I-FLOOR (WITH AN APA SPAN RATING OF 24 FOR FLOORS) CONFORMING TO DOC PS 1, DOC PS 2, OR CSA 0437 OR CSA 0325. ALL PANELS SHALL BE IDENTIFIED WITH A GRADE MARK OF CERTIFICATE OF INSPECTION ISSUED BY AN APA APPROVED AGENCY. PANELS ARE TO BE UNBLOCKED EXCEPT THAT EDGES OF ALL PANELS SHALL BE SUPPORTED ON TRUSS, JOIST, OR BLOCKING AT FLOOR EDGES AS DETAILED. SHEATHING SHALL BE FASTENED WITH 10D COMMON OR GALVANIZED BOX NAILS (GALVANIZED NAILS SHALL BE HOT-DIPPED OR TUMBLED) AT 6" O.C. AT PANEL EDGES AND AT 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. NAILS ARE TO HAVE A MINIMUM PENETRATION OF 1 1/2" INTO FRAMING MEMBERS AND ARE TO BE LOCATED NOT LESS THAN 3/8" FROM EDGES OF PANELS AND FRAMING.
- ALL FLOOR PANEL SHEATHING SHALL BE ORIENTED WITH THE STRENGTH AXIS PERPENDICULAR TO THE SUPPORTS.
- FLOOR SHEATHING PANELS SHALL BE CONTINUOUS OVER THREE OR MORE SPANS (MINIMUM).
- FLOOR SHEATHING SHALL BE GLUED TO SUPPORTS AND TO EACH OTHER ALONG TAG EDGES WITH AN ADHESIVE CONFORMING TO PERFORMANCE SPECIFICATION AFG-01 DEVELOPED BY APA OR ASTM D3498.
- BLOCKING IS REQUIRED AT ALL DIAPHRAGM BOUNDARIES I.E. PERIMETER OF FLOOR AREA AND STAIR AND OTHER OPENINGS IN THE FLOOR FRAMING.
- ALL NAILING OF PANELS SHALL BE COMPLETED BEFORE GLUE SETS. CHECK MANUFACTURER'S RECOMMENDATIONS FOR ALLOWABLE SET TIME.
- PROVIDE 1/8" SPACE BETWEEN ALL EDGE AND END JOINTS OF PANELS. USE A SPACER TOOL TO ASSURE ACCURATE AND CONSISTENT SPACING.

HORIZONTAL WOOD STRUCTURAL PANEL SHEATHING (ROOFS):

- ROOF SHEATHING DIAPHRAGM - ALL EXTERIOR ROOF SHEATHING SHALL BE A MINIMUM OF 19/32" EXPOSURE I RATED PLYWOOD SHEATHING (WITH A 24/16 APA SPAN RATING) CONFORMING TO DOC PS 1, DOC PS 2, OR CSA 0437 OR CSA 0325. ALL PANELS SHALL BE IDENTIFIED WITH A GRADE MARK OF CERTIFICATE OF INSPECTION ISSUED BY AN APA APPROVED AGENCY. PANELS ARE TO BE UNBLOCKED EXCEPT THAT EDGES OF ALL PANELS SHALL BE SUPPORTED ON TRUSS, JOIST, OR BLOCKING AT ROOF EDGES AS DETAILED. SHEATHING SHALL BE FASTENED WITH 10D COMMON OR GALVANIZED BOX NAILS (GALVANIZED NAILS SHALL BE HOT-DIPPED OR TUMBLED) AT 6" O.C. AT PANEL EDGES AND AT 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. NAILS ARE TO HAVE A MINIMUM PENETRATION OF 1 1/2" INTO FRAMING MEMBERS AND ARE TO BE LOCATED NOT LESS THAN 3/8" FROM EDGES OF PANELS AND FRAMING.
- ALL ROOF PANEL SHEATHING SHALL BE ORIENTED WITH THE STRENGTH AXIS PERPENDICULAR TO THE SUPPORTS.
- ROOF SHEATHING PANELS SHALL BE CONTINUOUS OVER THREE OR MORE SPANS (MINIMUM).
- VERTICAL WOOD STUD SHEARWALLS:
 - SHEARWALLS ARE TO BE PROVIDED AND LOCATED AS INDICATED ON THE STRUCTURAL DRAWINGS TO PROVIDE PERMANENT LATERAL SUPPORT OF THE STRUCTURE. WALL SEGMENTS INDICATED AS SHEARWALLS ARE TO CONSIST OF WALL SHEATHING, WOOD STUD FRAMING AND HOLDDOWNS WITH SPECIAL FASTENING AND ANCHORAGE AS INDICATED IN THE WOOD SHEARWALL SCHEDULE.
 - SHEARWALL SHEATHING IS TO BE INSTALLED BY THE FRAMING CONTRACTOR (NOT THE DRYWALL CONTRACTOR) AS THIS IS A STRUCTURAL ELEMENT REQUIRING SPECIFIC STRUCTURAL FASTENING. THE SHEARWALL SHEATHING AND HOLDDOWNS ARE TO BE INSTALLED PRIOR TO FRAMING ANY INTERIOR PARTITIONS AS THE SHEARWALL SHEATHING IS TO RUN CONTINUOUS BEHIND PARTITION WALL INTERSECTIONS ALONG SHEARWALLS AT INTERIOR WALLS (WHERE NOTED). SHEATHING AND HOLDDOWNS ARE ALSO TO BE INSTALLED AND LOCATED PRIOR TO INSTALLATION OF MECHANICAL COMPONENTS TO AVOID CONFLICTS WITH THE STRUCTURAL SYSTEM.
 - NO WALL PENETRATIONS ARE ALLOWED THROUGH SHEARWALLS UNLESS AUTHORIZED BY THE STRUCTURAL ENGINEER.
 - WOOD PANEL SHEARWALL SHEATHING - ALL WOOD PANEL SHEARWALL SHEATHING SHALL BE EXPOSURE I RATED PLYWOOD OR OSB SHEATHING CONFORMING TO DOC PS 1 & DOC PS 2 WITH A 24/16 APA SPAN RATING. ALL PANELS SHALL BE IDENTIFIED WITH A GRADE MARK OF CERTIFICATE OF INSPECTION ISSUED BY AN APA APPROVED AGENCY. WOOD PANEL SHEARWALLS SHALL BE CONSTRUCTED AS A BLOCKED DIAPHRAGM WITH EDGES OF ALL PANELS SUPPORTED BY WALL STUDS OR MINIMUM 2X BLOCKING TO MATCH THE STUD WIDTH. FASTENED THE WOOD PANELS TO THE ADJACENT STUDS/BLOCKING AS INDICATED IN THE WOOD SHEARWALL SCHEDULE. WHERE 8D NAILS ARE SPECIFIED, 2 1/2" X 0.131" COMMON OR 2 1/2" X 0.113" GALVANIZED BOX NAILS SHALL BE PROVIDED. WHERE 10D NAILS ARE SPECIFIED, 3" X 0.148" COMMON OR 3" X 0.128" GALVANIZED BOX NAILS SHALL BE PROVIDED. NAILS ARE TO BE LOCATED AT PANEL EDGES (EDGE SPACING) AND INTERIOR FRAMING MEMBERS (FIELD SPACING) AS INDICATED IN THE WOOD SHEARWALL SCHEDULE. GALVANIZED NAILS ARE TO BE HOT DIPPED OR TUMBLED. NAILS ARE TO HAVE A MINIMUM PENETRATION OF 1 1/2" INTO FRAMING MEMBERS AND ARE TO BE LOCATED NOT LESS THAN 3/8" FROM EDGES OF PANELS & FRAMING.
- GYPSUM PANEL SHEARWALL SHEATHING - ALL GYPSUM PANEL SHEARWALL SHEATHING SHALL BE AS INDICATED IN THE WOOD SHEARWALL SCHEDULE AND SHALL COMPLY WITH ASTM C1396. GYPSUM BOARD PANELS SHALL BE APPLIED PERPENDICULAR TO THE FRAMING WITH SOLID BLOCKING BEHIND THE HORIZONTAL PANEL JOINTS. SOLID BLOCKING IS TO CONSIST OF 2" NOMINAL WOOD FRAMING. SHEATHING FASTENERS ARE TO BE INSTALLED THROUGH THE SHEATHING INTO THE BLOCKING. SHEARWALL SHEATHING IS TO BE APPLIED ON SIDES OF THE SHEARWALLS AS INDICATED ON THE STRUCTURAL DRAWINGS AND IN THE WOOD SHEARWALL SCHEDULE. WHERE SHEATHING IS APPLIED TO BOTH FACES OF THE SHEARWALL, VERTICAL SHEATHING JOINTS ARE TO BE OFFSET FROM PANEL JOINTS ON THE OPPOSITE SIDE OF THE WALL. SHEATHING SHALL BE FASTENED TO FRAMING WITH NO. 6 X 1 1/4" TYPE IV OR S SCREWS. SCREWS SHALL BE SPACED ALONG SHEATHING EDGES (EDGE SPACING) AND INTERMEDIATE STUD FRAMING (FIELD SPACING) AS INDICATED IN THE WOOD SHEARWALL SCHEDULE. FASTENERS ARE TO BE LOCATED NOT LESS THAN 3/8" FROM EDGES OF PANELS AND FRAMING.
- WOOD SHEARWALL STUD HOLDDOWNS - WHERE SHEARWALL HOLDOWN LOCATIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS, HOLDOWN STUDS AND HOLDOWN ANCHORS ARE TO BE PROVIDED. HOLDOWN STUDS ARE TO CONSIST OF TWO TYPICAL WALL STUDS NAILED TOGETHER WITH 10D NAILS AT 8" O.C. STAGGERED. HOLDOWN STUDS ARE TO BE LOCATED AT EACH SHEARWALL SEGMENT AS INDICATED ON THE PLAN, UNLESS NOTED OTHERWISE. (TYPICALLY HOLDOWN STUDS ARE LOCATED ADJACENT TO WALL CORNERS AND WINDOW/DOOR OPENINGS AT THE ENDS OF SHEARWALL SEGMENTS.) SECURE HOLDOWN STUDS TO CONCRETE FOUNDATION WITH A SIMPSON HDUE HOLDOWN. REFER TO THE WOOD SHEARWALL SCHEDULE FOR THE SIZE OF HDUE HOLDOWNS REQUIRED AT EACH SHEARWALL SEGMENT. WHERE UPPER FLOORS ARE PRESENT, HDUE HOLDOWN ANCHORS ARE REQUIRED ABOVE AND BELOW THE FLOOR

CAVITY WITH 5/8" DIAMETER THREADED A36 STEEL RODS EXTENDING THROUGH THE FLOOR CAVITY TO EACH HDUE HOLDOWN TO TRANSFER TENSILE LOADS. IT IS CRITICAL THAT THESE UPPER HOLDOWNS AND HOLDOWN STUDS ARE ALIGNED WITH AND ATTACHED TO THE SAME HOLDOWN STUDS ANCHORED TO THE FOUNDATION BELOW. ALIGNMENT OF HOLDOWN STUDS IS TO BE MAINTAINED FULL HEIGHT OF THE BUILDING AND OFFSETTING OF HOLDOWN STUDS AND ANCHORS IS NOT ALLOWED. REFER TO THE STRUCTURAL DRAWINGS AND DETAILS FOR THESE HOLDOWN LOCATIONS. SIMPSON HDUE HOLDOWNS ARE TO BE ANCHORED AT THE BASE OF THE SHEARWALL TO THE CONCRETE FOUNDATION WITH CAST-IN-PLACE F1554 THREADED RODS (GALVANIZED) WITH EMBEDMENT DEPTH SHOWN ON THE DRAWINGS AND DETAILS. SEE FOUNDATION & FRAMING PLANS FOR HOLDOWN DETAILS & LOCATIONS.

- SHEARWALL HOLDDOWNS - PROVIDE 2-2X STUDS AT SHEARWALL END STUDS NEXT TO WINDOW AND DOOR OPENINGS AND AT BUILDING CORNERS. SECURE DOUBLE END STUDS TO FOUNDATION WALL WITH SIMPSON HDUE HOLDOWNS (OR EQUAL) WITH CAST-IN-PLACE GALVANIZED F1554 THREADED ANCHOR BOLT AND NUT. SEE FOUNDATION PLAN AND DETAILS FOR LOCATIONS AND EMBEDMENT DEPTH. HOLDOWN ANCHORS MUST BE CAST-IN-PLACE AND FIELD LOCATED BY THE GENERAL CONTRACTOR AND HELD IN POSITION FIRMLY WITH TEMPLATES. HOLDOWN ANCHORS MAY NOT BE POST-INSTALLED.
- WALL SHEATHING PANELS MUST BE INSTALLED HORIZONTALLY AND SHALL BE CONTINUOUS OVER TWO OR MORE SPANS (MINIMUM).
- IN WALLS WITH LIKE SHEATHING ON INSIDE AND OUT, OFFSET SHEATHING PANEL JOINTS ON EACH SIDE OF WALL A MINIMUM OF ONE STUD BAY.

TRUSSES:

- ROOF TRUSSES SHALL BE DESIGNED AND FABRICATED BY A 'TRUSS PLATE INSTITUTE' (TPI) MEMBER FABRICATOR AND SHALL BE FABRICATED TO TPI STANDARDS.
- TRUSS FABRICATOR TO DESIGN AND SHOW SIZE AND LOCATION OF PERMANENT AND ERECTION BRACING PERPENDICULAR TO TRUSSES ON TRUSS SHOP DRAWINGS (TO BE INSTALLED BY GENERAL CONTRACTOR).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION, HANDLING, INSTALLATION, RESTRAINT AND BRACING OF METAL PLATE CONNECTED ROOF TRUSSES PER THE CURRENT BUILDING COMPONENT SAFETY INFORMATION (BCSI) BY SBGA AND TPI AS WELL AS THE CURRENT HB-41 (COMMENTARY AND RECOMMENDATIONS FOR HANDLING INSTALLING & BRACING METAL PLATE CONNECTED WOOD TRUSSES BY THE TRUSS PLATE INSTITUTE (TPI).
- ROOF TRUSSES ARE TO BE DESIGNED FOR 30 PSF LIVE LOAD AND 10 PSF DEAD LOAD AT TOP CHORDS AND 10 PSF DEAD LOAD AT BOTTOM CHORDS.
- ROOF TRUSSES ARE TO BE DESIGNED FOR L/360 LIVE LOAD DEFLECTION AND L/240 TOTAL LOAD DEFLECTION.
- FLOOR TRUSSES ARE TO BE DESIGNED FOR LIVE LOADS INDICATED ABOVE FOR THE PARTICULAR BUILDING AND AREA AND AS REQUIRED BY THE 2024 IBC CODE.
- FLOOR TRUSSES ARE TO BE DESIGNED FOR L/480 LIVE LOAD DEFLECTION AND L/360 TOTAL LOAD DEFLECTION.
- TRUSS MEMBER OVERALL DIMENSIONS, BEARING POINTS, TOP AND BOTTOM CHORD CONFIGURATION, BEARING HEEL HEIGHT AND BEARING POINTS SHALL BE AS SHOWN ON THE CONTRACT DOCUMENTS. OVERALL TRUSS DESIGN INCLUDING WEB MEMBER CONFIGURATION, MEMBER SIZES, CONNECTOR PLATES, ETC. BY TRUSS FABRICATOR SHALL BE BASED ON LOADS INDICATED.
- TRUSS FABRICATOR TO FURNISH SHOP DRAWINGS INCLUDING PROPOSED TRUSS MEMBER DESIGN, OVERALL LAYOUT PLAN AND LATERAL BRACING TO BE COMPLETED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE THE PROJECT IS BEING BUILT.
- HANDLING OF TRUSSES AND ERECTION BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE TEMPORARY AND PERMANENT DIAGONAL LATERAL AND CROSS BRACING UNTIL ROOF SHEATHING, CEILINGS, AND PERMANENT BRACING CAN BE APPLIED AND SHEARWALLS COMPLETED.
- TRUSS SUPPLIER SHALL PROVIDE DESIGN OF ALL PERMANENT AND TEMPORARY LATERAL BRACING OF ALL TRUSS MEMBERS AS REQUIRED TO MAINTAIN STRENGTH, STABILITY AND SERVICEABILITY OF TRUSSES TO SUPPORT THE REQUIRED LOADS UNDER CONSTRUCTION AS WELL AS IN SERVICE.
- PROVIDE SOLID BLOCKING BETWEEN TRUSSES AT BEARINGS AND ALONG HIP AND RIDGE LINES. NAIL DECK TO BLOCKING AT RIDGE AND HIP LINES. PROVIDE INTERMEDIATE BRIDGING AS REQUIRED BY TRUSS DESIGN.

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CITY APPROVAL

TRIMF RIDING STABLES - GARAGE BUILDING
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ND 58645

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CITY SUB. 1	
CITY SUB. 2	
	CONSTRUCTION
CONSTR. REV 1	
CONSTR. REV 2	
CONSTR. REV 3	

PROJECT #: C2683A-A

CONTACT : CHRIS

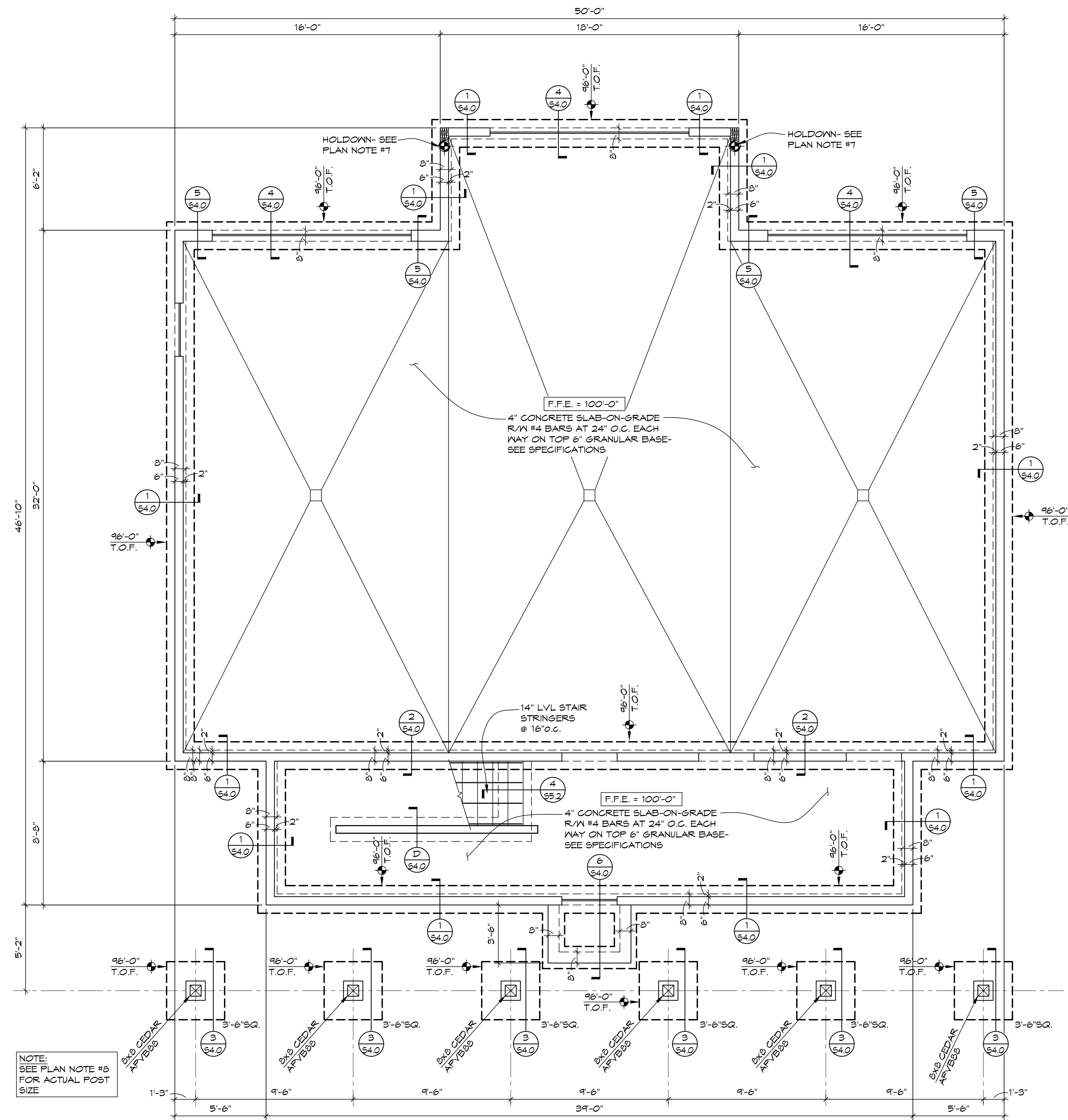
SCALE: AS NOTED

GENERAL STRUCTURAL
NOTES & SPECIAL
INSPECTIONS TABLE

DATE: 8/7/26

90.2

Q.C.



FOUNDATION PLAN

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



PLAN NOTES:

- (1) ALL PAD FOOTINGS ARE CENTERED BELOW THE COLUMN THEY SUPPORT - SEE FOUNDATION PLAN & PAD FOOTING SCHEDULE FOR SIZE & REINFORCING.
- (2) ALL CONTINUOUS WALL FOOTINGS ARE 10" THICK UNREINFORCED, AND PROJECT 8" BEYOND EACH FACE OF FOUNDATION THEY SUPPORT, EXCEPT AS NOTED OTHERWISE.
- (3) INDICATES STEP IN CONTINUOUS WALL FOOTING, SPACE STEPS AT 4'-0" FROM BUILDING CORNERS AND OTHER FOOTINGS STEPS EXCEPT AS SHOWN OTHERWISE.
- (4) INDICATES TOP OF FOOTING ELEVATION.
- (5) GENERAL CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR BUILDING GROUNDING WIRE ATTACHMENT TO FOUNDATION WALL REINFORCING PRIOR TO POURING FOUNDATION WALL.
- (6) MECHANICAL PIPING CROSSING FOUNDATION WALL- SEE FOLLOWING RECOMMENDATIONS REGARDING PIPING & FOUNDATION CONFLICTS INDICATED ON PLAN. COORDINATE ALL OTHER LOCATIONS NOT SHOWN WITH STRUCTURAL ENGINEER.:
- (7) INDICATES APPROXIMATE LOCATION OF SHEAR WALL HOLDOWN TO BE LOCATED AT END OF SHEAR WALL SEGMENT AT BASE OF WALL BELOW. SEE DETAIL 4/S&P.1, PLAN FOR LOCATIONS & REFER TO GENERAL STRUCTURAL SHEARWALL NOTES FOR ANCHORING REQUIREMENTS.
- (8) 8x8 CEDAR POST TO BE ACTUAL 1 1/2x1 1/2.

REVISION LIST

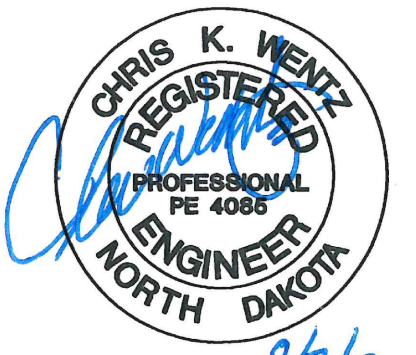
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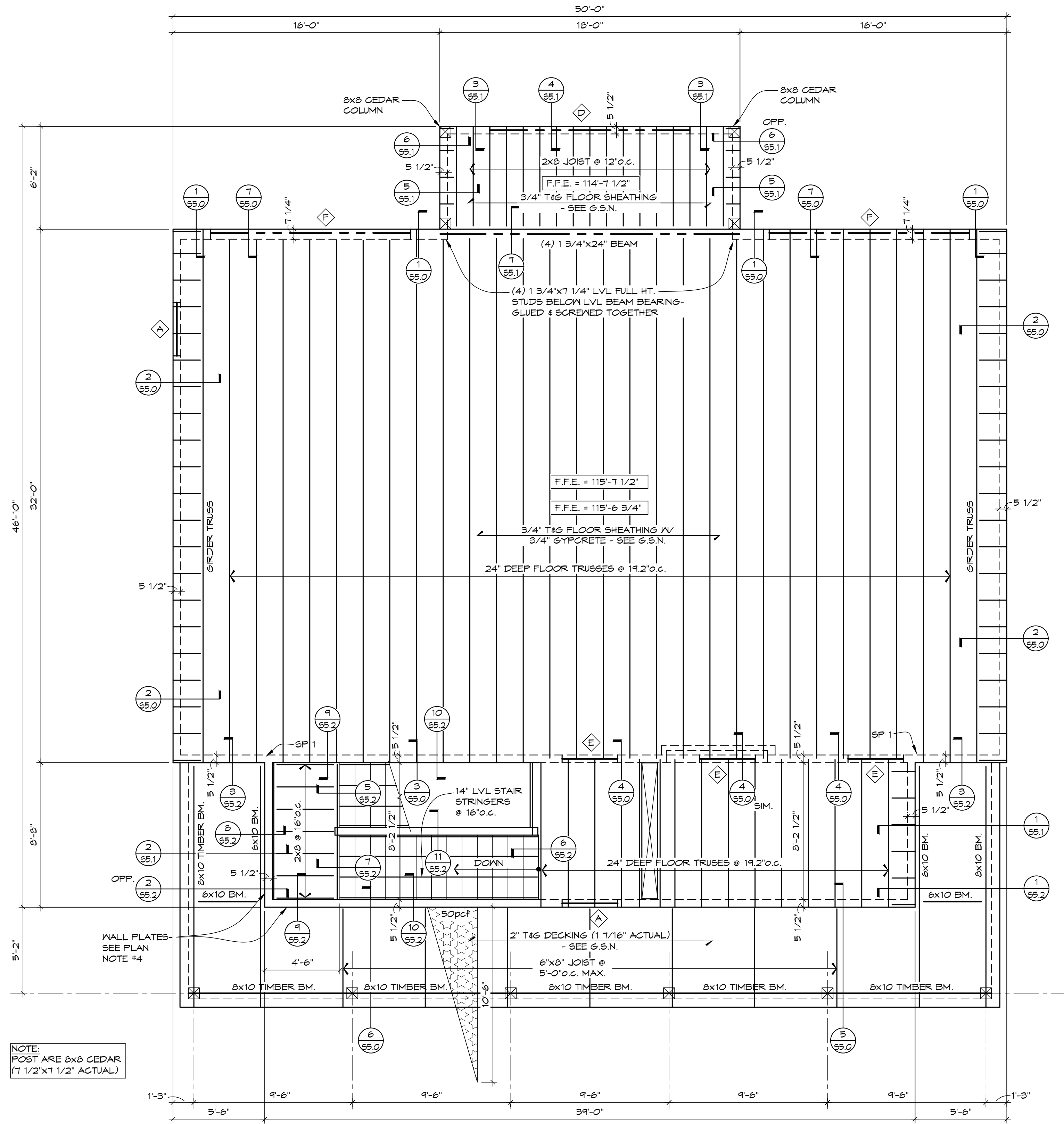
PROJECT #: C2663A-A

CONTACT: CHRIS

SCALE: AS NOTED

FOUNDATION PLAN





FLOOR FRAMING / LOW
ROOF FRAMING PLAN

- PLAN NOTES:
- (1) INDICATES WOOD HEADER- SEE PLAN & WOOD HEADER SCHEDULE FOR HEADER SIZE & JAMB STUDS REQUIRED AT WALL OPENING.
- (2) ALL EXTERIOR WALL ARE CONSIDERED SHEARWALLS AND SHOULD BE CONSTRUCTED PER G.S.N. & SCHEDULE/DETAIL 1/56.1.
- (3) "SP 1" ON ROOF FRAMING PLAN INDICATES STUD PACKS BELOW LVL BEAM BEARING (3) 2X6 STUDS BELOW GIRDER TRUSS BEARING, BLOCKED THRU FLOOR & CONT. TO FOUNDATION WALL BELOW.
- (4) (3) 5 1/2" LVL'S @ SECOND FLOOR LEVEL- SEE DETAIL 2/55.1- LAP EA. PLY AT CORNERS & SCREW TOGETHER & TO LOWER WALL TOP PLATES.
- (5) SIMPSON OUTDOOR ACCENTS FACE MOUNT HANGER (F=1,700LB CAPACITY)- ATTACH THRU SHEATHING TO BLK'G BEHIND SHT'G IN FOAM SPACE- FASTEN BLK'G IN SHT'G SPACE TO STUDS W/ (5) 5/16" DIA. SIMPSON SDMS SCREWS- (4 EA. SIDE OF TIMBER BM.)
- (6) ALL STEEL TIMBER POST BASE, POST CAPS AND HANGER CONNECTION TO BE FINISHED IN BLACK.
- (7) ALL TIMBER SIZES SHOWN ARE NOMINAL AND ACTUAL SIZES ARE 1/2" SMALLER THAN THAT SHOWN.
- (8) F.F.E. - INDICATES FINISHED FLOOR ELEVATION OF (GYPCRETE)
F.S.E.- INDICATES FINISHED FLOOR SHEATHING ELEVATION.

WOOD HEADER SCHEDULE					
MARK	HEADER	JAMB		SILL	MAX. ROUGH OPEN'G
		KING STUDS	JACK STUDS		
A	(3) 2x8	(2) 2x6	(1) 2x6	(2) 2x6	3'-0"
B	(3) 2x10	(2) 2x6	(1) 2x6	(2) 2x6	5'-0"
C	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(2) 2x6	(2) 2x6	9'-0"
D	(3) 1 3/4"x16" LVL	(2) 5 1/2" LVL	(3) 5 1/2" LVL	N/A	12'-0"
E	(3) 1 3/4"x7 1/4" LVL	(2) 2x6	(1) 2x6	(2) 2x6	3'-0"
F	(4) 1 3/4"x24" LVL	(4) 7 1/4" LVL	-	N/A	12'-0"
WOOD HEADER SCHEDULE NOTES: (1) SEE TYPICAL FRAMING DETAILS FOR STANDARD WOOD HEADER/SILL FRAMING DETAIL.					



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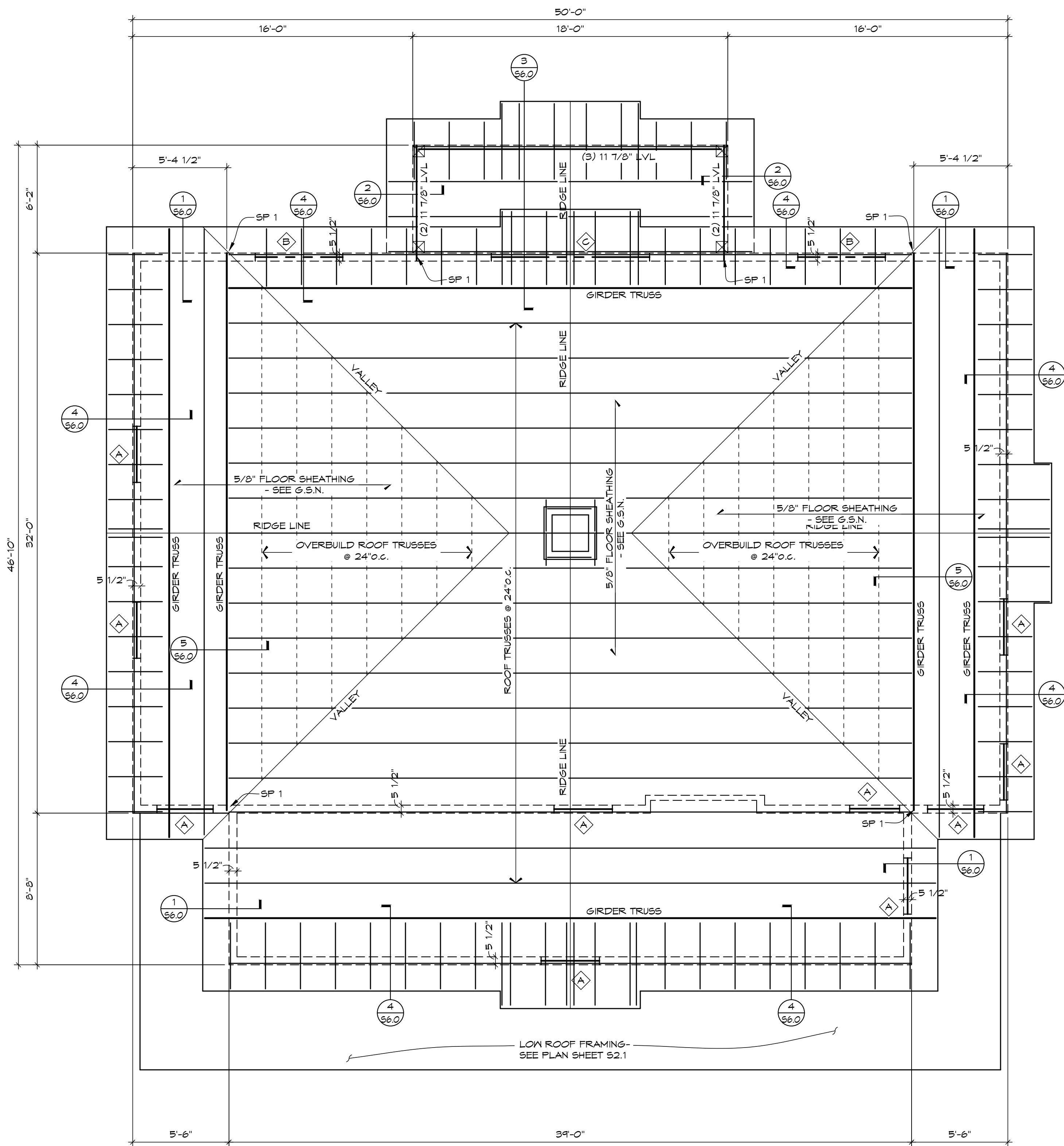
PROJECT #: C2663A-A
CONTACT : CHRIS
SCALE: AS NOTED
FLOOR/LOW ROOF
FRAMING PLAN



8/7/2026

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ROOF FRAMING PLAN

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



PLAN NOTES:

- (1) INDICATES WOOD HEADER- SEE PLAN & WOOD HEADER SCHEDULE FOR HEADER SIZE & JAMB STUDS REQUIRED AT WALL OPENING.
- (2) ALL EXTERIOR WALL ARE CONSIDERED SHEARWALLS AND SHOULD BE CONSTRUCTED PER G.S.N. & SCHEDULE/DETAIL 1/3&1.
- (3) "SP 1" ON ROOF FRAMING PLAN INDICATES STUD PACKS BELOW LVL BEAM BEARING (3) 2x6 STUDS BELOW GIRDER TRUSS BEARING, BLOCKED THRU FLOOR & CONT. TO FOUNDATION WALL BELOW.

WOOD HEADER SCHEDULE					
MARK	HEADER	JAMB		SILL	MAX. ROUGH OPENING
		KING STUDS	JACK STUDS		
A	(3) 2x8	(2) 2x6	(1) 2x6	(2) 2x6	3'-0"
B	(3) 2x10	(2) 2x6	(1) 2x6	(2) 2x6	5'-0"
C	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(2) 2x6	(2) 2x6	9'-0"
D	(3) 1 3/4"x16" LVL	(2) 5 1/2" LVL	(3) 5 1/2" LVL	N/A	12'-0"
E	(3) 1 3/4"x7 1/4" LVL	(2) 2x6	(1) 2x6	(2) 2x6	3'-0"
F	(4) 1 3/4"x24" LVL	(4) 7 1/4" LVL	-	N/A	12'-0"

WOOD HEADER SCHEDULE NOTES:
(1) SEE TYPICAL FRAMING DETAILS FOR STANDARD WOOD HEADER/SILL FRAMING DETAIL.



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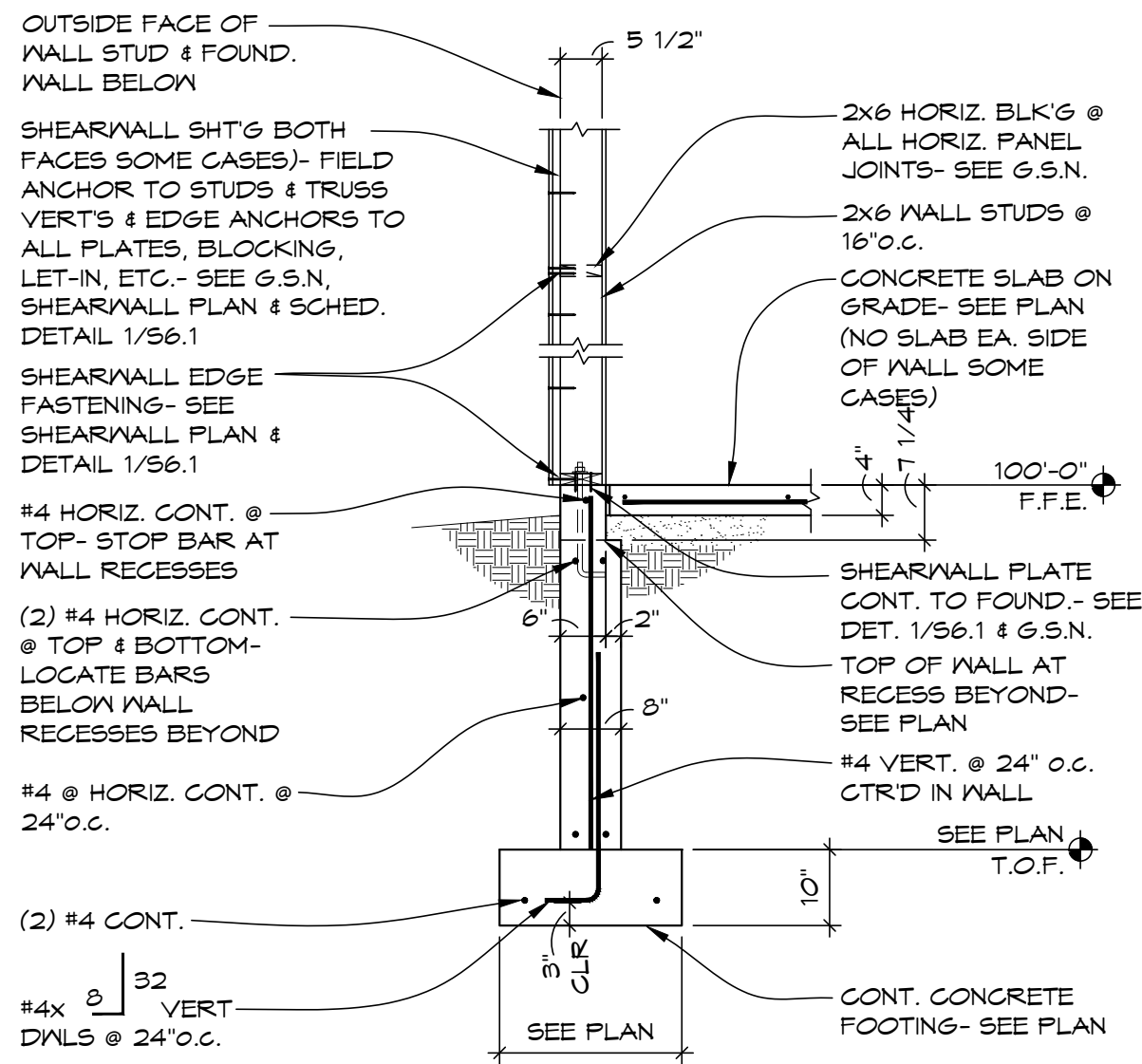
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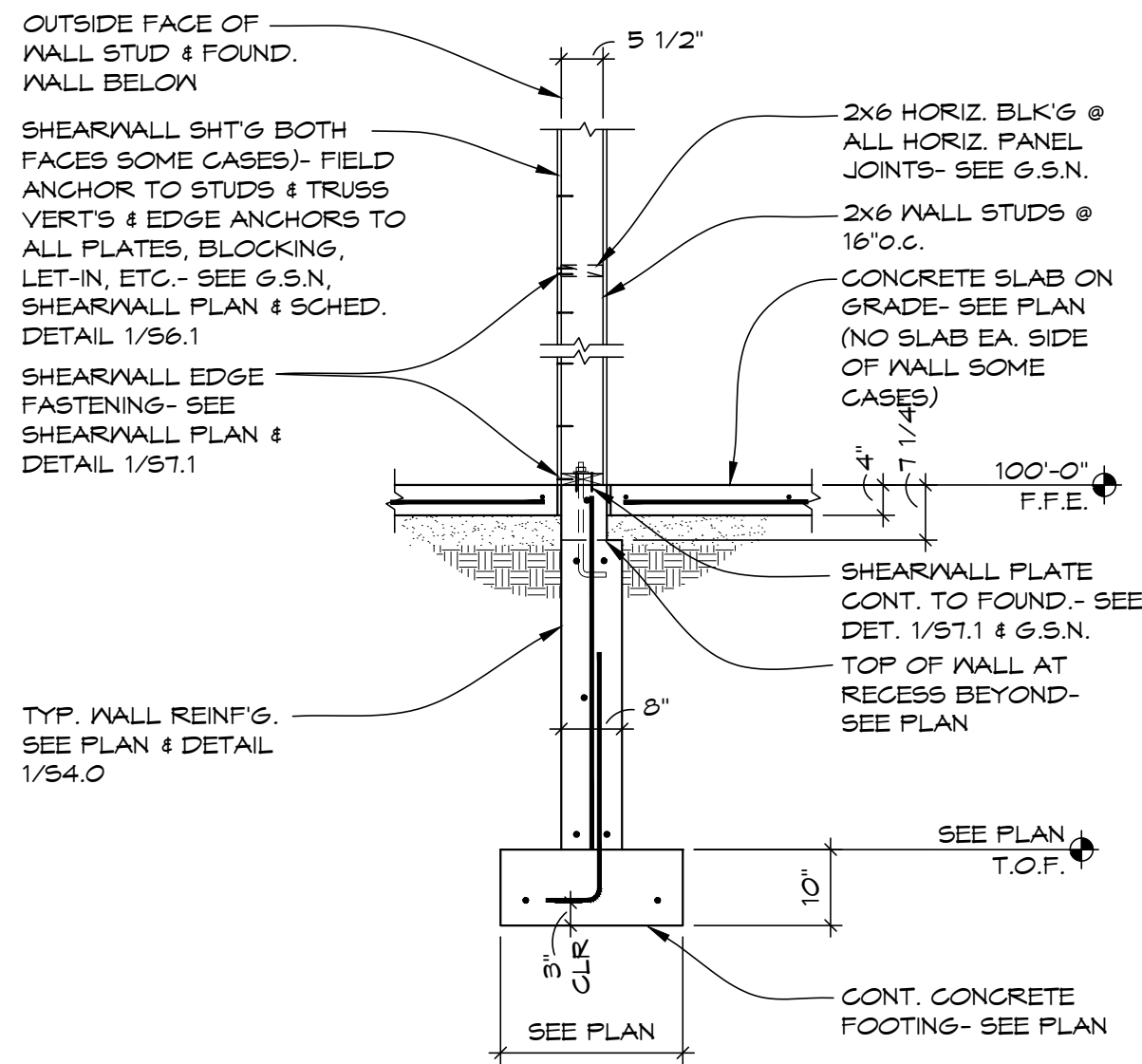
PROJECT #: C2663A-A
CONTACT: CHRIS
SCALE: AS NOTED
ROOF FRAMING PLAN



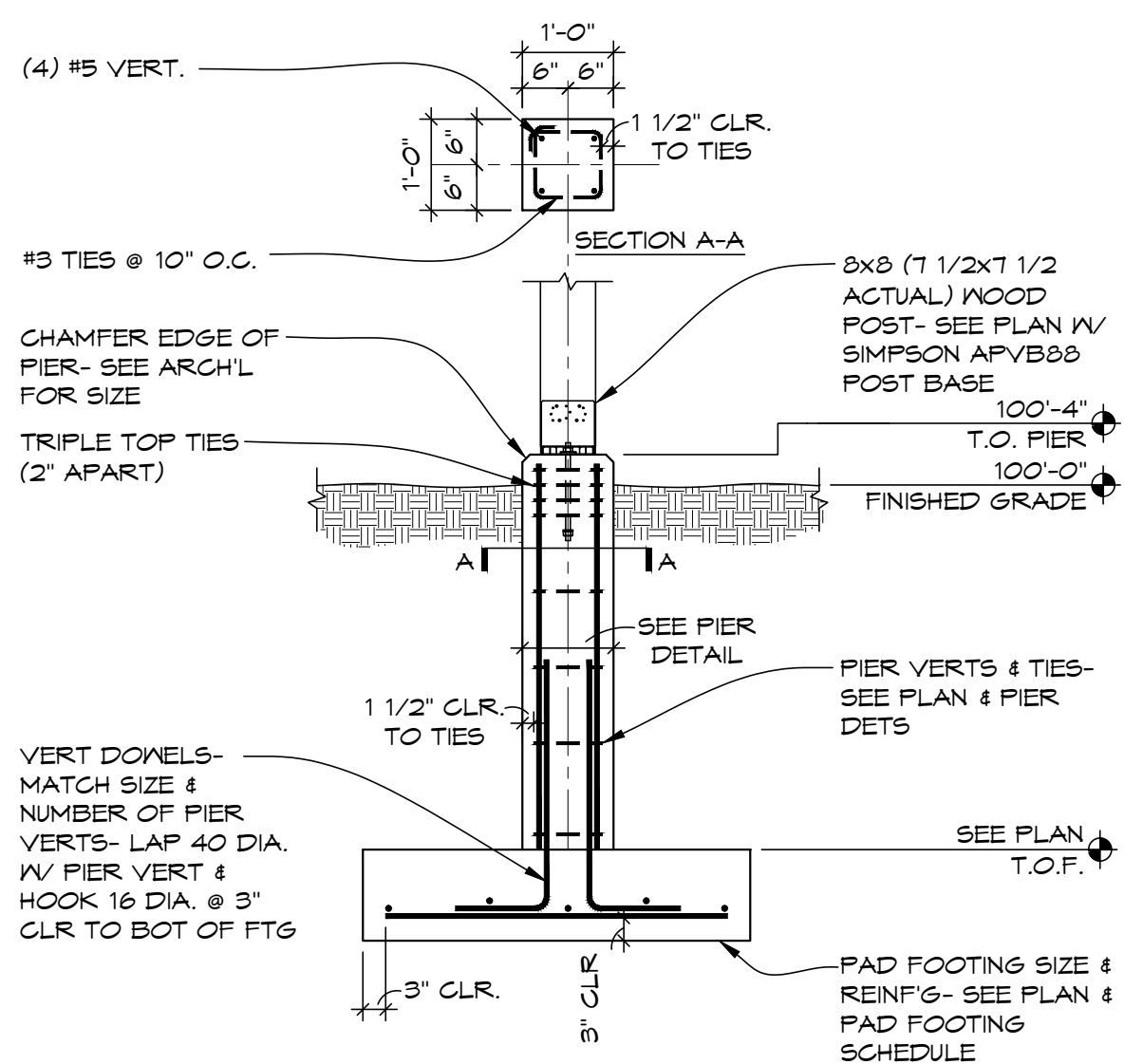
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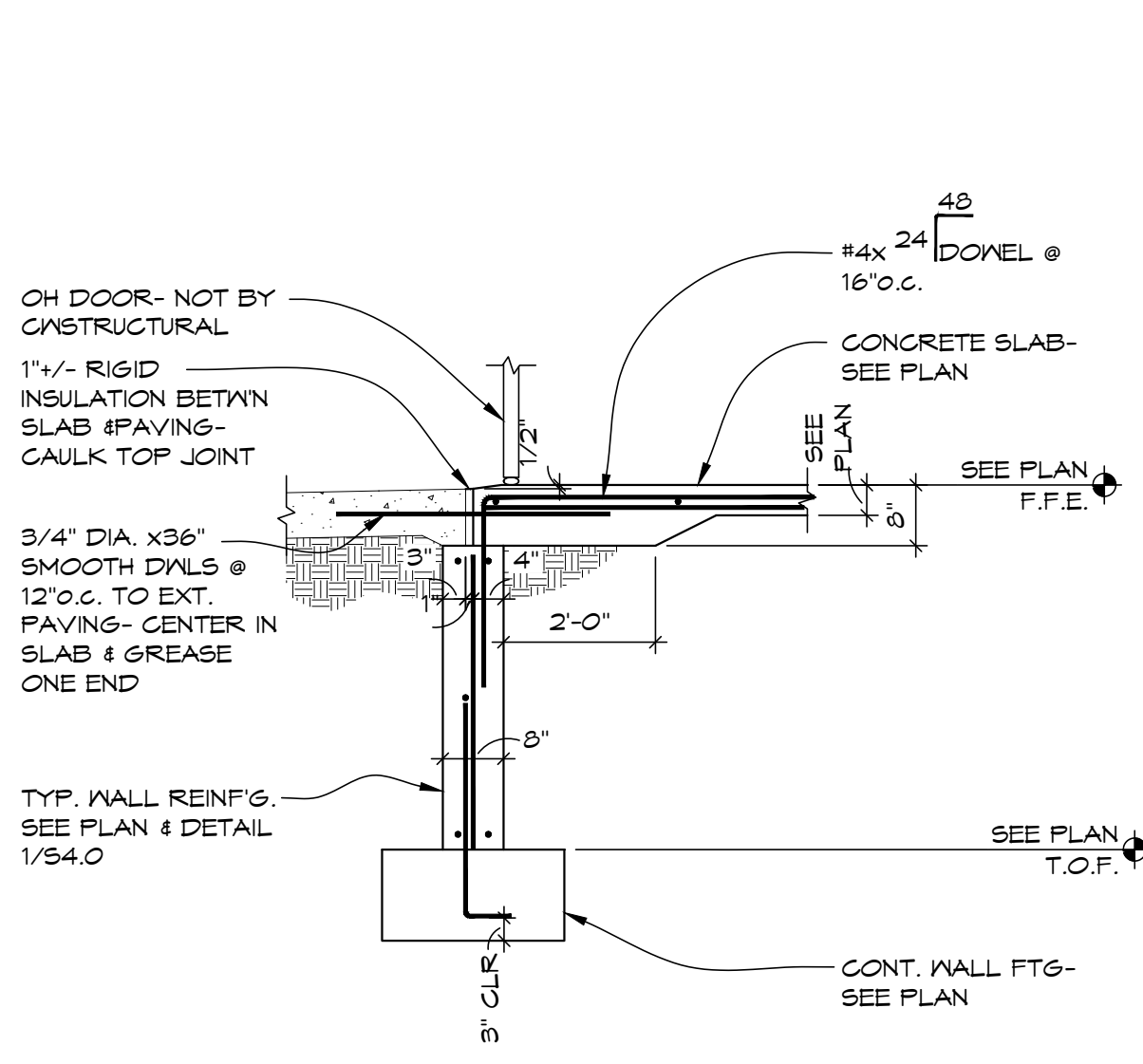
1 FOUNDATION WALL SECTION
SCALE: 1/2"=1'-0"



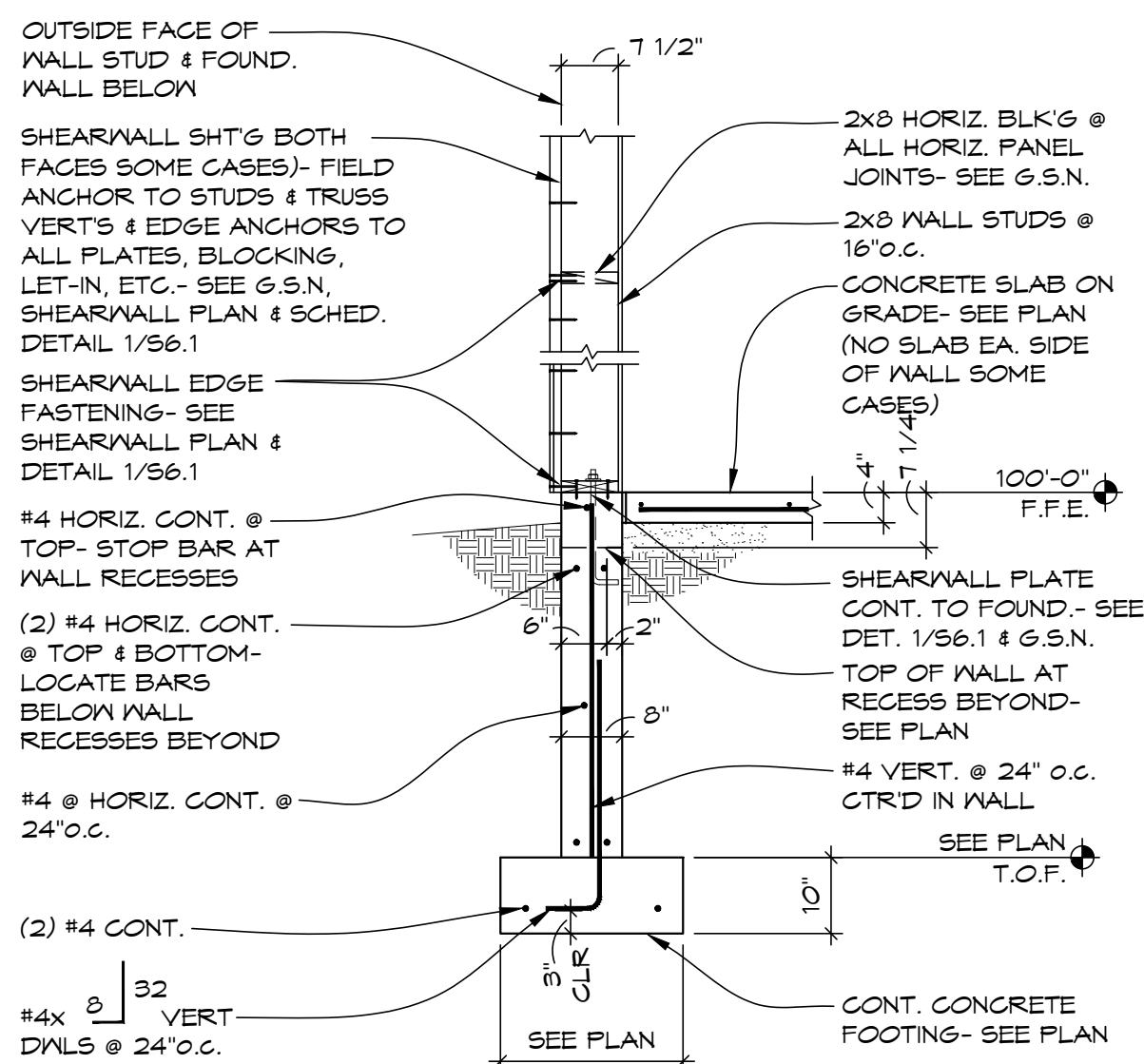
2 FOUNDATION WALL SECTION
SCALE: 1/2"=1'-0"



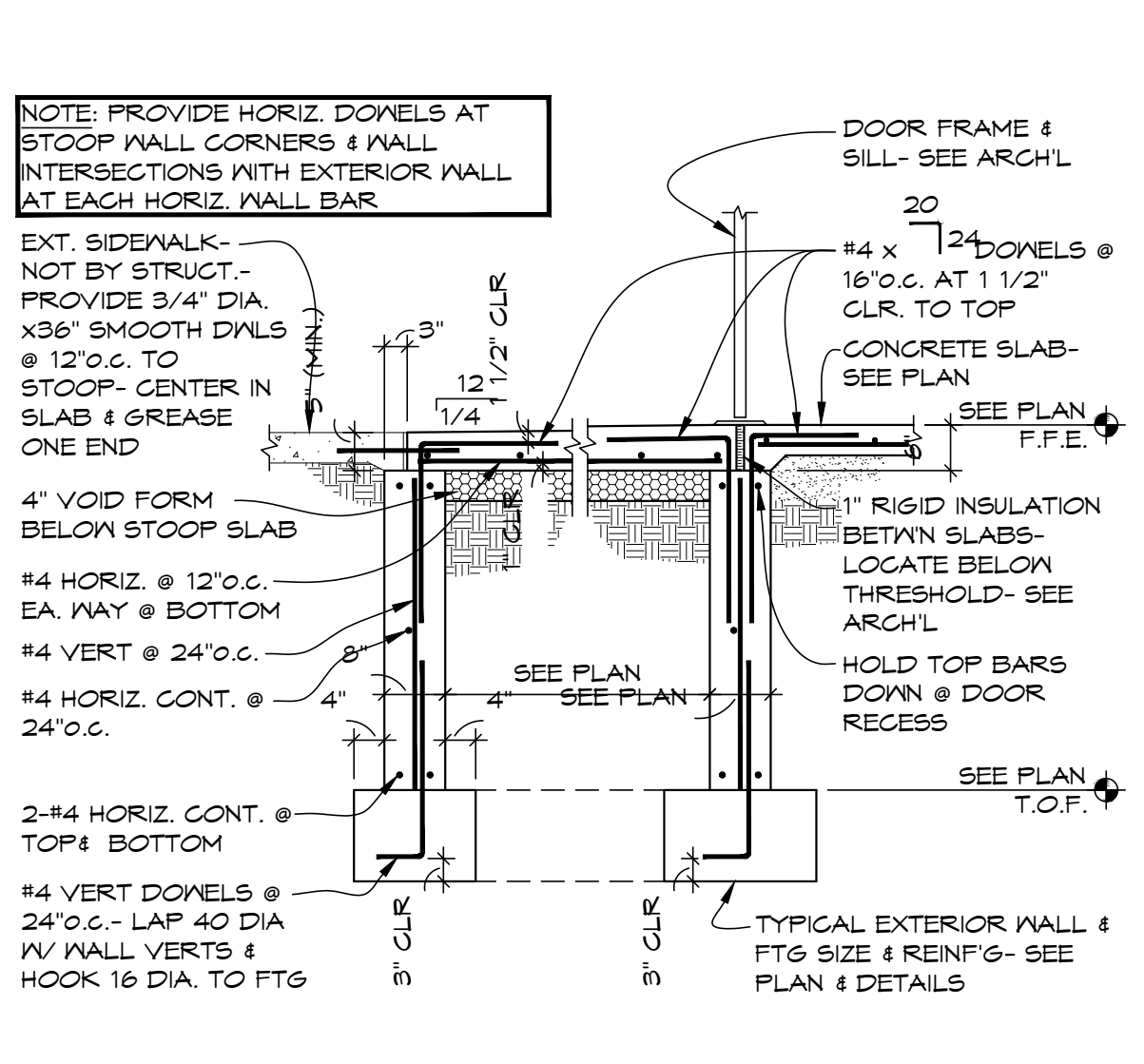
3 INTERIOR COLUMN PIER & PAD FOOTING
SCALE: 1/2"=1'-0"



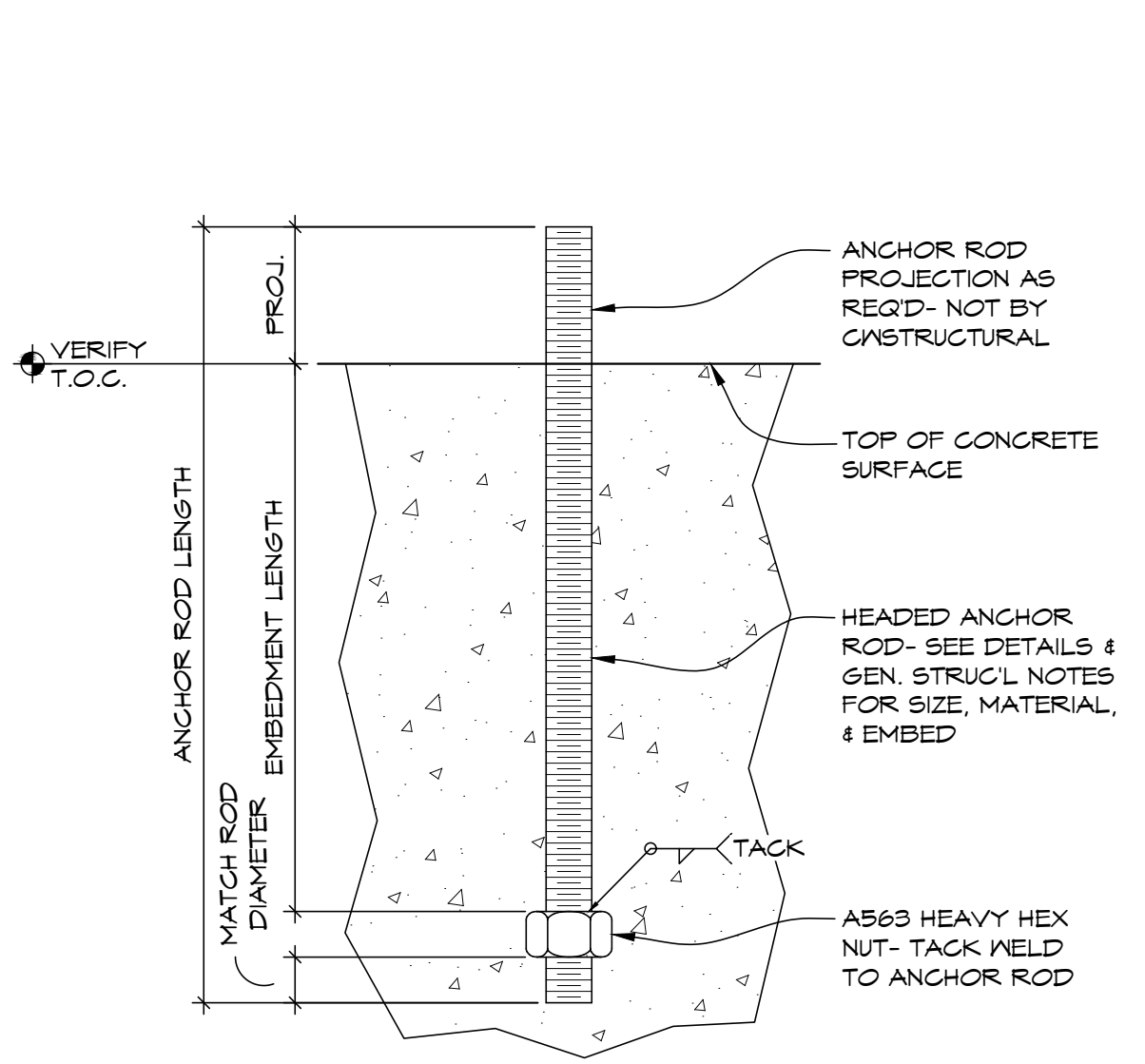
4 TYP. FLOOR SLAB REINF'G AT O.H. DOOR
SCALE: 1/2"=1'-0"



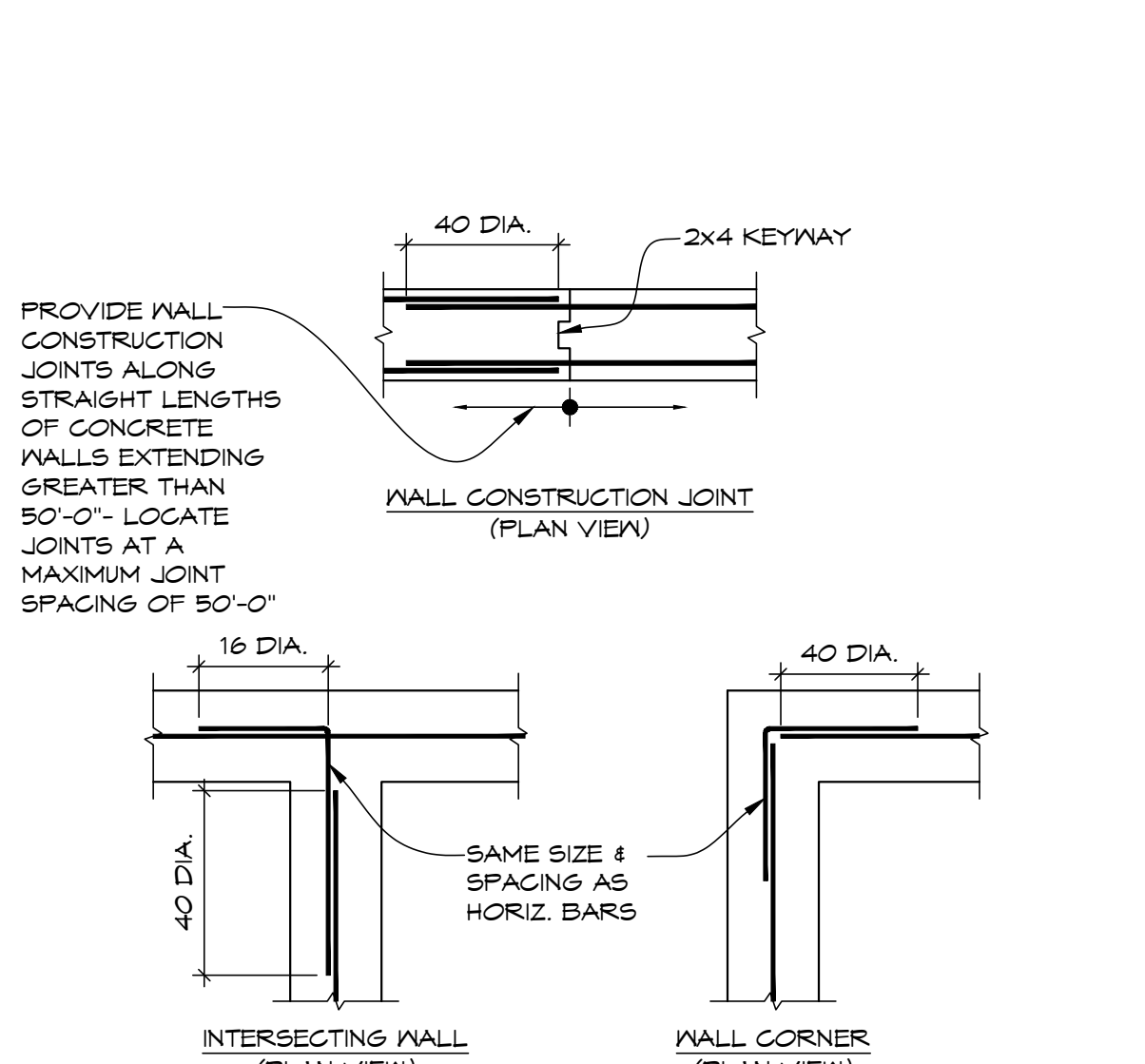
5 FOUNDATION WALL SECTION
SCALE: 1/2"=1'-0"



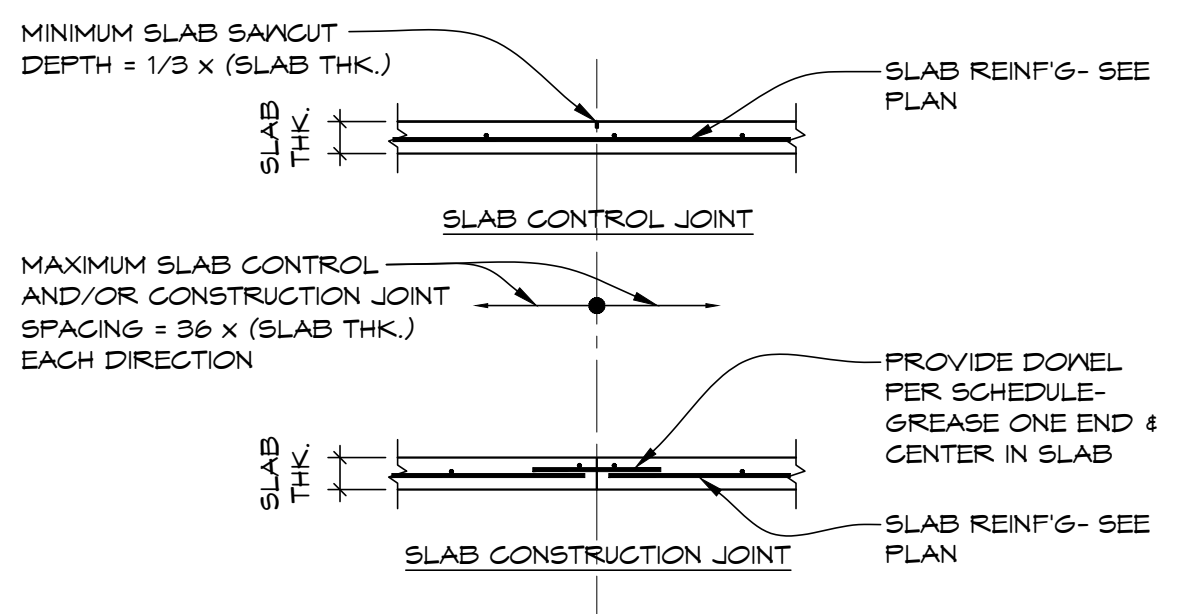
6 TYP. ENTRY STOOP FOUNDATION REINF'G
SCALE: 1/2"=1'-0"



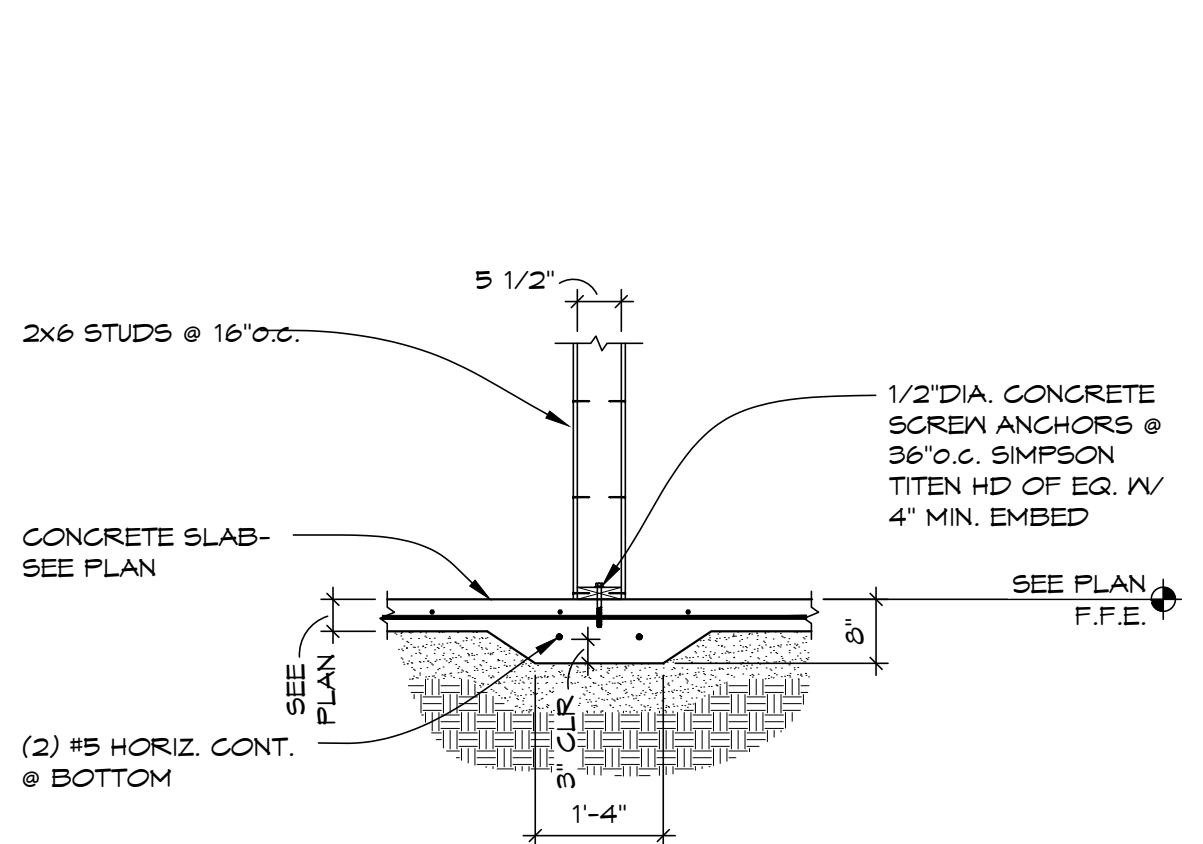
A TYPICAL HEADED ANCHOR ROD DETAIL
SCALE: NONE



B TYP. CONCRETE WALL REINFORCING DETS
SCALE: NO SCALE

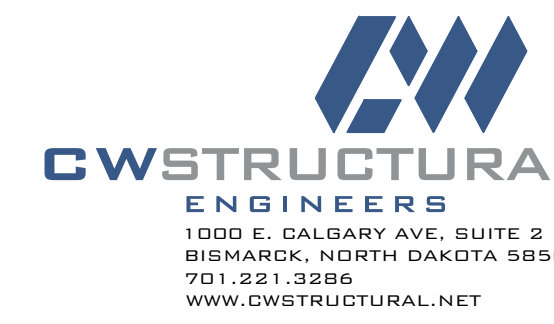


C TYPICAL SLAB-ON-GRADE JOINTING DETAIL
SCALE: NO SCALE



D TYP. THICK'D SLAB BELOW STAIR WALL
SCALE: 1/2"=1'-0"

SLAB DOMEL SCHEDULE			
SLAB THICKNESS	DIAMETER	LENGTH	SPACING
4"	1/2"	16"	18"



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4	CITY SUB. 1		
5	CITY SUB. 2		
6	CONSTR. REV 1		
7	CONSTR. REV 2		
8	CONSTR. REV 3		

PROJECT #: C2683A-A
CONTACT: CHRIS
SCALE: AS NOTED
FOUNDATION DETAILS

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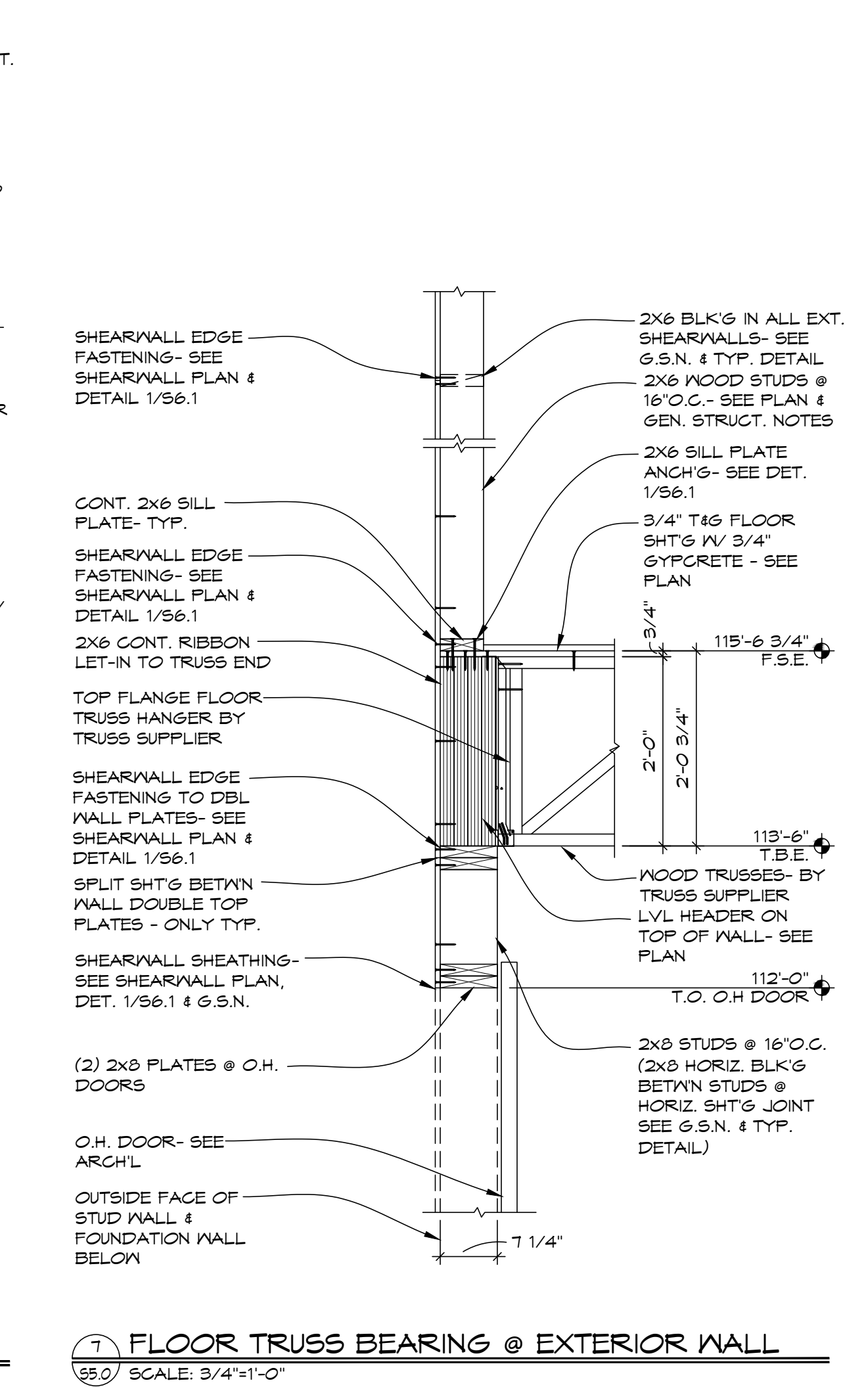
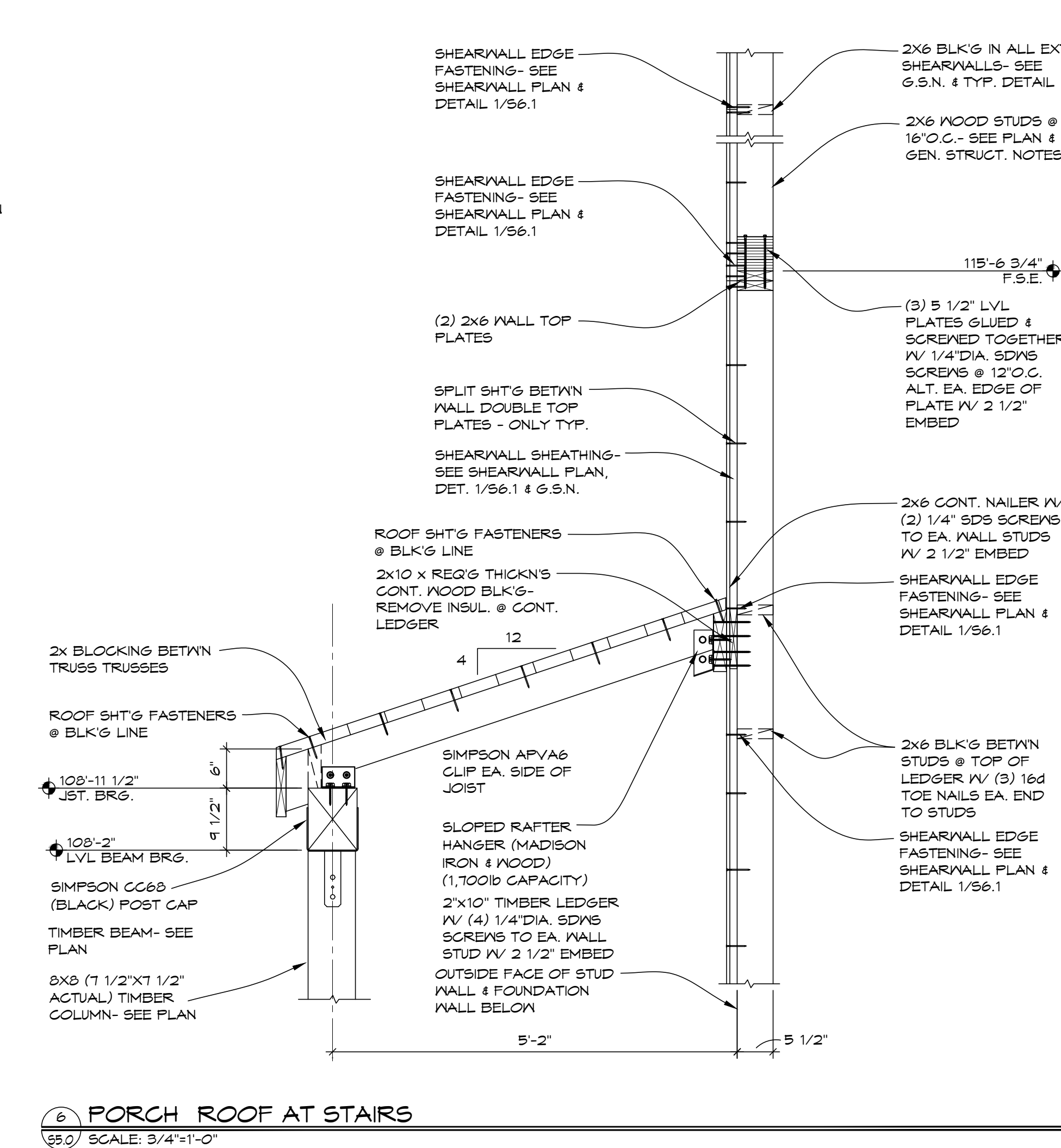
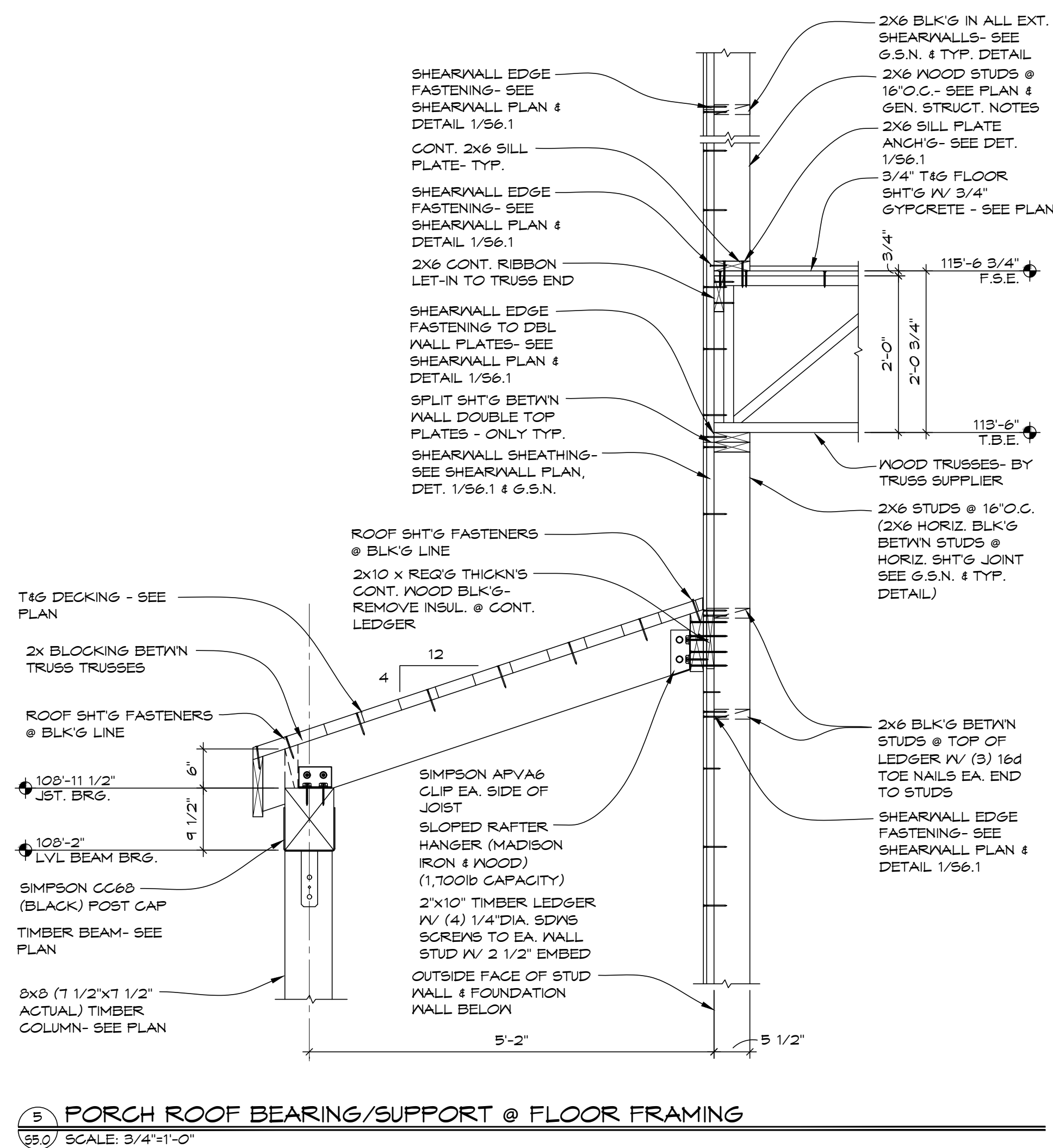
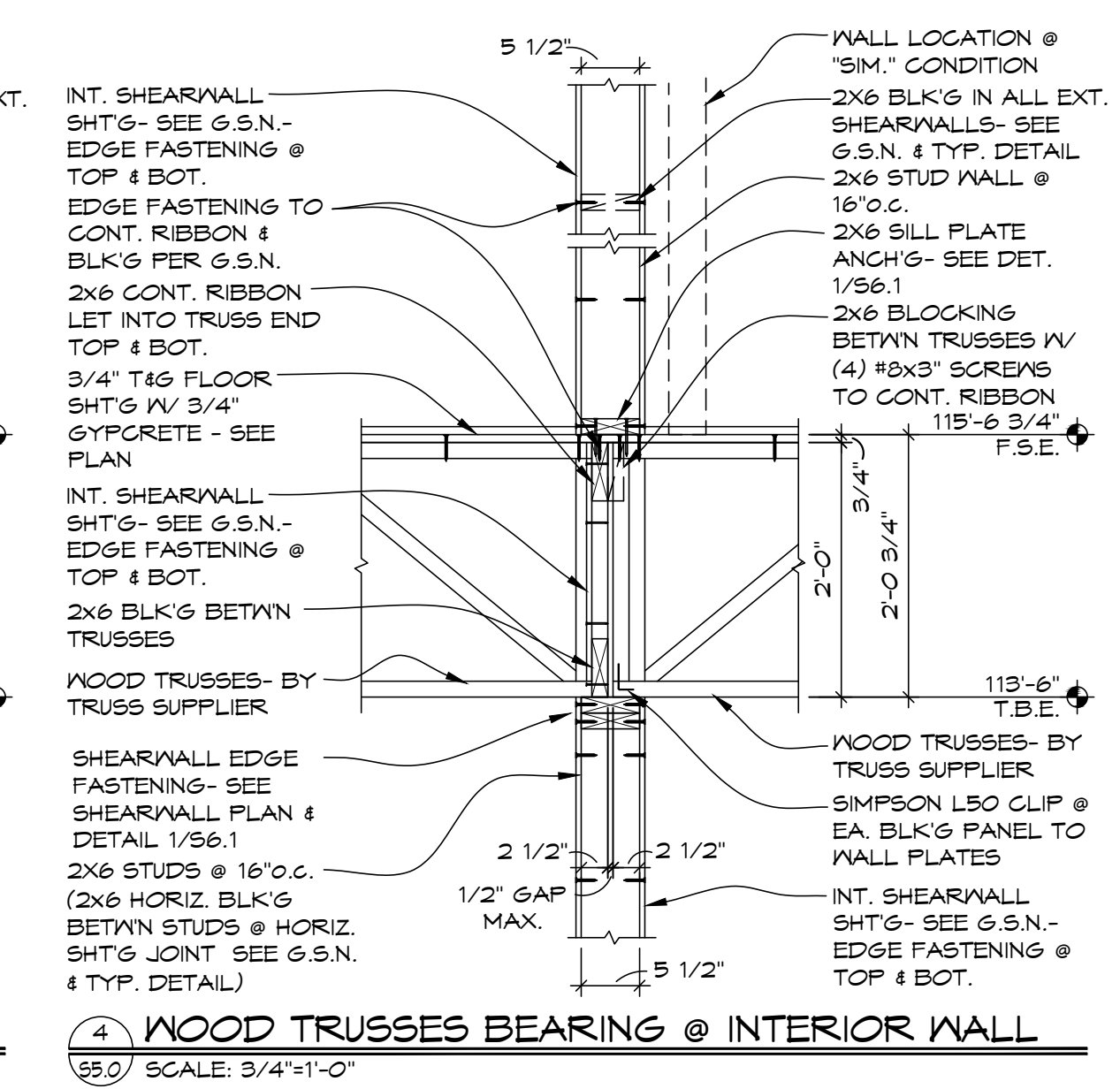
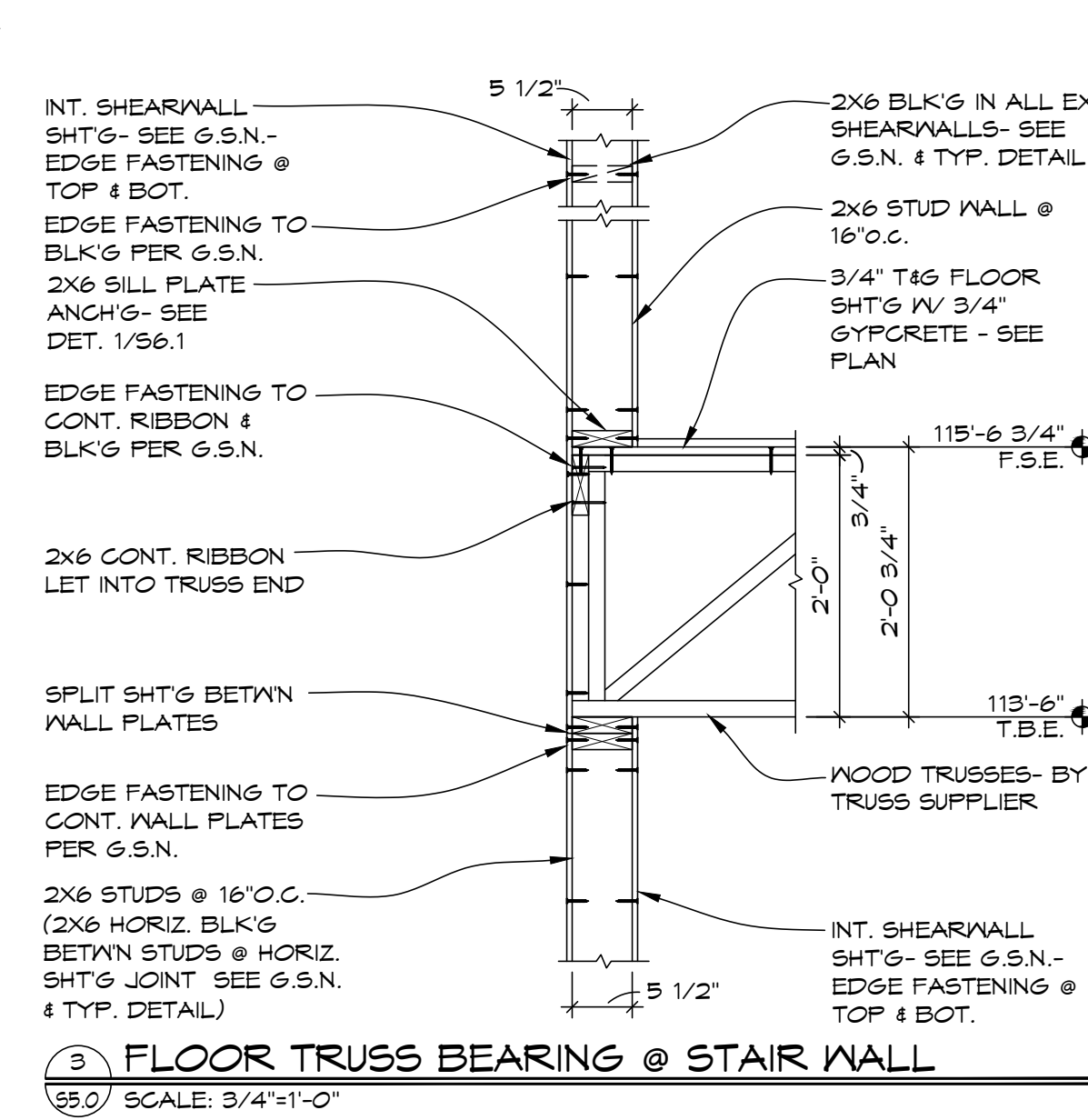
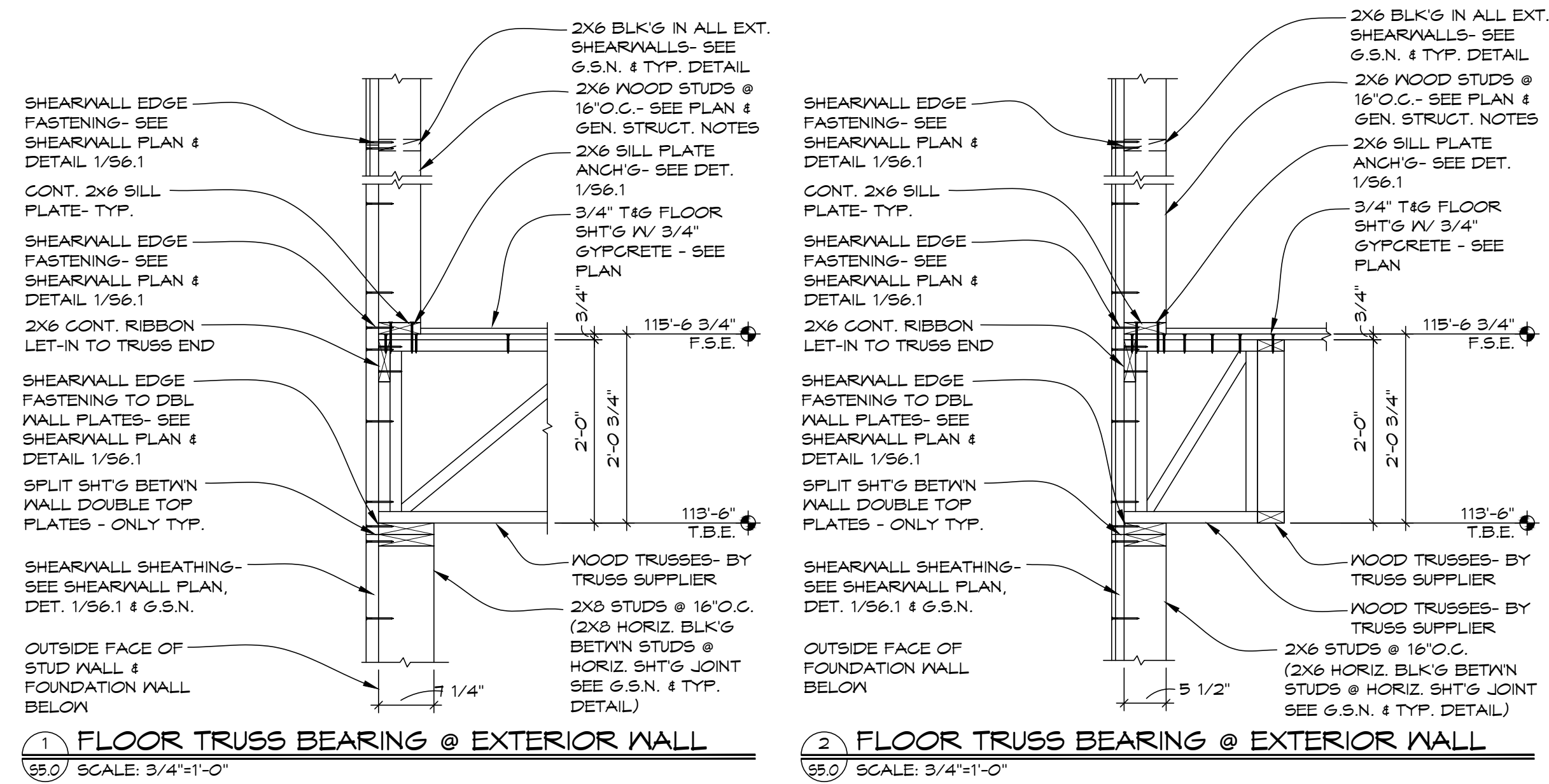
PROJECT # : C2663A-A
CONTACT : CHRIS
SCALE: AS NOTED
FLOOR / LOW ROOF FRAMING DETAILS

DATE: 8/7/26

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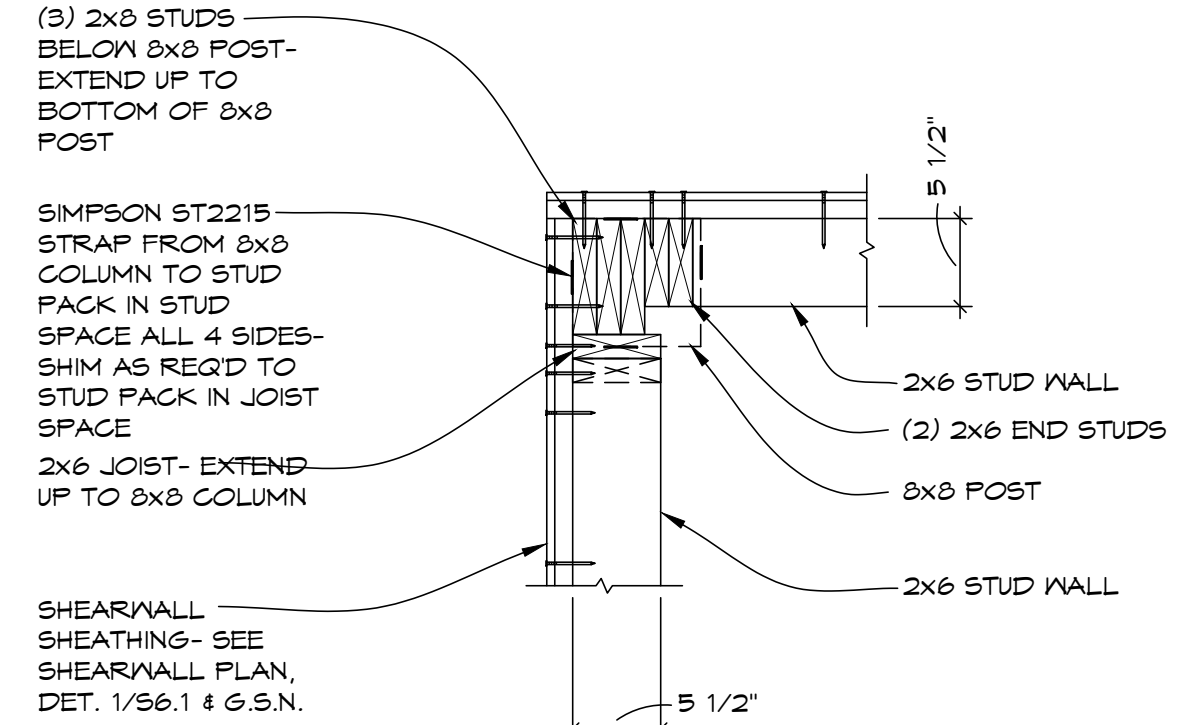
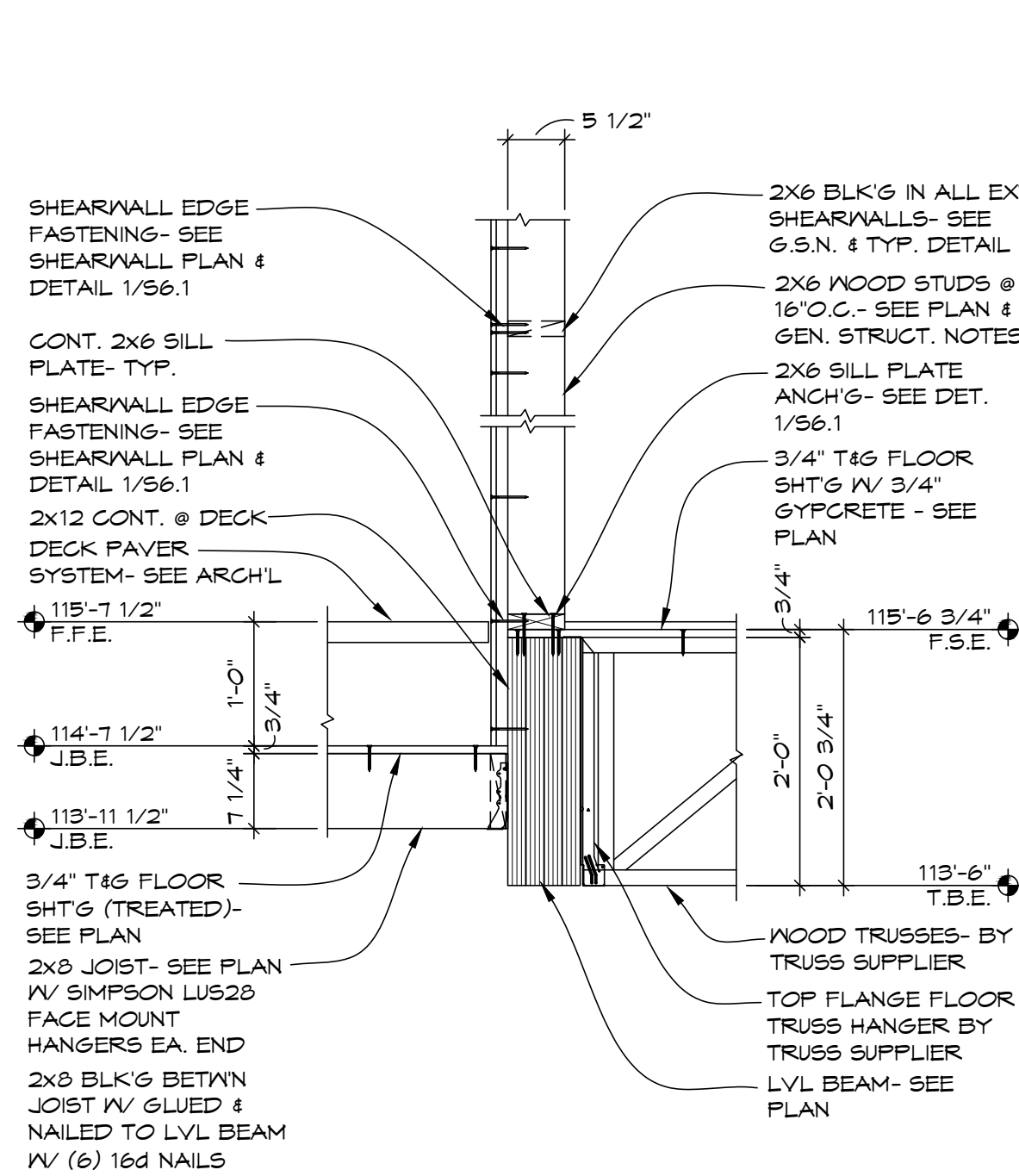
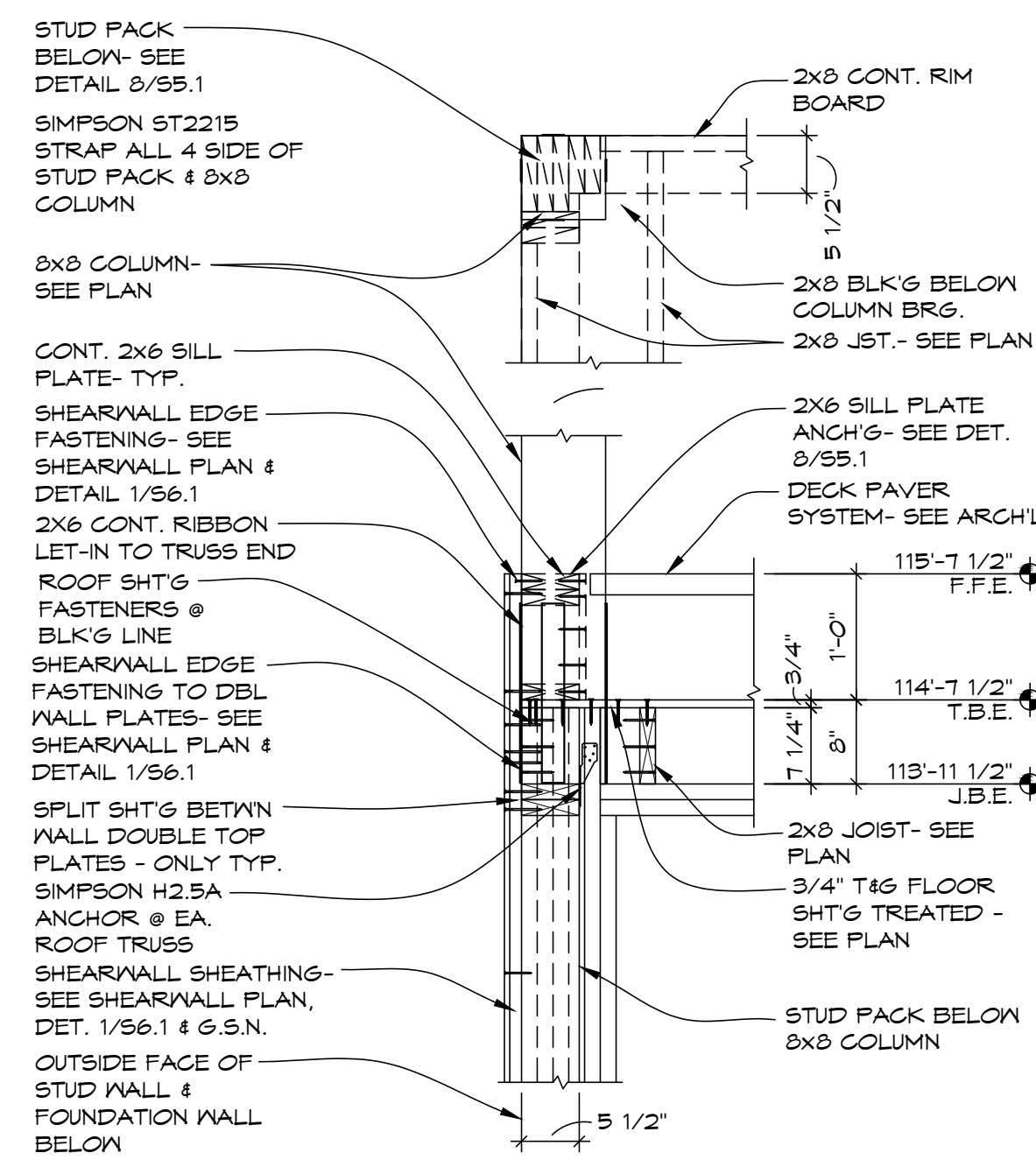
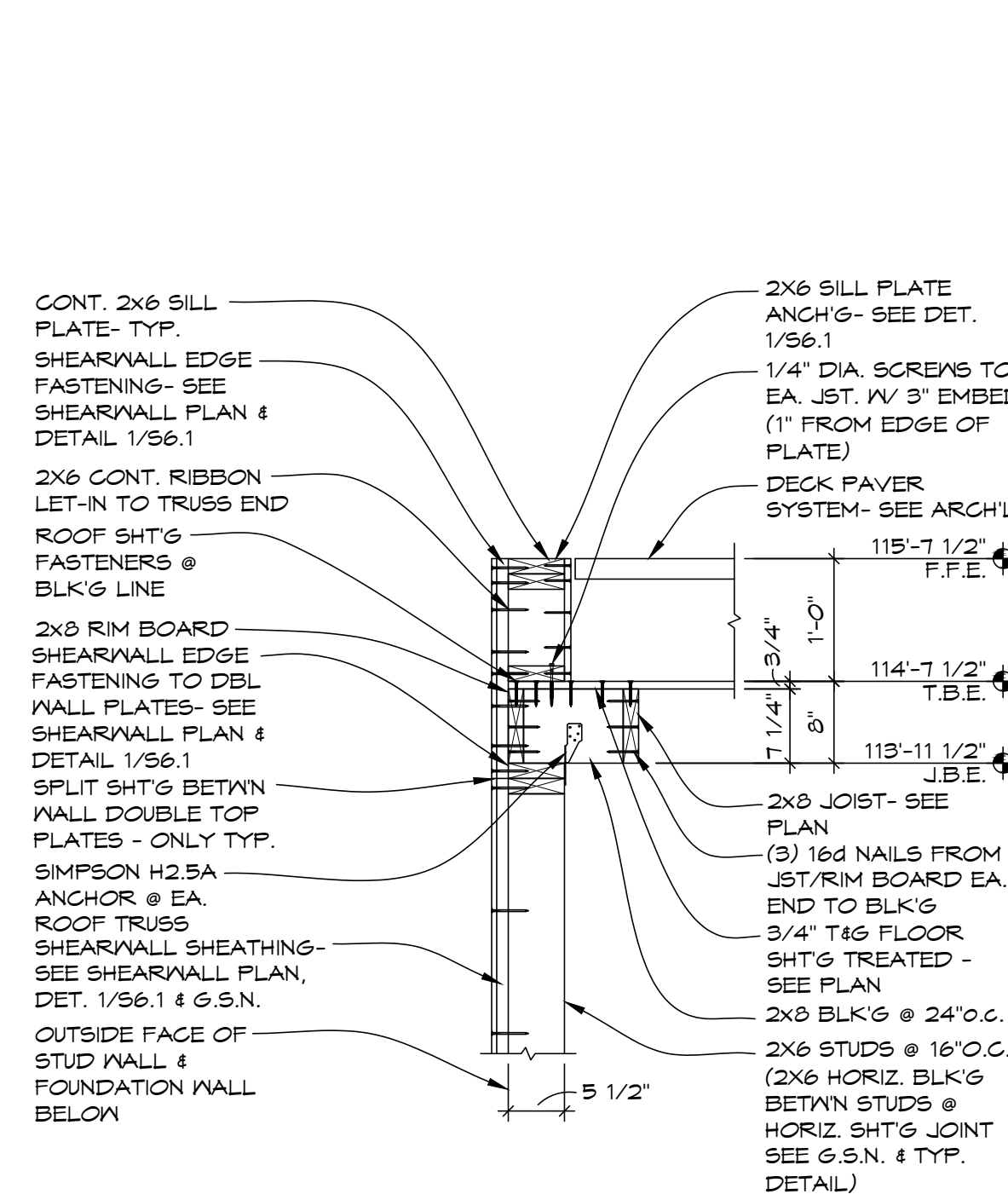
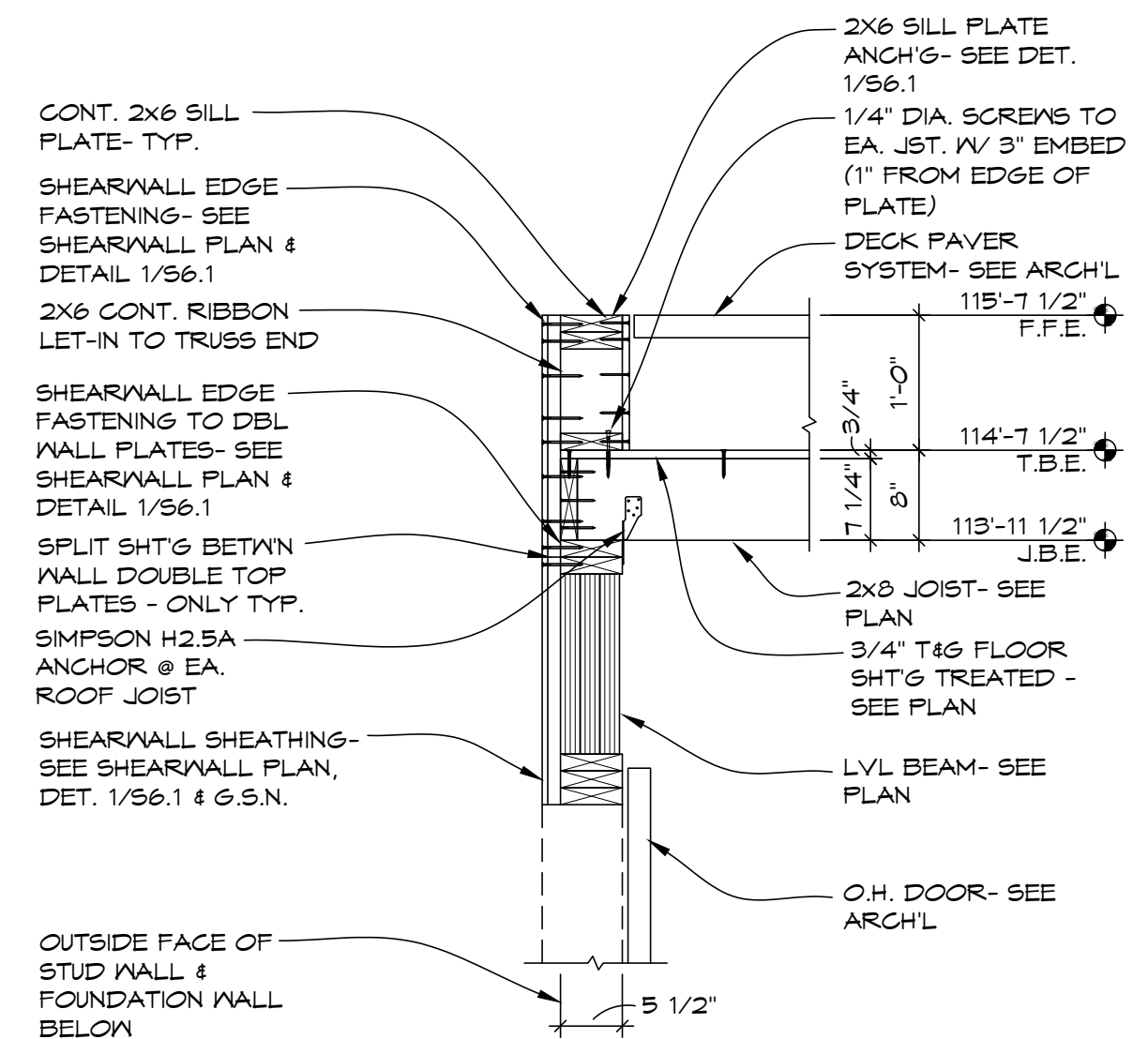
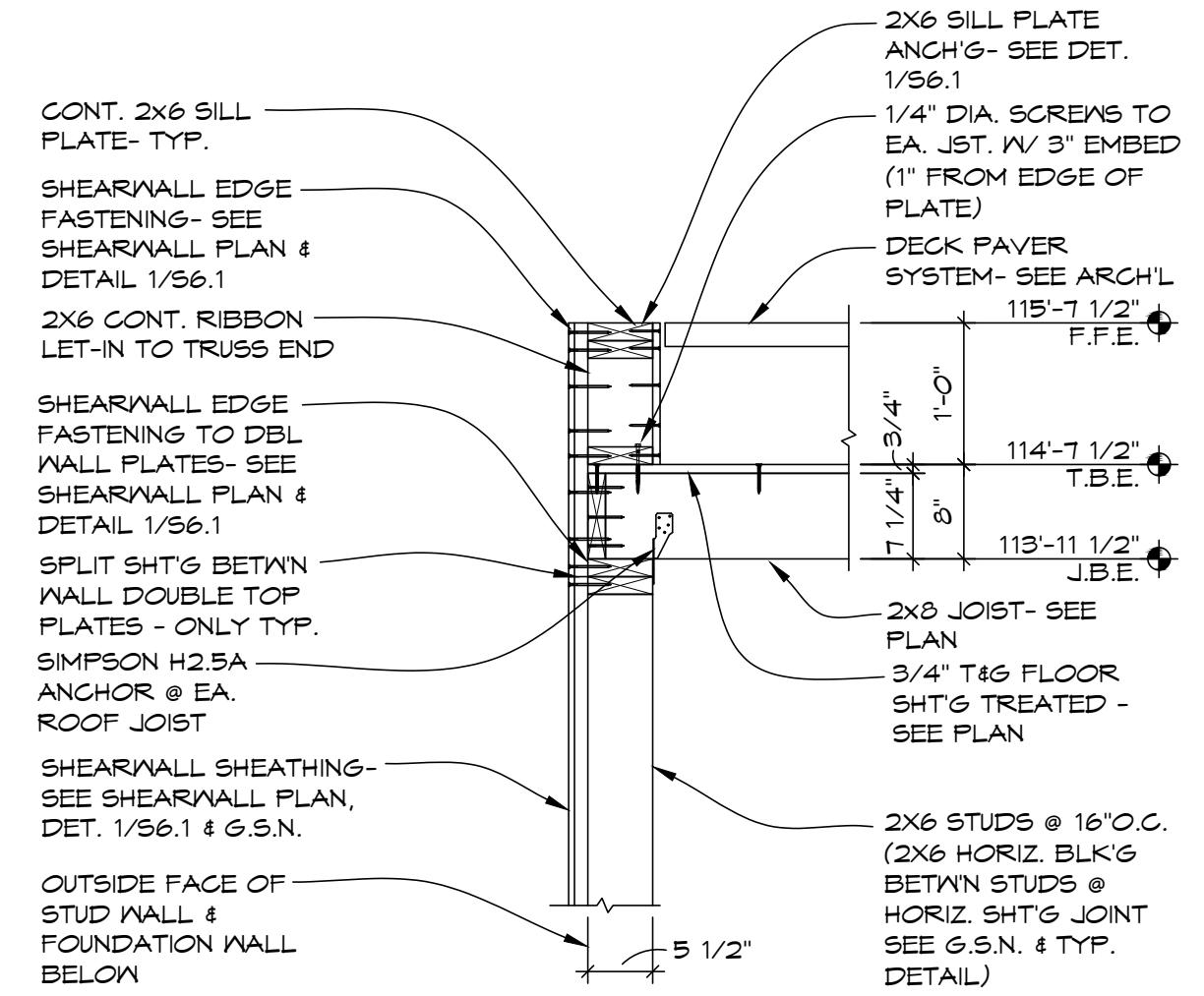
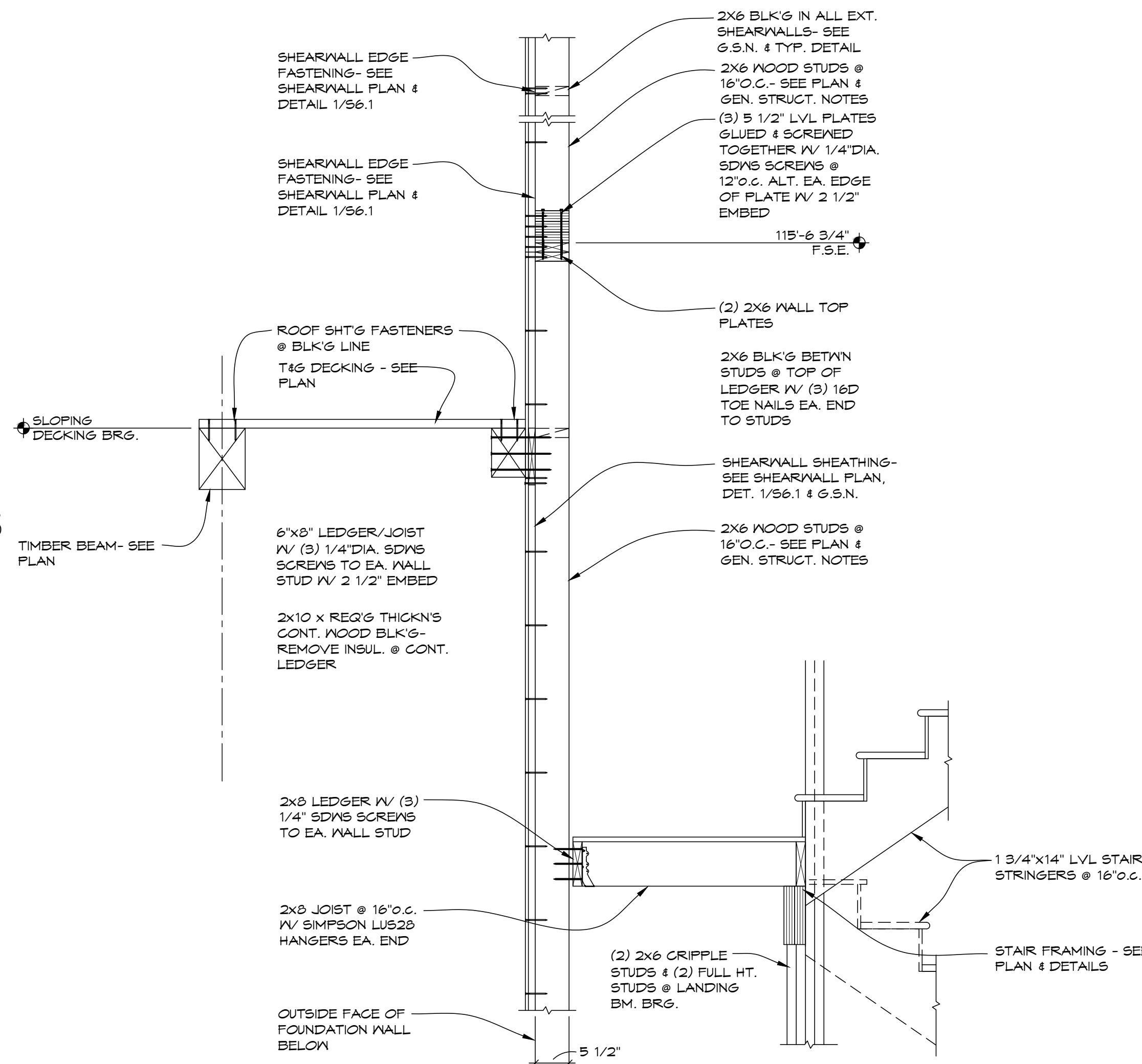
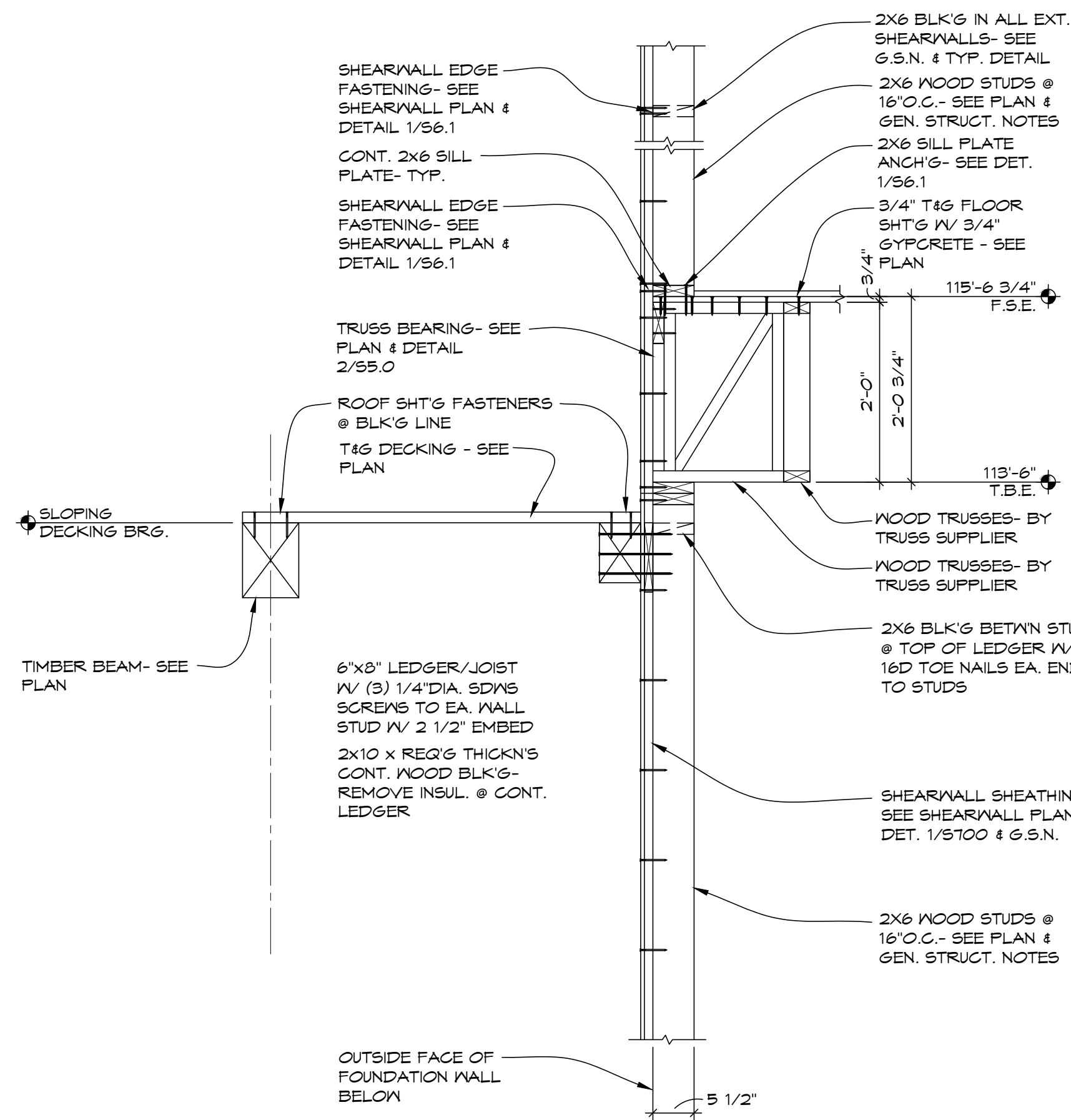
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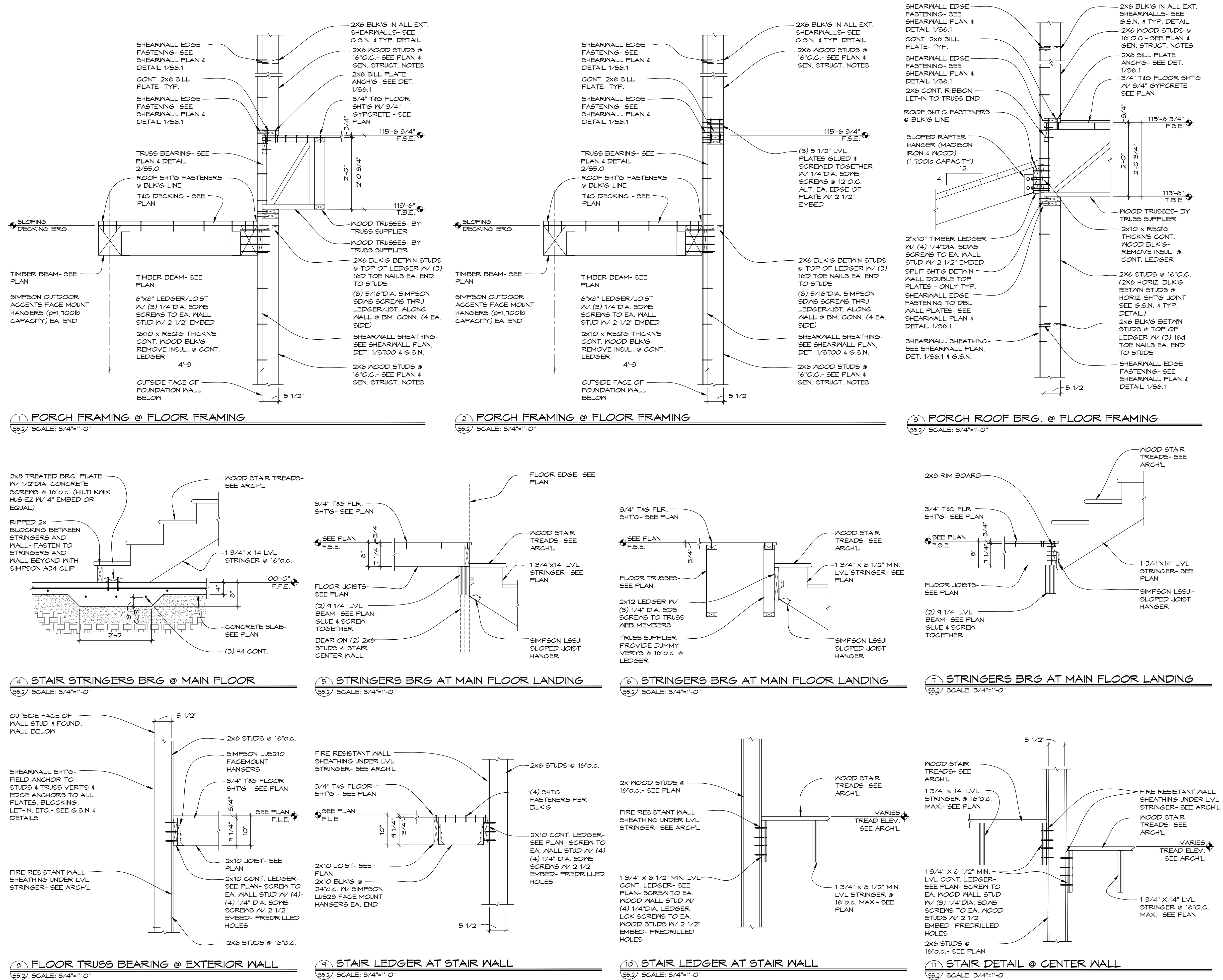

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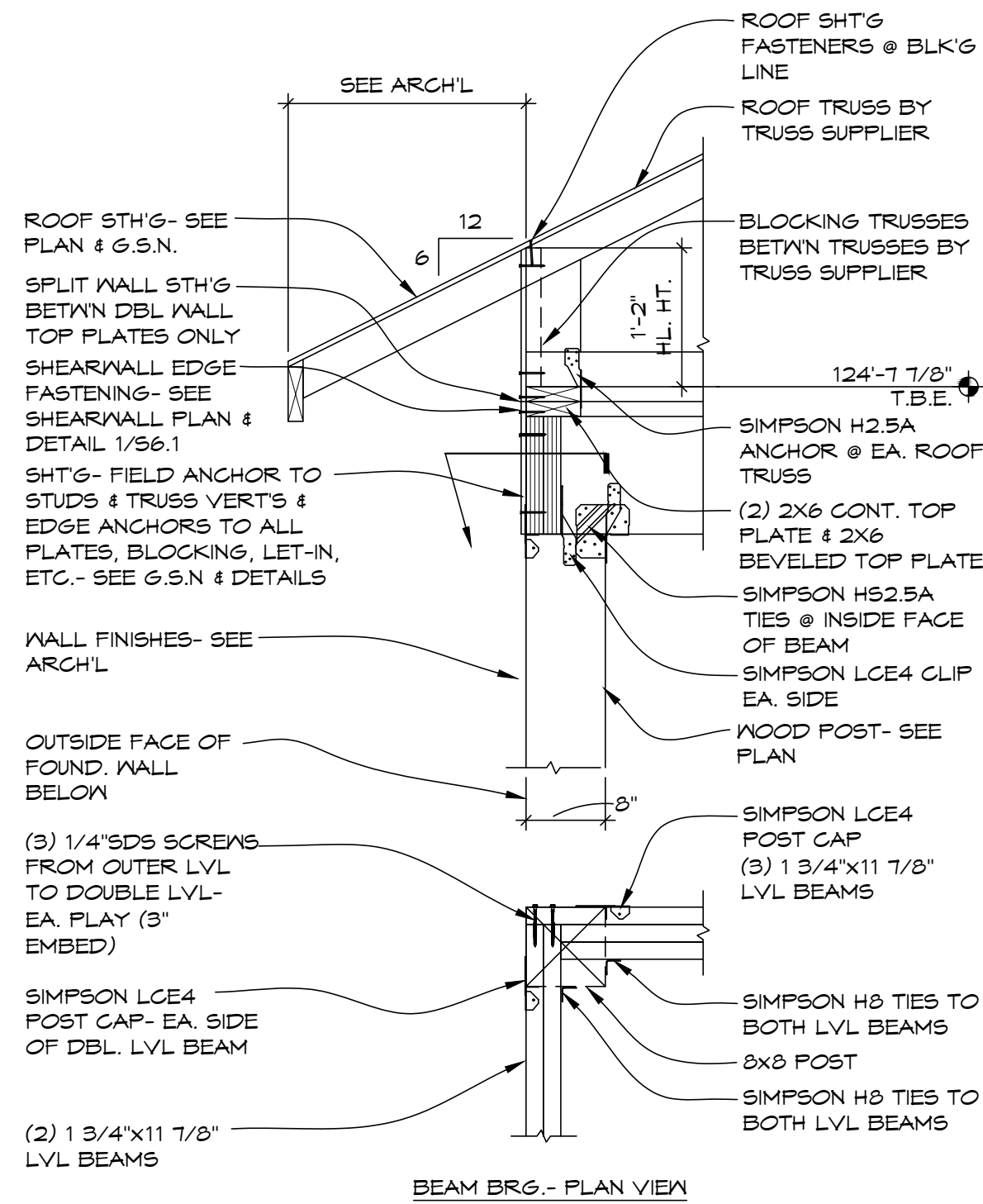
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PROJECT # : C2663A-A
CONTACT : CHRIS
SCALE: AS NOTED
ROOF FRAMING DETAILS

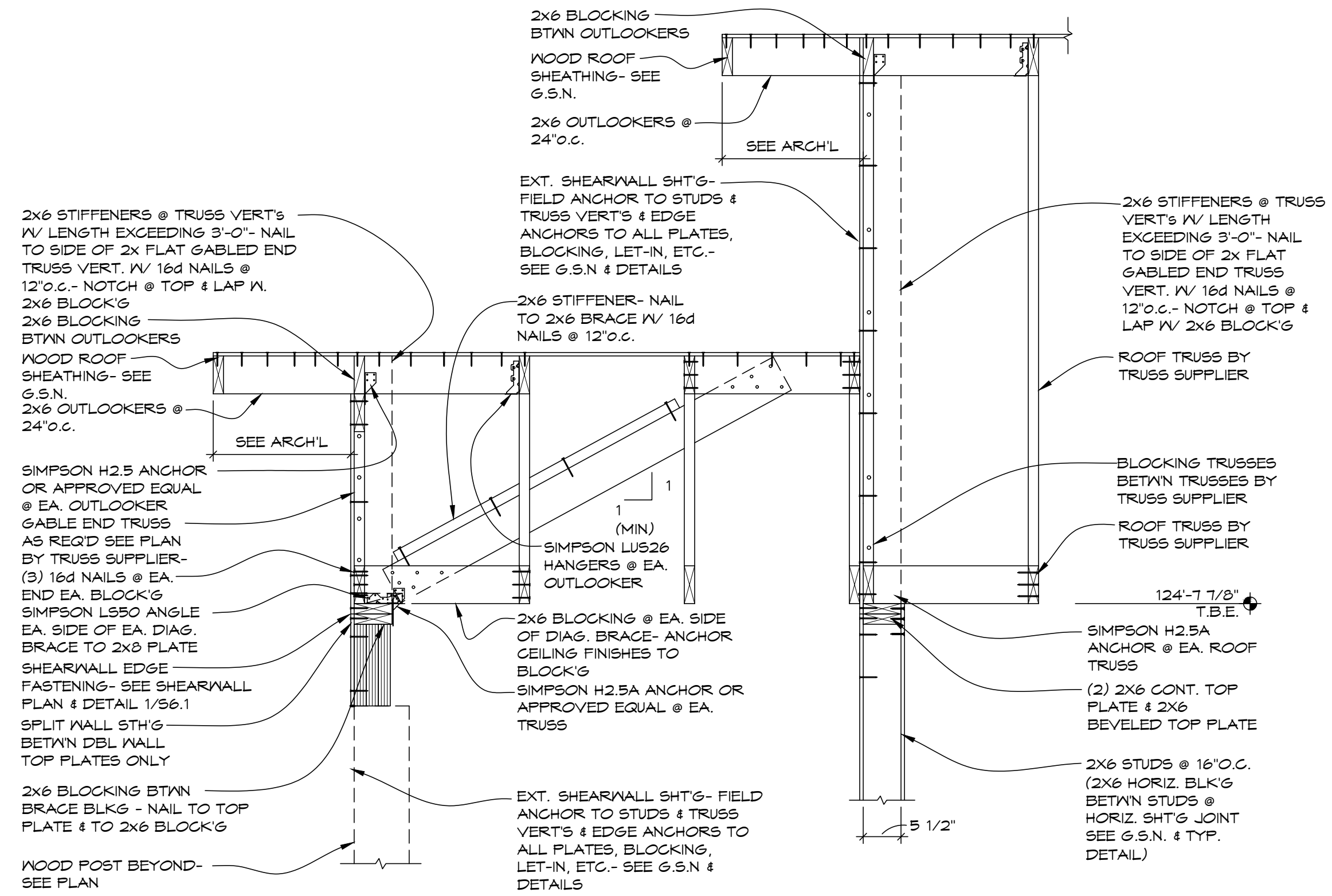
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DATE: 8/7/26

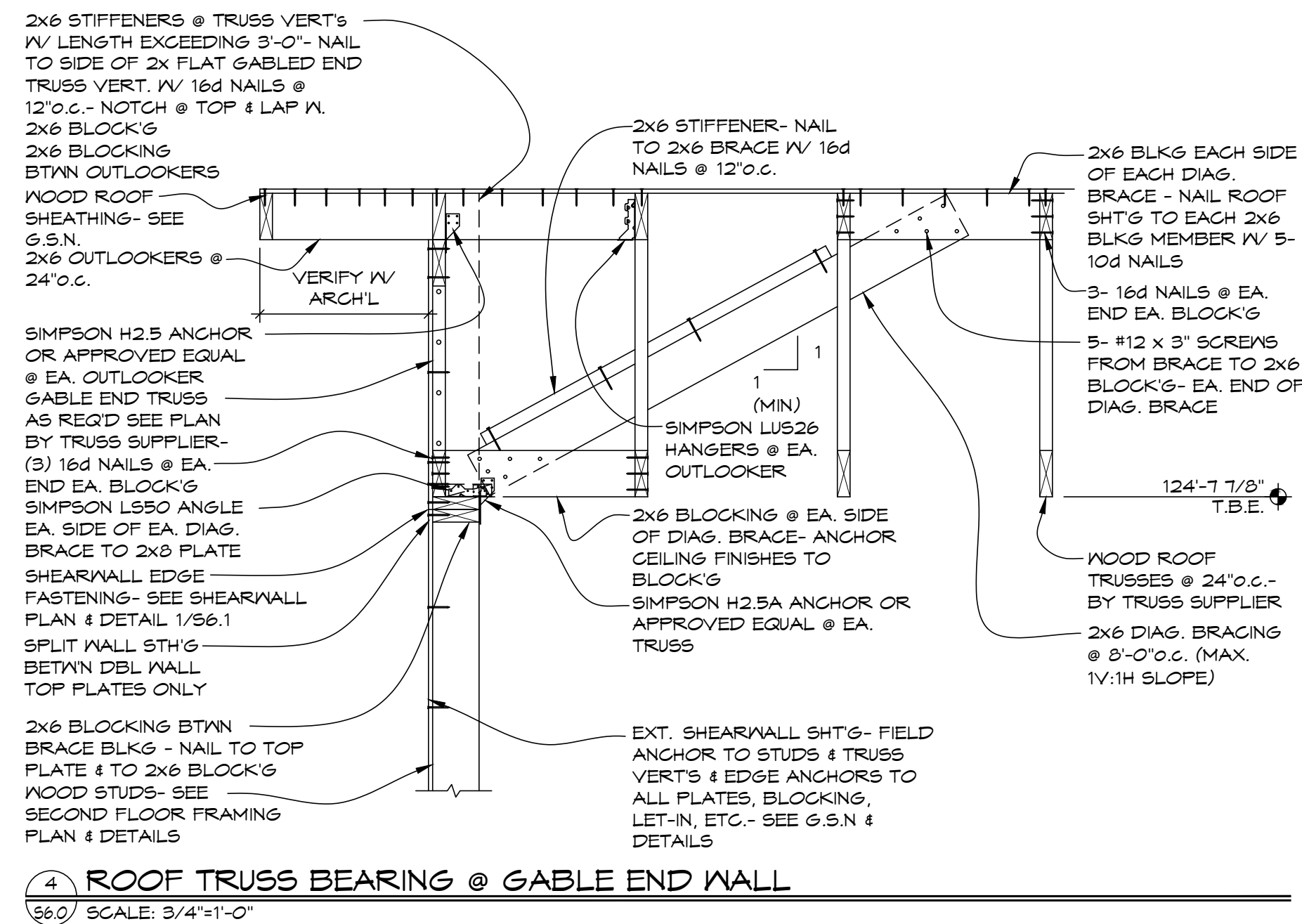
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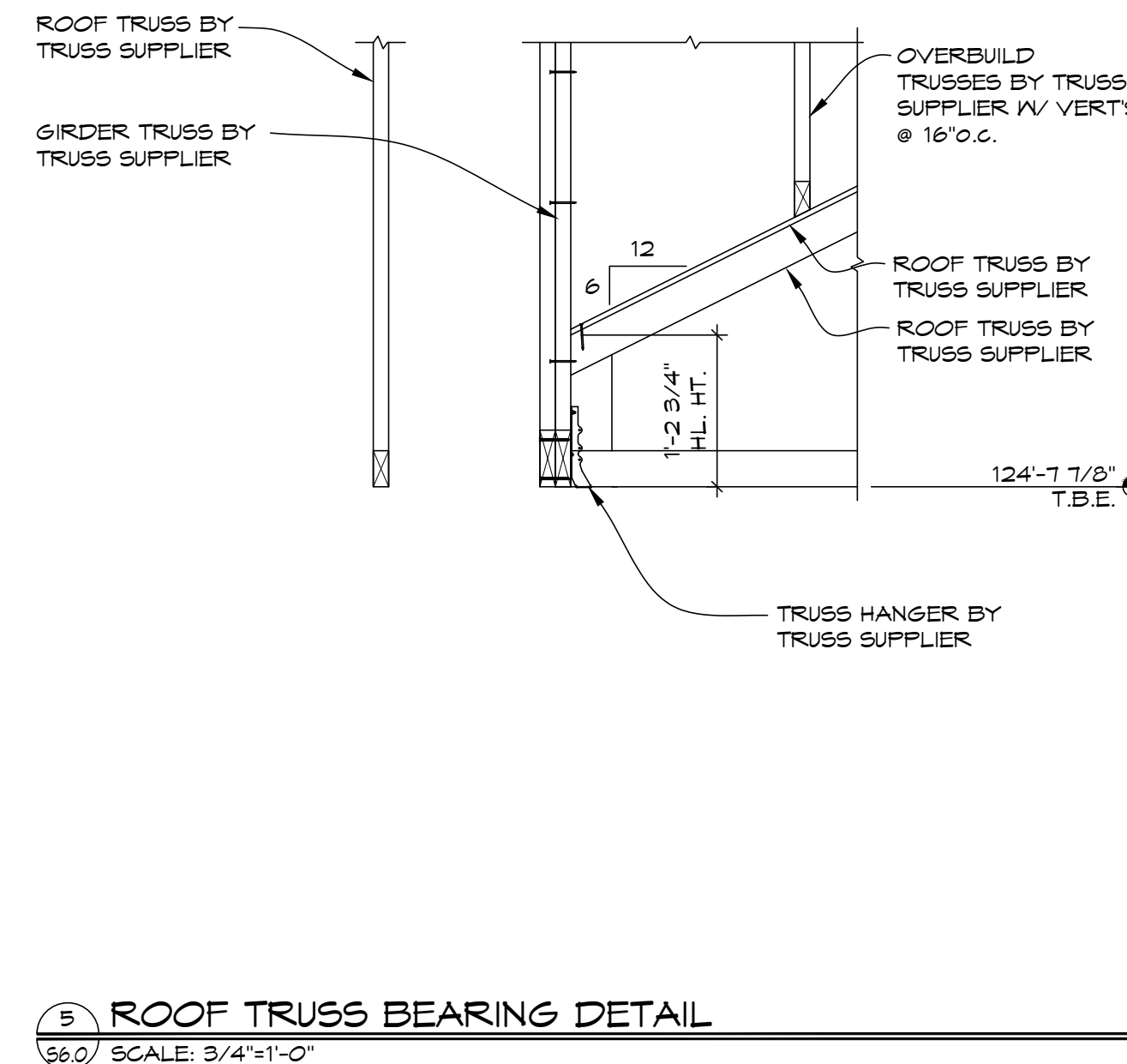
2 ROOF TRUSS BEARING DETAIL
SCALE: 3/4"=1'-0"



3 ROOF TRUSS BEARING @ GABLE END WALL
56.0 SCALE: 3/4"=1'-0"

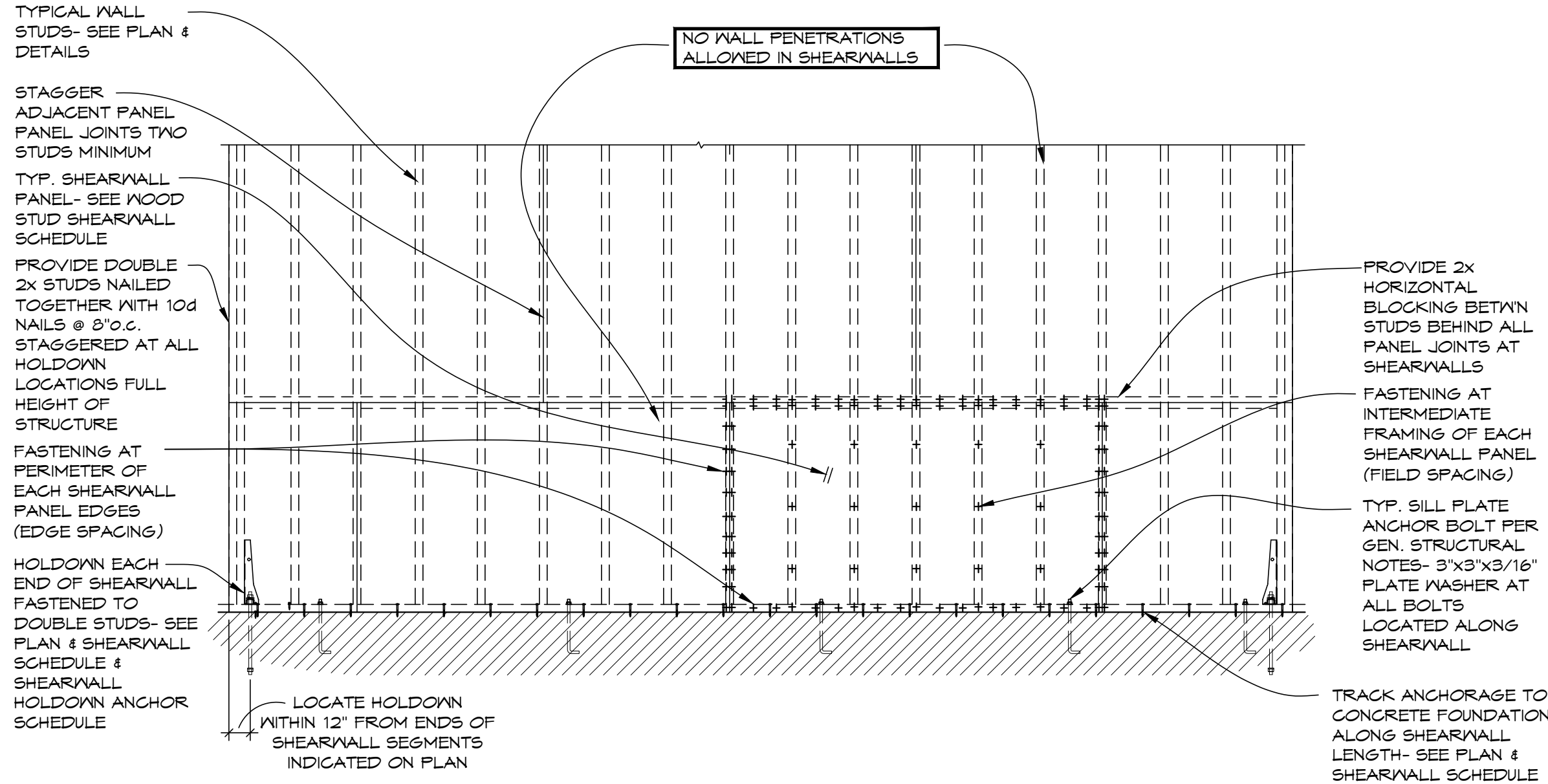


4 ROOF TRUSS BEARING @ GABLE END WALL
56.0 SCALE: 3/4"=1'-0"



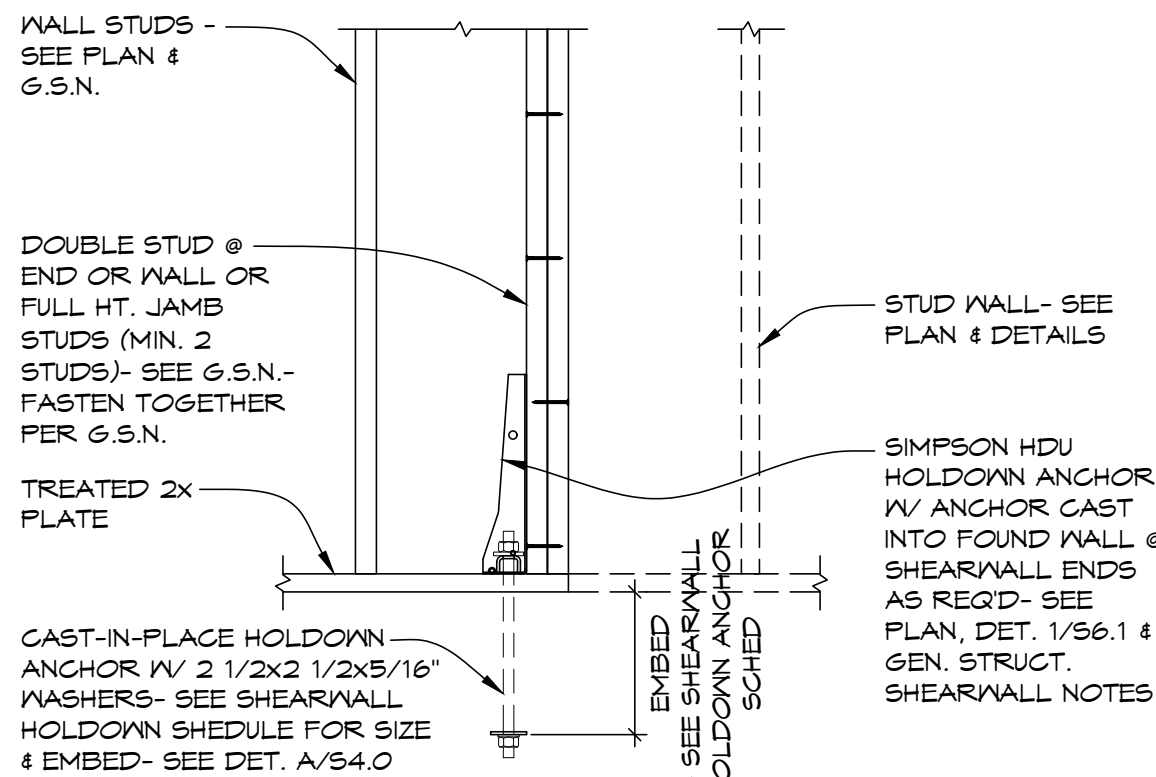
5 ROOF TRUSS BEARING DETAIL
\$6.0 SCALE: 3/4"=1'-0"



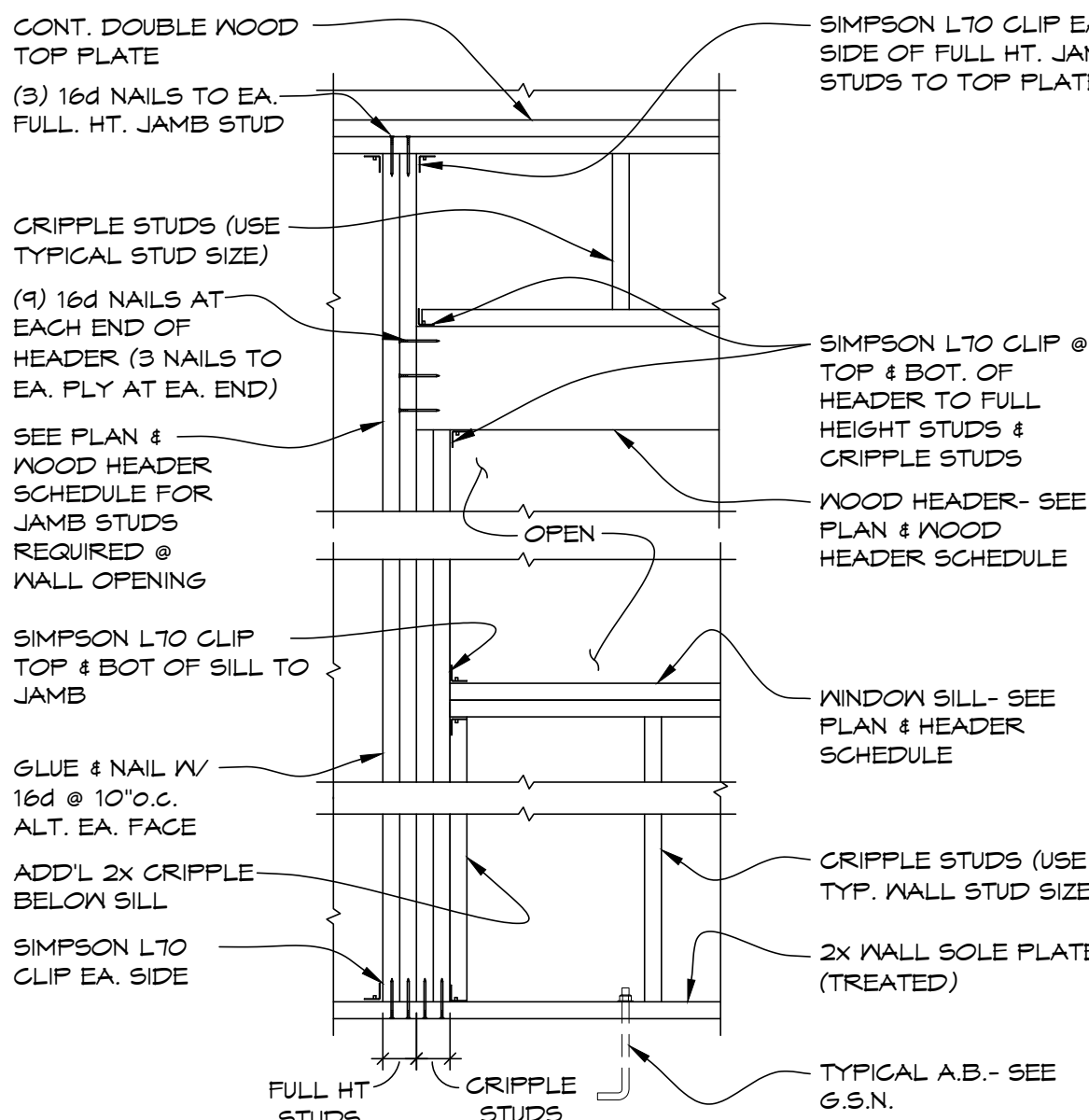


WOOD STUD SHEARWALL SCHEDULE						
MARK	SHEARWALL SHEATHING	PANEL FASTENING		SILL TO ANCHORAGE	HOLDOWNS (SEE ENDS OF SHEARWALLS)	BLOCKING @ PANEL JOINTS
		EDGE	FIELD			
S6.1	EXTERIOR SHEARWALLS R-6 ZIP SHEATHING ALL EXTERIOR WALL FACES	.131 SHANK NAILS @ 4" O.C.	.131 SHANK NAILS @ 12" O.C.	HILTI X-CP FASTENERS @ 10" O.C. & 2 3/4" EDGE DISTANCE	SIMPSON HDUE3-SDS3-SEE PLAN FOR SIZE & DET. 3/56.1	BLOCKED

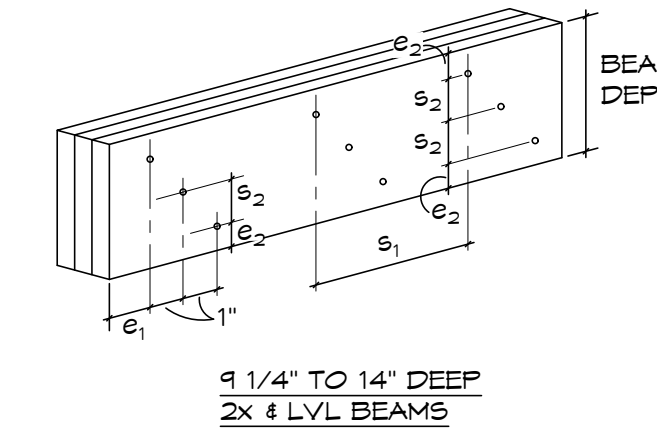
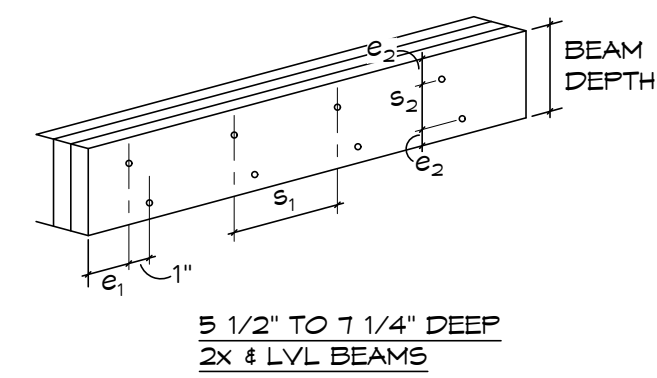
1 TYPICAL WOOD STUD SHEARWALL FASTENING DETAIL/SCHEDULE
S6.1 SCALE: 3/4"=1'-0"



3 HOLDOWN DET. @ DOOR, WINDOW, WALL END
S6.1 SCALE: 3/4"=1'-0"



4 WOOD HEADER BRG. DET. @ WINDOW/DOOR
S6.1 SCALE: 3/4"=1'-0"



MULTI-PLY BEAM FASTENING SCHEDULE					
PLIES	FASTENERS	e ₁	e ₂ (min.)	s ₁	s ₂ (min.)
(2)-2x6	SIMPSON SDN22300 (2 ROWS)	6"	1 1/2"	16"	2 1/2"
(2)-2x8					3 1/2"
(3)-2x8	SIMPSON SDN22428 (2 ROWS)				3 1/2"
(3)-2x10	SIMPSON SDN22428 (3 ROWS)				2 1/2"
(3)-2x12		3 1/2"			
(2)-1 3/4"x5 1/2" LVL	SIMPSON SDN22338 (2 ROWS)	6"	1 1/2"	16"	2 1/2"
(2)-1 3/4"x7 1/4" LVL					3 1/2"
(2)-1 3/4"x9 1/4"	SIMPSON SDN22338 (3 ROWS)				2 1/2"
(3)-1 3/4"x9 1/4" LVL	SIMPSON SDN22500 (3 ROWS)				2 1/2"
(3)-1 3/4"x11 1/4" LVL		3 1/2"			
(3)-1 3/4"x14" LVL		5"			

MULTI-PLY BEAM FASTENING SCHEDULE NOTES:
(1) MULTI-PLY WOOD BEAMS SUPPORTING FRAMING LOAD ON THEIR FACE(S) VIA HANGERS ARE TO BE FASTENED PER THE SCHEDULE AND DIAGRAMS AS SHOWN.
(2) SCREWS (OR NAILS) OTHER THAN SIMPSON SDN TRUSS-PLY SCREWS OF TYPE & LENGTH NOTED ARE NOT ACCEPTABLE FOR FASTENING OF WOOD BEAM PLIES

MULTI-PLY BEAM FASTENING SCHEDULE NOTES:
(1) MULTI-PLY WOOD BEAMS SUPPORTING FRAMING LOAD ON THEIR FACE(S) VIA HANGERS ARE TO BE FASTENED PER THE SCHEDULE AND DIAGRAMS AS SHOWN.
(2) SCREWS (OR NAILS) OTHER THAN SIMPSON SDN TRUSS-PLY SCREWS OF TYPE & LENGTH NOTED ARE NOT ACCEPTABLE FOR FASTENING OF WOOD BEAM PLIES

2 TYPICAL MULTI-PLY BEAM FASTENING REQUIREMENTS
S6.1 SCALE: 3/4"=1'-0"

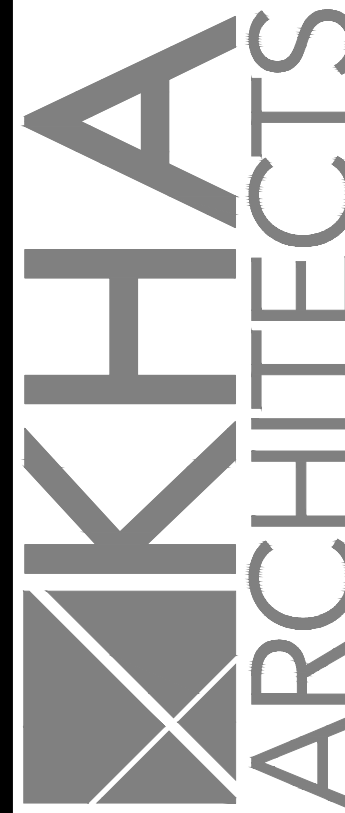
BUILT-UP WOOD COLUMN SCHEDULE					
PLIES	FASTENERS	e ₁	e ₂	s ₁	s ₂
(2)-2x4	0.148" X 3" COMMON WIRE NAILS SIMPSON SDN22300	2 1/2"	1"	6"	N/A
(2)-2x6		3 1/2"	1 1/2"		
(3)-2x4	0.207" X 3" COMMON WIRE NAILS SIMPSON SDN22438	3 1/2"	1 1/2"	8"	N/A
(3)-2x6		3 1/2"	1 1/2"		
(4)-2x6	0.207" X 3" COMMON WIRE NAILS SIMPSON SDN22438	3 1/2"	1 1/2"	8"	2 1/2"
(4)-2x6	SIMPSON SDN22600	3 1/2"	1 1/2"	8"	2 1/2"

NOTES:
(1) BUILT-UP WOOD COLUMNS CONSISTING OF 2x WOOD LAMINATIONS MAY BE SUBSTITUTED FOR SOLID WOOD COLUMNS NOTED ON STRUCTURAL DRAWINGS WHEN PLIES ARE FASTENED PER BUILT-UP WOOD COLUMN SCHEDULE SUBSTITUTION NOTE: 4x4 POST = (3)-2x4; 4x6 POST = (3)-2x6; 6x6 POST = (4)-2x6
(2) SCREWS OTHER THAN SIMPSON SDN TRUSS-PLY SCREWS OF TYPE AND LENGTH NOTED ARE NOT ACCEPTABLE FOR FASTENING OF COLUMN PLIES.

5 TYPICAL MULTI-PLY STUDS FASTENING REQUIREMENTS
S6.1 SCALE: 3/4"=1'-0"



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PROJECT #: C2663A-A
CONTACT: CHRIS
SCALE: AS NOTED
TYPICAL FRAMING DETAILS

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PROJECT #: 2515
CONTACT: KRISTI
SCALE: AS NOTED

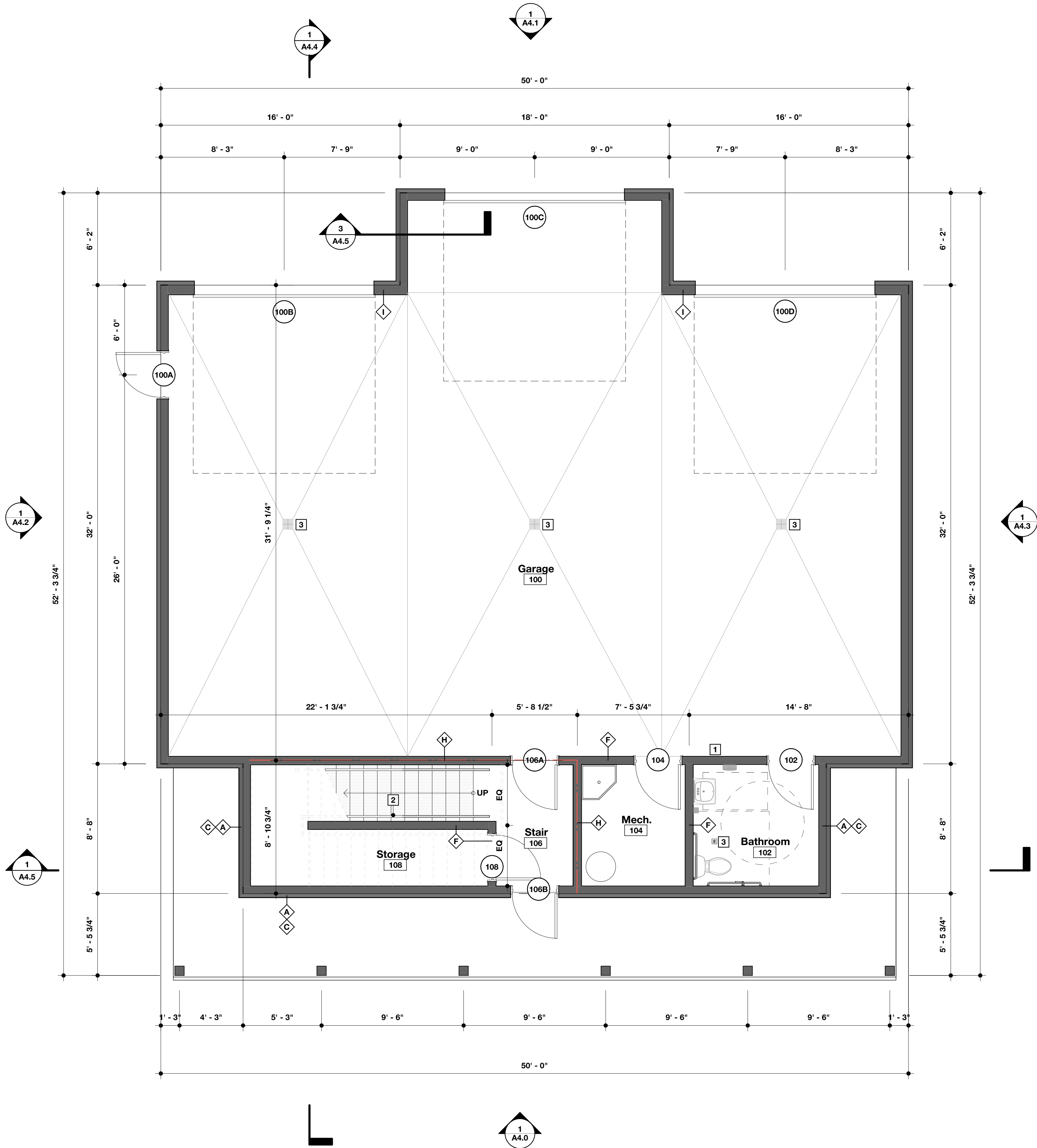
FIRST FLOOR PLAN

Floor Plan General Notes

- All interior wall types to be wall type 'D' unless noted otherwise in the Construction Documents.
- All exterior wall types to be wall type 'A' unless noted otherwise in the Construction Documents.
- Coordinate all wall framing w/all ductwork, transfer grilles, piping, mechanical and electrical infrastructure.
- Contractor to provide and install wood backing throughout, including but not limited to, casework, mirrors, tv's/monitors, coat hooks, grab bars, etc.
- Contractor to field verify all dimensions shown and inform Construction Manager of any discrepancies and coordinate as required.
- All walls to be framed, and sheathed to structure/structural deck above unless noted otherwise in the Construction Documents.

Floor Plan Keynotes

- Semirecessed Fire Extinguisher Cabinet - Academy Series & Fire Extinguisher - Basis of Design: JL Industries 5E Multi-purpose ABC fire extinguisher 5 lb. - Model No: JLI-Cosmic-5E
- Wd Handrail @ 3'-0" A.F.F. - Finish: ST-2
- Floor Drain - See Mech. Drawings
- Dashed Line indicates soffit above - See RCP for more information



1

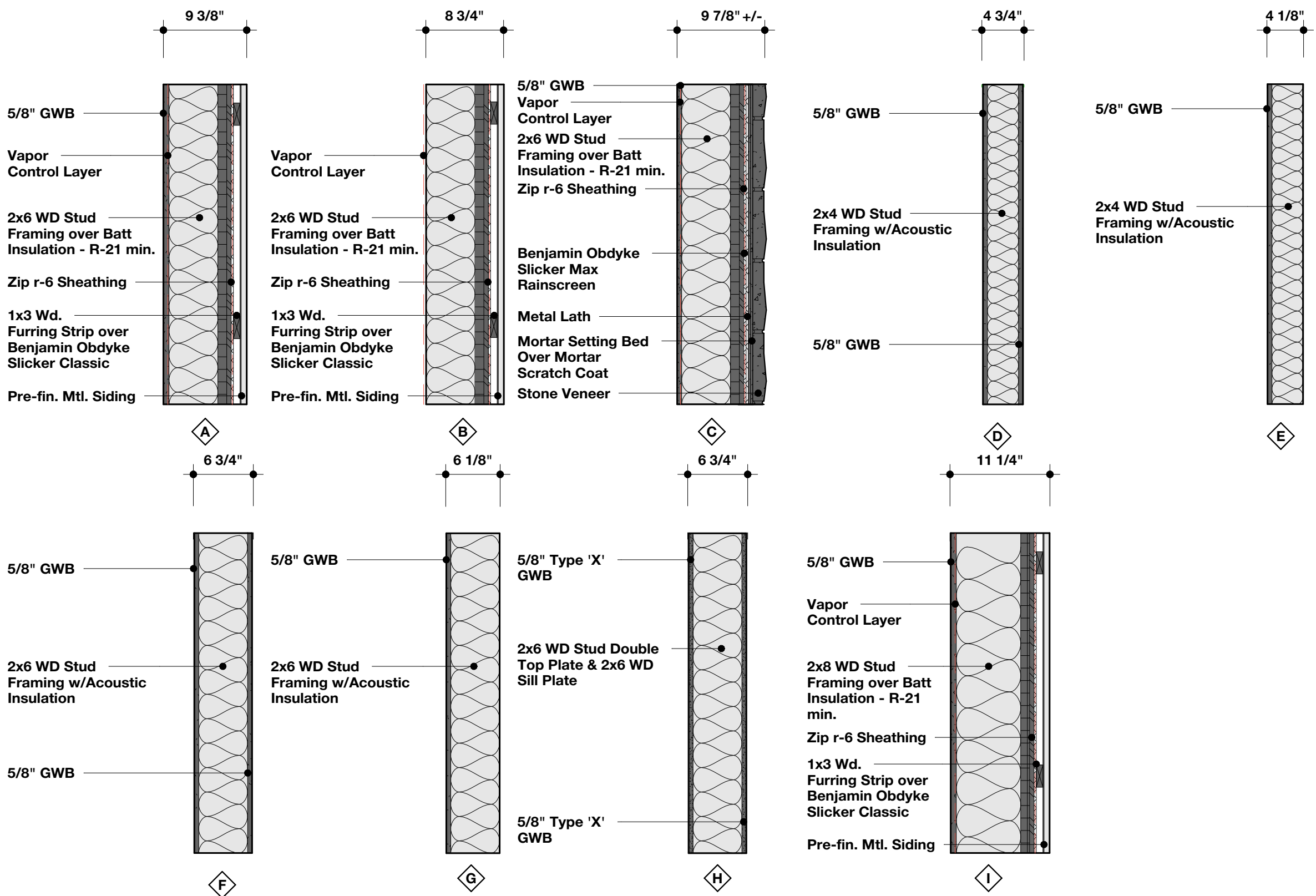
First Floor Plan

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

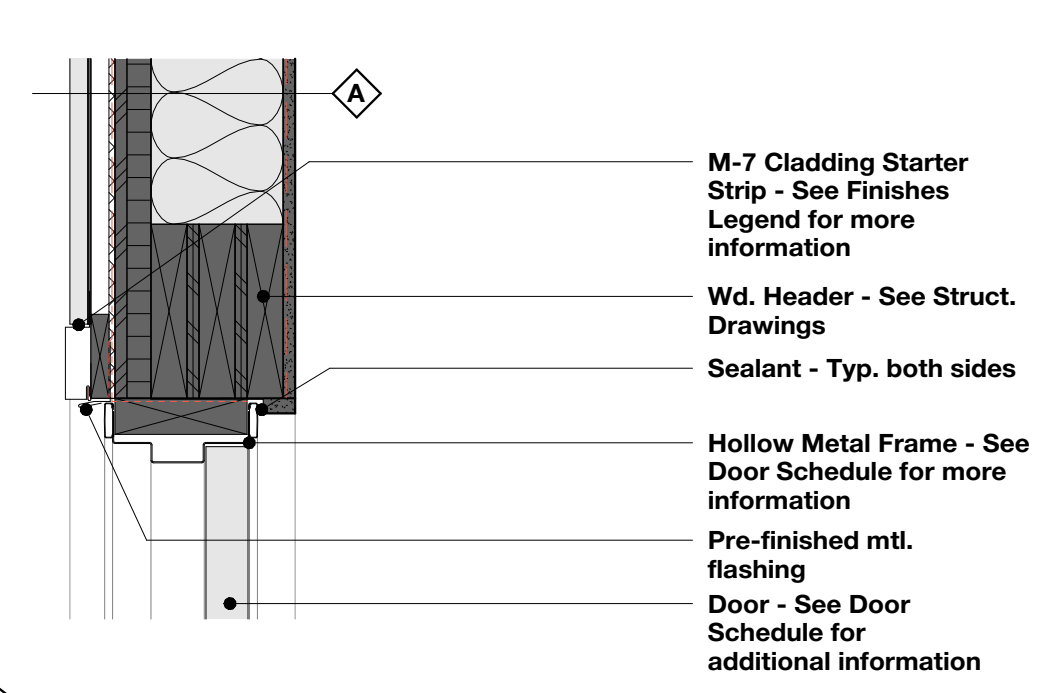
2

Wall Type Legend

SCALE: 1" = 1'-0"



Stair Wall
1 HR Rated Wall
UL Design No. U340



A detailed cross-section diagram of a door assembly. The diagram shows the internal structure of the door, including a hollow metal frame, a pre-finished metal J-trim, a door panel with a decorative pattern, and a sealant. A diamond-shaped label 'A' is positioned above the door panel. Five callout lines point to specific components with the following labels:

- Pre-Finished Mtl. J-Trim - Finish: M-9
- Hollow Metal Frame - See Door Schedule for more information
- Door - See Door Schedule for additional information
- Sealant - Typ. both sides

A cross-sectional diagram of a door assembly. The diagram shows a door leaf with a top section containing a grid of circles (likely representing a glass or mesh insert) and a bottom section with a vertical wood grain pattern. The door is set into a frame. Callout lines point to various parts: a diamond-shaped symbol with the letter 'F' points to the top glass section; a line points to the top wood-grained section labeled 'Wd. Header - See Struct. Drawings'; a line points to the joint between the header and the door leaf labeled 'Sealant - Typ. both sides'; a line points to the frame around the door leaf labeled 'Hollow Metal Frame - See Door Schedule for more information'; and a line points to the door leaf itself labeled 'Door - See Door Schedule for additional information'.

Wd. Header - See Struct. Drawings

Sealant - Typ. both sides

Hollow Metal Frame - See Door Schedule for more information

Door - See Door Schedule for additional information

[illegible]

Diagram illustrating the components of a window installation:

- Window System installed per manufacturer's recommendation
- PVC-1 Window Sill
- Pre-Finished Mtl. J-Trim - Finish: M-8
- Zip Flashing Tape installed per manufacturer's recommendation
- Backer Rod & Sealant - Typ. both sides

A cross-sectional diagram of a door assembly. The door is shown with a hollow metal frame, a door panel with a wavy pattern, and a sealant. A diamond-shaped symbol with the letter 'F' is located on the left side of the door. Labels with leader lines point to the following components:

- Hollow Metal Frame - See Door Schedule for more information
- Door - See Door Schedule for additional information
- Sealant - Typ. both sides

Diagram illustrating the components of a window installation cross-section:

- Window System installed per manufacturer's recommendation
- Pre-Finished Mt. J-Trim - Finish: M-9
- Zip Flashing Tape installed per manufacturer's recommendation
- Backer Rod & Sealant

SHEET
A3.1
DATE: 08/07/26
Q.C. _____

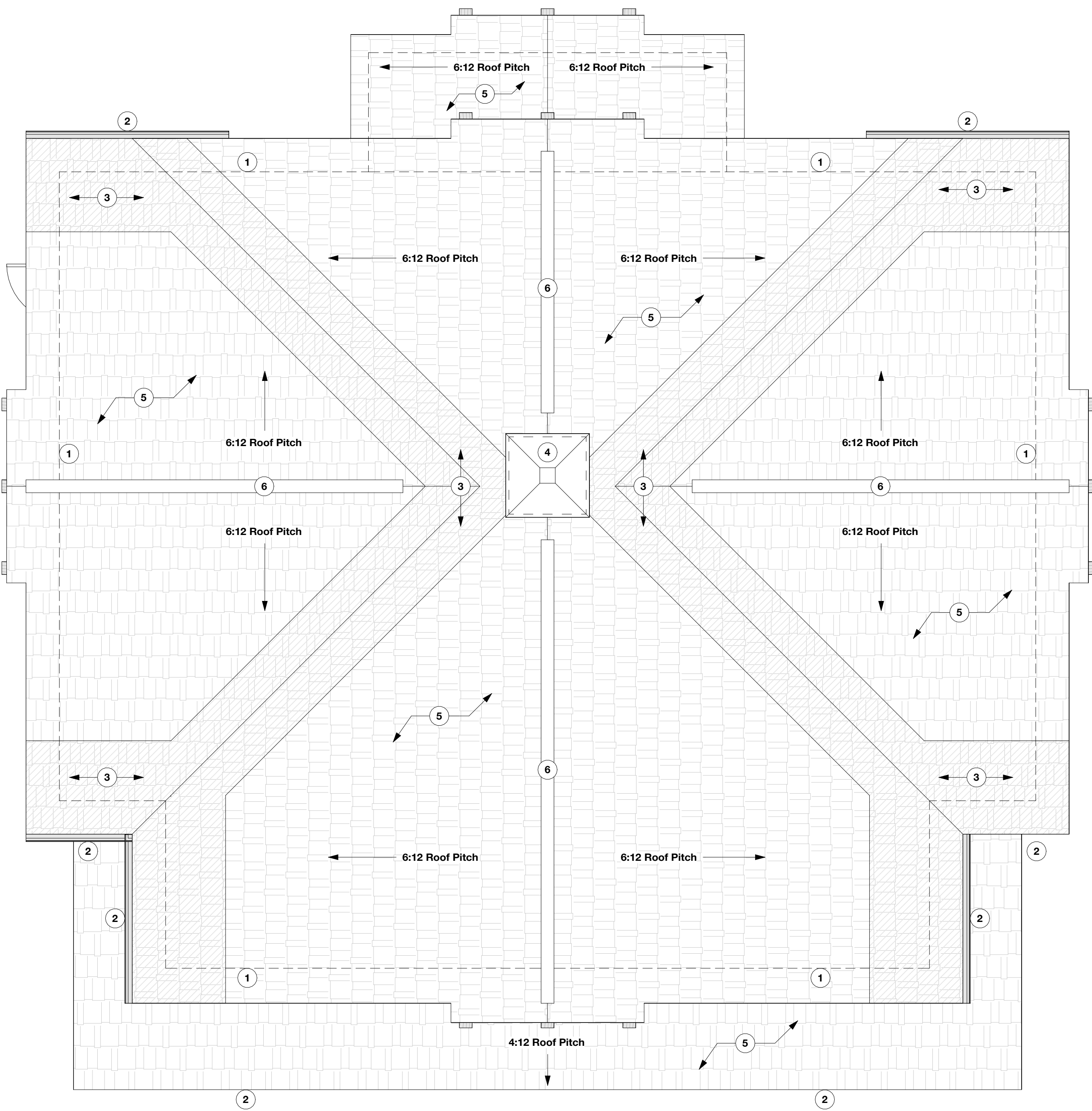
1 **Second Floor Plan**
SCALE: 1/4" = 1'-0"

Roof Plan General Notes

- 1. Contractor to paint all roof penetrations and venting to match the roof color.
- 2. Contractor to provide and install insect/animal screens at all roof vents and penetrations.
- 3. Contractor to provide and install ice and water shield at all valleys and eaves throughout. All ice and water shield to extend past inside face of exterior wall by a minimum of 24" or greater as indicated on drawings. Basis of Design: Grace Ice & Water Shield Roofing underlayment by CertainTeed.
- 4. Contractor to provide and install synthetic roof underlayment throughout.
- 5. Contractor to provide and install pre-finished metal kick flashing at all roof/wall intersections as required. Finish to match adjacent material.

Roof Plan Keynotes

- 1 Dashed line indicates wall below.
- 2 Line indicates gutter and downspout system - See Building Elevations for additional information.
- 3 Ice and Water Shield - Typ. - See General Notes for additional information.
- 4 Decorative Cedar Roof Cupola - See Detail 3/A3.5 for more information
- 5 Asphalt shingles over compatible synthetic underlayment installed throughout - Finish: AS-1
- 6 Ridge Vent - Basis of Design: CertainTeed Filtered Ridge Vent.
- 7 Fully Adhered Roof Membrane over Protection Board and Tapered Rigid Insulation - Basis of Design (EPDM): Firestone RubberGuard EPDM - 60 Mil. - Basis of Design (Insul.): Iso 95+ Insulation
- 8 Roof Drain - See Mech. Drawings
- 9 Overflow Roof Drain - See Mech. Drawings



1

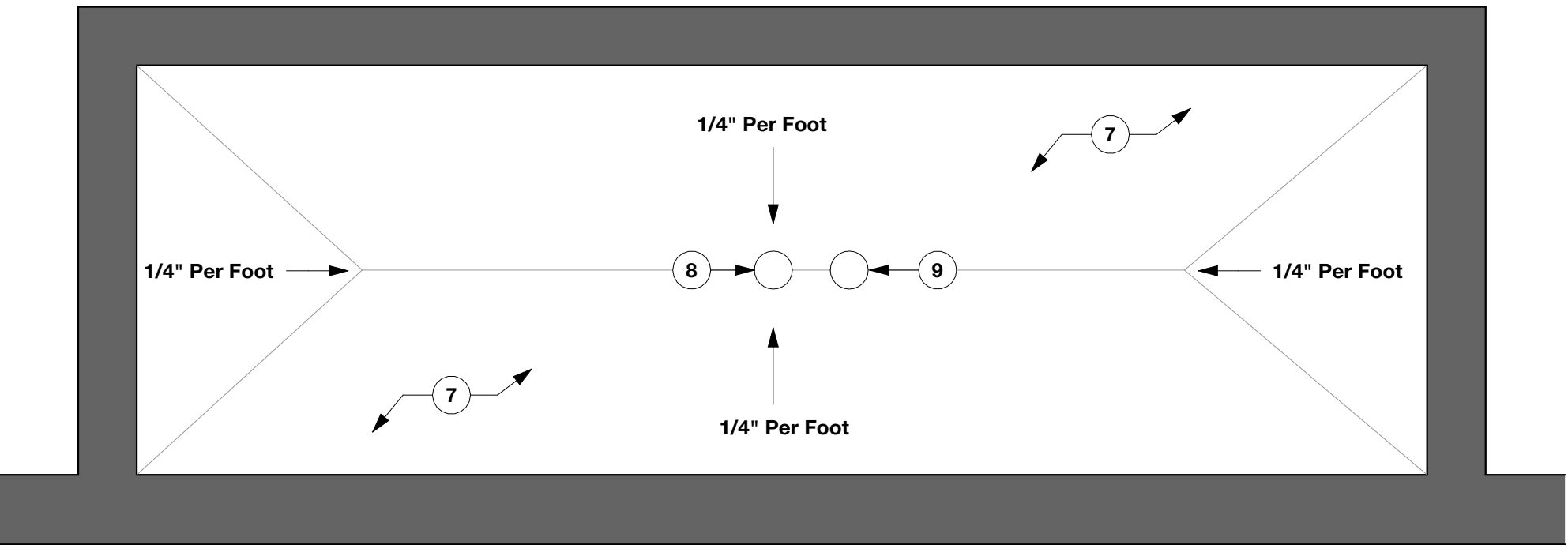
Roof Plan

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

3

Section Detail - Roof Drain

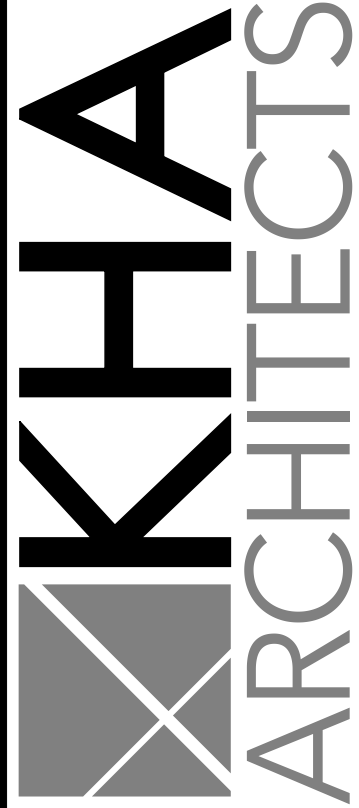
SCALE: 3" = 1'-0"



2

Roof Plan - Balcony

SCALE: 1/2" = 1'-0"



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CITY APPROVAL:

TRMF RIDING STABLES - GARAGE
14532 L-94 Loop East
ND 58645



REVISION LIST	
SCHEMATIC	DESIGN REVIEW
DESIGN DEV.	
CONST. DOCS.	
CITY SUB. 1	BIDS. DEPT.
CITY SUB. 2	
CONSTR. REV 1	CONSTRUCTION
CONSTR. REV 2	
CONSTR. REV 3	

PROJECT # : 2515
CONTACT : KRISTI
SCALE: AS NOTED

ROOF PLAN

SHEET
A3.2
DATE: 08/07/26
Q.C. _____

- 1 PVC-C1 window sill at this location - See Finishes Legend for more information
- 2 Provide and Install SWF manual roller window shade - Crosshatch R 3% Open - Finish: Eggshell/Fog
- 3 Wired Shelling to be located in this room - Top of shelf to be 5'-8" A.F.F. - Basis of Design: Rubbermaid StaffTrack Close Frontless Kit
- 4 Provide and install FT-1 transition strip between carpet and LVT flooring - Finish: Hammered Nickel
- 5 Mop Sink - See Mech. Drawings
- 6 Prove and install FRP - @48" A.F.F. - Extend 4'-0" from the corner of wall on each side of Mop Sink - See Finishes Legend for more information



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	DESIGN DEV.	
	CONST. DOCS.	
	CITY SUB. 1	BLDG. DEPT.
	CITY SUB. 2	
	CONSTR. REV 1	CONSTRUCTION
	CONSTR. REV 2	
	CONSTR. REV 3	

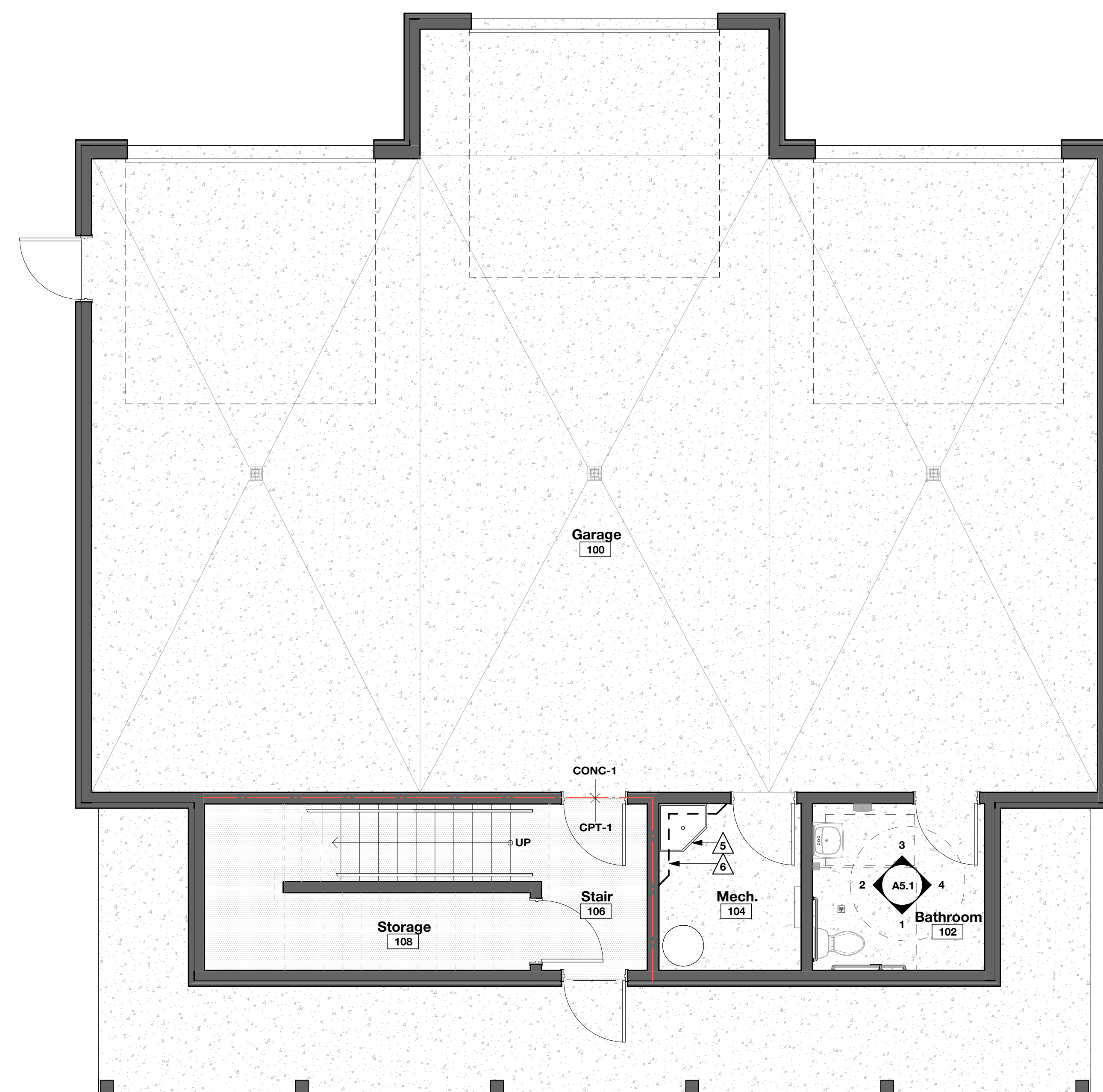
PROJECT # · 2515

CONTACT : KRIST

SCALE: AS NOTED

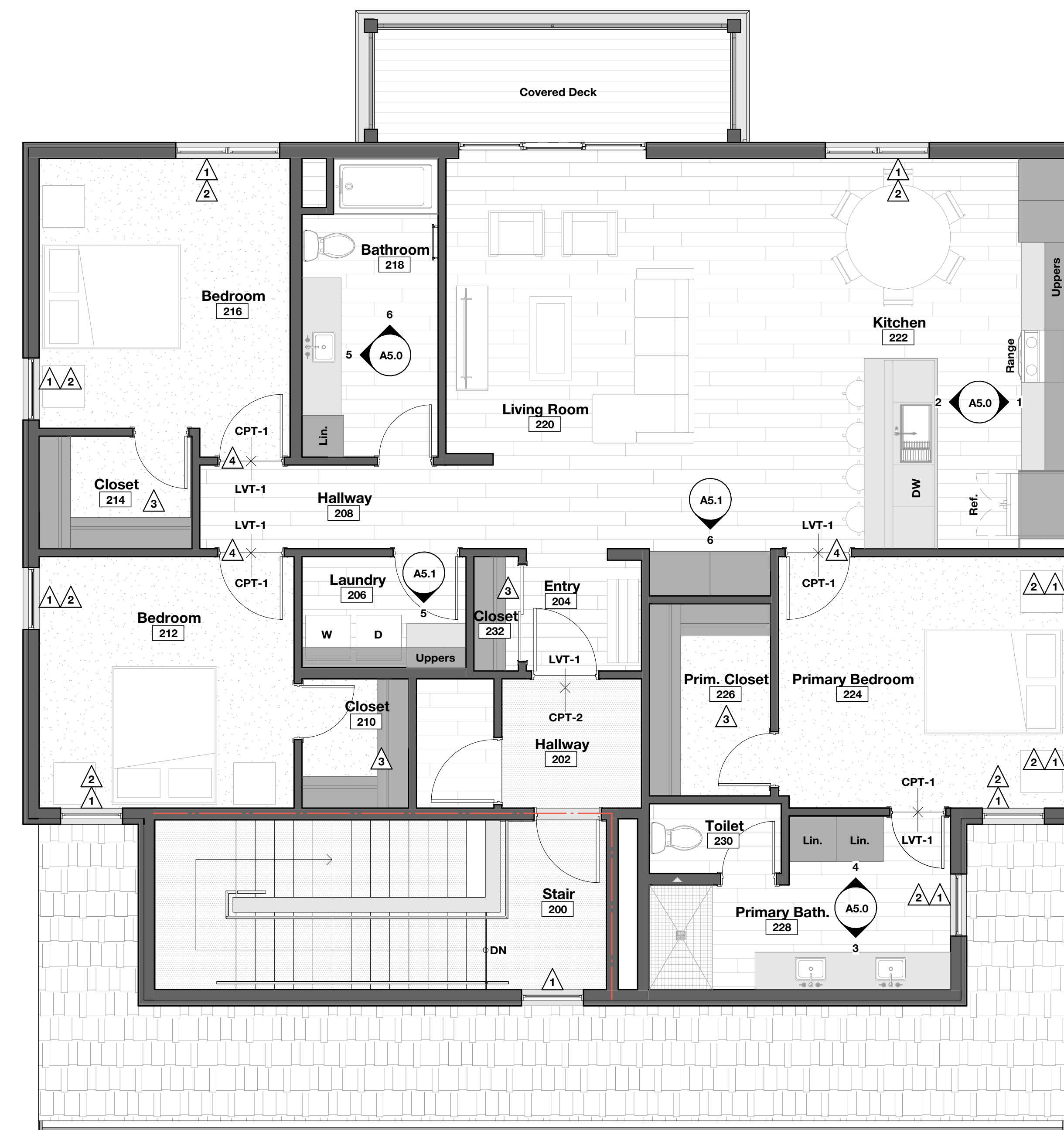
FINISH PLANS

A3.3
SHEET
DATE: 08/07/96
Q.C. _____



1 First Floor Finish Plan

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



2 **Second Floor Finish Plan**
SCALE: 1/4" = 1'-0"

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REVISION LIST

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	CONST. DOCS.		
	CITY SUB. 1	CONSTRUCTION	
	CITY SUB. 2		
	CONSTR. REV 1		
	CONSTR. REV 2		
	CONSTR. REV 3		

PROJECT # : 2515

CONTACT : KRISTI

SCALE: AS NOTED

SCHEDULES

DATE: 08/07/26
SHEET
A3.4
Q.C. — —

Door #	Width	Height	Thickness	Door Type	Frame Type	Details		Hardware	Fire Rating	Notes
						Jamb	Head			
100A	3' - 0"	8' - 0"	1 3/4"	HM-1	HM-A	3/A3.1	2/A3.1	Group 2		3, 5, 6
100B	12' - 0"	12' - 0"	1 3/4"	OH-1	-	2/A3.5	1/A3.5	--		1, 2
100C	12' - 0"	12' - 0"	1 3/4"	OH-1	-	2/A3.5	1/A3.5 Sim	--		1, 2
100D	12' - 0"	12' - 0"	1 3/4"	OH-1	-	2/A3.5	1/A3.5	--		1, 2
102	3' - 0"	8' - 0"	1 3/4"	HM-1	HM-A	5/A3.1	4/A3.1	Group 5		3, 6
104	3' - 0"	8' - 0"	1 3/4"	HM-1	HM-A	5/A3.1	4/A3.1	Group 4		3, 6
106A	3' - 0"	8' - 0"	1 3/4"	HM-1	HM-A	5/A3.1	4/A3.1	Group 1	60 Min.	3, 6
106B	3' - 0"	8' - 0"	1 3/4"	WD-2	HM-A	3/A3.1	2/A3.1	Group 2		4, 6, Insulate Frame
108	3' - 0"	7' - 0"	1 3/4"	HM-1	HM-B	5/A3.1	4/A3.1	Group 4		3, 6
200	3' - 0"	7' - 0"	1 3/4"	HM-1	HM-B	5/A3.1	4/A3.1	Group 3	60 Min.	3, 6
204A	3' - 0"	7' - 0"	1 3/4"	WD-3	HM-B	5/A3.1	4/A3.1	Group 6		6, 7
204B	4' - 6"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 8		8
206	3' - 0"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 8		8
210	2' - 6"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 8		8
212	3' - 0"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 7		8
214	2' - 6"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 8		8
216	3' - 0"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 7		8
218	2' - 6"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 7		8
220	8' - 11 1/2"	6' - 11 1/2"	1 1/4"	SL-1	--	--	--	--		
224	3' - 0"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 7		8
226	2' - 6"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 8		8
228	2' - 6"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 7		8
230	2' - 6"	6' - 8"	1 3/8"	WD-1	--	--	--	Group 7		8
234	3' - 0"	7' - 0"	1 3/4"	WD-3	HM-B	5/A3.1	4/A3.1	Group 9		3, 6

DOOR NOTES

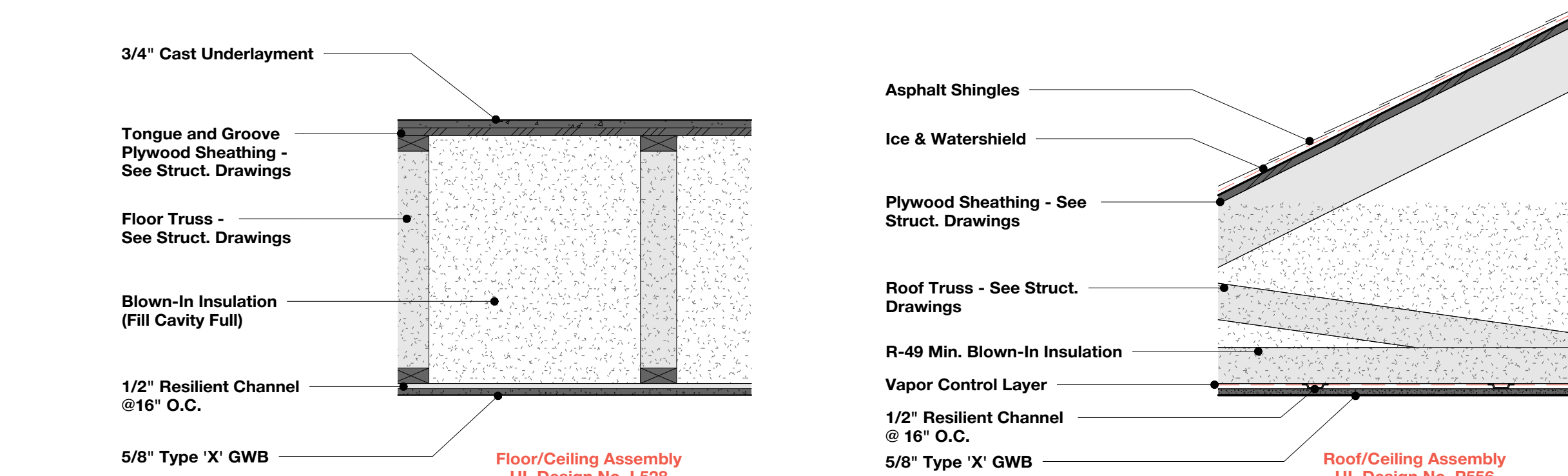
1. Overhead Door - Basis of Design: Clopay Canyon Ridge Carriage House (4-Layer) - Design 22 with REC13 Top Section - Clear Glazing - Material Finish: Solid Color Steel - Color: Primed - Verify Final Finish w/Architect
2. Overhead Door Opener - Basis of Design: LiftMaster Model T501L5 (Logic 5.0)
3. Hollow Metal Door - Basis of Design: Steelcraft - L Series Flush Door - Finish: Paint to Match Frame
4. Wood Door - Basis of Design: Rustica Care Taker Front Door - Wood Species: Cedar - Finish: ST-1
5. Door and frame to be insulated.
6. Hollow Metal Frame - Basis of Design: RediFrame hollow metal frames with standard snap on trim - Finish: RediFrame Brown
7. Solid Core Door - Basis of Design: Lynden Doors Laminate Architectural Series - Finish: LAM-1 - See Door Types for Glazing Locations
8. Hollow Core Door - Basis of Design: Lynden Doors Molded - Style: Flat Panels Smooth Yarrow - Finish: PT-3

MARK	WIDTH	HEIGHT	MANUFACTURER	MODEL	DETAIL			NOTES
					HEAD	JAMB	SILL	
A	2' - 11 1/2"	5' - 11 1/2"	Marvin Windows and Doors	ESSH3060 E	6/A3.1	7/A3.1	8/A3.1	
B	2' - 11 1/2"	4' - 11 1/2"	Marvin Windows and Doors	ESSH3050 E	6/A3.1	7/A3.1	8/A3.1	
C	4' - 11 1/2"	4' - 11 1/2"	Marvin Windows and Doors	ESSH2650	6/A3.1	7/A3.1	8/A3.1	

Window Notes

1. Contractor to field verify all rough openings prior to procurement.
2. Contractor to provide spray foam insulation at shims.
3. Contractor to provide self-adhesive flashing membrane at head, jamb and sill locations per manufacturer's recommendation.
4. Contractor to provide all required hardware at egress window locations to meet code.
5. Second Floor window head heights to be 7'-0" A.F.F.

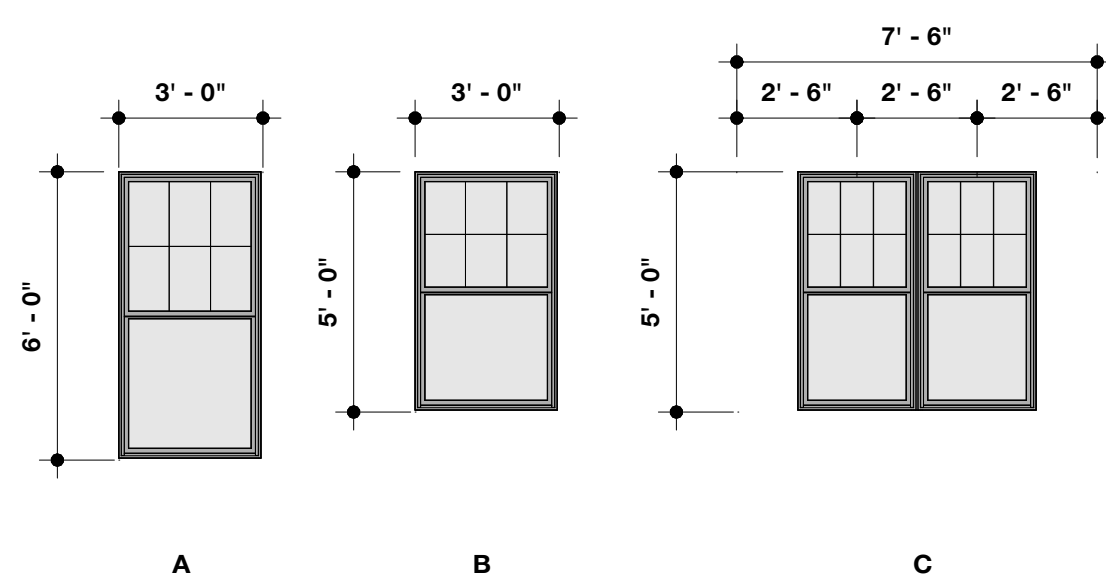
Provide hardware specified or required to make door fully functional and compliant with all applicable codes. Door hardware to be of an approved manufacturer. The following manufacturers are approved: Dorma, Falcon, Ives, LCN, Sargent, and Schlage.		
GROUP 1 Each Door shall have: (3) Butt Hinges (1) Door Closer (1) Passage Function Lockset (1) Wall Stop (1) Smoke Seal (1) Door Sweep (1) Kick Plate (Egress Side) Finish: 619 (Satin Nickel) Basis of Design: Schlage ND Series w/Latitude Lever	GROUP 2 Each Door shall have: (3) Butt Hinges (1) Door Closer (1) Storeroom Function Lockset (1) Wall Stop (1) Weather Stripping (1) Threshold (1) Gasketing (1) Door Sweep (1) Kick Plate (Stair Side) Finish: 619 Basis of Design: Schlage ND Series w/Latitude Lever	GROUP 3 Each Door shall have: (3) Butt Hinges (1) Door Closer (1) Passage Function Lockset (1) Wall Stop (1) Smoke Seal (1) Kick Plate (Egress Side) Finish: 619 (Satin Nickel) Basis of Design: Schlage ND Series w/Latitude Lever
GROUP 4 Each Door shall have: (3) Butt Hinges (1) Storeroom Function Lockset (1) Wall Stop (1) Kick Plate Finish: 619 Basis of Design: Schlage ND Series w/Latitude Lever	GROUP 5 Each Door shall have: (3) Butt Hinges (1) Privacy Function Lockset (1) Wall Stop (1) Kick Plate Finish: 619 Basis of Design: Schlage ND Series w/Default Lever	GROUP 6 Each Door shall have: (3) Butt Hinges (1) Door Closer (1) Apartment/Privacy Function Lockset (1) Wall Stop (1) Concealed Door Position Sensor Finish: 619 Basis of Design: Schlage XE360M-D Series w/Latitude Lever
GROUP 7 (3) Butt Hinges (1) Privacy Function Lockset Finish: 619 Basis of Design: Schlage Latitude w/Collins Trim	GROUP 8 (3) Butt Hinges (1) Passage Function Lockset Finish: 619 Basis of Design: Schlage Latitude w/Collins Trim	GROUP 9 Each Door shall have: (3) Butt Hinges (1) Storeroom Function Lockset (1) Wall Stop Finish: 619 Basis of Design: Schlage ND Series w/Latitude Lever



4

Horizontal Assemblies

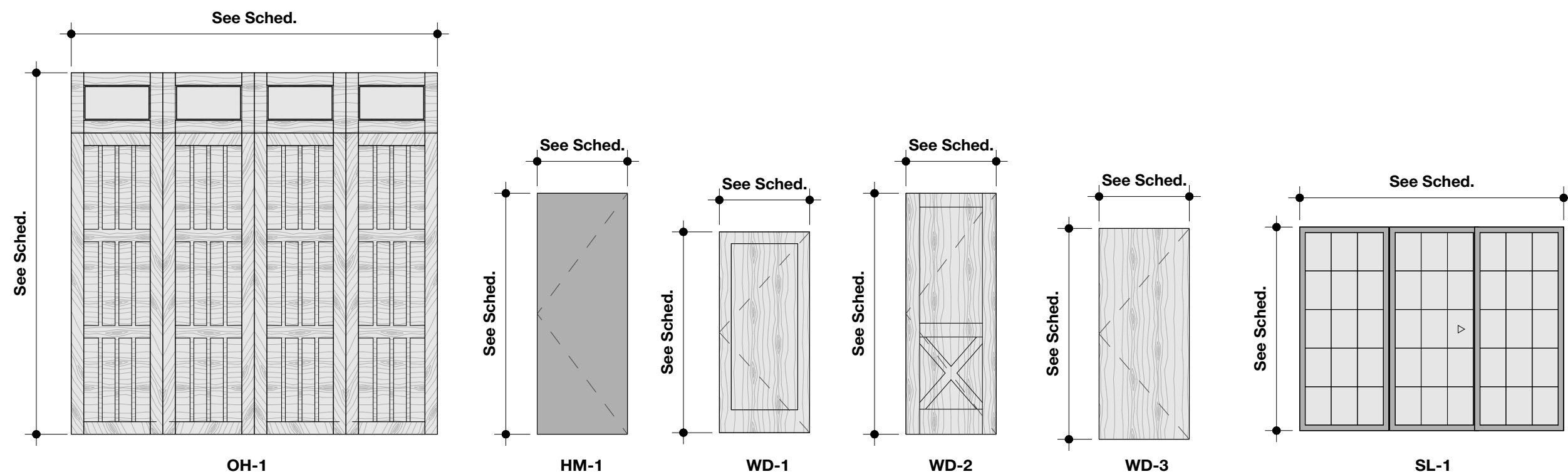
SCALE: 1" = 1'-0"



2

Window Elevations

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



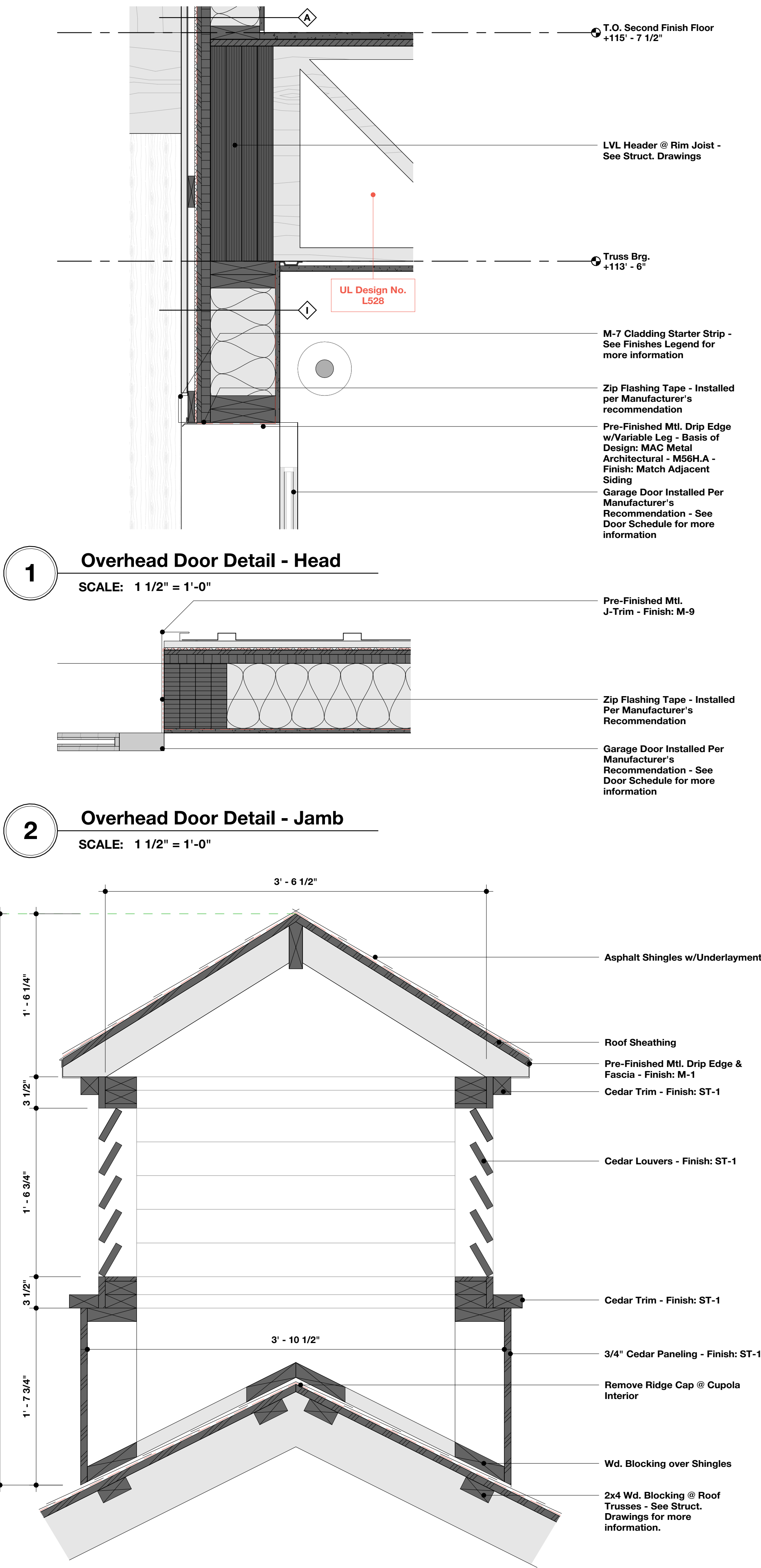
1

Door Elevations

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

FINISHES LEGEND							
PAINT and STAIN:				WALLS:			
PT-1	Interior Paint	Walls	Sherwin Williams - SW 9588 - High Sierra in eg-shel	WT-1	Wall Tile	Apartment Bathroom	MSI - Cabana - Finish: Honey - Size 9" x 47" - Grout: TEC - Sable 925
PT-2	Interior Paint	Ceilings	Sherwin Williams - SW 9588 - High Sierra in flat				
PT-3	Interior Paint	Trim	Sherwin Williams - SW 7005 - Pure White in Satin				
ST-1	Exterior Stain	Exterior Wood	Verify finish w/Architect	BASE:			
ST-2	Interior Stain	Wd. Handrail/Wd. Trim	Verify finish w/Architect	VB-1	Vinyl Base	First Floor	Tarkett - 4" Vinyl Base - Color: 63 Burnt Umber
				WB-1	Wood Base	Units	4 1/4" MDF Flat Stock - Paint: PT- 3
FLOORING:				MOULDINGS and TRIM:			
LVT-1	Luxury Vinyl Tile	Units	J + J Flooring - Retreat V5056 - Finish: Beauty 1185 - Size: 9" x 48"	MT-1	Metal Tile Trim	Apartment Bathroom	Schluter - JOLLY - Finish: Brushed Nickel
CPT-1	Broadloom Carpet	Unit Bedrooms/Closets	J + J Flooring - Fairway II N9117 - Finish: Cypress Point 9785	FT-1	Floor Transition	Unit Floor Transitions	Pin Metal - Finish: Hammered Nickel
DECK-1	Decking	Apartment Balcony	Bison Innovative Products - 4' x 2' Ipe Wood Tile - Ribbed	FIBER REINFORCED PLASTIC			
CONC-1	Burnished Concrete	First Floor	Matte Finish	FRP-1	Fiber Reinforced Plastic	HVAC/Mech. & Bathroom	Embossed White w/Matching Mouldings
SOLID SURFACE:				WOOD:			
SS-1	Corian Solid Surface	Apartment Countertops	Corian Solid Surface - Limestone Prima	WD-1	Wood Trim	Exterior	Wd. Boards - Stain: ST-1 - Species: Cedar
PVC				METAL:			
PVC-1	PVC	Window Sills	PVC Window Sills - Paint: PT-3	M-1	Fascia, Trim, Etc.	Exterior	EDCO Fascia and Trim - Color: Statuary Bronze
				M-2	Gutter	Exterior	EDCO Rainware - Size: 3" x 4" - Color: Statuary Bronze
				M-3	Downspout	Exterior	EDCO Rainware - Color: Statuary Bronze
				M-4	Outside Corner Trim	Exterior	MAC Metal Architectural - M21H Molding - Color: Match Siding
				M-5	Inside Corner Trim	Exterior	MAC Metal Architectural - M22H Molding - Color: Match Siding
				M-6	Window Sill	Exterior	MAC Metal Architectural - M04H Molding - Color: Match Siding
				M-7	Cladding Starter Strip	Exterior	MAC Metal Architectural - M17H Molding - Color: Match Siding
				M-8	Top of Wall Trim	Exterior	MAC Metal Architectural - M04H Molding - Color: Match Siding
				M-9	Door Jamb	Exterior	MAC Metal Architectural - M05H Molding - Color: Match Siding
EXTERIOR SOFFIT & CLADDING:				CASEWORK:			
SS-1	Prefinished Stl. Siding	Exterior	MAC Metal Architectural - Board and Batten - Finish: Cork	CB-1	Laminate Cabinetry	Apartment	Wilsonart - Neowalnut 7991K-28
MS-1	Prefinished Mtl. Soffit	Exterior	EDCO Vented Mtl. Soffit - Color: Statuary Bronze				
MASONRY:				PULL HARDWARE:			
SV-1	Stone Veneer	Exterior	Fon Du Lac Stone - Traditional Collection - Color: Fon Du Lac Harvest	PULL-1	Cabinetry Bar Pull	Throughout	Mastercraft - 3" Spoon Style - Satin Nickel
ROOFING:							
AS-1	Asphalt Shingles	Exterior	Certaainted Landmark Shingles - Color: Driftwood				
NOTES: 1. All GWB walls slated to receive paint to be finished to a smooth Level '4' 2. Provide Melamine Interior on all casework - Finish: Natural 3. All Materials and Products to be installed per manufacturer's specifications 4. All windows to have drywall returns at the head and jamb.							

FINISH SCHEDULE											
SPACE		FLOORING	BASE	WALLS				CEILING		CABINETRY	NOTES
ROOM	NO.			NORTH	SOUTH	EAST	WEST	FINISH	HEIGHT		
Garage	100	CONC-1	-	?	?	?	?	?	See RCP	-	
Bathroom	102	CONC-1	-	FRP-1	FRP-1	FRP-1	FRP-1	ACT-1	See RCP	-	
Mech.	104	CONC-1	-	PT-1	PT-1	PT-	PT-1	ACT-1	See RCP	-	
Stair	106	CPT-2	VB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Storage	108	CPT-2	-	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Stair	200	CPT-2	VB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Hallway	202	CPT-2	VB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Entry	204	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Laundry	206	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	CB-1	
Hallway	208	LVT-1	WB-1	PT-1	-	PT-1	PT-1	PT-2	See RCP	-	
Closet	210	CPT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Bedroom	212	CPT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Closet	214	CPT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Bedroom	216	CPT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Bathroom	218	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	CB-1	
Living Room	220	LVT-1	WB-1	PT-1	-	PT-1	PT-1	PT-2	See RCP	-	
Kitchen	222	LVT-1	WB-1	-	PT-1/WT-1	PT-1	PT-1	PT-2	See RCP	CB-1	
Primary Bedroom	224	CPT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Prim. Closet	226	CPT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Primary Bath.	228	LVT-1	WB-1	PT-1/WT-2	PT-1/WT-2	PT-1/WT-2	PT-1/WT-2	PT-2	See RCP	CB-1	
Toilet	230	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
Closet	232	CPT-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	
HVAC	234	CPT-2	VB-1	PT-1	PT-1	PT-1	PT-1	PT-2	See RCP	-	

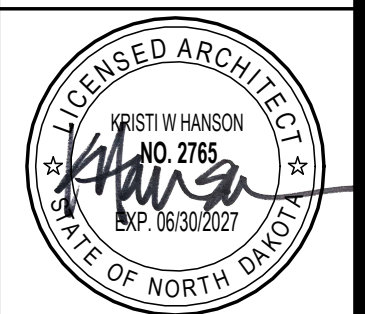


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ARCHITECTS, INC.

CITY APPROVAL:

TRMF RIDING STABLES - GARAGE
14532 L-94 Loop East
ND 58645

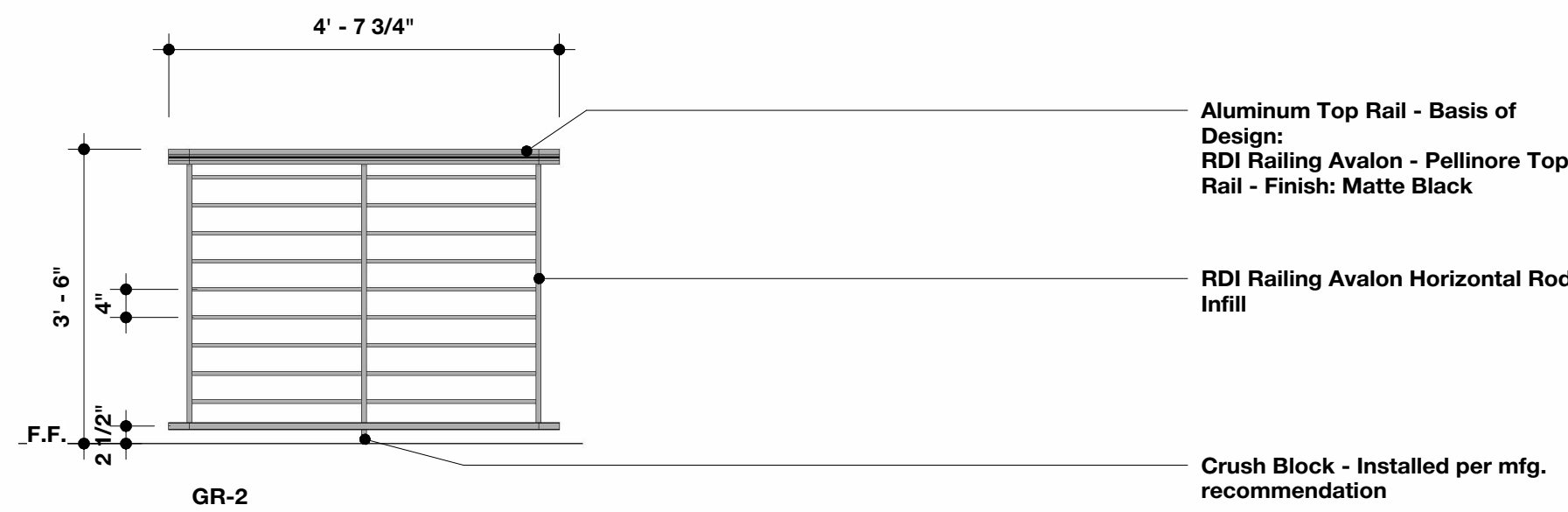
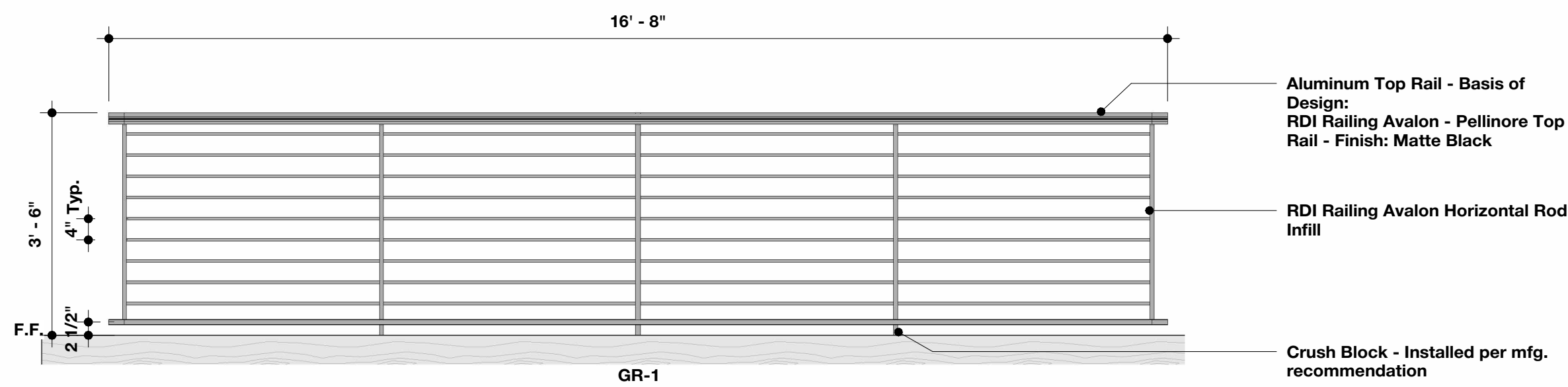


REVISION LIST	
SCHEMATIC	DESIGN REVIEW
DESIGN DEV.	DESIGN REVIEW
CONST. DOCS.	DESIGN REVIEW
CITY SUB. 1	BUDG. DEPT.
CITY SUB. 2	BUDG. DEPT.
CONSTR. REV 1	CONSTRUCTION
CONSTR. REV 2	CONSTRUCTION
CONSTR. REV 3	CONSTRUCTION

PROJECT # : 2515
CONTACT : KRISTI
SCALE: AS NOTED

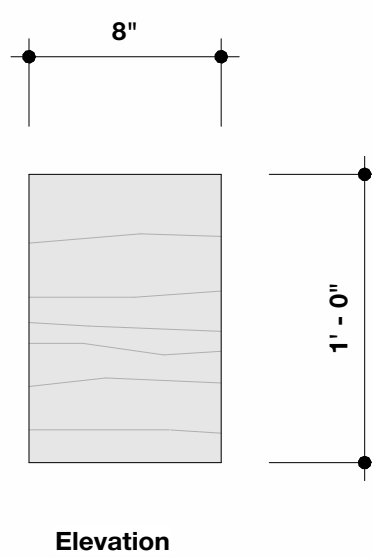
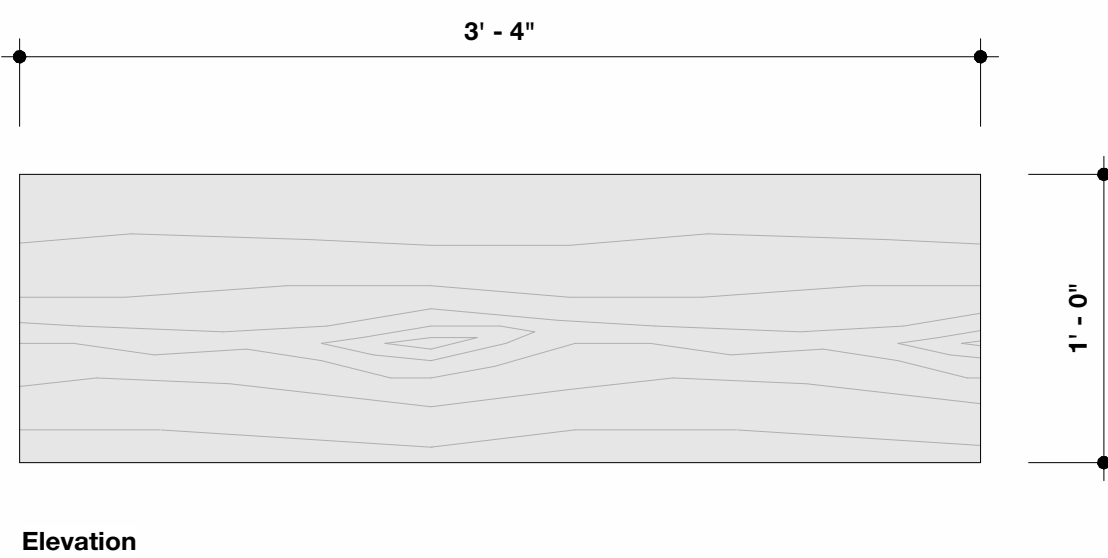
SCHEDULES

SHEET
A3.5
DATE: 08/07/26
Q.C. _____



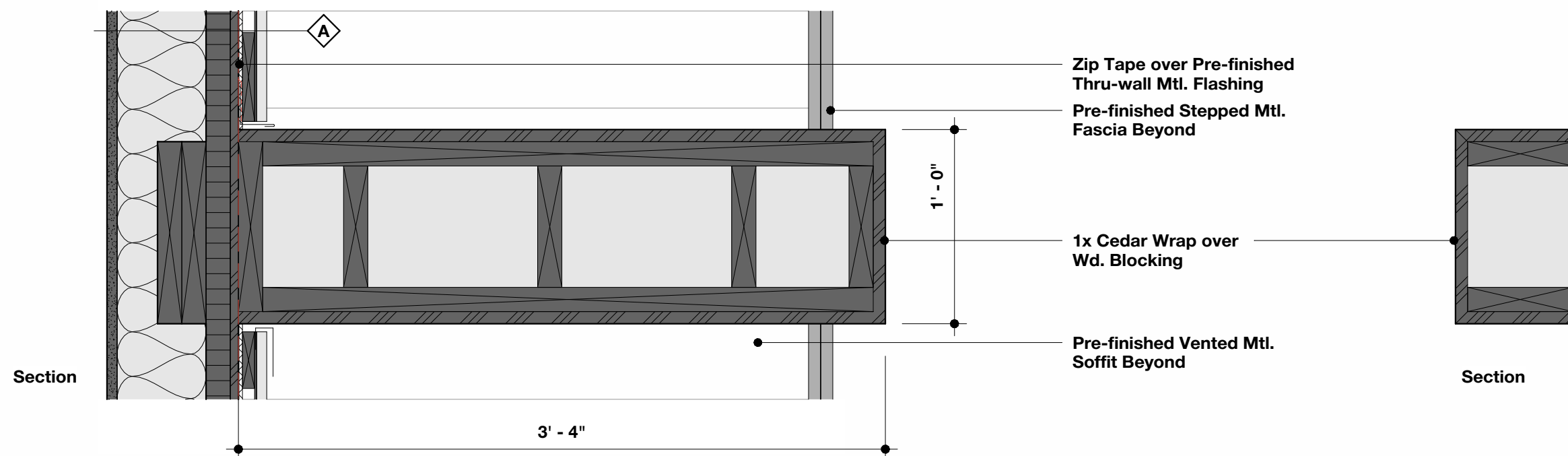
3 Guardrail Elevations

SCALE: 1/2" = 1'-0"

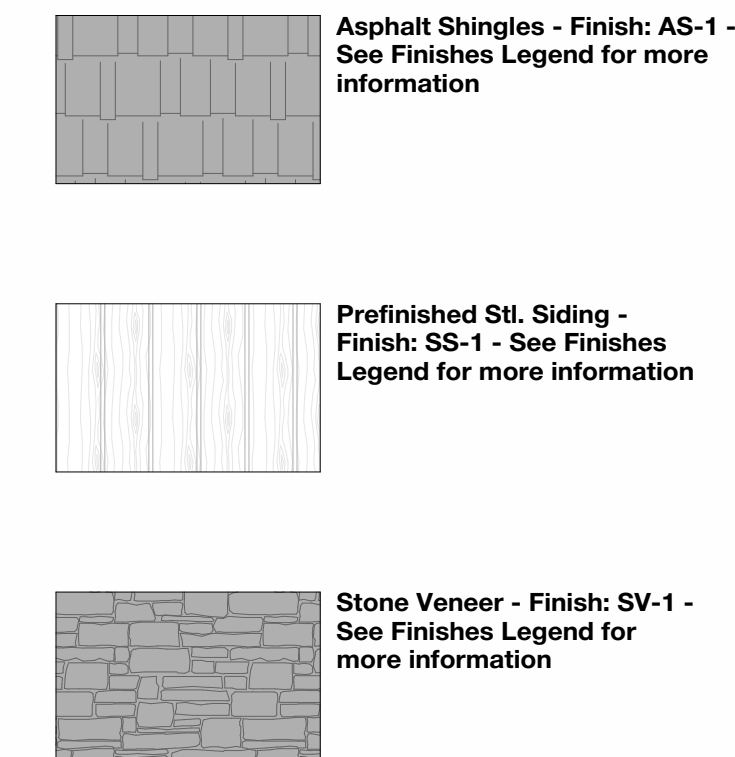


2 Gable Accent Details

SCALE: 1 1/2" = 1'-0"



Material Finish Legend



Elevation Keynotes

- Window/Door Trim - Finish: M-6 (M-7 at Window/Door head locations)
- Corner Trim - Finish: M-4
- Stone Cap - Basis of Design: Fon Du Lac Stone - Indiana Rockface Sill
- Pre-finished stepped metal fascia wrap - Finish: M-1
- Wd. Gable Accents - See details for additional information
- Aluminum Gutter & Downspout System - Finish: M-2 (Gutter) and M-3 (Downspout)
- Light Fixture - See Elec. Drawings
- 1x12 Cedar Trim - Finish: ST-2
- Cedar Window Shutter - Finish: ST-1
- Cedar Feaux Barn Door - Basis of Design: Match Adjacent Door
- Vertical Transition Trim - Basis of Design: MAC Metal Architectural M12H - Finish: Match Adjacent Siding



1 Elevation 1

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

72-185 PAINTERS PATH
SUITE A
PALM DESERT, CA
92260
760.776.4068

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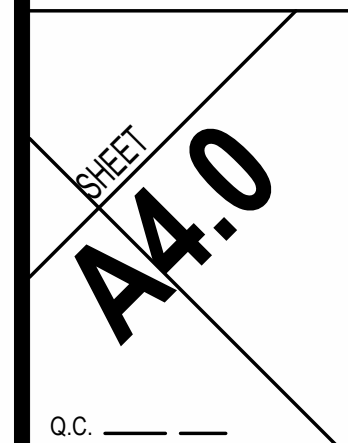
REVISION LIST	
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CONSTR. REV 2	CONSTRUCTION
CONSTR. REV 3	CONSTRUCTION

PROJECT #: 2515

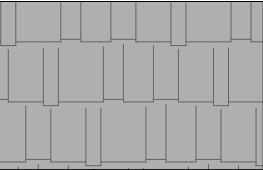
CONTACT: KRISTI

SCALE: AS NOTED

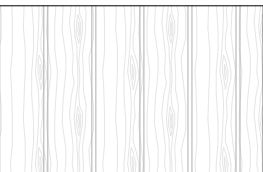
BUILDING
ELEVATIONS



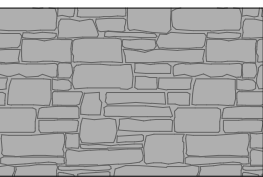
Material Finish Legend



Asphalt Shingles - Finish: AS-1 - See Finishes Legend for more information



Prefinished Siding - Finish: SS-1 - See Finishes Legend for more information



Stone Veneer - Finish: SV-1 - See Finishes Legend for more information

Elevation Keynotes

- 1 Window/Door Trim - Finish: M-6 (M-7 at Window/Door head locations)
- 2 Corner Trim - Finish: M-4
- 3 Stone Cap - Basis of Design: Fon Du Lac Stone - Indiana Rockface Sill
- 4 Pre-finished stepped metal fascia wrap - Finish: M-1
- 5 Wd. Gable Accents - See details for additional information
- 6 Aluminum Gutter & Downspout System - Finish: M-2 (Gutter) and M-3 (Downspout)
- 7 Light Fixture - See Elec. Drawings
- 8 1x12 Cedar Trim - Finish: ST-2
- 9 Cedar Window Shutter - Finish: ST-1
- 10 Cedar Feaux Barn Door - Basis of Design: Match Adjacent Door
- 11 Vertical Transition Trim - Basis of Design: MAC Metal Architectural M12H - Finish: Match Adjacent Siding

72-185 PAINTERS PATH
SUITE A
PALM DESERT, CA
92260
760.776.4068

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CITY APPROVAL:

TRMF RIDING STABLES - GARAGE
14532 1-94 Loop East
ND 58645



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CONSTR. REV 2	
CONSTR. REV 3	

PROJECT # : 2515

CONTACT : KRISTI

SCALE: AS NOTED

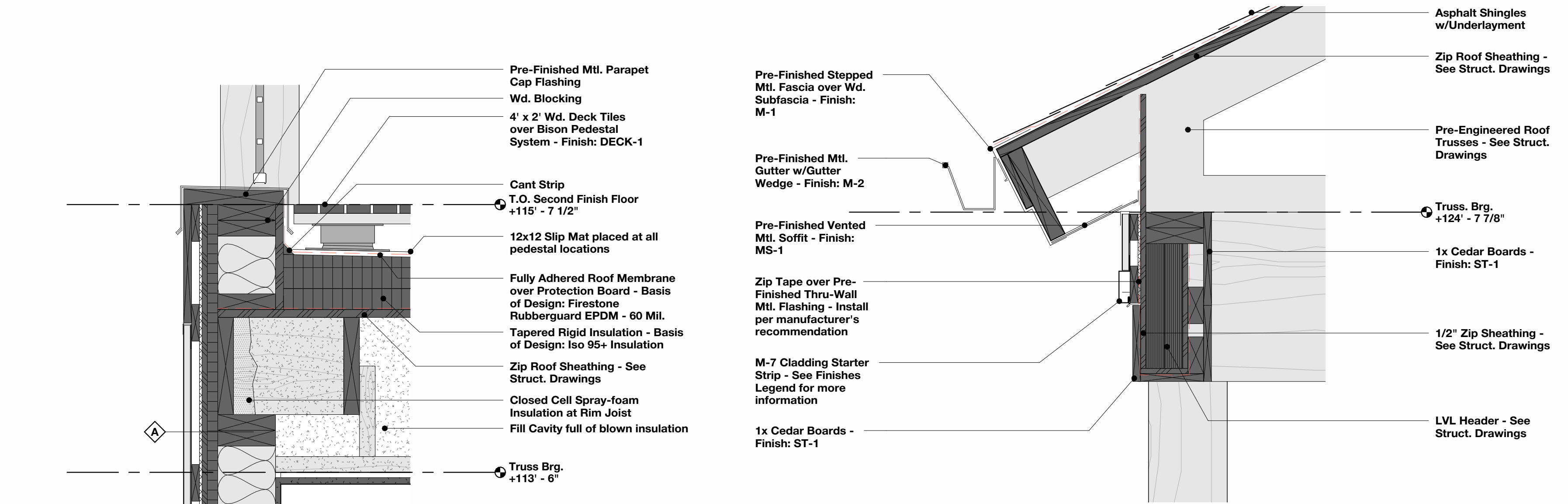
BUILDING
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DATE: 08/07/26

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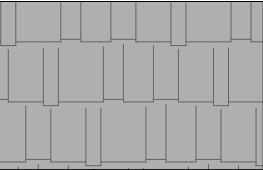
2 Section Detail - Balcony Parapet
SCALE: 1 1/2" = 1'-0"

3 Section Detail - Eave @ Balcony
SCALE: 1 1/2" = 1'-0"



1 Elevation 2
SCALE: 1/4" = 1'-0"

Material Finish Legend



Asphalt Shingles - Finish: AS-1 - See Finishes Legend for more information



Prefinished Stl. Siding - Finish: SS-1 - See Finishes Legend for more information



Stone Veneer - Finish: SV-1 - See Finishes Legend for more information

Elevation Keynotes

- 1 Window/Door Trim - Finish: M-6 (M-7 at Window/Door head locations)
- 2 Corner Trim - Finish: M-4
- 3 Stone Cap - Basis of Design: Fon Du Lac Stone - Indiana Rockface Sill
- 4 Pre-finished stepped metal fascia wrap - Finish: M-1
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- 11 Vertical Transition Trim - Basis of Design: MAC Metal Architectural M12H - Finish: Match Adjacent Siding

72-185 PAINTERS PATH
SUITE A
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CONSTR. REV 3	

PROJECT # : 2515
CONTACT : KRISTI
SCALE: AS NOTED

BUILDING
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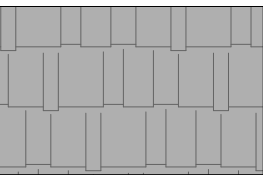
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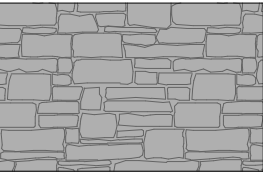
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Material Finish Legend

- 

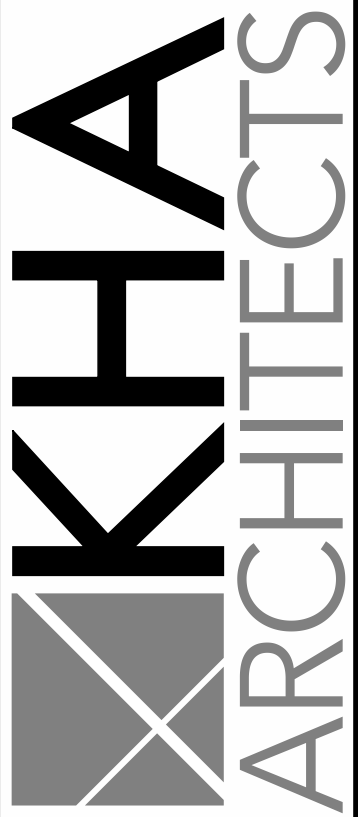
Asphalt Shingles - Finish: AS-1 - See Finishes Legend for more information
- 

Prefinished Stl. Siding - Finish: SS-1 - See Finishes Legend for more information
- 

Stone Veneer - Finish: SV-1 - See Finishes Legend for more information

Elevation Keynotes

- Window/Door Trim - Finish: M-6 (M-7 at Window/Door head locations)
- Corner Trim - Finish: M-4
- Stone Cap - Basis of Design: Fon Du Lac Stone - Indiana Rockface Sill
- Pre-finished stepped metal fascia wrap - Finish: M-1
- Wd. Gable Accents - See details for additional information
- Aluminum Gutter & Downspout System - Finish: M-2 (Gutter) and M-3 (Downspout)
- Light Fixture - See Elec. Drawings
- 1x12 Cedar Trim - Finish: ST-2
- Cedar Window Shutter - Finish: ST-1
- Cedar Feaux Barn Door - Basis of Design: Match Adjacent Door
- Vertical Transition Trim - Basis of Design: MAC Metal Architectural M12H - Finish: Match Adjacent Siding



72-185 PAINTERS PATH
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CITY APPROVAL:

TRMF RIDING STABLES - GARAGE
14532 L-94 Loop East
ND 58645



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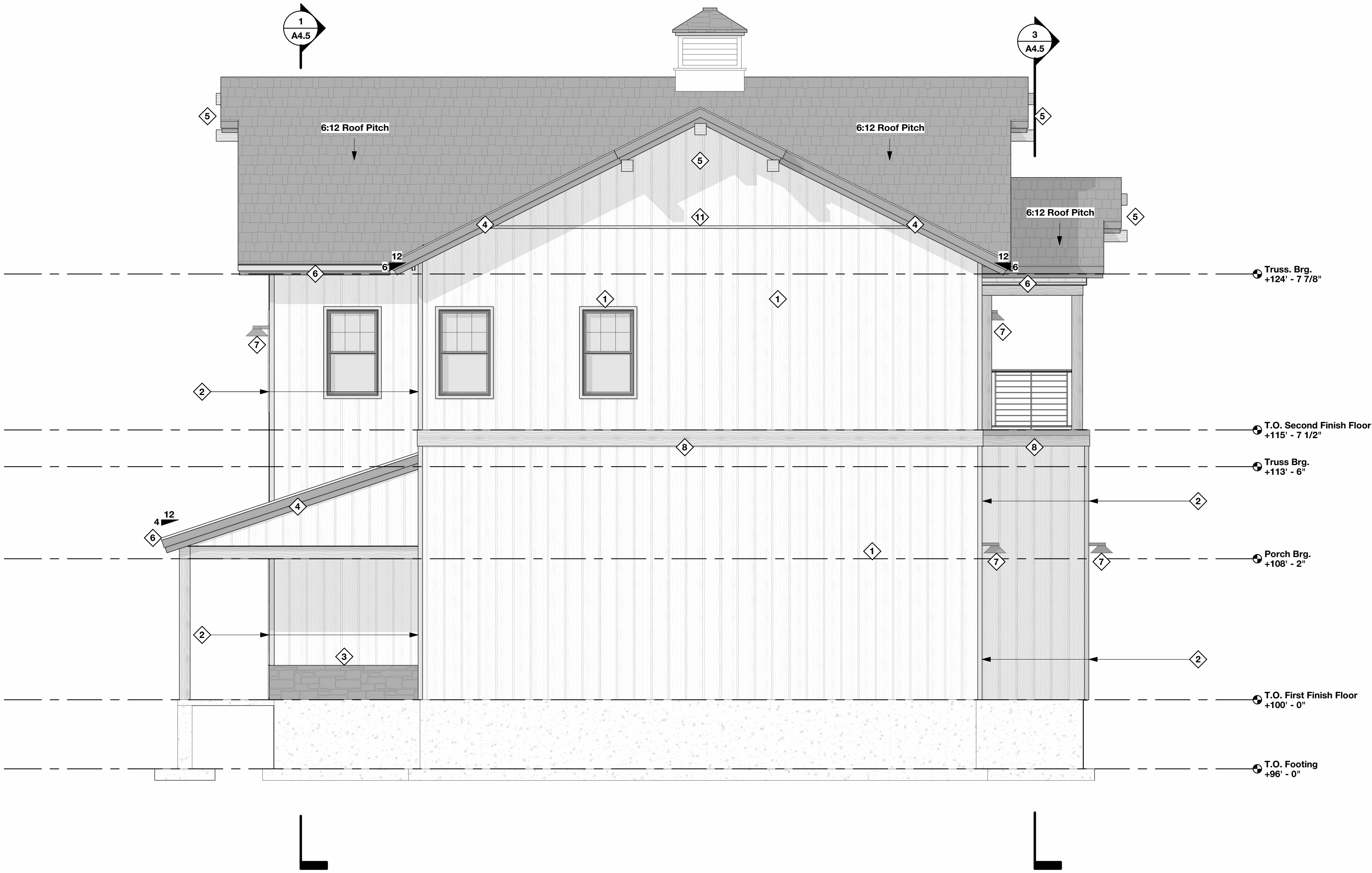
PROJECT # : 2515
CONTACT : KRISTI
SCALE: AS NOTED

BUILDING
ELEVATIONS

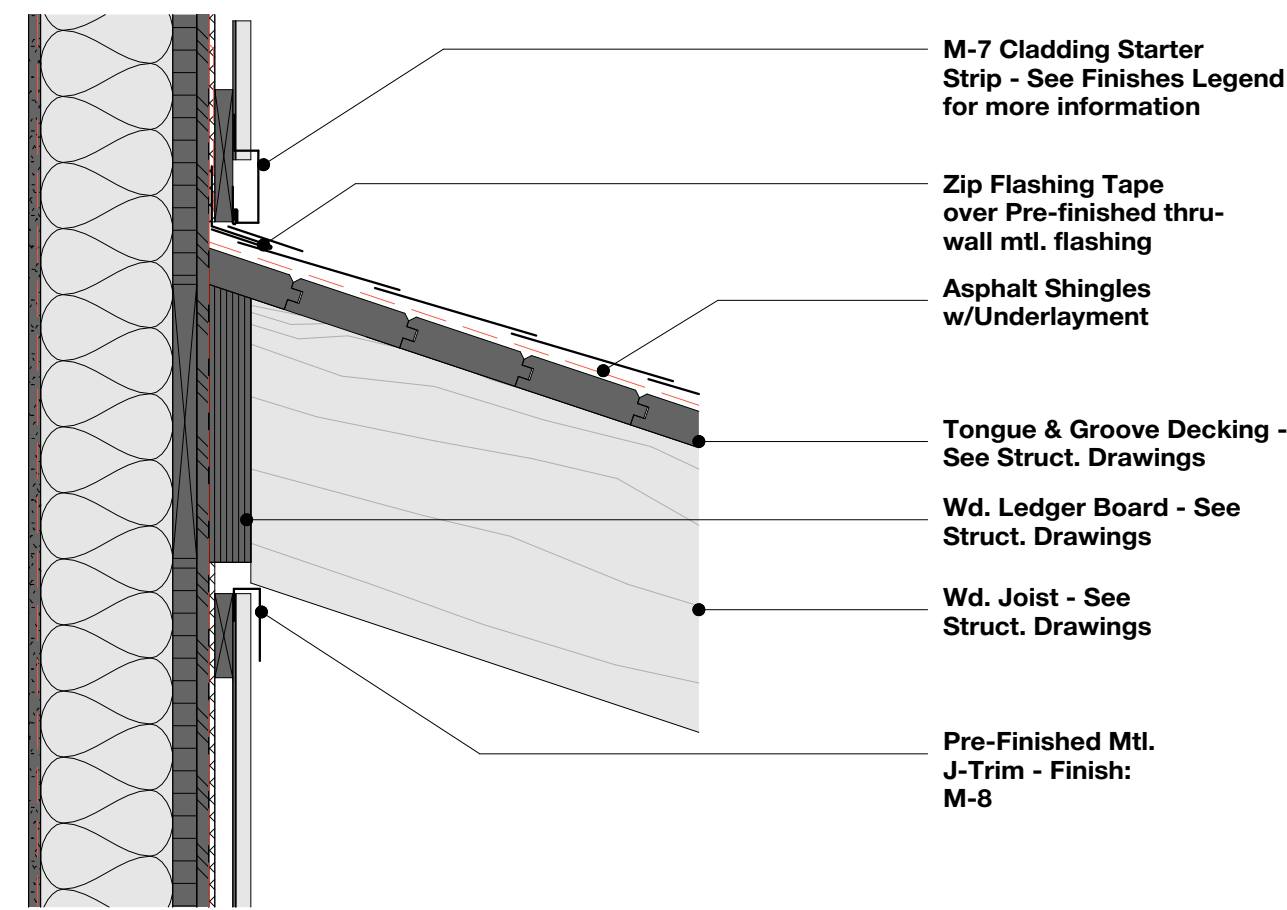
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DATE: 08/07/26

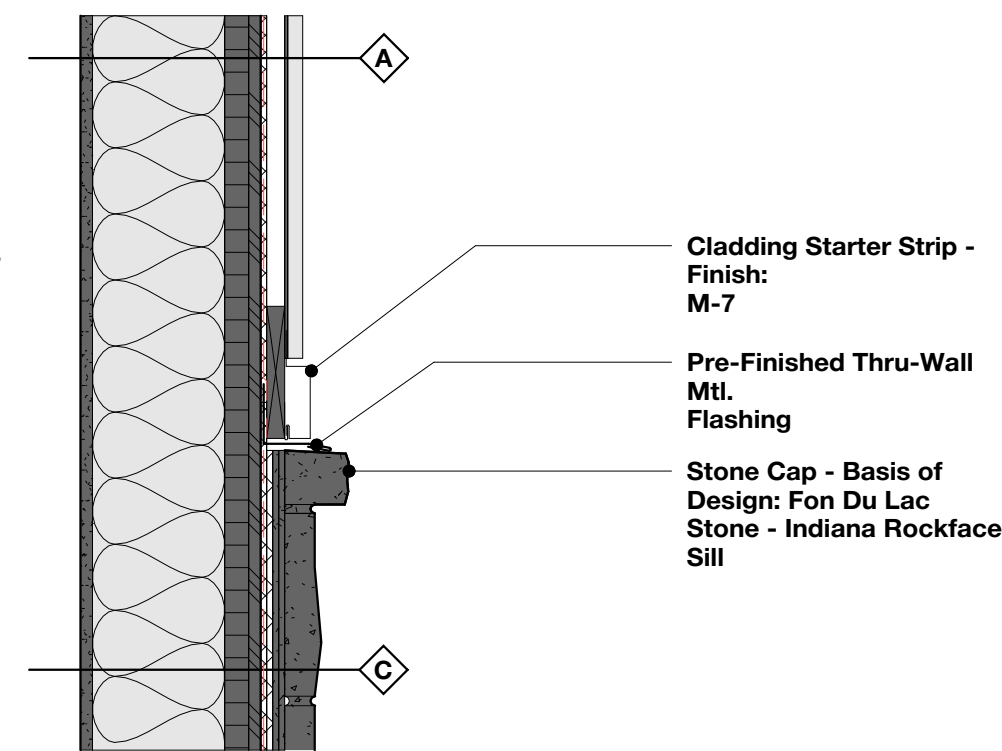
Q.C. _____



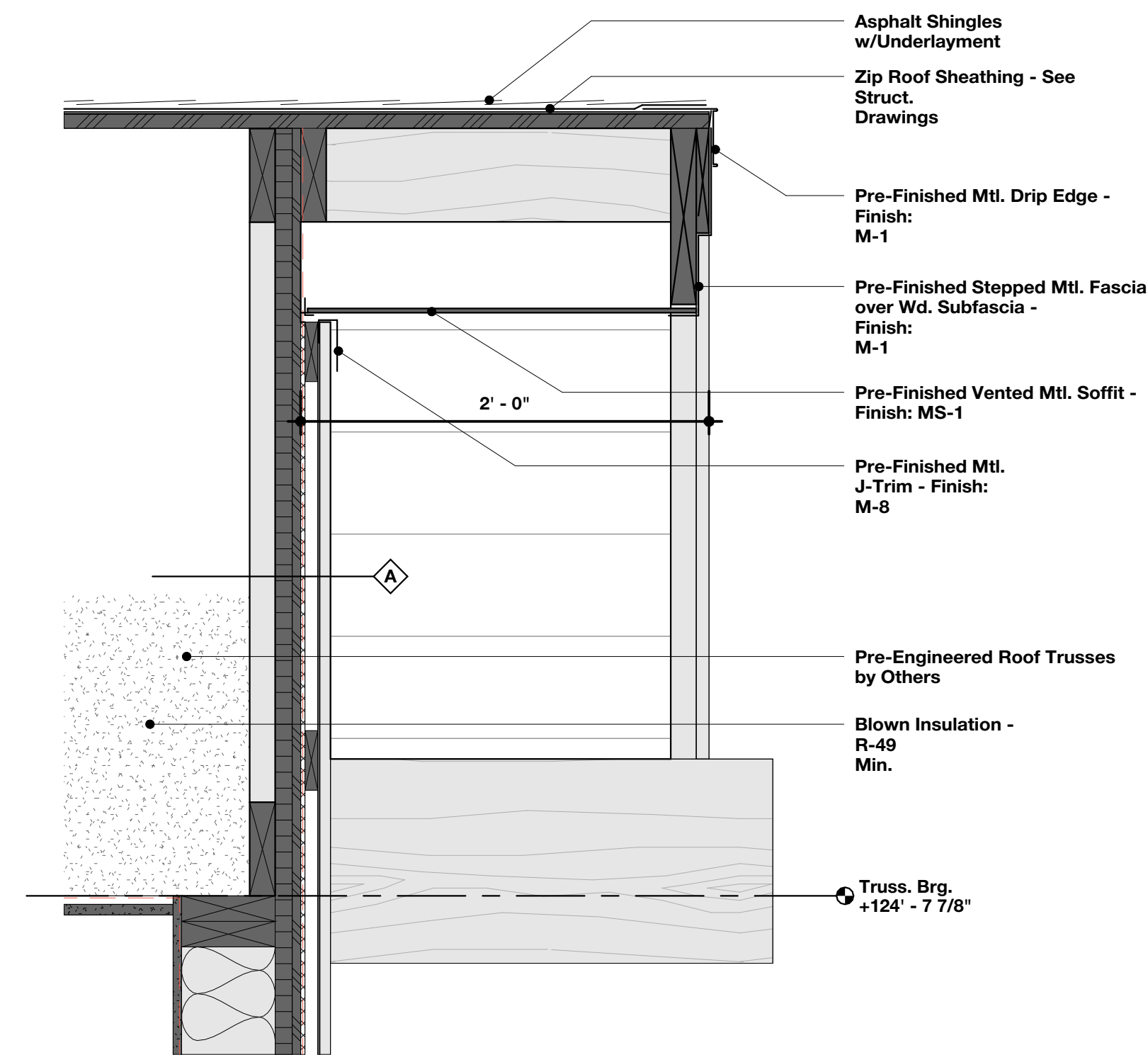
1 Elevation 4
SCALE: 1/4" = 1'-0"



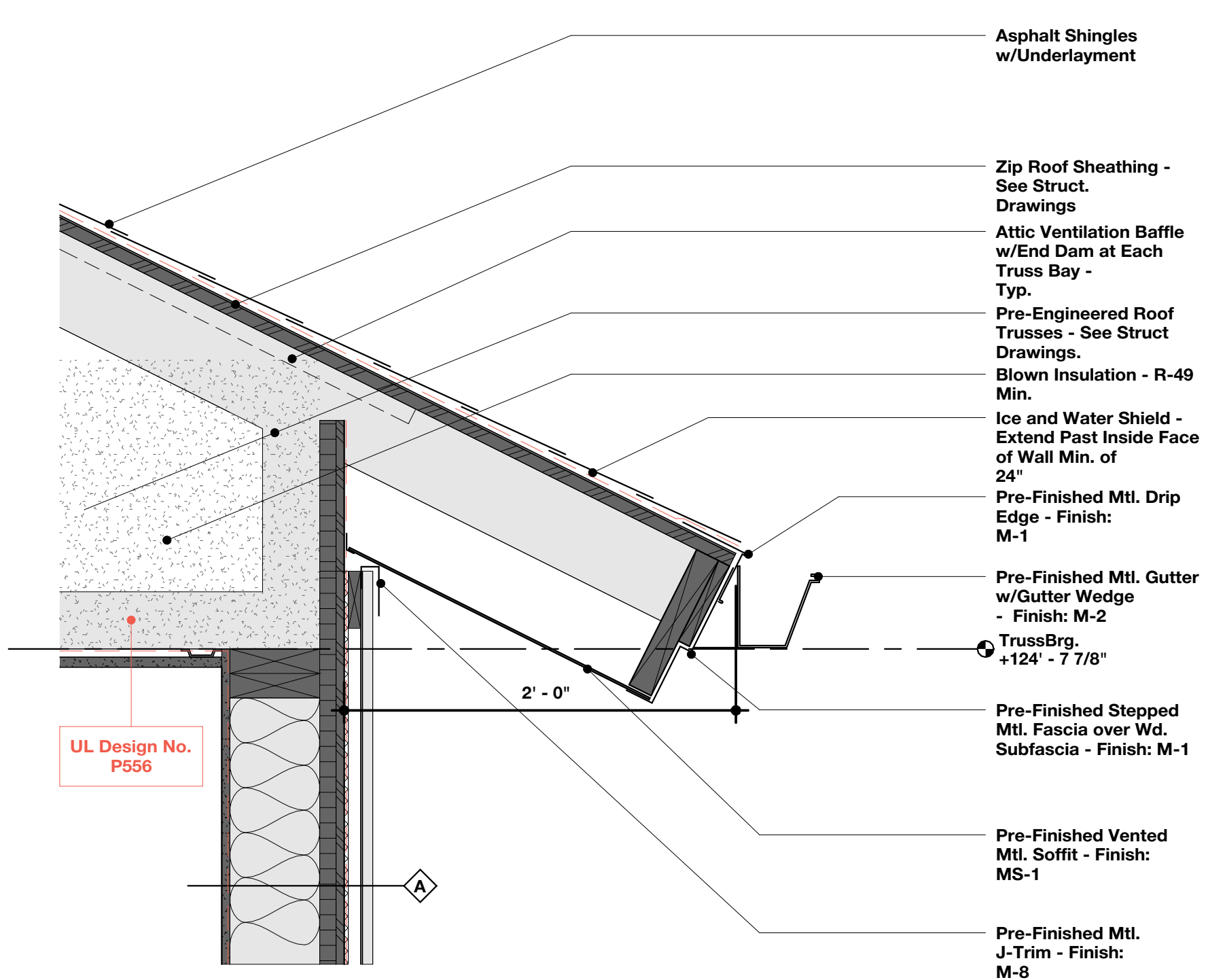
7 Section Detail - Roof/Wall Intersection
SCALE: 1 1/2" = 1'-0"



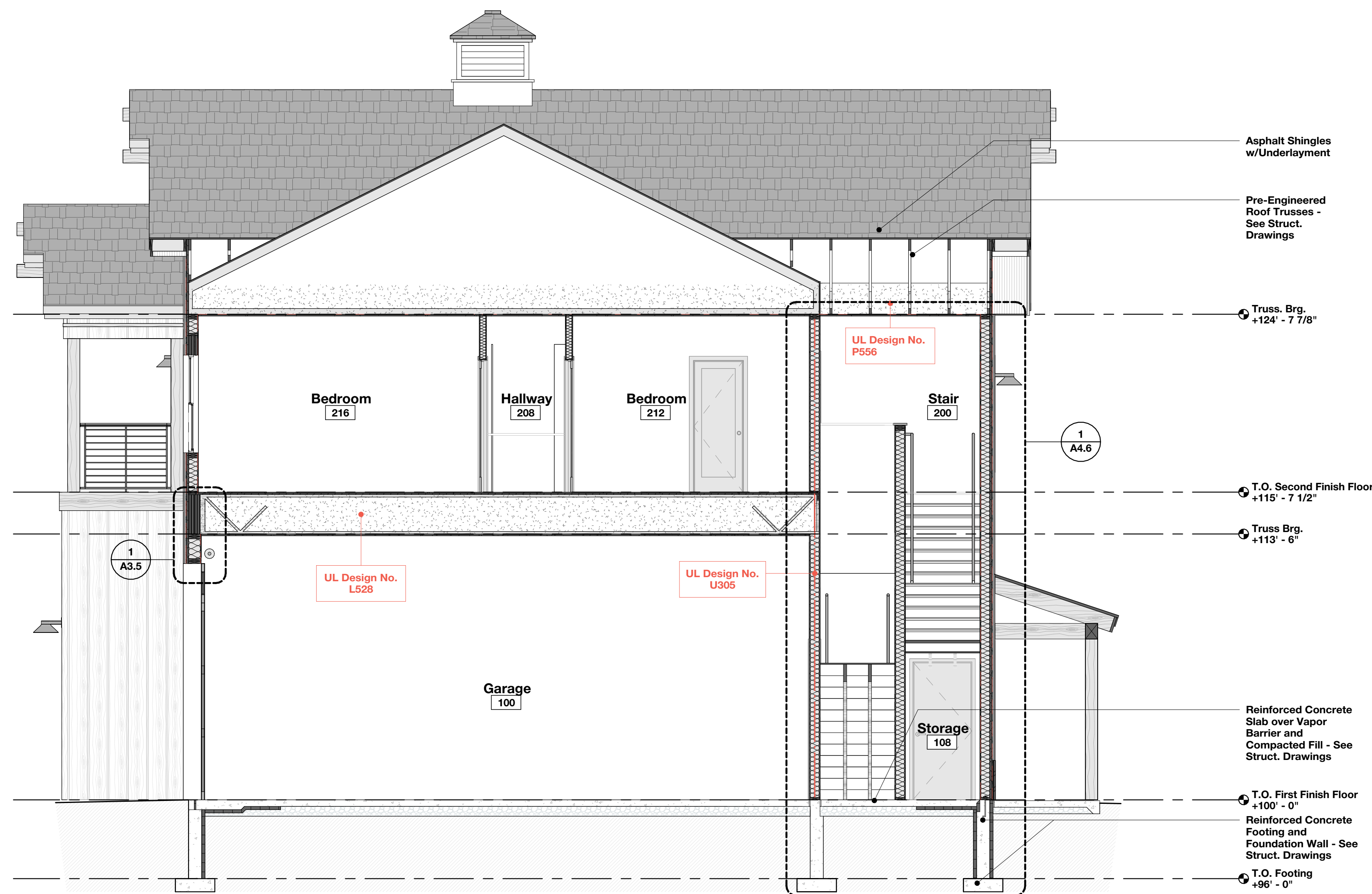
6 Section Detail - Stone Cap
SCALE: 1 1/2" = 1'-0"



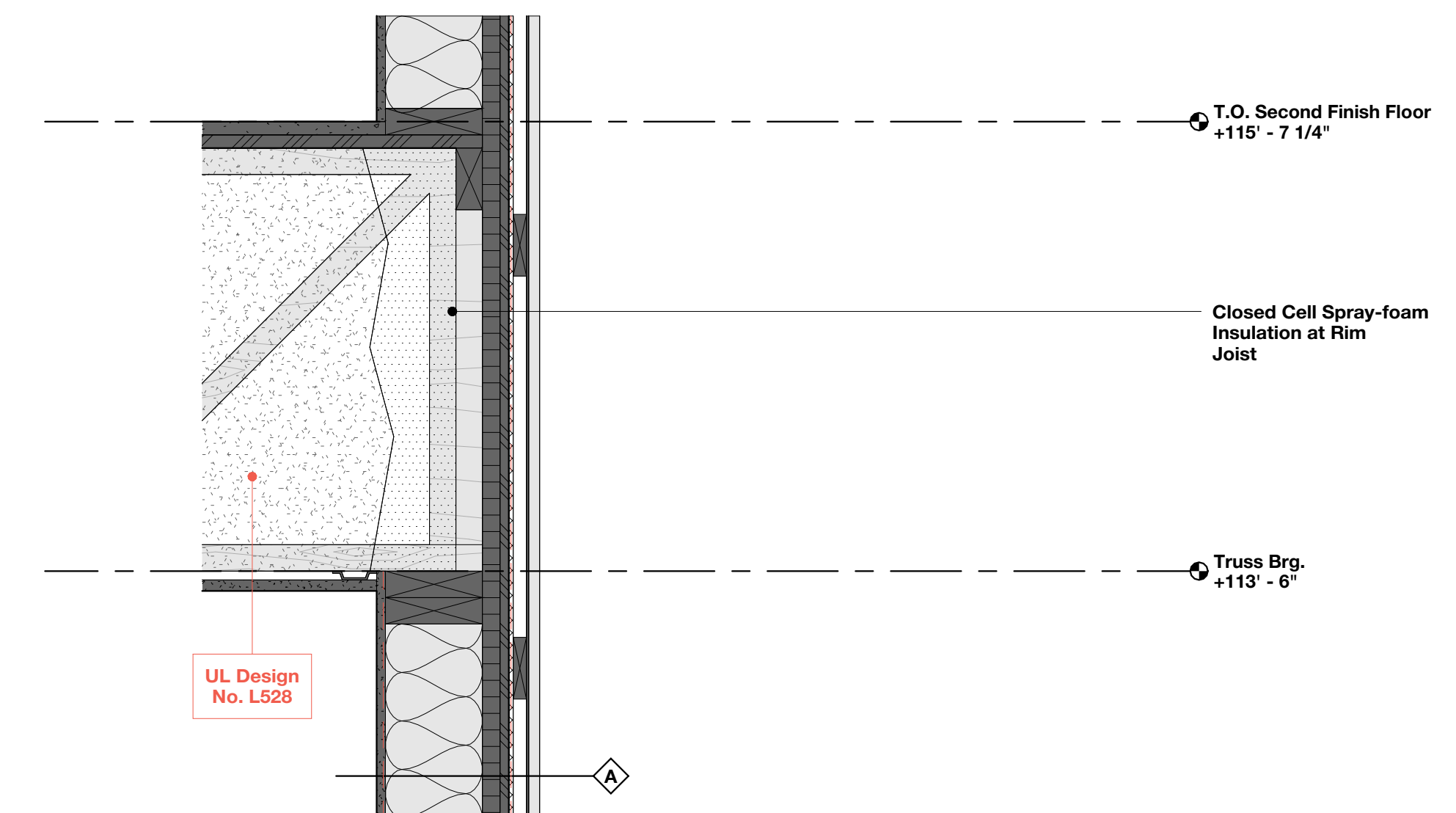
2 Section Detail - Rake
SCALE: 1 1/2" = 1'-0"



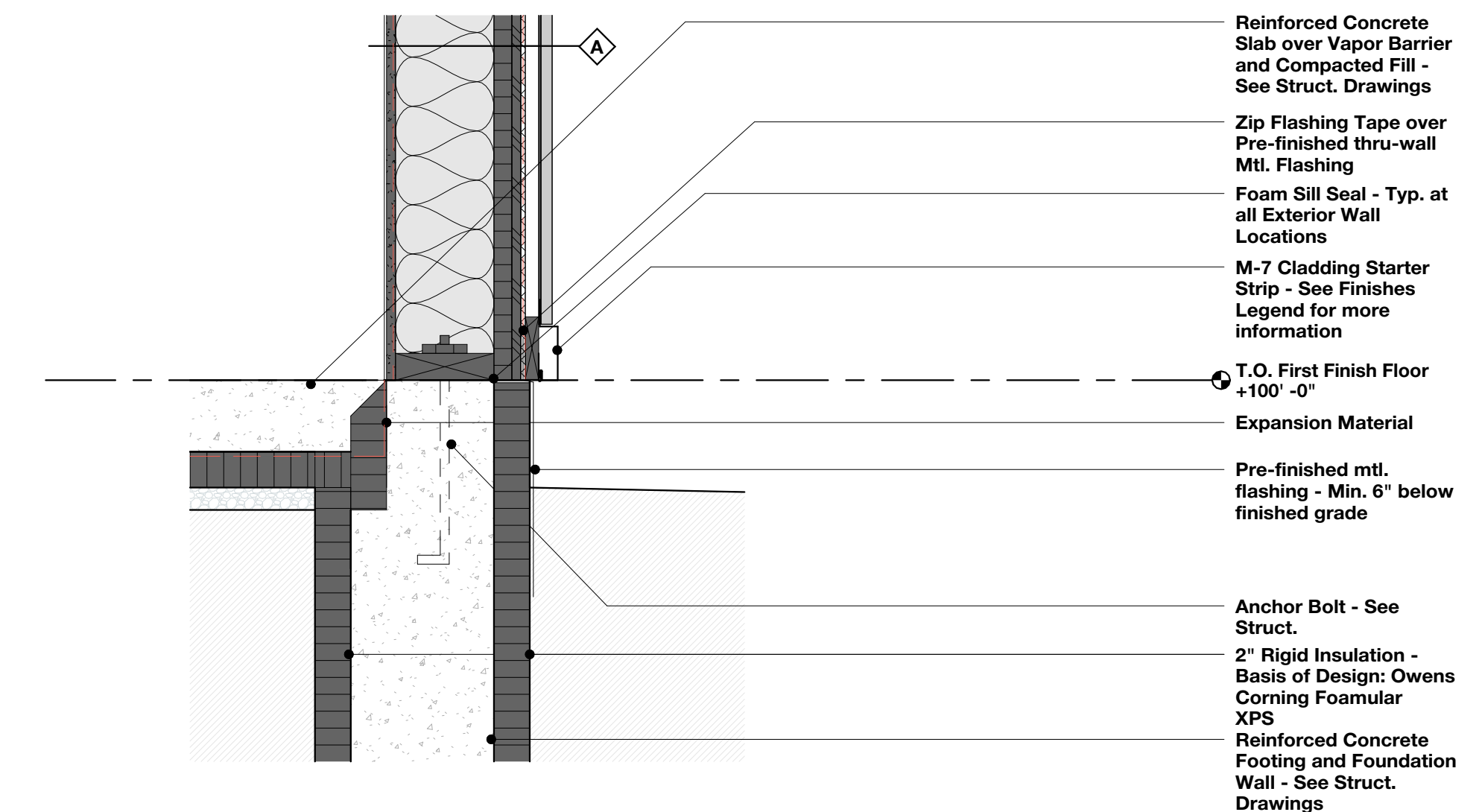
4 Section Detail - Eave
SCALE: 1 1/2" = 1'-0"



1 Building Section - A
SCALE: 1/4" = 1'-0"



5 Section Detail - Rim Joist
SCALE: 1 1/2" = 1'-0"

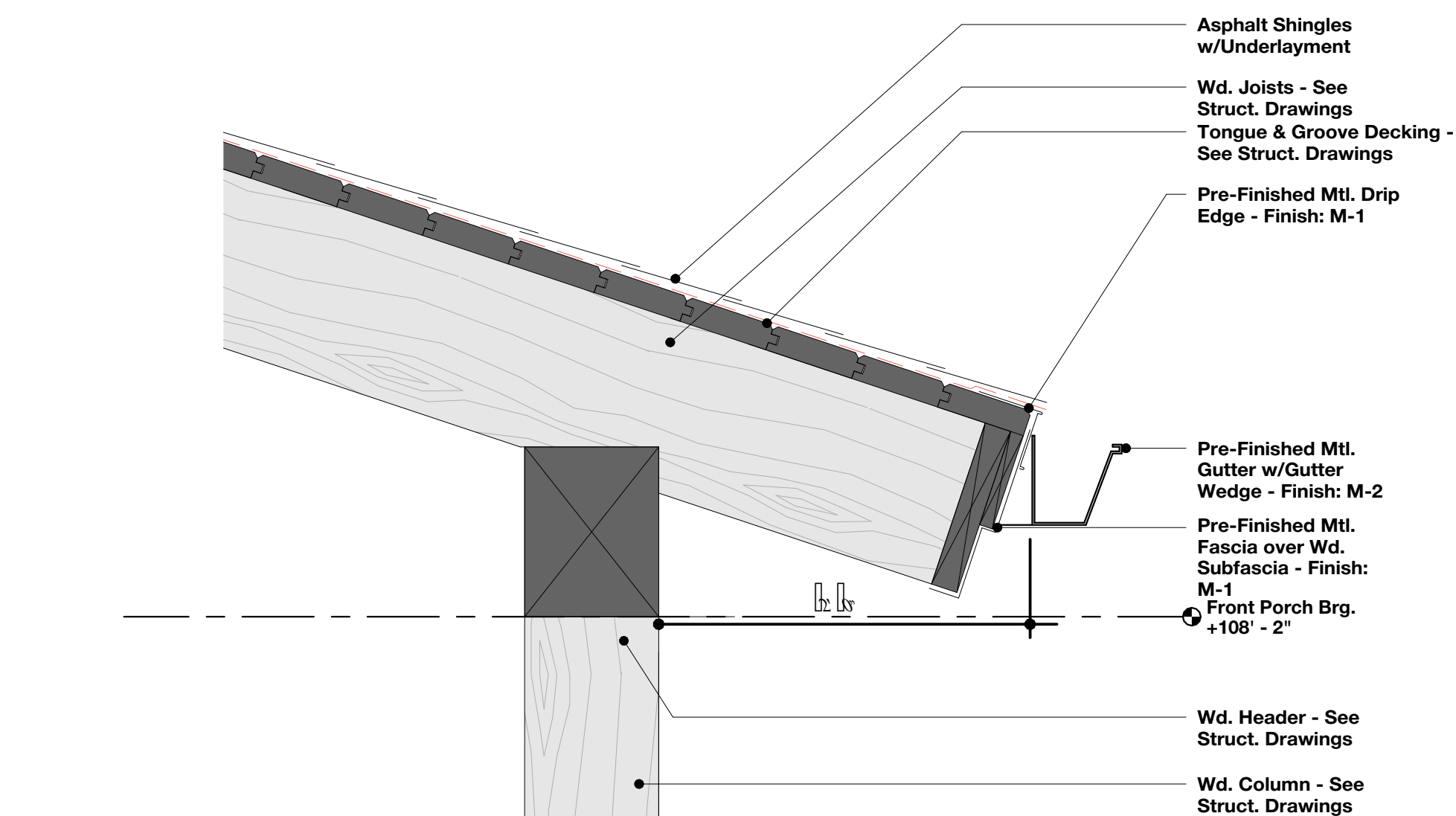


3 Section Detail - Foundation
SCALE: 1 1/2" = 1'-0"

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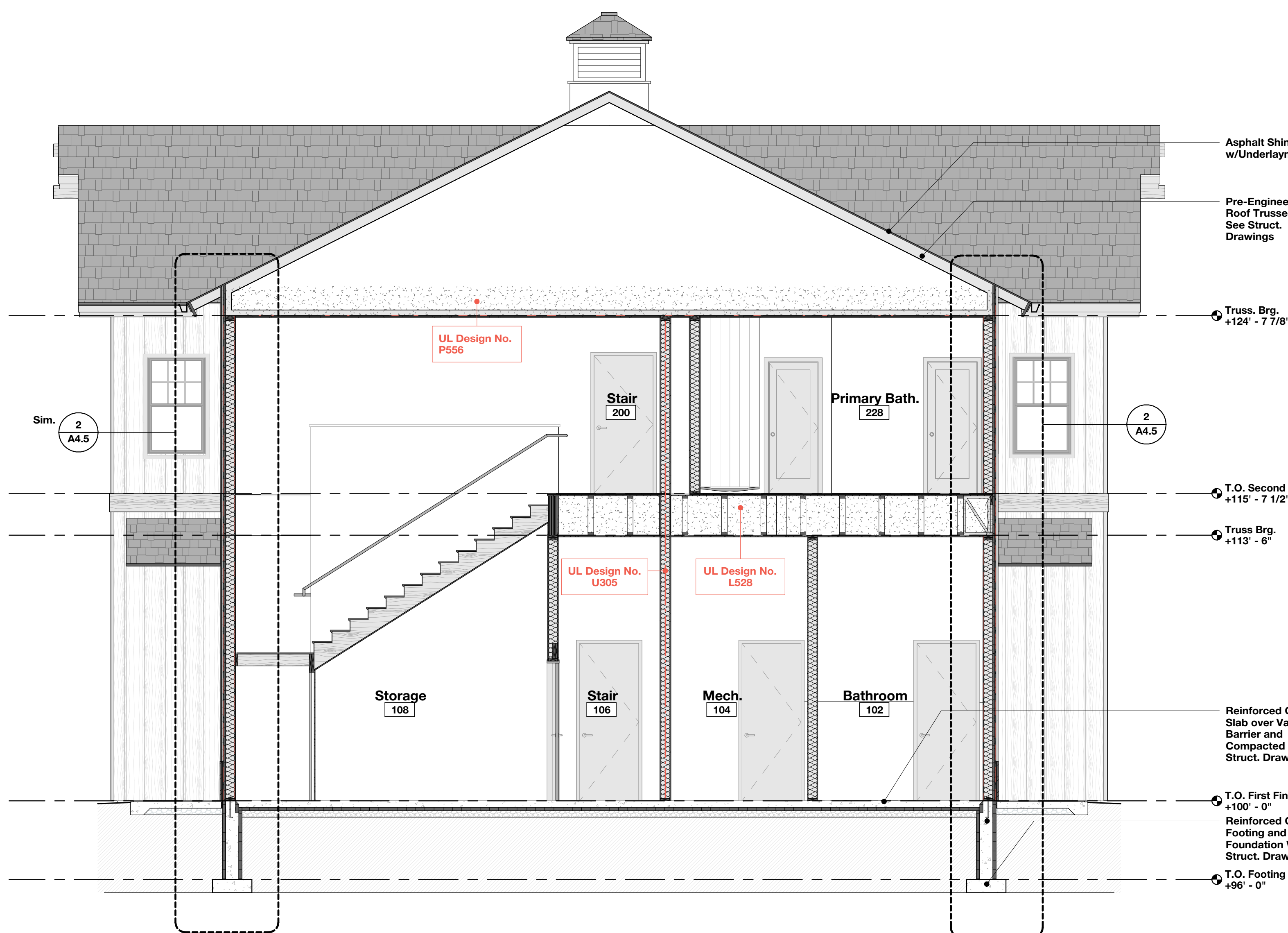
BUILDING SECTIONS



4

Section Detail - Eave @ Front Porch

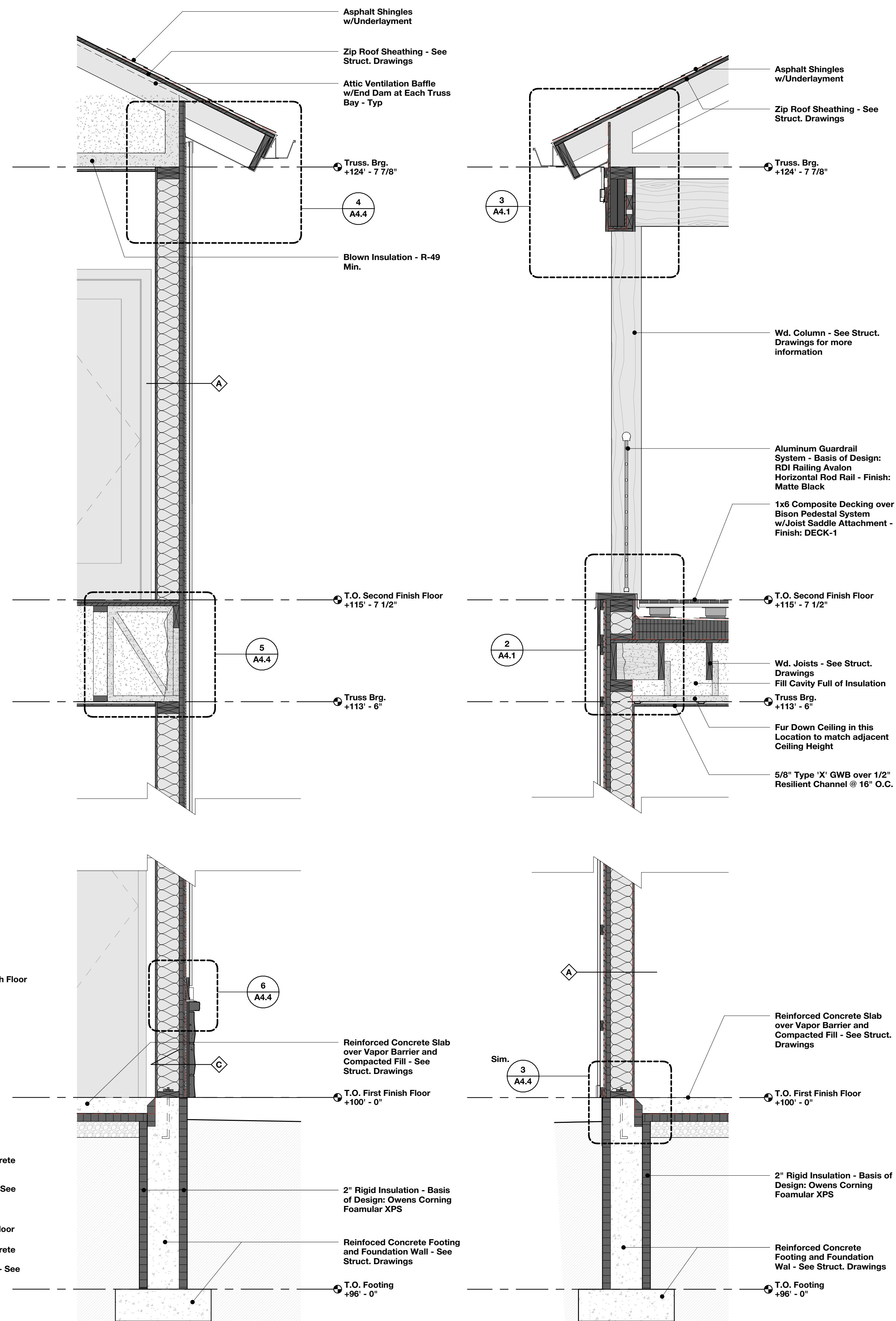
SCALE: 1 1/2" = 1'-0"



1

Building Section - B

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



2

Wall Section - Typ

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

3

Wall Section - Balcony

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

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LICENSED ARCHITECT
KRISTI W. HANSON
NO. 2765
EXP. 06/30/2027

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BUILDING SECTIONS

SHEET
A4.5

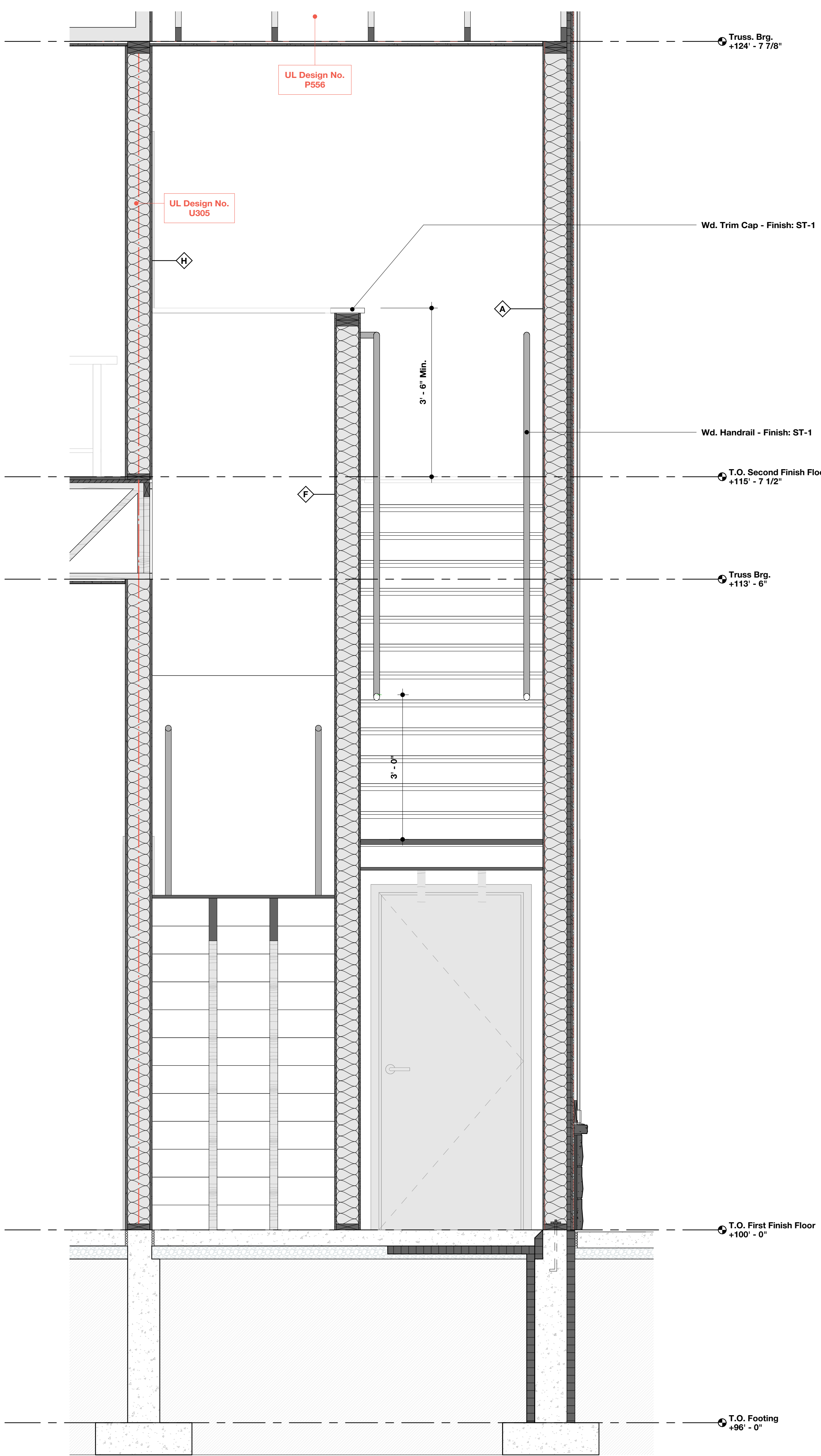
DATE: 08/07/26

Q.C. _____

1

Stair Section - A

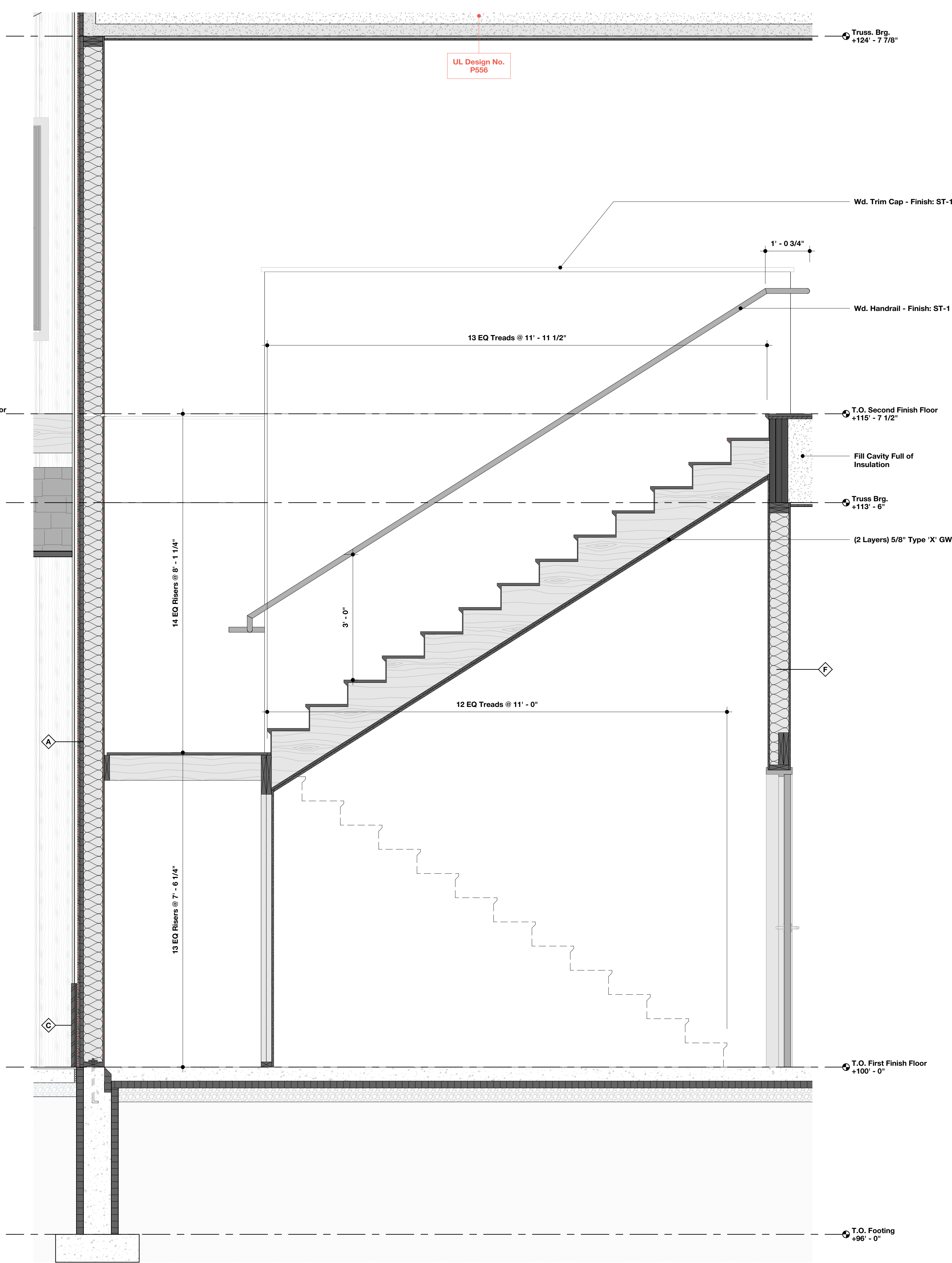
SCALE: 3/4" = 1'-0"



2

Stair Section - B

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



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LICENSED ARCHITECT
KRISTI W. HANSON
NO. 2765
EXP. 06/30/2027
STATE OF NORTH DAKOTA

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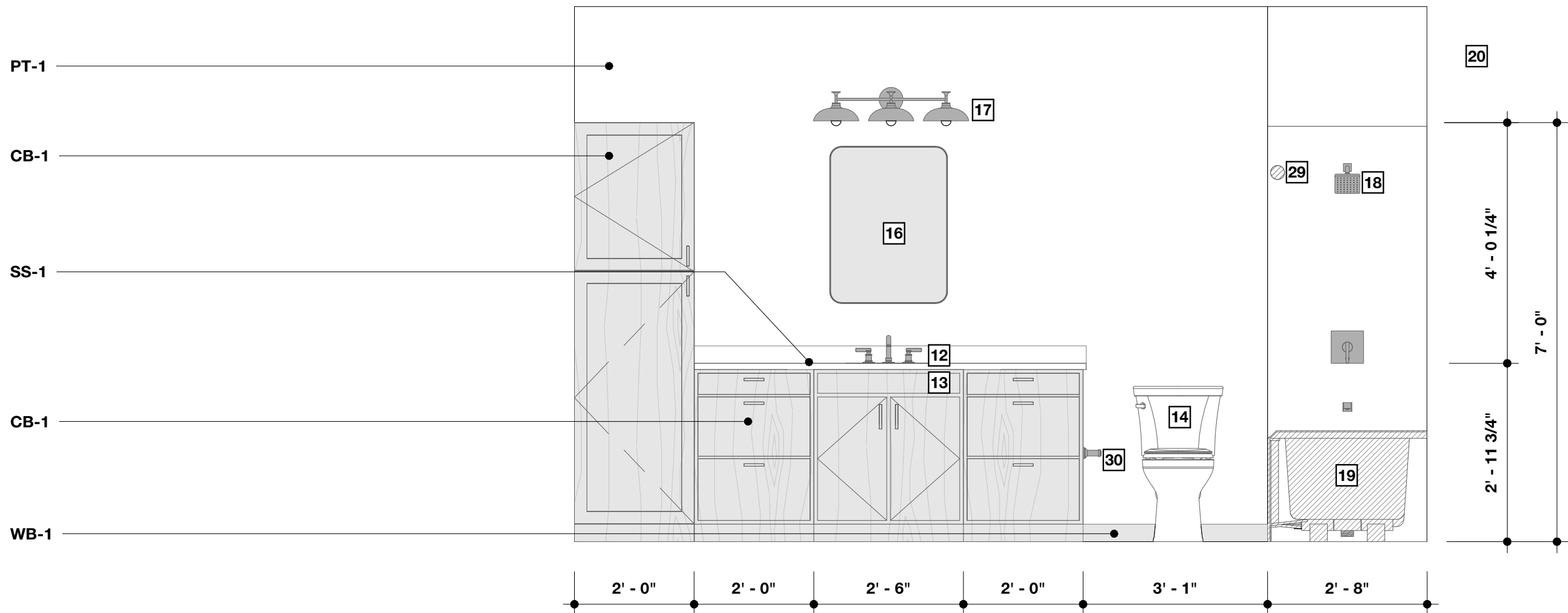
SCALE: AS NOTED

STAIR SECTIONS

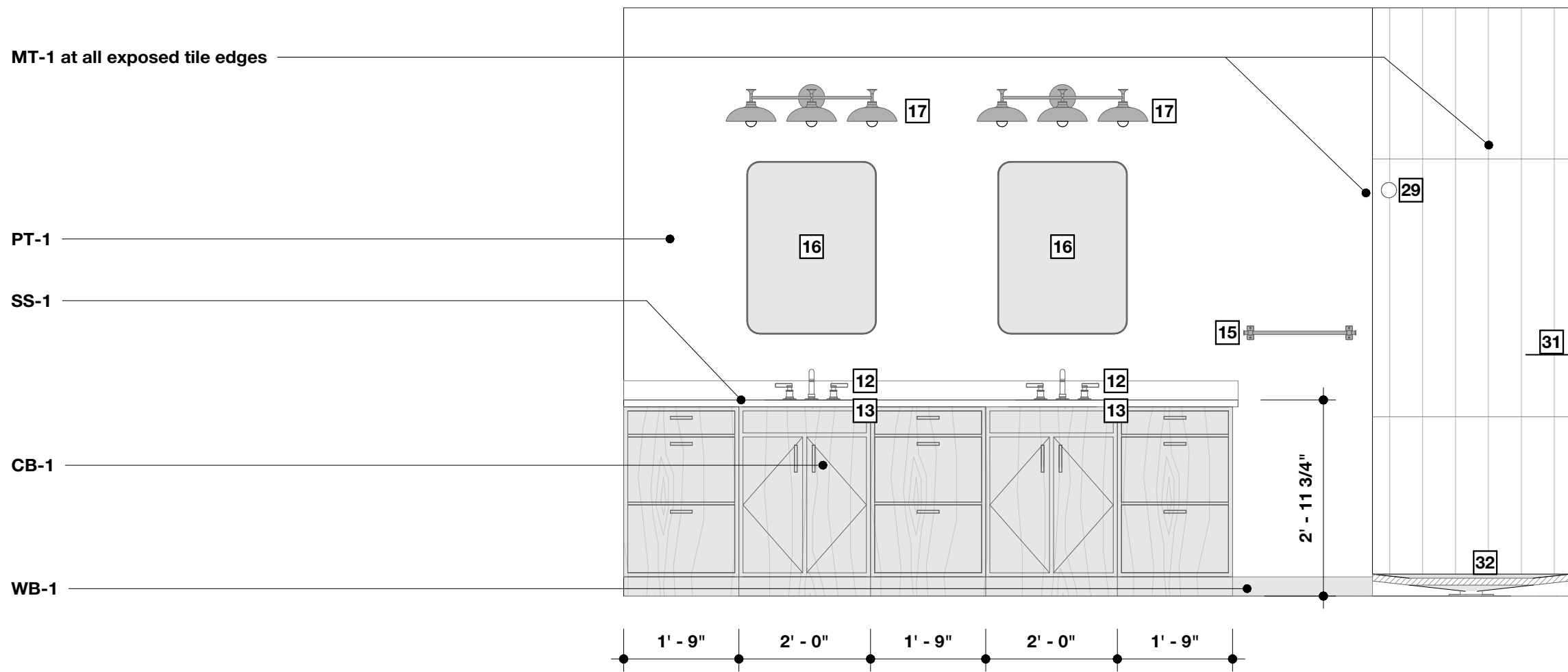
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A4.6

DATE: 08/07/26

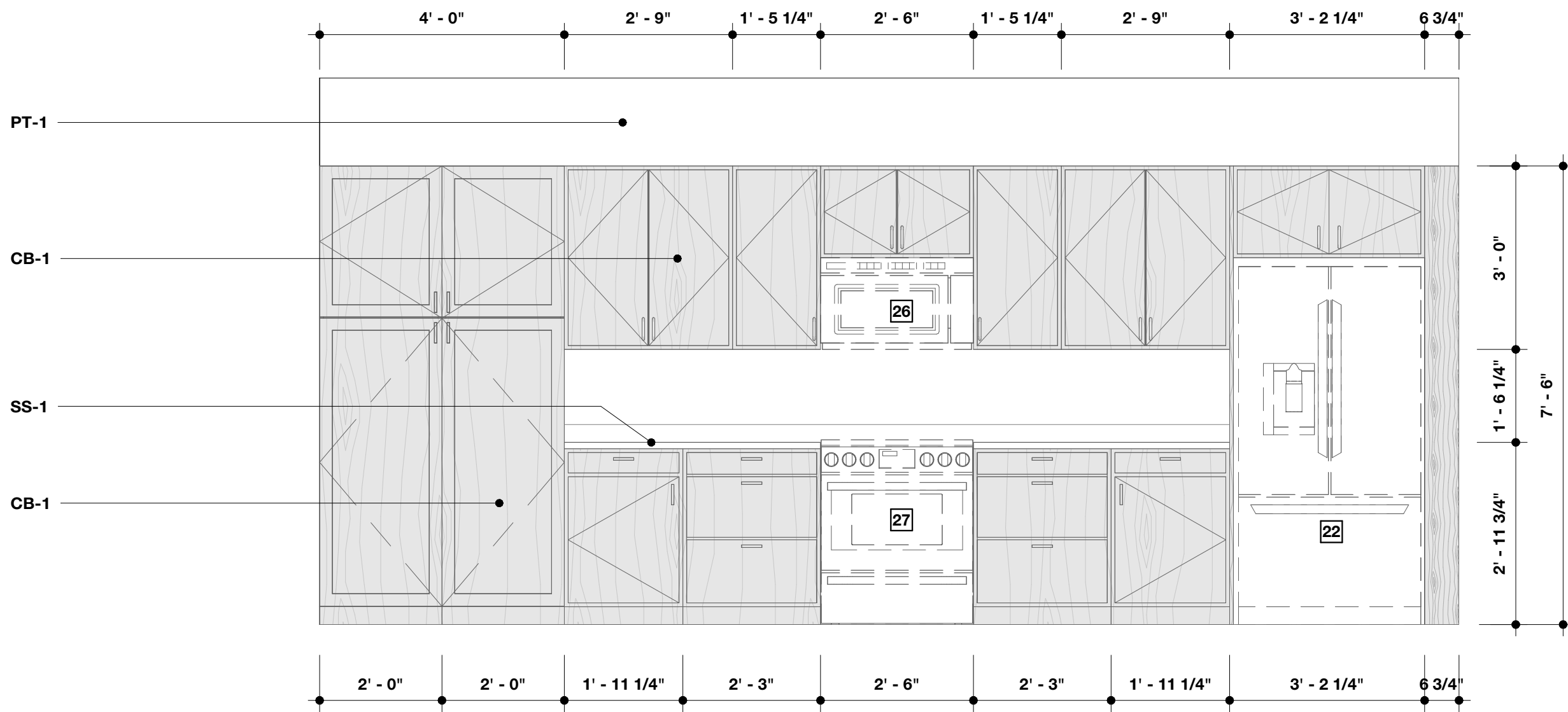
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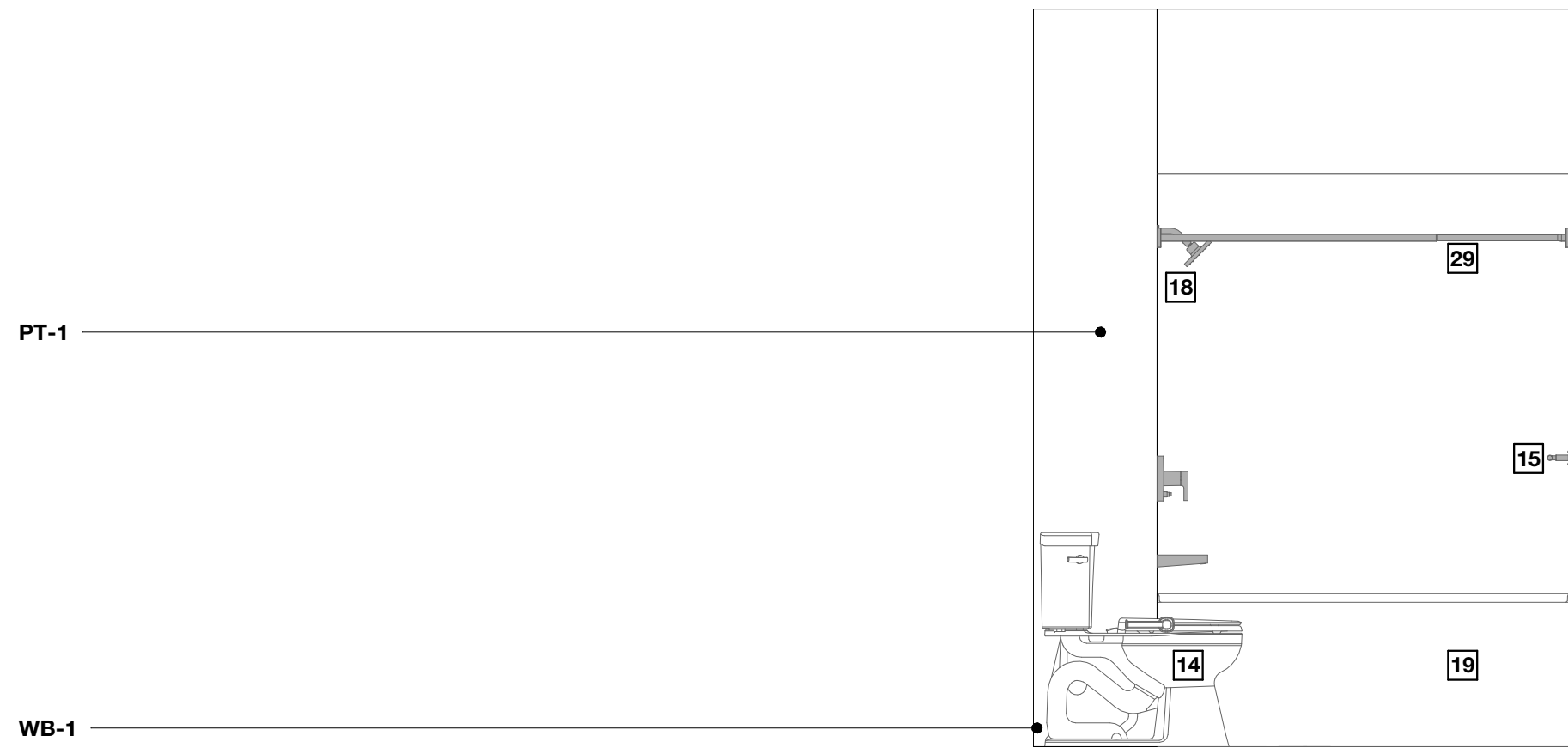
5 Bathroom 218 - A
SCALE: 1/2" = 1'-0"



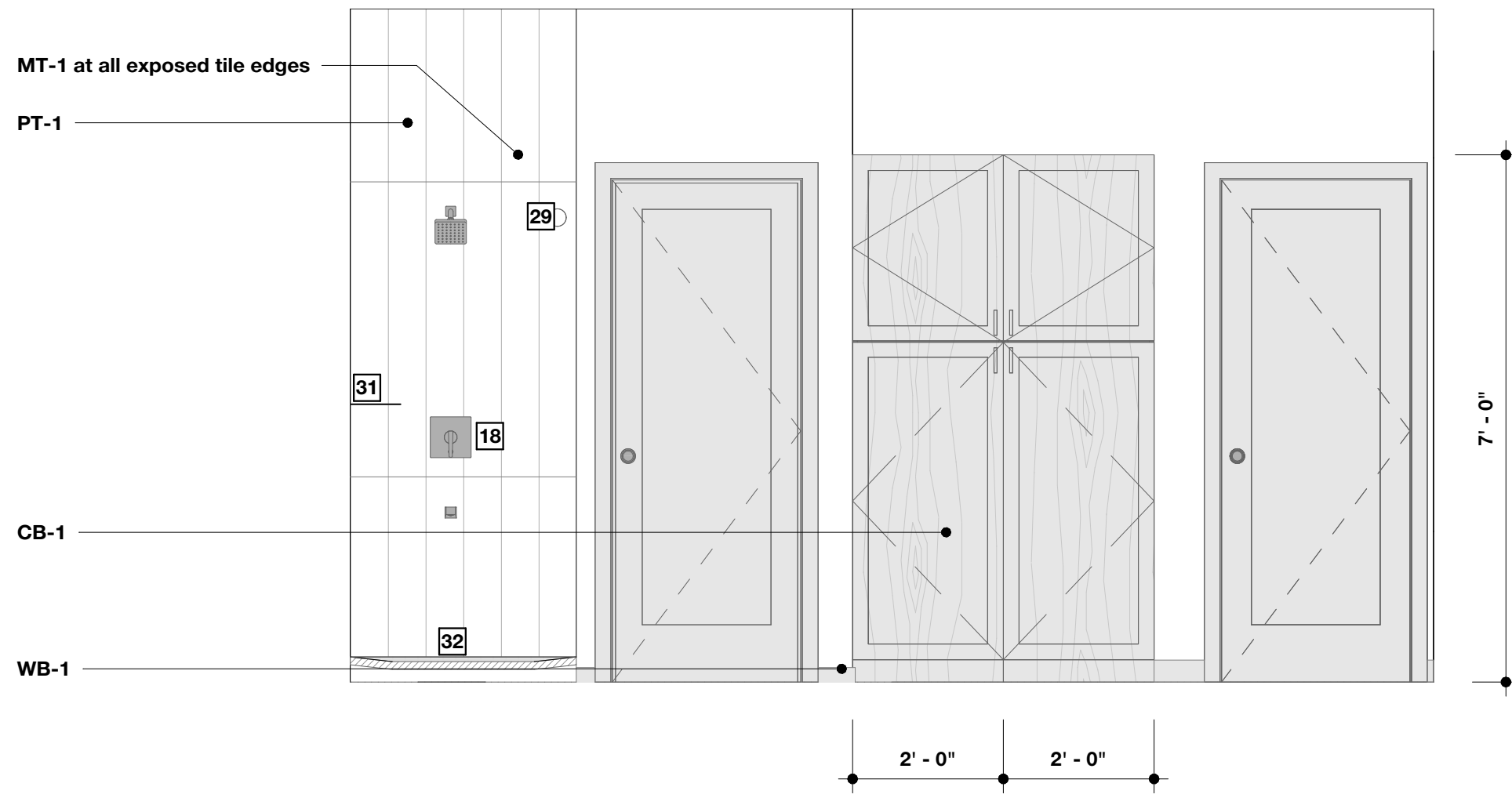
3 Primary Bath. 228 - A
SCALE: 1/2" = 1'-0"



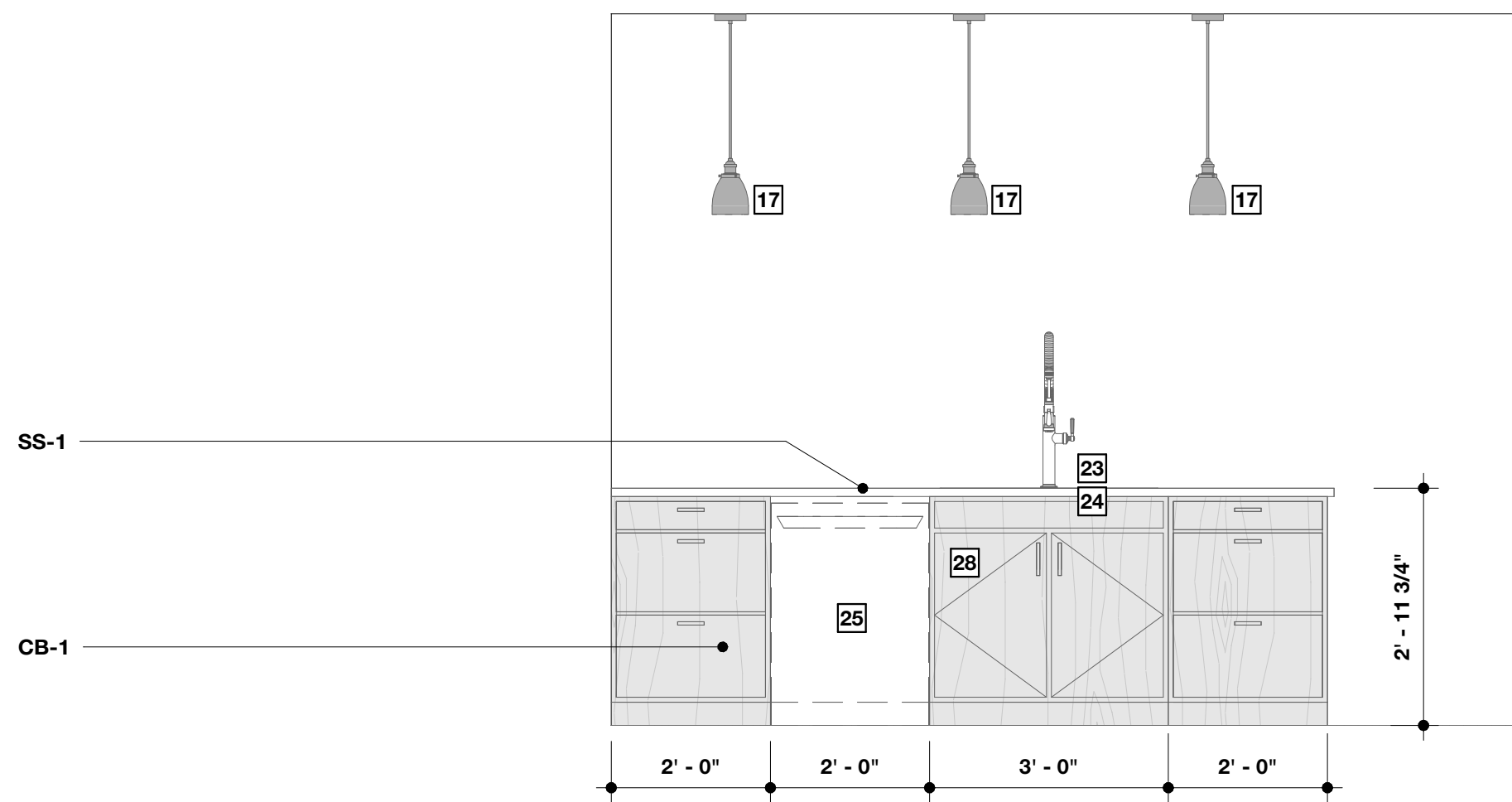
1 Kitchen 222 - A
SCALE: 1/2" = 1'-0"



6 Bathroom 218 - B
SCALE: 1/2" = 1'-0"



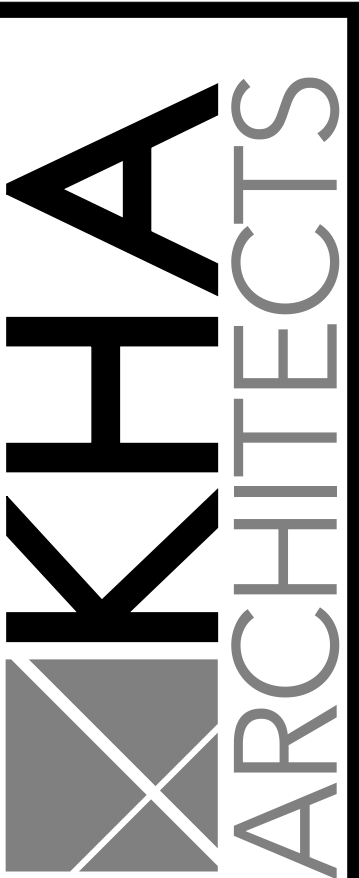
4 Primary Bath. 228 - B
SCALE: 1/2" = 1'-0"



2 Kitchen 222 - B
SCALE: 1/2" = 1'-0"

Interior Elevation Keynotes

- 1 Water Closet - See Mech. Drawings
- 2 Faucet - See Mech. Drawings
- 3 Lavatory - See Mech. Drawings
- 4 Stainless Steel 36" Grab Bar - Basis of Design: Bobrick - Model No.: B-5806 x 36 - Finish: Stainless Steel, Satin
- 5 Stainless Steel 18" Grab Bar - Basis of Design: Bobrick - Model No.: B-5806 x 18 - Finish: Stainless Steel, Satin
- 6 Stainless Steel 42" Grab Bar - Basis of Design: Bobrick - Model No.: B-5806 x 42 - Finish: Stainless Steel, Satin
- 7 Toilet Tissue Dispenser - Basis of Design: Industrial Farm Co. - The Tierney Horseshoe Toilet Paper Holder Open to Right - Finish: Black Powder Coat
- 8 Soap Dispenser - Basis of Design: Bobrick Surface-Mounted Automatic Foam Soap Dispenser - Model No.: B-2013 - Finish: Stainless Steel, Satin
- 9 16 x 36 Framed Mirror - Basis of Design: Bobrick - Model No.: B-290 1836 - Finish: Stainless Steel, Satin
- 10 Sanitary Napkin Disposal - Bobrick Surface Mounted Sanitary Napkin Disposal - Model No.: B-35139 - Finish: Stainless Steel, Satin
- 11 Paper Towel Dispenser - Bobrick Surface-Mounted Paper Towel Dispenser - Model No.: B-4262 - Finish: Satin
- 12 Unit Bathroom Faucet - See Mech. Drawings
- 13 Unit Bathroom Sink - See Mech. Drawings
- 14 Unit Toilet - See Mech. Drawings
- 15 Towel Bar - Basis of Design: Kohler - Numista K-R-30661 18" Towel Bar - Finish: Vibrant Brushed Nickel
- 16 Unit Bathroom Mirror - Basis of Design: Tetote 20 in W x 30 in. H Modern Rectangular Aluminum Framed Wall Bathroom Vanity Mirror - Finish: Brushed Nickel
- 17 Light Fixture - See Elec. Drawings
- 18 Shower Trim Kit - See Mech. Drawings
- 19 Alcove Tub & Surround - Basis of Design: Sterling - Ensemble Medley 60" x 32" Vikrell bath/shower - See floor plan for drain location - Finish: White
- 20 Towel Hook - Basis of Design: Kohler - Numista K-R30664 - Finish: Vibrant Brushed Nickel
- 21 Washer and Dryer - Verify make and model w/Owner
- 22 Refrigerator - Verify Make and Model w/Owner
- 23 Kitchen Faucet - See Mech. Drawings
- 24 Kitchen Sink - See Mech. Drawings
- 25 Dishwasher - Verify Make and Model w/Owner
- 26 Microwave/Hood Combo - Verify Make and Model w/Owner
- 27 Range - Verify Make and Model w/Owner
- 28 Garbage Disposal - See Mech. Drawings
- 29 Shower Rod - Basis of Design: Kohler - Elate K-33810 - Finish: Brushed Stainless
- 30 Toilet Paper Holder - Basis of Design: Kohler - Numista K-R30662 - Finish: Vibrant Brushed Nickel
- 31 Corner Shelf - Basis of Design: Schluter Shelf E Corner Shelf - Design: Floral - Shape: Pentagonal - Finish: Brushed Stainless Steel
- 32 Shower Pan - Basis of Design: Kohler Stoneridge Alcove Shower Base - Model No.: K-44153-HW1 - Finish: Honed White



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CONSTR. REV 3	CONSTRUCTION

PROJECT #: 2515
CONTACT: KRISTI
SCALE: AS NOTED

INTERIOR
ELEVATIONS

SHEET
A5.0
DATE: 08/07/26
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CONSTR. REV 3	

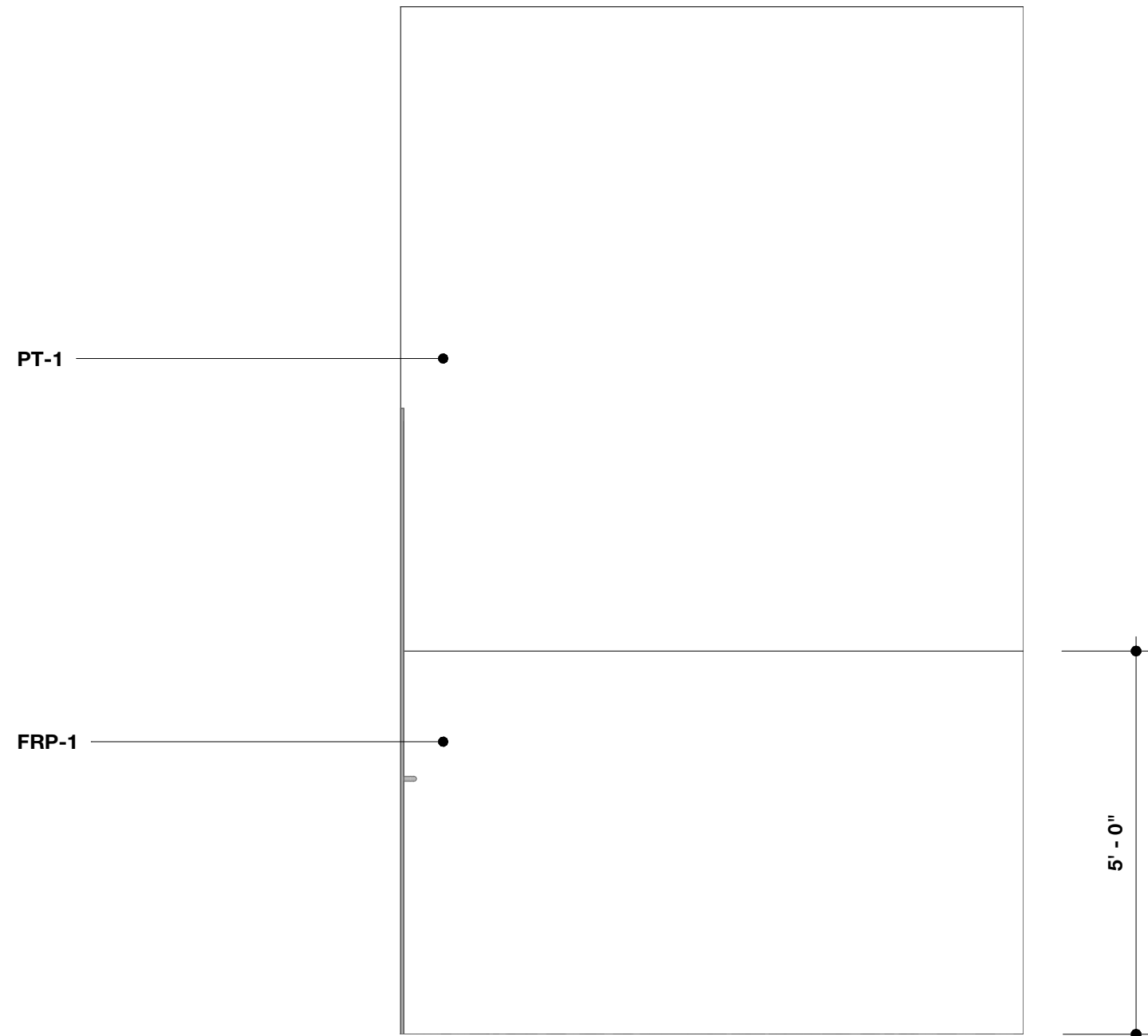
PROJECT # : 2515
CONTACT : KRISTI
SCALE: AS NOTED

INTERIOR
ELEVATIONS

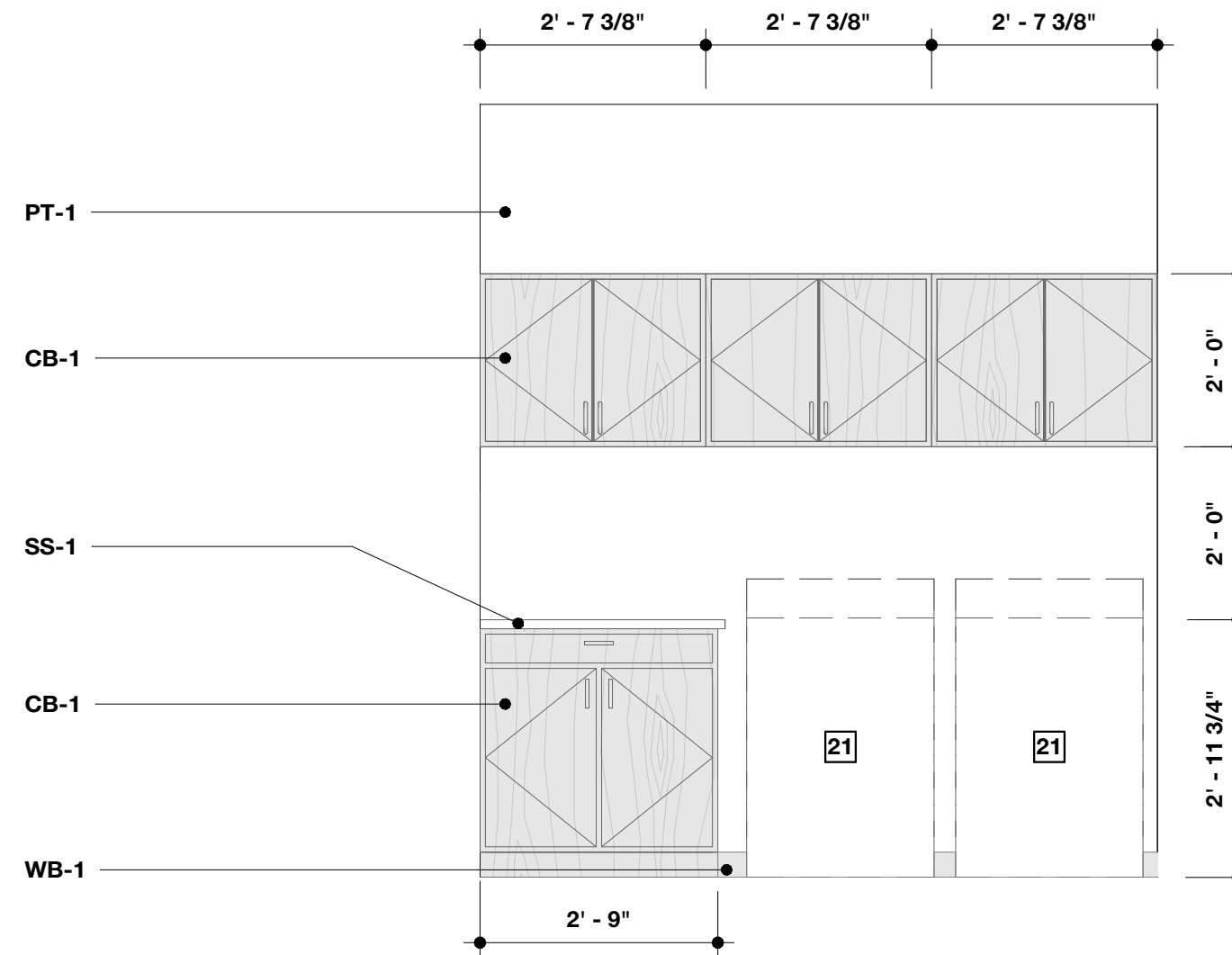
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A5.1
DATE: 08/07/26
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Interior Elevation Keynotes

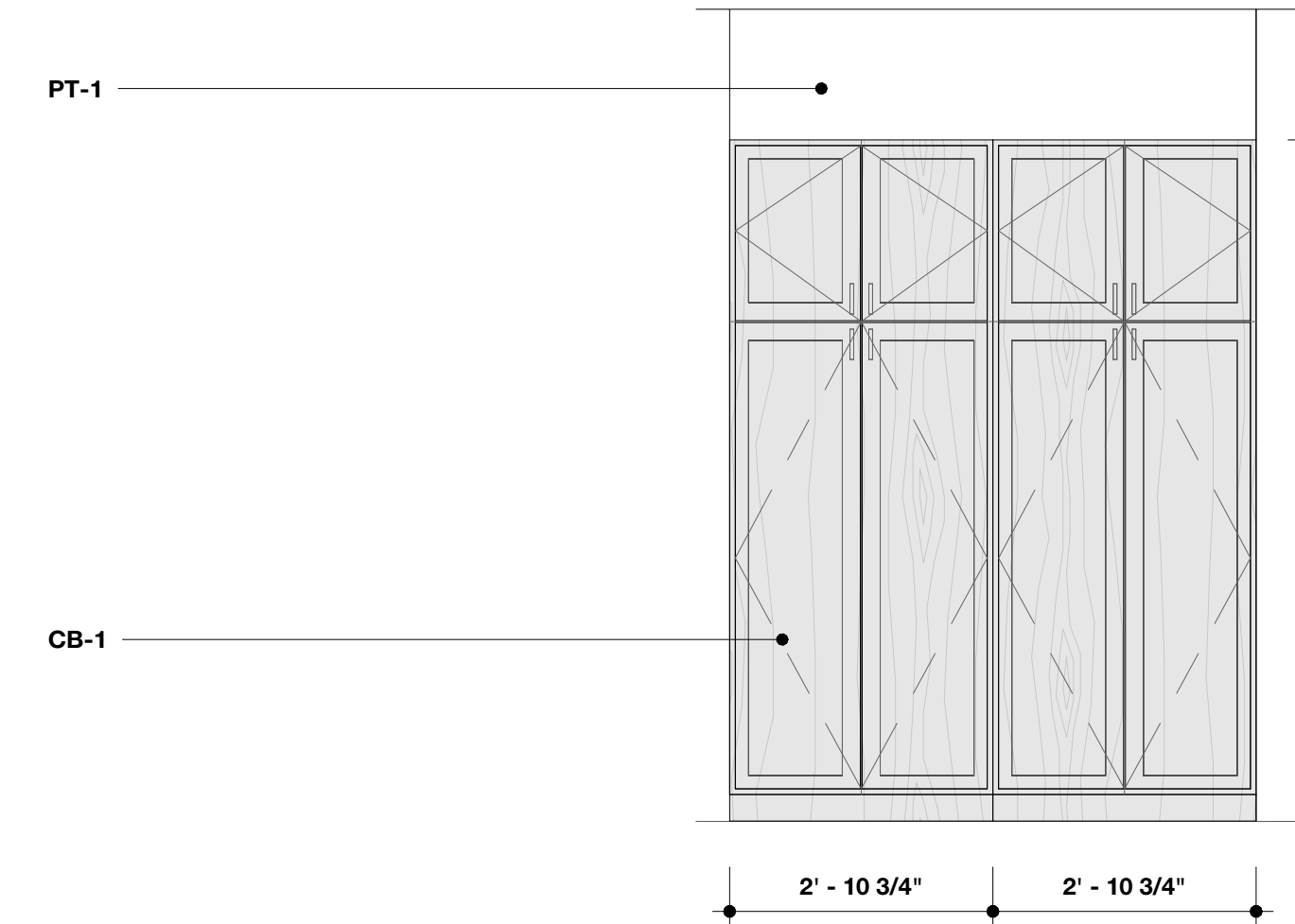
- Water Closet - See Mech. Drawings
- Faucet - See Mech. Drawings
- Lavatory - See Mech. Drawings
- Stainless Steel 36" Grab Bar - Basis of Design: Bobrick - Model No.: B-5806 x 36 - Finish: Stainless Steel, Satin
- Stainless Steel 18" Grab Bar - Basis of Design: Bobrick - Model No.: B-5806 x 18 - Finish: Stainless Steel, Satin
- Stainless Steel 42" Grab Bar - Basis of Design: Bobrick - Model No.: B-5806 x 42 - Finish: Stainless Steel, Satin
- Toilet Tissue Dispenser - Basis of Design: Industrial Farm Co. - The Tierney Horseshoe Toilet Paper Holder Open to Right - Finish: Black Powder Coat
- Soap Dispenser - Basis of Design: Bobrick Surface-Mounted Automatic Foam Soap Dispenser - Model No.: B-2013 - Finish: Stainless Steel, Satin
- 16 x 36 Framed Mirror - Basis of Design: Bobrick - Model No.: B-290 1836 - Finish: Stainless Steel, Satin
- Sanitary Napkin Disposal - Bobrick Surface Mounted Sanitary Napkin Disposal - Model No.: B-35139 - Finish: Stainless Steel, Satin
- Paper Towel Dispenser - Bobrick Surface-Mounted Paper Towel Dispenser - Model No.: B-4262 - Finish: Satin
- Unit Bathroom Faucet - See Mech. Drawings
- Unit Bathroom Sink - See Mech. Drawings
- Unit Toilet - See Mech. Drawings
- Towel Bar - Basis of Design: Kohler - Numista K-R-30661 18" Towel Bar - Finish: Vibrant Brushed Nickel
- Unit Bathroom Mirror - Basis of Design: Tetote 20 in W x 30 in, H Modern Rectangular Aluminum Framed Wall Bathroom Vanity Mirror - Finish: Brushed Nickel
- Light Fixture - See Elec. Drawings
- Shower Trim Kit - See Mech. Drawings
- Alcove Tub & Surround - Basis of Design: Sterling - Ensemble Medley 60" x 32" Vikrell bath/shower - See floor plan for drain location - Finish: White
- Towel Hook - Basis of Design: Kohler - Numista K-R30664 - Finish: Vibrant Brushed Nickel
- Washer and Dryer - Verify make and model w/Owner
- Refrigerator - Verify Make and Model w/Owner
- Kitchen Faucet - See Mech. Drawings
- Kitchen Sink - See Mech. Drawings
- Dishwasher - Verify Make and Model w/Owner
- Microwave/Hood Combo - Verify Make and Model w/Owner
- Range - Verify Make and Model w/Owner
- Garbage Disposal - See Mech. Drawings
- Shower Rod - Basis of Design: Kohler - Elate K-33810 - Finish: Brushed Stainless
- Toilet Paper Holder - Basis of Design: Kohler - Numista K-R30662 - Finish: Vibrant Brushed Nickel
- Corner Shelf - Basis of Design: Schluter Shelf E Corner Shelf - Design: Floral - Shape: Pentagonal - Finish: Brushed Stainless Steel
- Shower Pan - Basis of Design: Kohler Stoneridge Alcove Shower Base - Model No.: K-44153-HW1 - Finish: Honed White



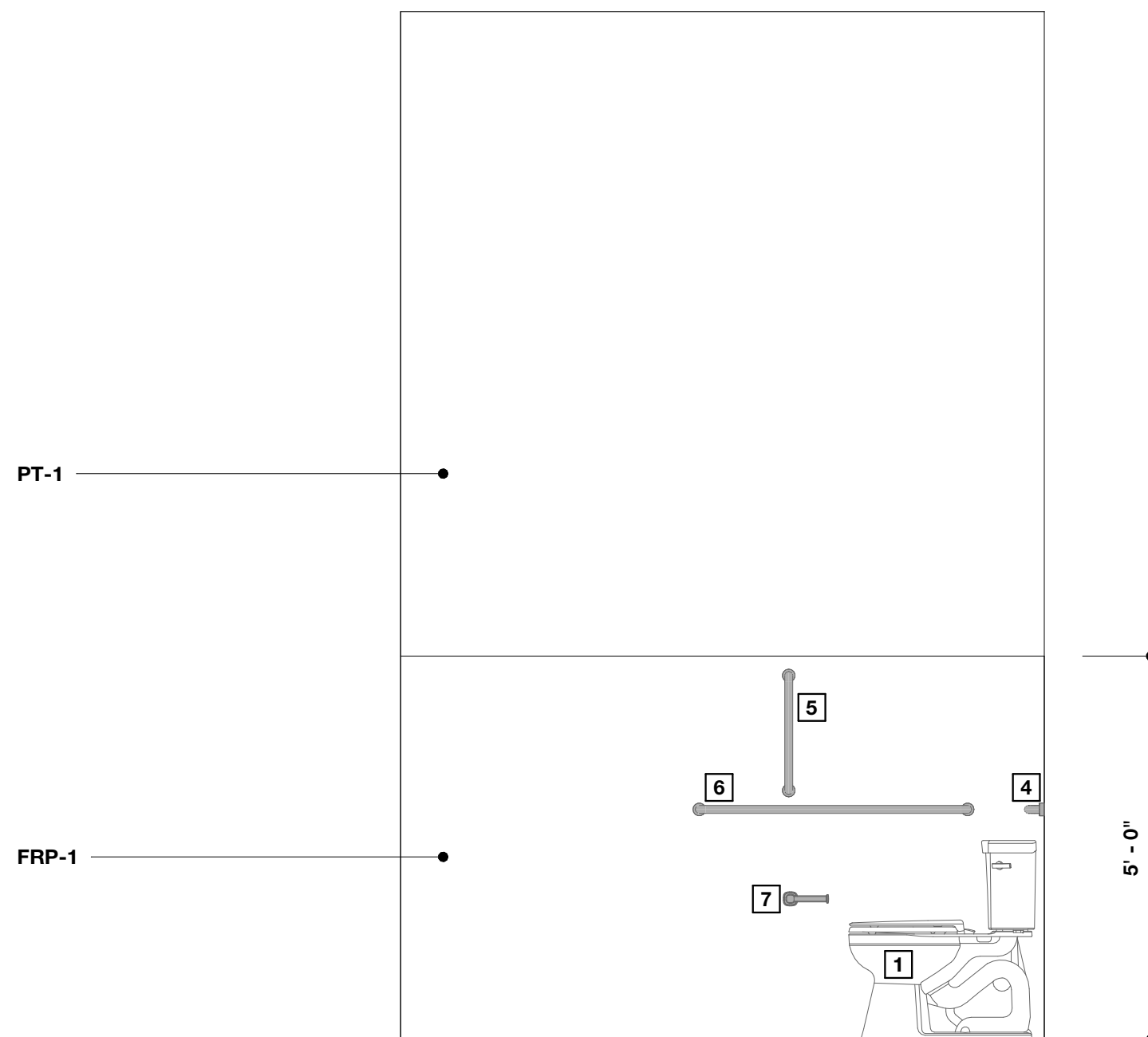
4 Bathroom 102 - D
SCALE: 1/2" = 1'-0"



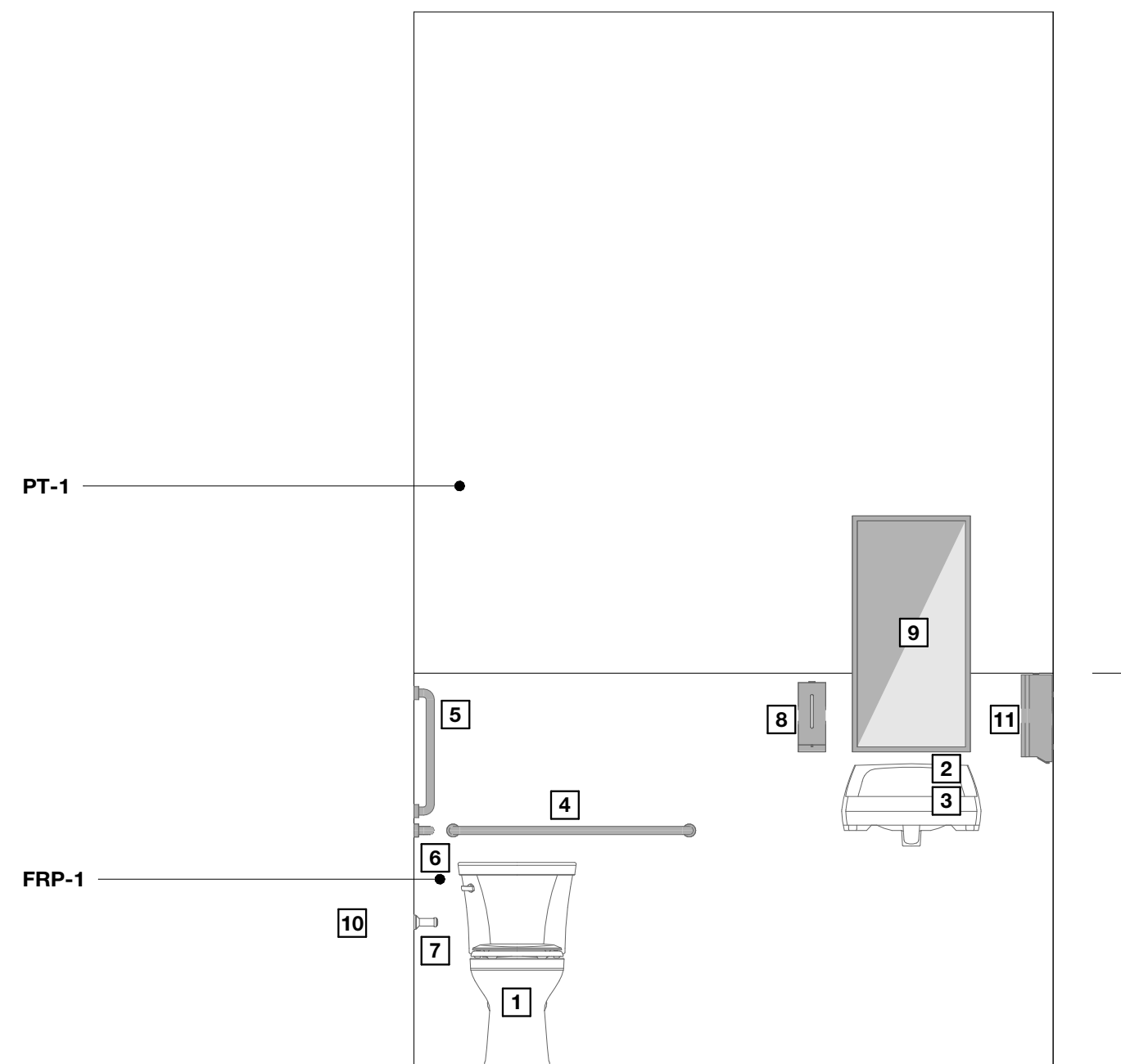
5 Laundry 206
SCALE: 1/2" = 1'-0"



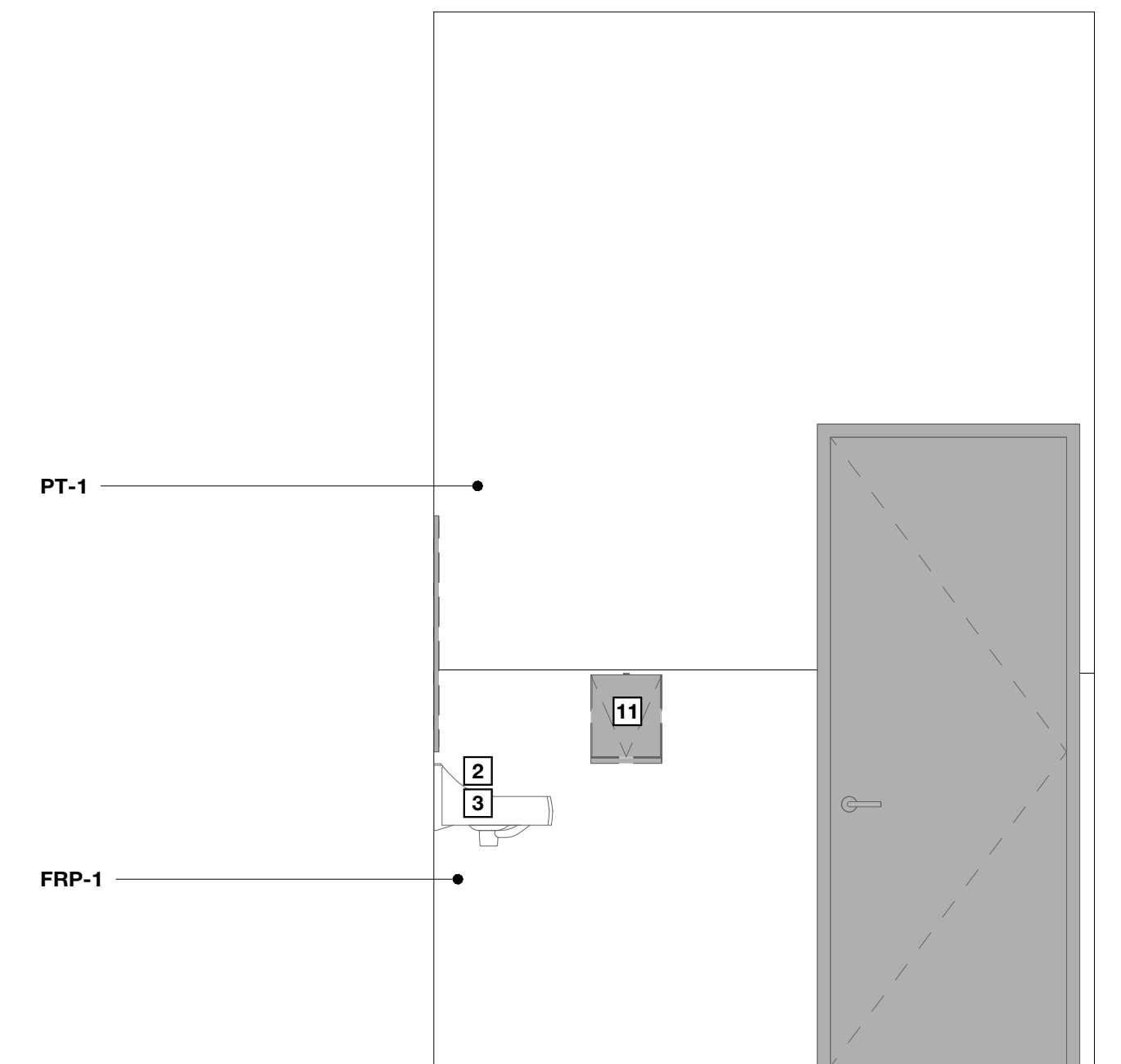
6 Living Room 220
SCALE: 1/2" = 1'-0"



1 Bathroom 102 - A
SCALE: 1/2" = 1'-0"



2 Bathroom 102 - B
SCALE: 1/2" = 1'-0"



3 Bathroom 102 - C
SCALE: 1/2" = 1'-0"

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PROJECT # : 2515

CONTACT : KRISTI

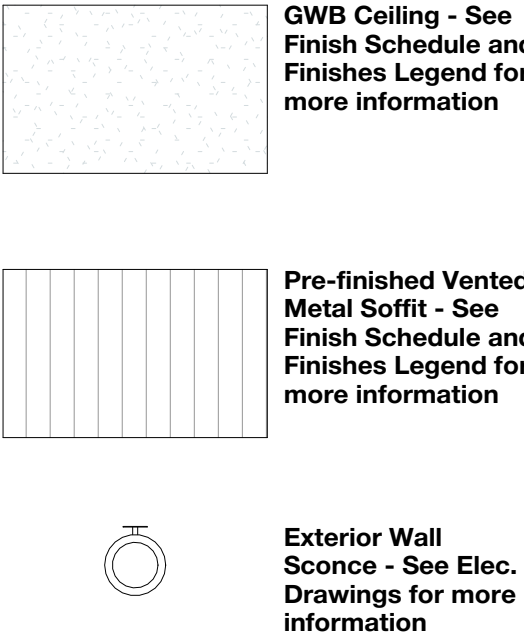
SCALE: AS NOTED

RCPs

RCP General Notes

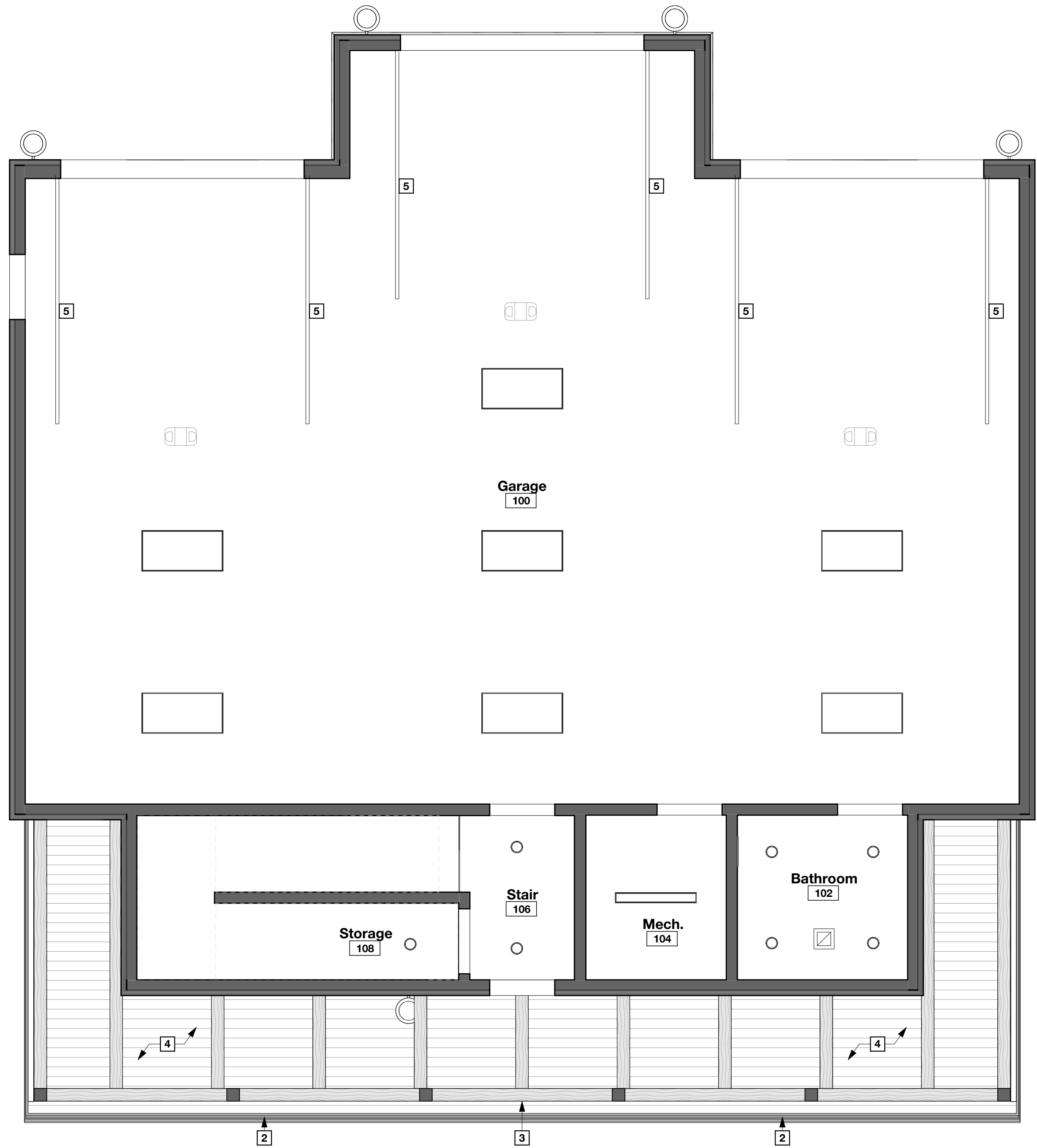
1. Paint All Fixture Trim/Diffusers to Match Soffit Color if Located in Gypsum Soffit.
2. Paint Linear Mechanical Diffusers to Match Wall Finish if Located in Wall Surface.
3. Window Heads and Jambs to be GWB Returns Finished to Match Adjacent Wall.
4. All finished ceiling heights on first floor to be 13'-5" A.F.F. unless otherwise noted.
5. All finished ceiling heights on second floor to be 9'-0" A.F.F. unless otherwise noted.

RCP Legend



RCP Keynotes

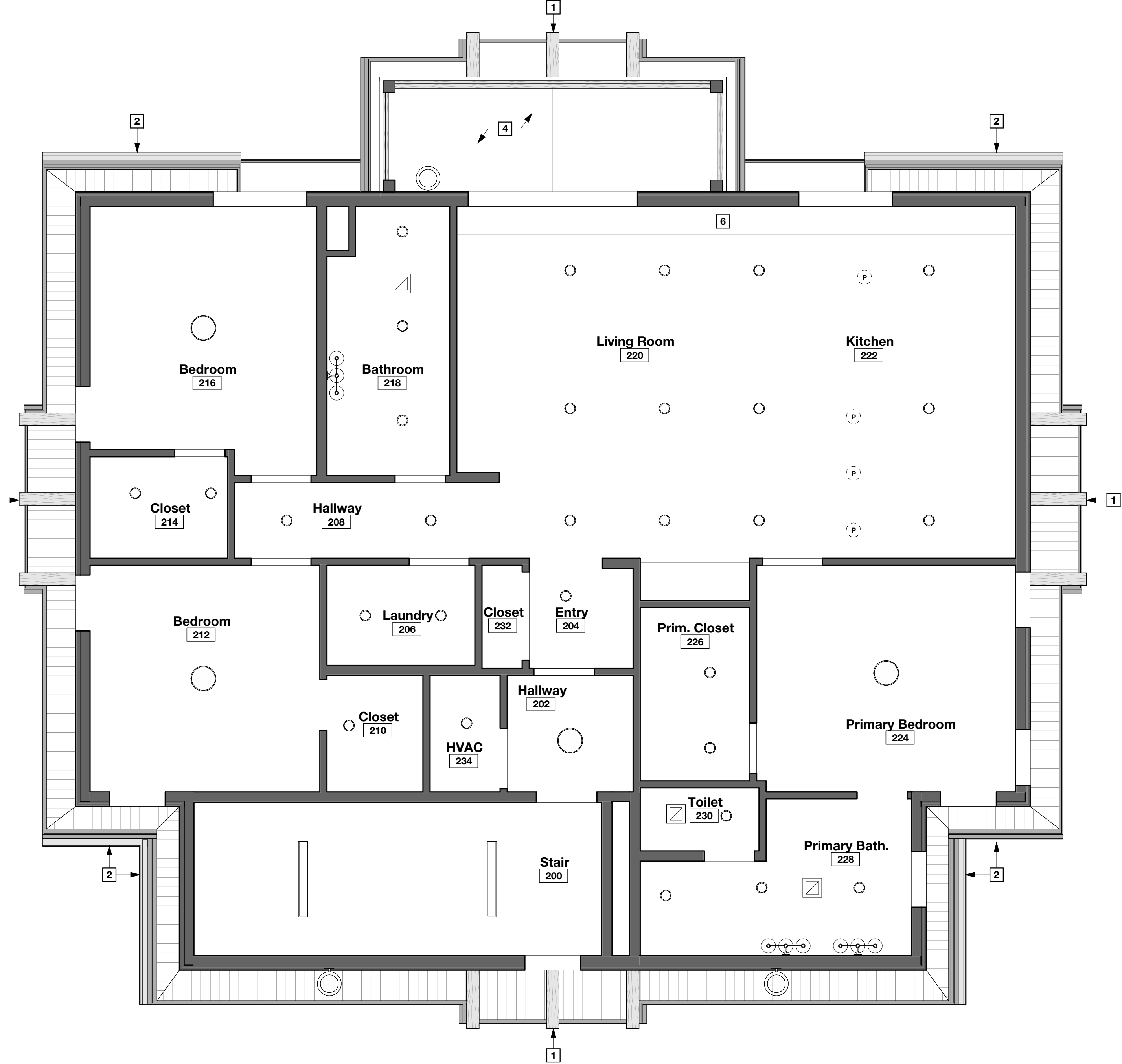
- 1 Wd. Gable Accents - See Details for additional information
- 2 Aluminum Gutter & Downspout System - Finish: M-2 (Gutter) and M-3 (Downspout)
- 3 Wd. Beam - Finish: ST-1
- 4 Exposed Wd. Joists & Tongue & Groove Decking in this location
- 5 Garage Door Track
- 6 GWB Soffit at this location to be 8'-0" A.F.F. - Finish: PT-2



1

First Floor RCP

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



2

Second Floor RCP

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

DIVISION 21/22/23 MECHANICAL SPECIFICATIONS

MECHANICAL GENERAL REQUIREMENTS

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE STATE OF NORTH DAKOTA PLUMBING CODE, CURRENT INTERNATIONAL FUEL & GAS CODE, CURRENT MECHANICAL CODE, CURRENT INTERNATIONAL ENERGY CONSERVATION CODE, ANY LOCAL AMENDMENTS.
2. CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM FINAL COMPLETION. ANY DEFECTS THAT APPEARS OR CAUSE ISSUES SHALL BE REPAIRED AT NO ADDITIONAL COST (THIS INCLUDES MATERIAL AND LABOR).
3. MECHANICAL DRAWINGS ARE DIAGNOSTIC IN NATURE AND SHOULD NOT BE SCALED TO OBTAIN DIMENSIONS OR SIZE. CONSULT THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND TAKE FIELD MEASUREMENTS.
4. ALL SUBMITTALS TO BE REVIEWED, APPROVED, AND STAMPED BY SUBMITTING CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER. SUBMITTALS NOT REVIEWED BY SUBMITTING CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER WILL BE RETURNED MARKED "NOT REVIEWED".
5. FURNISHED EQUIPMENT SHALL MEET OR EXCEED THE BASIS-OF-DESIGN UNIT IN TERMS OF CONSTRUCTION QUALITY, MATERIALS, CONTROLS, PERFORMANCE, AND ALL OTHER APPLICABLE CHARACTERISTICS. EQUIPMENT THAT MEETS THE MINIMUM PERFORMANCE REQUIREMENTS OF THE SCHEDULE BUT FAILS TO MEET THE BASIS-OF-DESIGN QUALITY AND CONSTRUCTION STANDARDS WILL NOT BE APPROVED.
6. PROVIDE A COMPLETE SYSTEM INCLUDING ALL DUCTS, FITTINGS, OFFSETS, VALVES, STOPS, TRAPS, TAILPIECES, ETC. MAKE ALL FINAL CONNECTIONS TO EQUIPMENT AND FIXTURES.
7. PROVIDE CLEANOUTS AT THE BASE OF ALL SANITARY AND STORM STACKS.
8. COORDINATE INSTALLATION OF ALL PIPING, DUCTWORK, AND EQUIPMENT WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR TO MAINTAIN ALL EQUIPMENT CLEARANCES AS REQUIRED BY CODE AND MANUFACTURER RECOMMENDATIONS.
9. PROVIDE ALL CUTTING, PATCHING, AND CORE DRILLING AS REQUIRED FOR THE SYSTEM INSTALLATION. COORDINATE LOCATION OF ALL PENETRATIONS WITH ARCHITECT PRIOR TO CUTTING/DRILLING. PROVIDE SLEEVES WHERE REQUIRED. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
10. PROVIDE FIRESTOPPING AT PENETRATIONS OF RATED WALLS AND FLOORS. REFER TO THE ARCHITECTS DRAWING FOR LOCATIONS OF RATED WALLS AND FLOORS.
11. ALL DOMESTIC WATER, SANITARY, STORM, AND FIRE SPRINKLER PIPING SHALL BE ROUTED IN A MANNER TO PREVENT PIPE FREEZING. IF CONTRACTOR HAS CONCERNS OR QUESTIONS, CONTACT DESIGN TEAM PRIOR TO INSTALLATION.

SECTION 21 1000 - FIRE SPRINKLER SYSTEMS

1. PROVIDE FIRE SPRINKLER SYSTEM FOR ENTIRE BUILDING. ALL WORK SHALL BE IN ACCORDANCE WITH NFPA 13R.
2. DESIGN SYSTEM UNDER DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER OR NICET CERTIFIED EXPERIENCED IN DESIGN OF THIS TYPE OF WORK AND LICENSED IN THE STATE OF NORTH DAKOTA.
3. SUBMIT HYDRAULIC CALCULATIONS, DETAILED PIPE LAYOUT, HANGERS AND SUPPORTS, SPRINKLERS, COMPONENTS, AND ACCESSORIES TO AUTHORITY HAVING JURISDICTION FOR APPROVAL. SUBMIT PROOF OF APPROVAL TO OWNER/ARCHITECT.
4. SPRINKLER HEAD TYPE: CHROME FINISH RECESSED PENDANT WITH MATCHING ESOUTCHOM PLATE. GLASS BULB TYPE TEMPERATURE RATED FOR SPECIFIC HAZARD.
 - A. SUSPENDED AND OXYGEN AREA TYPE: CHROME FINISH RECESSED PENDANT WITH MATCHING ESOUTCHOM PLATE. GLASS BULB TYPE TEMPERATURE RATED FOR SPECIFIC HAZARD.
 - B. EXPOSED AREA TYPE: BRASS UPRIGHT. GLASS BULB TYPE TEMPERATURE RATED FOR SPECIFIC HAZARD.
 - C. SIDEWALL TYPE: CHROME FINISH RECESSED HORIZONTAL SIDEWALL WITH MATCHING ESOUTCHOM PLATE. GLASS BULB TYPE TEMPERATURE RATED FOR SPECIFIC HAZARD.
 - D. COMBUSTIBLE CONCEALED JOIST AND ATTIC SPACE TYPE: BRASS RATED FOR USE IN TRUSS/JOIST SPACE. GLASS BULB TYPE TEMPERATURE RATED FOR SPECIFIC HAZARD.
5. PROVIDE CHECK TYPE WET PIPE SPRINKLER ALARM VALVE WITH AUTOMATICALLY ACTUATE WATER MOTOR ALARM AND ELECTRIC ALARM WITH PRESSURE RETARD CHAMBER AND VARIABLE RESISTANCE TRIM WITH TEST AND DRAIN VALVE.
6. PROVIDE CHECK TYPE DRY PIPE SPRINKLER ALARM VALVE WITH AUTOMATICALLY ACTUATE WATER MOTOR ALARM AND ELECTRIC ALARM WITH ACCELERATOR AND TEST AND DRAIN VALVE. PROVIDE WITH AIR COMPRESSOR. CONTRACTOR TO CONFIRM AIR COMPRESSOR ELECTRICAL REQUIREMENTS WITH ELECTRICIAN PRIOR TO ORDERING.
7. PROVIDE TWO WAY STAGNATE FIRE DEPARTMENT CONNECTION. COORDINATE HOSE CONNECTION TYPE WITH LOCAL FIRE DEPARTMENT.
8. ALL PIPING SHALL BE STEEL SCHEDULE 7, 10, 30, 40, BRASS RATED FOR USE IN TRUSS/JOIST SPACE. FITTING SHALL BE STEEL BUTTWELDED, CAST IRON FLANGED OR THREADED OR MECHANICAL GROOVED COUPLINGS. CONTRACTORS OPTION TO USE CPVC PIPING WITH SOLVENT WELD JOINTS WHEN ALLOWED BY CODE AND AHJ.
9. PROVIDE STAINLESS STEEL DOUBLE CHECK VALVE BACKFLOW PREVENTER WITH TWO 65# GATE VALVES IN ACCORDANCE WITH LOCAL CODE OFFICIAL.
10. PROVIDE DRAIN VALVES AT LOW POINTS OF PIPING AND APPARATUS.
11. INSTALL NAIL PLATES ON ALL WOOD MEMBERS WHEN THE PIPE IS WITHIN PENETRATION DISTANCE OF NAILS AND SCREWS.
12. HYDROSTATICALLY TEST ENTIRE SYSTEM IN ACCORDANCE WITH NFPA 13R REQUIREMENTS.

SECTION 22 1000 - PLUMBING

1. DRAIN, WASTE, AND VENT PIPING SHALL BE SCHEDULE 40 PVC WITH SOLVENT WELD JOINTS.
2. WATER PIPING (BELOW GRADE) SHALL BE TYPE K HARD DRAWN COPPER TUBING WITH NO JOINTS BELOW THE FLOOR OR DUCTILE IRON PIPE.
3. WATER PIPING (ABOVE GRADE UP TO MANIFOLDS) SHALL BE TYPE L COPPER WITH CAST COPPER OR BRONZE FITTINGS AND SNGS SOLDERED JOINTS, OR VESPA PROCESS. ALL PIPING AFTER MANIFOLDS SHALL BE PEX WITH PEX FITTINGS, LABEL PIPING WITH STENCIL AND PAINT.
4. ALL HOT AND COLD WATER PIPING (ABOVE GRADE) SHALL BE INSULATED WITH FIBERGLASS INSULATION AND WHITE KRAFT PAPER VAPOR BARRIER JACKET. INSULATION ON PEX PIPING CAN BE OMITTED IF APPROVED BY AHJ.
5. BALL VALVES SHALL BE CLASS 150, 400 PSI. CMP. NIBCO, COMBRACO, OR MILWAUKEE VALVES.
6. GAS PIPING (BELOW GRADE) SHALL BE HOPE PIPING LABELED FOR GAS SERVICE WITH FUSION WELDED SOCKET FITTINGS. PROVIDE MARKER TAPE FOR ALL UNDERGROUND GAS PIPING.
7. GAS PIPING (ABOVE GRADE) SHALL BE SCHEDULE 40 BLACK STEEL. PIPING 2" AND SMALLER CAN BE THREADED OR WELDED FITTINGS. PROVIDE GAS MAIN SHUT-OFF VALVE BEFORE THE FIRST BRANCH LINE. SHUT-OFF VALVE SHALL BE INSTALLED INSIDE THE BUILDING AT 5 FEET OR LESS ABOVE THE FLOOR. ALL GAS REGULATORS SHALL BE INSTALLED NO MORE THAN 5 EQUIVALENT FEET FROM EQUIPMENT CONNECTION. ALL GAS PIPING AFTER PRESSURE REGULATOR TO BE EQUIPMENT CONNECTION SIZE.
8. ICE MAKER BOX: PLASTIC REINFORCED ROUGH-IN BOX WITH 1/4 TURN VALVE, SLIP IN FINISHING COVER. PROVIDE FIRE-RATED BOX WHEN LOCATED IN RATED WALLS.
9. WASHING MACHINE TRIM (WMT): PLASTIC REINFORCED ROUGH-IN RECESSED BOX WITH BRASS 1/4 TURN VALVES, SOCKET FOR 2" WASTE, SLIP IN FINISHING COVER. PROVIDE FIRE-RATED BOX WHEN LOCATED IN RATED WALLS.
10. FLOOR DRAINS (FD-1): ZURN Z4158 OR EQUIVALENT, CAST IRON BODY, ADJUSTABLE COLLAR WITH POLISHED NICKEL BRONZE STRAINER.
11. FLOOR DRAINS (FD-2): ZURN Z610 OR EQUIVALENT, CAST IRON BODY, BOTTOM OUTLET, SEEPAGE PAN AND COMBINATION MEMBRANE FLASHING CLAMP AND FRAME FOR HEAVY DUTY, LOOSE, SLOTTED, BARREST GRATE WITH SUSPENDED POLYETHYLENE SEDIMENT BUCKET.
12. WALL CLEANOUTS (WCO): CAST IRON BODY WITH STAINLESS STEEL COVERS.
13. FLOOR CLEANOUT (CO): ADJUSTABLE WITH CAST IRON BODY AND ROUND POLISHED NICKEL BRONZE COVER. PROVIDE HEAVY DUTY COVER IN VEHICLE TRAFFIC AREAS.
14. HOSE BIB (HB-1): ZURN Z1341-BFP BRASS CONSTRUCTION WITH CHROME FINISH AND METAL WHEEL HANDLE. PROVIDE A REMOVABLE HANDLE AND INTEGRAL BACKFLOW PREVENTER. BRONZE OR CHROME AS SELECTED BY THE ARCHITECT.
15. HOSE BIB (HB-2): ZURN Z1348-BFP HOT AND COLD SERVICE. BRASS CONSTRUCTION WITH CHROME FINISH AND METAL WHEEL HANDLE. PROVIDE A REMOVABLE HANDLE, AUTOMATIC DRAINING HOSE CONNECTION, AND INTEGRAL BACKFLOW PREVENTER. BRONZE OR CHROME AS SELECTED BY THE ARCHITECT.

MECHANICAL SPECIFICATIONS CONTINUED

16. PLUMBING FIXTURES:

- A. WATER CLOSET (WC-1): KOHLER K-78279, ADA COMPLIANT, VITREOUS CHINA, 1-28 OPF, FLOOR MOUNTED, ELONGATED BOWL, WITH LEVER FLUSHING VALVE. MOUNTING HEIGHT 16-1/2" FROM FINISHED FLOOR TO RIM. PROVIDE RIGHT OR LEFT TRIP LEVER TO WIDE SIDE OF THE ROOM, SEE PLAN FOR ORIENTATION. PROVIDE WHITE PLASTIC SEAT WITH CLOSED FRONT AND SOFT CLOSE LID.
- B. LAVATORY (L-1): OVAL COUNTERTOP MOUNTED, VITREOUS CHINA LAVATORY WITH 4" CENTER FAUCET HOLES, KOHLER K-2196-4. FAUCET IS KOHLER K-R26584-4D, 4" CENTERSET, 6" LONG, BRASS CONSTRUCTION WITH DOUBLE HANDLES, 1.0 GPM AERATOR IN VIBRANT BRUSHED NICKEL FINISH. PROVIDE WASTE WITH PERFORATED OPEN STRAINER, CHROME PLATED 17 GAGE P-TRAP WITH CLEAN-OUT ARM WITH ESOUTCHOM AND TRUEBRO LAV GUARDS FOR WASTE AND SUPPLIES. PROVIDE BRASSRAFT MODEL KT SERIES STOP VALVES.
- C. SINK (S-1): DUAL COMPARTMENT TYPE 304, 18 GAUGE STAINLESS STEEL SINK, KOHLER K-RH28175-1PC. PROVIDE WITH TWO-FUNCTION, SINGLE HANDLE, 1-1/4" GOODENCK FAUCET WITH PULL-DOWN SPRAYHEAD FAUCET. PROVIDE 1 HORSEPOWER DISPOSER. PROVIDE BASKET STRAINER, CHROME PLATED 17 GAGE P-TRAP WITH CLEAN-OUT ARM WITH ESOUTCHOM AND TRUEBRO LAV GUARDS FOR WASTE AND SUPPLIES. PROVIDE BRASSRAFT MODEL KT SERIES STOP VALVES.
- D. TUB/SHOWER (TS-1): KOHLER ENSEMBLE MEDLEY 71320110, WHITE GELCOAT FINISH FIBERGLASS REINFORCED POLYESTER. GROUT BOTTOM OF THE SHOWER ACCORDING TO THE MANUFACTURERS INSTRUCTIONS. PROVIDE WITH KOHLER K-R26586-48 PRESSURE BALANCING BATH AND SHOWER FAUCET SET IN VIBRANT BRUSHED NICKEL FINISH.
- P. MOP BASIN (MB-1): MUSTIE 63M, 1 PIECE, WHITE, MOLDED CONSTRUCTION MOP BASIN WITH INTEGRAL CENTER DRAIN. FAUCET MODEL CHICAGO 445-897SRXKCCP CHROME PLATED, BRASS CONSTRUCTION WALL MOUNTED SERVICE FAUCET, WITH VACUUM BREAKER SPOUT, 3/4" HOSE END, PAUL HOOK, INTEGRAL STOPS, TOP REINFORCING BAR AND MOUNTING BRACKET. PROVIDE HOSE AND HOSE HOLDER, MOP HANGER, BUMPER GUARDS AND WALL GUARDS.
- Q. PLUMBING FIXTURE EQUIVALENT MANUFACTURERS:
 - a. WATER CLOSET & URINAL - ZURN, KOHLER, VITRA, AMERICAN STANDARD
 - b. FLUSH VALVE - COYNE & DELANY, ZURN, SLOAN, AMERICAN STANDARD
 - c. LAVATORY - ELKAY, KOHLER, ZURN, AMERICAN STANDARD
 - d. FAUCET - AMERICAN STANDARD, CHICAGO, TAS BRASS, DELTA
 - e. SINK - ELKAY, JUST, KOHLER, AMERICAN STANDARD, FRANKE, KINDRED
 - f. ELECTRIC WATER COOLER - HAMS, ELKAY
 - g. SERVICE SINK - ELKAY, FIAT, ZURN, JUST, MUSTIE
 - h. TUB/SHOWER - AQUAGLASS, LASSO/ADAMTIC, SAJO
- Q. CONTRACTOR SHALL REFER TO ARCHITECTS PLANS AND ELEVATIONS FOR ALL MOUNTING LOCATIONS AND HEIGHTS OF FIXTURES. ANY DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION OF FIXTURES.
17. ROOF DRAIN (RD-1): ZURN Z100, ASSEMBLY: ASME A112.6.4, MODEL ZURN Z100 OR EQUIVALENT, CAST IRON BODY WITH CAST IRON CLAMP DEVICE, GRAVEL GUARD, CAST IRON DOME STRAINER AND UNDERDECK CLAMP.
18. ROOF DRAIN (RD-1): ZURN Z100, ASSEMBLY: ASME A112.6.4, MODEL ZURN Z100 OR EQUIVALENT, CAST IRON BODY WITH CAST IRON CLAMP DEVICE, GRAVEL GUARD, CAST IRON DOME STRAINER, UNDERDECK CLAMP, AND 3" HIGH INTERNAL WATER DAM.

SECTION 23 1000 - HEATING, VENTILATING, AND AIR CONDITIONING

30. DUCTWORK SHALL BE HOT-DIPPED GALVANIZED G60 STEEL, FABRICATE AND SUPPORT IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED. PROVIDE DUCT MATERIAL, GAUGES, REINFORCEMENT, AND SEALING FOR OPERATING PRESSURES.
31. JOINT SEALANTS: NON-HARDENING, WATER RESISTANT, MILDEW AND MOLD RESISTANT. PROVIDE HEAVY MASTIC OR LIQUID USED ALONE OR WITH TAPE, SUITABLE FOR JOINT CONFIGURATION AND COMPATIBLE WITH SUBSTRATES, AND RECOMMENDED BY MANUFACTURER FOR PRESSURE CLASS OF DUCTS. SEALANTS SHALL HAVE FLAME SPREAD OF ZERO, SMOKE DEVELOPED OF ZERO, WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
32. CLOTHES DRYER EXHAUST DUCTWORK: PROVIDE WITH DRYER-ELL L750 (OR EQUIVALENT) 10" RADIUS SMOOTH ELBOW FOR ALL 90 DEGREES CHANGES IN DIRECTION. PROVIDE WITH RECESSED DRYER VENT BOX, PROVIDE FIRE-RATED BOX WHEN LOCATED IN RATED WALLS. PROVIDE WALL CAPS WITH BACKDRAFT DAMPER AND MIN 4" OF CLEAR OPENING TO THE EXTERIOR.
33. DUCT INSULATION R-VALUES LISTED ARE MINIMUM VALUES. THE REQUIREMENT IS FOR INSTALLED R-VALUE ASSUMING 25% COMPRESSION OF THE INSULATION. PCF IS AN ABBREVIATION FOR POUNDS PER CUBIC FOOT.
 - A. EXHAUST DUCTS WITHIN 10 FT OF EXTERIOR OPENINGS OR LOCATED IN UNCONDITIONED SPACES: 2 INCHES THICK, 1.50 PCF, FLEXIBLE FIBERGLASS WITH VAPOR BARRIER JACKET.
 - B. OUTSIDE AIR INTAKE, MIXED AIR, AND RELIEF DUCTS: 2 INCHES THICK, 1.50 PCF, FLEXIBLE FIBERGLASS WITH VAPOR BARRIER JACKET (R-5).
 - C. SUPPLY DUCTS: 2 INCHES THICK, 0.75 PCF, FLEXIBLE FIBERGLASS WITH VAPOR BARRIER JACKET (R-5).
 - D. INSULATED FLEXIBLE DUCTS SHALL BE R-5 IN CEILING SPACE & R-12 IN ATTIC SPACE.
6. OUTSIDE AIR DAMPERS SHALL BE LOW LEAKAGE THERMALLY INSULATED DAMPER WITH THERMALLY BROKEN FRAME, GREENHECK MODEL 100-45 OR APPROVED EQUAL. OUTSIDE AIR DAMPERS FOR DUCTWORK 8" & SMALLER SHALL BE GREENHECK MODEL 100N-53 OR APPROVED EQUAL DAMPER WITH BLADE SEAL.
7. PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT WITH THE CORRECT NUMBER OF STAGES OF HEATING AND COOLING FOR THE EQUIPMENT IT SERVES. THERMOSTAT SHALL BE HONEYWELL VISIONPRO T8000 SERIES OR APPROVED EQUAL. PROVIDE ALL POWER TO CONTROLS, TRANSFORMERS, RELAYS, VALVES, DAMPERS, ACTUATORS, WIRING, AND DEVICES FOR THE HVAC CONTROLS SYSTEM.
8. PROVIDE ALL POWER, TRANSFORMER, RELAY, CONTROL WIRING, CONDUIT AND ALL OTHER ELECTRICAL COMPONENTS AS REQUIRED TO CONTROL THE MECHANICAL EQUIPMENT. PROVIDE ALL WIRING IN CONDUIT.
9. PROVIDE TESTING, ADJUSTING AND BALANCING ON ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON DRAWINGS. CONTRACTOR SHALL BE NEBB OR AABC CERTIFIED. SUBMIT REPORTS ON NEBB OR AABC FORMS. ADJUST SYSTEM TO +/- 10% OF DESIGN.

SECTION 23 2000 - HYDRONIC & REFRIGERANT PIPING

1. REFRIGERANT PIPING SHALL BE COPPER TUBE (ADR) WITH BRAZED JOINTS OR FACTORY INSULATED LINESETS. CONTRACTOR TO CONFIRM PIPE SIZE, MAXIMUM LINE LENGTH, AND MAXIMUM HEIGHT DIFFERENCE BETWEEN EVAPORATOR COIL AND CONDENSING UNIT WITH MANUFACTURER RECOMMENDATIONS.

SYMBOLS & ABBREVIATIONS LEGEND

HVAC ABBREVIATIONS	EQUIPMENT TAGS	PIPING SYMBOLS	DUCTWORK SYSTEMS/SYMBOLS
APP ABOVE FINISHED FLOOR	B-1 BOILER		
ATC AUTOMATIC TEMPERATURE CONTROLS	CUH-1 CABINET UNIT HEATER		
BAS BUILDING AUTOMATION SYSTEM	CU-1 CONDENSING UNIT		
CD CLEANOUT	EF-1 EXHAUST FAN		
CONT. CONTINUATION	ET-1 EXPANSION TANK		
CW COLD WATER	EW-1 ELECTRIC WATER COOLER		
CFM CUBIC FEET PER MINUTE	FD-1 FLOOR DRAIN		
D DRAIN	FSD-1 FIRE SMOKE DAMPER		
DN DOWN	HB-1 HOSE BIBB		
EA EXHAUST AIR	L-1 LAVATORY		
EAT ENTERING AIR TEMPERATURE	LVR-1 LOUVER		
EC ELECTRICAL CONTRACTOR	MB-1 MOP BASIN		
EGG EGG CRATE GRILLE	P-1 PUMP		
EWT ENTERING WATER TEMPERATURE	RTU-1 ROOFTOP UNIT		
FGC FIRE DEPARTMENT CONNECTION	S-1 SINK		
GPM GALLONS PER MINUTE	SH-1 SHOWER		
HP HORSEPOWER	TS-1 TUB/SHOWER		
HW HOT WATER	UH-1 UNIT HEATER		
IMT ICE MACHINE TRIME	U-1 URINAL		
LMT LEAVING AIR TEMPERATURE	WC-1 WATER CLOSET		
LWT LEAVING WATER TEMPERATURE	WH-1 WALL HYDRANT		
MC MECHANICAL CONTRACTOR	WHY WALL HYDRANT		
MAT MIXED AIR TEMPERATURE			
NOM. NOMINAL			
NTS NOT TO SCALE			
PD PRESSURE DROP			
OA OUTSIDE AIR			
ODS OPPOSED BLADE DAMPER			
PRV PRESSURE REDUCING VALVE			
PSI POUNDS PER SQUARE INCH			
RA RETURN AIR			
REG REGISTER			
RD ROOF DRAIN			
RHW RECIRCULATING HOT WATER			
SP STATIC PRESSURE			
SA SUPPLY AIR			
SAN SANITARY			
TWV THERMOSTATIC MIXING VALVE			
TP TYPICAL			
VFD VARIABLE FREQUENCY DRIVE			
V VENT PIPE			
VTR VENT THROUGH ROOF			
W WASTE			
WB WET BULB			
WCO WALL CLEAN OUT			
WMT WASHING MACHINE TRIM			
XST EXISTING			

APPROVED MANUFACTURERS	
AIR INLET/OUTLET	CARNES, PRICE, TITUS, NAILOR, PORTORRE, TUTTLE & BAILEY
CONDENSING UNIT	AMERICAN STANDARD, ARMSTRONG, CARRIER, LENNOX, TRANE, YORK/JCI, RHEEM, RUUD, COLEMAN, GOODMAN, BRYANT, DAIKIN
FANS	GREENHECK, DOOK, TWIN CITY FAN
FURNACE	AMERICAN STANDARD, ARMSTRONG, CARRIER, LENNOX, TRANE, YORK/JCI, RHEEM, RUUD, COLEMAN, GOODMAN, BRYANT, DAIKIN
UNIT HEATERS	MODINE, STERLING, REZNOR, RAPID ENGINEERING
WATER HEATERS	A. O. SMITH, LOCHINVAR, RUUD, BRADFORD WHITE, STATE

MECHANICAL SEQUENCE OF OPERATIONS:

MECHANICAL CONTRACTOR TO PROVIDE ALL THERMOSTATS, RELAYS, WIRING, DAMPERS, ACTUATORS, ETC FOR COMPLETE SYSTEM TO PERFORM ALL DEFINED FUNCTIONS.

FURNACE/FAN COIL:

UNIT SHALL BE IN OCCUPIED OR UNOCCUPIED MODE AS DEFINED BY ADJUSTABLE SCHEDULE IN 7-DAY PROGRAMMABLE THERMOSTAT. PROVIDE SEQUENCE TO OPERATE UNIT IN OCCUPIED MODE DURING UNOCCUPIED TIMES FOR SET TIME PERIOD.

IN UNOCCUPIED MODE, SUPPLY FAN SHALL BE OFF AND OUTDOOR AIR DAMPER TO BE CLOSED. CYCLE FAN AND HEATING/COOLING TO MAINTAIN SPACE AT UNOCCUPIED SETPOINT.

IN OCCUPIED MODE, SUPPLY FAN SHALL BE ON AND OUTDOOR AIR DAMPER TO BE OPEN. CYCLE HEATING AND COOLING TO MAINTAIN SPACE AT TEMPERATURE SETPOINT.

UNIT HEATERS:

CYCLE FAN AND BURNER TO MAINTAIN SPACE AT TEMPERATURE SETPOINT.

EXHAUST FANS:

EF-1: FAN TO OPERATE WHEN ASSOCIATED ROOM LIGHT IS ON.

EF-2: FAN TO OPERATE WHEN ASSOCIATED ROOM LIGHT IS ON.

EF-3: FAN TO OPERATE WHEN ASSOCIATED ROOM LIGHT IS ON.

PIPING INSULATION SCHEDULE				
PIPE TYPE	INSULATION TYPE	PIPE SIZE	INSULATION THICKNESS	
DOMESTIC HOT WATER	GLASS FIBER	1" AND LESS	1-1/2"	
		1-1/4" AND LARGER	1-1/2"	
DOMESTIC COLD WATER	GLASS FIBER	1-1/4" AND LESS	1"	
		1-1/2" AND LARGER	1-1/2"	
CONDENSATE DRAINS	GLASS FIBER OR FLEXIBLE ELASTOMERIC	ALL SIZES	1"	
PLUMBING VENTS WITHIN 10' OF EXTERIOR	GLASS FIBER	ALL SIZES	1"	
REFRIGERANT PIPING	FLEXIBLE ELASTOMERIC	ALL SIZES	1"	

WATER HEATER SCHEDULE							
WATER HEATER ID	FUEL SOURCE	HEATER SIZE (KW)	TANK CAPACITY (GAL)	RECOVERY 90° F RISE (GPH)	VOLTAGE/ PHASE	MANUFACTURER & MODEL	NOTES
WH-1	EL	4.5	55	21	240/1	AOSMITH ENT-SS	1,2,3

- 1) DISCONNECT BY DIVISION 26.
- 2) PROVIDE RELIEF VALVE ON THE WATER HEATER.
- 3) PROVIDE WATS PLT-12 EXPANSION TANK FOR WATER HEATER.

AIR INLET/OUTLET SCHEDULE							
AIR INLET/OUTLET ID	TYPE	NECK SIZE (INCH)	MODULE SIZE (INCH)	NC	IMOUNTING	MANUFACTURER & MODEL	NOTES
S-1	GR	4"x12"	5-1/2"x13-1/2"	<25	FLOOR	PRICE LFG	1,2,3
S-2	GR	6"x12"	7-1/2"x13-1/2"	<25	FLOOR	PRICE LFG	1,2,3
R-1	GR	12"x12"	13-3/4"x13-3/4"	<20	SURFACE	PRICE S30L	1
R-2	GR	24"x20"	25-3/4"x23-3/4"	<20	SURFACE	PRICE S30L	1

- 1) PROVIDE STANDARD WHITE FINISH.
- 2) PROVIDE WITH FLAT DAMPER TO BE OPERABLE THROUGH GRILLE FACE.
- 3) BARS TO BE 7/32" WIDE SPACED AT 7/8" ON CENTER.

CONDENSING UNIT SCHEDULE									
CONDENSING UNIT ID	UNIT SERVED	FLUID	COOLING CAPACITY (MBH)	VOLTAGE/ PHASE	MCA	MPS	MANUFACTURER & MODEL	NOTES	
CU-1	F-1	F-1	R-454B 60	240/1	31	50	RUUD RA15A60	1,2,3,4	

- 1) PROVIDE WITH MATCHED INDOOR COIL, REFER TO FURNACE SCHEDULE FOR ADDITIONAL INFORMATION ON MATCHING SEER.
- 2) INSTALL REFRIGERANT PIPING PER MANUFACTURERS GUIDELINES. VERIFY LINE SIZING, MAXIMUM LENGTH, AND MAXIMUM HEIGHT DIFFERENCE BETWEEN UNITS.
- 3) DISCONNECT BY ELECTRICAL CONTRACTOR.
- 4) PROVIDE CONCRETE HOUSEKEEPING PAD UNDER UNIT ON GROUND.

UNIT HEATER SCHEDULE							
UNIT HEATER ID	FUEL TYPE	CFM	HEAT INPUT (MBH)	HEAT OUTPUT (MBH)	HP	VOLTAGE/ PHASE	MANUFACTURER & MODEL
UH-1	PROPANE	1,580	100	82	1/6	120/1	MODINE HDS-100

- 1) PROVIDE UNIT MOUNTED DISCONNECT SWITCH.
- 2) PROVIDE VENT KIT FOR HORIZONTAL VENTING THROUGH THE WALL.

FAN SCHEDULE									
FAN ID	TYPE	CFM	ESP (INCH)	WATTS	VOLTAGE/ PHASE	DRIVE	SONES	MANUFACTURER & MODEL	NOTES
EF-1	CEF	75	0.3	50	120/1	DIRECT	1.8	GREENHECK SP-LP0511	1,2
EF-2	CEF	75	0.3	50	120/1	DIRECT	1.8	GREENHECK SP-LP0511	1,2
EF-3	CEF	75	0.3	50	120/1	DIRECT	1.8	GREENHECK SP-LP0511	1,2

- 1) PLUG TYPE DISCONNECT, GRAVITY BACKDRAFT DAMPER, CUSTOM COLOR WALL CAP, & WHITE PLASTIC GRILLE.
- 2) PROVIDE WITH RADIATION DAMPER.

FURNACE SCHEDULE												
FURNACE ID	CFM	ESP (INCH)	FUEL TYPE	HEATING CAPACITY (MBH)	COOLING CAPACITY (MBH)	HP	MCA	MOPK	VOLTAGE/ PHASE	MANUFACTURER & MODEL	NOTES	
F-1	1,570	0.6	PROP	84	82	60	1	12	15	120/1	RUUD R96TA08S21MGA	1,2,3,4,5,6

- 1) PROVIDE CONDENSATE OVERFLOW SWITCH TO SHUT DOWN UNIT THROUGH THERMOSTAT.
- 2) PROVIDE ECM MOTOR & TWO STAGES OF HEAT. HEAT LISTED IS HIGH FIRE RATE MIN, 95% AFUE.
- 3) DISCONNECT BY DIVISION 26.
- 4) PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
- 5) PROVIDE EXTERNAL SIDE FILTER MACK.
- 6) UNIT TO BE INSTALLED IN DOWNFLOW CONFIGURATION.



72-185 PAINTERS PATH
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INSTRUMENTS OF SERVICE
THE

PLUMBING ROUGH-IN CONNECTION SCHEDULE				
FIXTURE	WASTE	VENT	CW	HW
FD	2"	1-1/2"	-	-
HB	-	-	3/4"	3/4"
L	2"	1-1/2"	1/2"	1/2"
MB	3"	1-1/2"	1/2"	1/2"
TS	2"	1-1/2"	1/2"	1/2"
S	2"	1-1/2"	1/2"	1/2"
WC	4"	2"	1/2"	1/2"
WMT	2"	1-1/2"	1/2"	1/2"

PLAN NOTES:
 (1) WATER METER LOCATION, INSTALL HOT AND COLD WATER PEX MANIFOLDS ON WALL ABOVE METER. ROUTE PEX WHIPS TO EACH FIXTURE, SIZE PER ROUGH IN SCHEDULE.

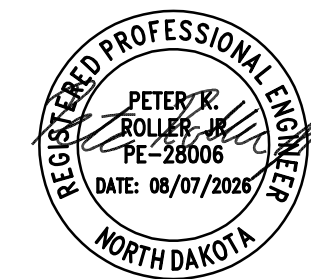
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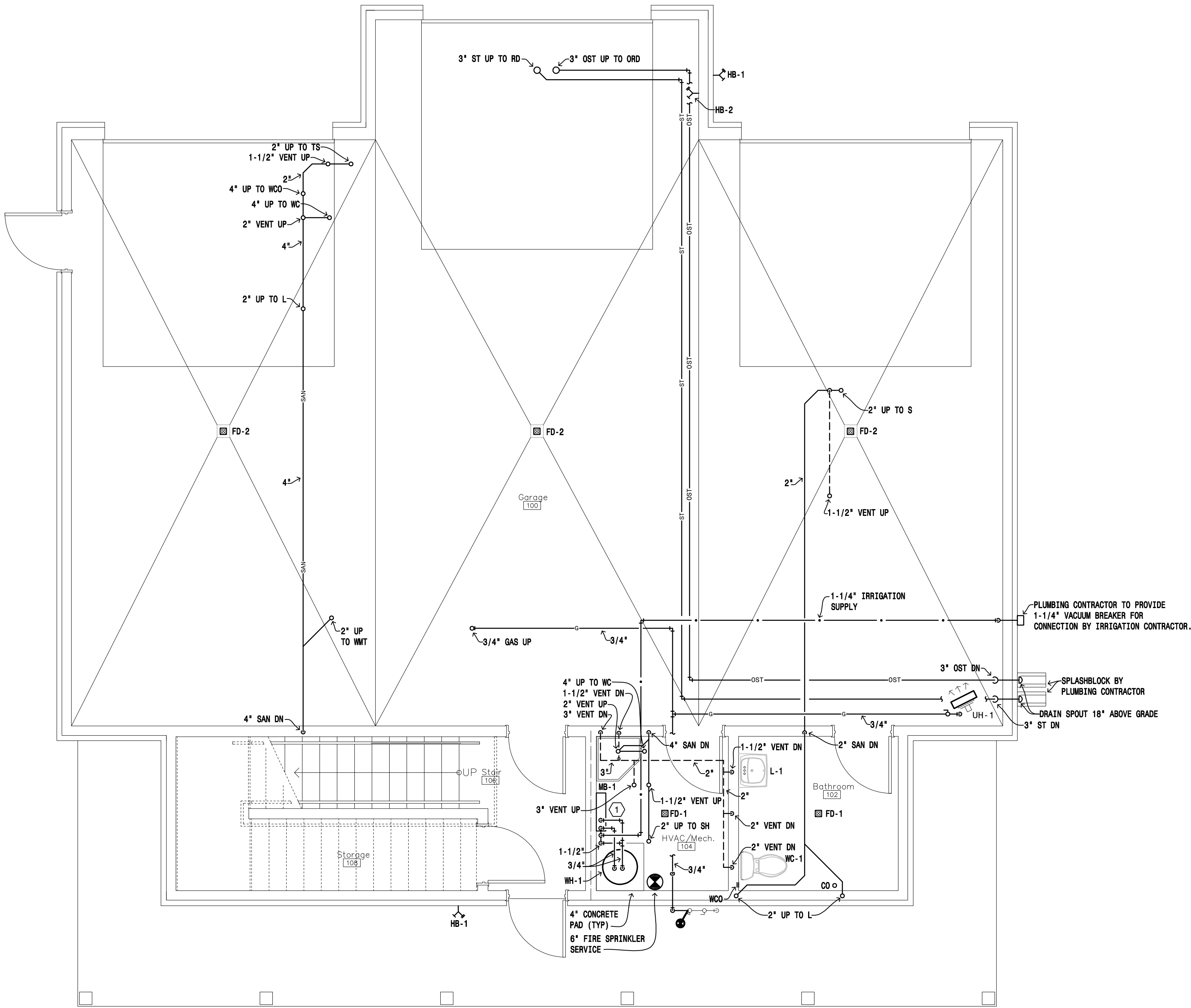
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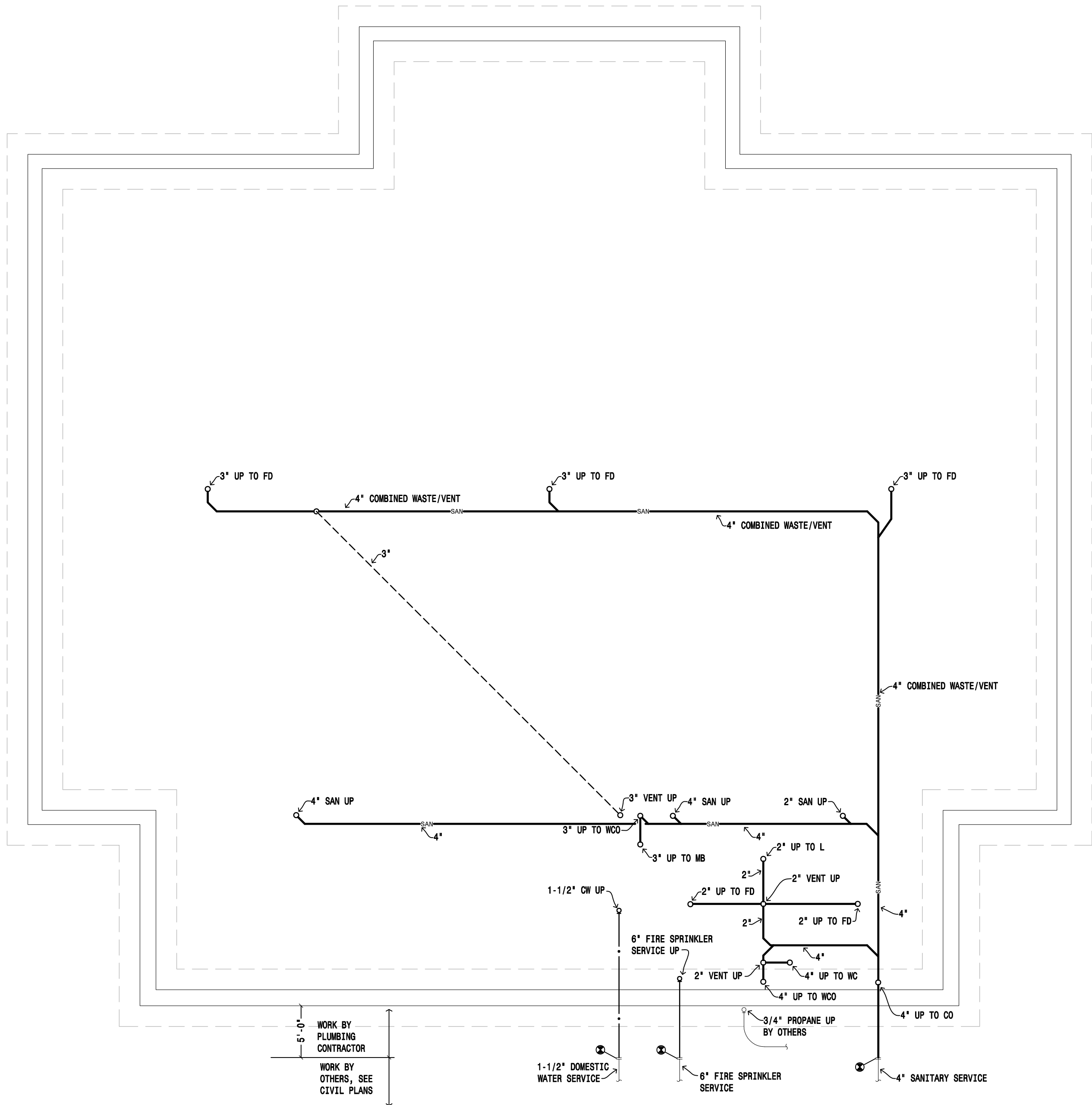
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CONSTR. REV 3	

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 CONTACT : KRISTI
 SCALE: AS NOTED
 FOUNDATION & FIRST
 FLOOR PLANS -
 MECHANICAL

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M1.0
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2 First Floor Plan — Plumbing
 SCALE: 1/4" = 1'-0"



1 Foundation Plan — Underground Plumbing
 SCALE: 1/4" = 1'-0"

PLUMBING ROUGH-IN CONNECTION SCHEDULE					
FIXTURE	WASTE	VENT	CW	CH	HW
FD	2"	1-1/2"	-	-	-
HB	-	-	3/4"	3/4"	-
L	2"	1-1/2"	1/2"	1/2"	-
MB	3"	1-1/2"	1/2"	1/2"	-
TS	2"	1-1/2"	1/2"	1/2"	-
S	2"	1-1/2"	1/2"	1/2"	-
WC	4"	2"	1/2"	1/2"	-
WMT	2"	1-1/2"	1/2"	1/2"	-

- PLAN NOTES:
- ① ROUTE HOT WATER FROM SINK TO DISHWASHER, ROUTE DISHWASHER WASTE TO SINK GARBAGE DISPOSAL, PROVIDE WITH AIR GAP FITTING.
- ② ROUTE 3/4" CONDENSATE DOWN TO MOP BASIN IN MECHANICAL ROOM.

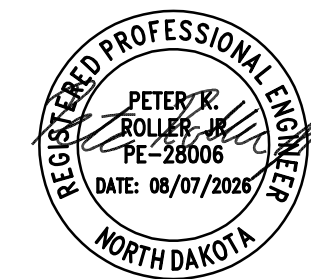
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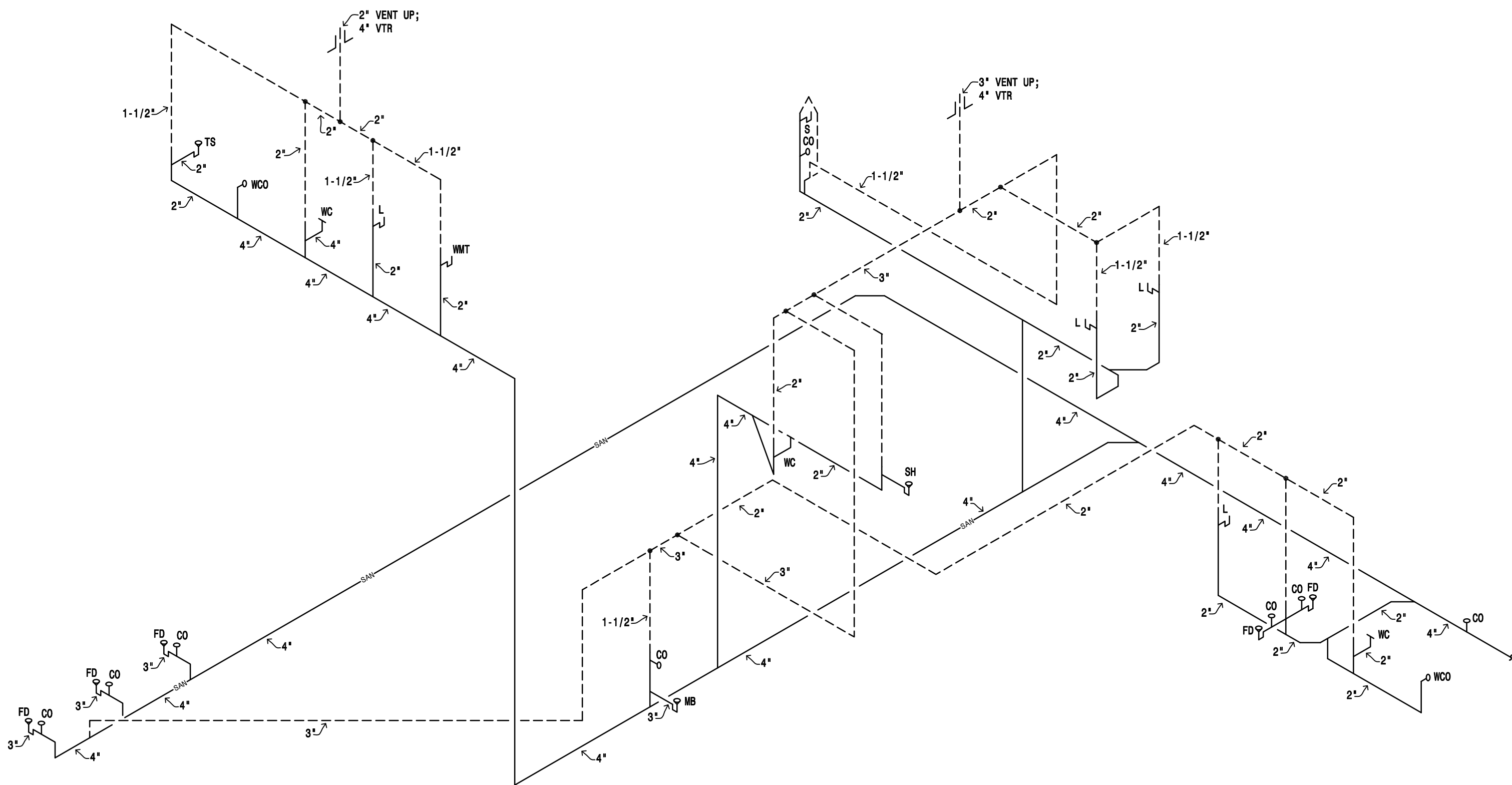
PROJECT #: 2515

CONTACT : KRISTI

SCALE: AS NOTED

SECOND FLOOR PLAN -
PLUMBING

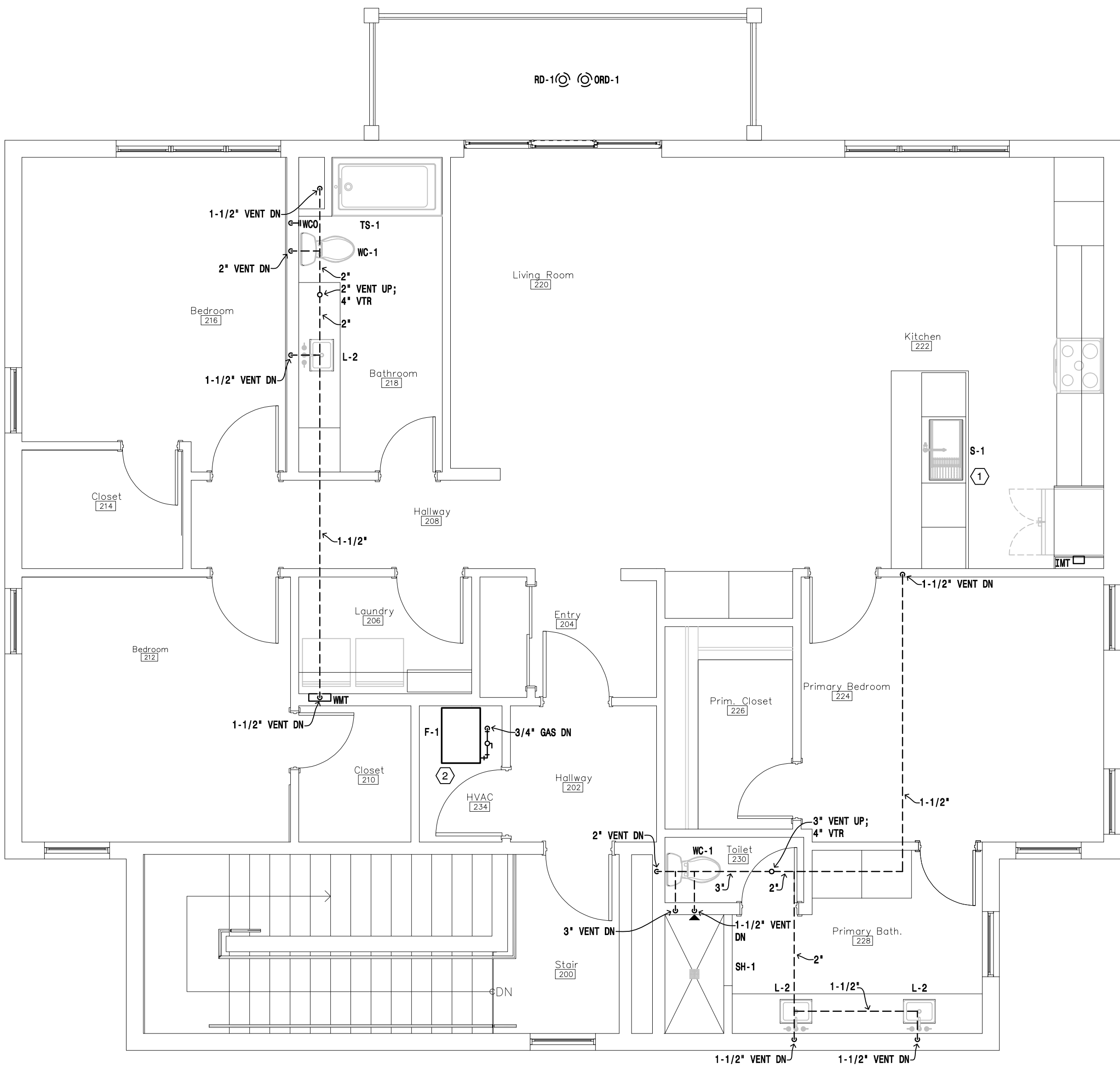
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2

Waste and Vent Riser

SCALE: NOT-TO-SCALE



1

Second Floor Plan — Plumbing

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

GENERAL PLAN NOTES:

1. ALL SUPPLY DUCTWORK ROUTED THROUGH JOIST SPACE.
ALL RETURN DUCTWORK TO BE ROUTED IN ATTIC SPACE.
OFFSET AS NEEDED TO ROUTE THROUGH RAFTER WEBBING.

PLAN NOTES:

- ① ROUTE VENT AND COMBUSTION AIR OUT WALL, SIZE AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS.
② ROUTE REFRIGERANT PIPING FROM CONDENSING UNIT TO ASSOCIATED FURNACE, SIZE PER MANUFACTURER'S RECOMMENDATIONS.
③ ROUTE VENT AND COMBUSTION AIR THROUGH ROOF, SIZE AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS.
④ FURNACE TO BE INSTALLED IN DOWNFLOW CONFIGURATION. ROUTE 16x20 SA DN.

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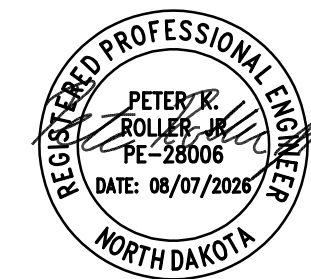
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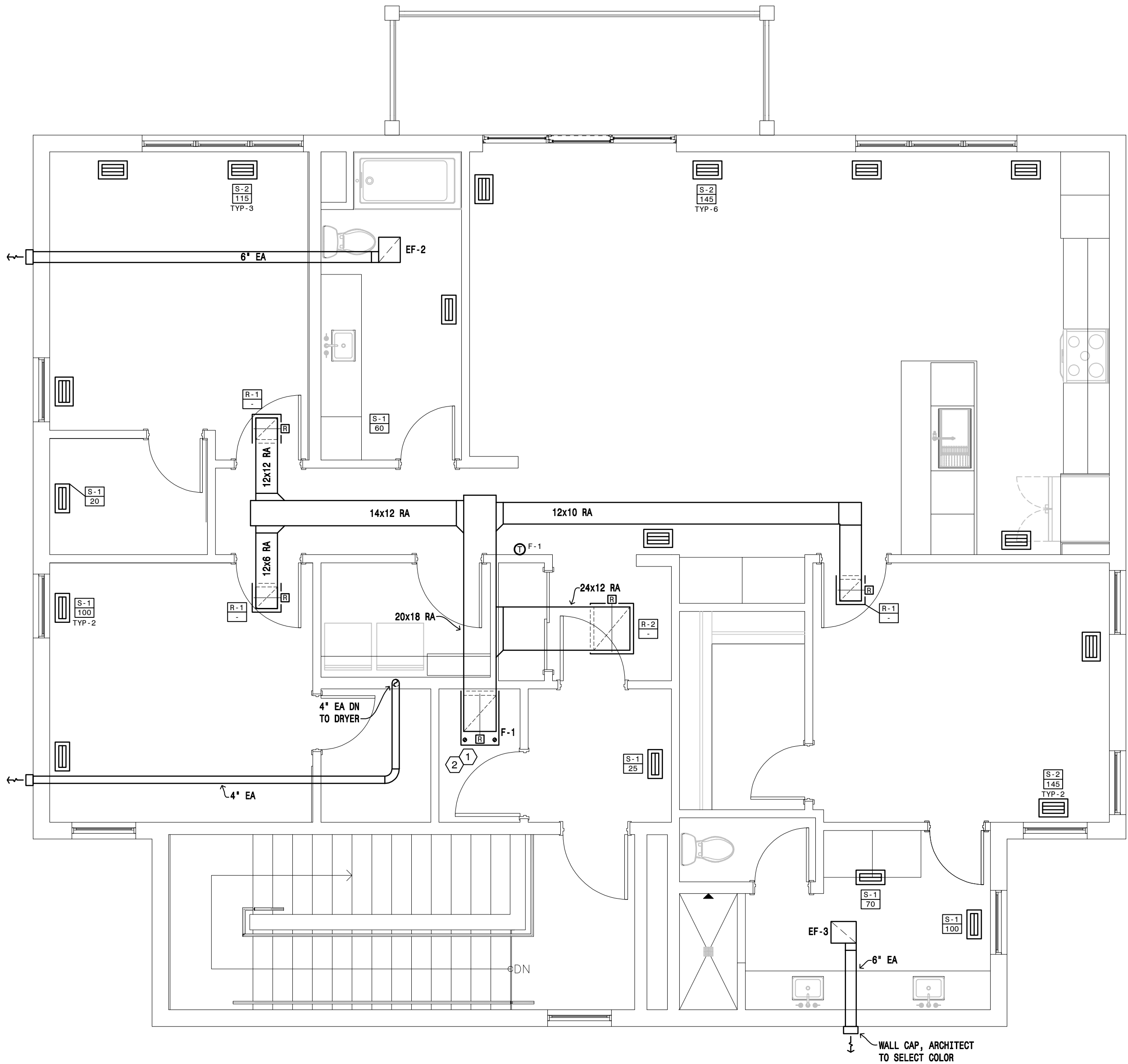
PROJECT #: 2515
CONTACT : KRISTI
SCALE: AS NOTED
FIRST & SECOND FLOOR
PLANS - VENTILATION

SHEET

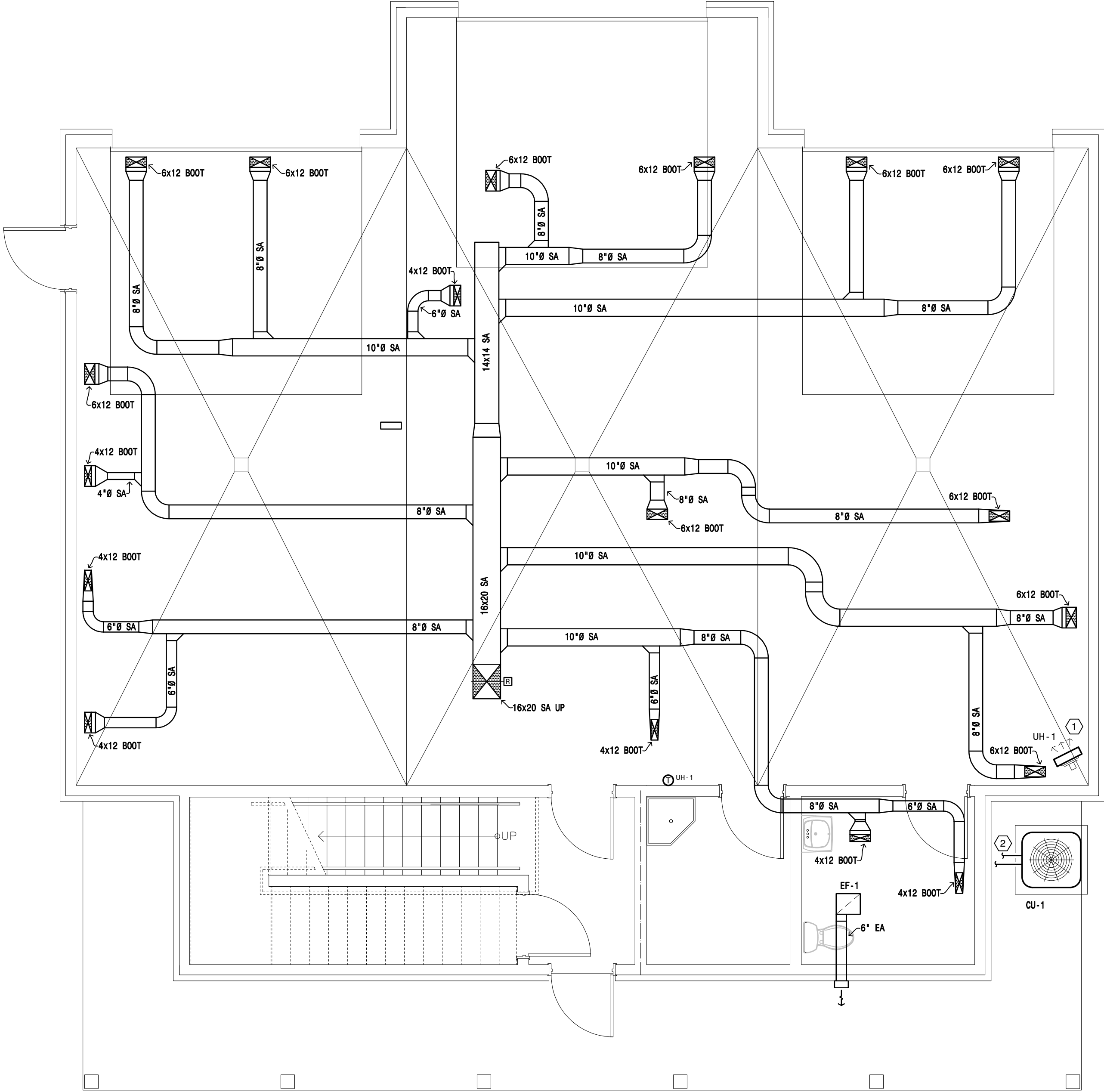
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DATE: 08/07/26

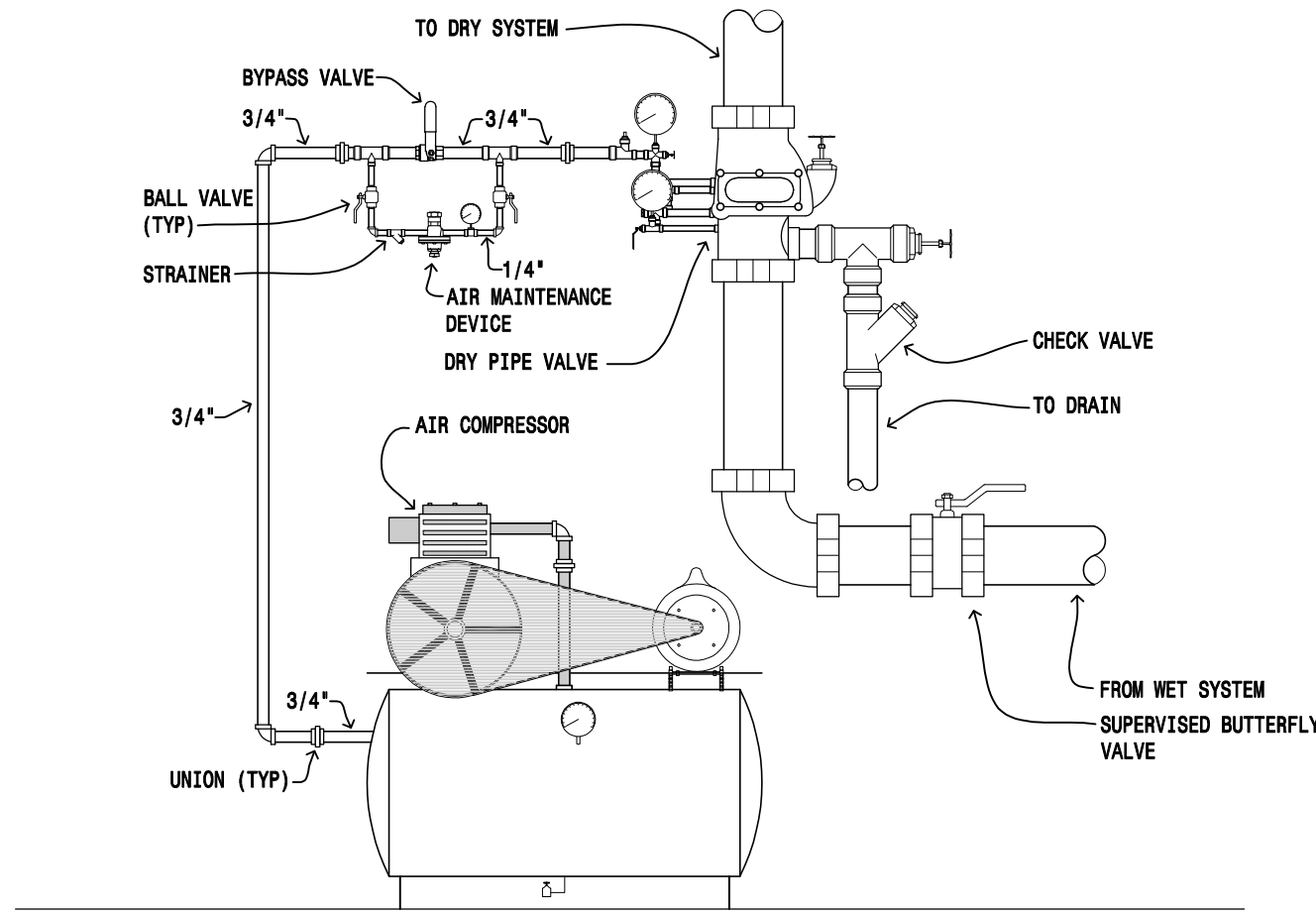
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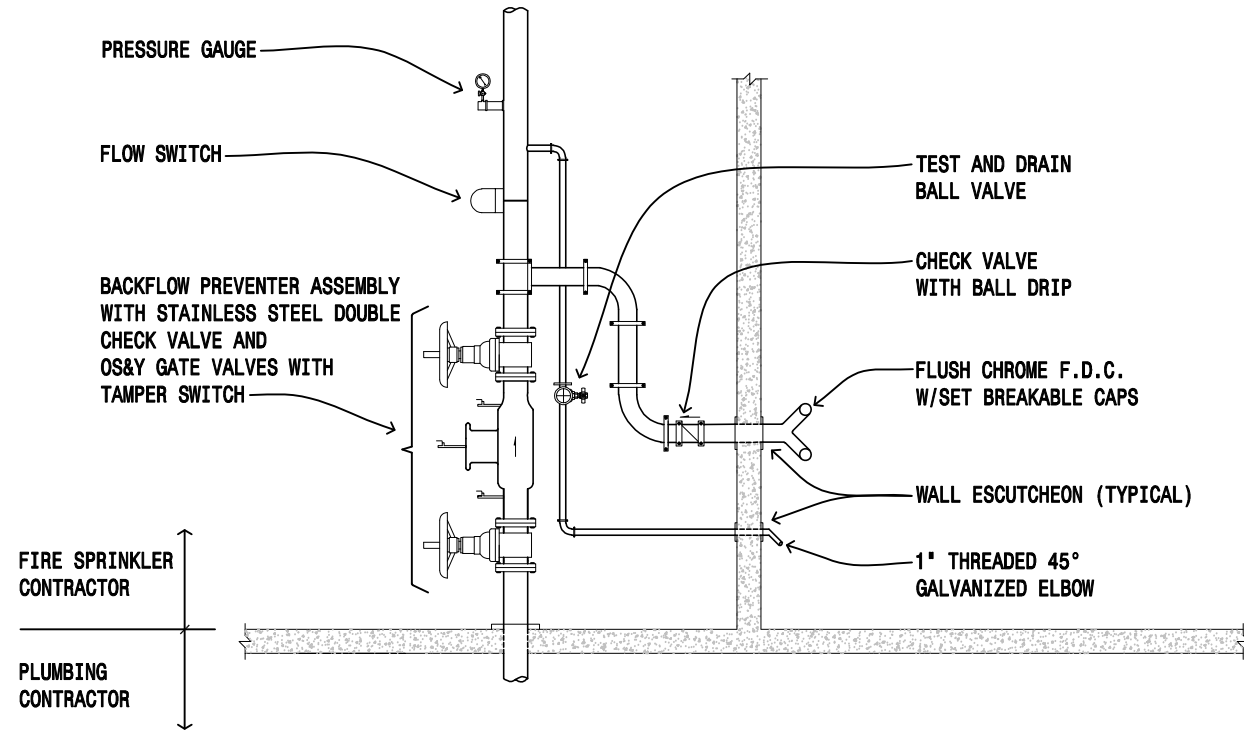
2 Second Floor Plan — Ventilation
SCALE: 1/4" = 1'-0"



1 First Floor Plan — Ventilation
SCALE: 1/4" = 1'-0"



4 Dry Pipe Valve Detail
SCALE: NOT-TO-SCALE

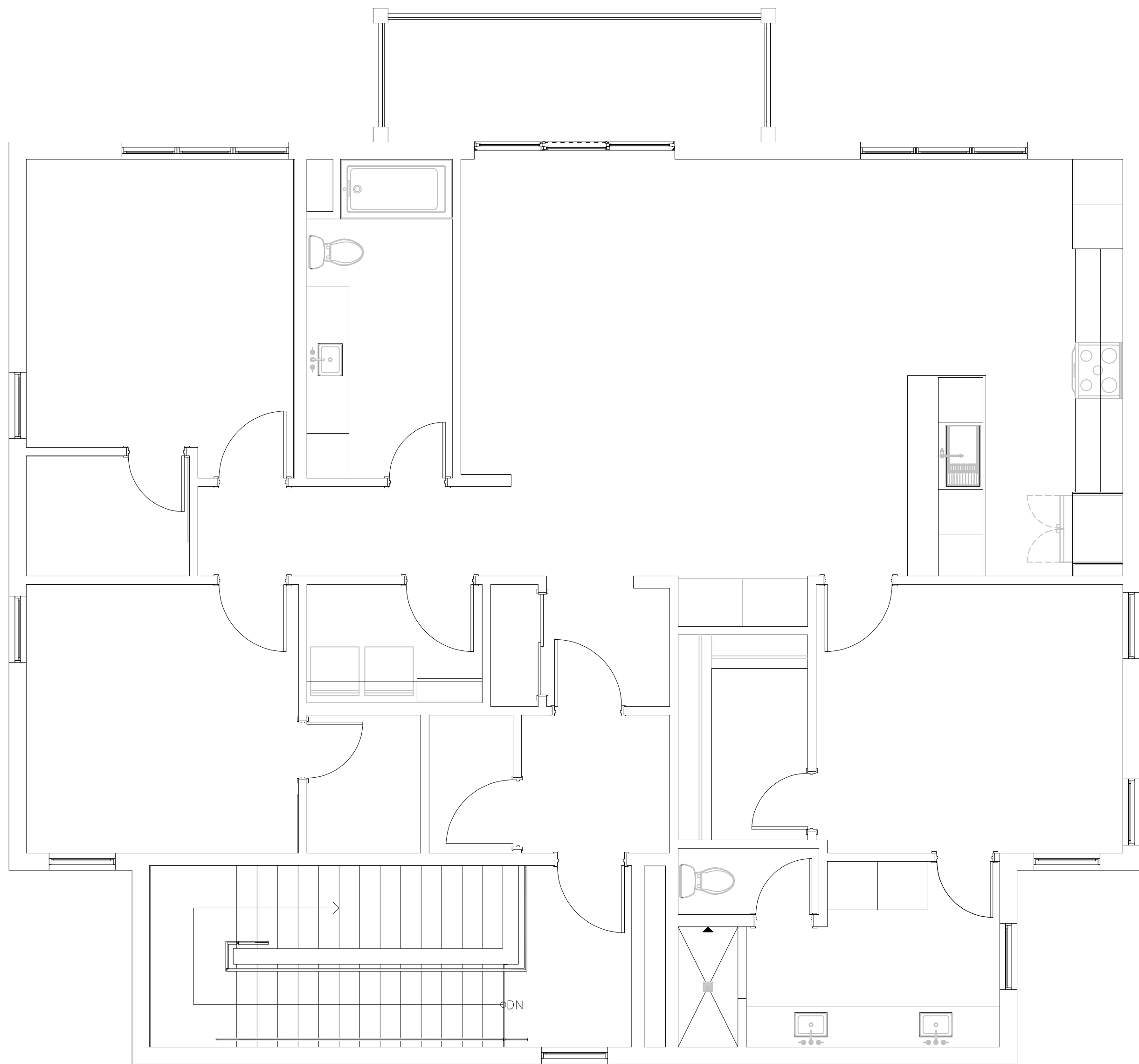


3 Fire Sprinkler Riser Detail
SCALE: NOT-TO-SCALE

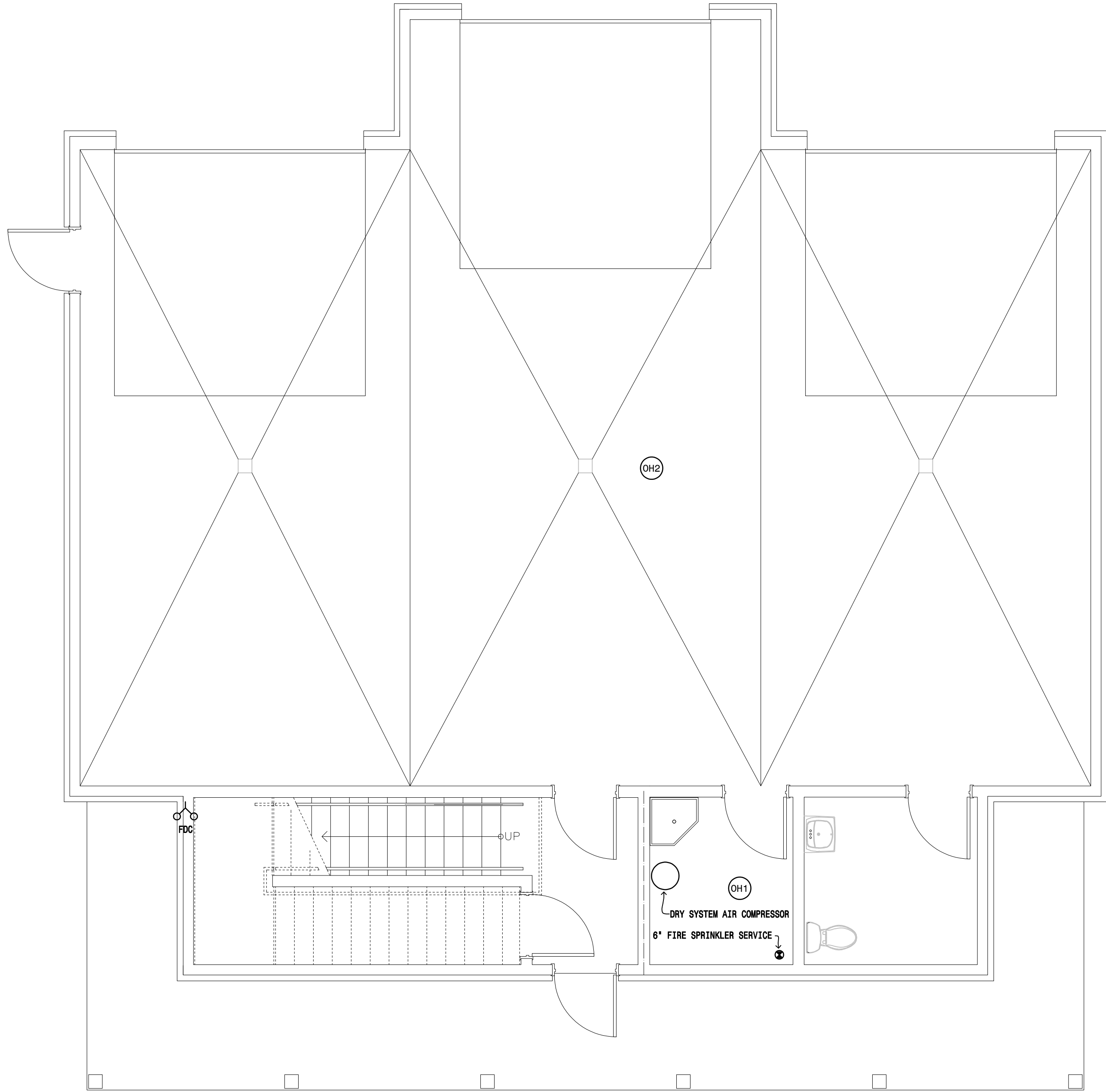
- FIRE SPRINKLER NOTES:**
1. THE ENTIRE BUILDING SHALL BE PROVIDED WITH A FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13R.
 2. ALL AREAS SHALL BE DESIGNED TO LIGHT HAZARD PARAMETERS UNLESS NOTED OTHERWISE BELOW OR ON PLANS.
 3. ALL AREAS WITH THIS SYMBOL: (OH1) SHALL BE DESIGNED TO ORDINARY HAZARD GROUP 1 PARAMETERS AS PER NFPA-13R.
 4. ALL AREAS WITH THIS SYMBOL: (OH2) SHALL BE DESIGNED TO ORDINARY HAZARD GROUP 2 PARAMETERS AS PER NFPA-13R.
 5. SPRINKLERS ARE NOT REQUIRED IN BATHROOMS WHERE BATHROOM AREA DOES NOT EXCEED 55 SQ. FT. UNDER NFPA 13R.
 6. SPRINKLERS SHALL NOT BE REQUIRED IN ANY PORCHES, CORRIDORS, AND STAIRS THAT ARE OPEN AND ATTACHED UNDER NFPA 13R.
 7. SPRINKLERS ARE NOT REQUIRED IN CLOTHES CLOSETS, LINEN CLOSETS, AND PANTRIES WITHIN THE DWELLING UNITS THAT HAVE AN AREA OF SPACE DOES NOT EXCEED 24 SQ. FT., THE LEAST DIMENSION DOES NOT EXCEED 3 FT AND THE WALLS AND CEILING ARE SURFACED WITH NONCOMBUSTIBLE OR LIMITED-COMBUSTIBLE MATERIALS AS DEFINED BY NFPA 220 UNDER NFPA 13R.
 8. ARCHITECTURAL BACKGROUNDS ON THESE DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR TO VERIFY ALL BACKGROUNDS WITH ARCHITECTURAL SHEETS AND SITE VISITS.
 9. COORDINATE PIPING LOCATIONS WITH ALL OTHER TRADES.
 10. PROVIDE COVERAGE FOR ALL BALCONIES WITH FREEZE PROOF SIDEWALL SPRINKLER HEADS TO MEET IFC AND NFPA REQUIREMENTS.

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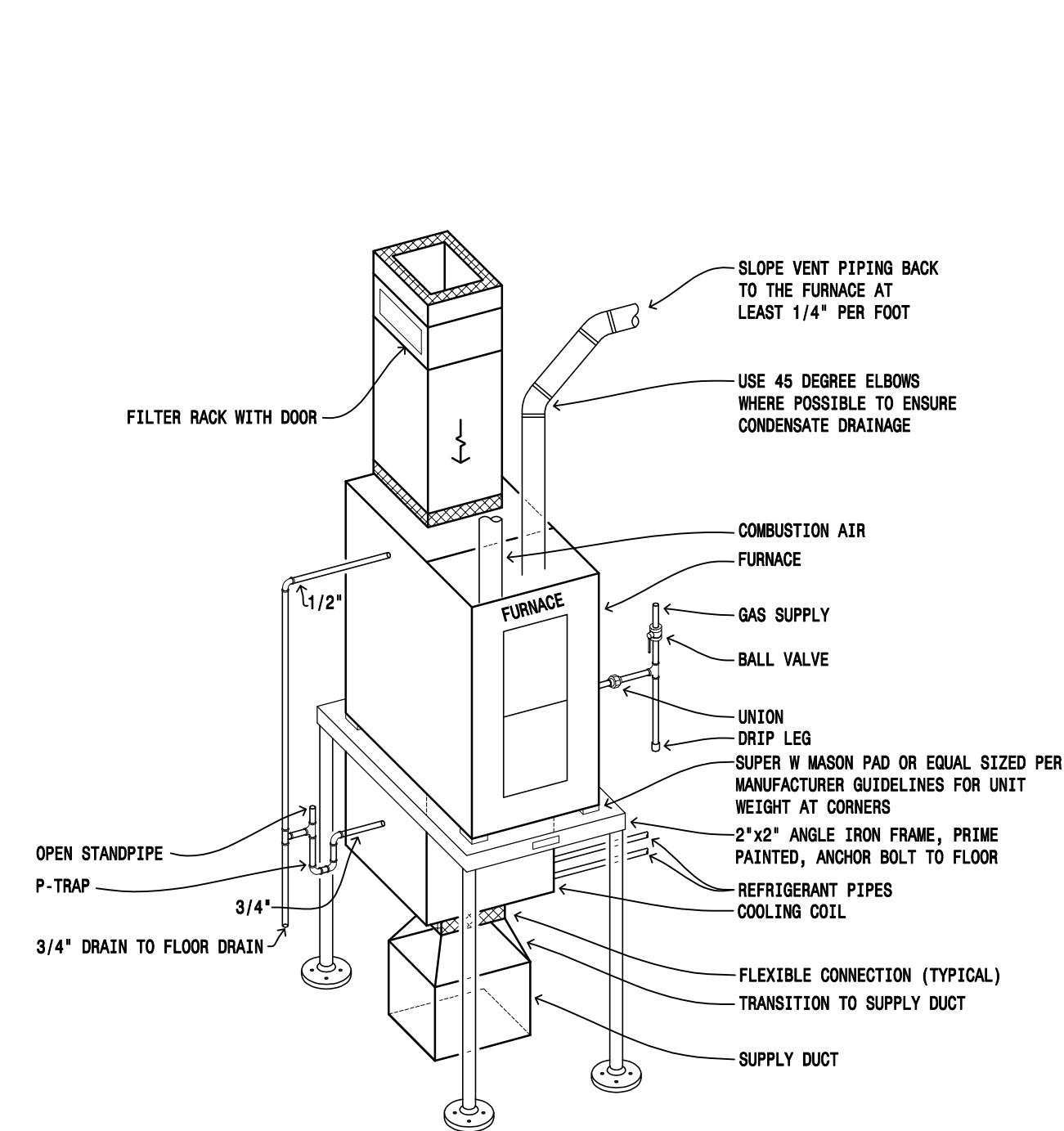
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SCALE: AS NOTED
FIRE SPRINKLER



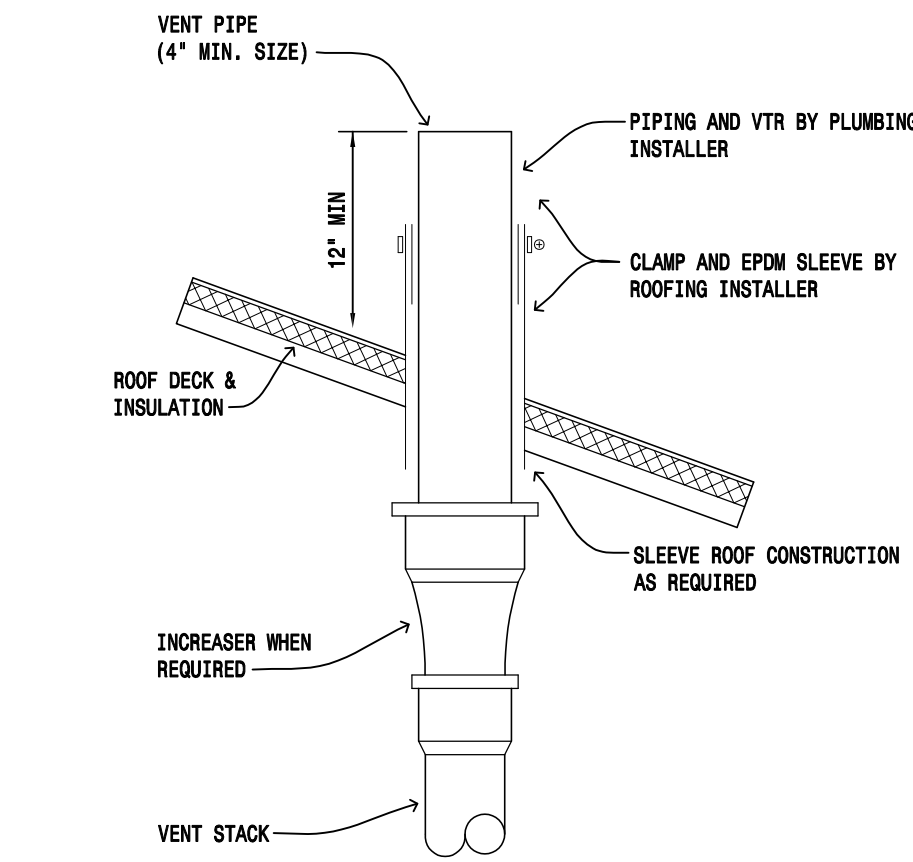
2 Second Floor Plan — Fire Sprinkler
SCALE: 1/4" = 1'-0"



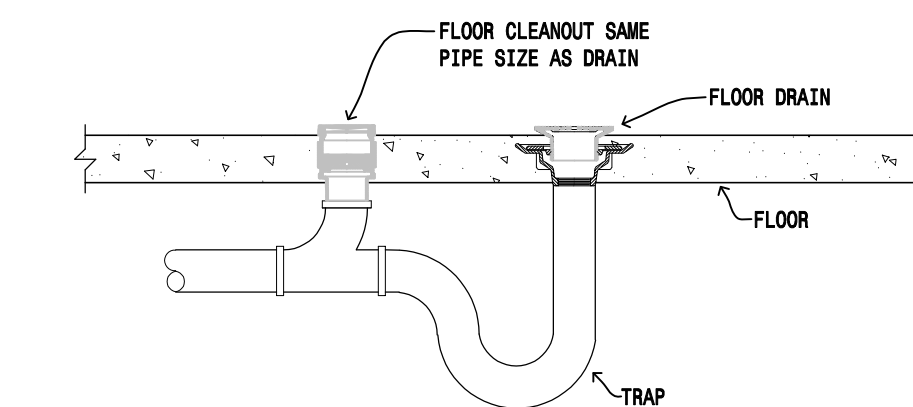
1 First Floor Plan — Fire Sprinkler
SCALE: 1/4" = 1'-0"



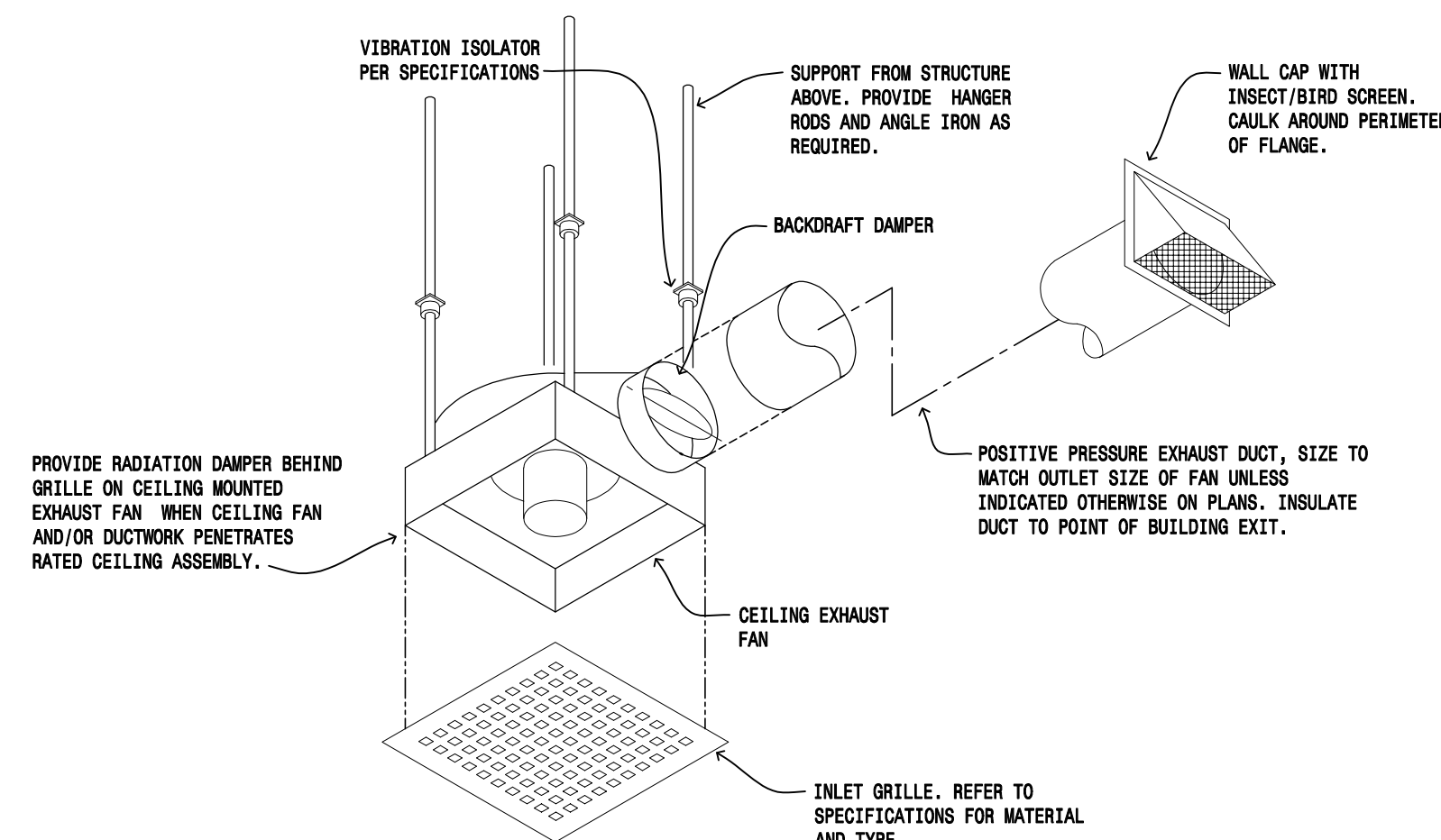
10 Furnace Detail
SCALE: NOT-TO-SCALE



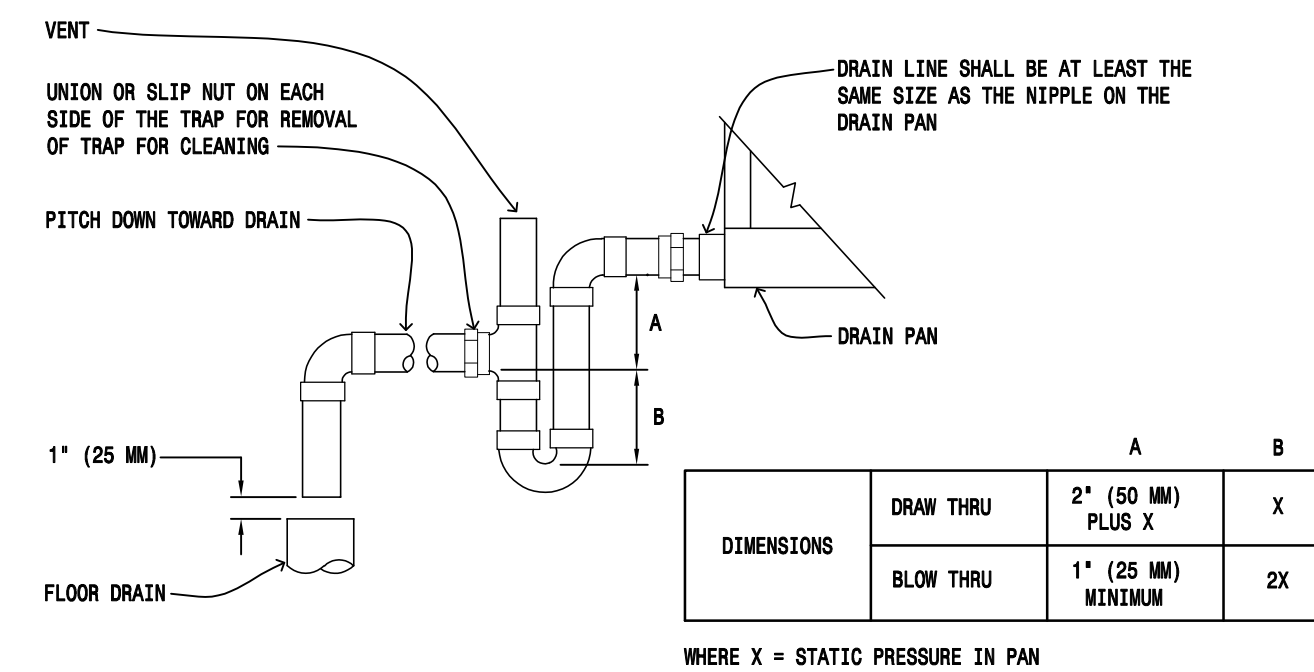
7 Plumbing Vent Detail
SCALE: NOT-TO-SCALE



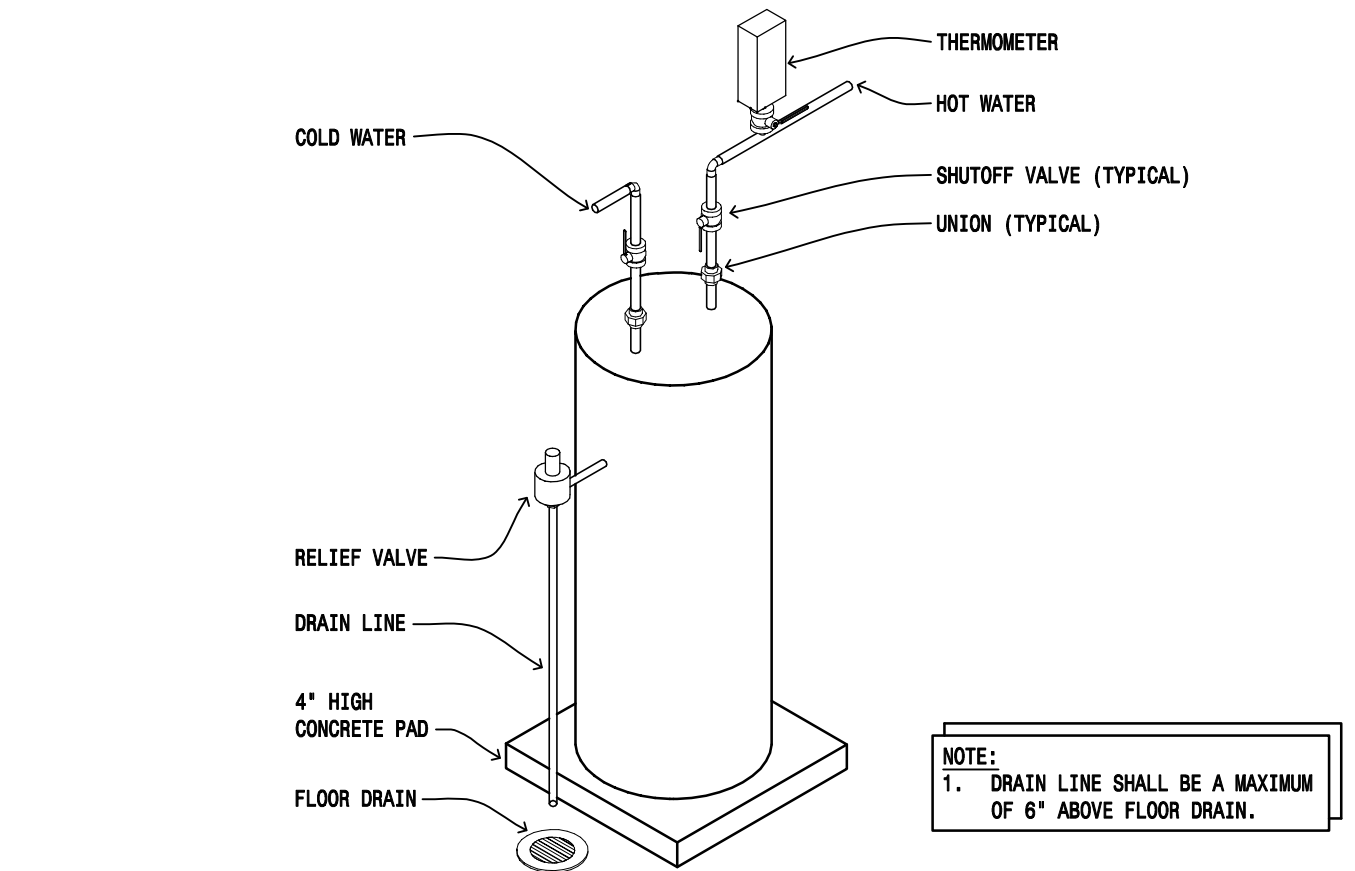
6 Floor Drain Detail
SCALE: NOT-TO-SCALE



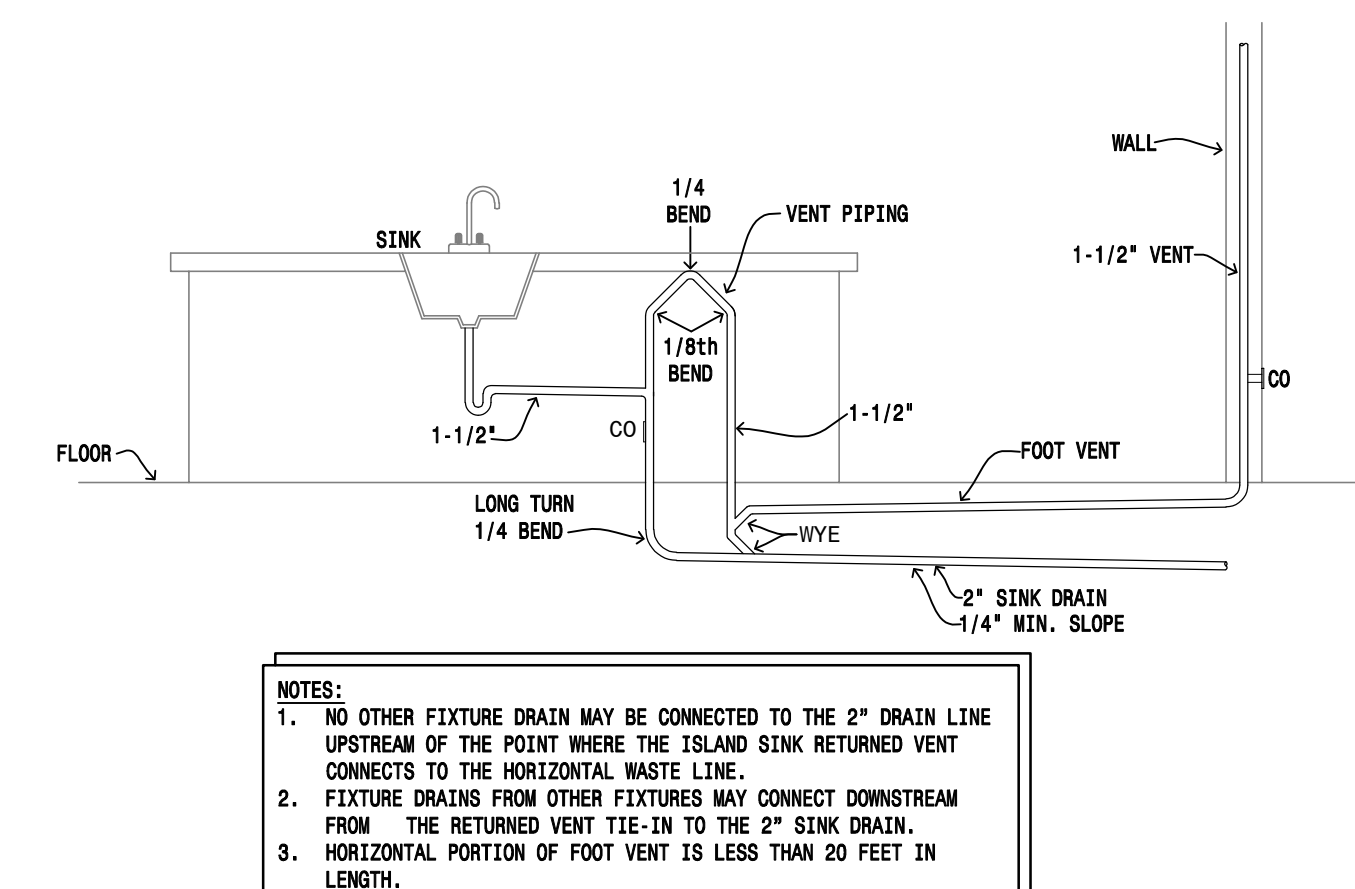
9 Ceiling Exhaust Fan Detail
SCALE: NOT-TO-SCALE



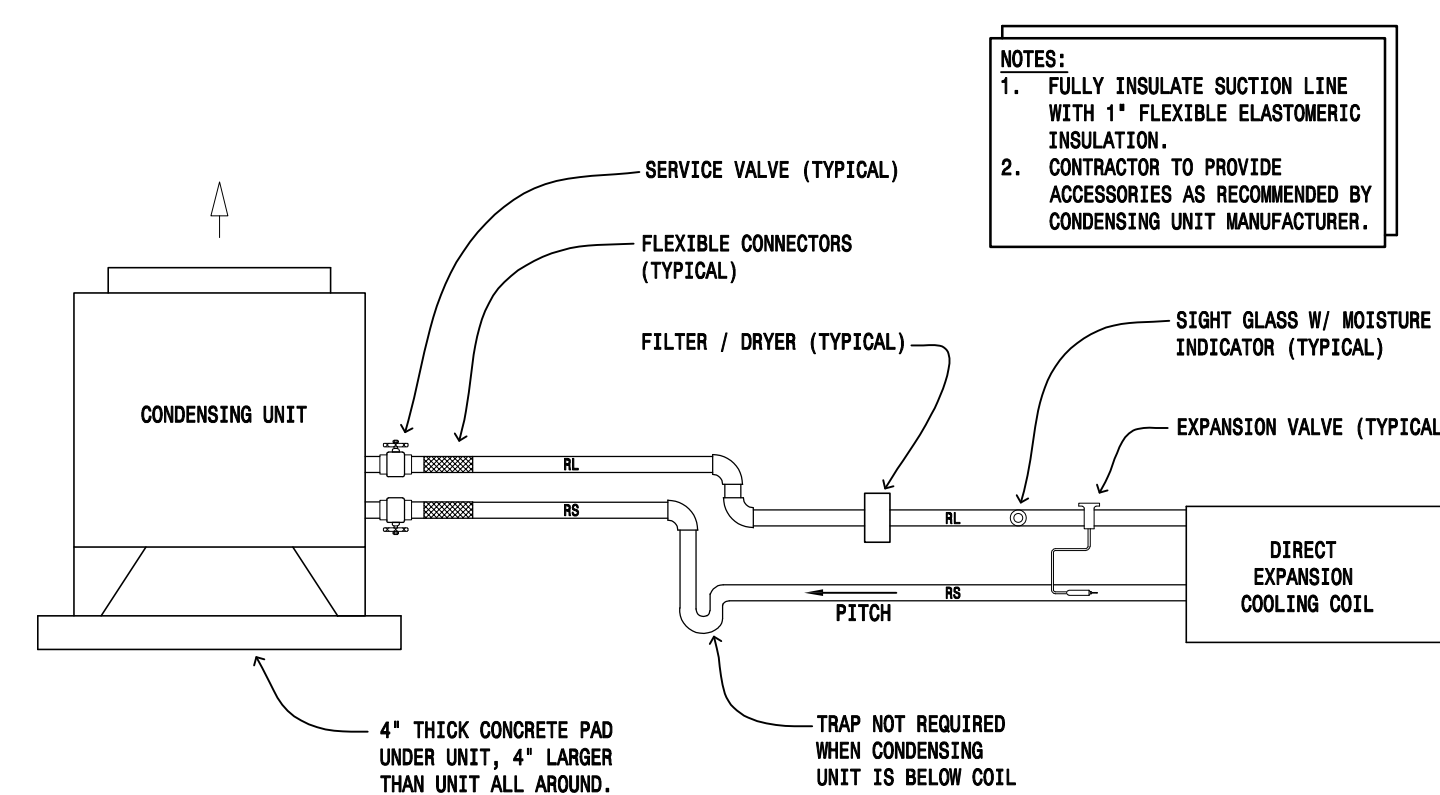
5 Furnace Drain Trap Detail
SCALE: NOT-TO-SCALE



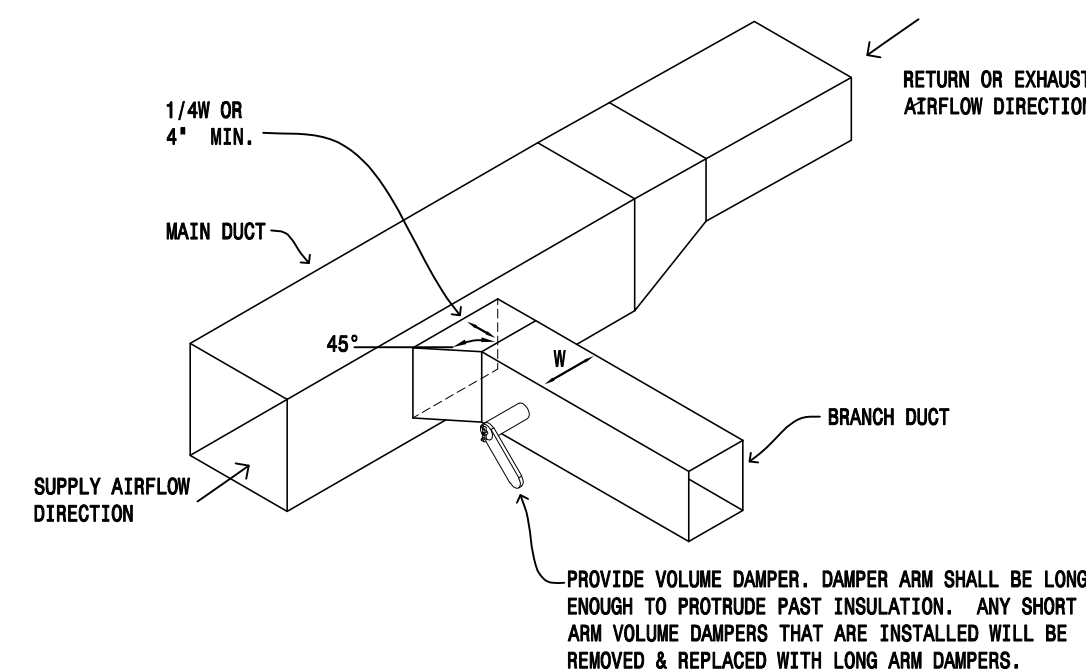
3 Electric Water Heater Detail
SCALE: NOT-TO-SCALE



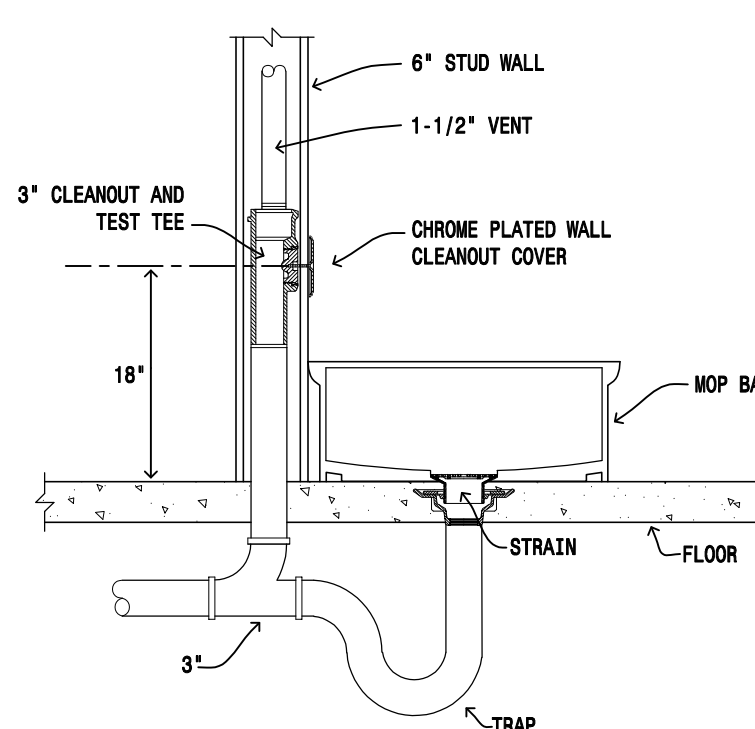
2 Island Venting Detail
SCALE: NOT-TO-SCALE



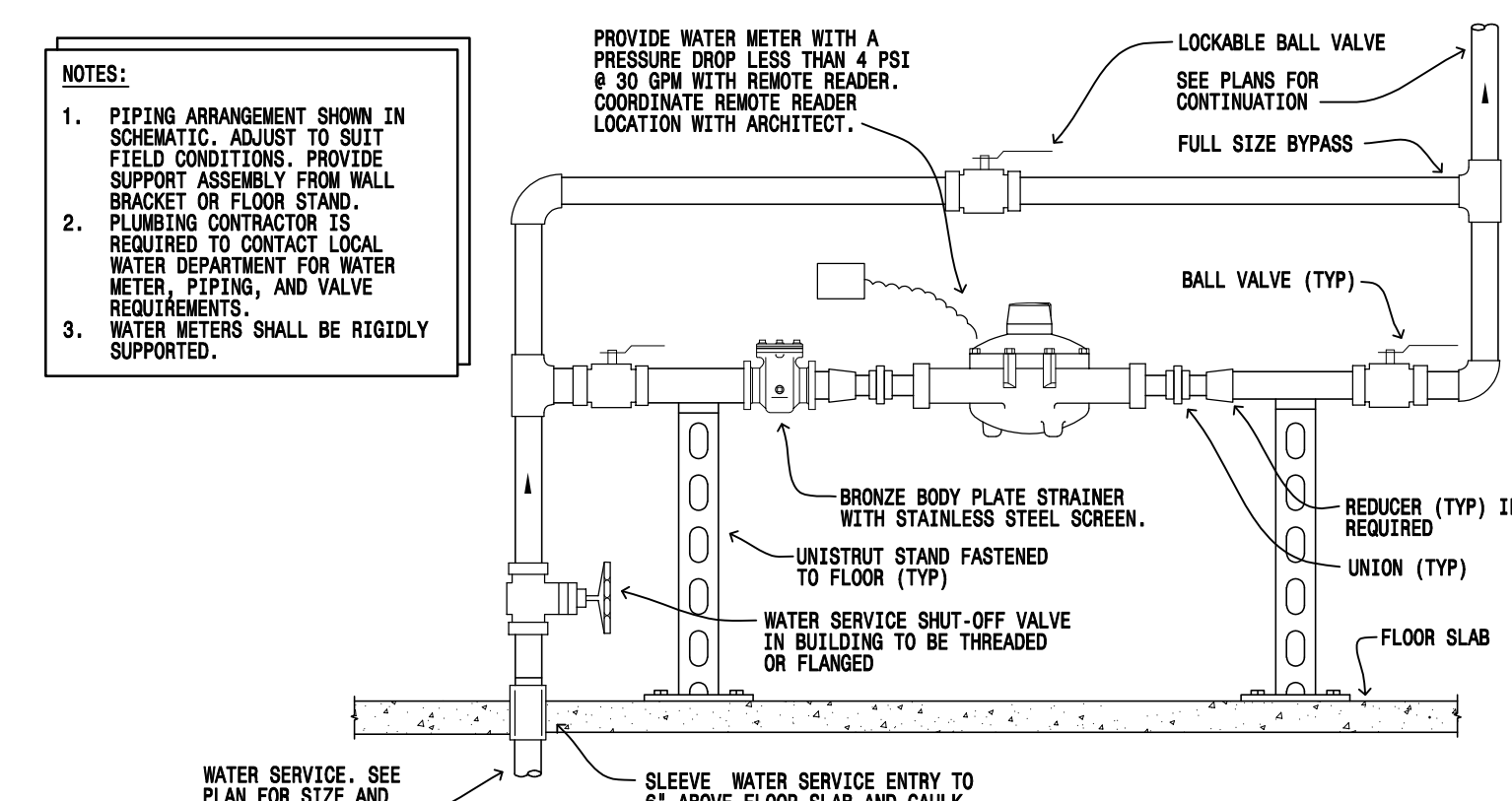
11 Refrigerant Piping Detail
SCALE: NOT-TO-SCALE



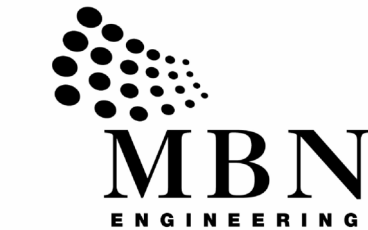
8 Branch Ductwork Detail
SCALE: NOT-TO-SCALE



4 Mop Basin Detail
SCALE: NOT-TO-SCALE

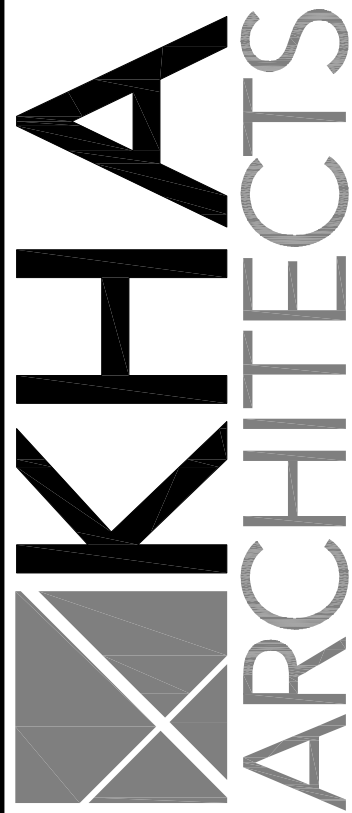


1 WATER METER DETAIL
SCALE: NOT-TO-SCALE



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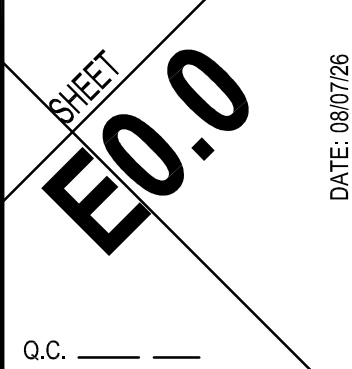
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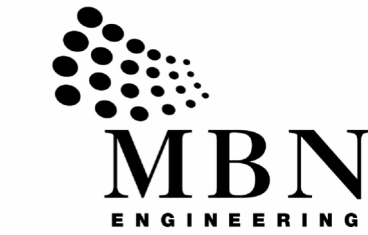
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ELECTRICAL
SYMBOLS LEGEND

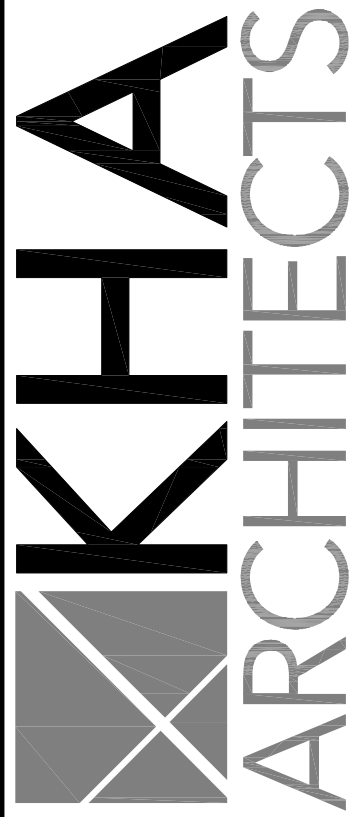


ELECTRICAL SYMBOLS LEGEND														
LIGHTING			POWER			SYSTEMS			FIRE ALARM			MISC/ABBREVIATIONS		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT	SYMBOLS	DESCRIPTION	MOUNTING HEIGHT	SYMBOLS	DESCRIPTION	MOUNTING HEIGHT	SYMBOLS	DESCRIPTION	MOUNTING HEIGHT	SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	CEILING SURFACE MOUNTED LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, SMALL LETTER INDICATES SWITCHING.			DUPLX RECEPTACLE (*C* INDICATES EMERGENCY CRITICAL BRANCH POWER)	18 INCHES		CEILING MOUNTED RECESSED SPEAKER			MANUAL STATION	48 INCHES		CEILING-MOUNTED JUNCTION BOX	18 INCHES
	RECESSED CEILING MOUNTED LIGHT FIXTURE			DOUBLE DUPLX RECEPTACLE (*C* INDICATES EMERGENCY CRITICAL BRANCH POWER)	18 INCHES		CEILING SURFACE MOUNTED SPEAKER			FIXED TEMPERATURE DETECTOR			WALL JUNCTION BOX	
	WALL MOUNTED LIGHT FIXTURE, SURFACE OR, RECESSED MOUNTED			TYPE 14-30 RECEPTACLE	18 INCHES		WALL MOUNTED SPEAKER	90 INCHES		DUCT PHOTOELECTRIC DETECTOR			DASHED LINES INDICATE EXISTING FIXTURES, DEVICES, OR EQUIPMENT	
	CEILING EXIT SIGN, SHADED SIDE INDICATES LIGHTED FACE, ARROWS INSTALLED AS SHOWN			TYPE 14-50 RECEPTACLE	6 INCHES		CLOCK	90 INCHES TO BOTTOM		PHOTOELECTRIC DETECTOR ('S' INDICATES SLEEPING ROOM WITH AUX. CONTACT, 'G' INDICATES WITH GUARD, 'E' INDICATES FOR ELEVATOR RECALL)			HASH MARKS INDICATE ITEM NOTED TO BE REMOVED	
	WALL EXIT SIGN	6 INCHES ABOVE DOOR FRAME TO BOTTOM		GFCI TYPE RECEPTACLE	18 INCHES		CLOCK/SPEAKER UNIT	90 INCHES TO BOTTOM		COMBINATION FIRE/SMOKE DAMPER OR SMOKE DAMPER BY DIVISION 16			CONDUIT CONCEALED IN WALL OR CEILING, QUANTITY OF CONDUCTORS NOT SHOWN, PROVIDE AS REQUIRED FOR DEVICE/CIRCUIT NUMBERS SHOWN.	
	SUSPENDED LIGHT FIXTURE			MULTI-OUTLET ASSEMBLY - M.O.A., PROVIDE DEVICES AS SHOWN ON PLANS	18 INCHES		MICROPHONE OUTLET	18 INCHES		HORN WITH STROBE			CONDUIT CONCEALED IN FLOOR	
	SURFACE LIGHT FIXTURE			DUPLX RECEPTACLE, HALF SWITCHED	18 INCHES		MICROPHONE FLOOR OUTLET			SPEAKER HORN WITH STROBE			UNDERGROUND CONDUIT AT 24 INCHES MINIMUM	
	RECESSED LIGHT FIXTURE			FLOOR OUTLET, 'R' INDICATES RECESSED, 'F' INDICATES FLUSH, 'S' INDICATES SURFACE MOUNT			VOLUME CONTROL	48 INCHES		CHIME WITH STROBE			HOME RUN TO PANELBOARD, QUANTITY OF CONDUCTORS REQUIRED NOT INDICATED, PROVIDE QUANTITY AS REQUIRED FOR CIRCUIT NUMBERS SHOWN, SWITCHING ARRANGEMENT, OR NUMBER OF HOME RUNS SHOWN. '#10' INDICATES WIRE SIZE, 'NO NUMBERS INDICATES #12, 3/4 INCH CONDUIT MINIMUM.	
	FIXTURE CONNECTED TO EMERGENCY LIFE SAFETY POWER WHEN SHADED			TIME SWITCH			AMPLIFIER CABINET			STROBE LIGHT			SURFACE CONDUIT OR SURFACE RACEWAY	
	FIXTURE CONNECTED TO CRITICAL POWER WHEN DASHED.	7 FOOT 6 INCHES		DRY TYPE TRANSFORMER			AUXILIARY INPUT OUTLET	18 INCHES		LOCKDOWN ALERT SPEAKER WITH BLUE STROBE			NOTE IDENTIFICATION	
	EMERGENCY BATTERY LIGHT	7 FOOT 6 INCHES		PUSH BUTTON			COMPUTER OUTLET (NUMBER INDICATES QUANTITY OF CABLES AND JACKS, NO NUMBER INDICATES ONE)	18 INCHES		FIRE ALARM MODULE/RELAY			WIRE BASKET TYPE CABLE TRAY	
	EMERGENCY REMOTE LAMP			POWER DOOR HANDICAP PUSH PAD	42 INCHES		COMBINATION COMPUTER/TELEPHONE OUTLET IN SINGLE GANG OPENING (NUMBER INDICATES QUANTITY OF CABLES AND JACKS, NO NUMBER INDICATES ONE)	18 INCHES		MAGNETIC DOOR HOLD OPEN			COMMUNICATIONS CABLE SUPPORT HANGER	
	PARKING LOT/AREA LIGHT FIXTURE			EMERGENCY BOILER SHUTDOWN PUSH BUTTON	48 INCHES		TELEPHONE OUTLET ('W' INDICATES WALL MOUNTED AT 48 INCHES)	18 INCHES		INTEGRAL MAGNETIC DOOR CLOSER (PROVIDED BY DIVISION 8)			AMPERE	
	PARKING LOT POST TOP LIGHT FIXTURE	9 FOOT		THERMOSTAT - PROVIDE BY DIVISION 16	48 INCHES		COMPUTER/TELEPHONE OUTLET, PROVIDE ROUGH-IN AND CONDUIT ONLY	18 INCHES		SUPERVISORY SWITCH (NUMBER INDICATES NUMBER OF DEVICES AT THIS LOCATION)			ABOVE COUNTER	
	PHOTO CELL			THERMOSTAT - FURNISHED BY DIVISION 15, INSTALLED BY DIVISION 16	48 INCHES		TELEVISION OUTLET			PRESSURE SWITCH			ABOVE FINISHED FLOOR	
	CEILING MOUNTED MOTION SENSOR SWITCH	48 INCHES		THERMAL SWITCH (MOTOR OVERLOAD TYPE)	48 INCHES		REQUEST TO EXIT DEVICE			FLOW SWITCH			AIR HANDLING UNIT	
	WALL MOUNTED MOTION SENSOR SWITCH			POWER POLE			DOOR POSITION SWITCH, RECESSED	18 INCHES		FIRE ALARM CONTROL PANEL			BELOW COUNTER	
	MOTION SENSOR SWITCH POWER PACK			MOTOR (NUMBER REFERS TO MOTOR AND EQUIPMENT SCHEDULE SEE SCHEDULE FOR WIRING AND CONTROLLER REQUIREMENTS)			DOOR POSITION SWITCH, SURFACE MOUNT	3 INCHES ABOVE DOOR FRAME		FIRE ALARM ANNUNCIATOR			CONDUIT	
	CONTACTOR (NUMBER INDICATES NUMBER OF POLES)			LIGHTING AND APPLIANCE PANELBOARD			DOOR POSITION SWITCH						CABINET UNIT HEATER	
	ROOM CONTROLLER	48 INCHES		RECESSED LIGHTING AND APPLIANCE PANELBOARD			CARD READER						EXHAUST FAN	
	SINGLE POLE (HORSEPOWER RATED WHEN USED AS MOTOR DISCONNECT)	48 INCHES		SWITCHBOARD OR MOTOR CONTROL CENTER AS NOTED			ELECTRIC LATCH BY DIV 08, CONNECTIONS BY DIV 26						ELECTRIC WATER COOLER	
	DOUBLE POLE	48 INCHES		SPECIAL EQUIPMENT CABINET AS NOTED			ELECTRIC STRIKE BY DIV 08, CONNECTIONS BY DIV 26	48 INCHES					FIRE ALARM	
	3-WAY	48 INCHES		ENCLOSED MOLDED CASE CIRCUIT BREAKER			SURVEILLANCE CAMERA (OWNER PROVIDED)						GROUND FAULT CIRCUIT INTERRUPTER	
	OCCUPANCY SENSOR SWITCH	48 INCHES		VARIABLE FREQUENCY CONTROLLER WITH CONTROLLER			AREA OF REFUGE STATION						GROUND	
	KEY OPERATED	48 INCHES		NON-FUSED DISCONNECT			CEILING MOUNTED BUZZER						PHASE	
	WITH PILOT LIGHT (CAN BE USED WITH OTHER SWITCH TYPES)	48 INCHES		FUSED DISCONNECT			CEILING MOUNTED RTLS DEVICE						TELEVISION	
	MOMENTARY CONTACT	48 INCHES		MAGNETIC STARTER			CEILING MOUNTED NURSE CALL DOME LIGHT						WIRE	
	DIMMER (600 WATT UNLESS OTHERWISE NOTED)	48 INCHES		COMBINATION STARTER-DISCONNECT			NURSE CALL EMERGENCY PULL CORD	48 INCHES					WIRELESS ACCESS POINT	
	LIGHTING INTENSITY SELECTOR PANEL	48 INCHES		TWIST LOCK OUTLET			NURSE CALL CODE BLUE	48 INCHES					WEATHERPROOF	
	LOW VOLTAGE SWITCH						NURSE CALL DUTY STATION	48 INCHES					ELECTRICAL CONTRACTOR	
	TRACK LIGHTING	48 INCHES					NURSE CALL STAFF ASSIST	48 INCHES						
	VACANCY SENSOR SWITCH						NURSE CALL PATIENT STATION	48 INCHES						
							NURSE CALL MASTER STATION	48 INCHES						
							NURSE CALL STAFF STATION	48 INCHES						
							PATIENT/DEVICE TRACKING							
							NURSE CALL MASTER PANEL							

NOTES:
1. THIS IS A COMPREHENSIVE SYMBOL SCHEDULE. NOT ALL SYMBOLS ARE APPLICABLE TO THESE DRAWINGS.
2. MOUNTING HEIGHT IS TO THE CENTER OF DEVICE UNLESS OTHERWISE INDICATED.
3. FOR DEVICES SHOWN AS 48 INCHES MOUNTING HEIGHT, WHEN INSTALLED IN MASONRY BLOCK WALLS, MOUNTING AT 48 INCHES TO THE TOP OF THE OUTLET BOX IS ACCEPTABLE.



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CONSTR. REV 3	CONSTRUCTION

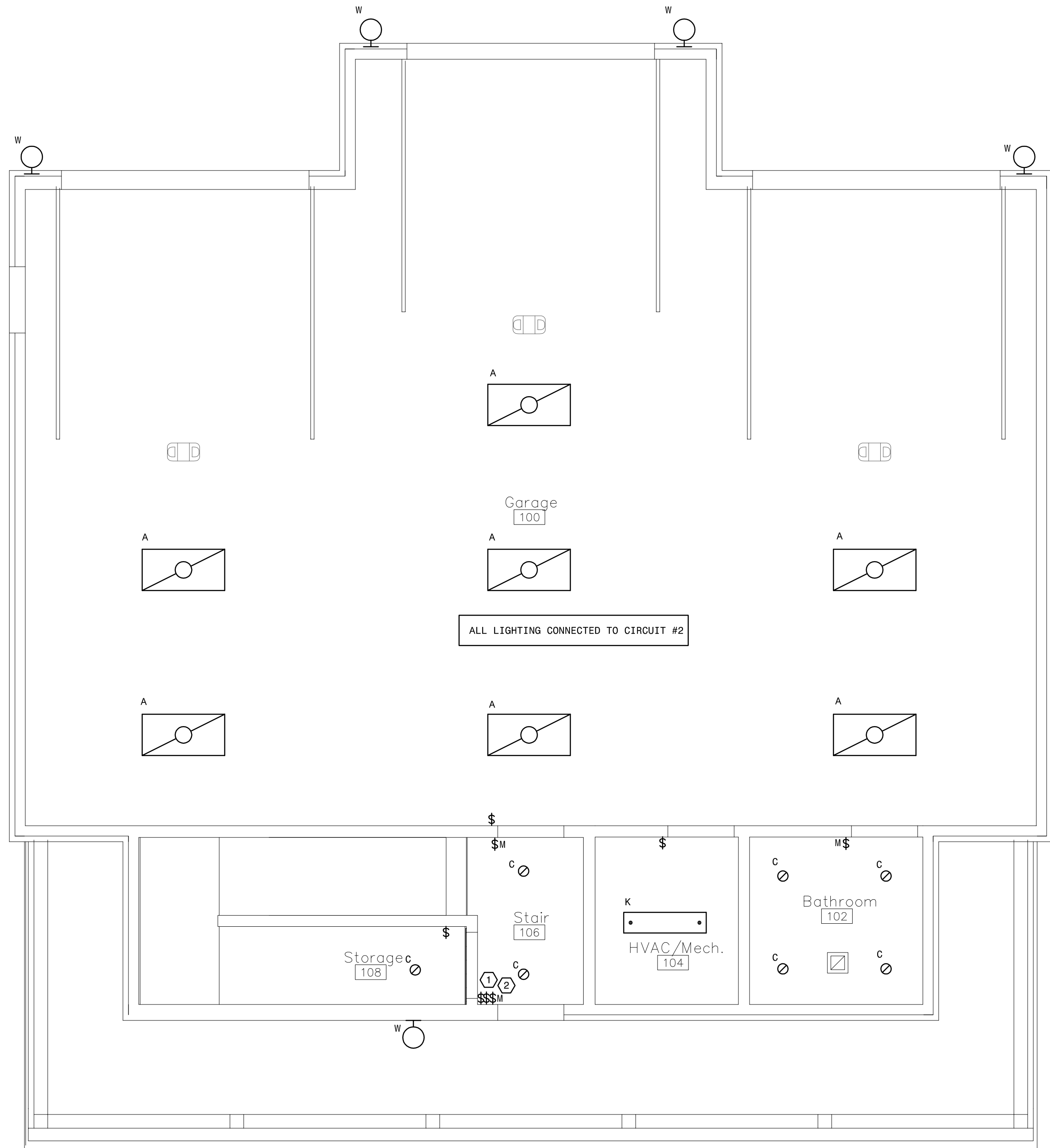
PROJECT #: 2515

CONTACT : KRISTI

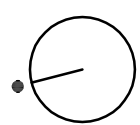
SCALE: AS NOTED

GARAGE -
FIRST FLOOR
LIGHTING PLAN

DATE: 08/07/26
E7.0
O.C. _____



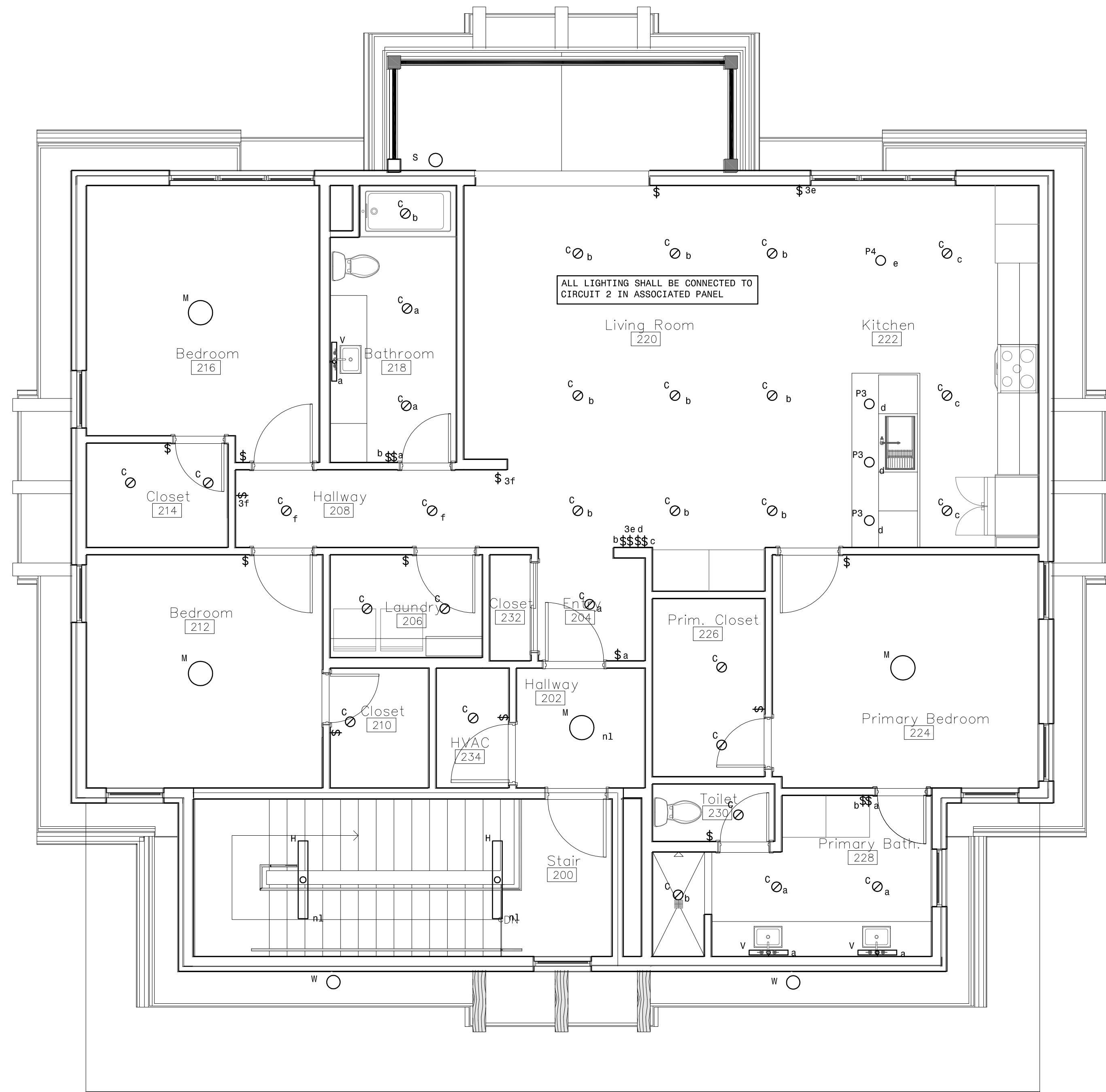
1 First Floor Lighting Plan
SCALE: 1/4" = 1'-0"



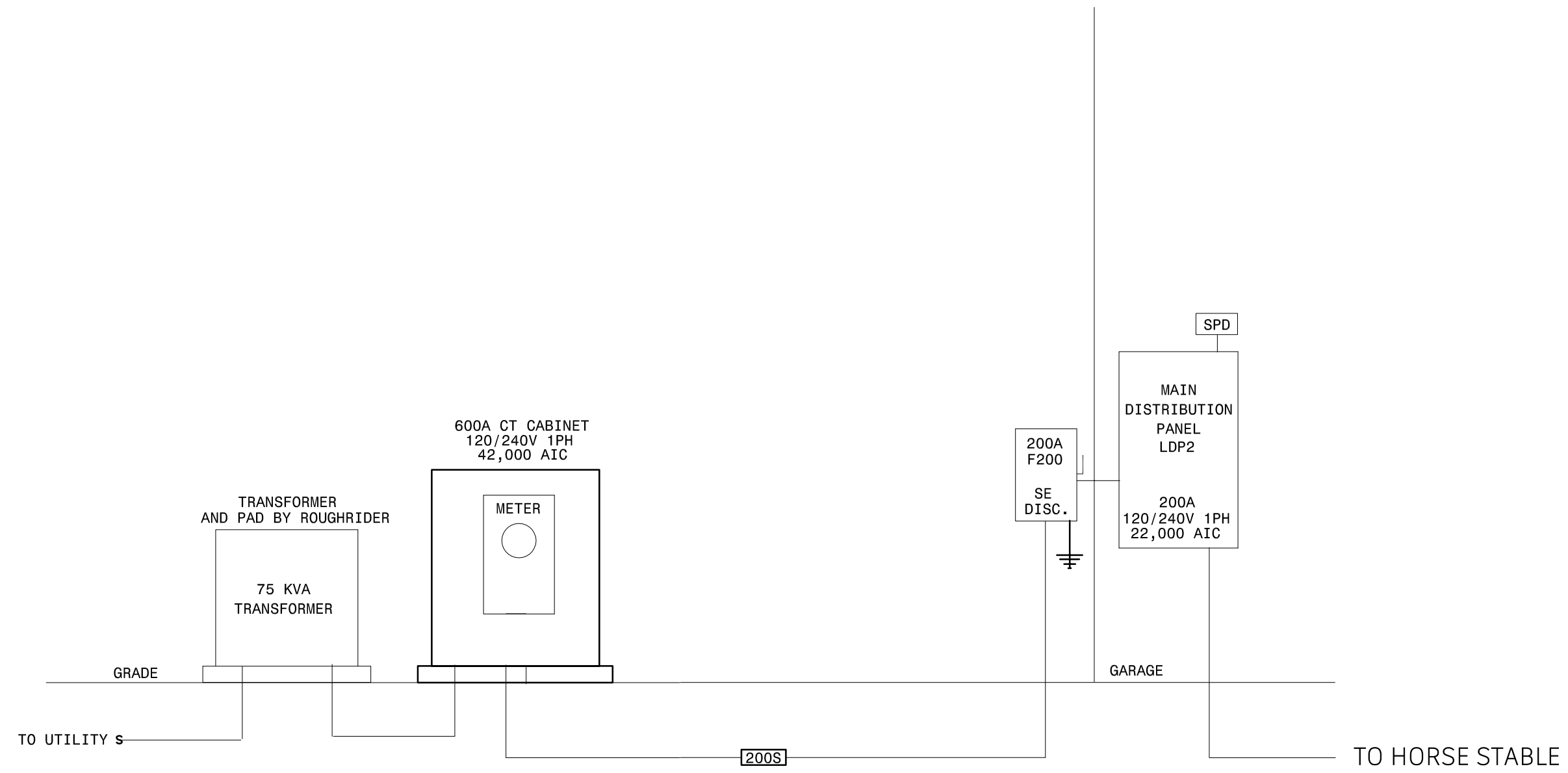
LUMINAIRE SCHEDULE									
TYPE	MANUFACTURERS	CATALOG INFORMATION	FIXTURE DESCRIPTION	LED DATA	DRIVER DATA	INPUT WATTS	VOLTAGE	MOUNTING	REMARKS
				TYPE	TYPE				
A	LITHONIA	CPANL	2 FOOT X 4 FOOT EDGE LIT LED FLAT PANEL FIXTURE, SURFACE MOUNT, SWITCHABLE CCT/LUMEN	3500K LED 3300 LUMENS	0-10V DIMMING LED DRIVER	30	MVOLT	SURFACE	PROVIDE WITH DIRECT CEILING MOUNT KIT
	OR EQUAL	SERIES							
C	RAB	DSK34	6 INCH ROUND LED SURFACE MOUNT DISK LIGHT, 90 CRI, WHITE TRIAC ELV DIMMING, SMOOTH TRIM	3500K LED 1100 LUMENS	LED DRIVER	16	120	SURFACE	
	OR EQUAL	SERIES							
E1	LITHONIA	ECRG RD	SINGLE SIDED EMERGENCY EXIT SIGN, WITH DUAL ROUND LED HEADS, UNIV MOUNT, WHITE WITH RED LETTERS, THERMOPLASTIC HOUSING, INTEGRAL BATTERY WITH 90 MINUTES OF ILLUMINATION	LED		5	MVOLT	UNIV	
	OR EQUAL	SERIES							
P			P1, P2, P3 AND P4 FIXTURES TO BE SELECTED AND PROVIDED BY OTHERS, INSTALLED BY ELECTRICIAN						
M	AFX	ALPINT 17" LED	17" LED FLUSH MOUNT CEILING FIXTURE, FINISH SELECTED BY ARCHITECT	3500K LED 1200 LUMENS	LED DRIVER	26	120	SURFACE	
	OR EQUAL								
V			FIXTURE TO BE SELECTED AND PROVIDED BY OTHERS, INSTALLED BY ELECTRICIAN						
K	LITHONIA	CSS	4 FOOT LED STRIP LIGHT WITH WHITE ACRYLIC LENS	3500K LED 4000 LUMENS	LED DRIVER	35	MVOLT	CHAIN HANG	SURFACE MOUNTED FIXTURE, PROVIDE WITH CHAIN HANG ACCESSORY
	OR EQUAL	SERIES							
W			FIXTURE TO BE SELECTED AND PROVIDED BY OTHERS, INSTALLED BY ELECTRICIAN						
S			FIXTURE TO BE SELECTED AND PROVIDED BY OTHERS, INSTALLED BY ELECTRICIAN						
H	LITHONIA	BLWP	4 FOOT LED WRAPAROUND STRIP LIGHT WITH FROSTED ACRYLIC DIFFUSER, 6 INCH WIDTH WHITE HOUSING. SURFACE OR SUSPENSION MOUNT PROVIDE WITH OCCUPAANCY SENSOR, AUTO ON, AUTO DIM TO 50%	4000K LED 4800 LUMENS	0-10V DIMMING LED DRIVER	40	MVOLT	CHAIN HANG	SURFACE MOUNTED FIXTURE FOR STAIRWELL APPLICATION, PROGRAMMED FOR NIGHT LIGHT OPERATION, DIM TO 50% WHEN NO OCCUPANCY DETECTED.
	OR EQUAL	SERIES							

PLAN NOTES:

- 1 PROVIDE ONE PROGRAMMABLE TIMER SWITCH DEDICATED TO EXTERIOR TYPE W LIGHT AT MAIN EXTERIOR ENTRY AT STAIR 106 EQUAL TO INTERMATIC ST700W SERIES.
- 2 PROVIDE A SECOND PROGRAMMABLE TIMER SWITCH FOR THE REMAINING EXTERIOR BUILDING LIGHTS AT THIS BUILDING EQUAL TO INTERMATIC ST700W SERIES.



1 Second Floor Lighting Plan
SCALE: 1/4" = 1'-0"



2 GARAGE RISER DIAGRAM

FEEDER SCHEDULE - ALUMINIUM									
FEEDER NUMBER	AMPERE RATING	PHASE CONDUCTORS PER CONDUIT		NEUTRAL CONDUCTOR SIZE		GROUND CONDUCTOR SIZE	CONDUIT SIZE	NUMBER OF PARALLEL SETS	REMARKS
		QUANTITY	SIZE	QUANTITY	SIZE				
	600	2	250 KCMIL	1	250 KCMIL	2/0 AWG	3"	3	
400S	400	2	250 KCMIL	1	250 KCMIL		2-1/2"	2	
200S	200	2	250 KCMIL	1	250 KCMIL		2-1/2"	1	
100N	100	2	1 AWG	1	1 AWG	6 AWG	1-1/4"	1	
50N	50	2	8 AWG	1	8 AWG	6 AWG	3/4"	1	

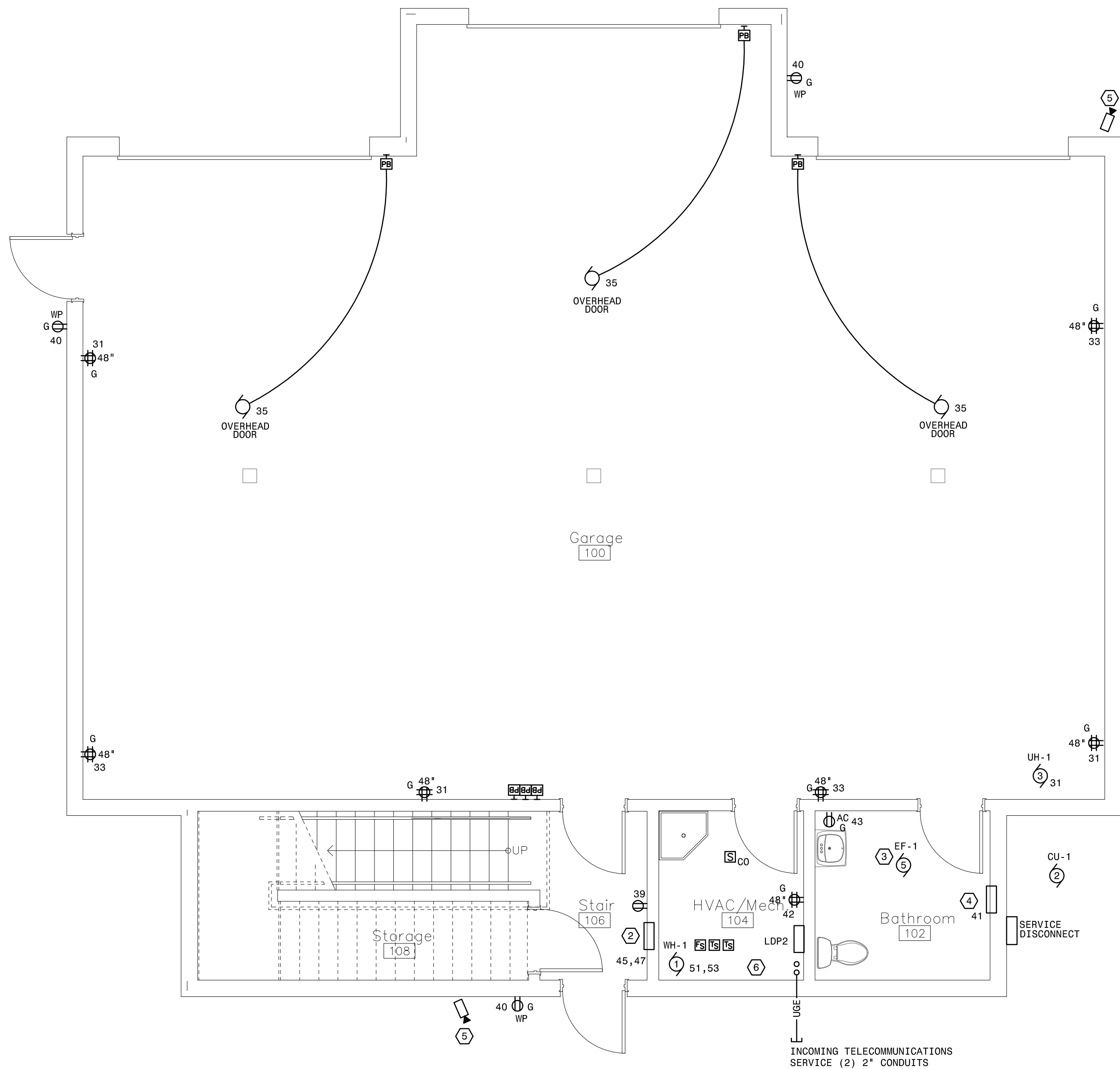
MOTOR AND EQUIPMENT SCHEDULE - GARAGE																															
MOTOR NO	DESCRIPTION OF MOTOR OR EQUIPMENT	LOCATION (ROOM NO)	LOAD IN HORSEPOWER (HP) OR FULL LOAD AMPS (FLA)	VOLTAGE, PHASE	PANEL AND CIRCUIT NUMBER OR MCC NUMBER	CONDUCTOR SIZE AND QUANTITY	GROUND CONDUCTOR SIZE	CONDUIT SIZE	FAULT CURRENT RATING (AMPS)	CONTROLLER					DISCONNECT				CONTROL OR AUXILIARY DEVICE (SEE NOTES)												
										MAGNETIC STARTER/DISCONNECT	STARTER SIZE	VARIABLE FREQUENCY DRIVE	THERMOSTAT	MOTION SWITCH	PILOT TOGGLE SWITCH	CONTROLLER BY (DIV. NO.)	CONTROLLER LOCATION (ROOM NO.)	DISCONNECT SIZE AMPS	FUSIBLE / NON FUSIBLE	NEMA RATING	DISCONNECT BY (DIV. NO.)	VFD	DEFINITE PURPOSE RELAY	MOTION SWITCH	THERMOSTAT	AQUASTAT	PILLOT SWITCH	FIRE ALARM CONTROL RELAY	FIRE ALARM DUCT DETECTORS (SUPPLY AND RETURN)	INTERLOCK WITH	LABELS
1	WH-1	GARAGE 104	4.5 KW	240, 1	LDP2-51,53	2 #10	#10	3/4"	5,000						23	ON UNIT	30A	NF	1	DIV 26											
2	CU-1	GARAGE EXT	31 MCA	240, 1	LDP2-8,10	2 #8	#8	1"	5,000						23	BY DIV.23	60A	F50	3R	DIV 26											
3	UH-1	GARAGE 100	1/6 HP	120, 1	LDP2-31	2 #12	#12	3/4"	5,000						23	100	20A	NF	1	DIV 26											
4	F-1	GARAGE 202	12 MCA	120, 1	LDP2-16	2 #12	#12	3/4"	5,000						23	BY DIV.23	20A	NF	1	DIV 26											
5	EF-1	GARAGE 102	50 W	120, 1	LDP2-49	2 #12	#12	3/4"	5,000						26	102	CORD AND PLUG			DIV 26											
6	EF-2	GARAGE 218	50 W	120, 1	LDP2-29	2 #12	#12	3/4"	5,000						26	218	CORD AND PLUG			DIV 26											
7	EF-3	GARAGE 228	50 W	120, 1	LDP2-22	2 #12	#12	3/4"	5,000						26	228	CORD AND PLUG			DIV 26											
NOTES FOR AUXILIARY CONTROL DEVICE 1. ELECTRICAL CONTRACTOR TO FURNISH, SET, AND WIRE AUXILIARY CONTROL DEVICE 2. ELECTRICAL CONTRACTOR TO SET, AND WIRE AUXILIARY CONTROL DEVICE FURNISHED BY OTHERS 3. ELECTRICAL CONTRACTOR TO WIRE AUXILIARY CONTROL DEVICE FURNISHED AND SET BY OTHERS 4. DUCT DETECTOR IN SUPPLY AND RETURN DUCTS PROVIDED BY AND INSTALLED BY ELECTRICAL 5. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT - PROVIDE INTERCONNECTION BETWEEN THE UNITS 6. PROVIDE FAULT CURRENT LABEL ON DISCONNECT																															

GENERAL NOTES:

- PROVIDE TAMPER RESISTANT RECEPTACLES FOR ALL 120 VOLT RECEPTACLES SHOWN UNLESS OTHERWISE NOTED.
- ALL RECEPTACLES DENOTED WITH 'U' SHALL BE DUPLEX WITH INTEGRAL USB EQUAL TO LEVITON T5632 SERIES.
- WALL SWITCHES DESIGNATED AS D* SHALL BE PROVIDED WITH DIMMING CONTROLS FOR ZONE INDICATED.

PLAN NOTES:

- PROVIDE 120 VOLT COMBINATION SMOKE DETECTOR WITH BATTERY BACKUP FOR ALL 120 VOLT DETECTORS. DETECTORS ARE TO BE WIRED TOGETHER SO WHEN ONE ALARMS ALL OF THE DETECTORS WITHIN THE UNIT ALARM. DETECTORS SHALL NOT ACTIVATE GENERAL BUILDING ALARM.
- PROVIDE FAN FORCED RECESSED WALL HEATER EQUAL TO BERKO SED SERIES. HEATER TO BE 120 VOLT, 2500 WATTS, 240 VOLT, INTEGRAL THERMOSTAT, POWER ON/OFF SWITCH, WHITE FINISH.
- PROVIDE 120 VOLT CONNECTION TO EXHAUST FAN.
- PROVIDE FAN FORCED RECESSED WALL HEATER EQUAL TO BERKO SED SERIES. HEATER TO BE 120 VOLT, 1000 WATTS, INTEGRAL THERMOSTAT, POWER ON/OFF SWITCH, WHITE FINISH. COORDINATE EXACT ROUGH IN LOCATION WITH ARCHITECT PRIOR TO INSTALLATION TO ENSURE NO CONFLICTS WITH OTHER WALL MOUNTED ACCESSORIES IN BATHROOMS.
- PROVIDE CAT-6 CABLE FOR OWNER PROVIDED SECURITY CAMERA.
- PROVIDE 18U WALL MOUNTED RACK WITH PATCH PANELS FOR TERMINATION OF DATA AND CAMERA CABLING.



PANELBOARD LOAD SCHEDULE - GARAGE																
PANEL:			LDP2			MAIN: MCB			ENCLOSURE: NEMA 1			LOCATION: GARAGE				
RATING:			200 AMP		AIC RATING: 22,000			VOLTS: 120/240V, 1 PH., 3W.		MOUNTING: SURFACE		FED FROM: UTILITY				
CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES				LOAD DESCRIPTION	PH	LOAD DESCRIPTION	LOAD IN VOLT-AMPERES				TRIP AMPS	POLE	CKT #
			LIGHTING	RECP	MTRS&EQUIP	KITCHEN				HEAT/AC	HEAT/AC	KITCHEN	MTRS&EQUIP			
1	**20	1					KITCHEN	A	LIGHTING					**15	1	2
3	**20	1					KITCHEN	B	BEDROOM					**15	1	4
5	**20	1					KITCHEN	A	LIVING ROOM					**15	1	6
7	*20	1					MICROWAVE	B	CONDENSING					50		8
9	*20	1					DISHWASHER	A	UNIT							10
11	*20	1					REFRIGERATOR	B						20	2	12
13	**20	1					LAUNDRY RM	A								14
15	***40						RANGE	B	FURNACE					20	1	16
17		2						A								18
19	*20	1					WASHER	B	DISPOSAL					*20	1	20
21	***30						DRYER	A	BATH					20	1	22
23		2						B	BATH HEAT					**20	1	24
25	**15	1					BEDROOM	A	BATH HEAT					**20	1	26
27	**15	1					BEDROOM	B								28
29	20	1					BATHROOM	A								30
31	**20	1					GARAGE	B								32
33	**20	1					GARAGE	A								34
35	*20	1					GARAGE DOOR	B								36
37	*20	1					ENTRY HEAT	A								38
39	**20	1					ENTRY RCPTS	B	EXT RCPTS					**20	1	40
41	***20	1					BATH HEAT	A	MECH RM					*20	1	42
43	20	1					HALF BATH	B						**20	1	44
45	20						STAIR HEAT	A						*20	1	46
47		2						B						**20	1	48
49	20	1					BATH	A						*20	1	50
51	30						WATER HEATER	B						**20	1	52
53		1						A						*20	2	54

NOTES:

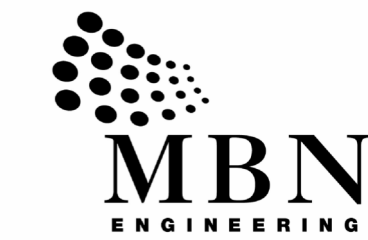
1. BREAKERS NOTED WITH * TO BE AFCI/GFCI DUAL FUNCTION

2. BREAKERS NOTED WITH ** TO BE AFCI

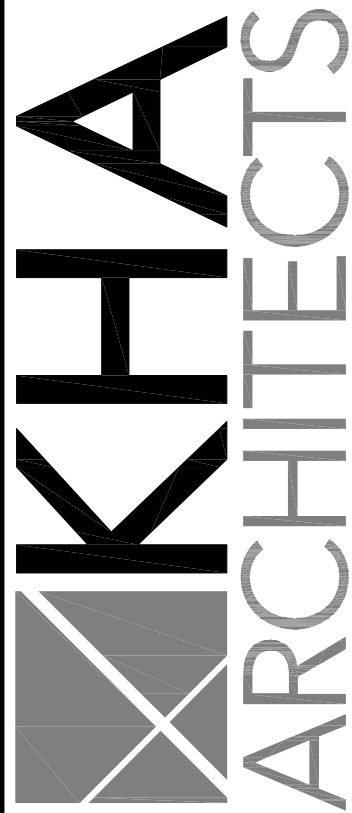
3. BREAKERS NOTED WITH *** TO BE GFCI

4. PANELS SHALL BE SERIES RATED TO 65KAIC WITH MAIN METER CENTER CORD

5. LOAD CENTERS ARE ACCEPTABLE FOR USE WITHIN APARTMENT UNITS



701 MAIN AVENUE
FARGO, ND 58103
PHONE: 701.478.6336
FAX: 701.478.6340



72-185 PAINTERS PATH
SUITE A
PALM DESERT, CA
92260
760.776.4068

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WITHOUT THE EXPRESS WRITTEN
PERMISSION OF KRISTI HANSON
ARCHITECTS, INC.

CITY APPROVAL:

TRMF RIDING STABLES - GARAGE
14532 L-94 Loop East
ND 58645



REVISION LIST

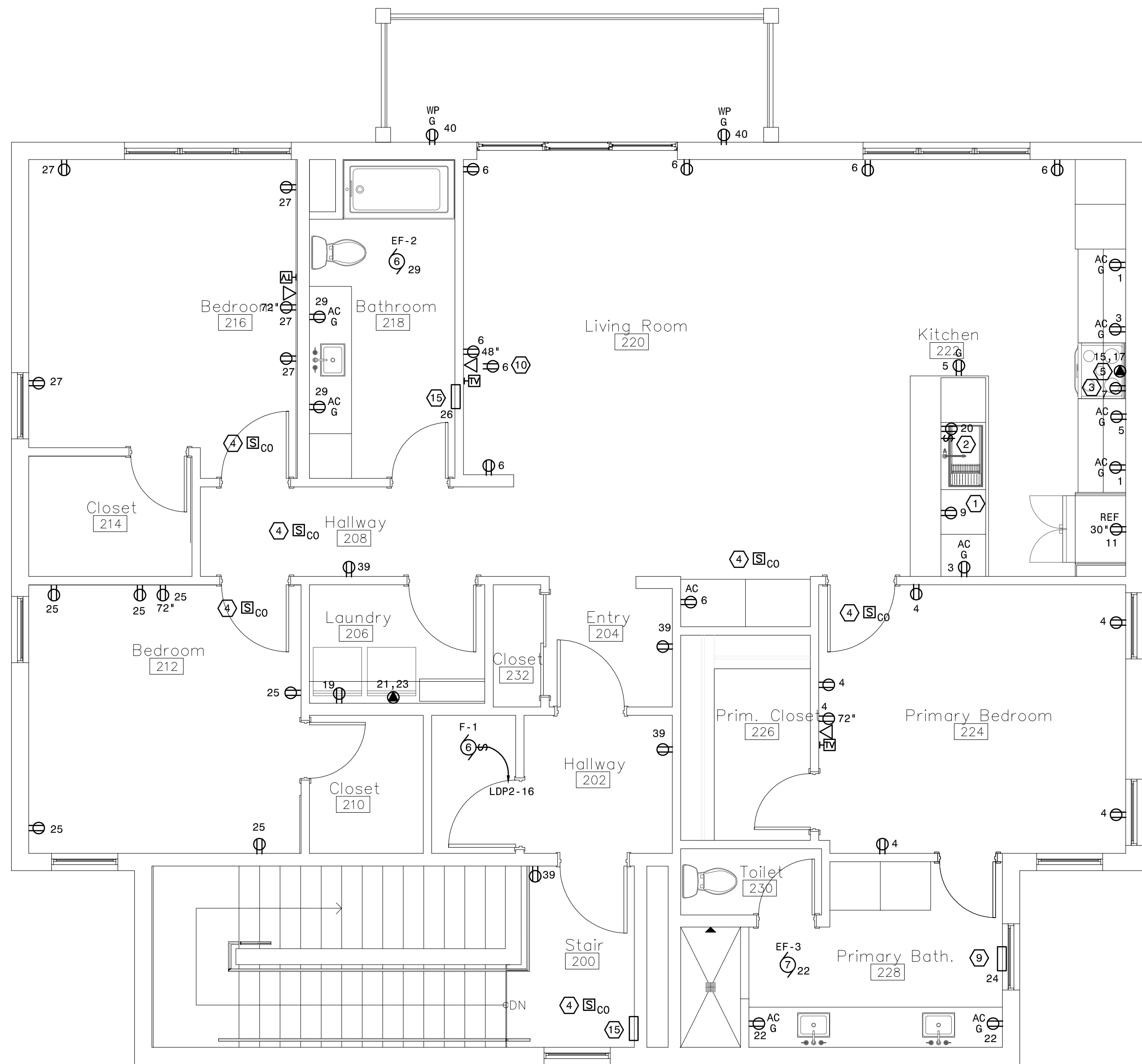
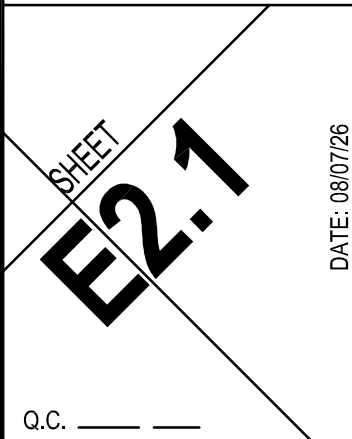
SCHEMATIC	DESIGN REVIEW
DESIGN DEV.	
CONST. DOCS.	
CITY SUB. 1	BIDS. DEPT.
CITY SUB. 2	
CONSTR. REV 1	CONSTRUCTION
CONSTR. REV 2	
CONSTR. REV 3	

PROJECT #: 2515

CONTACT : KRISTI

SCALE: AS NOTED

GARAGE -
SECOND FLOOR
POWER PLAN



GENERAL NOTES:

1. PROVIDE TAMPER RESISTANT RECEPTACLES FOR ALL 120 VOLT RECEPTACLES SHOWN UNLESS OTHERWISE NOTED.
2. ALL RECEPTACLES DENOTED WITH 'U' SHALL BE DUPLEX WITH INTEGRAL USB EQUAL TO LEVITON T5632 SERIES.
3. WALL SWITCHES DESIGNATED AS D* SHALL BE PROVIDED WITH DIMMING CONTROLS FOR ZONE INDICATED.
4. ALL ADA UNITS SHALL BE PROVIDED WITH HEARING IMPAIRED NOTIFICATION DEVICES INCLUDING VISUAL DOORBELL AND F/A STROBES.

PLAN NOTES:

1. PROVIDE RECEPTACLE IN CABINET BELOW FOR DISHWASHER. CONNECT TO AFCI/GFCI DUAL RATED CIRCUIT BREAKER.
2. PROVIDE RECEPTACLE IN CABINET BELOW SINK FOR DISPOSAL. INSTALL WALL SWITCH OR AIR SWITCH FOR CONTROL, COORDINATE WITH ARCHITECTURAL FOR EXACT STYLE.
3. PROVIDE RECEPTACLE AT MICROWAVE SHELF. VERIFY HEIGHT AND LOCATION PRIOR TO ROUGH-IN.
4. PROVIDE 120 VOLT COMBINATION SMOKE DETECTOR WITH BATTERY BACKUP FOR ALL 120 VOLT DETECTORS. DETECTORS ARE TO BE WIRED TOGETHER SO WHEN ONE ALARMS ALL OF THE DETECTORS WITHIN THE UNIT ALARM. DETECTORS SHALL NOT ACTIVATE GENERAL BUILDING ALARM.
5. PROVIDE NEMA 14-50 RECEPTACLE FOR RANGE. PROVIDE #8 CONDUCTORS.
6. NOTE NOT USED.
7. VERIFY ORIENTATION OF WASHER AND DRYER AND INSTALL POWER CONNECTIONS ACCORDINGLY.
8. NOTE NOT USED.
9. PROVIDE FAN FORCED RECESSED WALL HEATER EQUAL TO BERKO SED SERIES. HEATER TO BE 120 VOLT, 1500 WATTS, INTEGRAL THERMOSTAT, POWER ON/OFF SWITCH, WHITE FINISH.
10. DEVICE (POWER/TELEVISION/DATA) TO BE MOUNTED AT 18 INCHES, CAT6 AND COAX TO BE COMBINED IN (1) SINGLE GANG BOX, PROVIDE BRUSHED NUD RING FOR CABLE ENTRY TO DEVICES ABOVE WHERE LOCATED BELOW RECESSED BOXES IN LIVING ROOM.
11. NOTE NOT USED.
12. NOTE NOT USED.
13. PROVIDE 120 VOLT CONNECTION TO EXHAUST FAN.
14. COORDINATE RECEPTACLE MOUNTING HEIGHT AND LOCATION FOR WALL AIR CONDITIONING UNIT WITH ARCHITECT PRIOR TO ROUGH-IN.
15. PROVIDE FAN FORCED RECESSED WALL HEATER EQUAL TO BERKO SED SERIES. HEATER TO BE 120 VOLT, 1000 WATTS, INTEGRAL THERMOSTAT, POWER ON/OFF SWITCH, WHITE FINISH. COORDINATE EXACT ROUGH IN LOCATION WITH ARCHITECT PRIOR TO INSTALLATION TO ENSURE NO CONFLICTS WITH OTHER WALL MOUNTED ACCESSORIES IN BATHROOMS.

PART 1 - GENERAL

1. GENERAL CONDITIONS

A. THE GENERAL, SPECIAL, AND OTHER CONDITIONS OF THE ARCHITECTURAL, MECHANICAL AND VENDOR DOCUMENTS SHALL BE CONSIDERED AN INTEGRAL PART OF THESE ELECTRICAL SPECIFICATIONS.

B. REFERENCE TO THE 'CONTRACTOR' IN THIS SPECIFICATION SHALL MEAN 'ELECTRICAL CONTRACTOR (EC)', UNLESS NOTED OTHERWISE, ALL WORK SPECIFIED HEREIN IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.

2. SCOPE OF WORK

A. FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND OTHER ITEMS NECESSARY FOR, OR IN EXTENSION OF, THE INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM AS REQUIRED FOR THIS PROJECT.

B. ALSO INCLUDE ALL OTHER WORK AND MISCELLANEOUS EQUIPMENT NOT SPECIFICALLY MENTIONED, BUT REASONABLY INFERRED, THAT ARE REQUIRED FOR A FULLY FUNCTIONAL AND TESTED SYSTEM.

3. DRAWINGS AND DOCUMENTS

A. THE DRAWINGS AND SPECIFICATIONS FORM A COMPLETE SET OF PLANS FOR THE ELECTRICAL WORK FOR THIS PROJECT. WHAT IS REQUIRED BY EITHER SHALL BE AS BINDING AS IF REQUIRED BY BOTH. IN THE EVENT THE DRAWINGS AND SPECIFICATIONS ARE IN CONFLICT, THE GREATER REQUIREMENT OR COST SHALL BE INCLUDED IN BID, OR IF TIME ALLOWS, A CLARIFICATION WILL BE ISSUED.

B. BIDDERS SHALL EXAMINE AND INCLUDE ALL OTHER TRADE AND EQUIPMENT AND DRAWING SPECIFICATIONS TO AVOID OMISSIONS, DUPLICATIONS, AND TO ENSURE COMPLETE INSTALLATION OF ALL WORK FOR ELECTRICAL.

C. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW APPROXIMATE LOCATION ONLY. PLACEMENT OF ELECTRICAL EQUIPMENT AND DEVICES SHALL NOT INTERFERE WITH LOCATIONS OR CLEARANCES OF OTHER TRADES' MATERIALS OR EQUIPMENT. COORDINATE THE PLACEMENT OF ELECTRICAL DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS.

D. THE DIRECT ROUTING OF CONDUITS AND WIRING IS NOT ASSURED. EXACT REQUIREMENTS SHALL BE GOVERNED BY THE CONDITIONS OF THE PROJECT SITE. EXTRA LENGTHS OF WIRING OR THE ADDITION OF PULL OR JUNCTION BOXES, ETC., NECESSITATED BY SUCH CONDITIONS, SHALL BE INCLUDED IN THE BID.

4. CODES, INSPECTIONS AND FEES

A. THE COMPLETED ELECTRICAL INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, REGULATIONS, ORDINANCES, AND INTERPRETATIONS BY APPROPRIATE AUTHORITIES HAVING JURISDICTION. WHERE THE DRAWINGS AND SPECIFICATIONS CALL FOR WORKMANSHIP OR MATERIALS IN EXCESS OF CODE OR REGULATORY REQUIREMENTS, THE DRAWINGS AND SPECIFICATIONS SHALL GOVERN.

B. THE WORK SPECIFIED HEREIN SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AUTHORIZED REPRESENTATIVES OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION, AND THE ENGINEER. THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED 'CERTIFICATE OF INSPECTOR' TO THE OWNER.

C. OBTAIN AND PAY FOR ALL LICENSES, PERMITS, FEES AND CHARGES FOR ALL WORK INSTALLED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO PAY ALL FEES AND CHARGES LEVIED BY THE ELECTRICAL UTILITY COMPANY, ROUGHIDER ELECTRIC FOR CONNECTION TO ELECTRICAL SERVICES.

5. JOB SITE SAFETY

A. THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE. THE SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

B. NO ACT, DRAWING REVIEW OR CONSTRUCTION REVIEW BY THE OWNER, THE ENGINEERS OR THEIR CONSULTANTS, IS INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

6. SITE CONDITIONS

A. EXAMINE THE SITE AND BE FAMILIAR WITH ALL EXISTING BUILDING CONDITIONS AND LIMITATIONS PRIOR TO SUBMITTING BID. NO EXTRA PAYMENT WILL BE ALLOWED FOR WORK REQUIRED BECAUSE OF THESE CONDITIONS, OR IF INFORMATION IS VISIBLE OR READILY ATTAINABLE, FOR ANY LIMITATION OR MISUNDERSTANDING OF EXISTING CONDITIONS.

B. ANY DISCREPANCIES FROM THESE DOCUMENTS SHOULD BE REPORTED TO THE ARCHITECT/ENGINEER PRIOR TO BID.

7. WORKMANSHIP AND CONTRACTOR QUALIFICATIONS

A. INSTALL ELECTRICAL EQUIPMENT AND MATERIALS IN A NEAT AND WORKMANLIKE MANNER BY PERSONS EXPERIENCED AND SKILLED IN THE TRADE. ONLY THE BEST QUALITY WORKMANSHIP WILL BE ACCEPTED. HAPHAZARD OR POOR INSTALLATION WILL BE CAUSE FOR REJECTION OF WORK. ALL EXPOSED COMPONENTS OF THE ELECTRICAL SYSTEM SHALL BE SQUARE AND TRUE WITH BUILDING LINES AND SURFACES.

B. CONTRACTOR SHALL BE LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

8. COORDINATION OF WORK

A. GIVE CAREFUL CONSIDERATION TO THE WORK OF THE GENERAL, MECHANICAL AND ALL OTHER CONTRACTORS/SUBCONTRACTORS ON THE PROJECT. ORGANIZE AND PHASE THE ELECTRICAL WORK SO THAT IT WILL NOT INTERFERE WITH THE WORK OF OTHER TRADES.

B. DRAWINGS AND SPECIFICATIONS FOR OTHER TRADES AND GENERAL CONSTRUCTION DRAWINGS SHALL BE CONSULTED FOR COORDINATION INFORMATION, DETAILS, DIMENSIONS, ETC. COORDINATE ALL SHAFTS, CHASES, FURRED SPACES, SUSPENDED CEILING, LOCATIONS OF EQUIPMENT, ETC.

C. THE LOCATION OF ALL OUTLETS, WIRING, AND EQUIPMENT SHALL BE VERIFIED. THE ELECTRICAL REQUIREMENTS OF ANY EQUIPMENT SHALL BE VERIFIED WITH ACTUAL EQUIPMENT OR APPROVED SHOP DRAWINGS PRIOR TO ANY ROUGH-IN WORK. NOTIFY ENGINEER OF ANY DISCREPANCIES.

D. DIMENSIONS GIVEN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. DIMENSIONS, WHETHER CALCULATED OR SCALED, SHALL BE VERIFIED IN THE FIELD.

E. CHECK ACTUAL JOB CONDITIONS BEFORE FABRICATING WORK. COORDINATE WITH OTHER TRADES TO AVOID REWORK DUE TO FIELD CONDITIONS. CHANGES OR ADDITIONS, SUBJECT TO ADDITIONAL COMPENSATION, WHICH ARE MADE WITHOUT WRITTEN AUTHORIZATION AND AN AGREED PRICE, SHALL BE

AT THE CONTRACTOR'S RISK AND EXPENSE.

F. COORDINATE ROUTING OF ALL CONDUIT AND WIRE CONCEALED IN WALLS, SOFFITS OR CEILINGS PROVIDED BY THE GENERAL CONTRACTOR. FIELD COORDINATE ALL WORK TO CONCEAL INSTALLATIONS NOT COORDINATED OR SPECIFICALLY APPROVED BY THE ARCHITECT AND ENGINEER.

G. VERIFY ITEMS SUCH AS DOOR SWINGS, WINDOW LOCATIONS, CASEWORK, ETC., BEFORE INSTALLING ANY ELECTRICAL EQUIPMENT OR DEVICES.

H. MAKE MINOR ADJUSTMENTS TO WORK WHERE REQUESTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE WHEN ADJUSTMENTS ARE NECESSARY OF PROPER OPERATION AND WITHIN THE INTENT OF THE CONTRACT.

9. MATERIALS AND EQUIPMENT

A. UNLESS OTHERWISE SPECIFIED, ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND MANUFACTURED BY APPROVED OR LISTED MANUFACTURERS. ALL MATERIALS AND EQUIPMENT SHALL MEET THE REQUIREMENTS OF ALL GOVERNING CODES.

B. ALL MATERIAL AND EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES, INC. (UL), AS CONFORMING TO ITS STANDARDS IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THAT TYPE OF MATERIAL OR EQUIPMENT.

C. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.

10. TEMPORARY INSTALLATIONS

A. COMPLY WITH THE OWNER AND GENERAL CONTRACTOR REQUIREMENTS. ALL WORK TO BE IN CONFORMANCE WITH N.E.C. ARTICLE 590, TEMPORARY INSTALLATIONS.

B. ELECTRICAL POWER SYSTEM: PROVIDE AN ELECTRICAL DISTRIBUTION SYSTEM OF SUFFICIENT SIZE, CAPACITY, AND POWER CHARACTERISTICS REQUIRED FOR ALL CONSTRUCTION OPERATIONS.

C. PROVIDE NEW TEMPORARY ELECTRICAL SERVICE AS REQUIRED FOR THE PROJECT. UTILIZE EXISTING BUILDING DISTRIBUTION IF AVAILABLE, AND SUPPLEMENT AS REQUIRED FOR THE PROJECT CONDITIONS. FOR NEW SERVICE CONSTRUCTION, COORDINATE WITH THE UTILITY TO PROVIDE TEMPORARY SERVICE FOR THE DURATION OF CONSTRUCTION SO AS NOT TO INTERFERE WITH NEW SERVICE CONSTRUCTION. PAY FOR ALL UTILITY CHARGES ASSOCIATED WITH THE TEMPORARY SERVICE INCLUDING ENERGY BILLS.

D. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT ALL AREAS OF CONSTRUCTION. PROVIDE ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.

E. WHERE LIGHT FIXTURES EXIST IN THE AREA OF CONSTRUCTION, UTILIZE EXISTING LIGHTS AND OUTLETS AS MUCH AS PRACTICAL TO MEET THESE REQUIREMENTS. CLEAN AND RE-LAMP (WHERE APPLICABLE) FIXTURES USED FOR TEMPORARY LIGHTING.

F. REMOVE ALL TEMPORARY INSTALLATION ELECTRICAL EQUIPMENT AT THE END OF THE PROJECT. PATCH AND SEAL SLEEVE OPENINGS.

11. DEMOLITION

A. WHERE ELECTRICAL WORK TO REMAIN IS DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL CAPACITY, QUALITY AND FUNCTIONALITY.

B. ACCESSIBLE WORK INDICATED TO BE DEMOLISHED: REMOVE EXPOSED ELECTRICAL INSTALLATION IN ITS ENTIRETY.

C. ABANDONED WORK: CUT AND REMOVE BURIED RACEWAY AND WIRING INDICATED TO BE ABANDONED IN PLACE 2 INCHES BELOW THE SURFACE OF ADJACENT CONSTRUCTION. CAP AND PATCH SURFACE TO MATCH EXISTING FINISH.

D. REMOVAL: REMOVE DEMOLISHED MATERIAL FROM PROJECT SITE.

E. TEMPORARY DISCONNECTION: REMOVE, STORE, CLEAN, REINSTALL, RECONNECT, AND MAKE OPERATIONAL COMPONENTS INDICATED FOR RELOCATION.

12. CUTTING AND PATCHING

A. PERFORM ALL CORE DRILLING, CUTTING AND PATCHING NECESSARY FOR THE COMPLETION OF THE ELECTRICAL WORK FOR THIS PROJECT. NO STRUCTURAL MEMBERS SHALL BE DISTURBED WITHOUT OBTAINING WRITTEN PERMISSION OF THE ENGINEER.

B. ANY SURFACE WHICH IS DISTURBED IN ANY WAY BY THE CONTRACTOR SHALL BE REPAIRED AND REFINISHED TO PROVIDE A SURFACE EQUAL IN STRENGTH, DURABILITY, AND APPEARANCE TO THE ORIGINAL SURFACE.

C. WHERE IT IS NECESSARY TO DRILL OR CUT CONCRETE SURFACES, THE EDGES SHALL BE SHARPLY DEFINED. HOLES SHALL BE MADE WITH A ROTARY DRILL. CUTS SHALL BE MADE WITH A CONCRETE SAW UNLESS SOME OTHER METHOD OF MAKING SPECIFIC CUTS IS APPROVED BY THE ENGINEER.

D. PENETRATIONS THROUGH SMOKE, FIRE, HAZARDOUS AREA, OR OTHER RATED SEPARATIONS SHALL BE FIRE SEALED TO PRESERVE THE RATINGS OF THE SEPARATIONS.

E. ALL CUTTING, DRILLING, PATCHING, REPAIRING, AND REFINISHING SHALL BE DONE BY PERSONS SKILLED IN APPROPRIATE TRADES.

F. CLEAN AWAY ALL RUBBISH AND LITTER GENERATED DURING ELECTRICAL INSTALLATION.

13. SHOP DRAWINGS AND SUBMITTALS

A. SUBMIT SHOP DRAWINGS FOR ALL NEW ITEMS OF ELECTRICAL EQUIPMENT. SUBMIT ELECTRONIC PDF VERSIONS OF THE SHOP DRAWINGS FOR REVIEW. ALL SHOP DRAWING SUBMITTALS SHALL ALLOW FOR A MINIMUM OF 14 WORKING DAYS FOR ENGINEER REVIEW.

B. SHOP DRAWINGS SHALL BE DETAILED, DIMENSIONED MANUFACTURERS' DRAWINGS. EACH SET OF DOCUMENTS SHALL LIST THE PROJECT NAME AND ADDRESS, AND THE CONTRACTOR'S NAME, ADDRESS, AND TELEPHONE NUMBER. AN INDEX PAGE SHALL LIST INDIVIDUALLY ALL THE ITEMS IN THE SUBMITTAL WITH REFERENCES TO TYPE DESIGNATIONS OR OTHER IDENTIFIERS NOTED ON DRAWINGS.

C. ASSURE THAT SHOP DRAWINGS ARE COMPLETE BEFORE SUBMITTAL. SUBMITTAL TO THE ENGINEER SHALL BE VIA THE GENERAL CONTRACTOR AND, WHERE REQUIRED, THE ARCHITECT. SHOP DRAWINGS NOT SIGNED BY BOTH THE CONTRACTOR AND THE GENERAL CONTRACTOR SHALL BE RETURNED.

D. HIGHLIGHT ANY INFORMATION OR OPTIONS BEING PROVIDED. SHOP DRAWINGS NOT INDICATING WHAT IS BEING PROVIDED

WILL BE RETURNED.

E. PROVIDE A LIST FOR ANY ITEM SUBMITTED IN THE SHOP DRAWINGS WHICH IS A SUBSTITUTION FOR SPECIFIED PRODUCTS. IF THE CONTRACTOR USES MATERIALS OTHER THAN THOSE SPECIFIED AND FAILS TO CALL ATTENTION TO THE DIFFERENCES BETWEEN THESE MATERIALS AND THOSE SPECIFIED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT, AT NO ADDITIONAL COST TO THE OWNER, OF ANY SUCH MATERIALS DETERMINED BY THE ENGINEER TO BE UNACCEPTABLE.

F. THE APPROVAL STAMP/LETTER ON THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OR THE SUPPLIER OF RESPONSIBILITY FOR FULL CONTRACT COMPLIANCE.

G. LIGHTING CONTROL SYSTEM SUBMITTAL - PROVIDE FLOOR PLAN DRAWINGS WHICH INDICATE LOCATIONS, ORIENTATION AND COVERAGE OF EACH SENSOR, GROUPS, ZONES, SCENES, AND OTHER SPECIFIC DESIGN SYMBOLS AND DESIGNATIONS AS REQUIRED TO DEFINE INSTALLATION, LOCATION AND CONFIGURATION OF ALL CONTROL DEVICES.

H. FIRE ALARM SUBMITTAL - PROVIDE FLOOR PLAN DRAWINGS WHICH INDICATE THE LOCATION OF ALL COMPONENTS, CIRCUITS AND RACEWAYS. FLOOR PLANS SHOULD ALSO INDICATE CIRCUIT LAYOUTS, NUMBER, SIZE AND TYPE OF RACEWAY AND CONDUCTORS, CONDUIT FILL CALCULATIONS, SPARE CAPACITY CALCULATIONS, AND NOTIFICATION, APPLIANCE CIRCUIT VOLTAGE DROP CALCULATIONS.

14. MAINTENANCE MANUAL AND RECORD DRAWINGS

A. FURNISH THE OWNER WITH TWO (2) PRINTED COPIES AND TWO (2) DIGITAL DATA DVD'S OF A MANUAL COVERING THE OPERATION AND THE MAINTENANCE OF ALL EQUIPMENT PROVIDED UNDER THIS CONTRACT. THE MANUAL SHALL BE IN A 3-RING, LOOSE LEAF, HEAVY DUTY BINDER AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL. EACH MANUAL SHALL CONTAIN THE FOLLOWING:

• COMPLETE MANUFACTURER CATALOG DATA, MANUFACTURER'S LITERATURE, WIRING DIAGRAMS, DETAIL OPERATING INSTRUCTIONS, AND A COMPLETE LISTING OF SUPPLIERS AND DISTRIBUTORS WHERE REPLACEMENT PARTS AND MAINTENANCE SERVICES ARE AVAILABLE FOR ALL EQUIPMENT.

• PHYSICAL DESCRIPTION AND INSTALLATION INSTRUCTIONS AND USER'S MANUAL AND OPERATING INSTRUCTIONS.

• REPLACEMENT PARTS LIST.

• INSPECTION CERTIFICATES, SIGNED BY THE APPROPRIATE INSPECTOR, SHALL BE FURNISHED IN THE MAINTENANCE MANUAL.

• MANUFACTURER'S WARRANTY.

• SPECIFIED TEST REPORTS.

• DATA DVD WITH INDEXED PDF DOCUMENTS OF ALL MANUAL CONTENT OF ITEMS ABOVE.

B. MARKUP A SET OF CONSTRUCTION DOCUMENTS AS WORK PROGRESSES, TO SHOW ACTUAL CIRCUIT ROUTING AND DIMENSIONED INFORMATION, SIZES, TYPES, ETC., AND EQUIPMENT LOCATION CHANGES, AND ANY OTHER CHANGES OR DEVIATIONS BETWEEN PROJECT WORK, AS BUILT, AND THE CONTRACT DOCUMENTS. MARKINGS SHALL BE NEAT, LEGIBLE, AND PERMANENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR TRANSFER APPLICABLE MARKINGS TO SECOND SET OF DOCUMENTS AND PROVIDE BOTH SETS OF RECORD DOCUMENTS TO THE OWNER.

15. CLEAN-UP

A. RID THE PREMISES OF SCRAP MATERIALS, TRASH AND DEBRIS BOTH DURING CONSTRUCTION AND AT COMPLETION OF PROJECT. LEAVE THE BUILDING AND SURROUNDING AREA IN A CLEAN AND ORDERLY CONDITION.

16. ACCEPTANCE DEMONSTRATION AND TRAINING

A. PERFORM SYSTEM START-UP, TESTING AND PROGRAMMING PRIOR TO OWNER'S TRAINING. DO NOT SCHEDULE DEMONSTRATIONS UNTIL SYSTEMS ARE COMPLETELY READY TO TURN OVER TO THE OWNER AS FINAL.

B. DEMONSTRATE TO THE OWNER THE OPERATION OF THE ELECTRICAL INSTALLATIONS, INCLUDING ANY AND ALL SPECIAL ITEMS INSTALLED BY HIM OR INSTALLED UNDER HIS SUPERVISION. THE TIMING OF THE DEMONSTRATION WILL BE DETERMINED BY THE OWNER UPON COMPLETION OF THE WORK. PROPERLY SET AUTOMATIC TIME SWITCHES TO PERFORM SWITCHING OPERATIONS IN ACCORDANCE WITH SCHEDULES PROVIDED BY THE OWNER'S REPRESENTATIVE, AND DEMONSTRATE (USING THE MANUFACTURER'S OPERATING INSTRUCTIONS) HOW TO OVERRIDE, TEST AND PROGRAM LIGHTING SYSTEMS.

17. REBATE PROGRAMS

A. PROVIDE THE OWNER WITH ALL REBATE FORMS, FILLED OUT WITH APPLICABLE PROJECT INFORMATION, FOR UTILITY OR PRODUCT REBATE PROGRAMS TO WHICH THE OWNER IS ELIGIBLE.

18. GUARANTEES AND WARRANTIES

A. FURNISH THE OWNER WITH A WRITTEN GUARANTEE FOR THE PERIOD OF ONE (1) YEAR AGAINST THE FAILURE OF ANY PART OF THE ELECTRICAL SYSTEM INSTALLED UNDER THE SPECIFICATIONS DUE TO FAULTY MATERIAL OR WORKMANSHIP, WITHOUT ANY CHARGES, TO THE OWNER. GUARANTEE PERIOD TO START UPON SUBSTANTIAL COMPLETION OR AS SPECIFIED UNDER GENERAL AND SPECIAL CONDITIONS.

B. ASSURE THAT ANY EXTENDED WARRANTIES TO WHICH THE OWNER IS ELIGIBLE, ARE PASSED ON TO THE OWNER.

PART 2 - PRODUCTS

1. GENERAL - MATERIALS

A. ALL MATERIALS MUST BE NEW AND BEAR UNDERWRITER'S LABORATORIES (UL) LABEL. MATERIALS THAT ARE NOT COVERED BY UL TESTING STANDARDS SHALL BE TESTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY OR A GOVERNMENTAL AGENCY. MATERIAL NOT IN ACCORDANCE WITH THESE SPECIFICATIONS MAY BE REJECTED EITHER BEFORE OR AFTER INSTALLATION.

2. GENERAL - INSTALLATION

A. ELECTRICAL SYSTEM LAYOUTS INDICATED ON THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT. GOVERN EXACT ROUTING OF CABLE AND WIRING AND THE LOCATIONS OF OUTLETS BY STRUCTURE AND EQUIPMENT DERIVED, TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS.

B. CONSULT ALL OTHER DRAWINGS, VERIFY SCALES AND REPORT ANY DIMENSIONAL DISCREPANCIES OR OTHER CONFLICTS WITH OWNER BEFORE SUBMITTING BID.

C. ALL HOME RUNS TO PANELBOARDS ARE INDICATED AS STARTING FROM THE OUTLET NEAREST THE PANEL AND CONTINUING IN THE GENERAL DIRECTION OF THAT PANEL. CONTINUE SUCH CIRCUITS TO THE PANEL AS THROUGH THE ROUTES HERE COMPLETELY INDICATED. TERMINATE HOMERUNS OF SIGNAL, ALARM AND COMMUNICATIONS SYSTEMS IN A SIMILAR MANNER.

D. AVOID CUTTING AND BORING HOLES THROUGH STRUCTURE OR STRUCTURAL MEMBERS WHEREVER POSSIBLE. OBTAIN PRIOR APPROVAL OF OWNER AND CONFORM TO ALL STRUCTURAL REQUIREMENTS WHEN CUTTING OR BORING THE STRUCTURE IN NECESSARY AND PERMITTED.

E. FURNISH AND INSTALL ALL NECESSARY HARDWARE, HANGERS, BLOCKING, BRACKETS, BRACING, RUNNERS, ETC., REQUIRED FOR EQUIPMENT SPECIFIED UNDER THIS SECTION.

F. PROVIDE NECESSARY BACKING REQUIRED TO INSURE RIGID MOUNTING OF OUTLET BOXES.

3. CONDUIT AND CABLES

A. ELECTRICAL CONDUCTORS SHALL BE BUILDING WIRE, EXCEPT WHERE OTHER TYPE OF WIRE OR CABLE IS SPECIFICALLY INDICATED.

B. BUILDING WIRE CONDUCTORS SHALL BE SOFT-DRAWN ANNEALED COPPER, HAVING A CONDUCTIVITY OF NOT LESS THAN 98% PURE COPPER. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (KCMIL) AS FOLLOWS:

• #12 AWG SOLID COPPER.
• #10 AWG AND LARGER SHALL BE STRANDED COPPER.
• BRANCH CIRCUITS TO BE COLOR CODED, COLOR IMPREGNATED WIRE.

C. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.

D. AC, CORE CLAD OR ROMEX (NM) CABLES ARE PERMITTED WHERE ALLOWED BY CODE.

E. LIGHT FIXTURES SHALL NOT BE USED AS RACEWAY UNLESS LISTED AND MARKED AS RACEWAY IN ACCORDANCE WITH N.E.C. ARTICLE 410.64.

F. ELECTRICAL CONDUIT INSTALLATIONS MUST BE SUPPORTED PER THE N.E.C. AND NOT EXCEED 10 FEET BETWEEN SUPPORTS. ELECTRICAL CONDUIT INSTALLATIONS MUST BE A MINIMUM OF 3/4 INCH EMT.

G. CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS: TYPE SO, OIL PROOF, HARD SERVICE CORD WITH STAINLESS-STEEL, WIRE-MESH, STRAIN RELIEF DEVICE AT TERMINATIONS TO SUIT APPLICATION.

H. PROVIDE #12 BRANCH CIRCUIT CONDUCTORS FOR ALL 120 VOLT, 20 AMP CIRCUITS LESS THAN 75 FEET (100 FEET FOR 277 VOLT CIRCUITS). PROVIDE #10 BRANCH CIRCUIT CONDUCTORS FOR ALL 120 VOLT, 20 AMP CIRCUITS OVER 75 FEET (100 FEET FOR 277 VOLT CIRCUITS).

I. WHERE MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY (E.G. COMBINING MULTI-CIRCUIT HOMERUNS), CONDUCTOR AMPACITY SHALL BE DE-RATED AS REQUIRED BY THE N.E.C.

J. PROVIDE DEDICATED NEUTRAL CIRCUITS FOR ALL 120 VOLT AND 277 VOLT BRANCH CIRCUITS.

4. LOW VOLTAGE CONDUCTORS AND CABLES

A. RS-232 CABLE: PLENUM RATED, TYPE CMP, TWO PAIR, NO. 22 AWG, STRANDED COPPER; EACH PAIR 100 PERCENT SHIELDED, COPPER DRAIN WIRE.

B. RS-485 CABLE: PLENUM RATED, TYPE CMP, TWO TWISTED PAIR, NO. 22 AWG, STRANDED COPPER, UNSHIELDED.

C. COAXIAL CABLE FOR CATV, MATV AND DBS:

• RG-6; 16 AWG, SOLID, COPPER-COVERED STEEL CONDUCTOR; GAS-INJECTED, FOAM-PE INSULATION. DOUBLE SHIELDED WITH 100 PERCENT ALUMINUM-FOIL SHIELDED AND 60 PERCENT ALUMINUM BRAID. PLENUM RATED, TYPE CMP. USE WHERE THE COAXIAL CABLE WILL BE TAPPED OR SPLIT.

D. CONTROL CIRCUITS

• LOW VOLTAGE CONTROL CABLE: TWISTED PAIRS #16 AWG WITH OVERALL SHIELD.

• CLASS 1 CONTROL CIRCUITS: STRANDED COPPER, TYPE THWN OR XHHN, IN RACEWAY OR CABLE WITH ARMOR JACKET.

• CLASS 2 CONTROL CIRCUITS: STRANDED COPPER, TYPE THWN OR XHHN, IN RACEWAY, POWER-LIMITED CABLE, CONCEALED IN BUILDING FINISHES, CABLE WITH ARMOR JACKET OR POWER-LIMITED TRAY CABLE, IN CABLE TRAY AND ON HANGERS.

• CLASS 3 REMOTE-CONTROL AND SIGNAL CIRCUITS: STRANDED COPPER, TYPE TW OR TYPE TF, COMPLYING WITH UL 83.

F. ALL LOW VOLTAGE CABLES INSTALLED IN METAL BOX AND RACEWAY SYSTEM TO AN ACCESSIBLE CEILING.

G. MINIMUM CONDUIT SIZE IS 3/4 INCH WITH LARGER SIZES NOTED ON PLAN. INSTALL PLASTIC BUSHING ON CONDUIT ENDS.

H. GROUP AND BUNDLE LOW VOLTAGE CABLES AND PROVIDE SUPPORT INDEPENDENT OF CEILING SUPPORTS. UTILIZE D RINGS, J-HOOKS OR APPROVED NYLON STRAPS TO HOLD CABLES AND PROVIDE SUPPORTS INDEPENDENT OF THE CEILING SUPPORTS.

5. GROUNDING AND BONDING

A. CIRCUITS, METAL RACEWAY SYSTEMS, AND ALL OTHER PERMANENTLY INSTALLED ELECTRICAL EQUIPMENT SHALL BE SOLIDLY GROUNDING IN ACCORDANCE WITH THE N.E.C. TO FORM A CONTINUOUS, PERMANENT AND EFFECTIVE GROUNDING SYSTEM.

B. GROUNDING CONDUCTOR CONNECTIONS SHALL BE MADE

WITH SOLDERLESS PRESSURE TYPE FITTINGS, WHERE WELDED CONNECTIONS ARE PRACTICAL, CONNECTIONS MAY BE MADE BY THE USE OF SUITABLE WELDING PROCESS. ALL CONNECTIONS SHALL BE MADE IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

C. GROUND RODS TO BE 10' X 3/4" COPPER CLAD STEEL. GROUND RODS IN EXTERIOR AREA LIGHTS TO BE 8' X 5/8" COPPER CLAD STEEL.

D. THE BUILDING AND ELECTRICAL SYSTEMS SHALL BE GROUNDING AND BONDED IN ACCORDANCE WITH THE N.E.C.

E. ELECTRICAL SERVICE AND SEPARATELY DERIVED ALTERNATING CURRENT SYSTEM SHALL BE GROUNDING IN ACCORDANCE WITH N.E.C., ARTICLE 250.

F. ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE A GREEN COPPER GROUND CONDUCTOR RUN WITH THE PHASE AND NEUTRAL CONDUCTORS.

G. PROVIDE CODE REQUIRED #6 OR LARGER GROUND CONDUCTOR AND 12 INCH GROUND BUS AT TELECOMMUNICATIONS DEMARCONATION LOCATION.

6. CONDUIT HANGARS AND SUPPORT

A. FOR INDIVIDUAL CONDUIT RUNS NOT DIRECTLY FASTENED TO THE STRUCTURE, USE THREADED ROD AND HANGERS MANUFACTURED BY CADY, UNISTRUT OR POWERSTRUT.

B. GALVANIZED STEEL SLOTTED CHANNEL SUPPORT SYSTEMS WITH FITTINGS AND SUPPORTS BY THE SAME MANUFACTURER.

C. CONDUIT AND CABLE SUPPORT DEVICES TO BE STEEL WITH HANGERS AND SUPPORTS SUITABLE FOR RACEWAY OR CABLE TO BE SUPPORTED.

D. STEEL SLOTTED SUPPORT SYSTEMS WITH MANUFACTURER'S GALVANIZED STEEL COATING.

E. FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES TO BE BOLTED STRUCTURAL STEEL OR STEEL SLOTTED SYSTEMS CALCULATED BY A REGISTERED STRUCTURAL ENGINEER.

F. CONCRETE BASES INSTALLED BY THE ELECTRICAL CONTRACTOR. BASE TO BE NOMINALLY 3000 PSI CONCRETE WITH DIMENSIONS NOTED ON THE DRAWINGS. INSTALL FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.

7. RACEWAYS AND OUTLET BOXES

A. PROVIDE RACEWAYS, FITTINGS, CONNECTORS AND ACCESSORIES FOR A COMPLETE RACEWAY SYSTEM. RACEWAYS INCLUDE:

• RIGID STEEL: HOT-DIPPED GALVANIZED.
• ELECTRICAL METALLIC TUBING (EMT): ELECTRO-GALVANIZED.
• WIREWAYS: ENAMEL FINISH, HINGED TYPE.
• FLEXIBLE METALLIC CONDUIT: FOR FINAL CONNECTION IN DRY LOCATIONS LESS THE 6 FOOT LENGTHS.

• LIQUID TIGHT FLEXIBLE METAL CONDUIT: FOR FINAL CONNECTION IN DAMP OR WET LOCATIONS LESS THAN 6 FOOT LENGTHS.

B. PROVIDE FITTINGS AND ACCESSORIES APPROVED FOR THE PURPOSE EQUAL IN ALL RESPECTS TO THE CONDUIT OR RACEWAY. EMT CONNECTORS AND COUPLINGS SHALL BE SET STEEL SETSCREW TYPE INDOORS AND STEEL COMPRESSION TYPE IN DAMP OR WET LOCATIONS AND OUTDOORS.

C. OUTLET BOXES: 4" SQUARE X 1 1/2" DEEP (OR LARGER) GALVANIZED SHEET STEEL XO-TYPE WITH PLASTER RING AND COVER FOR GENERAL INTERIOR USE. CAST METAL TYPE FS OR FD WITH MATCHING SCREW COVERS FOR EXTERIOR AND EXPOSED INTERIOR LOCATIONS (GASKETED IN DAMP OR WET LOCATIONS).

D. JUNCTION BOXES SHALL BE SAME AS OUTLET BOXES UP TO 42 CU. IN. USE CODE-GAUGE STEEL IN LARGER SIZES WITH SURFACES OR FLUSH-TYPE SCREW-MOUNTED TRIM COVERS. BOXES AND COVERS PAINTED WITH INHIBITOR-PRIMED PAINT INSIDE AND OUT.

E. PULL BOXES SHALL BE SAME AS JUNCTION BOXES UNLESS INDICATED OTHERWISE ON THE DRAWINGS, WITH COVERS.

F. TELEPHONE OUTLET BOXES SHALL NOT SMALLER THAN 4 11/16" SQUARE X 2 1/2" DEEP WITH SINGLE-GANG RING. OTHER CONFIGURATIONS AS SHOWN ON THE PLAN.

G. FLOOR BOXES - RECESSED. FLOOR BOXES TO BE LEGRAND/WIREMOLD RFB4 SERIES. THOMAS & BETTS 685 OR 687 SERIES OR EQUAL. FLOOR BOX TO HAVE (4) INDEPENDENT WIRING COMPARTMENTS, (2) FOR POWER AND (2) FOR COMMUNICATIONS, PROVIDE GFCI OR BLANK BRACKETS AS REQUIRED. COVERS TO BE FLANGED. DIE-CAST ALUMINUM ASSEMBLY WITH BRUSHED ALUMINUM FINISH, LID ARE TO BE FLUSH WITH FINISHED FLOOR, NO CUTOUTS. FINISH BY ARCHITECT.

H. FLOOR BOXES - POKE THROUGH. FLOOR BOXES TO BE LEGRAND/WIREMOLD EVOLUTION SERIES 6AT. FLOOR BOX TO HAVE (2) 20 AMPERE DUPLEX RECEPTACLES AND BRACKETS FOR MOUNT UP TO (8) RJ45 JACKS. COVER TO BE FLUSH STYLE ASSEMBLY WITH SPRING LOADED SLIDES, FINISH BY ARCHITECT.

I. ENCLOSE ALL ELECTRICAL POWER WIRING IN CONDUIT.

J. CONDUIT SHALL BE RIGID STEEL OR EMT AS FOLLOWS:

• ABOVE GROUND: USE RIGID STEEL ONLY.
• LOCATIONS SUBJECT TO MECHANICAL INJURY. RIGID STEEL ONLY.
• DRY LOCATIONS AND NOT SUBJECT TO MECHANICAL INJURY: EMT.
• RECESSED LIGHTING FIXTURES.
• MOTOR CONNECTIONS AND TRANSFORMERS.

• AT BUILDING JOINTS.

• AT WET LOCATIONS, FLEXIBLE CONDUIT SHALL BE LIQUID TIGHT TYPE.

L. METAL CLAD CABLE WITH GREEN GROUND CONDUCTOR ALLOWED FOR THE FOLLOWING CONDUITS:

• ABOVE ACCESSIBLE CEILINGS FOR FINAL CONNECTIONS FROM JUNCTION BOXES TO LIGHT FIXTURES NOT EXCEEDING 6 FEET IN LENGTH.
• ALLOWED FOR BRANCH CIRCUITS FISHED INTO EXISTING WALL CONSTRUCTION.
• ALLOWED IN NEW CASEWORK OR BUILT UP STRUCTURES WHERE FLEXIBILITY IS REQUIRED.

M. CONDUIT CAST IN CONCRETE FLOORS IS NOT ALLOWED.

N. FITTINGS FOR EMT SHALL BE STEEL COMPRESSION TYPE IN EXTERIOR OR DAMP LOCATIONS. FITTINGS FOR OTHER RACEWAYS SHALL BE STEEL SET-SCREW TYPE STYLE IN INTERIOR LOCATIONS. DIE CAST FITTINGS ARE NOT ALLOWED.

O. INSTALL NYLON PULL CORDS IN ALL EMPTY CONDUITS.

P. PROVIDE EXPANSIONS FITTINGS CROSSING ALL EXPANSION JOINTS OR SPANNING BETWEEN ISOLATED STRUCTURES.

Q. SURFACE RACEWAYS TO BE A 2 COMPARTMENT STYLE SIMILAR TO WIREMOLD 6-4000 WHITE FINISH WITH VOLUME OUTLETS NOTED ON PLANS.

R. GENERAL CONDUIT INSTALLATION:

ENCLOSURES OF CODE GRADE STEEL. OVERSIZE GUTTERS SHALL BE PROVIDED FOR FEED THROUGH WHERE INDICATED OR REQUIRED. WHERE DOUBLE LUGS ARE NOT PERMITTED BY LOCAL CODE, A SUITABLE PULL BOX OR GUTTER ADJACENT TO PANELS SHALL BE PROVIDED FOR CONNECTIONS.

C. PANELBOARDS SHALL HAVE TRIM AND FLAT LOCKING DOORS WITH BOTH HINGES AND TRIM CLAMPS COMPLETELY CONCEALED. PANELS TO BE DOOR IN DOOR CONSTRUCTION. DOOR LOOKS SHALL BE FLUSH WITH THE COVER. ALL DOOR LOOKS SHALL BE COMMON KEVED. TWO (2) KEYS SHALL BE PROVIDED FOR EACH PANELBOARD. A CLEAR PLASTIC-COVERED TYPEPWRITTEN CIRCUIT DIRECTORY SHALL BE MOUNTED IN A CABLE HOLDER ATTACHED TO THE INNER SIDE OF THE DOOR. PANELBOARDS SHALL HAVE BLACK PLASTIC PLATES WITH 1/2 INCH HIGH WHITE CUT LETTES STATING PANELBOARD NUMBER AND VOLTAGE. WHERE PANELBOARDS ARE IN PUBLIC AREAS, IDENTIFICATION PLATES SHALL BE INSIDE DOOR.

D. BUSES SHALL BE MADE FROM 98 PERCENT ELECTROLYTIC COPPER OR 55 PERCENT CONDUCTIVITY ALUMINUM AND SHALL BE INDEPENDENTLY SUPPORTED (WITHOUT DEPENDENCE UPON THE CIRCUIT BREAKERS), WHERE BREAKERS AND/OR SWITCHES ARE LISTED IN THE SCHEDULES AS 'SPACE ONLY', THIS SHALL INCLUDE EXTENDED BUS AND MOUNTING PROVISIONS.

E. CIRCUIT BREAKERS SHALL BE BOLT-ON AND SHALL HAVE BOLTED LINE AND LOAD TERMINALS. ALL BRANCH CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL MAGNETIC, COMMON TRIP ON ALL MULTI-POLE BREAKERS AND HAVE A MINIMUM SHORT CIRCUIT RATING AS SHOWN ON THE DRAWINGS. EACH BREAKER SHALL BE ITS CURRENT RATING ENGRAVED, IN EASY TO READ NUMBERS, ON THE TOGGLE HANDLE. ALL BREAKERS USED FOR LIGHTING SWITCHING CONTROL SHALL BE UL LISTED 'SMD' SWITCHING UTUY. ALL BREAKERS USED FOR MOTOR OR HIGH INDUCTANCE LOADS SHALL BE HACR RATED.

F. FUSIBLE FACTORY ASSEMBLED PANELBOARDS OR EQUAL BE SCHNEIDER ELECTRIC QMB FOR 225A-1600A OR EQUAL BY CUTLER-HAMMER, G.E., OR SEMENS WITH REQUIREMENTS NOTED ABOVE.

- TRIMS TO BE 4 PIECE WITHOUT DOOR FOR NEMA 1; WITH DOOR NOTED ON THE DRAWINGS OR FOR NEMA 3R/5/12.

- FUSED SWITCHES: NEMA KS 1, TYPE HD. TWIN, SIDE BY SIDE MOUNT FOR 30A-200A. SINGLE MOUNT FOR 400A AND ABOVE.

- FURNISH REJECTION FUSES AS NOTED IN FUSES BELOW.

G. WHERE PANELBOARDS ARE FLUSH MOUNTED IN WALLS, PROVIDE A MINIMUM OF FOUR (4) 1 INCH CONDUITS STUBBED TO AN ACCESSIBLE CEILING ABOVE THE PANEL.

H. CIRCUIT NUMBERS APPEARING ON DRAWINGS SHALL BE USED FOR REFERENCE ONLY. ACTUAL CONNECTIONS SHALL BE IN ACCORDANCE WITH PHASING OF THE CABINET AND LOAD BALANCE REQUIREMENTS. ROOM NUMBERS OR NAMES USED FOR CIRCUIT IDENTIFICATION SHALL CORRESPOND TO NAME PLATES INSTALLED ON ROOM DOORS BY THE GENERAL CONTRACTOR OR AS SELECTED BY THE OWNER AND SHALL BE VERIFIED AS THESE MAY NOT BE THE SAME AS ROOM TITLES ON THE DRAWINGS.

I. TOP OF PANELBOARD TUBS SHALL BE 6'-6" ABOVE FINISHED FLOOR.

14. FUSES

A. FUSES SHALL BE ONE-TIME CARTRIDGE FUSES MANUFACTURED BY BUSMAN, GOULD SHAMMUT, OR LITTLE FUSE.

B. THE CONTRACTOR SHALL FURNISH AND INSTALL FUSES OF THE TYPES AND RATINGS DESIGNATED IN THE DRAWINGS AND SPECIFICATIONS IN EACH FUSIBLE DEVICE INSTALLED BY THE CONTRACTOR.

- FEEDER AND BRANCH CIRCUITS CLASS RK1 TIME DELAY.
- MOTOR CIRCUITS CLASS RK5 TIME DELAY.
- CONTROL CIRCUIT FUSES TO BE TIME DELAY.

15. ENCLOSED SWITCHES, CIRCUIT BREAKERS AND CONTROLLERS

A. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, AC, SINGLE THROW SAFETY SWITCHES, BUILT IN IN ACCORDANCE WITH NEMA REQUIREMENTS WITH A VOIDABLE FULL COVER INTERLOCK AND QUICK-MAKE, QUICK-BREAK MECHANISM. EACH SWITCH SHALL BE FUSIBLE UNLESS NON-FUSIBLE (NF) IS SPECIFICALLY NOTED. SWITCHES SHALL BE IN NEMA 1 ENCLOSURES IN DRY LOCATIONS AND NEMA 3R WHERE EXPOSED TO THE WEATHER.

B. PROVIDE AUXILIARY CONTACTS TO SHUT DOWN VFD PRIOR TO DISCONNECTING POWER. PROVIDE REJECTION FUSES WHERE NOTED.

C. FULL VOLTAGE NON REVERSING STARTERS - SIZE 0 MINIMUM.

D. ALL STARTERS TO BE COMBINATION STARTERS AND MOLDED CASE CIRCUIT WITH COVER MOUNTED HOA AND PILOT LIGHTS.

E. FRACTIONAL HP STARTERS QUICK MAKE QUICK BREAK SINGLE POLE SWITCHES FOR INTEGRALLY PROTECTED MOTORS.

F. MULTI POLE HORSE POWER RATED SWITCHES OR ENCLOSED CIRCUIT BREAKERS IN FLUSH NEMA 1 ENCLOSURES WHERE MOTORS ARE LOCATED IN FINISHED SPACES.

G. ALL DEVICES NEMA RATED FOR THE ENVIRONMENT THEY ARE LOCATED.

H. THE CONTRACTOR SHALL OBTAIN EXACT INFORMATION PERTAINING TO LOCATION, ELECTRICAL CHARACTERISTICS, AND WIRING FOR EQUIPMENT FURNISHED BY OTHERS FROM THE CONTRACTOR FURNISHING THE EQUIPMENT. THIS INFORMATION SHALL BE VERIFIED BY EXAMINING NAMEPLATES AND MANUFACTURER'S DATA. IF A DISCREPANCY BETWEEN THE EQUIPMENT AND THE PROVISIONS MADE BY THESE SPECIFICATIONS SHALL BE REPORTED. EQUIPMENT DAMAGED AS A RESULT OF THE CONTRACTOR'S FAILURE TO OBSERVE MANUFACTURER'S REQUIREMENTS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR. THE THERMAL PROTECTION ELEMENTS IN MANUAL STARTERS SHALL BE RECHECKED WITH NAME PLATE DATA AT THE SITE BEFORE OPERATION OF THE EQUIPMENT. WHERE NECESSARY, THE THERMAL PROTECTION ELEMENTS SHALL BE CHANGED TO PROPERLY PROTECT THE EQUIPMENT.

I. FURNISH AND INSTALL MANUAL THERMAL PROTECTION FOR ALL MOTORS NOT INTEGRALLY EQUIPPED WITH THERMAL PROTECTION.

J. THE CONTRACTOR SHALL FURNISH AND INSTALL FINAL ELECTRICAL CONNECTIONS TO ALL MOTORS AND ELECTRICALLY POWERED EQUIPMENT INDICATED ON THE PLANS OR EQUIPMENT SCHEDULE.

K. FURNISH AND INSTALL A DISCONNECT SWITCH

IMMEDIATELY AHEAD OF AND ADJACENT TO EACH MAGNETIC MOTOR STARTER OR APPLIANCE UNLESS THE MOTOR APPLIANCE IS LOCATED ADJACENT AND WITHIN SIGHT OF THE SERVING PANELBOARD, CIRCUIT BREAKER OR SWITCH. VERIFY ALL EQUIPMENT NAMEPLATE CURRENT RATINGS PRIOR TO INSTALLATION.

L. PROVIDE A FUSED DISCONNECT SWITCH ON ANY TRANSFORMER SECONDARY WHERE SECONDARY CONDUCTORS EXCEED 25 FEET FROM TERMINAL TO SECONDARY OVERCURRENT DEVICE.

M. THE CONTRACTOR SHALL FURNISH AND INSTALL DISCONNECT SWITCHES HAVING THE NUMBER OF POLES AND AMPERE RATINGS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN EQUIPMENT SCHEDULES.

16. SURGE PROTECTION DEVICES (SPDS)

A. SERVICE ENTRANCE: MODULAR DESIGN WITH PEAK SINGLE IMPULSE SURGE CURRENT RATING OF 240KA PER MODE/480KA. TYPE 2 SURGE SUPPRESSION (SPD) AT THE MAIN ELECTRICAL SERVICE SHOWN ON THE DRAWINGS.

B. PANELBOARD SUPPRESSORS: NON-MODULAR DESIGN WITH PEAK SINGLE IMPULSE SURGE CURRENT RATING OF 120KA PER MODE/240KA. TYPE 2 SURGE SUPPRESSION (SPD) AT PANELBOARDS OR SEPARATELY DERIVED SYSTEMS SHOWN ON THE DRAWINGS.

C. TYPE 3 SURGE SUPPRESSION (SPD) AT POINT OF USE: DUPLEX RECEPTACLE INTEGRAL TO WIRING DEVICE.

D. INSTALL IN ACCORDANCE WITH N.E.C. ARTICLE 285.

E. INSTALL AN OCPD OR DISCONNECT AS REQUIRED TO COMPLY WITH UL LISTING OF THE SPD.

F. INSTALL SPDS WITH CONDUCTORS BETWEEN SUPPRESSORS AND POINTS OF ATTACHMENT AS SHORT AND STRAIGHT AS POSSIBLE, AND ADJUST CIRCUIT BREAKER POSITIONS TO ACHIEVE SHORTEST AND STRAIGHTEST LEADS. DO NOT SPLICE AND EXTEND SPD LEADS UNLESS SPECIFICALLY PERMITTED BY MANUFACTURER. DO NOT EXCEED MANUFACTURER'S RECOMMENDED LENGTH. DO NOT BOND NEUTRAL AND GROUND.

G. USE CRIMPED CONNECTORS AND SPLICES ONLY. WIRE NUTS ARE UNACCEPTABLE.

17. WIRING DEVICES

A. WIRING DEVICES SHALL BE INSTALLED IN METAL DEVICE BOXES.

B. SWITCHES AND RECEPTACLES SHALL BE HUBBELL, BRYANT, LEVITON, PASS & SEYMOUR, OR APPROVED EQUIP. SUBJECT TO APPROVAL BY THE ARCHITECT, COLOR SHALL BE WHITE FOR NORMAL POWER AND RED FOR EMERGENCY POWER. SPECIAL COLOR DEVICE OUTLETS AND MATCHING COVERPLATE AS NOTED ON THE PLANS.

C. SWITCHES SHALL BE HEAVY DUTY GRADE, AC QUIET TYPE, 20-AMP, 120/277 VOLT, WITH SILVER ALLOY CONTACTS, EQUAL TO HUBBELL #5362.

D. GENERAL PURPOSE DUPLEX RECEPTACLES SHALL BE HEAVY DUTY GRADE NEMA 5-20R, 125 VOLT, 3 WIRE GROUNDING TYPE DEVICES WITH BRASS ONE PIECE GROUND STRAP; THIRD POLE GROUNDING TO THE OUTLET BOX. HOSPITAL GRADE DUPLEX RECEPTACLES IN PATIENT CARE AREAS DEFINED PER N.E.C. ARTICLE 517.

E. GROUND FAULT CIRCUIT INTERRUPT (GFI) DUPLEX RECEPTACLES SHALL BE HEAVY DUTY GRADE, 20 AMP DEVICES WIRED SO THAT EACH UNIT IS SELF-CONTAINED. GFI RECEPTACLE SHALL NOT BE CONNECTED TO FEED THROUGH UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.

F. RECEPTACLES IN DAMP OR WET LOCATIONS TO HAVE N.E.C. WEATHER RESISTANT RATING.

G. TAMPER RESISTANT RATING IN AREAS REQUIRED BY N.E.C.

H. AFCI RECEPTACLES WHERE REQUIRED BY N.E.C.

I. ISOLATED GROUND RECEPTACLES TO BE ORANGE IN COLOR.

J. SURGE PROTECTION DEVICE (SPD) TYPE 3 DUPLEX RECEPTACLE WITH INDICATION LIGHT AND AUDIBLE ALARM.

K. COVER PLATES TO BE NYLON. SPECIAL COLOR PLASTIC COVER PLATES TO MATCH STYLE LINE TYPE RECEPTACLES AS NOTED ON THE PLANS WITH MATCHING COLORS.

L. WEATHERPROOF DUPLEX RECEPTACLES SHALL BE GFCI PROTECTED WITH 'WHILE-IN-USE' WEATHERPROOF COVERPLATES.

M. INSTALL HOSPITAL GRADE RECEPTACLES IN PATIENT CARE AREAS. INSTALL WITH THE GROUND PIN NEUTRAL BLADE AT THE TOP.

N. THE CONTRACTOR SHALL FURNISH AND INSTALL WALL PLATES FOR ALL FLUSH MOUNTED WIRING DEVICES AND ALL FLUSH MOUNTED SPECIAL SYSTEM OUTLETS. SECTIONAL WALL PLATES SHALL NOT BE USED. BLANK PLATES SHALL BE INSTALLED OVER ALL OUTLETS PROVIDE FOR FUTURE USE. WALL PLATES SHALL BE SECURED WITH MATCHING SCREWS. ENGRAVED WALL PLATES SHALL HAVE BACK FILL.

O. THE CONTRACTOR SHALL FURNISH AND INSTALL OUTLETS FOR AND MAKE FINAL ELECTRICAL CONNECTIONS TO ALL ELECTRICALLY POWERED EQUIPMENT INDICATED ON THE PLANS OR EQUIPMENT SCHEDULES.

18. LIGHTING CONTROL SYSTEM

A. PROVIDE PRODUCTS LISTED, CLASSIFIED, AND LABELED AS SUITABLE FOR THE PURPOSE INTENDED.

B. UNLESS SPECIFICALLY INDICATED TO BE EXCLUDED, PROVIDE ALL REQUIRED CONDUIT, WIRING, CONNECTORS, HARDWARE, COMPONENTS, ACCESSORIES, ETC. AS REQUIRED FOR A COMPLETE OPERATING SYSTEM.

C. APPROVED MANUFACTURER'S

- HUBBELL BUILDING AUTOMATION
- SENSOR SWITCH INC
- WATTSTOPPER
- LEVITON

D. SOURCE LIMITATIONS: FURNISH PRODUCTS PRODUCED BY A SINGLE MANUFACTURER AND OBTAINED FROM A SINGLE SUPPLIER.

D. ALL OCCUPANCY SENSORS:

• DESCRIPTION: FACTORY ASSEMBLED COMMERCIAL SPECIFICATION GRADE DEVICES FOR INDOOR USE CAPABLE OF SENSING BOTH MAJOR MOTION, SUCH AS WALKING, AND MINOR MOTION, SUCH AS SMALL DESKTOP LEVEL MOVEMENTS, ACCORDING TO PUBLISHED COVERAGE AREAS, FOR AUTOMATIC CONTROL OF LOAD INDICATED.

• SENSOR TECHNOLOGY: PASSIVE INFRARED (PIR) - DESIGNED TO DETECT OCCUPANCY BY SENSING

MOVEMENT OF THERMAL ENERGY BETWEEN ZONES. ULTRASONIC - DESIGNED TO DETECT OCCUPANCY BY SENSING PROXIMITY TO LOCAL ADJACENT AND REFLECTED INADUIBLE SOUND WAVES.

• PROVIDE LED TO VISUALLY INDICATE MOTION DETECTION.

• OPERATION: UNLESS NOTED OTHERWISE, OCCUPANCY SENSOR TO TURN LOAD ON WHEN OCCUPANCY PRESENCE IS DETECTED AND TO TURN LOAD OFF WHEN NO OCCUPANT PRESENCE IS DETECTED DURING AN ADJUSTABLE TURN-OFF DELAY TIME INTERVAL.

• PASSIVE INFRARED LENS FIELD OF VIEW: FIELD CUSTOMIZABLE BY ADDITION OF FACTORY MASKING MATERIAL, ADJUSTMENT OF INTEGRAL BLINDERS, OR SIMILAR MEANS TO BLOCK MOTION DETECTION IN SELECTED AREAS.

• TURN-OFF DELAY: ADJUSTABLE

• SENSITIVITY: FIELD ADJUSTABLE

• INTEGRAL PHOTOCELL: FOR FIELD SELECTABLE AND ADJUSTABLE INHIBITION OF AUTOMATIC TURN-ON OF LOAD WHEN AMBIENT LIGHTING IS ABOVE THE SELECTED LEVEL.

• COMPATIBILITY (NON-DIMMING SENSORS): SUITABLE FOR CONTROLLING INCANDESCENT LIGHTING, LOW-VOLTAGE LIGHTING WITH ELECTRONIC AND MAGNETIC TRANSFORMERS.

• LOAD RATING FOR LINE VOLTAGE OCCUPANCY SENSORS: AS REQUIRED TO CONTROL THE LOAD INDICATED ON THE DRAWINGS.

• ISOLATED RELAY FOR LOW VOLTAGE OCCUPANCY SENSORS: SPDT DRY CONTRACTS, RATINGS AS REQUIRED FOR INTERFACE WITH SYSTEM INDICATED.

E. WALL OCCUPANCY SENSORS:

• DESCRIPTION: OCCUPANCY SENSORS DESIGNED FOR INSTALLATION IN STANDARD WALL BOX AT STANDARD WALL SWITCH MOUNTING HEIGHT WITH A FIELD OF VIEW OF 180 DEGREES, INTEGRATED MANUAL CONTROL CAPABILITY, AND NO LEAKAGE CURRENT TO LOAD IN OFF MODE.

• UNLESS OTHERWISE INDICATED OR REQUIRED TO CONTROL THE LOAD INDICATED ON THE DRAWINGS, PROVIDE LINE VOLTAGE UNITS WITH SELF-CONTAINED RELAY.

• WHERE INDICATED, PROVIDE TWO-CIRCUIT UNITS FOR CONTROL OF TWO SEPARATE LIGHTING LOADS, WITH SEPARATE MANUAL CONTROLS AND SEPARATELY PROGRAMMABLE OPERATION FOR EACH LOAD.

• OCCUPANCY SENSOR TO BE FIELD SELECTABLE AS EITHER MANUAL-ON/AUTOMATIC-OFF OR AUTOMATIC ON/OFF.

• MANUAL-OFF OVERRIDE CONTROL: WHEN USED TO TURN OFF LOAD WHILE IN AUTOMATIC-ON MODE, UNIT TO REVERT BACK TO AUTOMATIC MODE AFTER NO OCCUPANT PRESENCE IS DETECTED DURING THE DELAYED-OFF TIME INTERVAL.

• DEVICE FINISH: MATCH FINISHES SPECIFIED IN WIRING DEVICES SECTION, UNLESS NOTED OTHERWISE.

• PROVIDE VANDAL RESISTANT LENSES FOR PASSIVE INFRARED (PIR) WALL SWITCH OCCUPANCY SENSORS.

• PASSIVE INFRARED (PIR) WALL SWITCH OCCUPANCY SENSORS: CAPABLE OF DETECTING MOTION WITHIN AN AREA OF 900 SQUARE FEET.

F. CEILING MOUNTED OCCUPANCY SENSORS:

• DESCRIPTION: LOW PROFILE OCCUPANCY SENSORS DESIGNED FOR CEILING INSTALLATION.

• UNLESS OTHERWISE INDICATED OR REQUIRED TO CONTROL THE LOAD INDICATED ON THE DRAWINGS, PROVIDE LOW VOLTAGE UNITS, FOR USE WITH SEPARATE COMPATIBLE ACCESSORY POWER PACKS.

• PROVIDE FIELD SELECTABLE SETTING FOR DISABLING LED MOTION DETECTOR VISUAL INDICATOR.

• OCCUPANCY SENSOR TO BE FIELD SELECTABLE AS EITHER MANUAL-ON/AUTOMATIC-OFF OR AUTOMATIC ON/OFF.

• FINISH: WHITE UNLESS OTHERWISE INDICATED.

• ULTRASONIC CEILING MOUNTED OCCUPANCY SENSORS: CAPABLE OF DETECTING MOTION WITHIN AN AREA OF 500 SQUARE FEET AT A MOUNTING HEIGHT OF 9 FEET, WITH A FIELD OF VIEW OF 360 DEGREES.

G. DUAL TECHNOLOGY WALL DIMMER VACANCY SENSORS:

• PRODUCTS: WATTSTOPPER - DW-311 SERIES. ACUTY BRANDS, SENSOR SWITCH - WSK PDT SERIES.

• DESCRIPTION: WALL MOUNTED 0-10V DIMMING DUAL TECHNOLOGY VACANCY SENSOR.

• CAPABLE OF DETECTING MOTION WITHIN AN AREA OF 525 SQUARE FEET.

• UNLESS OTHERWISE INDICATED OR REQUIRED TO CONTROL THE LOAD INDICATED ON THE DRAWINGS, PROVIDE LINE VOLTAGE UNITS WITH SELF-CONTAINED RELAY.

• FINISHES: MATCH FINISHED SPECIFIED FOR WIRING DEVICES UNLESS NOTED OTHERWISE.

H. ROOM CONTROLLERS

• DESCRIPTION: DIGITAL CONTROLLERS FOR LIGHTING ZONES, FIXTURES AND/OR LOADS. AUTOMATICALLY BIND ROOM LOADS TO THE CONNECTED CONTROL DEVICES IN THE SPACE WITHOUT COMMISSIONING OR THE USE OF ANY TOOLS. PROVIDE CONTROLLERS TO MATCH THE ROOM LIGHTING AND PLUG LOAD CONTROL REQUIREMENTS. CONTROLLERS ARE SIMPLE TO INSTALL, AND DO NOT HAVE DIP SWITCHES/POTENTIOMETERS, OR REQUIRE SPECIAL CONFIGURATION FOR STANDARD PLUS N° 60 APPLICATIONS. CONTROL UNITS INCLUDE THE FEATURES LISTED BELOW.

• AUTOMATIC ROOM CONFIGURATION TO THE MOST ENERGY-EFFICIENT SEQUENCE OF OPERATION BASED UPON THE DEVICES IN THE ROOM.

• SIMPLE REPLACEMENT USING THE DEFAULT AUTOMATIC CONFIGURATION CAPABILITIES, A ROOM CONTROLLER MAY BE REPLACED WITH AN ON-THE-SHELF DEVICE.

• MULTIPLE ROOM CONTROLLERS CONNECTED TOGETHER IN A LOCAL NETWORK MUST AUTOMATICALLY ARBITRATE WITH EACH OTHER, WITHOUT REQUIRING ANY CONFIGURATION OR SETUP, SO THAT INDIVIDUAL LOAD NUMBERS ARE ASSIGNED STARTING WITH LOAD 1 TO A MAXIMUM OF 64, ASSIGNED BASED ON EACH CONTROLLER'S DEVICE ID'S FROM HIGHEST TO LOWEST.

• DEVICE STATUS LEDS TO INDICATE: DATA TRANSMISSION, DEVICE HAS POWER, STATUS FOR

EACH LOAD, AND CONFIGURATION STATUS.

• QUICK INSTALLATION FEATURES INCLUDING: STANDARD JUNCTION BOX MOUNTING, QUICK LOW VOLTAGE CONNECTIONS USING STANDARD RJ-45 PATCH CABLE.

• BASED ON INDIVIDUAL CONFIGURATION, EACH LOAD SHALL BE CAPABLE OF THE FOLLOWING BEHAVIOR ON POWER UP FOLLOWING LOSS OF NORMAL POWER: TURN ON TO 100 PERCENT, TURN OFF, TURN ON TO LAST ON TO 100 PERCENT, TURN OFF, TURN ON TO LAST ON TO 100 PERCENT.

• EACH LOAD TO BE CONFIGURABLE TO OPERATE IN THE FOLLOWING SEQUENCES BASED ON OCCUPANCY: AUTO-ON/AUTO-OFF (FOLLOW ON AND OFF), MANUAL-ON/AUTO-OFF (FOLLOW OFF ONLY).

• BACNET OBJECT INFORMATION SHALL BE AVAILABLE FOR THE FOLLOWING OBJECTS: LOAD STATUS, SCHEDULE STATE, NORMAL OR AFTER-HOURS, DEMAND RESPONSE ENABLE AND DISABLE, ROOM OCCUPANCY STATUS, TOTAL ROOM LIGHTING AND PLUG LOAD WATTS, ELECTRICAL CURRENT, TOTAL WATTS PER CONTROLLER, TOTAL ROOM WATTS/SQ FT., FORCE ON/OFF ALL LOADS.

• UL 2043 PLENUM RATED

• MANUAL OVERRIDE AND LED INDICATION FOR EACH LOAD

• ZERO CROSS CIRCUITRY FOR EACH LOAD

• ALL DIGITAL PARAMETER DATA PROGRAMMED INTO AN INDIVIDUAL ROOM CONTROLLER OR PLUS LOAD CONTROLLER SHALL BE RETAINED IN NON-VOLATILE FLASH MEMORY WITHIN THE CONTROLLER ITSELF. MEMORY SHALL HAVE AN EXPECTED LIFE OF NO LESS THE 10 YEARS.

I. ON/OFF/0-10V DIMMING ROOM CONTROLLERS SHALL INCLUDE:

• DUAL VOLTAGE (120/277 VAC, 60 HZ) CAPABLE OF 347 VAC, 60 HZ. 120/277 VOLT MODELS RATED FOR 20A TOTAL LOAD; 347 VOLT MODELS RATED FOR 15A TOTAL LOAD.

• BUILT IN REAL TIME CURRENT MONITORING.

• ONE, TWO OR THREE RAY CONFIGURATIONS.

• FOUR RJ-45 LOCAL NETWORK PORTS. PROVIDE INTEGRAL STRAIN RELIEF.

• ONE DIMMING OUTPUT PER RELAY. 0-10V DIMMING - WHERE INDICATED, ONE 0-10 VOLT ANALOG OUTPUT PER RELAY FOR CONTROL OF BALLASTS AND LED DRIVERS. THE 0-10 VOLT OUTPUT SHALL AUTOMATICALLY OPEN UPON LOSS OF POWER TO THE ROOM CONTROLLER TO ASSURE FULL LIGHT OUTPUT FROM THE CONTROLLED LIGHTING.

• PROVIDE (2) EXTRA.

J. POWER PACKS FOR LOW VOLTAGE OCCUPANCY SENSORS:

• DESCRIPTION: PLENUM RATED, SELF-CONTAINED LOW VOLTAGE CLASS 2 TRANSFORMER AND RELAY COMPATIBLE WITH SPECIFIED LOW VOLTAGE OCCUPANCY SENSORS FOR SWITCHING OF LINE VOLTAGE LOADS.

• PROVIDE QUANTITY AND CONFIGURATION OF POWER AND SLAVE PACKS WITH ALL ASSOCIATED WIRING AND ACCESSORIES AS REQUIRED TO CONTROL THE LOAD INDICATED ON THE DRAWINGS.

• INPUT SUPPLY VOLTAGE: DUAL RATED FOR 120/277 VAC.

• LOAD RATING: AS REQUIRED TO CONTROL THE LOAD INDICATED ON THE DRAWINGS.

K. ENGAGE MANUFACTURER'S REPRESENTATIVE TO SELECT DEVICES, QUANTITIES, LOCATIONS, AND INTERCONNECTING CABLEING TO ACHIEVE THE CONTROL SEQUENCE SPECIFIED IN THE LIGHTING CONTROL SCHEDULE.

L. COORDINATE LOCATION OF OUTLET BOXES AS REQUIRED FOR INSTALLATION OF LIGHTING CONTROL DEVICES PROVIDED UNDER THIS SECTION.

• MOUNTING HEIGHTS: UNLESS INDICATED OTHERWISE AS FOLLOWS: WALL SWITCH OCCUPANCY SENSORS - 48 INCHES ABOVE FINISHED FLOOR.

• ORIENT OUTLET BOXES FOR VERTICAL INSTALLATION OF LIGHTING CONTROL DEVICES UNLESS OTHERWISE INDICATED.

• LOCATE WALL SWITCH OCCUPANCY SENSORS ON STRIKE SIDE OF DOOR WITH EDGE OF WALL PLATE 3 INCHES FROM EDGE OF DOOR FRAME. WHERE OUTLETS ARE INDICATED OTHERWISE, NOTIFY ARCHITECT TO OBTAIN DIRECTION PRIOR TO PROCEEDING WITH WORK.

M. WIRING:

• COMPLY WITH NECA 1.

• WIRING METHOD - INSTALL CABLES IN RACEWAYS EXCEPT WHERE INSTALLED IN ACCESSIBLE CEILINGS. CONCEAL RACEWAY AND CABLES EXCEPT IN UNFINISHED SPACES. SUPPORT CABLES AT INTERVALS NOT EXCEEDING 30 FEET.

• ROUTE ALL LOW VOLTAGE CABLES SEPARATE FROM LINE-VOLTAGE CONDUCTORS.

• CONDUCTOR/CABLE COORDINATION: VERIFY AND COORDINATE QUANTITY AND CONFIGURATION OF LINE VOLTAGE CONDUCTORS AND/OR LOW VOLTAGE CABLES NEEDED TO INTERCONNECT DIMMING CONTROL DEVICES WITH ASSOCIATED LIGHTING FIXTURES. CONTROL METHOD SHALL MATCH. NOTE THAT DIMMING METHODS MAY REQUIRE DIFFERENT CONDUCTOR/CABLE CONFIGURATIONS BE USED FOR DIFFERENT FIXTURES.

• UNLESS OTHERWISE INDICATED, CONNECT LIGHTING CONTROL DEVICE GROUNDING TERMINAL OR CONDUCTOR TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR AND TO OUTLET BOX WITH BONDING JUMPER.

N. WALL DEVICES:

• PROVIDE JUNCTION BOX IN WALL WITH CONDUIT STUBBED UP ABOVE NEAREST ACCESSIBLE CEILING SPACE.

• WHERE CABLEING IS ROUTED IN INACCESSIBLE LOCATION (ABOVE HAND CEILINGS, WITHIN FLOORS, WITHIN WALLS), PROVIDE CONDUIT ROUTED FROM DEVICE TO NEAREST ACCESSIBLE CEILING SPACE.

O. SENSORS:

• SELECT, INSTALL, AND AIM SENSORS TO ACHIEVE NOT LESS THAN 90 PERCENT COVERAGE OF INSTALLED AREAS. DO NOT EXCEED COVERAGE LIMITED TO THE REQUIREMENTS SPECIFIED AND/OR INDICATED IN THE DRAWINGS.

• ADJUST LOCATION OF SENSORS TO MINIMIZE ACTIVATION OF INTERIOR ROOMS FROM ADJACENT

CORRIDOR ACTIVITY PER MANUFACTURER'S DIRECTION.

• ARRANGE CONTROL ZONES PER PLANS AND DETAILS. INDIVIDUAL ROOMS (DEFINED BY FULL HEIGHT WALL PARTITIONS OF DOORS) SHALL BE CONTROLLED INDEPENDENT OF ADJACENT ROOMS. MULTIPLE OCCUPANCY SENSORS IN THE SAME ROOM OR ZONE SHALL CONTROL ALL LIGHTING FIXTURES ASSOCIATED WITH THAT ROOM OR ZONE. ROOMS OR ZONES SHOWN ON TOILET OR BREAK ROOM CIRCUITS SHALL BE PROVIDED WITH MULTIPLE CONTROL DEVICES TO ACCOMMODATE CONTROL SEQUENCES.

• LOCATION ADJUSTMENTS - LOCATIONS INDICATED ARE DIAGRAMMATIC AND ONLY INTENDED TO INDICATE WHICH ROOMS OR AREAS REQUIRE DEVICES. PROVIDE QUANTITY AND LOCATIONS AS REQUIRED FOR COMPLETE COVERAGE OF RESPECTIVE ROOM OR AREA BASED ON MANUFACTURER'S RECOMMENDATIONS FOR INSTALLED DEVICES.

• LOCATE ULTRASONIC OCCUPANCY SENSORS A MINIMUM OF 4 FEET FROM AIR SUPPLY DUCTS OF OTHER SOURCES OF HEAVY AIR FLOW AND AS PER MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO MINIMIZE FALSE TRIGGERS.

• UNLESS OTHERWISE INDICATED, INSTALL POWER PACKS FOR LIGHTING CONTROL DEVICES ABOVE ACCESSIBLE CEILING OR ABOVE ACCESSIBLE PANEL IN INACCESSIBLE CEILING NEAR THE SENSOR LOCATION.

P. EMERGENCY LIGHTING INTERFACE:

• INSTALL EMERGENCY RELAY ON LIFE SAFETY LIGHTING CIRCUITS INDICATED WITH AUTOMATIC CONTROLS. RELAY SHALL BYPASS AUTOMATIC CONTROLS AND ILLUMINATE LIFE SAFETY LIGHTING CIRCUIT UPON LOSS OF ADJACENT NORMAL BRANCH LIGHTING CIRCUIT SOURCE VOLTAGE. LOCATE IN ASSOCIATED SOURCE ELECTRICAL ROOM WITHIN NEMA 1 ENCLOSURE.

Q. ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO PERFORM START-UP SERVICE.

• COMPLETE INSTALLATION AND START-UP CHECKS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

• TEST EACH BUS CONTROLLER USING A PORTABLE PC.

• ACTIVATE LIGHT FIXTURES AND VERIFY THAT ALL FIXTURES ARE OPERATING AT 100 PERCENT.

• CONFIRM CORRECT COMMUNICATIONS WIRING, INITIATE COMMUNICATIONS BETWEEN DEVICES AND CONTROLLER/GATEWAY, AND PROGRAM THE LIGHTING CONTROL SYSTEM ACCORDING TO APPROVED CONFIGURATION SCHEDULES, TIME-OF-DAY SCHEDULES, AND INPUT OVERRIDE ASSIGNMENTS.

• CORRECT MALFUNCTIONING UNITS ON-SITE, WHERE POSSIBLE, AND RETEST TO DEMONSTRATE COMPLIANCE, OTHERWISE, REPLACE WITH NEW UNITS AND RETEST.

• LIGHTING CONTROLS WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

• PREPARE TEST AND INSPECTION REPORTS, INCLUDING A CERTIFIED REPORT THAT IDENTIFIES BUS CONTROLLERS INCLUDED AND DESCRIBES QUERY RESULTS. INCLUDE NOTATION OF DEFICIENCIES DETECTED, REMEDIAL ACTION TAKE, AND OBSERVATIONS MADE AFTER REDIAL ACTION.

R. TEST AND INSPECTION REPORT:

• PERFORM TESTS/INSPECTIONS AND SUBMIT REPORT PRIOR TO ENGINEER'S FINAL PUNCH INSPECTION.

• REPORT SHALL CONSIST OF ANY DEVELOPED TEST RESULT DATA AND SHALL, AT A MINIMUM, INCLUDE A COPY OF TEST REQUIREMENTS NOTED ABOVE TO ILLUSTRATE CONTRACTOR ACKNOWLEDGEMENT OF TESTS AND INSPECTIONS.

• CONTRACTOR SHALL DEVISE SUCCESSFUL COMPLETION BY INITIATING INDIVIDUAL TEST AND INSPECTION REQUIREMENTS LISTED ABOVE ON THE COPY. INITIALIZING INDICATES THAT TESTS AND INSPECTIONS WERE PERFORMED FOR SPECIFIED WORK WITH A SUCCESSFUL OUTCOME. WORK NOT FOUND TO BE IN COMPLIANCE WAS CORRECTED AND RETESTED/RE-INSPECTED SUCCESSFULLY OR HAS BE SPECIFICALLY CLARIFIED AND NOTED ABOVE BY THE CONTRACTOR.

• UPON COMPLETION OF INITIAL PROGRAMMING, ENGAGE ENGINEER, ARCHITECT, AND OWNER WHILE ON SITE TO CONFIRM TIME AND SCENE CONTROLS/ADJUSTMENTS PRIOR TO FINAL PROGRAMMING. PROVIDE TWO WEEKS NOTICE. TIME MAY BE RATINGS ARE INDICATED OTHERWISE, NOTIFY ARCHITECT TO OBTAIN DIRECTION PRIOR TO PROCEEDING WITH WORK.

S. DEMONSTRATION:

• TRAINING: TRAIN PERSONNEL ON OPERATION, ADJUSTMENT, PROGRAMMING AND MAINTENANCE OF LIGHTING CONTROL DEVICES. USE OPERATION AND MAINTENANCE AS TRAINING REFERENCE SUPPLEMENTED WITH ADDITIONAL TRAINING MATERIALS AS REQUIRED.

18. LIGHTING

A. PROVIDE PRODUCTS THAT COMPLY WITH REQUIREMENTS OF NFPA 70 AND NFPA 101.

B. PROVIDE PRODUCTS LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.

• UNLESS SPECIFICALLY INDICATED TO BE EXCLUDED, PROVIDE ALL REQUIRED CONDUIT, BOXES, WIRING, CONDUIT/CABLE MEASUREMENTS OF SOLID-STATE LIGHTING PROJECTS AND SHALL MEET THE REQUIREMENTS SPECIFIED AND/OR INDICATED ON THE DRAWINGS.

D. PROVIDE PRODUCTS SUITABLE TO WITHSTAND NORMAL HANDLING, INSTALLATION, AND SERVICE WITHOUT ANY DAMAGING, DISTORTION, CORROSION, FADING, DISCOLORING, ETC.

E. PHOTOMETRIC MEASUREMENTS INDICATED ON THE PRODUCT DATA SHALL BE PROVIDED IN ACCORDANCE WITH IESNA LM-79-08 APPROVED METHOD: ELECTRICAL AND PHOTOMETRIC MEASUREMENTS OF SOLID-STATE LIGHTING PROJECTS AND SHALL MEET THE REQUIREMENTS SPECIFIED AND/OR INDICATED ON THE DRAWINGS.

F. LUMEN DATA INDICATED ON THE PRODUCT DATA SHEETS SHALL BE GENERATED IN ACCORDANCE WITH IESNA LM-80-08 APPROVED METHOD FOR MEASURING LUMEN MAINTENANCE OF LED LIGHT SOURCES AND SHALL MEET THE REQUIREMENTS SPECIFIED AND/OR INDICATED ON THE DRAWINGS