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LEGAL DESCRIPTION	
APACHE POINT OBSERVATORY 2001 APACHE POINT ROAD, P.O. BOX 59 SUNSPOT NM 88349 OTERO COUNTY NEW MEXICO	

GENERAL NOTES	
1.	VERIFY LOCATION OF ALL UTILITIES ON SITE.
2.	BUILDING DESIGNED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE AND LOCAL REQUIREMENTS. ALL WORK TO MEET APPLICABLE STANDARDS.
3.	PLANS ARE PROVIDED FOR THE PURPOSE OF NEGOTIATED CONSTRUCTION WITH A SELECTED GENERAL CONTRACTOR AND MAY CONTAIN OMISSIONS AND INCONSISTENCIES. THE CONTRACTOR IS RESPONSIBLE FOR FINDING AND CORRECTING PROBLEMS.
4.	FINISH FLOOR ELEVATION OF THE BUILDING TO BE SET AT 9172.00', WHICH IS RELATIVE TO TOPOGRAPHY SHOWN.
5.	REFER TO SEPARATE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



SITE PLAN
SCALE 1" = 30'-0"

SITE PLAN NOTES	
1.	NEW BUILDING EXPANSION.
2.	EXISTING SIDEWALKS.
3.	RELOCATE SIDEWALK AS SHOWN ON PLAN.
4.	NEW STAIRS SEE SHEET #1 AND #3.
5.	EXISTING BUILDINGS
6.	EXISTING PARKING LOT.

APACHE POINT OBSERVATORY SDSS BLDG EXPANSION

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RESEARCH CONSORTIUM
SUNSPOT
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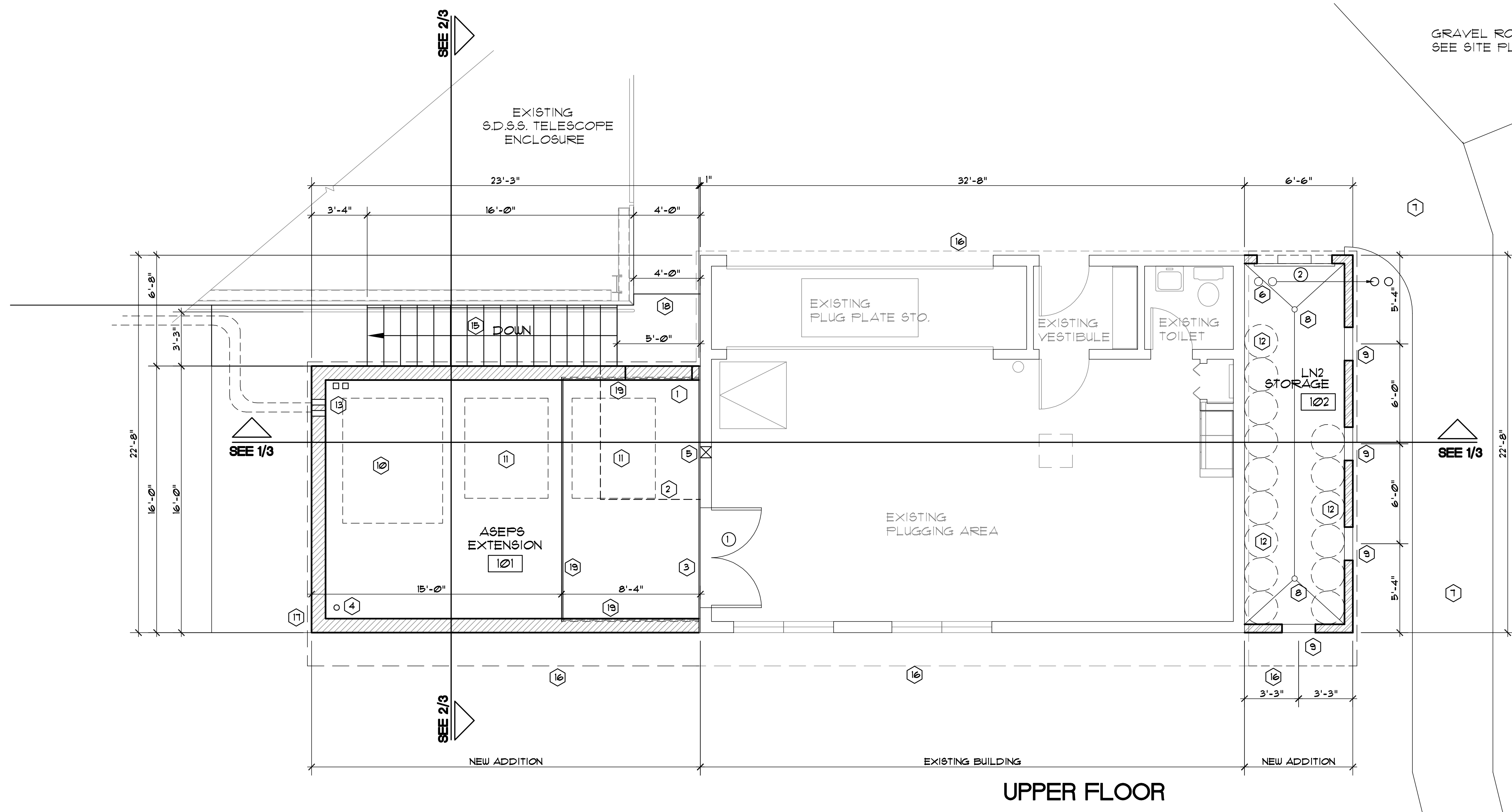
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SHEET

C1

DSS SITE

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- ### FLOOR PLAN NOTES
- FRAME FOR FUTURE DOOR, 4'-0"x1'-0"
 - DEMOLISH EXISTING LN2 STORAGE.
 - WALLS, FLOORS AND CEILING TO BE ISOLATED FROM EXISTING BUILDING WITH 1" CONTROL JOINT. NEW EQUIPMENT CAN NOT VIBRATE.
 - 4" CABLE SWEEP THRU FLOOR/CEILING OF BASEMENT.
 - 8"x8" METAL FEED THRU.
 - EXISTING CLEAN OUTS, RELOCATE TO OUTSIDE OF LN2 STORAGE.
 - REGRADE AND INSTALL NEW CONCRETE WALKWAY.
 - FLOOR DRAIN, SEE MECHANICAL PLANS. SLOPE CONCRETE FLOOR MAX. 0.1" PER FOOT TO DRAIN AS SHOWN ON PLAN.
 - 24"x24" (1) TYP. LOUVERED AIR VENTS, SEE ELEVATION FOR HEIGHTS.
 - LOCATION OF 2000 lb ASTROPHYSICAL RESEARCH INSTRUMENT BY OWNER.
 - LOCATION OF 1600 lb ASTROPHYSICAL RESEARCH INSTRUMENT BY OWNER.
 - LOCATION OF 180 LITER LIQUID NITROGEN CONTAINERS AND HANDLING RACK BY OWNER.
 - (2) 4" CABLE SWEEP THRU FLOOR / WALL.
 - 6'-0" WIDE CONCRETE LANDING.
 - STEEL STAIRS, TO MATCH EXISTING STAIRS ON SITE.
16 RISER @ 6 3/4" AND 15 TREADS @ 12".
 - EXISTING AND NEW ROOFLINE.
 - RELOCATE EXISTING VIDEO CAMERA TO THIS LOCATION.
 - ACCESS TO PULL BOXES TO REMAIN.
 - 1" CONTROL JOINT IN SLAB, SEE ALSO STRUCTURAL PLANS, S-1 AND S-2.
SEPARATE DRYWALL FROM FLOOR WITH JOINT.

- ### WALL LEGEND
- EXISTING WALLS TO REMAIN.
 - 2x10 EXTERIOR WALLS, INSULATE W/ R-30 BATT INSULATION, EXTERIOR 1/2" WAFER BOARD AND STO STUCCO SYSTEM OR EQUAL, INTERIOR 3/8" GYP. BD., TAPE, SMOOTH TEXTURE, PAINT, COLORS TO MATCH EXISTING.
 - 8" CMU WALL OR POURED IN PLACE CONCRETE WALL, SEE STRUCTURAL PLANS FOR DETAILS. EXTERIOR, STO STUCCO SYSTEM OR EQUAL, COLORS TO MATCH EXISTING.
 - NEW 2x6 STUD WALL TO BOTTOM OF ROOF, EXTERIOR 1/2" WAFER BOARD AND STO STUCCO SYSTEM OR EQUAL, INTERIOR 1/2" PLYWOOD, PAINT WHITE, COLOR TO MATCH EXISTING.
 - NEW 2x4 STUD WALL IN FRONT OF CONCRETE WALL, INSULATE WITH R-30 HIGH DENSITY FOAM INSULATION, (2) 2.5" GEN FLEX TAPERED ISO OR EQUAL, 3/8" GYP. BD., TAPE, SMOOTH TEXTURE, PAINT WHITE, COLORS TO MATCH EXISTING.

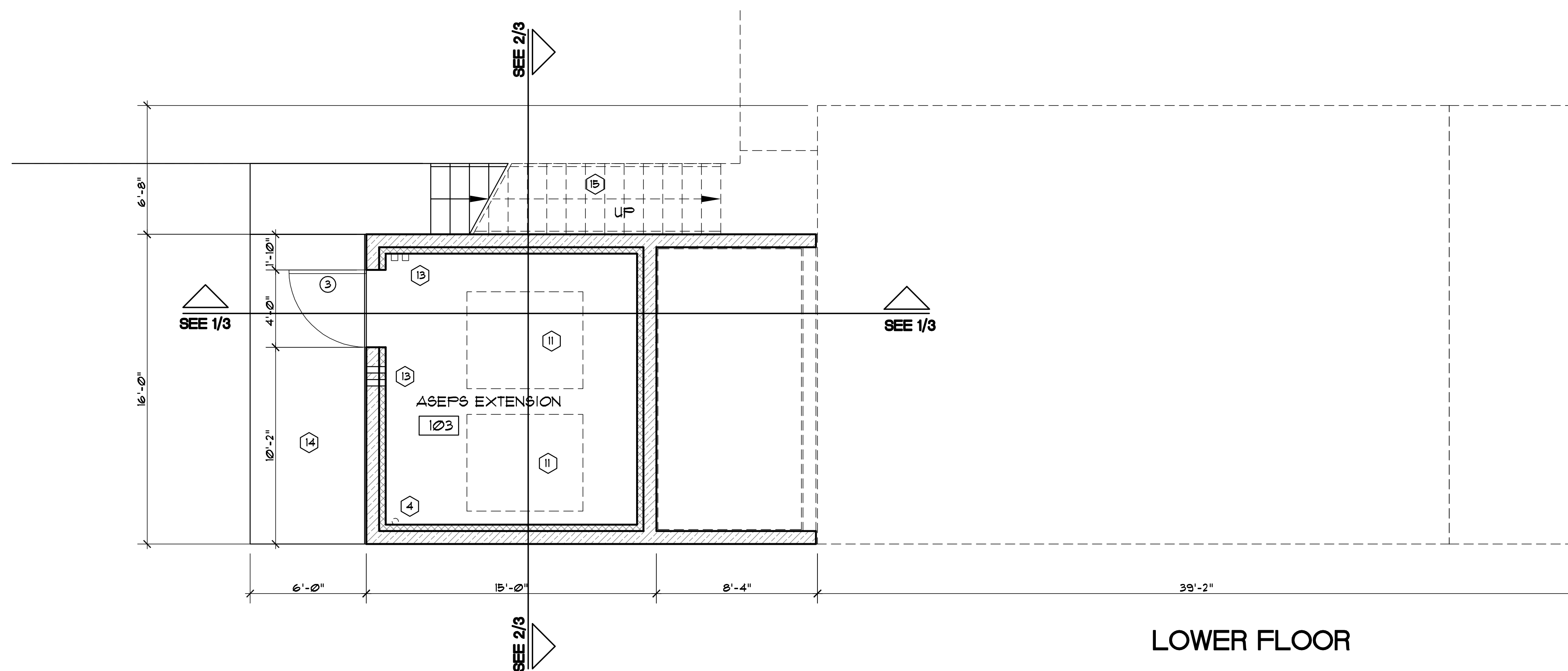
- ### GENERAL NOTES
- VERIFY LOCATION OF ALL UTILITIES ON SITE.
 - BUILDING DESIGNED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE AND OTERO COUNTY REQUIREMENTS, ALL WORK TO MEET APPLICABLE STANDARDS.
 - PLANS ARE PROVIDED FOR THE PURPOSE OF NEGOTIATED CONSTRUCTION WITH A SELECTED GENERAL CONTRACTOR AND MAY CONTAIN OMISSIONS AND INCONSISTENCIES. THE CONTRACTOR IS RESPONSIBLE FOR FINDING AND CORRECTING PROBLEMS.
 - VERIFY ALL DIMENSIONS OF EXISTING BUILDING ON SITE. ALL DIMENSIONS SHOWN ON PLAN, NEW TO EXISTING, HAVE TO BE VERIFIED. THE ARCHITECT SHALL BE NOTIFIED IF THERE ARE LARGE DISCREPANCIES BETWEEN EXISTING AND DRAWINGS.
 - DIMENSIONS SHOWN ARE TO THE FACE OF STUDS NOT FINISH.

BLDG. CODE ANALYSIS

OCCUPANCY CLASSIFICATION:	S-2
GROSS BUILDING AREA:	716 sqft
S-2 =	716 sqft x 1/300 = 2.4
APPROX. OCCUPANT LOAD =	2
TYPE OF CONSTRUCTION:	TYPE VB
MAX. ALLOWABLE AREA:	13,500 sqft
MINIMUM EGRESS REQUIRED	1

PLUMBING FIXTURE

EXPANSION IS OF EQUIPMENT ROOMS ONLY, THEREFORE THEY ARE NOT REQUIRED TO BE ACCESSIBLE, SEE IBC 1102.2.5. EXISTING BATHROOM, WITH ONE WATER CLOSET AND SINK IS ADEQUATE.
--



DOOR SCHEDULE

NO.	TYPE	DOOR		THK.	FRAME		HOUR. NO.	COMMENTS
		SIZE	MAT.		MAT.	THK.		
1	-	FR 3'-0" x 1'-0"	METAL/INSULATED	1 3/4"	MT	6 1/8"	1	FIT TO EXISTING WALL
2	-	4'-6" x 1'-0"	METAL	N/A	MT	6 1/8"	2	ROLLUP DOOR
3	-	4'-0" x 1'-0"	METAL/INSULATED	1 3/4"	MT	10 1/8"	3	EXTERIOR

HARDWARE GROUPS

- PRIVACY LATCH LOCK, 3 HEAVY DUTY HINGES, SURFACE BOLT, AUTOMATIC CLOSER, NO THRESHOLD
- OVERHEAD DOOR HARDWARE, ELECTRIC W/ OUTSIDE MANUAL OVERRIDE.
- UNICAN 5 BOTTOM COMBINATION W/ KEY BYPASS, 3 HEAVY DUTY HINGES, FLUSH BOLT, THRESHOLD, WEATHERSTRIP

ROOM/FINISH SCHEDULE

NUMBER	NAME	FLOOR	CEILING	WALLS	BASE
101	ASEPS EXTENSION 1	1	3	6	7
102	LN2 STORAGE	2	4	5	-
103	ASEPS EXTENSION 2	1	3	6	7

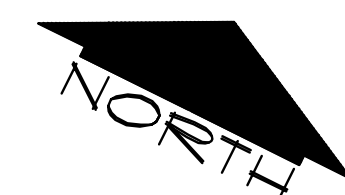
NOTE	DESCRIPTION
1	CONCRETE SMOOTH SURFACE, PAINT LIGHT GREY AND SEAL.
2	CONCRETE W/ TRACTION GRIP SURFACE, SEALED.
3	5/8" GYPSUM BOARD - TEXTURE SMOOTH DUST FREE PAINT WHITE.
4	NO CEILING, EXPOSED BEAMS.
5	1/2" PLYWOOD PAINTED WHITE (EXTERIOR PAINT).
6	5/8" GYPSUM BOARD - TEXTURE SMOOTH DUST FREE PAINT WHITE.
7	VINYL BASE

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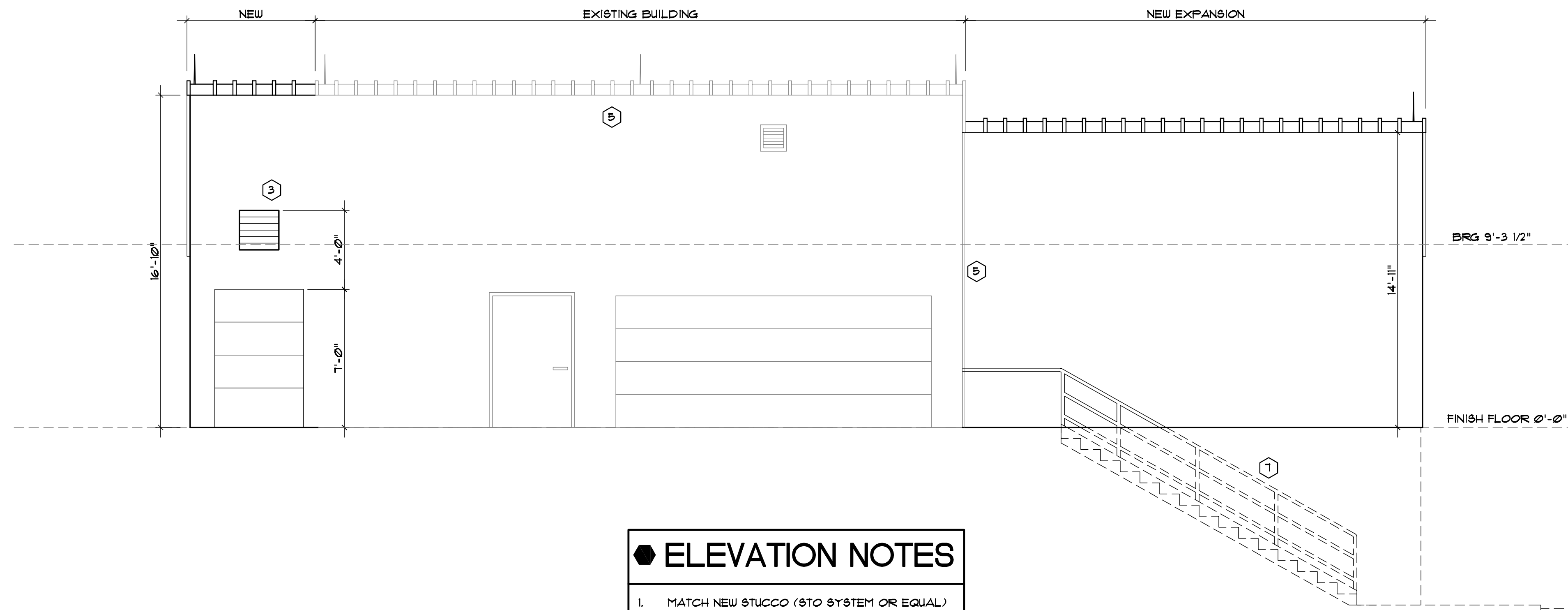
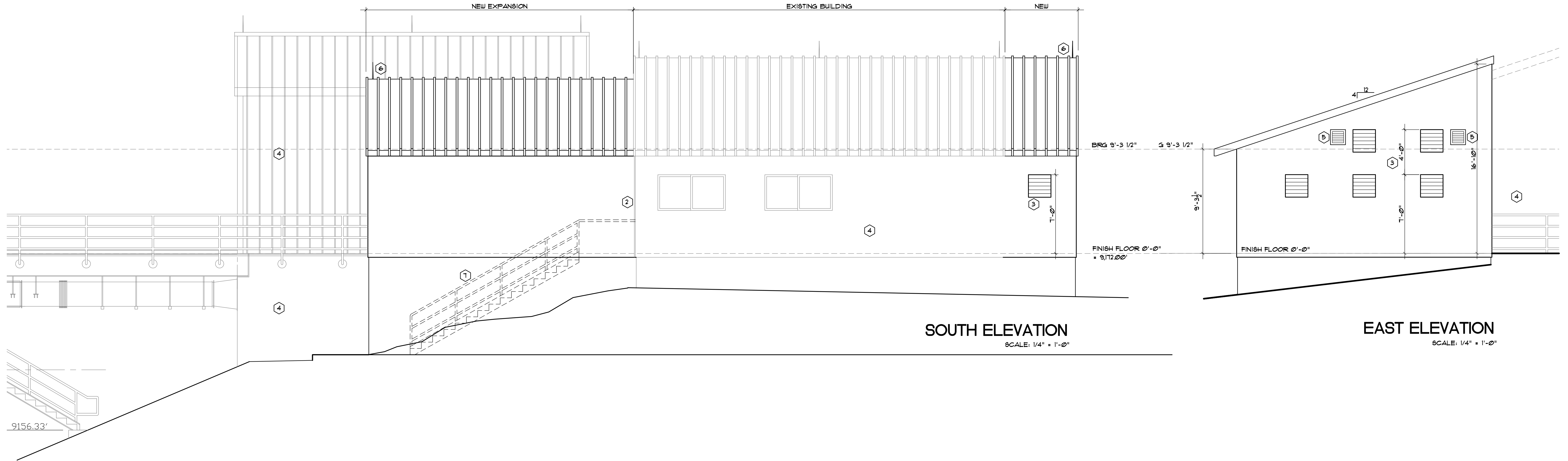
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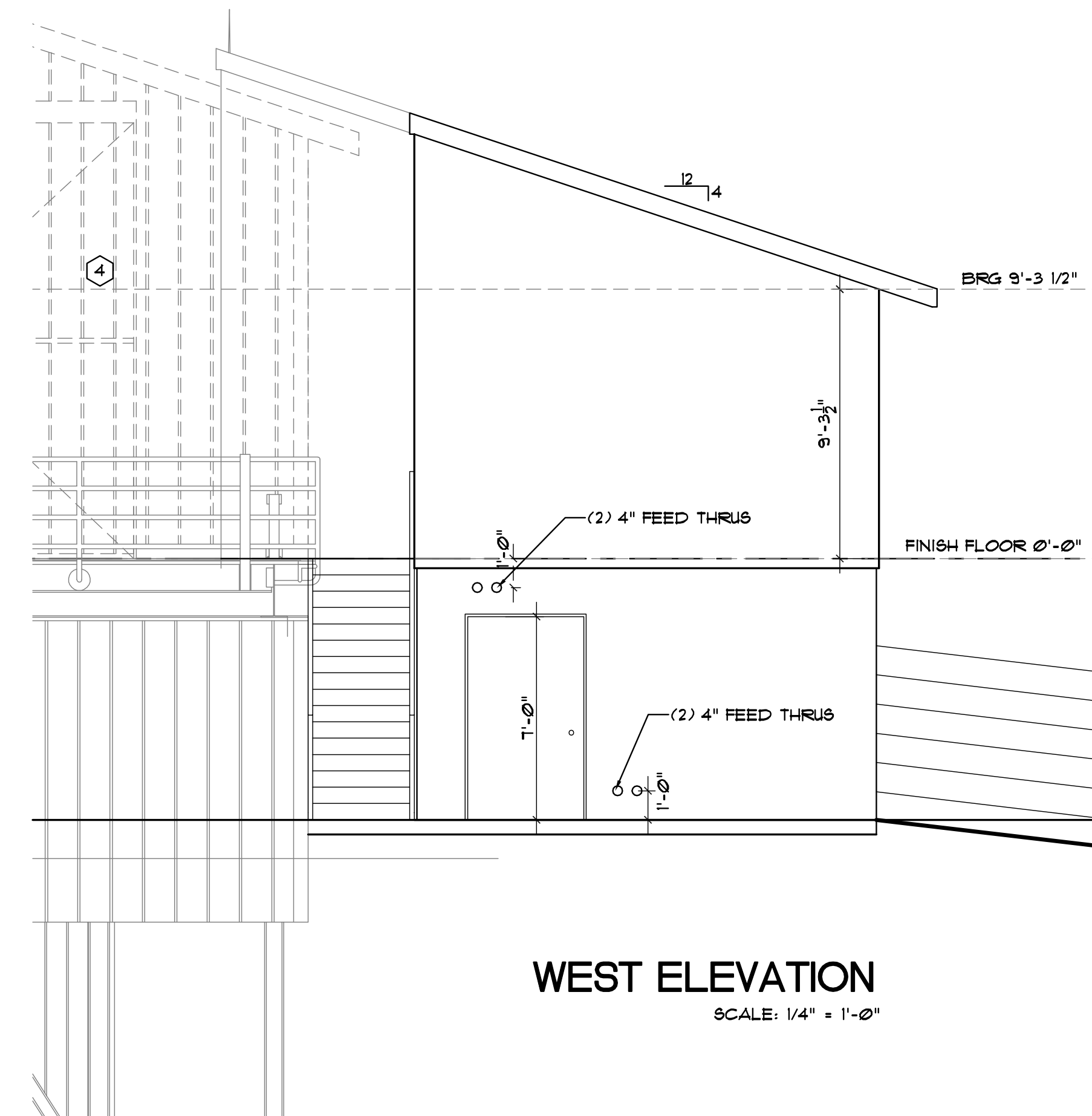


FLOOR PLAN

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



- ELEVATION NOTES**
1. MATCH NEW STUCCO (STO SYSTEM OR EQUAL) WITH EXISTING IN TEXTURE AND COLOR. PAINT EXISTING AND NEW BUILDING.
 2. 1" CONTROL JOINT, ISOLATE NEW EXPANSION FROM EXISTING BUILDING. NO VIBRATION TRANSFER.
 3. NEW 24"x24" LOUVERED AIR VENTS.
 4. EXISTING BUILDING
 5. RELOCATE EXISTING REGISTER FOR DUCTWORK TO THIS LOCATION.
 6. INSTALL NEW LIGHTING ROD W/ ADEQUATE GROUND SEE SHEET E2.
 7. NEW STEEL STAIRS WITH GUARDRAIL.

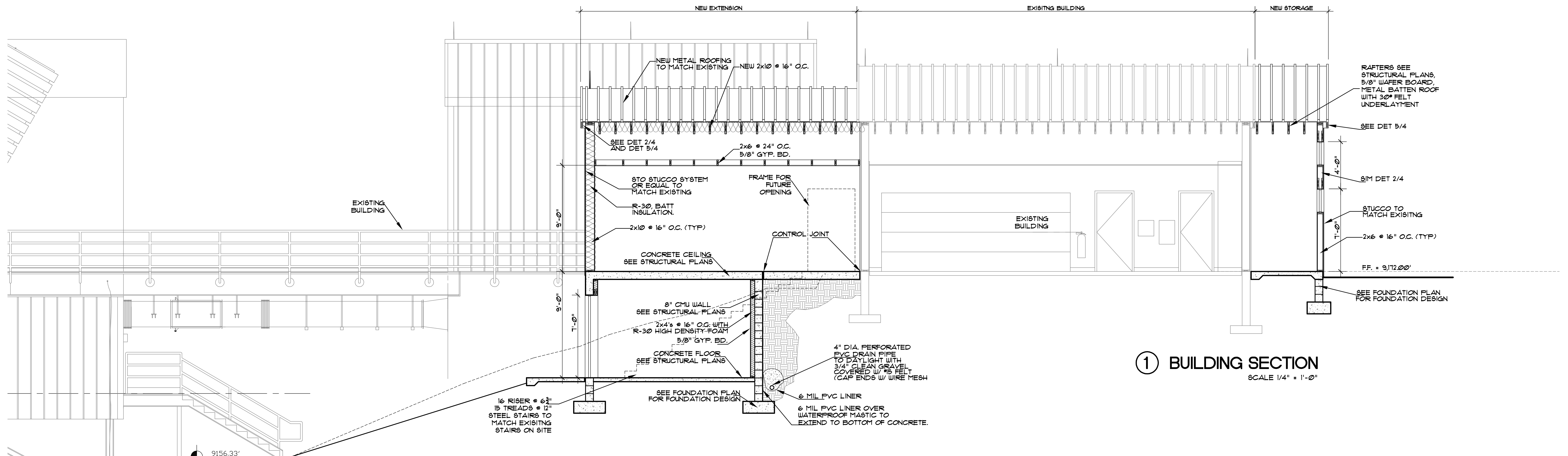


APACHE POINT OBSERVATORY SOSS BLDG EXPANSION

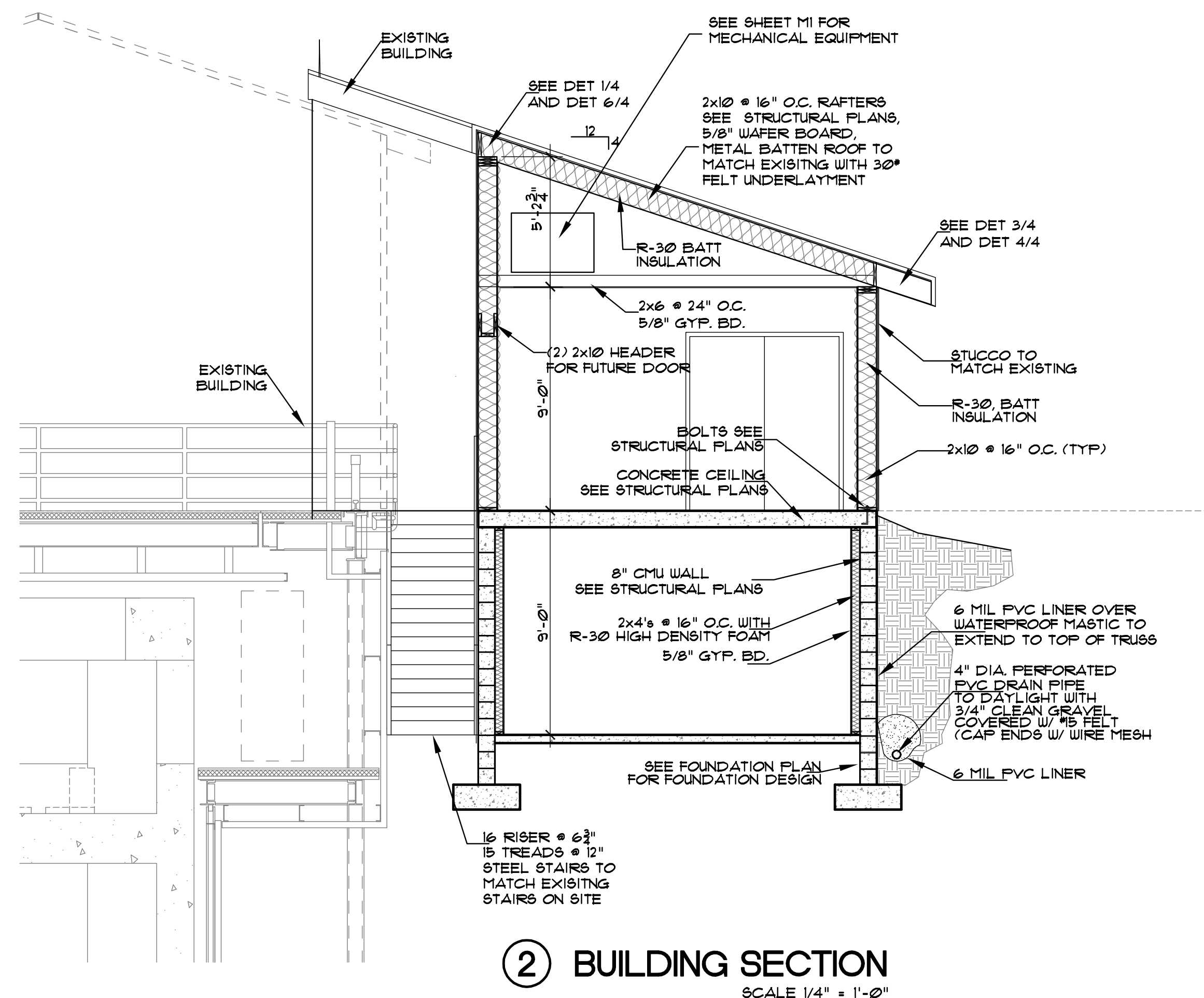
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① BUILDING SECTION
SCALE 1/4" = 1'-0"

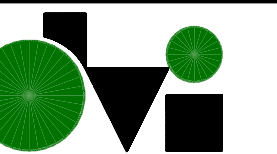


② BUILDING SECTION
SCALE 1/4" = 1'-0"

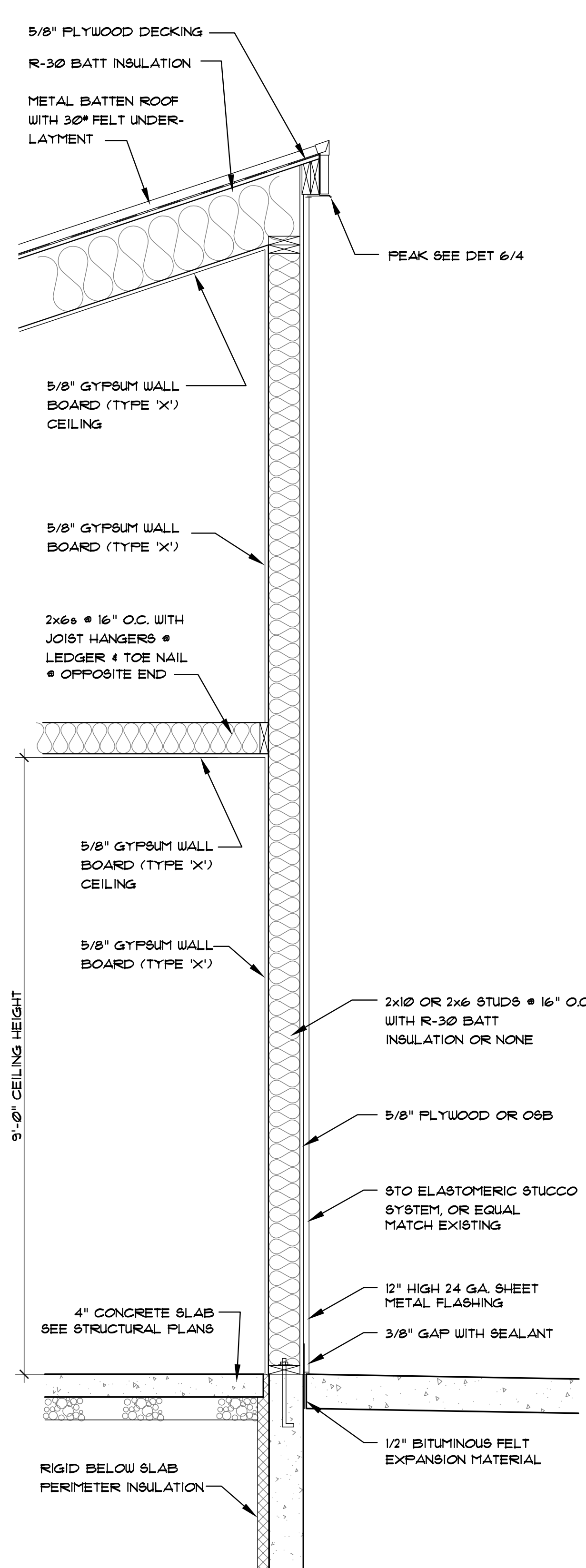
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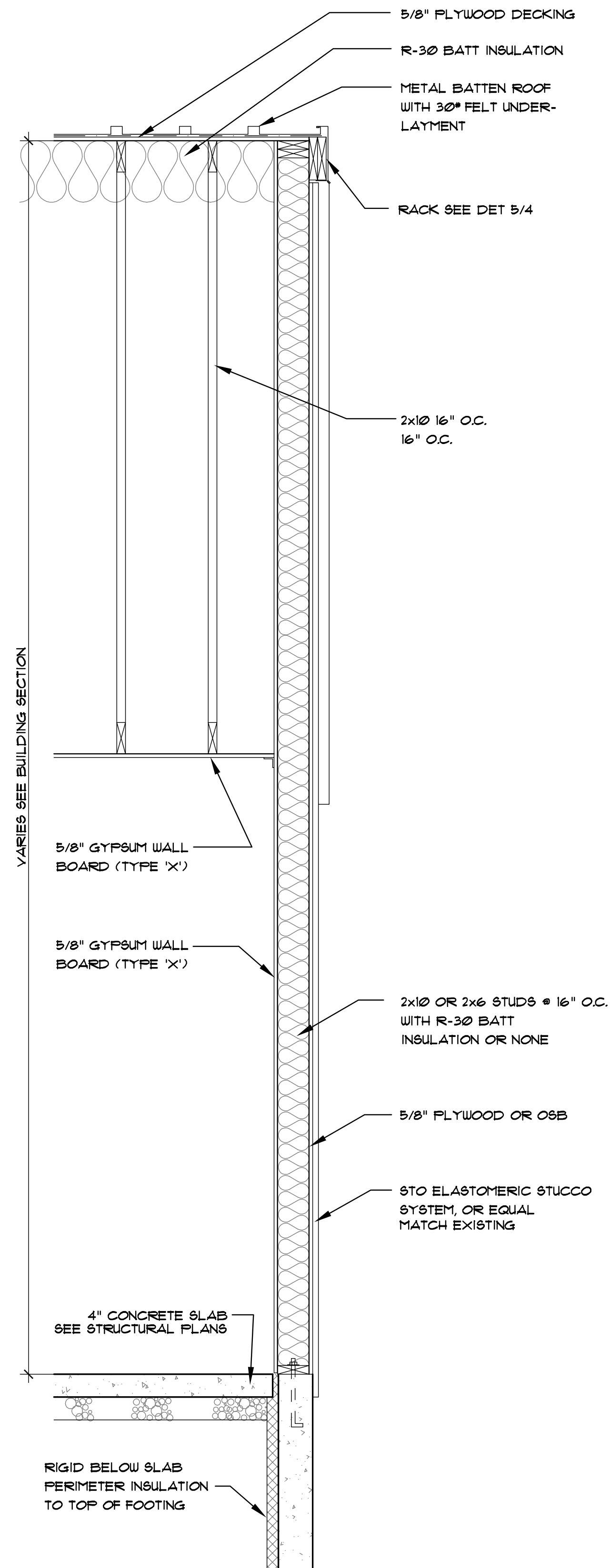
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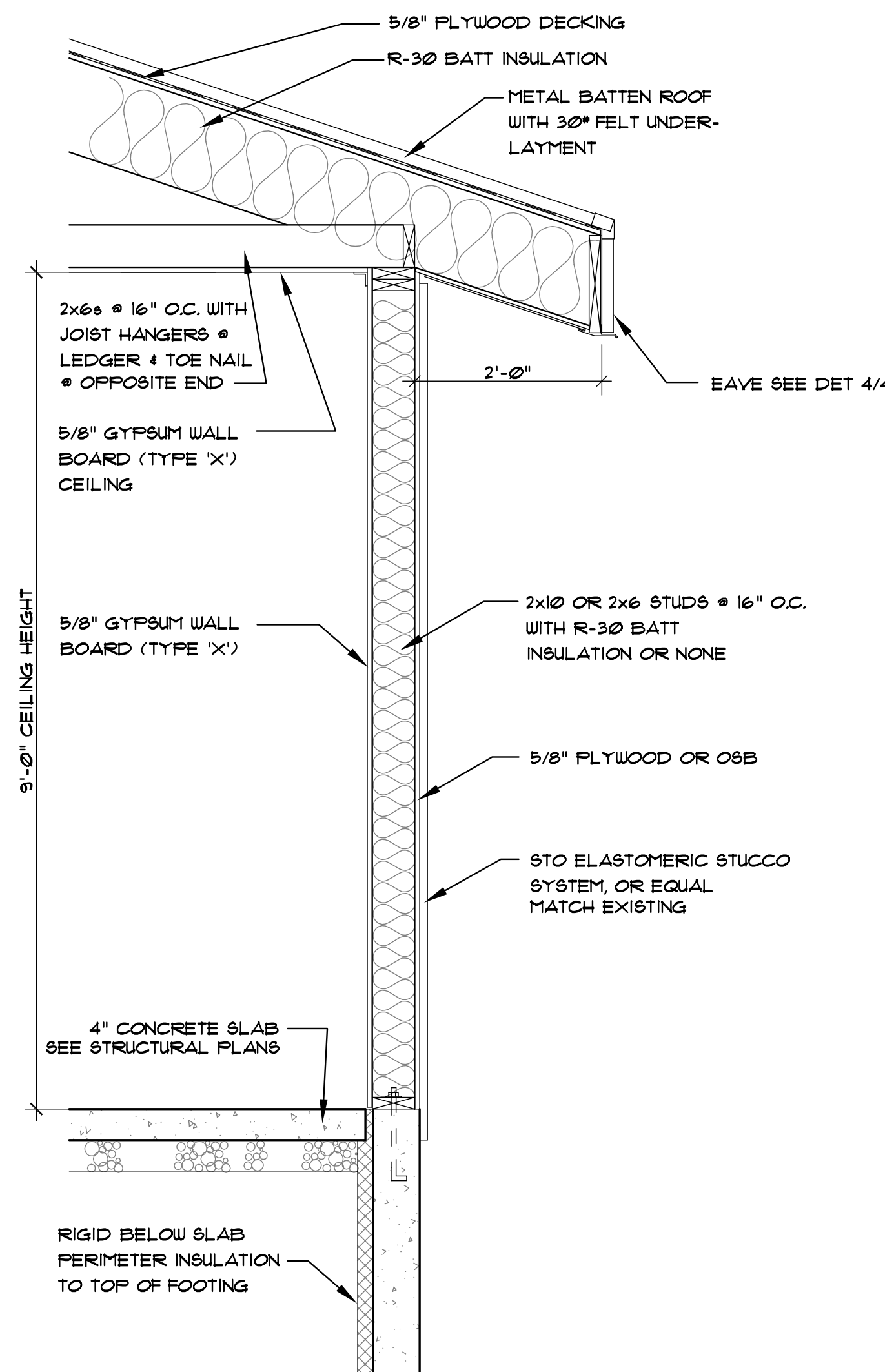
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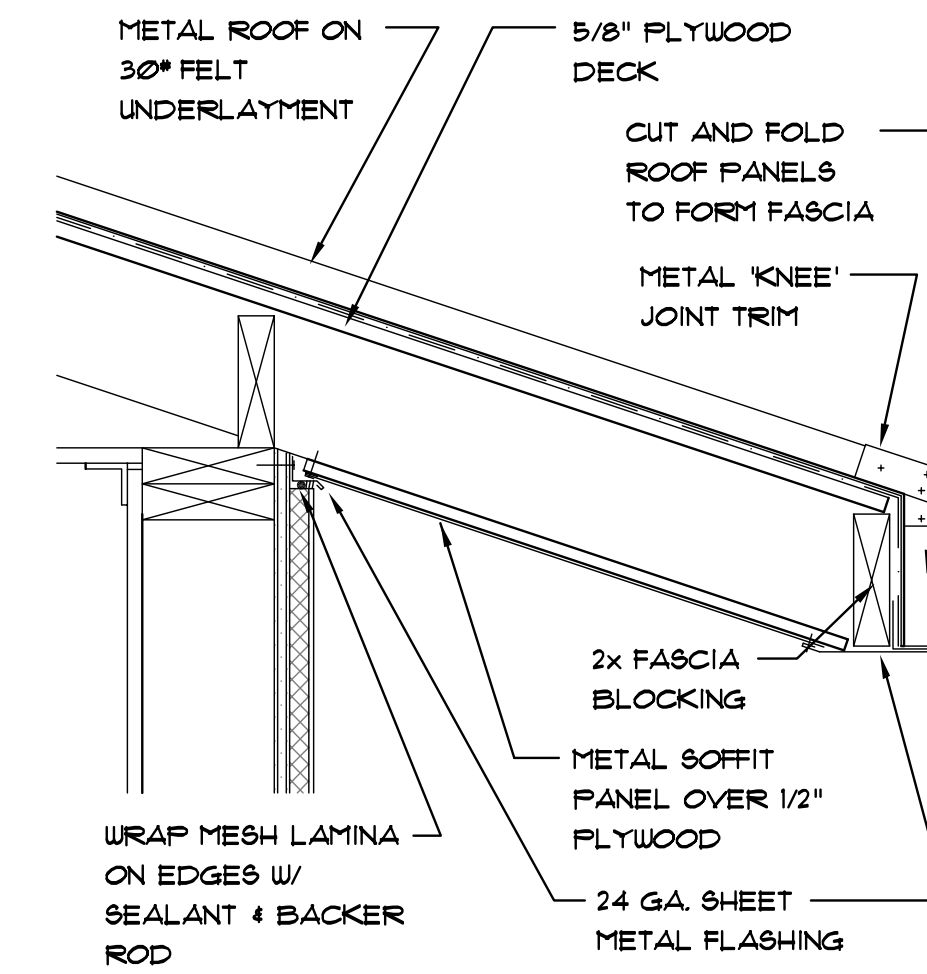
① EXTERIOR WALL SECTION
SCALE: 3/4" = 1'-0"



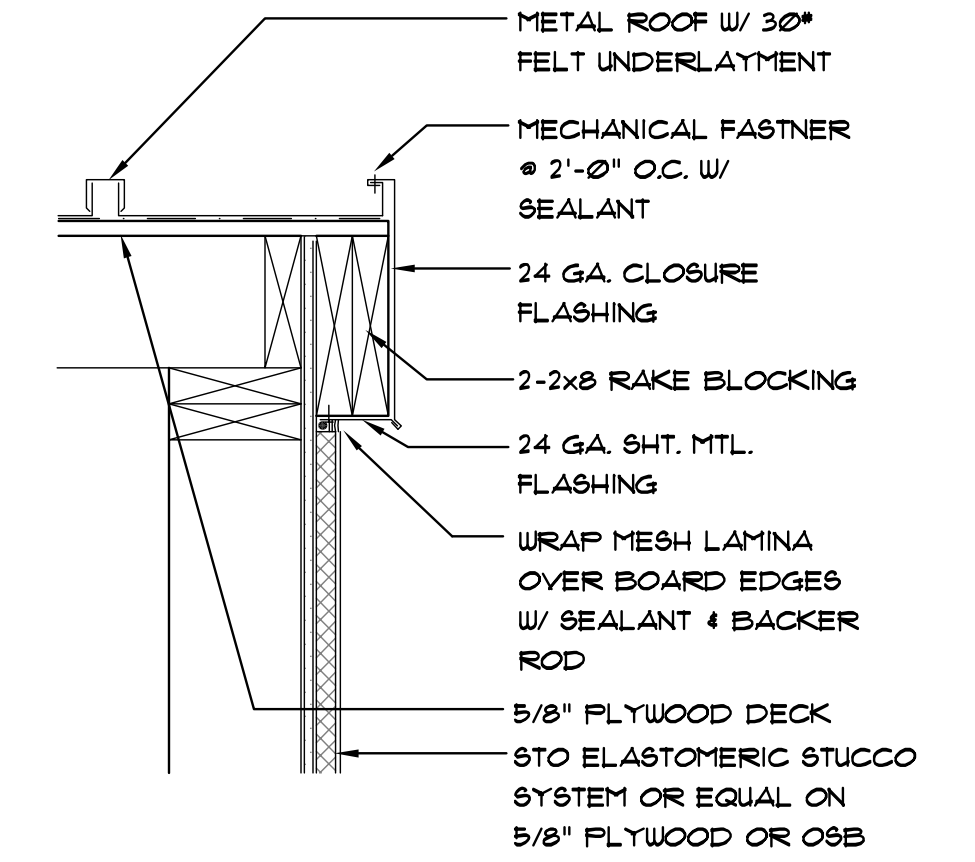
② EXTERIOR WALL SECTION
SCALE: 3/4" = 1'-0"



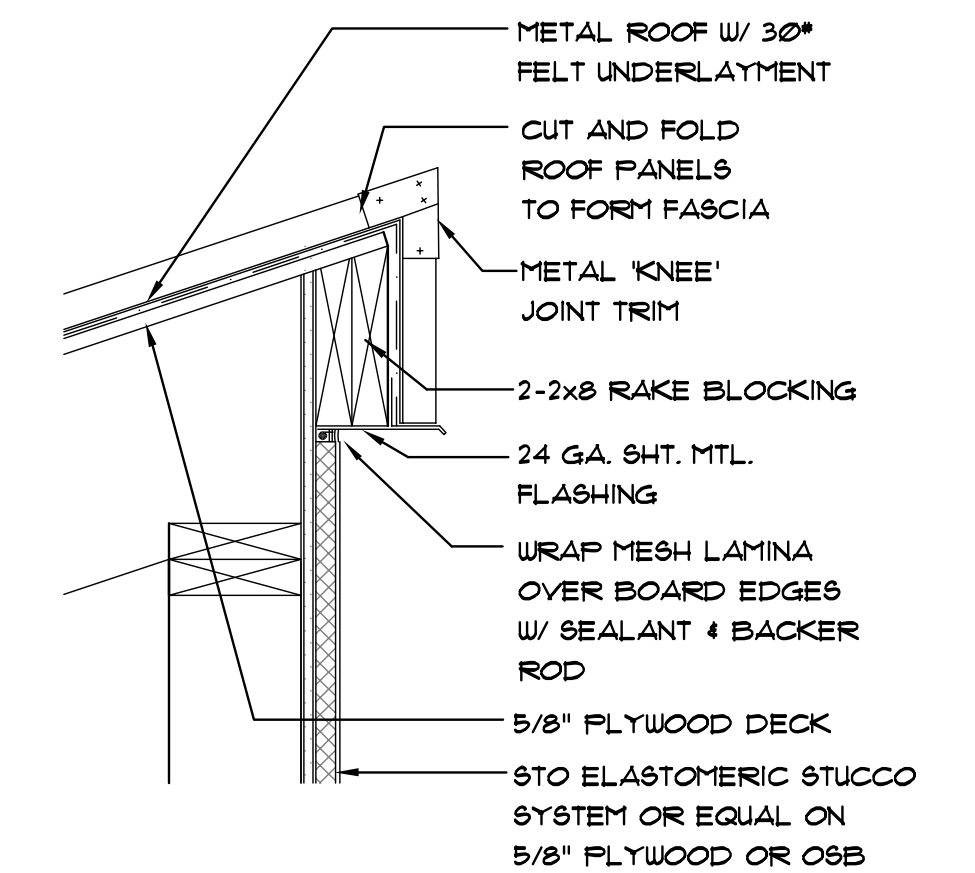
③ EXTERIOR WALL SECTION
SCALE: 3/4" = 1'-0"



④ EAVE DETAIL
SCALE: 1" 1/2 = 1'-0"



⑤ RAKE DETAIL
SCALE: 1" 1/2 = 1'-0"

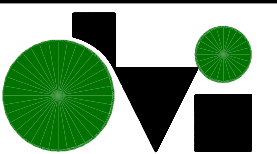


⑥ PEAK DETAIL
SCALE: 1" 1/2 = 1'-0"

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WALL SECTION AND DETAILS

DIVISION 1 SPECIFICATIONS

GENERE**LL**
Contractor shall provide all labor m material, and equipment for a complete Project.
Contractor shall pay all fees and taxes including, but not limited to permits, inspections, testing, utility connection and development charges, and gross receipts tax.
Contractor shall provide and pay for all temporary facilities including, but not limited t utilities, fencing,protective barricades, toilets, and storage or office trailers.
All work shall conform to the latest adopted editions of regulating codes.

DIVISION 2 SPECIFICATIONS

SEE STRUCTURAL PLANS SHEET S-1.

DIVISION 3 SPECIFICATIONS

SEE STRUCTURAL PLANS SHEET S-1.

DIVISION 4 SPECIFICATIONS

SEE STRUCTURAL PLANS SHEET S-1.

DIVISION 6 SPECIFICATIONS

MILLWORK

MATERIALS

Wall base shall be Vinyl, color by owner.

PROCEDURES

Field dimensions shall be taken before commencing work.

All doors and their frames shall be set true, plumb, level and in strict accordance with the manufacture's directions.

All millwork shall be carefully fitted, securely fastened, and first class in every way.

Mitered joints are required in all casings and running trim. All trim not terminating at an inside corner including window stools and aprons shall have mitered returns to wall. No butt cuts shall be acceptable.

DIVISION 7 SPECIFICATIONS

INSULATION

MATERIALS

Perimeter insulation shall be 1" thick (as noted on the drawings).
High Density "Styrofoam SM" as manufactured by Dow Chemical Co. or equal.

Batt insulation in all exterior walls shall be 9-1/2" thick, R-30, Kraft faced with stapling flanges "Fiberglass" as manufactured by Owens-Corning Fiberglass Corp. or equal.

Batt insulation in all ceilings, as indicated, shall be R-30,

R-30 high density foam insulation (2) 2.5" Gen flex tapered ISO ore equal.

Sill sealer shall be 4" wide x 1/2" thick "Fiberglass" or equal.

PROCEDURES

Mud sill shall be set on sill sealer.

Care shall be taken to chink spaces around doors, windows, and other penetrations full of fiberglass fibers and/or fill with urethane foam sealer.

All Insulation shall be installed in accordance with manufacturer's recommendations.

FLASHING AND SHEET METAL

MATERIALS

All roof flashing, counter flashings, scupper and cap flashings shall be 24ga. Galvanized sheet metal.

Valley flashing shall be 24ga. Galvanized sheet metal with center crimp.

Through-wall flashings exposed to weather and at steel lintels shall be 26ga. Galvanized sheet metal as indicated.

Furnish and install all ducts, vents, and weather caps as required for the following appliances and equipment in strict accordance with manufacturer's directions and local, state and national codes:

- * Plumbing vents as required.
- * Toilet exhaust fans as required.
- * Dryer vents.
- * All batt insulation in ceilings shall be installed above all ducts.

PROCEDURES

All materials and workmanship shall be in strict accordance with recommendations of the Sheet Metal Contractor's National Association, Inc., as set forth in the current edition of Standard Practices in Sheet Metal Work, Manuals #1 and #2.

Fabrication, in so far as possible, shall be done in the shop for field installations.

The Contractor shall take and verify all dimensions at the job site, and shall be responsible for the accurate fitting of all work included in this Section.

DIVISION 7 SPECIFICATIONS (CON'D)

SEALANTS

MATERIALS

Sealant shall be acrylic conforming to the requirements of Fed. Spec. TT-S-230, Type II equal to Ohio Sealants, Inc. One-Part Acrylic Sealant Color shall be selected by Owner.

Back-up material shall be closed cell, compressible, non-staining and non-rotting material such as polystyrene, neoprene sponge, or butyl sponge.

PROCEDURES

All joints shall be properly prepared, cleaned, dried, and backed prior to sealant applications.

Sealant shall be applied in a neat and careful manner in strict accordance with the manufacturer's recommendations.

Excess sealant that is allowed to run over the work of other trades shall be removed and surfaces repaired by the Contractor.

ROOFING

Roofing shall be 30# Felt and Berridge Batten seam roof Panels:
Kynar 500-coated, roll- formed panels of 24-gage "galvalume" steel sheets designed for mechanical attachment using a concealed batten clip 16" O.C. Color and design to match existing.

DIVISION 8 SPECIFICATIONS

DOORS & FRAMES

MATERIALS

All exterior / interior doors shall be commercial insulated steel doors. Windsor Republic doors or equal.
Exterior: extra heavy duty min. 16 gage, insulate with polystyrene.
Interior: heavy duty min. 18 gage, insulate with polystyrene.

Aluminum threshold and vinyl bottom sweep.

PROCEDURES

Refer to the drawings for size of opening, and the Contractor shall furnish all anchor clips, clip angles, bracing reinforcements, silencers, and other accessories indicated and required for complete and first class installations.

Steel doors shall be fabricated from electro-galvanized steel in accordance with manufacturer's normal standards and accepted industry practice.

All frames shall be finished with one coat of baked on prime coat or rust resistance paint. colors to match existing.

Frames and doors shall be handled with care to prevent damage. The Contractor shall remove all rust spots with steel wool, and spot paint all abrasions with paint to match prime coat finish.

All doors and their frames shall be set true, plumb, level and in strict accordance with the manufacturer's directions.

PROCEDURES

Hardware schedule (4 copies) shall be furnished to the Architect for approval.

Each item of hardware shall be packaged separately in an individual container complete with screws, keys, special wrenches, instructions and installation templates necessary for accurately locating and setting, the number of openings to which the hardware item is to be applied.

Unless otherwise directed, hardware shall be mounted as follows:

- * Hinges - Top hinge 9-3/4" from finish door frame. Bottom Hinge - 10-3/8" from finish floor. Middle Hinge - Equidistant from top and bottom.
- * Center line of lock and strike - centered in lock rail of door.
- * Center line of deadlock and strike - 60" from finish floor.

* Closers - installed in accordance with manufacturer recommendations and template information.

Doors:

- Group 1: Privacy latch lock, 3 heavy duty hinges, automatic closer, no Threshold.
- Group 2: Overhead door hardware, electric w/ outside override.
- Group 3: unican 5 button combination w/ key bypass, 3 heavy duty hinges, flush bolt, threshold, weatherstrip.

All thresholds & hardware shall meet ADA requirements for accessibility.

DIVISION 9 SPECIFICATIONS

GYPSUM WALLBOARD

MATERIALS

5/8" water resistant gypsum wallboard shall be "USG Sheetrock W/R" or equal.

5/8" fire rated TypeX gypsum wallboard shall be "USG Sheetrock Brand Firecode C" or equal.

1/2" gypsum wallboard shall be "USG Sheetrock " or equal.

Joint treatment shall be "USG Perf-A-Tape" reinforced with "Durabond" joint compound or equal, sanded smooth.

Provide USG 200 Series steel casing where gypsum wallboard abutts dissimilar material. Expansion joints as recommended by the manufacturer.

PROCEDURES

Rated walls shall have gypsum board products installed, fastened and finished in accordance with assembly information detailed on the drawings.

Bathroom and Utility Room walls not otherwise required to be one of the above assemblies shall be "WR" water-resistant rated gypsum board.

DIVISION 9 SPECIFICATIONS (CON'D)

Provide metal casing beads at all gypsum wallboard terminations.
Provide metal corner beads at all exterior corners.

All gypsum board surfaces shall be left clean and true to receive paint without further sanding.

All metal and gypsum wallboard materials shall be of the type indicated or required, and the standard products of Georgia-Pacific Corp., Milcor, National Gypsum Co., Penn Metal, U.S. Gypsum Co., or other approved manufacturers.

GYPSUM WALLBOARD

All construction systems and installation procedures for the work required under this Section shall conform to the current recommendations of the material's manufacturer and to the applicable requirements of governing codes, for the particular work.

Debris shall not be allowed to accumulate, and shall be removed at the end of each day's work. At completion of work in each area, the contractor shall remove all excess material, debris and equipment from the completed area, and upon final completion, he shall remove all such items from the entire premises.

All walls and ceilings to receive paint shall be "smooth" finish.

PAINTING

MATERIALS

Exterior work shall be as follows:

- * Exterior galvanized sheet metal and steel tubing: One coat metal etch and primer. Two coats metal paint. Color to be selected by Owner.

Interior work shall be as follows:

- * Gypsum wallboard and wallboard ceiling:
Paint shall be Sherwin Williams everclean, applied with primer coat and one through finish. Low sheen enamel for all surfaces. colors to be selected by Owners.

MATERIALS

All paint, stain and varnish shall be products of Kwal Howells or approved equal.

All material shall be delivered to the job site in the original, unopened labeled containers. Colors will be selected by Owners.

PROCEDURES

Unless otherwise specified, field painting work of all surfaces shall be covered with at least two coats of paint.

Where one thorough top coat has been specified, that one coat shall be applied to completely and fully cover the surface. Surfaces which do not have uniform color and sheen shall be repainted.

The contractor shall carefully examine all surfaces before application of any paint or stain and report all defects to the General Contractor for correction. After accepting surfaces and starting the painting, the Painting Contractor shall be held responsible for final results.

All surfaces of every kind shall be bone dry, clean, free from dust, dirt, oil, grease, rust and stain at the time paint or sizing is applied.

All minor scratches, cracks and rough spots in gypsum board surfaces shall be filled with spackling compound and sanded smooth and sealed before application of prime coat.

All painting work shall be done by skilled mechanics in a first-class manner, and in strict accordance with the current recommendations of the supplier of the material used.

All paint shall be brushed, sprayed or rolled in even, thorough coats without runs, sags, skips or other blemishes.

Each coat shall be bone-dry prior to application of next coat.

Undercoats of paint shall be colored or tinted to reasonably match the finish coat color.

All joints in wood work, casings and running trim, including juncture trim with adjacent wallboard, shall be neatly filled with latex painter's caulk prior to beginning paint application.

Paint all exposed surfaces of all items to receive paint including tops and bottoms of all doors, tops of all casings and inside all surfaces of all closets.

FLOOR COVERINGS

MATERIALS

Concrete floor to be smooth surface, paint light grey and seal.

All workmanship and material shall conform to best-accepted practices. Any defective workmanship which occurs within one year of the completion date must be corrected at the expense of the Contractor.

STUCCO FINISH SYSTEM

Stucco shall be two-coat system with fiber reinforced scratch/brown coat and elastomeric acrylic finish, by EL REY Stucco (perma-flex) or STO mfg (STO-FLEX) with associated accessories including stucco stop, control joints and drips.

Stucco texture and color to match existing.

DIVISION 16 SPECIFICATIONS

SEE SHEET E1 AND E2

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D3616PEC

SPECIFICATIONS



1. ALL CONCRETE, HOLLOW CORE, AND BLOCK SHALL CONFORM TO ASTM C-90, GRADE N, TYPE I. ALL SOLID NON-BEARING BLOCK SHALL BE SPLIT FACE BLOCK COMPLYING WITH ASTM C-90, GRADE N, TYPE I. COLOR SHALL BE SELECTED BY THE ARCHITECT. ALL CONCRETE SHALL BE PLACED AND FINISHED TO CONFORM TO ASTM C-145. BLOCK TYPE ON THIS PROJECT IS C-8."
2. GROUT USED TO FILL JOINTS, CELLS SHALL CONFORM TO THAT SPECIFIED ABOVE AND SLUMP USING STANDARD TEST METHOD. JOINTS AND CELLS SHALL BE CAREFULLY MAINTAINED DURING PLACEMENT. WET CELLS BEFORE PLACEMENT AND PROVIDE CLEANOUT FOR EACH CELL TO BE GROUTED AND AT ALL TIMES KEEP JOINTS AND CELLS OPEN TO ALLOW PROPER FLOW OF GROUT.
3. ALL MORTAR, ROCK WALLS AND STANDARD MASONRY, SHALL CONFORM TO ASTM C-270, TYPE S.
4. ALL HORIZONTAL JOINT PLACEMENT, UNLESS OTHERWISE SHOWN ON THE DRAWINGS, SHALL BE SIMILAR TO THE VERTICAL JOINT PLACEMENT. JOINT PLACEMENT SHALL BE AT 8" O.C. ABOVE AND 8" O.C. BELOW SPECIFICATION QQ-W-461. HORIZONTAL SPACING SHALL BE AT 16" O.C. ABOVE GRADE AND 8" O.C. BELOW GRADE UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
5. ALL CONSTRUCTION OF EXPANSION JOINTS, DOOR JAMBS AND WINDOW JAMBS SHALL HAVE AT LEAST ONE #5 BAR ADDED OR GROUTED SOLID ON EITHER SIDE OF THE JOINT OR OPENING. ALL MASONRY WALLS BELOW GRADE SHALL HAVE BOND BEAMS AT 4' O.C. OR LESS; INSTALL A BOND BEAM AT 4' O.C. OR LESS FOR GRADE OR ABOVE GRADE. ALL BOND BEAMS SHALL BE REINFORCED WITH 2-#5 CONTINUOUS.

1. THE EXISTING OF WOOD FRAMING AND LUMBER IS SHOWN ON THE DRAWINGS AND INCLUDES ALL PLYWOOD, FRAMING MEMBERS, SHEATHING AND WOOD TRUSSES INCLUDING ALL NAILS, SCREWS, BOLTS AND OTHER SIMILAR ITEMS NOT SPECIFICALLY DESCRIBED BUT REQUIRING TO COMPLETE THE PROJECT. THE FOLLOWING IS A LIST OF THE MINIMUM REQUIREMENTS FOR SELECTED ITEMS TO BE FURNISHED AND IS INTENDED TO ESTABLISH THE STANDARDS OF QUALITY FOR THE MATERIALS ON THIS PROJECT.

2. LUMBER SHALL BE THE FOLLOWING: JOISTS, HEADERS, LINTELS, BEAMS, TRUSSES SYSTEMS SHALL MEET THE REQUIREMENTS SHOWN IN THE "TIMBER CONSTRUCTION STANDARDS" BY AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) AND THE CRITERIA SHOWN BELOW:

3. HORIZONTAL & VERTICAL FRAMING MEMBERS

JOIST F1, F2 GRADE & BETTER, E = 1,500,000 PSI, Fc = 1100 PSI, Ft = 725 PSI, Fc = 1350 PSI

4. PLYWOOD

A. SHEATHING: STRUCTURAL C-DX 5/8".

B. BRACING: 1/2" THICK, 4' X 8' PLACED AT EACH CORNER USING 5/8" PLYWOOD FASTENED WITH 8 D 4" O.C. AT PERIMETER AND 8 D 4" AT INTERMEDIATE SUPPORTS.

C. ALL PARTY WALLS "SIMPSON" WB X BRACING SHALL BE INSTALLED, FASTENED TO EACH STUD USING 6 D 8 NAILS AND 1/2" THICK BRACING TO EACH END STUD.

D. PANEL SUBDIAGONAL: PANEL THICKNESS = 5/8", NAIL SIZE & TYPE = 8d COMMON, SUPPORT PANEL EDGES = 6, INTERMEDIATE SUPPORTS = 12. PLYWOOD SHALL BE ATTACHED TO JOIST/TRUSSES AS PER APA FLOOR SYSTEM DESIGN.

5. TELEPHONE AND MISCELLANEOUS BACKLOGS: 3/4" THICK, AD. GROUP 1, INTERIOR.

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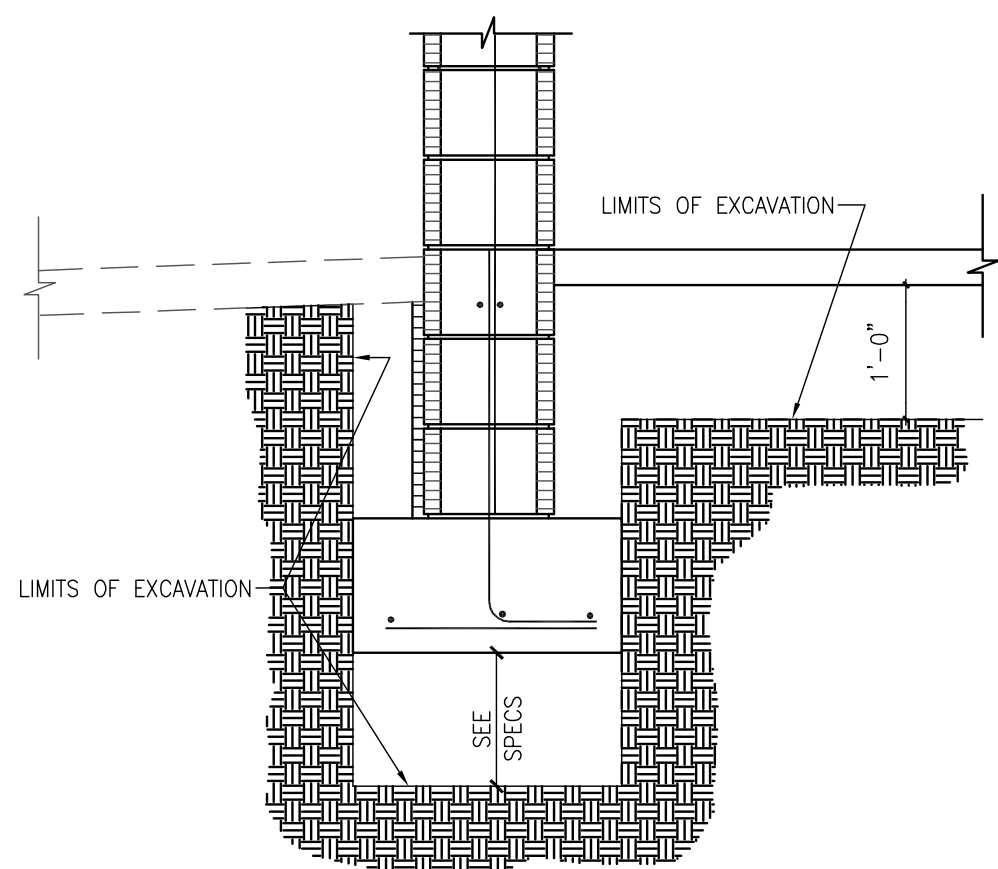


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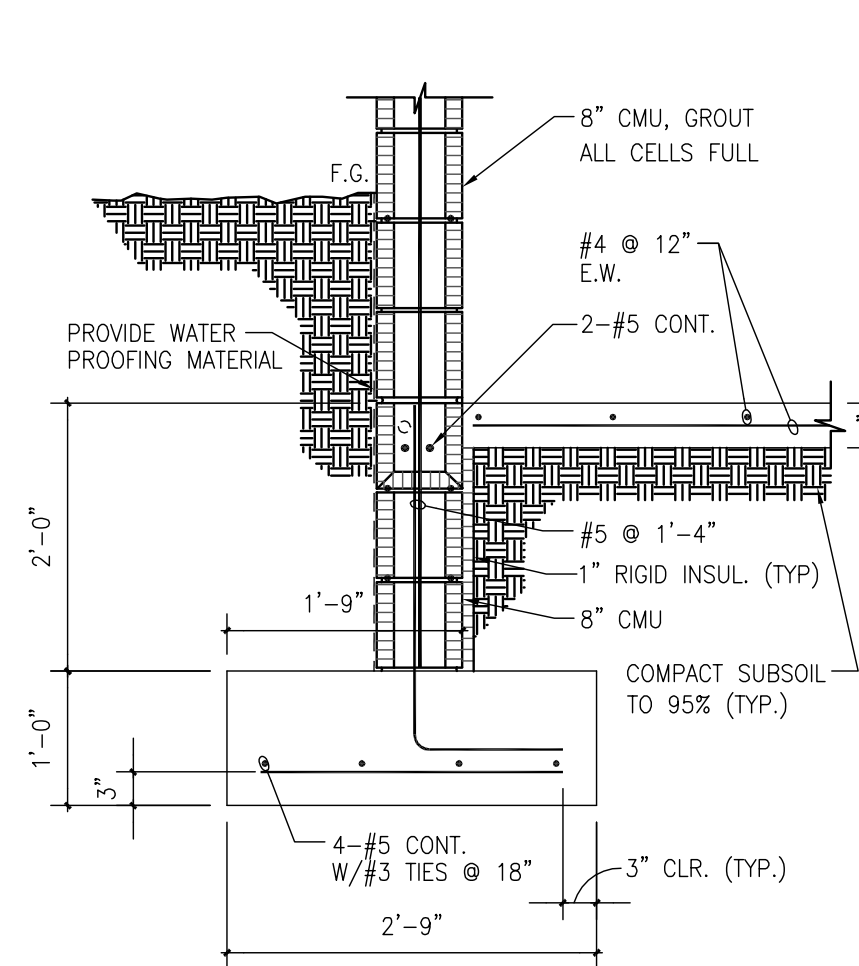
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SHEET

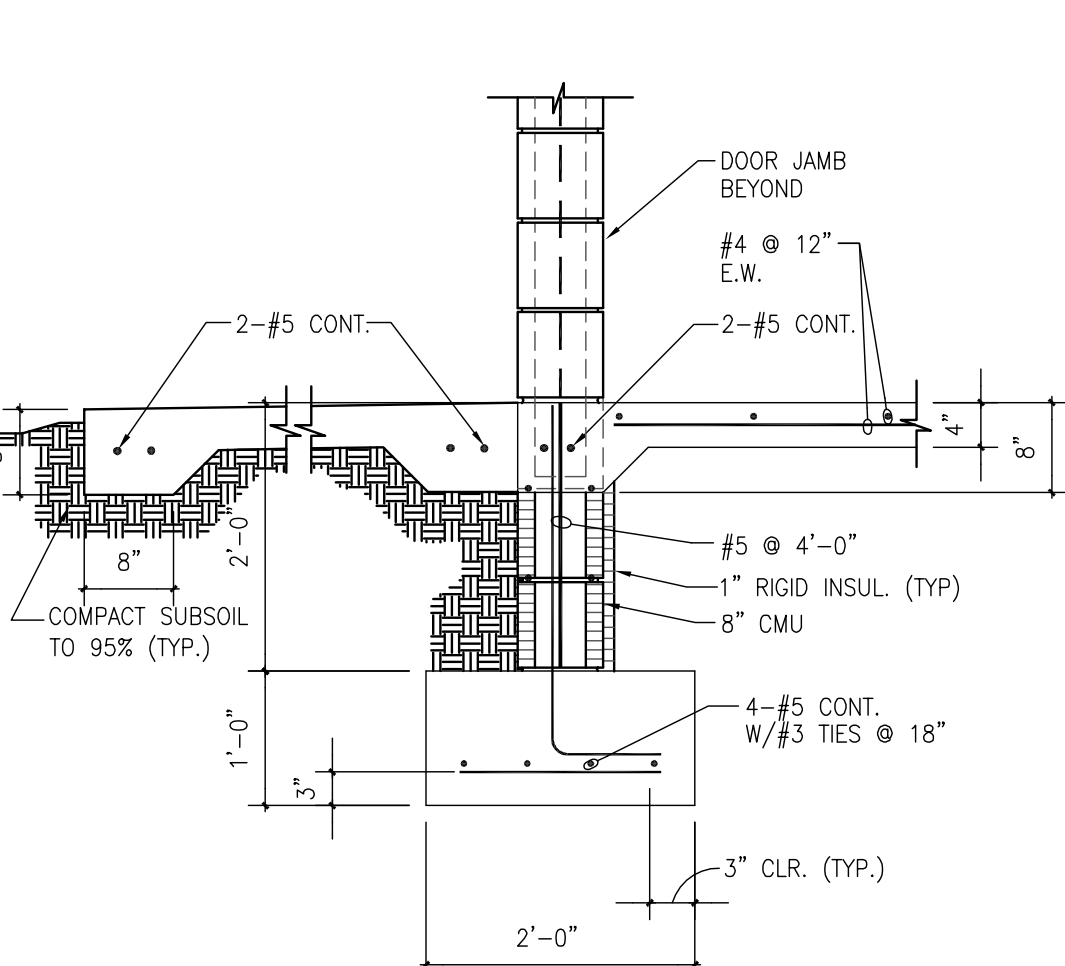
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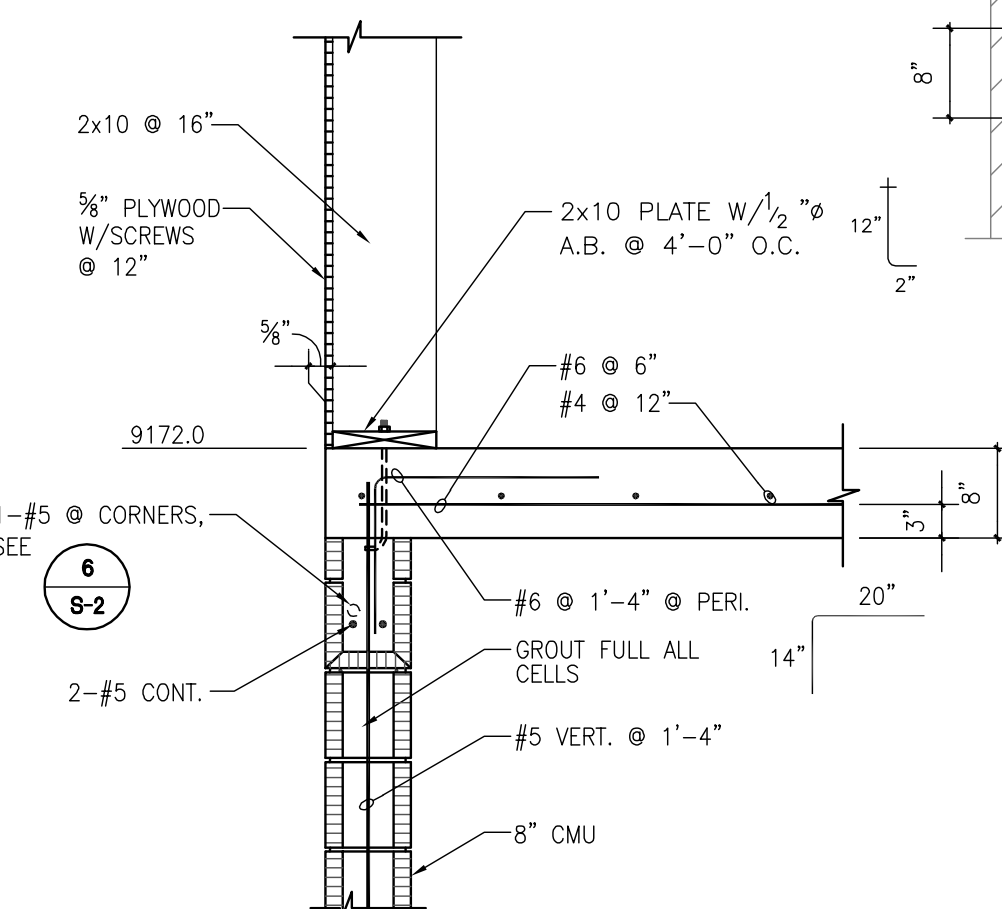
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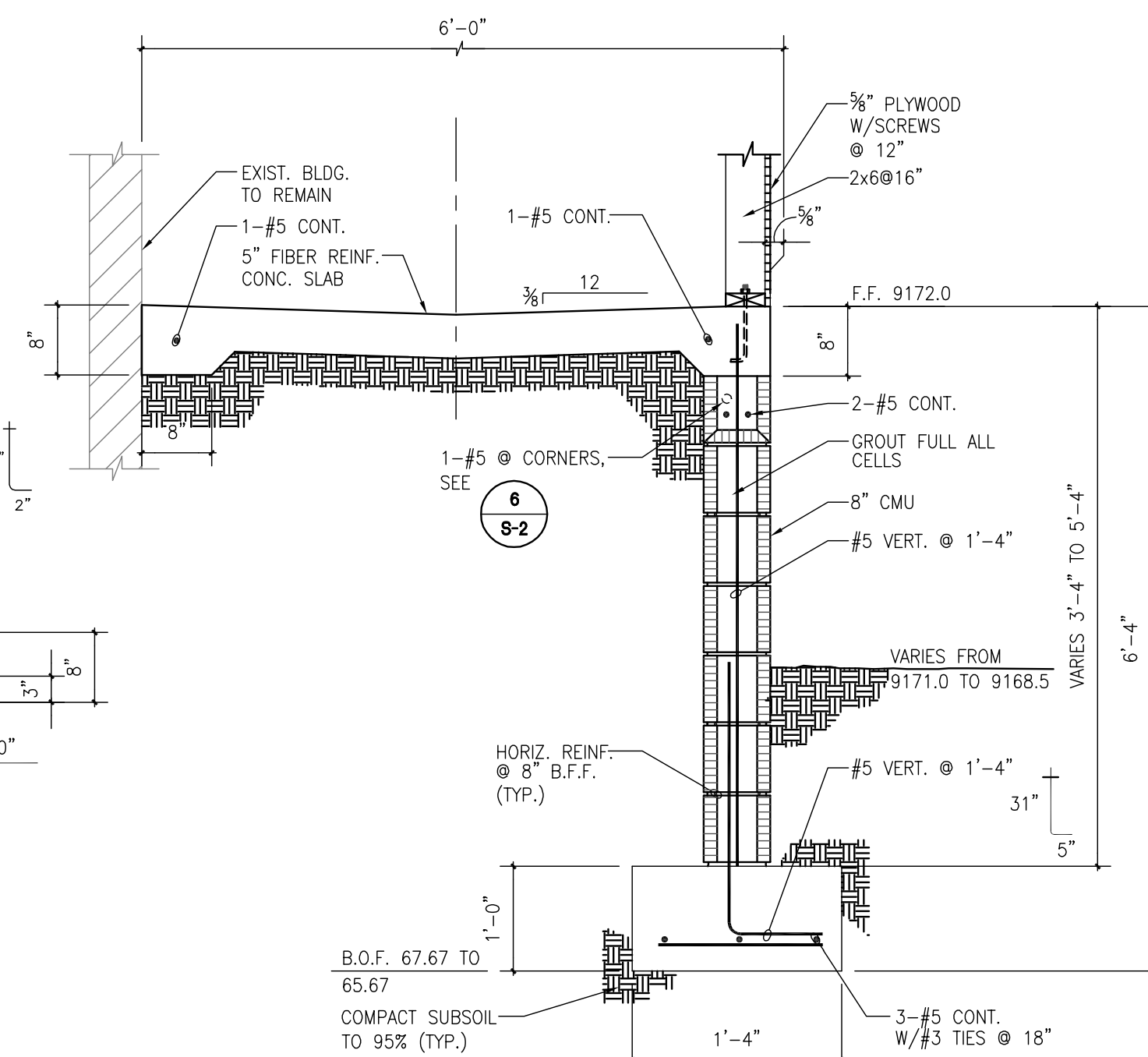
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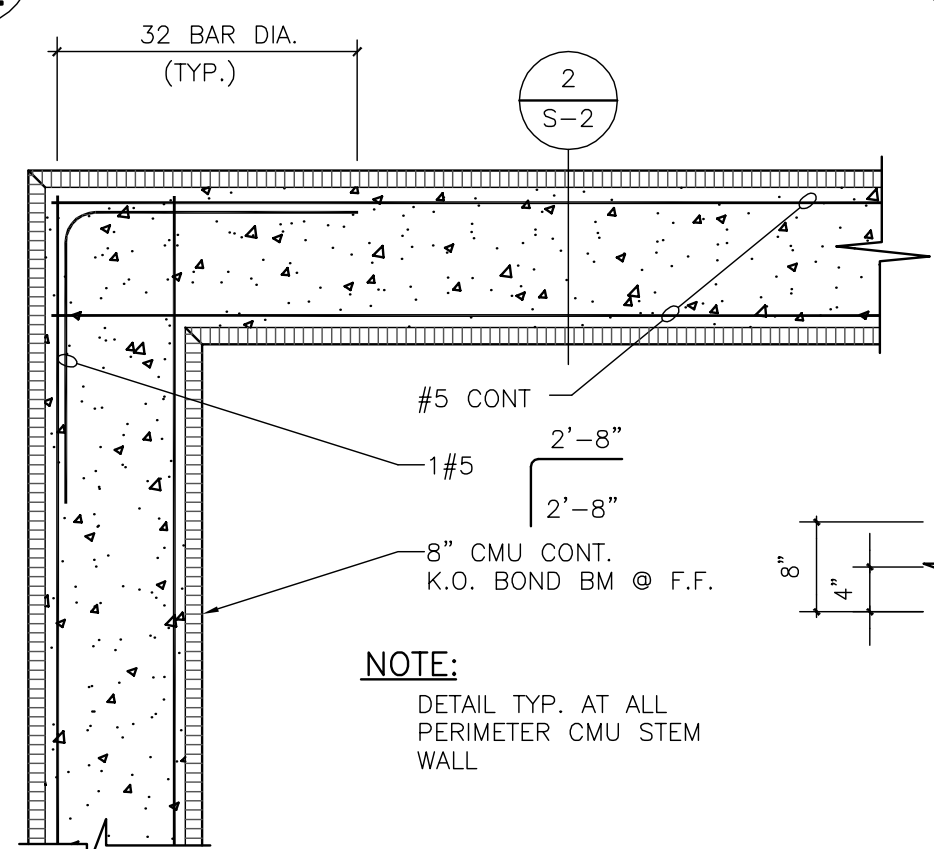
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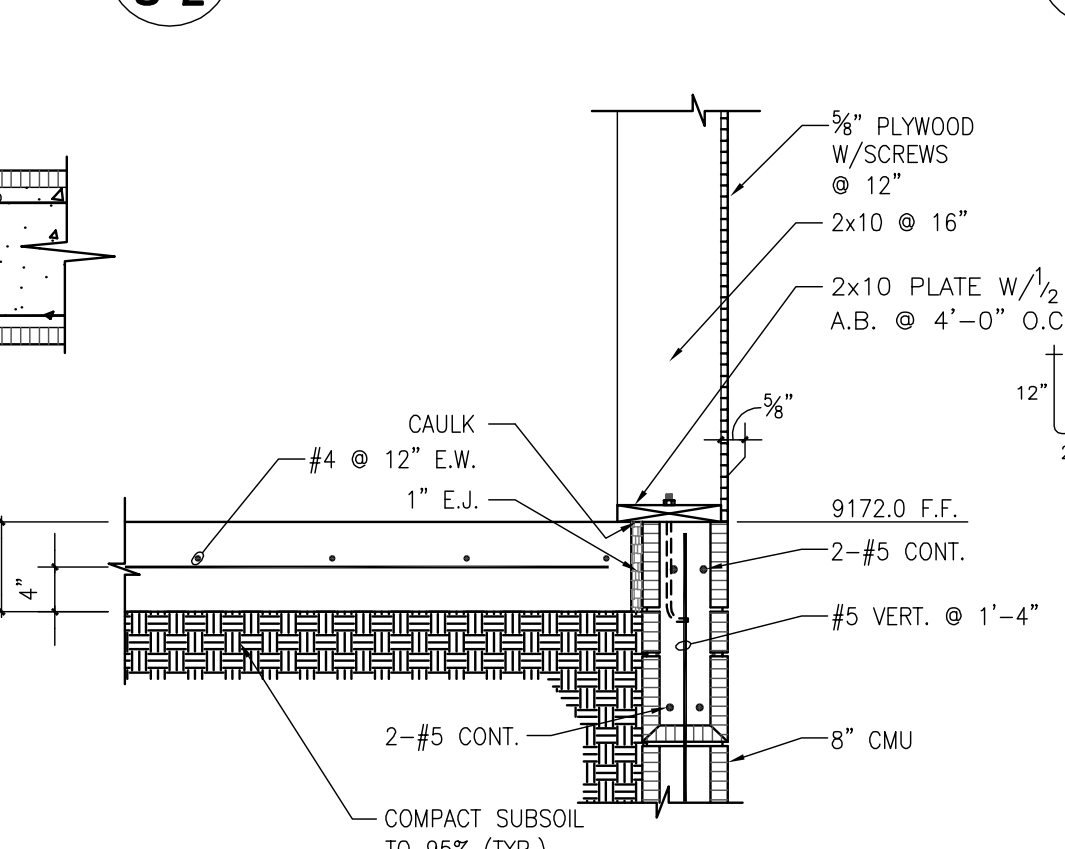
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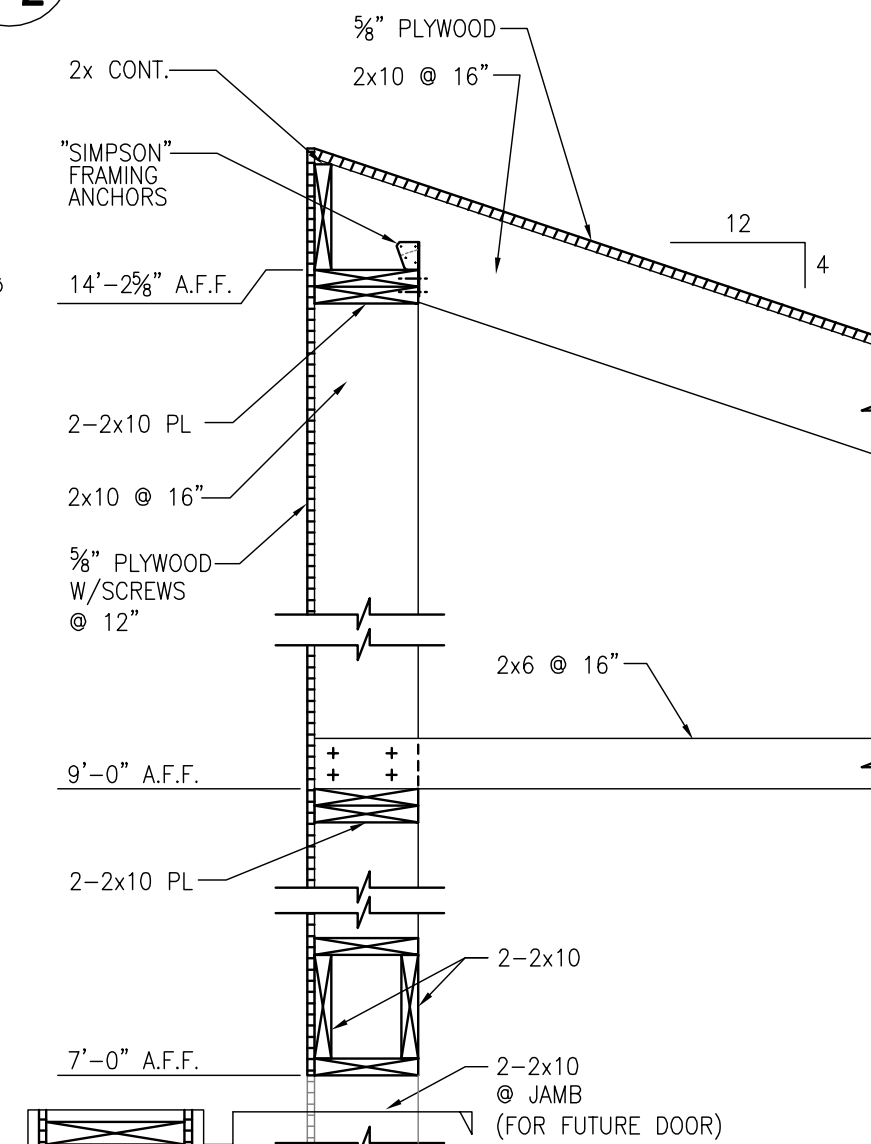
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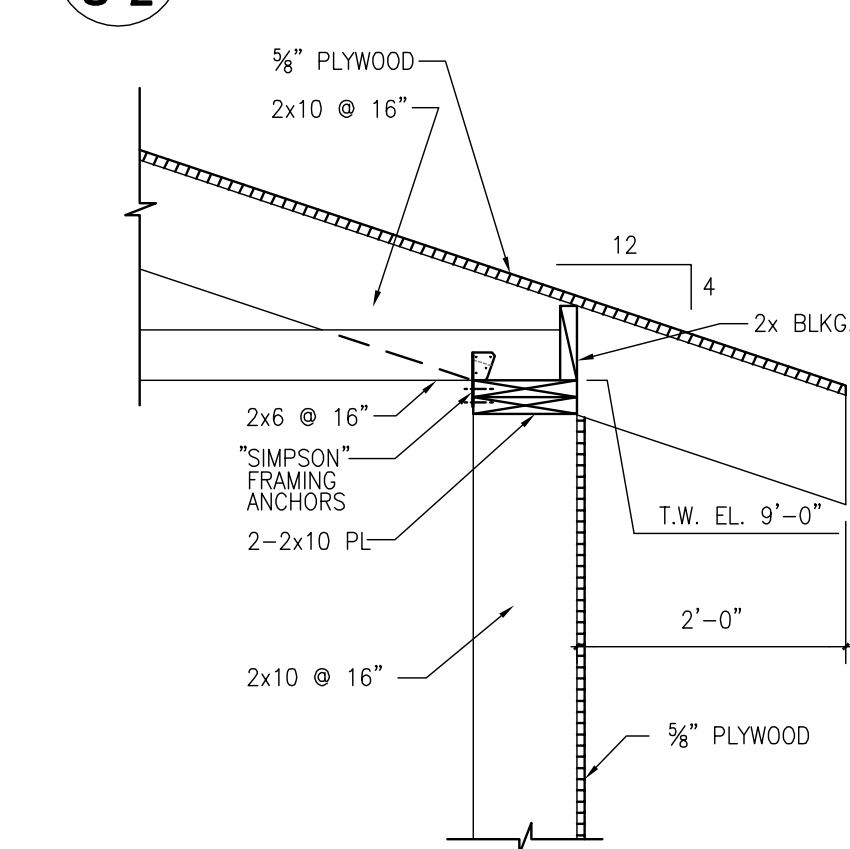
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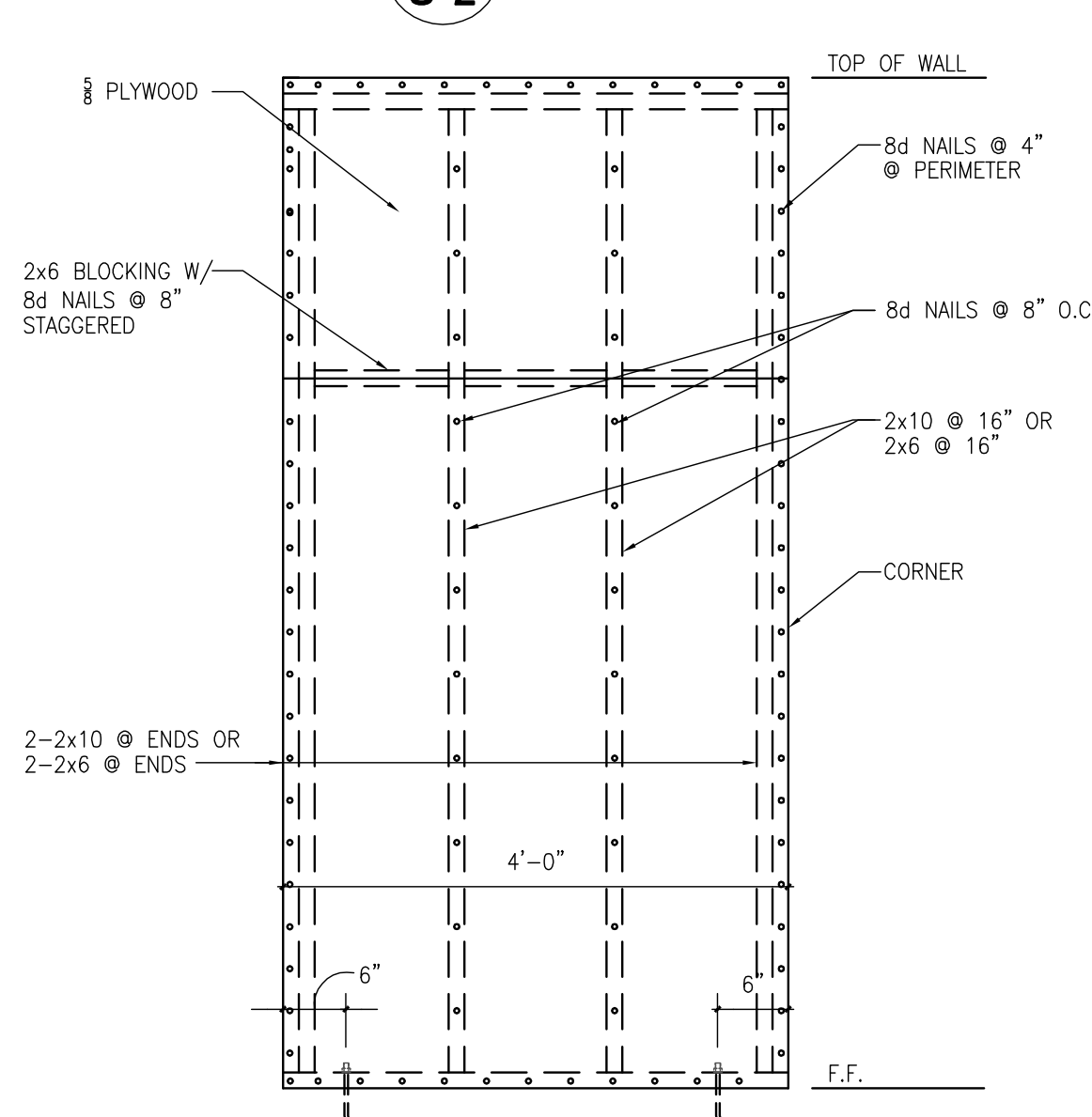
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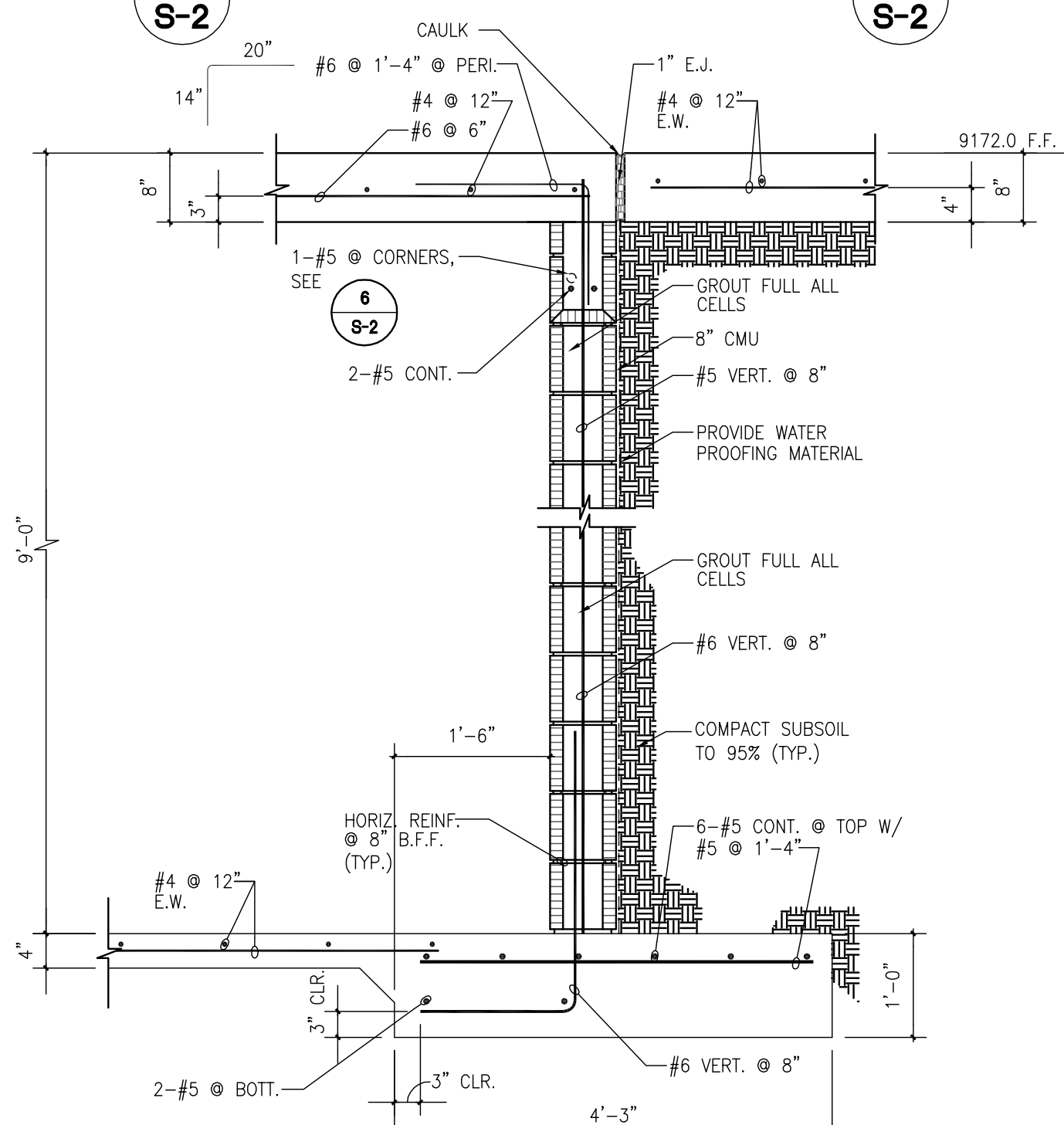
8 SECTION
S-2



9 SECTION
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10 SECTION
S-2



11 SECTION
S-2

APACHE POINT OBSERVATORY SOSS BLDG EXPANSION

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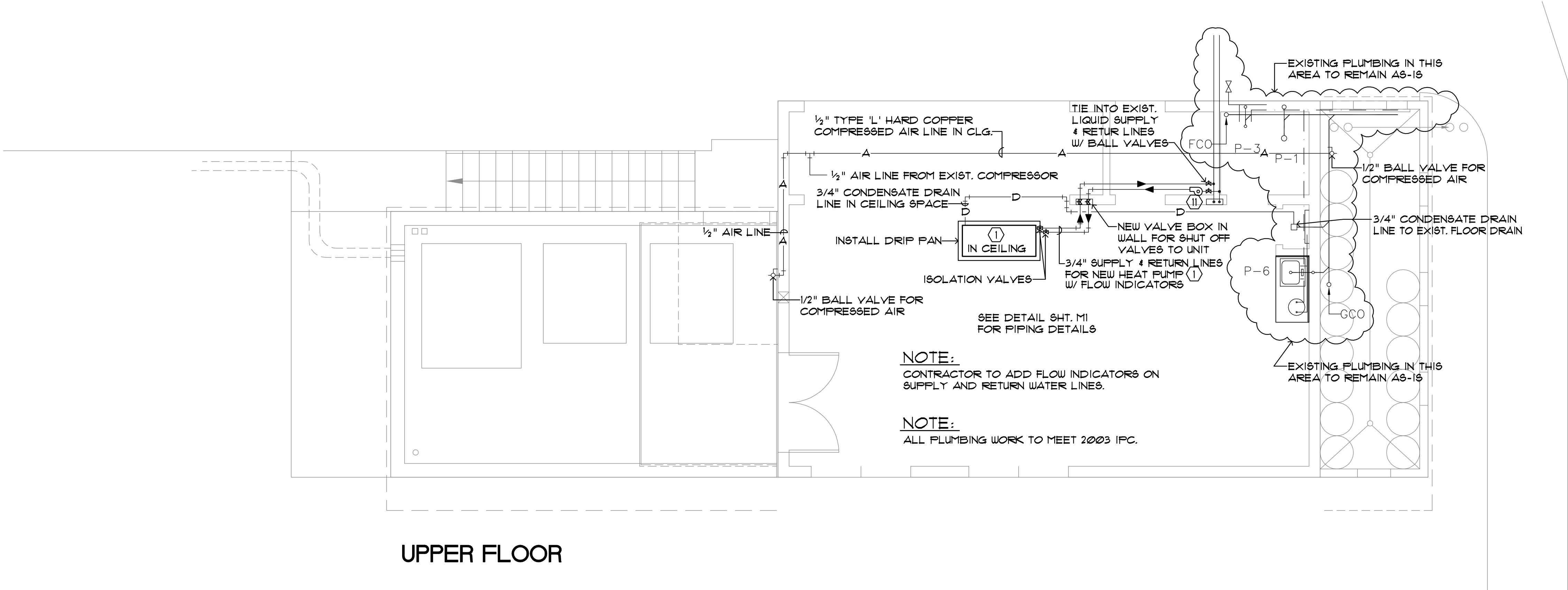
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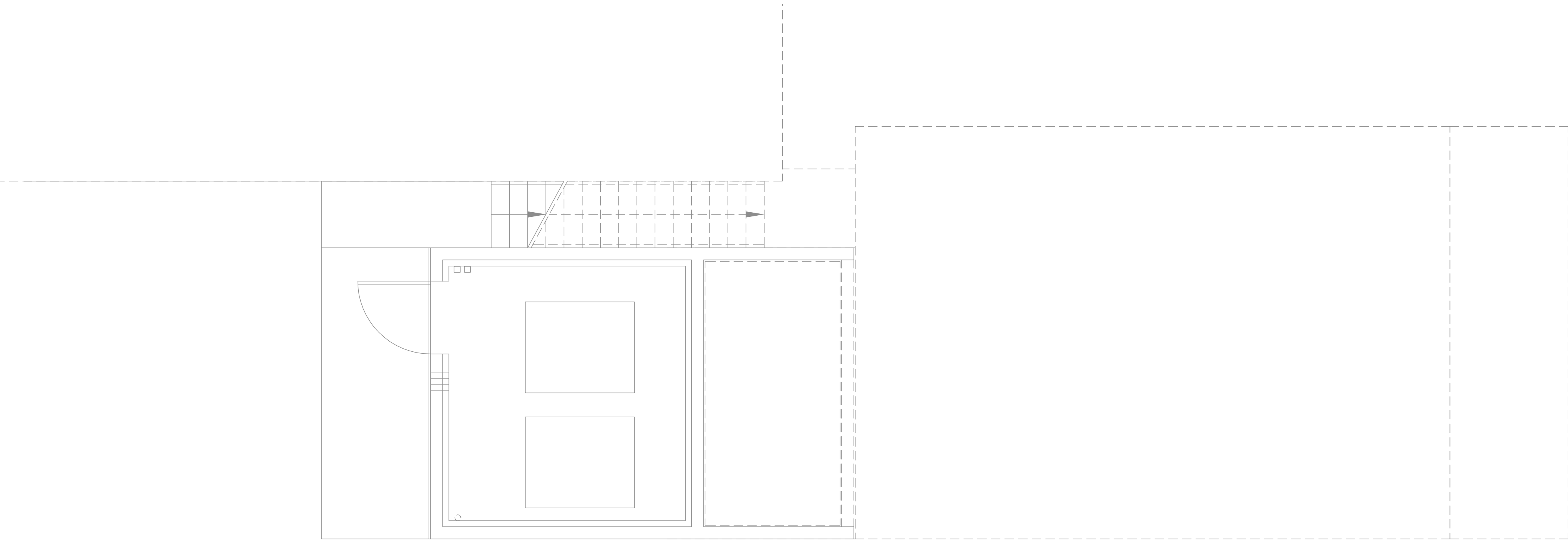
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SHEET
S-2
D96FLOR



UPPER FLOOR



LOWER FLOOR

PLUMBING PLAN

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

LEGEND	
	FLUID SUPPLY LINE, TYPE 'L' HARD COPPER, INSULATED
	FLUID RETURN LINE, TYPE 'L' HARD COPPER, INSULATED
	CONDENSATE DRAIN LINE, TYPE 'L' HARD COPPER
	COMPRESSED AIR LINE, TYPE 'L' HARD COPPER

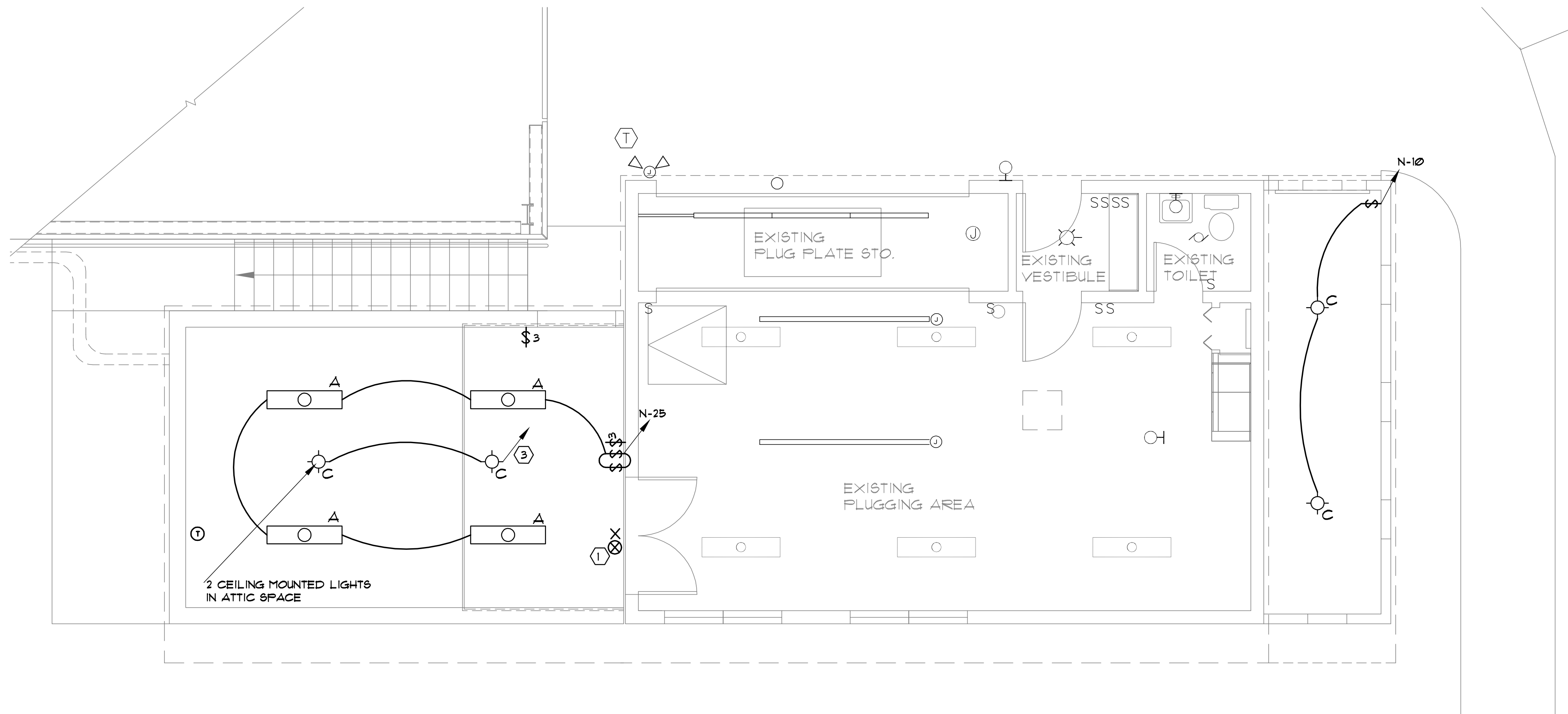
PLUMBING EQUIPMENT SCHEDULE	
(P-6)	IN-LINE PUMP, FOR GROUND SOURCE WATER, 5 GPM @ 9 FT. W.C., INLINE, 120 VOLT 1 PH. 60 HZ, BELL & GOSSETT SERIES 60, TACO, OAE

APACHE POINT OBSERVATORY SOSS BLDG EXPANSION

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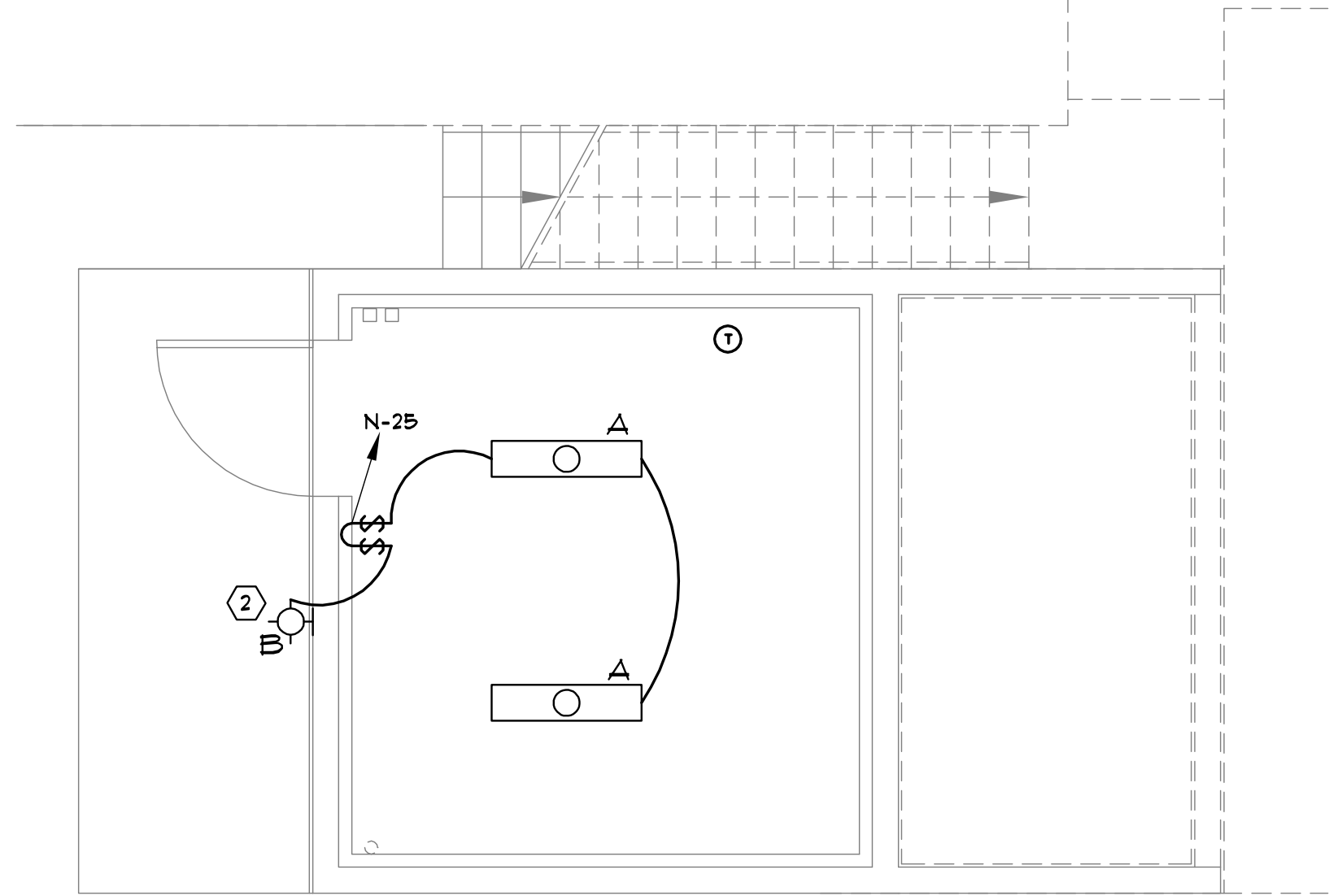
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UPPER FLOOR
SCHEMATIC LIGHTING PLAN

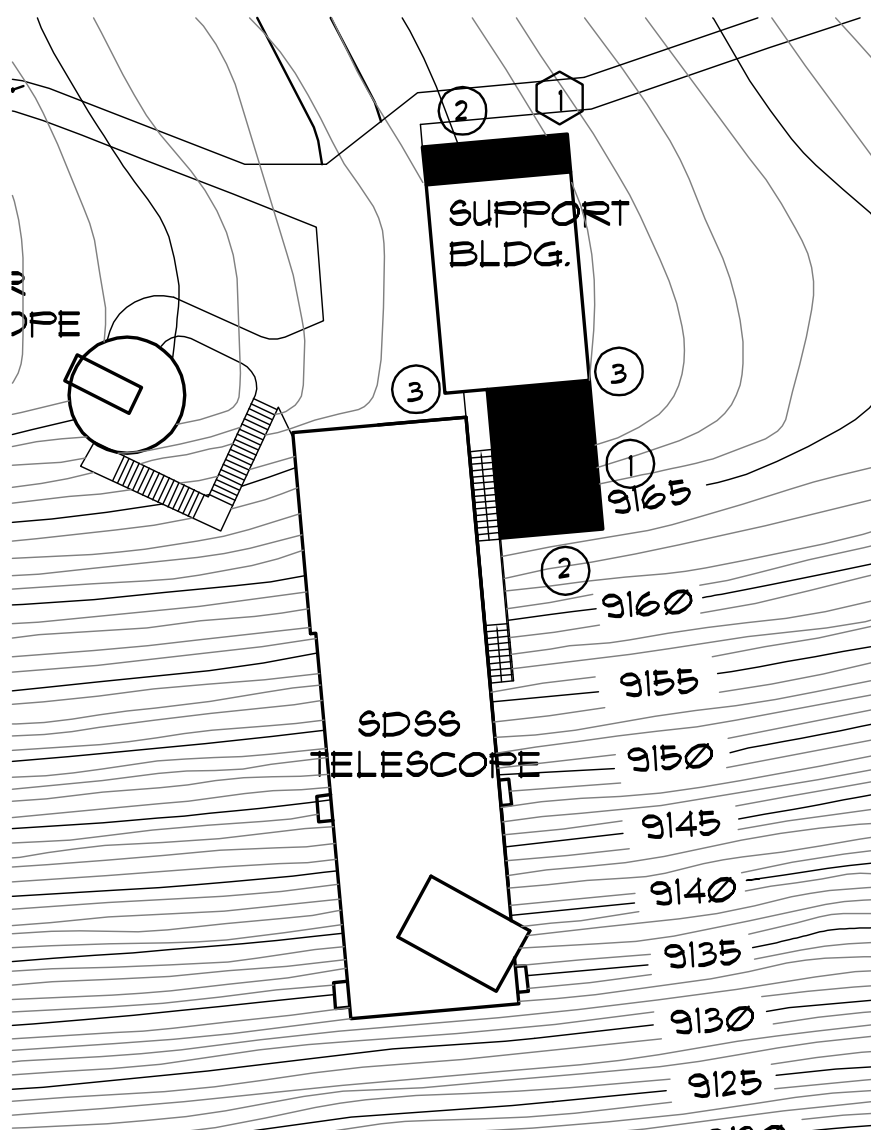
LIGHT FIXTURE SCHEDULE			
MARK	MANUFACTURER	CATALOG NUMBER	BULBS
A	COLUMBIA	JT814-332F-FSA12.125-EB0UNV	4-F32T8T35
B	MATCH EXISTING		
C	FRESCOLITE	946B-60	2-T5W A-19
X	DUAL LITE	LXURUE	Incl.



LOWER FLOOR
SCHEMATIC LIGHTING PLAN

KEYED SITE PLAN NOTES

- EXISTING COUNTERPOISE WILL BE AFFECTED BY NEW CONSTRUCTION. EXTEND EXISTING COUNTERPOISE WIRING TO NEW INSTALLATION.
- INSTALL NEW COUNTERPOISE CONSISTING OF 4/0 CU TO 18"x18" COPPER PLATES BURIED 36" DEEP. CONNECT TO LIGHTNING PROTECTION SYSTEM, AND TO SLAB W/M REINFORCING SYSTEM. PROVIDE SPECIAL ELECTRICAL CONNECTIONS OF THE CONCRETE EMBEDDED W/M BY WRAPPING A #10 CU SOFT DRAIN WIRE AROUND EACH W/M (4 WRAPS) AT 12" INTERVALS AND AT ENDPOINTS FROM ONE END OF THE INTERSECTION TO THE OTHER. SILVER SOLDER EACH WRAPPING POINT. AT THE INTERSECTION OF THE SLAB EXPANSION JOINTS, PROVIDE A #10 WIRE AT 6" INTERVALS FROM THE W/M ACROSS THE EXPANSION JOINT TO THE ADJOINING W/M. WRAP AROUND THE W/M (4 TIMES) AND SILVER SOLDER EACH END. NOTIFY THE ARCHITECT FOR INSPECTION PRIOR TO POURING CONCRETE.
- THE CONTRACTOR MUST WORK WITH THE OWNER TO LOCATE AND WHEN NECESSARY, RELOCATE EXISTING FACILITIES TO NOT DISRUPT THE FUNCTION OF THE SITE.



ELECTRIC SITE PLAN
SCALE 1" = 30'-0"

GENERAL ELECTRICAL NOTES

- THESE PLANS ARE SCHEMATIC AND DO NOT SHOW THE EXACT LOCATIONS OF EQUIPMENT, CONDUIT ROUTING, ETC. THE CONTRACTOR MUST REFER TO ARCHITECTURAL AND MECHANICAL PLANS AND DETAILS TO OBTAIN COMPLETE INFORMATION.
- THE CONTRACTOR IS RESPONSIBLE FOR SEEING THAT NEC CLEARANCES AROUND AND ABOVE ELECTRICAL EQUIPMENT ARE MAINTAINED. SEE NEC 110.26 FOR SPECIFIC INFORMATION. SPECIFICALLY DO NOT ALLOW FOREIGN EQUIPMENT ABOVE PANELBOARDS AND INSTALL TO LEAVE AT LEAST 36" OF SPACE IN FRONT.
- THE CONTRACTOR MAY INSTALL UP TO 9 CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THHN INSULATION AND DERATING FOR TEMPERATURE AND UP TO 9 CONDUCTORS IN A CONDUIT.
- ELECTRICAL DEVICE INSTALLATION SHALL COMPLY WITH THE ACCESSIBILITY CODES ADOPTED FOR NEW MEXICO. SPECIFICALLY APPLICABLE SWITCHES AND CONTROLS SHALL BE MOUNTED AT 44" AFF. TO THE BOTTOM OF THE BOX, AND APPLICABLE RECEPTACLES SHALL BE MOUNTED AT 15" AFF. TO THE BOTTOM OF THE BOX, UNLESS NOTED OTHERWISE. ELECTRICAL DEVICES ABOVE A COUNTERTOP OR OTHER OBSTRUCTION SHOULD COMPLY WITH ICC/ANSI 117.1-1998 SECTION 308.
- EXTERIOR FIXTURES SPECIFIED ON THIS PROJECT COMPLY WITH THE STATE OF NEW MEXICO NIGHT SKY PROTECTION ACT. IF ALTERNATE FIXTURES ARE USED, THEY MUST COMPLY AS WELL.
- WIRE SIZING SHALL COMPLY WITH THE STATE STANDARDS FOR VOLTAGE DROP.
- THIS BUILDING REQUIRES 1 EXIT, THEREFOR EMERGENCY LIGHTING IS NOT REQUIRED.

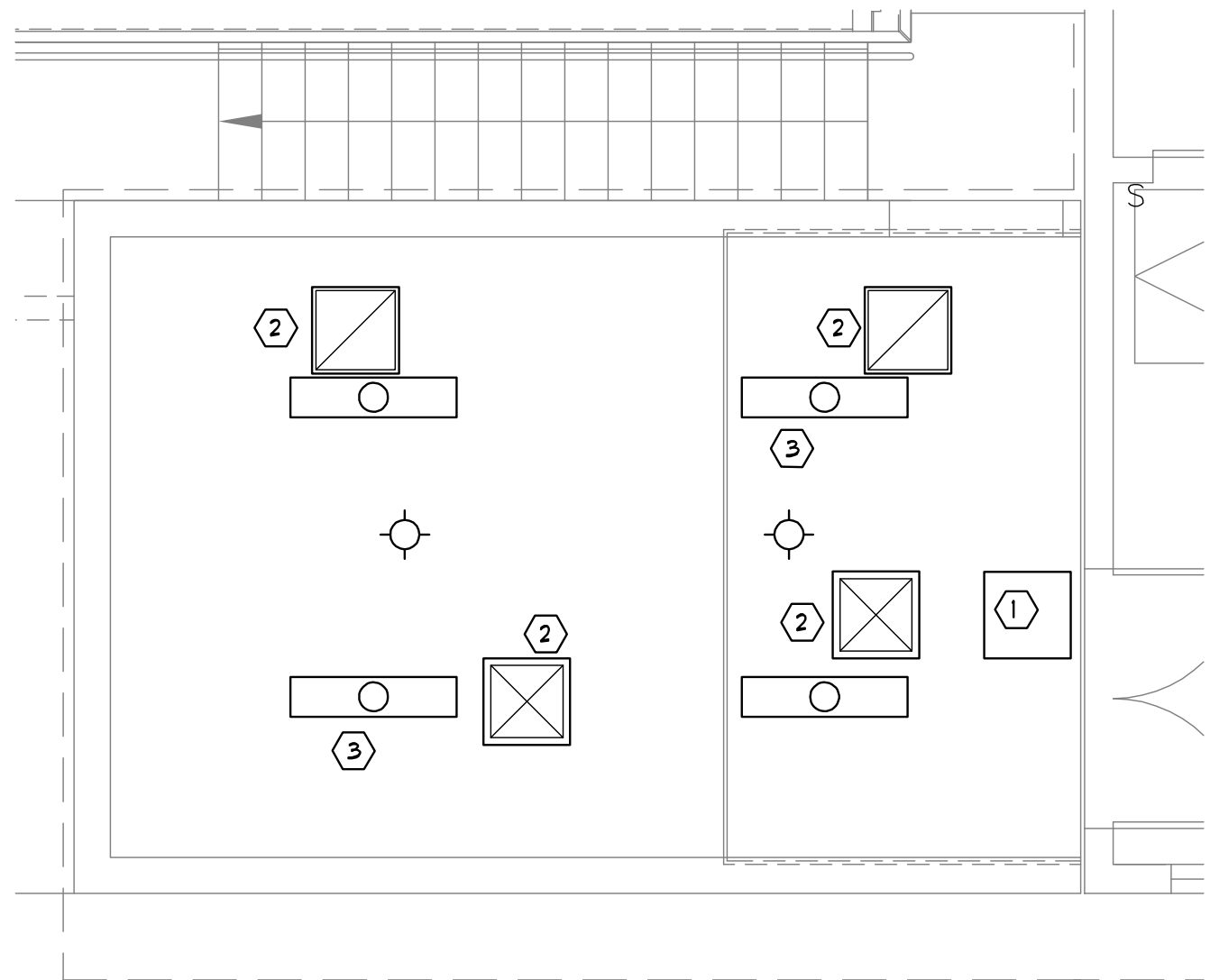
KEYED LIGHTING PLAN NOTES

- CONNECT EXIT LIGHTING TO NEAREST UNSWITCHED LIGHTING CIRCUIT SERVING THE SAME IMMEDIATE AREA.
- EXTERIOR FIXTURE TO MATCH EXISTING FIXTURES
- CEILING LIGHTS IN ATTIC, PROVIDE A SWITCH IN THE ATTIC AT THE ENTRANCE.

ELECTRICAL LEGEND

	LIGHT FIXTURE, CEILING MTD		DUPLEX, CONVENIENCE OUTLET
	LIGHT FIXTURE, WALL MTD		DUPLEX, GFCI OUTLET
	LIGHT FIXTURE, RECESSED		DUPLEX/WEATHERPROOF OUTLET
	LIGHT FIXTURE, PORCELAIN SOCKET		4-FLEX CONVENIENCE OUTLET
	FULL SPECTRUM FLUORESCENT LAMPS, LAY-IN CEILING TYPE		FLOOR OUTLET
	EMERGENCY LIGHTING		JUNCTION BOX
	EXIT SIGN		SWITCH, SINGLE POLE
	CEILING FAN W/LIGHT		3-WAY SWITCH
	CEILING FAN NO LIGHT		WALL MOUNTED THERMOSTAT
	CEILING FAN NO LIGHT		EXHAUST FAN
	CEILING FAN NO LIGHT		TELEVISION / HI-FI
	CEILING FAN NO LIGHT		DATA / TELEPHONE
	CEILING FAN NO LIGHT		TIC MARKS INDICATE HOT, NEUTRAL SWITCHED LEG, & GROUND
	CEILING FAN NO LIGHT		CONDUIT IN SLAB OR FLOOR
	CEILING FAN NO LIGHT		SPOTLIGHT

1. VERIFY MOUNTING HT. OF ALL WALL MOUNTED DEVICES WITH OWNER.
2. COORDINATE WITH MECHANICAL FOR ADDITIONAL REQUIREMENTS.
3. 44 INDICATES SPECIAL MTG. HEIGHT IN INCHES ABOVE FLOOR TO CENTER.



1. FLOOR
REFLECTED CEILING PLAN

REFLECTED CEILING NOTES

- 24"x24" ACCESS HATCH
- MECHANICAL OUTLETS SEE SHEET M1.
- LIGHT FIXTURES SEE SHEET E1.

2. FLOOR
REFLECTED CEILING PLAN

REFLECTED CEILING PLAN AND
SCHEMATIC LIGHTING PLAN

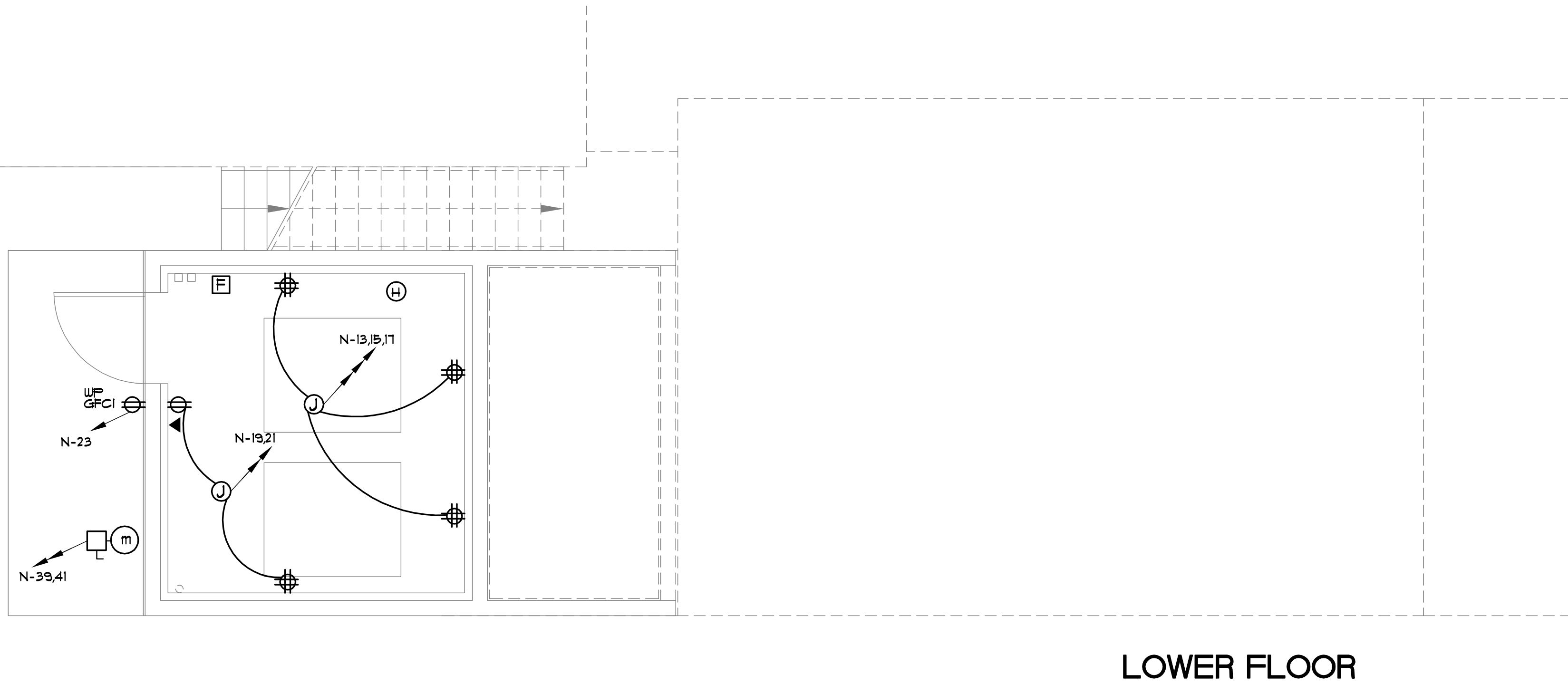
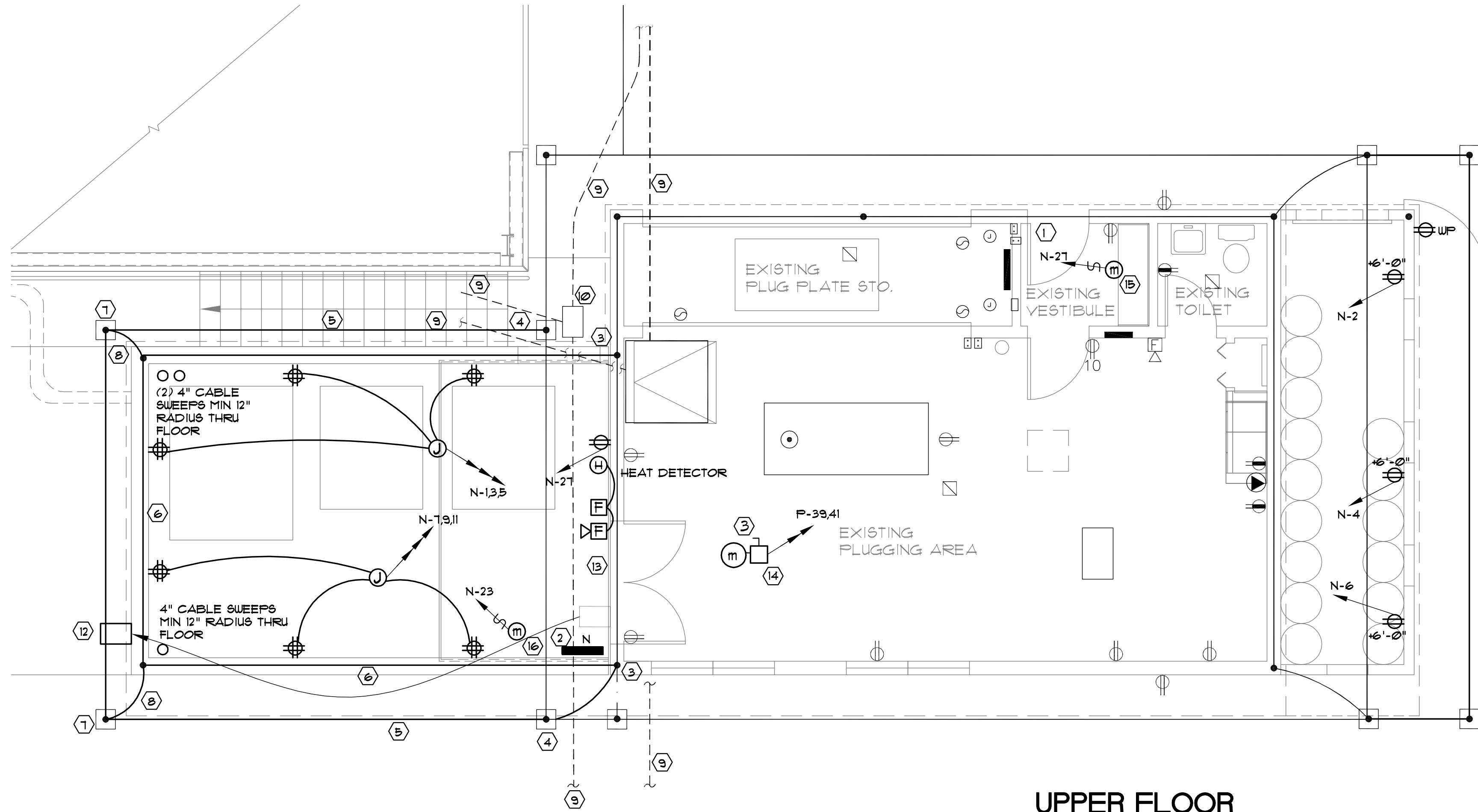
SCALE 1/4" = 1'-0"

APACHE POINT
OBSERVATORY
SSSS BLDG EXPANSION

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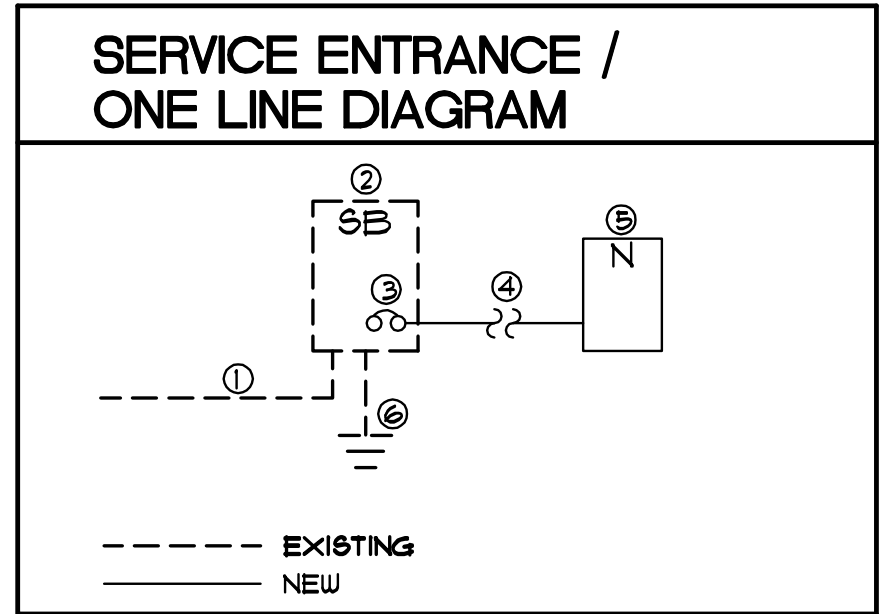


- ### KEYED POWER PLAN NOTES
- EXISTING PANEL 9B LOCATED HERE.
 - PROPOSED LOCATION OF NEW PANEL N.
 - EXISTING LIGHTNING ROD WITH DOWLEAD TO COUNTERPOISE. NEW LIGHTNING PROTECTION CONDUCTOR TO BE CONNECTED HERE.
 - EXISTING DOWLEAD CONNECTION TO COUNTERPOISE AND TO 18"x18" COPPER PLATE THOMPSON #233 OR EQUIVALENT. PLATE IS BURIED 36" DEEP.
 - 4/0 CU COUNTERPOISE BURIED 36" DEEP.
 - #2 CU LIGHTNING PROTECTION CONDUCTOR.
 - NEW EXOTHERMIC WELDED CONNECTION FROM DOWLEAD TO COUNTERPOISE, AND TO 18"x18" COPPER PLATE, THOMPSON #233 OR EQUIVALENT.
 - LIGHTNING PROTECTION SYSTEM AIR TERMINAL 18". WITH #2 COPPER LIGHTNING DOWLEAD.
 - NUMEROUS EXISTING UTILITIES EXIST IN THE AREA OF NEW CONSTRUCTION. THE CONTRACTOR MUST WORK WITH THE OWNER TO LOCATE AND WHEN NECESSARY, RELOCATE FACILITIES TO NOT DISTURPT THE FUNCTION OF THE SITE.
 - EXISTING FULLBOX FOR EXISTING UTILITIES. SEE #3 ABOVE.
 - NEW HEAT PUMP WITH DISCONNECT AND WP GFCI MAINTENANCE RECEPTACLE ADJACENT. PROVIDE SUFFICIENT CONDUIT FOR MECHANICAL TO INSTLL LOW VOLTAGE CONTROL WIRING.
 - RELOCATE VIDEO CAMERA TO NEW EXTERIOR WALL.
 - CONNECT FIRE ALARM DEVICES TO EXISTING FIRE ALARM PANEL.
 - HEAT PUMP IN ATTIC OF EXISTING BLDG. - PROVIDE DISCONNECTED MAINTENANCE RECEPTACLE.
 - 1/4 HP WATER PUMP. SEE MECH PLANS SPECIFIC INFORMATION.
 - FRACTIONAL HP EXHAUST FAN. SEE MECHANICAL PLANS FOR SPECIFIC INFORMATION.

- ### SERVICE ENTRANCE / ONE LINE DIAGRAM NOTES
- EXISTING 4-500 CU THHN/THWN WITH #2 GROUND. NO CHANGE.
 - EXISTING 120/208 VOLT 400 AMP PANEL 9B.
 - ADD A 150/3 BREAKER TO FEED NEW PANEL N.
 - 4-1/0 CU THHN/THWN WITH #6 GROUND IN 2" CONDUIT.
 - NEW 120/208 VOLT 200 AMP M.L.O. PANEL N. SEE PANEL SCHEDULE FOR SPECIFIC INFORMATION.
 - EXISTING GROUNDING. NO CHANGE.

LOAD SUMMARY

PANEL	LOAD
EXISTING LOAD PER PLANS	83,880VA/233 AMPS
NEW LOAD	31,440VA/104 AMPS
TOTAL BUILDING LOAD 121,320VA/334 AMPS	
FAULT CURRENT CALCULATIONS	
150 KVA 120/208 VOLT TRANSFORMER 2.5%Z	
150/(208x1.732) = 416 AMPS	
416/2.5 = 16640 AMPS FAULT CURRENT	
BECAUSE OF FEEDER IMPEDANCE FAULT CURRENTS ARE REDUCED TO LESS THAN 10 KA. NEW GEAR MUST MATCH EXISTING AIC RATINGS.	



ELECTRICAL LEGEND

	LIGHT FIXTURE, CEILING MTD		DUPLEX, CONVENIENCE OUTLET
	LIGHT FIXTURE, WALL MTD		DUPLEX, GFCI OUTLET
	LIGHT FIXTURE, RECESSED		DUPLEX/WEATHERPROOF OUTLET
	LIGHT FIXTURE, PORCELAIN SOCKET		4-FLEX CONVENIENCE OUTLET
	FULL SPECTRUM FLUORESCENT LAMPS, LAY-IN CEILING TYPE		FLOOR OUTLET
	EMERGENCY LIGHTING		JUNCTION BOX
	EXIT SIGN		SWITCH, SINGLE POLE
	CEILING FAN W/LIGHT		3-WAY SWITCH
	CEILING FAN NO LIGHT		WALL MOUNTED THERMOSTAT
			EXHAUST FAN
			TELEVISION / HI-FI
			TELEPHONE/ DATA
	FLUORESCENT FIXTURE 8'-0" CHAIN HUNG AT 10'-0" HEIGHT		HEAT DETECTOR
			FIRE ALARM MAUAL FULL STATION
			FIRE ALARM HORN STROBE

- VERIFY MOUNTING HT. OF ALL WALL MOUNTED DEVICES WITH OWNER.
- COORDINATE WITH MECHANICAL FOR ADDITIONAL REQUIREMENTS.
- *44 INDICATES SPECIAL MTG. HEIGHT IN INCHES ABOVE FLOOR TO CENTER.

PANELBOARD SCHEDULE

PANEL: N

LOCATION:

SERVICE: 120/208 VOLTS, 3 PHASE, 4 WIRE 5N, 200 AMP M.L.O.

CIRCUIT DESCRIPTION	WATTS			A	P	WIRE SIZE	WIRE SIZE	A	P	WATTS			CIRCUIT DESCRIPTION
	A	B	C							A	B	C	
ET ENCLOSURE QUAD				20	1	12	1	2	12	20	1		LN2 RECEPTACLE
							3	4					LN2 RECEPTACLE
							5	6					LN2 RECEPTACLE
							7	8					LN2 RECEPTACLE
							9	10					LN2 LIGHTING
							11	12					
							13	14					
							15	16					
							17	18					
							19	20					
ET DUPLEX							21	22					
ET WP/GFCI							23	24					
ET LIGHTING							25	26					
WATER PUMP							27	28					
							29	30					
							31	32					
							33	34					
							35	36					
							37	38					
							39	40					
HVAC							41	42					
*							2	41					
TOTAL WATTS "A"													
TOTAL WATTS "B"													
TOTAL WATTS "C"													
TOTAL													

APACHE POINT
OBSERVATORY
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SCHEMATIC POWER PLAN

SCALE 1/4" = 1'-0"

SHEET
E2
D361E2