

ALURA CLUBHOUSE DISCOVERY PARK, LEE'S SUMMIT, MO

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SITE LOCATION



LIST OF DRAWINGS

GENERAL

G001 COVER SHEET, LOCATION PLAN, LEGENDS,
DRAWING INDEX
G002 CODE AND EGRESS PLAN
G003 SPECIFICATIONS
G004 SPECIFICATIONS
G005 SPECIFICATIONS

CIVIL

UNDER SEPARATE SUBMITTAL

STRUCTURAL

S100 COVER / GENERAL STRUCTURAL DATA
S200 FOUNDATION PLAN
S210 FOUNDATION DETAILS
S211 FOUNDATION DETAILS
S300 ROOF FRAMING PLAN
S301 STAIR FRAMING PLAN & DETAILS
S310 ROOF FRAMING DETAILS
S311 ROOF FRAMING PLAN

ARCHITECTURAL

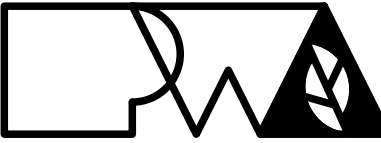
A101 FIRST FLOOR PLAN
A102 REFLECTED CEILING PLAN
A103 ROOF PLAN
A104 ENLARGED FLOOR PLANS
A105 FLOOR FINISH PLAN AND SCHEDULE
A201 BUILDING ELEVATIONS
A202 INTERIOR ELEVATIONS AND DETAILS
A301 BUILDING AND WALL SECTIONS
A501 STAIR DETAILS
A601 DOOR AND WINDOW SCHEDULE AND DETAILS

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MEP2 SITE UTILITIES PLAN
MEP3 SITE LIGHTING PLAN
MEP4 ROOF MEP PLAN
M101 HVAC PLAN
M501 HVAC DETAILS
M601 HVAC SCHEDULES
EP101 POWER PLAN - FIRST FLOOR
EL101 LIGHTING PLAN
E501 ELECTRICAL DETAILS & SCHEDULES
E502 ELECTRICAL SCHEDULES
FP101 FIRE PROTECTION PLAN
PS101 SANITARY SEWER PLAN
PW101 WATER & GAS PLAN
P501 PLUMBING DETAILS & SCHEDULES

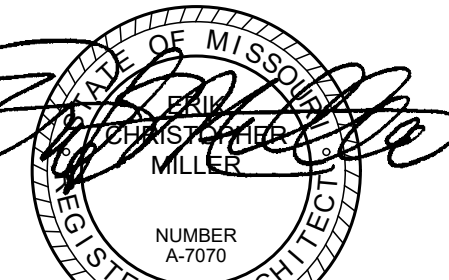
LARGE SCALE		SMALL SCALE	
BRICK MASONRY UNIT			PLAN, SECTION
CONCRETE MASONRY UNIT			PLAN, SECTION, ELEVATION
CONCRETE			PLAN, SECTION
GYPSUM BOARD			PLAN, SECTION, ELEVATION
ROUTED AREA OF CHUICAVITYDOOR FRAME			PLAN, SECTION
MISCELLANEOUS ITEMS AS NOTED ON EACH SHEET			PLAN, SECTION, ELEVATION
INSULATION			PLAN, SECTION
ROOF SHINGLES			PLAN, SECTION, ELEVATION
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PLYWOOD			PLAN, SECTION
EXISTING BUILDING			PLAN, SECTION

DRAWING BULLET WITH NORTH ARROW	
	GRID REFERENCE DRAWING TITLE SCALE: X/X" = 1'-0"
DRAWING BULLET WITHOUT NORTH ARROW	
	GRID REFERENCE DRAWING TITLE SCALE: X/X" = 1'-0"
ELEVATION BULLETS	PLAN/ELEVATION DETAIL BULLET
ONE ELEVATION	SECTION BULLET
SCOPE OF WORK BULLET	NORTH ARROW
DOOR MARK BULLET	COLUMN LINE BULLETS
WINDOW MARK BULLET	SPOT ELEV. BULLETS
REVISION NOTE BULLET	
GENERAL NOTE BULLET	
BENCHMARK BULLET	



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**DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO**

Drawn: **LC** Project Number: **202428**

Checked: **EM** CAD File Name (Number):

Drawing Title:
**COVER SHEET, LOCATION PLAN,
LEGENDS, DRAWING INDEX**

No.	Revisions:	Date:

Submission Date: **06/16/2025** Drawing Number: **G001**

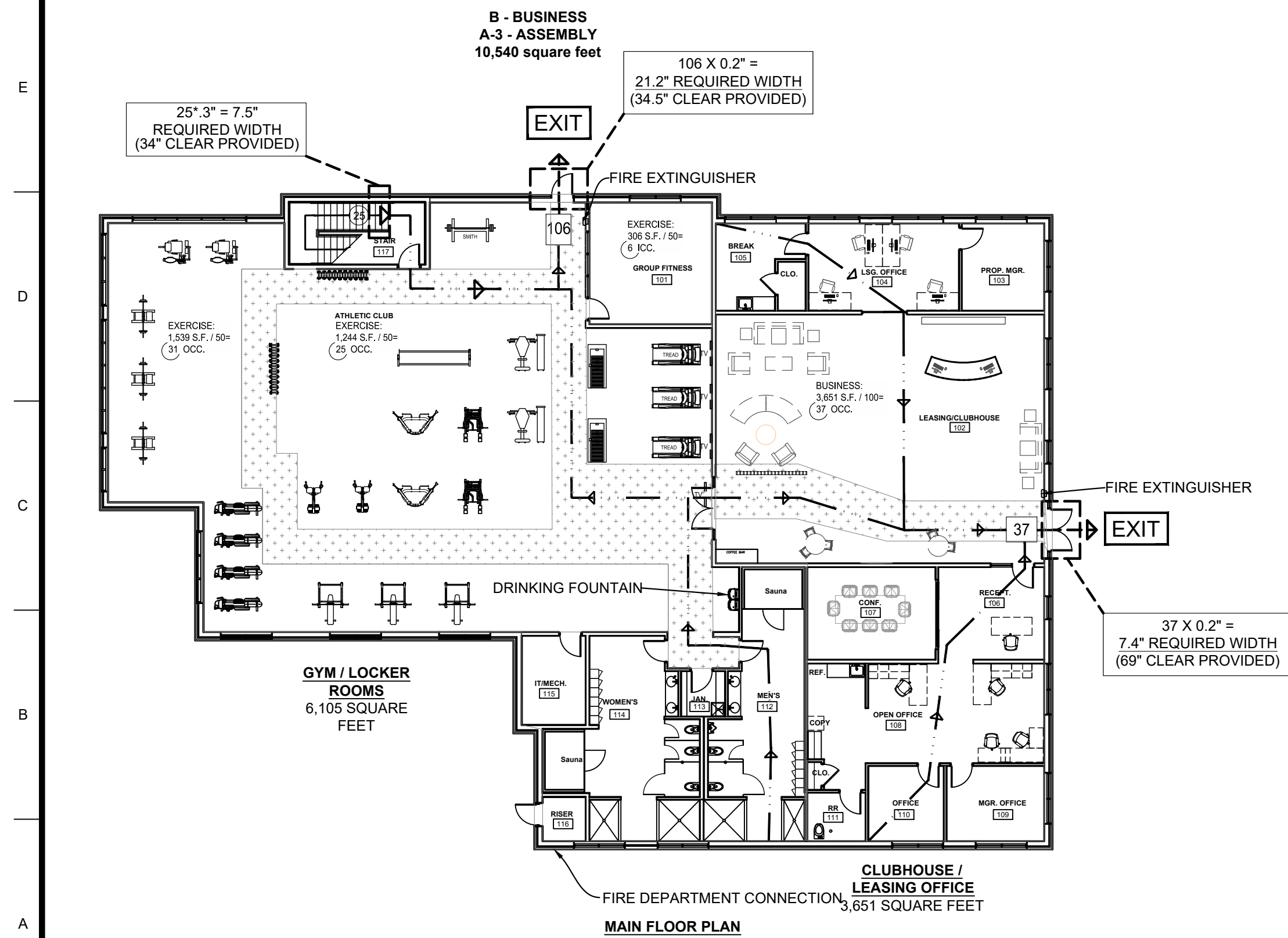
Plot Date: **06/16/2025**

A1 LOCATION PLAN
SCALE: 1" = 200'-0"

A7 DRAWING INDEX
SCALE: NTS

A9 MATERIAL LEGEND
SCALE: NTS

A12 SYMBOL LEGEND
SCALE: NTS



SCOPE OF WORK:

THIS PROJECT CONSISTS OF A ONE STORY 10,540 SQUARE FOOT, FULLY SPRINKLED OFFICE BUILDING. THE BUILDING IS WOOD FRAMED WALLS WITH WOOD ROOF TRUSSES, STEEL COLUMNS, BRICK VENEER AND MEMBRANE ROOF.

BUILDING CODE SUMMARY

Code Requirement		2018 International Building Code
Use Group	302.1, 304	Business B (308.5)
Construction Classification	T.601, 603.1	5B
Allowable Tabular Building Area	503, T.504.3	36,000 SF
Actual Building Area		10,540 SF
Height Modifications		N.A.
Automatic Sprinkler System		N.A.
Allowable Building Height	T.504.3	60'-0", 3 Stories
Actual Building Height		32'-0", 1 Story
Automatic Sprinklers	903	Yes; Fully-sprinklered
Design Occupant Load	T.1004.5	B = 100 gross / exercise = 50 net
Main Level		10,540 SF
Roof Patio Level		1,236 SF
Travel Distance for Group B	T.1017.2	200'-0" Maximum
Common Path of Travel for Group B	T.1017.2	100'-0" Maximum
Dead End	1020.4	50'-0" Maximum
Minimum Number of Exits	1022	2

Plumbing Calculations:

"B - BUSINESS" PLUMBING FIXTURE CALCULATIONS -
BASED ON 172 OCCUPANTS / 64 EACH GENDER (CALCULATED IN ACCORDANCE WITH I.B.C.)

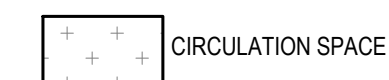
	FIXTURES REQUIRED (PER IPC T403.1 & IBC T2902.1)			FIXTURES PROVIDED		
FIXTURE TYPE	WOMEN	MEN	UNISEX	WOMEN	MEN	UNISEX
WATER CLOSETS	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 = 3	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 = 3	-	<u>3</u>	<u>2</u>	<u>1</u>
URINALS	-	(50% MAX) = 3	-	-	<u>1</u>	-
LAVATORIES	1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80 =2	1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80 =2	-	<u>3</u>	<u>3</u>	<u>1</u>
DRINKING FOUNTAINS	-	-	(1 PER 100) = 2	-	-	<u>2</u>
BATHTUBS / SHOWERS	-	-	-	-	-	4
SERVICE SINKS	-	-	1	-	-	1

NOTES

1. UNSEX FACILITIES ARE ASSUMED TO BE SPLIT 50/50 GENDER COUNTS.
2. URINALS MAY NOT SUBSTITUTE FOR MORE THAN 67% OF THE REQUIRED WATER CLOSETS IN ASSEMBLY AND EDUCATION OCCUPANCIES, AND NOT MORE THAN 50% OF THE REQUIRED WATER CLOSETS IN ALL OTHER OCCUPANCIES.
3. ACCESSORY SPACES ARE NOT ASSIGNED OCCUPANTS FOR PLUMBING COUNT.
4. LOW-HIGH DRINKING FOUNTAINS ARE COUNTED AS 2 (TWO) DRINKING FOUNTAINS.

EGRESS LEGEND

WALL LINETYPE DESIGNATIONS



— ◀ — DESIGNATED MEANS OF EGRESS

MEANS OF EGRESS - CHAPTER 10

OCCUPANT LOAD - TABLE 1004.5
SEE EGRESS PLAN DRAWINGS FOR OCCUPANT
LOADS - VARIES BY SPACE.

EGRESS OCCUPANCY CALCULATION - SECTION

OCCUPANTS x 0.15" PER OCCUPANT = "X"
REQUIRED; "X" PROVIDED.
(WHEN EQUIPPED **WITH** A SPRINKLER SYSTEM)

MINIMUM REQUIRED EGRESS WIDTH (OTHER THAN STAIRWAYS) - SECTION 1005.3.2
DOOR WIDTH = OCCUPANT LOAD X 0.15"
WITH SPRINKLER SYSTEM
1011.2: STAIRWAY WIDTH AND CAPACITY
THE MINIMUM WIDTH SHALL NOT BE LESS THAN 44 INCHES

EXCEPTION: STAIRWAYS SERVING AN OCCUPANT LOAD OF LESS THAN 50 SHALL HAVE A WIDTH OF NOT LESS THAN 36 INCHES.

1009.3.2 ACCESSIBLE STAIRWAY WIDTH
STAIRWAYS SHALL HAVE A CLEAR WIDTH OF
48 INCHES MINIMUM BETWEEN HANDRAILS

EXCEPTION: THE CLEAR WIDTH OF 48 INCHES BETWEEN HANDRAILS IS NOT REQUIRED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.

MINIMUM STAIRWAY REQUIRED EGRESS

WIDTH - SECTION 1005.3.1
STAIRWAY EGRESS WIDTH = OCCUPANT
LOAD X 0.2" WITH SPRINKLER SYSTEM

COMMON PATH OF EGRESS TRAVEL - TABLE

1006.2.1
OCCUPANCY GROUP "B" = 100 FT. (WHEN
EQUIPPED WITH A SPRINKLER SYSTEM)

MINIMUM NUMBER OF EXITS - TABLE 1006.3.2
OCCUPANT LOAD PER STORY OF 1 - 500 = 2
EXITS MINIMUM

EXIT AND EXIT ACCESS DOORWAYS SECTION -

SECTION 1007.1.1
THE SEPARATION DISTANCE OF THE EXIT
DOORS SHALL NOT BE LESS THAN ONE-THIRD
OF THE LENGTH OF THE MAXIMUM OVERALL
DIAGONAL DIMENSION OF THE AREA SERVED,
WHERE A BUILDING IS EQUIPPED
THROUGHOUT WITH AN AUTOMATIC
SPRINKLER SYSTEM.

EXIT ACCESS TRAVEL DISTANCE - TABLE 1017.2
OCCUPANCY "B" WITH SPRINKLER SYSTEM =
300 FT.

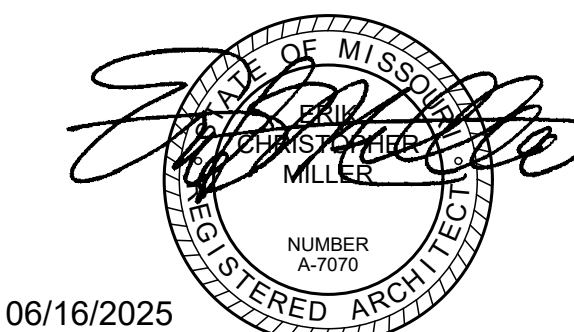
CORRIDOR FIRE-RESISTANCE RATING - TABLE
1020.1

= 0 HOUR FOR OCCUPANCY GROUP "B"
MINIMUM CORRIDOR WIDTH - TABLE 1020.2
 Any facility not listed in this table = **44" MINIMUM**



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06/16/2025

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DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn: LC	Project Number: 202428
Checked: EM	CAD File Name (Number)

Drawing Title:
CODE AND EGRESS PLANS

No.	Revisions:	D

Submission Date:	Drawing Number: G002
06/16/2025	
Plot Date:	
06/16/2025	

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DIVISION 9 - FINISHES

09 00 00 GENERAL FINISHES AND FINISH REQUIREMENTS

9a. INTERIOR FINISH MATERIAL REQUIREMENTS: Verify interior finish materials including type and other information with Owner. Meet the following minimum requirements for Paint, Carpet, Ceramic or Vinyl floor coverings, vinyl base, and all other interior finish materials utilized for the project.
A. In Exit Enclosures and Exit Passageways: Class B: Flame spread rating 26-75; Smoke-developed rating 0-450.
B. In Corridors: Class B: Flame spread rating 26-75; Smoke-developed rating 0-450.
C. In Enclosed Rooms and Spaces: Class C: Flame spread rating 76-200; Smoke-developed rating 0-450.

9b. INTERIOR FLOOR FINISH MATERIALS: All interior floor finish materials shall be Class II materials in accordance with NFPA 253.

9c. GYPSUM BOARD: 5/8" thick Type "X" maximum width and length as defined in ASTM C1396/C1396M; ends square cut, tapered edges. Location: all walls and where shown on drawings. Coordinate with drawings. Use Moisture Resistant Gypsum Board at plumbing walls and all bathroom / restroom walls, with Fungal Resistance Score of 10 when tested in accordance with ASTM D3272. Comply with GA 216 and ASTM C840. Use Gold Bond Brand SoundBreak XP Gypsum Board on interior face of corridor walls, see wall type "E".
A. Provide finishing accessories as follows:
1. Metal Finishing Accessories: ASTM C1047, galvanized steel, rolled zinc, or rigid plastic, unless otherwise indicated. Provide U-bead, L-bead, and LC-bead at exposed panel edges in addition to conventional corner bead and control joints.
2. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions. Provide 2-inch wide creased paper tape for joints and corners. Provide ready-mixed vinyl-based joint compound.
3. High Build Drywall Surface: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer where required for MPI Level 5 Finish.
4. Screws for Attachment to Steel Members Less Than 0.03-inch Thickness, to Wood Members, and to Gypsum Board: ASTM C102; self-piercing tapping type.
5. Screws for Attachment to Steel Members from 0.033-inch to 0.112-inch in Thickness: ASTM C854; steel drill screws for application of gypsum board to load-bearing steel studs.
6. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

9d. PAINT: Sherwin-Williams. Paint all scheduled surfaces with a minimum of 2 coats of paint / stain, plus primer as required to provide complete coverage. See Finish Schedule on drawings. Coordinate all paint colors, sheens, and paint product selections with Owner.
A. PAINT SYSTEMS - EXTERIOR: Exterior Ferrous Metal Galvanized and Non-Galvanized: Lintels, downspout boots, and other ferrous metal items shown on drawings to be painted.
1. Preparation as required by manufacturer.
2. Two top coats and one coat primer.
3. Semi-gloss: MPI Gloss Level 5; use this sheen at all locations.
4. Top Coat Product: Sherwin-Williams DTM Acrylic Coating, Product #B-66-W2-11.
5. Primer(s): Sherwin-Williams DTM Acrylic Primer, Product #B-66-W1, or as recommended by manufacturer.
B. PAINT SYSTEMS - INTERIOR: All interior surfaces indicated to be Painted, unless otherwise indicated, including gypsum board, concrete, concrete masonry, shop primed steel, galvanized steel and wood trim, door frames, etc.
1. Preparation as required by manufacturer.
2. Two top coats and one coat primer.
3. Eggshell: MPI Gloss Level 3; use this sheen at all locations.
4. Top Coat Product: Sherwin-Williams Pre-Catalyzed Water-Based Epoxy.
5. Primer(s): As recommended by manufacturer.

DIVISION 10 - SPECIALTIES

10c. FIRE EXTINGUISHERS & CABINETS:
A. Larsen's Manufacturing Co. #MP5A (3A40B:C) Extinguisher, with Larsen's Manufacturing Co. Semi-Recessed Steel Cabinet #2409-R7 with Clear Acrylic window.
B. See drawings for types and locations.

10d. EXTERIOR SIGNAGE: Coordinate all electrical requirements with MEP. Comply with City of Lee's Summit zoning ordinances and signage ordinances.
A. Exterior Building-mounted Signage: Coordinate with Owner.
B. Provide all demolition, blocking, attachment, electrical, conduits, etc. required for complete functioning and installation.

DIVISION 11 - EQUIPMENT (NOT USED)

DIVISION 12 - FURNISHINGS (NOT USED)

DIVISION 13 - SPECIAL CONSTRUCTION

13a. SPRINKLER SYSTEM: Design and Install NFPA 13 Sprinkler System in accordance with Chapter 9 of the 2018 International Building Code. Coordinate requirements with sprinkler system designer and submit shop drawings to the City of Lee's Summit for approval prior to installation. The sprinkler system must be designed, approved, and submitted by a Professional Engineer in the State of Missouri. Coordinate with M/E/P documents.

13b. SECURITY SYSTEM: Coordinate requirements with Owner.

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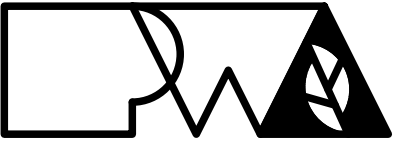
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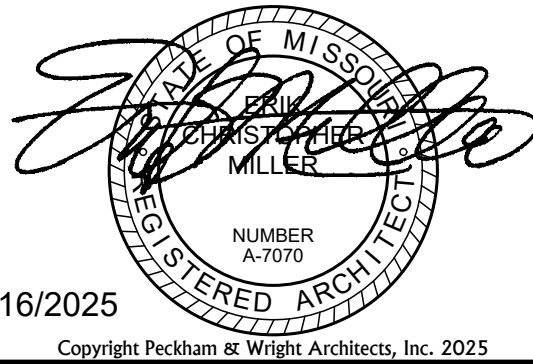
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ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn: LC	Project Number: 202428	
Checked: EM	CAD File Name (Number):	
Drawing Title: SPECIFICATIONS		
No.	Revisions:	Date:
Submission Date: 06/16/2025	Drawing Number: G005	
Plot Date: 06/16/2025		

Discovery - Alura Clubhouse

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT BY OWN, INC. DATED APRIL 1, 2024 & ADDENDUM LETTER DATED DECEMBER 19, 2024.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

- CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:

FOUNDATIONS	—	3,000 PSI
CAST-IN-PLACE WALLS	—	3,500 PSI
FLOOR SLAB	—	4,000 PSI
EXTERIOR SLABS, WALLS AND CURBS	—	4,000 PSI
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
- CHLORIDE- BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
- ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
- CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE.
- CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C- 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
- CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
- SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
- READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
- CONCRETE WORK EXECUTION
 - CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
 - POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:

CAST AGAINST AND EXPOSED TO EARTH.....	3 INCHES
EXPOSED TO EARTH OR WEATHER.....	2 INCHES
NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH.....	1 1/2 INCHES
 - PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM 1/4 OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
 - STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
 - CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE. NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

STRUCTURAL STEEL

- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND CURRENT OSHA STANDARDS.
- WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL TUBES SHALL CONFORM TO ASTM A500 GRADE B. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
- BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A325-N, SIZE AS PER PLAN.
- ANCHOR BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM F1554 GRADE 36.
- SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
- ALL STRUCTURAL AND MISCELLANEOUS STEEL ITEMS SHALL RECEIVE ONE COAT OF "IRONCLAD RETARDO RUST INHIBITIVE PAINT 163" (BENJAMIN MOORE) OR APPROVED EQUAL UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. ALL STEEL SURFACES EMBEDDED IN CONCRETE SHALL NOT BE PAINTED. PREPARATION OF STEEL SURFACES SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL (SSPC-SP1) AND THE REMOVAL OF GREASE AND OIL BY SOLVENT CLEANING (SSPC-SP1) AND THE REMOVAL OF MILL SCALE, RUST, WELD FLUX AND SLAG BY HAND TOOL CLEANING (SSPC-SP2). PRIMER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN ONE GALLON PER 400 SQ.FT. THEREBY DEPOSITING A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. ANY SCARRED AREAS SHALL BE TOUCHED UP WITH THE SAME PAINT AFTER ERECTION.
- ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS STRUCTURAL WELDING CODE. WELDING ELECTRODES SHALL BE E70XX.

POST-INSTALLED ANCHORS

- ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
- EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
- ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
- EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
- EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
- ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
- STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

- FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

A.	2X4	SPF No.1/No.2
B.	2X6	SPF No.1/No.2
C.	2X8	DF-L No.2
D.	2X10	DF-L S.S.
E.	2X12	DF-L S.S.

EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.

- SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
- TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
- SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
- BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 11.1.2 OF THE CURRENT ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
- LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 11.1.3 AND 11.1.4, RESPECTIVELY, OF THE CURRENT ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
- COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 11.1.5.4 OF THE CURRENT ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
- FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.9.1, UNLESS NOTED OTHERWISE.
- CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

BRICK LINTELS

- ALL STEEL LINTELS TO BE A36 STEEL, A992 GRADE 50, OR A500 GRADE B. ALL LINTELS TO BE HOT DIPPED GALVANIZED.

PREFABRICATED WOOD TRUSSES

- FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/NF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
- PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
- FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
 - DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
 - MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
 - OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
 - DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
 - IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
- GABLE END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
- SUBMITTALS SHALL INCLUDE THE FOLLOWING:
 - SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.

PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAM, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

- CONCRETE GROUT DESIGN MIX (PERIODIC)
- PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
- STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
- STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
- POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
- IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
- MASONRY AND REINFORCING STEEL (CONTINUOUS ON CELL GROUTING / PERIODIC ON REINFORCING)
- WOOD FRAMING:
 - SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
 - DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
 - FRAMING MEMBERS AND DETAILS (PERIODIC)
 - MATERIAL GRADE (PERIODIC)
 - CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
 - PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA

2018 INTERNATIONAL BUILDING CODE / ASCE 7-16

BUILDING OCCUPANCY CATEGORY II

ROOF LOAD DATA

LIVE LOAD (COMMON AREA)	20
ASPHALT SHINGLES + FELT	3.0
5/8" OSB ROOF SHEATHING	2.5
PRE-ENGINEERED WOOD TRUSSES @ 2'-0" O.C.	5.0
INSULATION (BLOWN)	2.0
MECHANICAL ALLOWANCE	5.0
5/8" GYP. CEILING	2.5
SOLAR	5.0
TOTAL TO TRUSSES	45 lbs/sqft

ROOF TOP AMENITY AREA

LIVE LOAD COMMON AREA	100
3/4" GYPCRETE & 3/4" SHEATHING	15
MECHANICAL ALLOWANCE	4
5/8" GYP. CEILING	3
FLOOR STRUCTURE	18
TOTAL TO FLOOR TRUSS	140 lbs/sqft

RAIN LOADING

15 MINUTE RAIN INTENSITY	7.49 in/hr
60 MINUTE RAIN INTENSITY	3.92 in/hr

ROOF SNOW LOAD DATA: (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)

P_g =	20 lbs/sqft
C_g =	10
I_s =	10
C_e =	10
P_f =	1400 lbs/sqft

WIND DESIGN DATA

V_{100} =	109 MPH (3-SECOND GUST)
RISK CATEGORY	II
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT =	+ 0.18
DIRECTIONAL PROCEDURE MWFRS - ASCE 7, CH 27; C&C - ASCE 7, CH 30; PART 4	
MAXIMUM COMPONENTS & CLADDING WIND	+/- 25.33 lbs/sqft

EARTHQUAKE DESIGN DATA

RISK CATEGORY	II
I_e =	10
S_{DS} =	0.1
S_{D1} =	0.068
SITE CLASS	D
S_{DS} =	0.107
S_{D1} =	0.109
SEISMIC DESIGN CATEGORY	B
BASIC SEISMIC-FORCE-RESISTING SYSTEM =	
LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS	
RATED FOR SHEAR RESISTANCE	
R =	6.5
Ω_p =	3.0
C_{dr} =	4.0

DESIGN BASE SHEAR $V = 0.016W$

EQUIVALENT LATERAL FORCE PROCEDURE

BASIC SEISMIC-FORCE-RESISTING SYSTEM =

STEEL ORDINARY CONCENTRICALLY BRACED FRAMES

R =	3.25
Ω_p =	2.0
C_{dr} =	3.25

DESIGN BASE SHEAR $V = 0.033W$

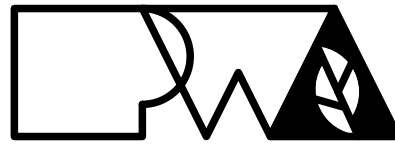
EQUIVALENT LATERAL FORCE PROCEDURE

NET ALLOWABLE SOIL BEARING 2,500 lbs/sqft**

(**PER GEOTECHNICAL REPORT BY OWN, INC. DATED APRIL 1, 2024)

INDEX OF SHEETS

COVER / GENERAL STRUCTURAL DATA	S100
FOUNDATION PLAN	S200
FOUNDATION DETAILS	S210-S211
ROOF FRAMING PLAN	S300
STAIR FRAMING PLANS & DETAILS	S301
ROOF FRAMING DETAILS	S310-S311



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**DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS**

Drawn: CEC Project Number:

RCA 230286

Checked: CAD File Name (Number):

JWV

Drawing Title:

**GENERAL
STRUCTURAL DATA**

No.	Revisions:	Date:

Submission Date: Drawing Number:

06/13/2025

Plot Date:

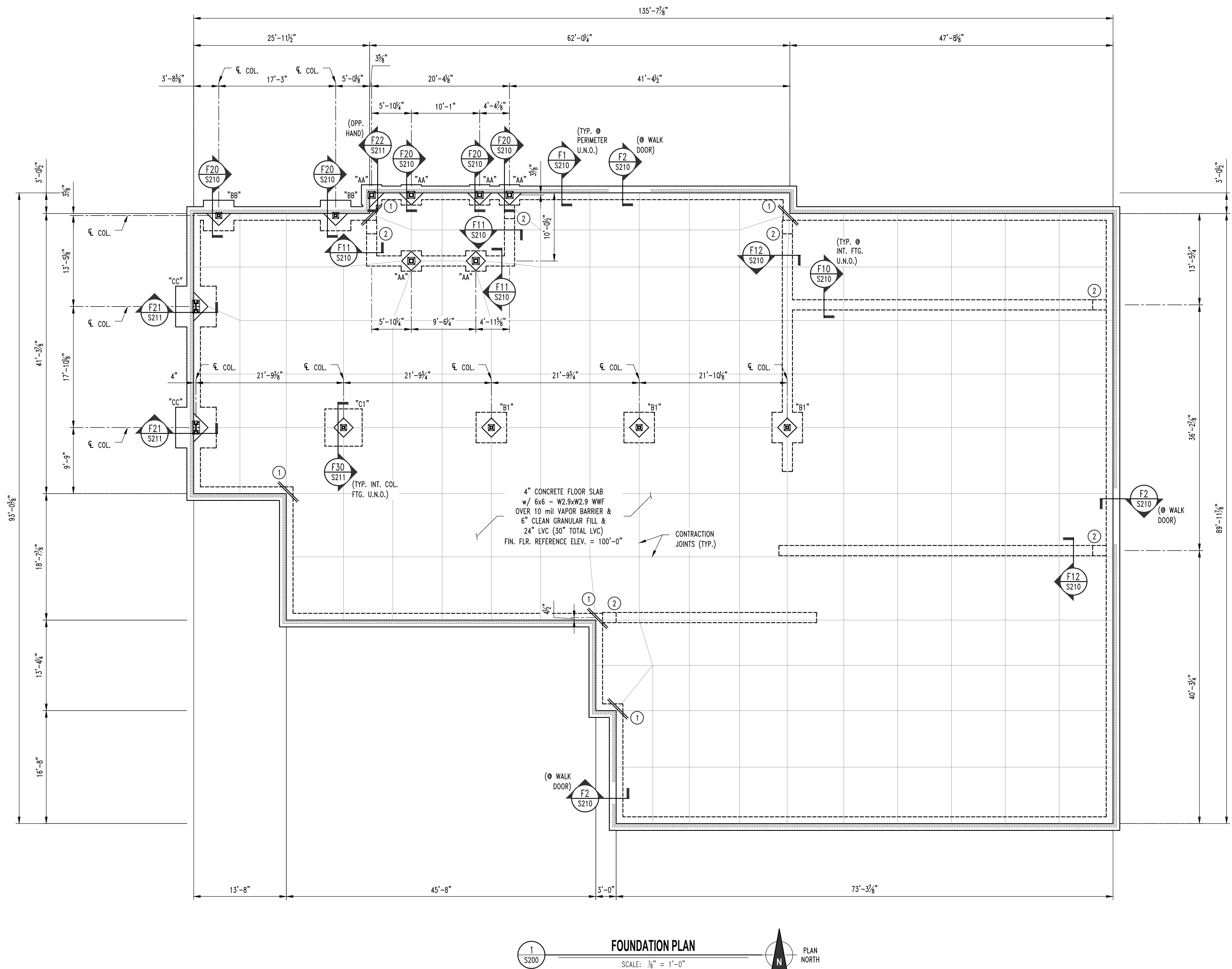
06/13/2025

S100

NOTE:
ALL DIMENSIONS ARE FROM FACE OF
FOUNDATION WALL OR FRAMING; EDGE OF
SLAB; OR CENTERLINE OF COLUMN, BEAM,
OR JOIST UNLESS NOTED OTHERWISE.

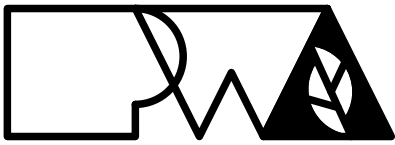
FOUNDATION NOTES

- ① REENTRANT CORNER BARS, REFER TO TYPICAL CRACK
CONTROL REINFORCING DETAIL ON SHEET S210.
② FOOTING STEP, REFER TO DETAIL FS1/S211.



1 FOUNDATION PLAN
SCALE: $\frac{1}{8}'' = 1'-0''$

FOOTING SCHEDULE				
MARK	WIDTH (W)	LENGTH (L)	DEPTH (D)	REINFORCING
"AA"	3'-0" SQ.	---	3'-0"	4 - #5 x 2'-6" EACH WAY, TOP & BOTTOM
"BB"	4'-6" SQ.	---	3'-0"	6 - #5 x 4'-0" EACH WAY, TOP & BOTTOM
"CC"	6'-0" SQ.	---	3'-0"	8 - #5 x 5'-6" EACH WAY, TOP & BOTTOM
"A1"	3'-0" SQ.	---	2'-0"	3 - #5 x 2'-6" EACH WAY, TOP & BOTTOM
"B1"	4'-6" SQ.	---	2'-0"	4 - #5 x 4'-0" EACH WAY, TOP & BOTTOM
"C1"	5'-6" SQ.	---	2'-0"	5 - #5 x 5'-0" EACH WAY, TOP & BOTTOM



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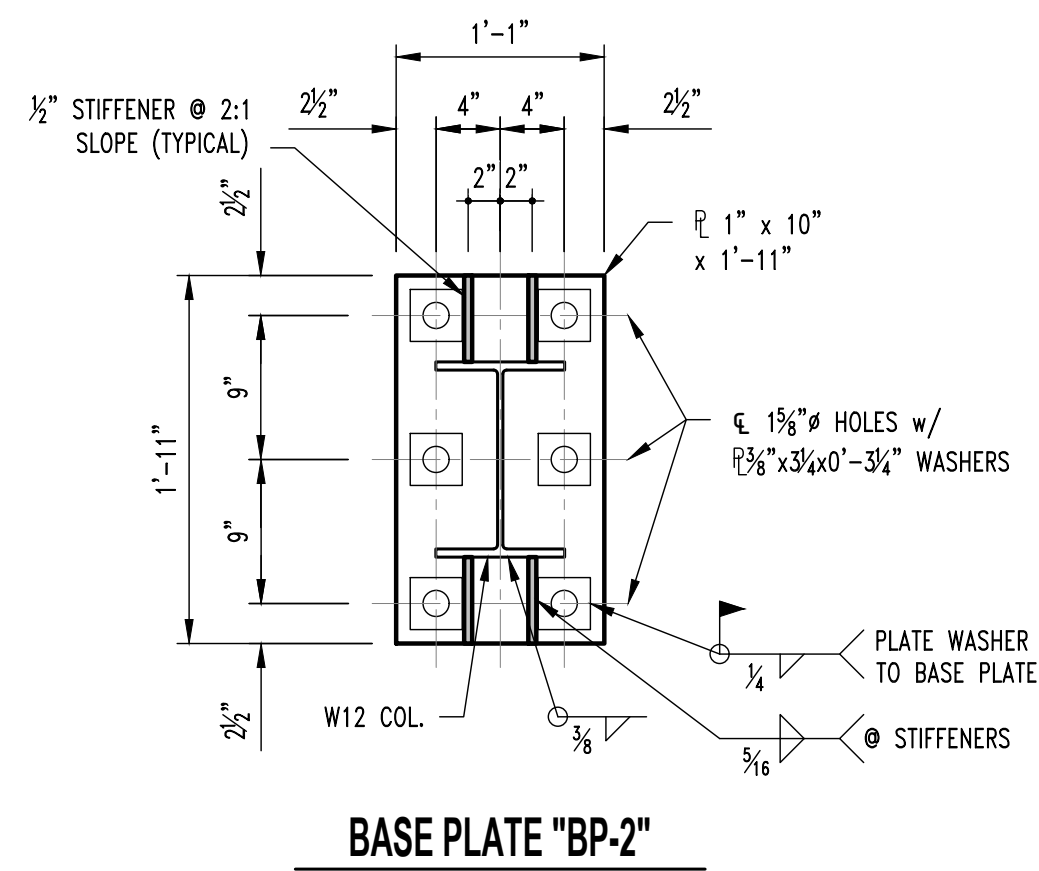
DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn: RCA
Checked: JWV
Drawing Title: FOUNDATION PLAN
CEC Project Number: 230286
CAD File Name (Number):

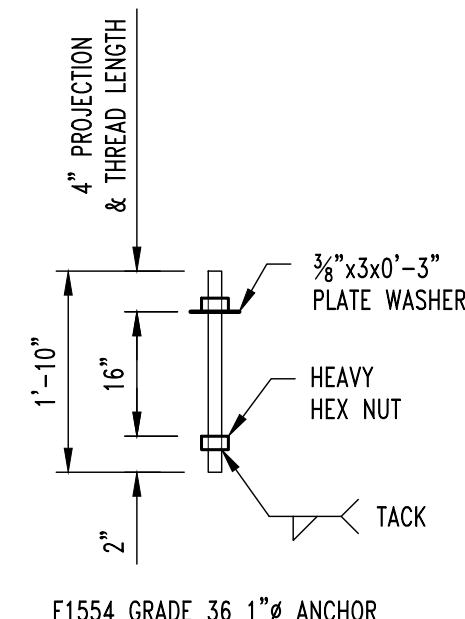
No.	Revisions:	Date:

Submission Date: 06/13/2025
Plot Date: 06/13/2025
Drawing Number: S200

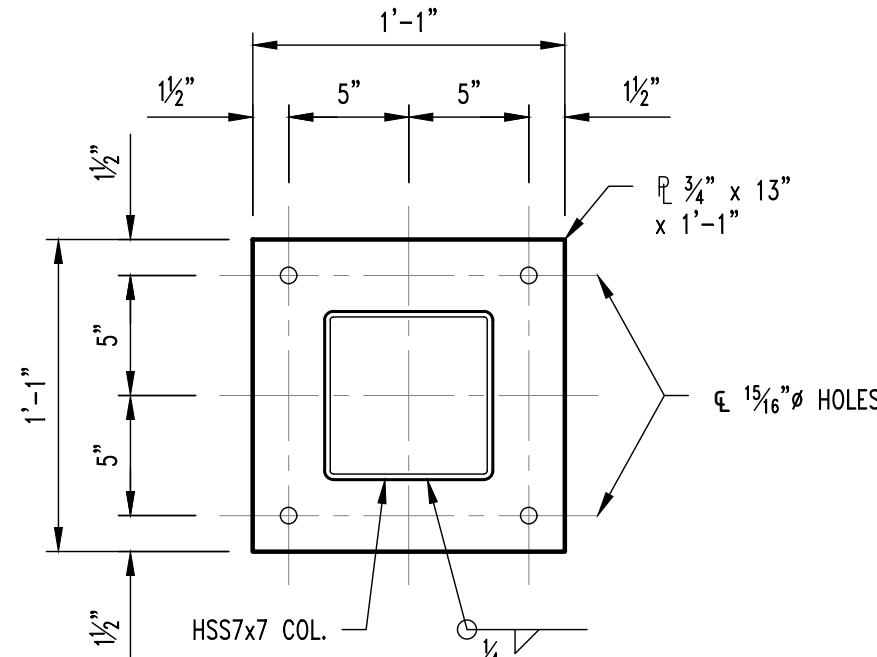




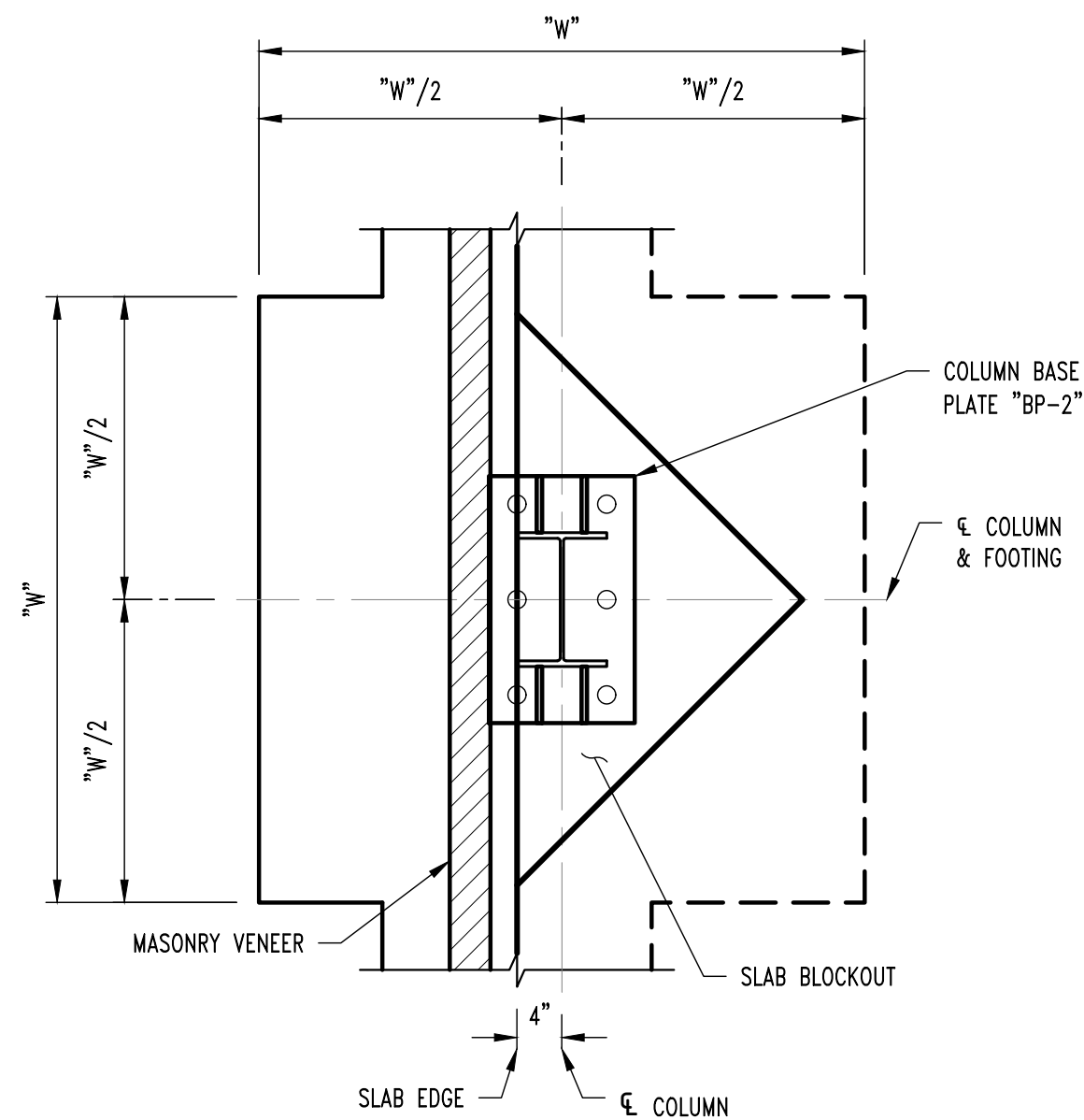
BASE PLATE "BP-2"



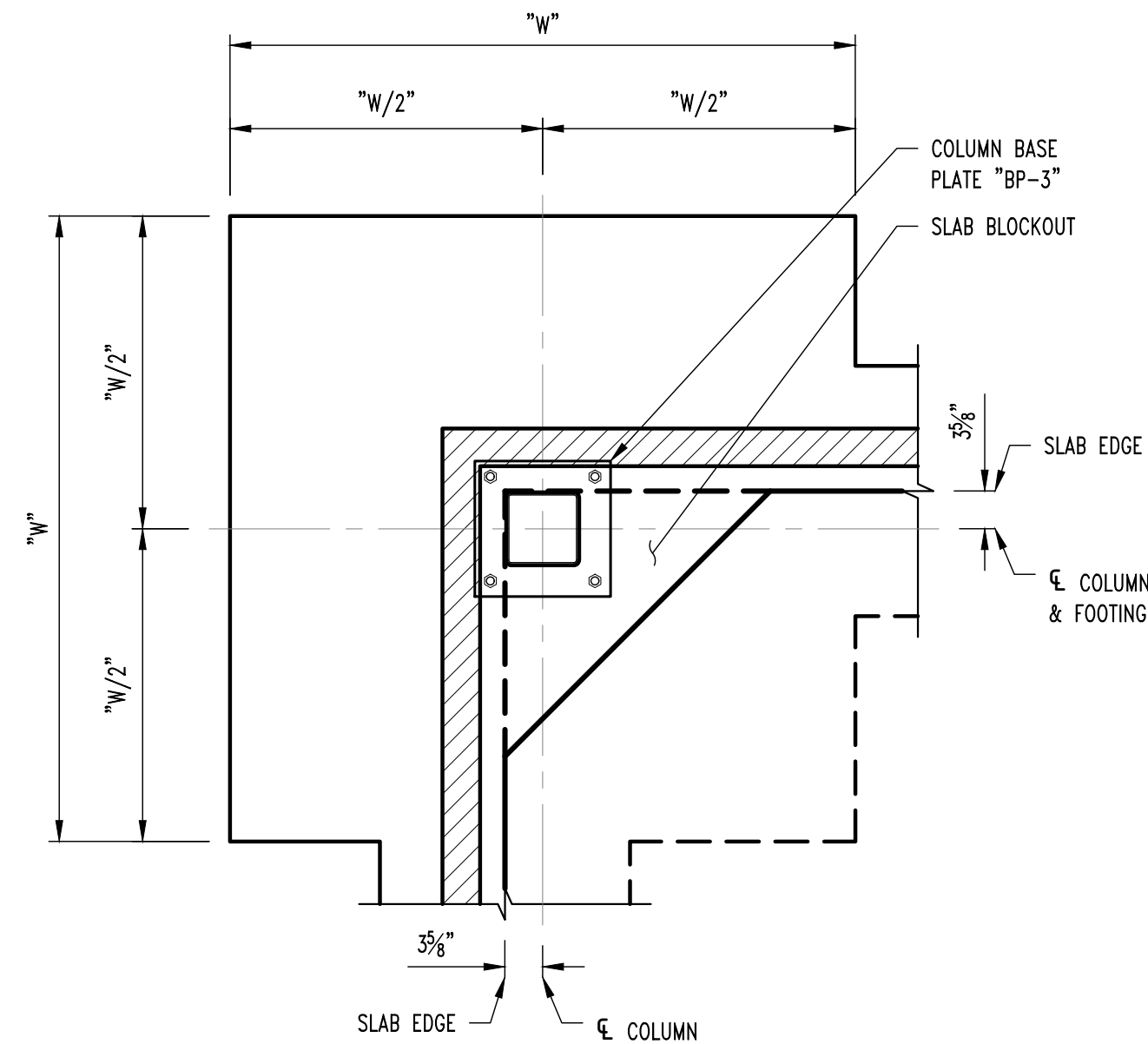
ANCHOR BOLT DETAIL (TYPE B)



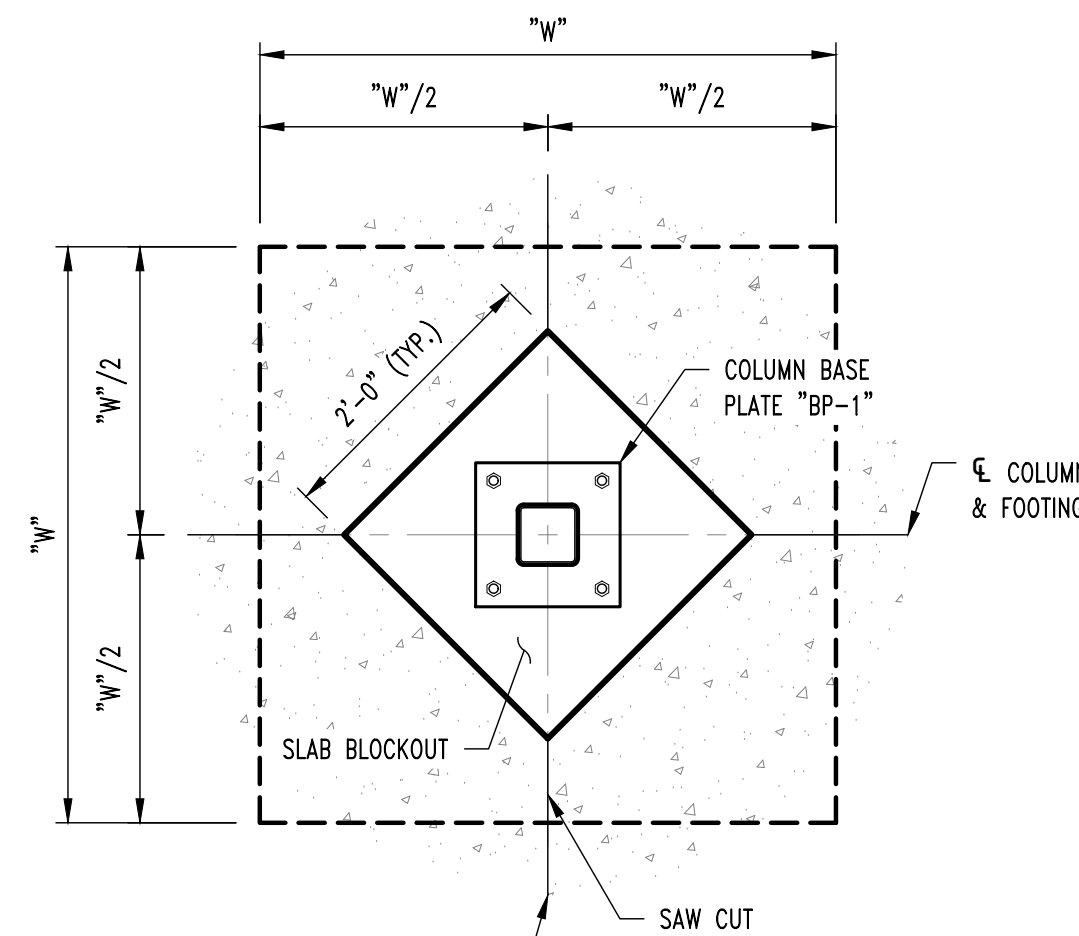
BASE PLATE "BP-3"



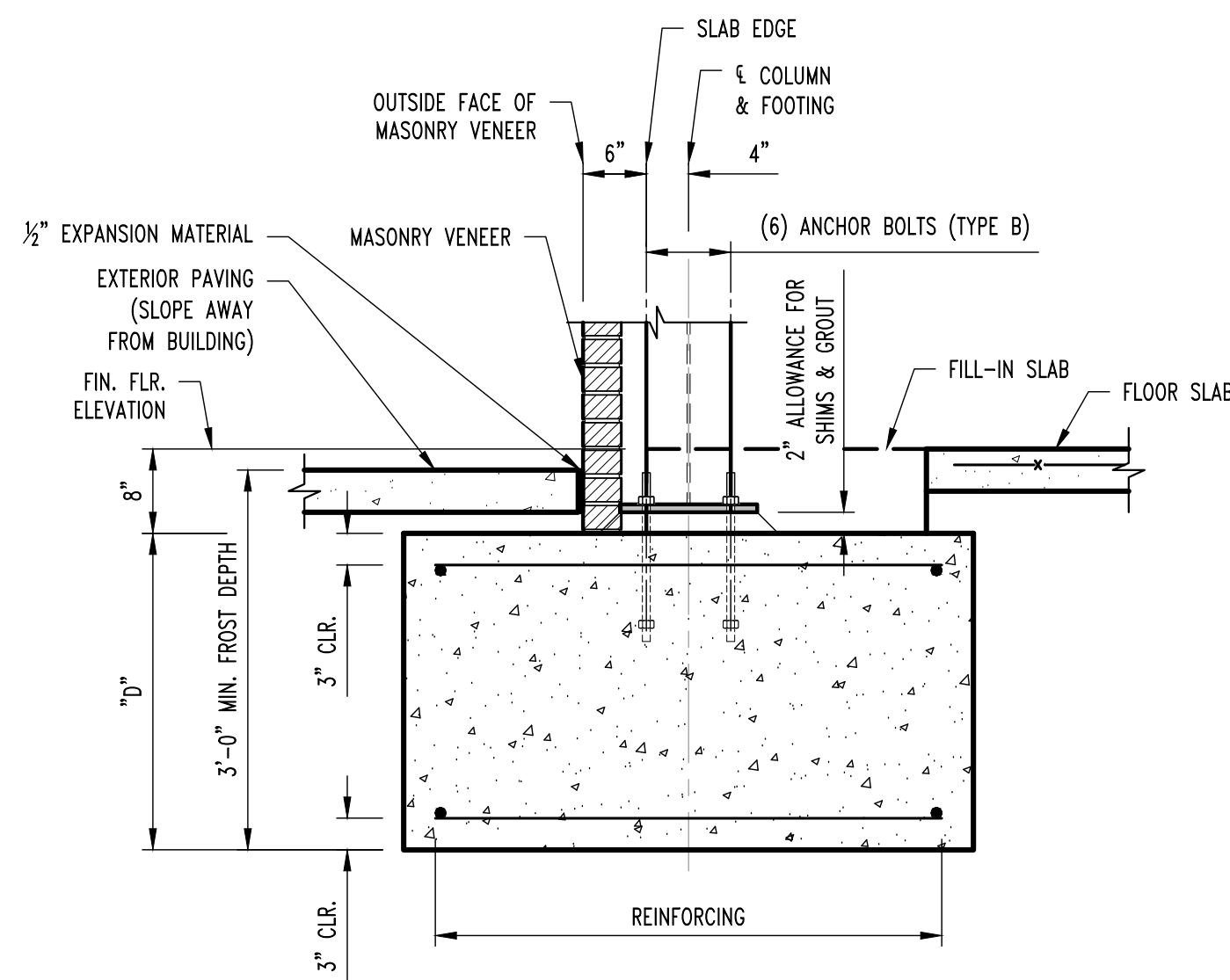
PLAN VIEW



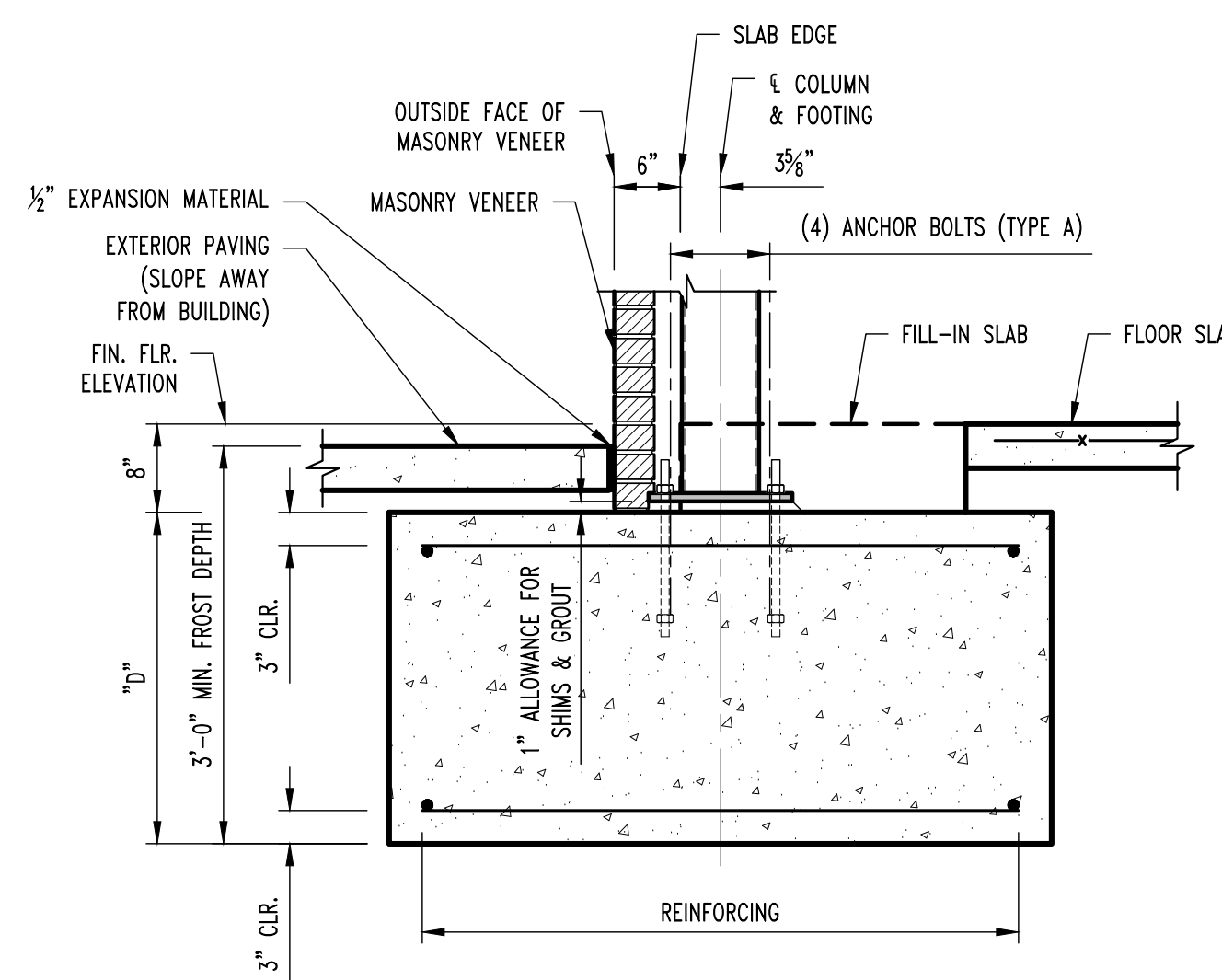
PLAN VIEW



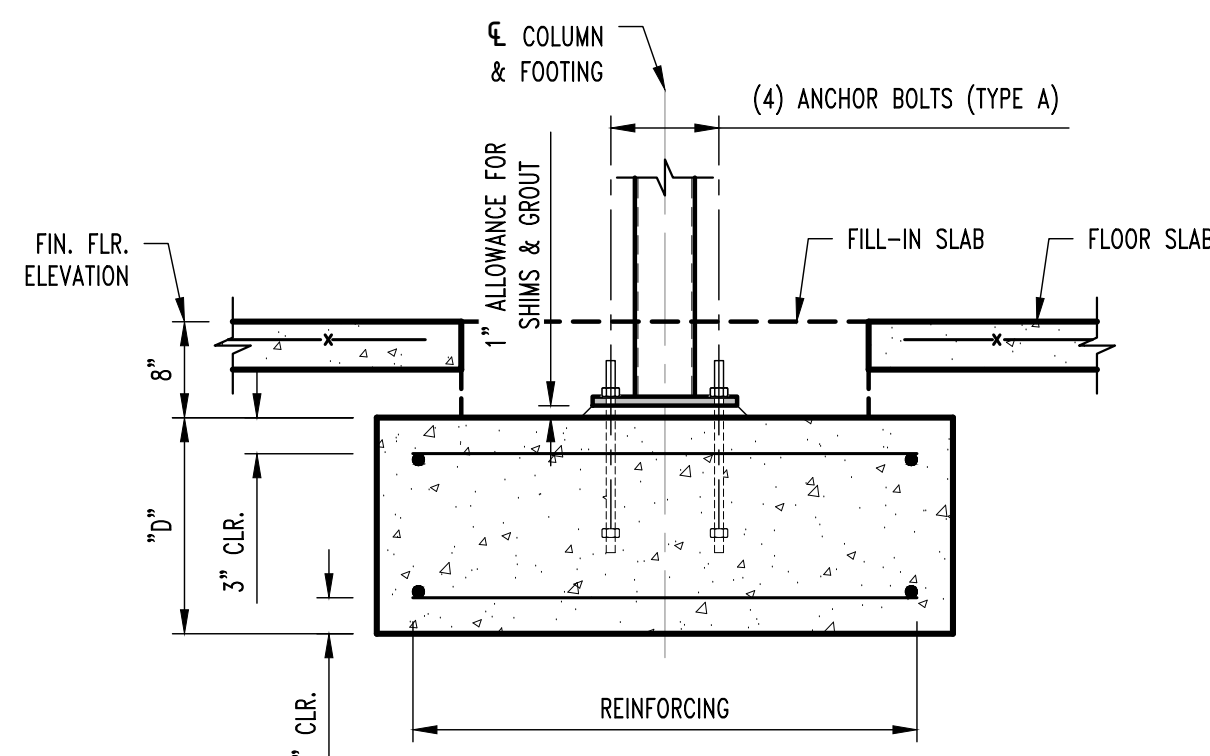
PLAN VIEW



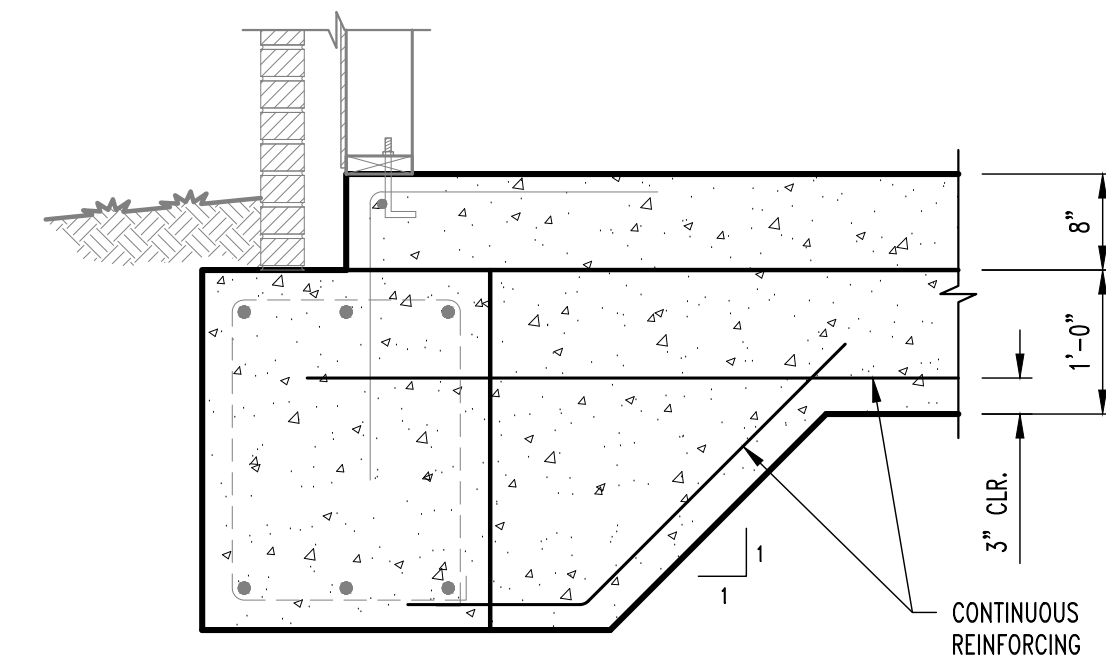
F21
S200 COLUMN FOOTING SECTION
SCALE: 3/4" = 1'-0"



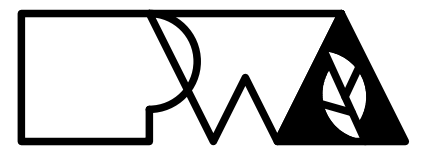
F22
S200 COLUMN FOOTING SECTION
SCALE: 3/4" = 1'-0"



F30
S200 COLUMN FOOTING SECTION
SCALE: 3/4" = 1'-0"



FS1
S200 FOOTING STEP DETAIL
SCALE: 3/4" = 1'-0"



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DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

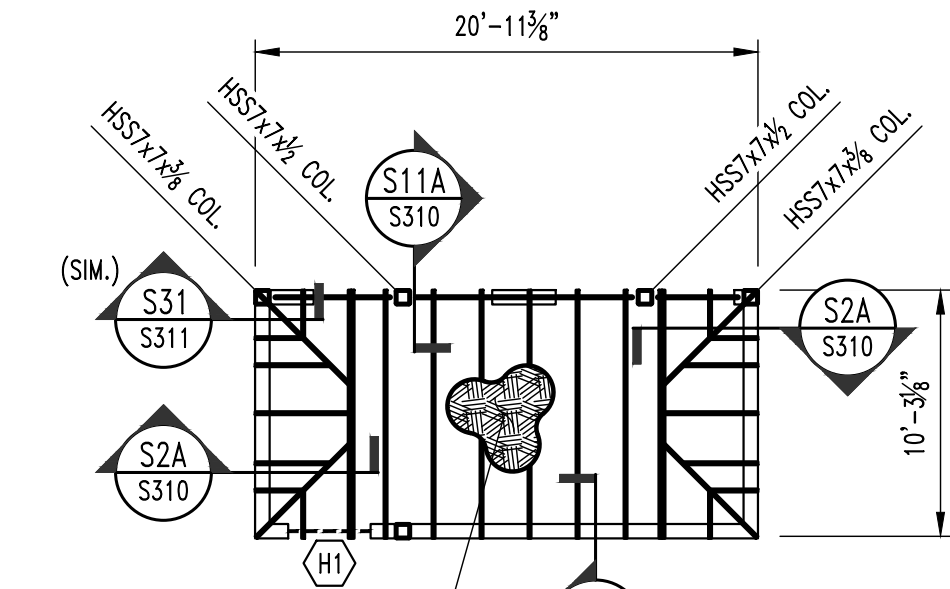
Drawn:	CEC Project Number:
RCA	230286
Checked:	CAD File Name (Number):
JWV	
Drawing Title:	
FOUNDATION DETAILS	
No.	Revisions:
Submission Date:	Drawing Number:
06/13/2025	S211
Plot Date:	
06/13/2025	

NOTE:

ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING; EDGE OF SLAB; OR CENTERLINE OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

ROOF FRAMING NOTES

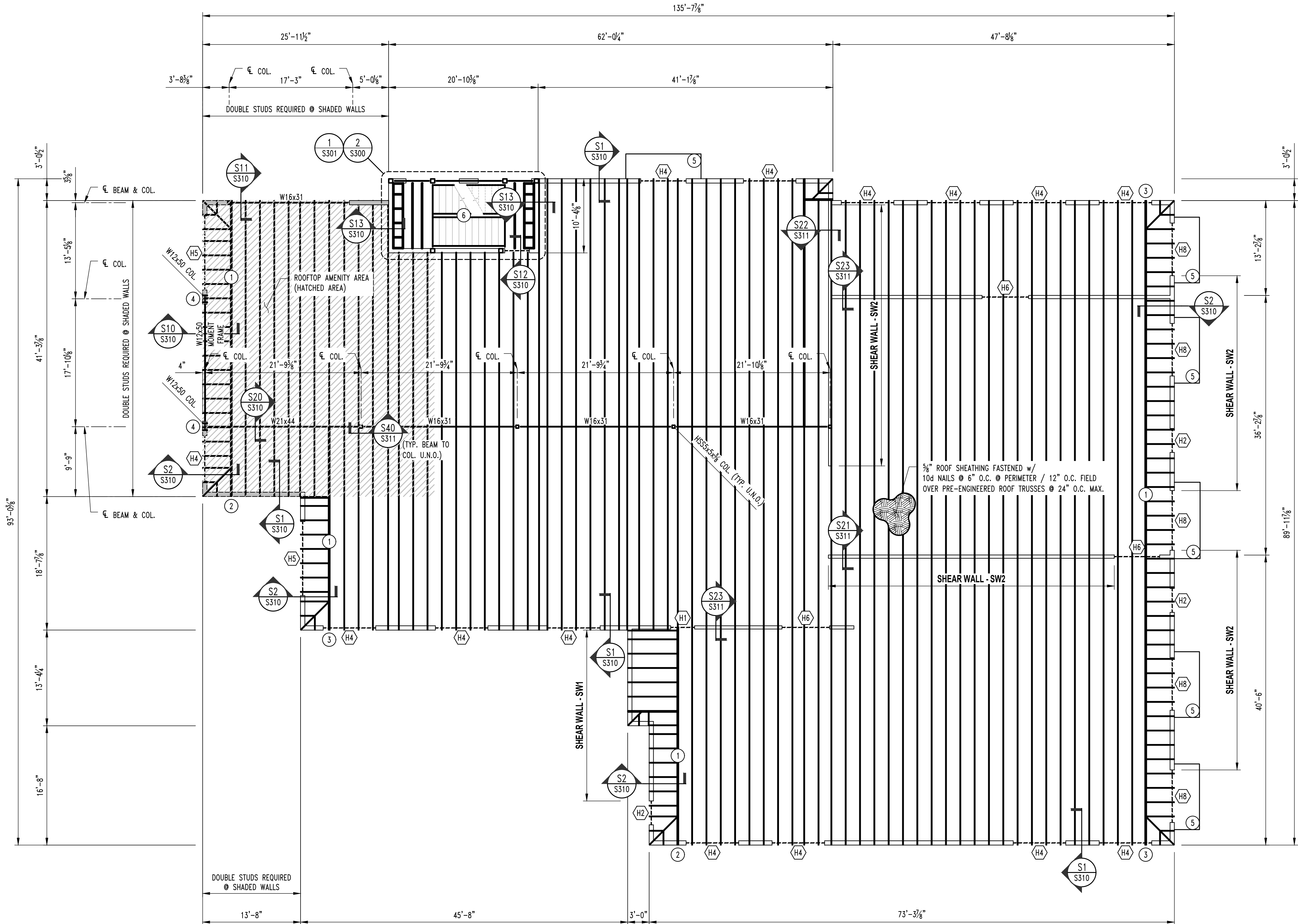
- 1 GIRDER TRUSS
- 2 3-PLY BUILT-UP POST BENEATH GIRDER TRUSS THIS LEVEL TO FLOOR SLAB CONNECTIONS ARE AS FOLLOWS:
FLOOR SLAB: SIMPSON LITF2
ROOF TRUSS: BY TRUSS MANUFACTURER
- 3 REFER TO TYP. GIRDER TO HEADER DETAIL ON SHEET S311.
- 4 REFER TO TYP. MOMENT FRAME CONNECTION DETAIL ON SHEET S311.
- 5 PRE-MANUFACTURED CANOPY (BY OTHERS). REFER TO DETAIL ON SHEET S311.
- 6 REFER TO SHEET S301 FOR STAIR FRAMING PLANS & DETAILS



PARTIAL ROOF FRAMING PLAN

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

PLAN NORTH



ROOF FRAMING PLAN

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

PLAN NORTH

HEADER SCHEDULE

LABEL	HEADER	CRIPPLE/JACK	JAMBIKING
H1	2 Ply 2x8 Doug. Fir No.2	Single Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
H2	2 Ply 2x8 Doug. Fir No.2	Single Ply 2x8 So. Pine No.2	2 Ply 2x8 So. Pine No.2
H3	2 Ply 2x10 Doug. Fir Sel. Struct	2 Ply 2x8 So. Pine No.2	2 Ply 2x8 So. Pine No.2
H4	2 Ply 2x12 Doug. Fir Sel. Struct	2 Ply 2x8 So. Pine No.2	3 Ply 2x8 So. Pine No.2
H5	2 Ply 2x12 Doug. Fir Sel. Struct	2 Ply 2x8 So. Pine No.2	4 Ply 2x8 So. Pine No.2
H6	2 Ply 2x12 Doug. Fir Sel. Struct	3 Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
H7	3 Ply 2x12 Doug. Fir Sel. Struct	2 Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
H8	3 Ply MicroLam 2.0E 1.75x11.25	2 Ply 2x6 SPF No.1/No.2	3 Ply 2x6 SPF No.1/No.2

SHEAR WALL KEY

SW1 SHEAR WALL

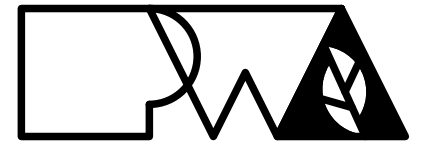
- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
- 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 1'-6" O.C.
- REQUIRES SIMPSON HDU8-SDS2.5 HOLDDOWN FASTENED TO 3-PLY STUDS W/ (20) 1/4" X 2-1/2" SDS SCREWS W/ 7/8" DIAMETER A307 THREADED ROD W/ HEAVY HEX NUT AND 16" TOTAL (8" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL

SW2 SHEAR WALL

- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
- 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 3'-0" O.C.
- REQUIRES SIMPSON HDU3-SDS2.5 HOLDDOWN TIE FASTENED TO 3-PLY STUDS W/ (6) 1/4 X 2-1/2" SDS SCREWS W/ 5/8" DIAMETER A307 THREADED ROD W/ 14" TOTAL (6" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL

TYPICAL SHEAR WALL UNLESS NOTED

- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
- 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 3'-0" O.C.
- NO HOLDDOWNS OR STRAP TIES REQUIRED



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DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn: CEC Project Number:

RCA 230286

Checked: CAD File Name (Number):

JWV

Drawing Title:

ROOF FRAMING PLAN

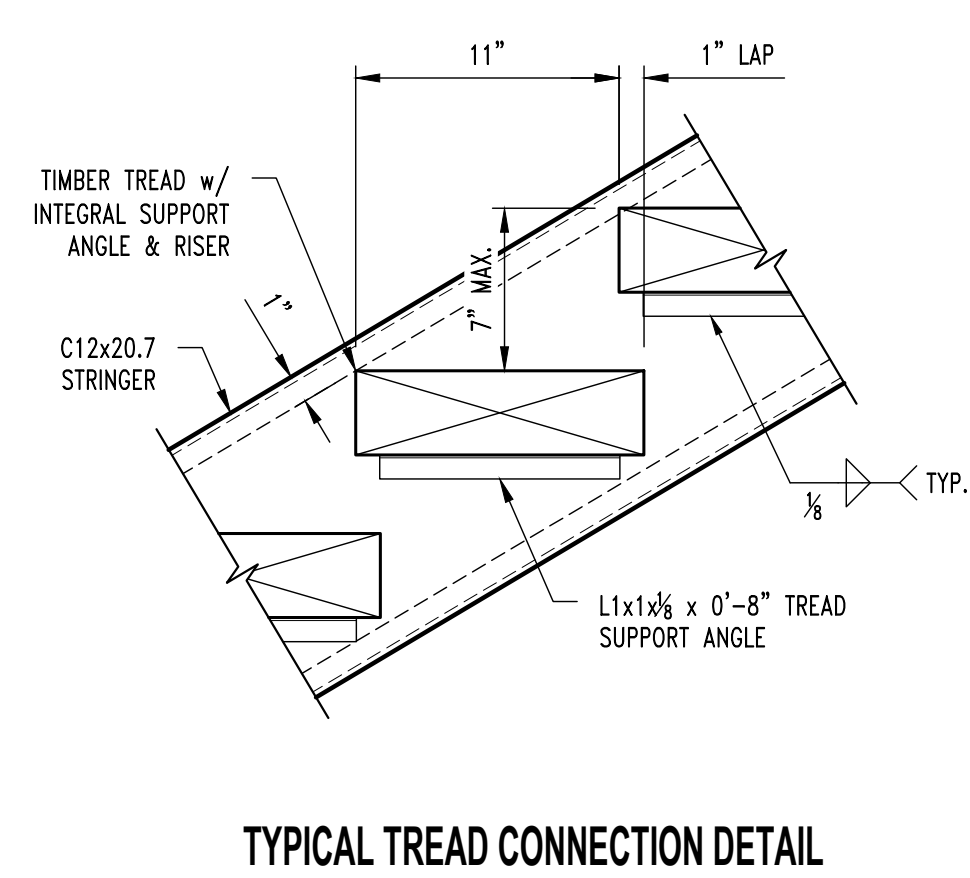
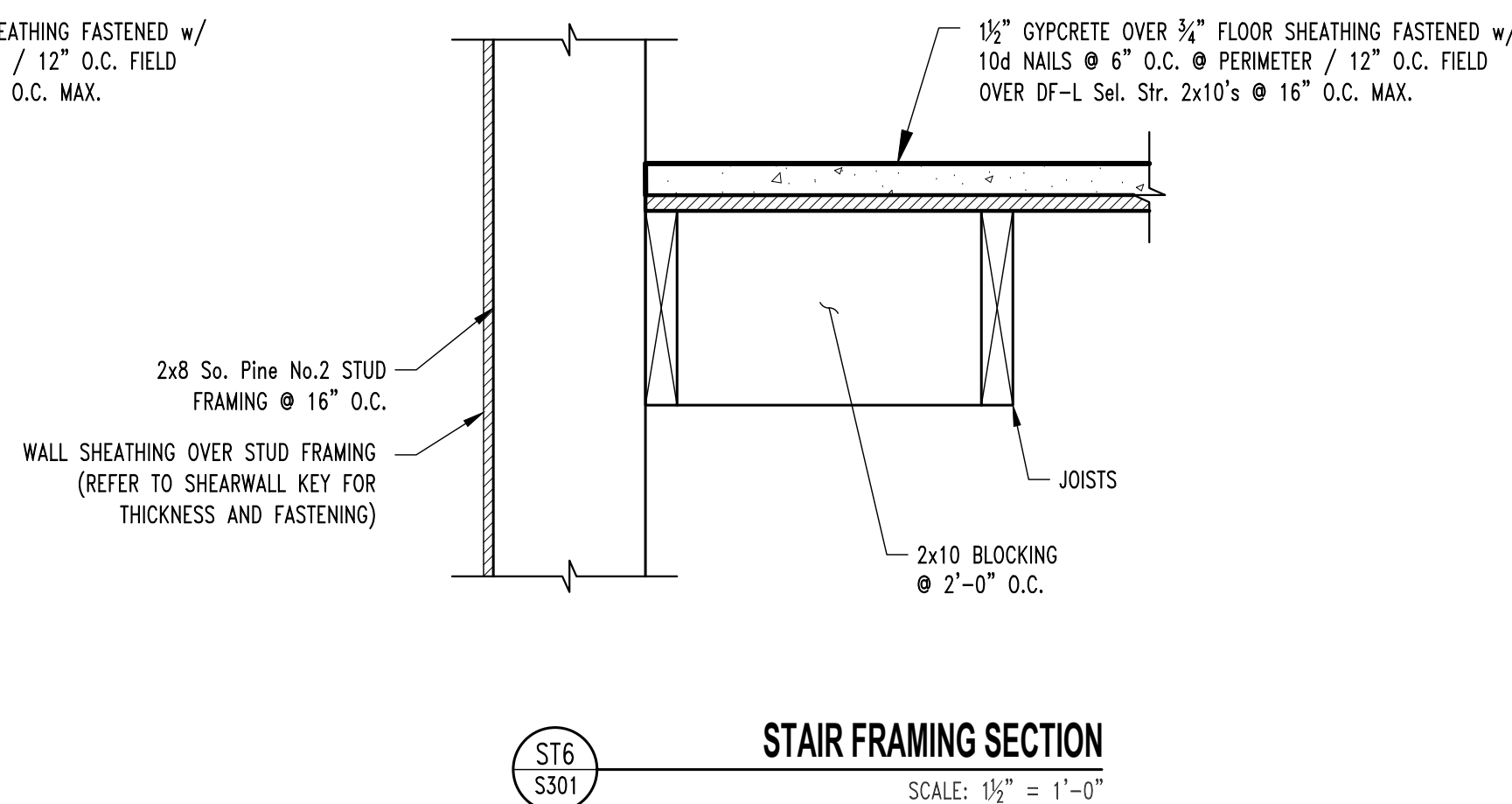
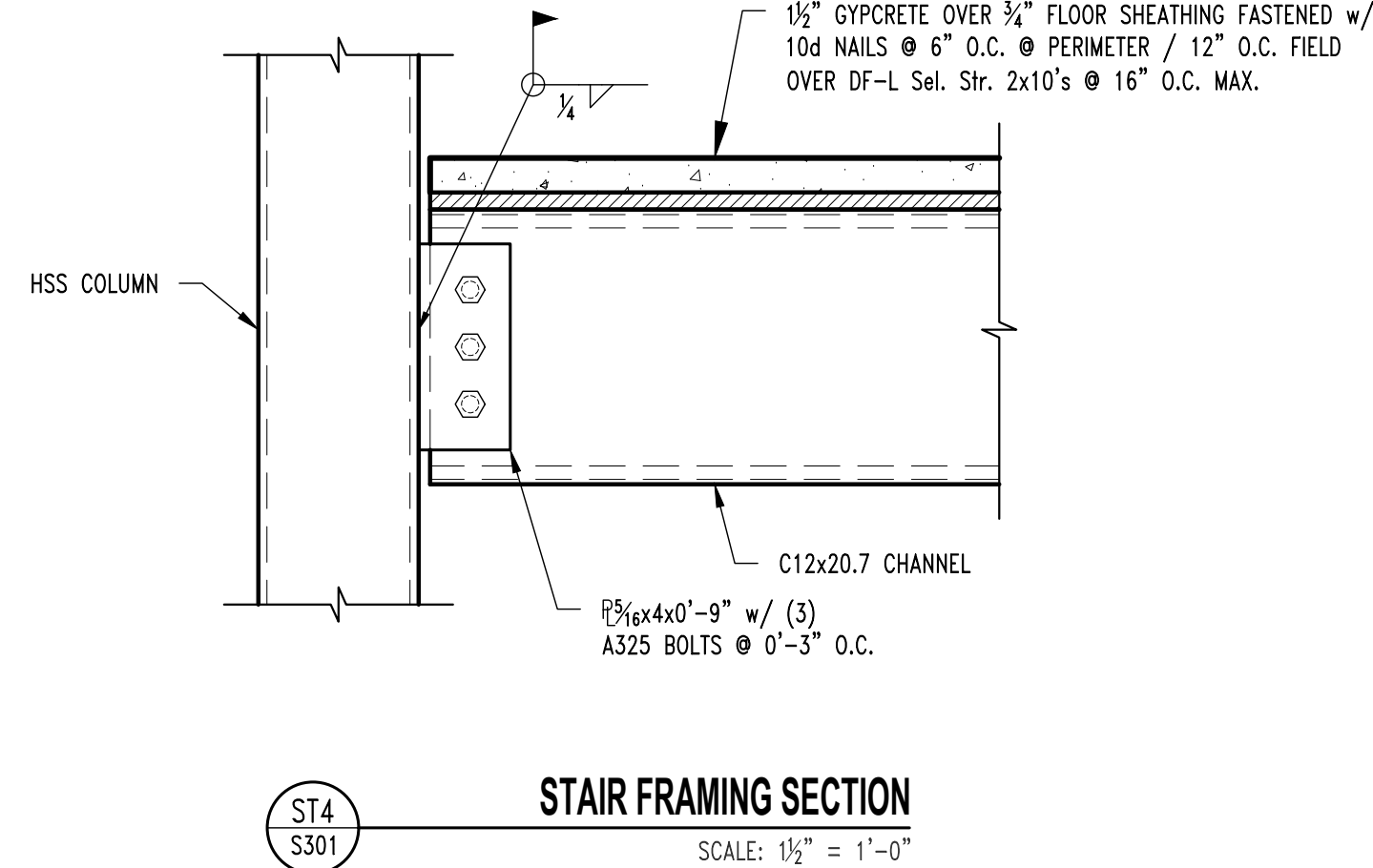
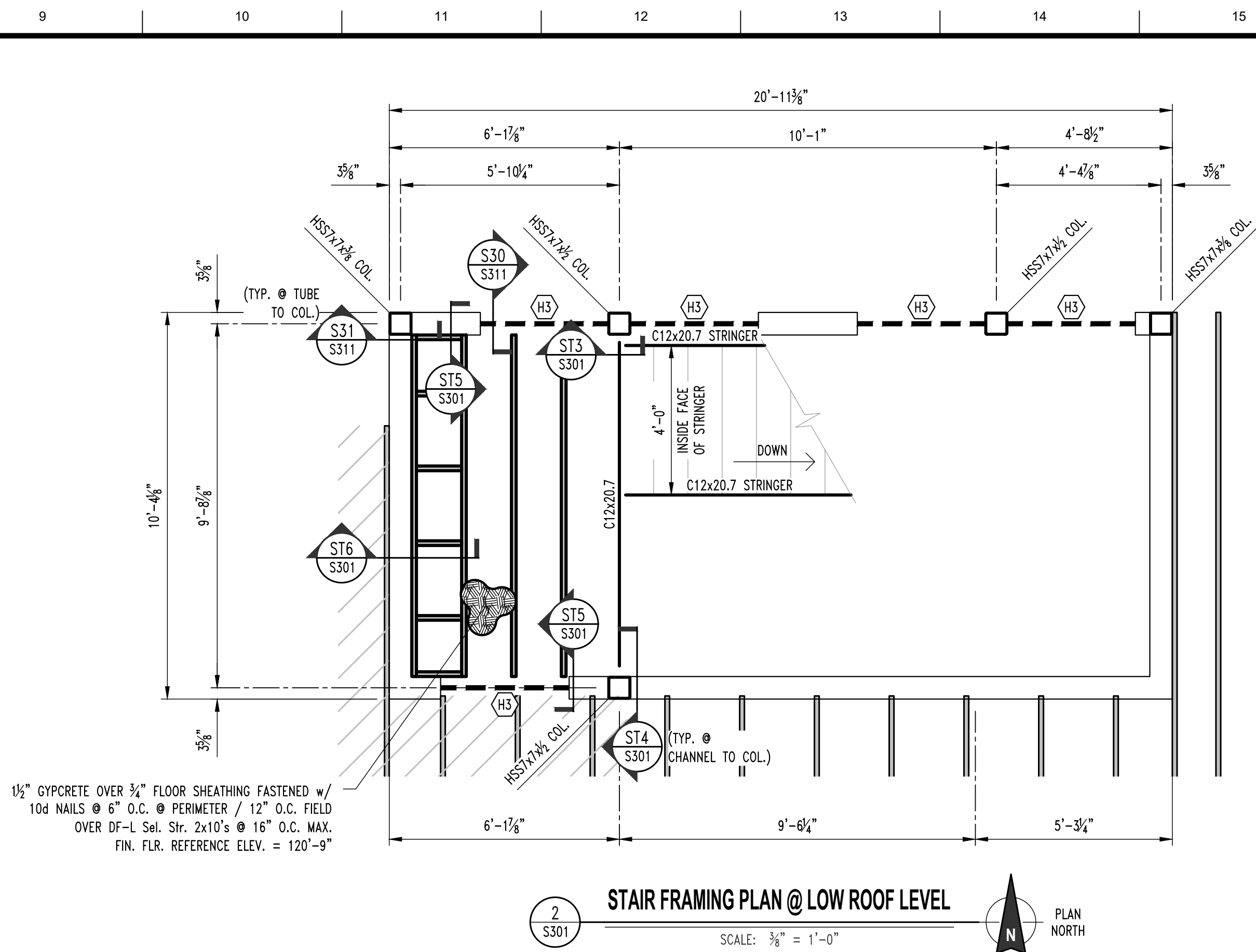
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Submission Date: Drawing Number:

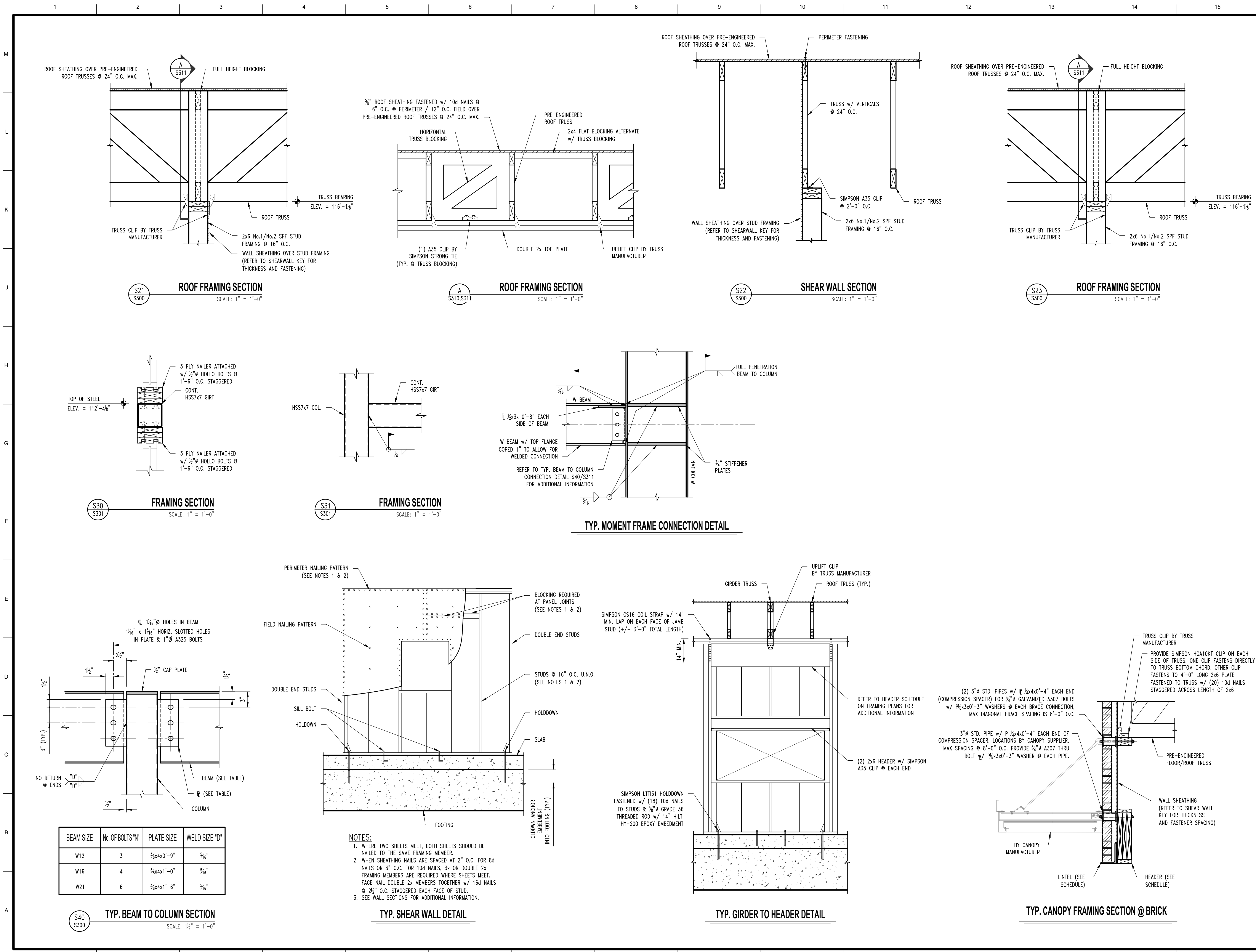
06/13/2025

Plot Date:

06/13/2025



Submission Date: 06/13/2025	Drawing Number: S30
Plot Date: 06/13/2025	



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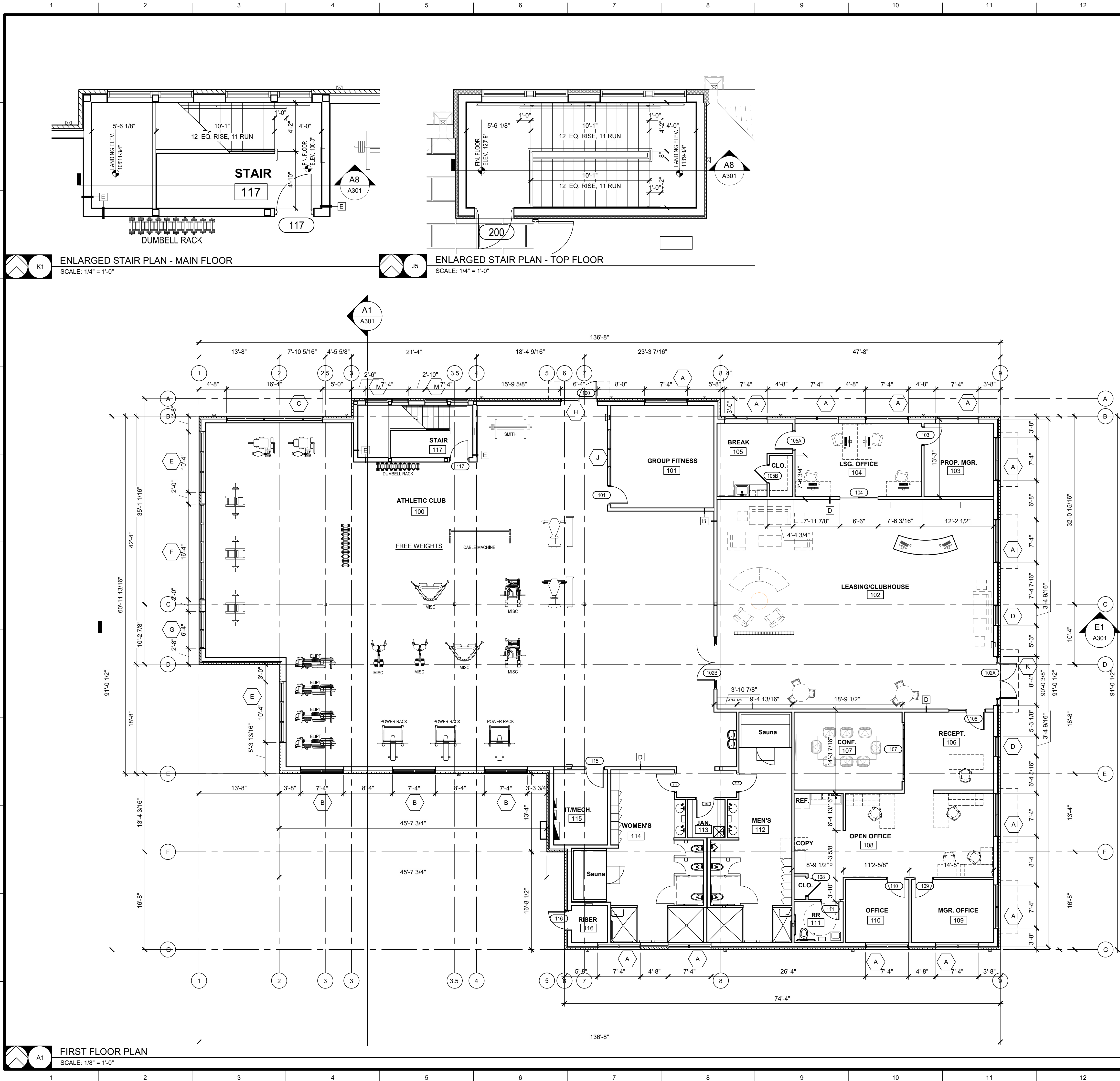
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**DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS**

Drawn:	CEC Project Number:
RCA	230286
Checked:	CAD File Name (Number):
JWV	
Drawing Title:	
ROOF FRAMING DETAILS	

No.	Revisions:	Date:

Submission Date:	Drawing Number:
06/13/2025	S311
Plot Date:	
06/13/2025	



KEY NOTES

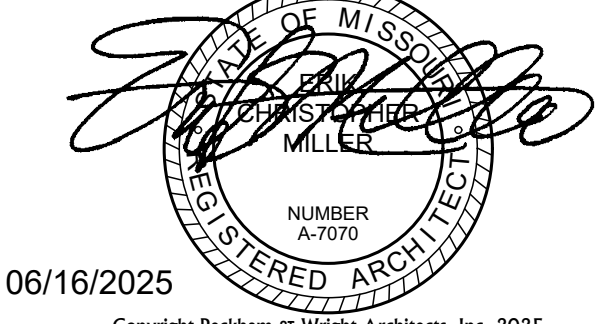
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2. SOAP DISPENSER - BOBRICK B-2013
3. TOILET PAPER DISPENSER - BOBRICK B-2888
4. GRAB BARS - BOBRICK B-5806
5. SHOWER ROD AND CURTAIN - BOBRICK B-207
6. LOCKERS
7. MIRROR - BOBRICK B-165
8. DUAL ROLLER SHADE
9. FIRE EXTINGUISHER CABINET
10. 16" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS
11. 1BOBRICK B-239 X 34 SHELF WITH MOP AND BROOM HOLDERS AND HOOKS
12. CORNER GUARD
13. TOWEL BAR BOBRICK B-545x24
14. TRASH CAN BOBRICK B-221216
15. CORNER MOP SINK FRP WALL PANELS 2 WALL 24"Wx48"T
16. SOLID SURFACE TOILET PARTITIONS
17. UTILITY SHELF WITH MOP / BROOM HOLDERS AND RAG HOOKS BOBRICK B-239
18. LOCKER ROOM BENCH
19. INFRARED SAUNA
20. TOWEL BAR BOBRICK B-545x24
21. 12" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS

EXTERIOR WALL TYPES / ASSEMBLIES

- TYP. EXT. WALL TYPE SHALL BE "W1" U.N.O. TYP.**
- W1 MODULAR FACE BRICK VENEER OVER 1-1/2" AIR SPACE, OVER 2" RIGID INSULATION, OVER 1/2" GYPSUM SHEATHING, OVER 2x8 WOOD STUDS @ 16" O.C. w/ R-19 BATT INSULATION w/ VAPOR BARRIER AND 5/8" GYPSUM BOARD TO B.O. STRUCT. COORDINATE WITH STRUCTURAL FINISH PER FINISH SCHEDULE.
- TYP. INTERIOR PARTITION U.N.O.**
- A 2x4 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD BOTH SIDES TO 6" ABV. CLNG. OR STRUCT. WHERE GYP. BD. CEILINGS ARE SHOWN.
 - B 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.
 - C 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD ONE SIDE TO STRUCTURE.
 - D SHEAR WALL: 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 7/16" SHEATHING ONE SIDE, 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.
 - E 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 7/16" SHEATHING ONE SIDE, 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.

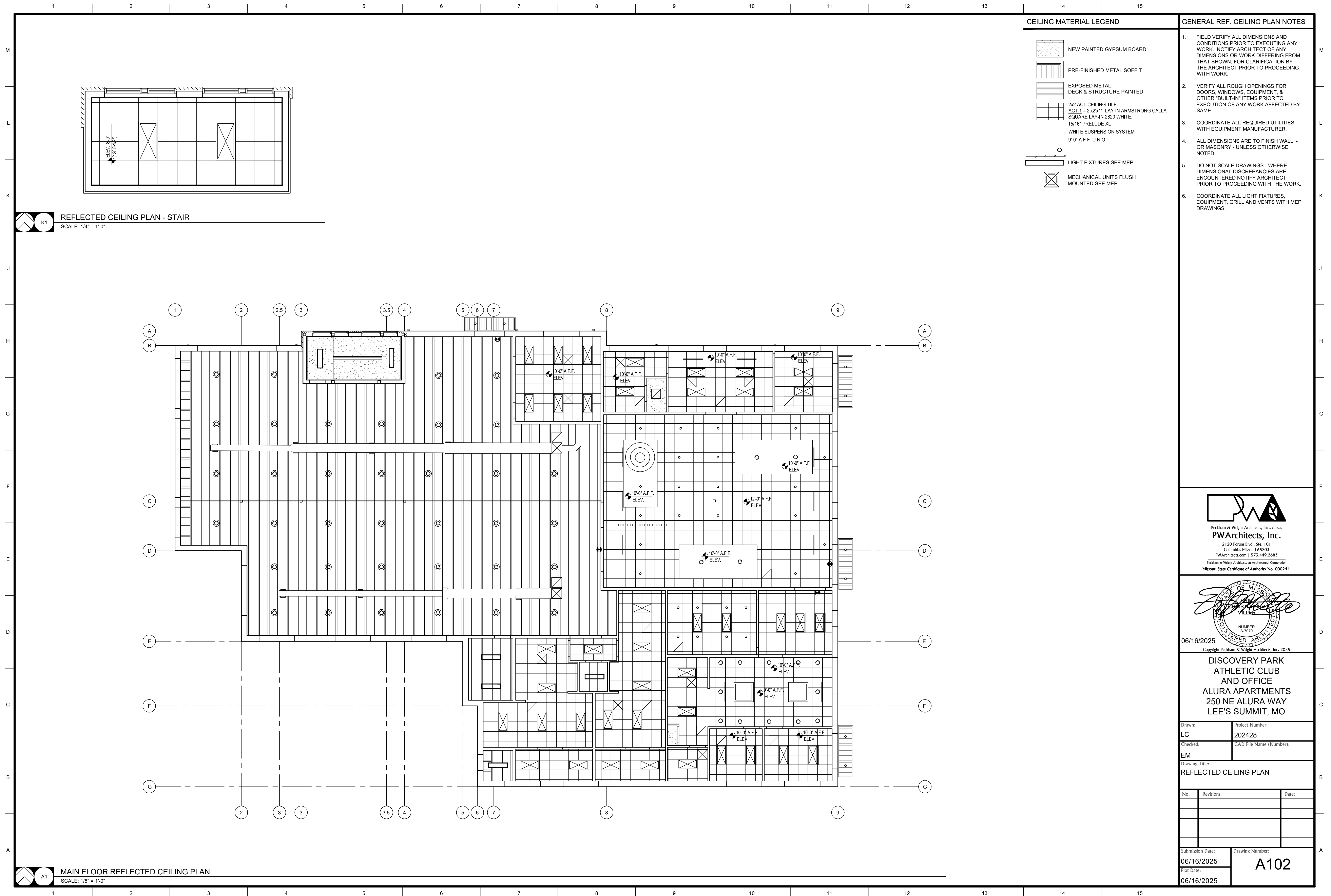
GENERAL FLOOR PLAN NOTES

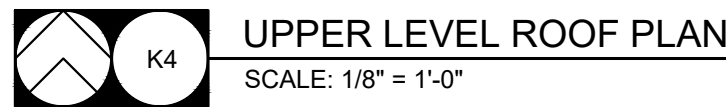
1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN. FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE. CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB. LOCATE DOOR OPENINGS IN MASONRY WALLS BETWEEN 4" TO 6" OFF WALLS SO THAT PROPER COURSING IS ACHIEVED
4. COORDINATE ALL FLOOR DRAINS AND OTHER REFERENCED MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS W/ M.E.P.
5. COORDINATE ALL REQUIRED UTILITIES WITH EQUIPMENT MANUFACTURER.
6. ALL DIMENSIONS ARE TO FACE OF STUD - OR MASONRY - UNLESS OTHERWISE NOTED.
7. DO NOT SCALE DRAWINGS - WHERE DIMENSIONAL DISCREPANCIES ARE ENCOUNTERED NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
8. COORDINATE HEIGHTS OF OUTLETS & SWITCHING WITH ALL ARCHITECTURAL ITEMS. SEE M/E DRAWINGS FOR LOCATIONS.
9. SEE A300 FOR INTERIOR PARTITION WALL TYPES AND DETAILS.
10. SEE INTERIOR ELEVATIONS FOR ADDITIONAL KEY NOTED ITEMS NOT LABELED IN PLAN.



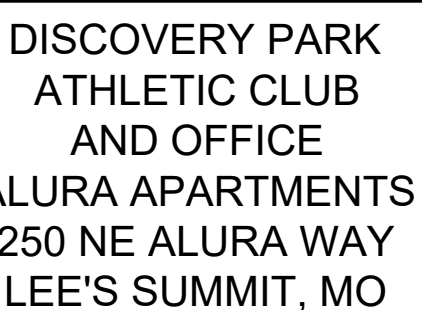
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:	
LC	202428	
Checked:	CAD File Name (Number):	
EM		
Drawing Title:		
FIRST FLOOR PLAN		
No.	Revisions:	Date:
Submission Date:		Drawing Number:
06/16/2025		A101
Plot Date:		
06/16/2025		

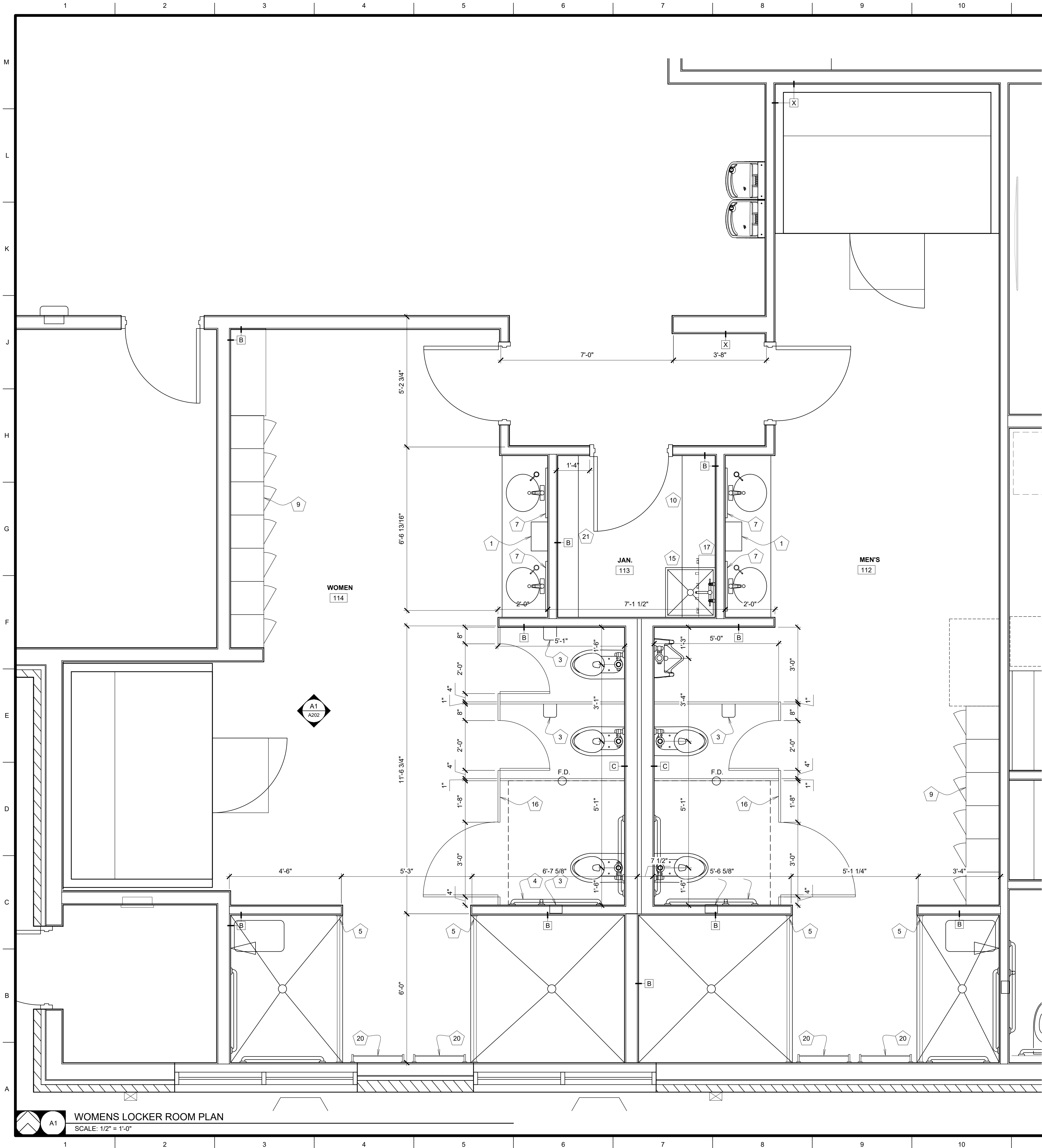




1. ANY ROOFING DETAILS NOT SHOWN SHALL BE DONE IN ACCORDANCE W/ ROOFING FABRICATOR OR INSTALLER APPROVED DETAILS.
2. COORDINATE ALL ROOF PENETRATIONS WITH MECHANICAL, PLUMBING & ELECTRICAL WORK. PROVIDE ALL BLOCKINGS, FLASHINGS, CURBS & OTHER RELATED ITEMS AS REQUIRED FOR PROPER INSTALLATION OF MECHANICAL, PLUMBING & ELECTRICAL ITEMS. COMPLY WITH REQUIREMENTS OF NRCA &/OR SMACNA. NOTIFY ARCHITECT OF FABRICATOR OR INSTALLER REQUIREMENTS THAT DIFFER FROM THE REFERENCED STANDARDS.
3. INSTALL ALL ROOFING AND FLASHINGS IN ACCORDANCE WITH REQUIREMENTS OF ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. INSTALL SEALANT TAPE BETWEEN ALL NON-SOLDERED CONNECTIONS OF FLASHINGS, GUTTERS, DOWNSPOUTS AND OTHER AREAS TO MAKE WATER-TIGHT ROOF & FLASHINGS.
5. THE INTENT OF THE ROOF PLANS & DETAILS IS TO ACHIEVE A COMPLETE & PROPER WATER-TIGHT INSTALLATION, REGARDLESS IF A DETAIL IS OR IS NOT SHOWN.
6. ROOFTOP MECHANICAL EQUIPMENT AND GAS LINE SLEEVE BLOCKS ARE PRE-MANUFACTURED BLOCKS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. SEE MEP DRAWINGS.



Drawn:		Project Number:	
LC		202428	
Checked:		CAD File Name (Number):	
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Drawing Title:			
ROOF PLAN			
No.	Revisions:	Date:	
Submission Date:		Drawing Number:	
06/16/2025		A103	
Plot Date:			
06/16/2025			



EXTERIOR WALL TYPES / ASSEMBLIES

TYP. EXT. WALL TYPE SHALL BE "W1" U.N.O. TYP.

MODULAR FACE BRICK VENEER OVER 1-1/2" AIR SPACE. OVER 2" RIGID INSULATION, OVER 1/2" GYPSUM SHEATHING. OVER 2x6 WOOD STUDS @ 16" O.C. w/ R-19 BATT INSULATION w/ VAPOR BARRIER AND 5/8" GYPSUM BOARD TO B.O. STRUCT. COORDINATE WITH STRUCTURAL. FINISH PER FINISH SCHEDULE.

TYP. INTERIOR PARTITION U.N.O.

2x4 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE. 5/8" GYPSUM BOARD BOTH SIDES TO 8" ABV. CLNG. OR STRUCT. WHERE GYP. BD. CEILINGS ARE SHOWN.

2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE. 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.

2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE. 5/8" GYPSUM BOARD ONE SIDE TO STRUCTURE.

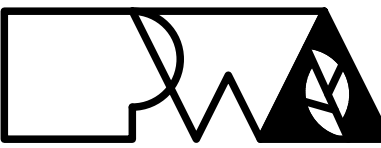
KEY NOTES

ITEMS PROVIDED AND INSTALLED BY G.C. U.N.O. SEE ENLARGED PLANS AND INTERIOR ELEVATIONS FOR ALL ITEMS:

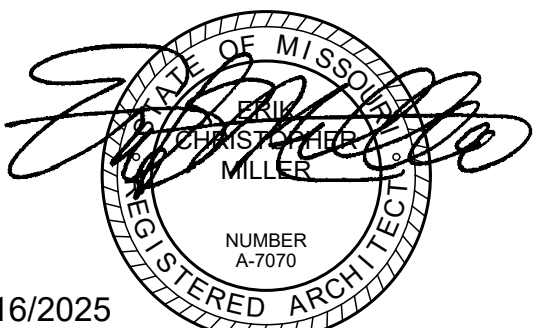
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- SOAP DISPENSER - BOBRICK B-2013
- TOILET PAPER DISPENSER - BOBRICK B-2688
- GRAB BARS - BOBRICK B-6806
- SHOWER ROD AND CURTAIN - BOBRICK B-207
- LOCKERS
- MIRROR - BOBRICK B-165
- DUAL ROLLER SHADE
- FIRE EXTINGUISHER CABINET
- 16" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS
- 180BRICK B-239 X 34 SHELF WITH MOP AND BROOM HOLDERS AND HOOKS
- CORNER GUARD
- TOWEL BAR BOBRICK B-545x24
- TRASH CAN BOBRICK B-221216
- CORNER MOP SINK FRP WALL PANELS 2 WALL 24"Wx48"T
- SOLID SURFACE TOILET PARTITIONS
- UTILITY SHELF WITH MOP / BROOM HOLDERS AND RAG HOOKS BOBRICK B-239
- LOCKER ROOM BENCH
- INFRARED SAUNA
- TOWEL BAR BOBRICK B-545x24
- 12" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS

GENERAL FLOOR PLAN NOTES

- FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN. FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
- VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
- LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE. CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB. LOCATE DOOR OPENINGS IN MASONRY WALLS BETWEEN 4" TO 6" OFF WALLS SO THAT PROPER COURSING IS ACHIEVED
- COORDINATE ALL FLOOR DRAINS AND OTHER REFERENCED MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS W/ M.E.P.
- COORDINATE ALL REQUIRED UTILITIES WITH EQUIPMENT MANUFACTURER.
- ALL DIMENSIONS ARE TO FACE OF STUD - OR MASONRY - UNLESS OTHERWISE NOTED.
- DO NOT SCALE DRAWINGS - WHERE DIMENSIONAL DISCREPANCIES ARE ENCOUNTERED NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- COORDINATE HEIGHTS OF OUTLETS & SWITCHING WITH ALL ARCHITECTURAL ITEMS. SEE M/E DRAWINGS FOR LOCATIONS.
- SEE A300 FOR INTERIOR PARTITION WALL TYPES AND DETAILS.
- SEE INTERIOR ELEVATIONS FOR ADDITIONAL KEY NOTED ITEMS NOT LABELED IN PLAN.



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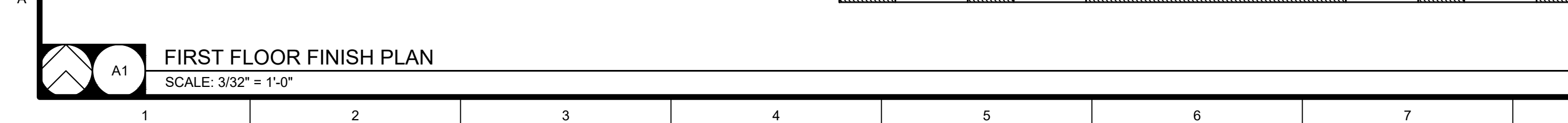
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn: LC
Checked: EM
Project Number: 202428
CAD File Name (Number):

Drawing Title:
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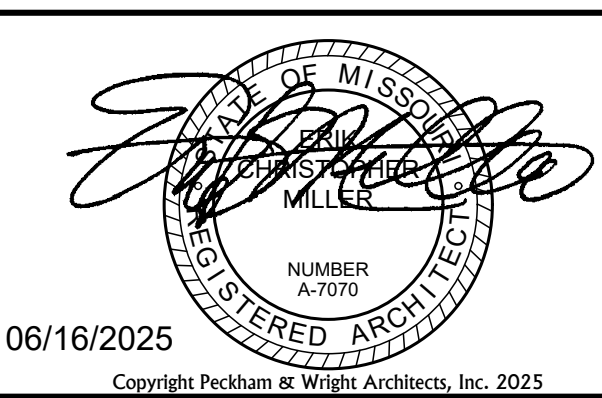
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Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: A104



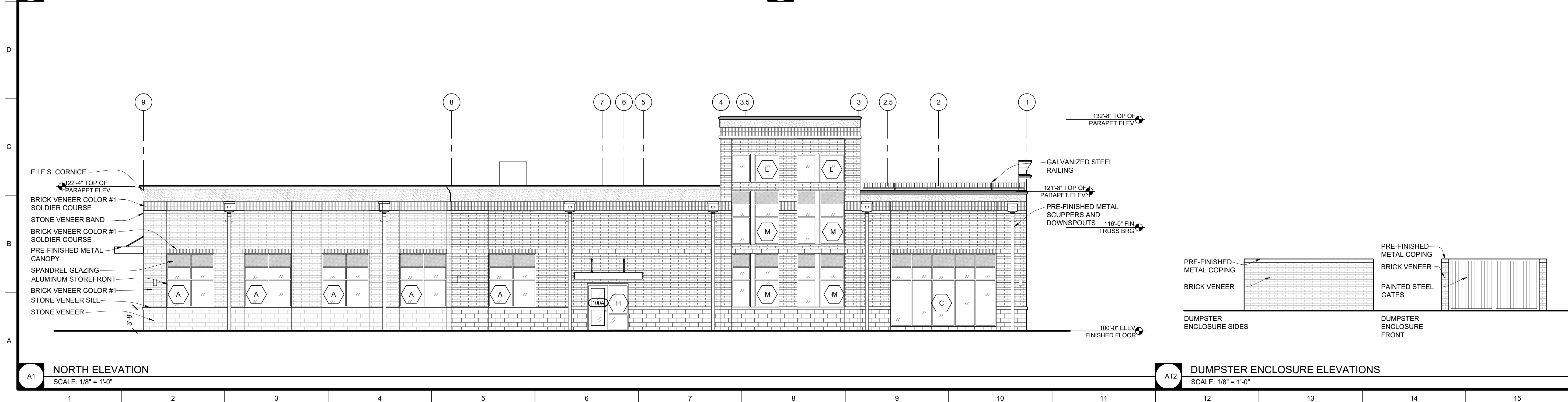
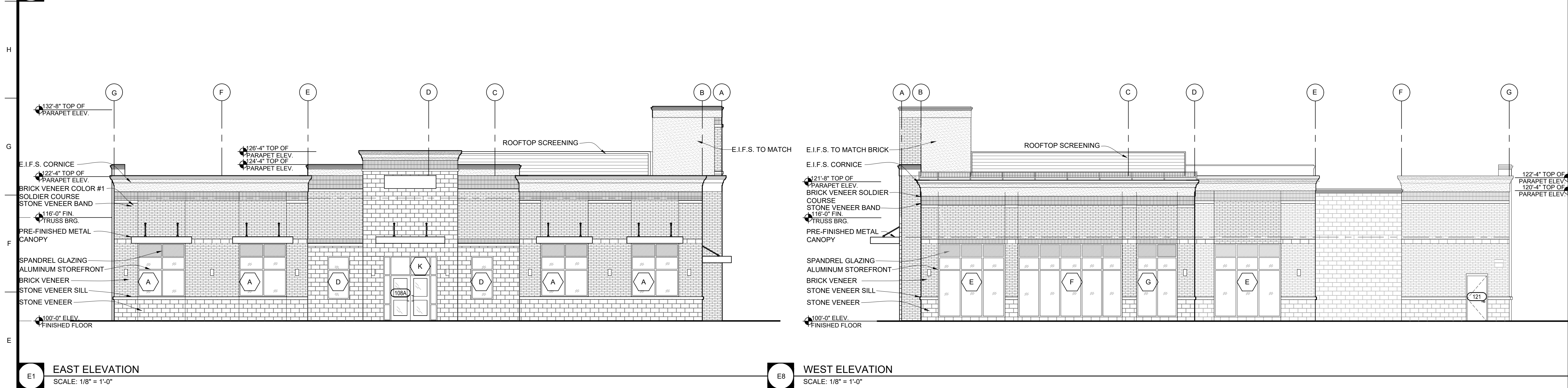
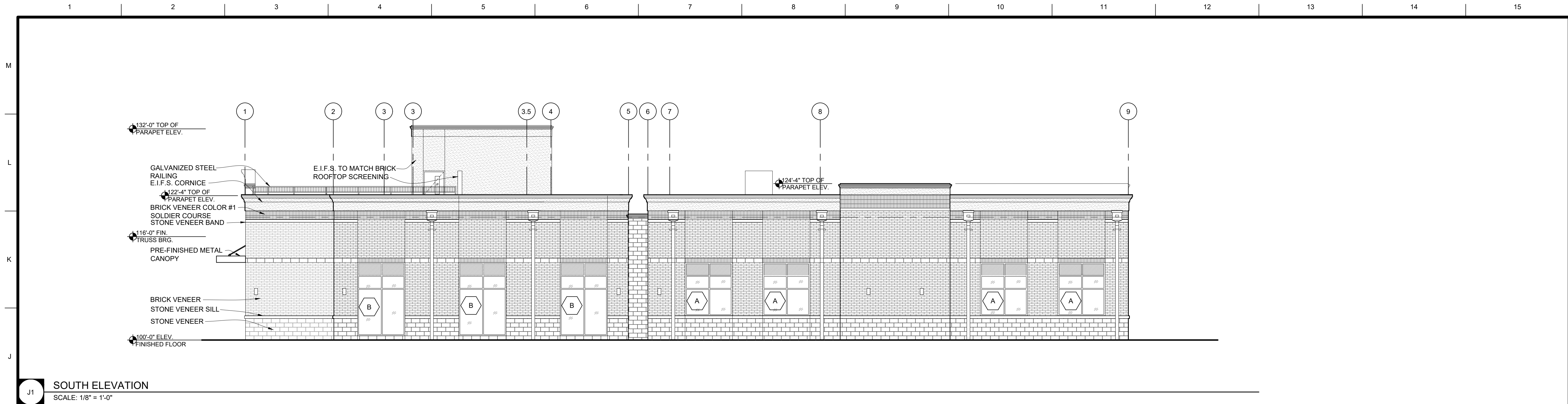
FINISH SCHEDULE LEGEND:

- 
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 Columbia, Missouri 65203
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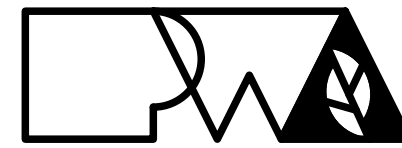
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:		Project Number:	
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Checked:		CAD File Name (Number):	
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Drawing Title:			
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No.	Revisions:	Date:	
Submission Date:		Drawing Number:	
06/16/2025		A105	
Plot Date:			
06/16/2025			

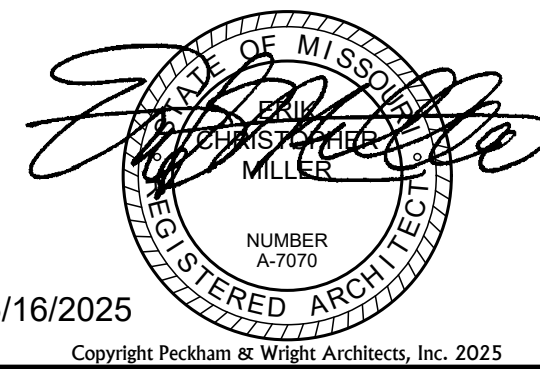


GENERAL ELEVATION NOTES

1. SEE WALL SECTIONS FOR ADDITIONAL DETAILS, MATERIALS, NOTES, AND DIMENSIONS.
2. SEE SITE PLAN FOR EXACT FINISH GRADE ELEVATIONS.
3. SEE SITE PLAN FOR RETAINING WALLS, SIDEWALKS & SLABS, DETAILS, LOCATIONS AND DIMENSIONS. SEE SEPERATE CIVIL PACKAGE
4. SEE WALL SECTIONS FOR APPROPRIATE BRICK LEDGES. BRICK LEDGES TO BE BELOW FINAL GRADE. MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACCOMPLISH THIS W/ FIELD CONDITIONS.



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**DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO**

Drawn: LC
Project Number: 202428

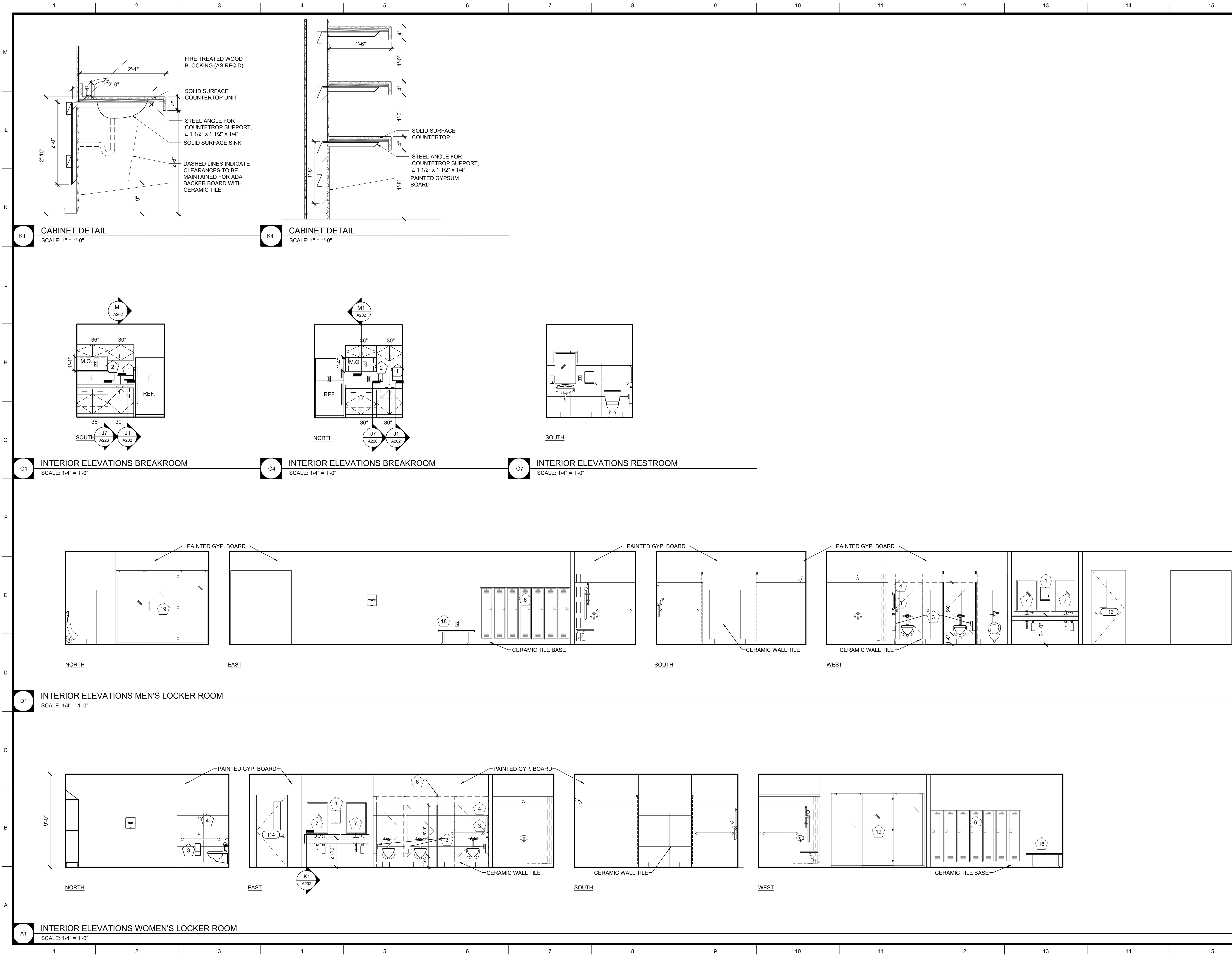
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No.	Revisions:	Date:

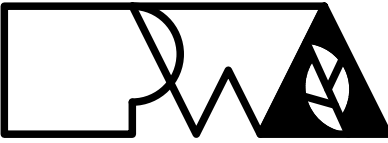
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Plot Date: 06/16/2025

Drawing Number:
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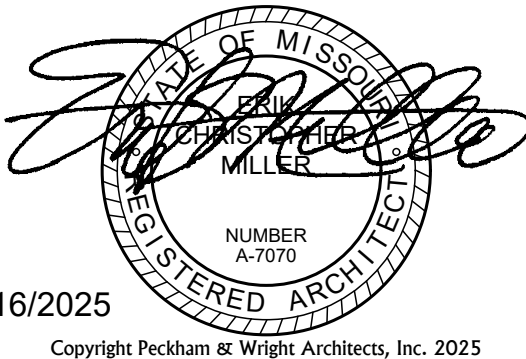


GENERAL ELEVATION NOTES

1. SEE WALL SECTIONS FOR ADDITIONAL DETAILS, MATERIALS, NOTES, AND DIMENSIONS.
2. SEE SITE PLAN FOR EXACT FINISH GRADE ELEVATIONS.
3. SEE SITE PLAN FOR RETAINING WALLS, SIDEWALKS & SLABS, DETAILS, LOCATIONS AND DIMENSIONS. SEE SEPERATE CIVIL PACKAGE
4. SEE WALL SECTIONS FOR APPROPRIATE BRICK LEDGES. BRICK LEDGES TO BE BELOW FINAL GRADE. MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACCOMPLISH THIS W/ FIELD CONDITIONS.



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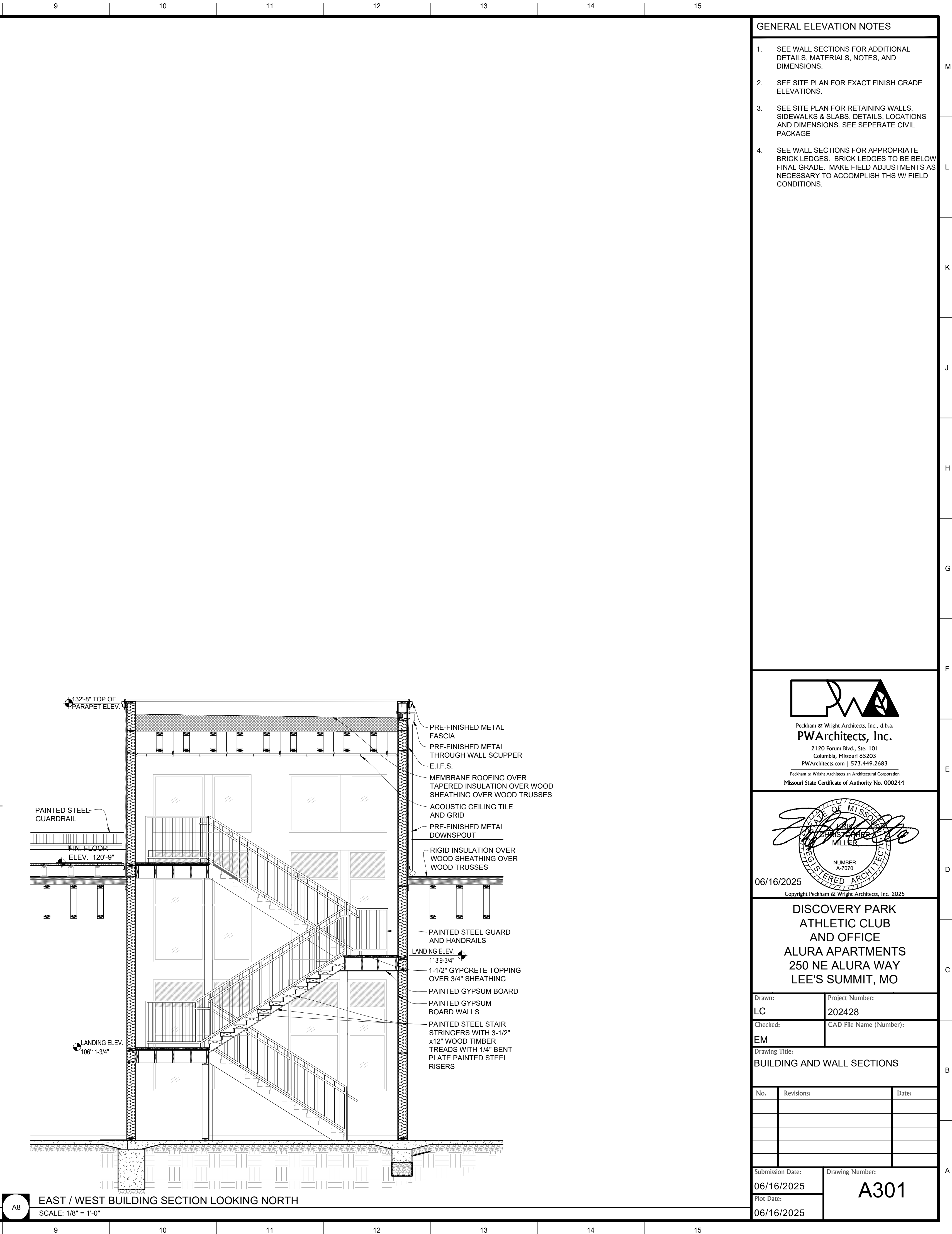
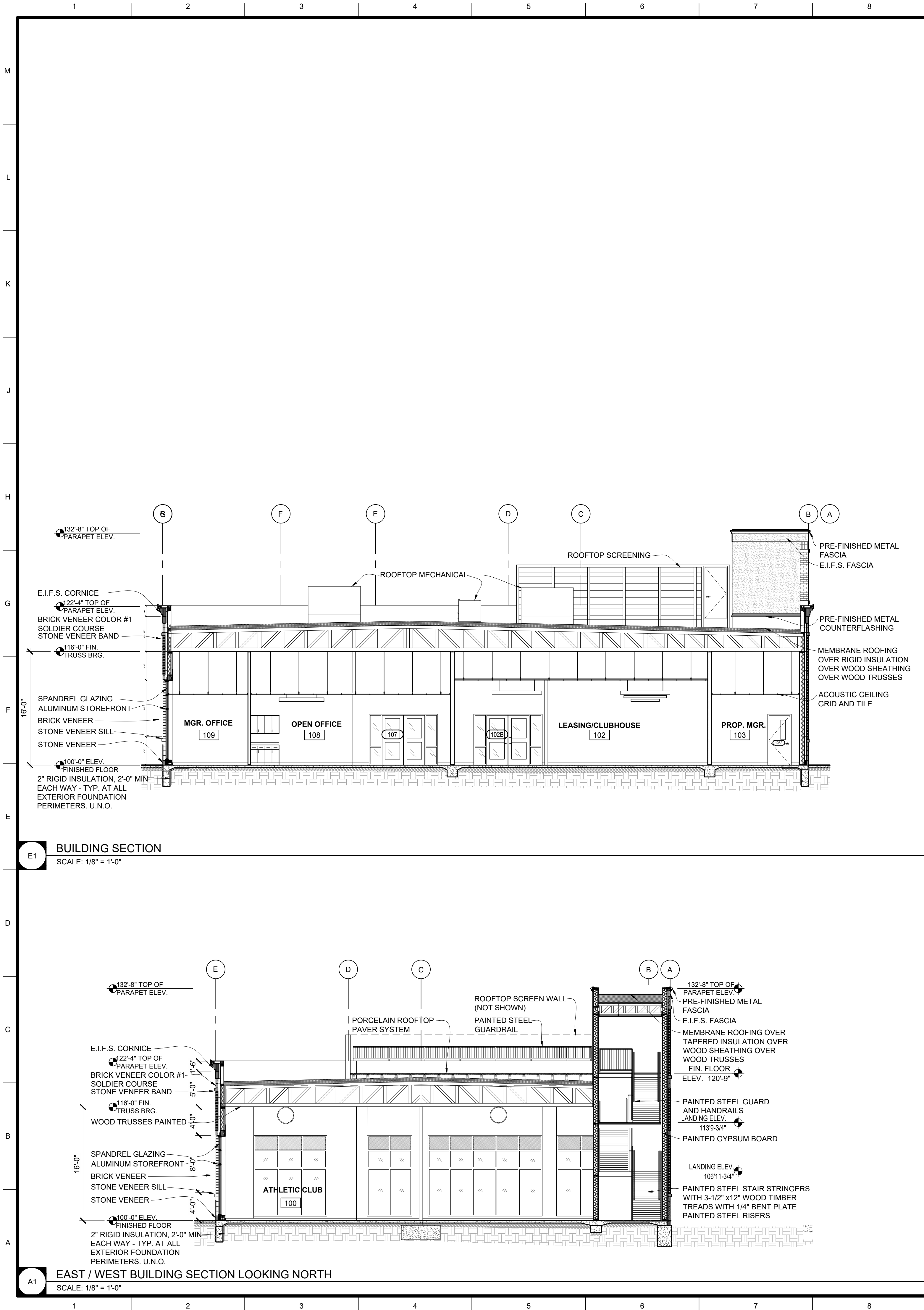
**DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO**

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LC	202428
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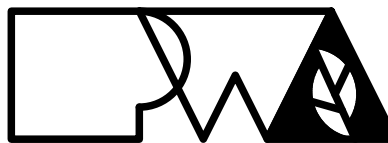
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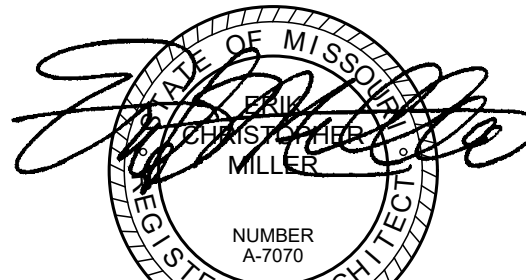
GENERAL ELEVATION NOTES

1. SEE WALL SECTIONS FOR ADDITIONAL DETAILS, MATERIALS, NOTES, AND DIMENSIONS.
2. SEE SITE PLAN FOR EXACT FINISH GRADE ELEVATIONS.
3. SEE SITE PLAN FOR RETAINING WALLS, SIDEWALKS & SLABS, DETAILS, LOCATIONS AND DIMENSIONS. SEE SEPERATE CIVIL PACKAGE
4. SEE WALL SECTIONS FOR APPROPRIATE BRICK LEDGES. BRICK LEDGES TO BE BELOW FINAL GRADE. MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACCOMPLISH THIS W/ FIELD CONDITIONS.



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**DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO**

Drawn: Project Number:
LC 202428

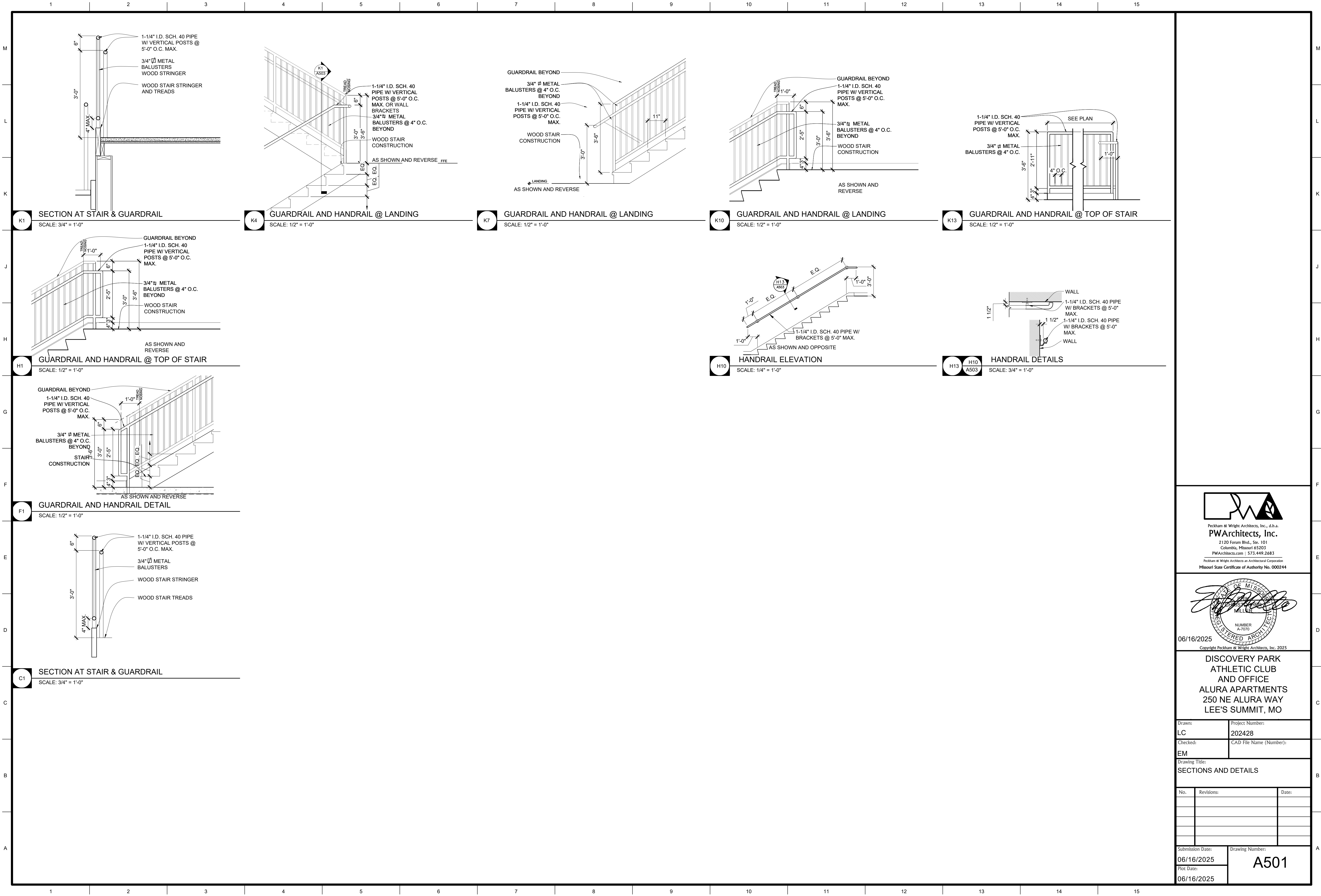
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BUILDING AND WALL SECTIONS

No.	Revisions:	Date:

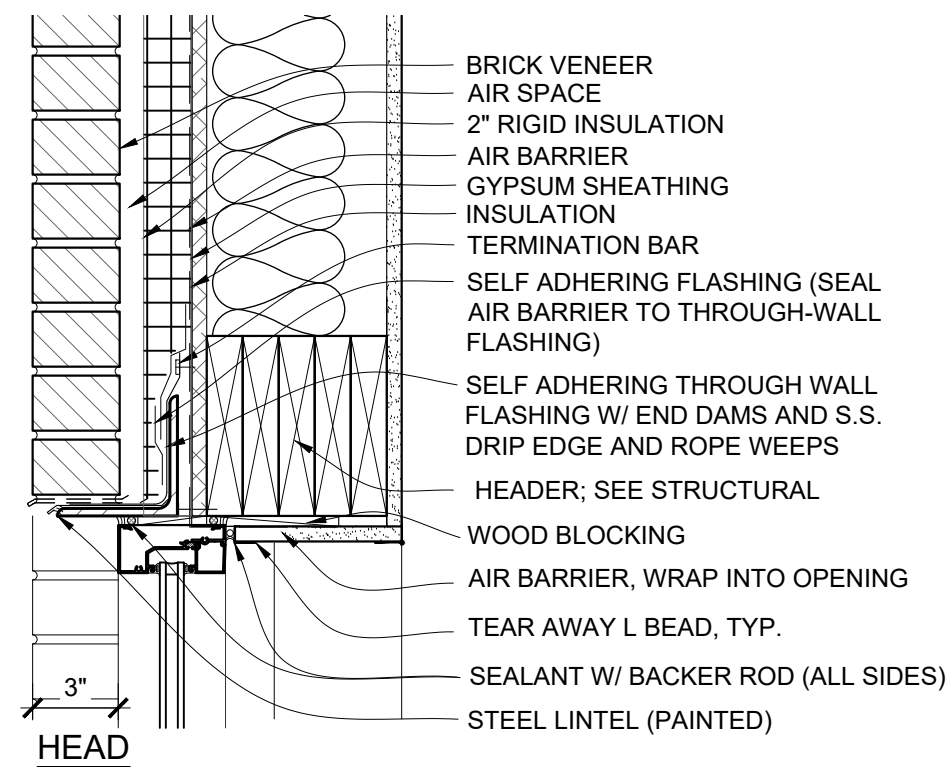
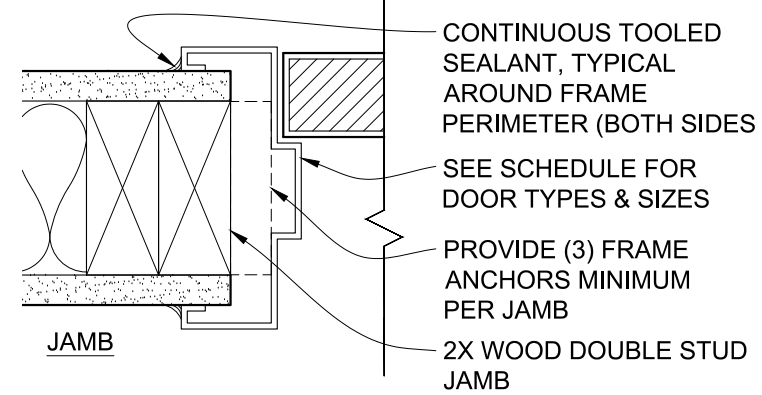
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06/16/2025 A301

Plot Date:
06/16/2025

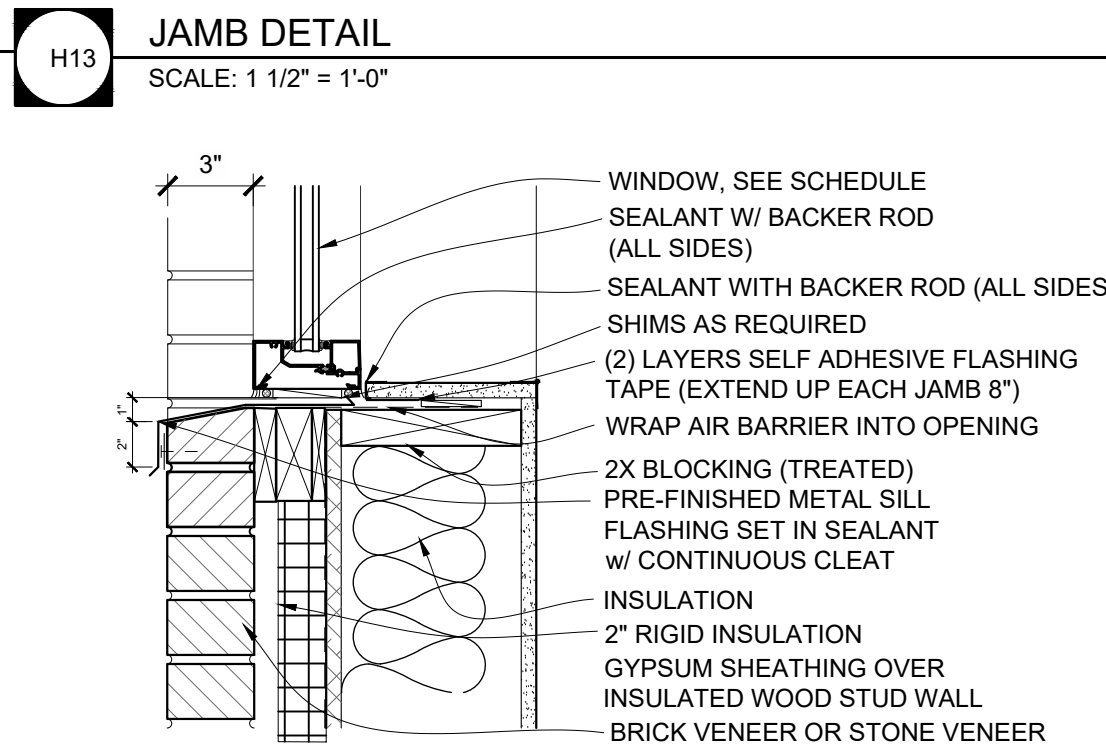
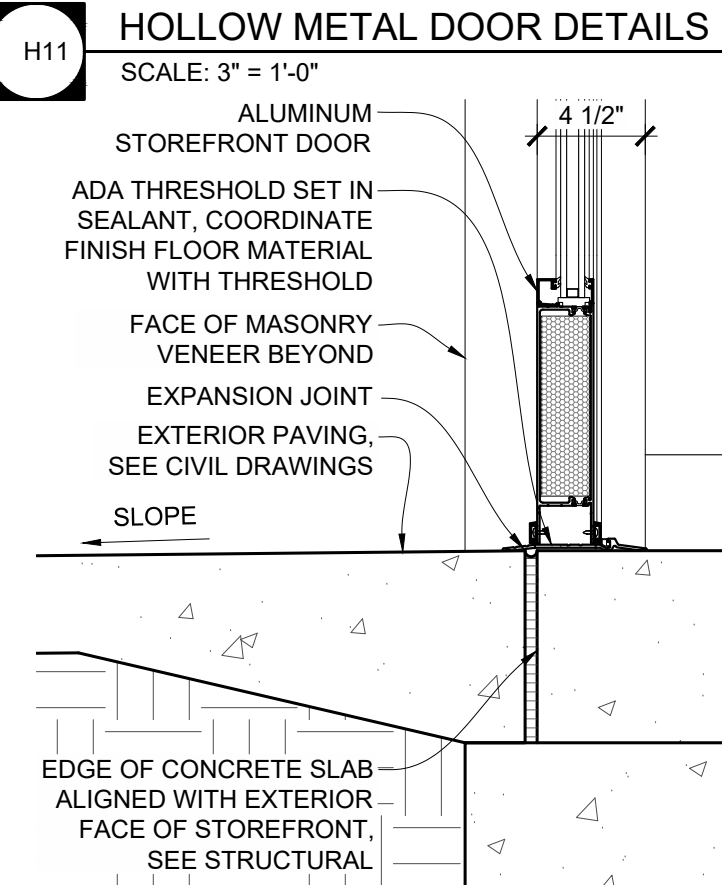
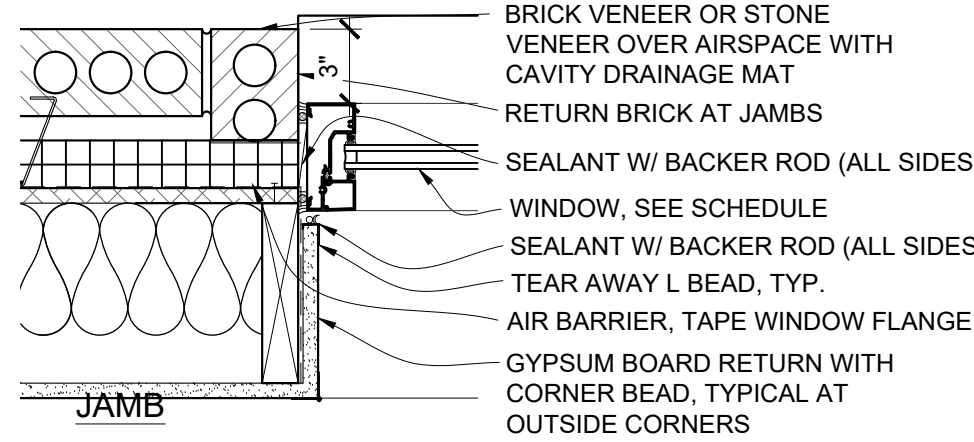
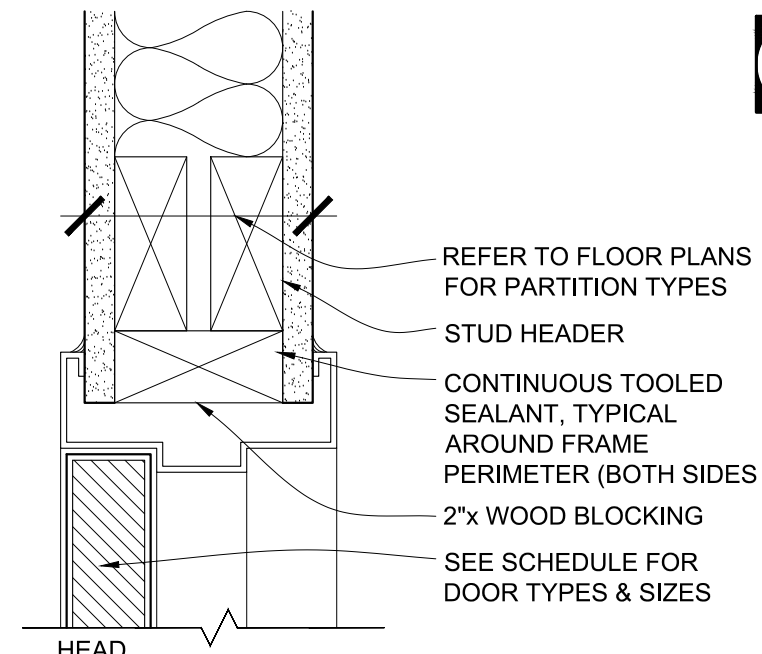


DOOR SCHEDULE										FRAME SCHEDULE										HDWR	Fire	Door	REMARKS
Door No.	Location	Door Leaf Size (WxH)	Material		GLAZING		Material		Details											Hardware Group	Rating	No.	
			Door Elevation	Wood	STEEL	Aluminum / Glass	1/4" Tempered Laminated	Insulated	Frame Elevation	Hollow Metal	Aluminum	Insulated	Tempered Laminated	Head	Jamb	Threshold							
MAIN LEVEL																							
100	ENTRY	3'-0" X 7'-0"	D3			AL	T	INS	F1	HM	AL	INS	T	K13 / A601	H13 / A601	F11 / A601	1	-		100			
101	GROUP FITNESS	3'-0" X 7'-0"	D3	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		101			
102A	LEASING / CLUBHOUSE	PAIR 3'-0" X 7'-0"	D3			AL	T	INS	F1	HM	AL			K13 / A601	H13 / A601	F11 / A601	1	-		102A			
102B	LEASING / CLUBHOUSE	3'-0" X 7'-0"	D3			AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		102B			
103	OFFICE	3'-0" X 7'-0"	D4			AL	T		F1	HM	AL			H11 / A601	H11 / A601	X	1	-		103			
104	OFFICE	PAIR 3'-0" X 7'-0" SLIDING	D4			AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		104			
105A	OFFICE	3'-0" X 7'-0"	D4			AL	T		F1	HM	AL			K13 / A601	H13 / A601	F11 / A601	1	-		105A			
105B	CLOSET	3'-0" X 7'-0"	D1	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		105B			
106	RECEPTION	3'-0" X 7'-0"	D4			AL	T		F1	HM	AL			-	-	-	1	-		106			
107	CONFERENCE	PAIR 3'-0" X 7'-0" SLIDING	D4			AL	T		F1	HM	AL			-	-	-	1	-		107			
108	CLOSET	3'-0" X 7'-0"	D1	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		108			
109	OFFICE	3'-0" X 7'-0"	D3			AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		109			
110	OFFICE	3'-0" X 7'-0"	D3			AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		110			
111	TOILET	3'-0" X 7'-0"	D1	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		111			
112	WOMEN'S LOCKER ROOM	3'-0" X 7'-0"	D2	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		112			
113	MECH. / JAN.	3'-0" X 7'-0"	D1	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		113			
114	MEN'S LOCKER ROOM	3'-0" X 7'-0"	D1	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		114			
115	MECHANICAL	3'-0" X 7'-0"	D1	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		115			
116	SPRINKLER	3'-0" X 7'-0"	D1	W		AL	T		F1	HM	AL			H11 / A601	H11 / A601	-	1	-		116			
117	STAIR	3'-0" X 7'-0"	D2	W		AL	T		F1	HM	AL			A3 / A601	A1 / A601	-	1	20 MIN		117			
200	STAIR	3'-0" X 7'-0"	D2	IHM		AL	T		F1	HM	AL			A8 / A601	A6 / A601	A10 / A601	1	20 MIN.		200			
1. INTERIOR DOORS UNDERCUT 1" TYPICAL UNLESS NOTED OTHERWISE.																							
2. FIELD VERIFY ALL ROUGH OPENING DIMENSIONS PRIOR TO ORDER & INSTALLATION OF DOORS AND FRAMES																							
3. ALL GLASS SHALL BE TEMPERED U.N.O.																							
4. ALL EXTERIOR DOORS SHALL BE INSULATED																							
5. ALL THRESHOLDS SHALL BE ADA/ANSI A117.1 COMPLIANT																							
6. ALL DOORS SHALL RECEIVE DOOR STOPS. WALL STOPS PREFERRED WHEN CONDITIONS SUPPORT THEM. ADD BLOCKING BEHIND WALL STOPS TYPICAL.																							

WINDOW SCHEDULE						
WINDOW NUMBER	ROUGH OPENING SIZE (W x H)	MATERIAL			DETAILS	
		ALUMINUM	DOUBLE PANE	LOW-E WITH ARGON SPANDREL GLAZING		
					(SEE ELEVATIONS FOR SURROUNDING MATERIALS)	
A	7'-4" x 8'-4"				F13, H13, K13 / A601	
B	7'-4" x 11'-4"				F13, H13, K13 / A601	
C	16'-4" x 11'-4"				F13, H13, K13 / A601	
D	3'-4" x 6'-8"				F13, H13, K13 / A601	
E	10'-4" x 11'-4"				F13, H13, K13 / A601	
F	16'-4" x 11'-4"				F13, H13, K13 / A601	
G	6'-4" x 11'-4"				F13, H13, K13 / A601	
H	6'-4" x 7'-4"				F13, H13, K13 / A601	
J	12'-10" x 7'-2"				K1 / A602	
K	8'-4" x 10'-0"				F13, H13, K13 / A601	
L	4'-4" x 7'-4"				F13, H13, K13 / A601	
M	7'-4" x 8'-4"				A13, F13, H13, K13 / A601	
NOTES						
1) ALL GLAZING TO BE TEMPERED SAFETY GLAZING.						

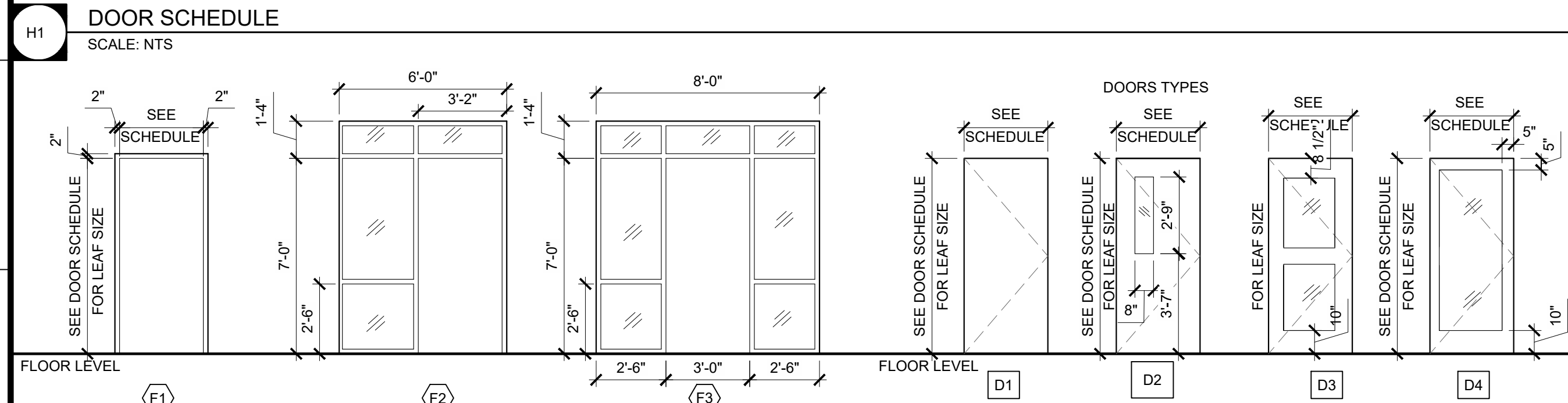


K13 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"

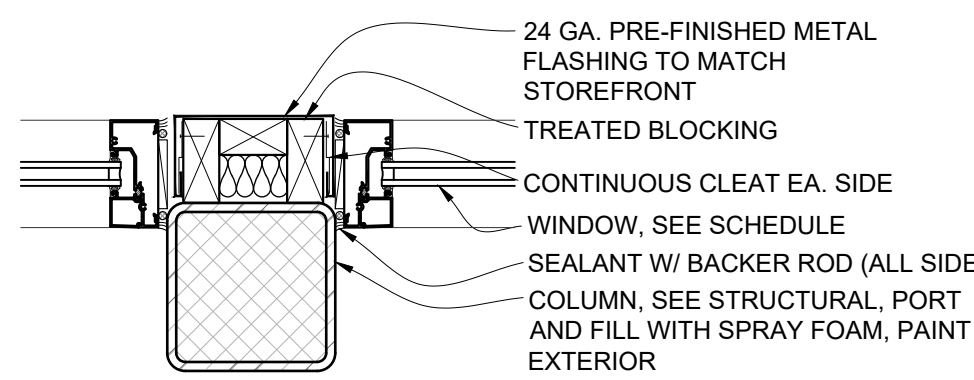
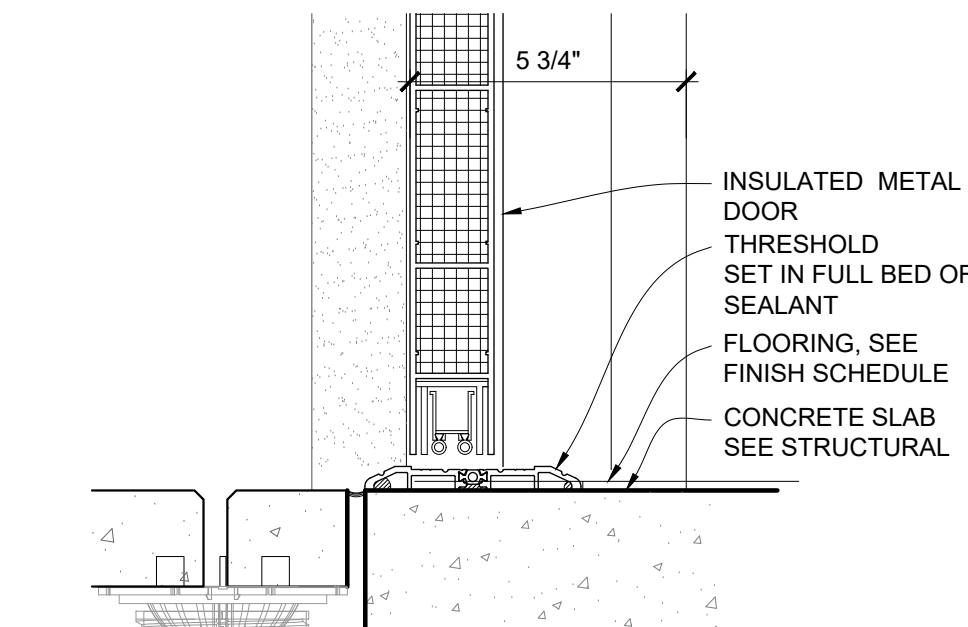
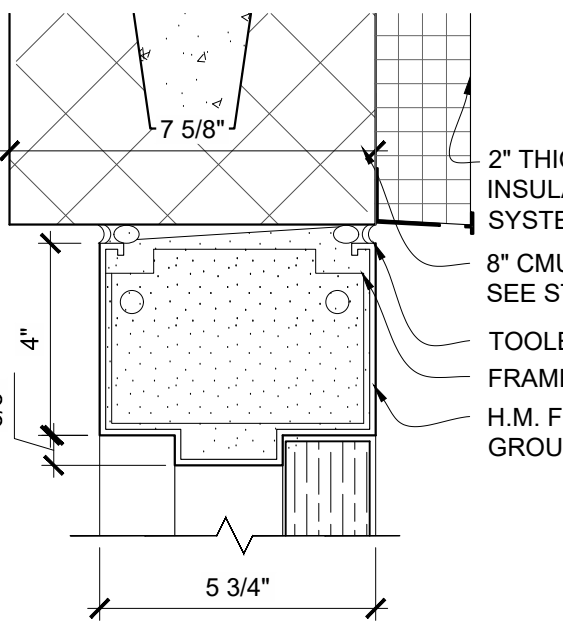
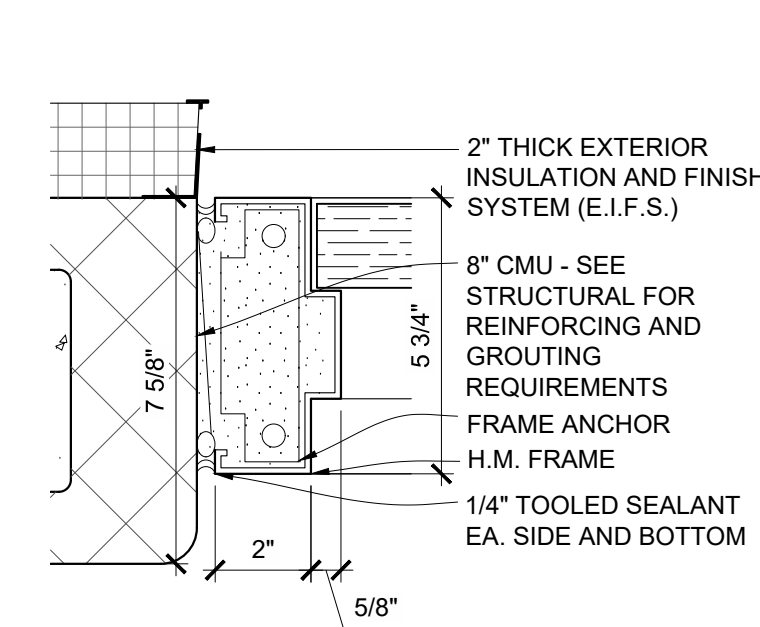
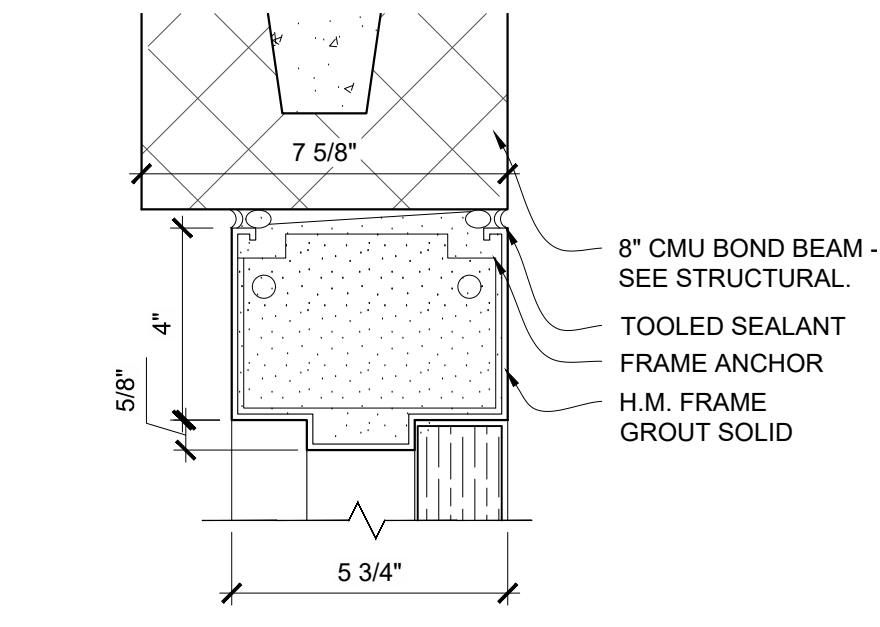
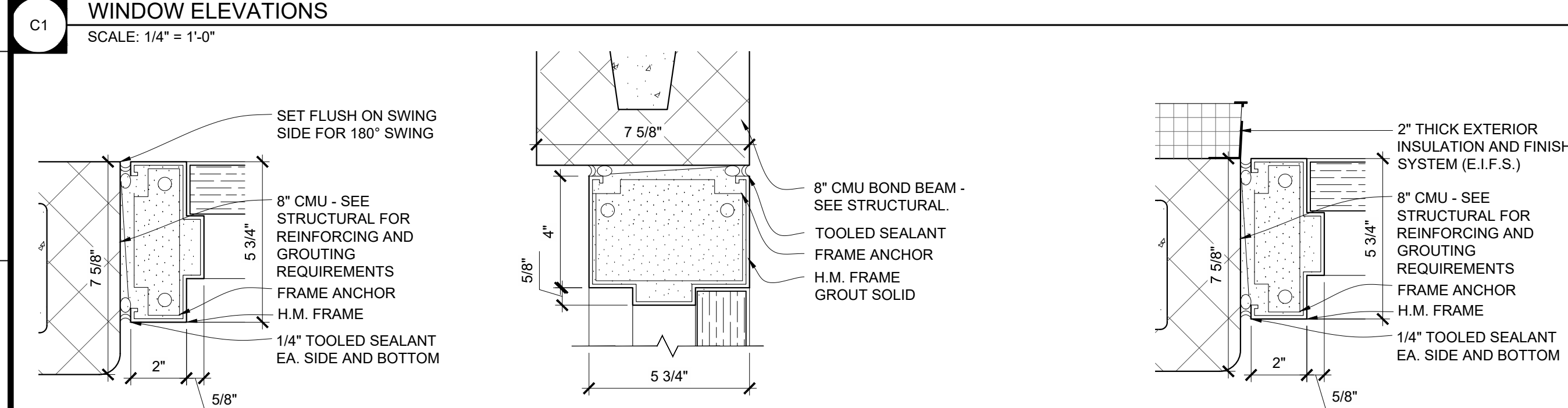
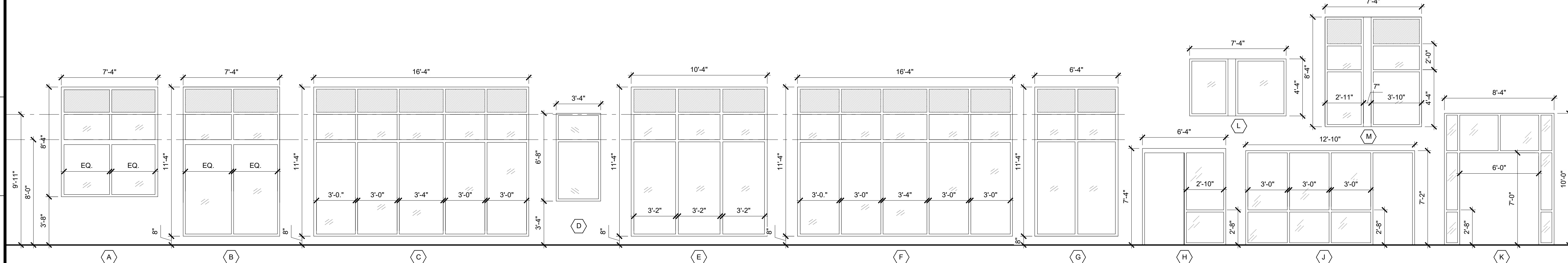


F11 SILL DETAIL
SCALE: 1 1/2" = 1'-0"

F13 SILL DETAIL
SCALE: 1 1/2" = 1'-0"

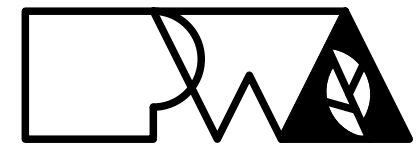


F1 DOOR AND FRAME ELEVATIONS
SCALE: 1/4" = 1'-0"



- GENERAL DOOR DETAIL NOTES
- FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
 - VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
 - LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE, CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB.
 - SEE DOOR SCHEDULE FOR DOOR DIMENSIONS AND DETAILS.

- GENERAL WINDOW DETAIL NOTES
- FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
 - VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
 - SEE WINDOW SCHEDULE FOR ALL WINDOW DIMENSIONS AND DETAILS.



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Missouri State Certificate of Authority No. 000244



06/16/2025
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**DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO**

Drawn: LC		Project Number: 202428	
Checked: EM		CAD File Name (Number):	
Drawing Title: DOOR AND WINDOW SCHEDULES AND DETAILS			
No.	Revisions:		Date:
Submission Date: 06/16/2025		Drawing Number: A601	
Plot Date: 06/16/2025			



J-SQUARED
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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

GENERAL MEP SPECIFICATIONS

- GENERAL**
 - ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH LOCALLY ADOPTED CODES AND ORDINANCES. IT IS THE RESPONSIBILITY OF CONTRACTOR TO REVIEW AND UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS IN CONTRACT DOCUMENTS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH THEIR TRADE, REGARDLESS OF WHERE WORK IS DEPICTED IN PROJECT DRAWINGS OR SPECIFICATIONS.
 - LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND SCHEMATIC IN NATURE. ALL SYSTEMS WILL NEED TO BE FIELD-COORDINATED. CONTRACTOR SHALL INCLUDE THIS COORDINATION IN THEIR SCOPE AND INCLUDE ALL COSTS OF MODIFYING LAYOUT AS REQUIRED IN THEIR BID. PLANS ARE NOT INTENDED TO BE SHOP DRAWINGS FROM WHICH MATERIALS CAN BE ORDERED, FABRICATED, OR INSTALLED WITHOUT ADDITIONAL FIELD MEASUREMENTS AND COORDINATION.
 - NOT ALL SPECIFIC PIECES AND COMPONENTS OF EACH SYSTEM ARE DETAILED OR OUTLINED ON PLANS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS. CONTRACTOR IS TO PROVIDE AND INCLUDE ALL EQUIPMENT AND MATERIAL NEEDED TO COMPLETE WORK ASSOCIATED WITH THEIR BID UNLESS ANY ITEMS ARE SPECIFICALLY NOTED ON PLANS AS PROVIDED BY OTHERS. ALL MATERIALS TO BE NEW, FIRST CLASS, AND INSTALLED PER MANUFACTURER'S PUBLISHED INSTRUCTIONS.
 - WHERE CONFLICTS EXIST BETWEEN MEP PLANS AND CIVIL, ARCHITECTURAL, OR STRUCTURAL PLANS, NOTIFY MEP ENGINEER OF DISCREPANCIES FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK THAT MAY CONTRADICT INFORMATION ELSEWHERE IN THE PROJECT PLANS.
 - THESE PLANS ARE NOT TO BE SCALED. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE THERE IS A CONFLICT BETWEEN ARCHITECTURAL DIMENSIONS AND MEP DIMENSIONS, ARCHITECTURAL SHALL GOVERN.
 - CONTRACTOR IS TO INCLUDE IN THEIR SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, TAPS, ETC. ASSOCIATED WITH THEIR WORK.
 - CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE THEIR WORK, UNLESS NOTED OTHERWISE ON PLANS.
 - SPECIFIC EQUIPMENT MANUFACTURERS AND/OR MODEL NUMBERS LISTED ON PLANS ARE TO ESTABLISH A BASIS-OF-DESIGN FOR QUALITY AND PERFORMANCE, VERIFY THAT SUBSTITUTIONS WILL BE ACCEPTABLE PRIOR TO PURCHASE & INSTALLATION.
 - NOTIFY ENGINEER OF ANY MAJOR PLAN DISCREPANCIES OR CONFLICTS PRIOR TO PROVIDING BIDS OR COMPLETING ANY WORK.
 - SEE DISCIPLINE SHEETS FOR ADDITIONAL TRADE SPECIFIC SPECIFICATIONS.
 - WHERE SHUTDOWN OF ANY EXISTING UTILITY OR SERVICE TO BUILDING IS REQUIRED FOR COMPLETION OF WORK, COORDINATE OUTAGE WITH OWNER AS TO NOT DISRUPT TYPICAL OPERATIONS.
- WORKMANSHIP**
 - SYSTEMS SHALL BE INSTALLED IN A FIRST-CLASS MANNER USING BEST ACCEPTABLE METHODS AND PRACTICES.
 - ALL SYSTEMS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION. COMPONENTS SHALL BE INSTALLED LEVEL AND PLUMB WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
 - CONTRACTOR IS RESPONSIBLE FOR COORDINATING EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
 - CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE THE COMPLETED PROJECT IS RELEASED TO THE OWNER, UNLESS NOTED OTHERWISE ON PLANS.
 - DURING INSTALLATION OF MATERIALS OR ACTIVITIES IN NEW WORK SCOPE, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. ANY DAMAGE TO EXISTING SURFACES OR EQUIPMENT SHALL BE CORRECTED AT NO COST TO OWNER.

DEFERRED SUBMITTAL NOTES

- FIRE ALARM SYSTEM**
 - FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
 - FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.
- FIRE SPRINKLER SYSTEM**
 - FIRE SPRINKLER CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE SPRINKLER SYSTEM. SUBMITTAL SHALL INCLUDE HYDRAULIC CALCULATIONS AND SPRINKLER SYSTEM DRAWINGS SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
 - WHERE COMBINED FIRE & DOMESTIC WATER SUPPLY LINES ARE SHOWN ON PLANS, INSTALLING CONTRACTOR SHALL VERIFY WITH FIRE SPRINKLER CONTRACTOR THAT INCOMING LINE SIZE IS ADEQUATE FOR FIRE SUPPRESSION SYSTEM.

REFERENCED CODES IN EFFECT

- PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES LISTED BELOW, BUT THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS, AND LOCAL REQUIREMENTS.
- 2018 INTERNATIONAL MECHANICAL CODE
 - 2018 INTERNATIONAL PLUMBING CODE
 - 2018 INTERNATIONAL FUEL GAS CODE
 - 2018 INTERNATIONAL FIRE CODE
 - 2017 NATIONAL ELECTRIC CODE

SHEET LIST TABLE

SHEET #	SHEET TITLE
MEP1	MECHANICAL ELECTRICAL PLUMBING COVER SHEET
MEP2	SITE UTILITIES PLAN
MEP3	SITE LIGHTING PLAN
MEP4	ROOF MEP PLAN
M101	HVAC PLAN
M501	HVAC DETAILS
M601	HVAC SCHEDULES
EP101	POWER PLAN - FIRST FLOOR
EL101	LIGHTING PLAN
E501	ELECTRICAL DETAILS & SCHEDULES
E502	ELECTRICAL SCHEDULES
FP101	FIRE PROTECTION PLAN
PS101	SANITARY SEWER PLAN
PW101	WATER & GAS PLAN
P501	PLUMBING DETAILS & SCHEDULES



James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680



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J2 PROJECT No:	J21211
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

MECHANICAL
ELECTRICAL
PLUMBING
COVER SHEET

SHEET NUMBER

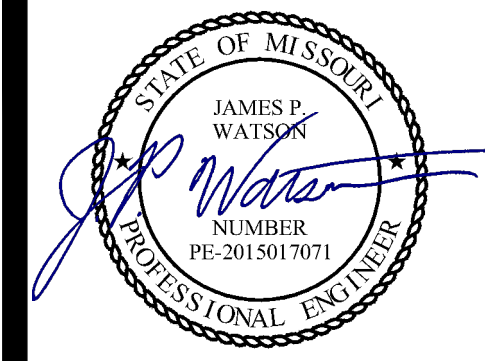
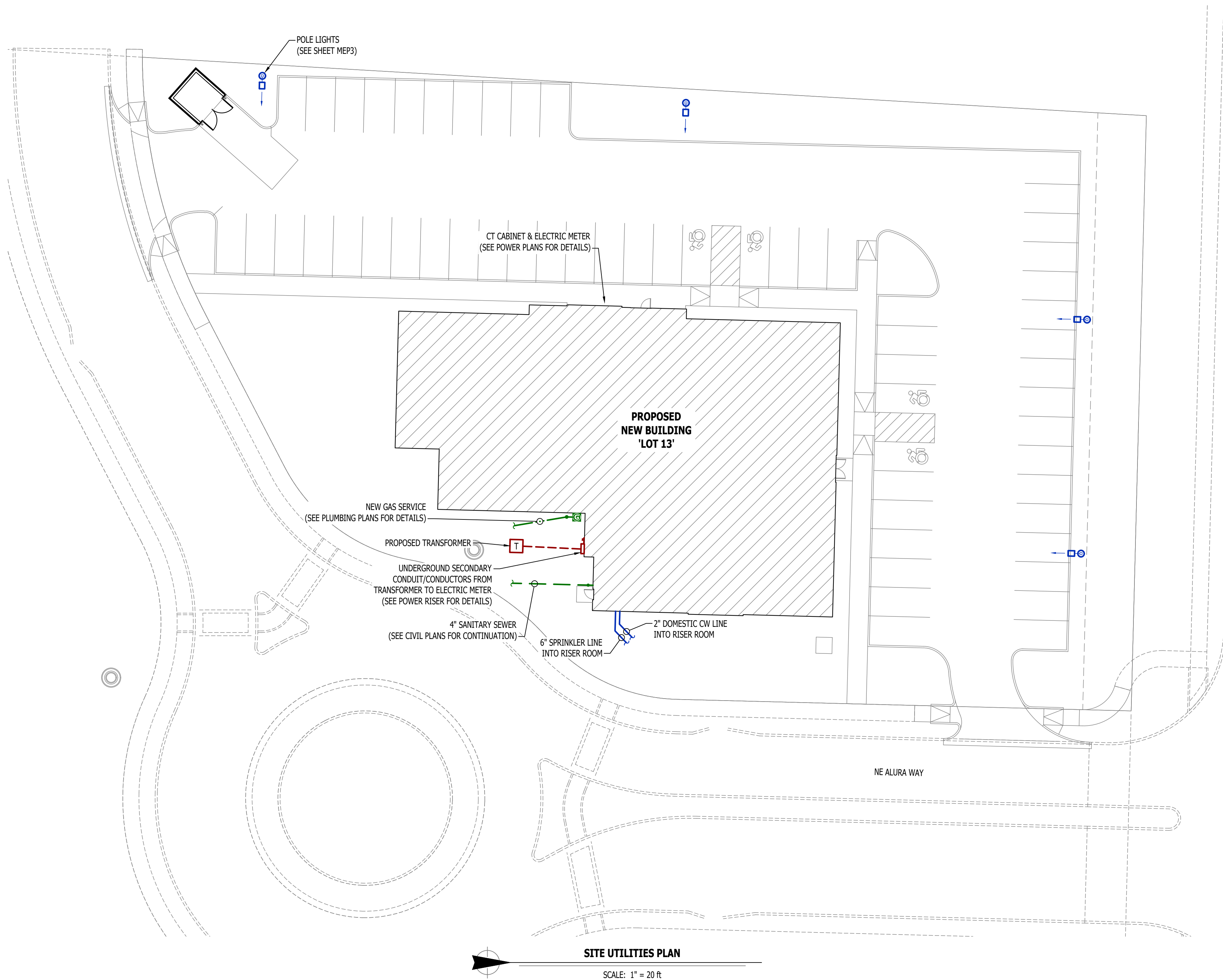
MEP1

SITE PLAN SYMBOL LEGEND

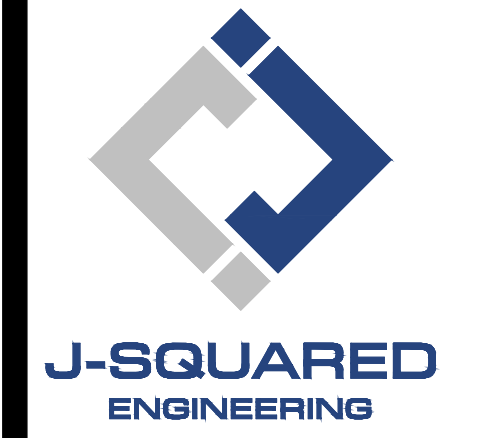
- SANITARY SEWER PIPING
- COLD WATER LINE
- M WATER METER
- ✕ VALVE
- GAS LINE
- G GAS METER
- ✕ TIE INTO EXISTING
- ELECTRIC
- PX-XX CIRCUIT TAG
- X1 "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- POLE LIGHT
- ARROW INDICATES FORWARD AIMING DIRECTION

SITE UTILITIES PLAN GENERAL NOTES:

- REFER TO CIVIL PLANS FOR EXACT UTILITY LOCATIONS, CONNECTIONS, DETAILS, ETC.
- VERIFY SPRINKLER LINE SIZING & DETAILS WITH FIRE SUPPRESSION CONTRACTOR.



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J2 PROJECT No:	J21211
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

SITE UTILITIES
PLAN

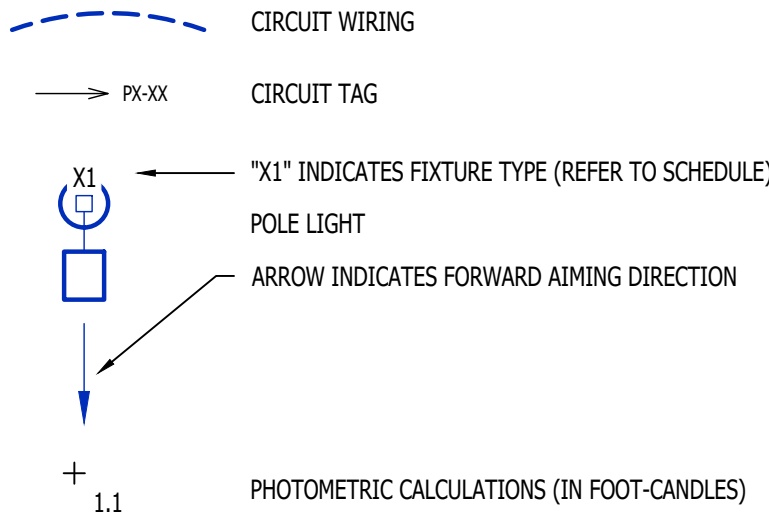
SHEET NUMBER

MEP2

SITE LIGHTING CALCULATION SUMMARY							
AREA / LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
SITE	ILLUMINANCE	FC	2.04	4.6	0.7	2.9	6.6
SPILL LIGHT	ILLUMINANCE	FC	0.12	1.6	0	N/A	N/A
NOTES:							
1. PHOTOMETRIC CALCULATIONS DO NOT INCLUDE EXISTING LIGHTING							

SITE LIGHTING FIXTURE SCHEDULE										
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
PL1	MCGRAW-EDISON	PRV-XL-PA3A-740-U-T4W-HSS	LED POLE LIGHT	20' #SSS POLE ON 30" BASE	17,617	4000	70	208	172	WITH #MS/DIM-L40W MOTION SENSING DIMMING
NOTES:										
1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO ORDERING.										

SITE LIGHTING PLAN SYMBOL LEGEND

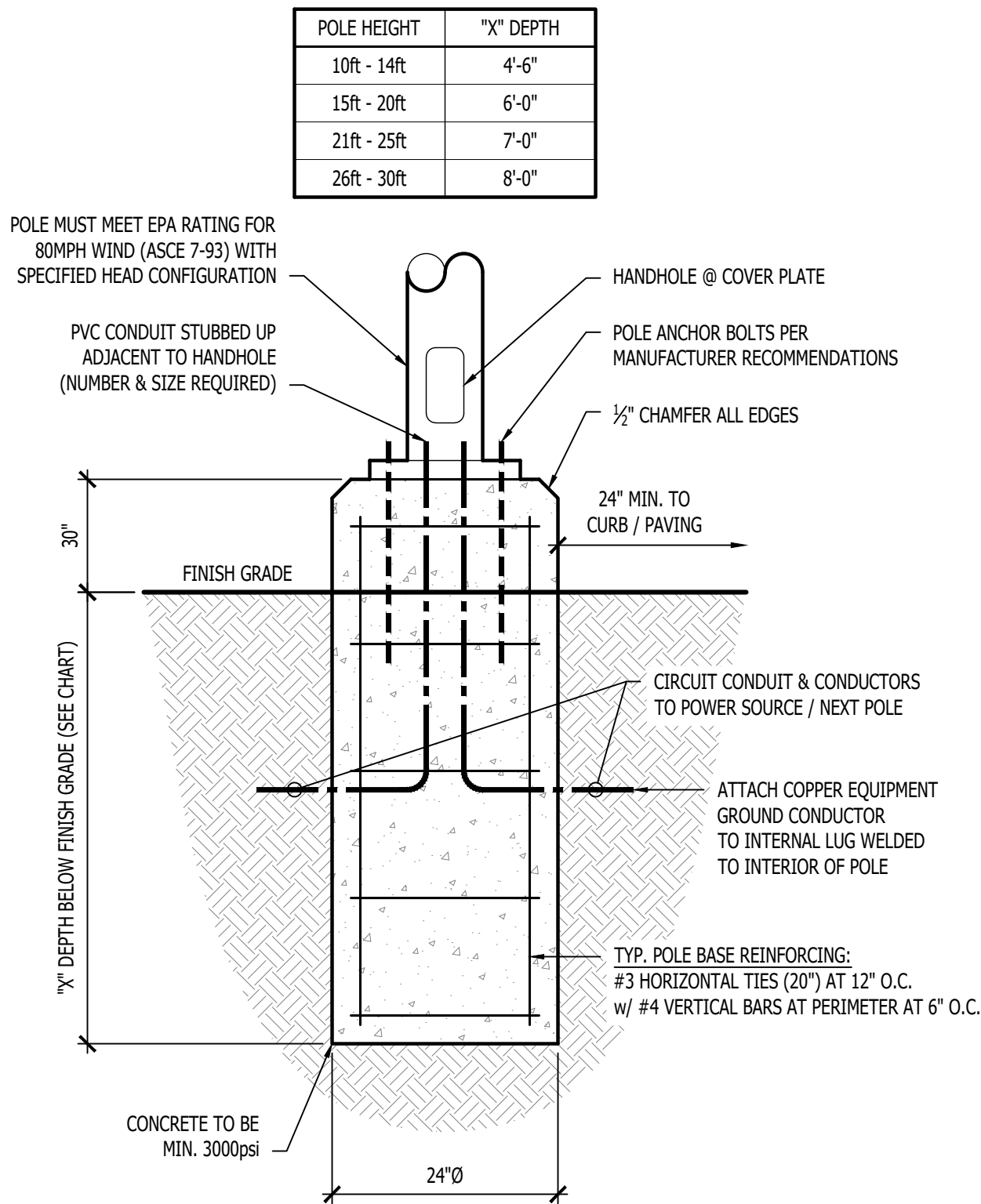


SITE LIGHTING PLAN GENERAL NOTES:

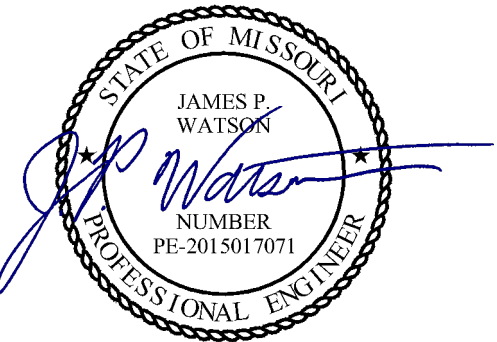
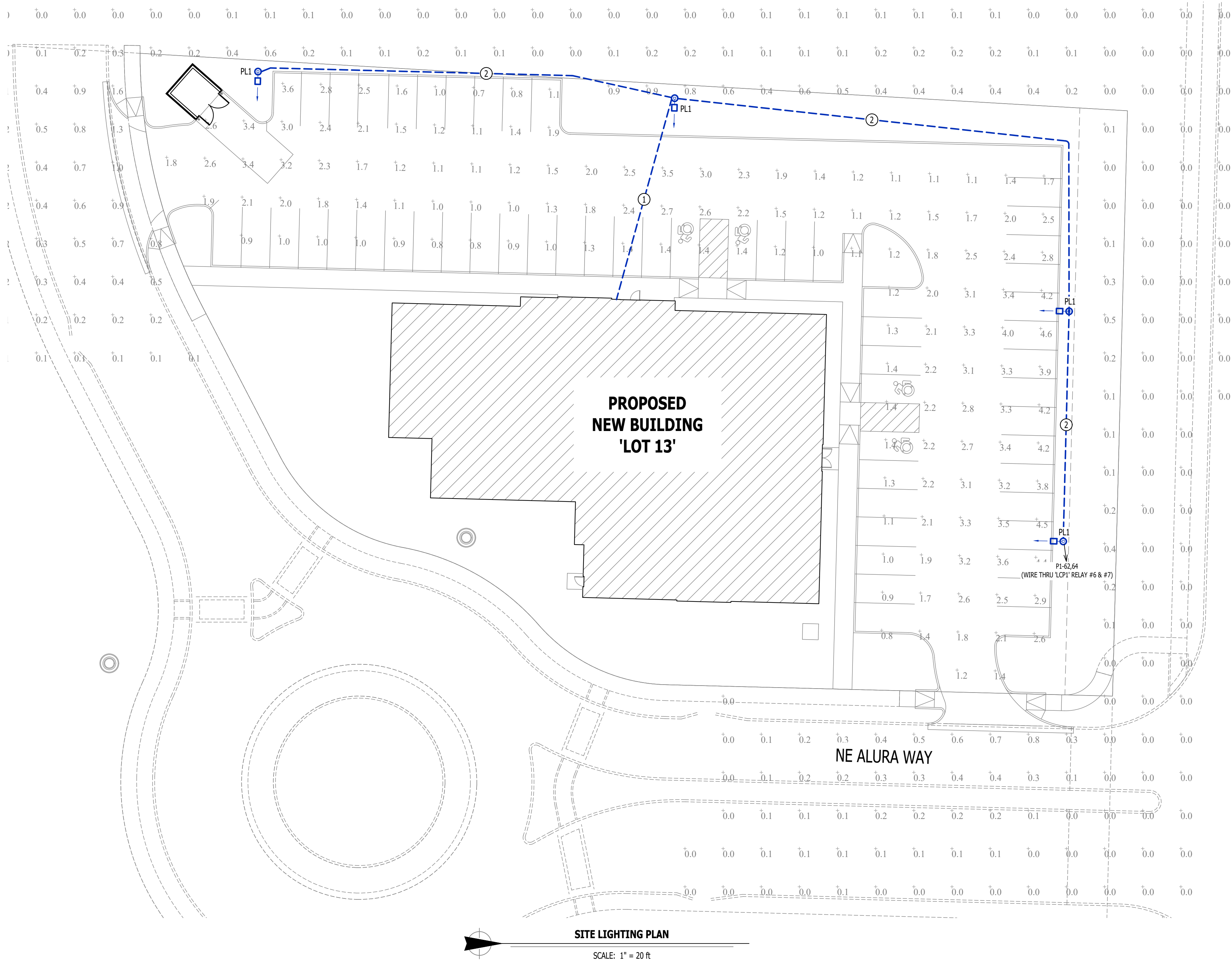
- SITE PHOTOMETRIC VALUES SHOWN HAVE BEEN CALCULATED PER SPECIFIED LIGHT FIXTURES AT INDICATED MOUNTING HEIGHTS. ANY CHANGES OR ALTERATIONS TO LIGHTING LAYOUT SHOWN WILL REQUIRE RECALCULATING SITE PHOTOMETRICS AND WILL THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR / EQUIPMENT SUPPLIER.
- PHOTOMETRIC CALCULATIONS SHOWN DO NOT INCLUDE EXISTING LIGHT FIXTURE(S), ONLY NEW POLE LIGHT FIXTURE(S) SHOWN.
- BUILDING-MOUNTED EXTERIOR LIGHTING IS NOT YET DESIGNED FOR PROPOSED BUILDING. ALL BUILDING-MOUNTED LIGHTING WILL BE INTENDED AS ACCENT LIGHTING AND NOT INTENDED TO PROVIDE GENERAL AREA LIGHTING. ALL BUILDING-MOUNTED LIGHTING SHALL COMPLY WITH CITY OF LEE'S SUMMIT UDO SECTIONS 8.220, 8.260, & 8.270.

SITE LIGHTING PLAN GENERAL NOTES:

- 1" CONDUIT WITH (2) #8 CU. & (1) #8 CU. EQ. GRD.
- 1" CONDUIT WITH (2) #10 CU. & (1) #10 CU. EQ. GRD.



TYPICAL LIGHT POLE DETAIL



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J2 PROJECT No: J21211

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

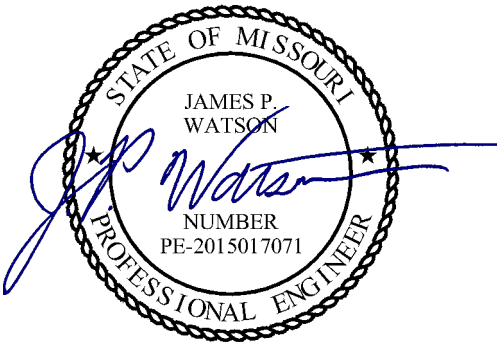
AHJ APPROVAL STAMP

SHEET TITLE

SITE LIGHTING
PLAN

SHEET NUMBER

MEP3



James Watson, P.E. June 13, 2025
PE-2015017071
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J2 PROJECT No: J21211

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

ROOF MEP PLAN

SHEET NUMBER

MEP4

ROOF MEP PLAN SYMBOL LEGEND

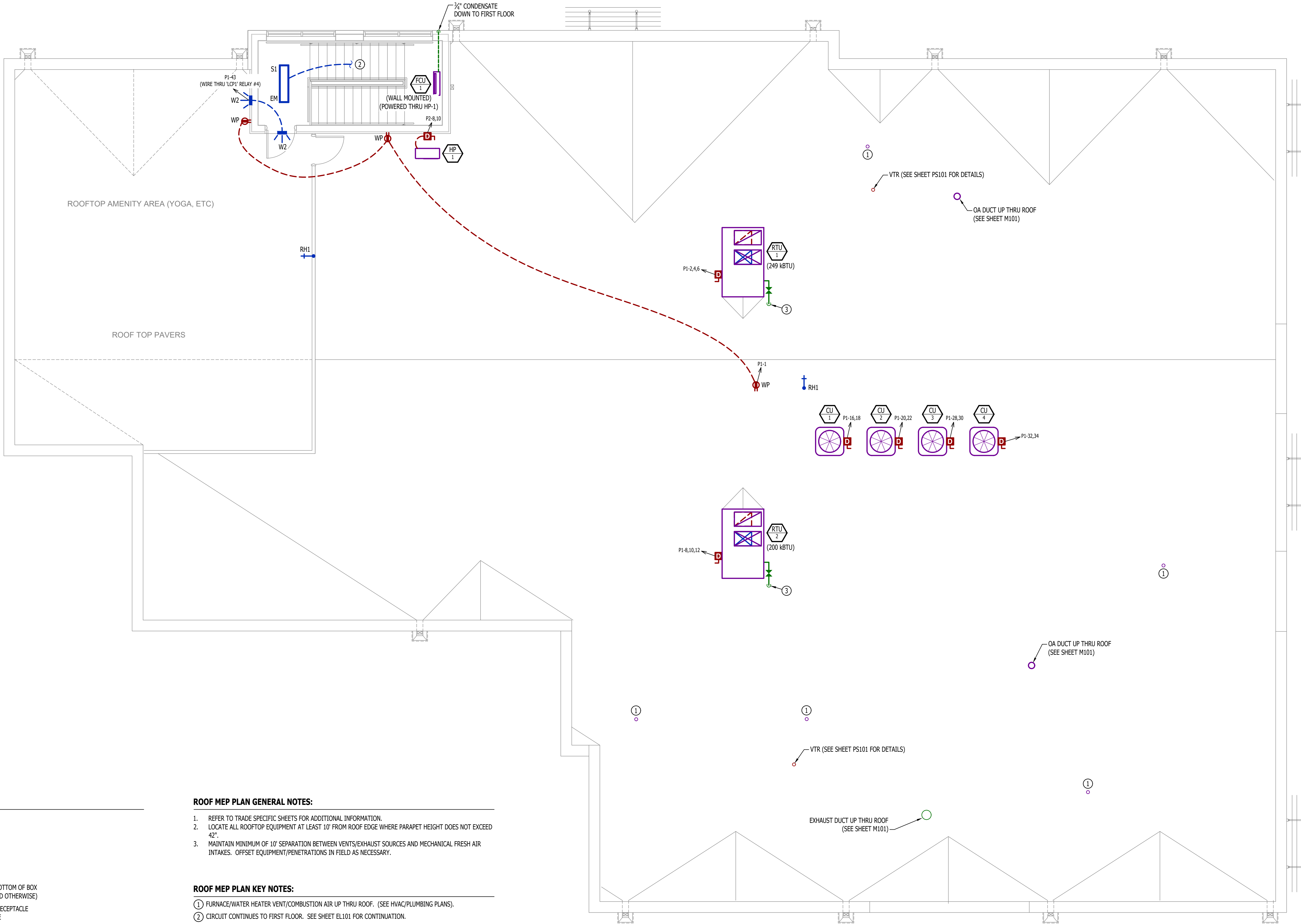
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
- INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- "AW" = ABOVE WINDOW RECEPTACLE
- "AC" = ABOVE CEILING RECEPTACLE
- "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- DISCONNECT
- CONDENSING UNIT

ROOF MEP PLAN GENERAL NOTES:

- REFER TO TRADE SPECIFIC SHEETS FOR ADDITIONAL INFORMATION.
- LOCATE ALL ROOFTOP EQUIPMENT AT LEAST 10' FROM ROOF EDGE WHERE PARAPET HEIGHT DOES NOT EXCEED 42".
- MAINTAIN MINIMUM OF 10' SEPARATION BETWEEN VENTS/EXHAUST SOURCES AND MECHANICAL FRESH AIR INTAKES. OFFSET EQUIPMENT/PENETRATIONS IN FIELD AS NECESSARY.

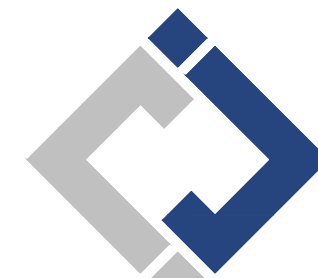
ROOF MEP PLAN KEY NOTES:

- FURNACE/WATER HEATER VENT/COMBUSTION AIR UP THRU ROOF. (SEE HVAC/PLUMBING PLANS).
- CIRCUIT CONTINUES TO FIRST FLOOR. SEE SHEET EL101 FOR CONTINUATION.
- GAS UP TO RTU FROM BELOW; (SEE SHEET PW101).



ROOF MEP PLAN

SCALE: 3/16" = 1'-0"



**J-SQUARED
ENGINEERING**

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Columbia, Missouri 65201
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www.j-squaredeng.com

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SHEET TITLE

HVAC PLAN

SHEET NUMBER

M101

HVAC PLAN SYMBOL LEGEND

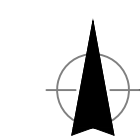
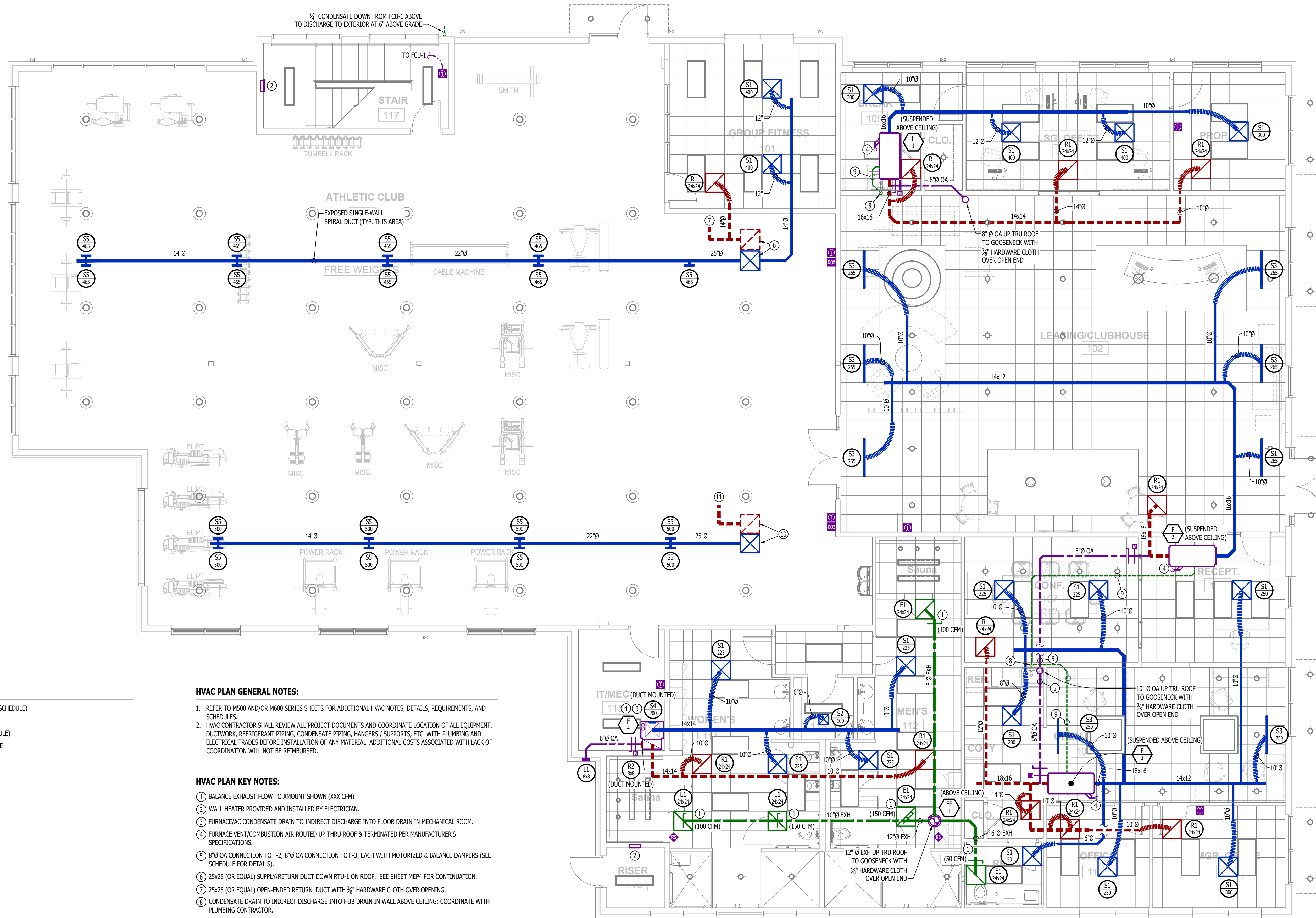
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
— EQUIPMENT REFERENCE NUMBER
— DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
— CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
— RETURN DUCTWORK
— EXHAUST DUCTWORK
— OUTSIDE AIR DUCTWORK
— FLEX DUCT
— VENT / COMBUSTION AIR
— CONDENSATION LINE
— VENT/COMBUSTION AIR
- TIE INTO EXISTING
— SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
— RETURN DIFFUSER
— BALANCE DAMPER
— MOTORIZED DAMPER
— THERMOSTAT
— REMOTE TEMPERATURE SENSOR (AVERAGE TEMPERATURES IF MULTIPLE SHOWN IN SINGLE ZONE)

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 AND/OR M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. HVAC CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, DUCTWORK, REFRIGERANT PIPING, CONDENSATE PIPING, HANGERS / SUPPORTS, ETC. WITH PLUMBING AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

HVAC PLAN KEY NOTES:

- ① BALANCE EXHAUST FLOW TO AMOUNT SHOWN (XXX CFM)
- ② WALL HEATER PROVIDED AND INSTALLED BY ELECTRICIAN.
- ③ FURNACE/AC CONDENSATE DRAIN TO INDIRECT DISCHARGE INTO FLOOR DRAIN IN MECHANICAL ROOM.
- ④ FURNACE VENT/COMBUSTION AIR ROUTED UP THRU ROOF & TERMINATED PER MANUFACTURER'S SPECIFICATIONS.
- ⑤ 8" Ø OA CONNECTION TO F-2; 8" Ø OA CONNECTION TO F-3; EACH WITH MOTORIZED & BALANCE DAMPERS (SEE SCHEDULE FOR DETAILS).
- ⑥ 25x25 (OR EQUAL) SUPPLY/RETURN DUCT DOWN RTU-1 ON ROOF. SEE SHEET MEP4 FOR CONTINUATION.
- ⑦ 25x25 (OR EQUAL) OPEN-ENDED RETURN DUCT WITH ¾" HARDWARE CLOTH OVER OPENING.
- ⑧ CONDENSATE DRAIN TO INDIRECT DISCHARGE INTO HUB DRAIN IN WALL ABOVE CEILING; COORDINATE WITH PLUMBING CONTRACTOR.
- ⑨ CONDENSATE DRAIN ROUTED ABOVE FINISHED CEILING.
- ⑩ 24x24 (OR EQUAL) SUPPLY/RETURN DUCT DOWN RTU-2 ON ROOF. SEE SHEET MEP4 FOR CONTINUATION.
- ⑪ 24x24 (OR EQUAL) OPEN-ENDED RETURN DUCT WITH ¾" HARDWARE CLOTH OVER OPENING.

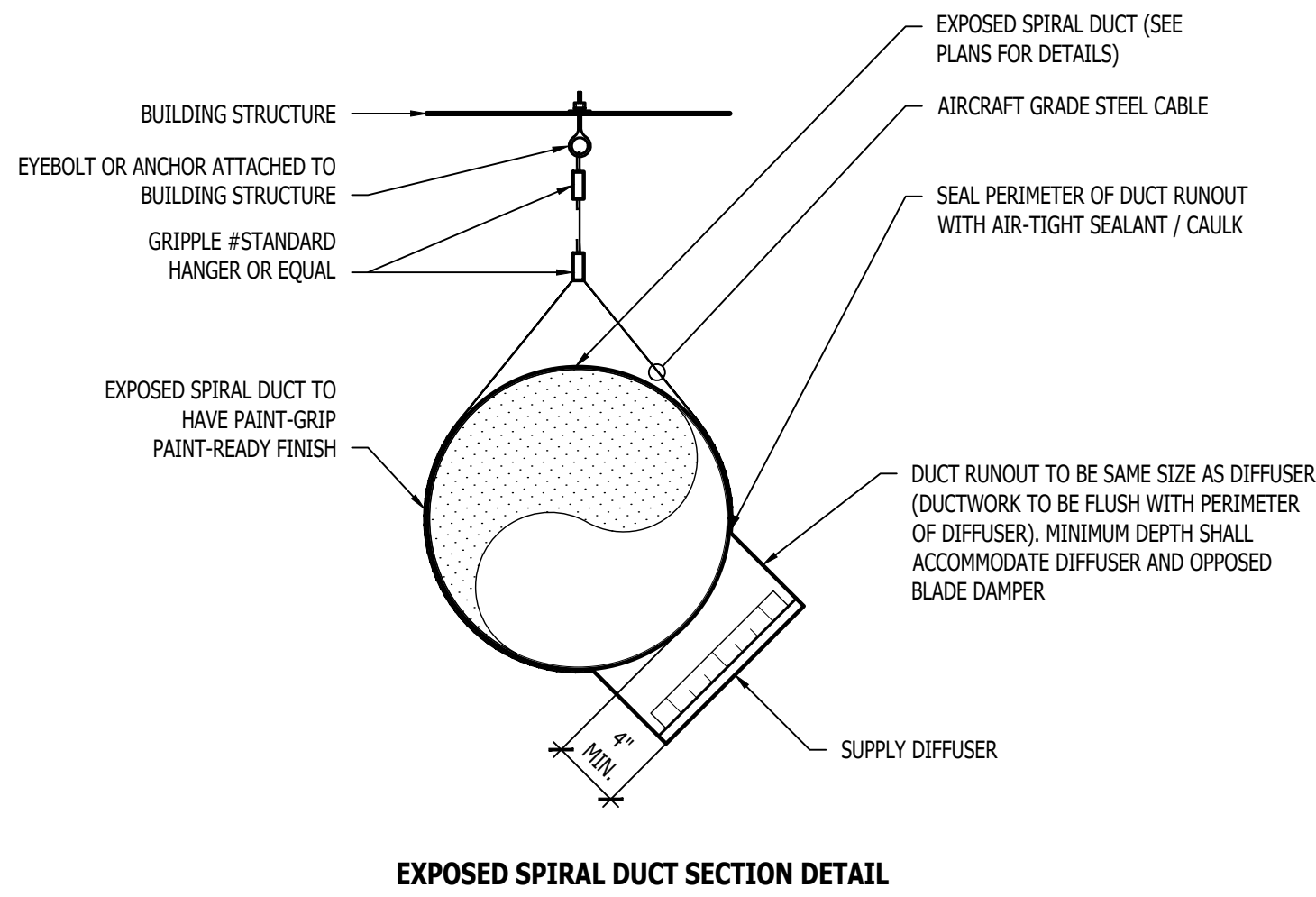
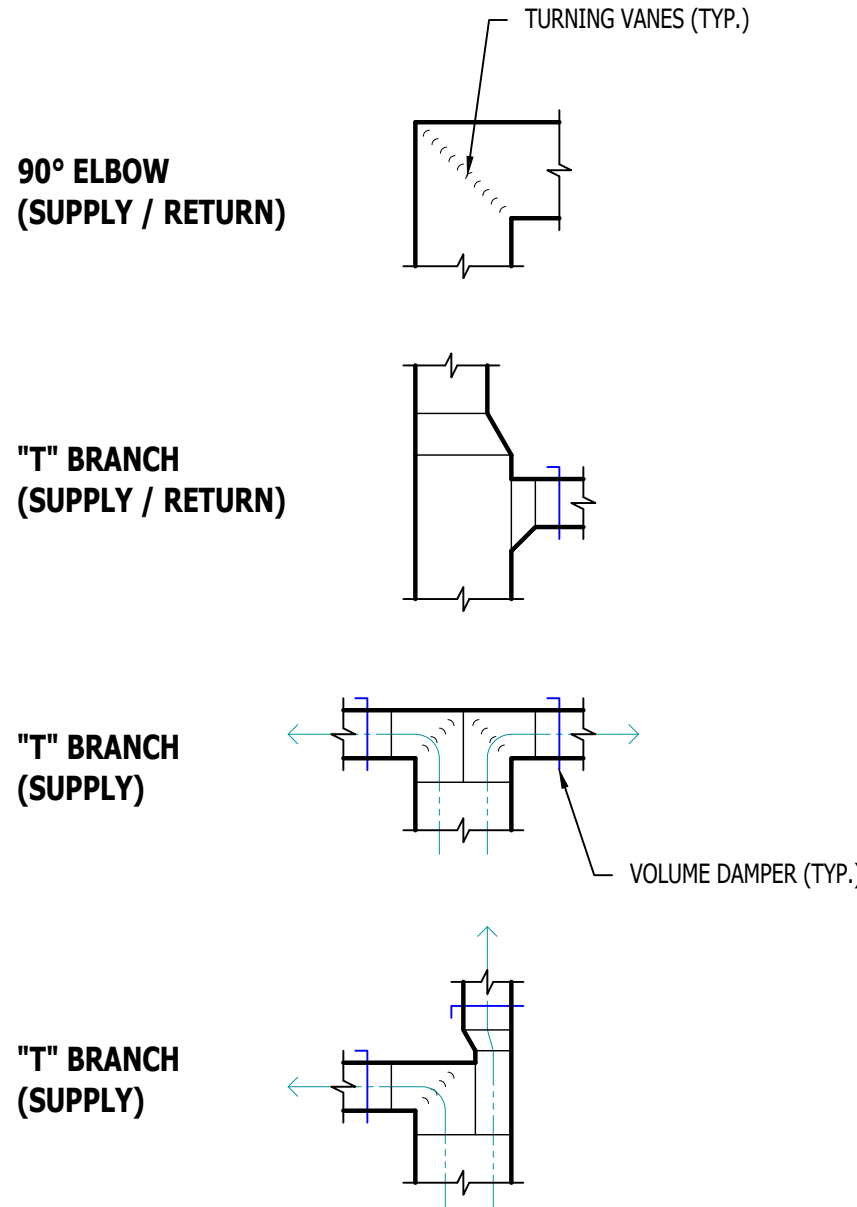
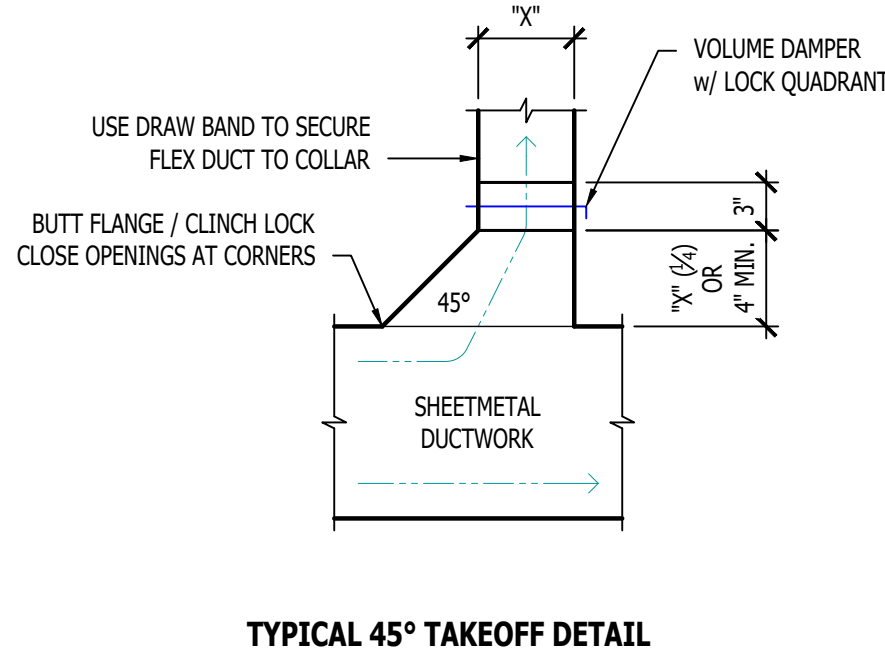
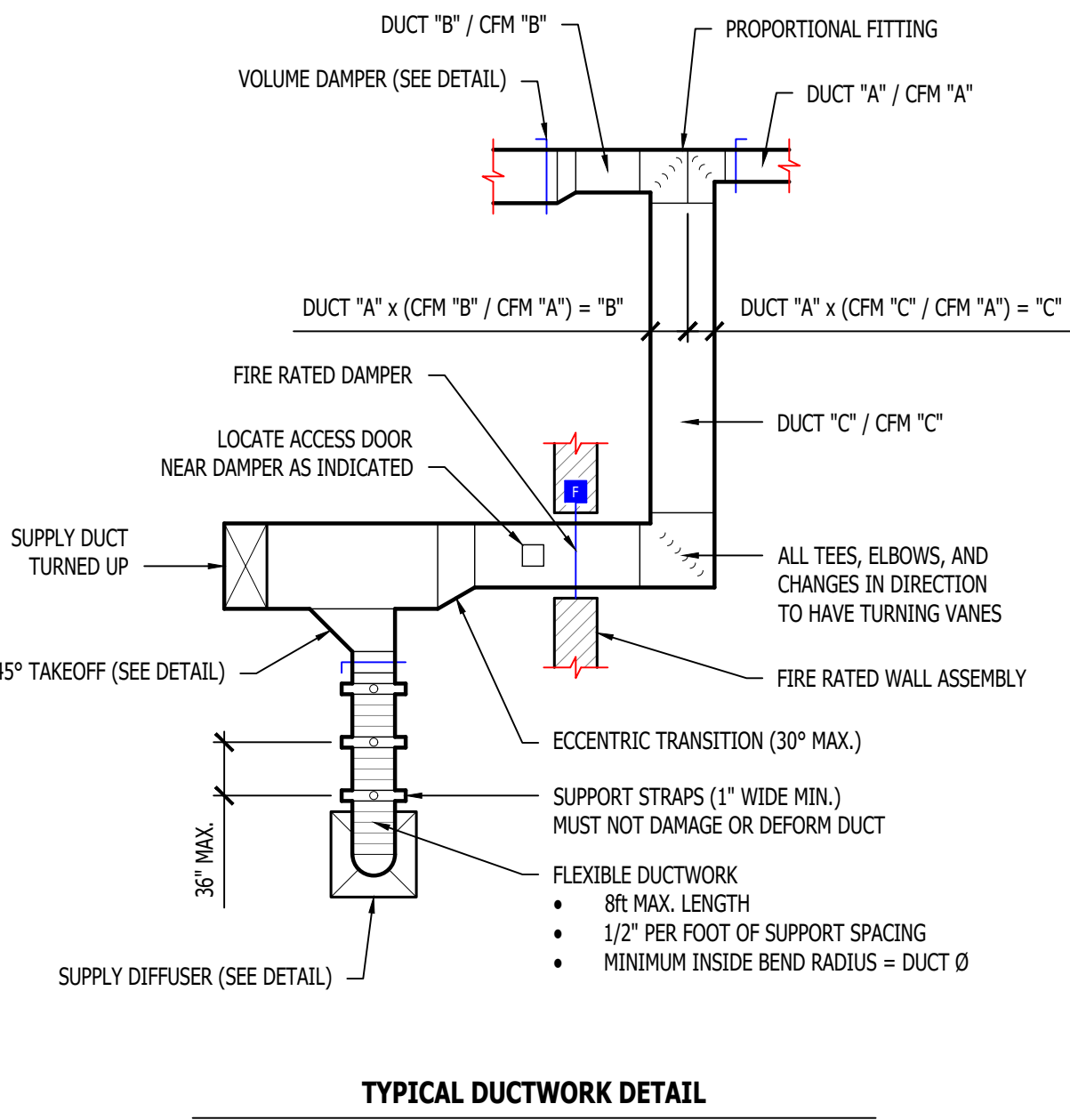
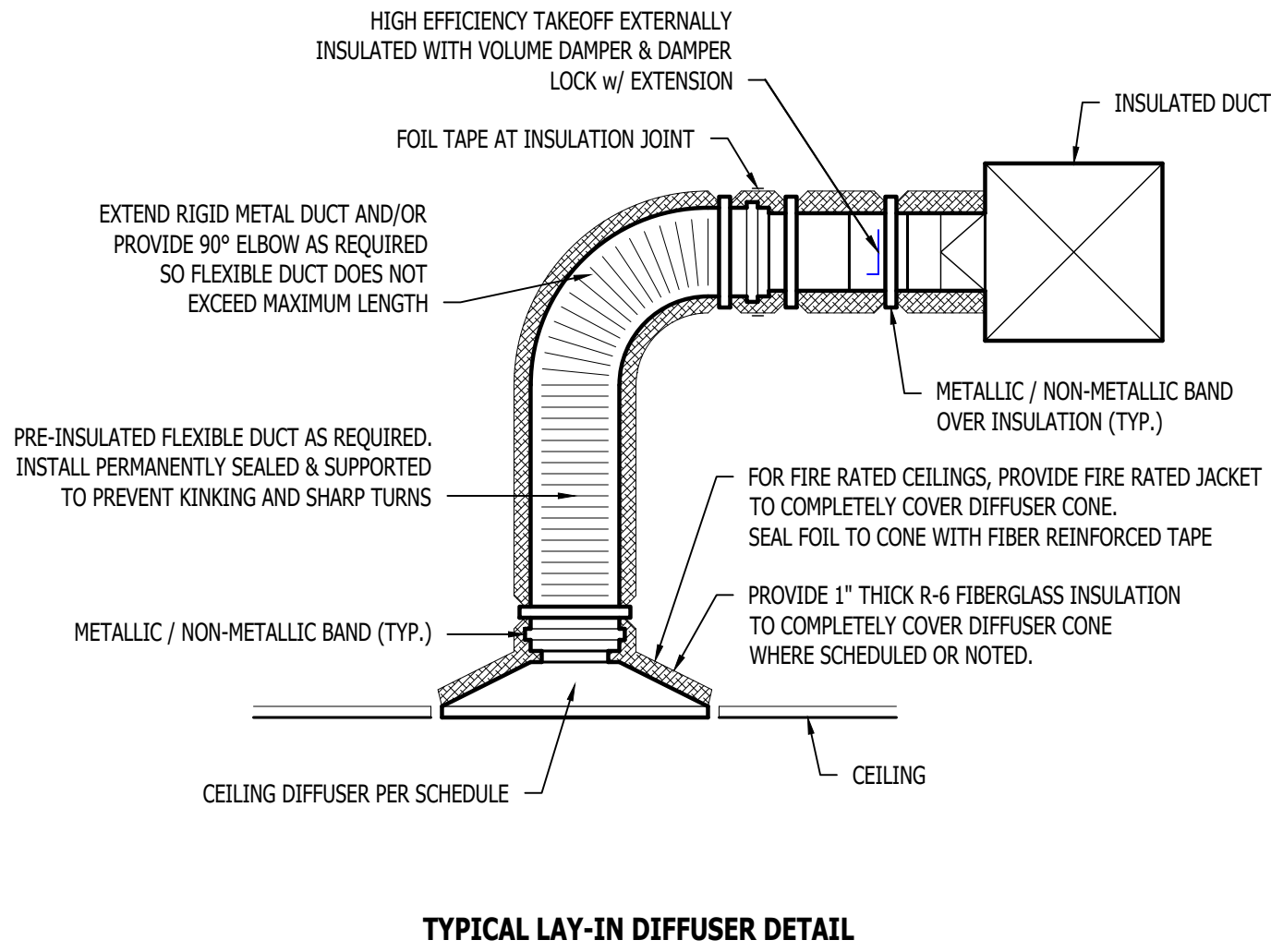


HVAC PLAN

SCALE: 3/16" = 1'-0"

HVAC SPECIFICATIONS

1. GENERAL
- 1.1. REFER TO GENERAL MEP SPECIFICATIONS SECTION FOR ADDITIONAL REQUIREMENTS.
2. WORKMANSHIP
- 2.1. COORDINATE WITH ALL OTHER TRADES SO THAT HVAC EQUIPMENT AND DUCT WORK DOES NOT BLOCK REQUIRED ACCESS OR CLEARANCE TO ANY EQUIPMENT, ACCESS PANELS, ELECTRICAL JUNCTION BOXES, ELECTRICAL PANELS, ETC.
- 2.2. ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND/OR INSTALLATION INSTRUCTIONS.
- 2.3. ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB, PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 2.4. ROOFTOP MOUNTED RTU's & EXHAUST FANS SHALL BE INSTALLED ON CURBS PER MANUFACTURER'S INSTRUCTIONS. CURB HEIGHT SHALL PROVIDE A MINIMUM OF 12" BETWEEN EQUIPMENT AND TOP OF ROOF IN ALL LOCATIONS.
- 2.5. GRADE MOUNTED RTUS, CONDENSING UNITS, AND HEAT PUMPS TO BE INSTALLED ON 4" REINFORCED CONCRETE PAD EXTENDING 4" BEYOND EACH EDGE OF THE EQUIPMENT, OR A MANUFACTURER APPROVED PRE-MANUFACTURED BASE.
- 2.6. APPROPRIATE ATTENTION SHALL BE GIVEN TO INDOOR AIR QUALITY THROUGHOUT CONSTRUCTION; PROTECT INSIDE OF NEW DUCTWORK & AIR-HANDLING EQUIPMENT FROM DUST, DIRT, DEBRIS, PAINT, MOISTURE, ETC. INSULATION SHALL BE REPLACED IF EXPOSED TO MOISTURE. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL CLEAN ALL NEW DUCTWORK IF EQUIPMENT WAS USED DURING CONSTRUCTION, AND EQUIPMENT/COILS SHALL ALSO BE THOROUGHLY CLEANED.
- 2.7. FIELD COORDINATE LOCATIONS OF ALL DIFFUSERS, GRILLES, REGISTERS, ETC. WITH LIGHT FIXTURE LOCATIONS AND ADJUST AS NECESSARY.
3. EQUIPMENT
- 3.1. ALL EQUIPMENT SHOWN ON MECHANICAL PLANS SHALL BE PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
- 3.2. ALL EQUIPMENT MUST PROVIDE PERFORMANCE AS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.
- 3.3. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
- 3.4. CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL OR PLUMBING REQUIREMENTS WITH RESPECTIVE CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.
- 3.5. ALL EQUIPMENT SHOWN ON PLANS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS WITH ADEQUATE ACCESS AND CLEARANCE FOR SERVICING OR REPLACEMENT.
- 3.6. ALL HORIZONTAL FURNACES WITH AC COILS SHALL BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT DOWN UNIT ON HIGH WATER SIGNAL.
- 3.7. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
- 3.8. REFRIGERANT PIPING TO BE ACR COPPER OR TYPE L COPPER.
- 3.9. ALL AIR HANDLING EQUIPMENT SHALL BE EQUIPPED WITH MERV-8 FILTRATION AT RETURN OPENING UNLESS OTHERWISE NOTED.
- 3.10. ALL AIR FILTERS SHALL BE SIZED FOR A MAXIMUM FACE VELOCITY OF 500FPM.
- 3.11. PROVIDE & INSTALL ALL EQUIPMENT FLUES/VENTS PER MANUFACTURER'S SPECIFICATIONS. TERMINATIONS SHALL BE AT LEAST 10' FROM ANY FRESH AIR INTAKE.
- 3.12. PROVIDE NEW AIR FILTERS IN ALL EQUIPMENT PRIOR TO TESTING & BALANCING AND BEFORE TURNING OVER SYSTEM(S) TO OWNERSHIP.
- 3.13. IF ANY EXISTING EQUIPMENT IS TO BE REUSED, CLEAN AND INSPECT EQUIPMENT PRIOR TO BEGINNING WORK. VERIFY THAT EQUIPMENT IS IN GOOD WORKING CONDITION, REPORT ANY DEFICIENCIES TO ENGINEER.
4. DUCTWORK
- 4.1. DUCTWORK TO BE GALVANIZED STEEL, SEAL CLASS B, CONSTRUCTED PER SMACNA STANDARDS.
- 4.2. DUCTWORK THICKNESS:
- 4.2.1. 26 GA. MINIMUM UP TO 16" DUCT
- 4.2.2. 24 GA. UP TO 20"
- 4.2.3. 22 GA. UP TO 24"
- 4.2.4. 20 GA. UP TO 28"
- 4.2.5. 18 GA. UP TO 36"
- 4.3. TURNING VANES SHALL BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES.
- 4.4. ALL DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER UNLESS NOTED OTHERWISE ON PLANS.
- 4.5. BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.
- 4.5.1. WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.
- 4.5.2. WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), BALANCE DAMPER IS TO BE LOCATED SUCH THAT IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.
- 4.6. HVAC CONTRACTOR RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS AND FITTINGS AS REQUIRED FOR FINAL CONNECTIONS TO HVAC EQUIPMENT.
- 4.7. UNLESS NOTED OTHERWISE ON PLANS, FLEXIBLE DUCT CONNECTIONS MAY USED FROM BRANCH DUCTS TO FINAL AIR DEVICES, BUT SHALL NOT EXCEED 8'-0" IN LENGTH. FLEXIBLE DUCT CONNECTORS MUST BE SUPPORTED PER PLAN DETAILS.
5. INSULATION
- 5.1. DUCTWORK
- 5.1.1. SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.
- 5.1.2. INTERNAL DUCT LINER TO BE EQUAL TO 'JOHNS MANVILLE LINACOUSTIC R-300'.
- 5.1.3. EXTERNAL DUCT WRAP TO INCLUDE VAPOR BARRIER. EQUAL TO 'JOHNS MANVILLE MICROLITE' WITH FSK JACKET.
- 5.1.4. WHERE INSULATION IS REQUIRED IN "TYPICAL DUCT INSULATION DIAGRAM", INCLUDE INSULATION ON ALL FITTINGS, INCLUDING CANVAS FLEX CONNECTION FITTINGS.
- 5.2. REFRIGERANT PIPING
- 5.2.1. SPLIT SYSTEM (SUCTION LINE ONLY) - 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'ARMAFLEX AP').
- 5.3. VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1 1/2" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') WITHIN CONDITIONED SPACES & 2" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.
- 5.4. CONDENSATE PIPING
- 5.4.1. SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE WITH 1/2" ELASTOMERIC. NO INSULATION REQUIRED WITHIN CONDITIONED SPACES.
- 5.4.2. VRV/VRF - INSULATE WITH 1/2" ELASTOMERIC.
6. TESTING AND BALANCING
- 6.1. ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.
- 6.2. HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLANS, INITIAL MEASURED FLOW VALUES, AND FINAL MEASURED VALUES.
- 6.3. THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS OR WITHIN PROJECT MANUAL.



	= INSIDE		= INSULATION		= OUTSIDE
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DUCT INSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS		DUCT OUTSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS	
RECTANGULAR		RECTANGULAR	
• SUPPLY =	1" LINER	• SUPPLY =	1" LINER & 1 1/2" WRAP
• RETURN =	1" LINER	• RETURN =	1" LINER & 1 1/2" WRAP
• EXHAUST =	NONE	• EXHAUST =	1 1/2" WRAP
• OUTSIDE AIR =	2" WRAP	• OUTSIDE AIR =	NONE
ROUND		ROUND	
• SUPPLY =	1 1/2" WRAP	• SUPPLY =	2" WRAP
• RETURN =	NONE	• RETURN =	2" WRAP
• EXHAUST =	NONE	• EXHAUST =	1 1/2" WRAP
• OUTSIDE AIR =	2" WRAP	• OUTSIDE AIR =	NONE
SPIRAL		SPIRAL	
• SUPPLY =	NONE	• SUPPLY =	2" WRAP
• RETURN =	NONE	• RETURN =	2" WRAP
• EXHAUST =	NONE	• EXHAUST =	1 1/2" WRAP
• OUTSIDE AIR =	2" WRAP	• OUTSIDE AIR =	NONE

TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM

J2 PROJECT No:	J212111
J2 DESIGN:	ACW
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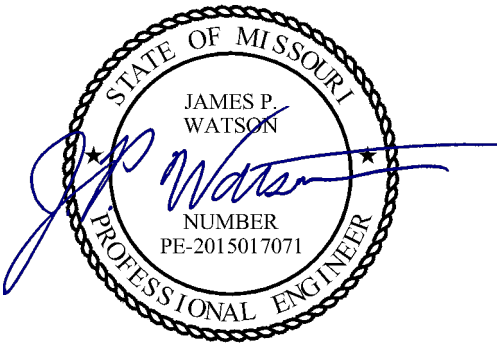
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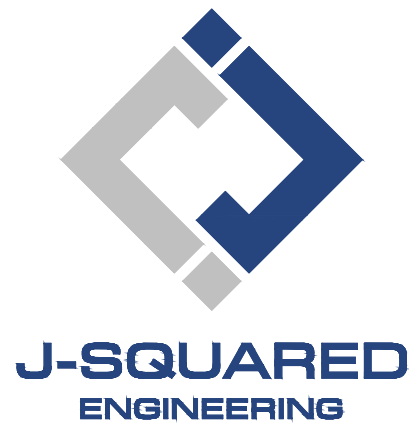
HVAC DETAILS

SHEET NUMBER

M501



James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680



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SHEET TITLE

HVAC
SCHEDULES

SHEET NUMBER

M601

RTU SCHEDULE															
TAG	EQUIPMENT DESCRIPTION	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	E.S.P. (in. H2O)	OA AIRFLOW MAX / MIN (CFM)	GAS HEATING		COOLING (IA: 80 DB/67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							INPUT (kBtu)	OUTPUT (kBtu)	SENSIBLE (kBtu)	TOTAL (kBtu)	MIN. EFFICIENCY	VOLTS / PHASE	MCA	OCP	
RTU-1	ROOFTOP UNIT	12.5	DOWN FLOW	5000	1.0	5000 / 300	249	194	118.8	154.3	14.0 IEER	208/3	61	80	1, 2, 3, 4, 5, 6, 7, 8
RTU-2	ROOFTOP UNIT	10	DOWN FLOW	4000	1.0	5000 / 300	200	162	96.1	124.4	14.6 IEER	208/3	49	60	1, 2, 3, 4, 5, 7, 8
NOTES: 1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER. 2. WITH FACTORY HAIL GUARD. 3. WITH FACTORY INSTALLED DISCONNECT. 4. ECONOMIZER (WITH EITHER BAROMETRIC RELIEF SIZED AT 100% OF FLOW AT 1/10" RETURN DUCT STATIC PRESSURE, OR POWERED EXHAUST); CONTROL TO BE ADJUSTABLE FIXED POINT SET AT 65°F. ECONOMIZER TO BE IECC COMPLIANT WITH FAULT DETECTION AND NOTIFICATION. 5. WITH POWERED WEATHERPROOF GFCI RECEPTACLE. 6. WITH HOT GAS REHEAT/DEHUMIDIFICATION OPTION. 7. WITH SMOKE DETECTOR IN RETURN AIR DUCT TO SHUT DOWN UNIT AND SEND SIGNAL TO BUILDING FIRE ALARM SYSTEM UPON DETECTION OF SMOKE. 8. PROVIDE CO2 SENSOR MODULATE BETWEEN MAX AND MIN OA AMOUNTS INDICATED.															

SPLIT SYSTEM SCHEDULE															
TAG	EQUIPMENT DESCRIPTION	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	E.S.P. (in. H2O)	OA AIRFLOW MAX / MIN (CFM)	HEATING		COOLING (IA: 80 DB/ 67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							GAS INPUT (KBTU)	MIN. A FUE EFF. (%)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER2)	VOLTS/ PH	MCA	OCP	
F-1	FURNACE	3.5	HORIZONTAL	1400	0.5	125 / 0	80	90	-	-	-	120	10	20	1, 2, 3
F-2	FURNACE	4.0	HORIZONTAL	1600	0.5	150 / 0	100	90	-	-	-	120	12	20	1, 2, 3
F-3	FURNACE	5.0	HORIZONTAL	2000	0.5	170 / 0	100	90	-	-	-	120	14	20	1, 2, 3
F-4	FURNACE	3.0	UPFLOW	1200	0.5	100 / 100	60	90	-	-	-	120	10	20	1, 2
CU-1	CONDENSING UNIT	3.5	-	-	-	-	-	-	31.2	41.5	13.4	208/1	20	35	4, 5
CU-2	CONDENSING UNIT	4.0	-	-	-	-	-	-	35.1	46.9	13.4	208/1	24	40	4, 5
CU-3	CONDENSING UNIT	5.0	-	-	-	-	-	-	44.1	56.4	13.4	208/1	34	60	4, 5
CU-4	CONDENSING UNIT	3.0	-	-	-	-	-	-	25.0	33.7	13.4	208/1	18	30	4, 5
NOTES: 1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER. 2. INCLUDE CORROSION RESISTANT DRAIN PAN WITH OVERFLOW SWITCH WIRED TO SHUT DOWN UNIT. 3. WITH LOW LEAKAGE MOTORIZED OUTSIDE AIR DAMPER, DAMPER TO OPEN DURING OCCUPIED HOURS AND CLOSE DURING UNOCCUPIED HOURS THRU THERMOSTAT SCHEDULE. 4. WITH FACTORY HAIL GUARD. 5. LOW AMBIENT PACKAGE FOR OPERATION TO 0°F.															

MINI-SPLIT SYSTEM SCHEDULE														
TAG	EQUIPMENT DESCRIPTION	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	HEATING (IA: 70 DB, OA: 5 DB)	COOLING (IA: 80 DB/ 67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							TOTAL (kBtu)	SENSIBLE (kBtu)	TOTAL (kBtu)	EFFICIENCY (SEER2)	VOLTS / PH	MCA	OCP	
FCU-1	WALL-MOUNT FAN COIL UNIT	mitsubishi	MSZ-GX24NL	2.0	HORIZONTAL	324 - 765	-	-	-	-	POWERED THRU HP-1			1
HP-1	HEAT PUMP	mitsubishi	MUZ-GX24NL	2.0	STANDARD	-	19.4	17.5	22.4	21.5	208/1	14	25-2	2, 3
NOTES: 1. WITH WIRED REMOTE CONTROLLER & LOCKING COVER 2. WITH HEAT PUMP STAND 3. WITH HAIL GUARDS														

EXHAUST FAN SCHEDULE											
TAG	EQUIPMENT TYPE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	FLOW		ELECTRICAL			PHYSICAL		NOTES
				CFM	S.P.	VOLT/PH	MCA	OCP	DIM.	WEIGHT	
EF-1	IN-LINE EXHAUST FAN	SOLER & PALAU	TD-SILENT	550	3/8"	120/1	1	20-1	23x13x11	20 lbs.	1, 2
NOTES: 1. WITH BACKDRAFT DAMPER 2. WITH SPEED CONTROLLER											

DIFFUSER NECK SIZING SCHEDULE	
AIRFLOW (CFM)	NECK SIZE (in)
0 - 120	6"
120 - 210	8"
210 - 325	10"
325 - 470	12"
470 - 640	14"

AIR DEVICE SCHEDULE						
TAG	SERVICE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	SIZE	COLOR / FINISH	NOTES
L1	EXH / OA	POTTRORFF	EFD	AS INDICATED	PRIMED	PAINT TO MATCH EXTERIOR
R1	RETURN	PRICE	80	AS INDICATED	WHITE	
R2	RETURN	PRICE	530	AS INDICATED	WHITE	
S1	SUPPLY	PRICE	SPD	24x24	WHITE	WITH DRYWALL KIT WHERE REQUIRED
S2	SUPPLY	PRICE	SPD	12x12	WHITE	
S3	SUPPLY	PRICE	SDS100	48"L x 4-SLOT	WHITE	WITH 'SDB' PLENUM
S4	SUPPLY	PRICE	520	10x6	WHITE	
S5	SUPPLY	PRICE	520	18x8	WHITE	
NOTES: 1. VERIFY AIR DEVICE FINISHES WITH OWNER/ARCHITECT PRIOR TO INSTALLATION						

BUILDING AIR BALANCE SUMMARY		
EQUIPMENT	OA / EXH (CFM)	
	OCCUPIED HOURS	UNOCCUPIED HOURS
RTU-1	300	300
RTU-2	300	300
F-1	125	0
F-2	150	0
F-3	170	0
F-4	100	100
EF-1	-550	-550
NET CFM	595	150
NOTES: 1. EF-1 TO OPERATE CONTINUOUSLY		



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250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

ARCH APPROVAL STAMP

SHEET TITLE

**POWER PLAN - FIRST
FLOOR**

SHEET NUMBER

EP101

POWER PLAN SYMBOL LEGEND

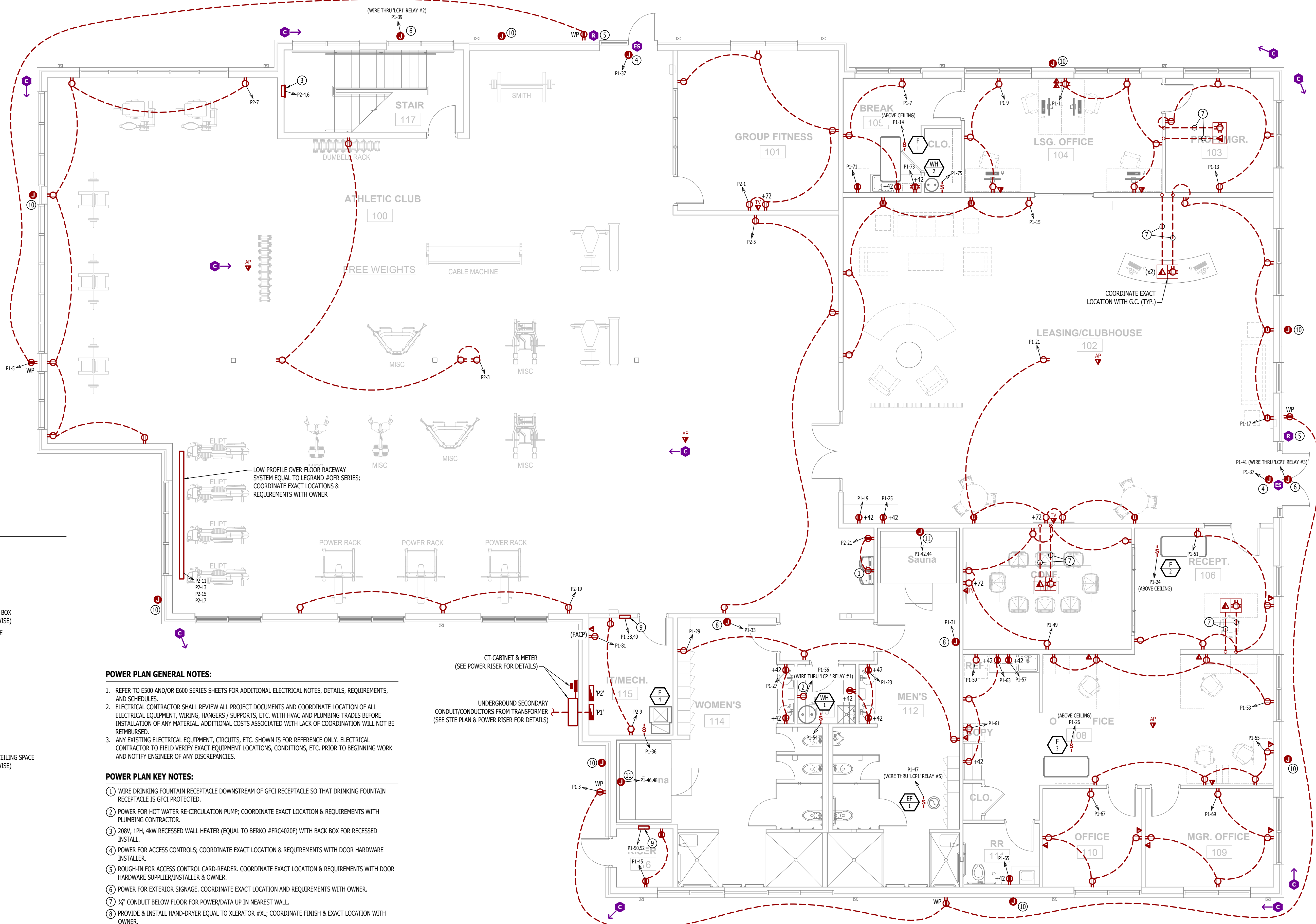
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
- INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- "AW" = ABOVE WINDOW RECEPTACLE
- "AC" = ABOVE CEILING RECEPTACLE
- "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET WITH USB-A & USB-C CHARGING PORT
- DATA / PHONE JACK BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- WIRELESS ACCESS POINT, CEILING MOUNTED
- FLOOR RECEPTACLE
- FLOOR DATA
- DISCONNECT
- FUSED DISCONNECT
- FUSED SWITCH
- STARTER / DISCONNECT
- TIE INTO EXISTING
- CAMERA (ARROW INDICATES VIEW DIRECTION)
- CARD READER
- ELECTRIC STRIKE

POWER PLAN GENERAL NOTES:

- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- ELECTRICAL CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT, WIRING, HANGERS / SUPPORTS, ETC. WITH HVAC AND PLUMBING TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.
- ANY EXISTING ELECTRICAL EQUIPMENT, CIRCUITS, ETC. SHOWN IS FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR TO FIELD VERIFY EXACT EQUIPMENT LOCATIONS, CONDITIONS, ETC. PRIOR TO BEGINNING WORK AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

POWER PLAN KEY NOTES:

- WIRE DRINKING FOUNTAIN RECEPTACLE DOWNSTREAM OF GFCI RECEPTACLE SO THAT DRINKING FOUNTAIN RECEPTACLE IS GFCI PROTECTED.
- POWER FOR HOT WATER RE-CIRCULATION PUMP; COORDINATE EXACT LOCATION & REQUIREMENTS WITH PLUMBING CONTRACTOR.
- 208V, 1PH, 4KW RECESSED WALL HEATER (EQUAL TO BERKO #FRCH020F) WITH BACK BOX FOR RECESSED INSTALL.
- POWER FOR ACCESS CONTROLS; COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE INSTALLER.
- ROUGH-IN FOR ACCESS CONTROL CARD-READER. COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE SUPPLIER/INSTALLER & OWNER.
- POWER FOR EXTERIOR SIGNAGE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER.
- 3/4" CONDUIT BELOW FLOOR FOR POWER/DATA UP IN NEAREST WALL.
- PROVIDE & INSTALL HAND-DRYER EQUAL TO XLERATOR #XL; COORDINATE FINISH & EXACT LOCATION WITH OWNER.
- 208V, 1PH, 4KW RECESSED WALL HEATER (EQUAL TO BERKO #VFK404F) WITH BACK BOX FOR RECESSED INSTALL.
- POWER FOR LANDSCAPE LIGHTING AT GRADE; COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER; CIRCUIT P1-77, WIRE THRU 'LCP1' RELAY #8.
- POWER FOR SAUNA. COORDINATE EXACT LOCATION & POWER REQUIREMENTS WITH SAUNA SUPPLIER / INSTALLER PRIOR TO ROUGH-IN.



POWER PLAN - FIRST FLOOR

SCALE: 3/16" = 1'-0"

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

LIGHTING PLAN

SHEET NUMBER

EL101

LIGHTING PLAN SYMBOL LEGEND

- X1 — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
LIGHTING FIXTURE
EM — "EM" INDICATES EMERGENCY BATTERY BACKUP
NL — "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- SWITCH (WALL MOUNTED)
SWITCH TYPE:
• 3 = 3-WAY
• 4 = 4-WAY
• OP = PASSIVE INFRARED OCCUPANCY SENSOR
• OU = ULTRASONIC OCCUPANCY SENSOR
• OT = DUAL-TECHNOLOGY OCCUPANCY SENSOR
• VP = PASSIVE INFRARED VACANCY SENSOR
• VU = ULTRASONIC VACANCY SENSOR
• VT = DUAL-TECHNOLOGY VACANCY SENSOR
• M = MOMENTARY SWITCH
• SS = SCENE SWITCH
- DIMMER SWITCH (WALL MOUNTED)
SWITCH TYPE:
• SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS
- SWITCH (CEILING MOUNTED)
SWITCH TYPE:
• SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS

OCCUPANCY SENSOR

- AUTO FULL-ON (OR 50% IF NOTED)
- AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION
- WITH MANUAL OVERRIDE CONTROL (IF NOTED)

VACANCY SENSOR

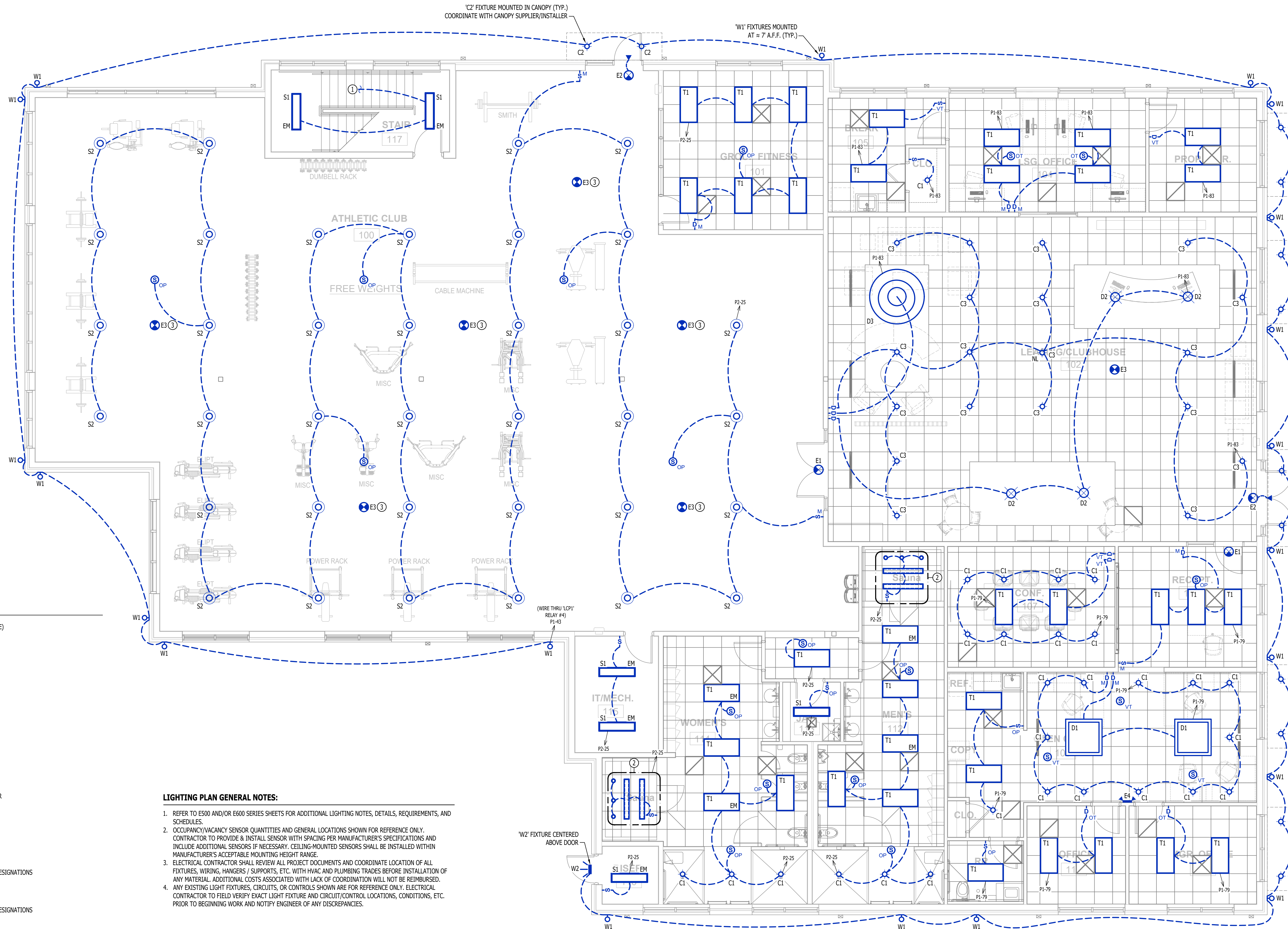
- MANUAL FULL-ON
- AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION
- WITH MANUAL OVERRIDE CONTROL (IF NOTED)

LIGHTING PLAN GENERAL NOTES:

- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- OCCUPANCY/VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE & INSTALL SENSOR WITH SPACING PER MANUFACTURER'S SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURER'S ACCEPTABLE MOUNTING HEIGHT RANGE.
- ELECTRICAL CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL FIXTURES, WIRING, HANGERS / SUPPORTS, ETC. WITH HVAC AND PLUMBING TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.
- ANY EXISTING LIGHT FIXTURES, CIRCUITS, OR CONTROLS SHOWN ARE FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR TO FIELD VERIFY EXACT LIGHT FIXTURE AND CIRCUIT/CONTROL LOCATIONS, CONDITIONS, ETC. PRIOR TO BEGINNING WORK AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

LIGHTING PLAN KEY NOTES:

- CIRCUIT CONTINUES TO SECOND FLOOR.
- INSTALL LIGHTING AS PART OF SAUNA PACKAGE; CIRCUIT AS SHOWN. COORDINATE DETAILS WITH OWNER.
- PAINT LIGHT FIXTURE HOUSING TO MATCH CEILING.



GENERAL

1.1. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY PIECES AND COMPONENTS TO PROVIDE A COMPLETE AND COMPLIANT ELECTRICAL SYSTEM UNLESS OTHERWISE NOTED ON PLANS.

1.2. THE ENTIRE ELECTRICAL SYSTEM SHALL BE CONTINUOUSLY GROUNDED. EVERY BRANCH CONDUIT SHALL INCLUDE A GREEN GROUND CONDUCTOR SIZED PER NEC.

1.3. ARC-FAULT CIRCUITS SHALL BE RUN WITH A DEDICATED NEUTRAL AS REQUIRED BY MANUFACTURER.

1.4. PROVIDE PERMANENT ARC-FLASH LABEL AFFIXED TO EVERY DISCONNECT AND PANEL.

1.5. PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL.

2. WORKMANSHIP

2.1. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO LIGHTING ORIENTATION WHERE POSSIBLE.

2.2. ALL ELECTRICAL DEVICES AND LIGHT FIXTURES SHALL BE INSTALLED IN A SAFE, FIRST-CLASS MANNER WITH ATTENTION GIVEN TO OVERALL AESTHETICS.

CARE SHOULD BE TAKEN TO ALLOW FOR FUTURE REPLACEMENT AND ACCESS FOR SERVICE.

3. MATERIALS

CONDUIT & CONDUCTORS

3.1.1. ALL CONDUCTORS SIZES INDICATED ARE COPPER UNLESS NOTED OTHERWISE ON PLANS.

3.1.2. ABOVE GRADE CONDUIT SHALL BE TYPE THHN.

3.1.3. BELOW GRADE CONDUIT SHALL BE TYPE XHHW-2.

3.1.4. MINIMUM CONDUIT SIZE SHALL BE #12 AWG UNLESS NOTED OTHERWISE. 120-VOLT, 20-AMP CIRCUITS WITH CONDUCTOR LENGTHS GREATER THAN 100' SHALL BE #10 AWG MINIMUM.

3.1.5. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MEASURING ACTUAL CONDUIT LENGTH AND INCREASING CONDUIT SIZE TO COMPENSATE FOR VOLTAGE DROP AS REQUIRED BY NEC.

3.1.6. RIGID GALVANIZED OR SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR SERVICE WIRING, BELOW GRADE INSTALLATIONS, OR WHERE EXPOSED TO WEATHER.

3.1.7. IN APPLICATIONS OTHER THAN THOSE LISTED IN 3.1.4, EMT OR MC CABLE IS ACCEPTABLE.

3.1.8. WHERE CONDUCTORS ARE PROTECTED FROM DAMAGE, ENCLOSED IN BUILDING MATERIALS, AND CONSTRUCTION IS OF A PERMITTED TYPE, NM CABLE MAY BE USED.

3.1.9. FOR CAST-IN-PLACE CONCRETE, TILT-UP WALL CONSTRUCTION, OR PRE-MANUFACTURED WALL SYSTEMS, COORDINATE EXACT LOCATIONS OF ALL DEVICES WITHIN WALLS WITH WALL SUPPLIER.

3.1.10. CONDUIT EMBEDDED IN WALLS SHALL BE SCHEDULE 80 PVC OR LFMC, OR OTHER SYSTEM APPROVED BY WALL MANUFACTURER.

3.1.11. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACES, VERIFY COLOR WITH ARCHITECT/OWNER.

DEVICES

3.2.1. CONTRACTOR TO PROVIDE J-BOXES, COVER PLATES, AND ANY ACCESSORIES REQUIRED TO COMPLETE SYSTEM. SEE ARCHITECTURAL PLANS FOR DEVICE COLORS.

3.2.2. DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, 20-AMP, EQUAL TO LEVITON #TBR-20.

3.2.3. SINGLE POLE TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS120-2.

3.2.4. THREE-WAY TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS320-2.

3.2.5. DIMMER SWITCHES SHALL BE TESTED WITH FIXTURES AND LAMPS FOR COMPATIBILITY. SEE LIGHTING PLANS FOR DETAILS.

3.2.6. WHERE GFCI PROTECTION IS SHOWN ON PLANS AND UNLESS OTHERWISE NOTED, PROVIDE A LISTED GFCI-PROTECTED RECEPTACLE WHERE THE RECEPTACLE IS ACCESSIBLE ON PLANS. IF THE RECEPTACLE LOCATION IS NOT ACCESSIBLE AS DEFINED BY NEC, PROVIDE GFCI PROTECTION AT CIRCUIT BREAKER.

3.2.7. DO NOT INSTALL OCCUPANCY/VACANCY SENSORS WITHIN 48" OF HVAC DIFFUSERS/GRILLES OR SIMILAR OBSTRUCTIONS THAT MAY AFFECT SENSOR FUNCTIONALITY. ALL SENSORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

3.2.8. ALL APPLICABLE SWITCHES, RECEPTACLES, CONTROLS, ETC. SHALL BE MOUNTED AT ADA-ACCESSIBLE HEIGHTS.

3.2.9. WIRING DEVICES SHOWN ON PLANS NEXT TO ONE ANOTHER SHALL UTILIZE A SINGLE COVER PLATE UNLESS NOTED OTHERWISE.

3.3.0. WIRING DEVICES SHOWN BACK-TO-BACK ON EACH SIDE OF A WALL SHALL BE OFFSET TO REDUCE SOUND TRANSMISSION.

3.3.1. EACH RECEPTACLE COVER SHALL BE NEATLY AND LEGIBLY LABELED WITH CORRESPONDING PANEL AND CIRCUIT NUMBER FOR CIRCUIT IDENTIFICATION.

4. EMERGENCY LIGHTING

4.1. BRANCH CIRCUIT FEEDING EMERGENCY FIXTURE(S) SHALL BE SAME BRANCH CIRCUIT AS THAT SERVING NORMAL LIGHTING IN SAME AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES.

4.2. EMERGENCY LIGHTING SYSTEM SHALL PROVIDE 1% FC AVERAGE AND 0.1% FC MINIMUM ALONG EGRESS PATHS. ADJUST ANY EMERGENCY FIXTURES AS NECESSARY TO PROVIDE PROPER ILLUMINATION WITHOUT OBSTRUCTION FROM FURNITURE OR OBSTACLES.

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NOTES:

1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO INSTALLATION.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPES THROUGHOUT. COORDINATE EXACT MOUNTING DETAILS WITH GENERAL CONTRACTOR.
3. CONTACT JUSTIN HATFIELD (573) 289-0880 (JHATFIELD@LAIWEB.NET) OR PAUL WARNER (314) 531-3500 (PWARNER@LAIWEB.NET) AT LIGHTING ASSOCIATES FOR NATIONAL ACCOUNT DETAILS
4. CONTACT TRAVIS VOGT (471) 621-5210 (TVOGT@CED1135.COM) AT CED-PHILLIPS & COMPANY FOR NATIONAL ACCOUNT DETAILS

BRANCH CIRCUIT CONDUCTOR SCHEDULE						
AMPACITY	COPPER AWG SIZE	MAXIMUM DISTANCE (FEET)				MINIMUM CONDUIT SIZE
		1Ø		3Ø		
		120V	277V	208V	480V	
20	12	55'	130'	115'	260'	1/2"
	10	90'	200'	180'	415'	3/4"
30	10	60'	135'	120'	275'	3/4"
	8	95'	220'	190'	445'	1"
35	8	80'	190'	165'	380'	1"
	6	130'	300'	260'	605'	1"
40	8	70'	165'	145'	330'	1"
	6	110'	260'	225'	525'	1"
45	6	100'	235'	200'	470'	1"
	4	160'	370'	325'	750'	1-1/4"
50	6	90'	210'	180'	420'	1-1/4"
	4	145'	335'	290'	675'	1-1/4"
60	6	75'	175'	150'	350'	1-1/4"
	4	120'	280'	240'	560'	1-1/4"
70	4	105'	240'	205'	480'	1-1/4"
	3	130'	300'	260'	605'	1-1/4"
80	4	55'	210'	180'	420'	1-1/4"
	3	90'	260'	230'	530'	1-1/4"
90	3	100'	235'	200'	470'	1-1/4"
	2	125'	295'	255'	595'	1-1/4"
100	3	90'	210'	180'	420'	1-1/4"
	2	115'	265'	230'	535'	1-1/4"

NOTES:

1. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER. ALL WIRE SIZES SHOWN ARE BASED ON CONDUCTOR TEMPERATURE RATING OF 75°C & AMBIENT TEMPERATURE OF 30°C PER NEC.
2. DISTANCE SHOWN ABOVE IS LENGTH FROM OVERCURRENT PROTECTION TO DEVICE/EQUIPMENT.
3. REFER TO PLAN SHEETS FOR BRANCH CIRCUIT SIZING LENGTHS GREATER THAN SHOWN ABOVE.
4. VOLTAGE DROP CALCULATIONS BASED ON 3% DROP, 80% CIRCUIT LOAD, THINNYTHN INSULATION, 100% POWER FACTOR, BALANCED LOAD, NEGLIGIBLE REACTANCE, & SIX OR LESS CURRENT-CARRYING CONDUCTORS IN RACEWAY.

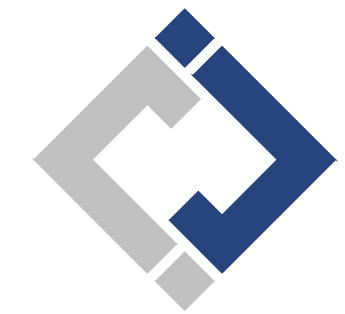
FEEDER CONDUCTOR SCHEDULE								
AMPACITY	# OF SETS	CONDUCTORS				EQUIPMENT GROUND		MINIMUM CONDUIT SIZE (PER SET)
		QUANTITY PER SET		AWG SIZE		AWG SIZE		
		3Ø WYE	1Ø OR 3ØΔ	COPPER	ALUMINUM	COPPER	ALUMINUM	
30	1	4	3	10	8	10	8	3/4"
40	1	4	3	8	8	8	8	1"
45	1	4	3	8	6	8	8	1"
50	1	4	3	8	6	10	8	1"
60	1	4	3	6	4	10	6	1"
70	1	4	3	4	2	8	6	1-1/4"
80	1	4	3	4	2	8	6	1-1/4"
90	1	4	3	3	2	8	6	1-1/4"
100	1	4	3	3	1	8	6	1-1/4"
110	1	4	3	2	1/0	6	4	1-1/4"
125	1	4	3	1	2/0	6	4	2"
150	1	4	3	1/0	3/0	6	4	2"
175	1	4	3	2/0	4/0	6	4	2"
200	1	4	3	3/0	250	6	4	2-1/2"
225	1	4	3	4/0	300	4	2	2-1/2"
250	1	4	3	250	350	4	2	3"
300	1	4	3	350	500	4	2	4"
350	1	4	3	400	600	3	1	4"
400	1	4	3	500	750	3	1	4"
500	2	4	3	250	350	2	1/0	4"
600	2	4	3	350	500	1	2/0	4"
800	2	4	3	500	750	1/0	3/0	4"
1000	3	4	3	400	350	2/0	4/0	4"
1200	4	4	3	350	500	3/0	250	4"
1600	5	4	3	400	750	4/0	350	4"
2000	6	4	3	400	750	250	400	4"

NOTES:

1. ALL WIRE SIZES SHOWN ARE BASED ON CONDUCTOR TEMPERATURE RATING OF 75°C & AMBIENT TEMPERATURE RATING OF 30°C PER NEC.
2. MAXIMUM ALLOWABLE VOLTAGE DROP FOR FEEDER CONDUCTORS SHALL BE 2%.
3. ELECTRICAL CONTRACTOR TO ADJUST CONDUCTOR SIZES FOR LONG CIRCUIT LENGTHS & AMBIENT TEMPERATURES HIGHER THAN 30°C.



1. COORDINATE DETAILS & REQUIREMENTS OF NEW ELECTRIC SERVICE WITH ENERGY.
2. ALL NEW METERING EQUIPMENT MUST BE APPROVED BY ENERGY.
3. EACH METER MUST BE PERMANENTLY LABELED.
4. A/C RATINGS BASED ON:
 - 4.1. TRANSFORMER: 225kVA, 100% POWER FACTOR, 3.50% Z, LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 4.2. METER LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 4.3. ELECTRICAL PANEL LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 4.4. CONTRACTOR TO FIELD VERIFY FINAL EQUIPMENT LOCATIONS AND PERFORM ADDITIONAL A/C RATING CALCULATIONS IF NECESSARY.



2400 Bluff Creek Drive, Suite 101
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2 DESIGN: ACW

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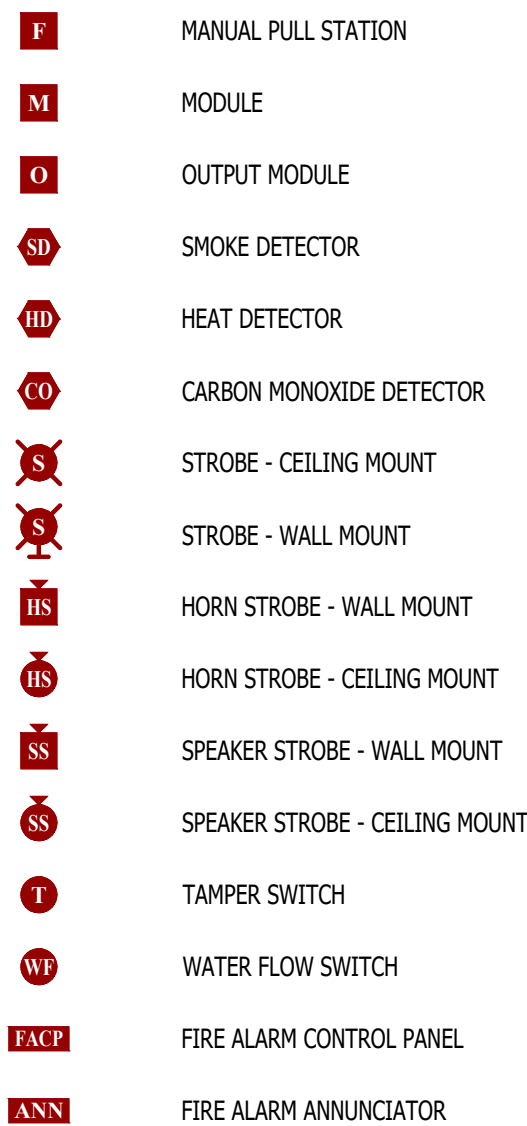
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**2250 NE Alura Way, Lot 13
Lee's Summit, MO 64064**

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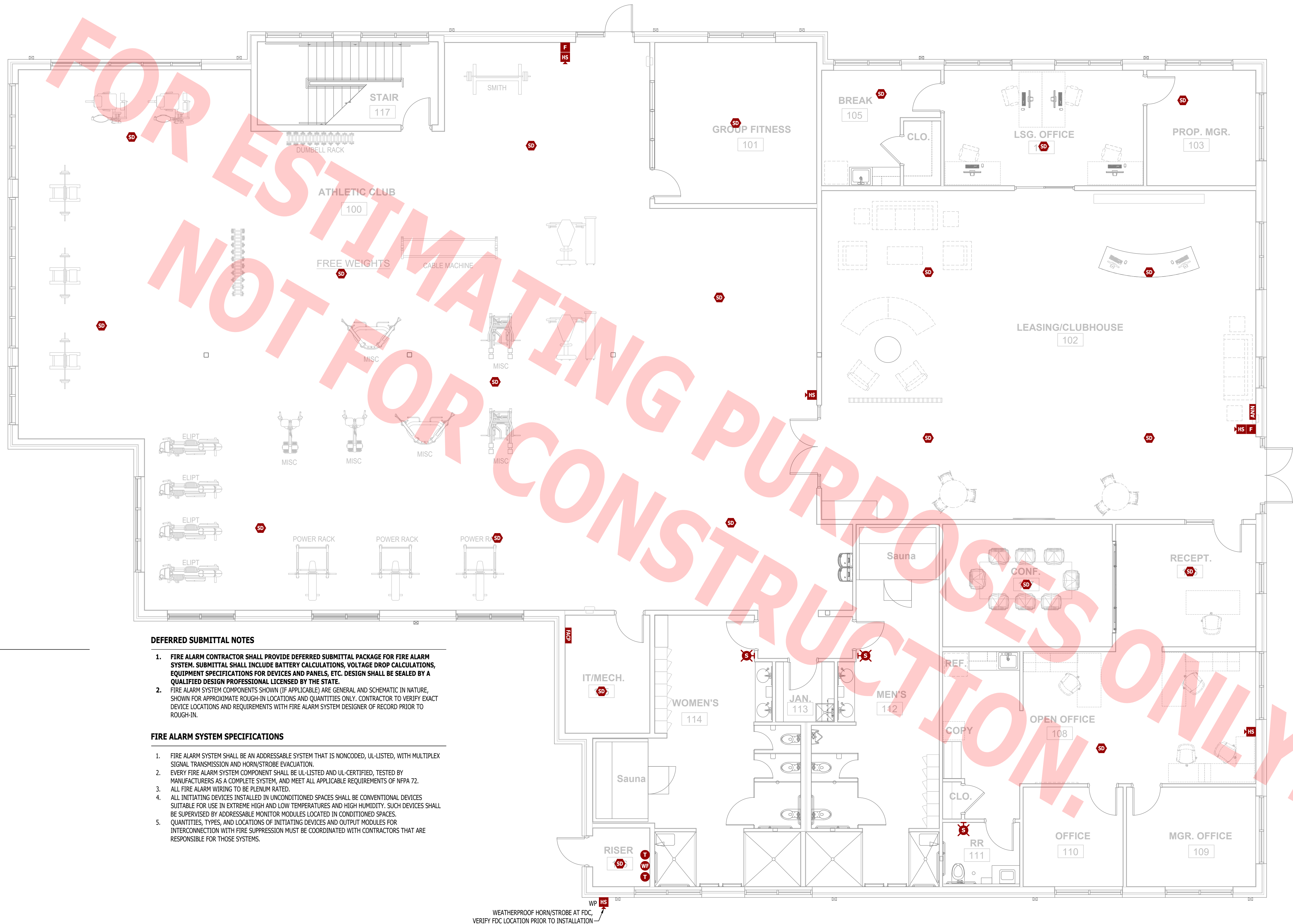
FIRE PROTECTION PLAN

FP101

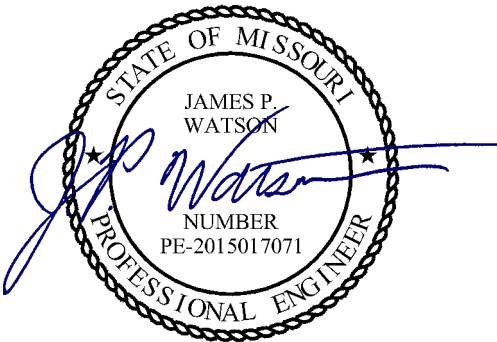


1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEaled BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
2. FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.

1. FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLE SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
2. EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS OF NFPA 72.
3. ALL FIRE ALARM WIRING TO BE PLENUM RATED.
4. ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
5. QUANTITY, TYPES, LOCATIONS OF INITIATING DEVICES AND OUTPUT MODULES FOR INTERCONNECTION WITH FIRE SUPPRESSION MUST BE COORDINATED WITH CONTRACTORS THAT ARE RESPONSIBLE FOR THOSE SYSTEMS.



SCALE: 3/16" = 1'-0"



James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680



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J2 PROJECT No: J21211

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 06 - 13 - 2025

Discovery Park Athletic Club & Office

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

SANITARY SEWER PLAN

SHEET NUMBER

PS101

SANITARY SEWER PLAN SYMBOL LEGEND

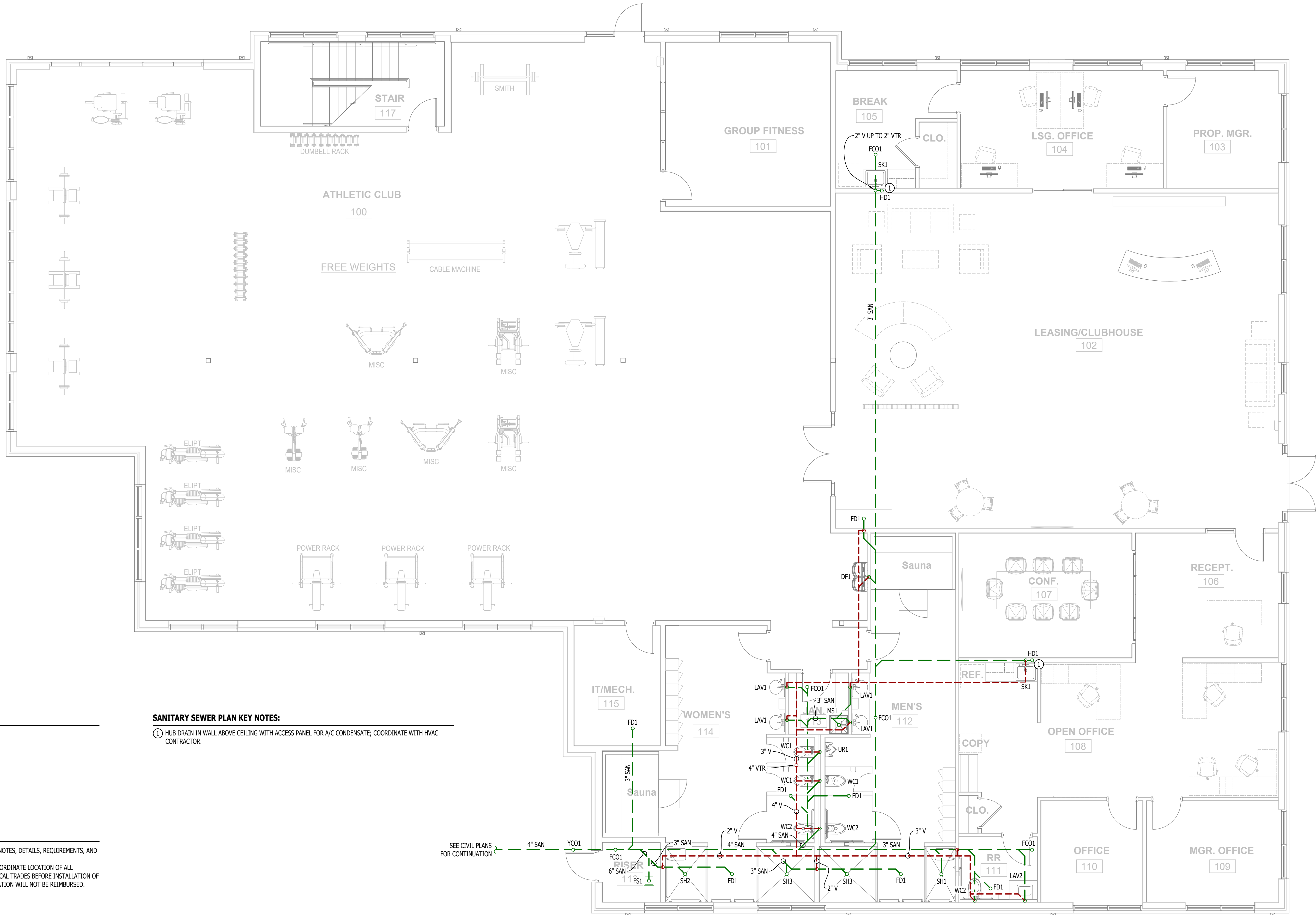
- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- ✕ TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

- REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

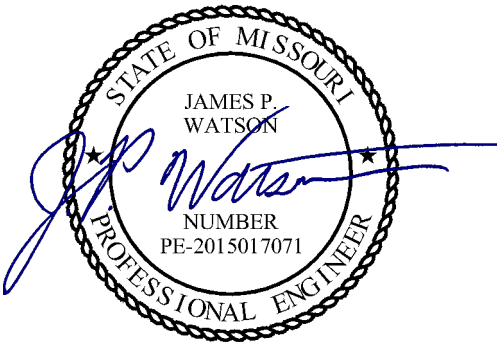
SANITARY SEWER PLAN KEY NOTES:

- HUB DRAIN IN WALL ABOVE CEILING WITH ACCESS PANEL FOR A/C CONDENSATE; COORDINATE WITH HVAC CONTRACTOR.



SANITARY SEWER PLAN

SCALE: 3/16" = 1'-0"



James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680



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Discovery Park Athletic Club & Office

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

WATER & GAS PLAN

SHEET NUMBER

PW101

WATER & GAS PLAN SYMBOL LEGEND:

- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- VENT/COMBUSTION AIR
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER & GAS PLAN GENERAL NOTES:

- REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.
- ANY EXISTING WATER OR GAS PIPING SHOWN IS FOR REFERENCE ONLY. PLUMBING CONTRACTOR TO FIELD VERIFY EXACT PIPING SIZE, LOCATIONS, DEPTH, CONDITION, ETC. PRIOR TO INSTALLATION OF ANY MATERIAL AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

WATER & GAS PLAN KEY NOTES:

- ① WATER HEATER VENT/COMBUSTION AIR UP THRU ROOF TERMINATED PER MANUFACTURER'S SPECIFICATIONS.

6" SPRINKLER LINE UP TO SPRINKLER BFP
(BY SPRINKLER CONTRACTOR);
VERIFY SPRINKLER LINE SIZE WITH
SPRINKLER CONTRACTOR PRIOR TO INSTALLATION

SEE CIVIL PLAN FOR
CONTINUATION

WATER & GAS PLAN

SCALE: 3/16" = 1'-0"

PLUMBING SPECIFICATIONS

1.

GENERAL
- 1.1.

PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ESCUTCHEONS, ¼ TURN STOPS, P-TRAPS, AND SUPPLY LINES TO PROVIDE A COMPLETE SYSTEM AT EACH FIXTURE INDICATED ON PLANS UNLESS NOTED OTHERWISE.
- 1.2.

ALL PLUMBING SYSTEMS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 1.3.

COORDINATE ALL PIPING INSTALLATIONS WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THRU STRUCTURAL ELEMENTS AS NECESSARY, VERIFY WITH STRUCTURAL ENGINEER.
- 1.4.

VERIFY ALL UTILITY CONNECTION POINTS WITH PROPOSED PLUMBING LAYOUTS PRIOR TO BEGINNING WORK.
- 1.5.

CLEAN ALL PLUMBING FIXTURES AND CHANGE FAUCET AERATORS AND SINK STRAINERS AT PROJECT COMPLETION PRIOR TO TURNING OVER TO OWNERSHIP.
2.

EQUIPMENT / FIXTURES
- 2.1.

ALL EQUIPMENT AND/OR FIXTURES MUST MEET OR EXCEED THE PERFORMANCE, FUNCTIONAL INTENT, AND AESTHETICS AS MODELS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS OR WITHIN SCHEDULES, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.
- 2.2.

CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
- 2.3.

CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.
3.

SANITARY
- 3.1.

BELOW AND ABOVE GRADE WASTE AND VENT PIPING IN BUILDING TO BE SOLID CORE SCHEDULE 40 PVC LISTED FOR DWV APPLICATIONS.
- 3.2.

NO WASTE OR VENT PIPING INSTALLED BELOW GRADE SHALL BE SMALLER THAN 2".
- 3.3.

MINIMUM SLOPES FOR WASTE PIPING (UNLESS NOTED OTHERWISE ON PLANS):
- 3.3.1.

2 ½" OR LESS DIAMETER: ¼" PER FOOT
- 3.3.2.

3" TO 6" DIAMETER: ½" PER FOOT
- 3.3.3.

8" OR LARGER DIAMETER: ¾" PER FOOT
- 3.4.

ACCESSIBLE FULL PIPE SIZE CLEANOUTS SHALL BE PROVIDED & INSTALLED ON BUILDING SANITARY LINES AT LOCATIONS SHOWN ON PLANS, AT INTERVALS OF NO MORE THAN 100', AT EVERY CHANGE IN DIRECTION GREATER THAN 45°, AND AT THE BASE OF EACH WASTE STACK.
- 3.5.

WASTE AND VENT PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.
- 3.6.

ALL VENT PIPE TERMINATIONS SHALL BE LOCATED EITHER 10' HORIZONTALLY OR 3' ABOVE MECHANICAL AIR INTAKE LOCATIONS. TERMINATIONS SHALL NOT BE INSTALLED UNDER ANY OPERABLE BUILDING OPENING OR OPERABLE ADJACENT BUILDING OPENING. CONTRACTOR TO OFFSET VENT PIPING AS NECESSARY TO MEET THESE REQUIREMENTS.
4.

DOMESTIC WATER
- 4.1.

ALL DOMESTIC WATER PIPING TO BE EITHER COPPER OR PEX, SHALL CONFORM TO NSF 61 AND BE LISTED FOR USE IN POTABLE WATER SYSTEMS.
- 4.1.1.

WHERE PEX PIPING IS USED, IT SHALL BE INCREASED ONE PIPE SIZE FROM WHAT IS INDICATED ON PLANS FOR ALL PORTIONS OF DISTRIBUTION SYSTEM.
- 4.1.2.

PEX-A MAY BE INSTALLED AT SIZES INDICATED ON PLANS ONLY IF AN ENGINEERED PLAN IS SUBMITTED SHOWING ACCEPTABLE PRESSURE DROPS AND FLUID VELOCITIES, APPROVAL MUST BE GRANTED PRIOR TO PURCHASE AND INSTALLATION.
- 4.1.3.

COPPER WATER PIPING BELOW GRADE SHALL BE TYPE "K". BELOW GRADE JOINTS SHALL BE SILVER SOLDERED. THERE SHALL BE NO JOINTS IN WATER PIPING LOCATED BENEATH BUILDING SLAB.
- 4.1.4.

COPPER WATER PIPING ABOVE GRADE SHALL BE TYPE "L".
- 4.2.

PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK-CLOSE VALVES. FIXTURES REQUIRING WATER HAMMER ARRESTORS INCLUDE BUT ARE NOT LIMITED TO FLUSH VALVES, SENSOR FAUCETS, AND WASHING MACHINE BOXES. AIR CHAMBERS SHALL NOT BE PERMITTED.
- 4.3.

ALL DOMESTIC WATER PIPING SHALL BE ROUTED WITHIN BUILDING THERMAL ENVELOPE AND WITHIN WALL CAVITIES, ABOVE FINISHED CEILINGS, OR BELOW SLAB TO REMAIN CONCEALED UNLESS OTHERWISE NOTED. NOTIFY ENGINEER OF ANY NECESSARY ADJUSTMENTS THAT REQUIRE PIPING TO BE EXPOSED.
- 4.4.

DOMESTIC WATER PIPING INSULATION
- 4.4.1.

ALL HW & HWR PIPING, WHETHER COPPER OR PEX, SHALL BE INSULATED WITH PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION.
- 4.4.1.1.

FOR PIPING LESS THAN 1½", INSULATION THICKNESS TO BE 1".
- 4.4.1.2.

FOR PIPING 1½" OR GREATER, INSULATION THICKNESS SHALL BE 1½".
- 4.4.2.

OW COPPER PIPING TO INSULATED WITH ½" PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION. CW PEX NEED NOT BE INSULATED UNLESS NOTED OTHERWISE ON PLANS.
5.

GAS PIPING
- 5.1.

GAS PIPING SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 5.2.

QUARTER-TURN FULL-PORT SHUTOFF VALVES SHALL BE INCLUDED AT EACH APPLIANCE CONNECTION, AS WELL AS AN IN-LINE REGULATOR FROM DELIVERY PRESSURE TO APPLIANCE OPERATING PRESSURE IF REQUIRED. INCLUDE SEDIMENT TRAPS PER IFGC REQUIREMENTS.
- 5.1.

NATURAL GAS AND LIQUID PROPANE (LP) PIPING TO SHALL BE SCHEDULE 40 BLACK STEEL.
- 5.2.

PIPE JOINTS SHALL BE THREADED WITH CLASS 150 FITTINGS, OR WELDED. NOTIFY OWNER/GC OF ANY NECESSARY HOT-WORK ASSOCIATED WITH WELDED CONNECTIONS.
- 5.3.

WHERE PIPING IS EXPOSED ON EXTERIOR FACE OF BUILDING, PAINT TO MATCH BUILDING. PAINT YELLOW IN ALL OTHER LOCATIONS.
- 5.4.

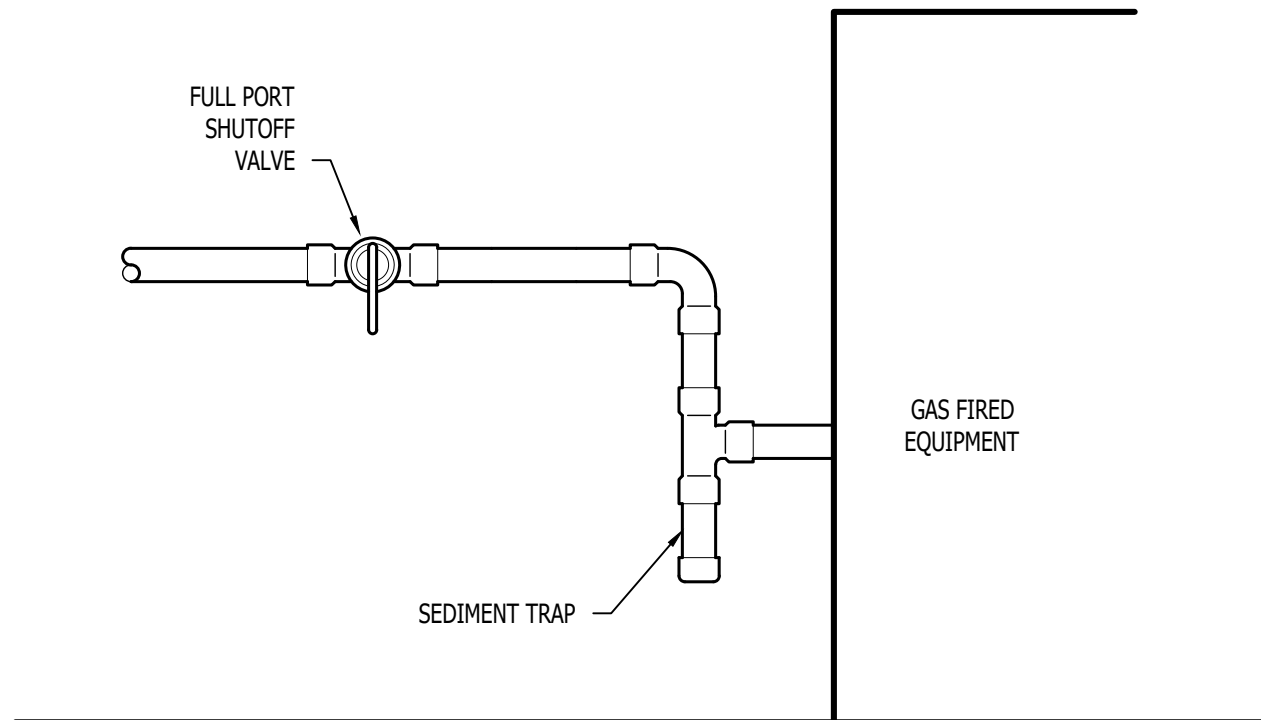
ON ROOFTOPS, INSTALL GAS PIPE WITH "ROOFTOP BLOK" PER MANUFACTURER'S INSTRUCTION.
6.

STORM DRAIN PIPING
- 6.1.

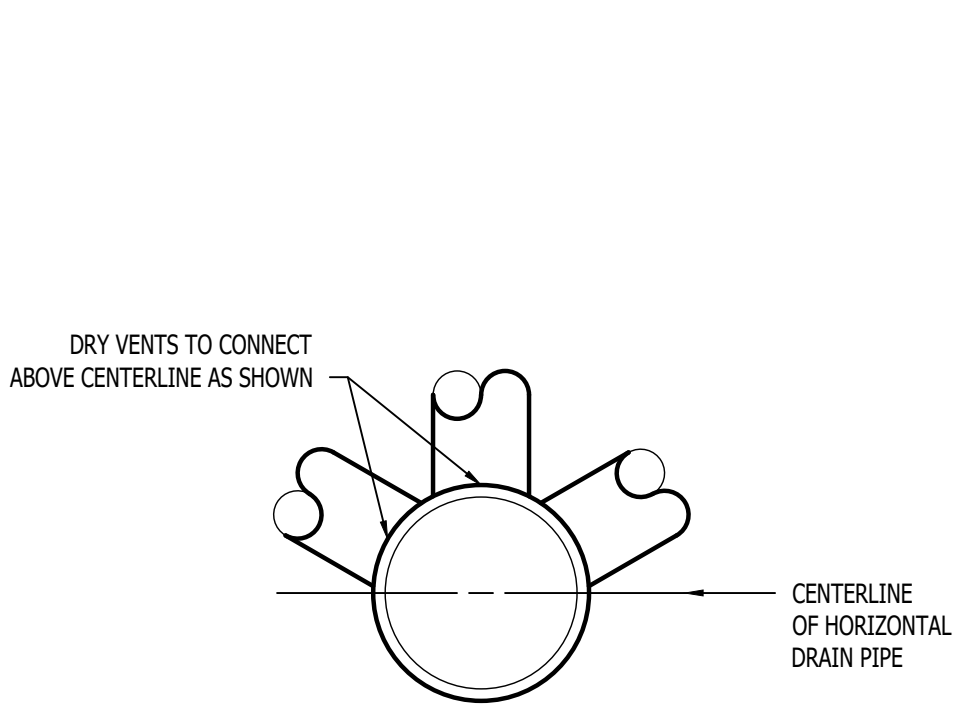
ABOVE AND BELOW GRADE STORM PIPING SHALL BE SOLID CORE SCHEDULE 40 PVC.
- 6.2.

ALL PRIMARY & SECONDARY STORM DRAIN PIPING & FITTINGS SHALL BE INSULATED WITH ½" FIBERGLASS INSULATION WITH ASJ JACKET.
- 6.3.

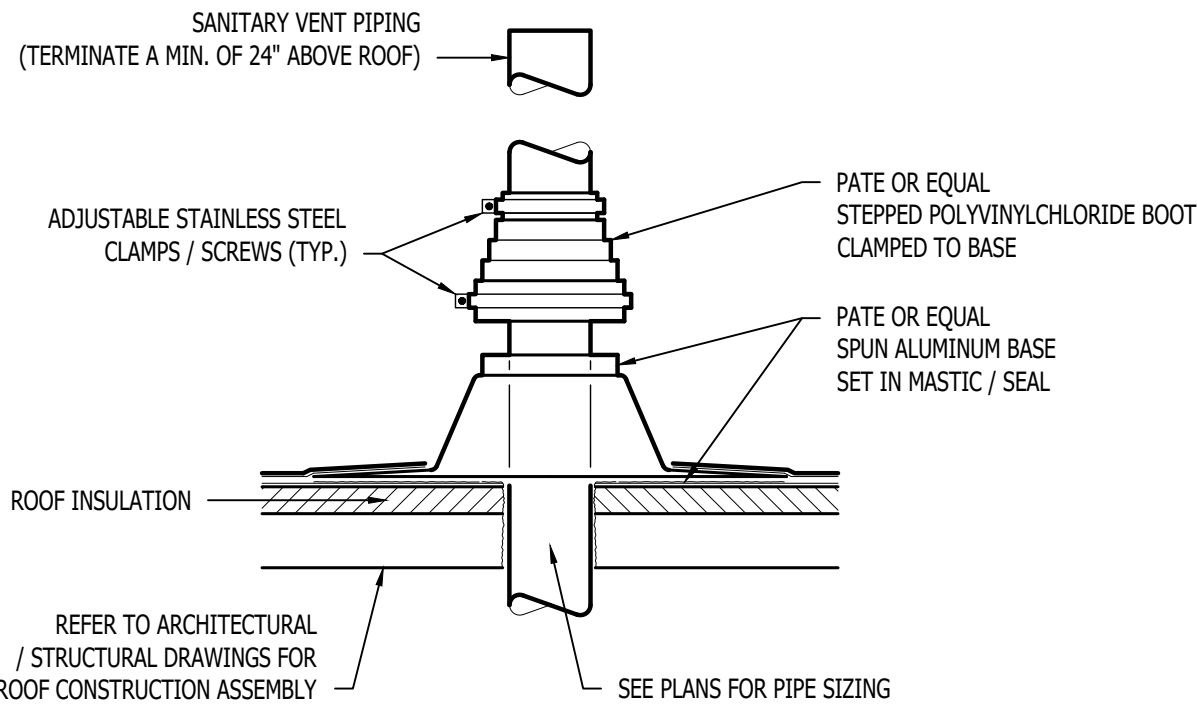
STORM DRAIN PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.



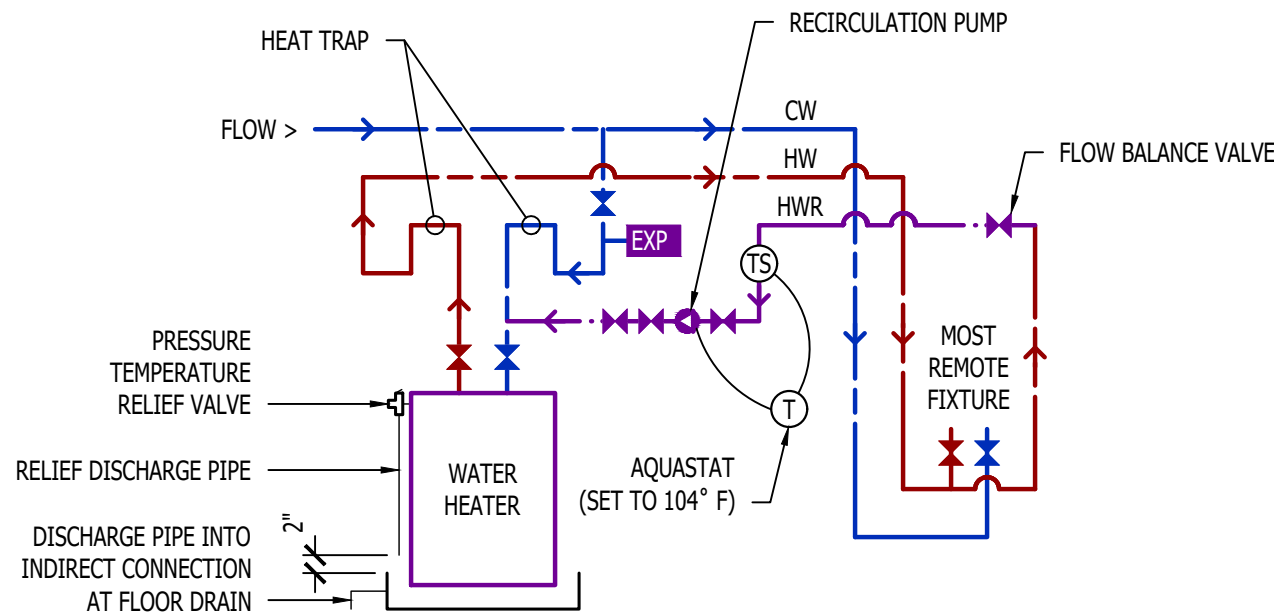
GAS EQUIPMENT SUPPLY DETAIL W/O REGULATOR



DRY VENT DETAIL



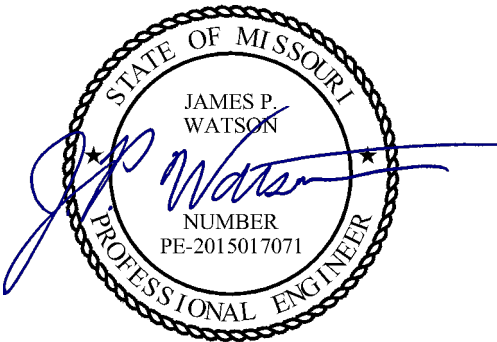
SANITARY VENT THRU ROOF DETAIL



HOT WATER RECIRCULATION DETAIL

PLUMBING FIXTURE SCHEDULE				
TAG	DESCRIPTION	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	NOTES
BFP1	BACKFLOW PREVENTER	WILKINS	975XL2	2" RPZ
DF1	DRINKING FOUNTAIN WITH BOTTLE FILLER	ELKAY	LZSTL8WL5K	HIGH / LOW WITH BOTTLE FILLER
EXP1	EXPANSION TANK	WATTS	PLT-12	
EXP2	EXPANSION TANK	WATTS	PLT-5	
FCO1	FLOOR CLEANOUT	ZURN	1400	
FD1	FLOOR DRAIN	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL
FPHB1	FROST PROOF HOSE BIB	WOODFORD	MODEL 67	
FS1	FLOOR SINK	ZURN	FS12	
LAV1	LAVATORY - (INTEGRAL BOWL W/ HANDS FREE FAUCET)	-	-	WITH ZURN Z6915-XL-L-TMV-1 FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES
LAV2	LAVATORY (WALL HUNG W/MANUAL FAUCET)	AMERICAN STANDARD	0355.012	WITH ZURN Z81104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, AND TRUBRO LAV GUARD 2
MS1	MOP SINK	FIAT	MSB2424	WITH ZURN Z843M1 FAUCET WITH WALL HOOK
REF1	REFRIGERATOR BOX	SIOUX CHIEF	696-G1000	
RH1	ROOF HYDRANT	WOODFORD	SRH-MS	
RP1	RECIRCULATION PUMP	GRUNDFOS	UP10-15BUA/TLC	WITH AQUASTAT CONTROL KIT
SH1	ADA SHOWER	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL; WITH MOEN POSI-TEMP MIXING VALVE, SLIDE BAR AND HANDHELD SHOWER ASSEMBLY
SH2	SHOWER	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL; WITH MOEN POSI-TEMP MIXING VALVE AND TRIM KIT
SH3	SHOWER	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL; WITH MOEN POSI-TEMP MIXING VALVE AND TRIM KIT
TMV1	THERMOSTATIC MIXING VALVE - POINT OF USE	WATTS	1FUSG	
UR1	URINAL - MANUAL FLUSH	AMERICAN STANDARD	6550.001	WITH ZURN Z6003AV-WS1 MANUAL FLUSH VALVE (1.0 GPM/FLUSH)
WC1	WATER CLOSET - STANDARD HEIGHT - PRESSURE ASSIST TANK	AMERICAN STANDARD	2462.016	WITH CHURCH 9500SSCT SELF SUSTAINING SEAT
WC2	WATER CLOSET - ADA HEIGHT - PRESSURE ASSIST TANK	AMERICAN STANDARD	2467.016	WITH CHURCH 9500SSCT SELF SUSTAINING SEAT
WH1	WATER HEATER - GAS - 100 GALLON	A.O. SMITH	BTH-150	150KBTU, 100 GALLON, WITH 'EXP1'
WH2	WATER HEATER - ELECTRIC - 6 GALLON	RUUD	EGSP6	120V, 1500W, WITH 'EXP2'
YCO1	YARD CLEAN OUT	ZURN	Z1400	
NOTES: 1. VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION. 2. VERIFY FIXTURE FINISHES WITH OWNER / ARCHITECT.				

PLUMBING CONNECTION SIZING SCHEDULE					
FIXTURE		SANITARY PIPING		SUPPLY PIPING	
TYPE	TYPICAL ABBREVIATION	WASTE CONNECTION	VENT CONNECTION	COLD WATER CONNECTION	HOT WATER CONNECTION
DRINKING FOUNTAIN	DF	1-1/2"	1-1/4"	1/2"	-
FLOOR DRAIN	FD	3"	2"	-	-
HAND / HAIR SINK	HS / SK	2"	1-1/4"	1/2"	1/2"
HOSE BIBB	HB	-	-	3/4"	-
LAVATORY	LAV	1-1/2"	1-1/4"	1/2"	1/2"
MOP SINK	MS	3"	1-1/2"	1/2"	1/2"
ICE MAKER OUTLET BOX	REF	-	-	1/2"	-
SHOWER	SH	3"	1-1/2"	1/2"	1/2"
URINAL	UR	2"	1-1/4"	3/4"	-
WATER CLOSET (FLUSH TANK)	WC	3"	2"	1/2"	-
WATER CLOSET (FLUSH VALVE)	WC	3"	2"	1"	-
NOTES: 1. SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS					



James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680



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J2 PROJECT No: J212111

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

PLUMBING DETAILS & SCHEDULES

SHEET NUMBER

P501