



# JKV | EMS BUILDING

506 NW MURRAY RD  
LEE'S SUMMIT, MISSOURI 64061

## PERMIT SET

20 JUNE 2025

COLLINS WEBB #: 25016

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### OWNER

JOHN KNOX VILLAGE  
602 NW PRYOR ROAD  
LEE'S SUMMIT, MO 64081  
P: 816.892.4294  
[www.jkv.org](http://www.jkv.org)

### ARCHITECT

COLLINS | WEBB ARCHITECTURE  
307B SW MARKET STREET  
LEE'S SUMMIT, MISSOURI 64063  
P: 816.249.2270  
[www.collinsandwebb.com](http://www.collinsandwebb.com)

### CIVIL ENGINEER

BHC  
7101 COLLEGE BLVD, STE. 400  
OVERLAND PARK, KS 66210  
P: 913.663.1900  
[ibhc.com](http://ibhc.com)

### STRUCTURAL ENGINEER

LEIGH + O'KANE  
250 NE MULBERRY | SUITE 201  
LEE'S SUMMIT, MO 64086  
P: 816.444.3144  
[www.leok.com](http://www.leok.com)

### MEP ENGINEER

ENGINEERED BUILDING SOLUTIONS  
P.O. BOX #11101  
OVERLAND PARK, KS 66207  
P: 913.735.5654  
[www.EBSolutionsKC.com](http://www.EBSolutionsKC.com)

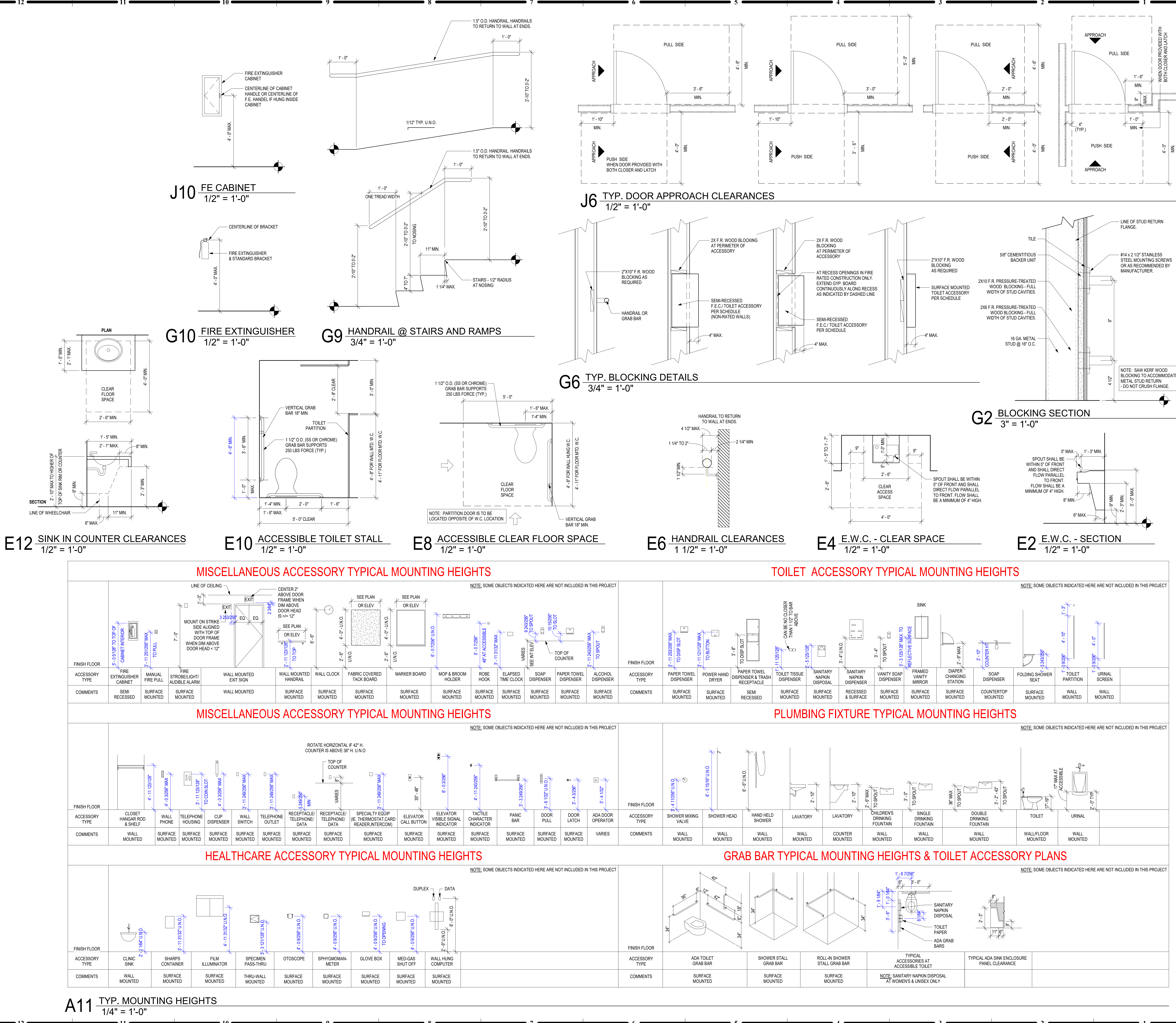






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**GENERAL NOTES:**

**ACCESSIBILITY GUIDELINES**

1. NOTE: ALL DIMENSIONS ARE MEASURED FROM FLOOR, UNLESS NOTED OR SHOWN OTHERWISE.

2. ADA UNOBSTRUCTED REACH RANGES: ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.

3. ELEVATORS: STANDARD CALL BUTTONS: 36" TO 48" TO C.L. & PROTRUDE 1" MAX. ADA CALL BUTTONS: 42" TO C.L. (TYP.) & 48" MAX. (3/4" SMALLEST DIM.). TACTILE SIGNAL ON HOISTWAY: 60" TO BASE OF CHARACTERS/W/TACTILE STAR & 2" HIGH CHARACTERS.

4. DOOR HARDWARE (TO CENTER OF HARDWARE): STANDARD MOUNTING HEIGHTS: PUSH PLATES = 42", PULL HANDLES = 42", KNOBS/LEVERS = 40". PANIC EXIT = 42" CENTERLINE OF BAR. KICKPLATES: WIDTH = DOOR WIDTH MINUS 2". CENTER HEIGHT = 16" FROM B.O. DOOR. THRESHOLDS: STANDARD = 1/2" MAX. AT EXT. SLIDING DOORS = 3/4" MAX. ADA HARDWARE = 34" MIN. TO 48" MAX.

5. DRINKING FOUNTAINS & EWCS (TO SPOUT): STANDARD = 40" TYP. 42" MAX. ADA = 36" MAX. (27" MIN. CLEAR KNEE SPACE).

6. COUNTERTOPS (TO SINK RIM/COUNTERTOP): ADA = 28" MIN. TO 34" MAX.

7. WATER CLOSETS (TO TOP OF SEAT): STANDARD = 14" TO 15". ADA (TO TOP OF SEAT) = 17" TO 19". ADA FLUSH CONTROLS = 44" MAX.

8. URINALS (TO RIM): STANDARD = 24" MAX. ADA = 17" MAX. ADA FLUSH CONTROLS = 44" MAX.

9. LAVATORIES (TO SINK RIM/COUNTERTOP): STANDARD = 36" MAX. ADA = 34" MAX. (29" MIN. CLEAR KNEE SPACE).

10. MIRRORS (TO B.O. OF REFLECTIVE SURFACE): STANDARD = VARIES. ADA = 40" MAX.

11. GRAB BARS: ADA (TO TOP OF BAR): WATER CLOSETS = 33" MIN. TO 36" MAX. SHOWERS = 33" MIN. TO 36" MAX. (FROM B.O. SHOWER). BATHTUBS: TOP BAR = 33" MIN. TO 36" MAX. BOT. BAR = 9" ABOVE T.O. TUB.

12. SHOWER HEADS (FROM FLOOR TO HEAD): STANDARD = 72" TO 84". ADA = SPRAY UNIT W/ HOSE 60" LONG MIN. ADA = FIXED SHOWER HEAD = 48" AFF.

13. SHOWER CONTROLS (TO CONTROL AREA): STANDARD = 48" MAX. (TO TOP). ADA = 38" MIN. TO 48" MAX.

14. SHOWER ROD (FROM FLOOR TO C.L.): STANDARD = 78" MAX. ADA = 78" MIN. (TO TOP OF UNIT).

15. TOILET ROOM PARTITIONS: TOILETS = 12" TO BOT. & 70" TO TOP. URINALS = 18" TO BOT. & 60" TO TOP.

16. TOILET PAPER DISPENSERS (TO C.L. OF OUTLET): STANDARD = 24" ADA = 19" MIN. TO 24" MAX.

17. WALL MOUNTED SOAP DISPENSERS (TO C.L. OF PUSH BUTTON): STANDARD = 40". ADA = VARIES. RE. OBSTRUCTED AND UNOBSTRUCTED REACH RANGES: ADA SIDE REACH = 40" MAX. ABOVE SINK IN COUNTER.

18. PAPER TOWEL DISPENSER/WASTE RECEPTACLE (TO TOWEL SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.

19. WARM AIR HAND DRYER (TO PUSH SWITCH): STANDARD = 44" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.

20. SANITARY NAPKIN DISPENSER (TO C.L. OF CON. SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.

21. SANITARY NAPKIN DISPOSAL (TO TOP OF UNIT): STANDARD = 28" MAX. ADA = 19" MIN. TO 24" MAX. (TO ORNG.).

22. TOILET SEAT COVER DISPENSERS (TO ORNG.): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.

23. SHELVES: ADA = 48" MAX.

24. COAT HOOKS: STANDARD = 68". ADA = 48" MAX.

25. CHALKBOARDS, TACKBOARDS & MARKERBOARDS: STANDARD = 32" TO 38" (TO B.O. BOARD OR CHALKTRAY). STANDARD = 80" (RECOMMENDED TO T.O. BOARD).

26. THERMOSTATS & CONTROL DEVICES (TO TOP): ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX.

27. LIGHT SWITCHES & CARD READERS (TO C.L.): LOCATE 6" FROM DOOR JAMB. ADA = 48" MAX.

28. CONVENIENCE RECEPTACLES - ELECTRICAL/ TELEPHONE/ DATA (TO C.L.): STANDARD = 18". ADA = 15" MIN.

29. EXIT LIGHTS: WALL MOUNTED: 2" MIN. BELOW CEILING. 2" MIN. ABOVE DOOR FRAME. EQUAL SPACE FROM CEILING TO TOP OF FRAME.

30. FIRE EXTINGUISHERS (TO TOP. U.N.O.): GROSS WT. 40 LBS. OR LESS = 80" MAX. GROSS WT. MORE THAN 40 LBS. = 42" MAX. ADA = 40" MAX. (B.O. CABINET).

31. FIRE ALARM FULL STATIONS (TO LEVER): STANDARD = 48" MAX. ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX. HEIGHT.

32. SMOKE AND/OR HEAT DETECTORS: STANDARD = CEILING.

33. HORN/ SPEAKER/ VISUAL SIGNALS: STANDARD = 80" AFF. OR 6" BELOW CEILING - WHICHEVER IS LOWER.

34. ROOM SENSORS (TO C.L.): STANDARD = 60" HIGH AFF. & WITHIN 18" OF LATCH SIDE OF DOOR.

**JKV | EMS BUILDING**

506 NW MURRAY RD  
LEE'S SUMMIT, MISSOURI 64061

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REVISION DATES:

PROFESSIONAL SEAL

**G002**

ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 25016

**ACCESSIBILITY GUIDELINES**

**collins | webb ARCHITECTURE**

3076 SW Market St. Lees Summit, MO 64083 | 816.249.2270 | www.collinswebb.com

**PERMIT SET**

STATE OF MISSOURI

ROGER L. WEBB  
REGISTERED ARCHITECT  
A-201601480-0000

6/23/2025







UL Product iQ®

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States  
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States  
Design Criteria and Allowable Variations  
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada  
Design Criteria and Allowable Variations

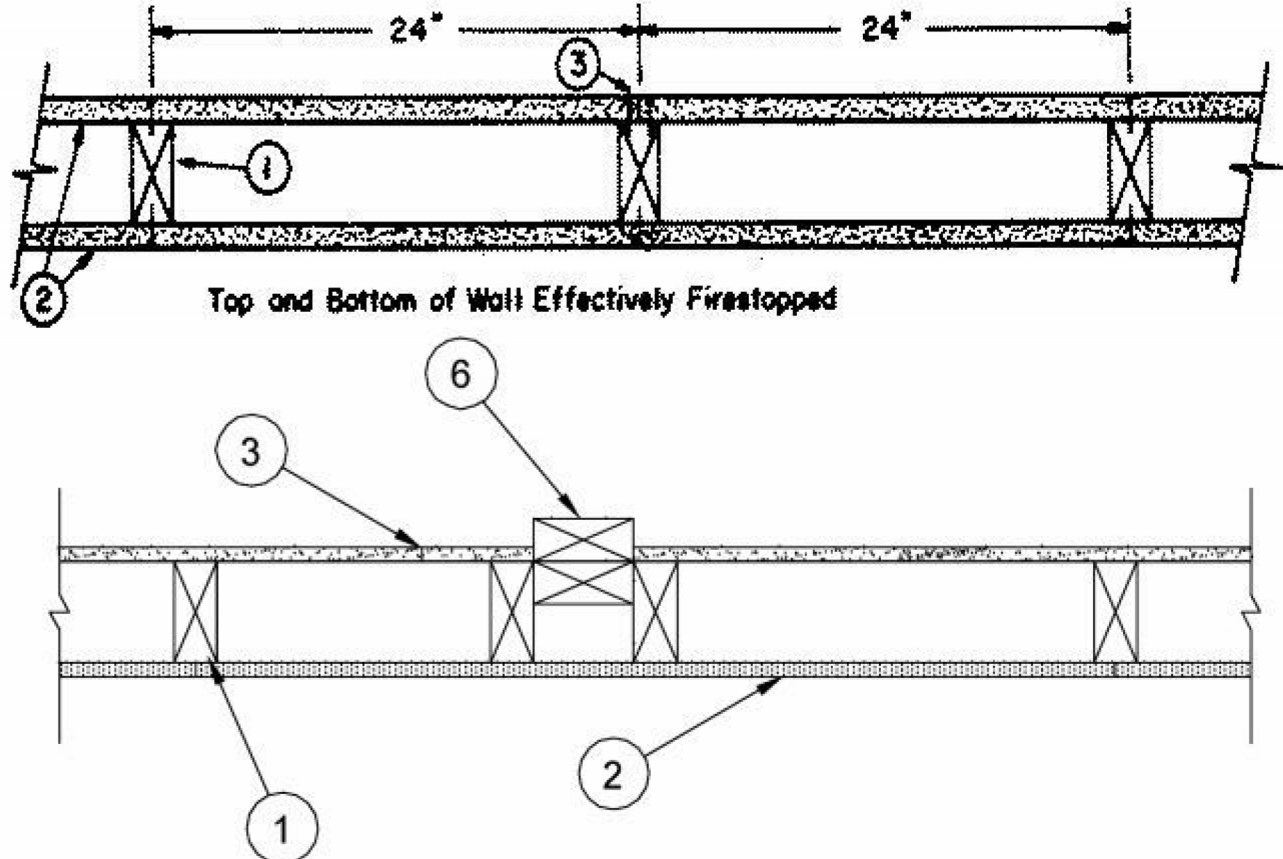
Design No. U314

June 1, 2022

Bearing Wall Rating — 1 HR.  
Finish Rating — 26 Min.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



1. Wood Studs — Nom 2 by 4 in., spaced 24 in. OC, effectively fire stopped.

2. Gypsum Board\* — 5/8 in. thick, 24 to 54 in. wide. Gypsum boards nailed to studs and bearing plates 7 in. OC with 6d cement coated nails 1-7/8 in. long. 0.0915 in. shank diam and 1/4 in. diam head. When used in widths other than 48 in., gypsum panels to be installed horizontally.  
CGC INC — Types AR, IP-AR, IP-X1, SCX, SHX, ULUX, ULX, WRX.

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

UNITED STATES GYPSUM CO — Type AR, FRX-G, IP-AR, IP-X1, SCX, SHX, ULUX, ULX or WRX.

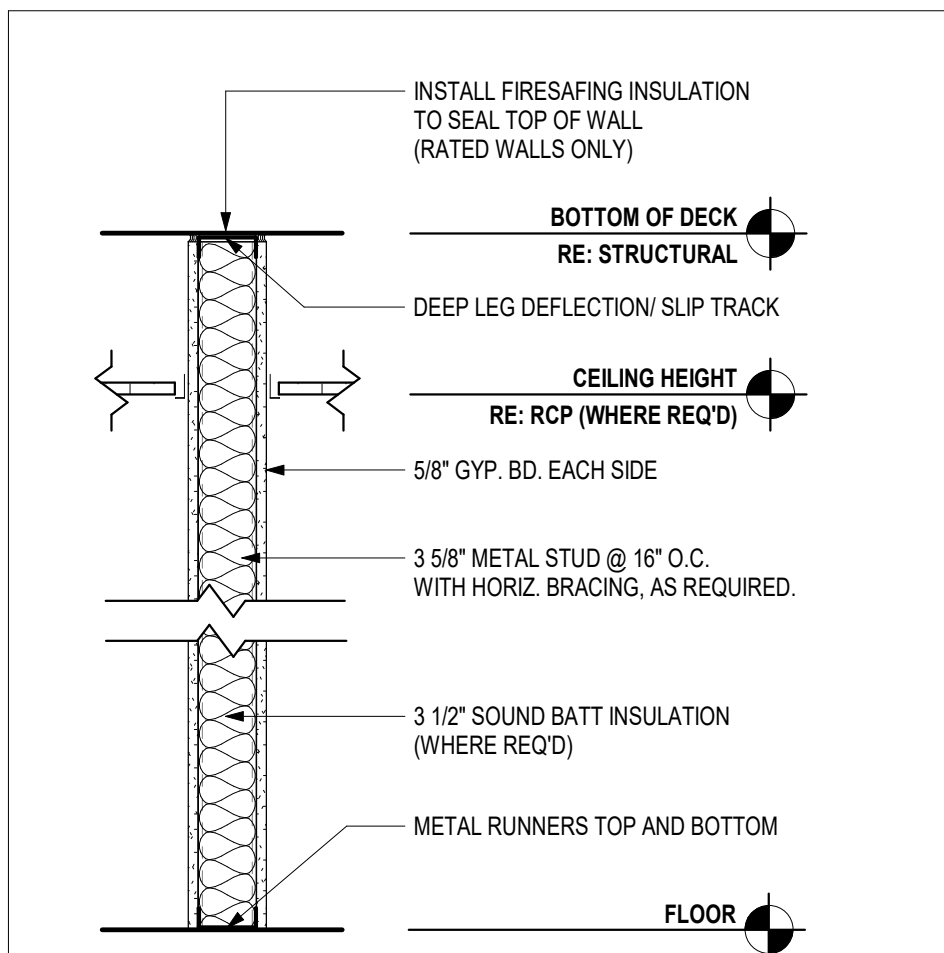
USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type AR, IP-AR, IP-X1, SCX, SHX, ULX, WRX.

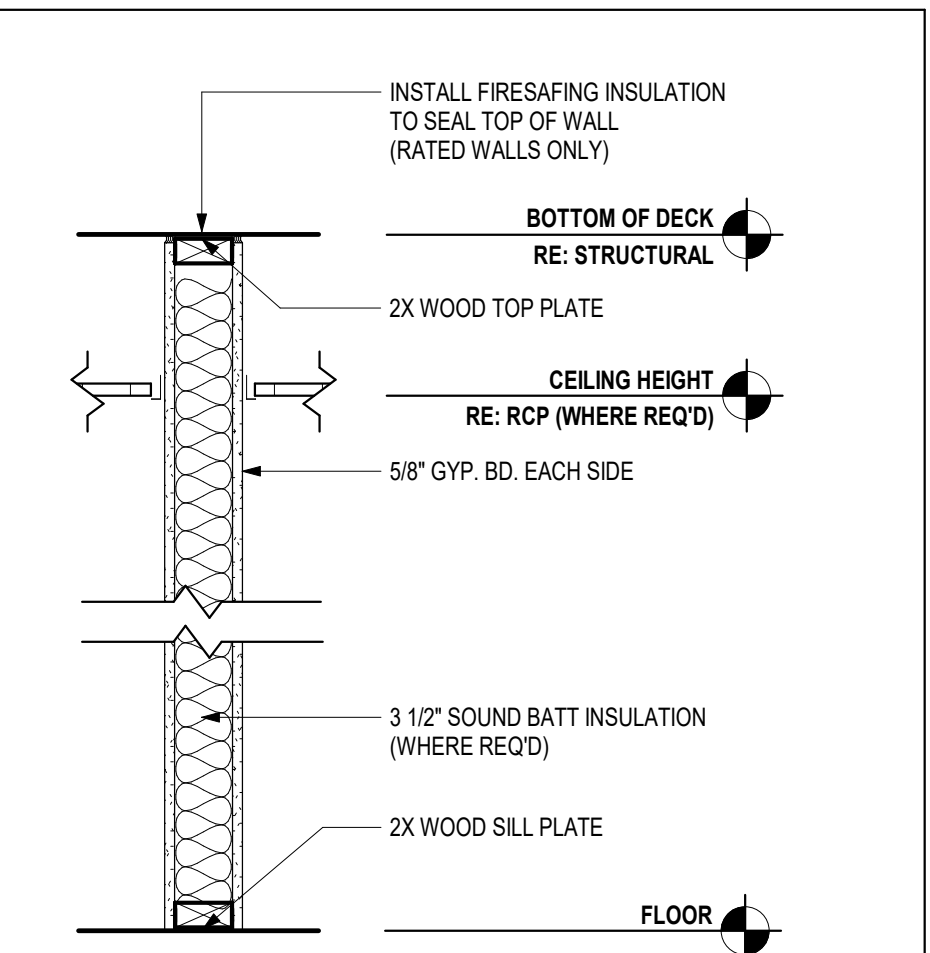
2A. Gypsum Board\* — (As an alternate to Item 2) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 2.  
CGC INC — Types AR, IP-AR.

UNITED STATES GYPSUM CO — Types AR, IP-AR.

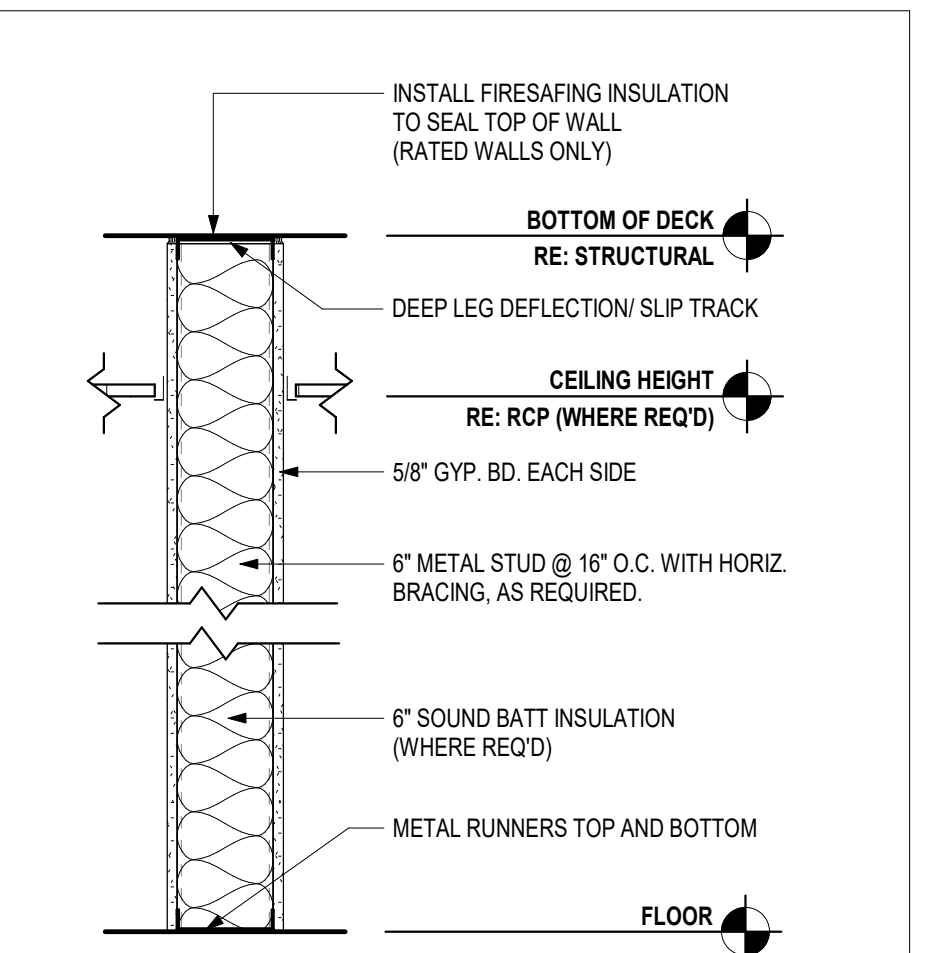
USG MEXICO S A DE C V — Types AR, IP-AR.



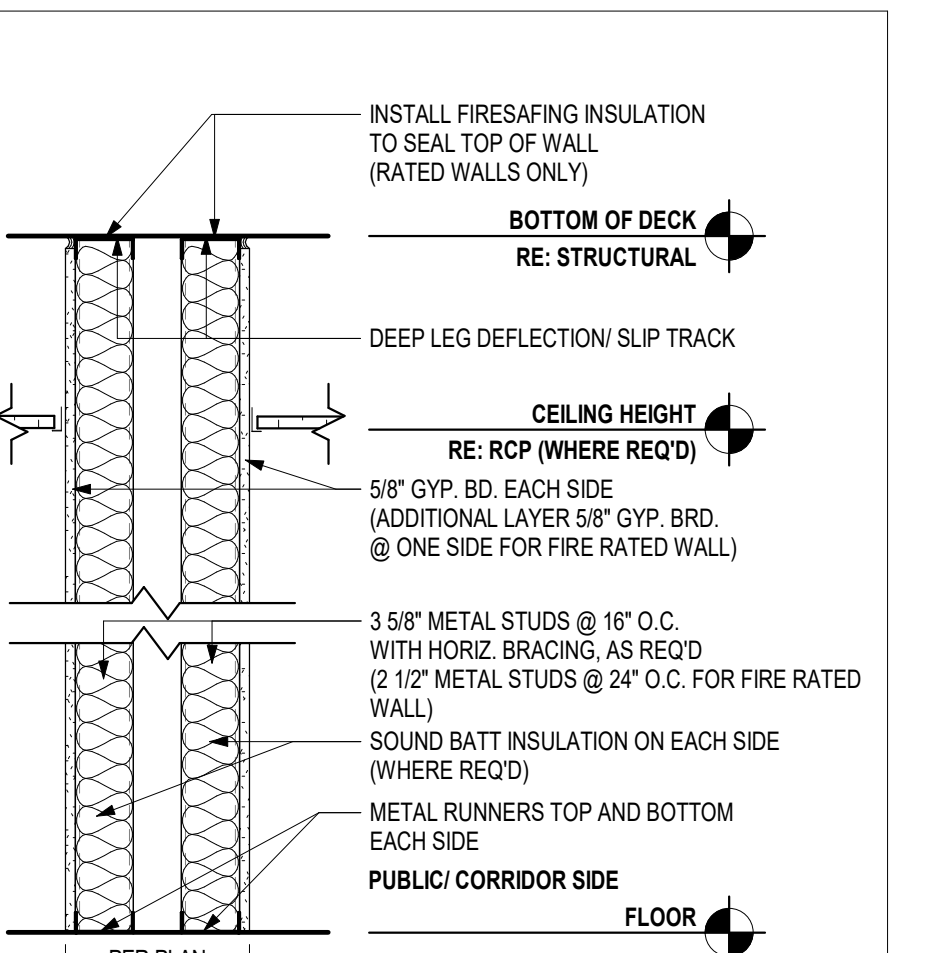
WALL TYPE A	
TYPE	WALL DESCRIPTION
A1	• 3 1/2\"/>



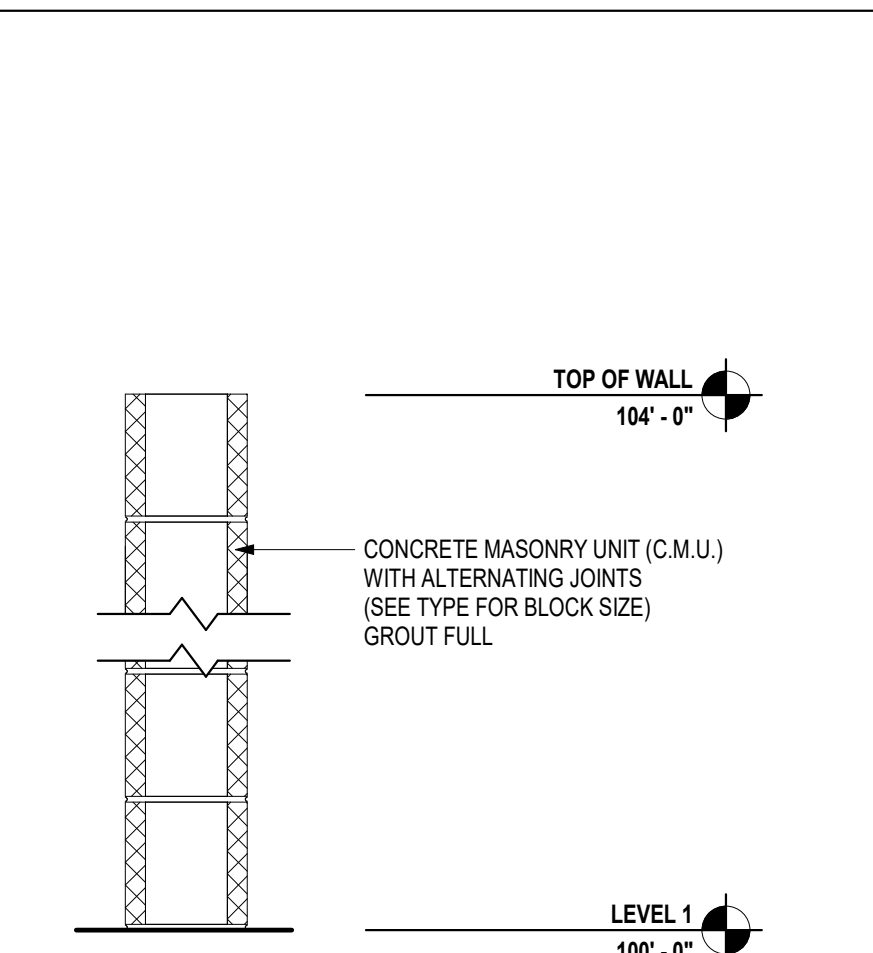
WALL TYPE AA	
TYPE	WALL DESCRIPTION
AA1	• BEARING WALL • (2) 2X4 WOOD STUD @ 16\"/>
AA2	• 2X4 WOOD STUD @ 16\"/>
AA3	• 2X4 WOOD STUD @ 16\"/>
AA4	• 2X4 WOOD STUD @ 16\"/>



WALL TYPE B	
TYPE	WALL DESCRIPTION
B1	• 6\"/>
B2	• 6\"/>



WALL TYPE J	
TYPE	WALL DESCRIPTION
J2	• 2 ROWS OF 3-5/8\"/>



WALL TYPE L	
TYPE	WALL DESCRIPTION
L	• 4\"/>

WALL TYPE NOTES:

1. DRYWALL PARTITIONS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH ASTM E487 - STANDARD PRACTICE FOR INSTALLING SOUND INSULATING GYPSUM BOARD PARTITIONS, AND ASTM C919 - STANDARD PRACTICE FOR USE OF SEALANTS IN ACOUSTICAL APPLICATIONS. ALL SOUND BARRIER PARTITIONS SHOULD EXTEND FROM FLOOR TO STRUCTURE UNLESS STATED OTHERWISE. METAL STUDS SHALL BE RIGIDLY ATTACHED ONLY AT HEAD AND FOOT. STRUCTURAL CROSS BRACING MUST NOT RIGIDLY CONNECT TO BOTH METAL STUD WALLS.
2. RE: LIFE SAFETY PLANS FOR RATED WALL LOCATIONS.
3. RE: WALL TYPE DETAIL SHEET FOR TYPICAL WALL DETAILS AND ADDITIONAL WALL TYPE INFORMATION.
4. FOR TYPICAL TOP OF WALL CONDITIONS AT JOISTS AND BEAMS, REFER TO THE CLOSURE DETAILS ON THE WALL TYPE DETAILS SHEET.
5. COORDINATE METAL STUD GAUGE WITH PRE-APPROVED EQUIPMENT ANCHORAGE. WHERE A DISCREPANCY OCCURS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
6. WHERE ACOUSTIC SEALANT IS INDICATED ON WALL TYPES: PROVIDE ACOUSTIC (SOUND) SEALANT ABOVE TOP TRACK, UNDER BOTTOM TRACK, AND AT ALL PENETRATIONS (BOTH SIDES). SEE SPECIFICATION FOR PRODUCT REQUIREMENTS.
7. WHERE "FIRE-RATED SEALANT" IS INDICATED ON WALL TYPES: PROVIDE FIRE-RATED SEALANT ABOVE TOP TRACK, UNDER BOTTOM TRACK, AT ALL PENETRATIONS (BOTH SIDES), AND AS REQUIRED BY FIRE RATINGS UL NUMBER.
8. EXTEND FIRE-RATED WALL CONSTRUCTION BEHIND RECESSED OR BUILT-IN EQUIPMENT, SUCH AS FIRE EXTINGUISHER CABINETS (FEC), ELECTRICAL WATER COOLERS (EWC), ELECTRICAL PANELS, ETC., UNLESS NOTED OTHERWISE.
9. PROVIDE AND INSTALL ALL STEENERS, BRACING, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR LABORATORY EQUIPMENT.
10. WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL AND PLUMBING ITEMS PENETRATE PARTITIONS, STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. ALL PENETRATIONS THROUGH ACOUSTICAL AND FIRE RATED WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE, AND/OR ACOUSTICAL ISOLATION OF SPACES WITH APPROPRIATE ACOUSTICAL/ FIRESTOP MATERIAL.
11. THERE SHALL BE NO BACK-TO-BACK ELECTRICAL, TELEPHONE, OR OTHER OUTLETS, EXCEPT WHERE SPECIFICALLY SHOWN.
12. WALL BASE IS NOT SHOWN ON ALL WALL TYPES FOR CLARITY. REFER TO FINISH SCHEDULE.
13. PROVIDE GLASS-MAT, WATER RESISTANT BACKING BOARD AT ALL WET LOCATIONS.
14. EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 5/8 INCH BELOW STRUCTURE, UNLESS NOTED OR SHOWN OTHERWISE.
15. PROVIDE AND INSTALL FIRE-RATED BLOCKING REQUIRED FOR ALL A.V. EQUIPMENT, G.E. TO COORDINATE WITH TI CONSULTANT FOR FINAL LOCATIONS AND SIZE REQUIREMENTS.
16. MUD AND TAPE ALL 1ST AND 2ND LAYER GYP. BOARD JOINTS.
17. PROVIDE A MIN. MSG-12 STUD FOR ALL VERTICAL LONG SPAN WALL TYPES.
18. PROVIDE HORIZONTAL LATERAL BRACING WIRE WELDED TO STUD FOR ALL WALLS, AT APPROPRIATE GAGE AND SPACING SPECIFIED BY SUPPLIER.
19. BACK TO BACK ACOUSTICAL WALLS MAY NOT BE BRIDGED, BRACED OR RIGIDLY TIED TOGETHER WITHOUT AN APPROVED ISOLATION SYSTEM.



SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

GENERAL REQUIREMENTS APPLICABLE TO ALL MATERIALS FOR THE PROJECT:

- NO SUBSTITUTIONS OF MATERIALS WITHOUT COMPLETION OF A SUBSTITUTION REQUEST FORM & APPROVAL OF SUBSTITUTION BY BOTH ARCHITECT & OWNER PROJECT MANAGER. FORM CAN BE REQUESTED FROM ARCHITECT.
- A CONDENSED SET OF SPECIFICATIONS ARE PROVIDED FOR THE PROJECT. STRICT ADHERENCE TO MANUFACTURER REQUIREMENTS AND INSTALLATION ARE REQUIRED TO BE FOLLOWED WITH SECTIONS PROVIDED WITHIN. IF REQUIRED THE ARCHITECT WILL ISSUE ADDITIONAL SECTIONS TO PROVIDE CLARITY TO PRODUCTS OR INSTALLATION REQUIREMENTS.

DIVISION 1 - GENERAL REQUIREMENTS

- SEE ADMINISTRATIVE SPECIFICATION FOR GENERAL REQUIREMENTS RELATED TO ADMINISTRATION OF THIS CONTRACT.
- A. CONTRACTOR LICENSES**
  - THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN THE PROJECT SHALL BE REQUIRED TO OBTAIN AND PAY FOR ALL NECESSARY LICENSES AS REQUIRED BY ANY LAW OR AGENCIES HAVING JURISDICTION (AHJ) OVER THE PROJECT.

B. BUILDING PERMITS

- THE GENERAL CONTRACTOR WILL PAY FOR ALL PERMITS REQUIRED BY ANY AGENCY HAVING JURISDICTION (AHJ) OVER THE PROJECT FOR ALL WORK TO BE PERFORMED BY THE GENERAL CONTRACTOR.

C. UTILITY FEES

- THE CONTRACTOR SHALL PAY THE NECESSARY FEES TO CONNECT TO EXISTING UTILITIES AT THE PROPERTY LINE OR IN ADJACENT STREETS AND RIGHT OF WAY AS SPECIFIED, NECESSARY, AND/OR INCLUDED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PAY ALL CITY/STATE/COUNTY (BILLS) DURING CONSTRUCTION UNTIL OWNER TAKES POSSESSION OF THE FACILITY OR THE FACILITY IS CERTIFIED AS SUBSTANTIALLY COMPLETE.

D. PROTECTION OF FINISHED WORK

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT FINISHED SURFACES. PROTECTION FOR FINISHES SUCH AS DOORS, WALLS AND FLOORS SHOULD BE PROVIDED AS REQUIRED. ANY DAMAGES TO THESE AREAS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE.

E. GENERAL CONDITIONS

- ANY DISCREPANCY OR CONFLICT WITHIN OR BETWEEN DRAWINGS AND ANY DISCREPANCY OR CONFLICT BETWEEN ANY DRAWING AND ANY SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. NOTWITHSTANDING, DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ARCHITECT'S AND OWNERS ATTENTION AND CLARIFIED DURING THE BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY OR DIFFICULT MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ARCHITECT'S INTERPRETATION.
- THE GENERAL CONTRACTOR SHALL KEEP A COMPLETE SET OF DOCUMENTS ON THE PROJECT SITE AT ALL TIMES FOR REFERENCE DURING CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTOR'S BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER ALL JOB SITE SAFETY PROCEDURES AND POLICIES. THE GENERAL CONTRACTOR SHALL HAVE A SAFETY COORDINATOR AND BE RESPONSIBLE TO HOLD REGULARLY SCHEDULED SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR PERSONNEL.
- NEITHER THE ARCHITECTS OR THE OWNERS INSPECTOR NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REPAIR AND/OR REPLACE THE SAME AT THE CONTRACTOR'S EXPENSE. NO ACCEPTANCE OR PAYMENT BY THE OWNER OR ARCHITECT SHALL CONSTITUTE A WAIVER OF THE FOREGOING, AND NOTHING HEREIN SHALL EXCLUDE OR LIMIT ANY WARRANTIES IMPLIED BY LAW.
- THE GENERAL CONTRACTOR SHALL SO CONDUCT ITS OPERATIONS AS NOT TO UNREASONABLY INTERFERE WITH TRAFFIC ON PUBLIC THOROUGHFARES ADJACENT OR NEAR TO THE PROJECT SITE.
- DO NOT SCALE DRAWINGS.

F. PROJECT REQUIREMENTS

- THE GENERAL CONTRACTOR REPRESENTS THAT IT POSSESSES THE SKILLS REQUIRED FOR THE WORK, ASSUMES THE RESPONSIBILITIES OF AN EMPLOYER FOR PERFORMANCE OF THE WORK, AND ACTS AS AN EMPLOYER OF ONE OR MORE EMPLOYEES BY PAYING WAGES, DIRECTING ACTIVITIES AND PERFORMING OTHER SIMILAR FUNCTIONS. THE GENERAL CONTRACTOR IS AN INDEPENDENT CONTRACTOR, FREE TO DETERMINE THE MANNER IN WHICH THE WORK IS PERFORMED.
- THE GENERAL CONTRACTOR SHALL PROVIDE, AND MAINTAIN IN GOOD WORKING ORDER, THE FOLLOWING ITEMS FOR USE BY THE PROJECT SUPERINTENDENT DAILY DURING THE ENTIRE DURATION OF THE PROJECT:
  - LAPTOP WITH INTERNET ACCESS
  - DIGITAL CAMERA WITH DATE STAMP CAPABILITY AND WITH PROPER CABLES TO ATTACH TO LAPTOP
  - AD. ACCESS THROUGH THE LAPTOP
  - A PRINTER/CAMERATA MACHINE WITH PROPER CABLES TO ATTACH TO LAPTOP
  - CELL PHONE
  - PROJECT INTERNET CLOUD BASED SITE FOR PHOTOGRAPHIC SITE INFORMATION. SITE WILL BE USED FOR SUBMITTAL OF SHOP DRAWINGS, RFI'S & PROJECT. SITE SHALL BE SECURE AND EQUAL FUNCTIONALITY.
- THE GENERAL CONTRACTOR SHALL HAVE A CONSTRUCTION SUPERINTENDENT ASSIGNED TO THIS PROJECT, AND THIS SUPERINTENDENT SHALL BE ON SITE EVERY DAY THERE IS ANY CONSTRUCTION ON THIS PROJECT. THE SUPERINTENDENT SHALL BE REACHABLE BY PHONE DURING NORMAL BUSINESS HOURS, ONCE ASSIGNED, THE SUPERINTENDENT SHALL NOT BE REMOVED OR REPLACED WITHOUT WRITTEN APPROVAL FROM OWNER & ARCHITECT. UNLESS SPECIALLY REQUESTED TO BE REPLACED BY OWNER.
- THE SUPERINTENDENT WILL BE REQUIRED TO PROVIDE PHOTOGRAPHS (VIA EMAIL USING A DIGITAL CAMERA) TO THE OWNER & ARCHITECT EACH FRIDAY BY NOON CST, SHOWING THE PROGRESS OF CONSTRUCTION. THE GENERAL CONTRACTOR IS ENCOURAGED TO TAKE PHOTOS SEVERAL TIMES EACH WEEK TO HELP MAINTAIN PROGRESS OF CONSTRUCTION PROGRESS, RECORD UNCOVERED CONDITIONS, RECORD CONDITION AND AMOUNTS OF VENDOR GOODS UPON RECEIPT, AND RECORD CONSTRUCTION THAT VARIES FROM THE CDS (AS PART OF THE AS-BUILTS). ALL PHOTOS MUST HAVE A DATE STAMP.

G. INSPECTIONS/OBSERVATIONS

- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OVERSEE CONSTRUCTION OF THE PROJECT, CONTINUALLY INSPECTING THE WORK, MATERIALS, AND WORKMANSHIP PROVIDED BY ALL OF HIS TRADES, SUBCONTRACTORS, AND SUPPLIERS. EXCELLENCE IN QUALITY OF CONSTRUCTION CAN ONLY BE ACHIEVED IF THE CONTRACTOR ENFORCES HIGH STANDARDS OF ACCEPTABILITY. THE GENERAL CONTRACTOR CANNOT DELEGATE HIS RESPONSIBILITY TO THE SUBCONTRACTORS, BUT MUST CONTINUALLY MONITOR THE WORK OF EACH TRADE ON THE PROJECT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE AND SCHEDULE ALL AGENCIES HAVING JURISDICTION (AHJ) INSPECTIONS NECESSARY TO OBTAIN THE CERTIFICATE OF OCCUPANCY (CERTIFICATE OF COMPLIANCE) PRIOR TO THE DATE OF THE AGENCY INSPECTION. THE GENERAL CONTRACTOR SHOULD INSPECT THE PROJECT TO INSURE THAT CONSTRUCTION COMPLY WITH THE AGENCY REQUIREMENTS. SCHEDULING FINAL INSPECTIONS WITH AGENCY REPRESENTATIVES WHEN THE PROJECT IS NOT COMPLETE MUST BE AVOIDED. COPIES OF FINAL INSPECTIONS MUST BE PROVIDED TO OWNER & ARCHITECT AS THEY ARE AVAILABLE.
- PRIOR TO REQUESTING THE SUBSTANTIAL COMPLETION INSPECTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OWN PRE-SUBSTANTIAL COMPLETION INSPECTION OF THE CONSTRUCTION FOR QUALITY OF CONSTRUCTION AND COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
- THE FOLLOWING PEOPLE SHOULD BE IN ATTENDANCE FOR THE SUBSTANTIAL COMPLETION INSPECTION:
  - GENERAL CONTRACTOR
  - GENERAL CONTRACTOR SUPERINTENDENT
  - MECHANICAL CONTRACTOR
  - ELECTRICAL CONTRACTOR
  - PLUMBING CONTRACTOR
  - FLOORING CONTRACTOR
- ITEMS TO BE SUBMITTED AS A PREREQUISITE TO THE REQUEST FOR THE CERTIFICATE OF SUBSTANTIAL COMPLETION AND OWNER/ARCHITECT OBSERVATION OF ITEMS TO BE COMPLETED AND CORRECTED:
  - GENERAL CONTRACTOR PUNCH LISTS
  - HVAC TEST AND BALANCE REPORT
  - SPRINKLER SYSTEM ACCEPTANCE INSPECTION REPORT
  - COPIES OF VIDEO OF COMPLETED SEWER SYSTEM
- THE REVIEW TEAM SHOULD PROCEED IN AN ORGANIZED MANNER THROUGHOUT THE BUILDING INSPECTING EACH ROOM OR ROOM. THE FIRST LISTED ITEM TO BE COMPLETED BY THE SUBSTANTIAL COMPLETION INSPECTOR IS TO BE PREPARED BY THE CONTRACTOR, ALONG WITH THE PUNCH LIST, THE ARCHITECT SHALL PREPARE THE "CERTIFICATE OF SUBSTANTIAL COMPLETION".
- IMMEDIATELY AFTER RECEIPT OF THE PUNCH LIST, THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE EXPECTED TO BEGIN CORRECTION OF THE OUTSTANDING ITEMS. FULL COMPLETION OF PUNCHLIST, THE CONTRACTOR SHALL NOTIFY OWNER & ARCHITECT IN WRITING THAT ALL LIST OF ITEMS TO BE COMPLETED AND OR CORRECT IS FINISHED.

H. RECORD CLOSE-OUT DOCUMENTS

- THE OWNER REQUIRES THE GENERAL CONTRACTOR AND SUBCONTRACTORS TO MAINTAIN AN ACCURATE, CURRENT SET OF RECORD DOCUMENTS (AS-BUILTS) AS CONSTRUCTION PROGRESSES. ALL PERTINENT INFORMATION RELATING TO THE PROJECT MUST BE TIMELY MAINTAINED ON THE AS-BUILTS. THE AS-BUILTS ARE TO BE MAINTAINED ON SITE. THE GENERAL CONTRACTOR'S OFFICE WILL NOT BE USED FOR ANY OTHER PURPOSE, SINCE THE OWNER WILL OWN AND OPERATE THE FACILITY, IT IS IMPERATIVE THAT ALL PARTIES MAINTAIN ACCURATE INFORMATION REGARDING THE ACTUAL CONSTRUCTION OF THE PROJECT.
- ALL DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS MUST BE NOTED ON THE AS-BUILTS IN RED WITH CLOUDS FOR CLEAR IDENTIFICATION. THE OWNER WILL REVIEW THE AS-BUILTS FOR ACCURACY AND COMPLETENESS MONTHLY. DURING THE PAYMENT APPLICATION REVIEW PROCESS, FAILURE TO POST CHANGES TO THE PROJECT ON THE AS-BUILTS AS IDENTIFIED DURING THE ON-SITE MONTHLY REVIEW WILL BE CAUSE TO SUSPEND PAYMENT UNTIL RECTIFIED. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENFORCE THE TIMELY POSTING OF AS-BUILT CHANGES WITH THE SUBCONTRACTORS.

I. FINAL CLOSE-OUT OF THE PROJECT

- WITHIN THIRTY (30) CALENDAR DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL COMPLETE ALL CLOSE-OUT DOCUMENTS AND SUBMIT THEM TO THE OWNER FOR REVIEW. IF THE CONTRACTOR FAILS TO COMPLETE ITS REQUIREMENTS WITH THIS TIMELINE NOTED ABOVE THE CONTRACTOR MAY BE SUBJECT TO ADDITIONAL ADMINISTRATION FEES.

J. CLOSE-OUT DOCUMENTS

- THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME:
  - A. DISK WITH ALL PHOTOS TAKEN DURING CONSTRUCTION
  - B. CHANGE ORDERS AND ALL ADDENDAS ATTACHED AND POSTED TO THE AS-BUILT DRAWINGS
  - C. AS-BUILT DRAWINGS, ONE HARD COPY TO REMAIN ON SITE AND ONE IN PLAIN TYPE, ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK
  - D. MATERIALS SELECTION DATA - PROVIDE ALL SUBMITTALS
  - E. OPERATION AND MAINTENANCE MANUALS (OMM) - PROVIDE OMM MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO MSB FUTURE MAINTENANCE ACTIVITIES
  - F. ALL HVAC TEST AND BALANCE REPORTS
  - G. RELEASE OF LEND (AA FORM 706A), PAYMENT OF DEBT (AA FORM 706B)
  - H. WARRANTIES, CERTIFICATES, AFFIDAVITS
  - I. ALL INFORMATION TO BE SUBMITTED MUST BE FURNISHED IN ONE (1) COPY AND BOUND IN A STURDY THREE-RING BINDER WITH A LABEL ON THE OUTSIDE READING "FINAL CLOSE-OUT DOCUMENTS" TO INCLUDE AN INDEX OF THE CONTENTS. ALL AA DOCUMENTS WILL BE ORIGINAL (WITH REVISIONS) AND ALL INFORMATION MUST BE MAINTAINED ON THE AS-BUILT DRAWINGS. THE ELECTRONIC VERSION IS USED AS A COPY WITH ORIGINAL SIGNATURES WILL BE SUBMITTED. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR WILL HAVE SEPARATE TABS IDENTIFYING EACH BY NAME. THE GENERAL CONTRACTOR WILL LIST EACH SUBCONTRACTOR AND IDENTIFY EACH SUBCONTRACTOR WILL CHECK TO INSURE THAT A "RELEASE OF LEND" - AA FORM 6706A AND A "RELEASE OF DEBT" - AA FORM 6706B IS INCLUDED FOR HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A CONSENT OF SEPARATE - AA FORM 6706B IN ADDITION. THE GENERAL CONTRACTOR WILL INCLUDE BEHIND HIS TAB THE FOLLOWING INFORMATION:
    - A. LIST OF NAMES, BUSINESS ADDRESSES, PHONE NUMBERS AND EMAIL ADDRESSES FOR THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR
    - B. AN ANNOTATED COPY OF THE SUBSTANTIAL COMPLETION PUNCH LIST INDICATING ACTION TAKEN ON EACH ITEM
    - C. WARRANTIES, CERTIFICATES AND AFFIDAVITS SHALL BE INCLUDED FOR ANY EQUIPMENT, MATERIALS OR SYSTEMS COMBINED WITH ALL OF THE ABOVE INFORMATION AND PLACED BEHIND THE TAB OF THE CONTRACTOR THAT ISSUED IT.

DIVISION 04 - MASONRY

A. REFERENCES

- AMERICAN CONCRETE INSTITUTE (ACI):
  - ACI 530.1-14: SPECIFICATION FOR MASONRY STRUCTURES
  - ACI 308.1-14: STANDARD SPECIFICATION FOR AGGREGATE FOR MASONRY MORTAR
  - ACI 308.1-14: STANDARD SPECIFICATION FOR PORTLAND CEMENT
  - ACI 308.2-14: STANDARD SPECIFICATION FOR HYDRATED LIME FOR MASONRY PURPOSES
  - ACI 308.3-14: STANDARD SPECIFICATION FOR AIR-ENTRAINING ADMIXTURES FOR CONCRETE
  - ACI 308.4-14: STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY
  - ACI 308.5-14: STANDARD SPECIFICATION FOR BLENDED HYDRAULIC CEMENTS
  - ACI 308.6-14: STANDARD TEST METHOD FOR PRECONSTRUCTION AND CONSTRUCTION EVALUATION OF MORTAR FOR PLAN AND REPAIR OF MASONRY
  - ACI 308.7-14: STANDARD SPECIFICATION FOR PIGMENTS FOR INTEGRALLY COLORED CONCRETE
  - ACI 308.8-14: STANDARD PRACTICE FOR ACCREDITATION OF TESTING AGENCIES FOR UNIT MASONRY
  - ACI 308.9-14: STANDARD PERFORMANCE SPECIFICATION FOR HYDRAULIC CEMENT
  - ACI 308.10-14: STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF MASONRY PRISMS
  - ACI 308.11-14: STANDARD GUIDE FOR QUALITY ASSURANCE OF MORTARS
  - ACI 308.12-14: STANDARD SPECIFICATION FOR PRE-BLENDED DRY MORTAR MIX FOR UNIT MASONRY
- INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL (IMAC):
  - IMAC - INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL (IMAC) RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY CONSTRUCTION
  - IMAC - INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL (IMAC) RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR HOT WEATHER MASONRY CONSTRUCTION
- THE BRICK INDUSTRY ASSOCIATION (BIA):
  - BIA TECHNICAL NOTE 20 - CLEANING BRICK
- PRODUCT DATA, SUBMIT MANUFACTURERS' PRODUCT DATA
- QUALITY ASSURANCE/CONTROL SUBMITTALS:
  - SUBMIT MANUFACTURER'S CERTIFICATES THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS
  - SUBMIT TEST RESULTS PREPARED BY A QUALIFIED INDEPENDENT TESTING LABORATORY
- QUALITY ASSURANCE:
  - MANUFACTURER QUALIFICATIONS: FIRM SPECIALIZING IN MANUFACTURE OF MASONRY INSTALLATION MATERIALS, INCLUDING MORTARS, WITH MINIMUM 10 YEARS EXPERIENCE
  - QUALITY ASSURANCE/CONTROL TESTING: TEST PROGRAMS PREPARED BY A QUALIFIED INDEPENDENT TESTING LABORATORY, INDICATING COMPLIANCE WITH ALL REQUIREMENTS FOR PERFORMANCE
  - PRE-INSTALLATION MEETING: AT LEAST ONE WEEK PRIOR TO COMMENCING MASONRY WORK CONDUCT A MEETING AT THE PROJECT SITE TO DISCUSS CONTRACT REQUIREMENTS AND JOB CONDITIONS
  - REQUIRE THE ATTENDANCE OF A MASONRY CONTRACTOR, AND INSTALLER OF RELATED MATERIALS, NOTIFY ARCHITECT IN ADVANCE OF MEETING REVIEW DETAILING AND SEQUENCE OF WORK TO BE PERFORMED
  - STORAGE AND PROTECTION: CEMENTITIOUS MATERIALS SHALL BE MANUFACTURED AND STORED OFF THE GROUND, UNDER COVER AND SHALL BE KEPT DRY IN ACCORDANCE WITH ASTM C1174
- PROJECT CONDITIONS:
  - MAINTAIN ENVIRONMENTAL CONDITIONS AND PROTECT WORK DURING AND AFTER INSTALLATION TO COMPLY WITH REFERENCED STANDARDS AND MANUFACTURERS' PRINTED RECOMMENDATIONS
  - DO NOT BUILD OR APPLY MORTAR PRODUCTS ON FROZEN SUBSTRATES
  - REMOVE AND REPLACE MORTAR DAMAGED BY FROST OR BY FREEZING CONDITIONS
  - VENT TEMPERATURE HEATERS TO EXTERIOR TO PREVENT DAMAGE TO MASONRY WORK FROM CARBON DIOXIDE BUILD-UP
- PRODUCT DATA:
  - BASIS OF DESIGN: SPEC MIXX, INC. WEB: WWW.SPECMIX.COM WWW.SPECMIX.COM
  - REQUESTS FOR SUBSTITUTIONS WILL BE CONSIDERED IN ACCORDANCE WITH PROVISIONS OF SUBSTITUTION PROCEDURES
  - CEMENT PRODUCTS FROM A SINGLE MANUFACTURER
  - DESIGN AND PERFORMANCE REQUIREMENTS: PROVIDE MORTAR MIXES THAT HAVE BEEN SELECTED, MANUFACTURED, MIXED AND INSTALLED TO COMPLY WITH THE FOLLOWING:
    - ASTM C 270
    - ASTM C 1174
- EXECUTION: EXAMINE SURFACES TO RECEIVE MASONRY WORK AND CONDITIONS UNDER WHICH MASONRY WILL BE INSTALLED. DO NOT PROCEED WITH MASONRY WORK UNTIL SURFACES AND CONDITIONS COMPLY WITH REQUIREMENTS IN REFERENCED MASONRY INSTALLATION STANDARD AND MANUFACTURERS' PRINTED INSTRUCTIONS

- REMOVAL OF EXISTING MORTAR: CUT OUT EXISTING MORTAR JOINTS (BOTH BED AND HEAD JOINTS) AND REMOVE BY MEANS OF A TOOTHING CHISEL OR A SPECIAL POINTS GRINDER, TO A UNIFORM DEPTH OF TO 3/4 INCH (19 MM), OR UNTIL SOUND MORTAR IS REACHED
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- SUPPORT AND PROTECT REMAINING MASONRY THAT SURROUNDS REMOVAL AREA. MAINTAIN FLASHING, REINFORCEMENT, LITTELS, AND ADJOINING CONSTRUCTION IN AN UNDAUNTED CONDITION
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- LAY REPLACEMENT UNITS WITH COMPLETELY FILLED BED, HEAD, AND COLLAR JOINTS. BUTTER JOINTS WITH SUFFICIENT MORTAR TO FULL HEAD JOINTS AND SHOVE INTO JOINT

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SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

SECTION 096713 - ELASTOMERIC LIQUID FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

- A. DEFINITIONS: ELASTOMERIC LIQUID FLOORING INCLUDES PENETRATING AND SEALING, TWO-COMPONENT POLYMERIC PRIMER, FREE FLOWING POLYMER FORMULATION INCLUDING RESIN, CURING AGENT AND FINELY GRADED AGGREGATE AND POWDER.
- B. RELATED WORK:
1. DIVISION 3 SECTION CASE-IN-PLACE CONCRETE
2. DIVISION 7 SECTION FLUID APPLIED WATERPROOFING
3. DIVISION 7 SECTION JOINT SEALERS

1.3 SUBMITTALS

- A. PRODUCT DATA: SUBMIT MANUFACTURER'S TECHNICAL DATA, INSTALLATION INSTRUCTIONS AND GENERAL RECOMMENDATIONS FOR EACH RESINUS FLOORING MATERIAL REQUIRED. INCLUDE HEALTH PRODUCT DECLARATIONS (HPDS) AND CERTIFICATIONS INDICATING COMPLIANCE OF MATERIALS WITH REQUIREMENTS.
- B. SAMPLES: SUBMIT FOR VERIFICATION PURPOSES, 4-25-INCH SQUARE SAMPLES OF EACH TYPE OF ELASTOMERIC LIQUID FLOORING REQUIRED, APPLIED TO A RIGID BACKING, IN COLOR, FINISH, AND TOP COAT INDICATED.
- C. PRODUCT SCHEDULE: USE RESINUS FLOORING DESIGNATIONS INDICATED IN PART 2 AND ROOM DESIGNATIONS INDICATED ON DRAWINGS IN PRODUCT SCHEDULE.
- D. MAINTENANCE AND CLEANING DATA: FOR RESINUS FLOORING TO INCLUDE IN MAINTENANCE MANUAL.

1.4 QUALITY ASSURANCE

- A. SINGLE SOURCE RESPONSIBILITY: OBTAIN PRIMARY ELASTOMERIC LIQUID FLOORING MATERIALS INCLUDING PRIMERS, RESINS, HARDENING AGENTS, FINISH OR SEALING COATS FROM A SINGLE MANUFACTURER WITH NOT LESS THAN TEN (10) YEARS OF SUCCESSFUL EXPERIENCE IN MANUFACTURING AND INSTALLING PRINCIPAL MATERIALS DESCRIBED IN THIS SECTION. CONTRACTOR SHALL HAVE COMPLETED AT LEAST FIVE PROJECTS OF SIMILAR SIZE AND COMPLEXITY, LIQUID ELEMENTS OR APPROVED EQUAL. PROVIDE SECONDARY MATERIALS ONLY OF TYPE AND FROM SOURCE RECOMMENDED BY MANUFACTURER OF PRIMARY MATERIALS.
- B. INSTALLER QUALIFICATIONS: ENGAGE AN EXPERIENCED INSTALLER (APPLICATOR) WHO IS EXPERIENCED IN APPLYING RESINUS FLOORING SYSTEMS SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THOSE INDICATED FOR THIS PROJECT. HIS/HER WORK HAS RESULTED IN APPLICATIONS WITH A RECORD OF SUCCESSFUL, IN-SERVICE PERFORMANCE, AND WHO IS ACCEPTABLE TO RESINUS FLOORING MANUFACTURER.

1. CONTRACTOR SHALL HAVE COMPLETED AT LEAST TEN (10) PROJECTS OF SIMILAR SIZE AND COMPLEXITY.

C. PRE-INSTALLATION CONFERENCE:

1. GENERAL: CONTRACTOR SHALL ARRANGE A MEETING NOT LESS THAN THIRTY DAYS PRIOR TO STARTING WORK.

2. ATTENDANCE:

- A. GENERAL CONTRACTOR

- B. ARCHITECT/OWNER'S REPRESENTATIVE

- C. MANUFACTURER/INSTALLER'S REPRESENTATIVE

- D. MANUFACTURER FIELD TECHNICAL SERVICE REPRESENTATIVES: FIELD TECHNICAL SERVICE REPRESENTATIVES SHALL BE EMPLOYED BY THE SYSTEM MANUFACTURER TO ASSIST IN THE QUALITY ASSURANCE AND QUALITY CONTROL PROCESS OF THE INSTALLATION AND SHALL BE AVAILABLE TO PERFORM FIELD PROBLEM SOLVING ISSUES WITH THE INSTALLER.

- E. ISO 9001:2008: ALL MATERIALS, INCLUDING PRIMERS, RESINS, CURING AGENTS, FINISH COATS, AGGREGATES AND SEALANTS ARE MANUFACTURED AND TESTED UNDER AN ISO 9001 REGISTERED QUALITY SYSTEM.

1.5 DELIVERY, STORAGE AND HANDLING

- A. MATERIAL SHALL BE DELIVERED TO JOB SITE AND CHECKED BY FLOORING CONTRACTOR FOR COMPLETENESS AND SHIPPING DAMAGES PRIOR TO JOB START.
- B. ALL MATERIALS USED SHALL BE FACTORY PREWEIGHED AND PRE-PACKAGED IN SINGLE, EASY TO MANAGE BAGS/SETS TO ELIMINATE ON-SITE MIXING ERRORS. NO ON-SITE WEIGHING OR VOLUMETRIC MEASUREMENTS ALLOWED.
- C. STORE COMPONENTS PROTECTED FROM EXPOSURE TO HARMFUL WEATHER CONDITIONS AND IN A TEMPERATURE CONTROLLED AREA AS RECOMMENDED BY MANUFACTURER. DO NOT ALLOW PRODUCT TO FREEZE.
- D. DELIVER PRODUCTS TO AREAS TO RECEIVE MOISTURE TREATMENT AT LEAST 48 HOURS PRIOR TO APPLICATION TO ALLOW THEM TO ACCLIMATE TO THE SPACE.

1.6 ENVIRONMENTAL CONDITIONS

- A. CONCRETE SUBSTRATE SHALL BE PROPERLY CURED FOR A MINIMUM OF 30 DAYS. A VAPOR BARRIER MUST BE PRESENT FOR CONCRETE SUBFLOORS ON OR BELOW GRADE. OTHERWISE, AN OSMOIC PRESSURE RESISTANT GROUT MUST BE INSTALLED PRIOR TO THE RESINUS FLOORING.
- B. UTILITIES, INCLUDING ELECTRIC, WATER, HEAT (AIR TEMPERATURE BETWEEN 65 AND 85°F) AND 3/16" AND FINISHED LIGHTING TO BE SUPPLIED BY GENERAL CONTRACTOR.
- C. JOB AREA TO BE FREE OF OTHER TRADES DURING THE INSTALLATION AND FOR A PERIOD OF 24 HOURS AFTER FLOOR INSTALLATION.
- D. PROTECTION OF FINISHED FLOOR FROM DAMAGE BY SUBSEQUENT TRADES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- E. PROTECTION: PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE OR CONTAMINATION OF ANY SURFACES NEAR THE WORK ZONE.
- F. DO NOT INSTALL PRODUCT IN THIS SECTION UNTIL ONE (1) WEEK AFTER BUILDING IS ENCLOSED AND WEATHERPROOF. WET WORK IN SPACE IS COMPLETED AND NOMINALLY DRY, AND HVAC SYSTEM IS OPERATING AND MAINTAINING TEMPERATURE AND RELATIVE HUMIDITY AT OCCUPANCY LEVELS DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.

1.7 WARRANTY

- A. MANUFACTURER SHALL FURNISH A SINGLE WRITTEN WARRANTY COVERING BOTH MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) FULL YEAR FROM DATE OF INSTALLATION.

PART 2 - PRODUCTS

2.2 EPXY FLOORING

- A. SMOOTH LIQUID ELEMENTS (679-498-2945) (MANUFACTURED BY THE STONHARD GROUP).

2.3 ACCESSORY MATERIALS

- A. PATCHING AND FILL MATERIAL: RESINUS PRODUCTS OF OR APPROVED BY RESINUS FLOORING MANUFACTURER AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED.
- B. JOINT SEALANT: TYPE PRODUCED BY MANUFACTURER OF ELASTOMERIC LIQUID FLOORING SYSTEM FOR TYPE OF SERVICE AND JOINT CONDITION INDICATED. ALLOWANCES SHOULD BE INCLUDED FOR STONFLEX MP7 JOINT FILL OR GREATER.

- C. GLIDES AND FELT PADS SHOULD BE USED ON ALL TABLE AND CHAIR LEGS. RECOMMENDED DIAMETER IS 1/4" OR GREATER.

PART 3 - EXECUTION

3.1 PREPARATION

- A. GENERAL: PREPARE AND CLEAN SUBSTRATES ACCORDING TO RESINUS FLOORING MANUFACTURER'S WRITTEN INSTRUCTIONS FOR SUBSTRATE INDICATED. PROVIDE CLEAN, DRY, AND NEUTRAL PH SUBSTRATE FOR RESINUS FLOORING APPLICATION.

- B. CONCRETE SUBSTRATES: PROVIDE SOUND CONCRETE SUBSTRATES FREE OF LANTACE, GLAZE, EFFLORESCENCE, CURING COMPOUNDS, FORM-RELEASE AGENTS, DUST, DIRT, GREASE, OIL, AND OTHER CONTAMINANTS INCOMPATIBLE WITH RESINUS FLOORING.

1. MECHANICALLY PREPARE SUBSTRATES AS FOLLOWS:

- A. SHOT-BLAST SURFACES WITH AN APPARATUS THAT ABRASDES THE CONCRETE SURFACE, CONTAINS THE DISPENSED SHOT WITHIN THE APPARATUS, AND RE-CIRCULATES THE SHOT BY VACUUM PICKUP. OBTAIN A CSPR PROFILE.

- B. COMPLY WITH ASTM C 811 REQUIREMENTS, UNLESS MANUFACTURER'S WRITTEN INSTRUCTIONS ARE MORE STRINGENT.

2. REPAIR DAMAGED AND DEGENERATED CONCRETE ACCORDING TO RESINUS FLOORING MANUFACTURER'S WRITTEN RECOMMENDATIONS.

3. VERIFY THAT CONCRETE SUBSTRATES ARE DRY.

- A. PERFORM IN SITU PROBE TEST, ASTM F 2170. PROCEED WITH APPLICATION ONLY AFTER SUBSTRATES DO NOT EXCEED A MAXIMUM POTENTIAL EQUILIBRIUM RELATIVE HUMIDITY OF 85 PERCENT.

- B. PERFORM ANHYDROUS CALCIUM CHLORIDE TEST, ASTM F 1886. PROCEED WITH APPLICATION ONLY AFTER SUBSTRATES HAVE MAXIMUM MOISTURE-VAPOR-EMISSION RATE OF 2-3 LB OF WATER/1000 SQ. FT. OF SLAB IN 24 HOURS.

- C. PERFORM ADDITIONAL MOISTURE TESTS RECOMMENDED BY MANUFACTURER. PROCEED WITH APPLICATION ONLY AFTER SUBSTRATES PASS TESTING.

4. VERIFY THAT CONCRETE SUBSTRATES HAVE NEUTRAL PH AND THAT RESINUS FLOORING WILL ADHERE TO THEM. PERFORM TESTS RECOMMENDED BY MANUFACTURER. PROCEED WITH APPLICATION ONLY AFTER SUBSTRATES PASS TESTING.

- C. RESINUS MATERIALS: MIX COMPONENTS AND PREPARE MATERIALS ACCORDING TO RESINUS FLOORING MANUFACTURER'S WRITTEN INSTRUCTIONS.

- D. USE PATCHING AND FILL MATERIAL TO FILL HOLES AND DEPRESSIONS IN SUBSTRATES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

- E. TREAT CONTROL JOINTS AND OTHER NON-MOVING SUBSTRATE CRACKS TO PREVENT CRACKS FROM REFLECTING THROUGH RESINUS FLOORING ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.

- F. SUBSTRATE: MUST BE SUPER FLAT AND LEVEL FLOOR, FFFL 50 <1/8" PER 10' FOR FLATNESS AND <1/8" PER 1' FOR LEVEL.

3.2 APPLICATION

- A. GENERAL: APPLY EACH COMPONENT OF ELASTOMERIC LIQUID FLOORING SYSTEM IN COMPLIANCE WITH MANUFACTURER'S DIRECTION TO PRODUCE A UNIFORM MONOLITHIC WEARING SURFACE OF THICKNESS INDICATED, UNINTERRUPTED EXCEPT AT DIVIDER STRIPS, SAWN JOINTS OR OTHER TYPES OF JOINTS (IF ANY), INDICATED OR REQUIRED.

- B. PRIMER: MIX AND APPLY PRIMER OVER PROPERLY PREPARED SUBSTRATE WITH STRICT ADHERENCE TO MANUFACTURER'S INSTALLATION PROCEDURES AND COVERAGE RATES.

- C. BASE: MIX BASE MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDED PROCEDURES. UNIFORMLY SPREAD MIXED MATERIAL OVER PREVIOUSLY PRIMED AND SEALED SUBSTRATE USING MANUFACTURER'S SPECIALLY DESIGNED SQUEEGEE. ROLL MATERIAL USING MANUFACTURER'S SPECIALLY DESIGNED ROLLER. STRICT ADHERENCE TO MANUFACTURER'S INSTALLATION PROCEDURES AND COVERAGE RATES IS IMPERATIVE.

- D. SEALANT: MIX AND APPLY TOPCOAT MATERIAL OVER BASE WITH STRICT ADHERENCE TO MANUFACTURER'S INSTALLATION PROCEDURES AND COVERAGE RATES.

3.3 TRANSITIONS

- A. TRADITIONAL "T" TRANSITIONS ARE NOT RECOMMENDED FOR USE WITH SELF LEVELERS, DUE TO THE INHERENT DIFFICULTY WITH OBTAINING A FLUSH TRANSITION WITH A SELF LEVELING MATERIAL. WHERE A FLUSH TRANSITION IS DESIRED, PLEASE CONTACT YOUR LOCAL LIQUID ELEMENTS REPRESENTATIVE.

- B. A "T" STYLE TRANSITION IS RECOMMENDED WHEN ADJOINING A SIMILAR HEIGHT SURFACE.

3.4 JOINTS AND CRACKS

- A. TREAT CONTROL JOINTS TO BRIDGE POTENTIAL CRACKS AND TO MAINTAIN MONOLITHIC PROTECTION.

- B. TREAT COLD JOINTS AND CONSTRUCTION JOINTS TO BRIDGE POTENTIAL CRACKS AND TO MAINTAIN MONOLITHIC PROTECTION ON HORIZONTAL AND VERTICAL SURFACES AS WELL AS HORIZONTAL AND VERTICAL INTERFACES.

- C. DISCONTINUE FLOOR COATING SYSTEM AT VERTICAL AND HORIZONTAL CONTRACTION AND EXPANSION JOINTS BY INSTALLING BACKER ROD AND COMPATIBLE SEALANT AFTER COATING INSTALLATION IS COMPLETED. PROVIDE SEALANT TYPE RECOMMENDED BY MANUFACTURER FOR TRAFFIC CONDITIONS AND CHEMICAL EXPOSURES TO BE ENCOUNTERED.

3.5 FIELD QUALITY CONTROL

- A. THE RIGHT IS RESERVED TO INVOKE THE FOLLOWING MATERIAL TESTING PROCEDURE AT ANY TIME, AND ANY NUMBER OF TIMES DURING PERIOD OF FLOORING APPLICATION.

- B. THE OWNER WILL ENGAGE SERVICE OF AN INDEPENDENT TESTING LABORATORY TO SAMPLE MATERIALS BEING USED ON THE JOB SITE. SAMPLES OF MATERIAL WILL BE TAKEN, IDENTIFIED AND SEALED, AND CERTIFIED IN PRESENCE OF CONTRACTOR.

- C. TESTING LABORATORY WILL PERFORM TESTS FOR ANY OF CHARACTERISTICS SPECIFIED, USING APPLICABLE TESTING PROCEDURES REFERENCED HEREIN, OR IF NONE REFERENCED, IN MANUFACTURER'S PRODUCT DATA.

- D. IF TEST RESULTS SHOW MATERIALS BEING USED DO NOT COMPLY WITH SPECIFIED REQUIREMENTS, CONTRACTOR MAY BE DIRECTED BY OWNER TO STOP WORK, REMOVE NON-COMPLYING MATERIALS, PAY FOR TESTING, REAPPLY FLOORING MATERIALS TO PROPERLY PREPARED SURFACES WHICH HAD PREVIOUSLY BEEN COATED WITH UNACCEPTABLE MATERIALS.

3.6 CURING, PROTECTION AND CLEANING

- A. CURE ELASTOMERIC LIQUID FLOORING MATERIALS IN COMPLIANCE WITH MANUFACTURER'S DIRECTIONS, TAKING CARE TO PREVENT CONTAMINATION DURING STAGES OF APPLICATION AND PRIOR TO COMPLETION OF CURING PROCESS. CLOSE AREA OF APPLICATION FOR A MINIMUM OF 24 HOURS.

- B. PROTECT ELASTOMERIC LIQUID FLOORING MATERIALS FROM DAMAGE AND WEAR DURING CONSTRUCTION OPERATION, WHERE TEMPORARY COVERING IS REQUIRED FOR THIS PURPOSE. COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR PROTECTIVE MATERIALS AND METHOD OF APPLICATION. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROTECTION AND CLEANING OF SURFACES AFTER FINAL COATS.

- C. CLEANING: REMOVE TEMPORARY COVERING AND CLEAN ELASTOMERIC LIQUID FLOORING JUST PRIOR TO FINAL INSPECTION. USE CLEANING MATERIALS AND PROCEDURES RECOMMENDED BY ELASTOMERIC LIQUID FLOORING MANUFACTURER.

END OF SECTION 096713

DIVISION 9 - FINISHES (continued)

09 6810 - TILE CARPETING

- A. SUBMITTALS: PRODUCT DATA AND SAMPLES OF EACH CARPET PRODUCT INDICATED. SUBMIT ACTUAL TILE SAMPLES OF EACH CARPET REQUIRED.

- B. WARRANTY: PROVIDE SPECIAL PROJECT WARRANTY, SIGNED BY CONTRACTOR, INSTALLER AND MANUFACTURER (CARPET MILL), AGREEING TO REPAIR OR REPLACE DEFECTIVE MATERIALS AND WORKMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES.

- C. ATTIC STOCK: FURNISH ONE (1) BOX FOR EACH 50 BOXES OR FRACTION THEREOF OF EACH TYPE OF FLOOR TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.

- D. PRODUCTS: PROVIDE CARPET IN PATTERNS AND COLORS AND WITH BACKINGS AS INDICATED IN THE CONSTRUCTION DOCUMENTS WITH CRITICAL RADIANT FLUX CLASSIFICATION CLASS 1, NOT LESS THAN 0.45 W/50, CM PER ASTM E 644. ORDER ALL MATERIALS FROM THE SAME FACTORY DYE LOT.

E. INSTALLATION ACCESSORIES

1. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX/MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER.

2. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED, THAT COMPLY WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET AND IS RECOMMENDED OR PROVIDED BY CARPET MANUFACTURER.

3. SETTING BED ACCESSORIES: ANSI A 108.4, SECTION 13 "CARPET MODIFIERS (TILES)"

- F. INSTALLATION: FOR CARPET TILE COMPLY OR, IN A, SECTION 13 "CARPET MODIFIERS (TILES)"

1. GENERAL: COMPLY WITH CRP's "CRP CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.

2. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES. FILL OR LEVEL CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH, UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURER'S WRITTEN INSTRUCTIONS.

3. BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET.

4. LAY CARPET TILE IN A PATTERN AS INDICATED ON CONSTRUCTION DOCUMENTS AND 50 WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.

5. TRIM CARPET NEATLY AND TIGHT TO WALLS AND AROUND INTERRUPTIONS.

6. METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER.

7. DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET.

8. CUT AND FIT CARPET TO BUT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CHINA CABINETS, PIPES, OUTLETS, EDGINGS, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER.

9. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED DOORWAYS, REMOVABLE FLANKER DOORWAYS, AND SIMILAR OPENINGS.

10. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING MARKING DEVICE.

11. PROTECT CARPET AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER.

12. INSTALL TRANSITION STRIPS AT CARPET TERMINATIONS AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS.

09 9000 - PAINTING AND COATING

- A. SUBMITTALS: PRODUCT DATA AND THREE (3) DRAWN/QUO SAMPLES OF EACH COLOR AND SHEEN SPECIFIED.

- B. ATTIC STOCK: FURNISH ONE (1) GALLON OF EACH PAINT COLOR AND SHEEN, IN CONTAINERS, PROPERLY LABELED AND SEALED.

- C. PRODUCTS: PROVIDE MANUFACTURER'S BEST QUALITY PANTS OF COLOR AND SHEEN AS INDICATED IN THE CONSTRUCTION DOCUMENTS THAT ARE FORMULATED AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED. PROVIDE MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH SUBSTRATES.

D. PAINT SYSTEMS:

1. ALL PAINT, STAIN, AND VARNISH SHALL BE PRODUCTS OF DEVCO, SHERWIN WILLIAMS, PPG INDUSTRIES, BENJAMIN MOORE OR APPROVED EQUAL.

2. ALL MATERIAL SHALL BE OF THE STANDARD COMMERCIAL GRADE OF THE TYPES DESIGNATED.

3. ALL MATERIAL SHALL BE DELIVERED TO THE JOB SITE IN THE ORIGINAL, UNOPENED, LABELED CONTAINERS. COLORS NOT SPECIFICALLY CALLED FOR IN THE PAINT SCHEDULE WILL BE SELECTED BY THE ARCHITECT.

E. APPLICATION / INSTALLATION:

1. EQUIPMENT: APPLY COATINGS BY BRUSH, ROLLER, SPRAY, OR OTHER APPLICATORS ACCORDING TO COATING MANUFACTURER'S WRITTEN INSTRUCTIONS. WHEN SPRAYED, EXTERIOR COATINGS SHALL BE BACKUP-FOLLOWING SPRAY APPLICATION. USE ROLLERS FOR FINISH COAT ON INTERIOR WALLS AND CEILINGS.

2. PREPARE CONCRETE MASONRY BLOCK TO BE COATED: REMOVE EFFLORESCENCE, CHALK, DUST, DIRT, GREASE, OILS, AND RELEASE AGENTS. ROUGHEN AS REQUIRED TO REMOVE GLAZE. IF HARDENERS OR SEALERS HAVE BEEN USED TO IMPROVE CURING, USE MECHANICAL METHODS TO PREPARE SURFACES.

3. PRIME/PRIMED FINISHES: COMPLETELY COVER SURFACES TO PROVIDE A UNIFORM APPEARANCE. PROVIDE A FINISH FREE OF CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SACS, ROPIKENESS, OR OTHER SURFACE IMPERFECTIONS.

4. APPLY PRODUCTS PER MANUFACTURER RECOMMENDED GUIDELINES. PRODUCT COVERAGE MINIMUM ONE COAT OF PRIMER AND TWO FINAL COATS ON MATERIALS. APPLY PRODUCTS TO MATERIALS APPROVED BY MANUFACTURER PRODUCT DATA SHEETS.

EXTERIOR WORK:

1. ALL EXTERIOR GALVANIZED METAL FLASHINGS, CONVEYORS, ETC. ONE COAT COMMERCIAL METAL ETCH ONE COAT EXTERIOR METAL PRIMER TWO COATS EXTERIOR SEMI-GLOSS METAL PAINT.

2. ALL EXPOSED STEEL FRAMES, ANGLES, ETC. TWO COATS SEMI-GLOSS METAL PAINT (PRIME COAT CHANNELS, POSTS, RAILINGS, BEAMS, ETC., SURFACES THAT ARE NOT PRIMED)

3. ALL EXPOSED MISC. FERROUS METAL ITEMS INCLUDING NAILS, PLATES, ANCHORS, BOLTS, CONDUITS, POSTS, PIPING, ETC. TWO COATS SEMI-GLOSS METAL PAINT (PRIME COAT SURFACES THAT ARE NOT PRIMED)

4. ALL UNPRIMED EXTERIOR MILLWORK, TRIM, SMOOTH WOOD MATERIALS, ETC. PRIME AND BACK LATEX PRIMER TWO COATS OF EXTERIOR LATEX SATIN OR SEMI-GLOSS PAINT.

5. PRIMED MILLWORK AND TRIM. TOUCH-UP PRIMER, TWO COATS OF EXTERIOR 100% SATIN OR SEMI-GLOSS ACRYLIC LATEX PAINT.

6. ROUGH SAWN TRIM, BEAMS, COLUMNS, ETC. ONE COAT PRIMER, TWO COATS HEAVY BODIED STAIN.

7. PRIMED METAL ENTRY DOORS, FRENCH DOORS AND METAL FRAMES, GARAGE DOORS. PATCH DENTS, TOUCH UP PRIMER, TWO COATS OF OIL BASE SEMI-GLOSS PAINT INSIDE AND OUTSIDE.

8. ANY OTHER PAINTING REQUIRED BY SURFACES. TWO COATS TO MATCH ADJACENT THE DRAWINGS.

INTERIOR WORK:

1. GYPSUM BOARD WALLS EXCEPT IN KITCHENS, BATHROOMS, LAUNDRIES AND COMMON AREA CORRIDORS, UNLESS SCHEDULED FOR WALLCOVERING. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF LATEX EGGSHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE) ONE WALL IN EACH APARTMENT UNIT LIVING SPACE AND EACH BEDROOM SHALL BE PAINTED ACCENT COLORS.

2. GYPSUM BOARD WALLS IN KITCHENS, BATHROOMS, AND LAUNDRIES UNLESS SCHEDULED FOR WALLCOVERING OR TILE. ONE COAT OF EPOXY COMPATIBLE PRIMER PAINT AND ONE FINISH COAT OF EPOXY EGGSHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

3. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF SCRUBBLE LATEX FLAT WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

4. (CMU) - CONCRETE MASONRY UNIT WALLS. BLOCK FILLER. PPG PAINTS: 6-15X1 SPEEDHIDE INTERIOR/EXTERIOR IN FULL ACRYLIC MASONRY BLOCK FILLER/PRIMER. APPLIED AT A DRY FILM THICKNESS OF NOT LESS THAN 7.0 MILS. TWO FINISH COATS ACRYLIC EGGSHELL FINISH OVER PRIMER.

- OR BLOCK FILLER. SHERWIN WILLIAMS: 1 COAT OF PRO INDUSTRIAL HEAVY DUTY BLOCK FILLER AND 2 COATS OF THE APPROPRIATE SHERWIN WILLIAMS TOP COAT.

5. GYPSUM BOARD CEILINGS. TWO COATS OF LATEX FLAT PAINT, TWO COATS OF THE APPROPRIATE SHERWIN WILLIAMS TOP COAT ADJACENT TO ATTIC.

6. DOOR CASINGS, BASE, WOOD, MILLWORK, ETC. (PRE-PRIMED). ONE PRIME COAT OF LATEX PAINT, ONE COAT LATEX PAINT AND ONE FINISH COAT OF SEMI-GLOSS PAINT.

7. PRIMED HARDWOOD DOORS. ONE COAT OF LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

8. ALL MISCELLANEOUS FERROUS METAL, GRILLES, REGISTERS, ETC. TWO COATS METAL PAINT TO MATCH INCLUDING ADJACENT SURFACES UNLESS FACTORY PREFINISHED WHITE.

9. ANY OPEN STRUCTURE PAINTING. ONE COAT APPLICABLE PRIMER FOR SURFACES TO BE PAINTED UNLESS FACTORY PRIMED; TWO COATS OF DRYVALL PAINT SPRAY APPLIED.

10. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS. FINISH TO MATCH SIMILAR CONDITIONS.

09 3000 - TILING

- A. SUBMITTALS: PRODUCT DATA FOR SETTING AND GROUTING MATERIALS AND THREE (3) SAMPLES OF EACH TILE SPECIFIED FOR VERIFICATION PURPOSES.

- B. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CERAMIC TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.

- C. BASIS OF DESIGN: SEE DRAWING SCHEDULES.

- D. TILE: COMPLY WITH STANDARD GRADE REQUIREMENTS IN ANSI A137.1 "SPECIFICATIONS FOR CERAMIC TILE" FOR PRODUCT'S AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS.

E. INSTALLATION METHODS:

1. THIN-SET MORTAR

- A. TYPICAL: INTERIOR INSTALLATIONS: LATEX/POLYMER MODIFIED PORTLAND CEMENT COMPLYING WITH ANSI A108.5 AND ANSI 118.4.

2. GROUT: UNWEIGHTED OR LESS, SANDED FOR JOINTS GREATER THAN 1/16" IN COLOR INDICATED IN SCHEDULE OR TO BE SELECTED BY ARCHITECT AND OWNER.

- A. TYPICAL: INTERIOR INSTALLATIONS: STANDARD CEMENT GROUT WITH INTEGRAL STAIN INHIBITORS (ITEC ACCUCOLOR XT, OR EQUAL).

3. SETTING BED ACCESSORIES: ANSI A 108.4, SECTION 13 "CARPET MODIFIERS (TILES)"

- F. INSTALLATION METHODS: COMPLY WITH TILE INSTALLATION STANDARDS IN ANSIS "SPECIFICATIONS FOR THE INSTALLATIONS OF CERAMIC TILE AND TOLAS HANDBOOK FOR CERAMIC TILE INSTALLATION" THAT APPLY TO THE MATERIALS AND METHODS INDICATED BELOW.

G. TERMINATIONS

1. WHERE CUT TILE IS SPECIFIED AS THE TOP COURSE ON WALL, WAINSCOTING OR WALL BASE WITH AN EXPOSED TOP EDGE, THE FACTORY EDGE SHALL BE USED AS THE EXPOSED EDGE.

- H. CONFLICTS: IF NOT ADDRESSED ON DRAWINGS, WHERE ELECTRICAL DEVICES OR TOILET ACCESSORIES STRADDLE THE TRANSITION FROM THE TOP EDGE OF WAINSCOT WALL TILE TO GYPSUM BOARD SUBSTRATE, CONTACT ARCHITECT FOR RESOLUTION.

I. GROUT JOINTS

1. JOINT SIZE: SET TILE WITH THE SMALLEST GROUT JOINT ACHIEVABLE AND AS RECOMMENDED BY THE MFR. BASED ON THE TILE PRODUCT AND SUBSTRATE CONDITIONS, UNLESS NOTED OTHERWISE.

2. TILE PATTERN: LAY TILE IN PATTERNS AS INDICATED IN THE CONSTRUCTION DOCUMENTS. ALONG JOINTS INSTALL PATTERNS TILES ON FLOOR, BASE, WALLS, AND TRIM ARE THE SAME SIZE, UNLESS INDICATED OTHERWISE.

3. INSTALLATION: INSTALL GROUT PER MANUFACTURER'S INSTRUCTIONS, EXERCISING CARE TO AVOID REMOVAL OF GROUT COLOR OR GROUTS. EXCESS WATER DURING INSTALLATION, FADED OR CHALKY GROUT SHALL BE CAUSE FOR REJECTION.

4. SEALER: AFTER FULLY CURED, GROUT SHALL BE SEALED WITH TWO (2) COATS OF COMMERCIAL QUALITY PENETRATING SILICONE SEALER.

09 5100 - ACoustICAL CEILINGS

- A. SUBMITTALS: PRODUCT DATA ONLY

- B. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CEILING TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.

- C. ACoustICAL TILE PRODUCTS: PROVIDE CEILING TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM E 636, CLASS A MATERIALS. TESTED PER ASTM E 8.

- D. SUSPENSION SYSTEM: PROVIDE HEAVY DUTY, DIRECT-HUNG, SUSPENSION SYSTEMS AS INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM C 635. FURNISH ALUMINUM GRID IN SHOWERS, KITCHENS, AND OTHER HIGH-HUMIDITY AREAS.

1. ATTACHMENT DEVICES: SIZE FOR FIVE (5) TIMES THE DESIGN LOAD INDICATED IN ASTM C 636, TABLE 1, DIRECT HUNG UNLESS OTHERWISE INDICATED.

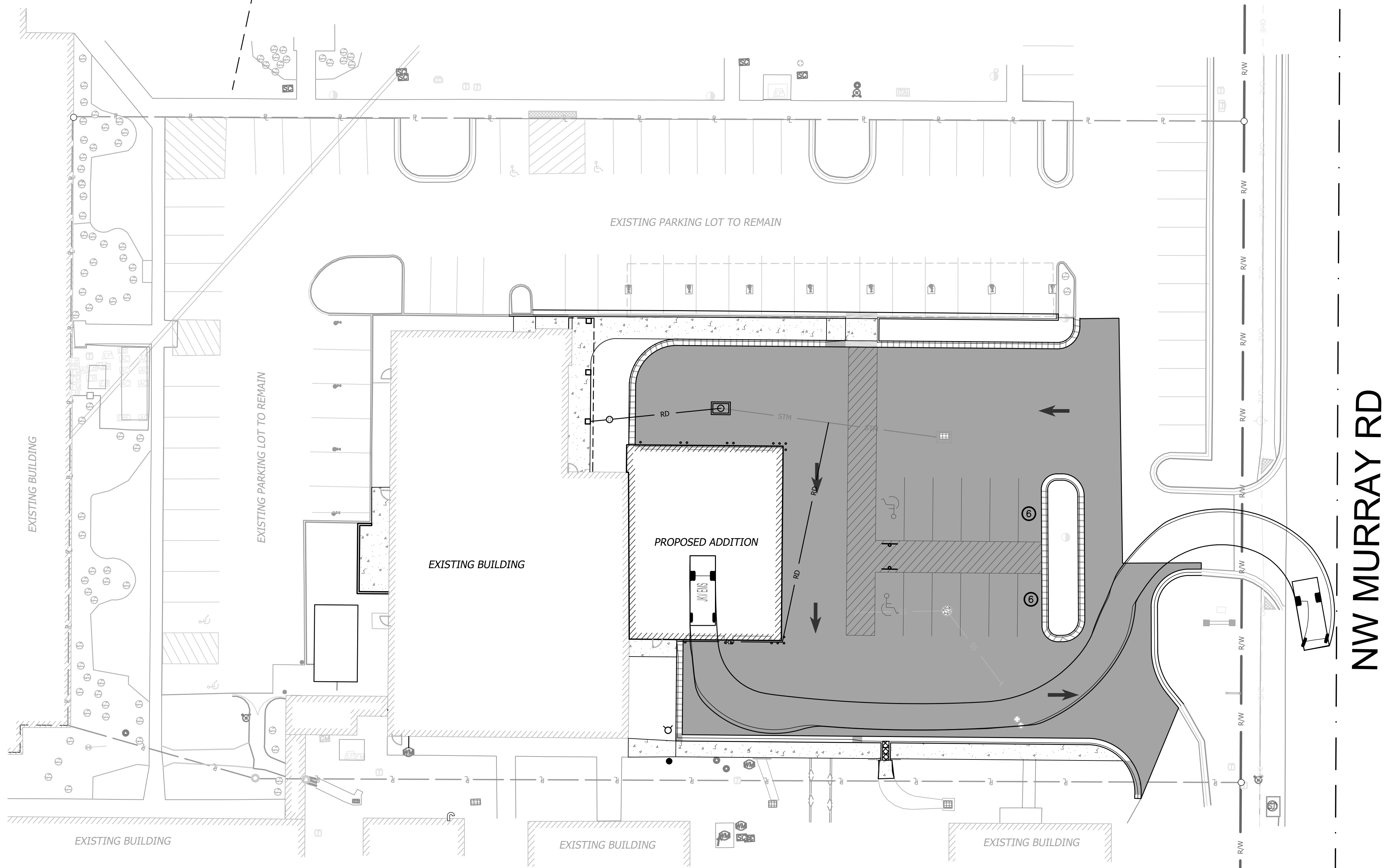
2. WIRE HANGERS, BRACES, AND TIES: ZINC-COATED CARBON-STEEL, WIRE, ASTM A 641 (A 641 M), CLASS 1 ZINC COATING, SLOPE TEMPER WITH A YIELD STRENGTH AT LEAST THREE (3) TIMES THE HANGER DESIGN LOAD (ASTM C 636, TABLE 1, DIRECT HUNG). (BUT NOT MORE THAN 1/32" DIAMETER WIRE).

3. SEISMIC STRUTS: MANUFACTURER'S STANDARD PRODUCT DESIGNED TO ACCOMMODATE SEISMIC FORCES.

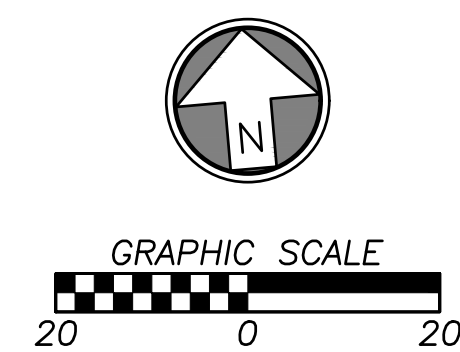
4. HOLD-DOWN CLIPS: PROVIDE HOLD-DOWN CLIPS ON CEILING TILE IN ENTRANCE VESTIBULES, COMPUTER ROOMS EMPLOYING DRY CHEMICAL FIRE SUPPRESSION SYSTEMS, AND OTHER AREAS AS INDICATED



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SITE LEGEND			
	PROPOSED BUILDING		STANDARD CURB & GUTTER
	EXISTING BUILDING		ROLLOVER CURB & GUTTER
	HEAVY DUTY ASPHALT PAVEMENT		TRANSITION CURB
	CONCRETE SIDEWALK		DRY CURB & GUTTER
	PARKING STALL COUNT		STANDARD ZERO HEIGHT CURB



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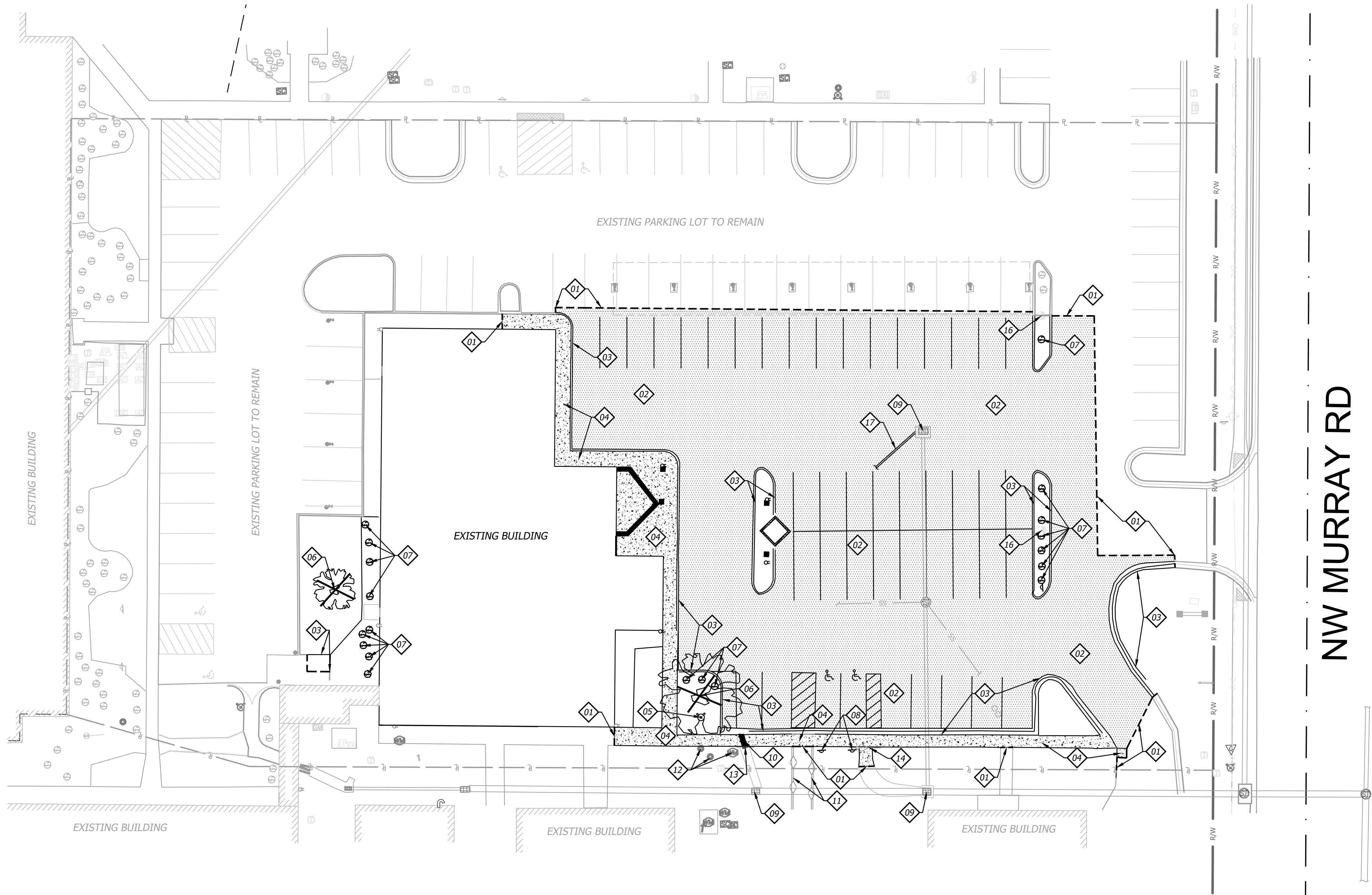
ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 23011

TRUCK TURNING  
EXHIBIT

PERMIT SET



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#### DEMOLITION LEGEND

- SAW CUT LINE
- EXISTING BUILDING TO REMAIN
- ASPHALT PAVEMENT TO BE REMOVED
- CONCRETE SIDEWALK TO BE REMOVED
- EXISTING TREE TO BE REMOVED

#### LEGEND

- R/W RIGHT - OF - WAY LINE
- P PROPERTY LINE
- OU EXISTING OVERHEAD UTILITY LINES
- UGE EXISTING UNDERGROUND ELECTRICAL LINE
- G EXISTING GAS LINE
- W EXISTING WATER LINE

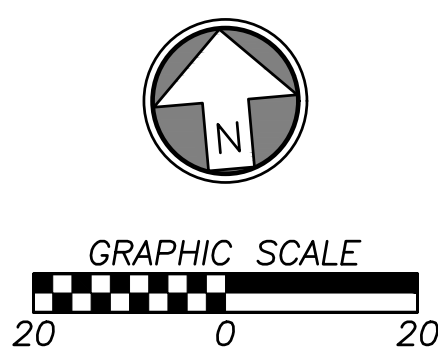
NW MURRAY RD

#### DEMOLITION GENERAL NOTES

- Contractor shall verify the location, size, material and depth of all utilities prior to any excavation or construction activity.
- All materials shall be removed and disposed of off-site. It is the contractors responsibility to meet all applicable laws and regulations pertaining to the disposal of construction/demolition material.
- The contractor shall ensure that any structures to remain which are damaged during demolition operations shall be repaired to meet current code, at no additional cost to the owner.
- The contractor shall remove any and all existing debris which is encountered from the existing site. This shall include, but shall not be limited to, footings, concrete slabs, conduits, granular subgrade, utility services, and/or unsuitable structural fill material as determined by the owner's engineer. The cost for these removals shall be considered incidental to the project. Said debris shall become property of the contractor and it shall be the responsibility of the contractor to dispose of properly off-site.
- It shall be the contractor's responsibility to meet all applicable laws and regulations pertaining to the disposal of construction/demolition material.
- The contractor shall be responsible for obtaining and payment of any permits for demolition that pertain to this project.
- All protection fencing shall be installed prior to demolition/construction activity. The contractor shall provide a 6-foot security fence around the entire job site with locked gated access points, if required by the owner or the City.
- All existing utilities removed during construction shall have their trenches backfilled with structural fill and be compacted to the requirements for structural fill.
- All removals required to properly perform the work (whether shown on the plans or not) shall be performed by the contractor at no additional cost to the owner.

#### DEMOLITION NOTES

- SAW CUT EXISTING PAVEMENT TO FULL DEPTH AND CLEAN EDGE.
- REMOVE & DISPOSE OF EXISTING ASPHALT.
- REMOVE & DISPOSE OF EXISTING CURB.
- REMOVE & DISPOSE OF CONCRETE SIDEWALK.
- EXISTING FIRE HYDRANT TO BE REUSED AND RELOCATED. SEE UTILITY PLAN FOR NEW LOCATION.
- REMOVE & DISPOSE OF EXISTING TREE.
- REMOVE & DISPOSE OF EXISTING BUSH.
- REMOVE & DISPOSE OF EXISTING ADA SIGN.
- PROTECT IN PLACE EXISTING STORM STRUCTURE.
- REMOVE & DISPOSE OF STORM DRAIN PIPES.
- PROTECT IN PLACE EXISTING RAILING.
- PROTECT IN PLACE EXISTING WATER DEVICES.
- REMOVE & DISPOSE OF EXISTING RAILING.
- SALVAGE & REUSE EXISTING RAILING.
- HYDRANT VALVE TO BE REMOVED AFTER FIRE HYDRANT RELOCATION.
- PROTECT IN PLACE EXISTING LIGHT POLE.
- REMOVE PIPE CONNECTION FOR FUTURE STORM LINE.



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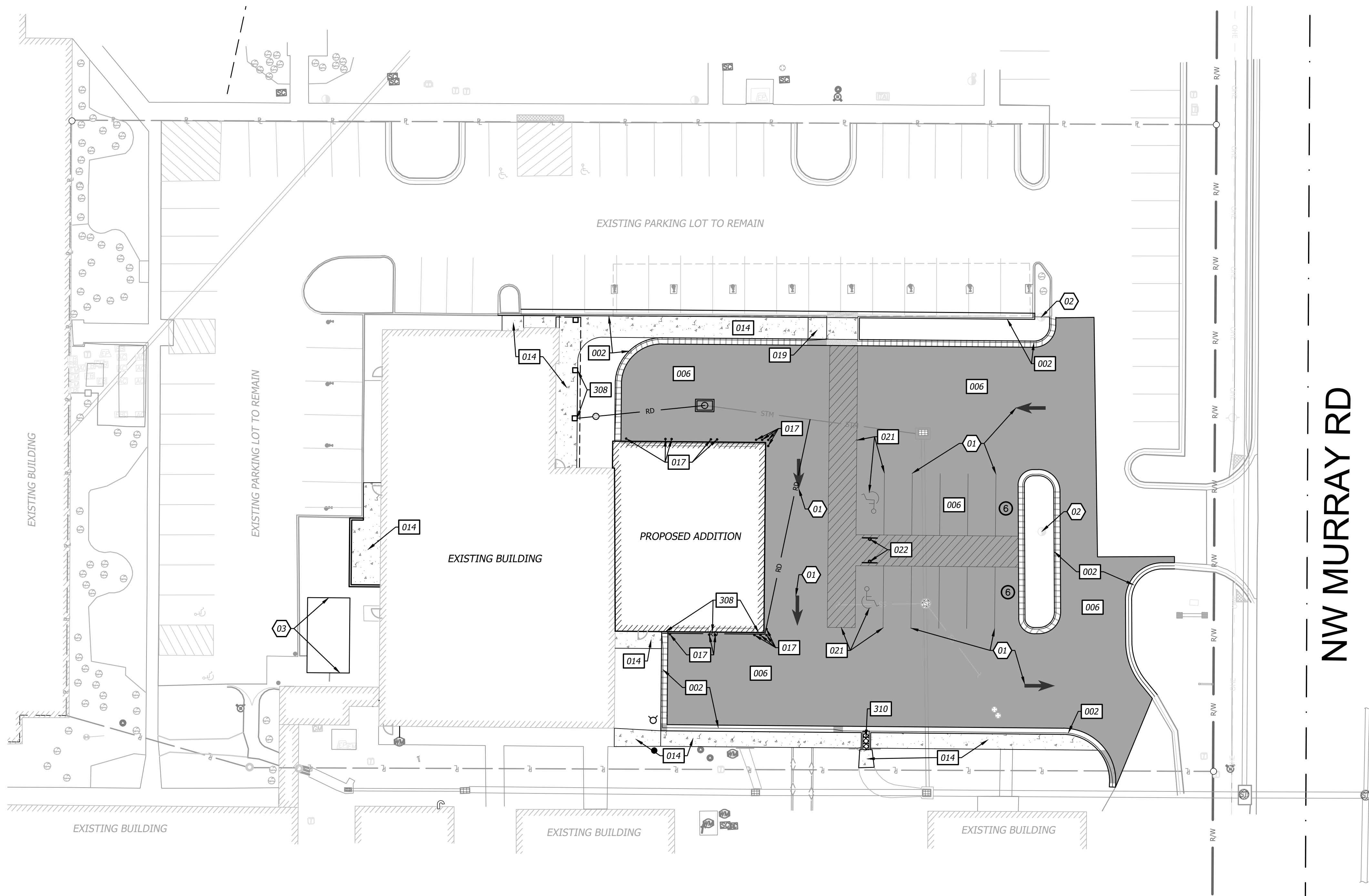
DEMOLITION  
PLAN

PERMIT SET

**CW**  
7101 College Blvd., Suite 400  
Overland Park, Kansas 66210  
P. (913) 663-1900



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SITE DATA	
SITE	
SITE AREA:	1.76 AC 76,761 SF
IMPERVIOUS AREA:	
EXISTING:	62,650 SF (81.6%)
PROPOSED:	62,850 SF (81.9%)
BUILDING	
BUILDING AREA:	12,270 SF (16.0%)
PARKING	
PARKING PROVIDED:	10 STANDARD 2 HANDICAP (1 VAN)

**ZONING**

PMIX (PLANNED MIXED USE)

**CONSTRUCTION NOTES**

- 01 LEAD FREE, WATER-BORNE EMULSION BASED WHITE TRAFFIC PAINT FOR PARKING LOT STRIPING.  
02 EXISTING LIGHT POLE TO REMAIN.  
03 GENERATOR PAD; REFER TO STRUCTURAL.

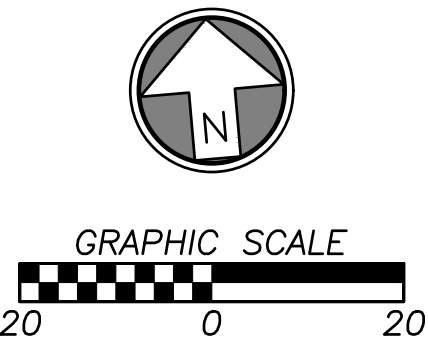
**DETAILS**

SEE CONSTRUCTION DETAILS - SHEETS C7.0-C7.1

- 002 CONCRETE CURB & GUTTER; RE. LEGEND FOR TYPE  
006 HEAVY DUTY ASPHALT PAVEMENT  
014 CONCRETE SIDEWALK  
017 STEEL/CONCRETE BOLLARD  
019 SIDEWALK RAMP (PRIVATE)  
021 (ADA) HANDICAP PARKING STRIPING  
022 (ADA) HANDICAP PARKING SIGNAGE  
308 DOWNSPOUT CONNECTION  
310 CONCRETE FLUME WITH GRATE

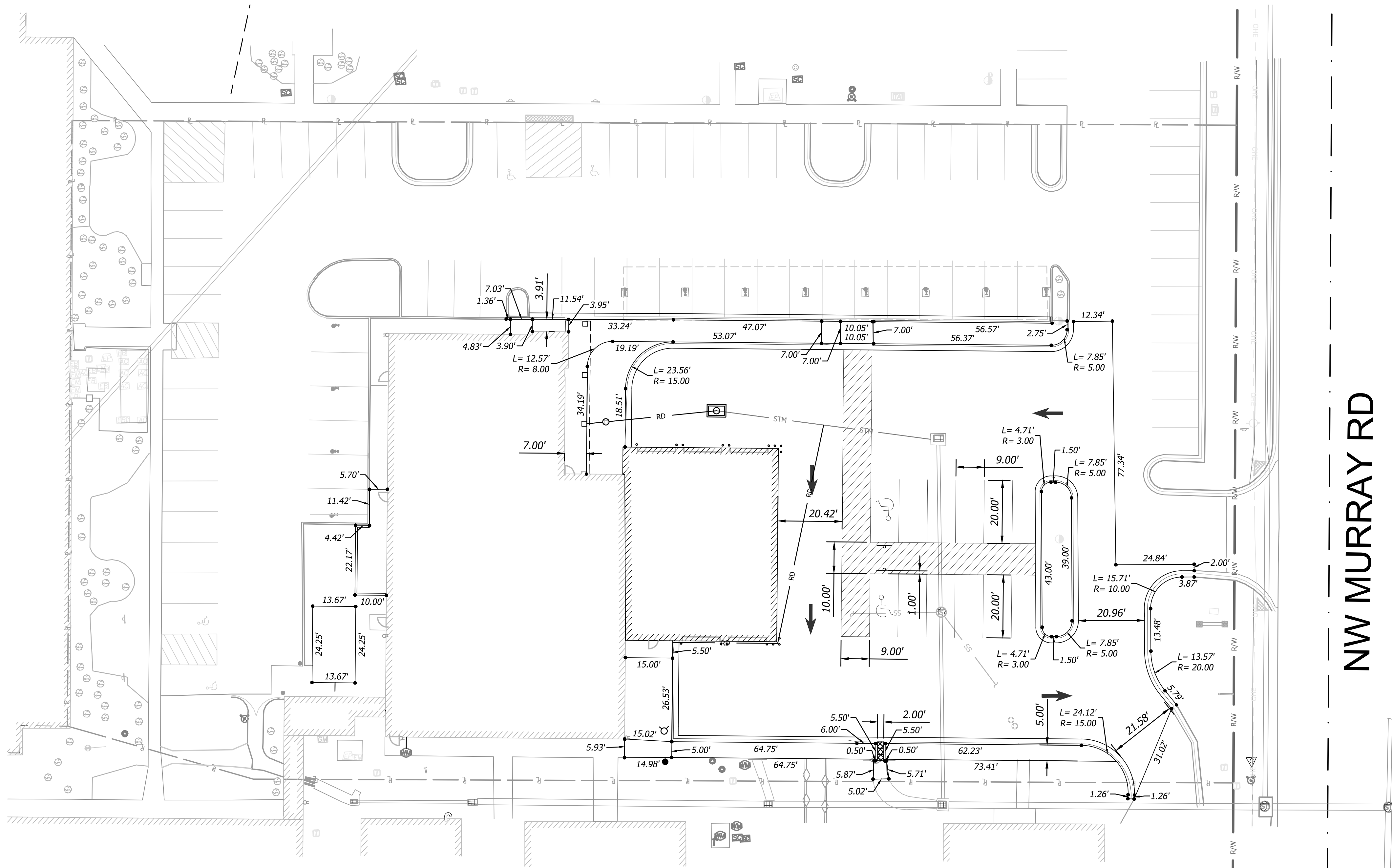
**SITE LEGEND**

	PROPOSED BUILDING		STANDARD CURB & GUTTER
	EXISTING BUILDING		ROLLOVER CURB & GUTTER
	HEAVY DUTY ASPHALT PAVEMENT		TRANSITION CURB
	CONCRETE SIDEWALK		DRY CURB & GUTTER
	PARKING STALL COUNT		STANDARD ZERO HEIGHT CURB





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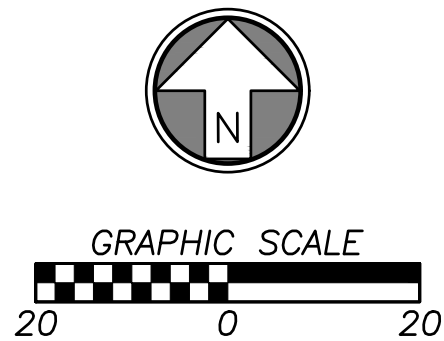
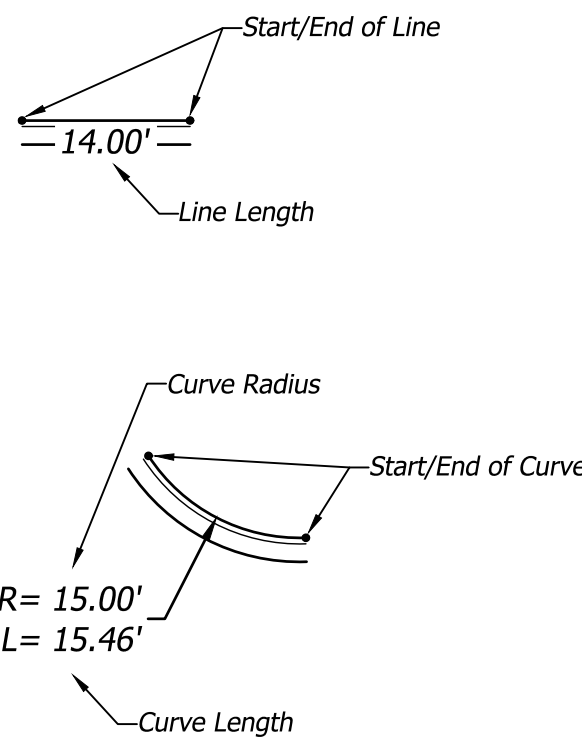


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**DIMENSION NOTES**

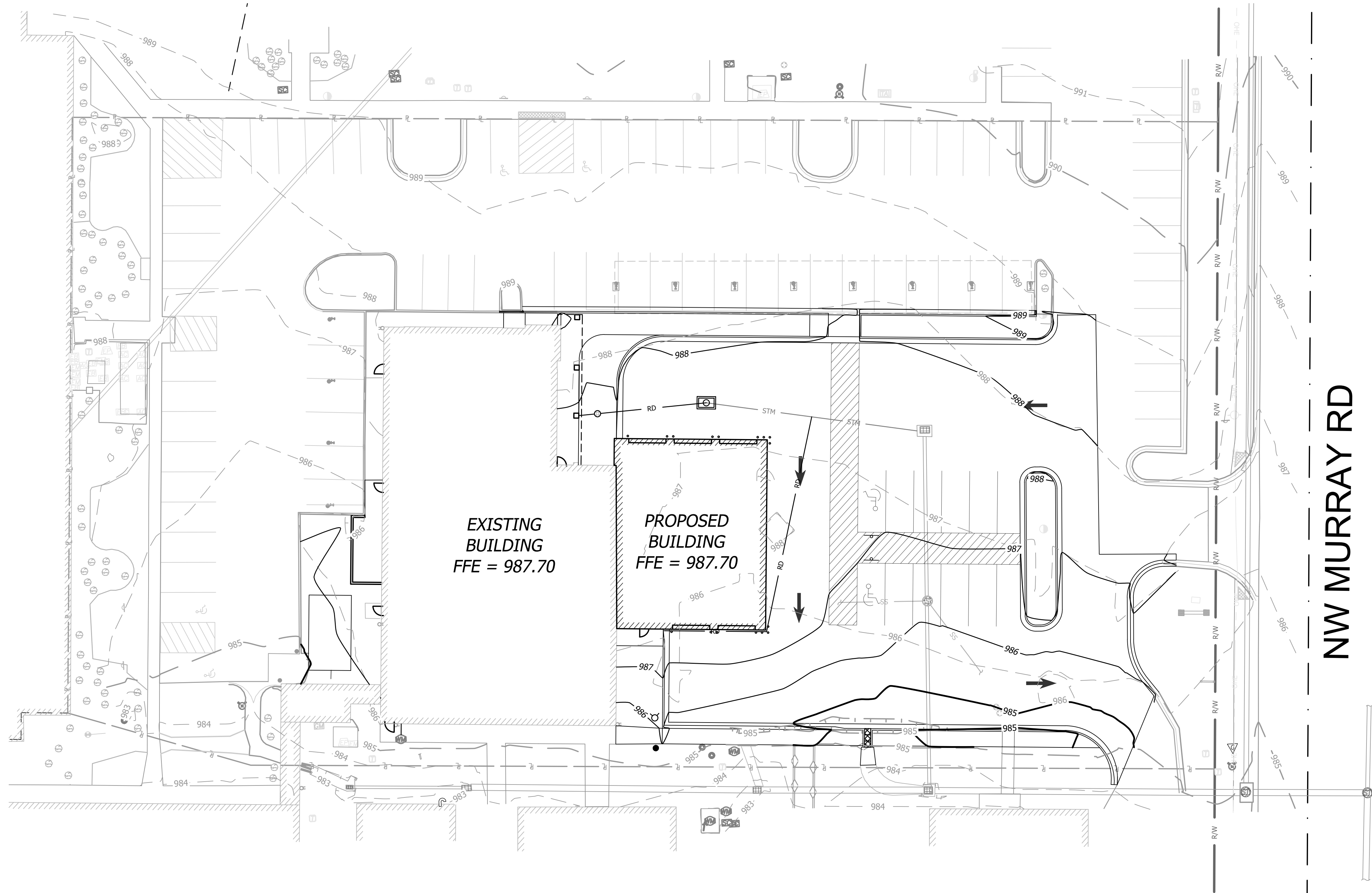
1. All dimensions are to/along back of curb unless otherwise noted.
2. All dimensions are to bottom of wall unless otherwise noted.

**DIMENSION LEGEND**





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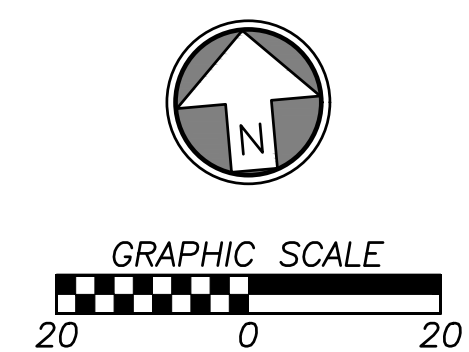
#### GRADING NOTES

- Contractor shall obtain a copy of the Geotechnical Services Report for the project and be familiar with the existing conditions and recommendations contained in the report if such a report has been prepared.
- Contractor is responsible for any over excavation of existing unsuitable soils will be required under building and pavement areas. Contractor shall perform over excavation of unsuitable soils as a part of this work.
- Contractor shall obtain soils suitable as structural fill from off-site sources. All borrow materials must be tested and approved by the Geotechnical Engineer prior to importing the soils to the project site.
- Contractor shall operate under the terms and permits included in the Stormwater Pollution Prevention Plan (SWPPP) prepared for this project and permitted through the State of Missouri. Contractor shall employ a qualified person to conduct regular inspections of the site erosion control measures and document such inspections in the SWPPP document maintained by the Contractor.
- All topsoil, vegetation, root structures, and deleterious materials shall be stripped from the ground surface prior to the placement of embankments. Contractor shall obtain the on-site geotechnical representative's acceptance of the existing ground surface materials and the proposed fill material prior to the placement of fill.
- All proposed contour lines and spot elevations shown are finish ground elevations. Contractor shall account for pavement depths, building pads, topsoil, etc when grading the site.
- All disturbed areas that are not to be paved (green spaces) shall be finish graded with a minimum of six inches of topsoil.
- All excavation and embankments shall comply with the recommendations provided by the geotechnical engineer.

#### GRADING LEGEND

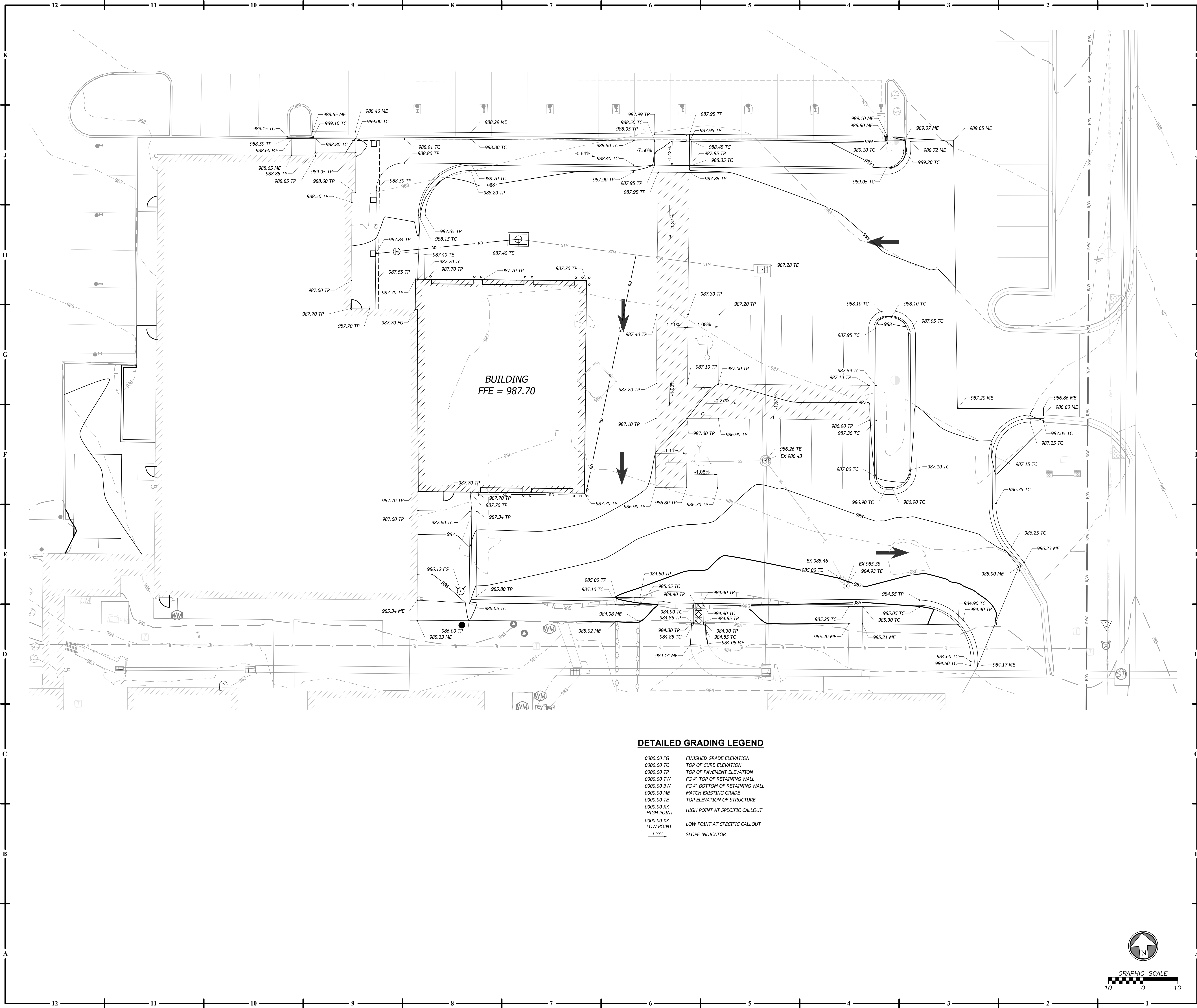
	CURB WITH NO GUTTER		FINISH GRADE MAJOR CONTOURS
	STANDARD CURB & GUTTER		FINISH GRADE MINOR CONTOURS
	ROLLOVER CURB & GUTTER		EXISTING GRADE MAJOR CONTOURS
	DRY CURB & GUTTER		EXISTING GRADE MINOR CONTOURS
	ZERO HEIGHT CURB		PROPERTY LINE
	TRANSITION CURB		RIGHT-OF-WAY LINE
	RETAINING WALL		

PROJECT CONTROL TABLE (NAD83 MISSOURI STATE PLANE, WEST ZONE, US SURVEY FOOT)				
POINT NO.	CONTROL POINT/ BENCHMARK DESCRIPTION	NORTHING COORDINATE	EASTING COORDINATE	ELEV.
10	CP10 / IB4 W/ CP CAP	1002667.83	2816067.14	987.42'
11	CP11 / IB4 W/ CP CAP	1003437.23	2815933.90	1012.93'
12	CP12 / IB4 W/ CP CAP	1002850.10	2815775.34	988.78'



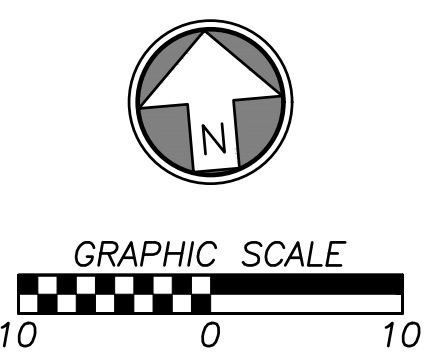


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DETAILED GRADING LEGEND

0000.00 FG	FINISHED GRADE ELEVATION
0000.00 TC	TOP OF CURB ELEVATION
0000.00 TP	TOP OF PAVEMENT ELEVATION
0000.00 TW	FG @ TOP OF RETAINING WALL
0000.00 BW	FG @ BOTTOM OF RETAINING WALL
0000.00 ME	MATCH EXISTING GRADE
0000.00 TE	TOP ELEVATION OF STRUCTURE
0000.00 XX	HIGH POINT AT SPECIFIC CALLOUT
0000.00 XX	LOW POINT AT SPECIFIC CALLOUT
1.00%	SLOPE INDICATOR



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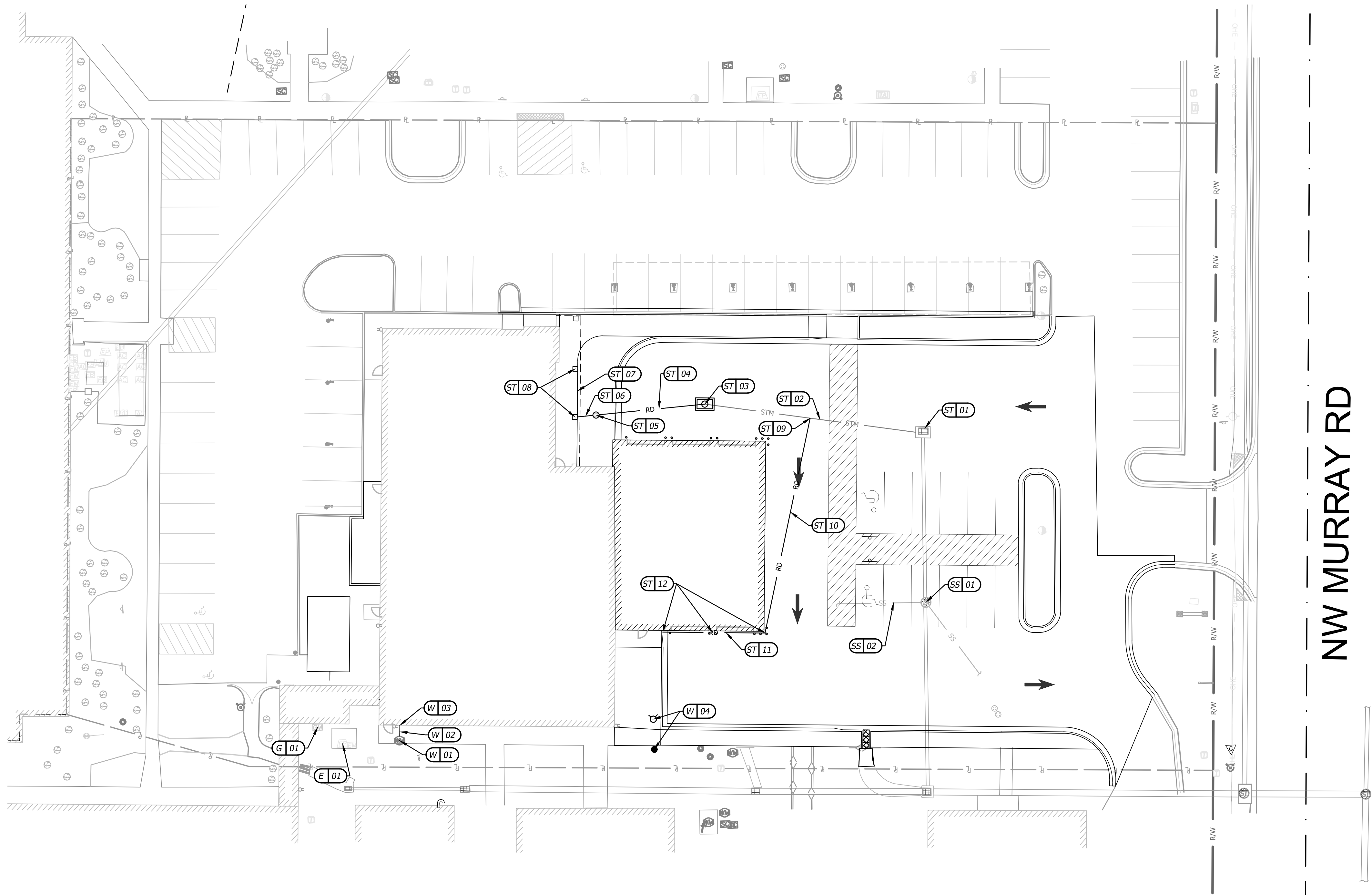
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UTILITY NOTES

- Contractor shall refer to all specifications, guidelines, and installation drawings from the City of Lee's Summit, Every, and Spire for the installation of all service lines.
- The information shown on these plans concerning the type and location of underground utilities is not guaranteed to be accurate or all inclusive. The contractor is responsible for contacting all utility companies for field location of all underground utility lines prior to any excavation and for making his own verification as to type and location of underground utilities as may be necessary to avoid damage thereto.
- Contractor to ensure 6" minimum separation between utilities at crossings. Contractor to call engineer if any conflicts between utilities are found.
- Fire Line Notes:
  - All private fire lines shall be installed in accordance with NFPA 24, and other applicable codes and standards.
  - Contact the Fire Department to schedule inspections prior to private fire lines being backfilled.
  - Contact the Fire Department to witness scheduled hydrostatic tests and flushes of private fire lines.
- Stub all connections to within 5' of the building to provide connection into the building by mechanical/plumbing contractor.

X 00 CONSTRUCTION NOTES

W - WATER SERVICE INFORMATION - LEE'S SUMMIT WATER UTILITIES

- EXISTING WATER METER.
- INSTALL DOMESTIC WATER LINE.
- CONNECT DOMESTIC WATER LINE TO BUILDING.
- FIRE HYDRANT AND VALVE TO BE RELOCATED.

E - ELECTRIC SERVICE INFORMATION - EVERY

- EXISTING TRANSFORMER PAD.

G - GAS SERVICE INFORMATION - SPIRE

- EXISTING GAS METER.

ST - STORM SEWER INFORMATION - LEE'S SUMMIT PUBLIC WORKS

- CONNECT TO EXISTING 2'X3' GRATE INLET  
TOP ELEV = 987.18  
FL in (W) = 983.5
- INSTALL 60 LF 6" HDPE @ 2.03% SLOPE
- INSTALL GRATE INLET  
TOP ELEV = 987.4  
FL in (W) = 985.1  
FL out (E) = 984.9
- INSTALL 35 LF 6" HDPE @ 2.29% SLOPE
- INSTALL 12" NYLOPLAST DRAIN BASIN WITH DOME GRATE  
RIM = 987.4  
FL out (E) = 985.9
- INSTALL 6 LF 4" HDPE @ MIN 2% SLOPE; CONNECT TO DRAIN BASIN
- INSTALL 16 LF 4" HDPE @ MIN 2% SLOPE
- CONNECT ROOF DRAIN LINE TO DOWNSPOUT; REFER TO MEP
- CONNECT TO LINE WITH TEE; FL ELEV = 984.2
- INSTALL 71 LF 6" HDPE @ MIN 2% SLOPE
- INSTALL 33 LF 6" HDPE @ MIN 2% SLOPE
- CONNECT ROOF DRAIN LINE TO BUILDING DOWNSPOUTS; REFER TO MEP

SS - SANITARY SEWER INFORMATION - LEE'S SUMMIT PUBLIC WORKS

- EXISTING SANITARY SEWER STRUCTURE.
- EXISTING SANITARY SERVICE LINE TO REMAIN.

UTILITY CONTACTS

CITY OF LEE'S SUMMIT, MO

PLANNING AND DEVELOPMENT

CITY HALL  
220 SE GREEN STREET  
LEE'S SUMMIT, MO 64063  
TEL: (816) 969-1600  
FAX: (816) 969-1619

CODES ADMINISTRATION

CITY HALL  
220 SE GREEN STREET  
LEE'S SUMMIT, MO 64063  
TEL: (816) 969-1200  
FAX: (816) 969-1201

ELECTRIC COMPANY

EVERGY  
TEL: (888) 471-5275  
  
GAS COMPANY  
SPIRE  
TEL: (816) 756-5252

PLANNING AND DEVELOPMENT

CITY HALL  
220 SE GREEN STREET  
LEE'S SUMMIT, MO 64063  
TEL: (816) 969-1600  
FAX: (816) 969-1619

PUBLIC WORKS

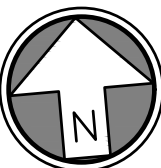
CITY HALL  
220 SE GREEN STREET  
LEE'S SUMMIT, MO 64063  
TEL: (816) 969-1800  
FAX: (816) 969-1809

WATER UTILITIES

CITY HALL  
1200 SE HAMBLEN RD  
LEE'S SUMMIT, MO 64063  
TEL: (816) 969-1900  
FAX: (816) 969-1935

PUBLIC WORKS

CITY HALL  
220 SE GREEN STREET  
LEE'S SUMMIT, MO 64063  
TEL: (816) 969-1800  
FAX: (816) 969-1809



GRAPHIC SCALE  
20 0 20



EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. Prior to Land Disturbance activities, the contractor shall:
- Delineate the outer limits of any natural stream corridor designated with construction fencing.
  - Install perimeter controls and request the inspection of the pre-construction erosion and sediment control measures designated on the approved erosion and sediment control plan. Land disturbance work shall not proceed until there is a satisfactory inspection.
  - Identify the limits of construction on the ground with easily recognizable indications such as construction staking, construction fencing, and placement of physical barriers or other means acceptable to the City inspector and in conformance with the erosion and sediment control plan.
2. The contractor shall comply with all requirements of the Storm Water Pollution Prevention Plan, including but not limited to:
- The contractor shall seed, mulch, or otherwise stabilize any disturbed area where the land disturbance activity has ceased for more than 14 days.
  - The contractor shall perform inspections of erosion and sediment control measures at the following minimum intervals:
    - o During active construction phases – at least once per week
    - o During periods of inactivity – at least once per 14 days
    - o After each rainfall event of 1/8 inch or more – within 24 hours of the rain event
  - The contractor shall maintain an inspection log including the inspector's name, date of inspection, observations as to the effectiveness of the erosion and sediment control measures, actions necessary to correct deficiencies, when the deficiencies were corrected, and the signature of the person performing the inspection. The inspection log shall be available for review by the regulatory authority.
  - The contractor shall have the erosion and sediment control plan routinely updated to show all changes and amendments to the plan. A copy of the erosion and sediment control plan shall be kept on site and made available for review by the regulatory authority.
3. Unless otherwise noted in the plans, all seeding must conform to Division II—Construction and Materials Specification—Section 2150 published by the Kansas City Metropolitan Chapter of the American Public Works Association dated May 21, 2008. Permanent seeding shall be installed after completion of final grading except when seeding will occur outside of the acceptable seeding season as specified in Section 2150. When temporary seeding is installed, permanent seeding shall be installed at the next seeding season. Temporary seeding shall not be used as a stabilization measure for a period exceeding 12 months. The Permit will not be closed until permanent seeding has been established to a minimum of 70% density over the entire disturbed area.
4. The contractor shall maintain installed erosion and sediment control devices in a manner that preserves their effectiveness for preventing sediment from leaving the site or entering a sensitive area such as a natural stream corridor, areas of the site intended to be left undisturbed, a storm sewer, or an on-site drainage channel.
5. The contractor is responsible for providing erosion and sediment control for the duration of a project. If the City determines that the BMPs in place do not provide adequate erosion and sediment control at any time during the project, the contractor shall install additional or alternate measures that provide effective control.
6. Concrete wash or rinse water from concrete mixing equipment, tools and/or ready-mix trucks, tools, etc. may not be discharged into or be allowed to run directly into any existing water body or storm inlet. One or more locations for concrete wash out will be designated on site, such that discharges during concrete washout will be contained in a small area where waste concrete can solidify in place.
7. Chemicals or materials capable of causing pollution may only be stored onsite in their original container. Materials stored outside must be in closed and sealed water-proof containers and located outside of drainage ways or areas subject to flooding. Locks and other means to prevent or reduce vandalism shall be used. Spills will be reported as required by law and immediate actions taken to contain them.
8. Silt fences and erosion control BMPs which are shown along the back of curb must be installed within two weeks of curb backfill and prior to placement of base asphalt. Exact locations of these erosion control methods may be field adjusted to minimize conflicts with utility construction; however, anticipated disturbance by utility construction shall not delay installation.
9. Interior Silt Fence as necessary during construction. Portions may be limited as vegetation is established and hardscape is installed. Entire length may be installed at the contractor's option to aid in stabilizing slopes.
10. Private Erosion & Sediment Control inspections are required in accordance with NPDES schedule and requirements. After inspections, provide the City of Lee's Summit with reports and documentation.

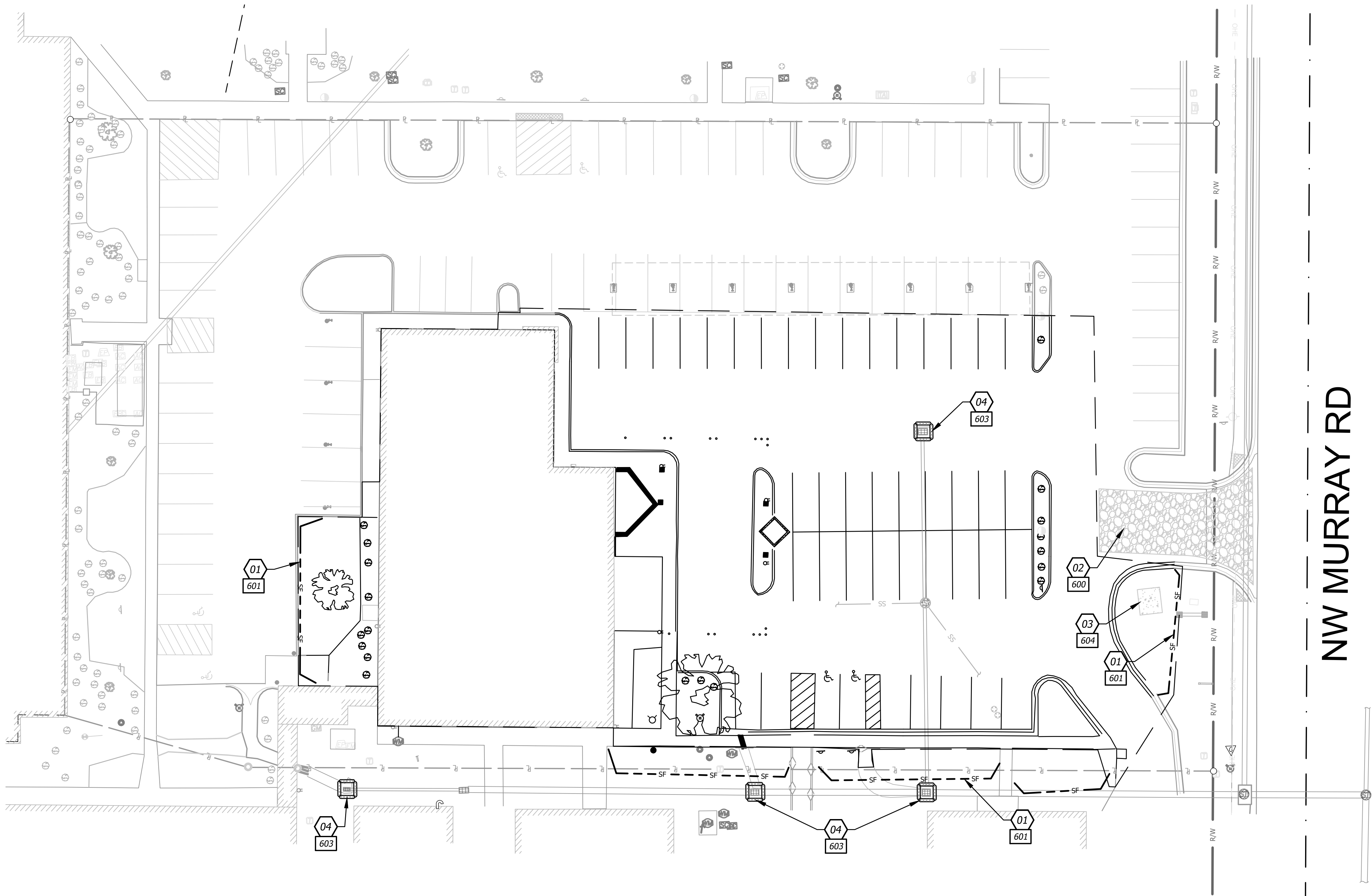
EROSION CONTROL LEGEND

- DISTURBED AREA (0.78 AC)
- - - SF SILT/SEDIMENT FENCE
- INLET PROTECTION FILTER BAGS
- CONSTRUCTION ENTRANCE
- STAGING AREA
- CONCRETE CLEANOUT

DETAILS

SEE EROSION CONTROL DETAIL SHEET FOR THE FOLLOWING

- 600 TEMPORARY CONSTRUCTION ENTRANCE
- 601 FILTER FABRIC SILT FENCE
- 603 STORM INLET PROTECTION
- 604 CONCRETE WASH-OUT

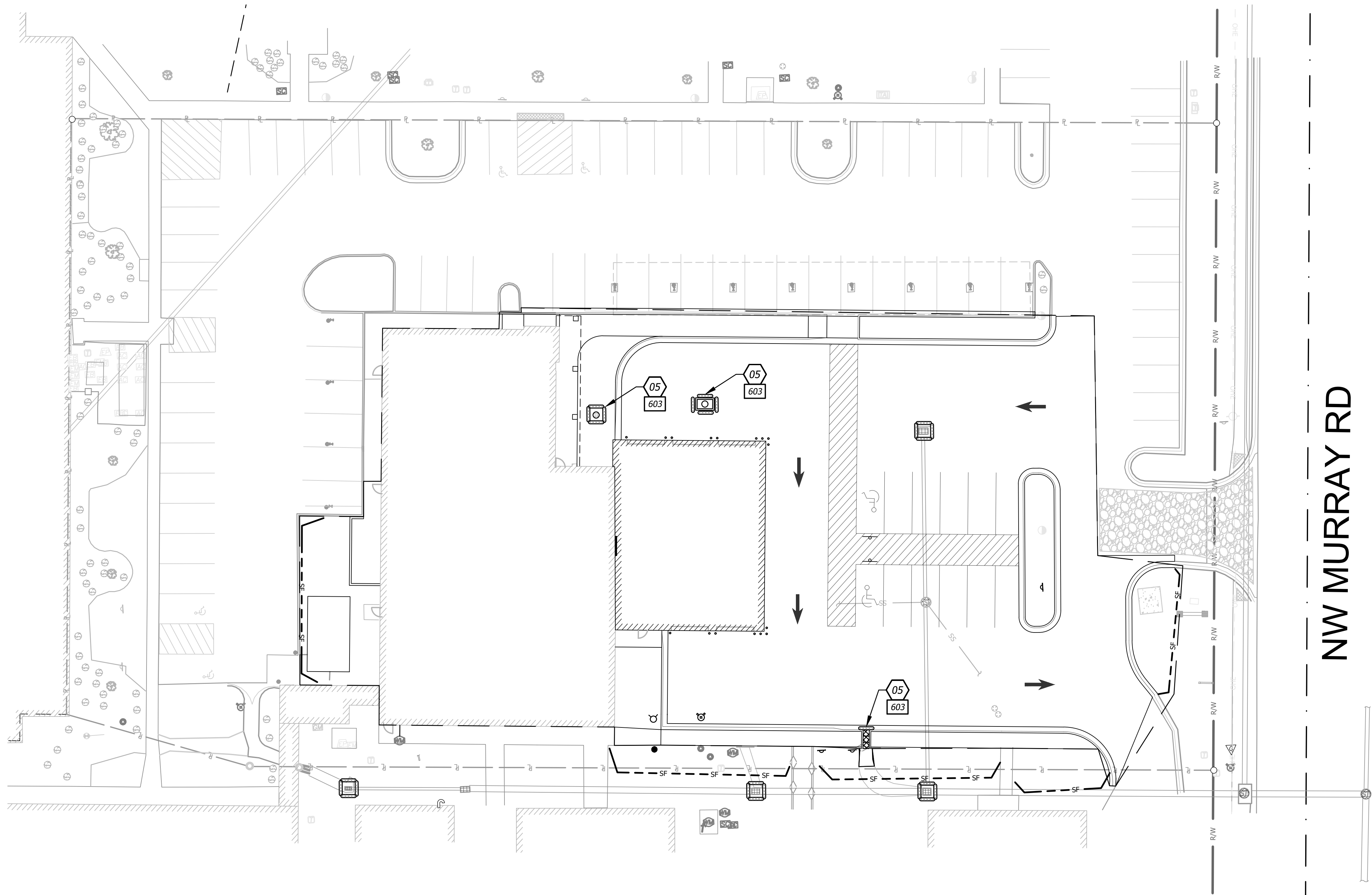


EROSION & SEDIMENT CONTROL STAGING CHART

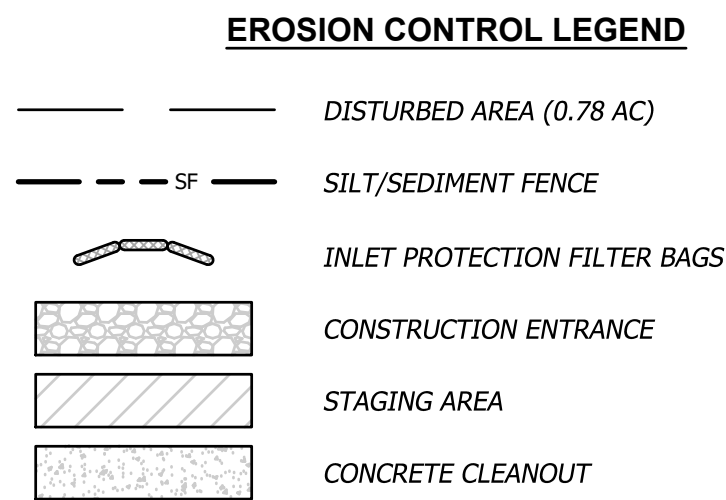
Phase	Project Stage	BMP Plan Ref. No.	BMP Description	Remove After Stage:	Notes:
Phase I (PRE-CON)	A – Place BMP's Prior to Land Disturbance	01	Perimeter Silt Fence	C	Place as shown on plan
		02	Construction Entrance & Staging Area	C	Place as shown on plan
		03	Concrete Wash-Out	C	Place as shown on plan
		04	Existing Inlet Protection	C	Place as shown on plan
Phase II (MID-CON)	B – After Utility Storm Sewer Construction	05	Storm Inlet Protection	C	Place as shown on plan
Phase III (POST-CON)	C – Final Grading, Paving & Landscaping	06	Final Seeding, Sod, and Landscaping	N/A	Silt fencing & inlet protect may be removed once seed & sodded areas are established on 80% of site.



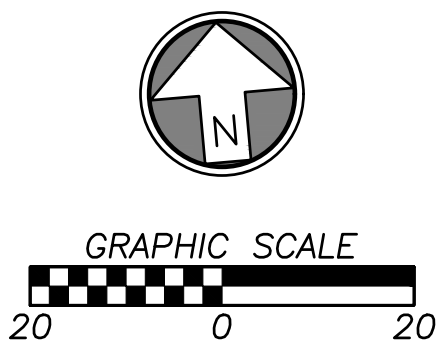
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EROSION & SEDIMENT CONTROL STAGING CHART					
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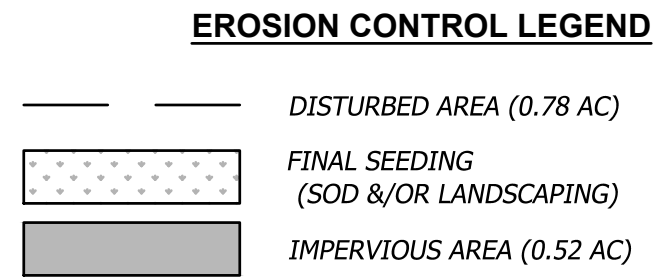
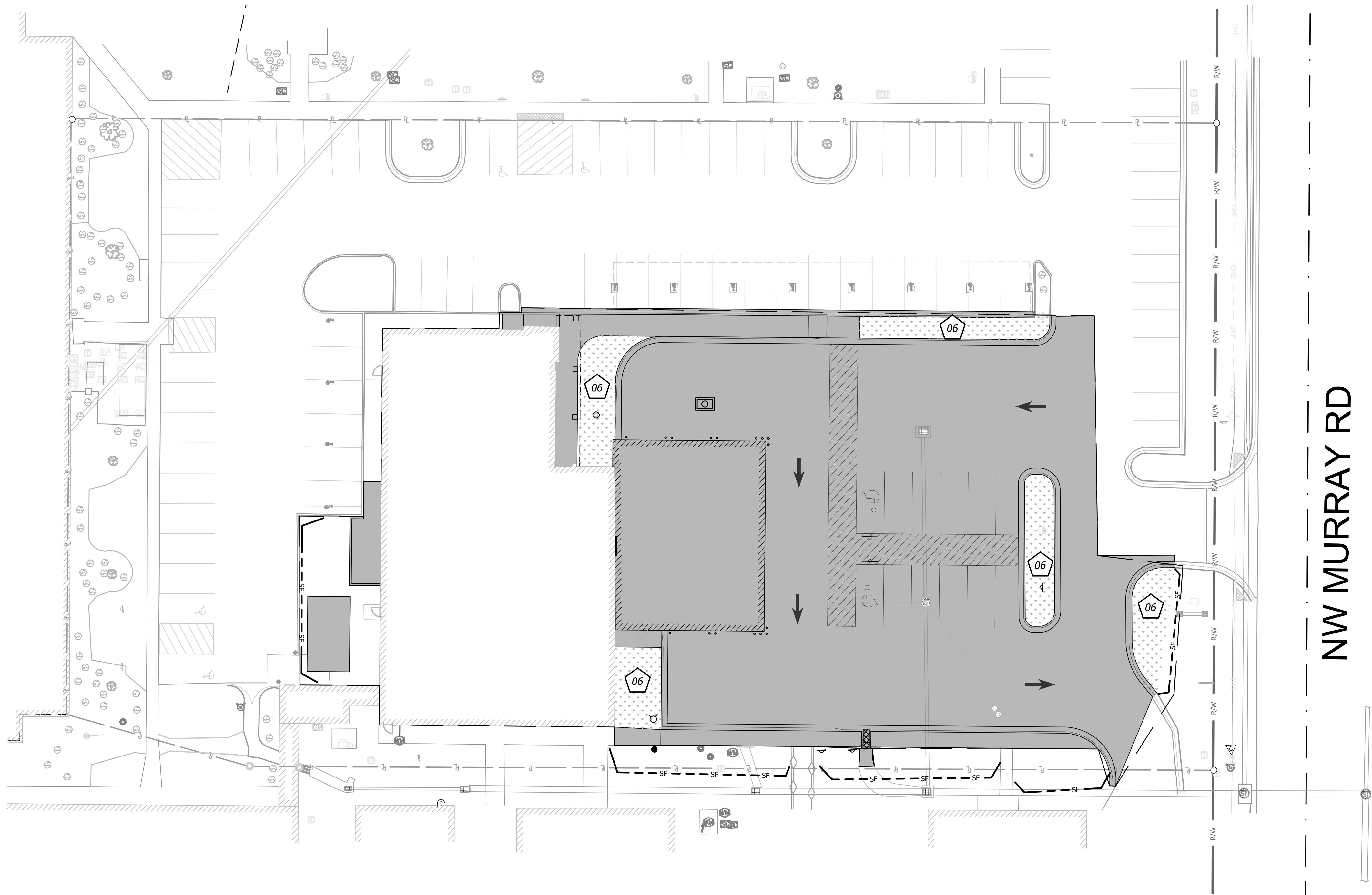


- DETAILS**
- SEE EROSION CONTROL DETAIL SHEET FOR THE FOLLOWING
  - 600 TEMPORARY CONSTRUCTION ENTRANCE
  - 601 FILTER FABRIC SILT FENCE
  - 603 STORM INLET PROTECTION
  - 604 CONCRETE WASH-OUT





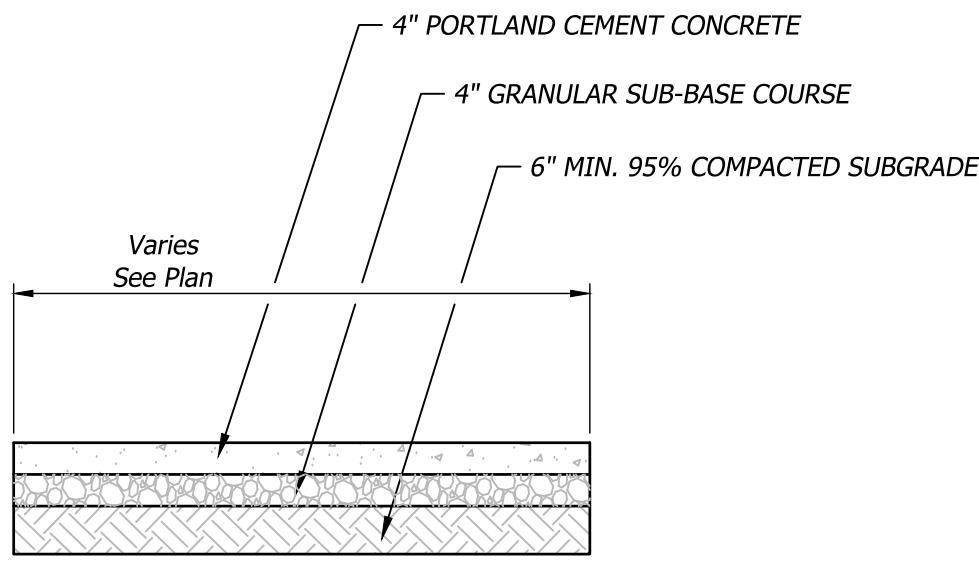
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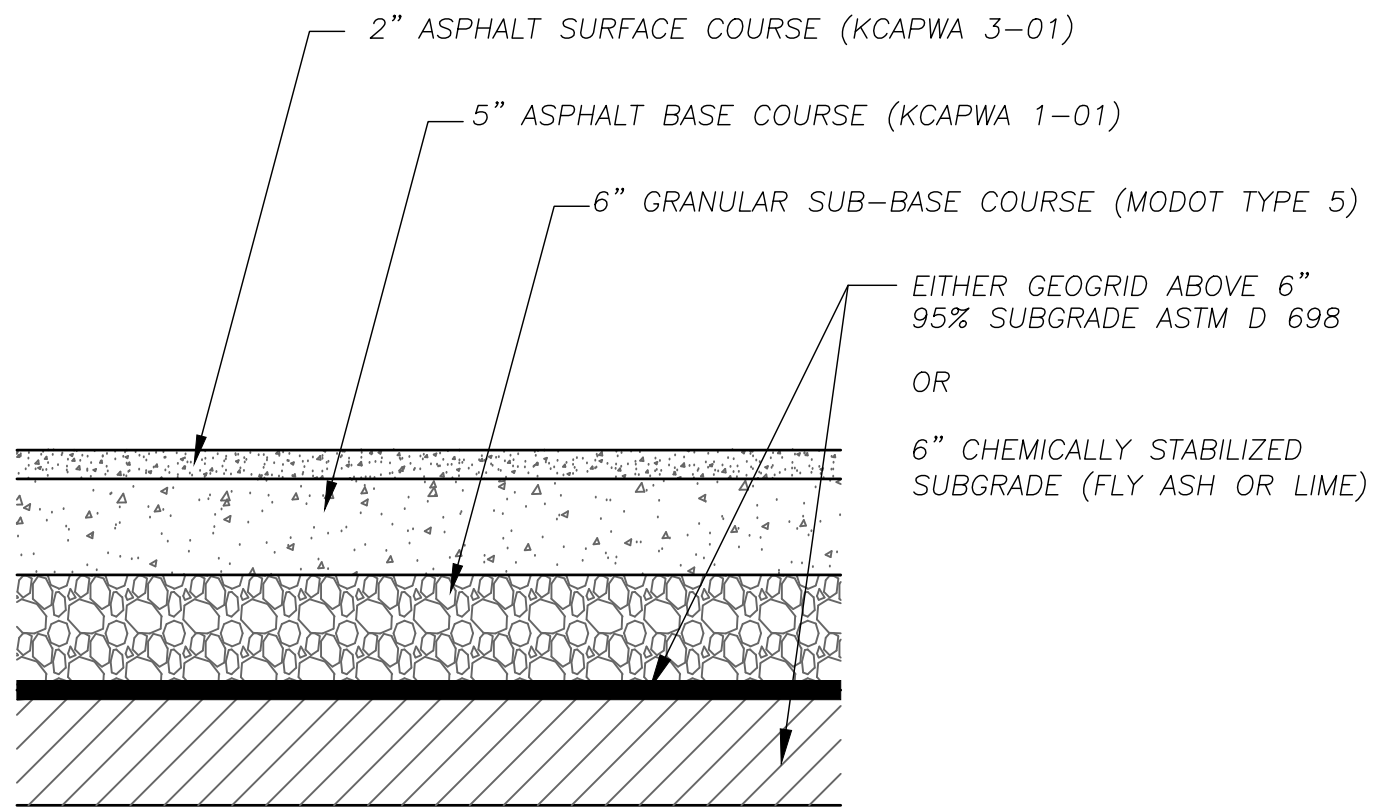
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- NOTES:
- CONTROL JOINT SPACING SHALL MATCH WIDTH OF SIDEWALK.
  - ISOLATION JOINTS SHALL BE PLACED @ 250' CENTERS OR WHERE WALKS ABUT CURBS, BUILDINGS, ETC....
  - ALL EXTERIOR CONCRETE SHALL HAVE A BROOM FINISH.

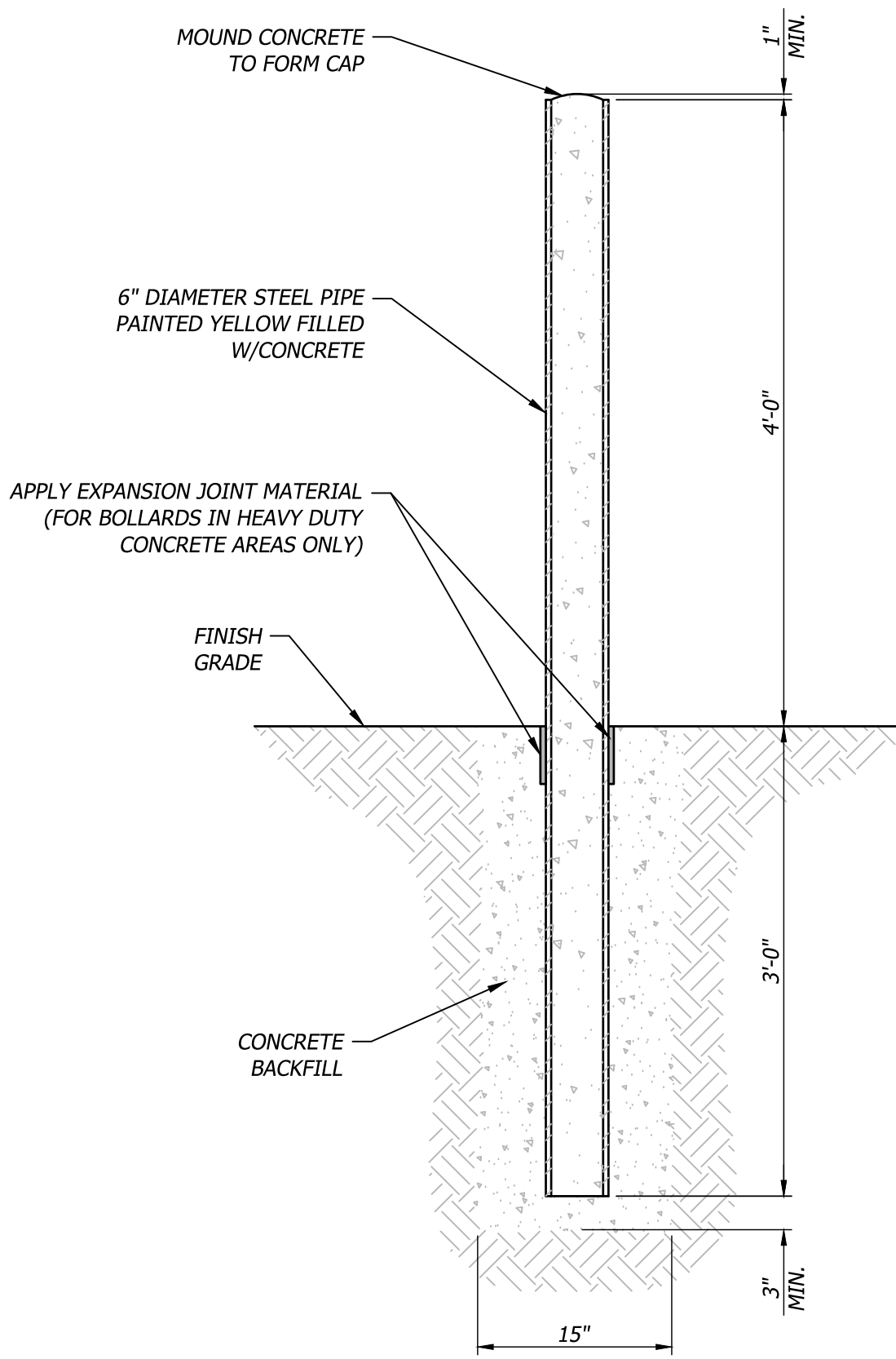


014 Concrete Sidewalk Section  
Not to Scale

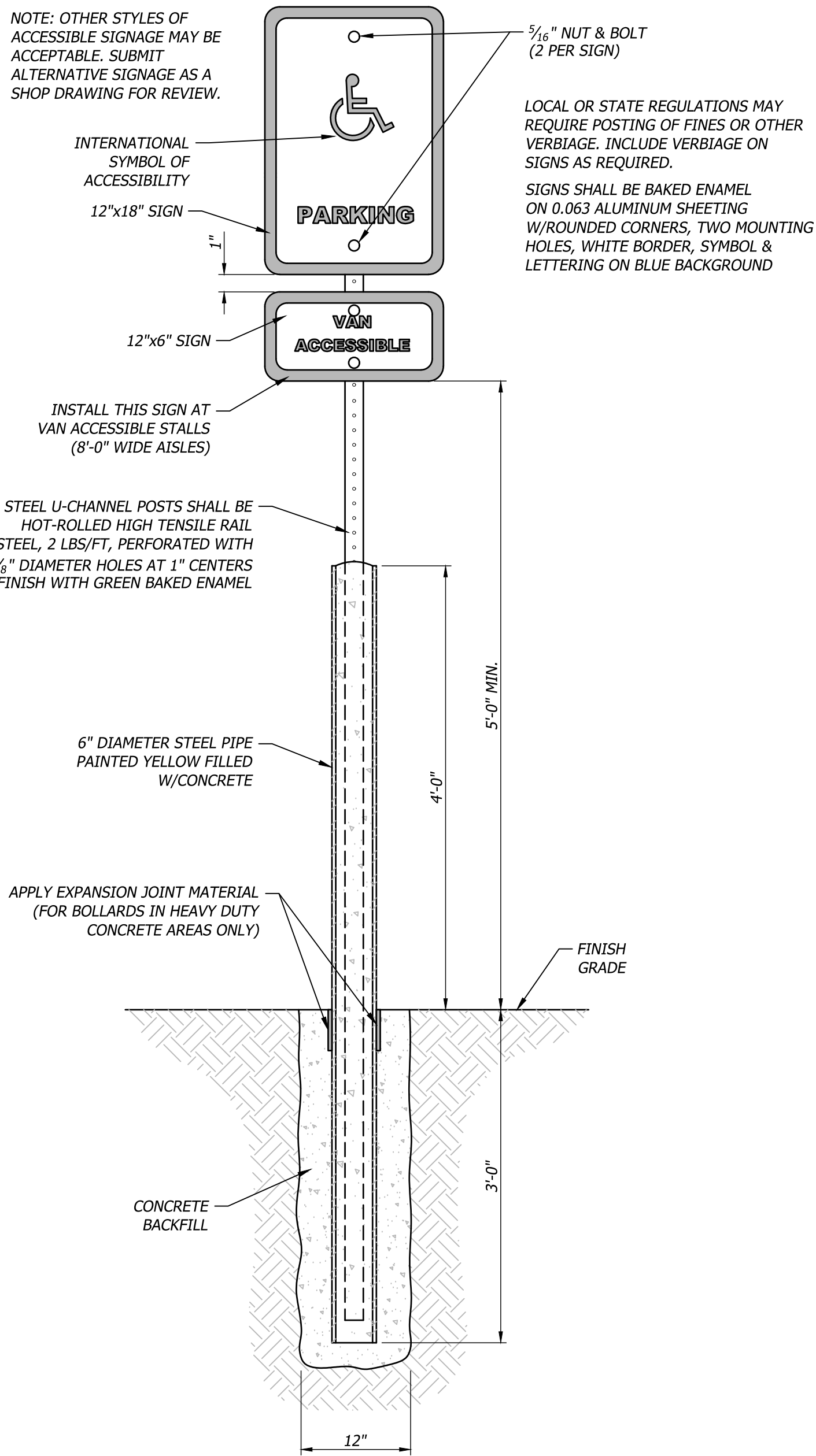


006 Heavy Duty Asphalt Section  
Not to Scale

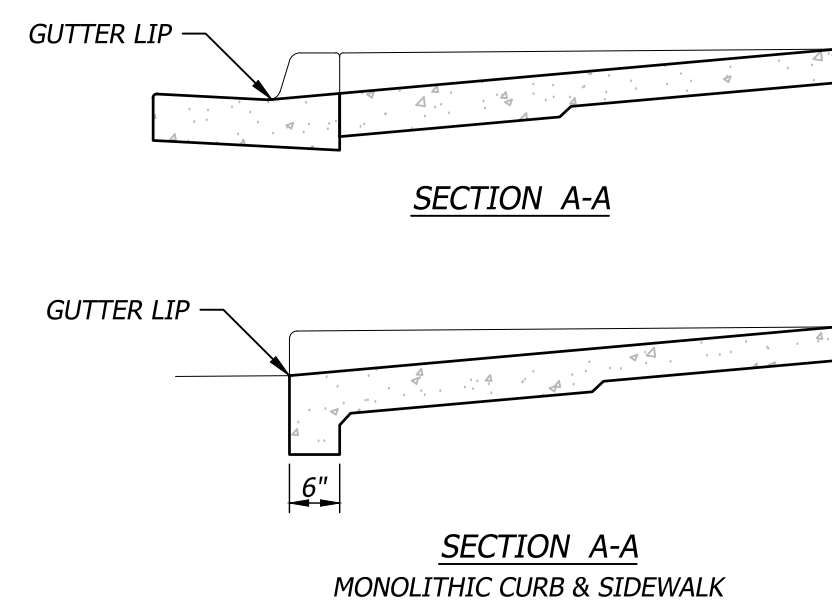
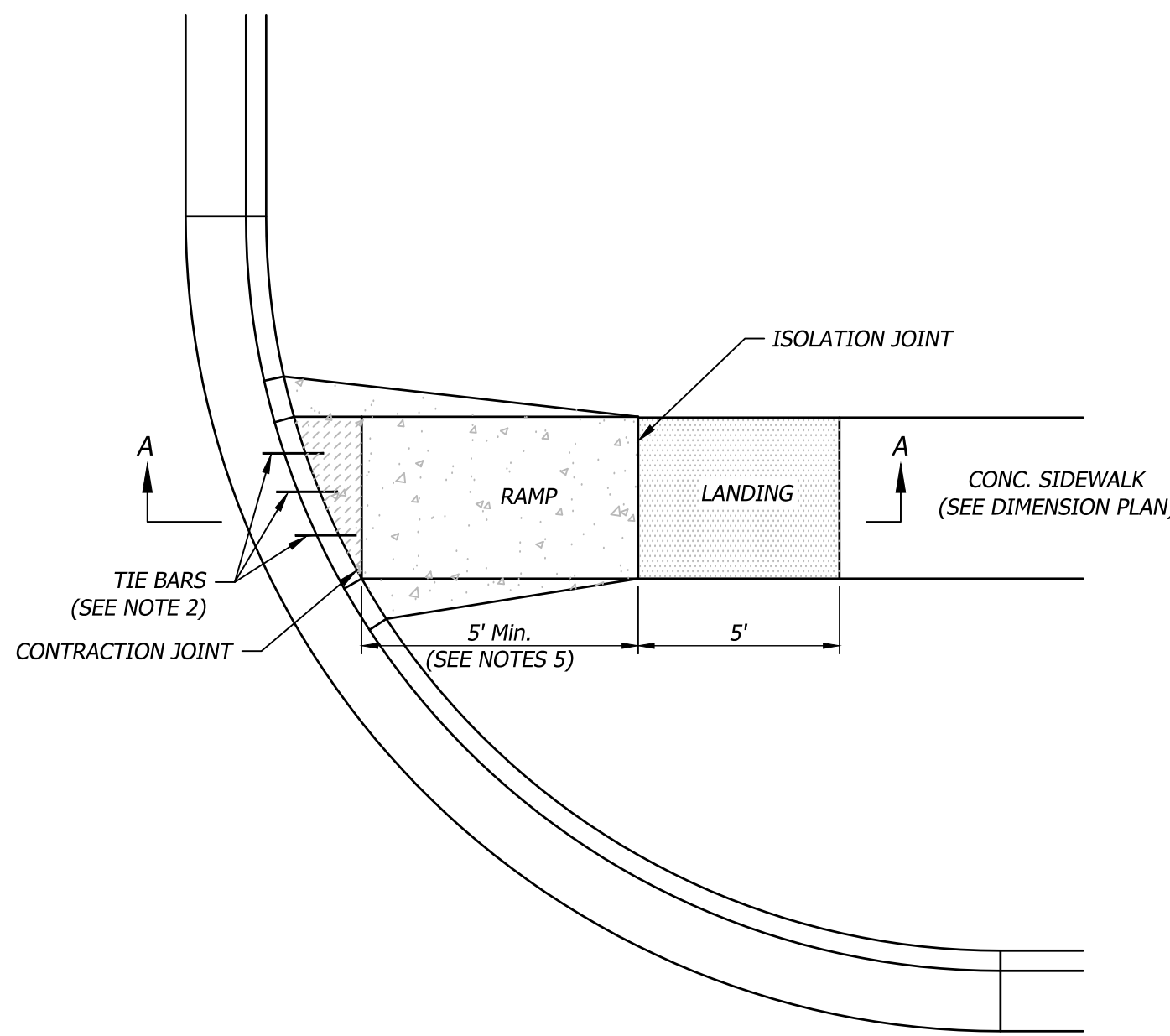
- GENERAL NOTES:
- CONSTRUCTED OF STEEL NOT LESS THAN 4" IN DIAMETER AND CONCRETE FILLED.
  - SPACE NOT MORE THAN 4' BETWEEN POST.
  - SET NOT LESS THAN 3' DEEP IN A CONCRETE FOOTING OF NOT LESS THAN A 15" DIAMETER.
  - SET WITH THE TOP OF THE POST NOT LESS THAN 3' ABOVE GROUND.
  - LOCATED NOT LESS THAN 3' FROM THE PROTECTED OBJECT.



017 Steel/Concrete Bollard  
Not to Scale



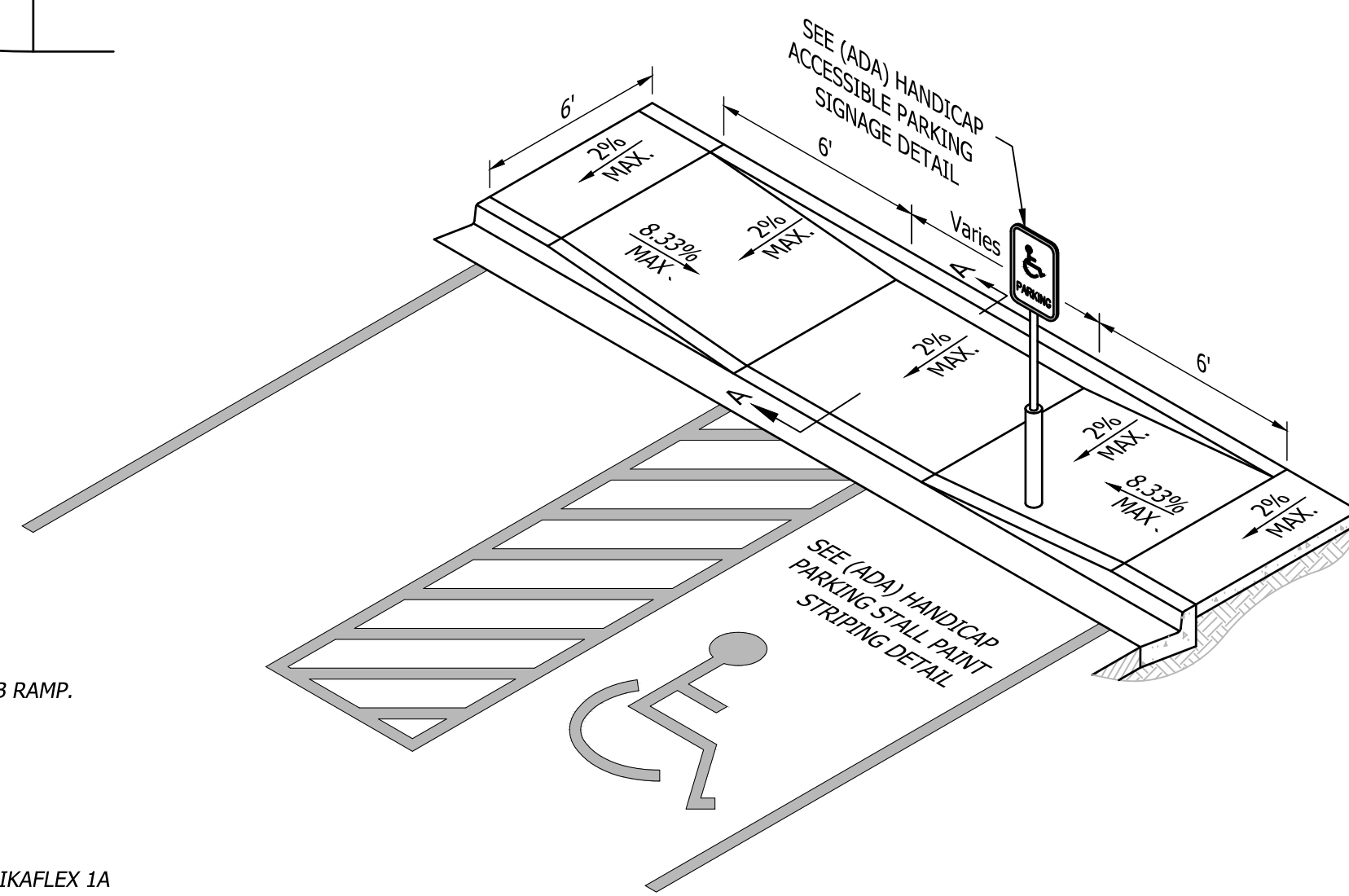
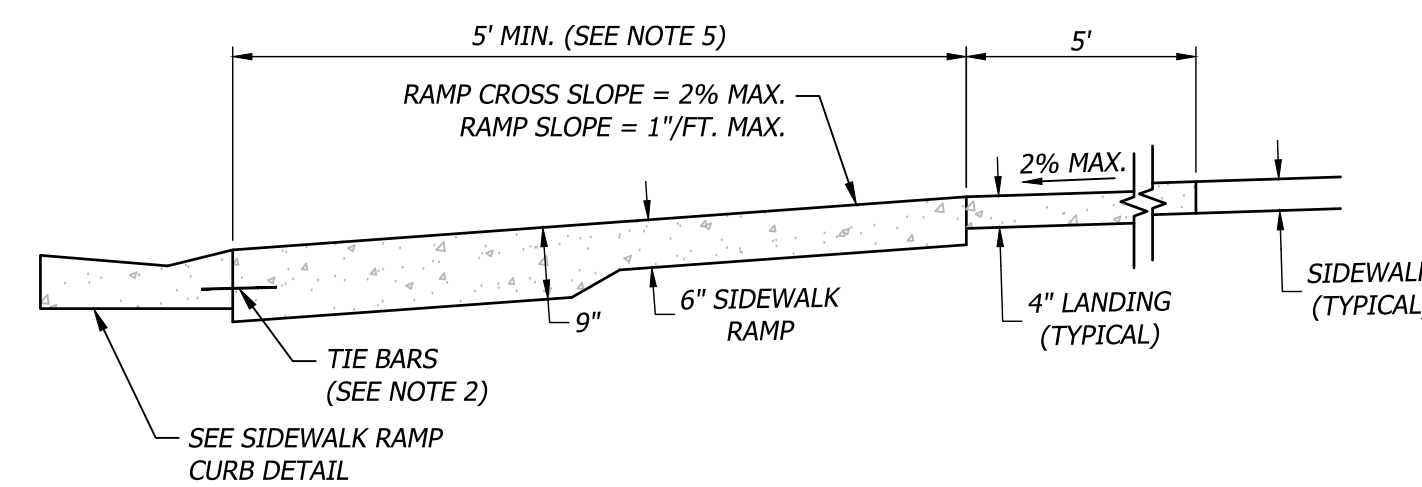
022 ADA Parking Signage  
Not to Scale



- GENERAL NOTES:
- PLACE TRUNCATED DOME DETECTABLE WARNING PANELS @ BASE OF CURB RAMP. INSTALL ACROSS FULL WIDTH OF RAMP 24" MIN. DEPTH.
  - TOOLED JOINTS ARE REQUIRED AT ALL SIDEWALK RAMP SLOPE BREAKS.
  - THICKEN CONCRETE UNDER DETECTABLE WARNING PANEL.
  - IN FREEZE THAW ZONES, LEAVE 1/8" GAP IN BETWEEN PANELS & SEAL W/ SIKAFLEX 1A SEALANT OR APPROVED EQUAL.

019 Sidewalk Ramp  
Not to Scale

- NOTES:
- SIDEWALK RAMP LOCATION DETERMINED FROM THE INTERSECTION OF THE EXTENSION OF BACK OF SIDEWALK AND BACK OF CURB & GUTTER.
  - TIE BARS #4 EPOXY COATED @ 12" OC.
  - LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
  - ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 250' CENTERS MAX.
  - SIDEWALK RAMP SHALL BE LENGTHENED TO PROVIDE ADA COMPLIANCE SLOPE BUT NEED NOT EXCEED 15'.
  - ADA RAMP SLOPE MAX. = 1"/FT, ADA CROSS SLOPE MAX. = 2%.
  - SEE DETECTABLE WARNING DETAIL FOR THE INSTALLATION REQUIREMENTS.

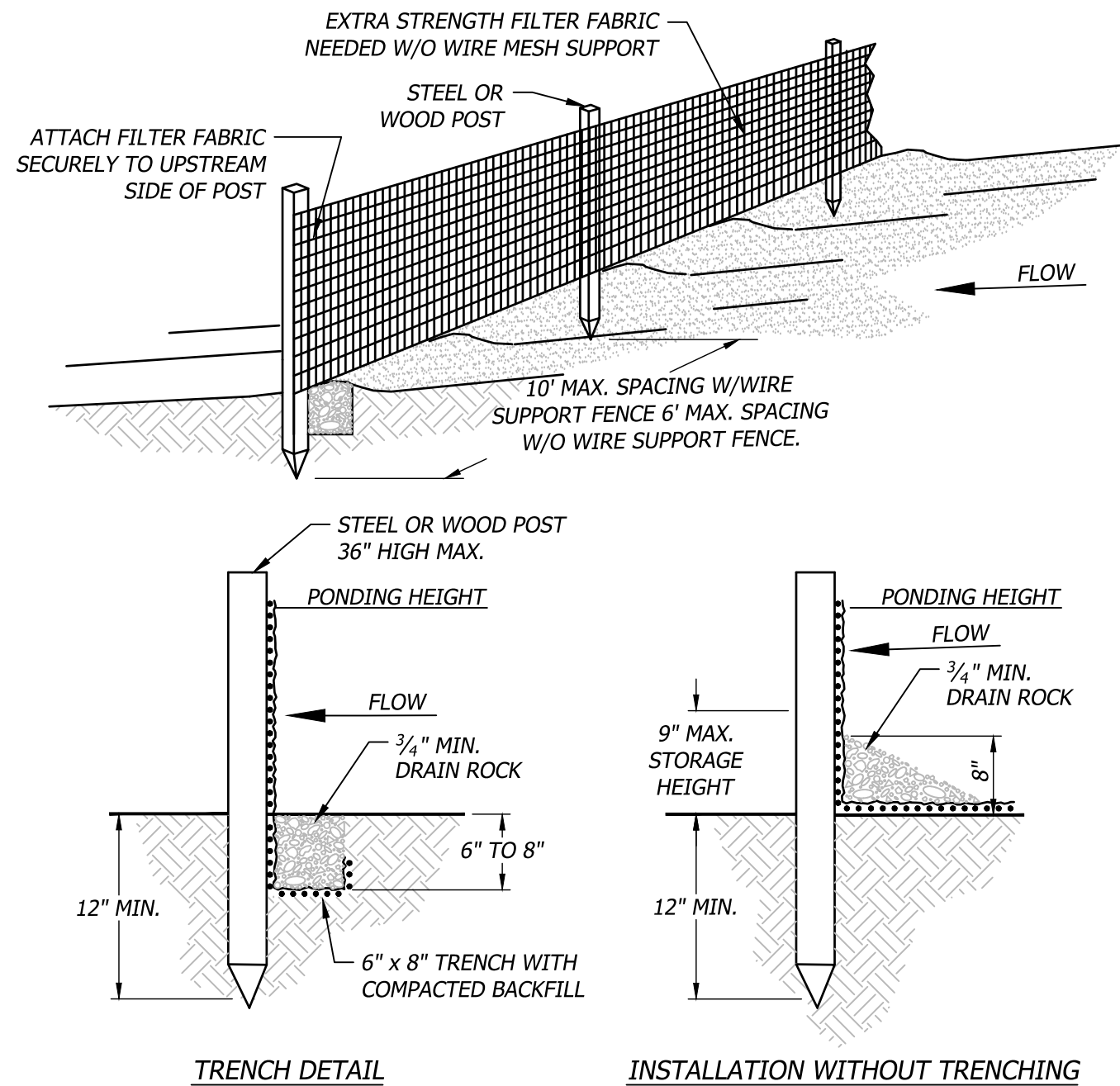






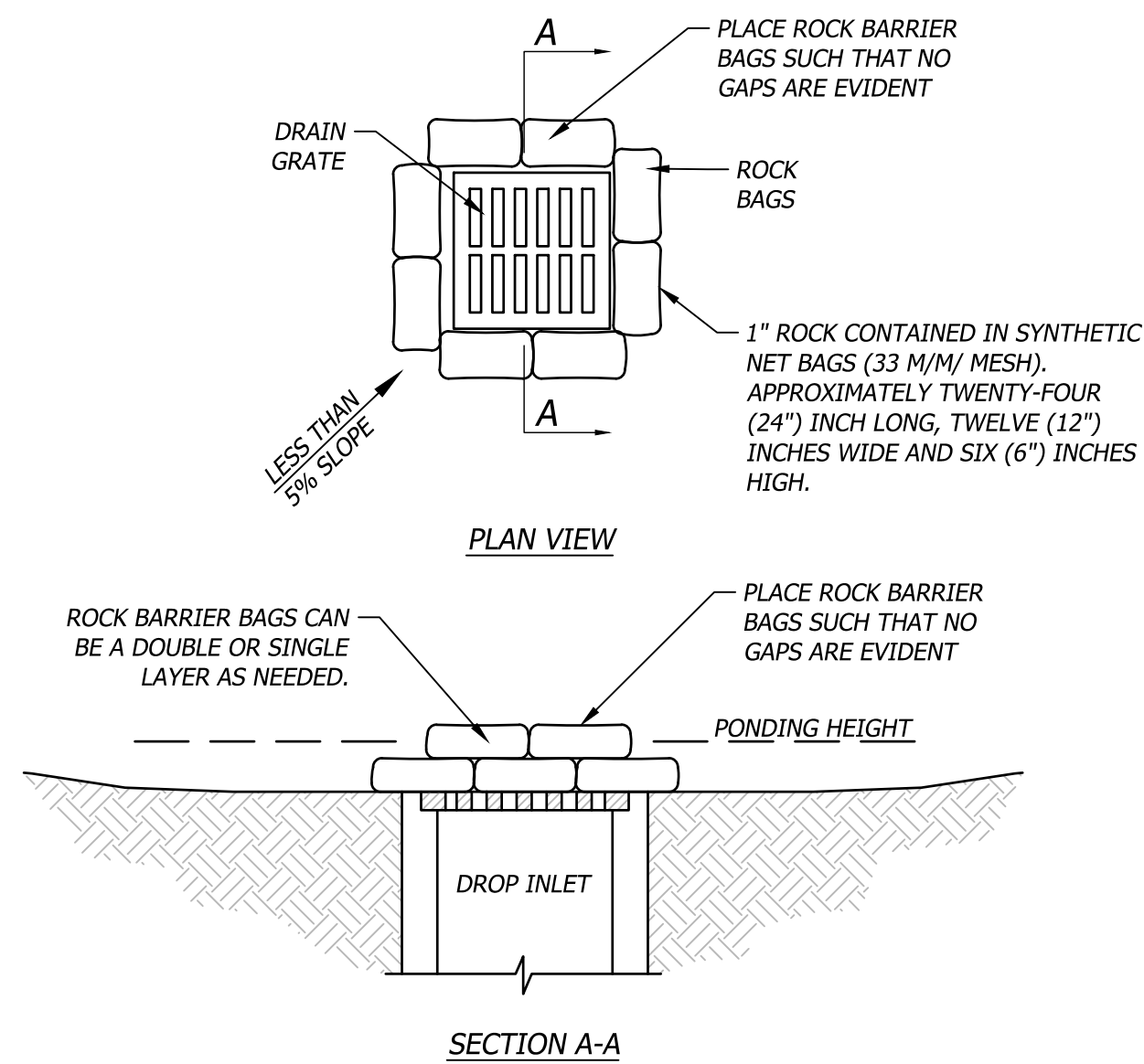


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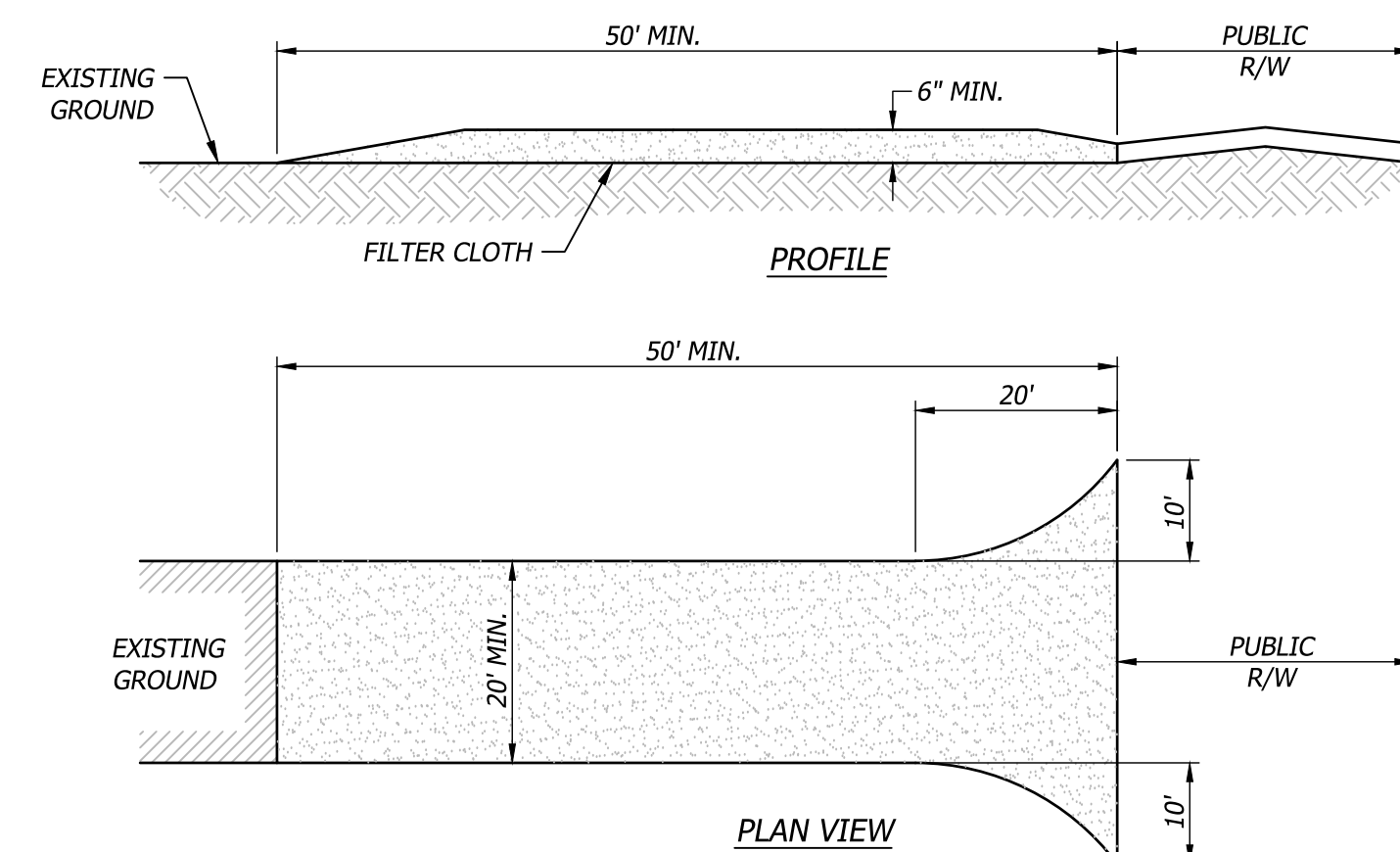
- NOTES:**
1. MUST BE INSTALLED PROPERLY TO AVOID NOTICE OF VIOLATION.
  2. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE POUNDING EFFICIENCY.
  3. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
  4. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

**601** Filter Fabric Silt Fence  
Not to Scale



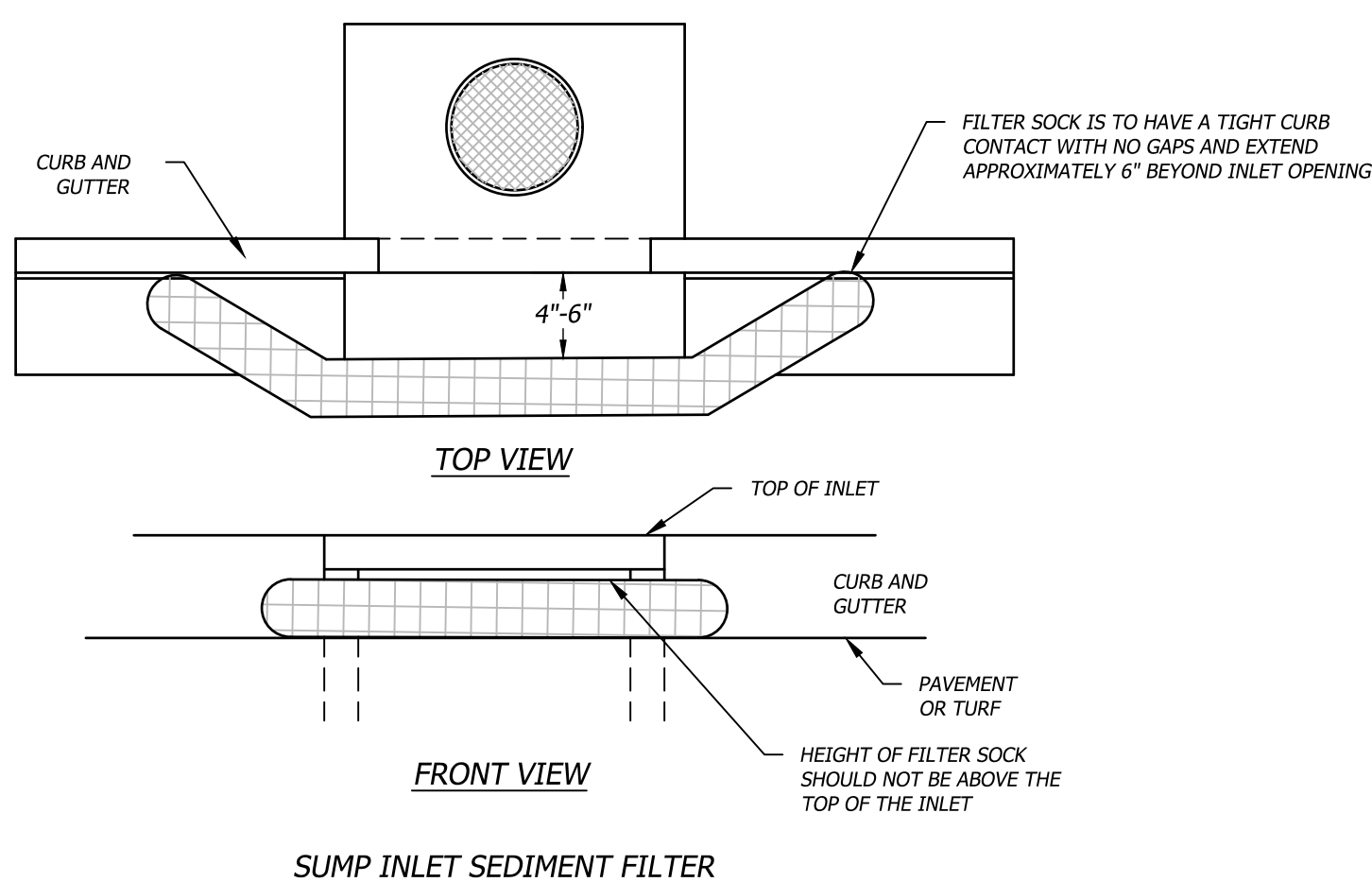
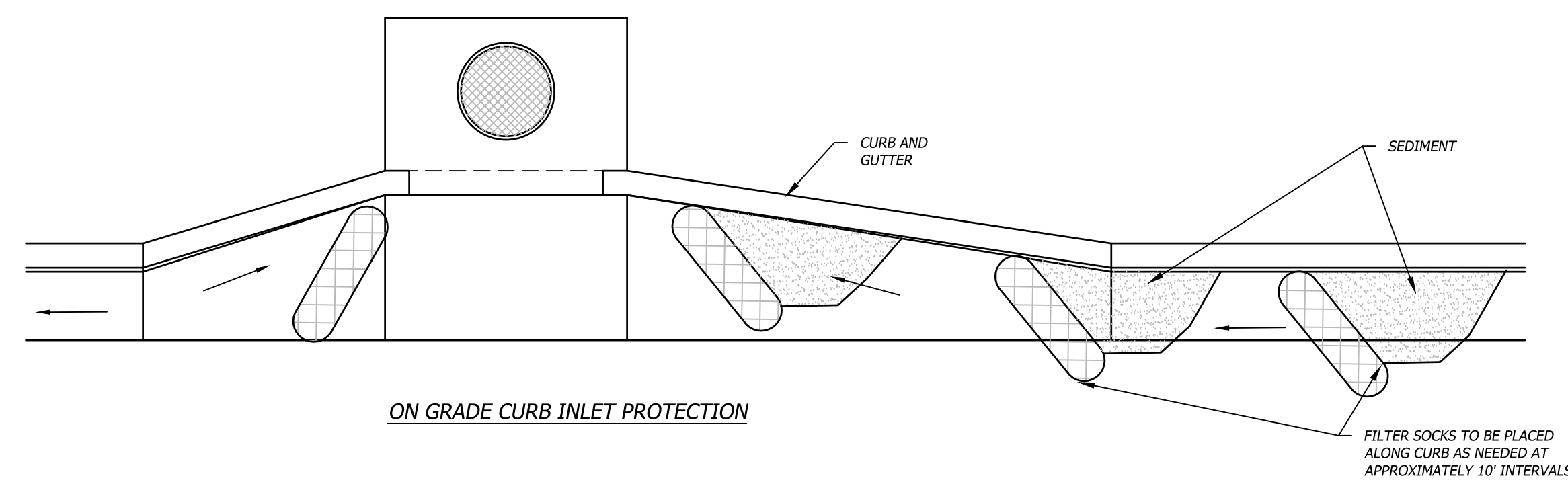
- CATCH BASIN**
1. PLACE CURB TYPE ROCK BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
  2. BAGS OF WOVEN GEOTEXTILE FABRIC, FILLED WITH GRAVEL MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
  3. LEAVE ONE SANDBAG GAP IN THE TOP ROW ON THE SIDE AWAY FROM FLOW, TO PROVIDE A SPILLWAY; OR IN THE CENTER IF PONDING IS NEEDED ON BOTH SIDES.
  4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY

**603** Storm Inlet Protection  
Not to Scale

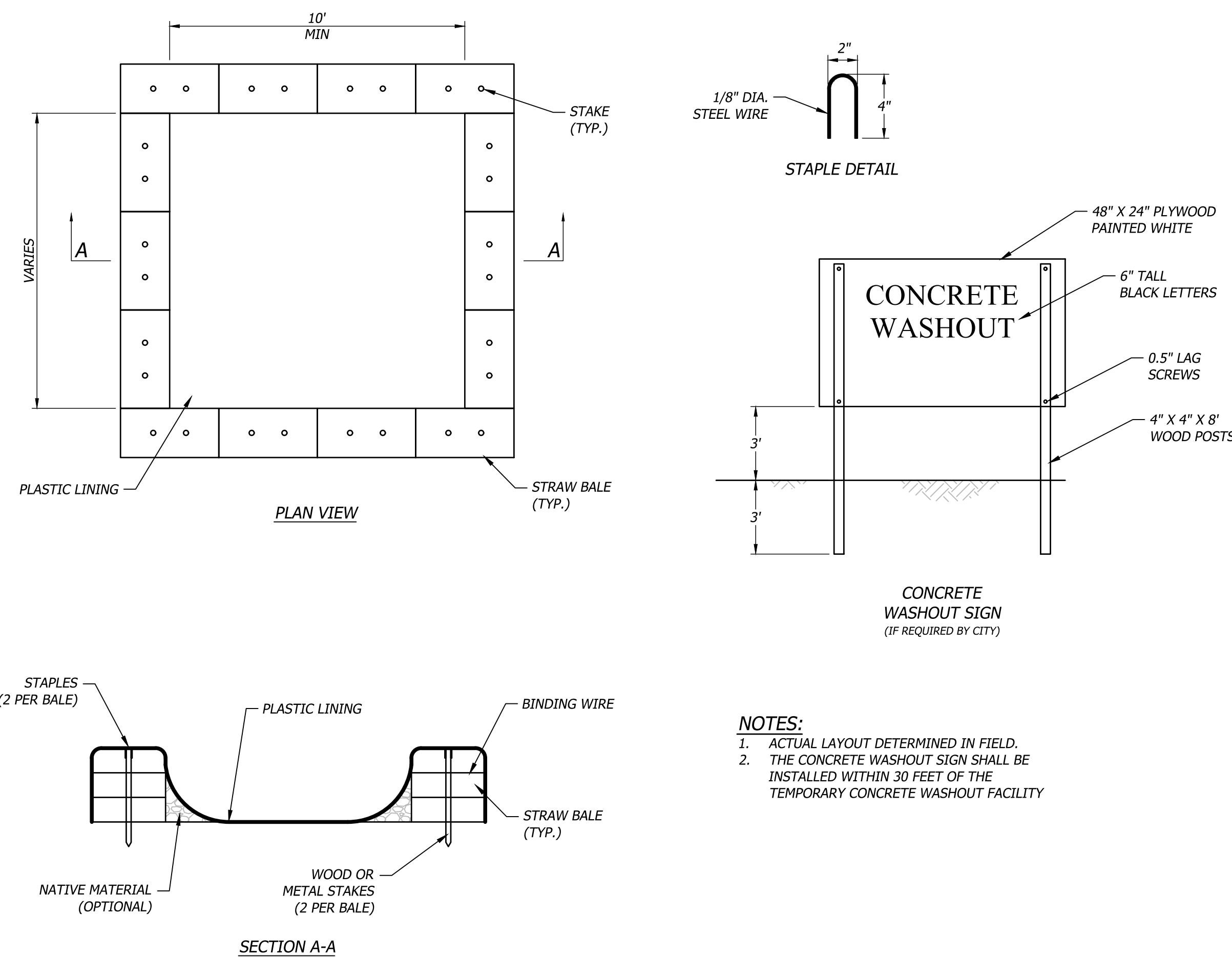


- CONSTRUCTION SPECIFICATIONS:**
1. STONE SIZE - USE (2) INCH STONE, OR RECLAIMED OR RECYCLED EQUIVALENT.
  2. LENGTH - AS REQUIRED, BUT NOT LESS THAN (50) FEET.
  3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
  4. WIDTH - TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
  5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
  6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 3:1 SLOPES WILL BE PERMITTED.
  7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
  9. PERIODIC INSPECTION AS NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

**600** Temporary Construction Entrance  
Not to Scale



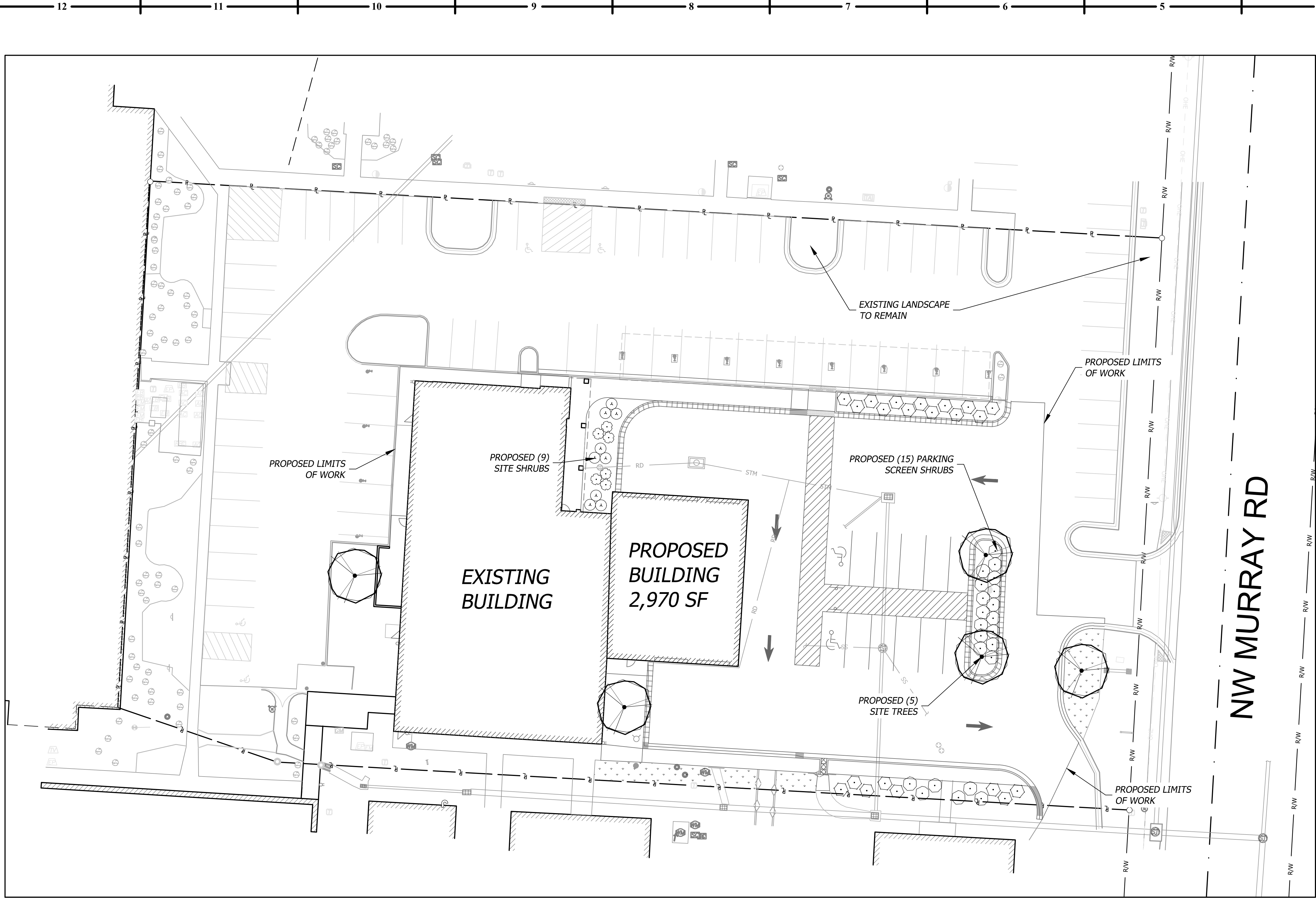
**603** Storm Inlet Protection  
Not to Scale



- NOTES:**
1. ACTUAL LAYOUT DETERMINED IN FIELD.
  2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY

**604** Concrete Washout  
Not to Scale





GENERAL LANDSCAPE NOTES

- The Contractor shall verify and coordinate all final grades with the Landscape Architect and/or design team prior to completion.
- Location and placement of all plant material shall be coordinated with the Landscape Architect prior to installation.
- Location of all utilities are approximate, the Contractor shall field verify locations prior to commencement of construction operations.
- Refer to Civil Drawings for all grading and berming, erosion control, storm drainage, utilities and site layout.
- Plant quantities are for information only, drawing shall prevail if conflict occurs. Contractor is responsible for calculating own quantities and bid accordingly. Minimum quantities for each category of planting required by City Code must be maintained.
- Tree locations in areas adjacent to drives, walks, walls and light fixtures may be field adjusted as approved by Landscape Architect.
- The Contractor shall report subsurface soil or drainage problems to the Landscape Architect.
- The plan is subject to changes based on plant size and material availability. All changes or substitutions must be approved by the Lee's Summit, MO and the Landscape Architect.
- Spade cut edge to be used on all landscape beds adjoining turf areas as noted on landscape plans. Edging shall not be used between pavement and landscape beds.
- Landscape Contractor shall be responsible for watering all plant material until the time that a permanent water source is ready.
- The Contractor shall provide a submittal to show proof of procurement, sources, quantities, and varieties for all landscape materials, including trees, shrubs, perennials, ornamental grasses, annuals, rock, and mulches, within 21 days following the award of the contract.
- Maintenance and guarantee:
  - Contractor shall provide full maintenance for newly landscaped areas for the maintenance period, which begins at date of installation through the date of final acceptance.
  - At the end of the maintenance period, a healthy, well-rooted, even-colored, viable turf and landscaped area must be established. The landscaped areas shall be free of weeds, open joints, bare areas, and surface irregularities.
  - All plant material shall be guaranteed for a period of one year. Date of final acceptance initiates the one year guarantee. All dead or damaged plant material shall be replaced at contractor's expense.

LEGEND

— P — PROPERTY LINE  
— R/W — RIGHT-OF-WAY LINE



PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CAL
ORNAMENTAL TREES					
	CF2	5	Cornus florida / Eastern Dogwood	8 & 8	2.5" cal
SHRUBS					
	HB2	6	Hydrangea paniculata 'ILVOBO'™ / Bobo Panicle Hydrangea	5 gal	
	HF3	9	Hydrangea paniculata 'SMNHPSB' / Tiny Quick Fire™ Hydrangea	5 gal	
	Rg2	21	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	5 gal	
EVERGREEN SHRUBS					
	BB2	22	Buxus microphylla japonica 'Green Beauty' / Green Beauty Japanese Boxwood	5 gal	24"-36" H
GROUND COVERS					
	FW	950 sf	Festuca arundinacea 'Watersaver Blend' / Watersaving Blend of Tall Fescue Sod: 90% 3-species Turf-Type Fescue Blend (Covenant II, Avenger, Garrison), 10% Bluegrass. PLACE SPADE CUT EDGE, OR APPROVED EQUAL, WHERE PLANTING BEDS ADJOIN TURF AREAS,	sod	

NOTE: ALL PLANTING AREAS TO BE COVERED WITH CODE APPROVED GROUND COVER SUCH AS MULCH OR OTHER APPROVED EQUAL

NOTE: ALL DISTURBED AREAS IN RIGHT OF WAY TO BE RESTORED TO PRIOR CONDITION OR RESEED WITH TURF FESCUE GRASS

SITE DATA

	Quantity	Required	Provided
Site Area	26,000.0		
Building Footprint	2,970.0		
Open Yard Areas			
1 tree / 5,000 SF	23,030.0	4.6	5.0
2 shrubs / 5,000 SF	23,030.0	9.2	10.0
Street Frontage			
NW Murray Rd (LF)	0.0		
1 tree / 30 LF of street frontage		0.0	0
20 shrubs / 20 LF of street frontage		0.0	0
Buffer Planting			
Parking Landscape			
total LA are 5% of parking area	23,000.0	1,150.0	
islands to be min 9' wide		Yes	Yes
12 shrubs / 40 LF for continuous visual barrier	50.0	15	

NOTE: PROJECT LIMITS OF WORK AND DISTURBANCE DO NOT TOUCH NW MURRAY RD



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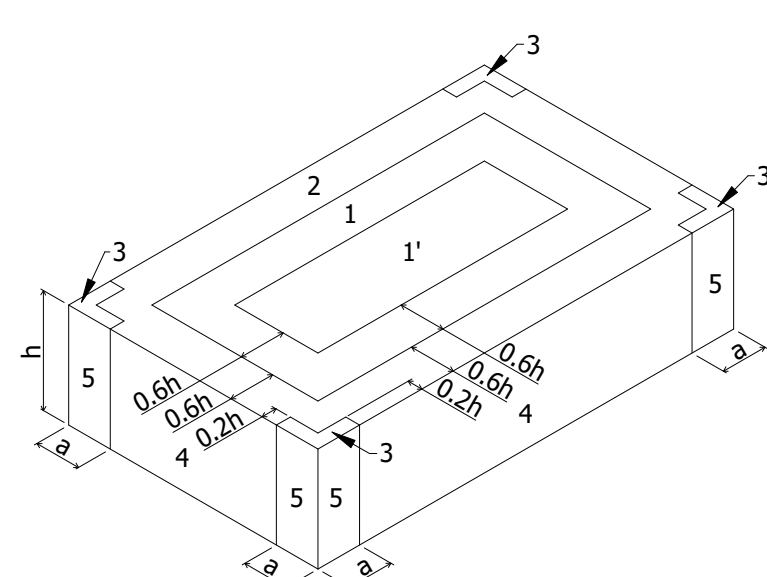
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ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 25016

## GENERAL NOTES



SCHEDULE OF MINIMUM SPECIAL INSPECTIONS		
	INSPECTION FREQUENCY	
	CONTINUOUS	PERIODIC
REQUIRED VERIFICATION AND INSPECTION OF STRUCTURAL STEEL CONSTRUCTION		
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:		
A. IDENTIFICATION MARKING TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X
2. INSPECTION OF HIGH-STRENGTH BOLTING: (INSPECTION SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS)		X
A. SNUG-TIGHT JOINTS.	-	X
B. PRE-TENSIONED AND SLIP-CRITICAL JOINTS USING THE TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	-	X
C. PRE-TENSIONED AND SLIP-CRITICAL JOINTS USING THE CALIBRATED WRENCH OR TURN-OF-NUT METHOD WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	-
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:		
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKING TO CONFORM TO AISC 360.	-	X
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
C. MANUFACTURERS' CERTIFIED TEST REPORTS.	-	X
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:		
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE.	-	X
5. INSPECTION OF WELDING: (WELDING INSPECTION SHALL BE IN COMPLIANCE WITH AWS D1.1)(IN COOPERATION WITH OWNER'S TESTING LAB)		
A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:		
1. COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	-
2. MULTIPASS FILLET WELDS.	X	-
3. SINGLE-PASS FILLET WELDS > 5/16.	X	-
4. PLUG AND SLOT WELDS.	X	-
5. SINGLE PASS FILLET WELDS ≤ 5/16.	-	X
6. FLOOR AND ROOF DECK WELDS.	-	X
B. REINFORCING STEEL:		
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	-	X
2. REINFORCING STEEL-RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	-
3. SHEAR REINFORCEMENT.	X	-
4. OTHER REINFORCING STEEL.	-	X
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:		
A. DETAILS SUCH AS BRACING AND STIFFENING.	-	X
B. MEMBER LOCATIONS.	-	X
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	-	X
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION		
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT. VERIFY GRADE, SIZE, QUANTITY, AND SPACING OF REINFORCING BARS FOR COMPLIANCE WITH CONTRACT DOCUMENTS AS WELL AS APPROVED SHOP DRAWINGS. REPORT ANY NOTED CONFLICT BEFORE CONCRETE IS POURED SO THAT CORRECTIONS MAY BE MADE. (INSPECTION MAY BE PERIODIC BUT ALL REBAR TO BE INSPECTED).	X	-
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.3 (REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION, INSPECTION OF WELDING, REINFORCING STEEL).	X	-
3. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	X	-
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	X	-
5. VERIFYING USE OF REQUIRED DESIGN MIX.	X	-
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
REQUIRED VERIFICATION AND INSPECTION OF SOILS (IN COOPERATION WITH OWNERS' GEOTECHNICAL TESTING AGENCY)		
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X
REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION		
1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS.	-	X
2. VERIFICATION OF FM AND FAAC PRIOR TO CONSTRUCTION AND FOR EVERY 5000 SQUARE FEET DURING CONSTRUCTION.	-	X
3. VERIFICATION OF PROPORTIONS OF MATERIALS IS PREMIXED OR PREBLENDED MORTAR AND GROUT AS DELIVERED TO THE SITE.	-	X
4. VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF-CONSOLIDATION GROUT.	X	-
5. THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:		
A. PROPORTIONS OF SITE-PREPARED MORTAR, GROUT, AND PRESTRESSING FOR BONDED TENDONS.	-	X
B. PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS.	-	X
C. PLACEMENT OF REINFORCEMENT CONNECTORS AND PRESTRESSING TENDONS AND ANCHORAGES.	-	X
D. GROUT SPACE PRIOR TO PLACEMENT.	X	-
E. PLACEMENT OF GROUT.	X	-
F. PLACEMENT OF PRESTRESSING GROUT.	X	-
G. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	-	X
H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	-	X
I. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS AND ANCHORAGES.	-	X
J. WELDING OF REINFORCING BARS.	X	-
K. PREPARATION OF ANY REQUIRED GROUT SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	-	X



FLAT/HIP/GABLE 0° ≤ θ ≤ 7°

NOTES:

- a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF THE LEAST HORIZONTAL DIMENSION OR 3 FT.
- WIND LOADS ARE ULTIMATE (LRFD) LOADS. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.
- LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS SPECIFIED.
- PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
- EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
- FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN THE TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA.
- INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
- THE NET C&C PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE.
- PARAPET PRESSURES ARE NOT SHOWN ABOVE. DELEGATED DESIGN ENGINEERS SHALL CALCULATE PARAPET PRESSURES IN ACCORDANCE WITH ASCE 7-16 USING CRITERIA ABOVE TO DETERMINE DESIGN LOADS FOR USE IN THEIR DESIGN AND SUBMIT CALCULATIONS.

COMPONENTS & CLADDING EXTERNAL PRESSURE ULTIMATE (LRFD) LOADS (PSF)		LOCATION PER ASCE 7-16				
EFFECTIVE WIND AREA (SQ. FT.)		1	1'	2	3	4
≤ 10	16, -47.6	16, -27.3	16, -62.8	16, -85.6	27.3, -29.6	27.3, -36.5
20	16, -44.5	16, -27.3	16, -58.8	16, -77.5	26.1, -28.4	26.1, -34.0
50	16, -40.3	16, -27.3	16, -53.4	16, -66.8	24.5, -26.8	24.5, -30.8
≥ 100	16, -37.2	16, -27.3	16, -49.4	16, -58.7	23.3, -25.6	23.3, -28.4

WALL TYPE KEY	
	= LOAD BEARING WALL
	= NON-LOAD BEARING WALL
	= SHEAR WALL

HATCH PATTERN KEY	
	= CONCRETE IN SECTION
	= EARTH IN SECTION
	= EPOXY IN SECTION
	= EXISTING IN PLAN AND SECTION
	= GRANULAR FILL IN SECTION
	= GRATING IN PLAN AND SECTION
	= GROUT IN SECTION
	= INSULATION IN SECTION
	= PLYWOOD IN SECTION
	= SNOW DRIFT LOADING IN PLAN
	= STEEL IN SECTION
	= TOPPING IN SECTION
	= WOOD END GRAIN IN SECTION
	= WOOD FACE GRAIN IN SECTION

PLAN SYMBOL KEY	
	= FOOTING TYPE (REFER TO FOOTING SCHEDULE)
	= COLUMN TYPE (REFER TO COLUMN SCHEDULE)
	= WALL TYPE (REFER TO WALL SCHEDULE)
	= SHEAR WALL TYPE (REFER TO SHEAR WALL SCHEDULE)
	= CONCRETE WALL TYPE (REFER TO CONCRETE WALL SCHEDULE)
	= MASONRY WALL TYPE (REFER TO MASONRY WALL SCHEDULE)
	= SHEAR WALL HOLDOWN
	= MOMENT FRAME CONNECTION
	= BEAM SPLICE CONNECTION
	= DRILLED SHAFT TYPE (REFER TO DRILLED SHAFT SCHEDULE)

10 K      W18X35 (30) C=0.75      10 K

CAMBER (INCHES)  
NUMBER OF SHEAR STUDS  
BEAM SIZE  
REACTION EACH END

D5?      XXX'-XX"      TOP OF DRILLED SHAFT ELEVATION  
XXX'-XX"      ESTIMATED BOTTOM OF DRILLED SHAFT ELEVATION

STANDARD ABBREVIATIONS	
ALT.	ALTERNATE
A.B.	ANCHOR BOLT
ARCH.	ARCHITECT
@	AT
BM.	BEAM
BOT.	BOTTOM
B.O.	BOTTOM OF
BLDG.	BUILDING
CL.	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
C.J.	CONTROL JOINT
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DWG(S)	DRAWING(S)
EA.	EACH
ELEV.	ELEVATION
EL.	ELEVATION
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXIST.	EXISTING
EXT.	EXTERIOR
F.S.	FAR SIDE
FIN.	FINISH
FLR.	FLOOR
FTG.	FOOTING
FOUND.	FOUNDATION
GALV.	GALVANIZED
GYP.	GYPSUM
H.S.	HEADED STUD
HI	HIGH
HORIZ.	HORIZONTAL
INSUL.	INSULATION
INT.	INTERIOR
LOC.	LOCATION
LLH	LONG LEG HORIZONTAL
LLO	LONG LEG OUT
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LO	LOW
MSRY.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MIR.	MIRRORED
N.S.	NEAR SIDE
N.A.	NOT APPLICABLE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OPNG.	OPENING
PL.	PLATE
R.	RADIUS
REF.	REFERENCE
REINF.	REINFORCING
REQ'D	REQUIRED
SCHED.	SCHEDULE
SEC.	SECTION
SHT.	SHEET
SIM.	SIMILAR
SQ.	SQUARE
S.S.	STAINLESS STEEL
STL.	STEEL
T&B	TOP & BOTTOM
T.O.	TOP OF
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT

**JKV | EMS BUILDING**  
506 NW MURRAY RD  
LEE'S SUMMIT, MISSOURI 64061

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REVISION DATES:



PROFESSIONAL SEAL

**S002**

ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 25016

GENERAL INFORMATION

**PERMIT SET**



3076 SW Market St., Lees Summit, MO 64083 | 816.249.2270



## 1.02 Defining Standard

- 1.04 Submittals

- work.

- PART 2 PRODUCTS

- ## 2.02 Reinforcement Materials

- B. Steel Welded Wire Reinforcement (WWR): Galvanized, plain type, ASTM A1064/A1064M.

- ### 2.03 Concrete Material

- ## 2.04 Admixtures

- ## 2.05 Accessory Material

- ## 2.06 Bonding and Jointing Products

- ## 2.07 Curing Materials

- 2.08 Concrete Mix Design

- 2.09 Mixing

- A. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the amount held out at the plant.

## PART 3 EXECUTION

- ### 3.02 Preparation

- A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R.

- ### 03 Installing Reinforcement and Other Embedded Items

- #### 4.04 Placing Concrete

- ### 10.05 Slab Jointing

- 06 Floor Flatness and Levelness Tolerances

- 07 Concrete Fin

- 08 Curing and Protection

- 09 Field Quality Control

- ## 10 Defective Concrete

- A. **Test Results:** The testing agency shall report test results in writing to Architect, Engineer, and Contractor within 24 hours of test.

- C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

- 11 Protection
- A. Do not permit traffic over unprotected concrete floor surface until fully cured

## ND OF SECTION

## DIVISION 04 - MASONRY

SECTION 042000

## ART 1 GENERAL

- |    |                   |
|----|-------------------|
| 01 | SECTION INCLUDES  |
| A. | Concrete block.   |
| B. | Mortar and grout. |



6/18/2025 1:30:09 PM

	C.	Reinforcement and anchorage.	
	D.	Accessories.	
I	1.02	RELATED REQUIREMENTS	
K	A.	Section 079200 - Joint Sealants: Sealing control and expansion joints.	
	1.03	REFERENCE STANDARDS	
	A.	ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.	
	B.	ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 2019.	
	C.	ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement; 2022.	
	D.	ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2022.	
	E.	ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units; 2023.	
	F.	ASTM C91/C91M - Standard Specification for Masonry Cement; 2023.	
J	G.	ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units; 2023.	
	H.	ASTM C140/C140M - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units; 2023A.	
	I.	ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2018.	
	J.	ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2018.	
	K.	ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a, with Editorial Revision.	
	L.	ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2024.	
	M.	ASTM C476 - Standard Specification for Grout for Masonry; 2023.	
	N.	ASTM C780 - Standard Test Methods for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2023.	
	O.	ASTM C1072 - Standard Test Methods for Measurement of Masonry Flexural Bond Strength; 2022.	
H	P.	ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms; 2023b.	
	Q.	ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2019a.	
	R.	ASTM E514/E514M - Standard Test Method for Water Penetration and Leakage Through Masonry; 2020.	
	S.	TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata (2024).	
	1.04	SUBMITTALS	
	A.	See Section 013000 - Administrative Requirements for submittal procedures.	
	B.	Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.	
	C.	Shop Drawings: Indicate pertinent dimensions, materials, anchorage, size and type of fasteners, and accessories for brickwork support system.	
	D.	Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.	
G	E.	Manufacturer's Certificate: Certify that water repellent admixture manufacturer has certified masonry unit manufacturer as an approved user of water repellent admixture in the manufacture of concrete block.	
	F.	Manufacturer's Qualification Statement.	
	G.	Installer's Qualification Statement.	
	1.05	QUALITY ASSURANCE	
	A.	Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.	
	B.	Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section with minimum three years of documented experience.	
	C.	Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.	
F	1.06	DELIVERY, STORAGE, AND HANDLING	
	A.	Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.	
	PART 2	PRODUCTS	
	2.01	CONCRETE MASONRY UNITS	
	A.	Concrete Block: Comply with referenced standards and as follows:	
	1.	Size: Standard units with nominal face dimensions of 16 by 8 inches (400 by 200 mm) and nominal depths as indicated on drawings for specific locations.	
	2.	Load-Bearing Units: ASTM C90, normal weight.	
	a.	Hollow block, as indicated.	
	3.	Nonloadbearing Units: ASTM C129.	
	a.	Hollow block, as indicated.	
	b.	Normal weight.	
E	4.	Units with Integral Water Repellent: Concrete block units as specified in this section with polymeric liquid admixture added to concrete masonry units at time of manufacture.	
	a.	Performance of Units with Integral Water Repellent:	
	1)	Water Permeance: When tested per ASTM E514/E514M and for a minimum of 72 hours.	
	a)	No water visible on back of wall above flashing at the end of 24 hours.	
	b)	No flow of water from flashing equal to or greater than 0.032 gallons per hour (0.05 L per hour) at the end of 24 hours.	
	c)	No more than 25 percent of wall area above flashing visibly damp at end of test.	
	2)	Flexural Bond Strength: ASTM C1072; minimum 10 percent increase.	
	3)	Compressive Strength: ASTM C1314; maximum 5 percent decrease.	
	b.	Use only in combination with mortar that also has integral water repellent admixture.	
	c.	Use water repellent admixtures for masonry units and mortar by a single manufacturer.	
	2.02	MORTAR AND GROUT MATERIALS	
	A.	Masonry Cement: ASTM C91/C91M, Type S.	
	B.	Portland Cement: ASTM C150/C150M, Type I.	
	1.	Not more than 0.60 percent alkali.	
D	C.	Hydrated Lime: ASTM C207, Type S.	
	D.	Mortar Aggregate: ASTM C144.	
	E.	Grout Aggregate: ASTM C404.	
	F.	Water: Clean and potable.	
	G.	Integral Water Repellent Admixture for Mortar: Polymeric liquid admixture added to mortar at the time of manufacture.	
	1.	Use only in combination with masonry units manufactured with integral water repellent admixture.	
	2.	Use only water repellent admixture for mortar from the same manufacturer as water repellent admixture in masonry units.	
	3.	Meet or exceed performance specified for water repellent admixture used in masonry units.	
C	H.	Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason sand; complying with ASTM C1714/C1714M and capable of producing mortar of specified strength in accordance with ASTM C270 with addition of water only.	
	1.	Type: Type S.	
	2.	Color: Standard gray.	
	3.	Water-repellent mortar for use with water-repellent masonry units.	
	I.	Packaged Dry Material for Grout for Masonry: Premixed cementitious materials and dried aggregates; capable of producing grout of the specified strength in accordance with ASTM C476 with the addition of water only.	
	1.	Type: Coarse.	
	2.03	REINFORCEMENT AND ANCHORAGE	
	A.	Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa), deformed billet bars; uncoated.	
	B.	Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated.	
	C.	Single Wythe Joint Reinforcement: ASTM A951/A951M.	
	1.	Type: Truss or ladder.	
	2.	Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.	
B	3.	Size: 0.1875 inch (4.8 mm) side rods with 0.1875 inch (4.8 mm) cross rods; width as required to provide not less than 5/8 inch (16 mm) of mortar coverage on each exposure.	
	D.	Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not less than 5/8 inch (16 mm) of mortar coverage from masonry face.	
	2.04	ACCESSORIES	
	A.	Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.	
	B.	Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; in maximum lengths available.	
	C.	Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.	
	2.05	MORTAR AND GROUT MIXING	
A	A.	Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.	
	1.	Masonry below grade and in contact with earth: Type S.	
	2.	Exterior, loadbearing masonry: Type S.	

8

7

6

5

3.

Exterior, non-loadbearing masonry: Type S.

4.

Interior, loadbearing masonry: Type S.

5.

Interior, non-loadbearing masonry: Type N.

B.

Grout: ASTM C476, consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches (50 mm) or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches (50 mm).

C.

Admixtures: Add to mixture at manufacturer's recommended rate and in accordance with manufacturer's instructions; mix uniformly.

D.

Mixing: Use mechanical batch mixer and comply with referenced standards.

PART 3

EXECUTION

3.01

EXAMINATION

A.

Verify that field conditions are acceptable and are ready to receive masonry.

B.

Verify that related items provided under other sections are properly sized and located.

C.

Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02

PREPARATION

A.

Direct and coordinate placement of metal anchors supplied for installation under other sections.

B.

Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03

COLD AND HOT WEATHER REQUIREMENTS

A.

Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

3.04

COURSING

A.

Establish lines, levels, and coursing indicated. Protect from displacement.

B.

Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C.

Concrete Masonry Units:

1.

Bond: Running.

2.

Coursing: One unit and one mortar joint to equal 8 inches (200 mm).

3.

Mortar Joints: Concave.

3.05

PLACING AND BONDING

A.

Lay hollow masonry units with face shell bedding on head and bed joints.

B.

Remove excess mortar and mortar smears as work progresses.

C.

Remove excess mortar with water repellent admixture promptly. Do not use acids, sandblasting or high pressure cleaning methods.

D.

Interlock intersections and external corners.

E.

Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

F.

Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

G.

Isolate masonry partitions from vertical structural framing members with a control joint.

3.06

REINFORCEMENT AND ANCHORAGE - GENERAL AND SINGLE WYTHE MASONRY

A.

Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches (400 mm) on center.

B.

Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.

C.

Place continuous joint reinforcement in first and second joint below top of walls.

D.

Embed longitudinal wires of joint reinforcement in mortar joint with at least 5/8 inch (16 mm) mortar cover on each side.

E.

Lap joint reinforcement ends minimum 6 inches (150 mm).

F.

Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches (900 mm) horizontally and 24 inches (600 mm) vertically.

G.

Embed ties and anchors in mortar joint and extend into masonry unit a minimum of 1-1/2 inches (38 mm) with at least 5/8 inch (16 mm) mortar cover to the outside face of the anchor.

3.07

LINTELS

A.

Install loose steel lintels over openings.

B.

Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled.

1.

Openings to 42 inches (1070 mm): Place two, No. 5 (M16) reinforcing bars 1 inch (25 mm) from bottom web.

2.

Do not splice reinforcing bars.

3.

Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch (13 mm) of dimensioned position.

4.

Place and consolidate grout fill without displacing reinforcing.

5.

Allow masonry lintels to attain specified strength before removing temporary supports.

C.

Maintain minimum 8 inch (203 mm) bearing on each side of opening.

3.08

GROUTED COMPONENTS

A.

Reinforce bond beams with 2, No. 5 (M16) bars, 1 inch (25 mm) from bottom web.

B.

Lap splices minimum 24 bar diameters.

C.

Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch (13 mm) of dimensioned position.

D.

Place and consolidate grout fill without displacing reinforcing.

E.

At bearing locations, fill masonry cores with grout for a minimum 12 inches (300 mm) either side of opening.

3.09

CONTROL AND EXPANSION JOINTS

A.

Do not continue horizontal joint reinforcement through control or expansion joints.

B.

Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

C.

Size control joints as indicated on drawings; if not indicated, 3/4 inch (19 mm) wide and deep.

3.10

BUILT-IN WORK

A.

As work progresses, install built-in fabricated metal frames, anchor bolts, and plates and other items to be built into the work and furnished under other sections.

B.

Install built-in items plumb, level, and true to line.

C.

Do not build into masonry construction organic materials that are subject to deterioration.

3.11

TOLERANCES

A.

Install masonry within the site tolerances found in TMS 402/602.

B.

Maximum Variation from Alignment of Columns: 1/4 inch (6 mm).

C.

Maximum Variation From Unit to Adjacent Unit: 1/16 inch (1.6 mm).

D.

Maximum Variation from Plane of Wall: 1/4 inch in 10 ft (6 mm/3 m) and 1/2 inch in 20 ft (13 mm/6 m) or more.

E.

Maximum Variation from Plumb: 1/4 inch (6 mm) per story non-cumulative; 1/2 inch (13 mm) in two stories or more.

F.

Maximum Variation from Level Coursing: 1/8 inch in 3 ft (3 mm/m) and 1/4 inch in 10 ft (6 mm/3 m); 1/2 inch in 30 ft (13 mm/9 m).

G.

Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch (minus 6.4 mm, plus 9.5 mm).

H.

Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch (6 mm).

3.12

CUTTING AND FITTING

A.

Cut and fit for chases, pipes, conduit, and sleeves. Coordinate with other sections of work to provide correct size, shape, and location.

B.

Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.13

FIELD QUALITY CONTROL

A.

An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

B.

Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M for compliance with requirements of this specification.

C.

Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

3.14

CLEANING

A.

Remove excess mortar and mortar droppings.

B.

Replace defective mortar. Match adjacent work.

C.

Clean soiled surfaces with cleaning solution.

3.15


PROTECTION

A.

Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

[illegible]

A vertical number line representing the range from 0 to 1000. The line has major tick marks at intervals of 100, labeled 0, 100, 200, 300, 400, 500, 600, 700, 800, 900, and 1000. A horizontal line is drawn across the number line at the 500 mark, labeled "SPR" on the right side.

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<p><b>SPECIFICATIONS</b></p>			



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1.05

DELIVERY, STORAGE, AND HANDLING

A.

General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

B.

Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

1.06

WARRANTY

A.

See Section 017800 - Closeout Submittals for additional warranty requirements.

PART 2

PRODUCTS

2.01

GENERAL REQUIREMENTS

A.

Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1.

If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.

2.

Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at [www.alsc.org](http://www.alsc.org), and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

3.

Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

B.

Provide sustainably harvested wood.

2.02

DIMENSION LUMBER

A.

Sizes: Nominal sizes as indicated on drawings, S4S.

B.

Moisture Content: S-dry or MC19.

2.03

STRUCTURAL COMPOSITE LUMBER

A.

Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.

2.04

CONSTRUCTION PANELS

A.

Subflooring: Oriented strand board wood structural panel, PS 2, rated Single Floor.

1.

Bond Classification: Exterior.

2.

Performance Category: 23/32 PERF CAT.

3.

Span Rating: 24.

4.

Edges: Tongue and groove.

5.

Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 200 days.

6.

Warranty: Manufacturer's standard lifetime limited warranty against manufacturing defects and that panels will not delaminate or require sanding due to moisture absorption damage from exposure to weather for up to the stated period.

B.

Subflooring: PS 2 type, rated Sheathing.

1.

Bond Classification: Exterior.

2.

Span Rating: 48.

3.

Performance Category: 3/4 PERF CAT.

C.

Roof Sheathing: PS 2 type, rated Structural I Sheathing.

1.

Bond Classification: Exterior.

2.

Span Rating: 48.

3.

Performance Category: 3/4 PERF CAT.

D.

Roof Sheathing: Oriented strand board wood structural panel; PS 2.

1.

Grade: Structural I Sheathing.

2.

Performance Category: 5/8 PERF CAT.

3.

Span Rating: 40/20.

4.

Edges: Tongue and groove.

5.

Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 500 days.

E.

Wall Sheathing: PS 2 type.

1.

Bond Classification: Exterior.

2.

Grade: Structural I Sheathing.

3.

Span Rating: 24.

4.

Performance Category: 9/16 PERF CAT.

5.

Edge Profile: Square edge.

2.05

ACCESSORIES

A.

Fasteners and Anchors:

1.

Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B.

Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.

1.

For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing complying with ASTM A653/A653M.

C.

Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.

1.

For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing complying with ASTM A653/A653M.

D.

Sill Gasket on Top of Foundation Wall: 3/8 inch (9.5 mm) thick, closed-cell plastic foam.

1.

Width: Matching the width of wall sill plate.

2.

Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 30 days of weather exposure.

E.

Subfloor Adhesives: Gap-filling construction adhesive for bonding wood structural panels to wood-based floor system framing; complying with ASTM D3498.

2.06

FACTORY WOOD TREATMENT

A.

Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1.

Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B.

Preservative Treatment:

1.

Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UCSB, Commodity Specification A using waterborne preservative.

a.

Kiln dry lumber after treatment to maximum moisture content of 19 percent.

b.

Treat lumber exposed to weather.

c.

Treat lumber in contact with roofing, flashing, or waterproofing.

d.

Treat lumber in contact with masonry or concrete.

PART 3

EXECUTION

3.01

PREPARATION

A.

Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.

B.

Coordinate installation of rough carpentry members specified in other sections.

3.02

INSTALLATION - GENERAL

A.

Select material sizes to minimize waste.

B.

Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C.

Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03

FRAMING INSTALLATION

A.

Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B.

Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C.

Install structural members full length without splices unless otherwise specifically detailed.

D.

Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes.

E.

Install horizontal spanning members with crown edge up and not less than 3 inches (76 mm) of bearing at each end.

F.

Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

G.

Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04

BLOCKING, NAILERS, AND SUPPORTS

A.

Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B.

In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

C.

In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

D.

Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.05

INSTALLATION OF CONSTRUCTION PANELS

A.

Subflooring/Underlayment Combination: Glue and nail to framing: staples are not permitted.

B.

Subflooring: Glue and nail to framing; staples are not permitted.

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C.

Roof Sheathing:

Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.

1.

Nail panels to framing; staples are not permitted.

D.

Wall Sheathing:

Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails or screws.

E.

Communications and Electrical Room Mounting Boards:

Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches (610 mm) on center on all edges and into studs in field of board.

1.

At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.

2.

Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.

3.

Install adjacent boards without gaps.

3.06TOLERANCESA.

Framing Members:

1/4 inch (6 mm) from true position, maximum.

B.

Surface Flatness of Floor:

1/8 inch in 10 feet (1 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

C.

Variation from Plane, Other than Floors:

1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

END OF SECTIONSECTION 061753SHOP-FABRICATED WOOD TRUSSESPART 1 GENERAL1.01SECTION INCLUDESA.

Shop-fabricated wood trusses.

B.

Truss bridging.

1.02RELATED REQUIREMENTS A.

Section 061000 - Rough Carpentry:

Installation requirements for miscellaneous framing.

B.

Section 061000 - Rough Carpentry:

Material requirements for blocking, bridging, plates, and miscellaneous framing.

1.03REFERENCE STANDARDS A.

ANSI/TPI 1 - National Design Standard for Metal-Plate-Connected Wood Truss Construction;

2014.

B.

ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process;

2023.

C.

SBCA (BCSI) - Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses;

2018 (Updated 2020).

D.

TPI DSB-89 - Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses;

1989.

1.04SUBMITTALS A.

See Section 013000 - Administrative Requirements,

for submittal procedures.

B.

Product Data:

Manufacturer's data sheets on plate connectors, bearing plates, and metal bracing components.

C.

Shop Drawings:

Show truss configurations, sizes, spacing, size and type of plate connectors, cambers, framed openings, bearing and anchor details, and bridging and bracing.

1.

Include identification of engineering software used for design.

2.

Provide shop drawings stamped or sealed by design engineer.

3.

Submit design calculations.

D.

Designer's Qualification Statement.

E.

Fabricator's Qualification Statement.

1.05QUALITY ASSURANCE A.

Designer Qualifications:

Perform design by or under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State in which the Project is located.

B.

Fabricator Qualifications:

Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.06DELIVERY, STORAGE, AND HANDLING A.

Handle trusses in accordance with SBCA (BCSI).

B.

Store trusses in vertical position resting on bearing ends.

PART 2 PRODUCTS2.01TRUSSESA.

Wood Trusses:

Design and fabricate trusses in accordance with ANSI/TPI 1 and to achieve specified design requirements indicated.

1.

Design and fabricate temporary bracing in accordance with TPI DSB-89.

2.

Connectors: Steel plate.

3.

Structural Design: Comply with applicable code for structural loading criteria.

4.

Floor Deflection: 1/360, maximum.

5.

Roof Deflection: 1/240, maximum.

2.02MATERIALS A.

Lumber:

1.

Moisture Content: Between 7 and 9 percent.

2.

Lumber fabricated from old growth timber is not permitted.

3.

Provide sustainably harvested lumber, certified or labeled as specified in Section 016000.

B.

Steel Connectors:

Hot-dipped galvanized steel sheet, ASTM A653/A653M Structural Steel (SS) Grade 33/230, with G90/Z275 coating; die stamped with integral teeth; thickness as indicated.

C.

Truss Bridging:

Type, size and spacing recommended by truss manufacturer.

2.03ACCESSORIES A.

Wood Blocking, Bridging, Plates, and Miscellaneous Framing:

Softwood lumber, any species, construction grade, 19 percent maximum and 7 percent minimum moisture content.

B.

Fasteners:

Electrogalvanized steel, type to suit application.

C.

Bearing Plates:

Electrogalvanized steel.

PART 3 EXECUTION3.01EXAMINATION A.

Verify that field measurements are as indicated.

B.

Verify that supports and openings are ready to receive trusses.

3.02PREPARATION A.

Coordinate placement of support items.

3.03ERECTION A.

Install trusses in accordance with manufacturer's instructions, SBCA (BCSI);

maintain a copy of applicable documents on site until installation is complete.

B.

Set members level and plumb, in correct position.

C.

Make provisions for erection loads, and for sufficient temporary bracing to maintain structure plumb, and in true alignment until completion of erection and installation of permanent bracing.

D.

Do not field-cut or alter structural members without approval of Architect and Engineer.

E.

Install permanent bridging and bracing.

F.

Install headers and supports to frame openings required.

G.

Coordinate placement of decking with work of this section.

H.

After erection, touch-up primed surfaces with primer consistent with shop coat.

3.04TOLERANCES A.

Framing Members:

1/2 inch (12 mm) maximum, from true position.

END OF SECTIONSECTION 061800GLUED-LAMINATED CONSTRUCTIONPART 1 GENERAL

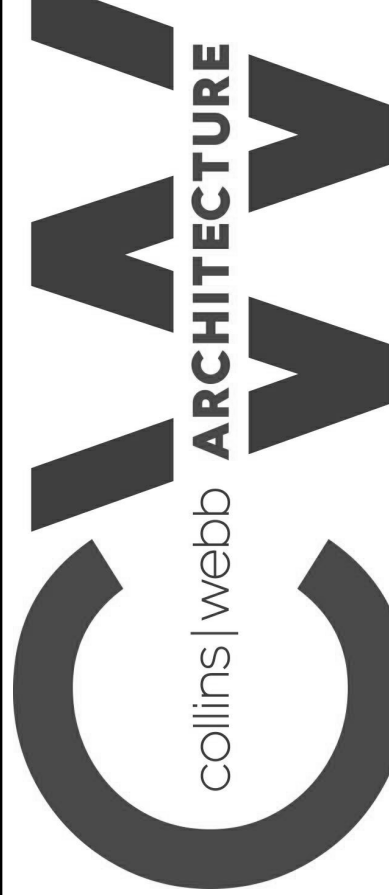
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# PERMIT SET

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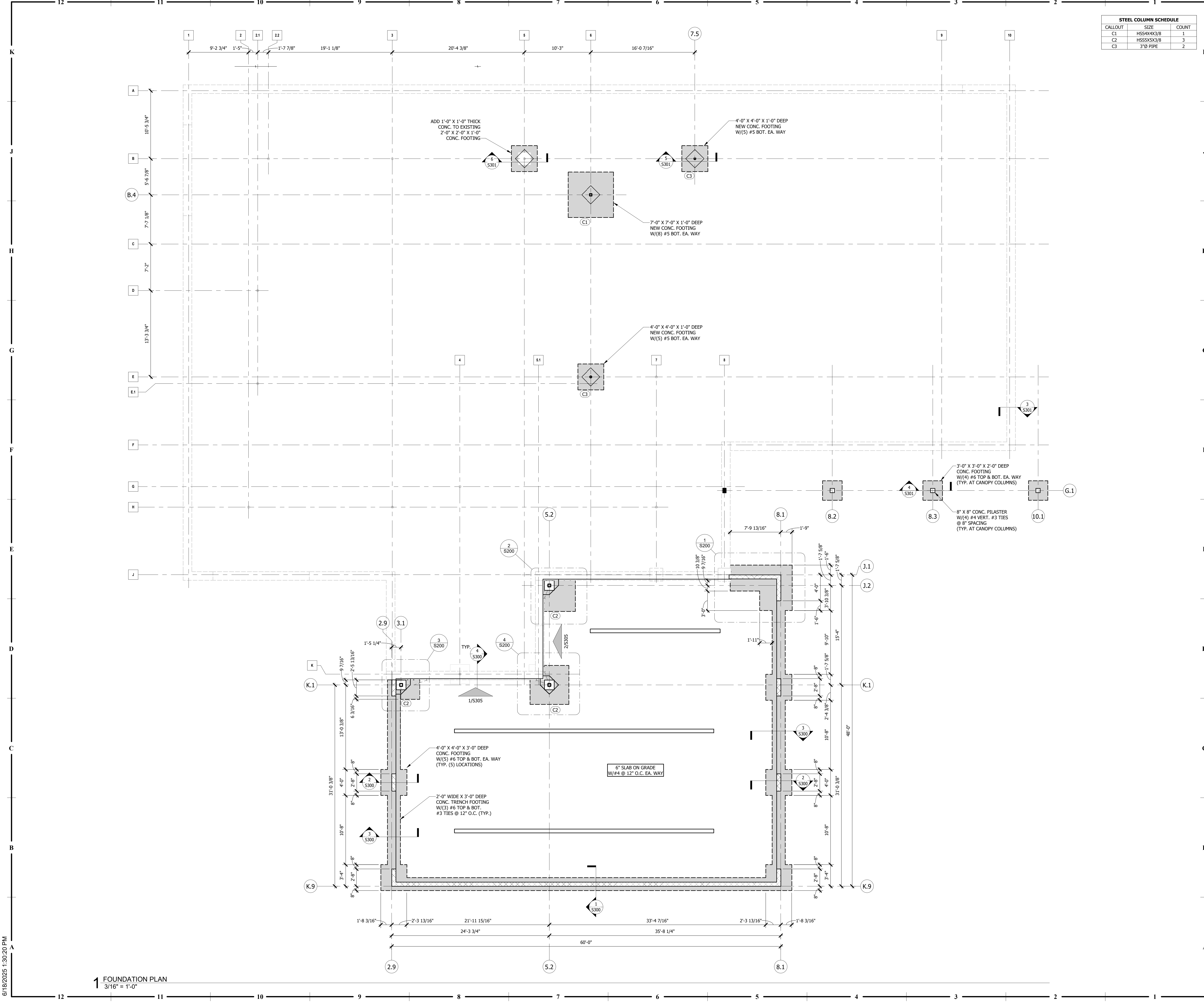
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## SPECIFICATIONS



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STEEL COLUMN SCHEDULE		
CALLOUT	SIZE	COUNT
C1	HSS4X4X3/8	1
C2	HSS3X3X3/8	3
C3	3"Ø PIPE	2

FOUNDATION PLAN NOTES

- TOP OF CONCRETE SLAB ELEVATION = 100'-0".
- 6" SLAB ON GRADE TO BE REINFORCED WITH #4 @ 12" O.C. OVER 6" GRANULAR FILL AND 15 MIL VAPOR BARRIER, UNLESS NOTED OTHERWISE.
- ALL LOAD-BEARING WALLS TO BE 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL LOAD-BEARING WALLS TO HAVE DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE.
- ALL EXTERIOR WALLS TO BE SHEATHED WITH 15/32" APA RATED STRUCTURAL I OSB, UNLESS NOTED OTHERWISE.
- COORDINATE LOCATION OF ALL NON-LOAD-BEARING STUD WALLS WITH ARCHITECTURAL DRAWINGS.
- PROVIDE #4 X 5'-0" LONG AT ALL RE-ENTRANT CORNERS.
- DURING INSTALLATION OF POST CONSTRUCTION ANCHORS, CARE MUST BE TAKEN TO AVOID ALL REINFORCING.
- REFER TO SHEET S500 FOR TYPICAL DETAILS.
- COORDINATE ALL FLOOR AND WALL PENETRATIONS WITH ALL OTHER DISCIPLINES.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.

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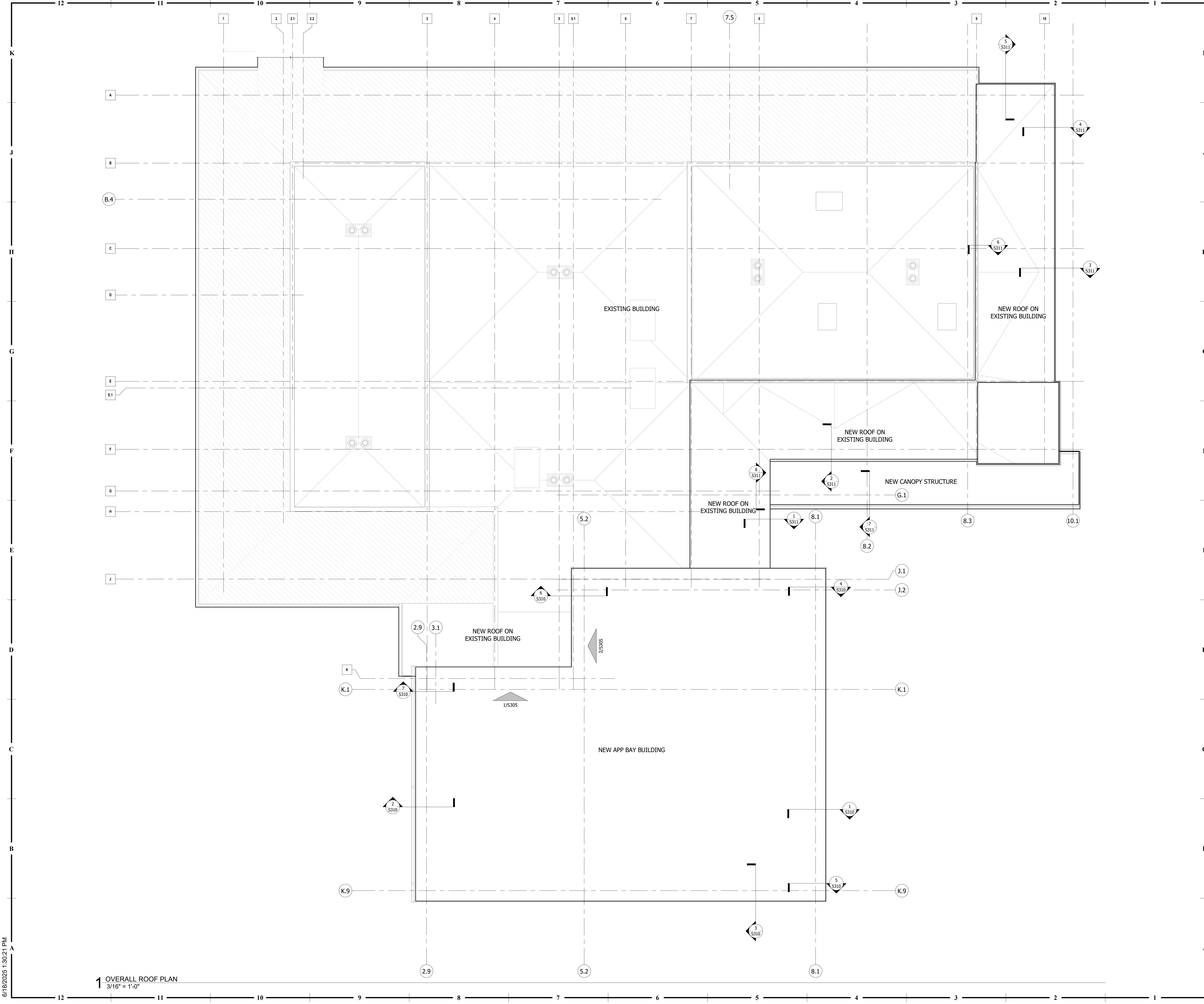
FOUNDATION PLAN



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1 OVERALL ROOF PLAN  
3/16" = 1'-0"

- ROOF FRAMING PLAN NOTES**
- WOOD ROOF DECK TO BE 3/4" PLYWOOD DECK. REFER TO PLAN FOR ELEVATIONS AND SLOPING INFORMATION.
  - STEEL ROOF DECK TO BE 1-18 18 GA. FASTENED WITH #12 TEK SCREWS IN A 36/4 PATTERN AT ALL SUPPORTS AND #10 TEK SCREWS @ 12" O.C. AT SIDE LAPS.
  - ALL LOAD-BEARING WALLS TO BE 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL LOAD-BEARING WALLS TO HAVE DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE.
  - ALL EXTERIOR WALLS TO BE SHEATHED WITH 15/32" APA RATED STRUCTURAL I OSB, UNLESS NOTED OTHERWISE. COORDINATE LOCATION OF ALL NON-LOAD-BEARING STUD WALLS WITH ARCHITECTURAL DRAWINGS. PROVIDE A 1" GAP BETWEEN TOP OF STUD AND BOTTOM OF ROOF FRAMING.
  - PROVIDE (2) JACK STUDS UNDER ALL HEADERS AND BEAMS UNLESS NOTED OTHERWISE.
  - ALL JACK STUDS TO BE CARRIED DOWN TO THE FOUNDATION LEVEL.
  - REFER TO SHEET S500 FOR TYPICAL DETAILS.
  - COORDINATE ALL ROOF AND WALL PENETRATIONS WITH ALL OTHER DISCIPLINES.
  - REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.

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## S110

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OVERALL ROOF PLAN



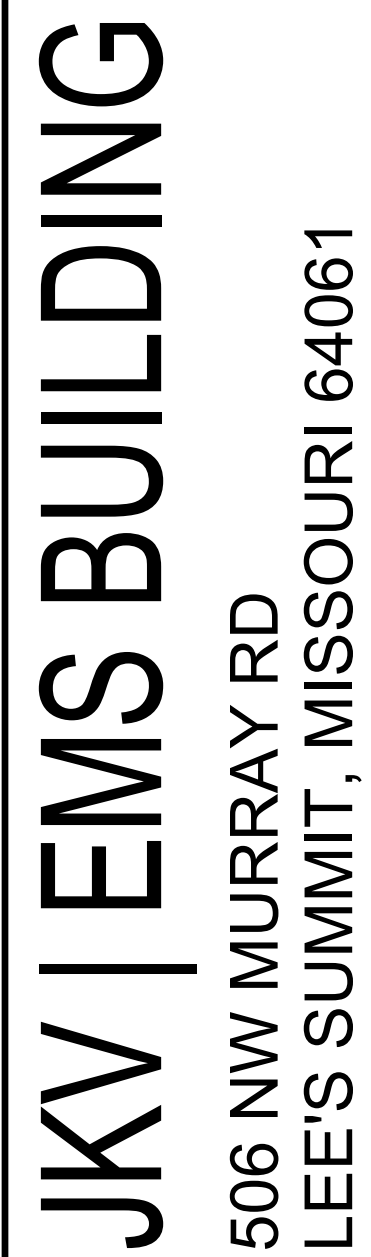
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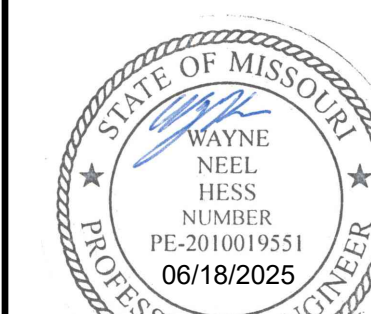
**1** EXISTING ROOF MODIFICATIONS PLAN  
3/16" = 1'-0"

2. **ROOF FRAMING PLAN NOTES**
1. WOOD ROOF DECK TO BE 3/4" PLYWOOD  
DECK. REFER TO PLAN FOR ELEVATIONS  
AND SLOPING INFORMATION.
2. ROOF DECK TO BE 1-18 IN GA.  
SHEATHING WITH #12 TIE SCREWS IN A  
3/64" PATTERN AT ALL SUPPORTS AND #10  
TIE SCREWS AT 12" O.C. AT ALL JOINTS.
3. ALL LOAD-BEARING WALLS TO BE 2X6 @  
16" O.C. UNLESS NOTED OTHERWISE. ALL  
LOAD-BEARING WALLS TO BE DOUBLE  
TOP PLATE AND SINGLE BOTTOM PLATE.  
ALL EXTERIOR WALLS TO BE SHEATHED  
WITH 1/32" APA RATED STRUCTURAL I  
OR II PLYWOOD. SEE NOTES FOR  
COORDINATE LOCATION OF ALL NON-  
LOAD-BEARING STUD WALLS WITH  
CONCRETE FOUNDATIONS. PROVIDE A  
1" GAP BETWEEN TOP OF STUD AND  
BOTTOM OF ROOF FRAMING.
4. PROVIDE (2) JACK STUDS UNDER ALL  
COLUMNS AND BEAMS UNLESS NOTED  
OTHERWISE.
5. ALL JACK STUDS TO BE CARRIED DOWN  
TO A FOUNDATION LEVEL.
6. REFER TO SHEET S500 FOR TYPICAL  
DETAILS.
7. COORDINATE ALL ROOF AND WALL  
PENETRATIONS WITH ALL OTHER  
DISCIPLINES.
8. REFER TO ARCHITECTURAL DRAWINGS  
FOR ALL DIMENSIONS NOT SHOWN ON  
THIS DRAWING.



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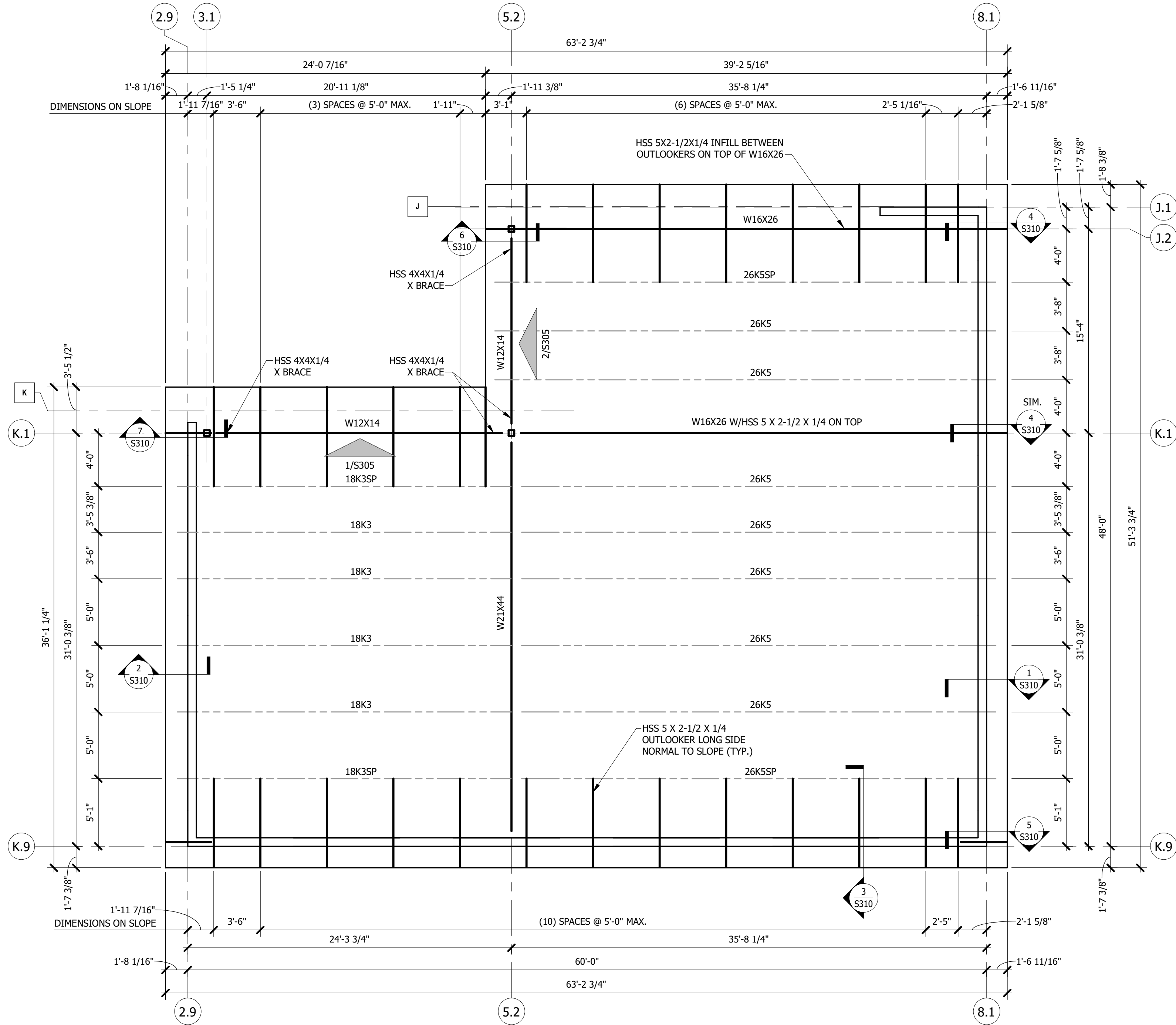
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## EXISTING ROOF MODIFICATIONS



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1 APP BAY ROOF PLAN  
3/16" = 1'-0"



- ROOF FRAMING PLAN NOTES**
- WOOD ROOF DECK TO BE 3/4" PLYWOOD DECK. REFER TO PLAN FOR ELEVATIONS AND SLOPING INFORMATION.
  - STEEL ROOF DECK TO BE 1.5B 18 GA. FASTENED WITH #12 TEK SCREWS IN A 36/4 PATTERN AT ALL SUPPORTS AND #10 TEK SCREWS @ 12" O.C. AT SIDE LAPS.
  - ALL LOAD-BEARING WALLS TO BE 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL LOAD-BEARING WALLS TO HAVE DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE. ALL EXTERIOR WALLS TO BE SHEATHED WITH 15/32" APA RATED STRUCTURAL I OSB, UNLESS NOTED OTHERWISE. COORDINATE LOCATION OF ALL NON-LOAD-BEARING STUD WALLS WITH ARCHITECTURAL DRAWINGS. PROVIDE A 1" GAP BETWEEN TOP OF STUD AND BOTTOM OF ROOF FRAMING.
  - PROVIDE (2) JACK STUDS UNDER ALL HEADERS AND BEAMS UNLESS NOTED OTHERWISE.
  - ALL JACK STUDS TO BE CARRIED DOWN TO THE FOUNDATION LEVEL. REFER TO SHEET 5500 FOR TYPICAL DETAILS.
  - COORDINATE ALL ROOF AND WALL PENETRATIONS WITH ALL OTHER DISCIPLINES. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.

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APP BAY ROOF FRAMING

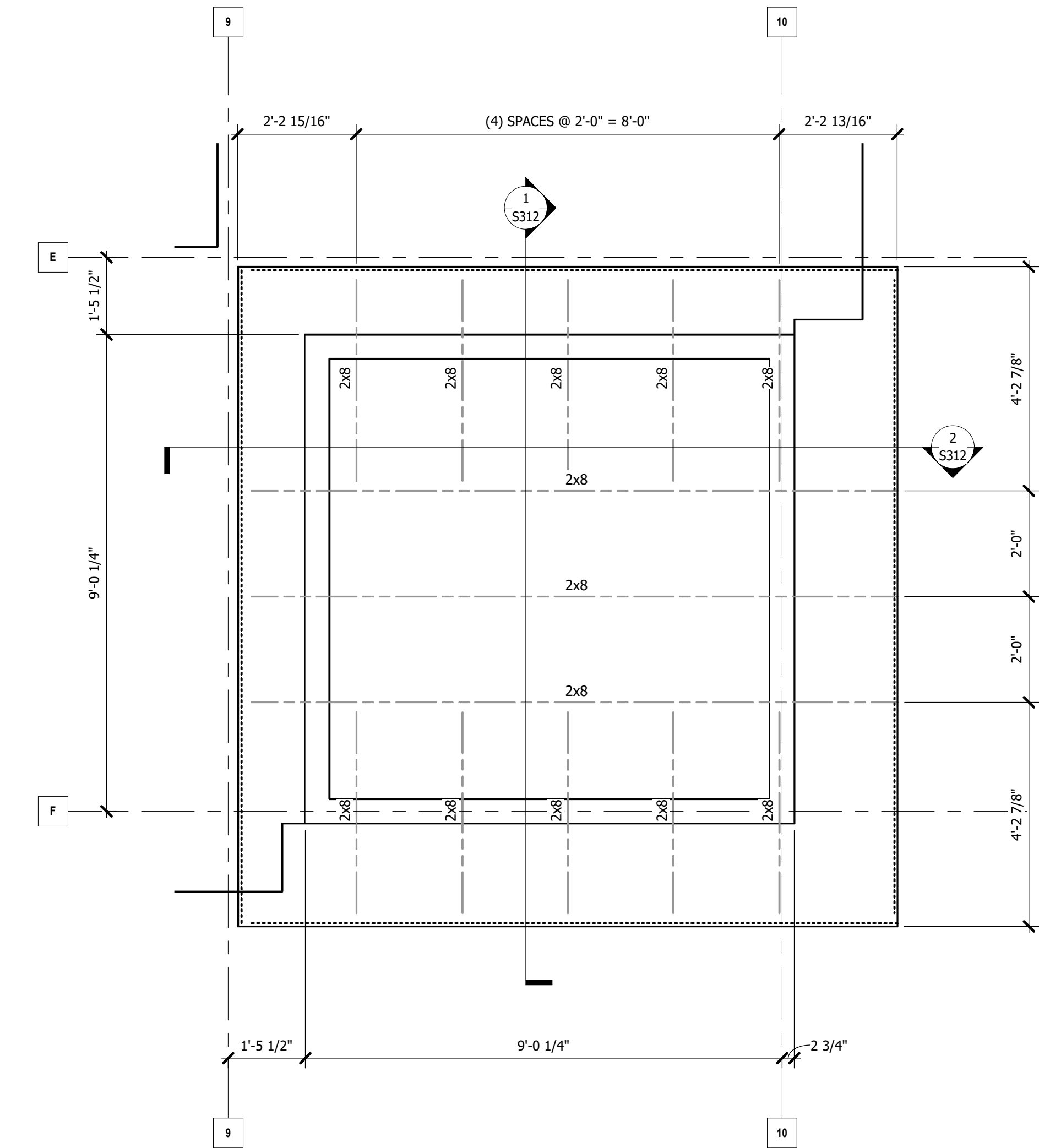


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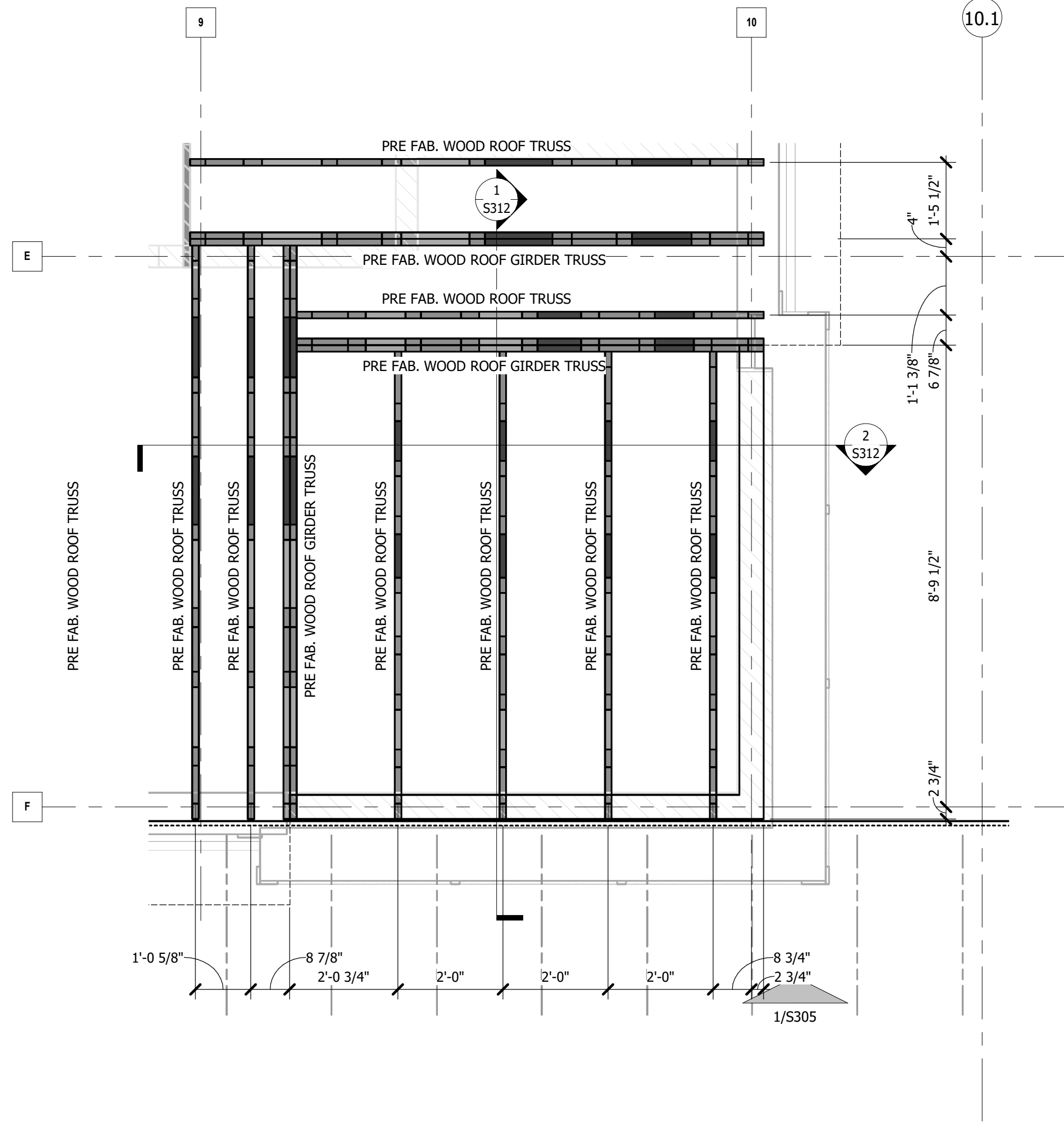
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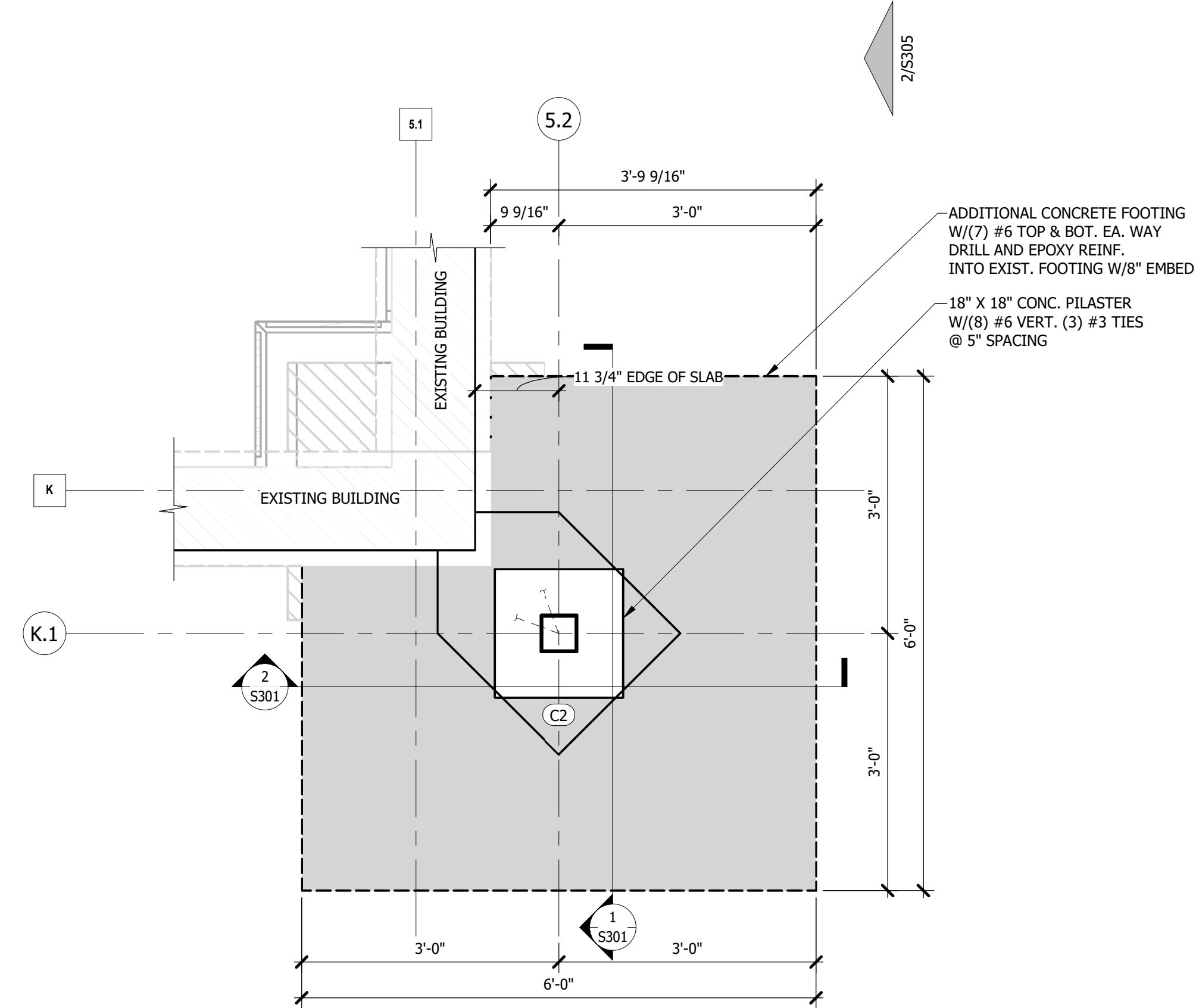
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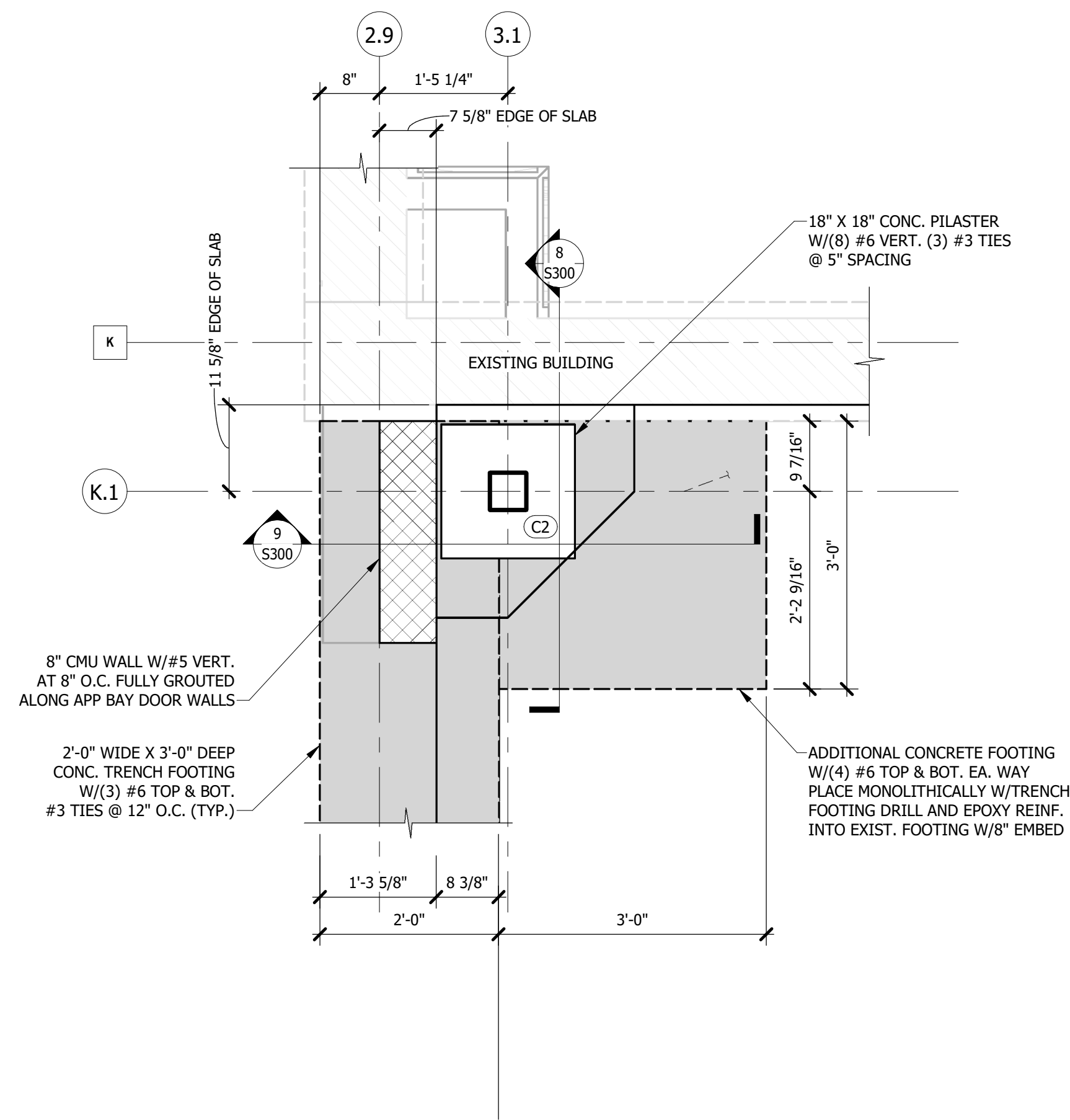
6 TOWER UPPER ROOF PLAN  
1/2" = 1'-0"



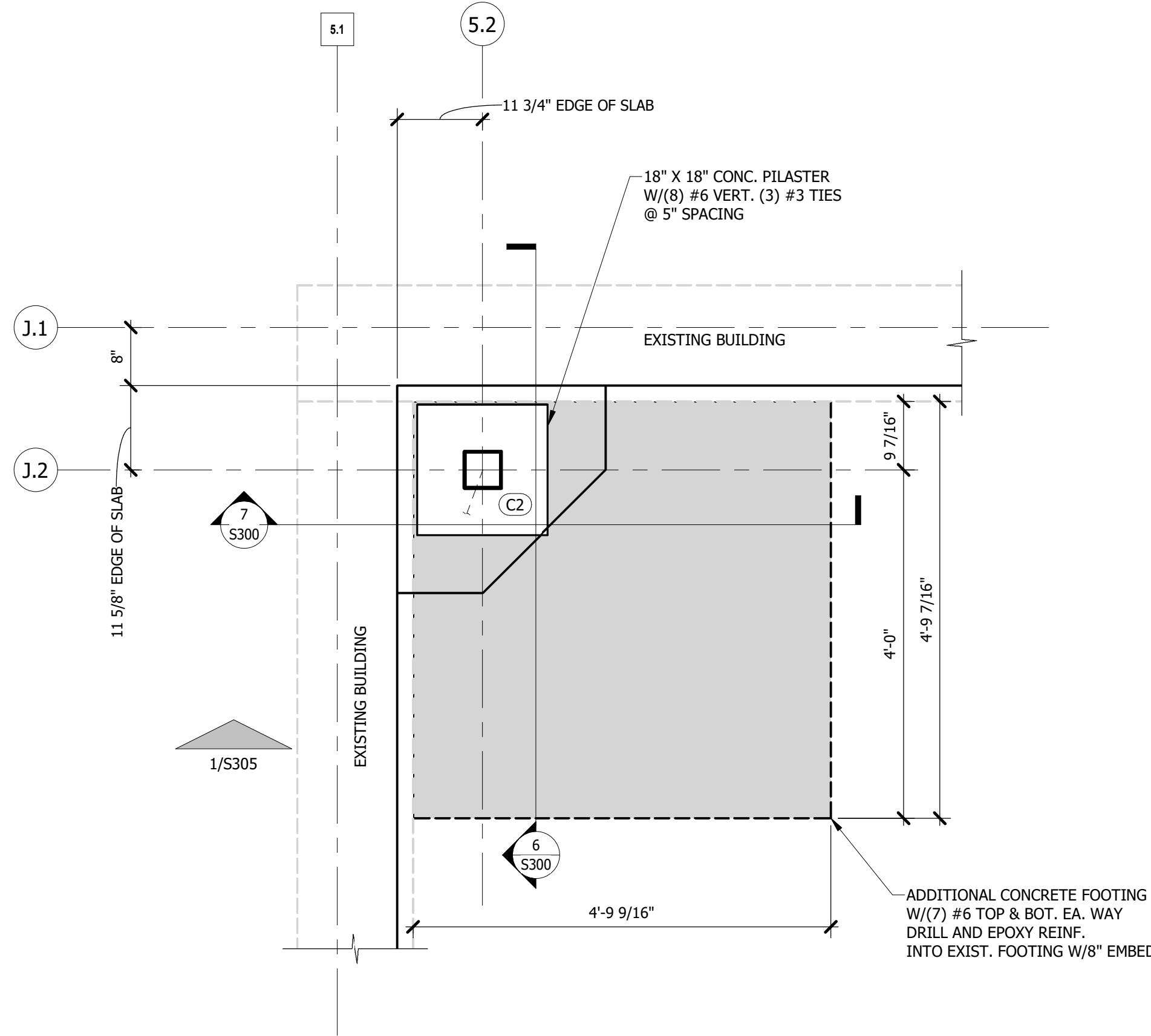
5 TOWER LOWER ROOF PLAN  
1/2" = 1'-0"



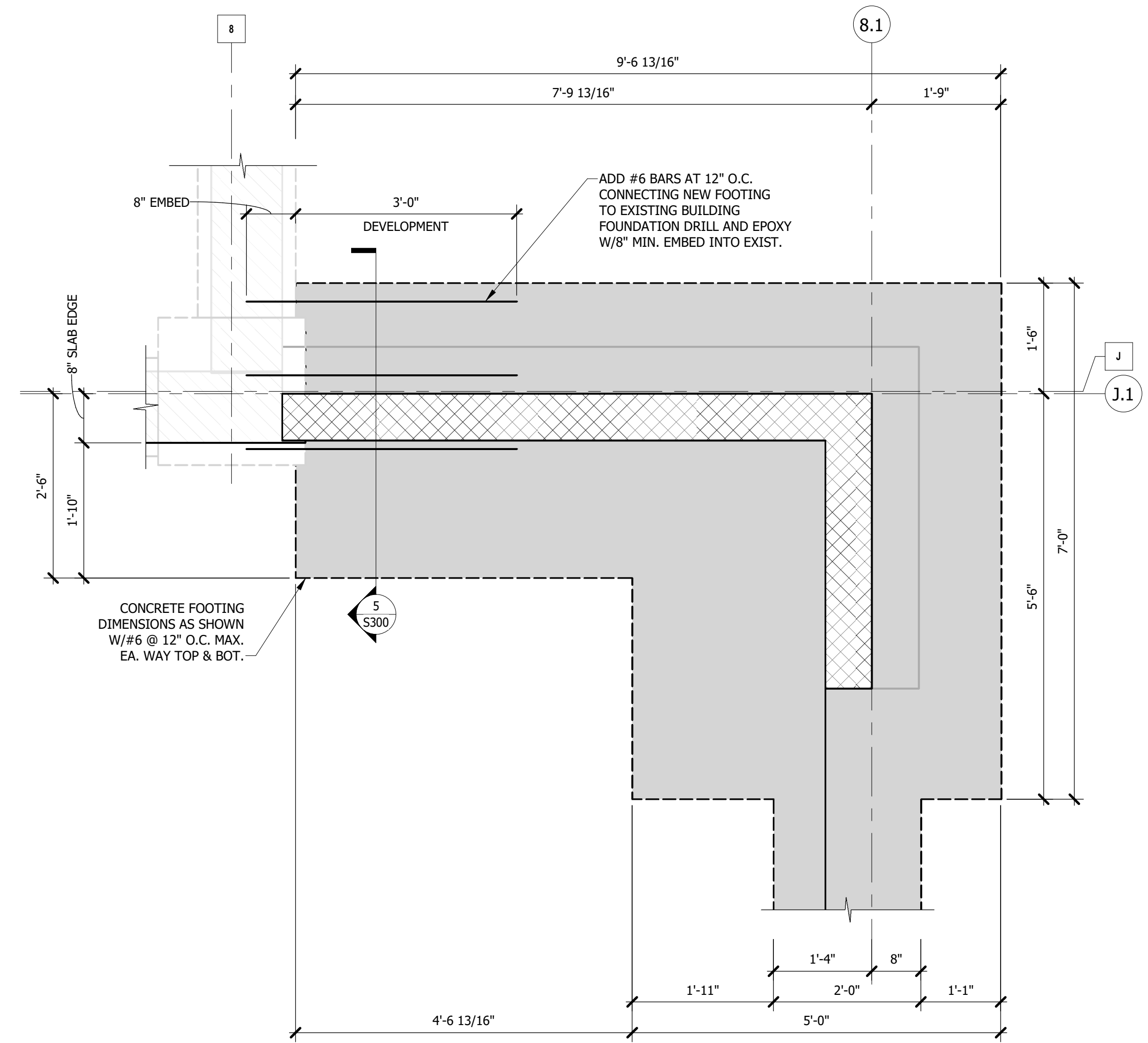
4 FOUNDATION PLAN AT K.1/5.2  
3/4" = 1'-0"



3 FOUNDATION PLAN AT K.1/3.1  
3/4" = 1'-0"



2 FOUNDATION PLAN - AT J.1/5.2  
3/4" = 1'-0"



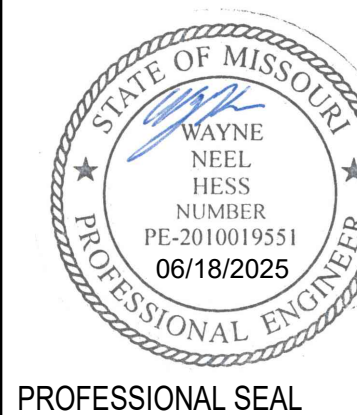
1 FOUNDATION PLAN - AT H.1/8.1  
3/4" = 1'-0"

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**S200**  
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ENLARGED PLANS



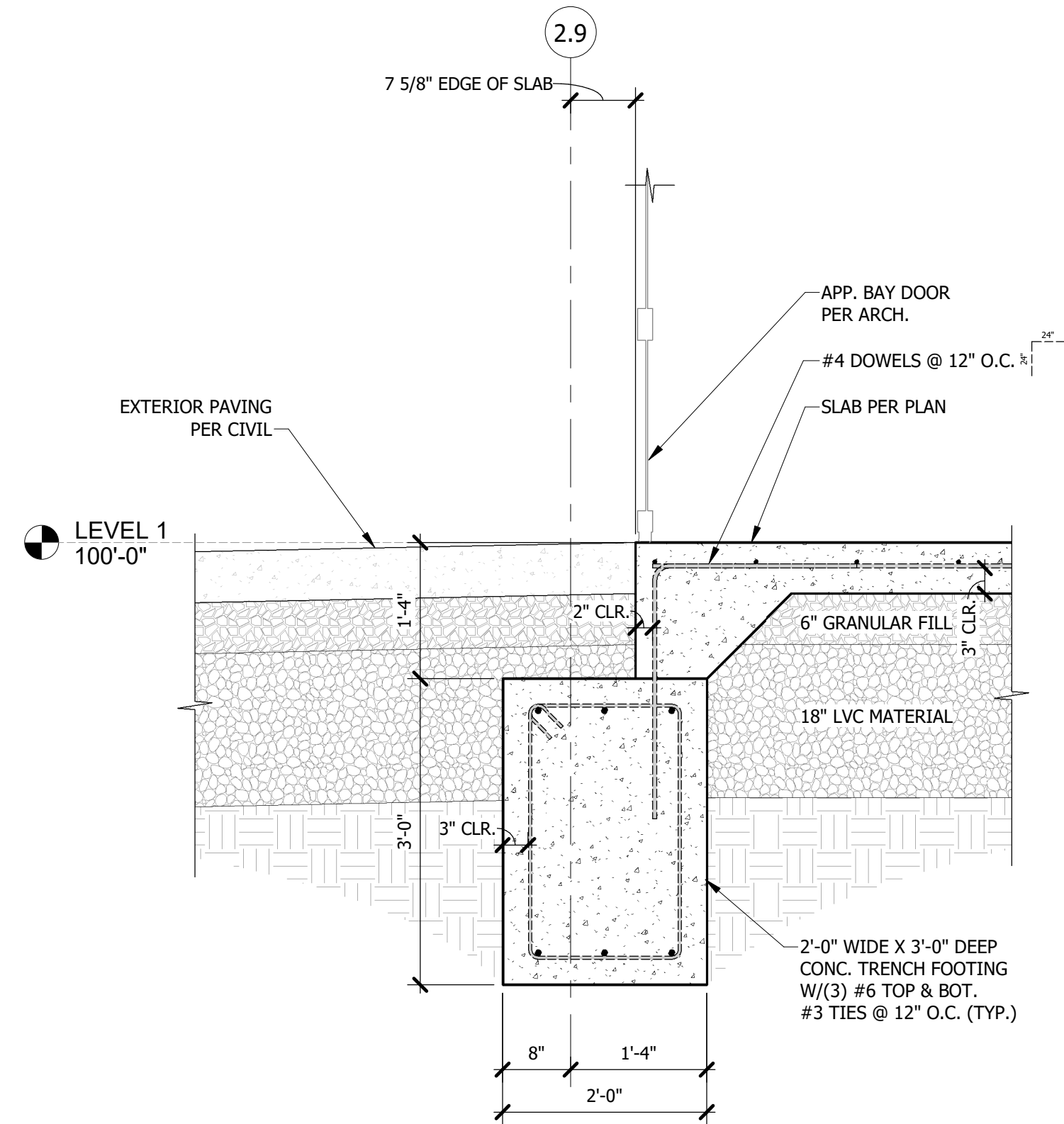
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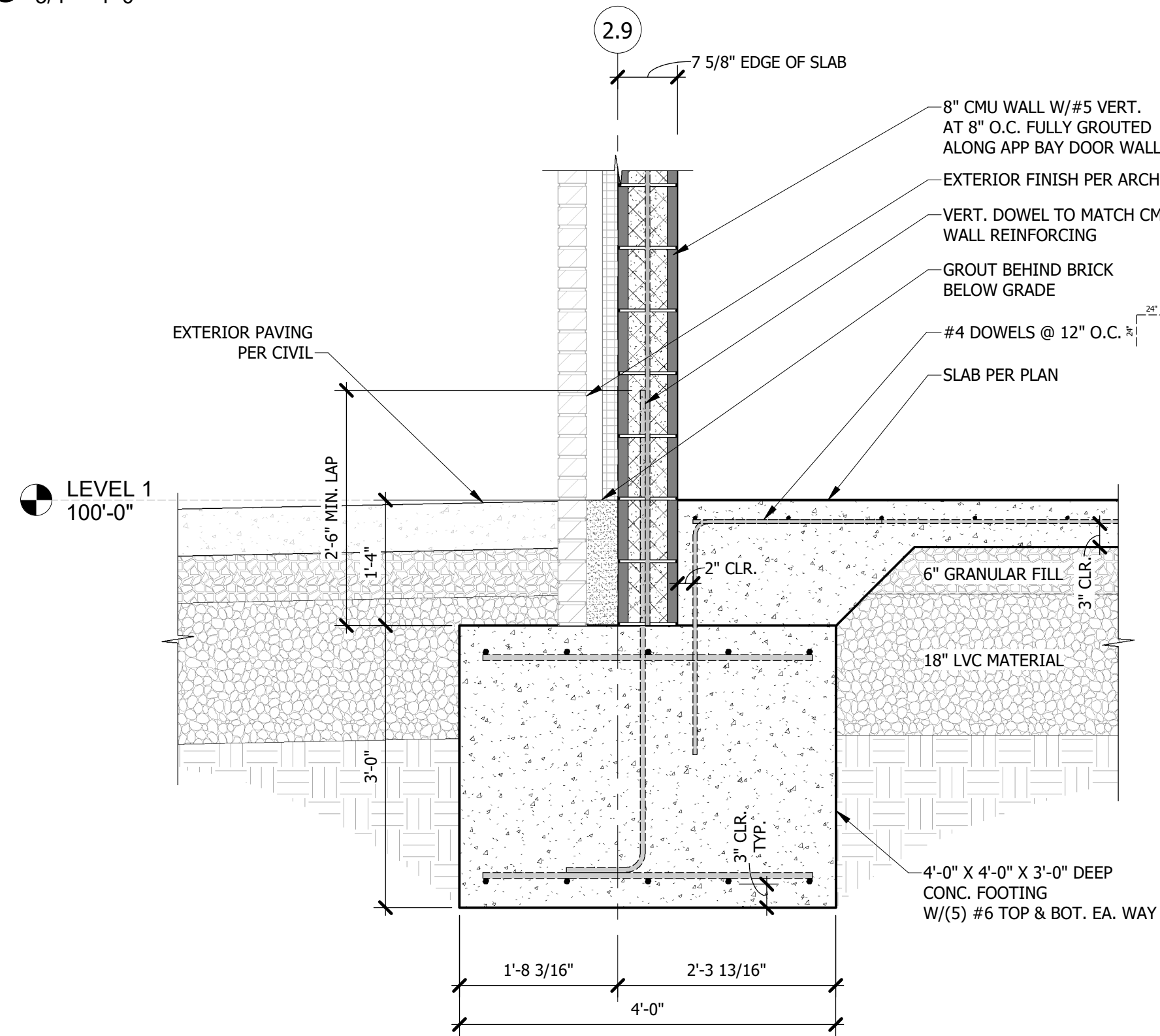


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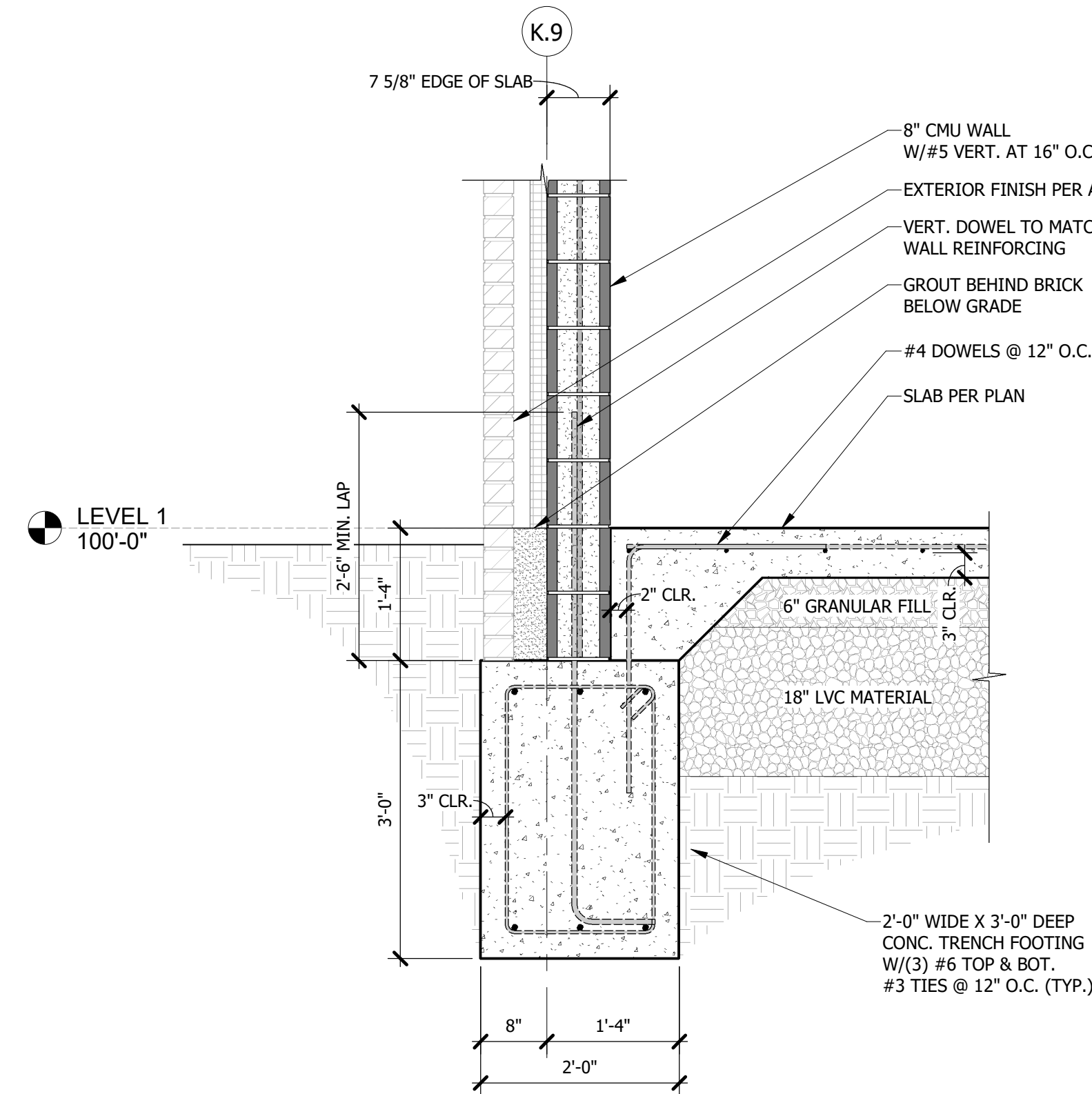
3 TYP. FOOTING AT APP. BAY DOOR  
3/4" = 1'-0"



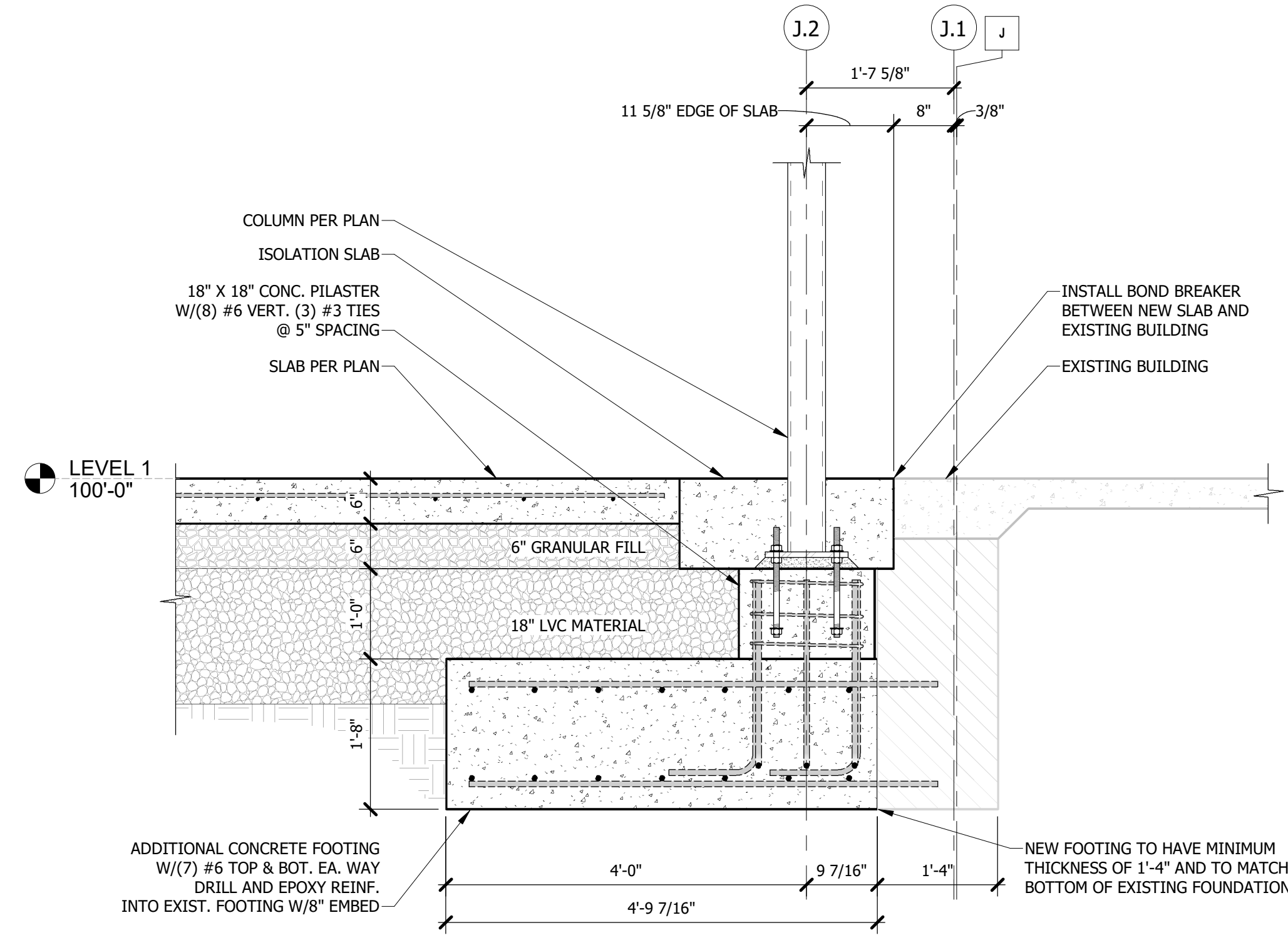
2 TYP. WALL FOOTING BETWEEN APP. BAY DOORS  
3/4" = 1'-0"



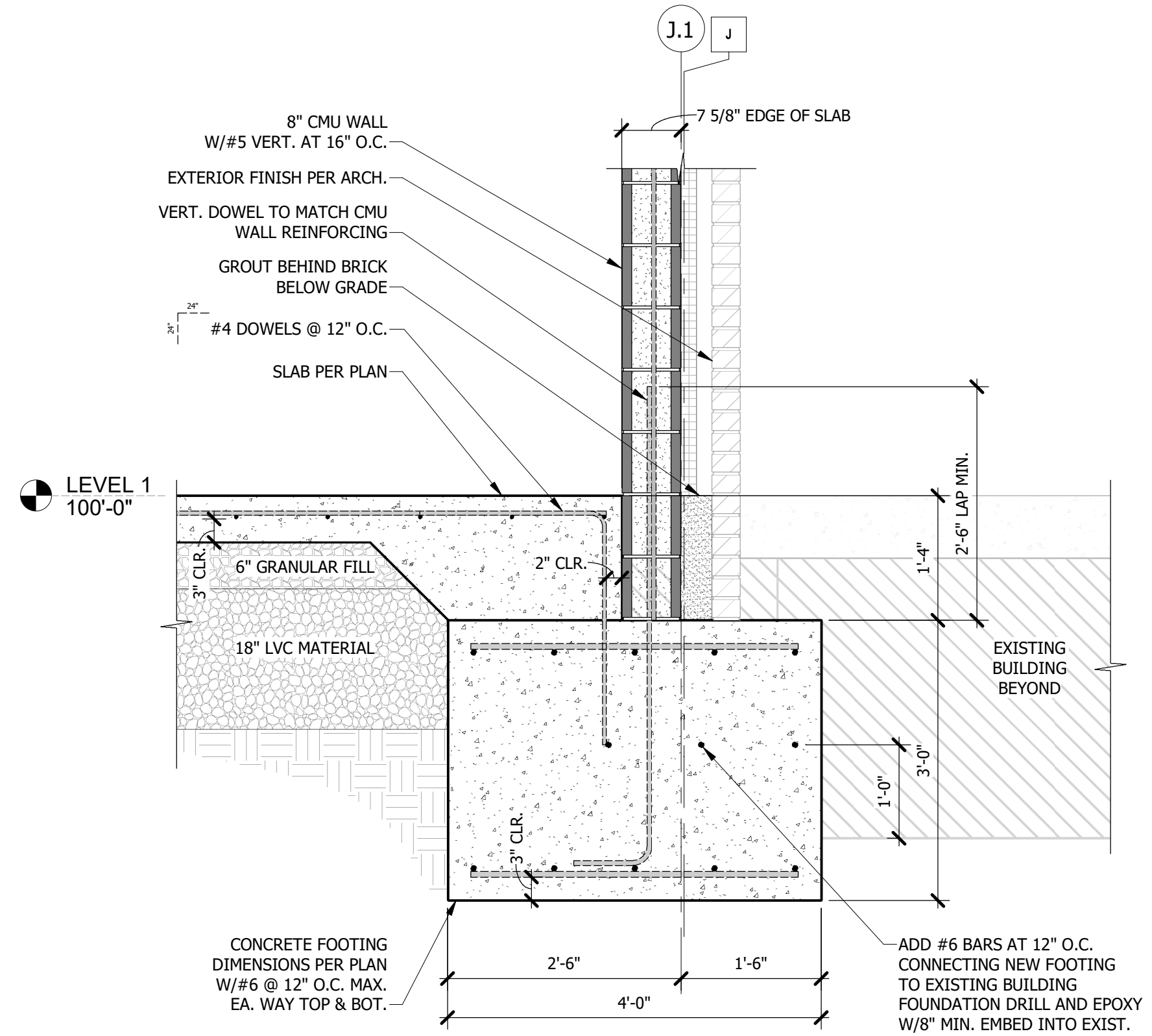
1 TYP. FOOTING AT CMU WALL  
3/4" = 1'-0"



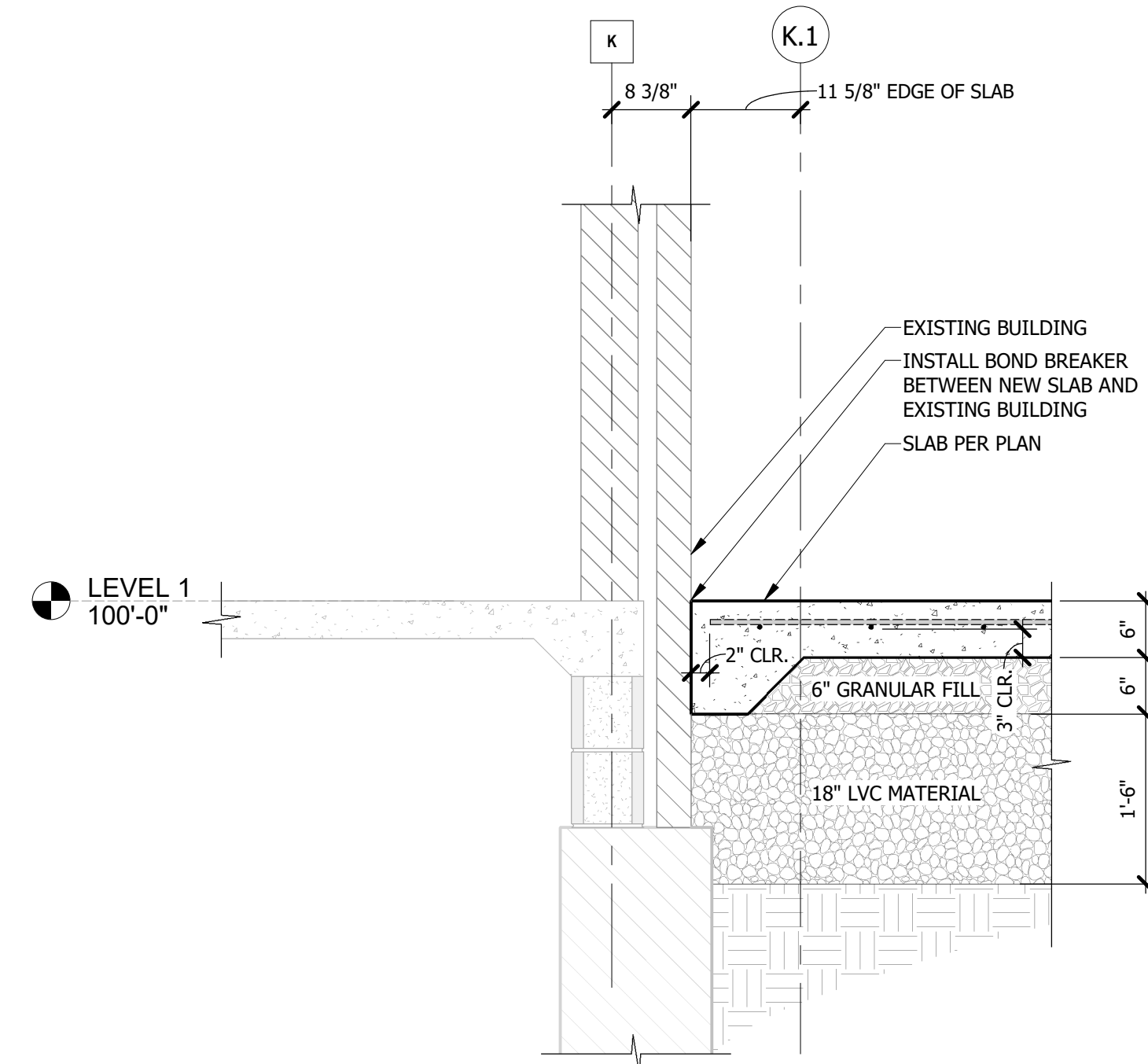
6 J.1/5.2 FOOTING SECTION - 1  
3/4" = 1'-0"



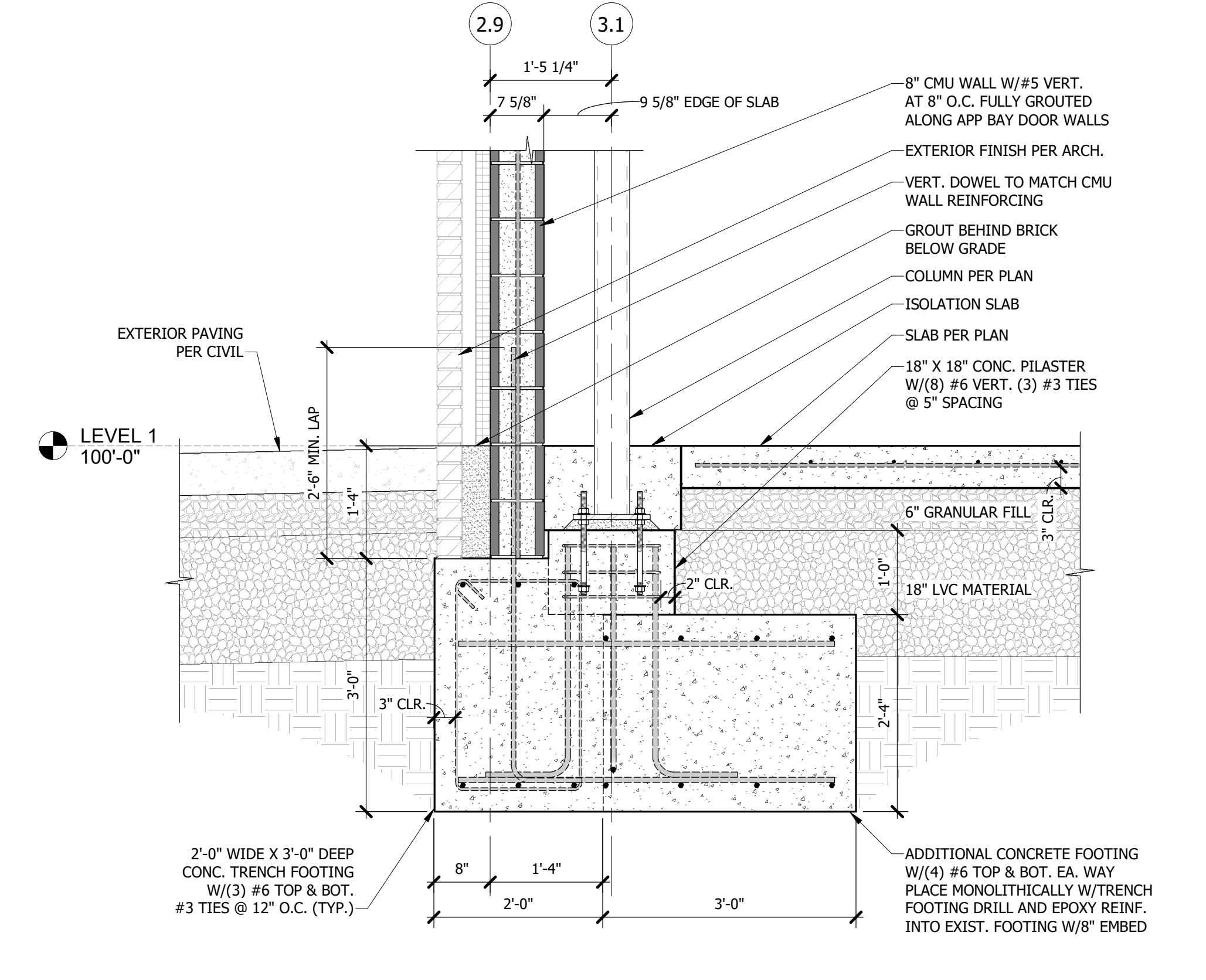
5 H.1/8.1 FOOTING SECTION - 1  
3/4" = 1'-0"



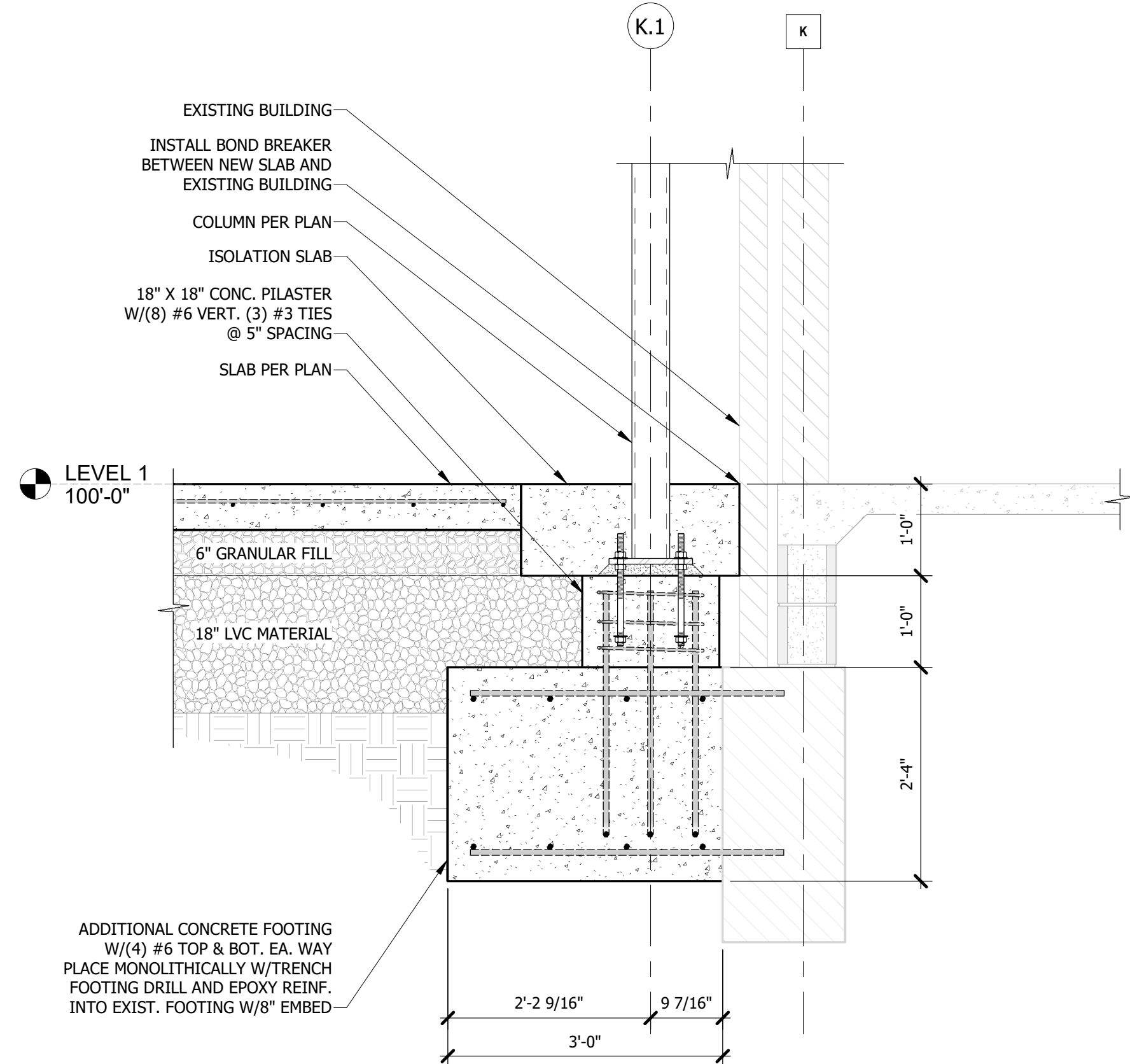
4 NEW SLAB AT EXIST. BLDG.  
3/4" = 1'-0"



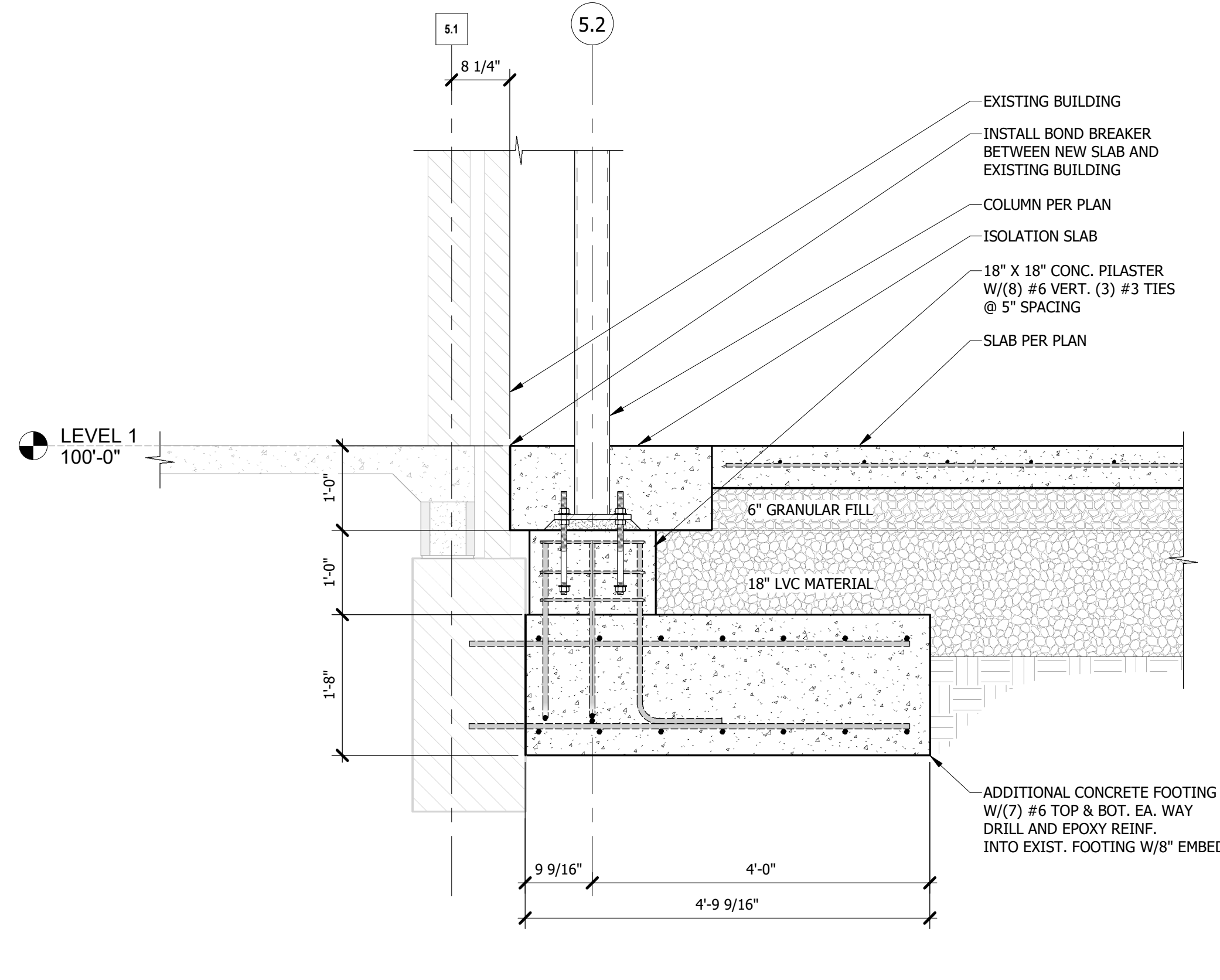
9 K.1/3.1 FOOTING SECTION - 2  
3/4" = 1'-0"



8 K.1/3.1 FOOTING SECTION - 1  
3/4" = 1'-0"



7 J.1/5.2 FOOTING SECTION - 2  
3/4" = 1'-0"



FOUNDATION SECTIONS



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S300

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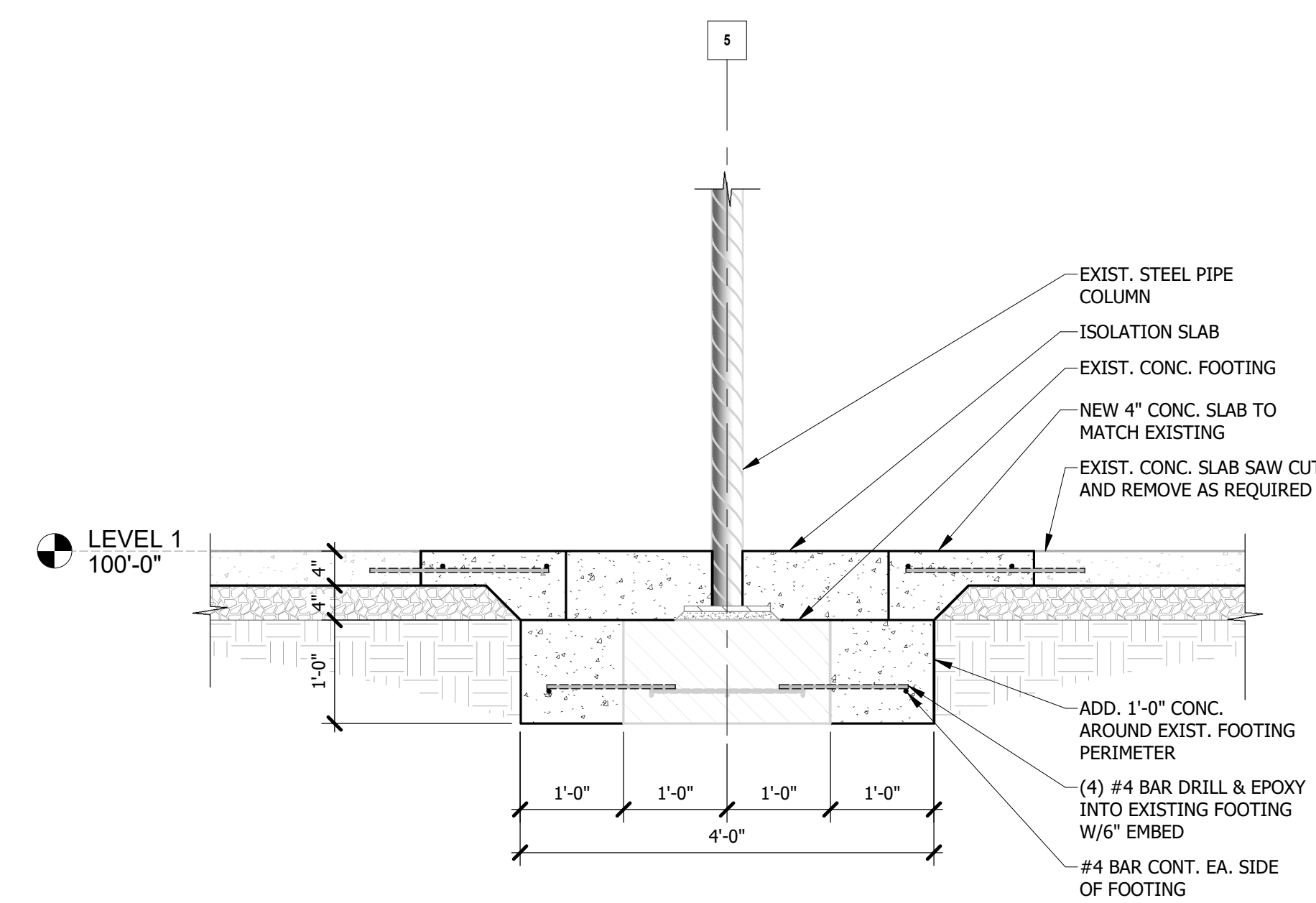
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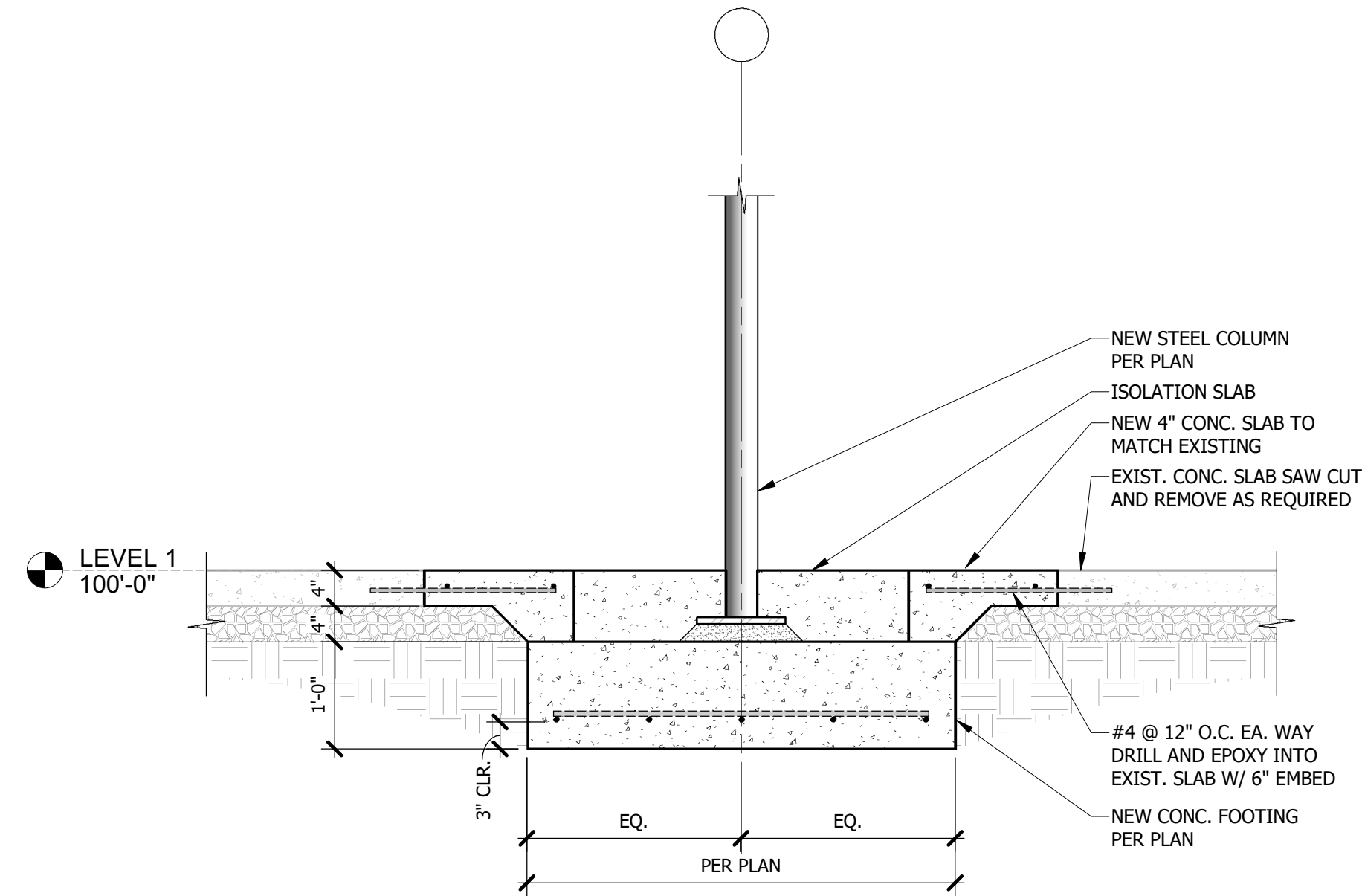
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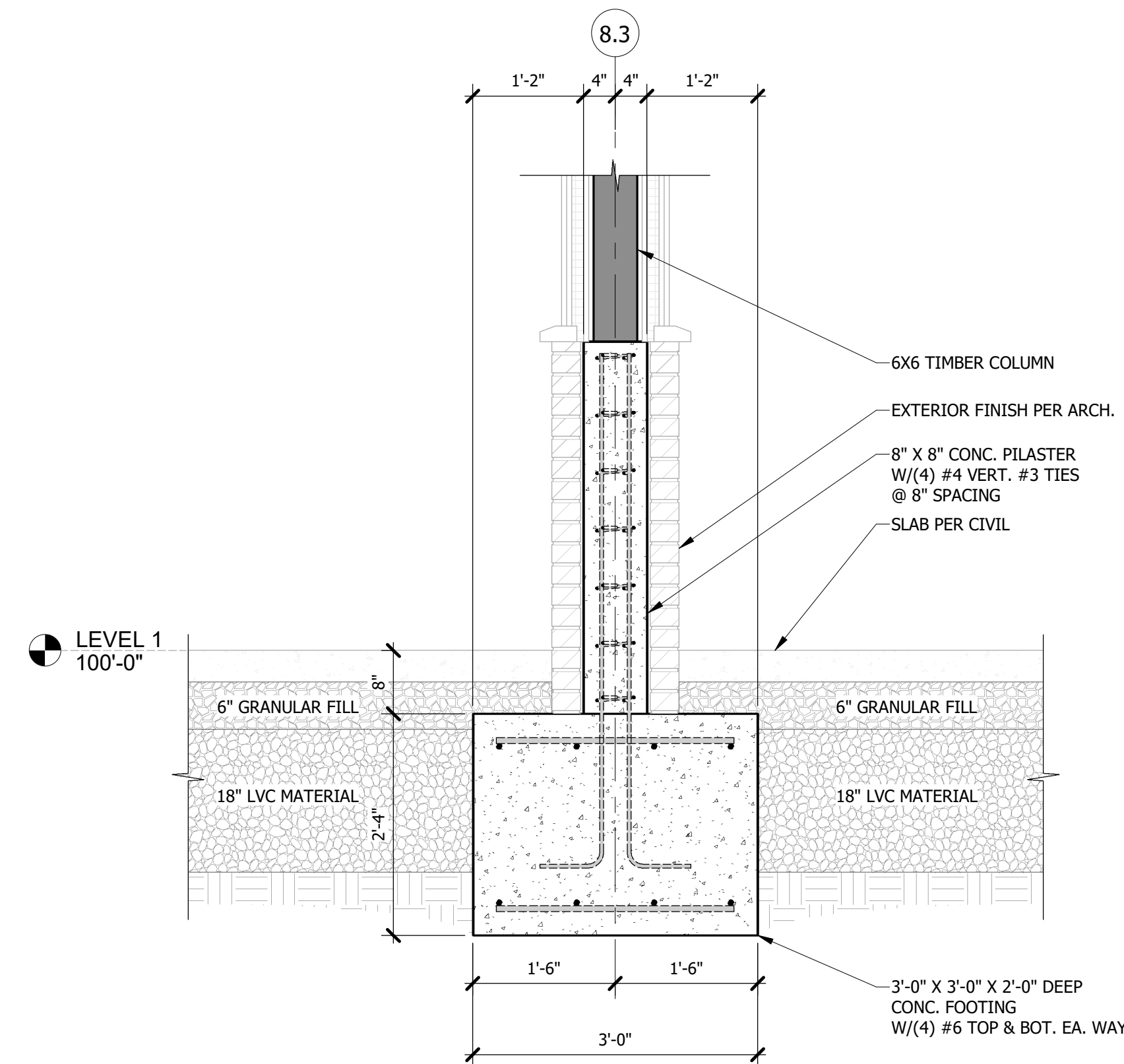
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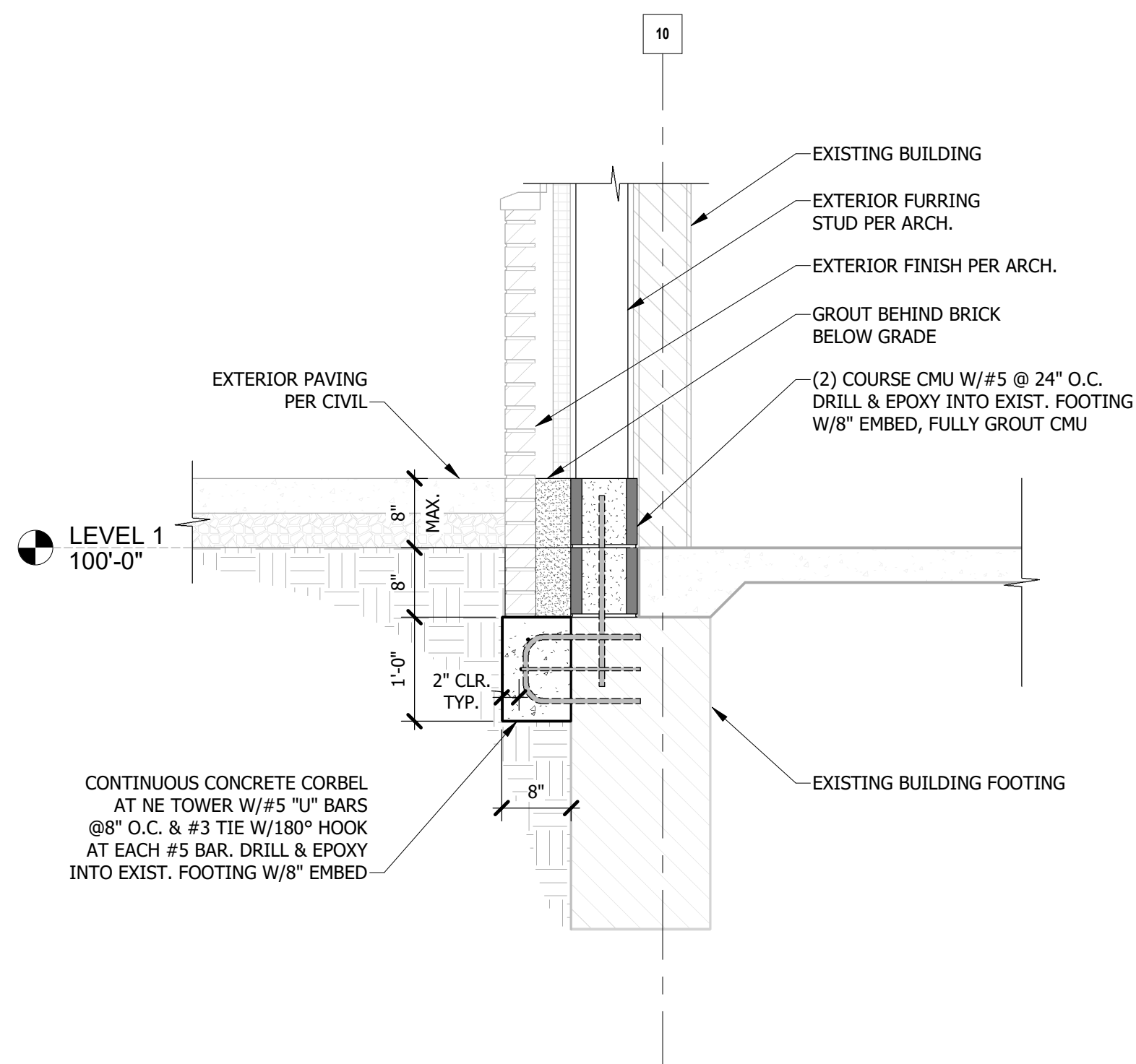
6 ADD. CONC. AT EXIST. FOOTING  
3/4" = 1'-0"



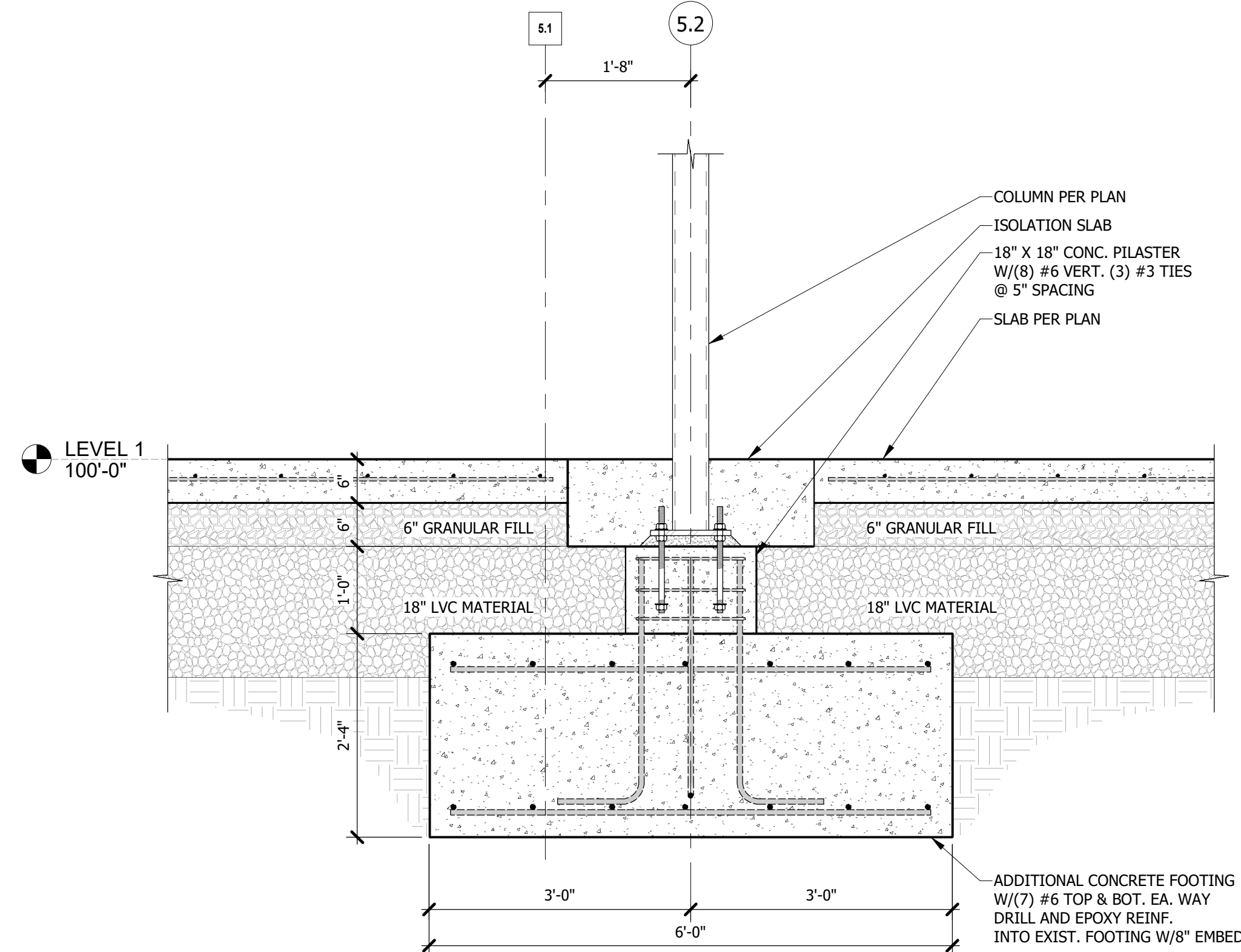
5 TYP. NEW COLUMN & FOOTING IN EXIST. BLDG.  
3/4" = 1'-0"



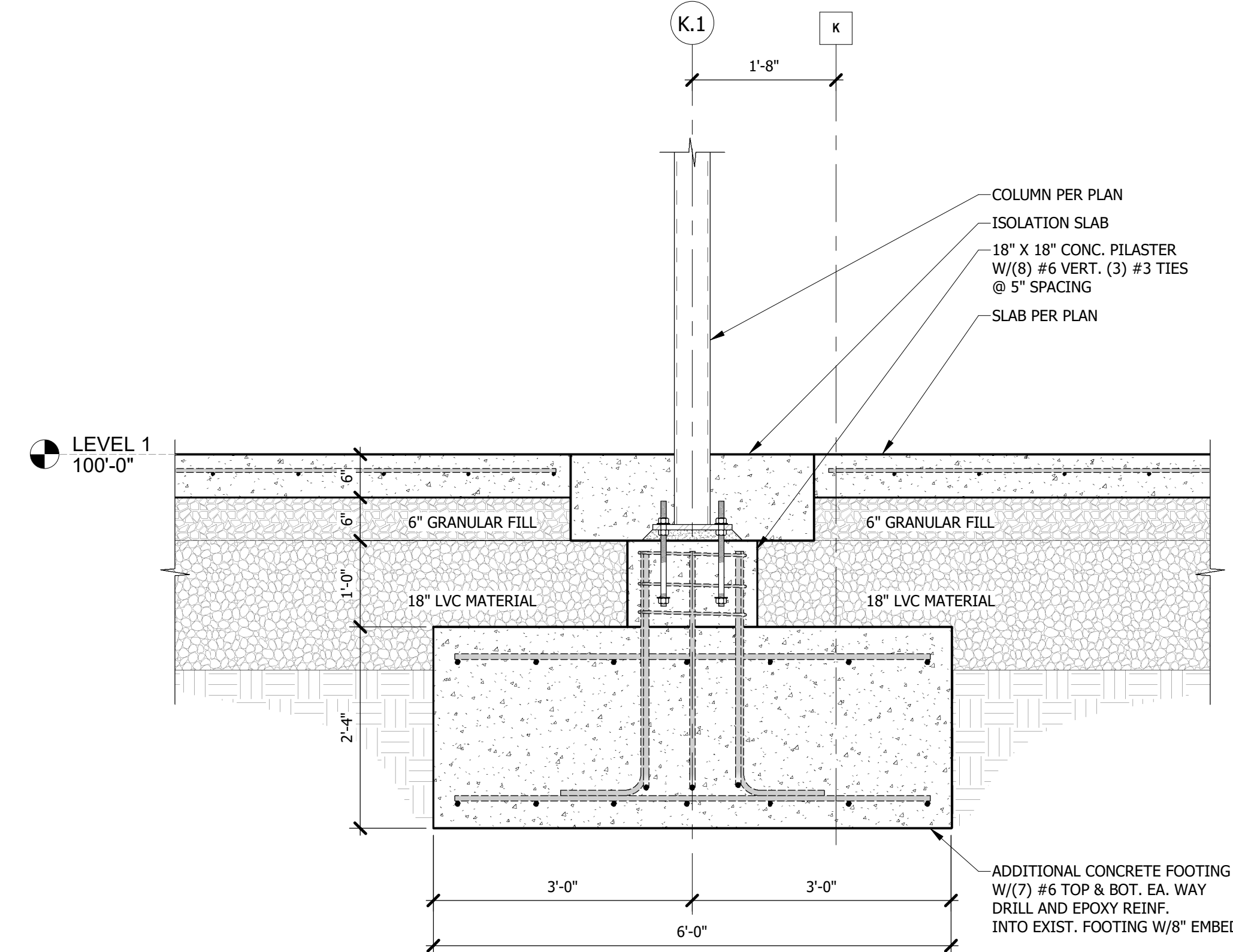
4 TYP. FOUNDATION AT CANOPY COLUMN  
3/4" = 1'-0"



3 NEW BRICK SUPPORT AT EXIST.  
3/4" = 1'-0"



2 K.1/5.2 FOOTING SECTION - 2  
3/4" = 1'-0"



1 K.1/5.2 FOOTING SECTION - 1  
3/4" = 1'-0"

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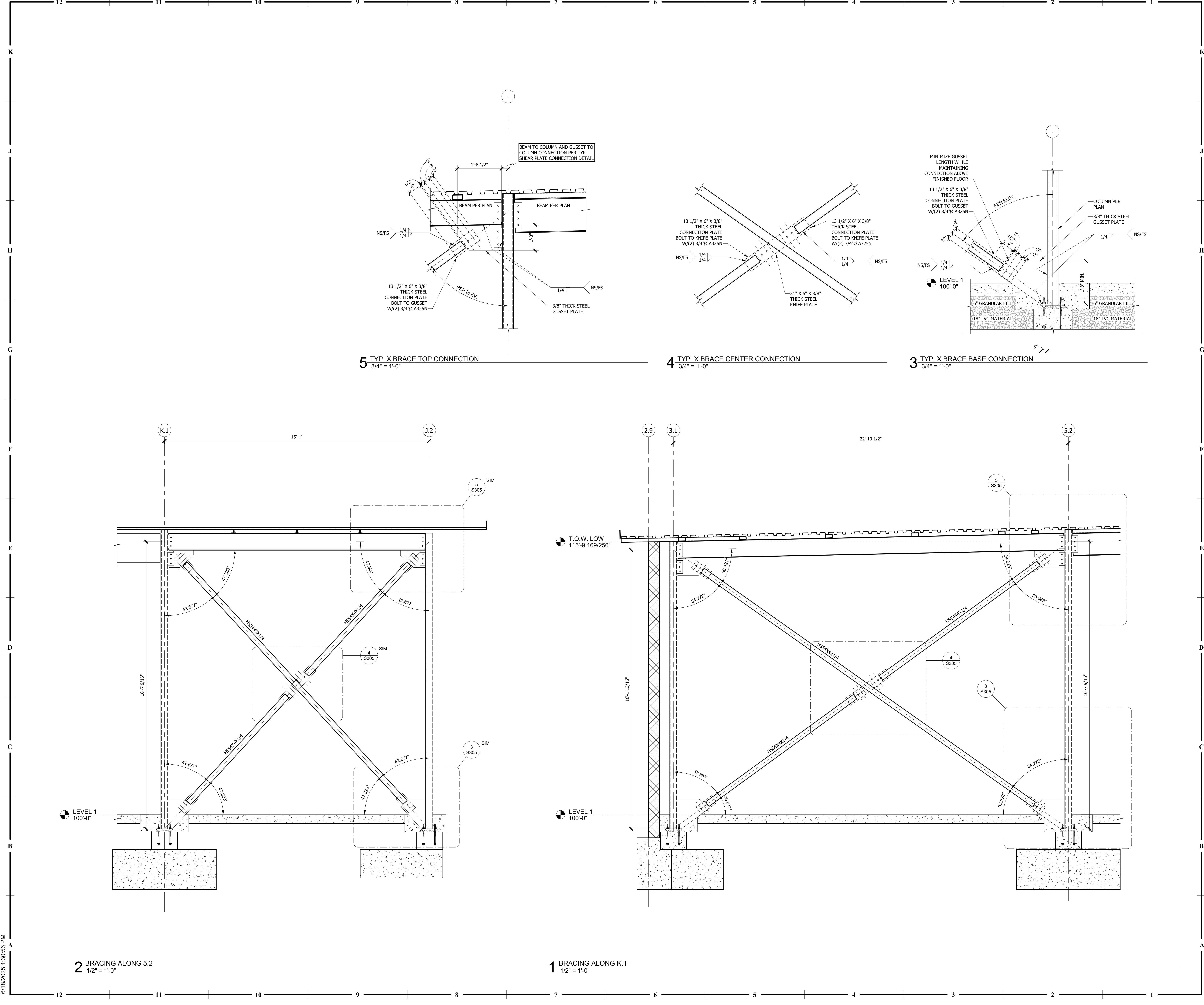
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**S301**

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FOUNDATION SECTIONS



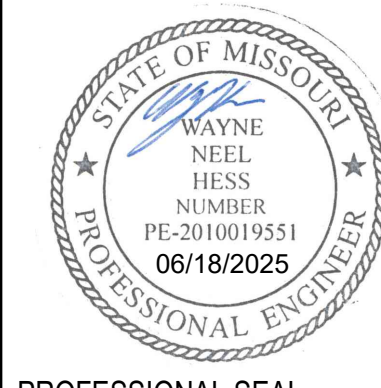


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S305

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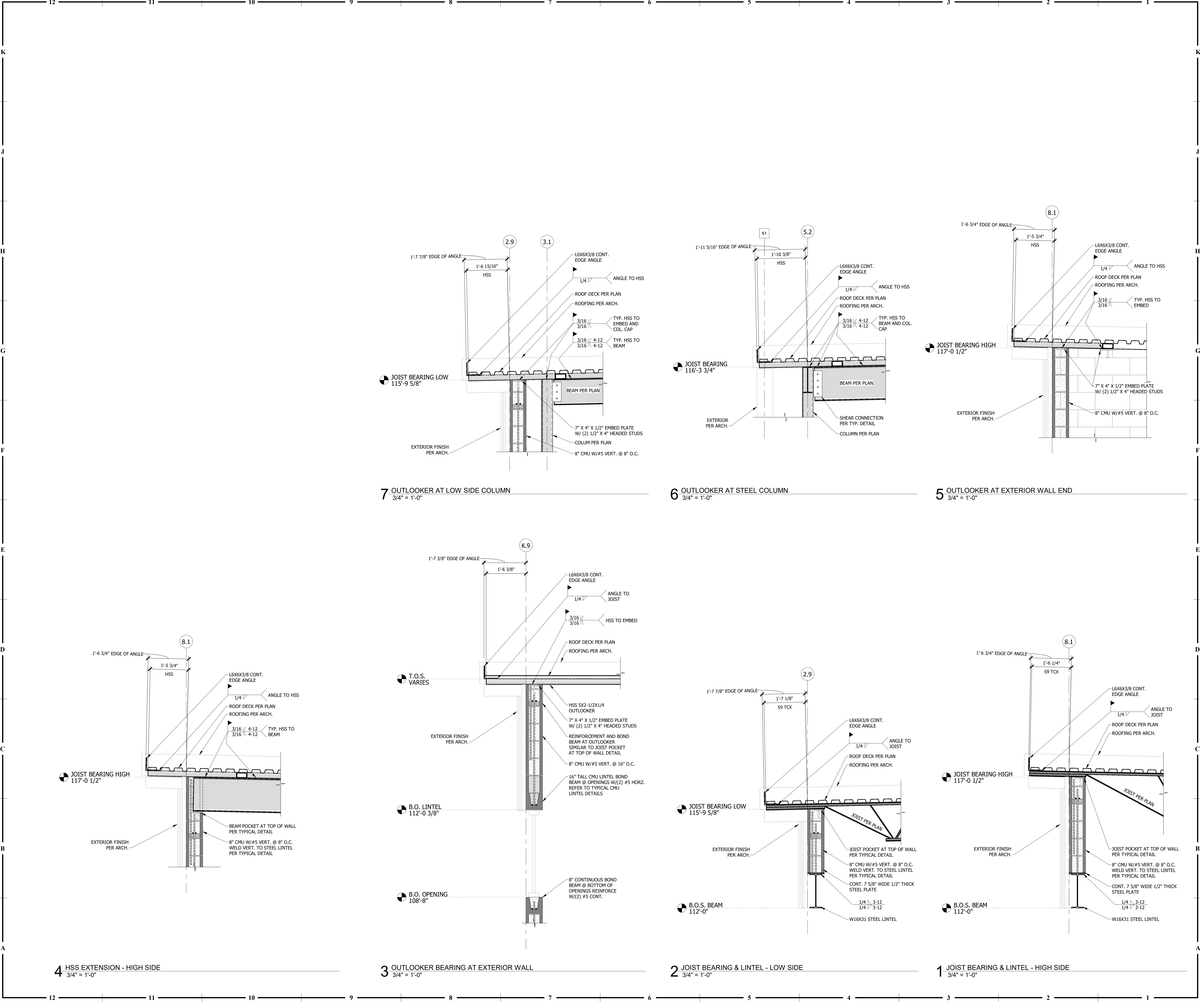


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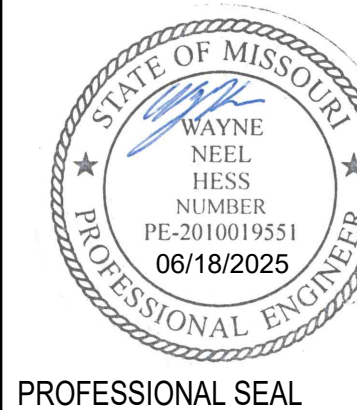
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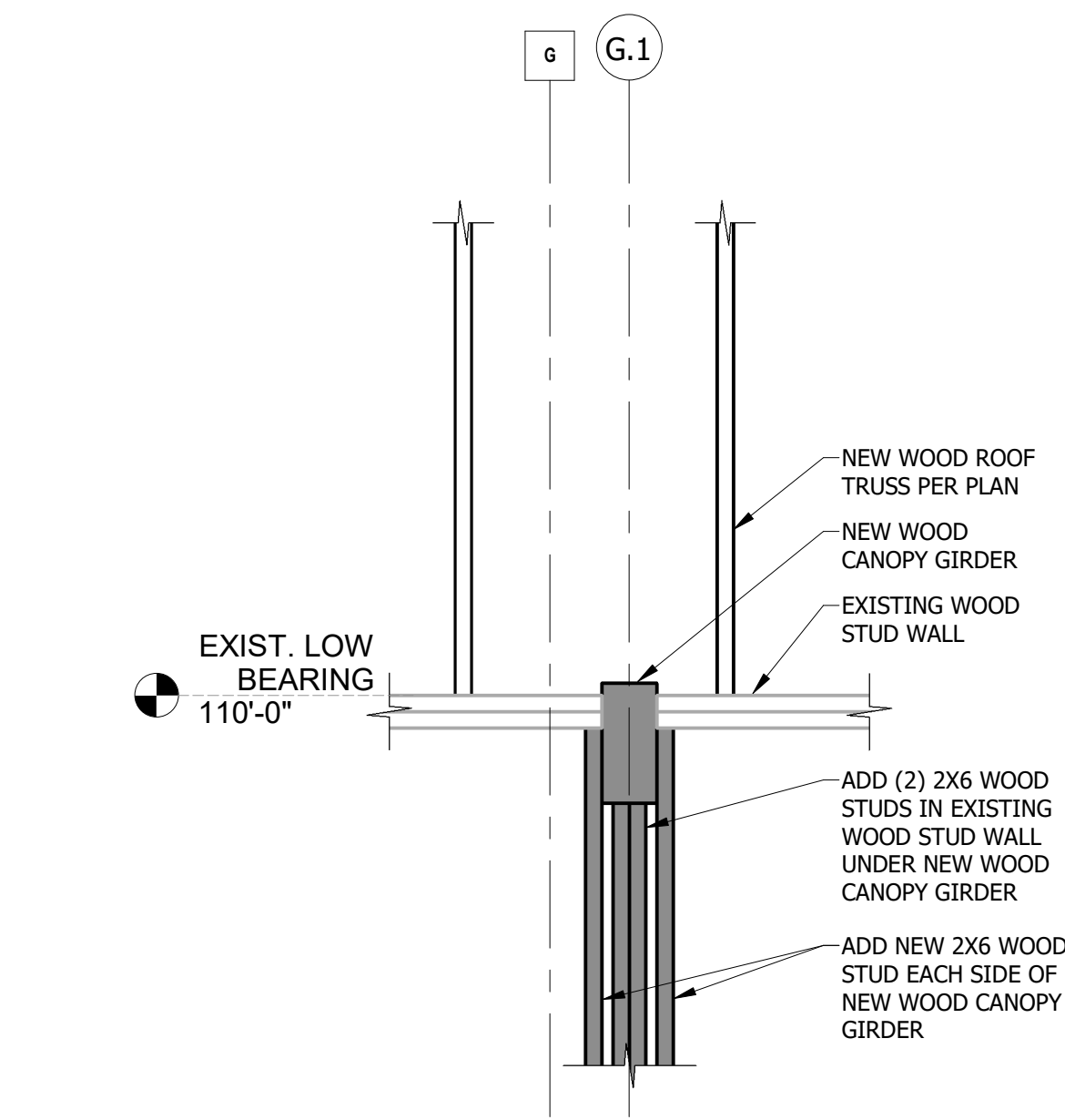
PROFESSIONAL SEAL

**S310**  
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COLLINS WEBB #: 25016

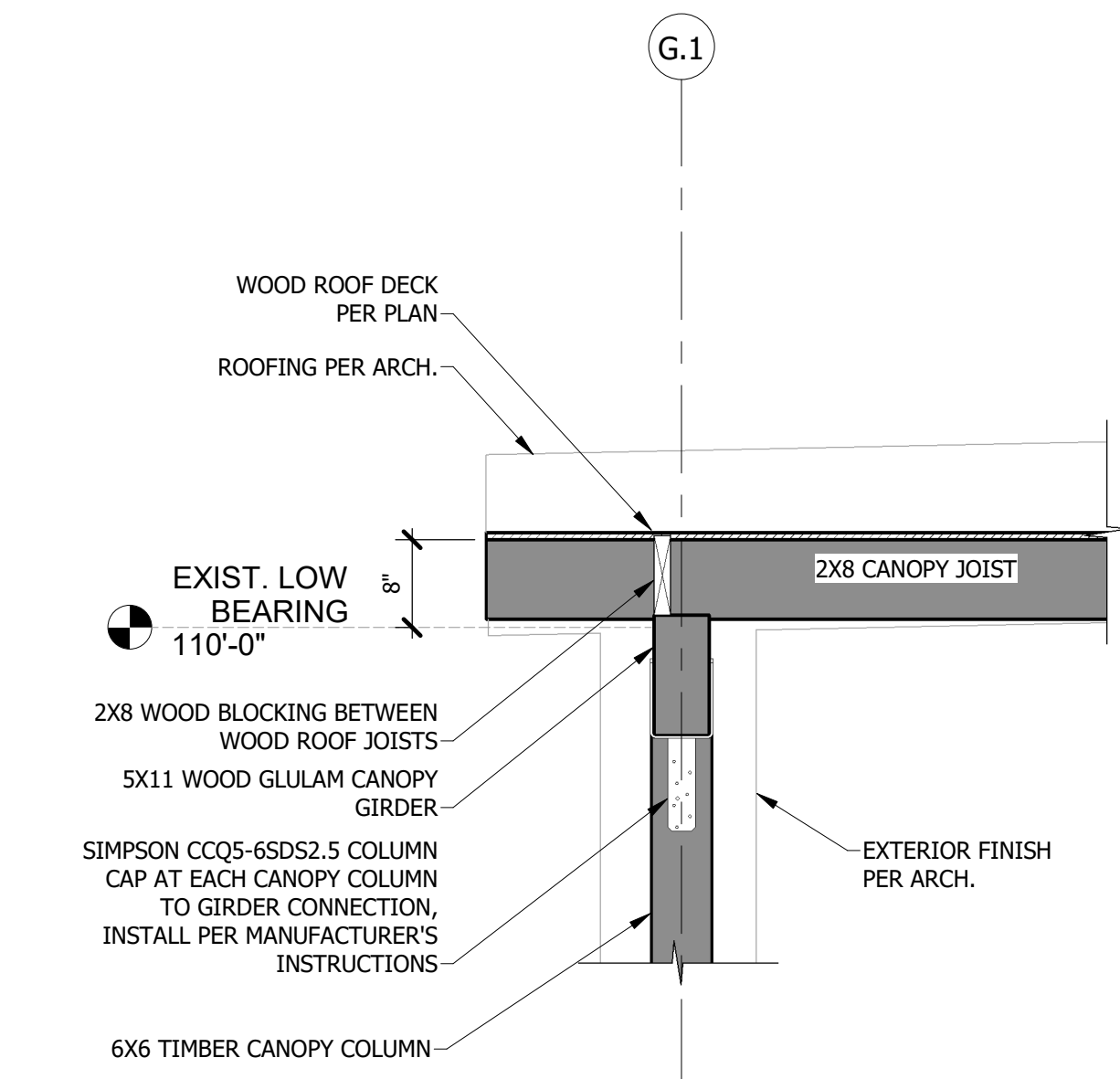
**ROOF FRAMING SECTIONS**



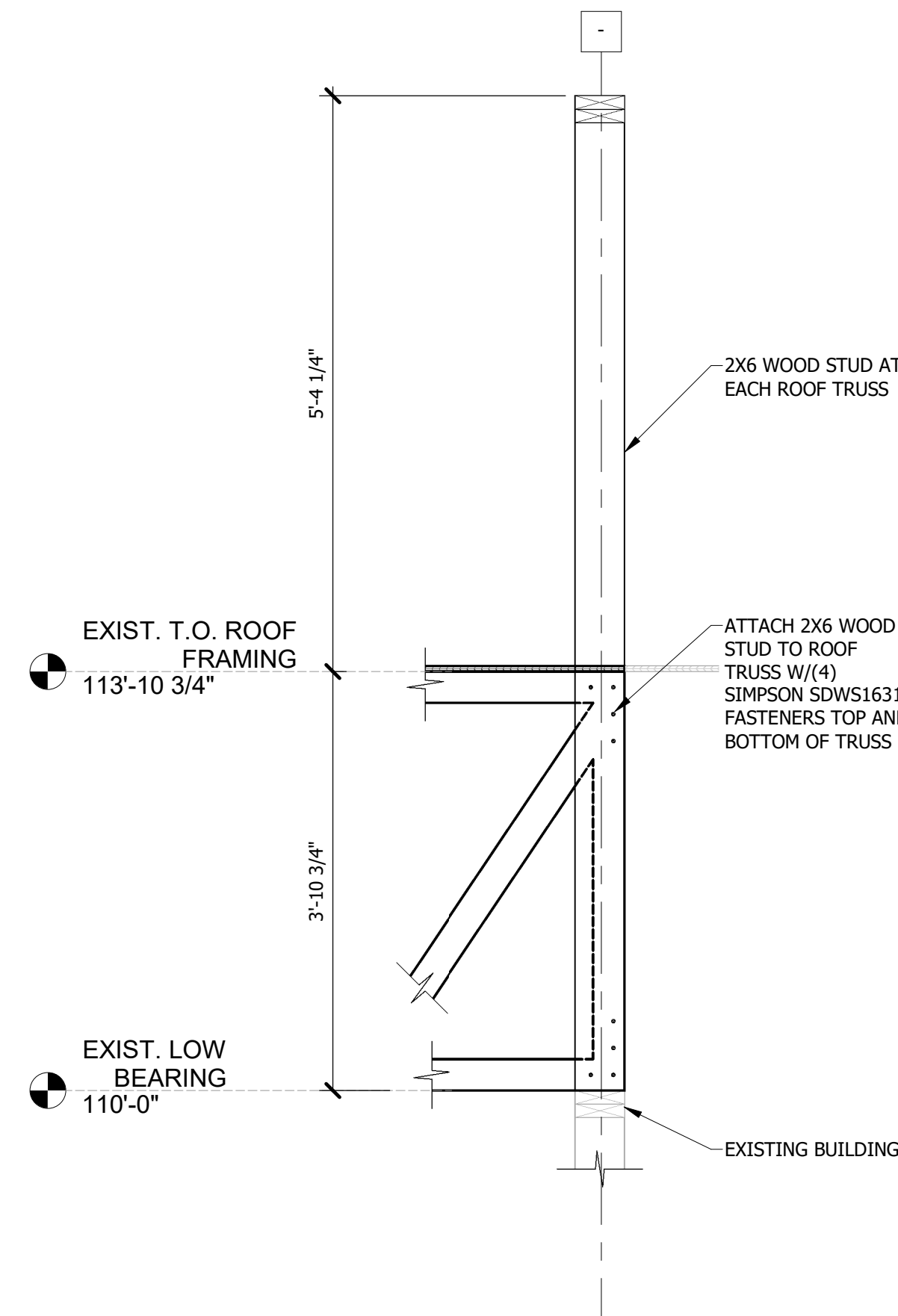
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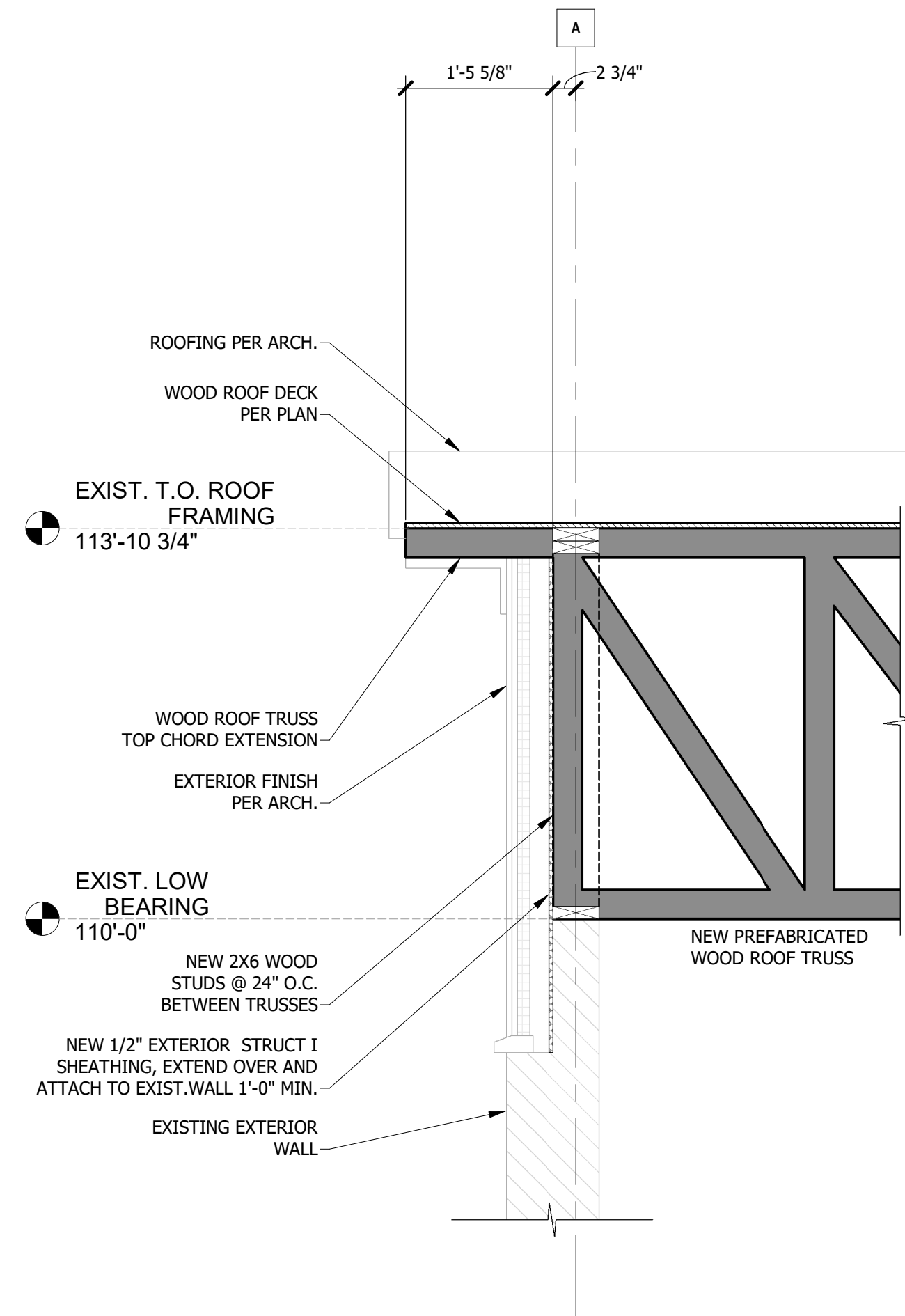
8 CANOPY GIRDER AT EXIST. BLDG.  
3/4" = 1'-0"



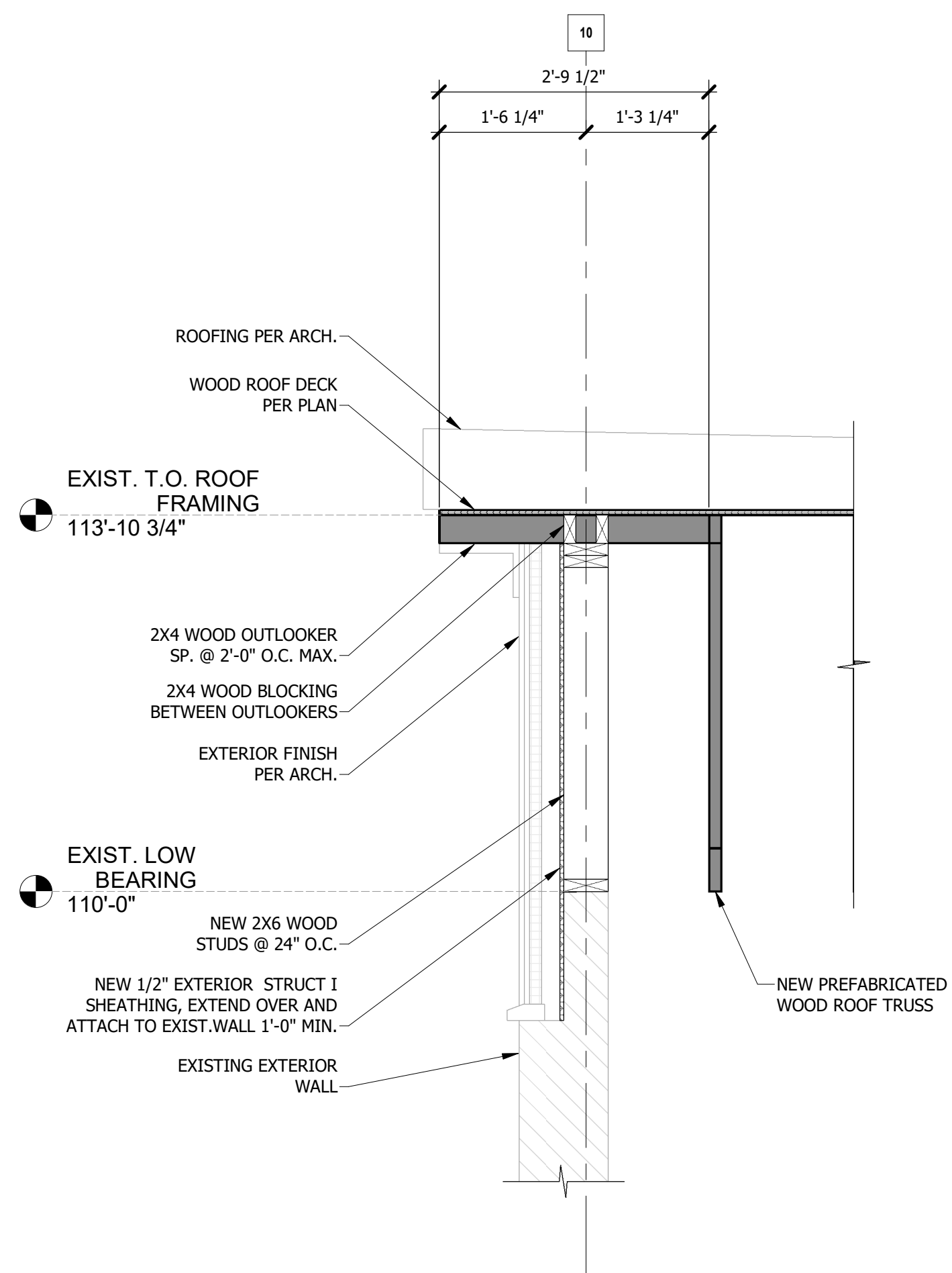
7 TYP. CANOPY TOP OF COLUMN CONN.  
3/4" = 1'-0"



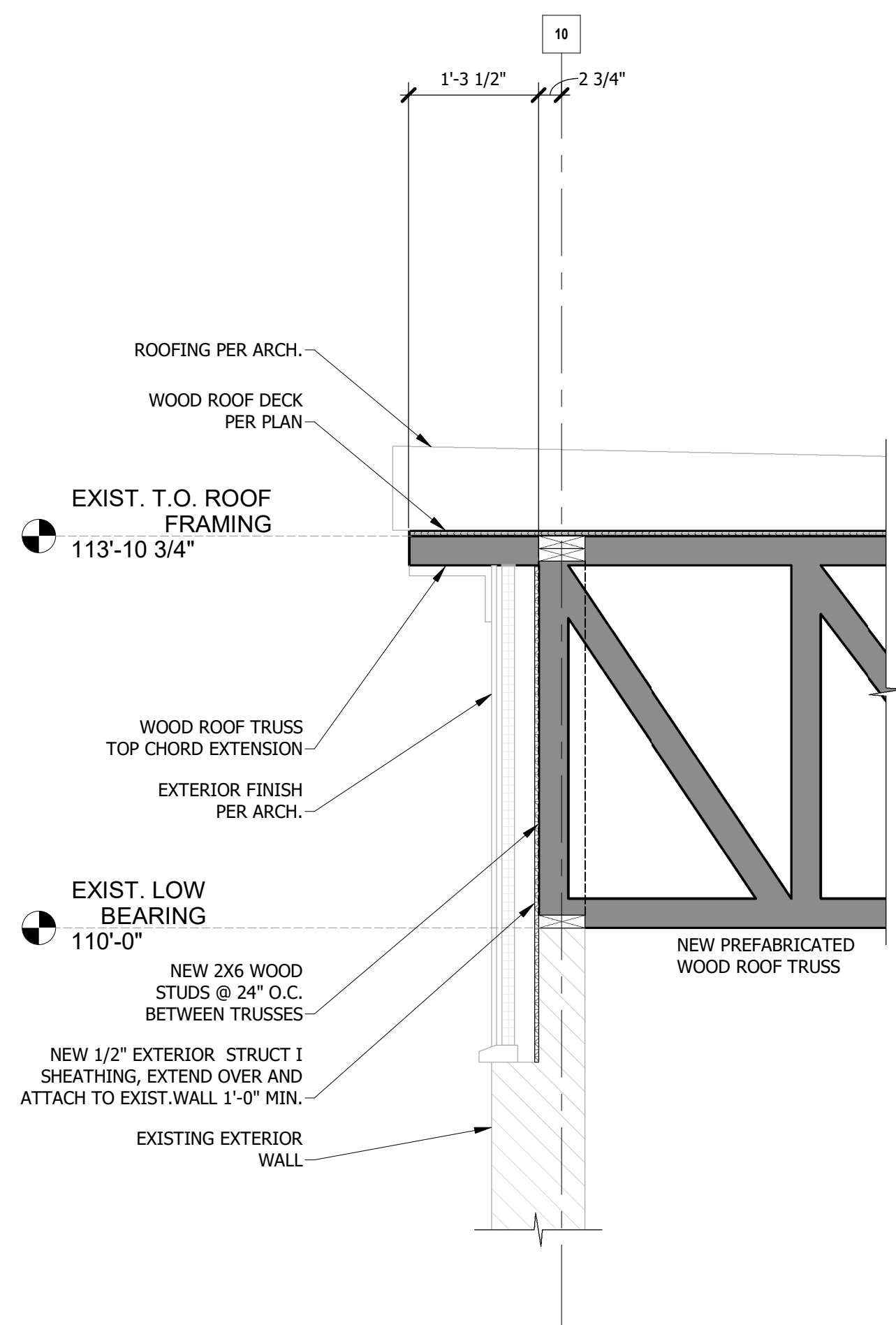
6 TYP. MECH. SCREEN FRAMING ON EXIST. BUILDING  
3/4" = 1'-0"



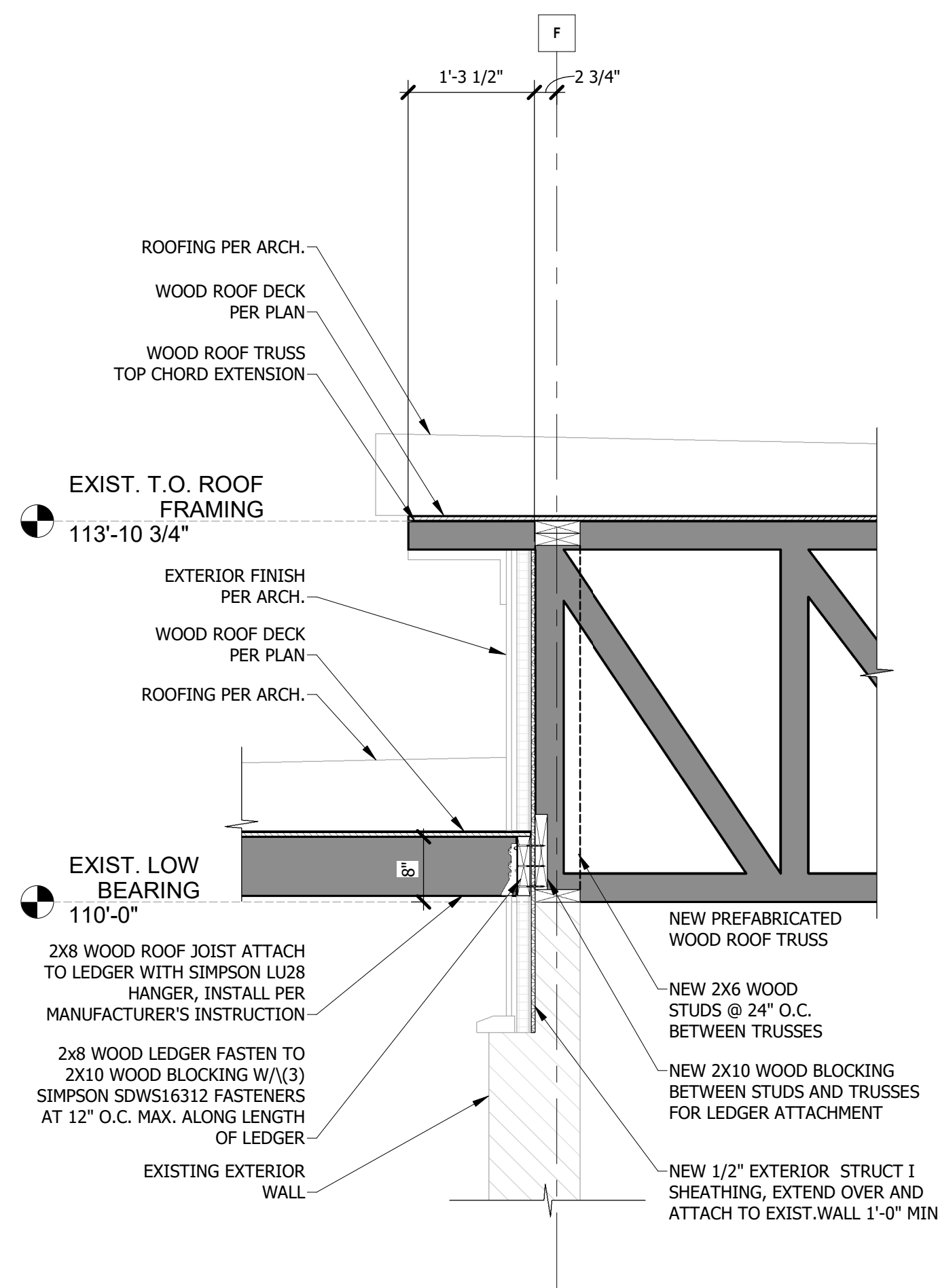
5 NEW ROOF FRAMING @ GL A  
3/4" = 1'-0"



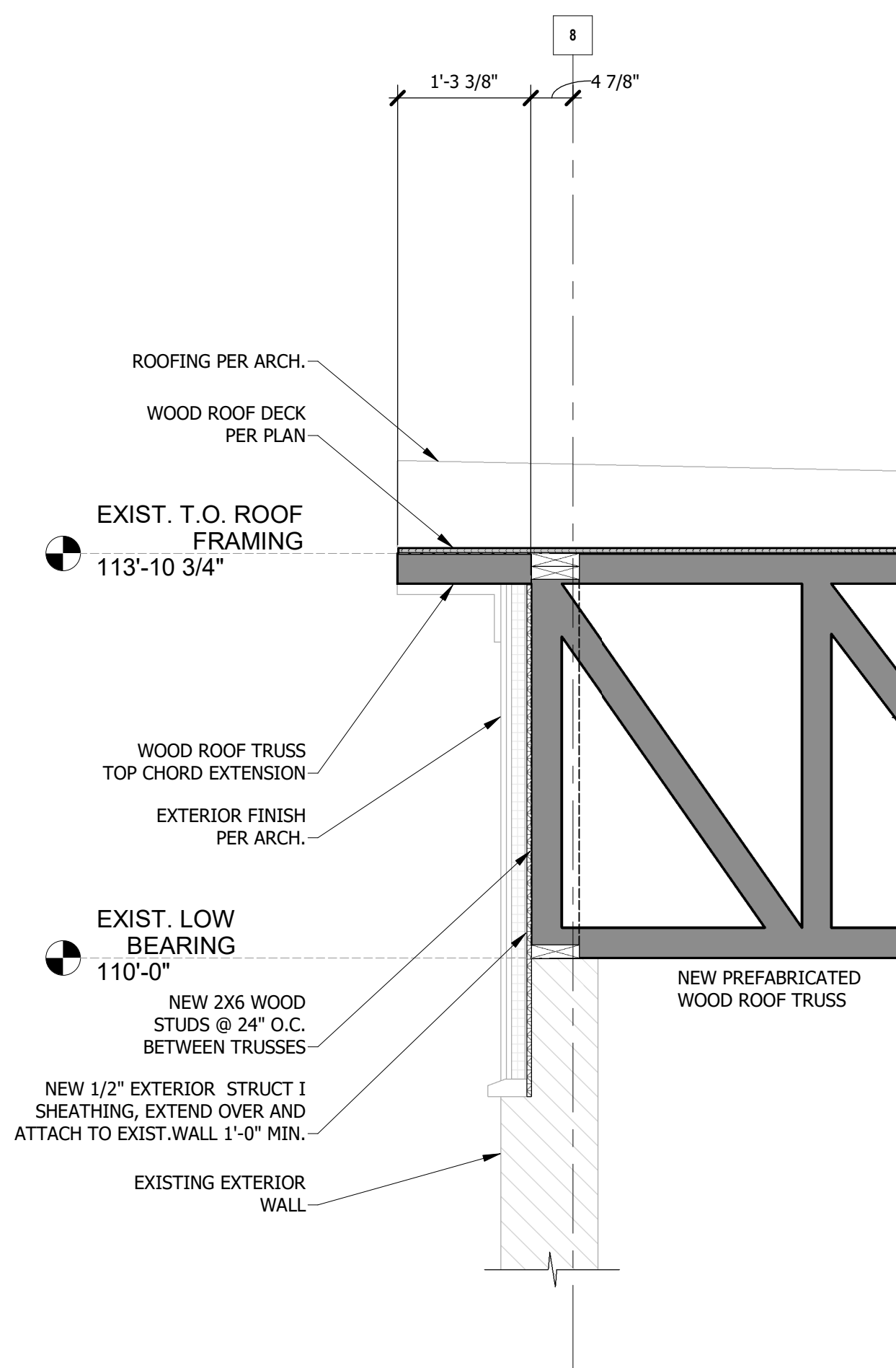
4 NEW ROOF FRAMING @ GL 10 WEST OF GL B  
3/4" = 1'-0"



3 NEW ROOF FRAMING @ GL 10  
3/4" = 1'-0"



2 NEW ROOF FRAMING @ GL F  
3/4" = 1'-0"



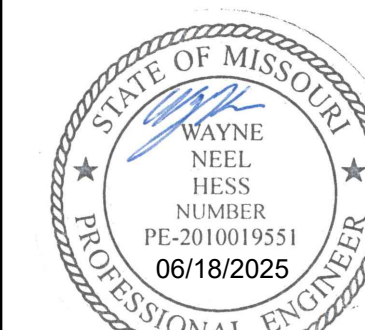
1 NEW ROOF FRAMING @ GL 8  
3/4" = 1'-0"

ROOF FRAMING SECTIONS

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**S311**

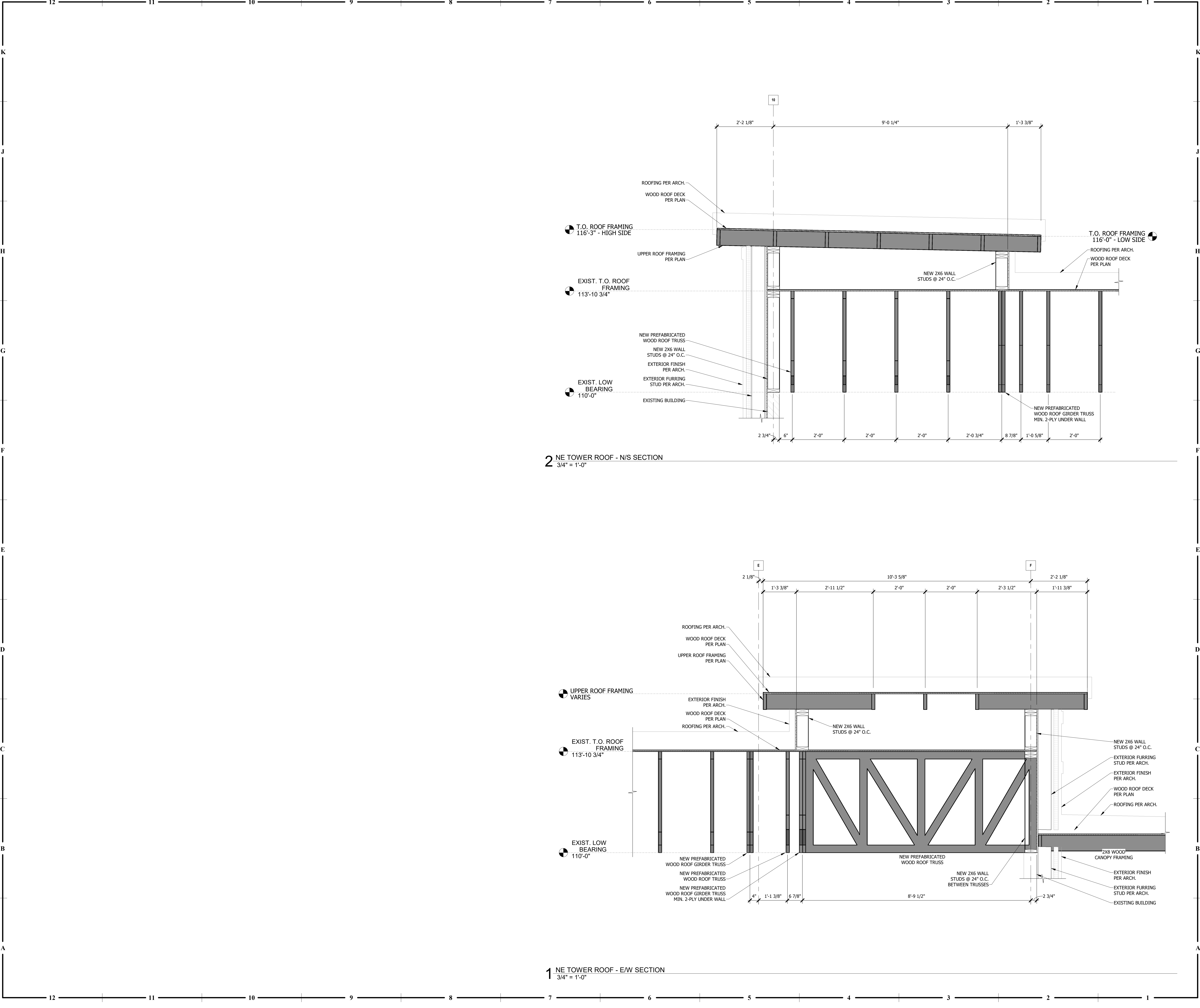
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## S312

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ROOF FRAMING SECTIONS



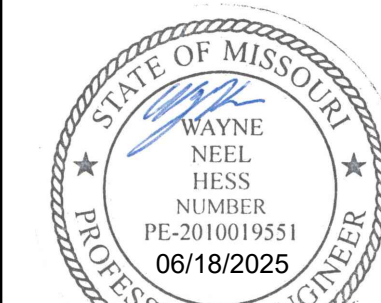
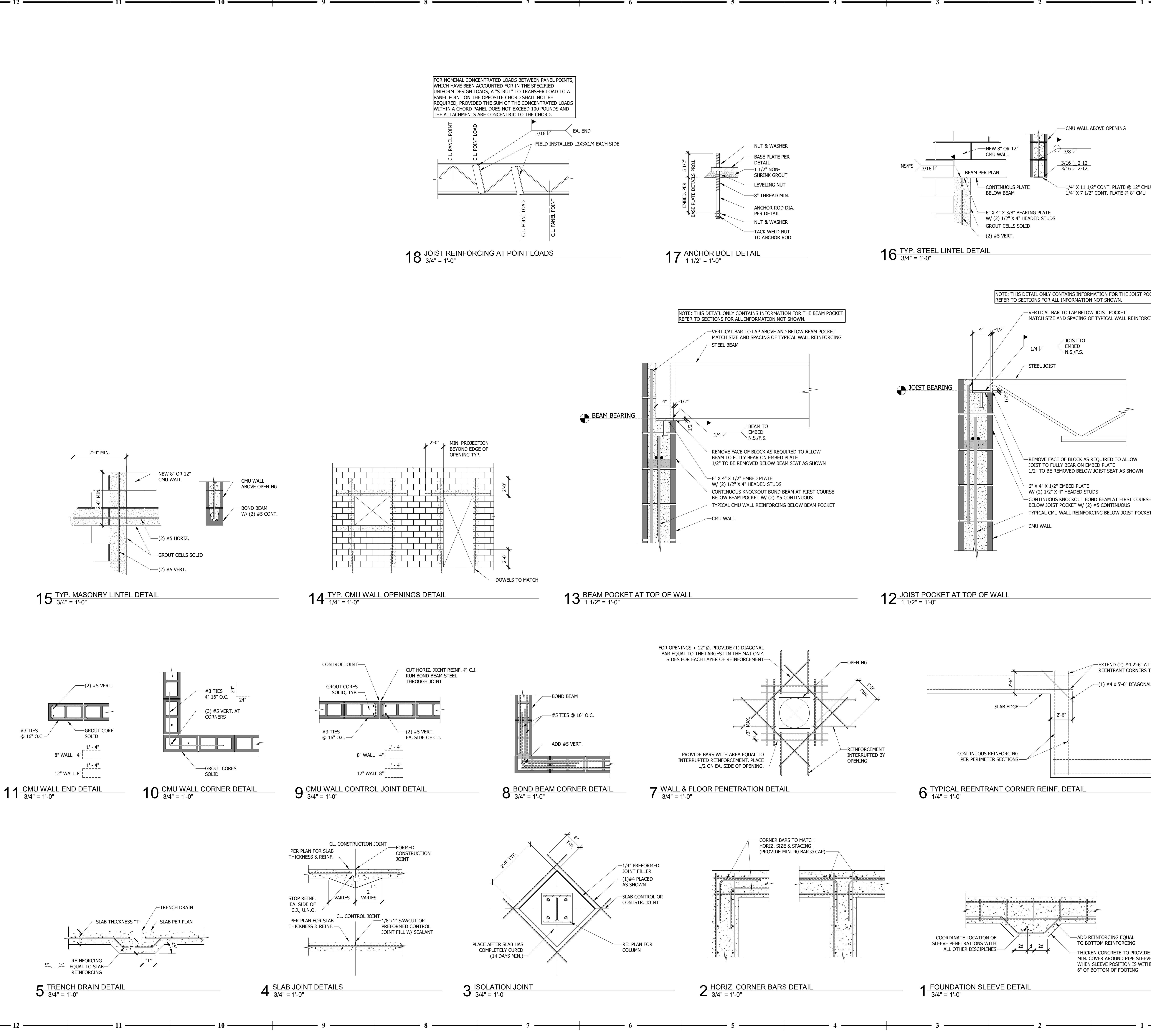
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**S500**

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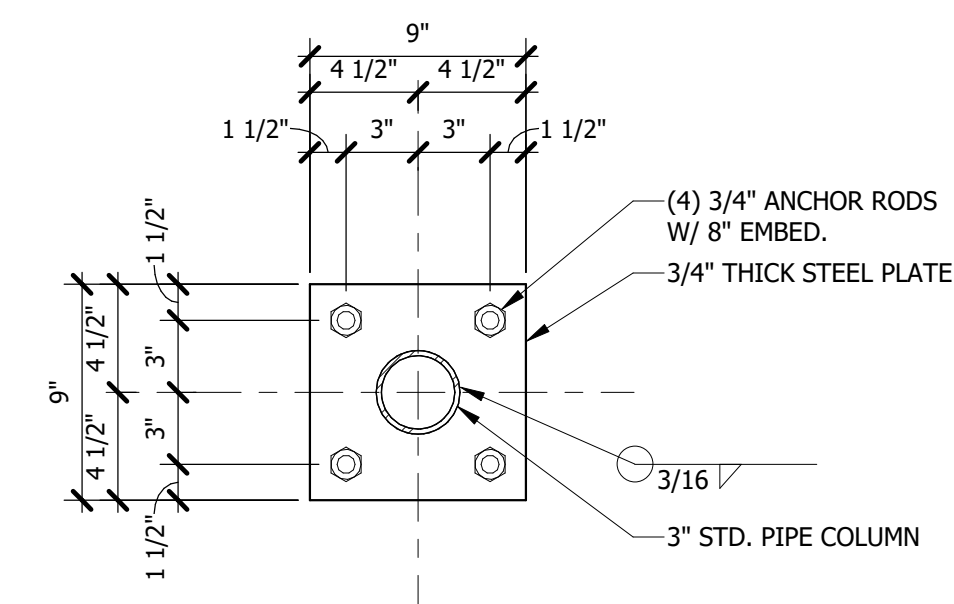




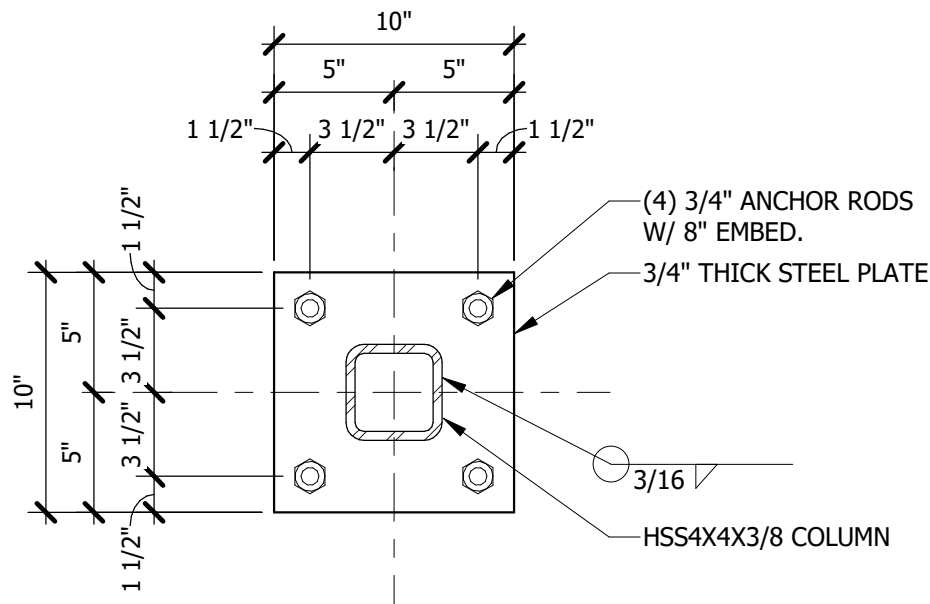
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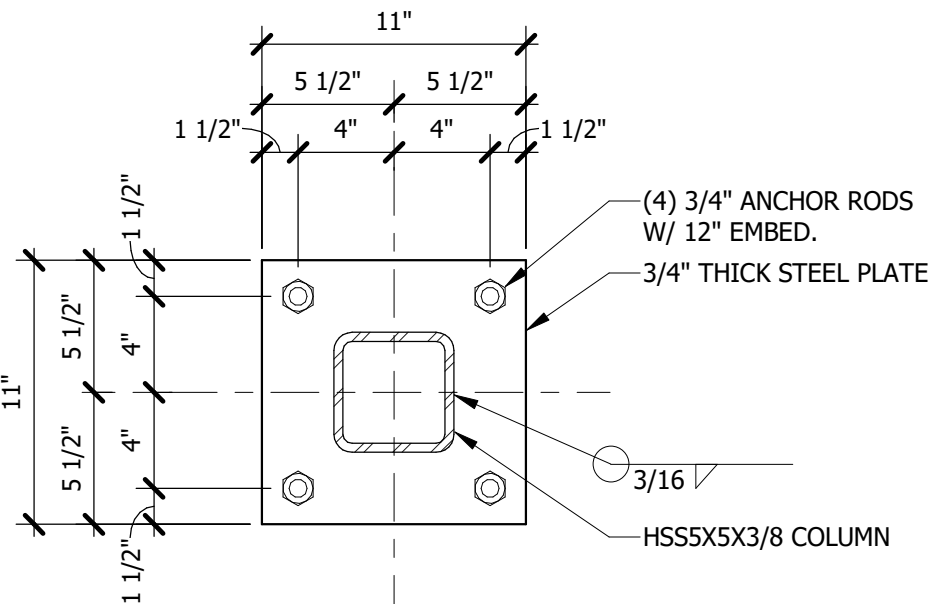
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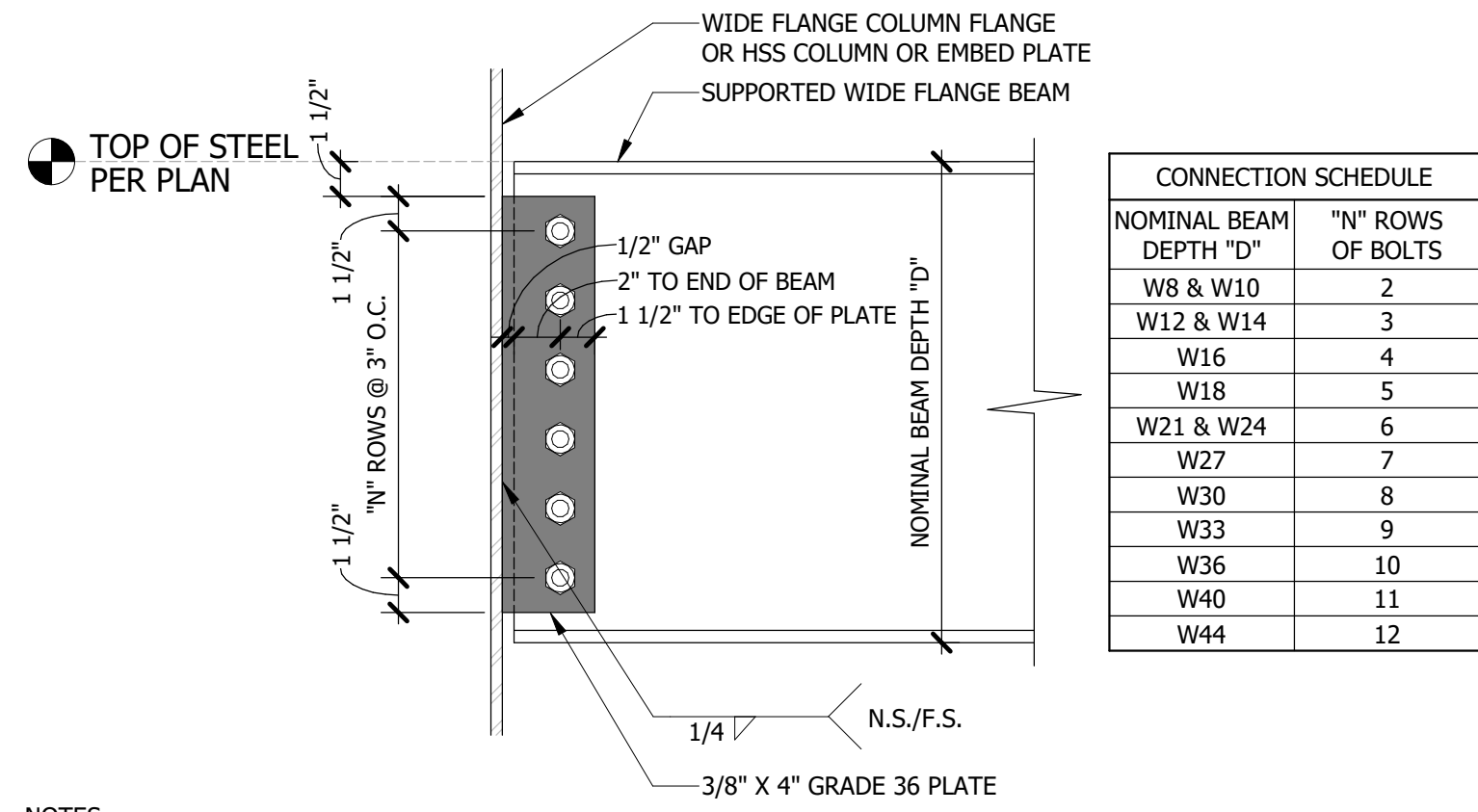
BP3 - TYPICAL 3" STD. PIPE



BP2 - TYPICAL HSS4X4



BP1 - TYPICAL HSS5X5



- NOTES:
- PROVIDE MINIMUM NUMBER OF BOLTS AS SHOWN IN SCHEDULE. ALL BOLTS TO BE 3/4" Ø A325N.
  - HOLES IN THE SHEAR PLATE SHALL BE STANDARD HOLES. HOLES IN THE WEB OF THE SUPPORTED MEMBER ARE PERMITTED TO BE HORIZONTAL SHORT SLOTTED, EXCEPT AT CONNECTIONS WITH AXIAL LOAD AS SHOWN IN THE PLANS. FOR THESE CASES, HOLES IN THE WEB OF THE SUPPORTED MEMBER SHALL BE STANDARD HOLES.

1 TYP. BEAM-TO-COLUMN SHEAR PLATE  
1 1/2" = 1'-0"



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S501

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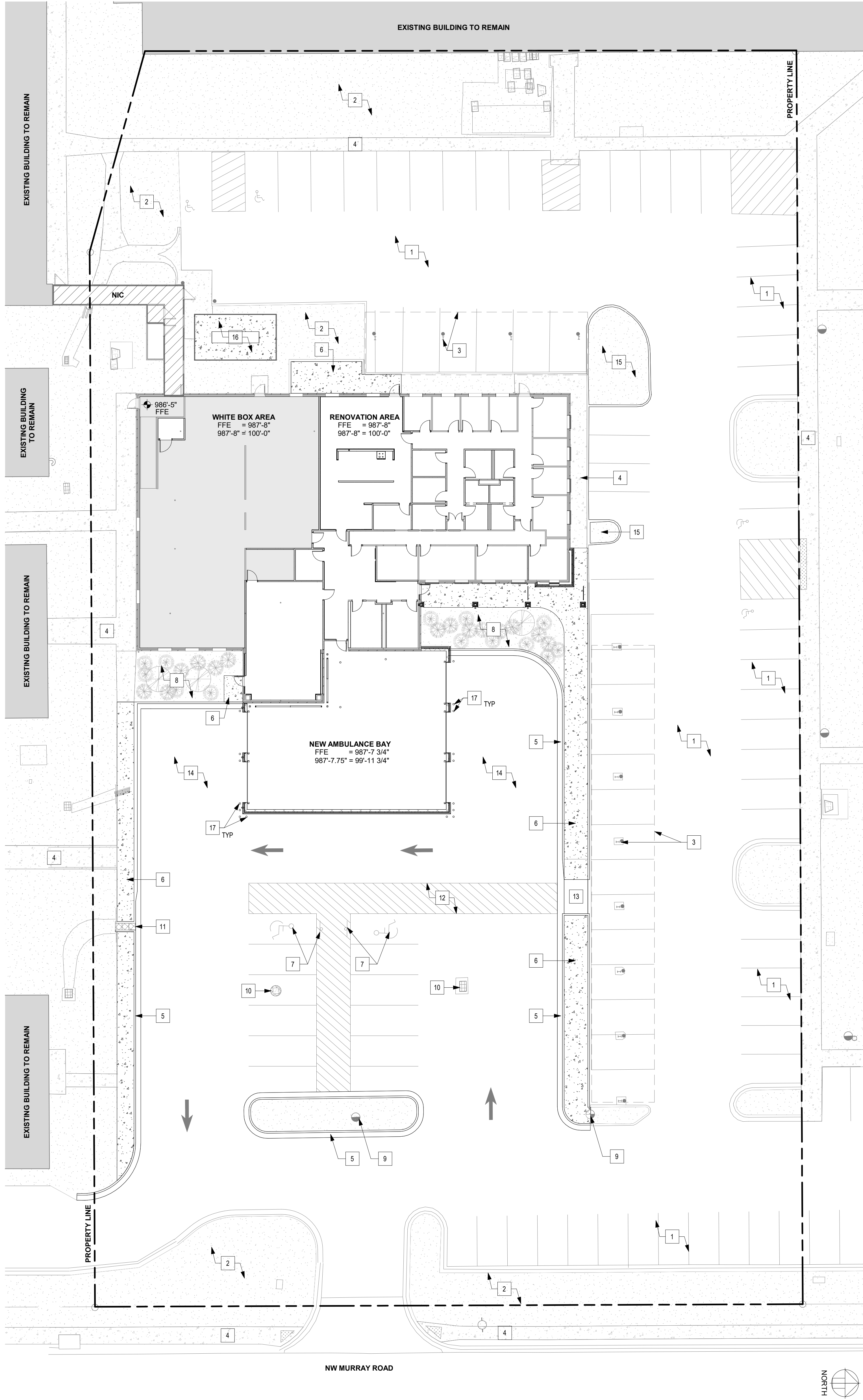


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TYPICAL DETAILS



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GENERAL NOTES:  
SITE PLAN

1. EXTENT AND LOCATION OF CURB CUTS AND WALK WIDTHS  
ARE SHOWN FOR DESIGN INTENT AND REFERENCE ONLY.  
2. RE: LANDSCAPE DRAWINGS FOR FURTHER INFORMATION.  
3. RE: CIVIL DRAWINGS FOR FURTHER INFORMATION.

KEYED NOTES:  
SITE PLAN

- |    |  |
|----|--|
| 1  | EXISTING PARKING LOT CURBS, PAVING, AND STRIPING TO REMAIN                         |
| 2  | EXISTING LANDSCAPE AND/OR NATURAL GRASS TO REMAIN                                  |
| 3  | EXISTING STRUCTURE AND OVERHEAD CANOPY; SHOWN FOR REFERENCE                        |
| 4  | EXISTING CONCRETE SIDEWALK AND/OR WALKWAY TO REMAIN; SHOWN FOR REFERENCE           |
| 5  | NEW CURB AND GUTTER, RE: CIVIL   |
| 6  | NEW CONCRETE PADSIDEWALK; RE: CIVIL  |
| 7  | NEW ACCESSIBLE PARKING STALL & COMPLANT SIGN; RE: CIVIL                            |
| 8  | NEW LANDSCAPE BED AND PLANTINGS; RE: LANDSCAPE                                     |
| 9  | EXISTING LIGHT POLE TO REMAIN; SALVAGE THROUGHOUT ENTIRETY OF SITE WORK            |
| 10 | EXISTING MANHOLE AND/OR SEWER GRATE; SHOWN FOR REFERENCE                           |
| 11 | NEW SEWER GRATE, RE: CIVIL   |
| 12 | NEW PAINTED STRIPED WALKWAY; RE: CIVIL   |
| 13 | RAMPED ACCESS TO NEW SIDEWALK; RE: CIVIL   |
| 14 | NEW ASPHALT PAVING; RE: CIVIL  |
| 15 | NEW CURB WITH NATURAL GRASS ISLAND; RE: CIVIL                                      |
| 16 | NEW GENERATOR ON REINFORCED CONCRETE SLAB WITH LEVEL 2 SOUND ATTENUATING ENCLOSURE |
| 17 | 6" DIA. 5' TALL STEEL BOLLARDS WITH CONCRETE FILL; SEE A200 SERIES FOR FINISH      |

SITE PLAN LEGEND:

- |  |  |
|--|--|
|  | GROUND COVER: TYPE VARIES BY LOCATION. RE: LANDSCAPE |
|  | EXISTING SIDEWALK                                    |
|  | NEW SIDEWALK   |
|  | NEW OR EXISTING PLANTINGS RE: LANDSCAPE              |

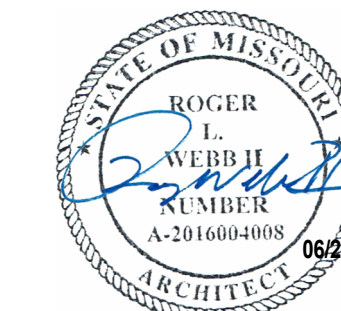
SITE DESCRIPTION:

LOT 3, JOHN INOX RETIREMENT VILLAGE, 14TH PLAT, A SUBDIVISION IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI  
ZONING: RPD - PLANNED MIXED USE  
ADDRESS: 506 NW MURRAY ROAD, LEE'S SUMMIT, MISSOURI 64061  
OWNER: JOHN INOX VILLAGE  
PARCEL & LEGAL DESCRIPTION: PARCEL # 45.101.07.06.00.000  
LEGAL DESCRIPTION: LOT 3, JOHN INOX RETIREMENT VILLAGE, 14TH PLAT, LOTS 1, 2 & 3 A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ACCORDING TO THE RECORDED PLAT THEREOF.

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ARCHITECTURAL SITE PLAN

A7 SITE PLAN  
1/16" = 1'-0"

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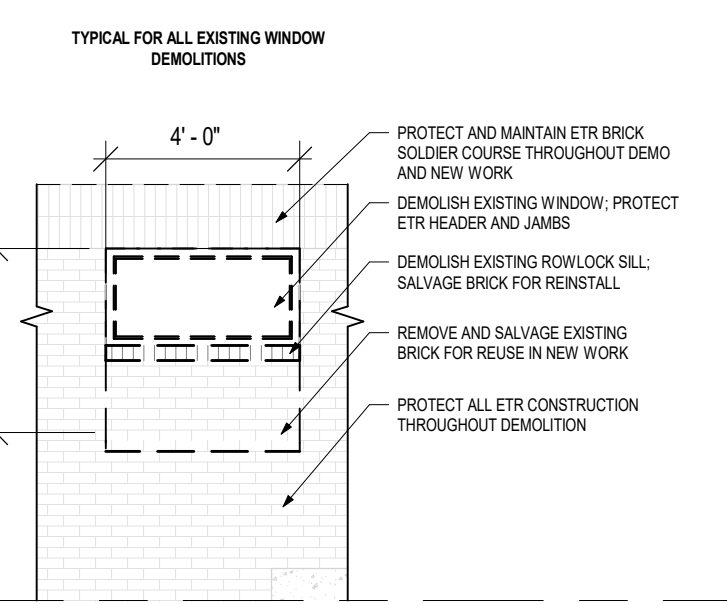
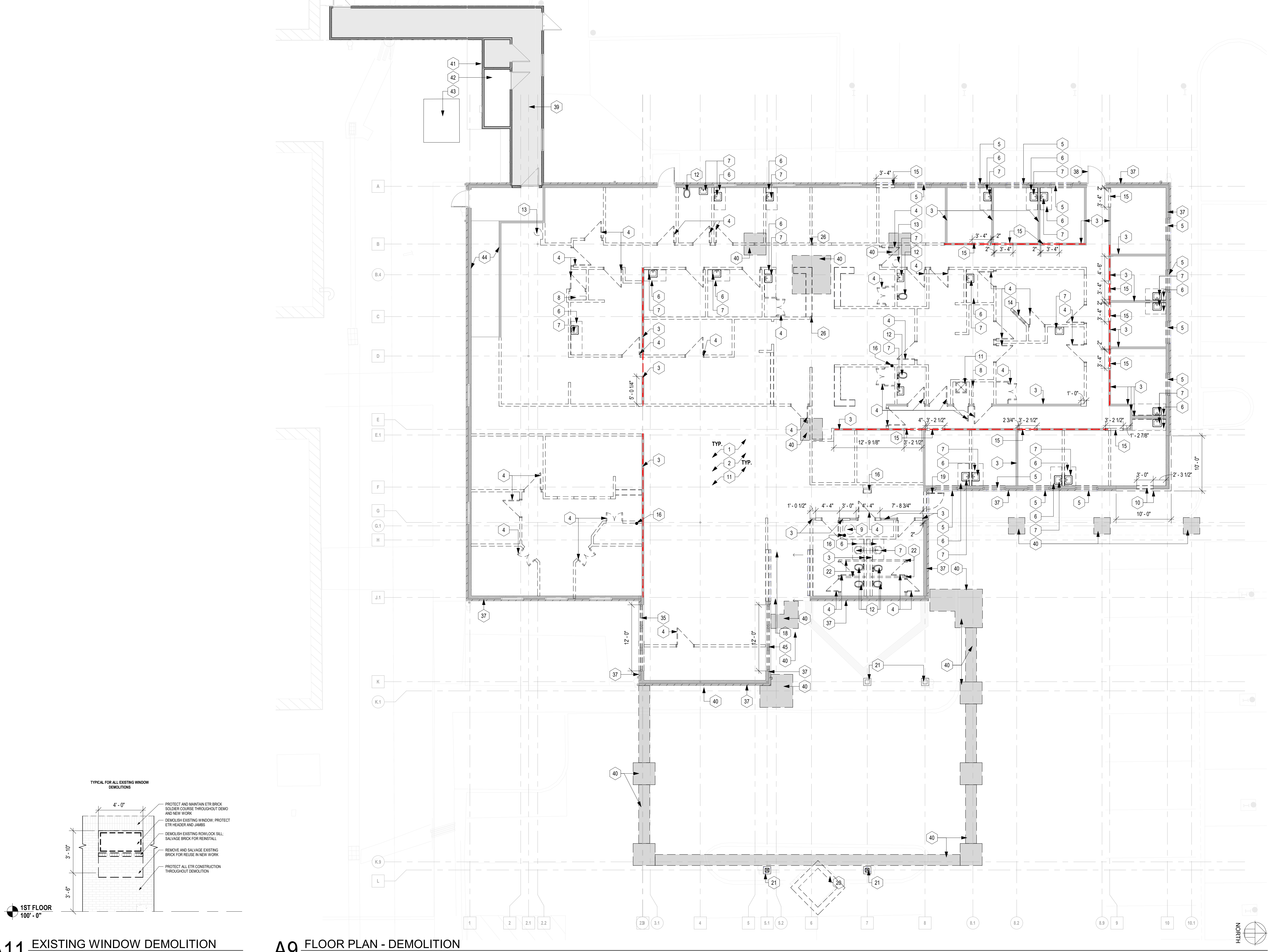
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KEYED NOTES: DEMO FLOOR PLAN

1 REMOVE EXISTING FLOOR FINISH AND ANY UNDERLAYMENT. FLOAT NEW TOPPING AS REQUIRED TO PREP SLAB TO RECEIVE NEW FINISHES PER MANUFACTURER'S RECOMMENDATION.	8 EXISTING ELECTRICAL PANELS. LOCATION NOTED FOR REFERENCE. COORDINATE SCOPE OF WORK WITH ELECTRICAL DRAWINGS.	15 DEMOLISH EXISTING EXTERIOR WALL SHOWN & PREP OPENING FOR NEW DOOR. SEE PLAN AND DOOR SCHEDULE. SALVAGE EXISTING BRICK FOR RE-INSTALL ELSEWHERE ON PROJECT.	22 DEMOLISH EXISTING RESTROOM PARTITION ENTIRELY.	29 EXISTING FIRE ALARM CONTROL PANEL. COORDINATE REMOVAL AND/OR RELOCATION WITH NEW WORK.	39 AREA IS NOT IN CONTRACT (NIC) IN BASE PROJECT SCOPE EXCEPT ELECTRICAL. WORK TO ACCOMMODATE NEW PANELS. RE: ELECTRICAL. PROTECT AREA THROUGHOUT DURATION OF WORK TO PREVENT DUST AND DEBRIS INTRUSION. SEE SHEET G001 FOR ADD ALTERNATE SCOPE IN THIS AREA.
2 DEMOLISH EXISTING WALL ENTIRELY. PATCH AND REPAIR ANY ADJACENT ETR FINISHES OR ASSEMBLIES AS REQUIRED TO PREP FOR NEW WORK. TYP.	8 DEMOLISH EXISTING WATER HEATER. CONFIRM RELINQUISH OR REMOVAL WITH OWNER.	16 DEMOLISH EXISTING ROOF DRAIN LEAD AND STORM CONNECTION. DEMOLISH ADJACENT SLAB AS NEEDED TO ACCOMMODATE RELOCATED ROOF DRAIN LEAD TO UNDERSLAB STORM CONNECTIONS. SEE ROOF PLAN AND P-SERIES DRAWINGS.	23 DEMOLISH EXISTING X-RAY EQUIPMENT AND IN-WALL LEAD BARRIER. COORDINATE LEAD REMOVAL AND ANY REQUIRED REMEDIATION WITH SPECIALTY CONTRACTOR(S) TO PREVENT CONTAMINATION AND ENSURE PROPER HANDLING. REMOVAL AND DISPOSAL.	30 EXISTING WATER ENTRY. LOCATION NOTED FOR REFERENCE. COORDINATE SCOPE OF WORK WITH PLUMBING AND CIVIL DRAWINGS.	40 DEMOLISH EXISTING SLAB ON GRADE OR ASPHALT PAVING TO MINIMUM EXTENT TO ACCOMMODATE NEW FOOTINGS AND FOUNDATIONS. SHOWN THUS. COORDINATE WITH EXTENTS OF NEW WORK TO PREVENT DAMAGE TO EXISTING CONCRETE SLAB TO REMAIN. RE: CIVIL & STRUCTURAL.
3 DEMOLISH EXISTING WALL BASE AND GYP BOARD BACK TO FACE OF ETR BEARING WALL STUDS. ASSESS CONDITION OF ETR STUDS AND REPLACE IN KIND AS NEEDED. PROTECT ETR BEARING WALLS THROUGHOUT DURATION OF DEMOLITION SCOPE. INSTALL NEW 5/8" GYP BD PER A100 SERIES DRAWINGS OR PATCH ETR TYPE 'X' 5/8" GYP BOARD AS REQUIRED BY LOCATION.	10 REMOVE AND SALVAGE EXISTING BRICK FOR RE-INSTALL ELSEWHERE ON BUILDING. REMOVE EXISTING BRICK TIES AND SHEATHING. CUT NEW WALL OPENING(S) WHERE REQUIRED BY NEW SCOPE OF WORK. PREP TO RECEIVE NEW FACING WALL PER A100 SERIES DRAWINGS.	17 REMOVE EXISTING EXTERIOR HM WINDOW. MAINTAIN OPENING AND PREP FOR NEW STOREFRONT WINDOW. SEE A101 AND GLAZING SCHEDULE.	24 EXISTING DOOR AND HARDWARE TO REMAIN. SEE DOOR SCHEDULE FOR NEW FINISHES WHERE APPLICABLE.	31 EXISTING GAS ENTRY AND METER. LOCATION NOTED FOR REFERENCE. COORDINATE SCOPE OF WORK WITH PLUMBING AND CIVIL DRAWINGS.	41 EXISTING GAS SERVICE. RE: CIVIL FOR ADDITIONAL ROUTING & REQUIREMENTS FOR NEW ON-SITE GENERATOR.
4 DEMOLISH EXISTING DOOR, FRAME AND HARDWARE. CONFIRM SALVAGE AND RELINQUISH OR DISPOSAL WITH OWNER.	11 DEMOLISH EXISTING SLAB ON GRADE TO ACCOMMODATE NEW UNDER SLAB STORM, WASTE, AND WATER LINES. COORDINATE WITH EXTENTS OF NEW WORK TO PREVENT DAMAGE TO EXISTING CONCRETE TO REMAIN. CONSOLIDATE NEW UNDER SLAB PLUMBING TO LIMIT TRENCHING AS MUCH AS POSSIBLE. SEE P-SERIES DWGS.	18 REMOVE EXISTING EXTERIOR STOREFRONT DOOR AND PREPARE OPENING FOR NEW DOOR. RE: SHEET A101.	25 EXISTING COLUMN TO REMAIN.	32 EXISTING TRANSFORMER. LOCATION NOTED FOR REFERENCE. COORDINATE SCOPE OF WORK WITH ELECTRICAL DRAWINGS.	42 EXISTING TRANSFORMER TO REMAIN. RE: CIVIL.
5 DEMOLISH EXISTING WINDOW AND ENLARGE OPENING TO ACCOMMODATE NEW WINDOW PER GLAZING SCHEDULE. SALVAGE EXISTING BRICK FOR RE-INSTALL ELSEWHERE ON BUILDING. SEE EXISTING WINDOW DEMO ELEVATION.	12 REMOVE AND CAP EXISTING FLOOR DRAIN. FLOAT NEW TOPPING APPROPRIATE FOR NEW FLOOR FINISH PER MANUFACTURER'S RECOMMENDATION TO PROVIDE A SMOOTH, LEVEL, SERVICE PRIOR TO COMMENCEMENT OF NEW WORK.	19 REMOVE EXISTING EXTERIOR STOREFRONT DOOR AND PREPARE OPENING FOR NEW DOOR. RE: SHEET A101.	26 DEMOLISH EXISTING COLUMN. BRACE ETR OVERHEAD STRUCTURE AS NEEDED TO PREVENT SHIFTING AND DAMAGE THROUGHOUT SCOPE OF WORK. PREP AREA TO RECEIVE NEW VERTICAL AND OVERHEAD STRUCTURE. SEE STRUCTURAL DRAWINGS.	33 EXISTING DOWNSPOUT AND STORM BOOT TO REMAIN. PROTECT THROUGHOUT DURATION OF PROJECT SCOPE.	43 EXISTING ELECTRICAL SERVICE TO BE RELOCATED. RE: ELECTRICAL.
6 DEMOLISH EXISTING COUNTERTOP, BACKSPLASH, AND BASE CABINET ENTIRELY.	13 SALVAGE & RELINQUISH EXISTING FE TO OWNER.	20 REMOVE EXISTING MASONRY PLANTER. RE: CIVIL DRAWINGS.	27 EXISTING EXTERIOR BRICK CAVITY WALL TO REMAIN. REMOVE EXISTING INTERIOR GYP FACING AND PATCH AS NEEDED TO CREATE LIKE-NEW CONDITION AND TO PREP FOR NEW WORK.	34 DEMOLISH EXISTING DOWNSPOUT, CAP STORM BOOT. COORDINATE SCOPE OF WORK WITH CIVIL DRAWINGS.	44 EXISTING RAMP AND WOOD HANDRAILS THROUGHOUT DURATION OF DEMOLITION AND CONSTRUCTION.
7 DEMOLISH EXISTING PLUMBING FIXTURES THROUGHOUT ENTIRETY OF BUILDING. CUT AND CAP EXISTING WATER AND DRAIN LINES WHERE POSSIBLE. COORDINATE TO ACCOMMODATE NEW SCOPE.	14 REMOVE EXISTING INTERIOR HM WINDOW.	21 REMOVE EXISTING STRUCTURAL STEEL COLUMN & MASONRY COLUMN WRAP. SALVAGE EXISTING BRICK FOR RE-INSTALL ELSEWHERE ON PROJECT. BRACE ETR OVERHEAD STRUCTURE AS NEEDED TO PREVENT SHIFTING AND DAMAGE THROUGHOUT SCOPE OF WORK. PREP TO RECEIVE NEW WORK. SEE STRUCTURAL AND A100 SERIES DRAWINGS.	28 EXISTING EXTERIOR BRICK CAVITY WALL TO REMAIN. REMOVE EXISTING INTERIOR GYP FACING AS NEEDED TO PREP FOR NEW EXTERIOR CAP WALL ABOVE ETR FRAMING. PATCH AS NEEDED TO CREATE LIKE-NEW CONDITION AFTER INSTALLATION OF NEW FRAMING AND STRUCTURE WHERE APPLICABLE.	35 REMOVE EXISTING EXTERIOR HM WINDOW. PROTECT AND ENLARGE OPENING TO ACCOMMODATE NEW STOREFRONT PER GLAZING SCHEDULE. SALVAGE EXISTING BRICK FOR RE-INSTALL ELSEWHERE ON BUILDING.	45 REMOVE EXISTING EXTERIOR HM WINDOW AND ROWLOCK BRICK SILL. PROTECT OPENING & ADJACENT ETR BRICK. PREP TO RECEIVE NEW INFILL TO MATCH EXISTING WALL CONSTRUCTION. SEE A SERIES DWGS.



A11 EXISTING WINDOW DEMOLITION  
1/4" = 1'-0"

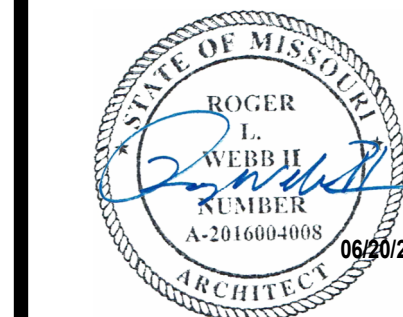
A9 FLOOR PLAN - DEMOLITION  
1/8" = 1'-0"

GENERAL NOTES - DEMOLITION PLANS:

- RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
- CONTRACTOR TO VISIT PROJECT SITE AND BUILDING PRIOR TO BID.
- BUILDING AND SITE TO REMAIN SECURE DURING DEMOLITION AND CONSTRUCTION.
- PROTECT ALL ITEMS TO REMAIN (WALLS, PLUMBING FIXTURES, PIPING, HVAC UNITS, COLUMNS, ETC).
- CONTRACTOR TO PROTECT EXISTING FINISHES ADJACENT TO DEMOLITION WORK.
- CONTRACTOR TO PATCH AND REPAIR ALL WORK, ESPECIALLY WORK ADJACENT TO EXISTING AREAS, AS REQUIRED.
- CONTRACTOR TO REPAIR ANY AREAS DAMAGED DURING DEMOLITION.
- CONTRACTOR TO REPAIR ANY PUNCTURES OR TEARS TO THE VAPOR BARRIER AT THE EXTERIOR WALLS.
- CONTRACTOR TO COORDINATE DEMOLITION OPENINGS WITH NEW PLANS AND ELEVATIONS.
- REMOVE EXISTING GYP BOARD AS NECESSARY. TO PROVIDE NEW BLOCKING IN EXISTING WALLS FOR NEW CASEWORK AND EQUIPMENT.
- REMOVE ALL CEILING ELEMENTS IN CONSTRUCTION AREA INDICATED. FIXTURES/CONTROLS MAY BE SHOWN FOR GENERAL SCOPE ONLY AND DO NOT RELIEVE THE CONTRACTOR OF ANY OBLIGATION TO REMOVE ALL ELEMENTS IN THE CEILING GRID.
- ALL CEILING FIXTURES, DIFFUSERS, SPEAKERS, SMOKE ALARMS, EXIT SIGNS, STROBES, CEILING TILES, CEILING GRID BULHEADS, AND SOFFIT ELEMENTS TO BE REMOVED U.N.O.
- BUILDING TO REMAIN SECURE DURING DEMOLITION AND CONSTRUCTION.
- REPAIR ANY PUNCTURES OR TEARS TO THE EXISTING TO REMAIN VAPOR BARRIER AT THE EXTERIOR WALLS.
- SECURE ALL EXISTING WALLS AND STRUCTURE PRIOR TO BEGINNING DEMOLITION OF ROOF DECK AND EXISTING STRUCTURE WHERE NOTED.
- PROTECT EXISTING CONDITIONS AND MAINTAIN WEATHER TIGHTNESS FOR ALL OCCUPIED UNOCCUPIED SPACES, BOTH VERTICALLY AND HORIZONTALLY FOR THE ENTIRE DURATION THAT THE BUILDING IS EXPOSED TO THE ELEMENTS. PATCH/REPAIR/REPLACE AS REQUIRED.
- COORDINATE SITE ACCESS, ANY PHASING, AND DEMOLITION SCOPE WITH OWNER'S INDOOR AIR QUALITY REPORT TO REMOVE ALL MOLD AND DAMAGE FROM MOLD FROM THE PROPERTY PRIOR TO COMMENCING NEW WORK. SCOPE OF NEW WORK, INCLUDING ALL PATCHING AND REPAIRING IN-KIND, SHALL BE ASSESSED AND ACCOUNTED FOR IN THE BASE PROJECT SCOPE.

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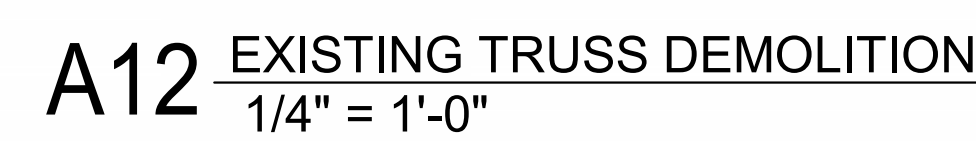
PROFESSIONAL SEAL  
**D101**  
ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 25016

DEMO FLOOR PLAN & DEMO ELEVATIONS

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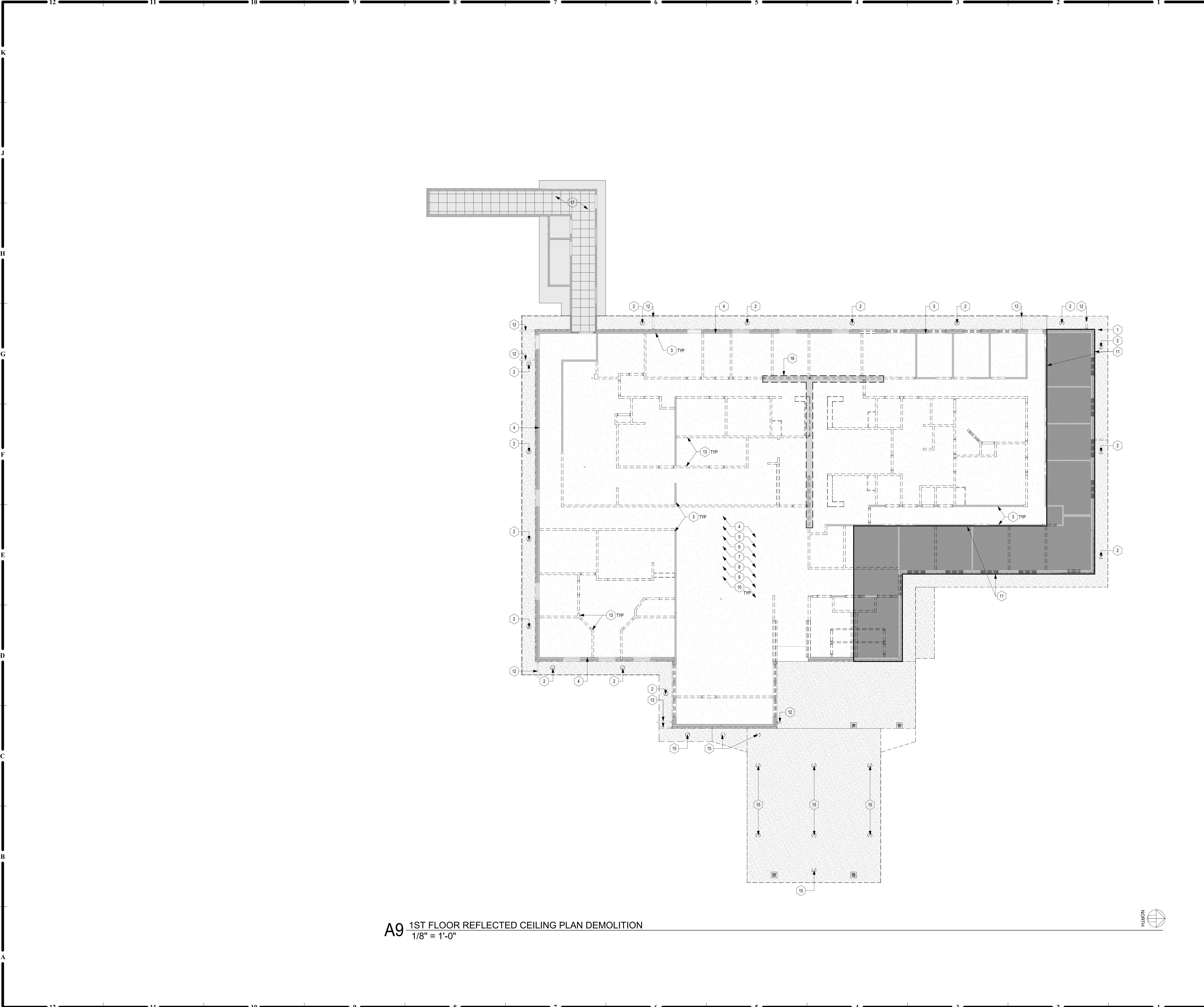


## DEMO ROOF PLAN & DEMO SECTIONS





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A9 1ST FLOOR REFLECTED CEILING PLAN DEMOLITION  
1/8" = 1'-0"

GENERAL NOTES -  
DEMOLITION PLANS:

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. CONTRACTOR TO VISIT PROJECT SITE AND BUILDING PRIOR TO BID.
3. BUILDING AND SITE TO REMAIN SECURE DURING DEMOLITION AND CONSTRUCTION.
4. PROTECT ALL ITEMS TO REMAIN (WALLS, PLUMBING FIXTURES, PIPING, HVAC UNITS, COLUMNS, ETC).
5. CONTRACTOR TO PROTECT EXISTING FINISHES ADJACENT TO DEMOLITION WORK.
6. CONTRACTOR TO PATCH AND REPAIR ALL WORK, ESPECIALLY WORK ADJACENT TO EXISTING AREAS, AS REQUIRED.
7. CONTRACTOR TO REPAIR ANY AREAS DAMAGED DURING DEMOLITION.
8. CONTRACTOR TO REPAIR ANY PUNCTURES OR TEARS TO THE VAPOR BARRIER AT THE EXTERIOR WALLS.
9. CONTRACTOR TO COORDINATE DEMOLITION OPENINGS WITH NEW PLANS AND ELEVATIONS.
10. REMOVE EXISTING GYP BOARD AS NECESSARY. TO PROVIDE NEW BLOCKING IN EXISTING WALLS FOR NEW CASEWORK AND EQUIPMENT.
11. REMOVE ALL CEILING ELEMENTS IN CONSTRUCTION AREA INDICATED. FIXTURES/CONTROLS MAY BE SHOWN FOR GENERAL SCOPE ONLY AND DO NOT RELIEVE THE CONTRACTOR OF ANY OBLIGATION TO REMOVE ALL ELEMENTS IN THE CEILING GRID.
12. REMOVE ALL CEILING ELEMENTS IN CONSTRUCTION AREA INDICATED. FIXTURES/CONTROLS MAY BE SHOWN FOR GENERAL SCOPE ONLY AND DO NOT RELIEVE THE CONTRACTOR OF ANY OBLIGATION TO REMOVE ALL ELEMENTS IN THE CEILING GRID.
13. ALL CEILING FIXTURES, DIFFUSERS, SPEAKERS, SMOKE ALARMS, EXIT SIGNS, STROBES, CEILING TILES, CEILING GRID BULKHEADS, AND SOFFIT ELEMENTS TO BE REMOVED U.N.O.
14. BUILDING TO REMAIN SECURE DURING DEMOLITION AND CONSTRUCTION.
15. REPAIR ANY PUNCTURES OR TEARS TO THE EXISTING TO REMAIN VAPOR BARRIER AT THE EXTERIOR WALLS.
16. SECURE ALL EXISTING WALLS AND STRUCTURE PRIOR TO BEGINNING DEMOLITION OF ROOF DECK AND EXISTING STRUCTURE WHERE NOTED.
17. PROTECT EXISTING CONDITIONS AND MAINTAIN WEATHER TIGHTNESS FOR ALL OCCUPIED/UNOCCUPIED SPACES, BOTH VERTICALLY AND HORIZONTALLY FOR THE ENTIRE DURATION THAT THE BUILDING IS EXPOSED TO THE ELEMENTS. PATCH/REPAIR/REPLACE AS REQUIRED.
18. COORDINATE SITE ACCESS, ANY PHASING, AND DEMOLITION SCOPE WITH OWNER'S INDOOR AIR QUALITY REPORT TO REMOVE ALL MOLD AND DAMAGE FROM MOLD FROM THE PROPERTY PRIOR TO COMMENCING NEW WORK. SCOPE OF NEW WORK, INCLUDING ALL PATCHING AND REPLACING IN-KIND, SHALL BE ASSESSED AND ACCOUNTED FOR IN THE BASE PROJECT SCOPE.

KEYED NOTES:  
DEMO REFLECTED CEILING  
PLAN

1. DEMOLISH EXISTING PLYWOOD SOFFIT. PROTECT EXISTING RAFTERS AND SUPPLEMENTAL FRAMING. ASSESS CONDITION OF EXISTING INSULATION AND REPLACE IN-KIND AS REQUIRED. PREP TO RECEIVE NEW SOFFIT BOARD PER A SERIES DWGS.
2. DEMOLISH EXISTING RECESSED SOFFIT LIGHTING. PREP TO RECEIVE NEW FIXTURES. SEE ELECTRICAL DWGS.
3. EXISTING WALL TO REMAIN, TYP. RE: D101.
4. REMOVE EXISTING TYPE 'X' 5/8" GYP FACING TIGHT TO UNDERSIDE OF ATTIC AS REQUIRED FOR WALL AND STRUCTURE DEMOLITION WHERE NOTED PER D101 & D111 OR WHERE MOLD OR DAMAGE IS PRESENT. PATCH TO LIKE-NEW CONDITION. TYPICAL THROUGHOUT SCOPE AREA.
5. ASSESS CONDITION OF EXISTING ATTIC INSULATION. IF VISIBLE SIGNS OF WATER DAMAGE OR MOLD ARE PRESENT, REMOVE ENTIRELY. TYPICAL THROUGHOUT SCOPE AREA.
6. REMOVE EXISTING ACOUSTIC CEILING TILES, GRID AND SUSPENSION SYSTEM ENTIRELY. ASSESS CONDITION OF EXISTING FIBERGLASS BATT INSULATION ABOVE ACOUSTIC CEILING SYSTEM. IF VISIBLE SIGNS OF WATER DAMAGE OR MOLD ARE PRESENT, REMOVE ENTIRELY. TYPICAL THROUGHOUT SCOPE AREA.
7. ASSESS CONDITION OF EXISTING METAL DUCTWORK, GRILLES AND REGISTERS FOR FEASIBILITY OF SALVAGE FOR STORAGE AND/OR REINSTALL ELSEWHERE ON PROJECT. REMOVE ENTIRELY IF DAMAGED, IN VISIBLE DISREPAIR, RUSTED, OR IF MOLD IS VISUALLY PRESENT.
8. DEMOLISH EXISTING FIRE STROBES ENTIRELY.
9. DEMOLISH EXISTING FIRE ALARM DEVICES ENTIRELY.
10. ASSESS CONDITION OF EXISTING ILLUMINATED EXIT SIGNS. CONFIRM SALVAGE AND RELINQUISH OR DISPOSAL WITH OWNER.
11. DEMOLISH EXISTING TRUSSES, GYP LID AND ATTIC INSULATION IN AREA SHOWN THIS [ ] PREP TO RECEIVE NEW TRUSSES AND FRAMING. COORDINATE REQUIRED PHASING, ANY REQUIRED BRACING OR TEMPORARY SUPPORTS, APPROACH AND SCOPE PER STRUCTURAL, NOTED FOR SCOPE REFERENCE.
12. SEE D101 & D111 FOR SCOPE AT EXISTING OR RELOCATED DOWNSPOUTS.
13. EXISTING WALL TO BE REMOLISHED, TYP. RE: D101.
14. AREA IS NOT IN CONTRACT (N/C) IN BASE PROJECT SCOPE EXCEPT ELECTRICAL WORK TO ACCOMMODATE NEW PANELS. RE: ELECTRICAL. PROTECT AREA THROUGHOUT DURATION OF WORK TO PREVENT DUST AND DEBRIS INTRUSION. SEE SHEET G001 FOR ADD ALTERNATE SCOPE IN THIS AREA.
15. DEMOLISH EXISTING CANOPY LIGHTS WITH PORTE COCHERE CANOPY DEMOLITION SCOPE. RE: D101 AND D111.
16. DEMOLISH EXISTING CONSTRUCTION AS REQUIRED TO PREP AREA TO RECEIVE NEW ORDERS. COORDINATE REQUIRED PHASING, ANY REQUIRED BRACING OR TEMPORARY SUPPORTS, APPROACH AND SCOPE PER STRUCTURAL, NOTED FOR SCOPE REFERENCE.
17. AREA IS NOT IN CONTRACT (N/C) IN BASE PROJECT SCOPE EXCEPT ELECTRICAL WORK TO ACCOMMODATE NEW PANELS. RE: ELECTRICAL. PROTECT AREA THROUGHOUT DURATION OF WORK TO PREVENT DUST AND DEBRIS INTRUSION. SEE SHEET G001 FOR ADD ALTERNATE SCOPE IN THIS AREA.

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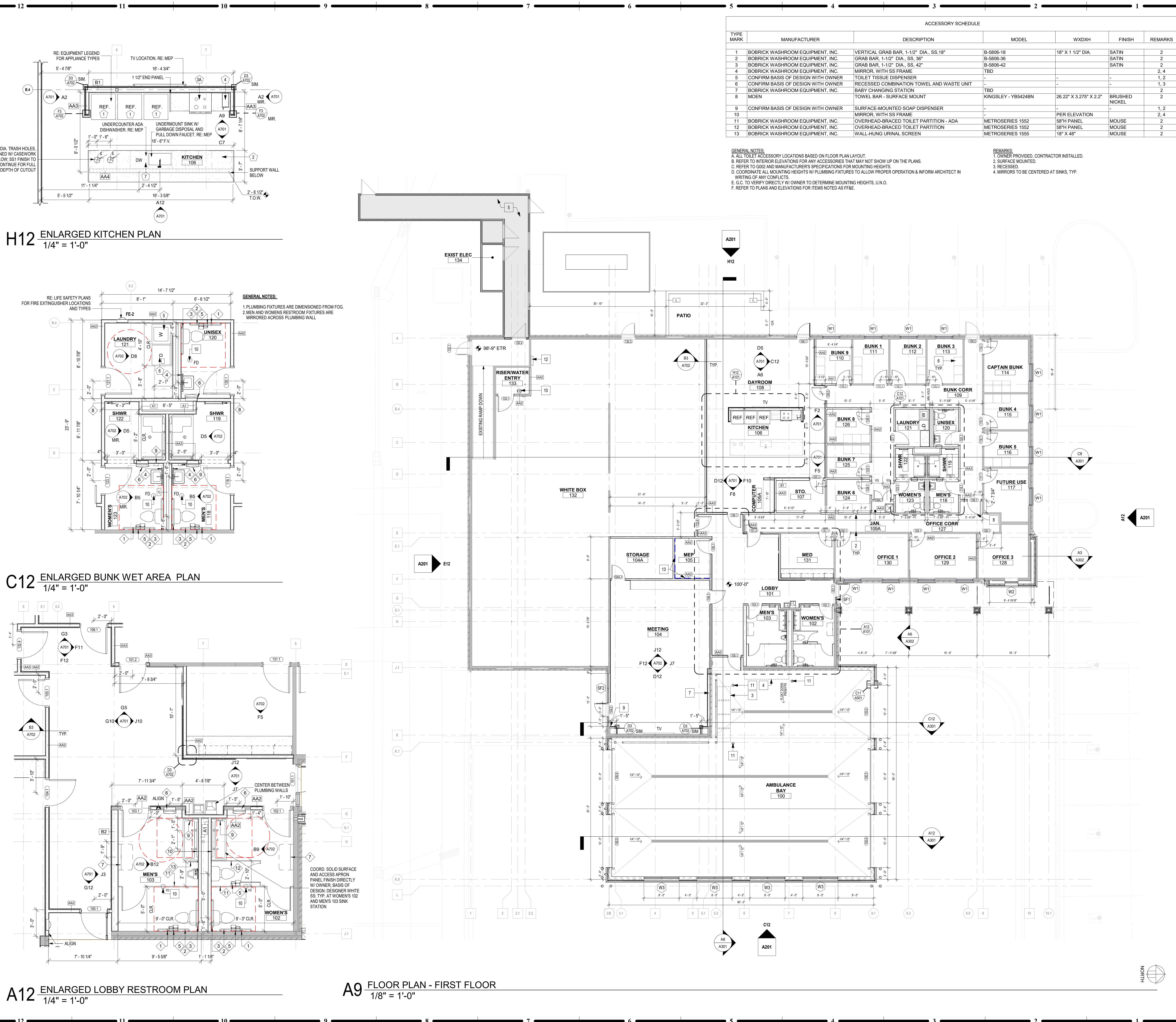
D601

ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 25016

DEMO REFLECTED CEILING PLAN



6/23/2025 2:31:05 PM



A12 ENLARGED LOBBY RESTROOM PLAN  
1/4" = 1'-0"

A9 FLOOR PLAN - FIRST FLOOR  
1/8" = 1'-0"

C12 ENLARGED BUNK WET AREA PLAN  
1/4" = 1'-0"

H12 ENLARGED KITCHEN PLAN  
1/4" = 1'-0"

GENERAL NOTES:  
FLOOR PLANS

- SEE GENERAL ARCHITECTURAL SHEETS FOR ADDITIONAL NOTES AND DETAILS THAT ARE APPLICABLE.
- ARCHITECTURAL ELEVATION 100'-0".
- DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF GYP BOARD WALL (FOW), FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCO), AND COLUMN GRID LINES. UNLESS NOTED OR SHOWN OTHERWISE.
- NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS AND PER WALL TYPES. SEE GENERAL SHEETS.
- DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO HINGE SIDE OF THE DOOR. ALWAYS ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE (STRIKE SIDE) OF THE DOOR TO THE INTERESTING WALL, OR OTHER PROTRUDING OBJECTS.
- ALL ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS THE ADJOINING SPACES.
- RE: FINISH LEGEND, FINISH SCHEDULE AND SPECIFICATIONS FOR DOOR AND DOOR FRAME FINISHES.
- STAIR ENCLOSURES, SHAFT WALLS, EXIT PASSAGE WALLS AND EXTERIOR WALLS TO BE COORDINATED FOR PHASE OF WORK PER MATRIX AND PROJECT SCOPING.
- MAINTAIN AND PROTECT EXISTING EXPANSION JOINTS DURING CONSTRUCTION. PATCH/REPAIR/REPLACE TO MATCH EXISTING RATINGS AS REQUIRED ON THE EXTERIOR PORTION OF PROJECT.
- REFER TO LIFE SAFETY PLAN AND LEGEND ON G SHEETS FOR COLOR CODED INTERIOR PARTITION RATING REQUIREMENTS AND TYPES.

KEYED NOTES:  
FLOOR PLAN

- 1 SLOPE SLAB 2% MAX TO NEW 6" INDUSTRIAL TRENCH DRAIN WITH SLOT COVER.
- 2 NEW TYPE 'X' 5/8" GYP BOARD FACING AS NEEDED AFTER REMEDIATION AND DEMO. SEE D SERIES DRAWINGS FOR ADDITIONAL INFO. TYPICAL FOR ALL ETR INTERIOR PARTITIONS.
- 3 MOBILE TYPE 'E' OXYGEN STORAGE OPEN-TOP CABINET BY OWNER. SHOWN FOR REFERENCE.
- 4 TYPE 'W' OXYGEN TANK STORAGE AREA. TANKS SHALL BE PLACED TIGHT AGAINST THE WALL AND PROTECTED FROM IMPACT. SHOWN FOR REFERENCE.
- 5 AREA IS NOT IN CONTRACT (NIC) IN BASE PROJECT SCOPE EXCEPT ELECTRICAL WORK TO ACCOMMODATE NEW PANELS. RE: ELECTRICAL PROTECT AREA THROUGHOUT DURATION OF WORK TO PREVENT DUST AND DEBRIS INTRUSION. SEE SHEET 0201 FOR ADD ALTERNATE SCOPE IN THIS AREA.
- 6 PROVIDE FIRE-RATED BLOCKING IN WALL SEPARATING BUNK ROOMS LOCKERS. TYP. AT ALL BUNK ROOMS.
- 7 INFILL EXISTING OPENING TO ALIGN NEW WALL FACES WITH ETR WALL. SEE SECTIONS AND DETAILS.
- 8 GYP HEADER AND SOFFIT ABOVE. RE: A601 FOR FURTHER CLARIFICATION.
- 9 ALIGN F.F. OF PANELING W/ EDGE OF OPENING.
- 10 FLOOR DRAIN: RE: MEP.
- 11 6" DIA. 5' TALL STEEL EMB DAY SAFETY BOLLARD WITH CONCRETE FILL, PAINTED SAFETY YELLOW; SEMI-GLOSS FINISH.
- 12 PANEL 'LV3' LOCATION: RE: ELECTRICAL.
- 13 PROVIDE 3/4" FRT PLYWOOD BACKER BELOW GYP FACE LAYER FULL HEIGHT OF WALL.

DESIGNATION NUMBER	DESCRIPTION
1	REFRIGERATOR BASIS OF DESIGN: GE GSS232YPPFS
2	MICROWAVE W/ 27" TRIM KIT BASIS OF DESIGN: PCHK11S1WVS
3A	30" FREE-STANDING ELECTRIC RANGE AND OVEN BASIS OF DESIGN: GRS500PVSS
3B	30" HOOD W/ SS HOOD SHROUD AND HANDICAP ACCESSIBLE CONTROLS. RE: MECHANICAL AND ELECTRICAL FOR FURTHER CLARIFICATION.
4	COUNTERTOP COFFEE BREWER
5	WASHING MACHINE BASIS OF DESIGN: GTW325ASWWWW
6	DRYING MACHINE BASIS OF DESIGN: GTX33EASKWW
7	ADA DISHWASHER BASIS OF DESIGN: GE GDT22SSSLSS

- GENERAL NOTES:
- CONTRACTOR TO INSTALL WOOD BLOCKING AND/OR PLYWOOD AS NEEDED FOR ALL AV EQUIPMENT, TOILET ACCESSORIES, MEP ITEMS, AND CASEWORK.
  - PRIOR TO ROUGH-IN AND PROCUREMENT, CONTRACTOR TO VERIFY EQUIPMENT SELECTIONS W/ OWNER.

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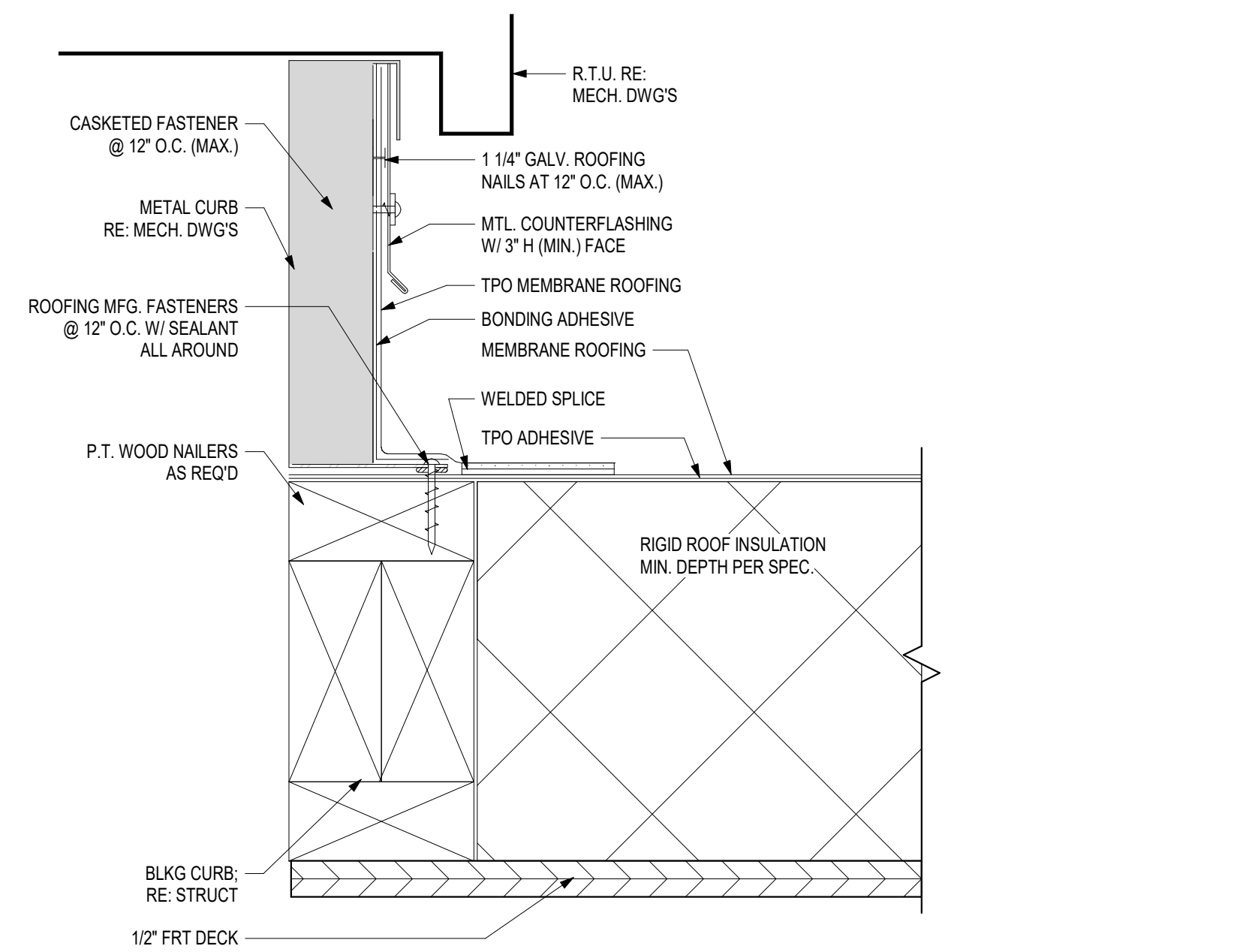
**A101**  
ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 25016

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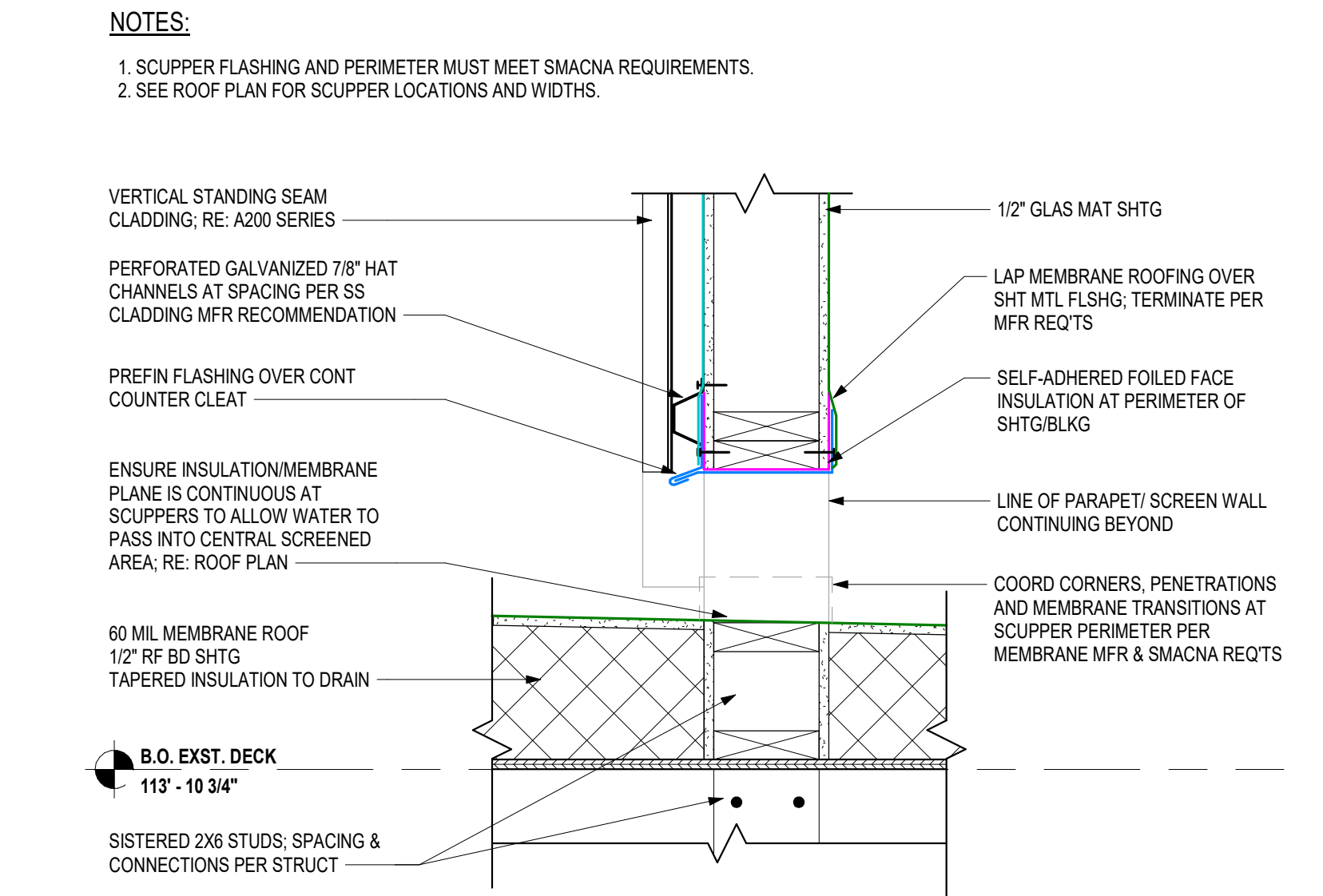
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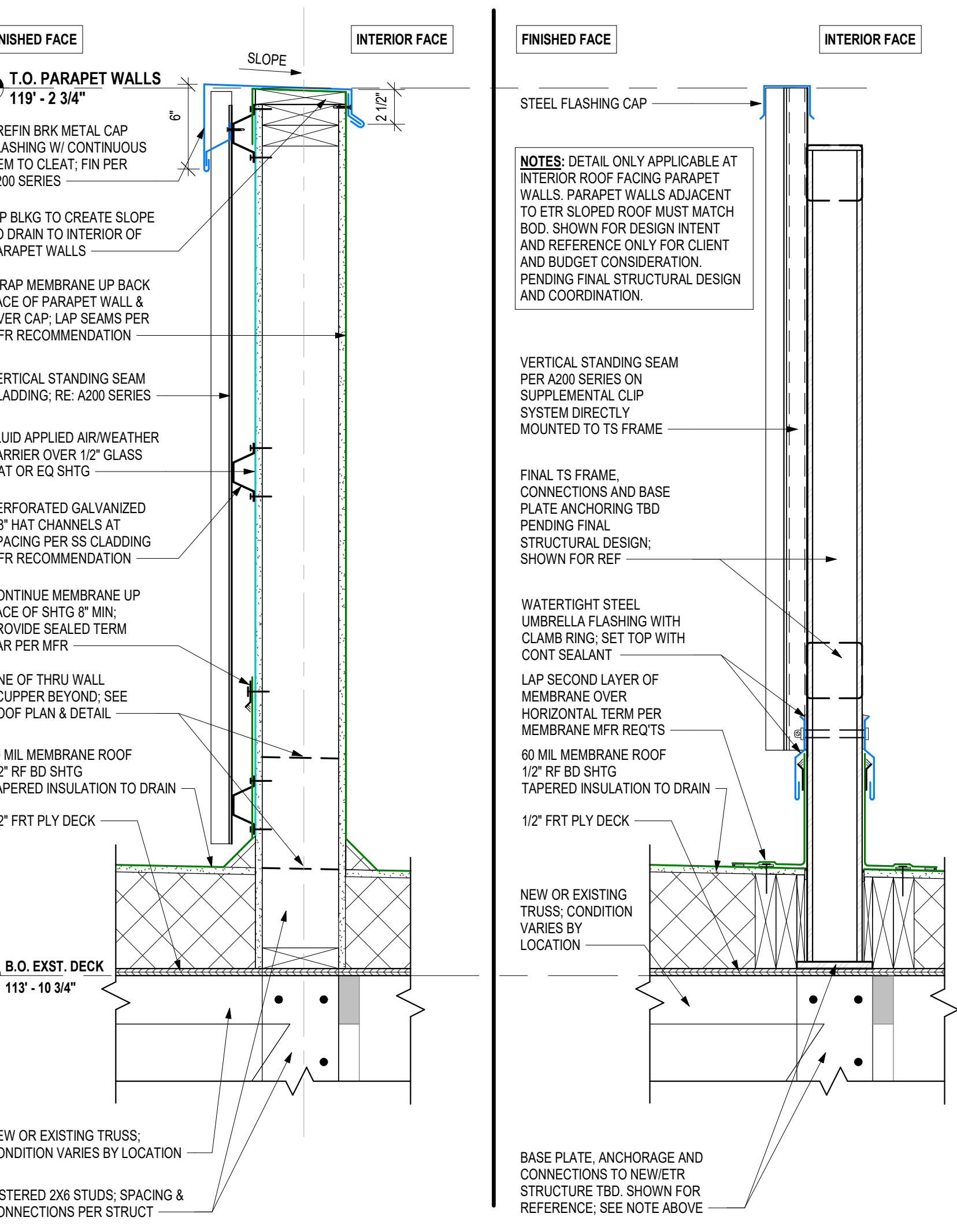
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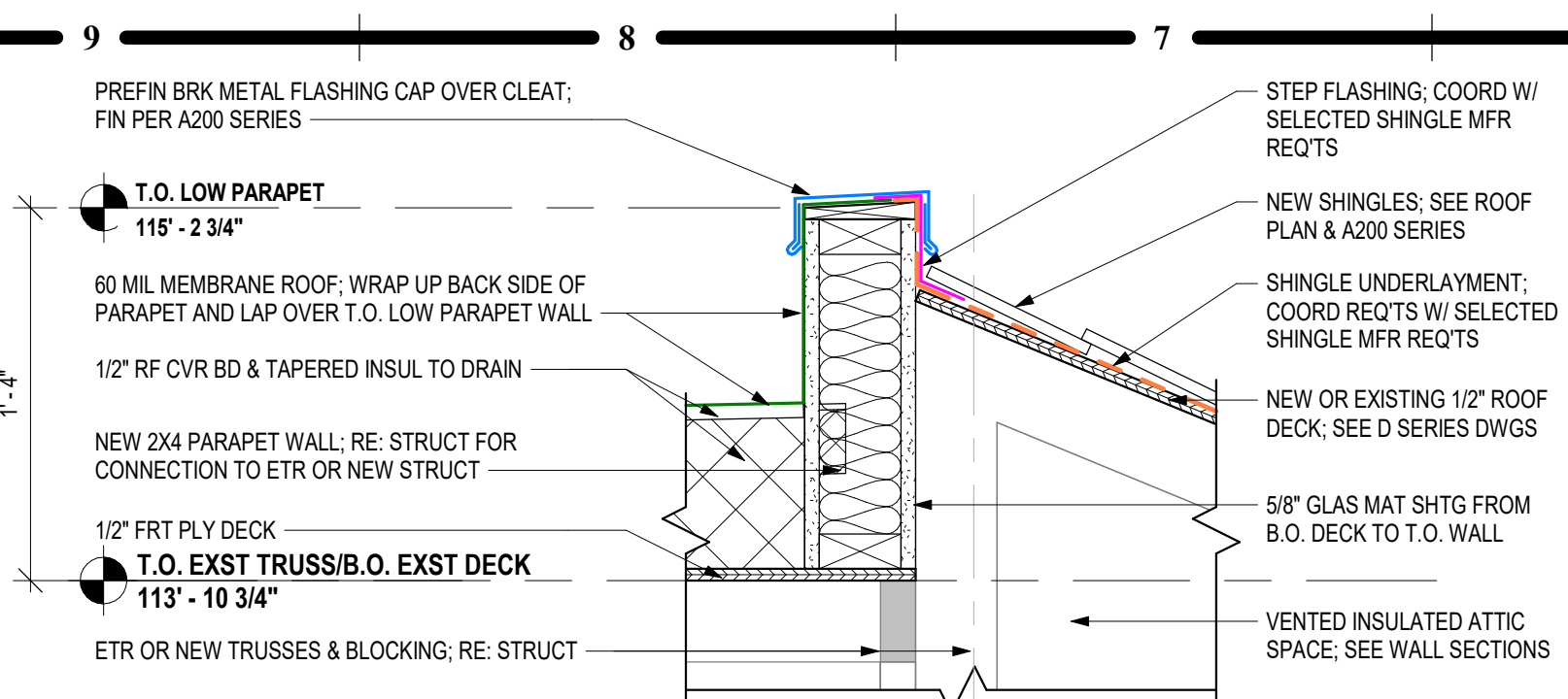
H12 TYP TPO FLASHING AT RTU CURB - FOR REFERENCE  
6" = 1'-0"



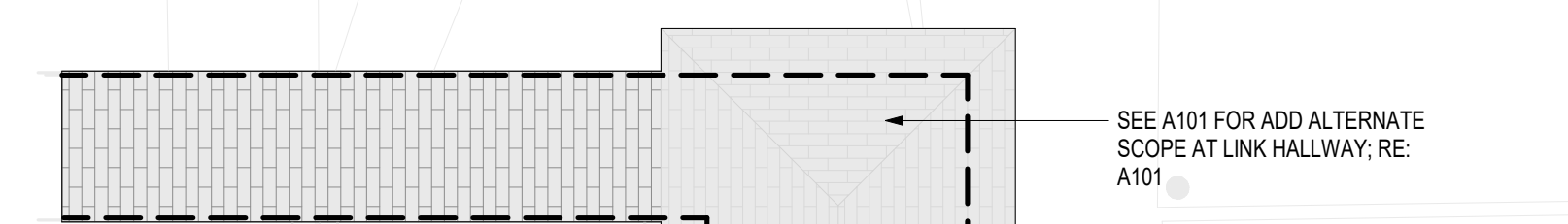
E12 TYP THRU WALL SCUPPER DETAIL  
1 1/2" = 1'-0"



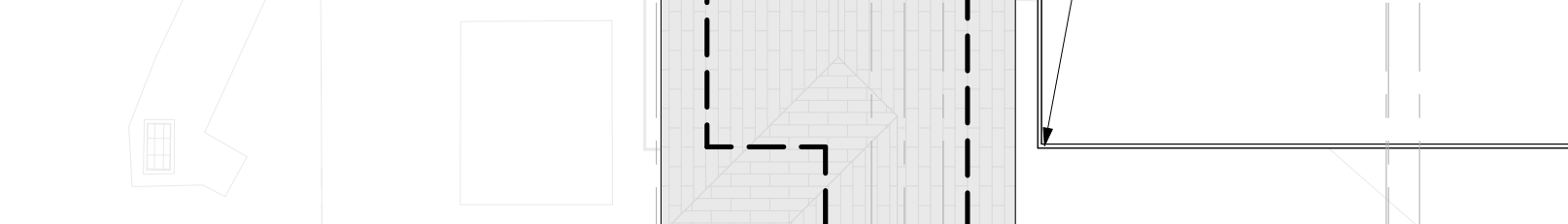
A12 SECTION DETAIL - TYP HIGH PARAPET / RTU SCREEN  
1 1/2" = 1'-0"



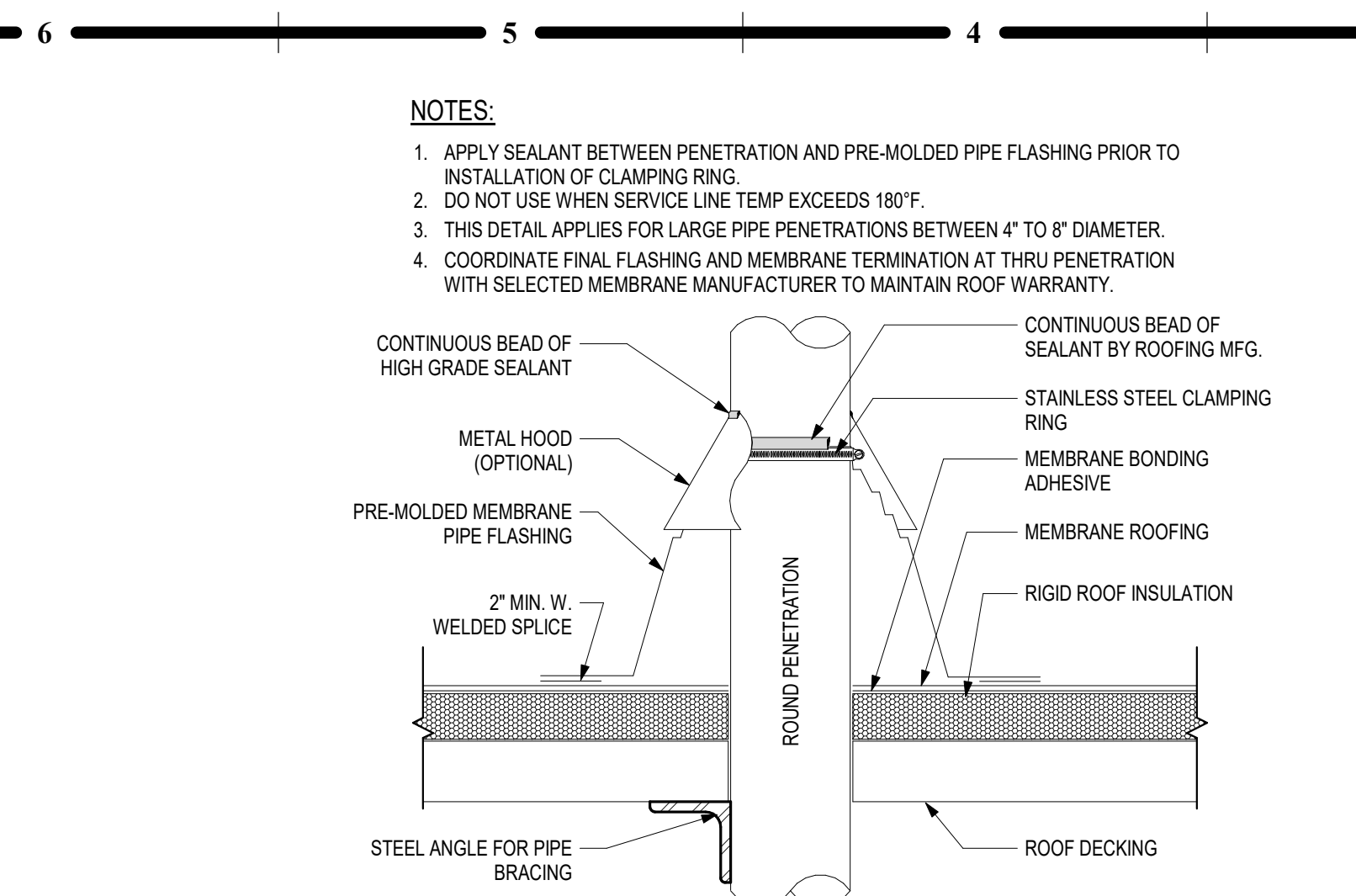
K9 SECTION DETAIL - TYP LOW PARAPET AT ETR ROOF  
1 1/2" = 1'-0"



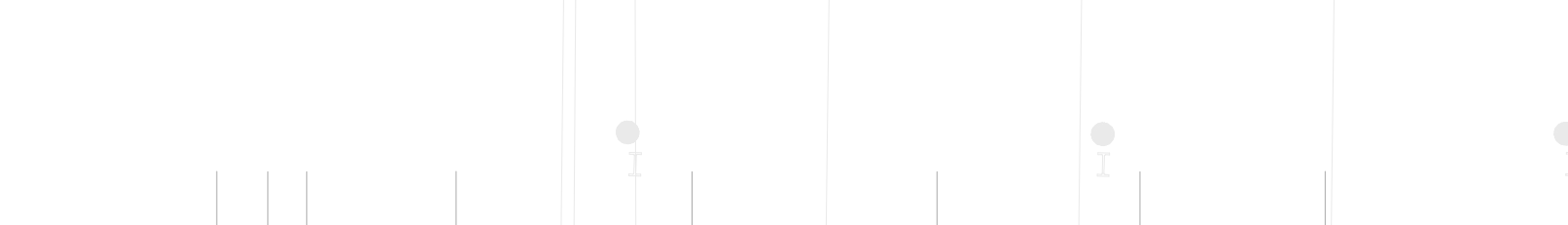
H5 TYP THRU PENETRATION - FOR REFERENCE  
3" = 1'-0"



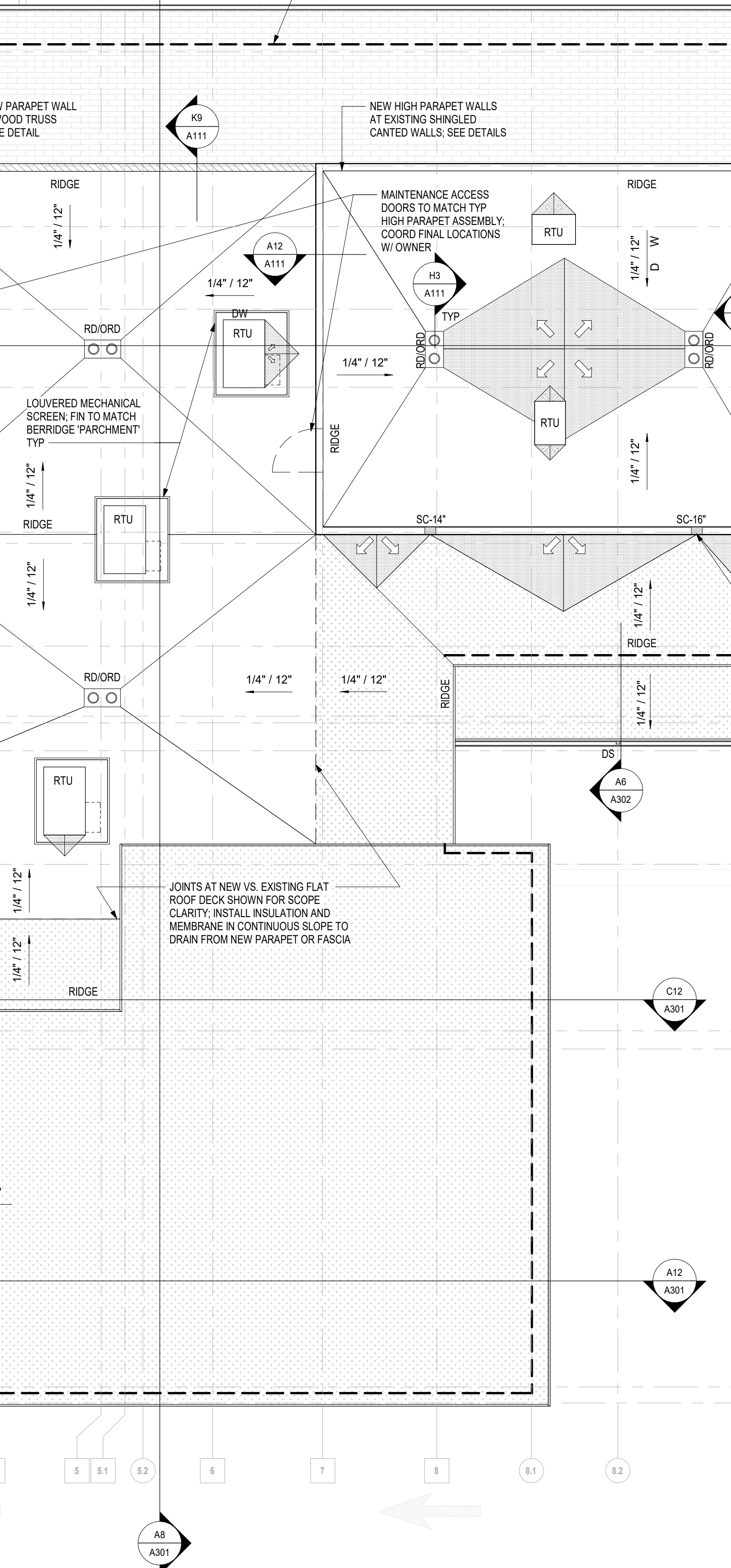
H3 TYP ROOF DRAIN SECTION - FOR REFERENCE  
3" = 1'-0"



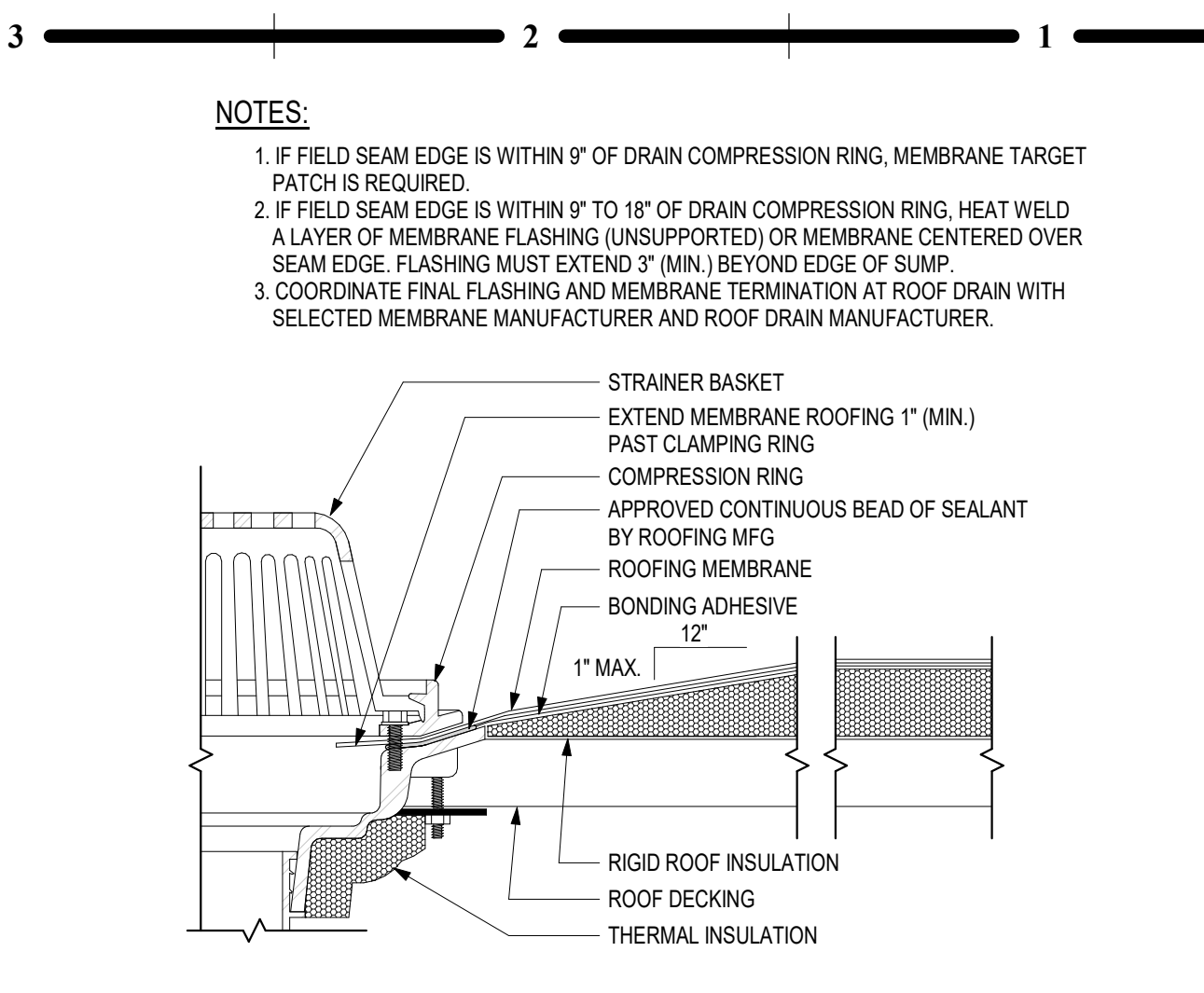
H5 TYP THRU PENETRATION - FOR REFERENCE  
3" = 1'-0"



H3 TYP ROOF DRAIN SECTION - FOR REFERENCE  
3" = 1'-0"



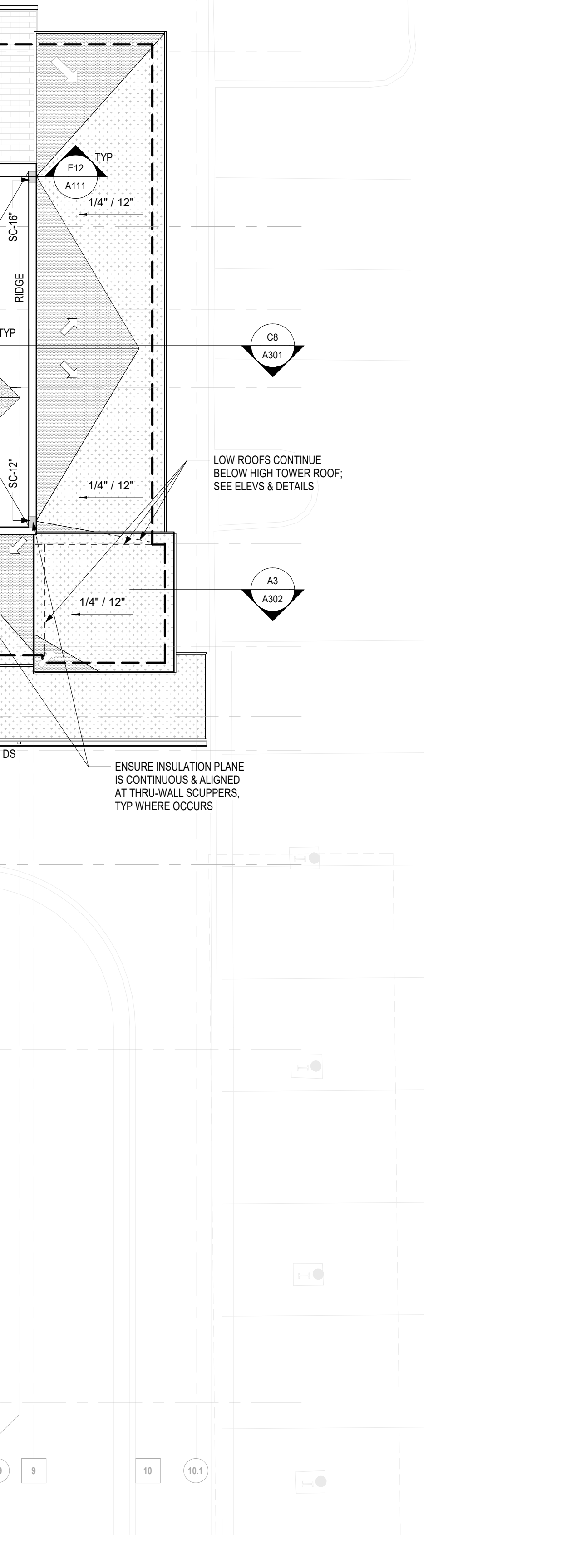
A9 ROOF PLAN  
1/8" = 1'-0"



H5 TYP THRU PENETRATION - FOR REFERENCE  
3" = 1'-0"



H3 TYP ROOF DRAIN SECTION - FOR REFERENCE  
3" = 1'-0"



A9 ROOF PLAN  
1/8" = 1'-0"

**GENERAL NOTES:**

**ROOF PLANS**

1. RE: SHEET 0001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE ROOF PLAN ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
3. PROVIDE 1/2" FT. TAPERED INSULATION AT ALL ROOF CURBS AND AT EQUIPMENT WHICH EXCEEDS 18 INCHES IN WIDTH.
4. RTUs ARE PROPOSED TO BE SCREENED WITH A COMBINATION OF PARAPET WALLS AND UNIT MOUNTED SCREENS, GIVEN THE NATURE AND CONDITION OF THE EXISTING BUILDING (UDO ART. 8 DIV 4 OTHER REQUIRED DESIGN STANDARDS SECTION 8.180).

**ROOF PLAN LEGEND**

- SLOPE DIRECTION
- TAPERED INSULATION CRICKET OVERBUILD
- NEW MEMBRANE ROOF OVER ETR/PATCHED DECK/STRUCTURE
- NEW MEMBRANE ROOF OVER NEW ROOF DECK/STRUCTURE
- NEW ASPHALT SHINGLES: SEE A200 SERIES FOR BOO
- COMBINATION ROOF DRAIN WITH OVERFLOW ROOF DRAIN: BOO DURN 2-164 12"
- DS □ DOWNSPOUT
- EDS □ EXISTING DOWNSPOUT
- SC-X □ THRU-WALL SCUPPER; X = MIN WIDTH
- RTU RTU ON CURB WITH CRICKET; RE: MECH. SCREENING CONDITION VARIES BY LOCATION

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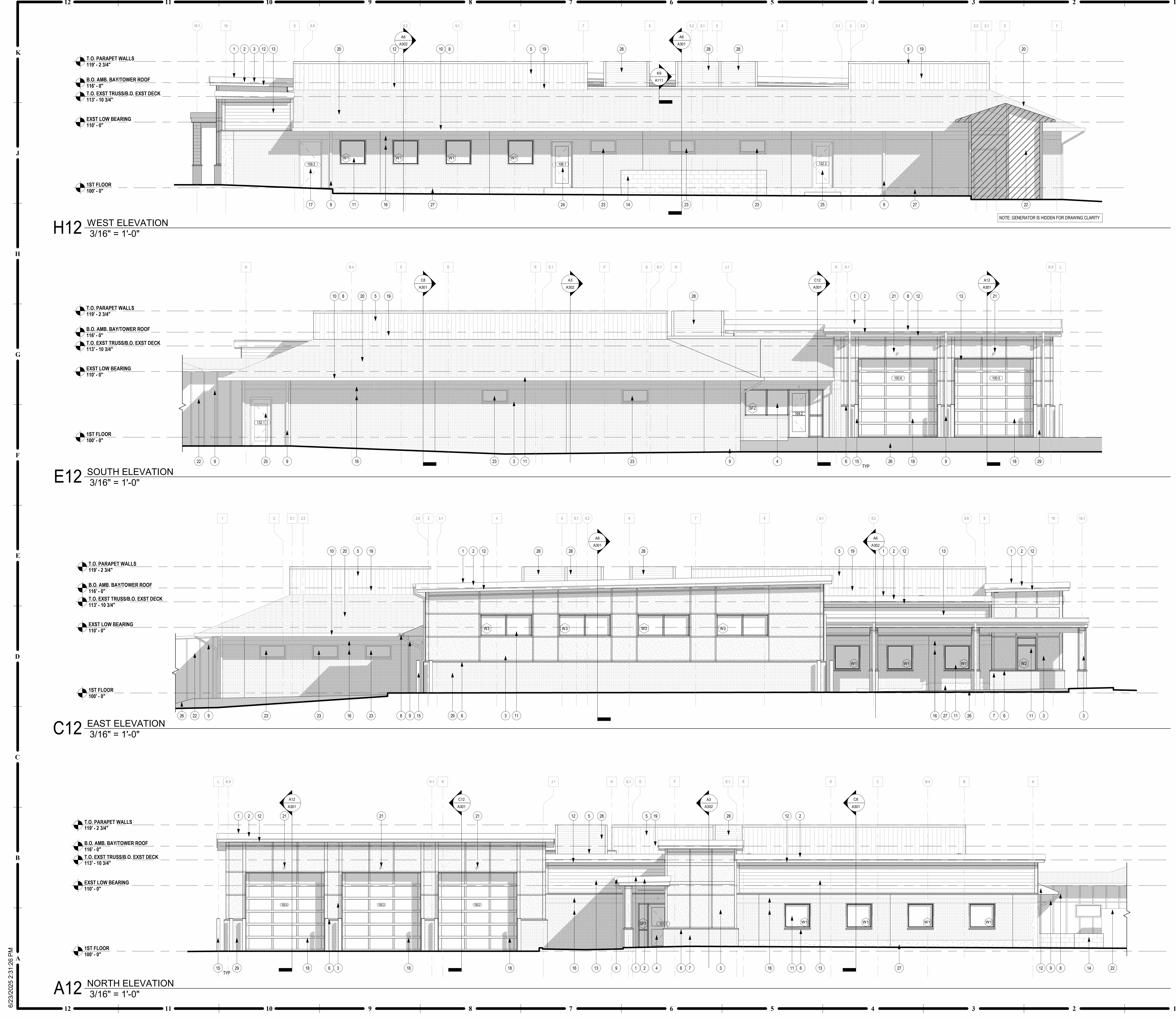
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**A111**  
ISSUE DATE: 20 JUNE 2025  
COLLINS WEBB #: 25016

ROOF PLAN





GENERAL NOTES  
EXTERIOR ELEVATIONS:

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE EXTERIOR ELEVATIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), FACE OF STUD AND COLUMN GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED.
3. RE: THE WINDOW TYPES SHEET FOR ALL EXTERIOR WINDOW TYPES AND GLASS TYPES.
4. PROVIDE ALL BLOCKING AND POWER AS REQUIRED FOR EXTERIOR SIGNAGE.

KEY NOTES  
EXTERIOR ELEVATIONS:

- 1 FULLY ADHERED MEMBRANE ROOF
- 2 ALUMINUM FASCIA; SEE EXTERIOR MATERIAL FINISH LEGEND
- 3 FIBER CEMENT EXTERIOR PANEL, W/ TRIM; SEE EXTERIOR MATERIAL FINISH LEGEND
- 4 ALUMINUM STOREFRONT SYSTEM; RE: SHEET A501 FOR DETAILS
- 5 ALUMINUM COPING; SEE EXTERIOR MATERIAL FINISH LEGEND
- 6 ALUMINUM BRICK CAP; SEE EXTERIOR MATERIAL FINISH LEGEND
- 7 EXISTING OR SALVAGED & RE-INSTALLED FACE BRICK; SEE EXTERIOR MATERIAL FINISH LEGEND
- 8 ALUMINUM GUTTER; SEE EXTERIOR MATERIAL FINISH LEGEND
- 9 ALUMINUM DOWNSPOUT WITH BOOT TO STORM; RE: CIVIL. SEE EXTERIOR MATERIAL FINISH LEGEND
- 10 NEW PAINTED WOOD FASCIA; SEE EXTERIOR MATERIAL FINISH LEGEND
- 11 ALUMINUM STOREFRONT WINDOW; RE: SHEET A501 FOR DETAILS
- 12 VENTED FIBER CEMENT SOFFIT W/ TRIM; SEE A300 SERIES FOR FINISH
- 13 FIBER CEMENT SIDING W/ TRIM
- 14 CMU WALL- PAINTED TO MATCH BERRIDGE 'PARCHMENT'
- 15 CONCRETE FILLED STEEL TUBE BOLLARD; FIN TO MATCH BERRIDGE 'TERRA-COTTA'
- 16 EXISTING BRICK AND SOLDIER COURSE
- 17 EXISTING EXTERIOR HM DOOR; RE: DOOR SCHEDULE
- 18 OVERHEAD SECTIONAL DOOR; RE: DOOR SCHEDULE
- 19 VERTICAL METAL SCREEN PANEL; SEE EXTERIOR MATERIAL FINISH LEGEND
- 20 NEW ASPHALT SHINGLES; SEE EXTERIOR MATERIAL FINISH LEGEND
- 21 EXTERIOR UPDOWN LIGHT; RE: MEP
- 22 EXISTING BUILDING LINK; SEE A101 FOR ADD ALTERNATE SCOPE
- 23 EXISTING WINDOW TO REMAIN
- 24 NEW STOREFRONT DOOR; RE: DOOR SCHEDULE
- 25 EXISTING STOREFRONT DOOR; RE: DOOR SCHEDULE
- 26 GRADE SLOPES UP TO FACADE BEYOND; RE: CIVIL, SHOWN FOR REFERENCE
- 27 EXISTING CONCRETE LEDGE TO REMAIN; COORD FINAL PAINT TYPE & FINISH WITH OWNER
- 28 LOUVERED MECHANICAL SCREEN; FIN TO MATCH BERRIDGE 'PARCHMENT' RE: SHEET A111
- 29 NEW FACE BRICK AT AMBULANCE BAY; SEE EXTERIOR MATERIAL FINISH LEGEND

EXTERIOR ELEVATION MATERIALS

FINAL MATERIAL SELECTIONS MAY VARY SLIGHTLY BASED ON AVAILABILITY AND BEST MATCHES TO EXISTING BRICK.

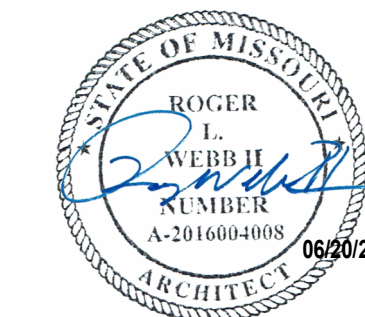
- |  |   |
|--|---|
|  | FIBER CEMENT PANELS<br>SMOOTH PROFILE<br>PAINTED FINISH TO MATCH SW #7019 'GAULET' GRAY                             |
|  | FIBER CEMENT TRIM<br>SMOOTH PROFILE<br>3 1/2" x 12" AND 5 1/2" WIDTHS<br>CUSTOM COLOR TO MATCH BERRIDGE 'PARCHMENT' |
|  | FIBER CEMENT SIDING<br>SMOOTH PROFILE<br>7 1/4" WIDTH (8" EXPOSURE)<br>CUSTOM COLOR TO MATCH BERRIDGE 'PARCHMENT'   |
|  | EXISTING OR SALVAGED<br>FACE BRICK  |
|  | NEW BRICK (AMBULANCE BAY)<br>TBD PENDING BEST MATCH<br>B02: BELDEN BRICK, ST. SIMON<br>BROWN, DART-TEX TEXTURE      |
|  | METAL PANEL ROOF SCREEN<br>16" VERTICAL STANDING SEAM<br>BERRIDGE DOUBLE-LOCK ZEE-<br>LOCK PANEL FIN 'PARCHMENT'    |
|  | MISC. METALS<br>ROOF METAL COPING, NEW<br>GUTTERS, NEW OR EXISTING<br>DOWNSPOUTS TO MATCH<br>BERRIDGE 'TERRA-COTTA' |
|  | PARAPET WALL COPING<br>TO MATCH BERRIDGE 'PARCHMENT'  |
|  | ASPHALT SHINGLES<br>TIMBERLINE HDZ<br>'MISSION BROWN'   |

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EXTERIOR ELEVATIONS



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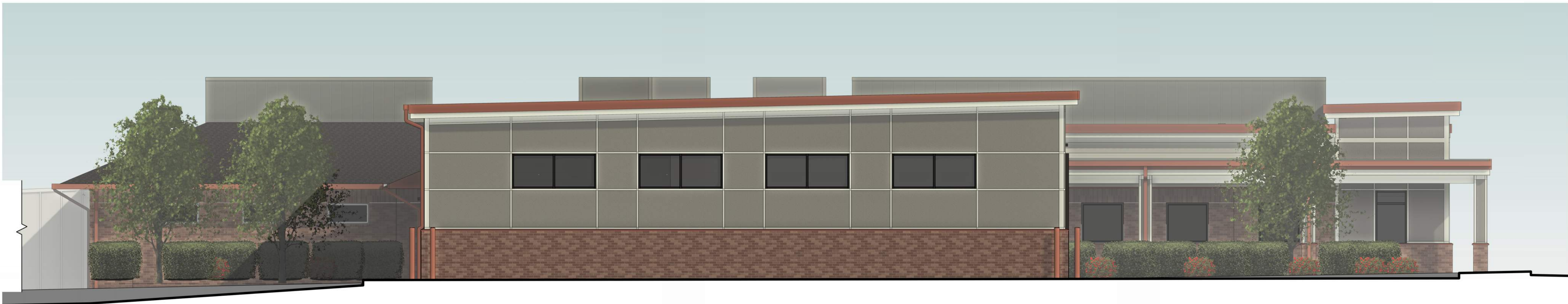




G12 COLORED ELEVATION - WEST  
3/16" = 1'-0"



E12 COLORED ELEVATION - SOUTH  
3/16" = 1'-0"



C12 COLORED ELEVATION - EAST  
3/16" = 1'-0"



A12 COLORED ELEVATION - NORTH  
3/16" = 1'-0"

NOTE: MATERIALS ARE SHOWN FOR TEXTURE AND GENERAL LAYOUT REFERENCE ONLY AND DO NOT ACCURATELY REPRESENT THE INTENDED FINISH. REFER TO THE EXTERIOR ELEVATION MATERIAL LEGEND FOR PROPOSED FINISH FOR ALL EXTERIOR MATERIALS. TYPICAL FOR ALL DRAWINGS ON SHEET.



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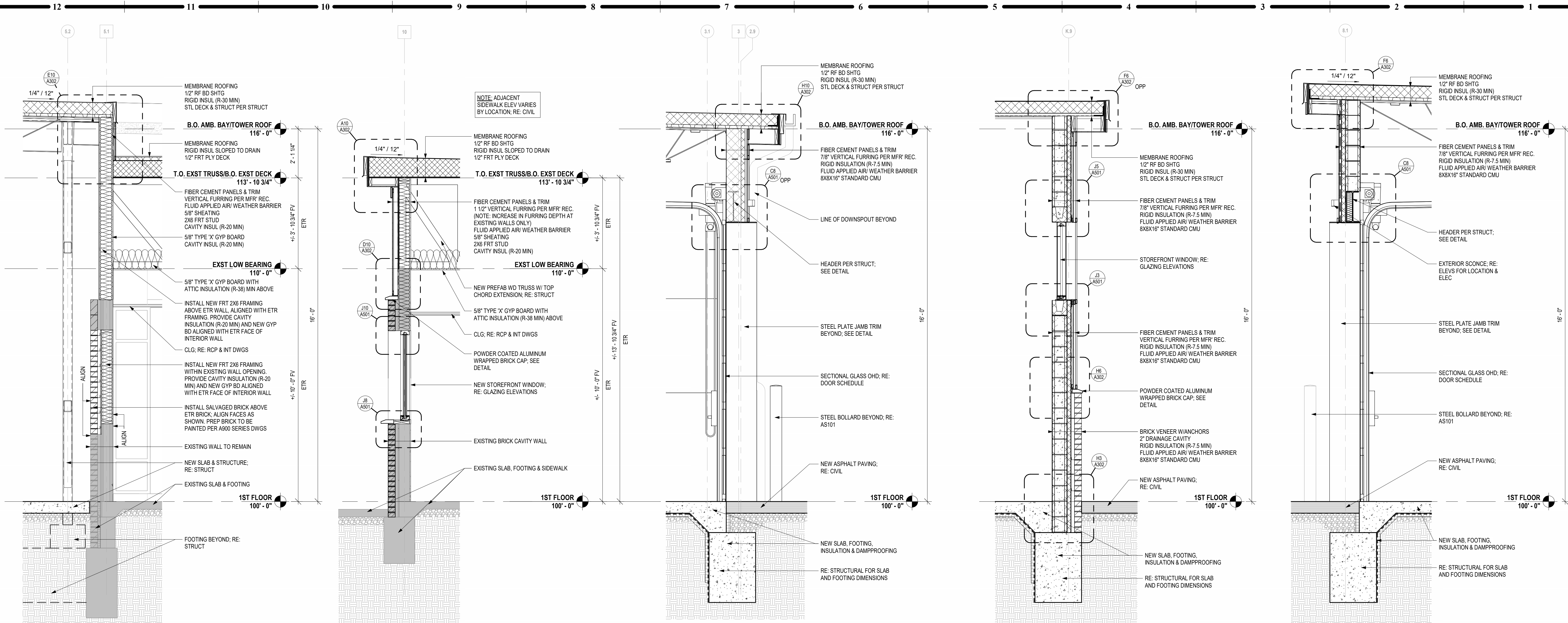
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COLORED EXTERIOR ELEVATIONS  
FOR REFERENCE





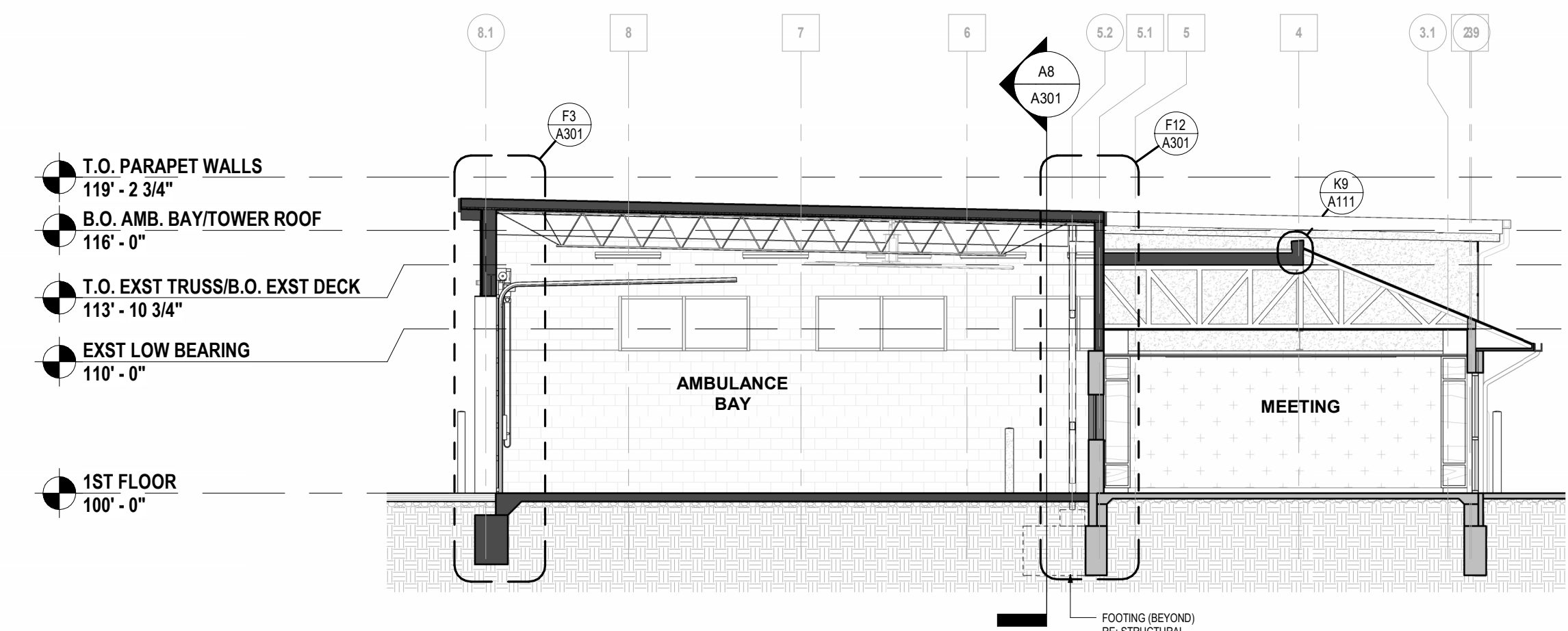
F12 WALL SECTION - AMB. BAY AT EXIST.  
1/2" = 1'-0"

F10 WALL SECTION - NORTH FACADE  
1/2" = 1'-0"

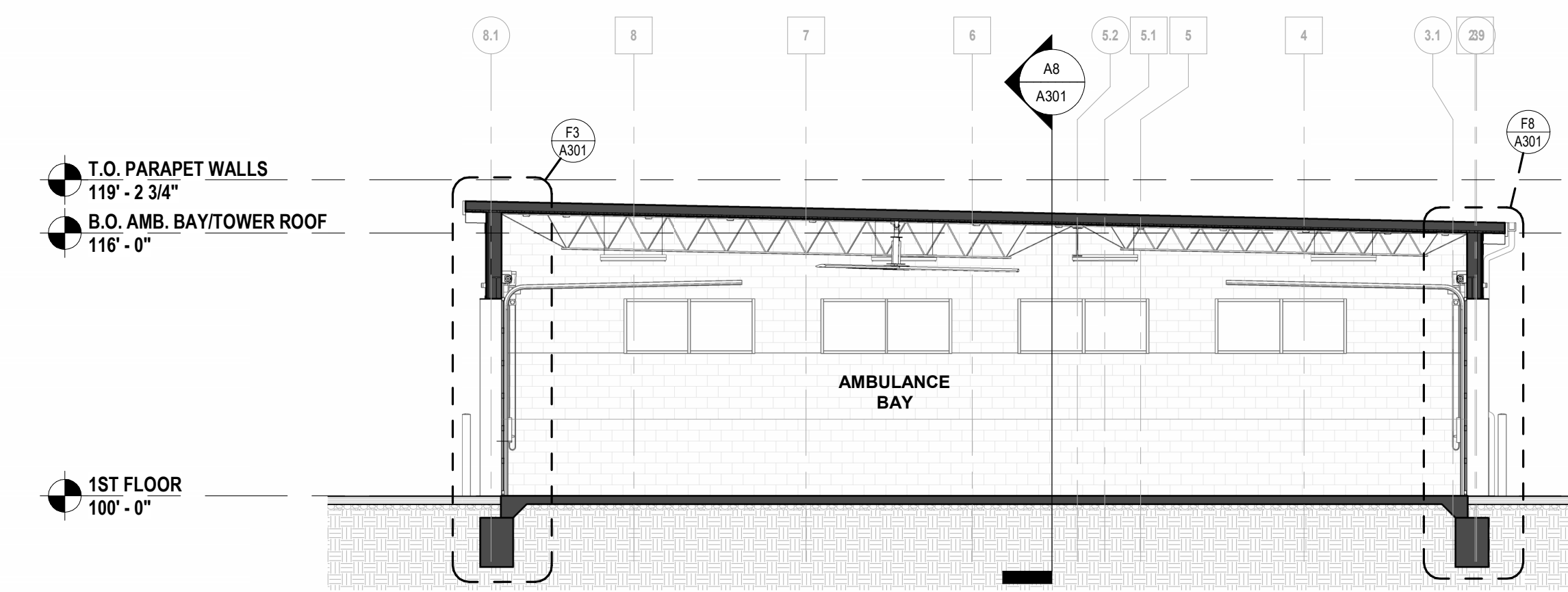
F8 WALL SECTION - AMB. BAY AT GUTTER EAVE  
1/2" = 1'-0"

F5 WALL SECTION - AMB. BAY RAKE WALL  
1/2" = 1'-0"

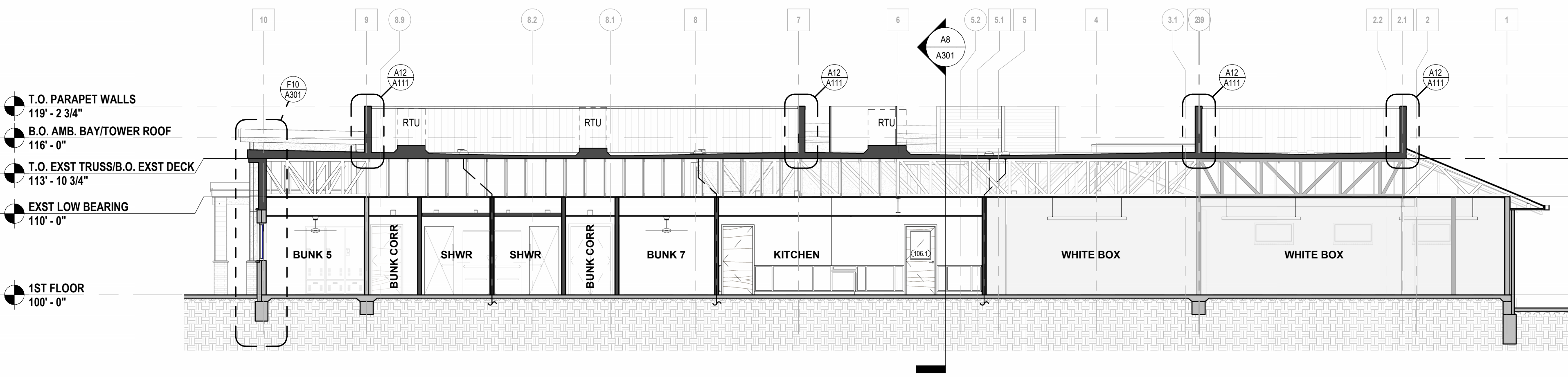
F3 WALL SECTION - AMBULANCE BAY OHD  
1/2" = 1'-0"



C12 AMBULANCE BAY SECTION - AT EXISTING  
1/8" = 1'-0"



A12 AMBULANCE BAY SECTION - FULL ADDITION  
1/8" = 1'-0"



C8 N-S BUILDING SECTION  
1/8" = 1'-0"



A8 E-W BUILDING SECTION  
1/8" = 1'-0"

GENERAL NOTES:  
EXTERIOR WALL SECTIONS/  
DETAILS

1. RE. SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE. FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE ROUGH OPENING DIMENSIONS, UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCO), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. ALL EXPOSED STEEL AND FASTENERS SHALL BE FINISHED WITH HIGH PERFORMANCE COATING OR POWDER COATED. FINISH VARIES BY LOCATION. SEE DETAILS.
6. FIBER CEMENT SOFFIT PANELS SHALL HAVE INTEGRAL VENTS. CONFIRM PROFILE WITH ARCHITECT PRIOR TO ORDERING/INSTALL BASED ON SELECTED MANUFACTURER.
7. PROVIDE MESH OR EQ BUG SCREEN AT ALL VENTED SOFFITS AT WALL/SOFFIT FLASHING JOINT AND AT VENTED SOFFIT PANEL PERFORATIONS TO PREVENT BUG INTRUSION, TYP.
8. CONFIRM BRICK QUANTITIES BASED ON DEMO SCOPE AND SALVAGE/RE-INSTALL. PRIORITIZE UTILIZING ETR BRICK AT THE EXISTING BUILDING AND INTERIOR INFILL. SUPPLEMENT WITH NEW BRICK BELOW GRADE AS NEEDED.
9. AT NEW OR EXISTING BRICK SILLS OR HEADERS, DIMENSION IS APPROXIMATE FOR EASY REFERENCE, AND SHOULD REFER TO TOP OF NEAREST COMPLETE COURSE.

BUILDING SECTION LEGEND:

- ETR CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY
- NEW CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY

WALL SECTION LEGEND:

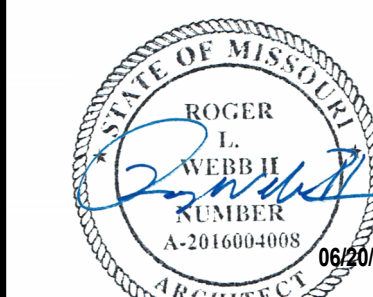
- ETR CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY
- NEW CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY

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BUILDING AND WALL SECTIONS

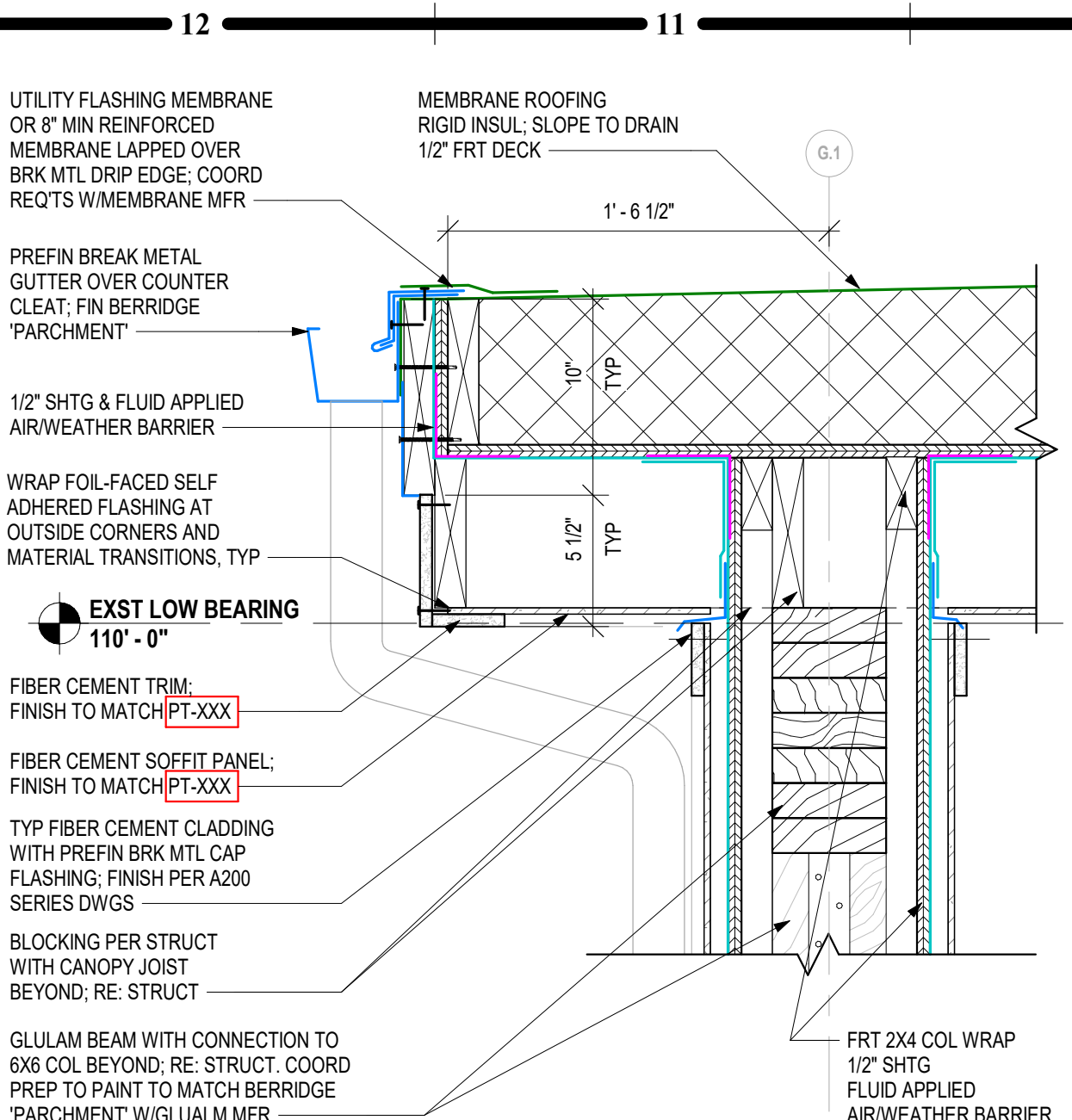


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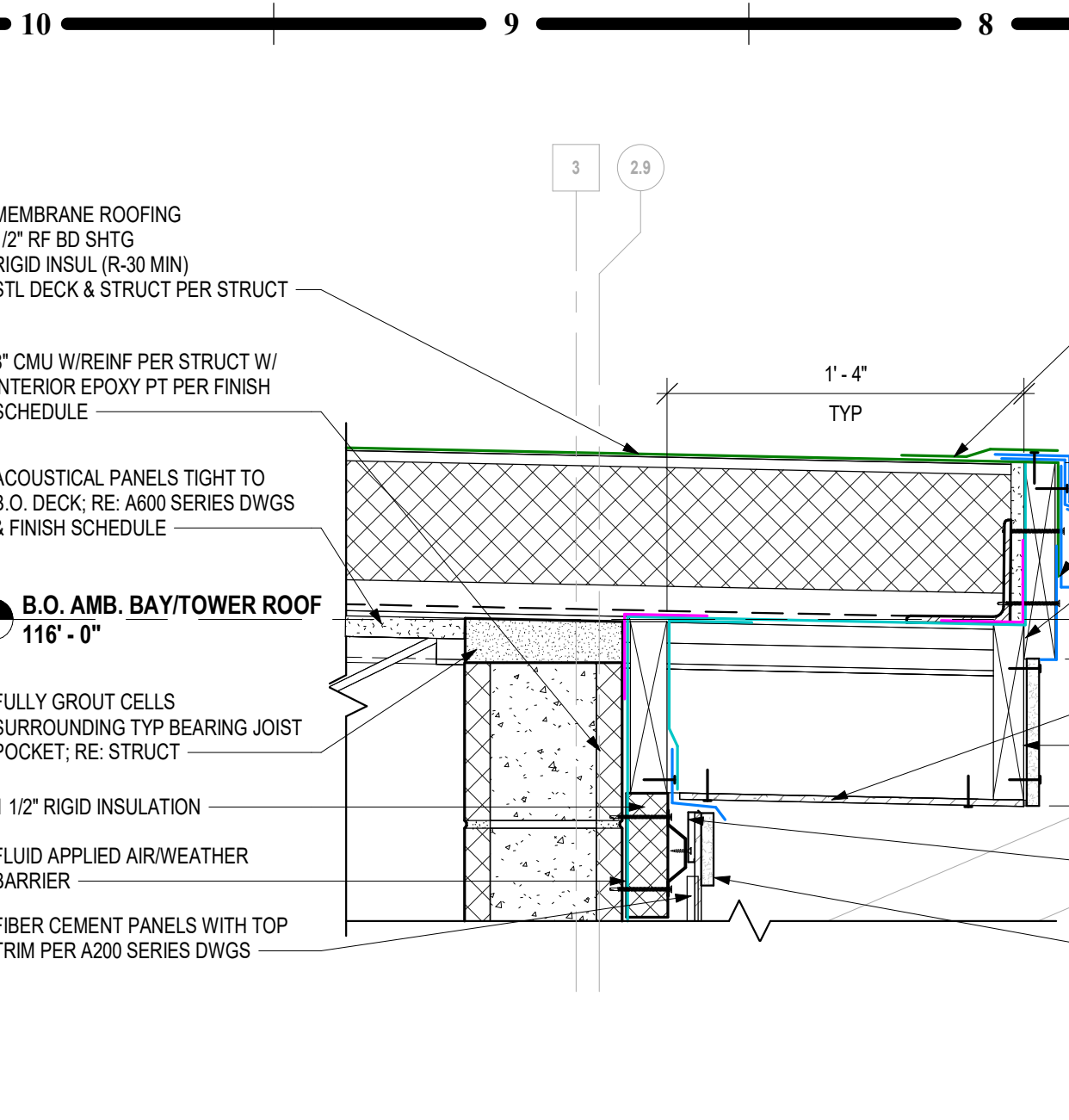
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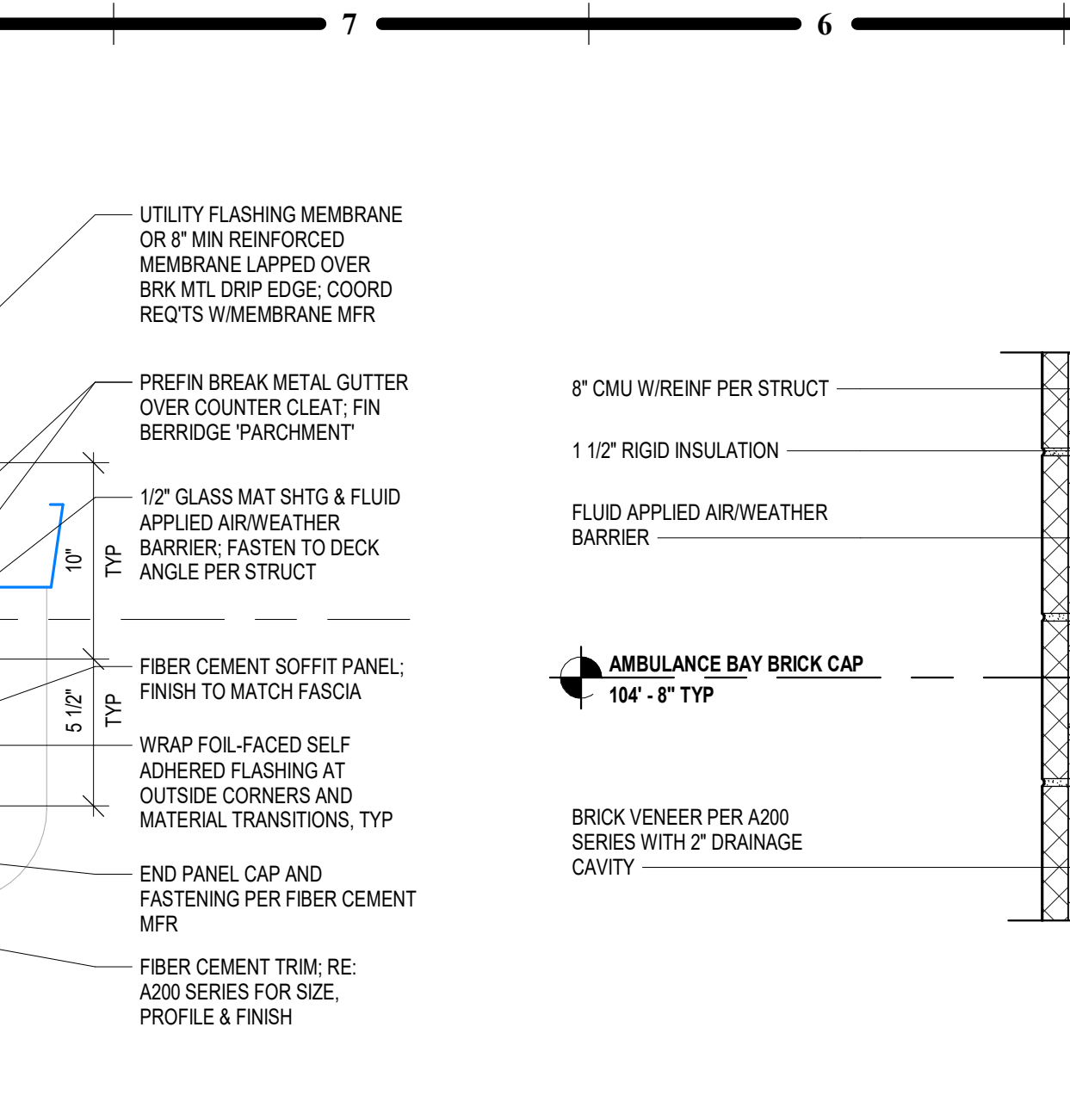
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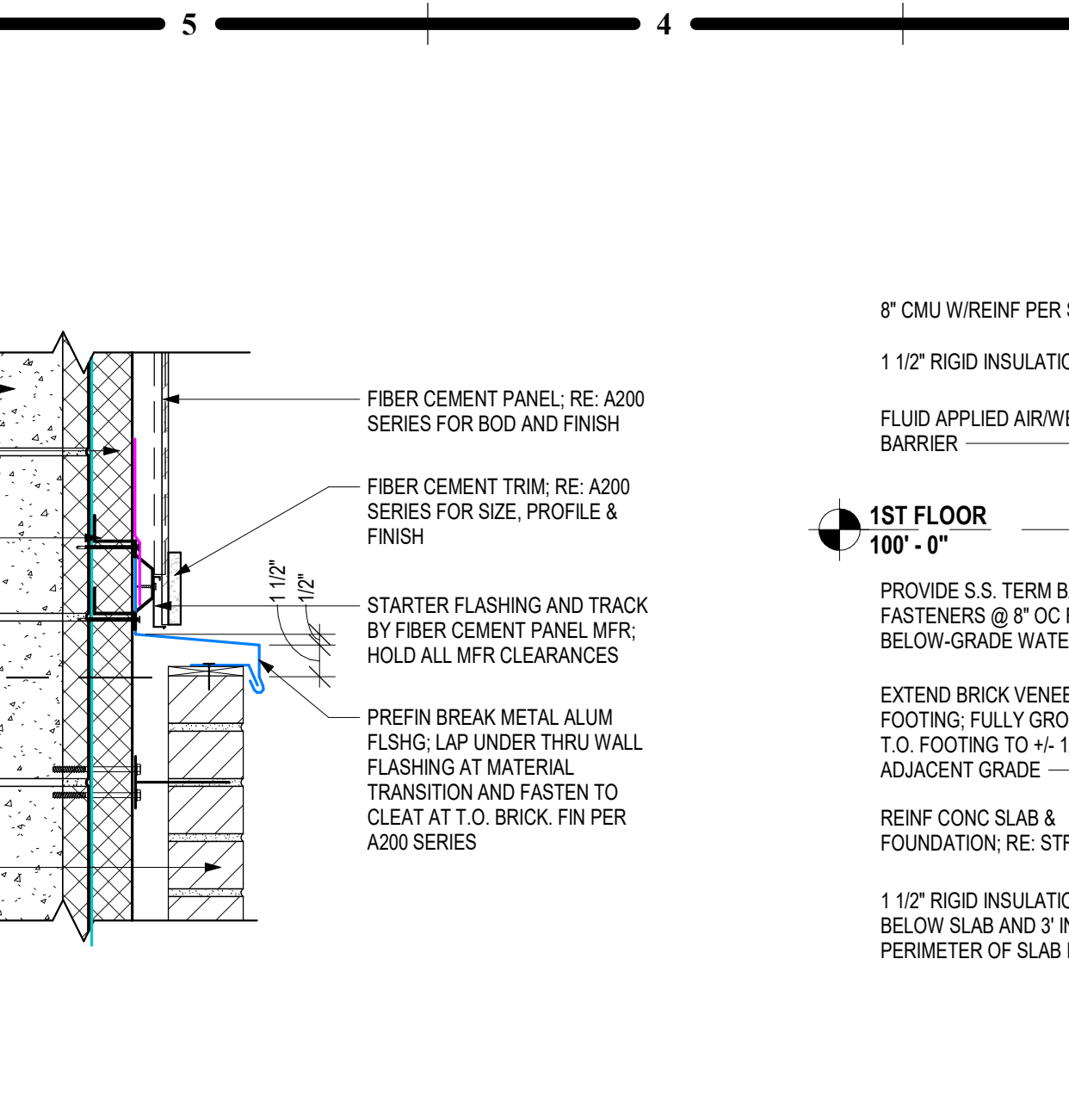
H12 SECTION DTL. - CANOPY ROOF GUTTER  
1 1/2" = 1'-0"



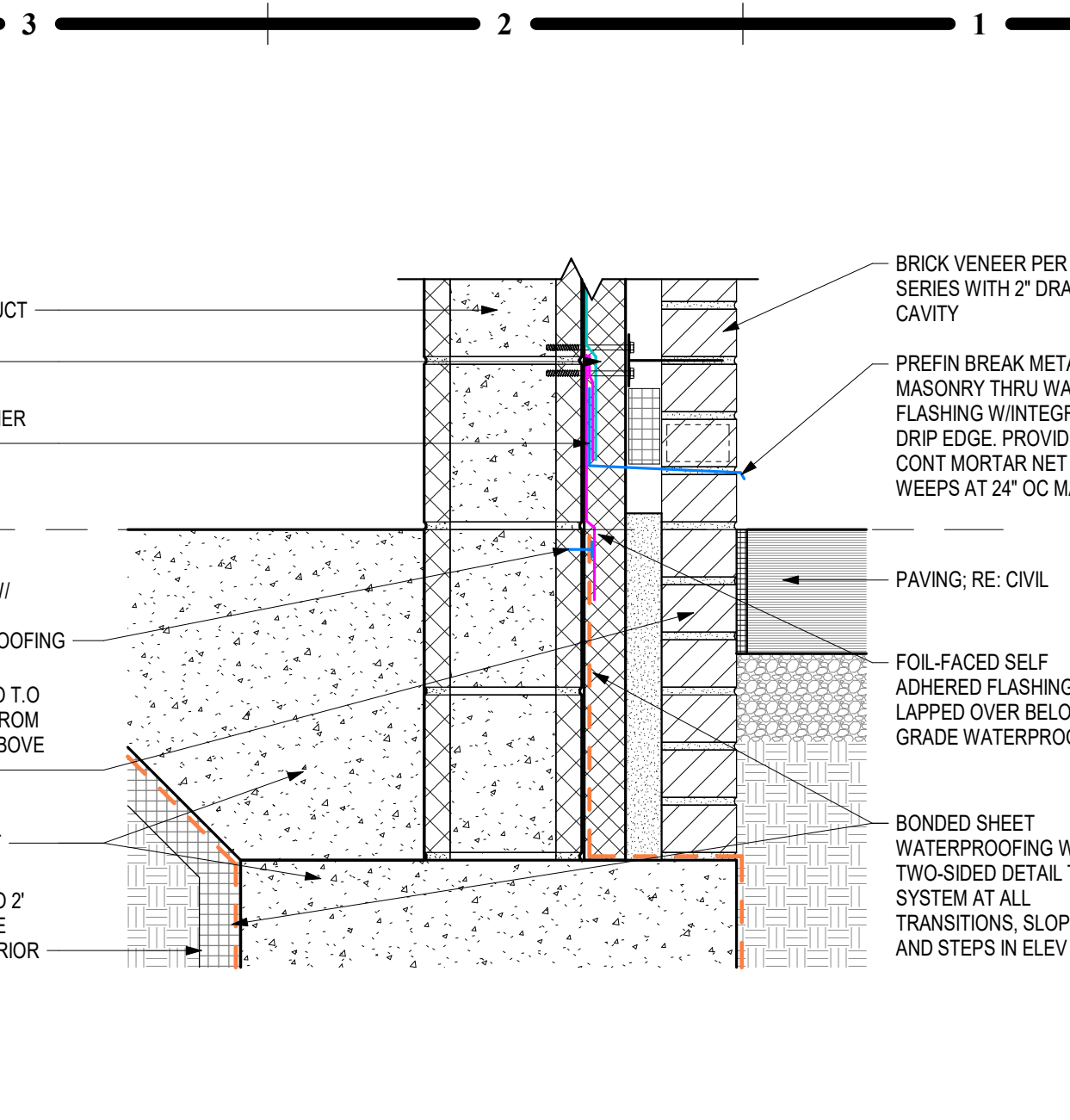
H10 SECTION DETAIL - AMBULANCE BAY ROOF GUTTER  
1 1/2" = 1'-0"



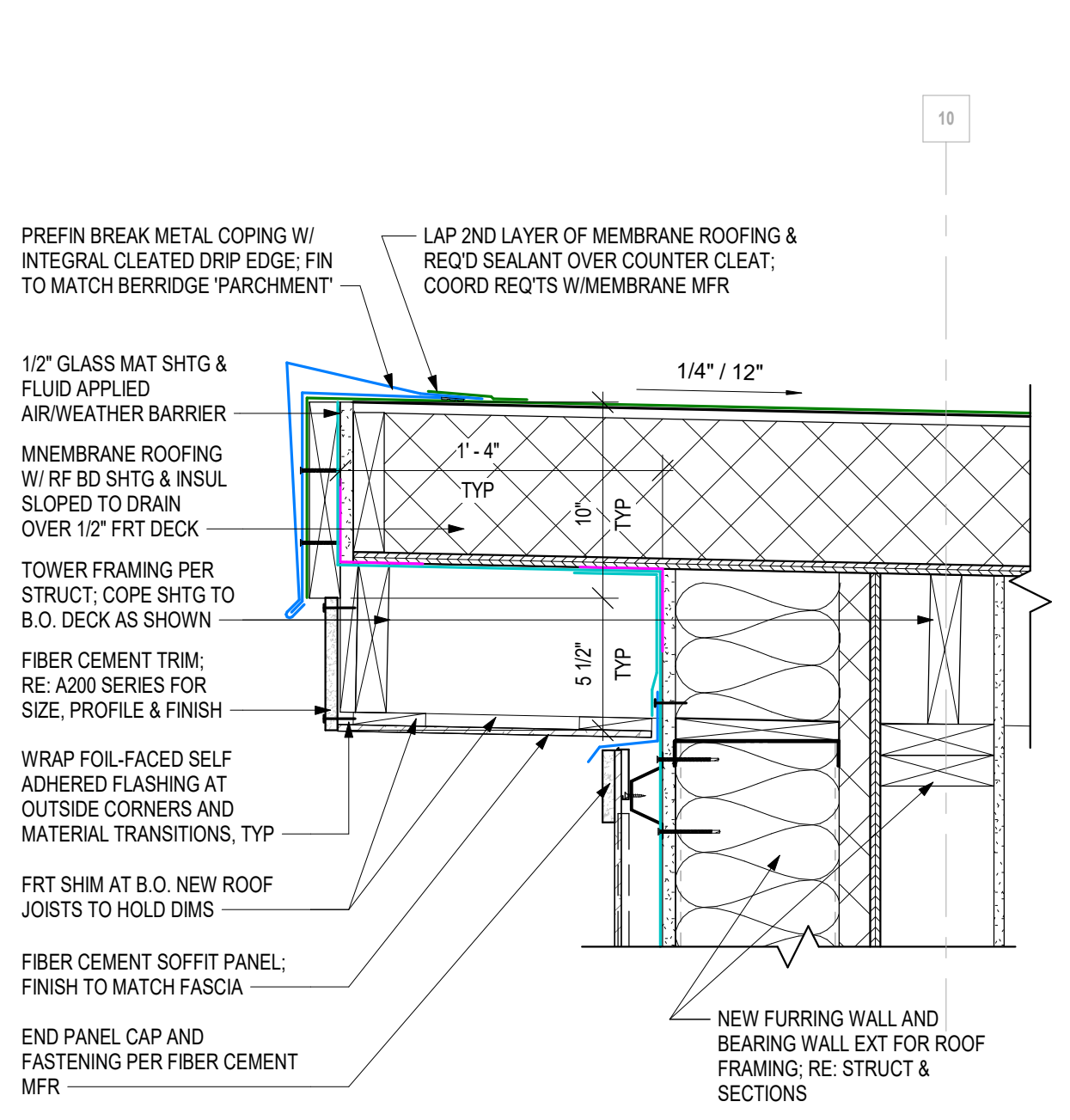
H6 SECTION DETAIL - TYP AMB. BAY CLADDING TRANSITION  
1 1/2" = 1'-0"



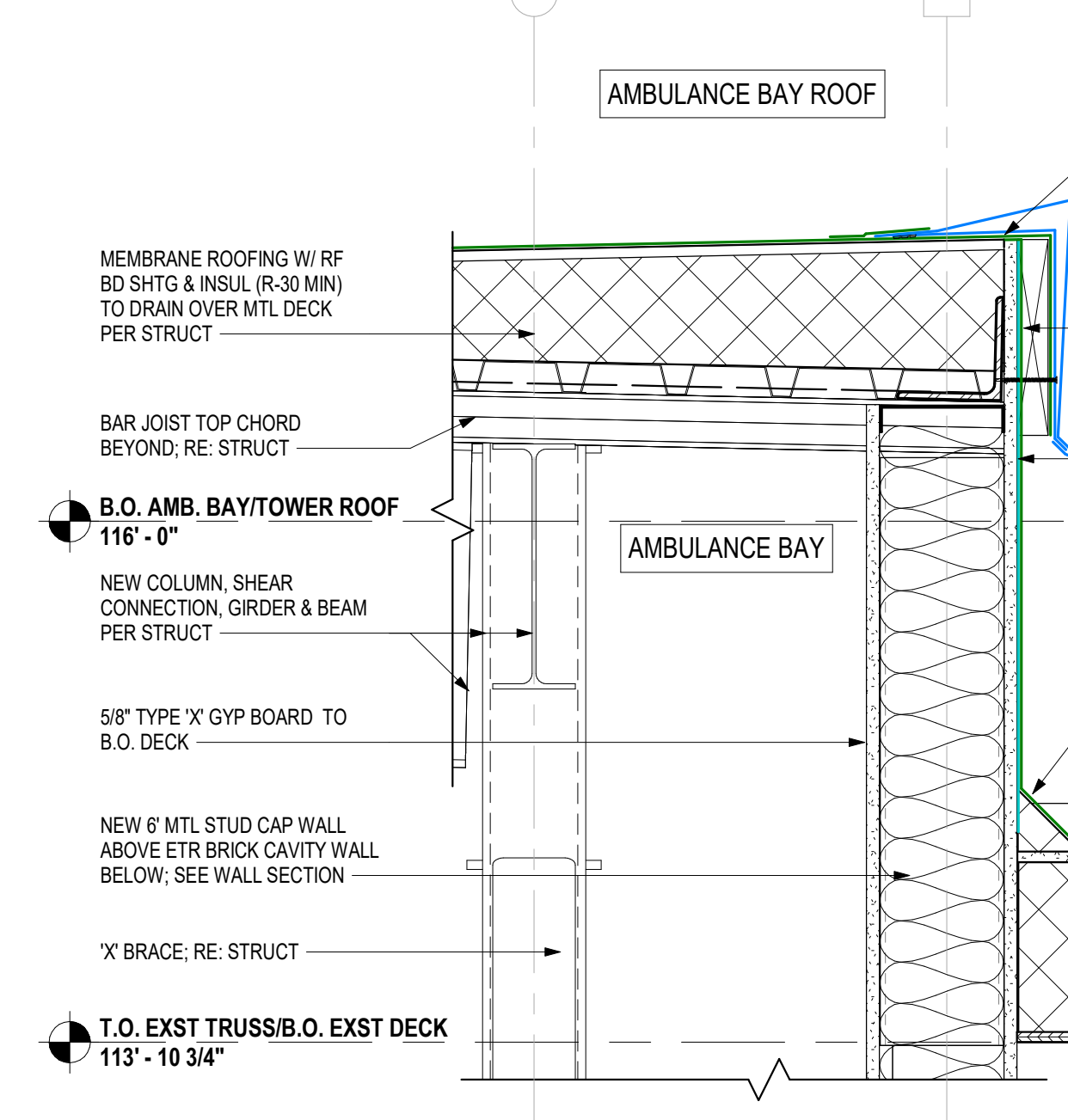
H3 BASE DETAIL - TYP B.O. MASONRY WALL AT ADJ. PAVING  
1 1/2" = 1'-0"



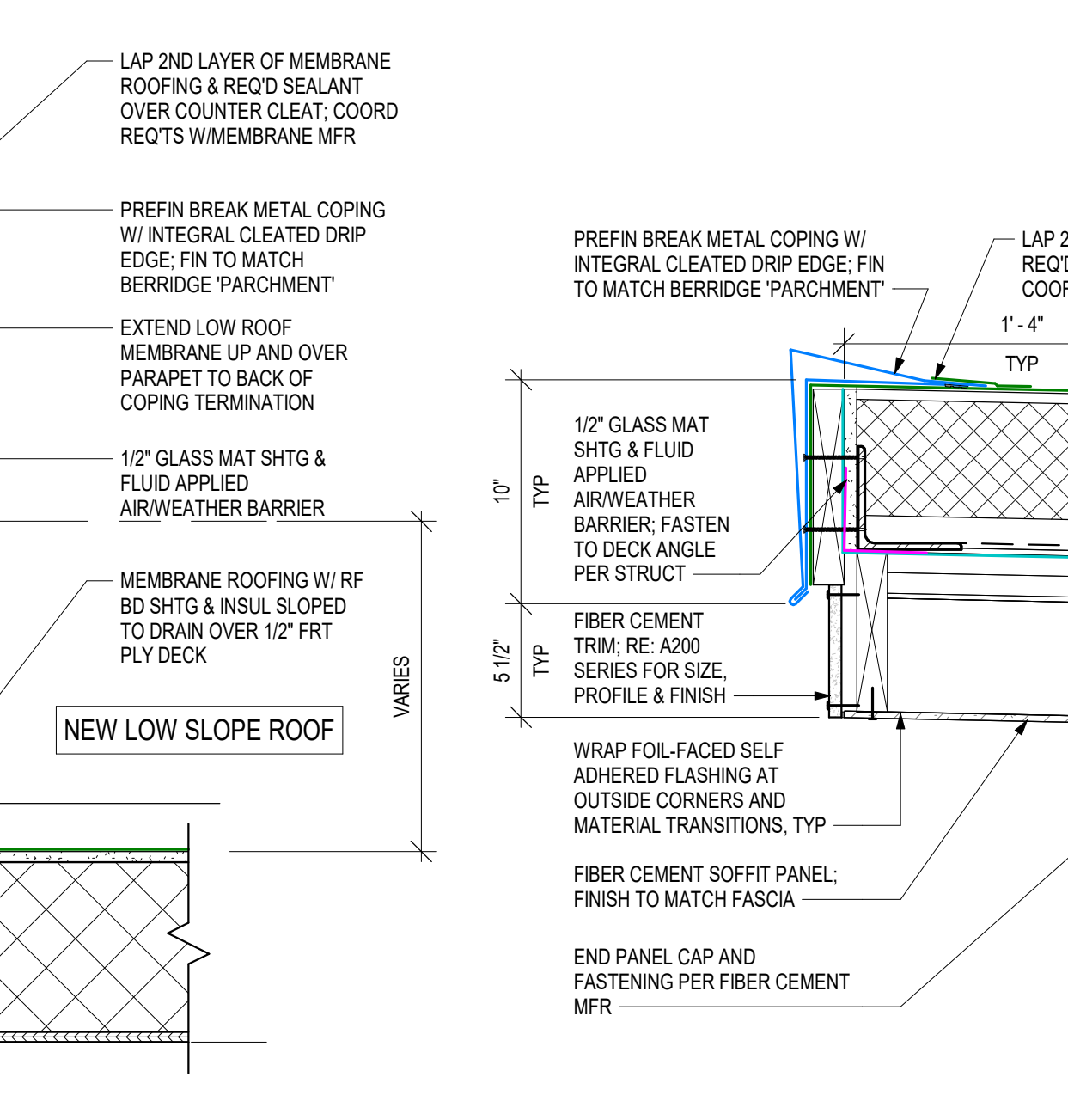
H1 SECTION DETAIL - TYP B.O. MASONRY WALL AT ADJ. PAVING  
1 1/2" = 1'-0"



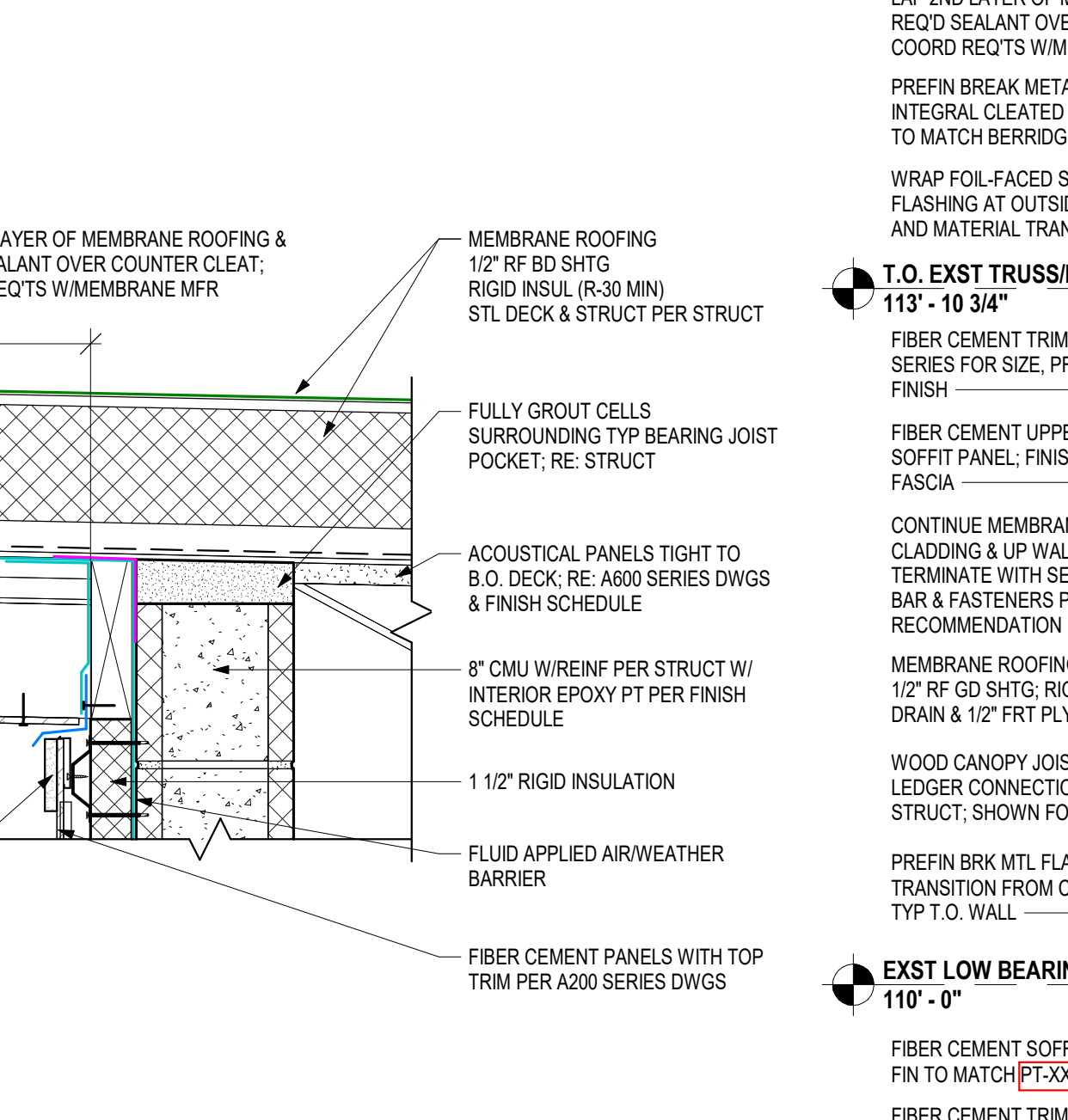
E12 SECTION DTL. - TYP COPING AT TOWER  
1 1/2" = 1'-0"



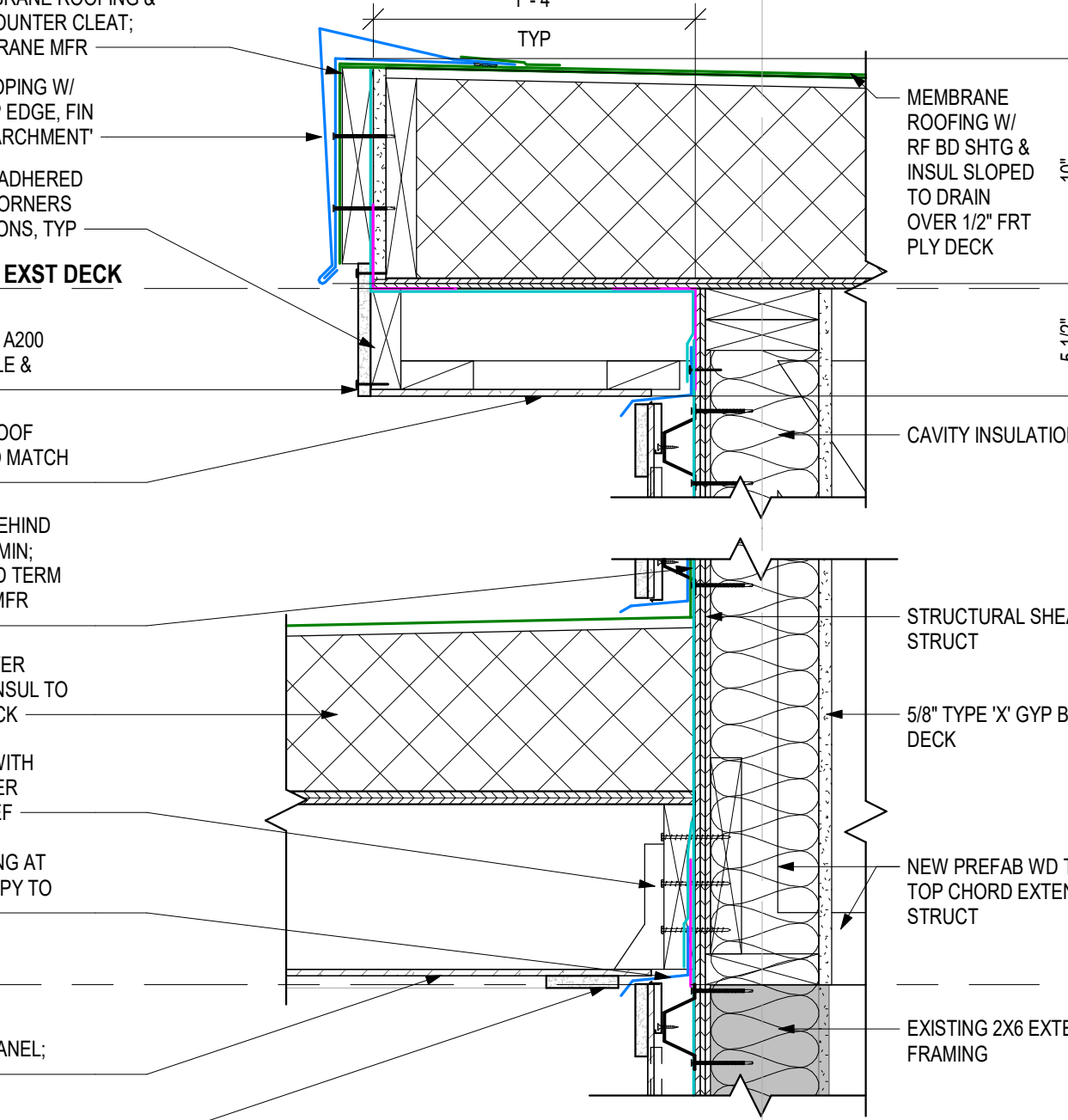
E10 SECTION DETAIL - AMB. BAY ROOF TO LOW SLOPE ROOF  
1 1/2" = 1'-0"



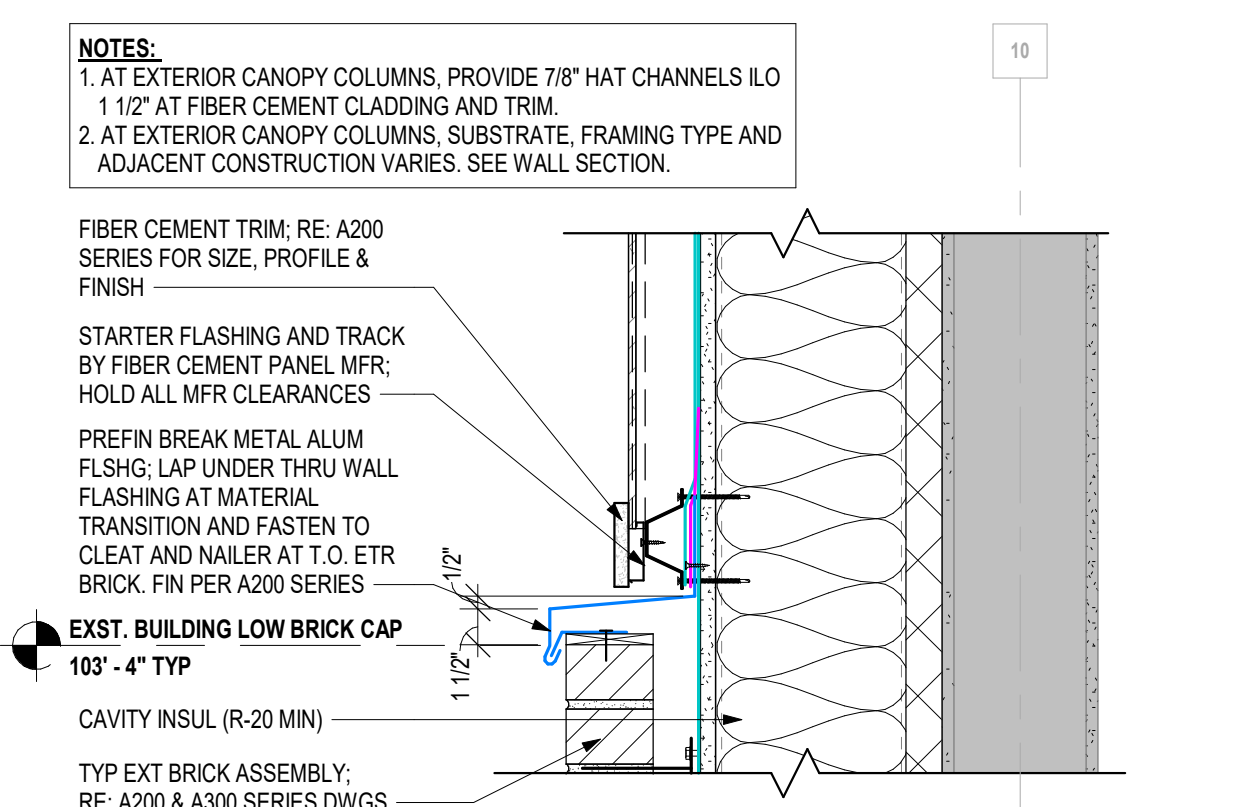
F6 SECTION DETAIL - TYP AMBULANCE BAY EAVE/RAKE  
1 1/2" = 1'-0"



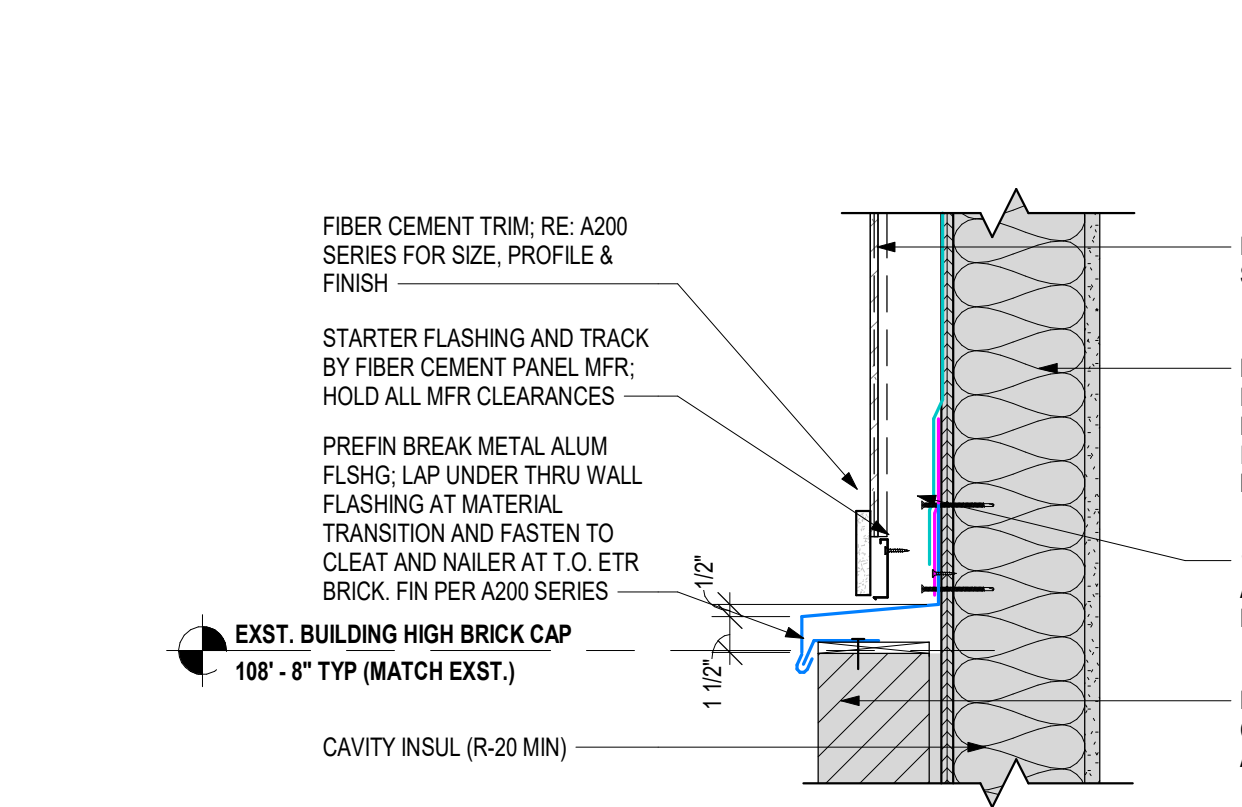
F3 SECTION DETAIL - CANOPY AND ROOF AT EXST. EXT. WALL  
1 1/2" = 1'-0"



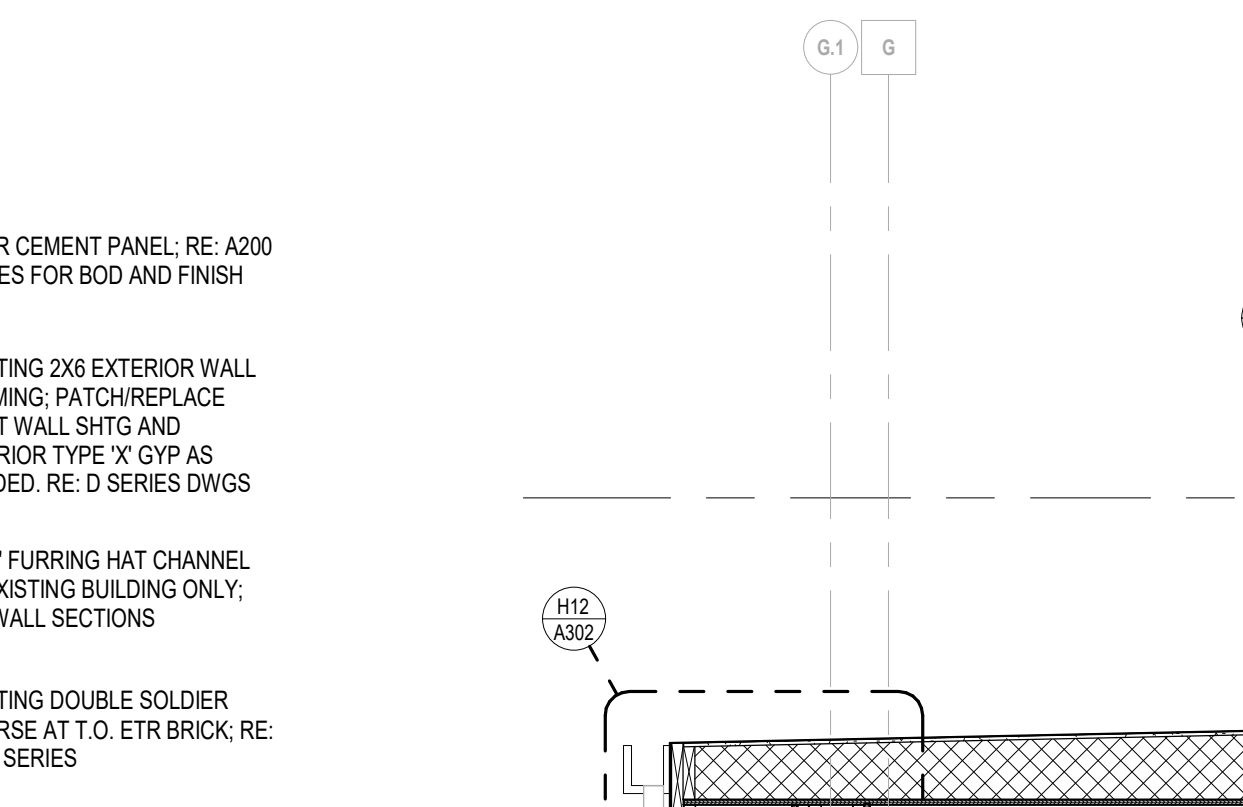
D12 SECTION DTL. - TOWER MAT. TRANSITION  
1 1/2" = 1'-0"



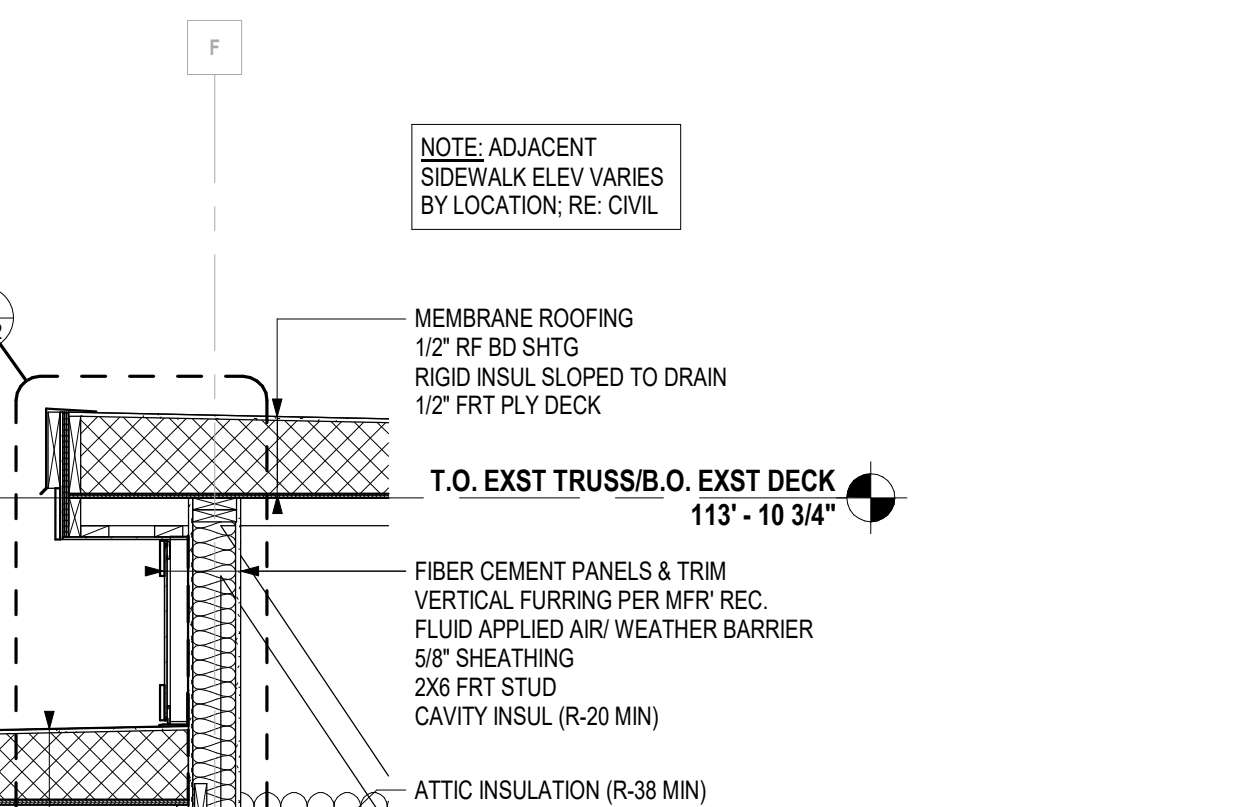
D10 SECTION DETAIL - TYP T.O. BRICK AT ETR EXTERIOR WALL  
1 1/2" = 1'-0"



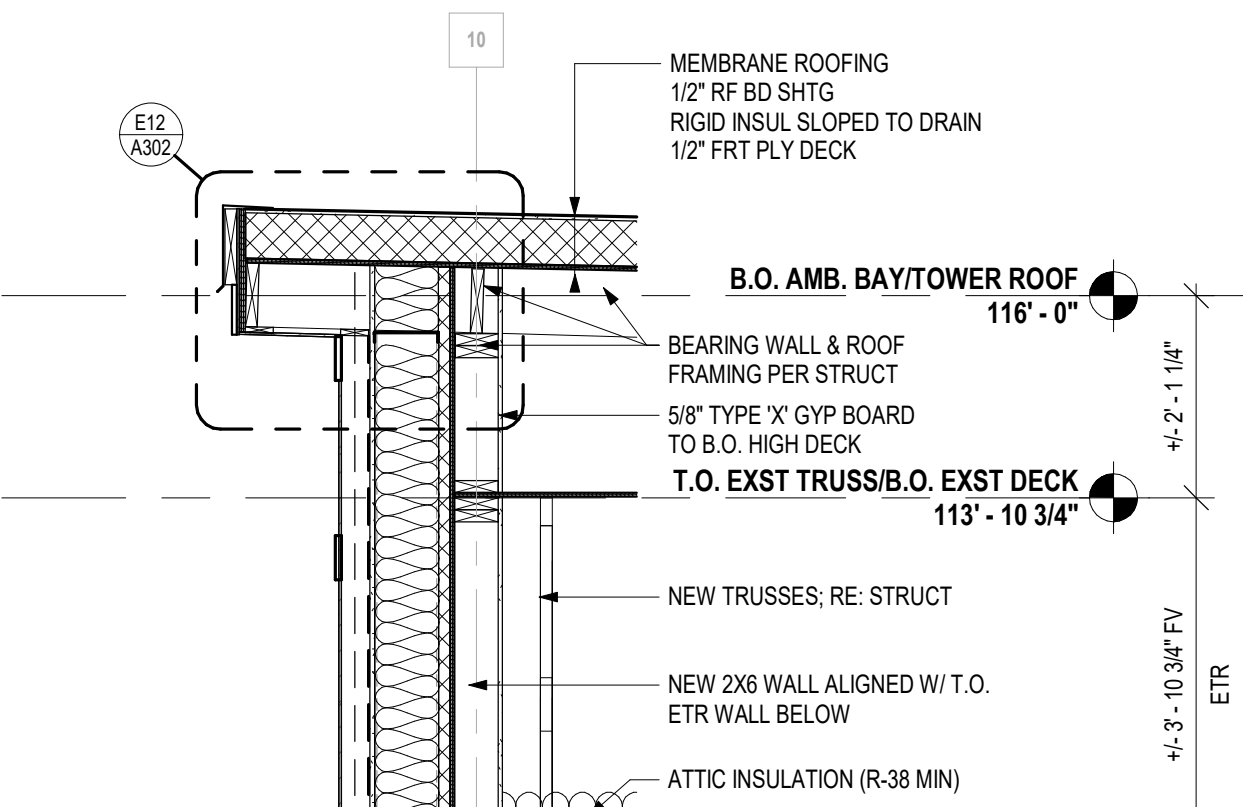
A12 BASE DETAIL - NE TOWER WALL  
1 1/2" = 1'-0"



A10 SECTION DETAIL - TYP FASCIA ABOVE ETR EXTERIOR WALL  
1 1/2" = 1'-0"



A6 WALL SECTION - NEW CANOPY AT NORTHEAST CORNER  
1 1/2" = 1'-0"



A3 WALL SECTION - TOWER ELEMENT AT EXST. EXT. WALL  
1 1/2" = 1'-0"

GENERAL NOTES:  
EXTERIOR WALL SECTIONS/  
DETAILS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCW), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. ALL EXPOSED STEEL AND FASTENERS SHALL BE FINISHED WITH HIGH PERFORMANCE COATING OR POWDER COATED. FINISH VARIES BY LOCATION. SEE DETAILS.
6. FIBER CEMENT SOFFIT PANELS SHALL HAVE INTEGRAL VENTS. CONFIRM PROFILE WITH ARCHITECT PRIOR TO ORDERING. INSTALL BASED ON SELECTED MANUFACTURER.
7. PROVIDE MESH OR EQ BG SCREEN AT ALL VENTED SOFFITS AT WALL/SOFT FLASHING JOINT AND AT VENTED SOFFIT PANEL PERFORATIONS TO PREVENT BUG INTRUSION. TYP.
8. CONFIRM BRICK QUANTITIES BASED ON DEMO SCOPE AND SALVAGE/RE-INSTALL. PRIORITIZE UTILIZING ETR BRICK AT THE EXISTING BUILDING AND INTERIOR INFILL. SUPPLEMENT WITH NEW BRICK BELOW GRADE AS NEEDED.
9. AT NEW OR EXISTING BRICK SILLS OR HEADERS, DIMENSION IS APPROXIMATE FOR EASY REFERENCE, AND SHOULD REFER TO TOP OF NEAREST COMPLETE COURSE.

BUILDING SECTION LEGEND:

- ETR CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY
- NEW CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY

WALL SECTION LEGEND:

- ETR CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY
- NEW CONSTRUCTION CUT IN VIEW: SHOWN THUS FOR SCOPE CLARITY

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WALL SECTIONS AND DETAILS



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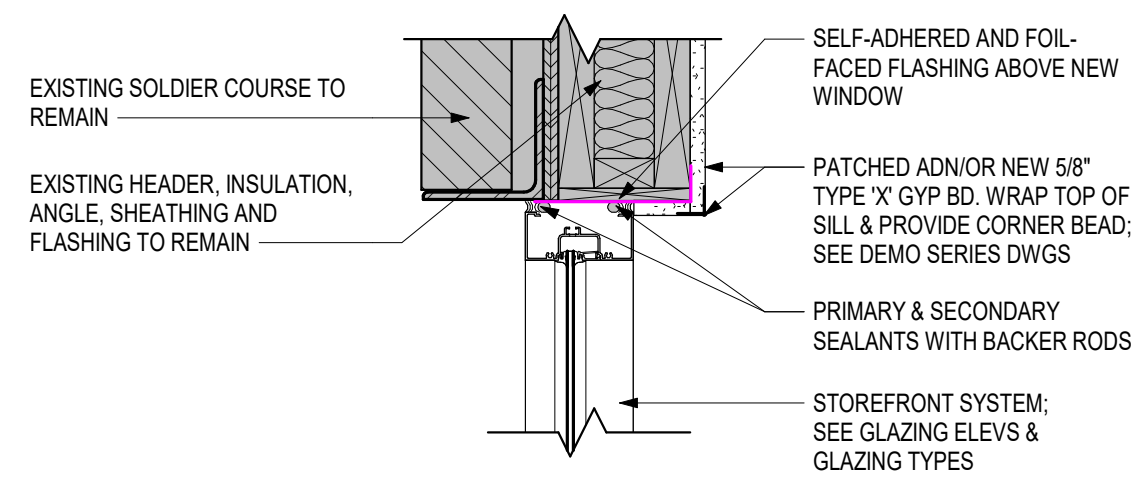
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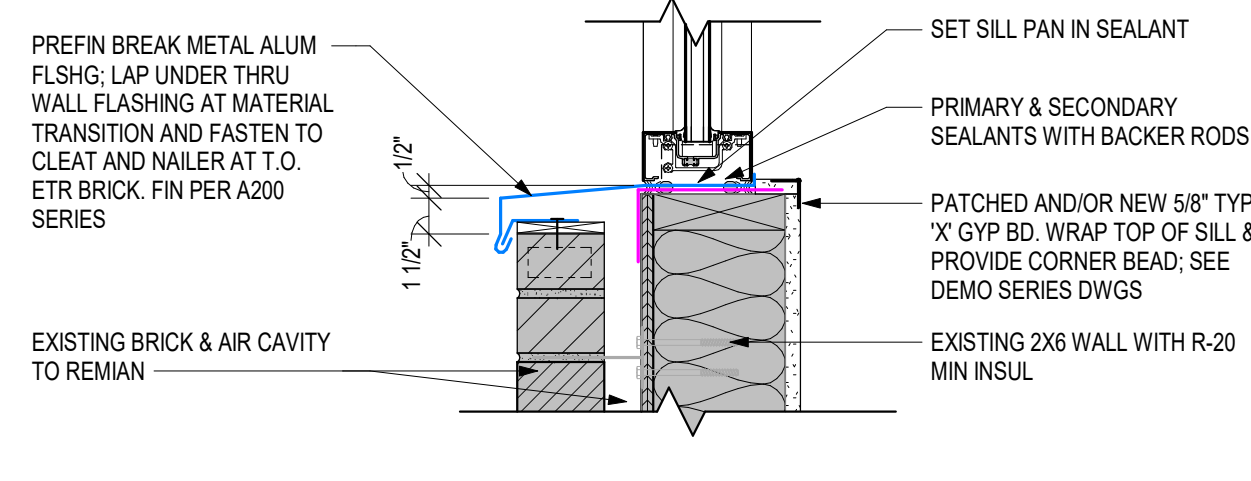
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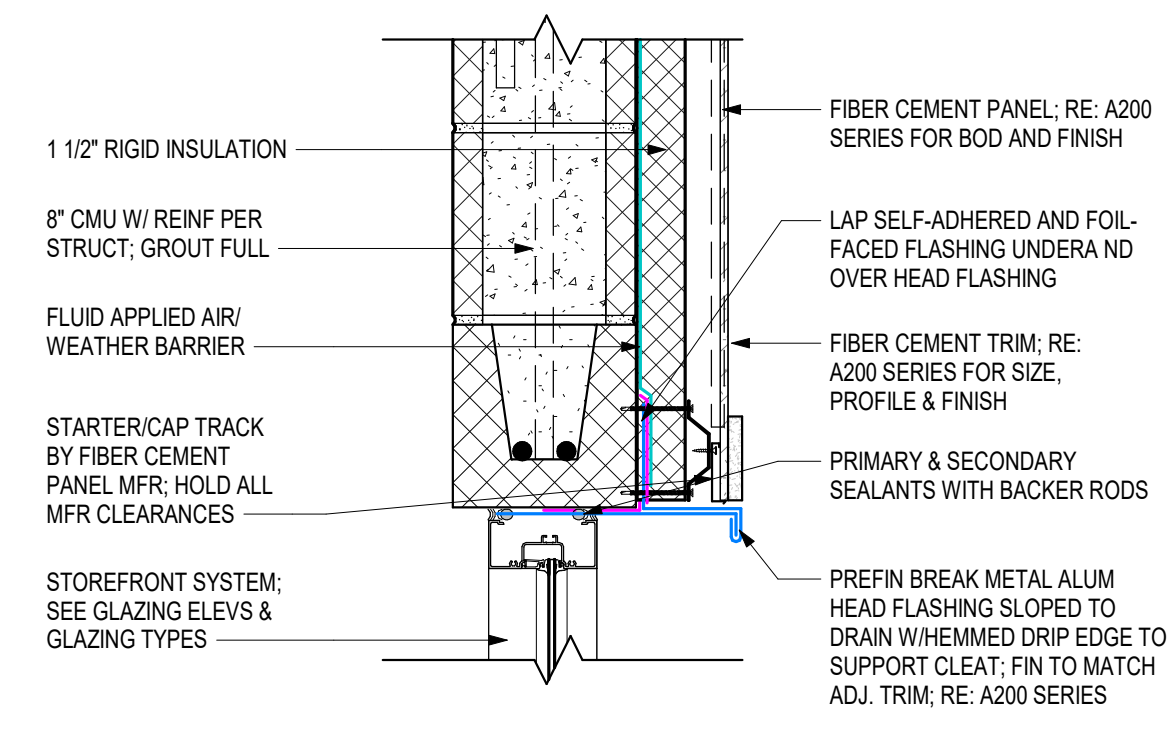
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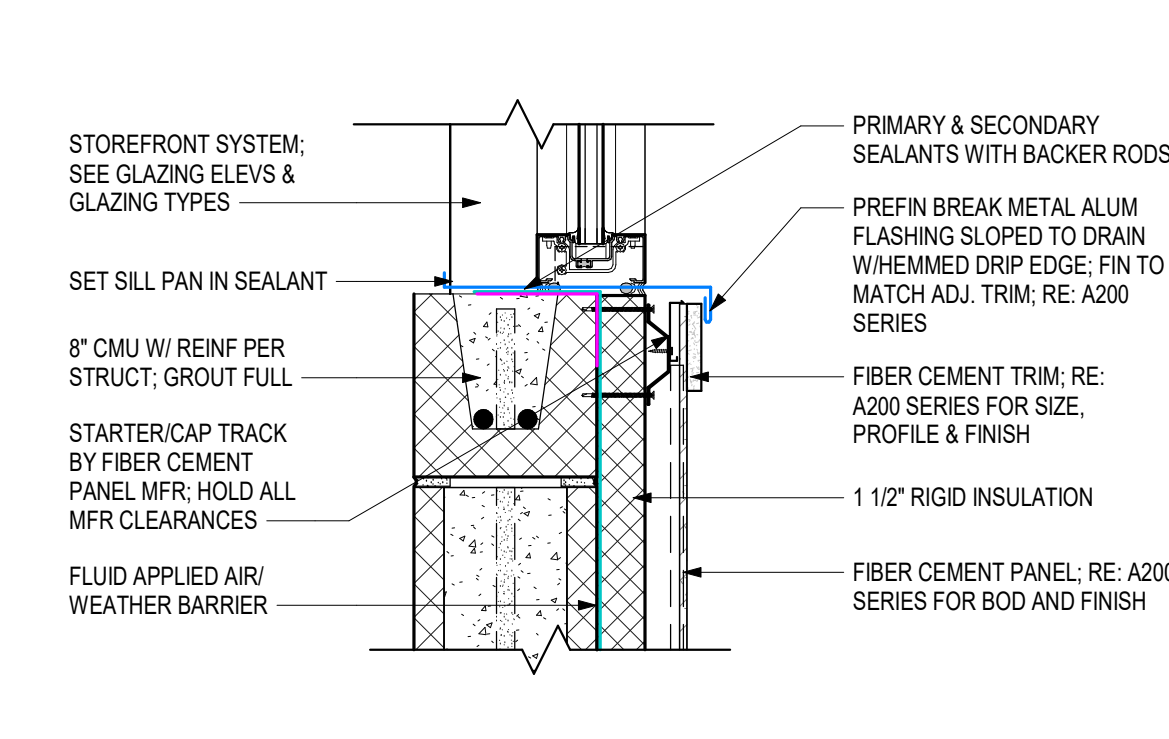
J10 TYP STOREFRONT HEAD - EXIST. BUILDING  
1 1/2" = 1'-0"



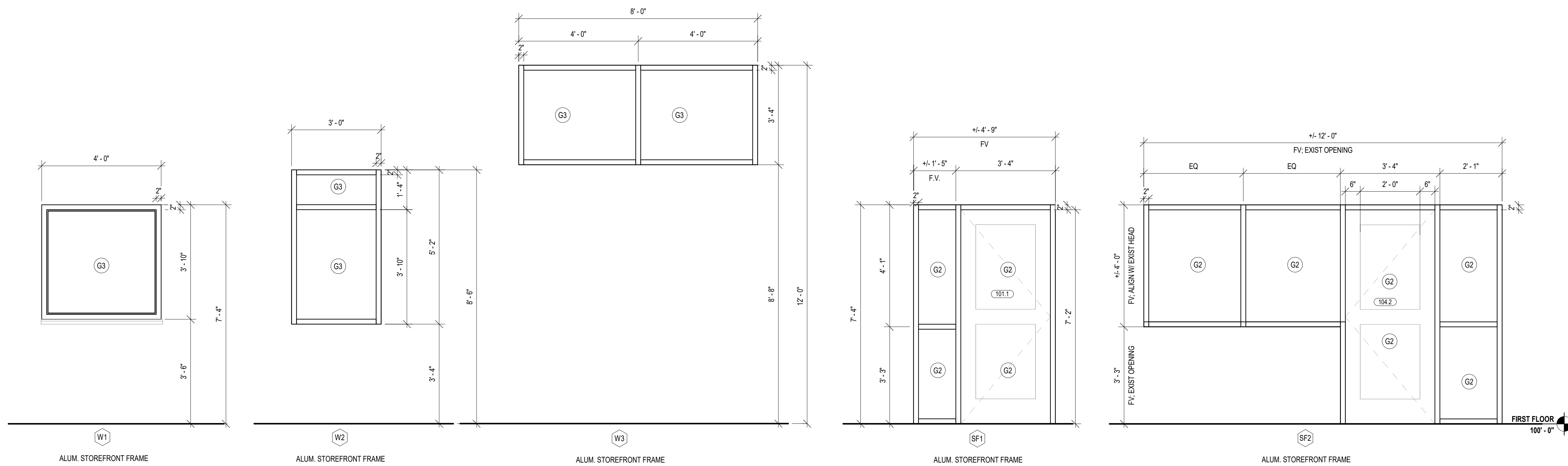
J8 TYP STOREFRONT SILL - EXIST. BUILDING  
1 1/2" = 1'-0"



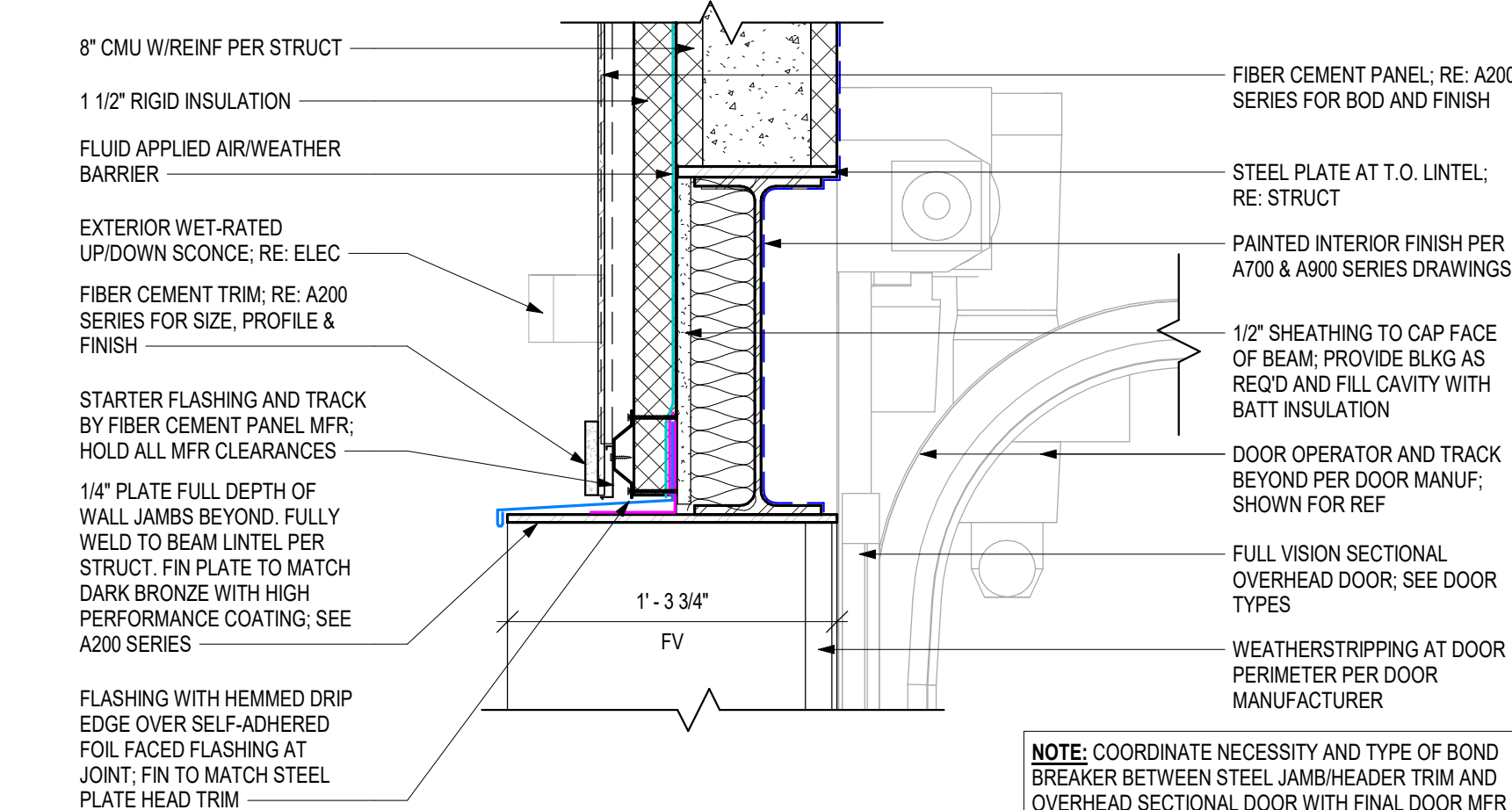
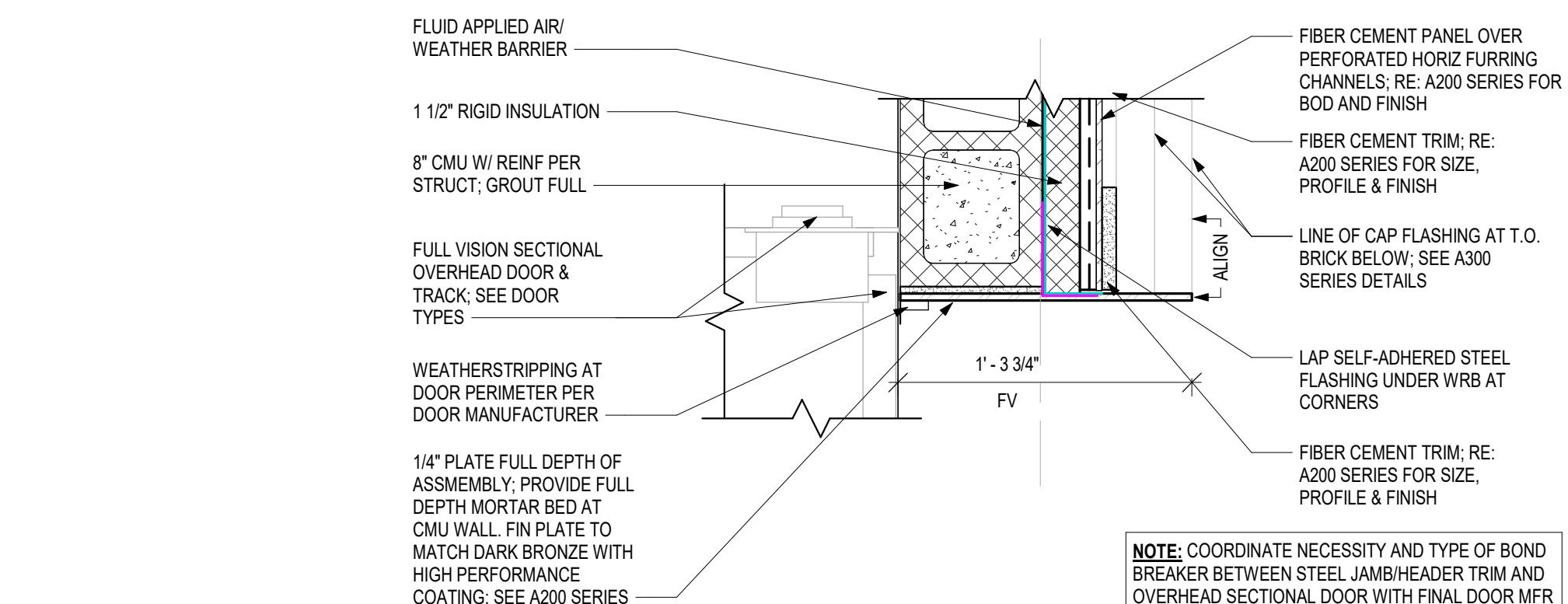
J5 TYP STOREFRONT HEAD - AMBULANCE BAY  
1 1/2" = 1'-0"



J3 TYP STOREFRONT SILL - AMBULANCE BAY  
1 1/2" = 1'-0"

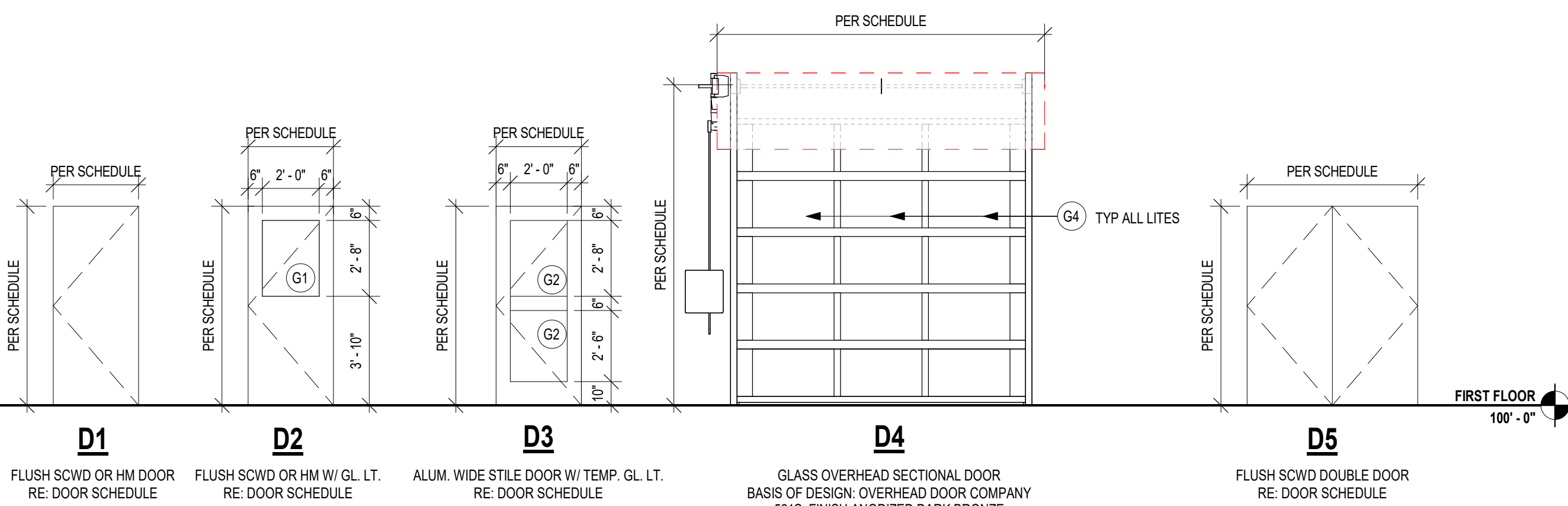


E12 WINDOW AND STOREFRONT ELEVATIONS  
1/2" = 1'-0"



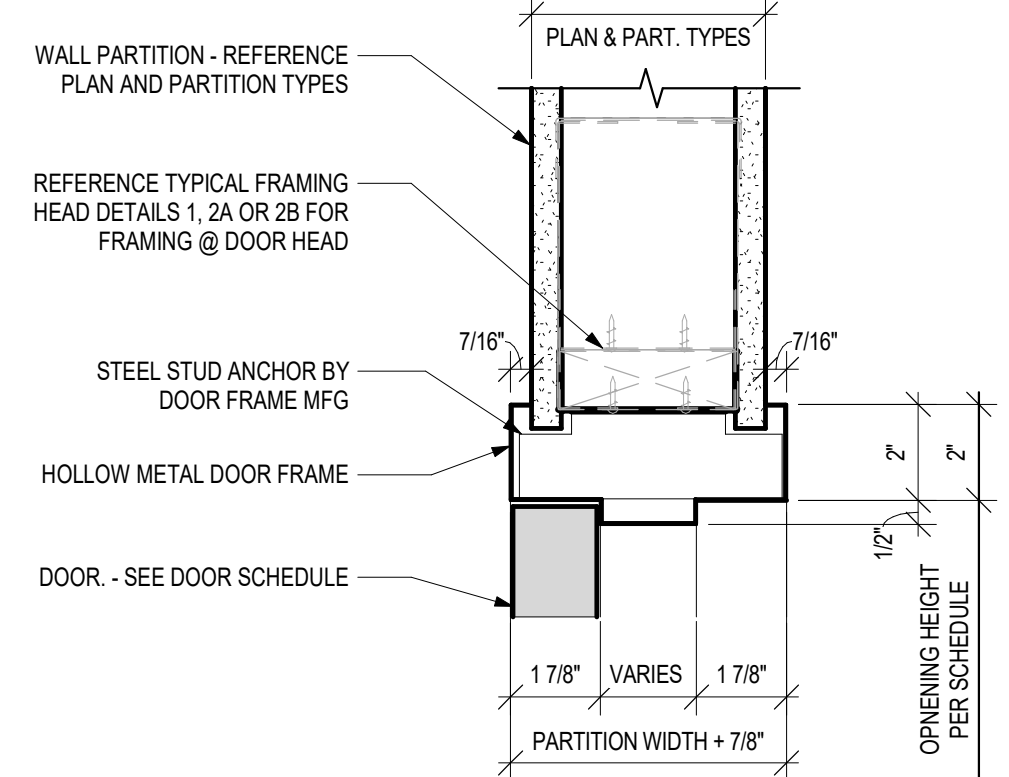
C11 SECTION DETAIL - OVERHEAD DOOR JAMB  
1 1/2" = 1'-0"

C8 SECTION DETAIL - OVERHEAD DOOR HEAD  
1 1/2" = 1'-0"



NOTE:  
1. DOORS TO BE 1-3/4" THICK, UNLESS NOTED OTHERWISE ON DOOR SCHEDULE.  
2. REFER TO GLASS LEGEND FOR GLAZING TYPES.

A12 DOOR TYPE ELEVATIONS  
1/4" = 1'-0"



A7 SECTION DETAIL - STANDARD INTERIOR HM FRAME  
3" = 1'-0"

DOOR SCHEDULE										
DOOR NO.	ROOM NAME	WIDTH	HEIGHT	DOOR TYPE	DOOR MAT.	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	RTG	POWER
100.1	LOBBY	3'-0"	7'-0"	D2	INS-HM	P8	HM	P6	-	NO
100.2	AMBULANCE BAY	12'-0"	12'-0"	D4	PER MFR.	DARK BRONZE	PER MFR.	PER MFR.	-	YES
100.3	AMBULANCE BAY	12'-0"	12'-0"	D4	PER MFR.	DARK BRONZE	PER MFR.	PER MFR.	-	YES
100.4	AMBULANCE BAY	12'-0"	12'-0"	D4	PER MFR.	DARK BRONZE	PER MFR.	PER MFR.	-	YES
100.5	AMBULANCE BAY	12'-0"	12'-0"	D4	PER MFR.	DARK BRONZE	PER MFR.	PER MFR.	-	YES
100.6	AMBULANCE BAY	12'-0"	12'-0"	D4	PER MFR.	DARK BRONZE	PER MFR.	PER MFR.	-	YES
101.1	LOBBY	3'-0"	7'-0"	D3	AL	BRONZE	AL	DARK BRONZE	-	YES
101.2	LOBBY	3'-0"	7'-0"	D2	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
102.1	WOMEN'S	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	YES
103.1	MEN'S	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	YES
104.1	MEETING	3'-0"	7'-0"	D2	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
104.2	MEETING	3'-0"	7'-0"	D3	AL	DARK BRONZE	AL	DARK BRONZE	-	NO
104.1	STORAGE	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
105.1	MEP	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
106.1	KITCHEN	3'-0"	7'-0"	D2	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
107.1	STO	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
108.1	DAYROOM	3'-0"	7'-0"	D3	AL	DARK BRONZE	AL	DARK BRONZE	-	YES
109.1	OFFICE CORR	3'-0"	7'-0"	D2	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
109.2	BUNK CORR	3'-2"	7'-0"	D1	ETR	P8	HM	P6	-	YES
109.3	BUNK CORR	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
109.1	JAN.	4'-0"	7'-0"	D5	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
110.1	BUNK 6	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
111.1	BUNK 1	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
112.1	BUNK 2	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
113.1	BUNK 3	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
114.1	CAPTAIN BUNK	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
115.1	BUNK 4	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
116.1	BUNK 5	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
117.1	FUTURE USE	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
118.1	MENS	3'-0"	7'-0"	D1	HM	P8	HM	P6	-	NO
119.1	SHWR	3'-0"	7'-0"	-	OPENING	-	OPENING	-	-	-
120.1	UNISEX	3'-0"	7'-0"	D1	HM	P8	HM	P6	-	NO
121.1	LAUNDRY	3'-0"	7'-0"	D1	HM	P8	HM	P6	-	NO
122.1	SHWR	3'-0"	7'-0"	-	OPENING	-	OPENING	-	-	-
123.1	WOMEN'S	3'-0"	7'-0"	D1	HM	P8	HM	P6	-	NO
124.1	BUNK 6	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
125.1	BUNK 7	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
126.1	BUNK 8	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
128.1	OFFICE 3	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
129.1	OFFICE 2	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
130.1	OFFICE 1	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
131.1	MED	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	YES
132.1	WHITE BOX	3'-0"	7'-0"	ETR	ETR	COORD. W/ OWNER	ETR	COORD. W/ OWNER	-	NO
132.2	WHITE BOX	3'-2"	7'-0"	ETR	ETR	COORD. W/ OWNER	ETR	COORD. W/ OWNER	-	NO
132.3	WHITE BOX	3'-0"	7'-0"	ETR	ETR	COORD. W/ OWNER	ETR	COORD. W/ OWNER	-	NO
132.4	WHITE BOX	3'-0"	7'-0"	D1	SCWD	STAINED TO MATCH PL1	HM	P6	-	NO
133.1	RISER/WATER ENTRY	3'-6"	7'-0"	D1	HM	COORD. W/ OWNER	HM	P6	-	NO

DOOR SCHEDULE REMARKS:  
1. PROTECT DOOR AND FRAME FROM DAMAGE THROUGHOUT CONSTRUCTION. ANY DAMAGE TO BE REPAIRED, OR DOOR AND FRAME SHALL BE REPLACED IN-KIND, PER OWNER'S PREFERENCE.  
2. PROVIDE ADA INGRESS/EGRESS AUTO OPERATOR PUSH BUTTON. WIRING, POWER AND CONNECTIONS TO BE PROVIDED BY CONTRACTOR.  
3. UNLESS NOTED OTHERWISE, ALL FRAMES ARE TO BE STANDARD FULLY-WELED HM OR ALUM BY MANUFACTURER. ONLY WHERE NOTED, PROVIDE INSET FULLY GROUTED HM MASONRY FRAME.  
4. DOOR TO HAVE POLYSTYRENE OR EQ INSULATED CORE.  
5. PROVIDE CAMERA AND/OR INTERCOM AT DOOR. CONFIRM REQUIREMENTS AND CAMPUS STANDARDS WITH OWNER.  
6. COORDINATE & CONFIRM DOOR OPERATOR REQUIREMENTS WITH OWNER PRIOR TO PURCHASING DOOR, OPERATOR, HARDWARE AND ACCESSORIES TO ENSURE DOOR FUNCTIONS WITH OWNER'S ACCESS AND OPERATING REQUIREMENTS.  
7. CONFIRM PUSH BUTTON VS. POWER ASSIST OPERATION WITH OWNER PRIOR TO ORDERING AND INSTALLING HARDWARE.  
8. CONFIRM IF EXISTING DOOR CAN BE RETROFITTED FOR NEW OPERATING REQUIREMENTS. IF NOT, CONFIRM NEW DOOR SPECIFICATIONS AND REQUIREMENTS WITH OWNER & ARCHITECT PRIOR TO ORDERING/INSTALL.  
  
HARDWARE NOTES:  
1. RE: SHEET G502 FOR SPECIFIC HARDWARE SETS BY DOOR NUMBER. COORDINATE HARDWARE SETS DURING SUBMITTAL PROCESS TO INCORPORATE ADDITIONAL REMARKS AS NOTED.  
2. ABBREVIATIONS:  
ACL = AUTO CLOSER ALCHO = AUTO CLOSER WITH MANUAL HOLD OPEN OPTION ACTRL = ACCESS CONTROL REQUIRED, CONFIRM REQTS WITH OWNER ADAPB = ADA AUTO OPERATOR PUSH BUTTON

## GENERAL NOTES: DOOR SCHEDULE

- HM REFERS TO HOLLOW METAL
- AL REFERS TO ALUMINUM
- WD REFERS TO WOOD
- SCWD REFERS TO SOLID CORE WOOD
- ETR REFERS TO EXISTING TO REMAIN
- ALL EXTERIOR ALUMINUM DOORS & FRAMES ARE TO BE FINISHED TO MATCH ADJACENT ALUMINUM WINDOW FRAME, U.N.O.
- FOR FINISH COLOR DESIGNATION FOR INTERIOR DOOR AND FRAMES, REFER TO FINISH LEGEND.
- REFER TO SPECIFICATION FOR DOOR HARDWARE SET DESIGNATIONS.
- 2 HOUR FIRE BARRIER DOORS = 90 MINUTE RATING
- 1 HOUR FIRE BARRIER DOORS = 45 MINUTE RATING
- 1 HOUR SMOKE BARRIER = 20 MINUTE RATING
- PROTECT ALL DOORS & FRAMES FROM DAMAGE THROUGHOUT CONSTRUCTION PHASES.
- ALL EGRESS DOORS TO BE PROVIDED WITH PANIC HARDWARE.

## GENERAL NOTES: WINDOW TYPES / GLASS TYPES

- RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
- ALL WINDOW TYPES ARE ALUMINUM STOREFRONT, UNLESS NOTED OTHERWISE.
- ALL DIMENSIONS ARE TO ROUGH OPENING AND TO TOP OR BOTTOM OF MULLION, UNLESS NOTED OR SHOWN OTHERWISE.
- ALL OPENINGS ARE TO BE FIELD VERIFIED, AND NOTED AS SUCH ON SHOP DRAWINGS, PRIOR TO ARCHITECT'S REVIEW.
- GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 1'-0" OF THE FLOOR, AND WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF A DOOR, ETC., SHALL BE SAFETY GLAZING AS APPROVED FOR IMPACT BY APPLICABLE BUILDING CODES, AND SHALL BE LABELED AS SUCH.
- THERMALLY BROKEN INSULATED ALUMINUM GLAZING SYSTEM FOR STOREFRONTS AND WINDOWS TO BE KAWNEER TRIFAB VERSAGLAZE 451 FRAMING SYSTEM, 4 1/2" MULLION DEPTH, CENTER GLAZED, 1" PANEL, FIN ANODIZED DARK BRONZE.
- TEMPERED AND NON-TEMPERED 1" INSULATED GLASS UNITS BOD. GUARDIAN GLASS SNE 30 ON CLEAR + ARGON.
- REFER TO SPECIFICATIONS FOR FULL GLAZING & FRAME PRODUCT INFORMATION.

## GLASS TYPE LEGEND

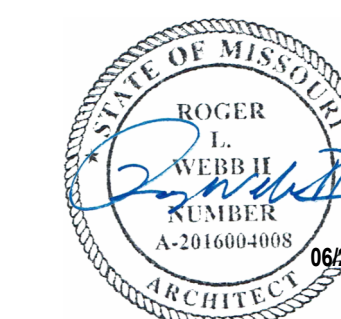
DESIGNATION NUMBER	DESCRIPTION
G1	1/4" TEMPERED GLAZING, CLEAR
G2	1" INSULATED TEMPERED GLAZING, CLEAR
G3	1" INSULATED GLAZING, CLEAR
G4	1/2" TEMPERED INSULATED GLAZING OR EQ, COORDINATE WITH DOOR MANUFACTURER

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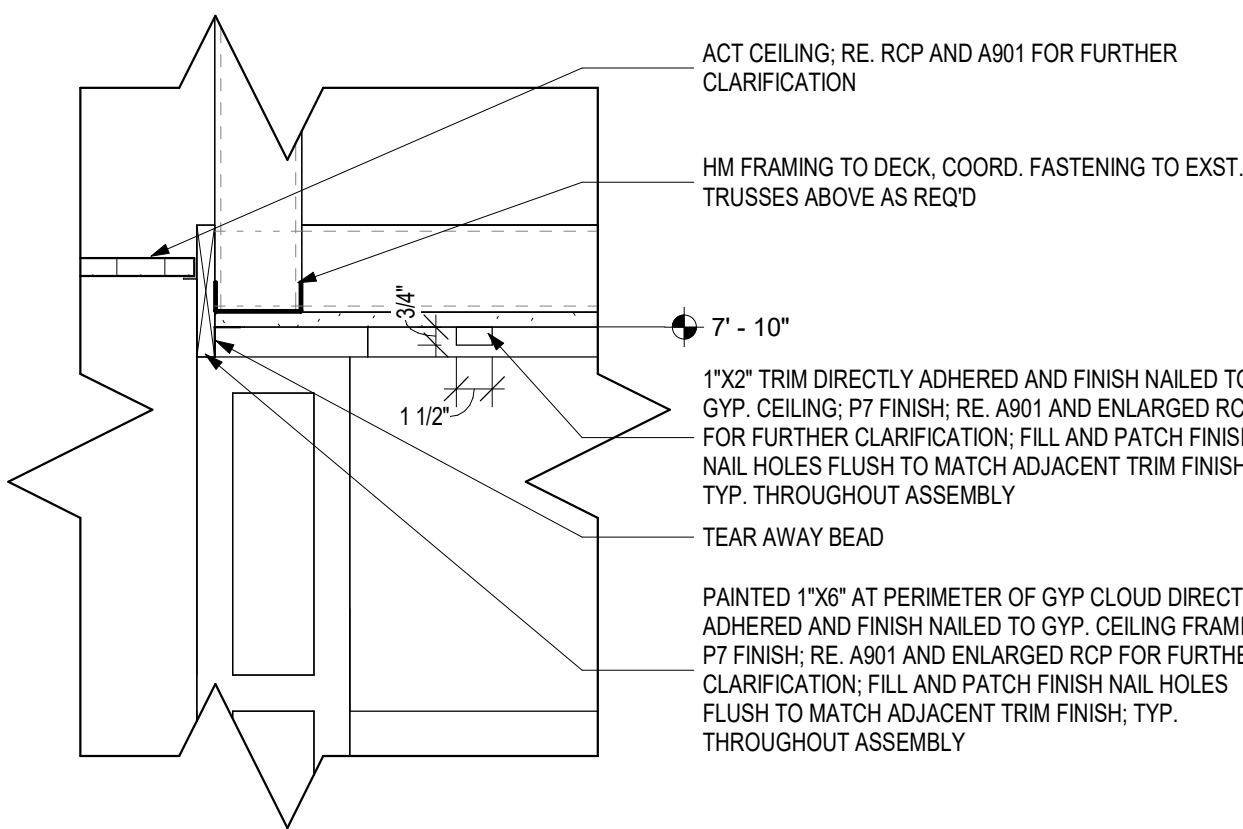
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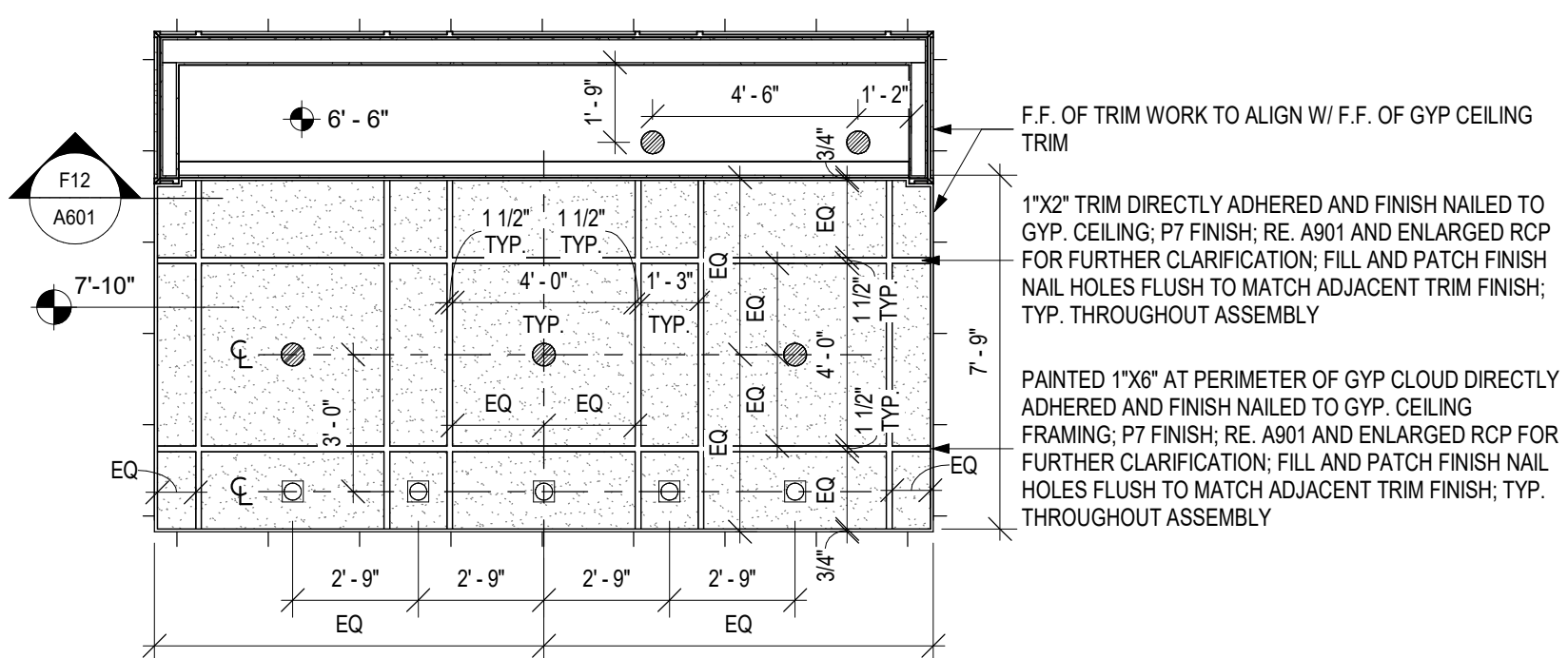
## DOOR / WINDOW SCHEDULE AND DETAILS

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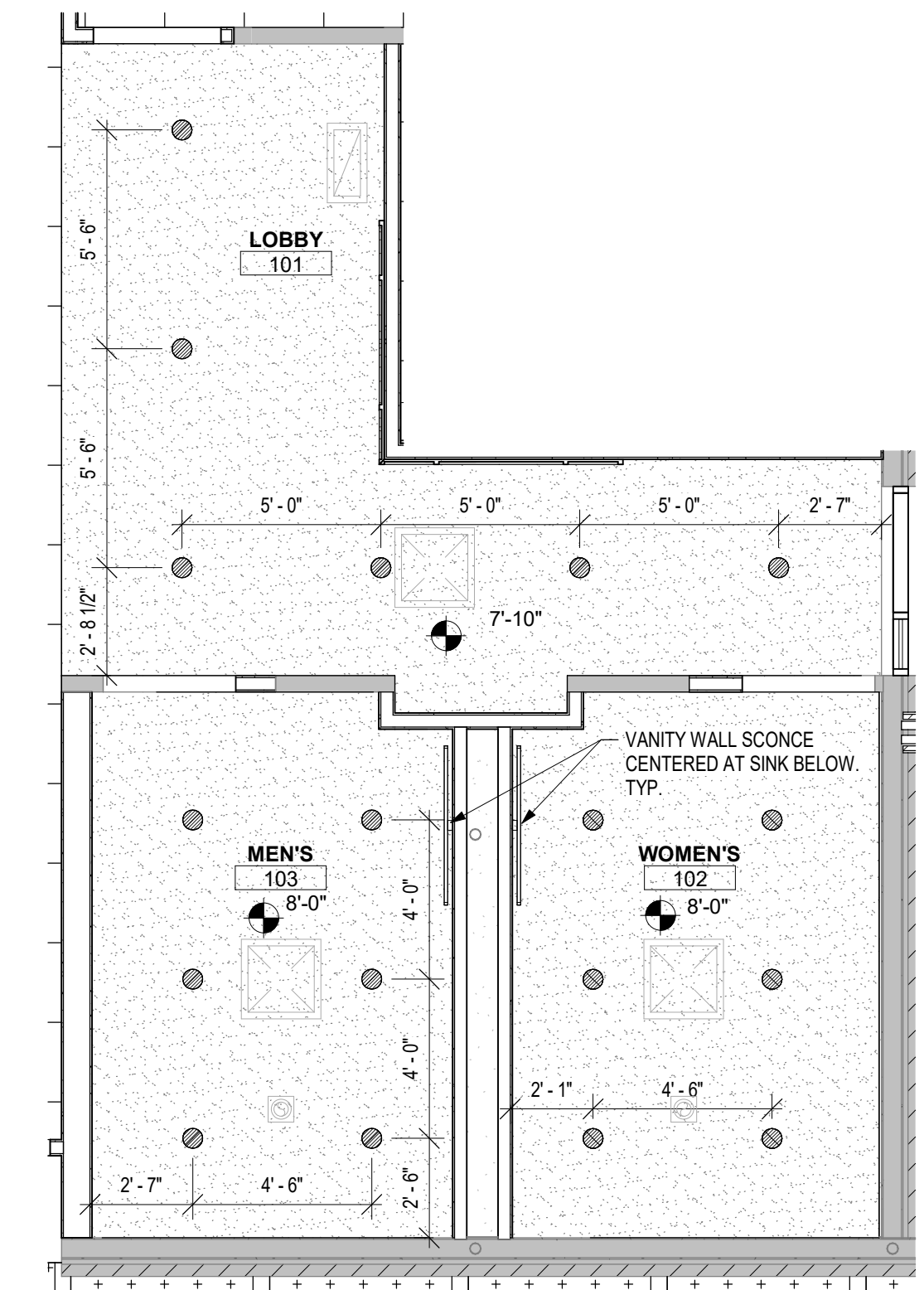




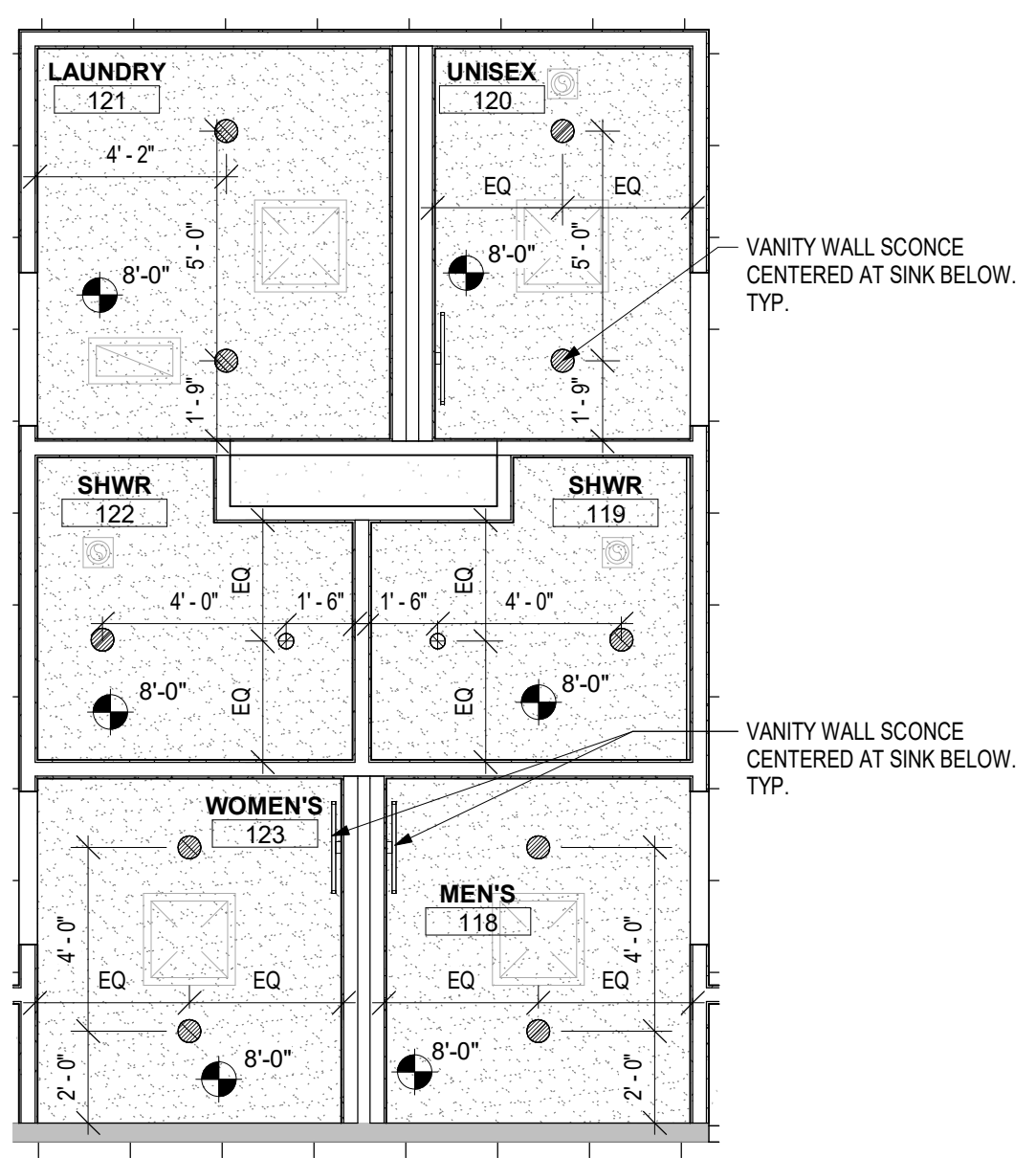
F12 SECTION - KITCHEN GYP CEILING TRIM  
1 1/2" = 1'-0"



D12 ENLARGED RCP - KITCHEN  
1/4" = 1'-0"



A12 ENLARGED RCP - LOBBY & RESTROOMS  
1/4" = 1'-0"



A10 ENLARGED RCP - BOH RESTROOMS  
1/4" = 1'-0"



A8 REFLECTED CEILING PLAN - 1ST FLOOR  
1/8" = 1'-0"

GENERAL NOTES:  
REFLECTED CEILING PLANS

1. RE. SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE. DETAILS FOR ADDITIONAL CONDITIONS AND CEILING HEIGHT INFORMATION.
3. RE. FINISH LEGEND AND FINISH SCHEDULE FOR ROOM CEILING FINISHES.
4. RE. INTERIOR ELEVATIONS FOR LOCATION OF WALL MOUNTED LIGHT FIXTURES.
5. RE. ELECTRICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON LIGHT FIXTURE SCHEDULE.
6. RE. MECHANICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON DIFFUSERS.
7. RE. MECHANICAL SHEETS FOR LOCATIONS OF SOUND ISOLATION BELOW AND OR AROUND MECH. EQUIPMENT.
8. DIMENSIONS SHOWN ON THE REFLECTED CEILING PLANS ARE TO THE FACE OF GYP. BOARD (FG), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
9. ALL CEILINGS TO BE 8'-0" A.F.F. UNLESS NOTED OTHERWISE.
10. ALL CEILING HEIGHTS AS SHOWN ON PLANS AND DETAILS ARE FROM SLAB OR TILE FLOOR (FINISHED FLOOR) TO FINISH CEILING.
11. AT ALL GYP. BD. SOFFITS EXTEND GYP. BD. UP 6 INCHES ABOVE ADJACENT CEILING.
12. CEILING TILES/GRID TO BE CENTERED IN THE ROOM, UNLESS NOTED OTHERWISE.
13. RECESSED LIGHTING, SPEAKERS, SMOKE DETECTORS, ETC. AND PENDANT LIGHT FIXTURES - SHALL BE CENTERED IN CEILING TILE OR GYP. BD. CEILING, UNLESS NOTED OTHERWISE.
14. COORDINATE ALL PENDANT MOUNTED LIGHT FIXTURES IN EQUIPMENT AREAS WITH EXPOSED STRUCTURE.
15. COORDINATE ALL CEILING MOUNTED EQUIPMENT WITH CASEWORK BELOW.
16. IF THERE IS A CONFLICT BETWEEN ANY ABOVE-CEILING MECHANICAL / ELECTRICAL / PLUMBING WORK & THE SCHEDULED OR SHOWN CEILING HEIGHT, CONTACT THE ARCHITECT IMMEDIATELY FOR CLARIFICATION.
17. PROVIDE OVERALL CEILING COORDINATION DRAWING SHOWING ALL DEVICES DURING SHOP SUBMITTAL PROCESS.
18. ALL LIGHTING BY G.C. COORD. WITH MILLWORK CONTRACTOR FOR LOCATION.
19. ALL EXPOSED CONDUIT, DUCTWORK, ETC. TO BE PAINTED BLACK, TYP. TO MATCH ADJ. SURFACES, TYP.

CEILING PLAN LEGEND

- |  |  |
|--|--|
|  | ACT 1: ULTIMA<br>SUSPENDED LAY-IN ACOUSTICAL CEILING TILE AND EXPOSED TEE-GRID SYSTEM (2X2)  |
|  | ACT 2: CALLA (HIGH NRC)<br>SUSPENDED LAY-IN ACOUSTICAL CEILING TILE AND EXPOSED TEE-GRID SYSTEM (2X2); CENTERED EACH WAY IN ROOM UNO.  |
|  | GYPSUM BOARD<br>5/8" GYPSUM BOARD BULKHEAD, CEILING OR SOFFIT. SEE APPLICABLE DETAILS AND SECTIONS.  |
|  | TECTUM ACOUSTIC PANEL<br>DIRECT ATTACH TECTUM PANELS TO BE CUSTOM SIZED AND CUT TO FIT IN BETWEEN EMS BAY STRUCTURE. RE. RCP AND SHEET A801 FOR FURTHER CLARIFICATION.<br>2X2 LAY-IN LED LIGHT FIXTURE, 4000K. SEE ELECTRICAL DRAWINGS FOR TYPE. |
|  | WET-RATED RECESSED CAN LIGHT FIXTURE, 4000K. SEE ELECTRICAL DRAWINGS FOR TYPE.   |
|  |  |

KEYED NOTES: RCP

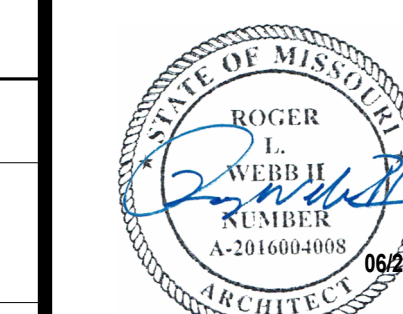
- |   |   |
|---|---|
| 1 | SEE A101 FOR ADD ALTERNATE SCOPE AT LINK HALLWAY. RE: A101  |
| 2 | ATTIC ACCESS HATCH: FINAL LOCATIONS TBD. PENDING COORD. W/ OWNER AND EXISTING JOISTS ABOVE, TYP.                                    |
| 3 | EXIST. GYP. LID TIGHT TO EXIST. STRUCTURE   |
| 4 | CUSTOM SIZED TECTUM, CUT TO FIT IN BETWEEN STRUCTURE, INSTALLED PER MFR RECOMMENDATIONS. RE. A900 SHEETS FOR FURTHER CLARIFICATION. |
| 5 | LIGHT FIXTURE. RE. ELECTRICAL FOR FIXTURE TYPE, QUANTITY, AND LOCATION  |

REFLECTED CEILING PLAN

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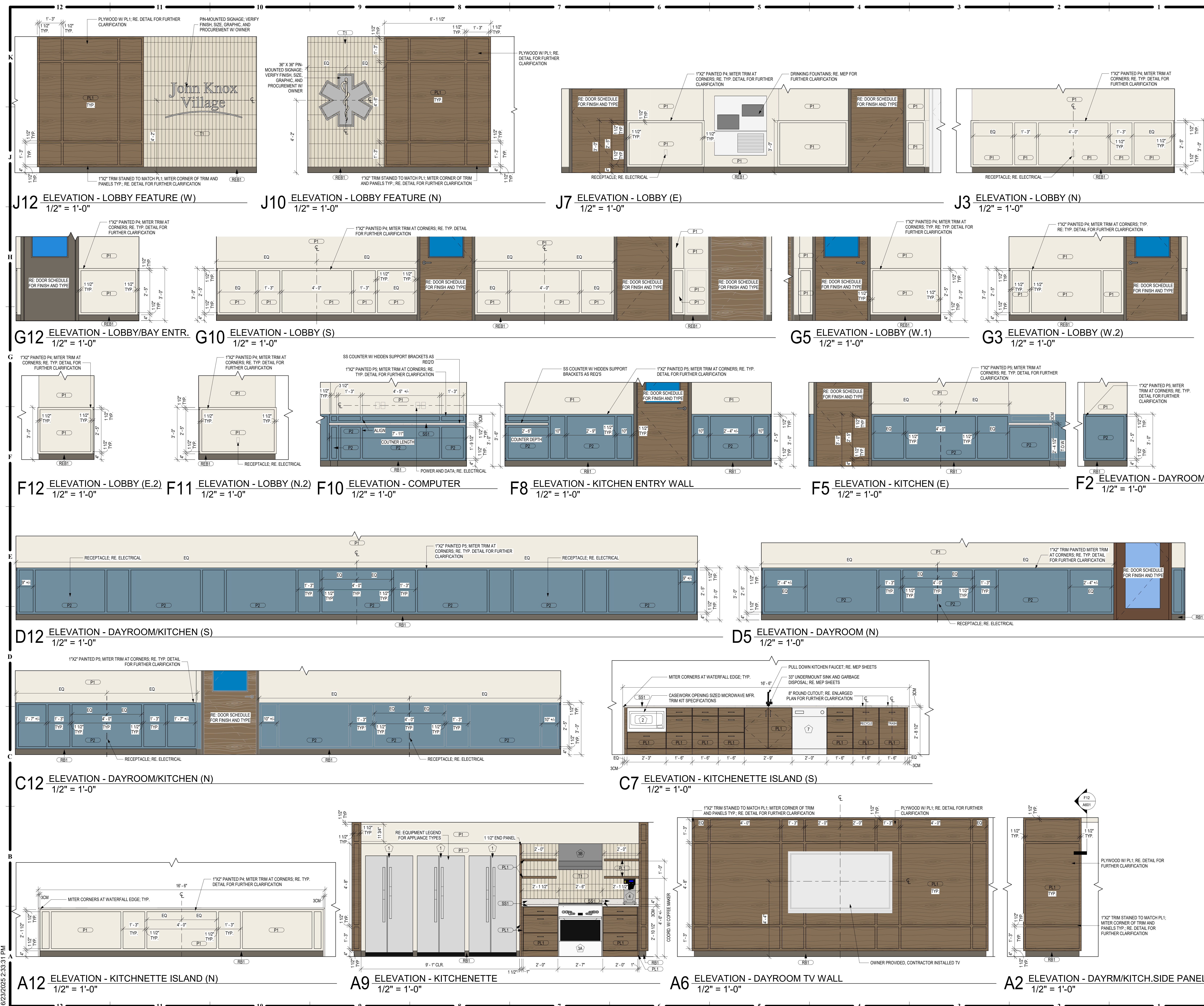
A601

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COLLINS WEBB #: 25016



PERMIT SET





GENERAL NOTES:  
INTERIOR DETAILS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.

2. RE: SHEET G002 ACCESSIBILITY GUIDELINES FOR MOUNTING HEIGHTS OF FIXTURES AND ACCESSORIES.

3. RE: A801 FOR FINISH LEGEND AND FINISH SCHEDULE FOR SPECIFIC FINISH INFORMATION AND LOCATIONS.

4. RE: A802 FINISH FLOOR PLANS FOR ADDITIONAL WALL FINISH CLARIFICATIONS.

5. RE: SHEET A803 FOR REVEAL AND CONTROL JOINT DETAILS, WALL PROTECTION DETAILS, AND FLOOR TRANSITION / WALL BASE DETAILS.

6. RE: ENLARGED FLOOR PLAN SHEETS FOR TOILET ACCESSORY SCHEDULE.

7. PROVIDE GYPSUM BOARD CONTROL JOINTS AT DOOR HEADERS WHERE EXPOSED/FINISHED GYPSUM BOARD EXCEEDS 30 FEET (TYP.). UNLESS SHOWN OTHERWISE, JOINTS TO BE LINED UP WITH BOTH SIDES OF DOOR FRAMES FOR DOORS 4'-0" AND OVER AND ALL DOORS THAT ARE LEAD LINED. CONTROL JOINTS NOT NECESSARY AT WALLS WHERE ACoustICAL WALLCOVERING IS SPECIFIED.

8. PROVIDE PRIMER ON ALL WALL SURFACES THAT ARE TO RECEIVE WALLCOVERING (WC1, WC2, WC3, WC4).

9. CONTINUE WALL FINISH AS SCHEDULED BEHIND ALL FURNITURE AND EQUIPMENT, INCLUDING UNDER OPEN COUNTERS.

10. TRANSITION ALL WALL AND BASE FINISHES, AND/OR COLOR CHANGES AT INSIDE CORNERS, UNLESS NOTED OTHERWISE. CONSULT ARCHITECT FOR CLARIFICATION, IF NECESSARY.

11. CONTINUE WALL BASE AT ALL WALLS, FURRED OUT COLUMNS & COLUMN COVERS, AND AT ALL CASEWORK TOE KICKS, SIDE PANELS, AND UNDER OPEN COUNTERS, UNLESS NOTED OTHERWISE.

12. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO MILLWORK/CASEWORK FABRICATION & INSTALLATION.

13. CONTRACTOR SHALL PROVIDE & INSTALL GROMMETS AT 48" O.C. MAX. AT ALL WORK STATIONS WITH OPEN KNEE SPACE. COORDINATE LOCATIONS DIRECTLY WITH ELECTRICAL DATA DRAWINGS FOR OUTLET LOCATIONS. COLOR TO BE SELECTED BY ARCHITECT.

14. CONTRACTOR SHALL PROVIDE COUNTERTOP BRACKETS AT OPEN KNEE SPACES WIDER THAN 42" (TYP.). CENTER IN OPEN AREA AND PAINT TO MATCH WALL COLOR, UNLESS NOTED OR SHOWN OTHERWISE.

15. RE: EQUIPMENT DRAWINGS & SPECS. FOR EQUIPMENT ITEMS SHOWN DASHED, PROVIDED BY EQUIP. CONSULTANT AND/OR SUPPLIED BY OWNER. COORDINATE WITH OTHER TRADES AS NECESSARY.

16. MECH. & ELEC. SYMBOLS AND OUTLETS ARE SHOWN FOR REFERENCE ONLY. COORDINATE LOCATIONS WITH MEP DRAWINGS. CONSULT ARCHITECT FOR CLARIFICATION, IF NECESSARY.

17. ALL CASEWORK TO HAVE BRUSHED NICKEL HARDWARE. VERIFY EXACT PULL PROFILE W/ OWNER.

EQUIPMENT LEGEND

DESIGNATION NUMBER	DESCRIPTION
1	REFRIGERATOR BASIS OF DESIGN: GE GSS23GYF/S
2	MICROWAVE W/ 2" TRIM KIT BASIS OF DESIGN: PCHK1S1SWSS
3A	30" FREE-STANDING ELECTRIC RANGE AND OVEN BASIS OF DESIGN: GR5500PVSS
3B	30" HOOD W/ SS HOOD SHROUD AND HANDICAP ACCESSIBLE CONTROLS, RE: MECHANICAL AND ELECTRICAL FOR FURTHER CLARIFICATION
4	COUNTERTOP COFFEE BREWER
5	WASHING MACHINE BASIS OF DESIGN: GTV325ASWVWW
6	DRYING MACHINE BASIS OF DESIGN: GTX33EASKWV
7	ADA DISHWASHER BASIS OF DESIGN: GE GD225SSLS

GENERAL NOTES:

1. CONTRACTOR TO INSTALL WOOD BLOCKING AND/OR PLYWOOD AS NEEDED FOR ALL AV EQUIPMENT, TOILET ACCESSORIES, MEP ITEMS, AND CASEWORK.

2. PRIOR TO ROUGH IN AND PROCUREMENT, CONTRACTOR TO VERIFY EQUIPMENT SELECTIONS W/ OWNER.

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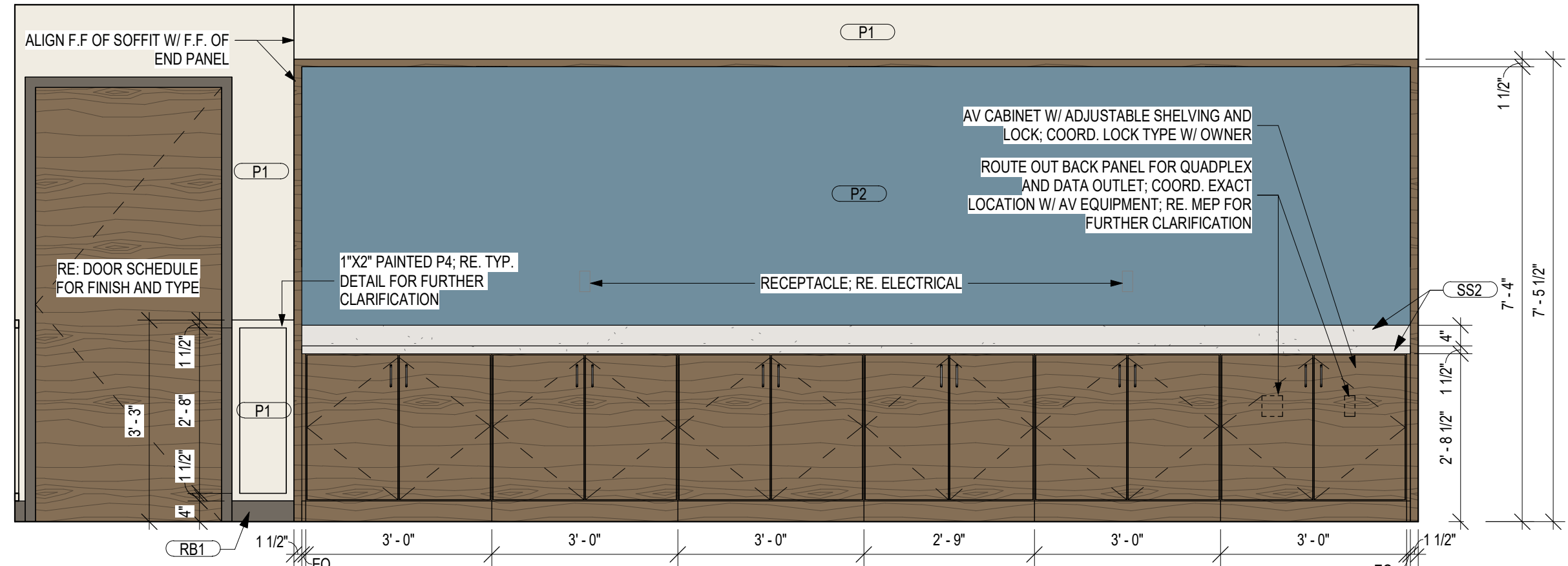
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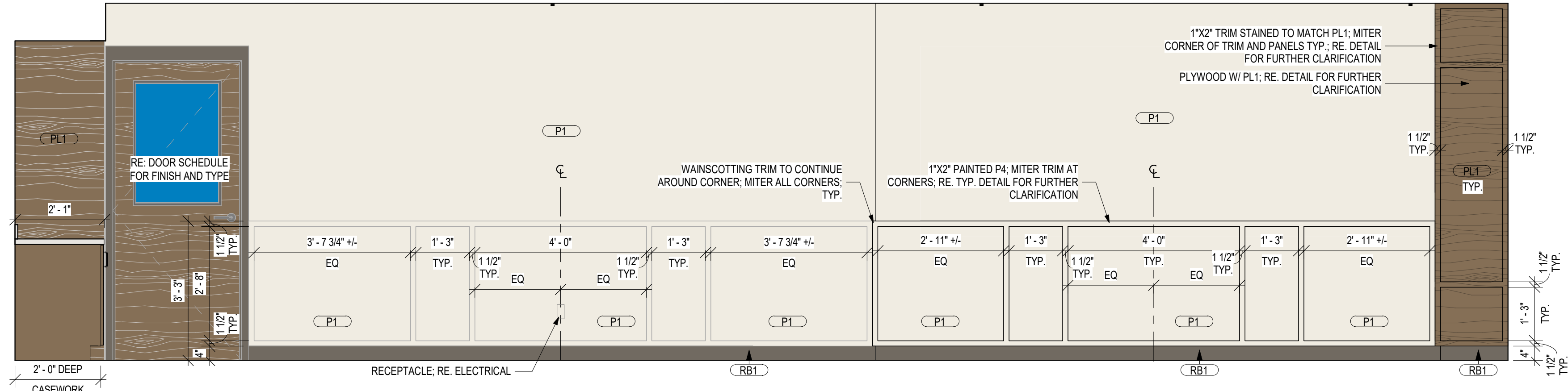
INTERIOR ELEVATIONS

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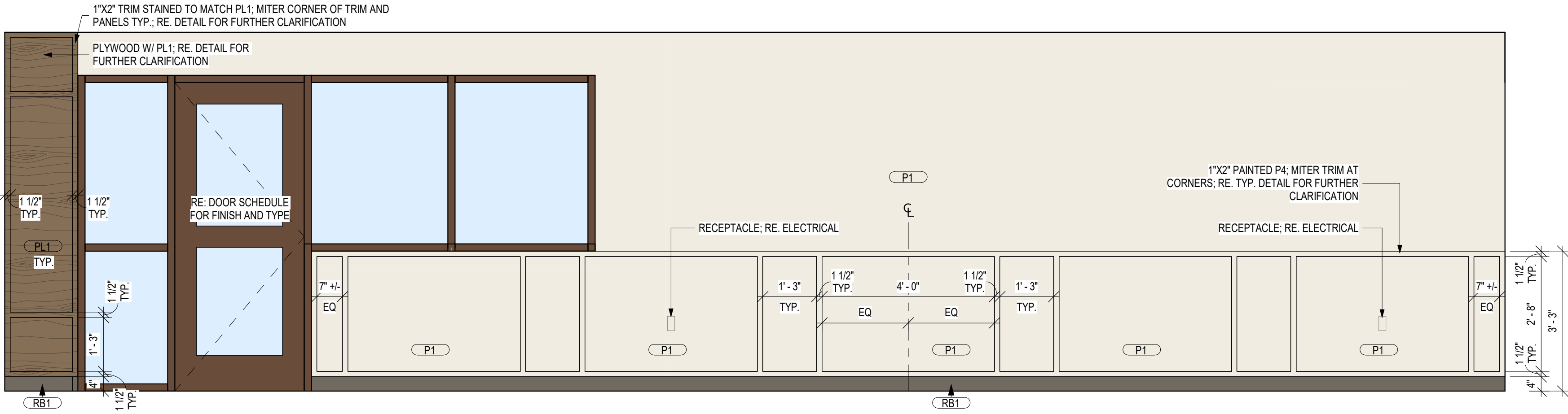




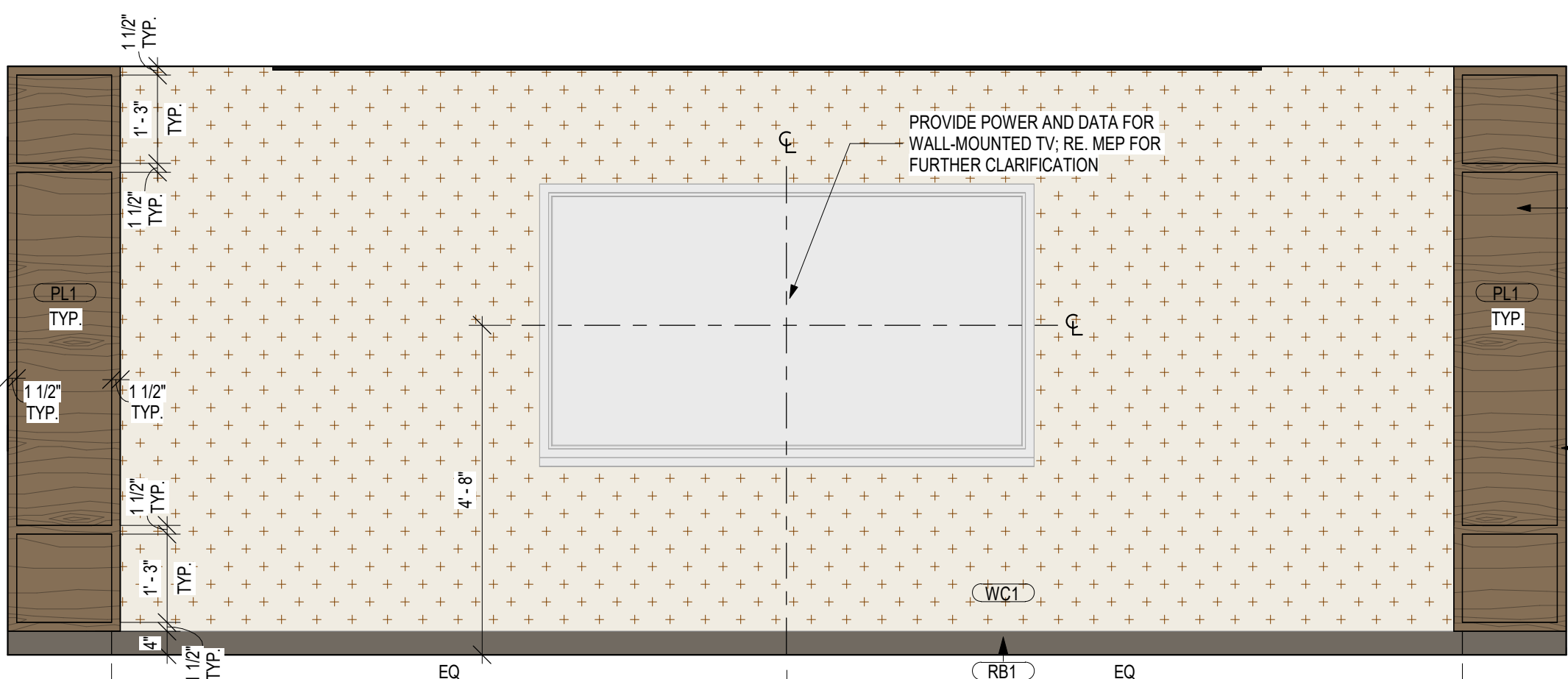
J12 ELEVATION - MEETING ROOM (W)  
1/2" = 1'-0"



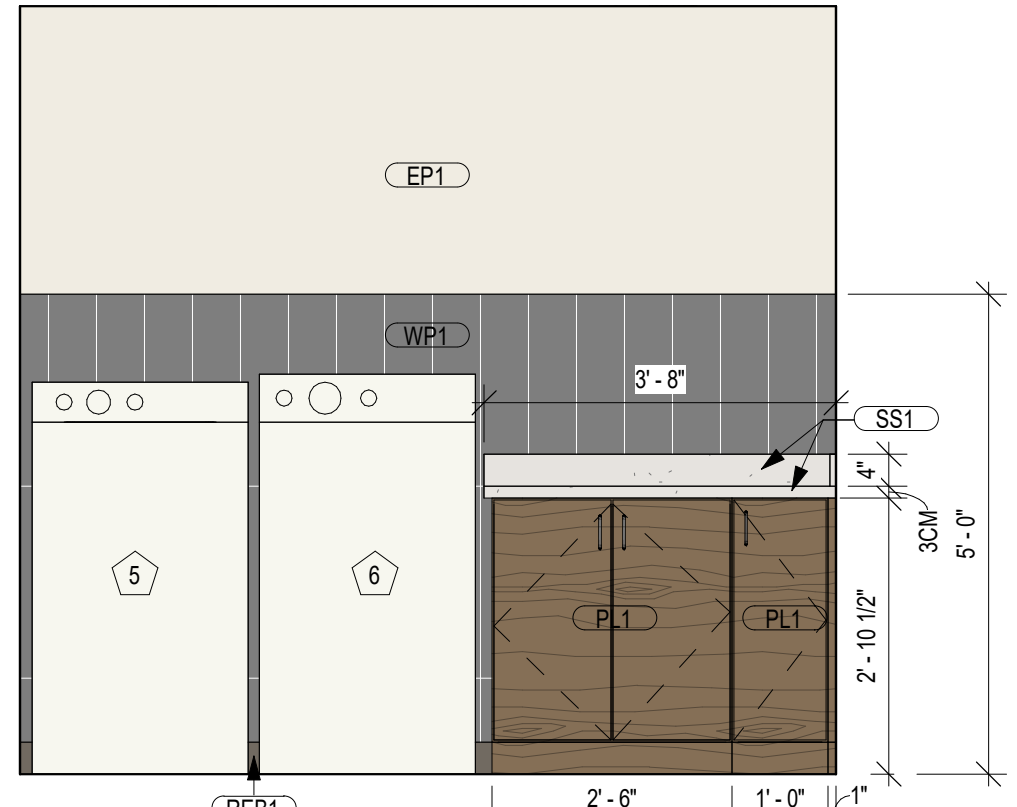
J7 ELEVATION - MEETING ROOM (N)  
1/2" = 1'-0"



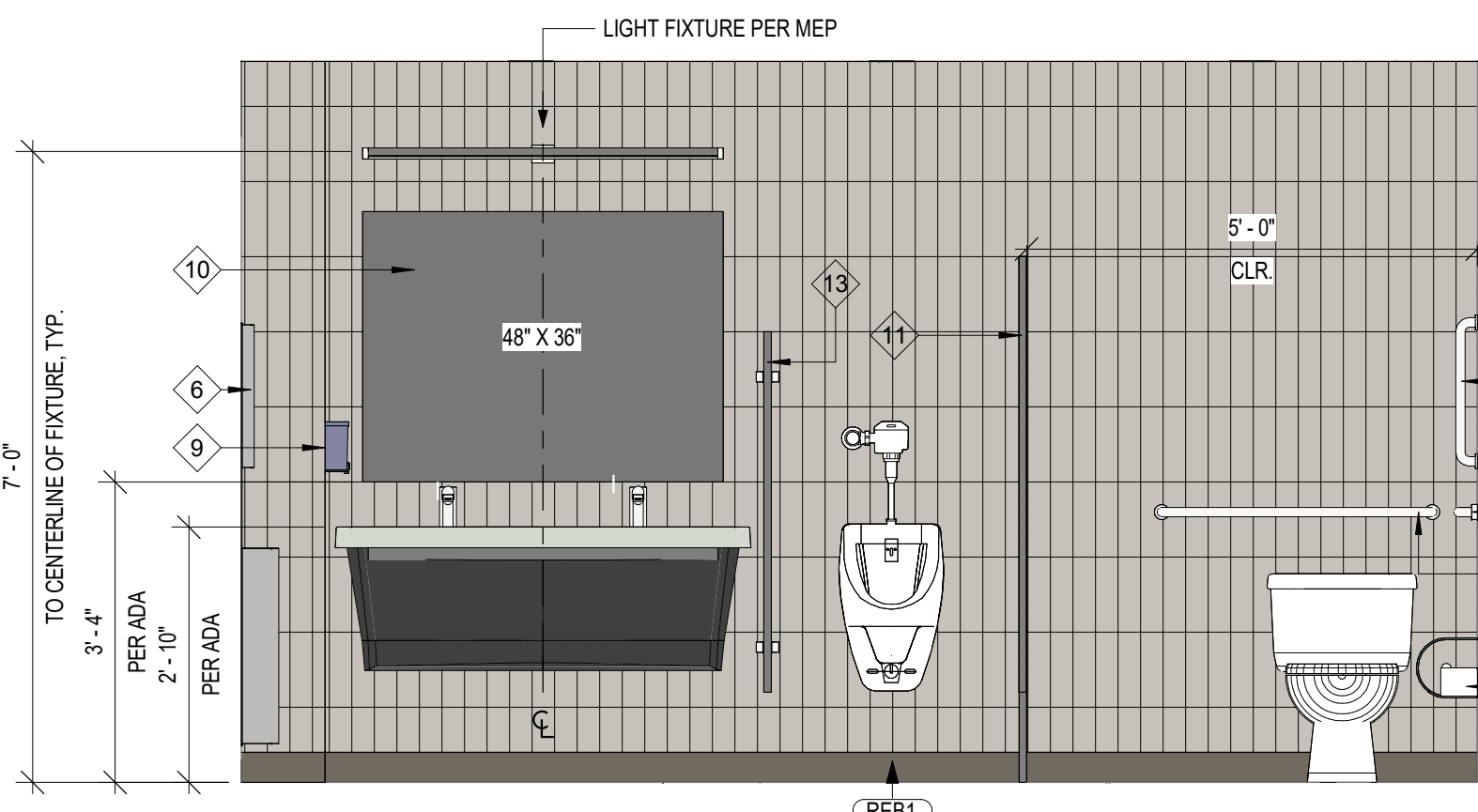
F12 ELEVATION - MEETING ROOM (S)  
1/2" = 1'-0"



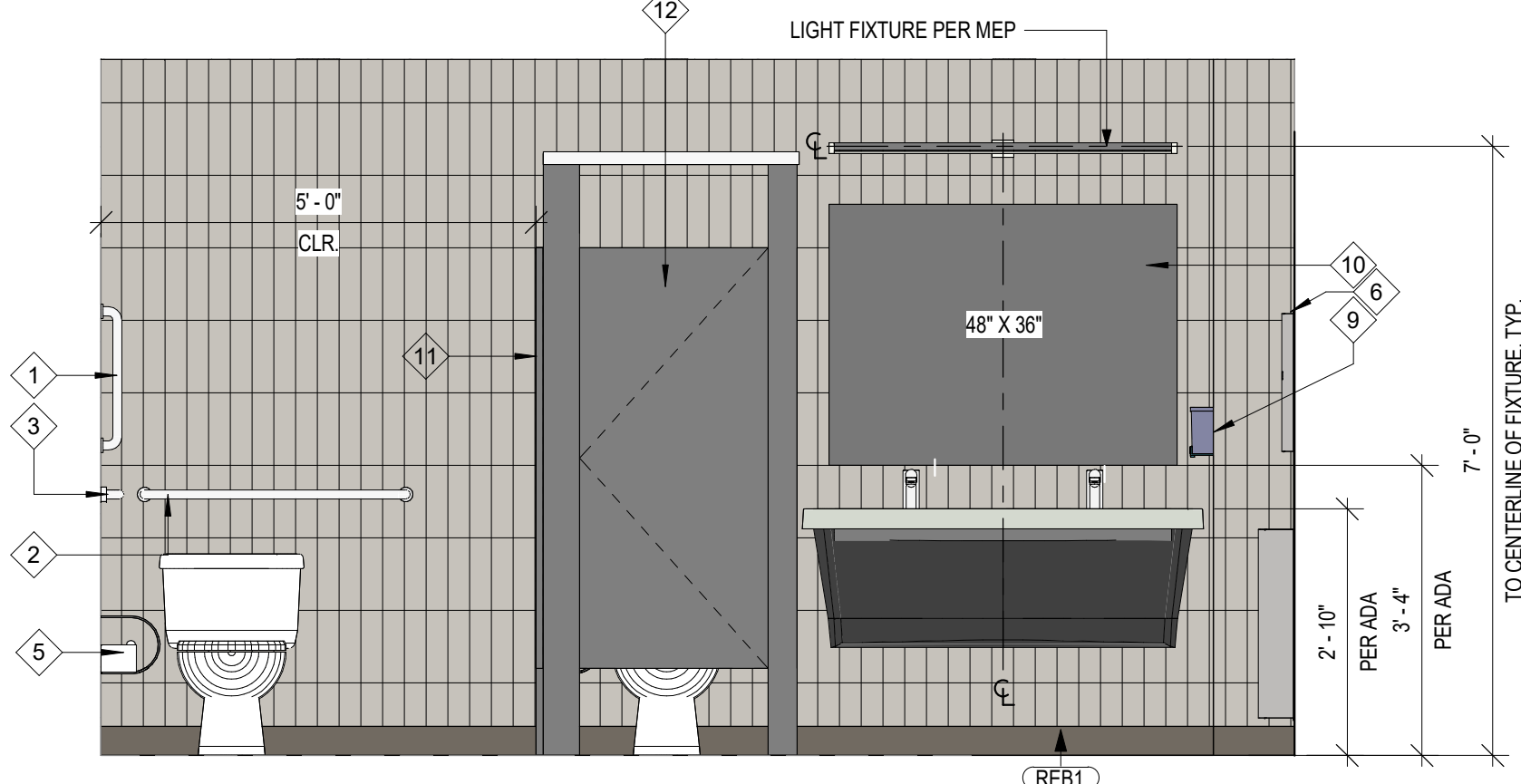
D12 ELEVATION - MEETING ROOM (E)  
1/2" = 1'-0"



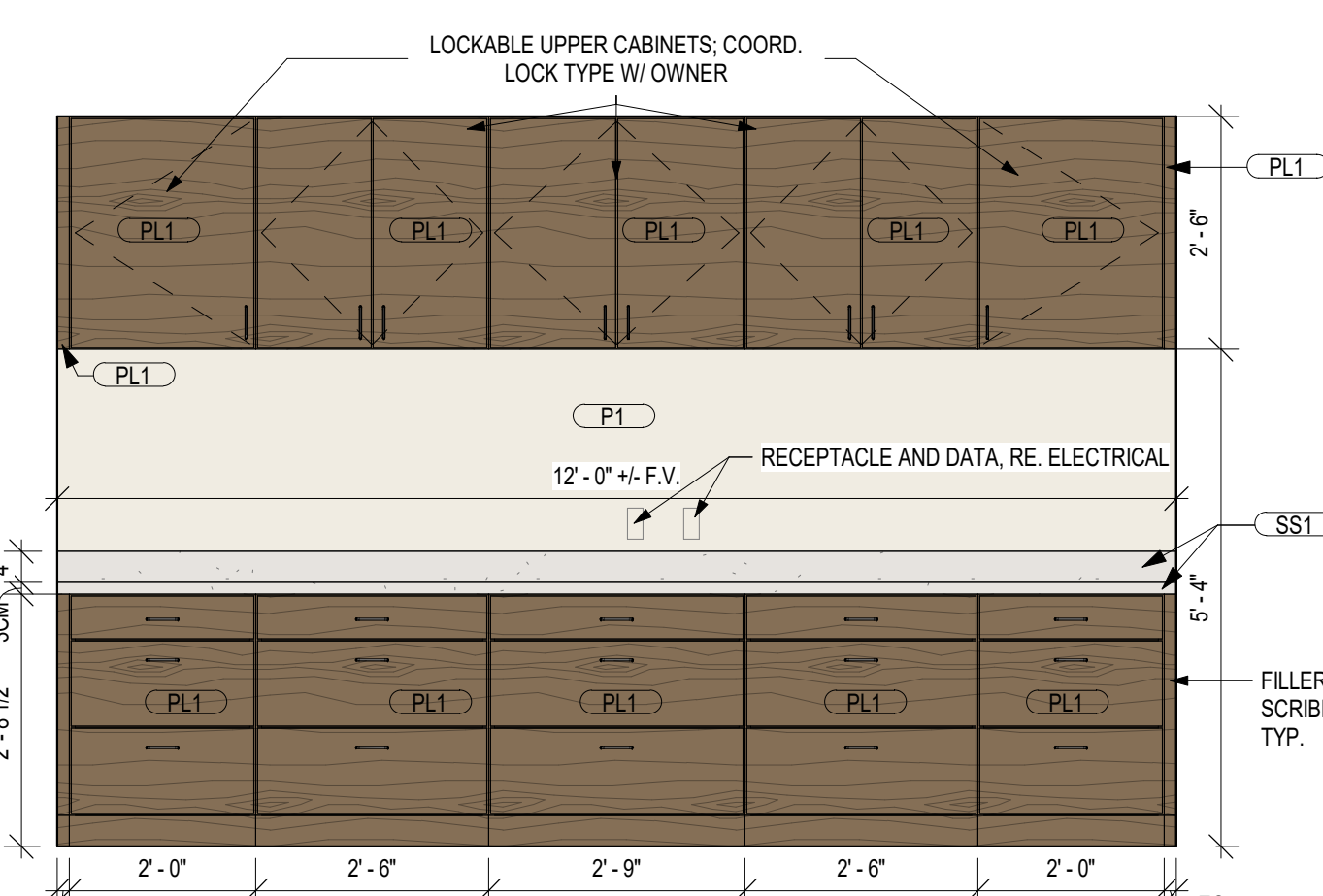
D8 ELEVATION - LAUNDRY  
1/2" = 1'-0"



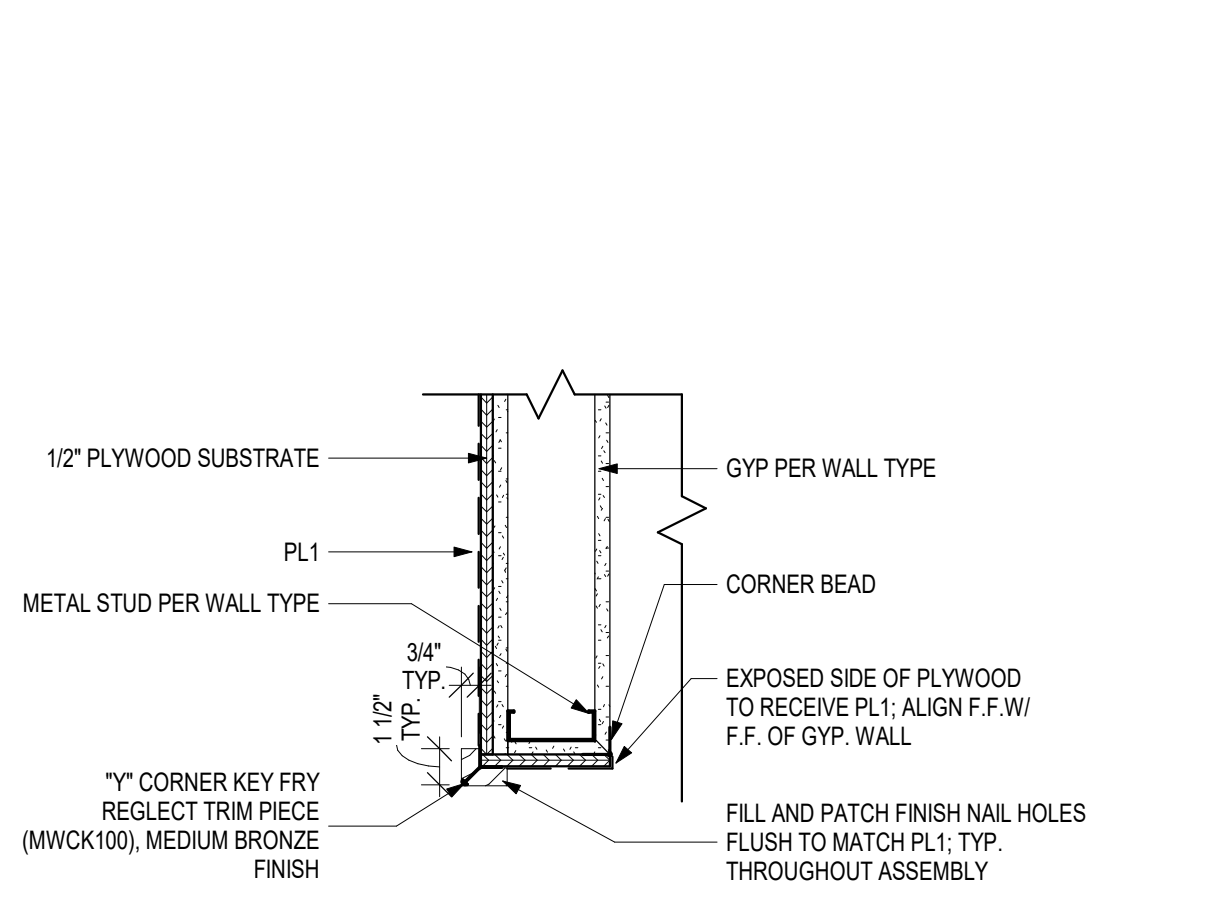
B12 ELEVATION - MEN 103  
1/2" = 1'-0"



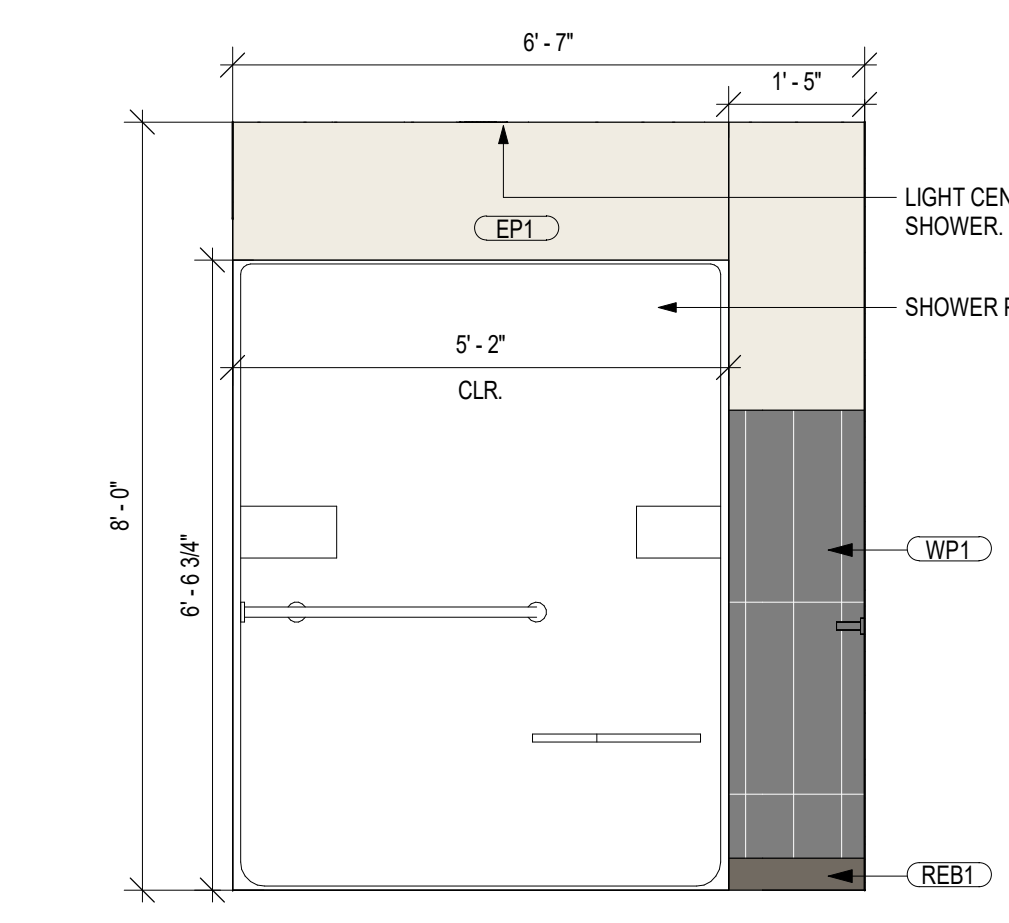
B9 ELEVATION - WOMEN 102  
1/2" = 1'-0"



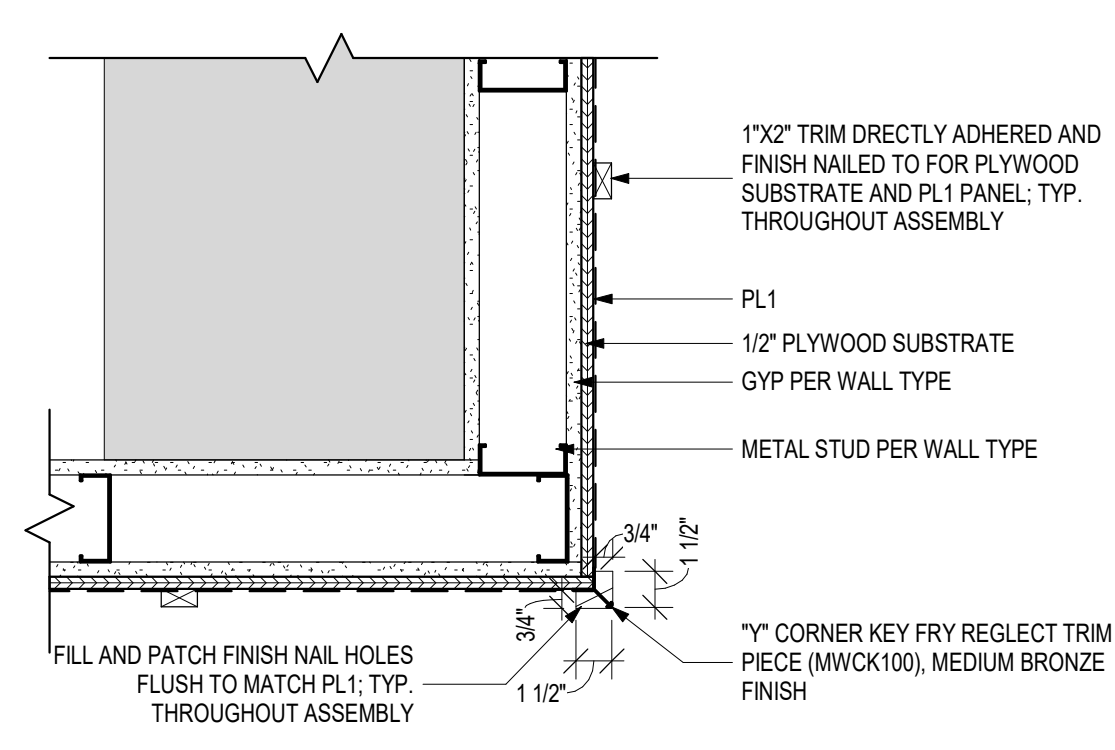
F5 ELEVATION - MED SUPPLY  
1/2" = 1'-0"



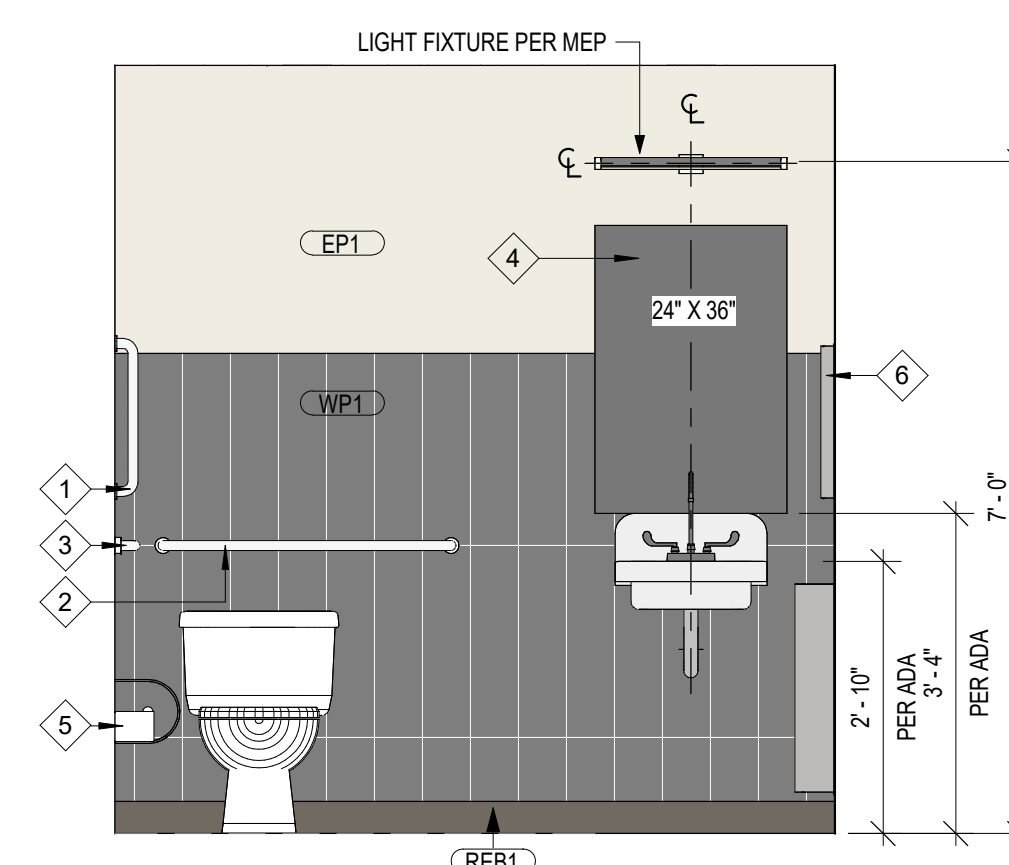
F3 DETAIL - TYP. PANEL END DETAIL  
1 1/2" = 1'-0"



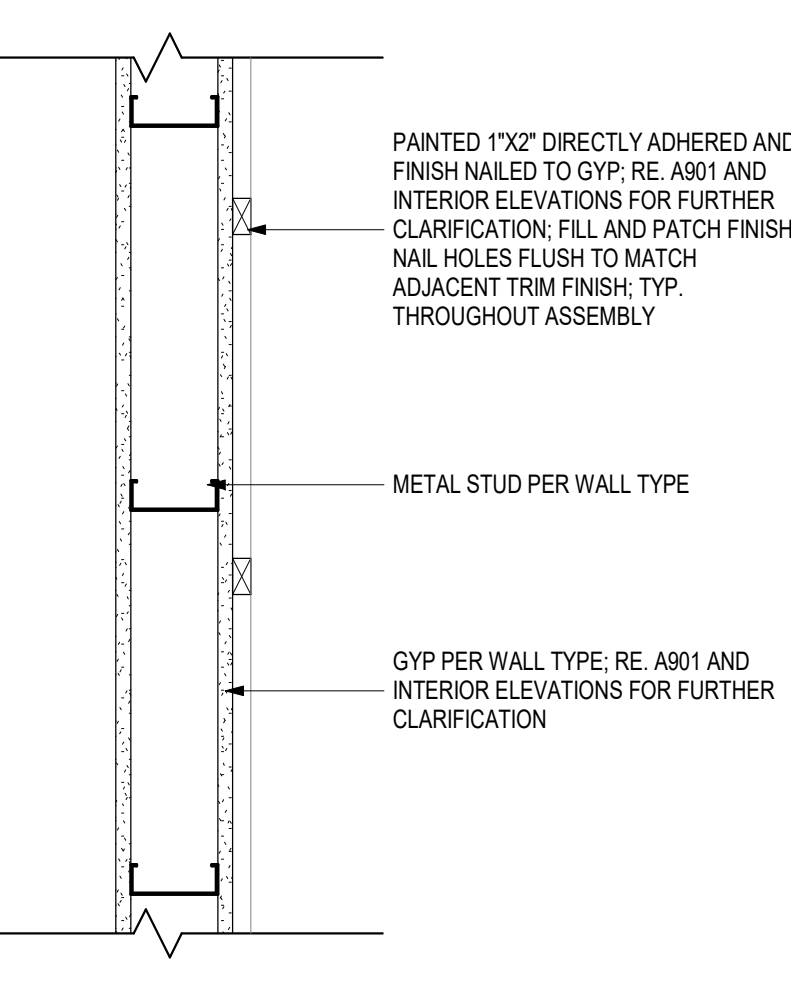
D5 ELEVATION - SHOWER 119 & 123  
1/2" = 1'-0"



D3 DETAIL - TYP. PANEL CORNER DETAIL  
1 1/2" = 1'-0"



B5 ELEVATION MEN 118 & WOMEN 123  
1/2" = 1'-0"



B3 DETAIL - TYP. WAINSCOTTING  
1 1/2" = 1'-0"



FINISH LEGEND					
SYMBOL	MATERIAL	MANUFACTURER	TYPE	COLOR	TYP. AREA / REMARKS
FLOOR FINISH					
C1	CARPET TILE (23oz, 18"x36")	MILLIKEN	MAJOR FREQUENCY: ONE	VIBRATION - OVERTONE	DAYROOM, BUNK ROOMS: INSTALLATION METHOD: VERTICAL ASHLAR
C2	CARPET TILE (25CM X 1M)	MILLIKEN	COLLECTIVE MIND - SYNCHONICITY	CENTERED	MEETING ROOM: INSTALLATION METHOD: VERTICAL ASHLAR
RE1	RESINOUS EPOXY COATING	STONHARD - LIQUID ELEMENTS	SMOOTH DUO (2MM)	KILKENNY CASTLE - MATTE	ALL FLOORING U.N.O.; RE: FINISH PLAN
SC1	SEALED CONCRETE	SEE NOTES	SEE NOTES	SEE NOTES	EMS BAYS AND BOH RE: FINISH PLAN
WC1	WALK OFF CARPET TILE	TARKETT	ABRASIVE ACTION II	WINTER GRAY	LOBBY; RE: FINISH PLAN; QUARTER TURN INSTALLATION
WALL BASE					
RB1	RUBBER BASE (4" H)	ROPPE	700 SERIES - STANDARD TOE	LUNAR DUST	RE: ROOM FINISH SCHEDULE: TO BE USED IN KITCHEN AND DAYROOM; TO BE USED WITH C1, C2, SC1, AND WC1
REB1	RESINOUS EPOXY COATING INTEGRAL COVE BASE (4" H)	STONHARD - LIQUID ELEMENTS	SMOOTH DUO	KILKENNY CASTLE - MATTE	TO BE USED W/ RE1 U.N.O.
DOOR/FRAME FINISH					
P6	PAINT - WATERBASED ALKYD URETHANE ENAMEL	SHERWIN WILLIAMS	SEMIGLOSS	SW 7019 GAUNTLET GRAY	HM FRAMES; RE: DOOR SCHEDULE
P8	PAINT - WATERBASED ALKYD URETHANE ENAMEL	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 7019 GAUNTLET GRAY	HM DOORS; RE: DOOR SCHEDULE
TILE					
T1	GLAZED CERAMIC WALL TILE (2 1/2" X 10")	FLORIDATILE	STORIED	SHEEPS WOOL GLOSSY	LOBBY, KITCHEN: VERTICAL STACKED INSTALLATION, RE: FINISH PLAN AND INTERIOR ELEVATIONS WOMENS 102, MENS 103, VERTICAL STACKED INSTALLATION; RE: FINISH PLAN AND INTERIOR ELEVATIONS
T2	PORCELAIN WALL TILE (3"x10")	PORTOBELLO AMERICA	VIVANT	BRUT (MATTE)	TO BE USED WITH T1
TG1	TILE GROUT - EPOXY (1/16" GROUT JOINTS)	MAPEI	KERAPOXY	5105 DRIFTWOOD	TO BE USED WITH T1
TG2	TILE GROUT - EPOXY (1/16" GROUT JOINTS)	MAPEI	KERAPOXY	5011 SAHARA BEIGE	TO BE USED WITH T2
WALL FINISH					
EP1	PAINT - EPOXY	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 7551 GREEK VILLA	BOH, EMS BAYS
EP2	PAINT - EPOXY	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 7036 ACCESSIBLE BEIGE	EMS BAY STRUCTURE
EP3	PAINT - EPOXY	SHERWIN WILLIAMS	SEMIGLOSS	SW 7036 ACCESSIBLE BEIGE	ALL WALLS U.N.O.; RE: ROOM FINISH SCHEDULE AND INTERIOR ELEVATIONS FOR FURTHER CLARIFICATION
P1	PAINT - ZERO V.O.C. INTERIOR LATEX	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 7551 GREEK VILLA	DAYROOM AND KITCHEN; RE: ROOM FINISH SCHEDULE AND INTERIOR ELEVATIONS FOR FURTHER CLARIFICATION
P2	PAINT - ZERO V.O.C. INTERIOR LATEX	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 9148 SMOKY AZURITE	DAYROOM AND KITCHEN; RE: ROOM FINISH SCHEDULE AND INTERIOR ELEVATIONS FOR FURTHER CLARIFICATION
P3	PAINT - ZERO V.O.C. INTERIOR LATEX	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 7036 ACCESSIBLE BEIGE	BUNK ROOMS AND OFFICES
WC1	WALL COVERING	MDC	BEAD BARE	BICONE BEIGE	MEETING ROOM; RE: INTERIOR ELEVATIONS
MILLWORK / CASEWORK					
P4	PAINT - WATERBASED ALKYD URETHANE ENAMEL	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 7551 GREEK VILLA	LOBBY AND MEETING ROOM WAINSCOTTING RE: INTERIOR ELEVATIONS
P5	PAINT - WATERBASED ALKYD URETHANE ENAMEL	SHERWIN WILLIAMS	SATINEGGSSHELL	SW 9148 SMOKY AZURITE	KITCHEN AND DAYROOM WAINSCOTTING RE: INTERIOR ELEVATIONS
PL1	PLASTIC LAMINATE	WILSONART	FINE VELVET FINISH	7987-38 PALISADES OAK	ALL CASEWORK U.N.O.; RE: INTERIOR ELEVATIONS
SS1	QUARTZ	WILSONART	3CM, POLISHED	NIWA Q1002	ALL COUNTERTOPS U.N.O.
SS2	SOLID SURFACE	WILSONART	1/2"	GULF COAST	MEETING ROOM COUNTERTOP
WALL PROTECTION					
FRP1	PALLADIUM RIGID SHEET	INPRO	.06"	CASTLE	JAN CLOSET; 5H, SEE ROOM FINISH SCHEDULE AND FINISH PLAN FOR FURTHER CLARIFICATION
WP1	UPVC PANEL	INPRO	ROUTED CONTINUUM - VERTICAL PLANK 6"x24"	ION ON PURE WHITE	5H, USE MFR. TRIM AT TOP OF WAINSCOTTING AND CORNERS; LAUNDRY, BOH, RESTROOMS, SHOWER ROOMS; SEE FINISH FLOOR PLANS FOR LOCATIONS
CEILING FINISH					
ACT1	ACOUSTIC CEILING TILE (2'x2')	ARMSTRONG CEILINGS	ULTIMA - 15'16" TEGULAR (0.75 NRC)	WHITE	RE: RCP
ACT1 GRID	15'16" SUSPENSION SYSTEM	ARMSTRONG CEILINGS	PRELUDE	WHITE	TO BE USED WITH ACT1
ACT2	HIGH NRC ACOUSTIC CEILING TILE (2'x2')	ARMSTRONG CEILINGS	CALLA - 15'16" TEGULAR (0.85 NRC)	WHITE	BUNK ROOMS; RE: RCP
AP1	ACOUSTIC TECTUM PANELS	ARMSTRONG	DIRECT-ATTACH (1/2" THICK)	PAINTED TO MATCH EP1	RE: RCP
P7	PAINT - ZERO V.O.C. INTERIOR LATEX	SHERWIN WILLIAMS	FLAT	SW 7551 GREEK VILLA	ALL GYP CEILINGS AND SOFFITS U.N.O.

GENERAL NOTES:  
1. ALL FINISH MATERIALS TO BE PROCURED FROM OWNER SELECTED/SPECIFIED VENDOR, AS LISTED ABOVE. ALTERNATES OR SUBSTITUTIONS WILL NOT BE ACCEPTED.  
2. VERIFY ALL FINISH SELECTIONS WITH OWNER PRIOR TO PROCUREMENT.  
3. EXISTING OR NEW CONCRETE SHALL BE SEALED WITH A NON-YELLOWING UV STABLE, EXEMPT SOLVENT-BASED ACRYLIC CURE & SEAL WITH 25% SOLIDS OR EQ. MEDIUM GLOSS. BOD US SPEC C5-25-1315. PREP EXISTING CONCRETE PER MANUFACTURER RECOMMENDATION PRIOR TO APPLYING SEALANT.

ROOM FINISH SCHEDULE												
NO.	RM NAME	FLOORS		WALL FINISH				CEILING FINISH	COUNTERTOP	CASEWORK		REMARKS
		FLOOR	WALL BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL			BASE CABINET	UPPER CABINET	
100	AMBULANCE BAY	SC1	RB1	EP1/EP2	EP1/EP2	EP1/EP2	EP1/EP2	AP1/EP3	-	-	-	4, 6, 7, 8
101	LOBBY	RE1	REB1	RE INT. ELEVATIONS	P1/P4	P1/P4	RE INT. ELEVATIONS	P7/ACT1	-	-	-	1, 5
102	WOMEN'S	RE1	REB1	EP1	EP1	T2	EP1	P7	-	-	-	1
103	MEN'S	RE1	REB1	T2	EP1	EP1	EP1	P7	-	-	-	1
104	MEETING	C2	RB1	P1/P4	RE INT. ELEVATIONS	P1/P4	RE INT. ELEVATIONS	ACT1	SS2	PL1	-	5
104A	STORAGE	SC1	RB1	EP1	EP1	EP1	EP1	P7	-	-	-	-
105	MEP	SC1	RB1	EP1	EP1	EP1	EP1	P7	-	-	-	-
106	KITCHEN	RE1	RB1	RE INT. ELEVATIONS	RE INT. ELEVATIONS	RE INT. ELEVATIONS	RE INT. ELEVATIONS	ACT1/P7	SS1	PL1	PL1	5
106A	COMPUTER	RE1	RB1	RE INT. ELEVATIONS	RE INT. ELEVATIONS	RE INT. ELEVATIONS	RE INT. ELEVATIONS	ACT1	SS1	-	-	5
107	STO.	SC1	RB1	EP1	EP1	EP1	EP1	P7	-	-	-	-
108	DAYROOM	C1	RB1	RE INT. ELEVATIONS	RE INT. ELEVATIONS	RE INT. ELEVATIONS	RE INT. ELEVATIONS	ACT1	-	-	-	5
109	BUNK CORR	RE1	REB1	P1	P1	P1	P1	ACT1	-	-	-	-
109A	JAN.	RE1	REB1	FRP1/EP1	FRP1/EP1	EP1	FRP1/EP1	P7	-	-	-	3
110	BUNK 9	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
111	BUNK 1	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
112	BUNK 2	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
113	BUNK 3	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
114	CAPTAIN BUNK	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
115	BUNK 4	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
116	BUNK 5	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
117	FUTURE USE	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
118	MEN'S	RE1	REB1	WP1/EP1	WP/EP1	WP1/EP1	WP1/EP1	P7	-	-	-	2, 5
119	SHWR	RE1	REB1	WP1/EP1	WP/EP1	WP1/EP1	WP1/EP1	P7	-	-	-	2
120	UNISEX	RE1	REB1	WP1/EP1	WP/EP1	WP1/EP1	WP1/EP1	P7	-	-	-	2
121	LAUNDRY	RE1	REB1	WP1/EP1	WP/EP1	WP1/EP1	WP1/EP1	P7	SS1	PL1	-	2, 5
122	SHWR	RE1	REB1	WP1/EP1	WP/EP1	WP1/EP1	WP1/EP1	P7	-	-	-	2, 5
123	WOMEN'S	RE1	REB1	WP1/EP1	WP/EP1	WP1/EP1	WP1/EP1	P7	-	-	-	2
124	BUNK 6	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
125	BUNK 7	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
126	BUNK 8	C1	RB1	P3	P3	P3	P3	ACT2	-	-	-	-
127	OFFICE CORR	RE1	REB1	P1	P1	P1	P1	ACT1	-	-	-	-
128	OFFICE 3	C1	RB1	P3	P3	P3	P3	ACT1	-	-	-	-
129	OFFICE 2	C1	RB1	P3	P3	P3	P3	ACT1	-	-	-	-
130	OFFICE 1	C1	RB1	P3	P3	P3	P3	ACT1	-	-	-	-
131	MED	RE1	REB1	P1	P1	P1	P1	ACT1	SS1	PL1	PL1	5
132	WHITE BOX	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	9
133	RISERWATER ENTRY	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	9
134	EXIST ELEC	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	9



A7 FLOOR PLAN - FINISHES  
1/8" = 1'-0"

## ROOM FINISH SCHEDULE REMARKS:

- AREAS WITH MULTIPLE DESIGNATED FINISHES, RE: FINISH FLOOR PLANS & INTERIOR ELEVATIONS FOR ADDITIONAL CLARIFICATION.
1. PROVIDE FULL HEIGHT WALL, RE: INTERIOR ELEVATIONS.
  2. PROVIDE WALL PROTECTION TO 5'-0" AFF ON ALL WALLS IN ROOMS/SPACE, USE MFR. TRIM AND CORNER ACCESSORIES WHERE RECD; RE: INTERIOR ELEVATIONS.
  3. PROVIDE FRP TO 5'-0" AFF, USE MFR. TRIM AND CORNER ACCESSORIES WHERE RECD.
  4. COORD. W/ EMS BAY TRENCH DRAINS, RE: FLOOR PLAN AND MEP FOR FURTHER CLARIFICATION.
  5. RE: INTERIOR ELEVATIONS FOR FURTHER CLARIFICATION.
  6. AP1, DIRECT-ATTACH TECTUM PANELS TO BE CUSTOM SIZED AND CUT TO FIT IN BETWEEN EMS BAY STRUCTURE; RE: RCP FOR FURTHER CLARIFICATION.
  7. EP2 UP TO TOP OF EXISTING BRICK/CMU (8" - 8" +/-), EP1 ABOVE.
  8. EXPOSED STRUCTURE PAINTED EP3.
  9. COORD. FINISHES DIRECTLY W/ OWNER.

## GENERAL NOTES: INTERIOR FINISHES

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: G002 FOR ACCESSIBILITY GUIDELINES.
3. RE: A800 SERIES SHEETS FOR ADDITIONAL CEILING FINISH INFORMATION.
4. RE: A700 SERIES SHEETS FOR ADDITIONAL FLOOR FINISH INFORMATION.
5. RE: A800 SERIES SHEETS FOR ADDITIONAL FLOOR FINISH & WALL PROTECTION INFORMATION.
6. HOLLOW METAL FRAMES SHALL RECEIVE SEMI-GLOSS FINISH WHERE WALL COLOR IS DIFFERENT ON EACH SIDE OF THE HOLLOW METAL FRAME, PAINT FRAME TO MATCH CORRIDOR WALL, UNLESS NOTED OR SHOWN OTHERWISE.
7. CONTINUE WALL FINISH AS SCHEDULED BEHIND EQUIPMENT.
8. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CASEWORK FABRICATION AND INSTALLATION.
9. ALL EXPOSED CASEWORK SURFACES SHALL BE FINISHED WITH PLASTIC LAMINATE AS SCHEDULED, U.N.O.
10. ALL PLASTIC LAMINATE DOOR AND DRAWERS TO RECEIVE 1MM PVC EDGE BAND AND ALL COUNTERTOPS TO RECEIVE 3MM PVC EDGE BANDING.
11. ALL BACKSPRASH MATERIAL SHALL MATCH COUNTERTOP MATERIAL.
12. WHERE TWO MODULAR TILES (PORCELAIN, MARBLE, OR QUARRY) OF VARYING THICKNESSES MEET, THE SETTING BED FOR THE THINNER TILE SHALL BE BUILT UP TO ENSURE THAT THE FACES OF THE DIFFERENT TILES ARE FLUSH.
13. TRANSITION ALL WALL FINISHES/COLOR CHANGES AT INSIDE CORNERS, UNLESS NOTED OTHERWISE (U.N.O.).
14. TRANSITION WALL BASE AT INSIDE CORNERS, U.N.O.
15. INSTALL METAL TRANSITION STRIP WHERE WALL TILE MEETS PAINTED GYP. BD. WALL IN ALL VERTICAL AND/OR HORIZONTAL CONDITIONS, U.N.O.
16. PROVIDE A LEAK & WALL FINISH U.N.O.
17. ENSURE OWNERS SLAB MOISTURE TEST IS COMPLETE PRIOR TO INITIATING PURCHASE AND INSTALL OF ALL FLOORING PRODUCTS AND FINISHES.

## GENERAL NOTES: FLOOR FINISH PLANS

1. RE: G-SHEETS - FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FINISH LEGEND, FINISH SCHEDULE, AND FLOOR FINISH PLANS FOR SPECIFIC FLOOR FINISH INFORMATION AND LOCATIONS.
3. FLOOR FINISHES SHOWN ARE FOR ACENT CLARIFICATION ONLY.
4. INSTALL TRANSITION STRIPS AT ALL FLOOR FINISH MATERIAL CHANGES, UNLESS NOTED OTHERWISE.
5. RE: SHEET A804 FOR FINISH & FLOOR TRANSITION DETAILS.
6. FLOOR FINISH PATTERN SHALL BE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
7. ALIGN ALL WALL TILE JOINTS WITH FLOOR TILE JOINTS, UNLESS NOTED OR SHOWN OTHERWISE.
8. ALL CLOSETS & ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FLOOR FINISHES AS ADJOINING SPACES.
9. FLOOR FINISH MATERIAL &/ OR PATTERN SHALL BE INSTALLED UNDER TOE KICKS OF CASEWORK MILLWORK, UNDER OPEN COUNTERTOPS, & UNDER EQUIPMENT.
10. FLOOR MATERIAL COLOR TRANSITIONS TO ALIGN WITH ROOM SIDE OF DOOR STOP, UNLESS NOTED OTHERWISE.

## WALL FINISH / WALL PROTECTION PLANS:

1. RE: G-SHEETS - FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FINISH LEGEND & FINISH SCHEDULE FOR SPECIFIC FINISH INFORMATION & LOCATIONS.
3. CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING FOR WALL PROTECTION ATTACHMENT. THIS INCLUDES, BUT IS NOT LIMITED TO: HANDSaws, POSTER SCISSORS, TV MONITORS, BATHROOM ACCESSORIES, FIRE EXTINGUISHERS AND EQUIPMENT. RE: ROUGH CARPENTRY SPECIFICATION SECTION FOR CLARIFICATION.
4. CONTRACTOR SHALL PROVIDE MANUFACTURER'S STANDARD ACCESSORY MOLDING OR TRIM FOR WALL PROTECTION ITEMS, UNLESS NOTED OTHERWISE.

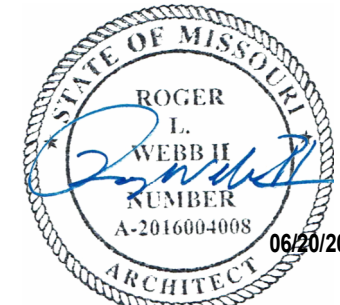
FLOOR FINISH LEGEND	
	GRAIN / INSTALL DIRECTION
	SEALED CONCRETE
	CONCRETE FINISH IN WHITE BOX AREA TBD
	RE1
	C1
	C2
	WP1

NOT ALL FLOOR FINISHES ARE GRAPHICALLY SHOWN. ONLY THOSE FOR TRANSITION CLARIFICATION.

WALL FINISH LEGEND	
	ACCENT PAINT (P); RE: ELEVATIONS
	PL1 WALL PANELING; RE: INT. ELEVATIONS AND TYP. DETAILS
	WALL TILE (T); RE: FINISH LEGEND
	WALLCOVERING (WC1)
	SIGNAGE, COORD. DIRECTLY W/ OWNER
	WALL PROTECTION; RE: FINISH LEGEND
	1/2" WAINSCOTTING TRIM; RE: ELEVATIONS

NOT ALL WALL FINISHES ARE GRAPHICALLY SHOWN. REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS FOR SPECIFIC LOCATIONS AND MATERIALS.

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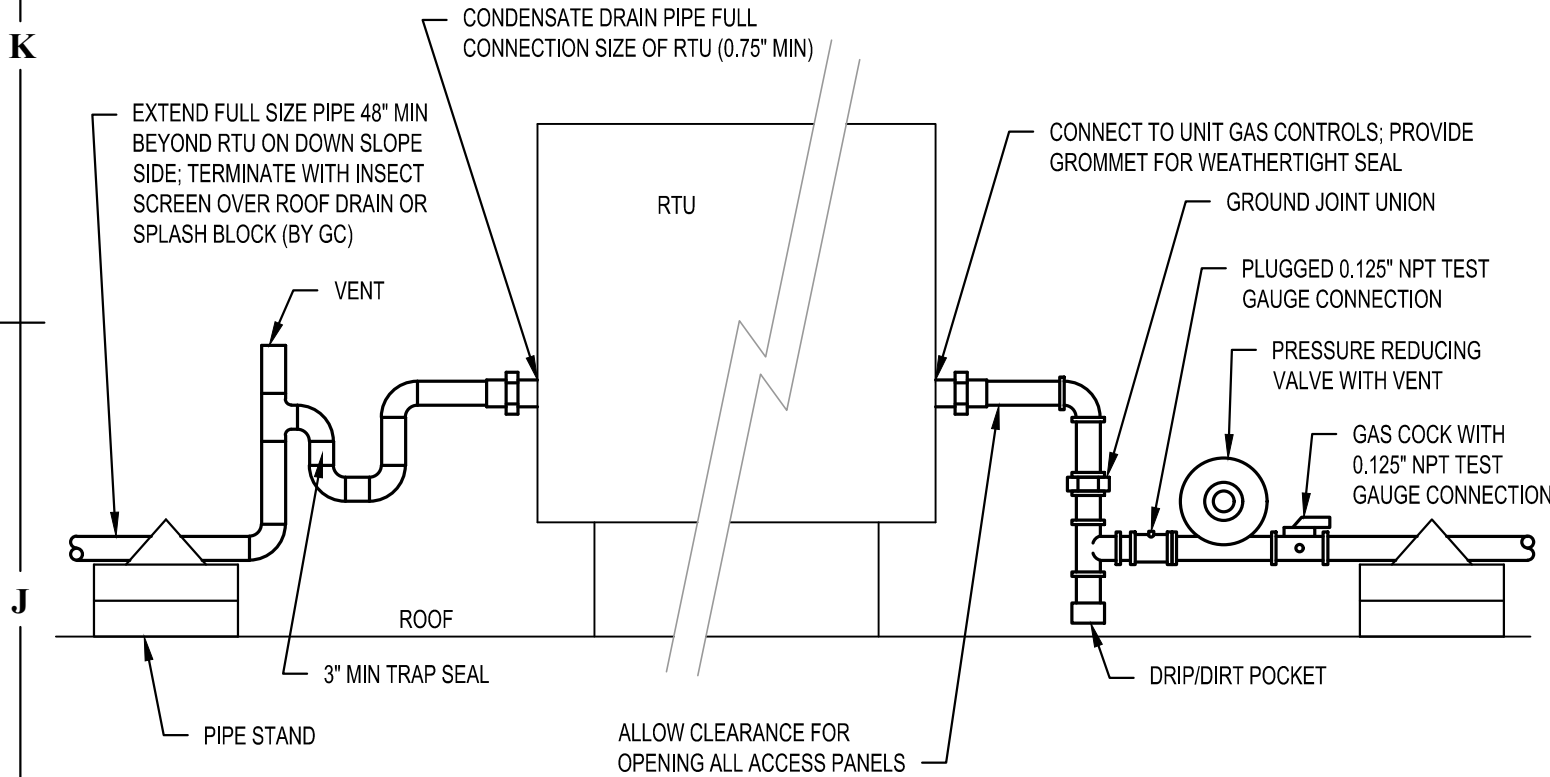
FINISH LEGEND & FINISH SCHEDULE

PERMIT SET

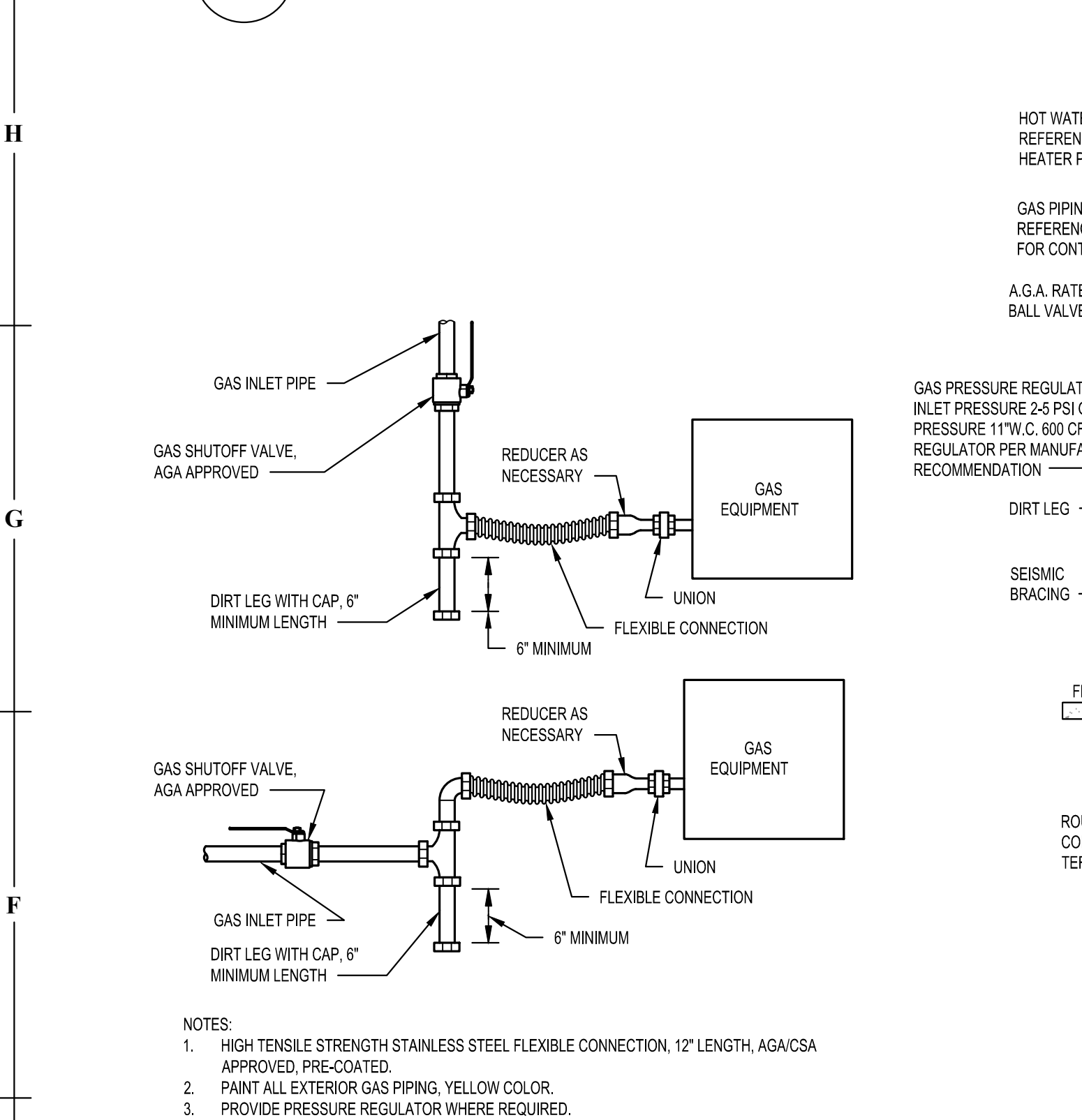


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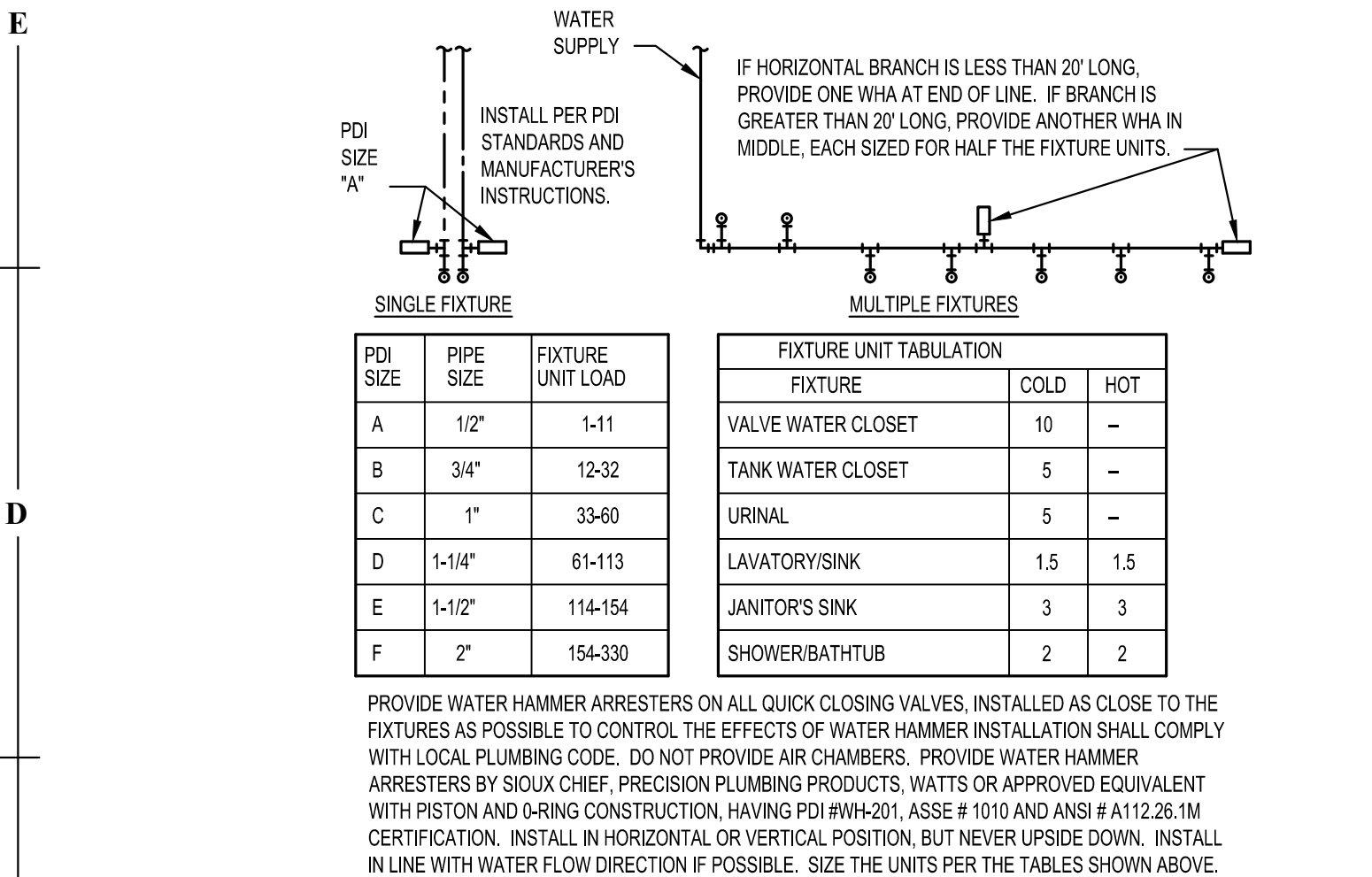




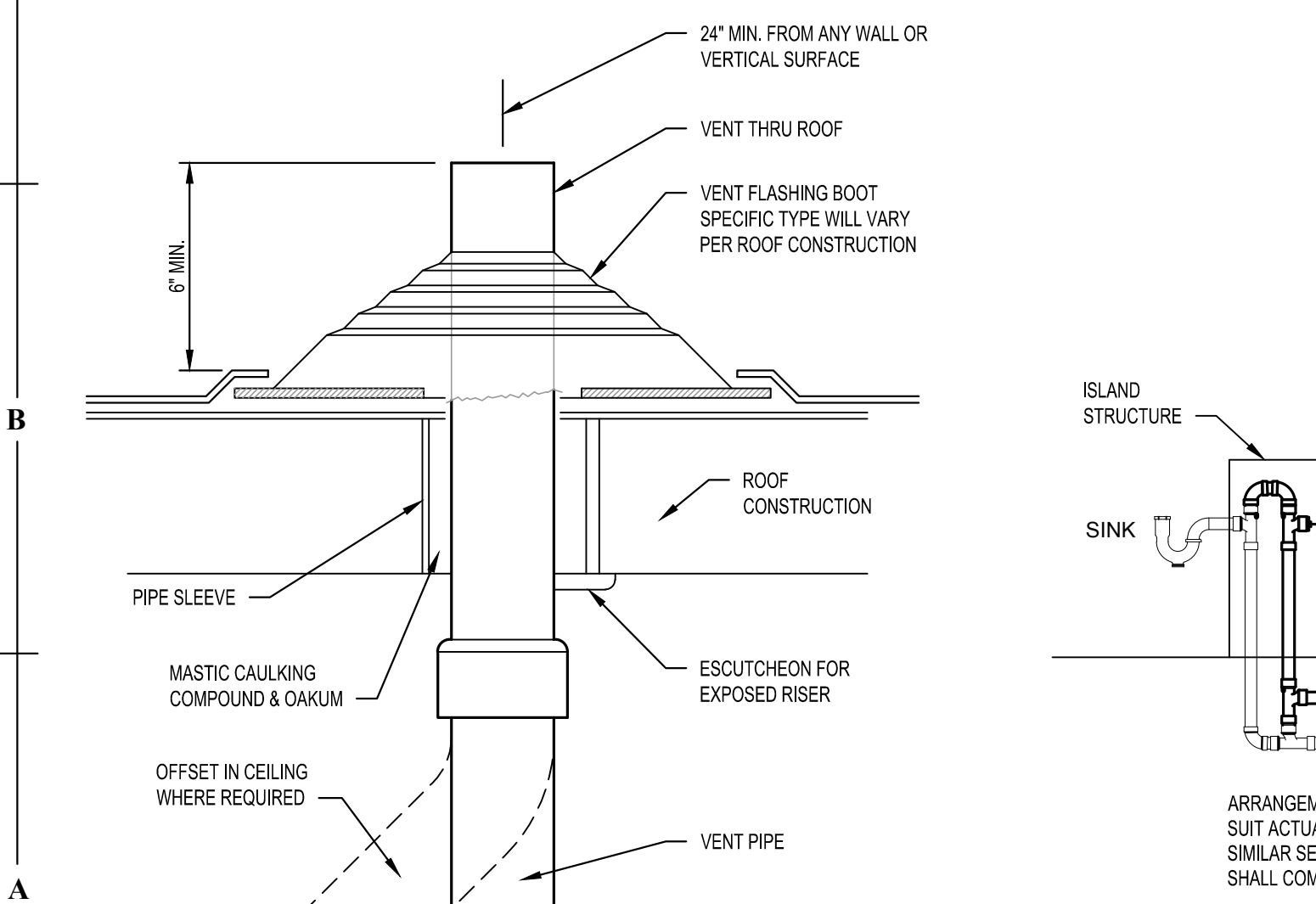
12 ROOF TOP UNIT DETAIL  
NOT TO SCALE



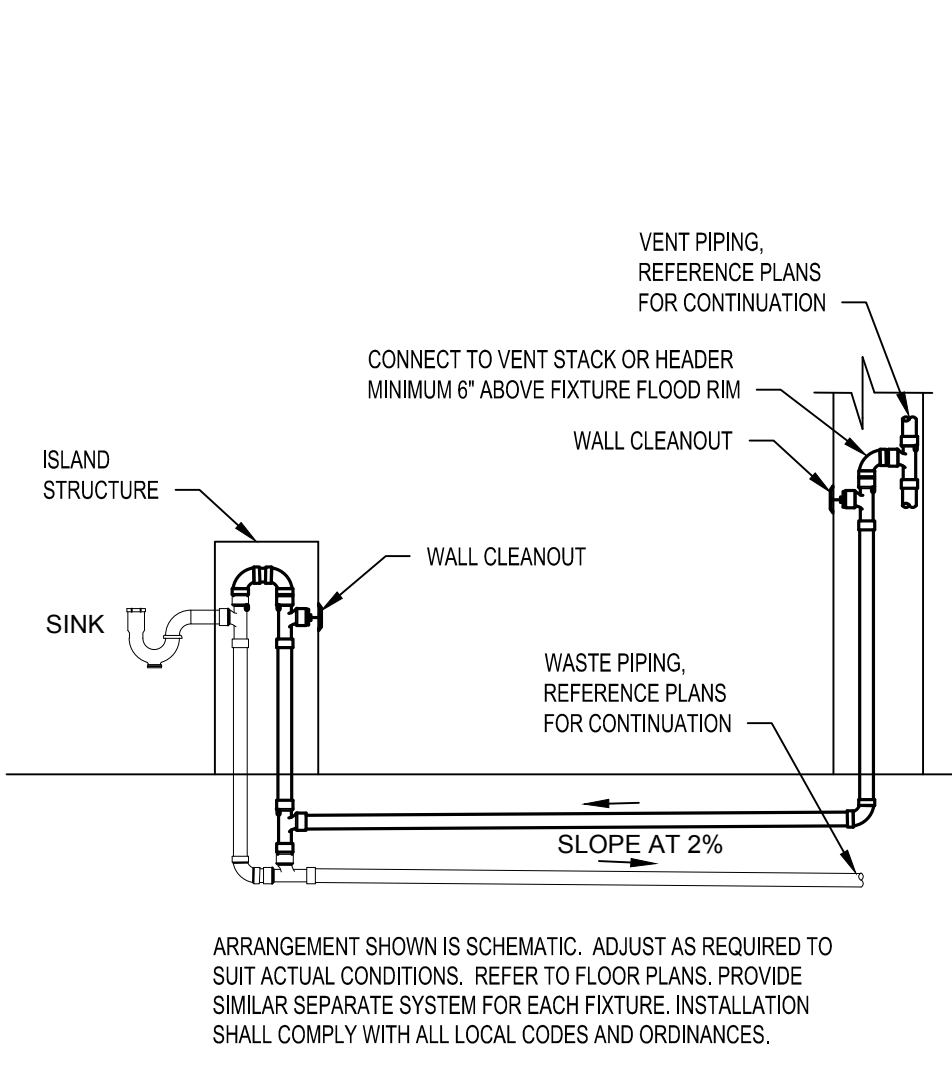
11 GAS EQUIPMENT PIPE CONNECTION  
NOT TO SCALE



9 WATER HAMMER ARRESTERS  
NOT TO SCALE



6 VENT THROUGH ROOF (VTR)  
NOT TO SCALE
















































5 ISLAND FIXTURE VENT  
NOT TO SCALE

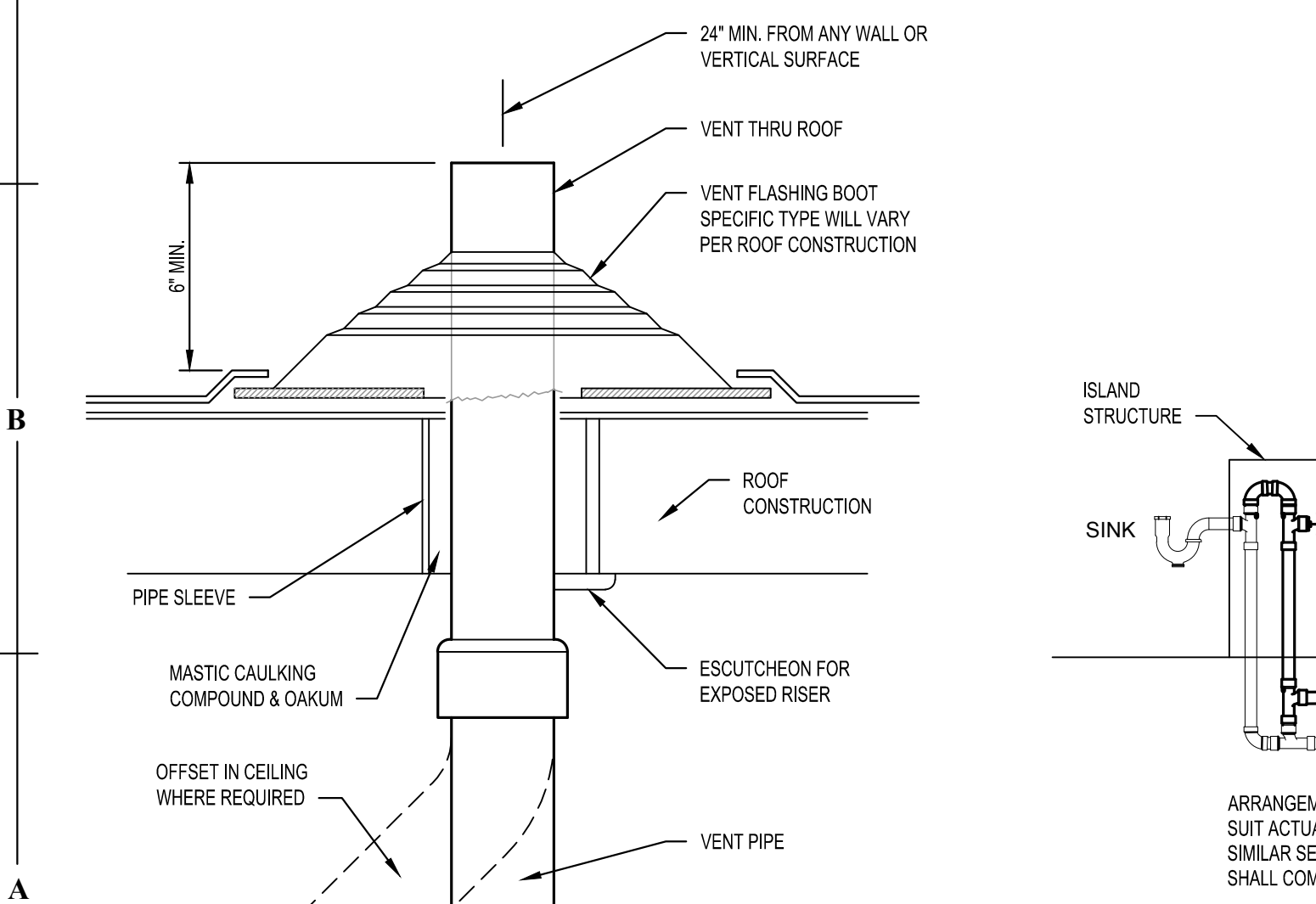
SYSTEM TYPE	MATERIAL
GAS	
ABOVE GROUND	SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON THREADED FITTINGS OR WELDED JOINTS WITH BUTT WELD FITTINGS. PROVIDE CORROSION RESISTANT MATERIAL ON PIPING EXPOSED TO ATMOSPHERE OR IN CONTACT WITH MATERIAL EXERTING A CORROSIVE ACTION
UNDER GROUND	APPROVED PLASTIC WITH COMPATIBLE FITTINGS CONFORMING WITH ASTM D 2513 AND SHALL BE INSTALLED IN ACCORDANCE WITH GAS CODE OR WITH SCH. 40 STEEL WITH MALLEABLE IRON FITTINGS OR WELDED JOINTS WITH BUTT WELD FITTINGS. WALL COAT PIPE WITH HIGH-DENSITY POLYETHYLENE OVER ADHESIVE UNDERCOATING WRAP FIELD JOINTS AND FITTINGS WITH REPU-BLOC "X" TRU-TAPE OR EQUAL.
SEWER, VENT, AND STORM	PVC OR ABS SOLID WALL SCHEDULE 40 PIPE AND FITTINGS EXCEPT IN PLENUM RETURN AREAS. IN RETURN AIR PLENUM AREAS USE ONE OF THE FOLLOWING: CAST IRON, HUB AND SPIGOT WITH RUBBER GASKETS FOLLOWING ASTM C564 AND ASTM 74; CAST IRON, NO-HUB, NEOPRENE GASKET AND CORRUGATED 304 STAINLESS STEEL, SHIELD IN CONJUNCTION WITH 4 STAINLESS STEEL CLAMPS FOR 4" AND SMALLER, 6 CLAMPS FOR 5" AND LARGER
ABOVE GROUND	
UNDER GROUND	PVC OR ABS SOLID WALL SCHEDULE 40 PIPE AND FITTINGS
WATER	
DISTRIBUTION PIPE	WATER DISTRIBUTION PIPE SHALL CONFORM TO NSF 61 AND SHALL BE COPPER, TYPE "K", OR TYPE "B" PEX AND CONFORM TO THE STANDARDS LISTED IN TABLE 605.4 OF THE I.P.C.
SERVICE PIPE	WATER SERVICE PIPE SHALL CONFORM TO NSF 61 AND SHALL BE COPPER, TYPE "K", PEX, OR TYPE "B" PEX AND CONFORM TO THE STANDARDS LISTED IN TABLE 605.3 OF THE I.P.C.

GENERAL PLUMBING NOTES
1. ALL WORK SHALL BE IN CONFORMANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
2. PROVIDE TO OWNER A COPY OF ALL REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS AND ALL PLUMBING SYSTEMS EQUIPMENT MANUALS INCLUDING WARRANTIES.
3. COORDINATE THE COMPLETE INSTALLATION OF SYSTEMS TO AVOID CONFLICT WITH OTHER TRADES.
4. COORDINATE ALL ABOVE SLAB AND UNDER SLAB SANITARY AND WATER PIPING SYSTEMS TO AVOID CONFLICT WITH ALL OTHER TRADES SYSTEMS, AND CULUM FOOTINGS. ALL SOIL AND WASTE PIPING SHALL BE GRADED TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER. ALL GREASE WASTE PIPING SHALL BE ROUTED AT 1/4" PER FOOT SLOPE. COORDINATE ALL FLOOR DRAINS, CLEANOUTS, AND FLOOR MOUNTED FIXTURES WITH FINISHED FLOOR SLAB ELEVATION TO ENSURE THEY ARE INSTALLED PLUMB AND FLUSH WITHOUT CRACKS, RISE IN THE SLAB, OR VOIDS ABOVE GRATES OR TOPS. ALL CLEANOUTS SHALL BE INSTALLED ALONG MAINS AT 5'-0" DISTANCE MAXIMUM. ALL FLOOR AND WALL CLEANOUTS SHALL BE ACCESSIBLE FOR MAINTENANCE AND NOT INSTALLED BENEATH EQUIPMENT. ANY DRAIN GRATES THAT ARE DAMAGED AS A RESULT OF OTHER CONSTRUCTION PRIOR TO RELEASE OF THE BUILDING TO THE OWNER SHALL BE REPLACED WITH LIKE GRATE AT NO EXPENSE OF THE OWNER.
5. ALL EXPOSED PIPES PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
6. PROVIDE TRAP AND SEAL PRIMERS ON ALL FLOOR DRAINS IF REQUIRED BY CODE OR OWNER.
7. PLUMBING VENTS THROUGH THE ROOF ARE LOCATED AT A MINIMUM OF 5'-0" FROM BUILDING PARAPETS AND 10'-0" FROM FRESH AIR INTAKES AND AS REQUIRED TO MEET LOCAL CODES.
8. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
9. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE DRAINS AS REQUIRED BY LOCAL CODES FOR COMPLETE EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNER FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.
10. CONTRACTOR TO FULLY INVESTIGATE ALL EXISTING PIPING TO REMAIN TO INSURE EXISTING PIPING IS IN GOOD REPAIR. IF ANY EXISTING PIPING IS FOUND TO BE DAMAGED REPLACE WITH LIKE.
11. ALL PLUMBING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE INSTALLED AND SEALED TO MAINTAIN FIRE RATING OF ASSEMBLY. PROVIDE FIRE COLLARING, FIRESTOP COLLARS, OR OTHER APPROVED METHOD TO MAINTAIN FIRE RATING AND UL RATING.
12. ALL PLUMBING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE INSTALLED AND SEALED TO MAINTAIN FIRE RATING OF ASSEMBLY. PROVIDE FIRE COLLARING, FIRESTOP COLLARS, OR OTHER APPROVED METHOD TO MAINTAIN FIRE RATING AND UL RATING.

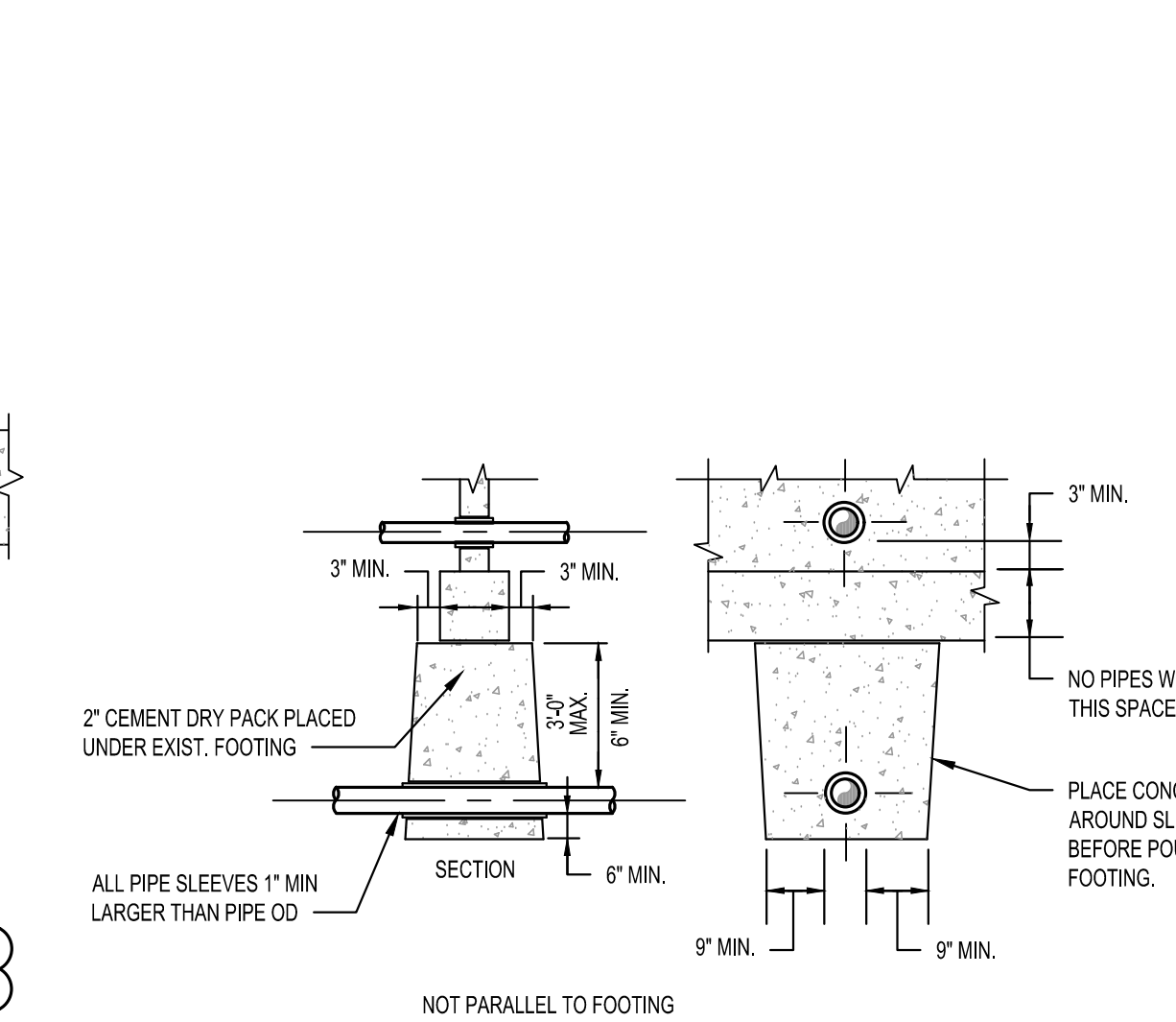
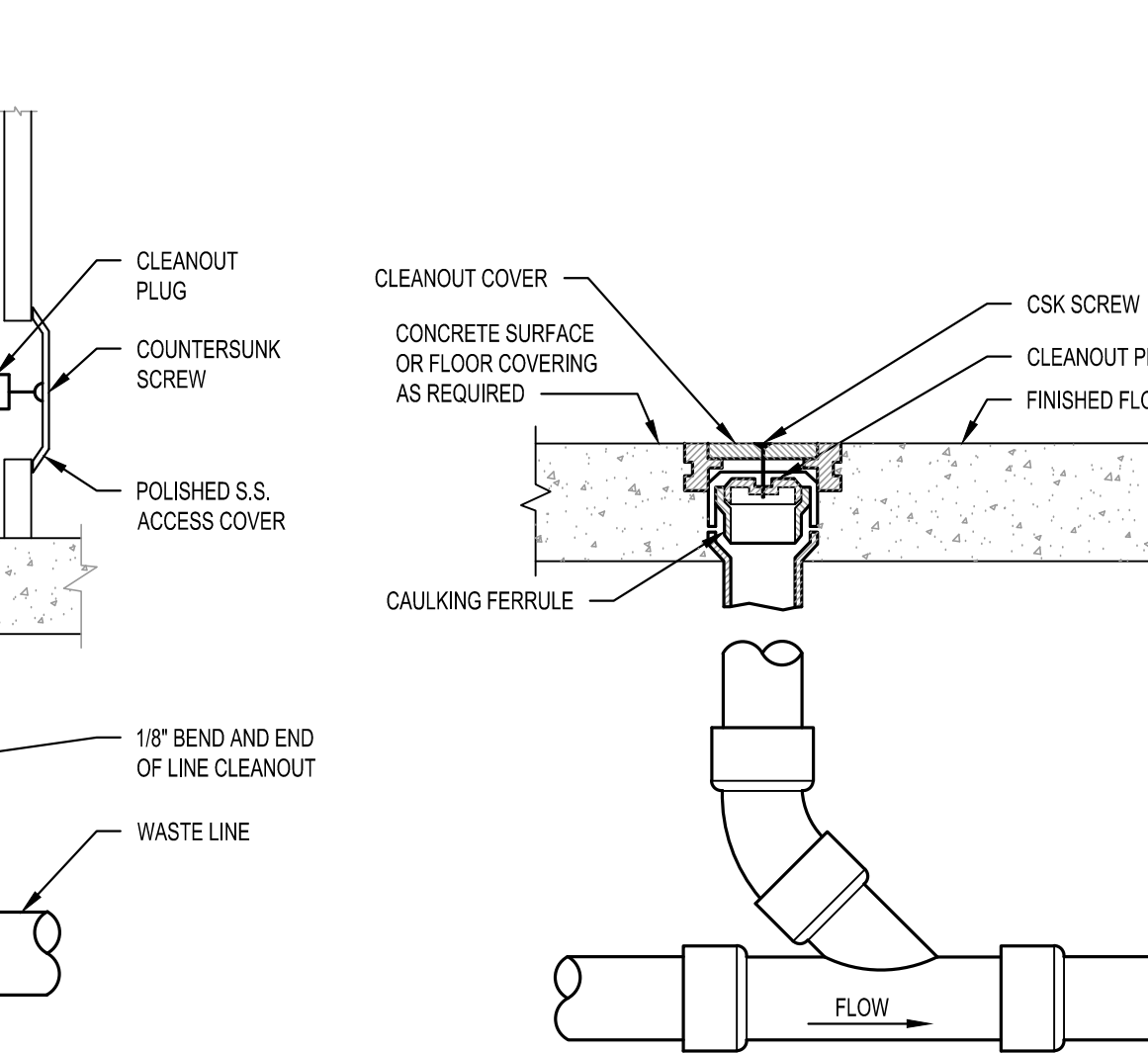
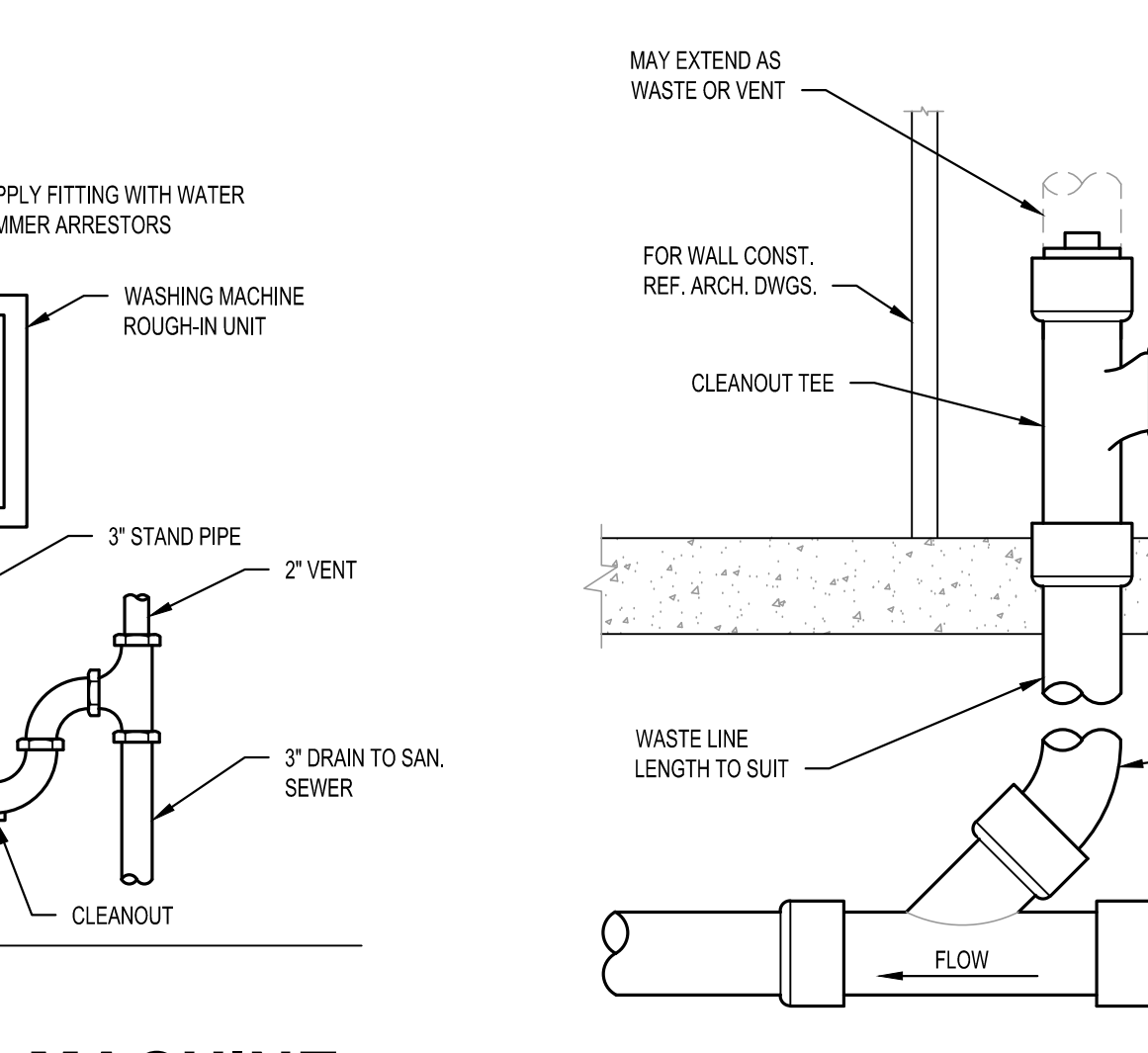
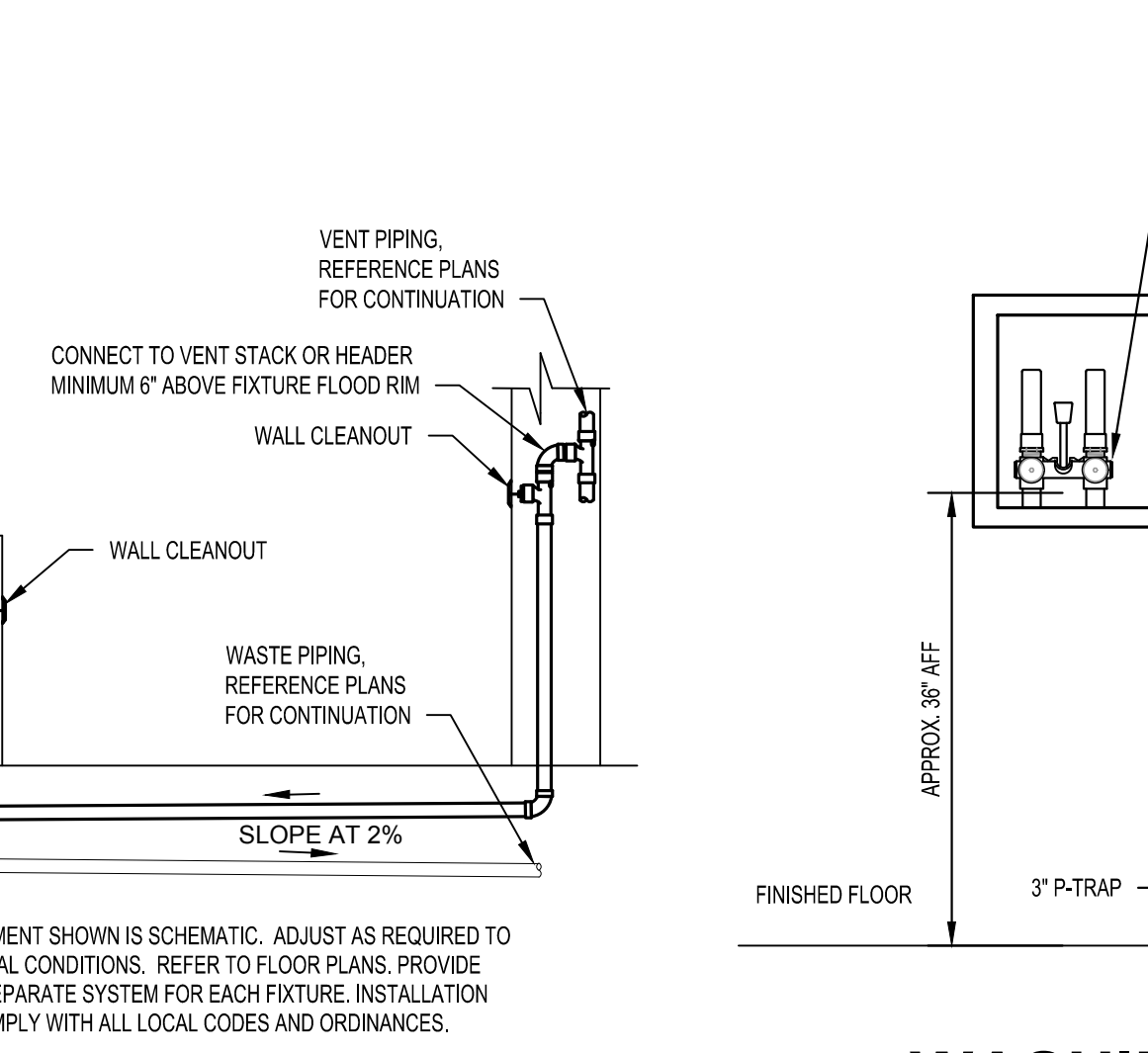
PLUMBING ABBREVIATIONS			
AD	AREA DRAIN, ACCESS DOOR	IE	INVERT ELEVATION
AFC	ABOVE FINISH CEILING	LP	LIQUID PETROLEUM
AFG	ABOVE FINISH GRADE	MBH	1000 BTU PER HOUR
AHU	AIR HANDLING UNIT	N/A	NOT APPLICABLE
BFP	BACKFLOW PREVENTER	ORD	OVERFLOW ROOF DRAIN
BOP	BOTTOM OF PIPE	OST	STORM OVERFLOW
BOS	BOTTOM OF STRUCTURE	PD	PUMP DISCHARGE
CD	CONDENSATE	PIV	POST INDICATOR VALVE
CLEANOUT	CLEANOUT	PRV	PRESSURE REDUCING VALVE
CW	DOMESTIC COLD WATER	REV	REVISION
DD	DECK DRAIN	RPM	REVOLUTIONS PER MINUTE
DN	DOWN	RTU	ROOF TOP UNIT
ETR	EXISTING TO REMAIN	SAN	SANITARY
EWIC	ELECTRIC WATER COOLER	SCW	SOFT DOMESTIC COLD WATER
FCD	FLOOR CLEANOUT	SHW	SOFT DOMESTIC HOT WATER
FFA	FROM FLOOR ABOVE	SHWR	SOFT RECIRC. HOT WATER
FP	FIRE PROTECTION	ST	STORM
FS	FLOOR SINK	TA	TO FLOOR ABOVE
G	GAS (NATURAL)	TB	TO FLOOR BELOW
GCD	GRADE CLEANOUT	TW	TEMPERED WATER
GPM	GALLONS PER MINUTE	UH	UNIT HEATER
HB	HOSE BIBB	V	VENT PIPE
HW	DOMESTIC HOT WATER	VTR	VENT THROUGH ROOF
HWR	HOT WATER RETURN	WCO	WALL CLEANOUT
HWS	HOT WATER SUPPLY	WH	WALL HYDRANT

PLUMBING SYMBOLS			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	GATE VALVE		FLOOR DRAIN / AREA DRAIN
	CHECK VALVE		FLOOR SINK
	PRESSURE		ROOF DRAIN
	SOLENOID VALVE		OVERFLOW ROOF DRAIN
	GLOBE VALVE (STRAIGHT PATTERN)		HOT WATER RECIRCULATION PUMP
	BUTTERFLY VALVE		PLUMBING VENT THRU ROOF
	BALL VALVE		POINT OF CONNECTION (CONNECT NEW TO EXISTING)
	GAS COCK		PLUMBING EQUIPMENT DESIGNATION
	PLUG VALVE		PLUMBING RISER OR DETAIL DESIGNATION
	FLOOR CLEAN OUT		SANITARY SEWER PIPING
	WALL CLEAN OUT		STORM SEWER PIPING
	CLEAN OUT		VENT PIPING
	HOSE BIBB		VENT PIPING (BELOW SLAB)
	FREEZE PROOF WALL HYDRANT		COLD WATER PIPING
	SHOWER HEAD		HOT WATER PIPING
	ELBOW DOWN		COLD WATER PIPING (BELOW SLAB)
	ELBOW UP		HOT WATER PIPING (BELOW SLAB)
	TEE UP		HOT WATER RECIRCULATING PIPING
	TEE DOWN		FILTERED WATER PIPING
	STRAINER		GAS PIPING
	UNION		CONDENSATE PIPING
	REDUCER		
	CAP		
	FLEX PIPE		

PLUMBING FIXTURE SCHEDULE								
TAG	MANUFACTURER	MODEL	DRAIN	VENT	COLD WATER	HOT WATER	ELECTRICAL REQUIREMENTS	DESCRIPTION
BFP	WATTS	LF009-QTS			2"			REDUCED PRESSURE ZONE ASSEMBLY WITH QUARTER-TURN BALL VALVES AND STRAINER.
EWC	ELKAY	LZSTLBWSSK	2"	1-1/2"	1/2"		115V 5A	B-LEVEL WATER COOLER WITH BOTTLE FILLING STATION.
FCO	SIOUX CHIEF	834-4ANR	4"	---	---	---		FLOOR CLEANOUT ABS BODY AND NICKEL-BRONZE COVER.
FD	SIOUX CHIEF	832-25ANR	2"	2"	---	---		ADJUSTABLE FLOOR DRAIN WITH GRAY ABS BODY AND ROUND NICKEL-BRONZE STRAINER.
FHB	WOODFORD	B85	---	---	3/4"	---		AUTOMATIC DRAINING, FREEZELESS RECESSED BOX WALL HYDRANT WITH SINGLE CHECK HOSE CONNECTION ANTI-SIPHON VACUUM BREAKER.
IMB	SIOUX CHIEF	696-G1010WF	---	---	1/2"	---		ICE MAKER BOX, PROVIDE WITH STOP VALVE AND MINI ARRESTER.
HR	REELCRAFT	RS7925 OLP	---	---	3/4"	---		CEILING MOUNTED HOSE REEL.
LV1	AMERICAN STANDARD	9024.004EC	2"	1-1/2"	1/2"	1/2"		DECORUM PORCELAIN WALL-MOUNT LAVATORY WITH 5502.175 FAUCET, PROVIDE WITH ASSE 1070 COMPLIANT MIXING VALVE AND TRUEBRO LAV GUARD 2.
LV2	BRADLEY	TLX-2	2"	1-1/2"	1/2"	1/2"		EXPRESS 2 STATION LAVATORY SYSTEM AND (2) OLYMPIA L-6031 FAUCETS, PROVIDE WITH ASSE 1070 COMPLIANT MIXING VALVE.
SNK	ELKAY	ELUH3220	2"	1-1/2"	1/2"	1/2"	120V-1 PHASE 1/2HP	33"x22" DOUBLE COMPARTMENT STAINLESS STEEL SINK, WITH OLYMPIA K-5020-BN DECK-MOUNTED FAUCET AND PULL OUT SPRAY, PROVIDE WITH IN-SINKERATOR BADGER 5, 1/2HP GARBAGE DISPOSAL.
OI	STRIEM	OS-350-SS	4"	2"	---	---	120V	OIL/WATER SEPARATOR ROTATIONALLY-MOLDED POLYETHYLENE, FLOW RATE 100 GPM, 350 GAL TOTAL CAPACITY WITH 160 RATED PICKABLE CAST IRON COVERS, PROVIDE WITH SLICK STICK OIL LEVEL MONITORING SYSTEM AND RISERS AS REQUIRED. COORDINATE WITH OWNER AND ELECTRICAL CONTRACTOR FOR LOCATION OF ALARM PANEL.
SHR	MAAX	MX QSI-6233-BF	2"	1-1/2"	1/2"	1/2"		1-PIECE ADA SHOWER STALL WITH HORIZONTAL L-SHAPED GRAB BAR, CHROME SLIDE BAR, PRESSURE BALANCE MIXING VALVE AND HAND SHOWER, WITH FOLD-UP SEAT.
WC1	GERBER	GTB20962	3"	2"	1/2"	---		FLOOR MOUNTED FLOOR OUTLET FLUSH TANK WATER CLOSET, ELONGATED BOWL WITH WHITE SOLID PLASTIC SEAT.
WC2	GERBER	GTB30528	3"	2"	1/2"	---		ADA CHAIR HEIGHT FLOOR MOUNTED FLOOR OUTLET FLUSH TANK WATER CLOSET, ELONGATED BOWL WITH WHITE SOLID PLASTIC SEAT.
TD	SIOUX CHIEF	865 SERIES	4"	2"				HYDROTEC MAXI 100 TRENCH DRAIN, FIBER-REINFORCED CONCRETE CHANNEL AND DUCTILE IRON EDGE RAILS, PROVIDE WITH MIDDLE CLASS 360 DUCTILE IRON GRATING.
GWH	A. O. SMITH	BTH-250			1"	1"	120V 5A	GAS FIRED WATER HEATER, 100 GALLON 291 GALLON RECOVERY AT 100 %DF RISE, PROVIDE WITH AMTROL ST-12 THERMAL EXPANSION TANK AND HOLDRITE QUICK STAND WATER HEATER PLATFORM, 250 MBH.
MS	PROFLO	PFMB2424	3"	2"	1/2"	1/2"		MOLDED HIGH-DENSITY COMPOSITE BASIN WITH ZURN Z843M1 FAUCET, 832AA HOSE AND BRACKET, 889CC MOP HANGER BRACKET AND QIC36H QUICK DRAIN CONNECTOR.
TMV	LEONARD	NV-200-LF			1-1/4"	1-1/4"	120V	DIGITAL MIXING VALVE, SET TO 120°F.
RP	BELL & GOSSETT	36-45					115V 1/6HP	LARGE WET ROTOR CIRCULATOR PUMP, CAPABLE OF 12 FEET OF HEAD AT 6 GPM PROVIDE WITH AQUASTAT.
UR	AMERICAN STANDARD	6581.001EC	2"	1-1/2"	3/4"			VITREOUS CHINA WASHOUT URINAL WITH #6045.051.002 FLUSH VALVE, 0.5 GPF, PROVIDE WITH IN-WALL CARRIER.
WMB	SIOUX CHIEF	696-G2313MF	3"	2"	3/4"	3/4"		WASHING MACHINE SUPPLY AND DRAIN BOX, WITH SHUTOFF VALVES AND ARRESTORS.
NOTES: 1. MODELS IN SCHEDULE ARE A BASIS OF DESIGN CONFIRM FINAL FIXTURE MODELS WITH OWNER PRIOR TO PURCHASING. 2. ALL LAVATORIES/SINKS SHALL BE PROVIDED WITH ANTI-SCALD ASSE 1070 COMPLIANT VALVE. 3. PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS. 4. ON ADA LAVATORIES INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS WITH TRU-BRO INSULATION KIT. 5. PROVIDE FLUSH VALVE HANDLE ON WIDE SIDE OF ROOM. 6. FIELD COORDINATE EXACT CONNECTION REQUIREMENTS OF ACTUAL EQUIPMENT SUPPLIED WITH ALL OTHER TRADES TO ENSURE PROPER ROUGH-IN IS PROVIDED.								



4 WASHING MACHINE CONNECTIONS DETAIL  
NOT TO SCALE



1 PIPE AT CONCRETE FOOTING  
NOT TO SCALE

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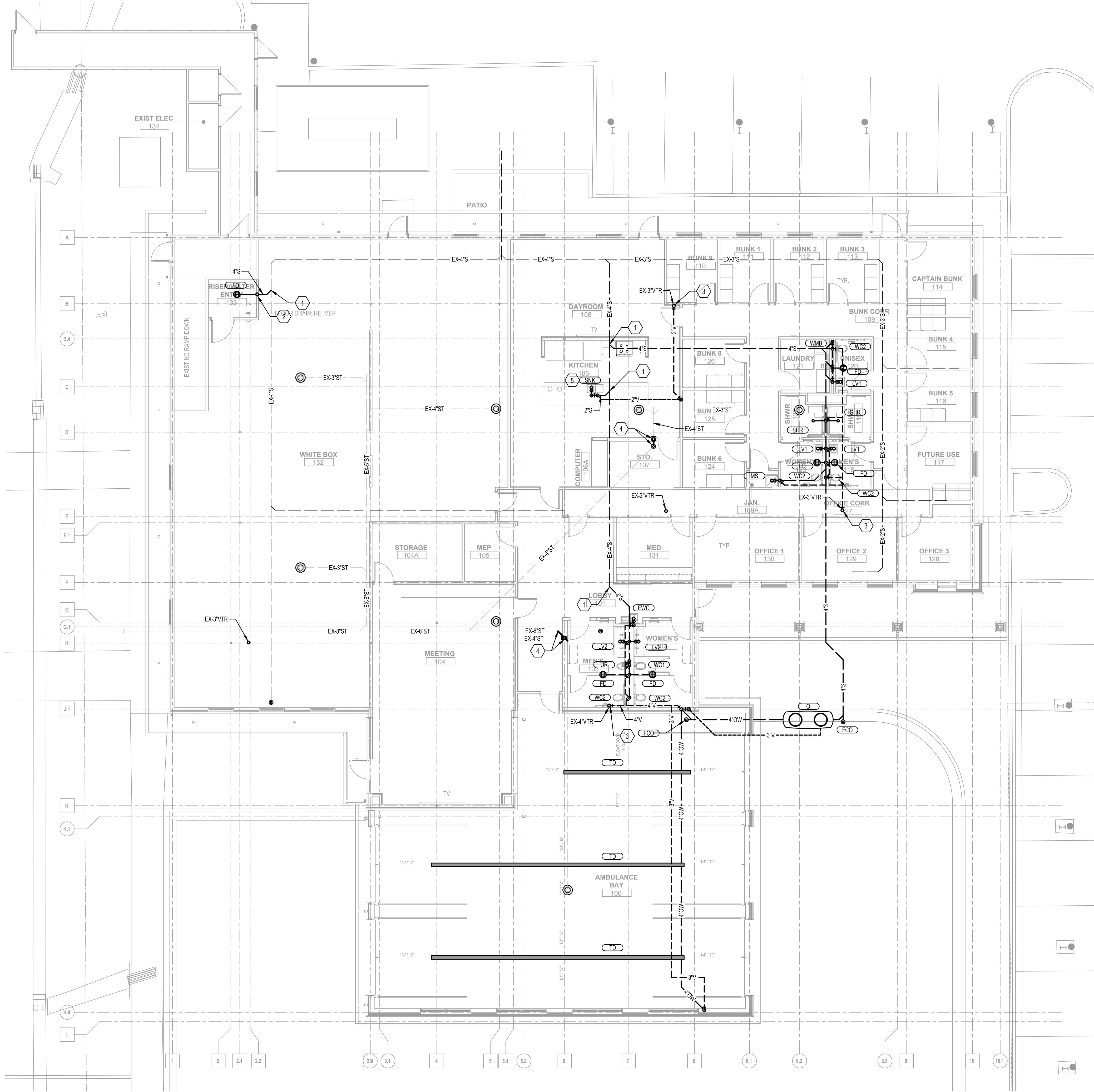
PROFESSIONAL SEAL

P101

ISSUE DATE: 20 JUN 2025  
COLLINS WEBB #: 25016

PLUMBING NOTES, SYMBOLS & ABBREVIATIONS





**1 WASTE & VENT PLAN**  
SCALE: 1/8" = 1'-0"

**GENERAL NOTES**  
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

**KEYED NOTES:** ○

1. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING. FIELD VERIFY EXACT CONNECTION POINT, ROUTING, LINE SIZE, AVAILABLE INVERT AND MATERIAL.
2. 3"V UP TO NEW 3"VTR. COORDINATE FINAL LOCATION WITH ALL NEW AND EXISTING ROOF TOP EQUIPMENT. MAINTAIN A MINIMUM 10' FROM ALL FRESH AIR INTAKES AND 2' FROM ALL VERTICAL SURFACES.
3. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING AND EXISTING VTR. FIELD VERIFY EXACT CONNECTION POINT, ROUTING, LINE SIZE, AND MATERIAL. IF EXISTING VTR CAN NOT BE REUSED INSTALL NEW. COORDINATE FINAL LOCATION WITH ALL NEW AND EXISTING ROOF TOP EQUIPMENT. MAINTAIN A MINIMUM 10' FROM ALL FRESH AIR INTAKES AND 2' FROM ALL VERTICAL SURFACES.
4. RELOCATE EXISTING STORM DROP INTO NEW WALL. RECONNECT NEW STORM DROP INTO EXISTING STORM PIPING IN THIS AREA. FIELD VERIFY EXACT CONNECTION POINT, LINE SIZE, MATERIAL, AND ROUTING.
5. ROUTE DRAIN LINE FROM DISHWASHER TO DISHWASHER CONNECTION FITTING ON GARBAGE DISPOSAL ON SINK.

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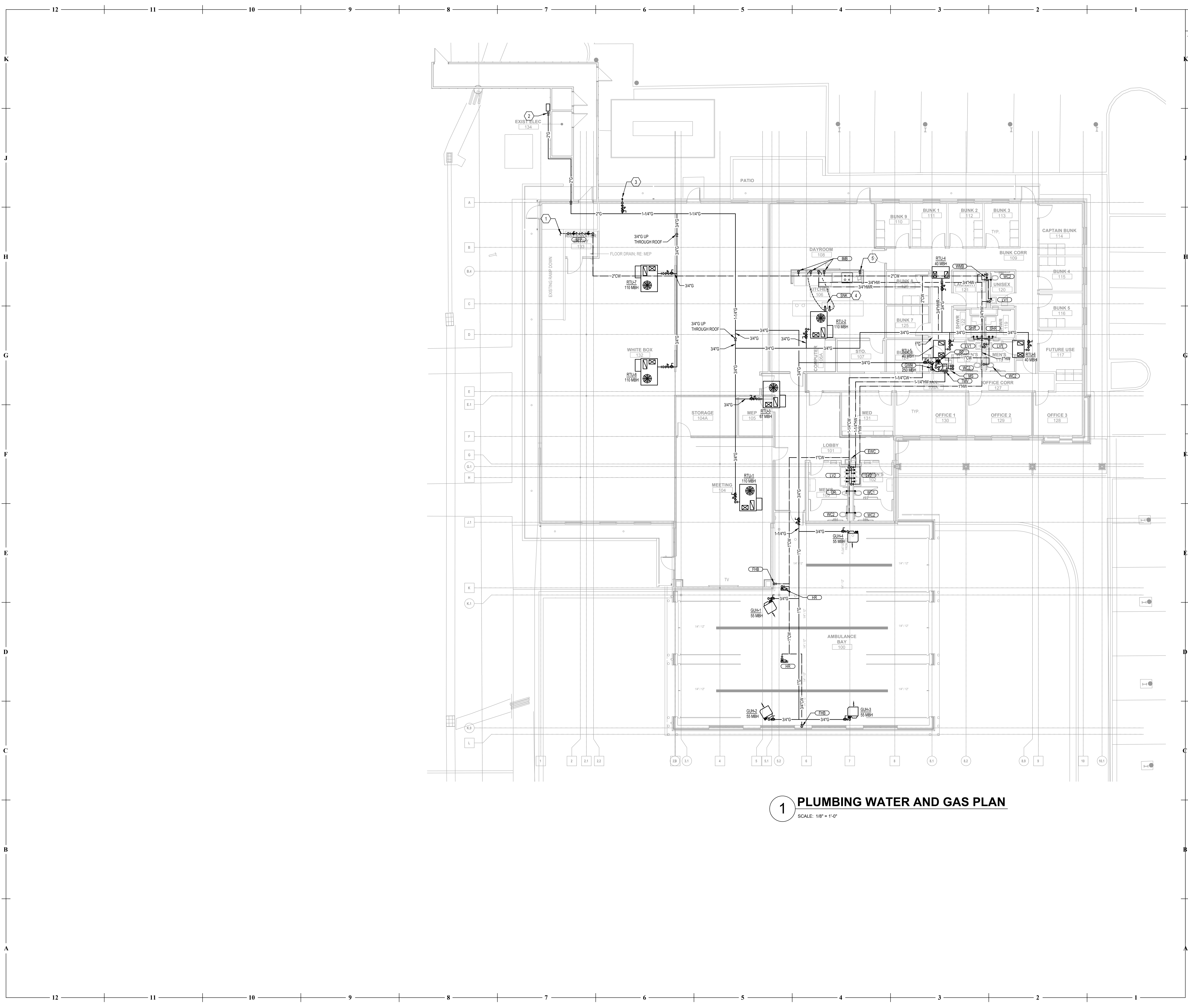
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**PLUMBING WASTE AND VENT PLAN**



PERMIT SET





**1 PLUMBING WATER AND GAS PLAN**  
SCALE: 1/8" = 1'-0"

**GENERAL NOTES**  
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

**KEYED NOTES:**

1. CONNECT INTO EXISTING DOMESTIC WATER ENTRY. ROUTE UNDERSLAB TO NEW WATER ENTRY ROOM. FIELD VERIFY EXACT CONNECTION POINT, LINE SIZE, ROUTING, AND MATERIAL.
2. CONNECT NEW 2" G LINE INTO EXISTING METER. FIELD VERIFY EXISTING METER IS LARGE ENOUGH TO HANDLE NEW TOTAL LOAD. IF EXISTING METER IS FOUND TO NOT BE LARGE ENOUGH COORDINATE WITH GAS UTILITY FOR INSTALLATION OF NEW, NEW SYSTEM SIZED AT 2 PSI WITH REGULATORS AT EACH PIECE OF EQUIPMENT TO LOWER PRESSURE DOWN TO 7" WATER COLUMN (UNLESS NOTED OTHERWISE) WITH A TOTAL GAS LOAD OF 3,087 MBH AND A TOTAL DEVELOPED LENGTH OF 300'.
3. ROUTE 2" G PIPING TO GENERATOR. INSTALL GAS PRESSURE REGULATOR TO LOWER PRESSURE FROM 2 PSI TO 14" WATER COLUMN, 2000 MBH. COORDINATE WITH EXACT GENERATOR PROVIDED FOR ALL REQUIREMENTS.
4. CONNECT WATER CONNECTION OF DISHWASHER INTO HOT WATER SUPPLY OF SINK.
5. 1/2" CW DOWN IN WALL, TURN PIPING OUT OF WALL AND CONNECT TO COFFEE MAKER.



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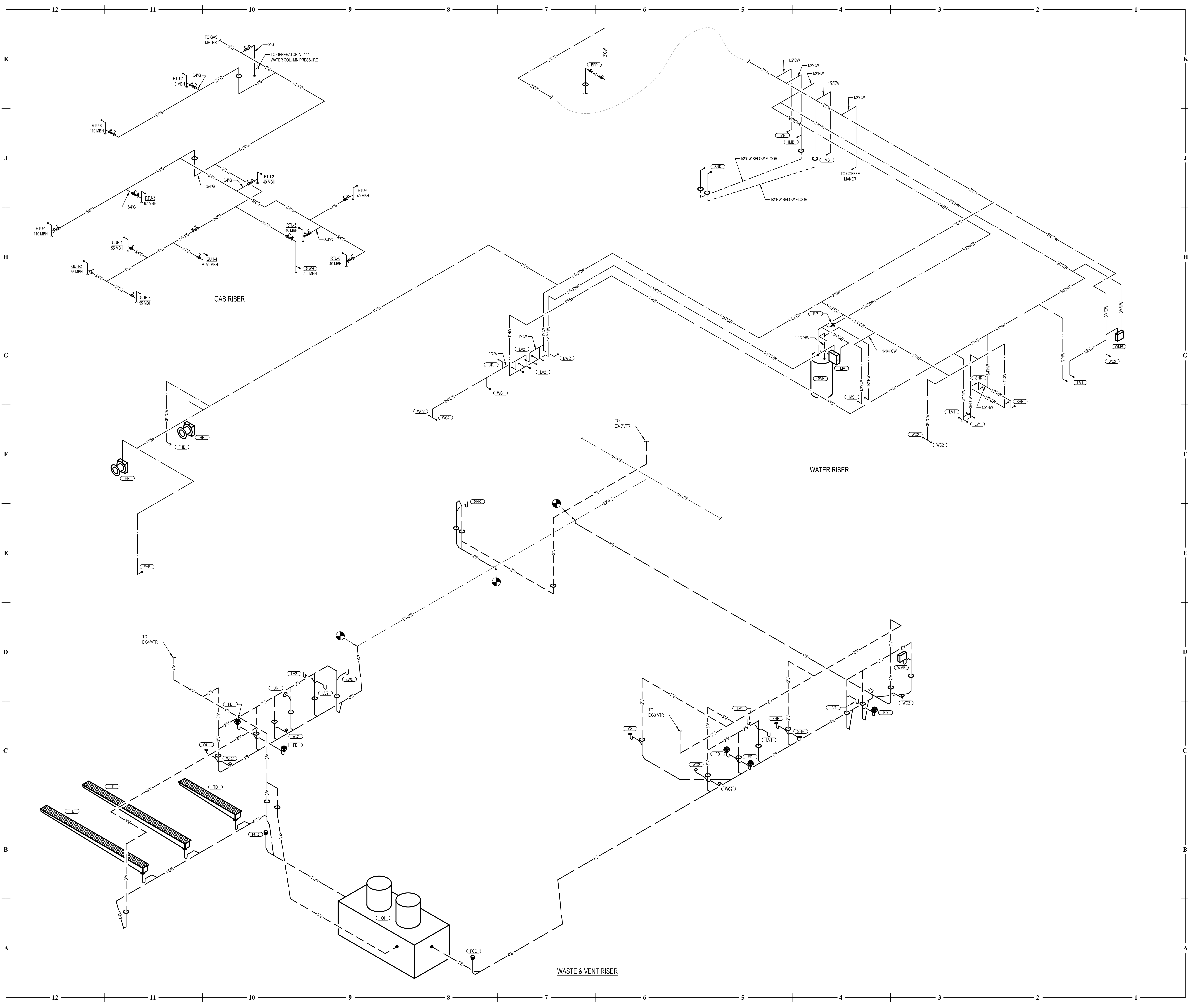
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**P202**

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**PLUMBING WATER AND GAS PLAN**



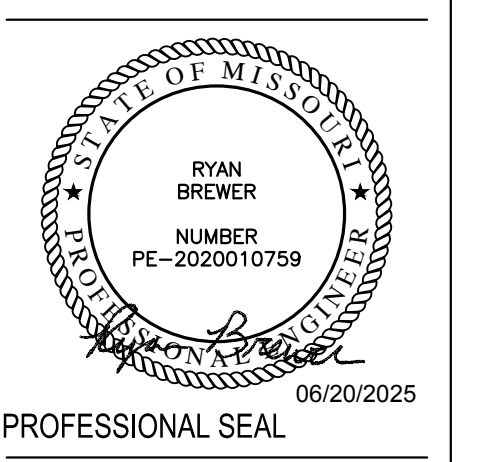


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PLUMBING RISERS



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15400 - PLUMBING WORK

DESCRIPTION  
ALL PLUMBING AND ASSOCIATED WORK IN DIVISION 15 IS GOVERNED BY THIS SECTION. PROVIDE LABOR AND MATERIALS NECESSARY TO PROVIDE THE WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. REFER TO OTHER DIVISIONS FOR CONTINUATION OF EXTERIOR AND ALLIED WORK.

QUALITY ASSURANCE  
OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND CONNECTION FEES REQUIRED BY GOVERNING BODIES IN CONNECTION WITH THE WORK. DELIVER CERTIFICATES OF INSPECTION TO THE OWNER'S REPRESENTATIVE. ALL WORK SHALL COMPLY WITH GOVERNING CODES, ORDINANCES, AND REGULATIONS OF CITY, COUNTY AND STATE.

SUBMITTALS  
SHOP DRAWINGS: SUBMIT MATERIALS, PRODUCTS, EQUIPMENT AND SYSTEMS AS SPECIFIED UNDER EACH PLUMBING SECTION IN THIS DIVISION IN ACCORDANCE WITH THE GENERAL CONDITIONS. SHOW PIPE SIZES, LOCATION, SLOPES OF HORIZONTAL RUNS, FITTINGS, VALVES, METERS, GAGES AND CONNECTIONS.

PRODUCT DATA: SUBMIT ON MATERIALS, FIXTURES, AND EQUIPMENT UNLESS OTHERWISE SPECIFIED OR ACKNOWLEDGED IN WRITING.

SAMPLES: SUBMIT WHEN SPECIFIED OR REQUESTED.

RECORD DOCUMENTS  
REFER TO GENERAL CONDITIONS FOR REQUIREMENTS CONCERNING RECORD DOCUMENTS. ADDITIONAL REQUIREMENTS MAY BE SPECIFIED IN DIVISION 1. UNLESS SEPARAS OF THE DRAWINGS ARE TO BE FURNISHED BY THE ARCHITECT-ENGINEER FOR PREPARATION OF RECORD DRAWINGS, FURNISH OWNER'S REPRESENTATIVE WITH TWO SETS OF ACCURATELY MARKED COPIES OF THE DRAWINGS, INSTEAD OF ONE SET AS REQUIRED BY THE GENERAL CONDITIONS, INDICATING ALL CHANGES FROM ORIGINAL DRAWINGS AS INSTALLED.

PRODUCT HANDLING  
PIPE, FIXTURES AND ACCESSORIES SHALL BE PROTECTED FROM DAMAGE IN SHIPMENT, HANDLING, STORAGE AND INSTALLATION. FROM MOISTURE, DIRT AND DERRIS. PIPE, CLEANOUT AND FLOOR DRAIN OPENINGS SHALL BE TEMPORARILY PLUGGED WITH TEST PLUGS UNTIL FINAL CONNECTIONS ARE MADE.

GUARANTEE AND SERVICE  
REFER TO GENERAL CONDITIONS FOR GUARANTEE. WHERE EXTENDED GUARANTEES ARE CALLED FOR, FURNISH THREE COPIES TO BE INSERTED INTO OPERATION AND MAINTENANCE MANUALS.

GENERAL  
PLUMBING SYSTEMS SHALL BE PROVIDED COMPLETE. SHOULD A SYSTEM, OR ANY PART THEREOF FAIL TO MEET PERFORMANCE REQUIREMENTS, NECESSARY REPLACEMENTS, ALTERATIONS OR REPAIRS, AS REQUIRED BY THE OWNER'S REPRESENTATIVE, SHALL BE MADE TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS AND ALL BUILDING CONSTRUCTION AND FINISHES DAMAGED OR MARKED BY SUCH REPLACEMENTS, ALTERATIONS OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITION, AT NO ADDITIONAL COST TO THE OWNER.

WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.

INSERTS, PIPE SLEEVES, HANGERS, SUPPORTS, FIXTURES, TRIM DRAINS AND ANCHORAGE OF PLUMBING SHALL BE PROVIDED AS SPECIFIED HEREIN. WHERE SUCH ITEMS ARE TO BE SET OR EMBEDDED IN CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE FURNISHED AND LAYOUT MADE AT THE PROPER TIME FOR THE SETTING OR EMBEDMENT THEREOF SO AS TO CAUSE NO DELAY IN THE WORK.

MANUFACTURER'S NAMES AND CATALOG NUMBERS  
SPECIFIED REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURERS' NAMES AND MODEL OR CATALOG NUMBERS. THIS DOES NOT NECESSARILY INDICATE THAT THE MATERIAL AND EQUIPMENT SPECIFIED IS AN "OFF THE SHELF" ITEM. REQUIREMENTS FOR SPECIFIC FINISHES, MATERIAL OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURERS' STANDARDS. MODIFICATIONS SHALL BE FULLY CONSIDERED.

CHARTS AND TAGS  
IN AREAS HAVING VALVES, PROVIDE SINGLE LINE DIAGRAMS FRAMED UNDER GLASS AND MOUNTED ON EQUIPMENT ROOM WALL. THE DIAGRAMS SHALL GIVE NAME, NUMBER DESIGNATION AND LOCATION OF VALVE.

VALVES SHALL BE IDENTIFIED WITH 1/16 INCH THICK WHITE LAMINATED PLASTIC NAMEPLATES WITH 3/16 INCH HIGH BLACK LAMINATED LETTERS. THE NAMEPLATE IDENTIFICATION SHALL COINCIDE WITH ITEMS APPEARING ON DIAGRAMS. ATTACH NAMEPLATES TO VALVES WITH NON-CORROSIVE CHAIN OR WIRE.

ACCESS DOORS  
PROVIDE ACCESS DOORS AS INDICATED AND SPECIFIED IN DRAWINGS

INSTALLATION AND WORKMANSHIP  
THE WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY MATERIAL, APPARATUS OR EQUIPMENT WHICH, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, IS IMPROPERLY INSTALLED SHALL BE REMOVED AND REINSTALLED IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER.

THE LOCATION OF PLUMBING PIPING SHALL BE COORDINATED TO ENSURE THAT IT CLEARS OPENINGS AND STRUCTURAL MEMBERS, THAT PIPING INDICATED AS CONCEALED CAN BE PROPERLY CONCEALED IN WALLS OR PARTITIONS AND THAT IT DOES NOT INTERFERE WITH LIGHTS, DUCTWORK OR EQUIPMENT HAVING FIXED LOCATIONS, MAKE NECESSARY HORIZONTAL OR VERTICAL OFFSETS WITH PIPE FITTINGS TO INSTALL THE SYSTEM IN THE AVAILABLE SPACE. CONCEAL OR INSTALL TIGHT TO STRUCTURE (IF EXPOSED) UNLESS OTHERWISE NOTED.

PIPING SHALL BE EXPOSED IN FINISHED AREAS ONLY WHERE INDICATED OR WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

WHERE DRAIN OR WATER CONNECTIONS NECESSARY TO THE OPERATION OF FIXTURES OR EQUIPMENT ARE NOT SPECIFICALLY SHOWN ON DIAGRAMS, EXTEND NECESSARY BRANCHES TO THE CLOSEST INDICATED BRANCH OR MAIN, AT NO ADDITIONAL COST TO THE OWNER.

EACH FIXTURE, EQUIPMENT DRAIN OR FLOOR DRAIN SHALL BE SEPARATELY TRAPPED UNLESS OTHERWISE INDICATED OR SPECIFIED.

PLUMBING PIPING AND EQUIPMENT SHALL NOT BE FIELD PAINTED, OR PRIMED BEYOND THE DEGREE OF APPLICATION FROM THE FACTORY SOURCE, OR EXCEPT AS REQUIRED BY APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.

WATERPROOFING  
DO NOT CUT OR PENETRATE WATERPROOFED SURFACES OR WATERPROOFING MEMBRANES WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY THE OWNER'S REPRESENTATIVE.

ACCESS DOORS  
INSTALL AS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF VALVES, EQUIPMENT AND LIKE ITEMS. DOORS SHALL BE CONVENIENTLY LOCATED AND OF SUFFICIENT SIZE.

PIPING PROVISIONS FOR FIXTURES AND EQUIPMENT SPECIFIED IN OTHER SECTIONS OR FURNISHED BY THE OWNER  
ROUGH IN LOCATIONS SHALL BE DETERMINED FOR SERVICES. PROVIDE ALL NECESSARY PLUMBING SERVICES, ACCESSIBLE VALVES ON PLUMBING BRANCHES AND MAKE ALL FINAL CONNECTIONS.

PLUMBING OPERATION AND MAINTENANCE MANUALS

DESCRIPTION  
FURNISH TWO COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE OWNER'S REPRESENTATIVE, FOR APPROVAL AND FOR THE OWNER, ON PLUMBING EQUIPMENT AND SPECIALTIES. THE MANUAL SHALL BE BOUND IN HARD-BACK, THREE-RINGS LOOSE-LEAF BINDERS.

MANUAL CONTENTS  
TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTOR AND MATERIAL AND EQUIPMENT SUPPLIERS.

INDEX OF CONTENTS  
TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNER'S PERSONNEL DESCRIBING HOW TO OPERATE EACH PIECE OF EQUIPMENT, AND CAUTION AND WARNING NOTICES.

APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF PLUMBING, EQUIPMENT SPECIFIED IN DIVISION 15.

COPIES OF CERTIFICATES OF INSPECTION, WHERE INSPECTION IS REQUIRED, GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVERY  
DELIVER THE MANUALS TO THE OWNER'S REPRESENTATIVE PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT.

PLUMBING PIPING

DESCRIPTION  
FURNISH AND INSTALL PLUMBING PIPING WHERE SHOWN ON DRAWINGS AND AS SPECIFIED.

PIPING MATERIALS

- OPTIONS
1. CAST IRON HUBLESS SANITARY PIPE AND FITTINGS: CISPI STD. 301.
  2. CAST IRON SOIL PIPE AND FITTINGS, SERVICE WEIGHT: ASTM A 74.
  3. CAST IRON SOIL PIPE AND FITTINGS, EXTRA HEAVY WEIGHT: ASTM A 74.
  4. STEEL PIPE: ASTM A 53.
  5. MALLEABLE IRON FITTINGS, 150 LB.: ASTM A 197.
  6. PIPE THREADS: ANSI B2.1.
  7. NIPPLES, PIPE (THREADED): FED SPEC. WW-N-351.
  8. COPPER WATER TUBE: ASTM B 88.
  9. WROUGHT COPPER AND BRONZE SOLDER-JOINT PRESSURE FITTINGS: ANSI B16.29.
  10. WROUGHT COPPER AND WROUGHT COPPER ALLOY SOLDER-JOINT DRAINAGE FITTINGS: ANSI B16.29.
  11. CALCULING LEAD: FED. SPEC. QQ-C-40 (2).
  12. SHEET LEAD: FED. SPEC. QQ-C-401.
  13. SHEET COPPER: ASTM B 152.
  14. NO-HUB STAINLESS STEEL COUPLING AND GASKETS: CISPI STD. S-301.
  15. WHERE ACCEPTABLE BY LOCAL AUTHORITY HAVING JURISDICTION SOLID WALL ASS PIPING MAY BE USED FOR WASTE PIPING.
  - 15A. PVC/ABS PIPING CANNOT BE USED IN RETURN AIR PLENUM APPLICATION.

JOINTS AND CONNECTIONS

- OPTIONS
1. CAST IRON, HUB AND SPIGOT: PACKED WITH OAKUM AND FINISHED WITH LEAD NOT LESS THAN 1 INCH DEEP, WELL CAULKED.
  2. CAST IRON, NO-HUB: NEOPRENE GASKET AND CORRUGATED 304 STAINLESS STEEL SHIELD IN CONJUNCTION WITH 4 STAINLESS STEEL CLAMPS FOR 4" AND SMALLER, 6 CLAMPS FOR 6" AND LARGER.
  3. BETWEEN LEAD AND BRASS: FERRULES OR SOLDERING NIPPLES WITH WIPED JOINTS 3/8" THICK AND 3/4" EACH SIDE OF JOINTS.
  4. SCREWED JOINTS: AMERICAN NATIONAL STANDARD WITH PIPE FREE FROM CUTTING AND BURRS. THREE THREADS EXPOSED MAXIMUM.
  5. SOLDERED JOINTS: 95-5 TIN-ANTIMONY SOLDER, SLP JOINTS. USE FOR PLUMBING TRAP SEALS ON INLET SIDE ONLY.
  6. BETWEEN COPPER AND FERROUS MATERIALS: INSULATING DIELECTRIC UNION.
  7. FLANGED JOINTS: FURNISH WITH COMPANION FLANGE AND CLOTH INSERTED RUBBER GASKET.
  8. FLANGED BOLTS: ASTM A 354, MINIMUM GRADE 80. ALLOY STEEL WITH HEX NUTS IN COMPLIANCE WITH ANSI B 18.22 AND STANDARD ROLLED STEEL WASHERS.
  9. ASSEMBLY FOR HUBLESS PIPING: AS RECOMMENDED BY THE MANUFACTURER.
  10. CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCERS, INCREASES OR REDUCING FITTINGS. BUSHINGS WILL NOT BE PERMITTED.

INSTALLATION  
BEFORE INSTALLING PIPE IN ANY PART OF THE SYSTEM, THE PIPE SHALL BE CLEANED INSIDE AND MADE FREE OF OIL, DIRT, AND FOREIGN MATTER. PROPERLY ALIGN AND INSTALL IN NEAT ARRANGEMENT, TRUE TO THE LINES OF THE BUILDING, PITCH LINE AT A CONSTANT SLOPE FOR PROPER DRAINAGE.

EXCEPT AS NOTED OTHERWISE ON DRAWINGS, PIPING SHALL BE HELD AS HIGH AS POSSIBLE, BETWEEN STRUCTURES AND THROUGH JOIST WEBBING, WITH DUE REGARD TO CONFLICTS WITH OTHER SYSTEMS AND THEIR REQUIREMENTS FOR SPACE.

PIPING, INCLUDING NO-HUB PIPING, SHALL BE INSTALLED STRAIGHT AND TRUE TO VERTICAL AND HORIZONTAL LINES. DEFLECTION SHALL NOT EXCEED ONE DEGREE. WHEN NECESSARY TO ACHIEVE THIS ALIGNMENT PROVIDE ADDITIONAL HANGERS OR BRACING.

APPLY LUBRICANT TO SCREW JOINT MALE THREADS.

METAL TO BE SOLDERED SHALL BE CLEANED AND FLUXED AS SUITABLE FOR THE SOLDER USED.

NOTHING OF COPPER TUBING OR PLASTIC PIPING FOR CONNECTIONS WILL NOT BE PERMITTED.

PLUMBING SPECIALTIES

PIPE SLEEVES  
SCHEDULE 40 BLACK STEEL, GALVANIZED 26 GAGE STEEL, PROVIDE FOR ALL PIPES THROUGH WALLS AND FLOORS.

ESCUOTCHEONS

PROVIDE FOR ALL PIPING THROUGH WALLS, FLOORS AND CEILING WHERE PIPING IS EXPOSED TO VIEW IN FINISHED AREA. ESCUOTCHEONS SHALL BE CHROMIUM PLATED, TWO PIECE, HINGED WITH SET SCREW.

UNIONS

PROVIDE GROUND JOINT BRASS UNIONS OR FLANGES ON EACH PIPING CONNECTION TO EQUIPMENT.

NECESSARY PLUMBING SERVICES, ACCESSIBLE VALVES ON PLUMBING BRANCHES AND MAKE ALL FINAL CONNECTIONS.

PROVIDE DIELECTRIC UNIONS BETWEEN COPPER AND STEEL PIPING CONNECTION TO EQUIPMENT.

VACUUM BREAKERS  
SHALL CONFORM TO THE REQUIREMENTS OF THE REFERENCED PLUMBING CODE AND SHALL BE PROVIDED FOR HOSE BIBBS, FLOWMETERS AND ANY FIXTURE OR EQUIPMENT WATER SUPPLY HAVING A THREADED OUTLET.

FLASHING  
VENT FLASHING SHALL COMPLY WITH ROOFING MANUFACTURER'S WRITTEN SPECIFICATIONS

CLEANOUTS  
CLEANOUTS ON NO-HUB PIPE SHALL BE STANDARD NO-HUB FITTINGS. CLEANOUTS ON CAST IRON HUB AND SPIGOT PIPING, SHALL BE CADMIUM PLATED. APPROVED MANUFACTURERS: ZURN, JOSAM OR JONESPEC.

TRAP PRIMERS  
PROVIDE WHERE INDICATED ON DRAWINGS. PRECISION PRODUCTS WITH DISTRIBUTION UNIT OR APPROVED EQUAL.

- PIPE SLEEVES
1. EXTEND SLEEVE 1/4 INCH BEYOND FINISHED SURFACE.
  2. SET SLEEVE BEFORE POURING CONCRETE.
  3. PROVIDE CLEARANCE BETWEEN SLEEVE AND PIPE OR BETWEEN SLEEVE AND INSULATION TO ALLOW FOR PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION.
  4. INSULATION SHALL PASS CONTINUOUS THROUGH THE SLEEVE.
  5. CAULK BETWEEN SLEEVE AND PIPE OR SLEEVE AND INSULATION.
  6. ESCUOTCHEONS: FIT AROUND INSULATION WHERE PRESENT. PROVIDE DEEP ESCUOTCHEON PLATES WHERE PIPE SLEEVES EXTEND ABOVE FLOORS.
  7. WATER HAMMER ARRESTERS: INSTALL WHERE SHOWN ON DRAWINGS.
  8. CLEANOUTS: INSTALL WHERE SHOWN ON DRAWINGS AND AT BASE OF ALL RISERS. PROVIDE ADDITIONAL CLEANOUTS WHERE REQUIRED BY LOCAL CODES AND FOR CONVENIENCE OF TESTING AND ERECTION AT CONTRACTOR'S OPTION.
  9. FRAMES AND COVERS SHALL BE FLUSH WITH ADJOINING ARCHITECTURAL FINISH.

PLUMBING VALVES

DESCRIPTION  
INSTALL IN ACCESSIBLE LOCATION.  
VALVES SHALL NOT BE INSTALLED WITH THE STEMS BELOW THE HORIZONTAL POSITION.

VALVES, GATE, 125# UNION BONNET, RISING STEM 3 INCH AND SMALLER:  
1. SCREWED: ITT GRINNELL #3080 OR APPROVED EQUAL.  
2. SOLDER JOINT: ITT GRINNELL #3080 SJ OR APPROVED EQUAL.

VALVES, BALL (MAY BE USED IN LIEU OF GATE VALVES UP TO 2"): 2" AND SMALLER NIBCO #7589, TWO PIECE BRONZE BODY, WITH SCREWED ENDS, CHROME PLATED BRONZE BALL WITH CONVENTIONAL PORT, 400 PSI, BLOW OUT PROOF STEM.

VALVES, GLOBE 150# TEFLON DISC, UNION BONNET 3 INCH OR SMALLER:  
1. SCREWED: ITT GRINNELL #3240 OR APPROVED EQUAL.  
2. SOLDER JOINT: ITT GRINNELL #3240 SJ OR APPROVED EQUAL.

VALVES, CHECK 125# REMOVABLE REGRINDABLE DISC A. 3 INCH AND SMALLER, HORIZONTAL:  
1. SCREWED: ITT GRINNELL #3300 OR APPROVED EQUAL.  
2. SOLDER JOINT: ITT GRINNELL #3300 SJ OR APPROVED EQUAL.

3 INCH AND SMALLER, VERTICAL:  
1. FOR SCREWED AND SOLDER JOINT INSTALLATION, SAME AS SECTION A OR APPROVED EQUAL. PROVIDE ADAPTERS FOR SOLDER JOINT CONNECTION. 2.05 HOSE BIBBS A. SEE FUTURE SCHEDULE ON DRAWINGS. B. PLUG COCKS, 125# BRONZE COCKS. TWO (2) INCH AND SMALLER SHALL BE CRANE NO. 230 OR APPROVED EQUAL.

INSTALLATION  
INSTALL VALVES WHERE SHOWN ON DRAWINGS.

PLUMBING HANGERS AND SUPPORTS

DESCRIPTION  
PROVIDE HANGERS FOR ALL PIPING NOT INDICATED BELOW GRADE. USE HANGERS CAPABLE OF ADJUSTMENT.

HANGERS AND SUPPORTS  
HANGERS FOR BLACK OR GALVANIZED STEEL PIPE SHALL BE GRINNELL, MODEL NO. 65 OR APPROVED EQUAL.

HANGERS FOR CAST IRON PIPE SHALL BE GRINNELL, MODEL NO. 260 OR APPROVED EQUAL.

HANGERS FOR COPPER TUBING SHALL BE GRINNELL, MODEL NO. 97 C OR APPROVED EQUAL.

TRAPEZE HANGERS OF A TYPE APPROVED BY THE OWNER'S REPRESENTATIVE MAY BE USED WHERE PIPES ARE DESIGNED TO RUN PARALLEL AT THE SAME ELEVATION.

PROVIDE ISOLATION HANGER WITH PROTECTIVE SHIELD, GRINNELL, MODEL NO. 300 103 OR APPROVED EQUAL. FOR ALL INSULATED PIPING, AT HANGER POINTS, PROVIDE 6 INCH LONG SECTION OF 1/2 INCH THICK CALCIUM SILICATE SECTIONAL PIPE INSULATION WITH FACTORY LONGITUDINAL LAP. SEAL BUTT JOINTS WITH INSULATING CEMENT.

STRAP HANGERS: NOT PERMITTED.

RISER CLAMPS: PROVIDE RISER CLAMPS FOR VERTICAL PIPING AT EACH LEVEL, GRINNELL MODEL NO. 261

INSERTS: IN CONCRETE, GRINNELL MODEL NO. 285 OR APPROVED EQUAL, HAVING ADJUSTMENT FROM 3/4 INCH THROUGH 1-1/4 INCH. IN METAL DECKS READHEAD 551 OR APPROVED EQUAL. POWDER PROPELLED PERMITTED IN NEW CONSTRUCTION WHERE TYPE AND LOCATION ARE APPROVED PRIOR TO INSTALLATION. IN EXISTING CONSTRUCTION, START SLUGIN NO. 6800 SERIES OR APPROVED EQUAL.

SIDE BEAM CLAMPS: PROVIDE WHEN SUPPORTING FROM STRUCTURAL STEEL MEMBERS, GRINNELL, MODEL 225 OR APPROVED EQUAL.

OTHER SUPPORTS: OBTAIN OWNER'S REPRESENTATIVE APPROVAL FOR OTHER METHODS OF SUPPORT.

SPACING OF HANGERS  
PROVIDE HANGER AT EACH CHANGE OF DIRECTION.

SPACE HANGERS AND SUPPORTS TO PREVENT SAGGING AND REDUCE STRAIN ON VALVES AND SPECIALTIES WITH SPACING NO GREATER AND ROD NO SMALLER THAN SHOWN ON THE FOLLOWING TABLE. HANGERS SHALL ALLOW FOR EXPANSION AND CONTRACTION.

FERROUS PIPING AND COPPER TUBING:			
DIAMETER OF PIPE	MAXIMUM SPACING	ROD SIZE	
1/2" THROUGH 1-1/2"	6 FT.	3/8"	
2" THROUGH 3"	10 FT.	1/2"	
4" THROUGH 6"	12 FT.	5/8"	
6" AND LARGER	16 FT.	3/4" D.	
CAST IRON PIPING:			
DIAMETER OF PIPE	MAXIMUM SPACING	ROD SIZE	
2" AND 3"	EACH JOINT	3/8"	
4" AND 5"	EACH JOINT	1/2"	
6" AND 8"	EACH JOINT	3/4"	
10" THROUGH 15"	EACH JOINT	3/4"	(TWO HANGERS)

RISER CLAMPS  
INSTALL AT EACH LEVEL BELOW THE FLOOR. SUSPEND FROM TWO HANGER RODS AND INSERTS WHERE THE INSTALLATION OF ESCUOTCHEON PLATES IS REQUIRED.

TESTING OF PLUMBING PIPING

DESCRIPTION  
CONDUCT ALL TESTS AFTER PIPING IS INSTALLED AND BEFORE PIPING IS CONCEALED OR COVERED.

PROVIDE ALL NECESSARY TEMPORARY PIPING CLOSURES.

SYSTEMS SHALL REMAIN UNDER TEST FOR SUFFICIENT LENGTH OF TIME TO PROVE TIGHTNESS THEREOF AND FOR ADEQUATE OBSERVATION BY THE ARCHITECT-ENGINEER.

MATERIALS OTHER THAN THOSE SPECIFIED FOR JOINING WILL NOT BE PERMITTED IN THE PIPING SYSTEMS FOR THE PURPOSE OF STOPPING LEAKS.

ALL LEAKS DISCLOSED BY THE TESTING PROCEDURES SHALL BE REPAIRED AND TESTING REPEATED UNTIL THE SYSTEM IS PROVEN TIGHT.

TESTING REQUIREMENTS ARE MINIMUM AND ARE NOT INTENDED TO BE LIMITING WHERE ADDITIONAL TESTING METHODS ARE REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

SUBMITTALS  
STERILIZATION: PROVIDE A DATED LETTER TO THE ARCHITECT-ENGINEERS REPRESENTATIVE STATING THAT PIPING SYSTEM HAS BEEN STERILIZED AND FLUSHED AS SPECIFIED.

PIPING TEST  
DOMESTIC HOT AND COLD WATER PIPING SHALL BE FILLED, THEN TESTED TO A HYDROSTATIC PRESSURE OF 150 PSIG. MAINTAIN TEST PRESSURE FOR A MINIMUM OF ONE HOUR.

SANITARY PIPING, PREVIOUS TO CONNECTION OF FIXTURES, SHALL BE FILLED WITH WATER TO THE TOP OF THE SYSTEM AND PROVEN TIGHT. WHEN TESTING THE SYSTEM BY SECTIONS THE MINIMUM HEIGHT OF THE WATER COLUMN SHALL BE 10 FEET. EXAMINE ALL JOINTS FOR LEAKS.

NEW FIRE STANDPIPE SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 200 PSIG. MAINTAIN TEST PRESSURE FOR A MINIMUM OF TWO HOURS.

GAS PIPING SHALL BE TESTED WITH NITROGEN TO 50 PSIG. PRESSURE SHALL BE MEASURED WITH A MANOMETER. MAINTAIN TEST PRESSURE FOR A MINIMUM OF 30 MINUTES.

STERILIZATION  
AFTER TESTS ARE COMPLETED ALL WATER SUPPLY SYSTEMS SHALL BE FILLED WITH A SOLUTION, CONTAINING 100 PPM OF AVAILABLE CHLORINE AND ALLOWED TO STAND FOR A PERIOD TO TWO HOURS BEFORE BEING FLUSHED WITH CLEAN WATER.

PLUMBING, FIXTURES, TRIM AND DRAINS

MANUFACTURER  
MANUFACTURER SHALL BE AS SCHEDULED OR BY APPROVED EQUAL.

PIPING  
PIPING TO SERVE FIXTURES AND EQUIPMENT AND EXPOSED TO VIEW IN FINISHED AREAS SHALL BE BRASS, CHROMIUM PLATED.

SUPPORTS  
PROVIDE ALL BRACKETS, PLATES, ANCHORS AND FASTENING DEVICES REQUIRED FOR ANCHORING THE FIXTURES RIGIDLY IN PLACE. RISERS TO SHOWER HEADS SHALL BE ANCHORED TO THE WALL CONSTRUCTION TO PREVENT MOVEMENT.

FIXTURES  
PROVIDE PLUMBING FIXTURES AS SCHEDULED ON DRAWINGS, AMERICAN STANDARD, KOHLER, ELJER OR APPROVED EQUAL.

PLUMBING DRAINS  
FURNISH WITH SEEPAGE FLANGE WHERE INSTALLED WITH PANS OR FLASHING, FURNISH CLAMPING RING.

ALL DRAINS SHALL BE OF THE SAME MANUFACTURER.

FURNISH FLOOR DRAINS WITH PRIMER CONNECTIONS WHERE INDICATED ON THE DRAWINGS. IN LIEU OF CAST-IN PRIMER CONNECTIONS ON THE DRAIN BODY, A TEE BETWEEN THE DRAIN BODY AND THE TRAP, TO RECEIVE THE PRIMER DISCHARGE WILL BE ACCEPTABLE.

PROVIDE FLOOR DRAINS WITH 4 INCH DEEP SEAL TRAPS.

PROVIDE ALL DRAINS AS SCHEDULED ON DRAWINGS OR APPROVED EQUAL.

INSTALLATION  
DRAIN SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS; ACCESSIBLE AND LOCATED TO SUIT EQUIPMENT APPROVED FOR INSTALLATION. WHERE FLUSH VALVES ARE SPECIFIED WITH FIXTURES, THE SUPPLY TO THE VALVE IN EACH ROOM SHALL BE AT THE SAME HEIGHT FOR THE TYPE OF FIXTURE AND THE VALVE SHALL BE SET IN PLACE SO THAT THE CENTER LINE OF THE VALVE DISCHARGE IS DIRECTLY ABOVE THE CENTER LINE OF FIXTURE STUD. BENDING OF NIPPLE BETWEEN THE VALVE AND THE STUD TO ACHIEVE CONNECTION WILL NOT BE PERMITTED.

CHROME PLATED PIPING REQUIRING THE USE OF WRENCH SHALL BE PROTECTED FROM DAMAGE.

BOLT WATER CLOSET CARRIER TO FLOOR.

GAS PIPING

PIPING  
SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

PIPE SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE FITTINGS

INSTALLATION  
PIPING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

INSTALL GAS SHUT-OFF AND GAS MANIFOLDS AS INDICATED OR REQUIRED.

DOMESTIC HOT AND COLD WATER

DESCRIPTION  
THE WORK INCLUDES FURNISHING AND INSTALLING HOT AND COLD WATER PIPING AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

PIPING  
HOT AND COLD WATER PIPING SHALL BE COPPER WATER TUBE. HARD TEMPER, TYPE "L" WITH WROUGHT SOLDER FITTINGS ABOVE FLOOR AND SOFT TEMPER TYPE "K" WITH WROUGHT SOLDER FITTINGS BELOW GRADE.

GATE VALVES  
SPECIFIED IN SECTION, PLUMBING VALVES.

INSTALLATION  
NOTCHING OF PIPE FOR CONNECTION NOT PERMITTED.

WHERE POSSIBILITY OF BACKFLOW FROM THE DRAIN TO THE SUPPLY FITTING EXISTS, INSTALL VACUUM BREAKERS.

NOT MORE THAN ONE LAVATORY, SINK, OR SIMILAR FIXTURE SHALL BE SUPPLIED BY A 1/2 INCH BRANCH. LINEAR DIMENSIONS NOT TO EXCEED 5 FEET.

MAKE CONNECTION TO EQUIPMENT AND FIXTURES INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.

HOT WATER BRANCH CONNECTIONS TO DISTRIBUTION MAINS SHALL BE TOP TAKE-OFF, SWING JOINT TYPE.

ALL PIPING INSTALLED BELOW GROUND SHALL RECEIVE TWO COATS OF KOPPERS NO. 50 OR APPROVED EQUAL.

PLUMBING INSULATION

DESCRIPTION  
INSULATION SHALL NOT BE INSTALLED UNTIL TESTING PROCEDURES HAVE BEEN COMPLETED WITH AND ALL SURFACES HAVE BEEN CLEANED AND FREE OF DIRT, GREASE AND COMPLETELY DRIED.

MATERIALS SHALL COMPLY WITH UL 723, FLAME SPREAD RATING, HOT SURFACE TEST PERFORMANCE, AND SMOKE DEVELOPED RATING.

SUBMITTALS  
SAMPLES AND MANUFACTURER'S PRODUCT DATA. SUBMIT SAMPLES OF INSULATION AND ADHESIVE AND PRODUCT DATA LISTING RECOMMENDATIONS FOR USE AND COMPLIANCE WITH NFPA 90.

INSULATION  
INSULATION FOR HOT AND COLD WATER PIPING, SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJ35JSLI OR APPROVED EQUAL, WITH FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET.

INSULATION FOR EXPOSED HOT AND COLD WATER PIPING SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJ35JSLI OR APPROVED EQUAL, WITH FACTORY APPLIED, .016 EMBOSSED ALUMINUM JACKET.

ADHESIVE SHALL BE BENJAMIN FOSTER 30-36, OR APPROVED EQUAL, WHITE INSULATION LAGGING ADHESIVE.

VAPOR BARRIER MASTIC SHALL BE BENJAMIN FOSTER NO. 82-47, WHITE, OR APPROVED EQUAL.

INSTALLATION  
HOT AND COLD WATER PIPING, SHALL BE INSULATED WITH 1/2 INCH THICK GLASS FIBER INSULATION HAVING A FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET WITH A MINIMUM R-4.0 PER INCH, CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED TIGHTLY. SEAL JACKET LEGS AND BUTT JOINT STRIPS WITH ADHESIVE.

INSULATE FITTINGS FOR PIPING UP TO 3 INCHES IPS WITH MOLDED GLASS FIBER. INSULATE FITTINGS FOR PIPING LARGER THAN 3 INCHES WITH MOLDED FITTINGS OR SEGMENTED SECTIONS, WIRED IN PLACE TO THE SAME THICKNESS AS ADJACENT INSULATION. EXPOSED INSULATED PIPING AND FITTINGS SHALL BE JACKETED WITH 6 OUNCE CANVAS PIPING INCLUDING THE FITTING CHANGE FROM HORIZONTAL TO VERTICAL, CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED TIGHTLY. SEAL OFF ENDS OF INSULATION WITH VAPOR BARRIER MASTIC AT EACH FITTING AND AT 21 FOOT INTERVALS ON CONTINUOUS RUNS.

INSTALL THE FACTORY APPLIED FIRE RETARDANT JACKET (VAPOR BARRIER SO THAT IT WILL LAP SMOOTHLY AND SECURELY AT THE LONGITUDINAL LAP AND ADHERE IT WITH VAPOR BARRIER MASTIC. ADHERE 3 INCH WIDE BUTT STRIPS X SMOOTHLY OVER ALL END JOINTS WITH THE VAPOR BARRIER MASTIC TO ASSURE A CONTINUOUS VAPOR BARRIER - NO STAPLES ALLOWED. INSULATE DRAIN BODIES AND FITTINGS WITH METERED SEGMENTS



MECHANICAL ABBREVIATIONS	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
ABV	ABOVE
AC OR ACU	AIR-CONDITIONING UNIT
AHAP	AS HIGH AS POSSIBLE
AHU	AIR-HANDLING UNIT
AUTO	AUTOMATIC
BLW	BELOW
C	CHILLER
CD	CONDENSATE
CF	CABINET FAN
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CHP	CHILLED WATER PUMP
CLNG OR CLG	CEILING
CONC	CONCRETE
CP OR CWP	CONDENSER WATER PUMP
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
CRAC OR CACU	COMPUTER ROOM AIR-CONDITIONING UNIT
CRF	CHILLER ROOM EXHAUST FAN
CRU	CONDENSATE (STEAM) RETURN UNIT
CT	COOLING TOWER CELL
CTU	CONDENSATE (STEAM) TRANSFER UNIT
CJ	CONDENSING UNIT
DV	CONSTANT VOLUME TERMINAL BOX
DEF	DISHWASER EXHAUST FAN
DMPR	DAMPER
DN	DOWN
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EDH	ELECTRIC DUCT-MOUNTED HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
FD	FIRE DAMPER
FCU	FAN-COIL UNIT
FF	FINAL FILTER
FFCH	FORCED-FLOW CABINET HEATER
FFU	FAN FILTER UNIT
FP	FAN POWERED TERMINAL BOX
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HUM	HUMIDIFIER
HWP OR HP	HEATING WATER PUMP
HX	HEAT EXCHANGER
KEF	KITCHEN (GREASE HOOD) EXHAUST FAN
KW	KILOWATTS
LD	LINEAR SUPPLY DIFFUSER
MOT	MOTORIZED
MTD	MOUNTED
MJAF	MAKE-UP AIR FAN
MJAHU	MAKE-UP AIR-HANDLING UNIT
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OPG OR OPNG	OPENING

NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

MECHANICAL ABBREVIATIONS	
CONT.	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
PF	PRE-FILTER
PLNM	PLENUM
RA	RETURN AIR
RAF	RETURN AIR FAN
RAG OR RG	RETURN AIR GRILLE
RAR OR RR	RETURN AIR REGISTER
RAS	RETURN AIR SILENCER
RE	IN REFERENCE TO
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SAF OR SF	SUPPLY AIR FAN
SAG OR SG	SUPPLY AIR GRILLE
SAR OR SR	SUPPLY AIR REGISTER
SAS	SUPPLY AIR SILENCER
SCHP	SECONDARY CHILLED WATER PUMP
SD	SMOKE DAMPER OR DETECTOR
SPCHP	SPECIAL PROCESS CHILLED WATER PUMP
TA	THROW AWAY (FILTER TYPE)
TJEF	TRUCK DOCK EXHAUST FAN
TEF	TOILET EXHAUST FAN
TRANS	TRANSITION OR TRANSFER
TYP	TYPICAL
UH	UNIT HEATER
UNQ	UNLESS NOTED OTHERWISE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
V V	VARIABLE VOLUME TERMINAL BOX
WI	WITH
XFMR OR TFMR	TRANSFORMER
XT OR EX	EXPANSION TANK

NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

DUCTWORK LEGEND		
(REFER TO SPECIFICATIONS SECTIONS 15815 AND 15820 FOR ADDITIONAL INFORMATION)		
SINGLE LINE	DESCRIPTION	DOUBLE LINE
	ROUND ELBOW DOWN	
	ROUND ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE. ARROW SLOPES DN, UN.O.)	
	ROUND RADIUS ELBOW	
	90° STRAIGHT TEE	
	90° CONICAL TEE	
	45° LATERAL TAP	
	45° LATERAL CONICAL TEE	
	SIZE OR SHAPE TRANSITION	
	ROUND FLEXIBLE DUCT	
	RECTANGULAR ELBOW DOWN	
	RECTANGULAR ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHERE POSSIBLE. ARROW SLOPES DN, UN.O.)	
	RECTANGULAR RADIUS ELBOW	
	RECTANGULAR ELBOW WITH TURNING VANES	
	SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF TEE WITH STATIONARY SPLITTER DAMPER	
	BRANCH TAKE-OFF WITH 45° LEAD IN TAP	
	INSULATED LINED DUCTWORK (U.N.O.)	
	SQUARE FACED CEILING DIFFUSER 4-WAY DIRECTIONAL THROW (U.N.O.)	
	ROUND FACED CEILING DIFFUSER	
	CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER	
	SIDEALL SUPPLY GRILLE OR REGISTER	
	SUPPLY DUCT RISER	
	RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER	
	MANUAL BALANCING DAMPER	
	AUTOMATIC (MOTOR-OPERATED) DAMPER	
	FIRE DAMPER	
	GRAVITY BACKDRAFT DAMPER	
	COMBINATION FIRE AND SMOKE DAMPER WITH SMOKE DETECTOR	
	SMOKE DAMPER (AUTOMATIC) WITH SMOKE DETECTOR	
	DUCT MOUNTED SMOKE DETECTOR	

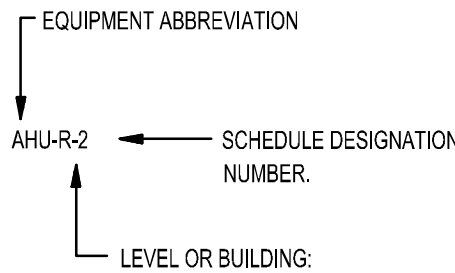
NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

STANDARD MECHANICAL SYMBOLS	
SYMBOL	DESCRIPTION
	GATE VALVE
	BALL VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	ANGLE VALVE
	CHECK VALVE
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	AUTOMATIC CONTROL VALVE (3-WAY)
	AUTOMATIC CONTROL VALVE (ANGLE)
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	THERMOMETER WELL
	TEST PLUG
	FLOW METER
	TEMPERATURE SENSOR
	PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SWITCH
	IMMERSION THERMOSTAT
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	FLOW SWITCH
	ORIFICE
	PIPE SLEEVE THRU WALL OR FLOOR
	EXPANSION JOINT
	FLEXIBLE PIPE JOINT
	PIPE GUIDE
	ANCHOR
	STRAINER (Y-TYPE)
	STRAINER (BASKET TYPE)
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	DIRECTION OF FLOW
	DIRECTION OF SLOPE
	THERMOSTAT
	HUMIDISTAT
	FAN SPEED CONTROLLER
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	CONDENSATE DRAIN

NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

OTHER SYMBOLS	
SYMBOL	DESCRIPTION
	INDICATES CONNECTION TO EXISTING DUCT OR PIPE

### GENERAL EQUIPMENT DESIGNATION KEY:



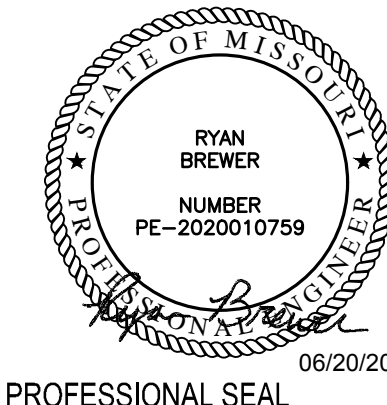
MECHANICAL GENERAL NOTES	
1. PRIOR TO SUBMITTING BID, VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.	
2. COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. DUCTWORK AND PIPING SHALL BE ROUTED TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.	
3. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION DURING WORK. REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO COST TO THE OWNER.	
4. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.	
5. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND SHALL MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AHEAD/LOW CLEARANCE AROUND EQUIPMENT.	
6. REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASES AND PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.	
7. COORDINATE LOCATION OF ROOF PENETRATIONS WITH THE EXISTING CONDITIONS AND ARCHITECTURAL DRAWINGS.	
8. SEAL ALL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS. FIREPROOF ALL PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.	
9. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.	
10. LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE ADJUSTED AS REQUIRED TO ACCOMMODATE FINAL CEILING AND LIGHTING LOCATIONS.	
11. DUCTWORK CROSSING FIRE RATED WALL OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.	
12. PROVIDE FIRE AND/OR FIRE/SMOKE DAMPERS IN DUCTWORK AT CEILINGS AND WALLS AS REQUIRED BY BUILDING CODE AUTHORITY HAVING JURISDICTION. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE.	
13. PROVIDE WALL AND/OR DOOR ACCESS PANELS OR DOORS FOR ACCESS TO ALL FIRE AND/OR FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 6"X6" AND SHALL BE INSTALLED WITH 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR 6"X6" ACCESS DOOR.	
14. THERMOSTATS AND HUMIDISTATS SHALL BE LOCATED AND SET BY MECHANICAL CONTRACTOR AND WIRED IN CONDUIT BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 48" AFF TO MEET ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON PLANS.	
15. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH ANY WALL MOUNTED ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF ANY WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.	
16. ALL BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS, AND GRILLES SHALL HAVE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR AROUND BRANCH DUCT TAKE-OFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT.	
17. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.	
18. RIGID DUCTWORK INSULATION: PROVIDE R-4 MINIMUM INSULATION WRAP ON ALL CONCEALED DUCTWORK. PROVIDE R-6 MINIMUM INTERNAL DUCT LINER ON ALL EXPOSED DUCTWORK. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE DIMENSIONS. SHEET METAL SIZES SHALL INCREASE ACCORDINGLY. PROVIDE R-12 MINIMUM INSULATION ON ALL DUCTWORK INSTALLED IN UNCONDITIONED SPACES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.	
19. FLEXIBLE DUCT WORK SHALL BE THERMAFLEX TYPE MKE, FLEXMASTER TYPE BM, OR APPROVED EQUAL. SHALL BE LISTED UNDER 181 AS CLASS 1 AIR DUCT AND SHALL BE PROVIDED WITH INTEGRAL R-4 MINIMUM FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING.	
20. WALL MOUNTED DIFFUSERS AND GRILLES SHALL BE PROVIDED WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.	

### GENERAL MECHANICAL NOTES:

- REFER TO ARCHITECTURAL PLANS FOR RATED WALLS AND PARTITIONS. VERIFY FIRE AND/OR SMOKE DAMPER LOCATIONS AT DUCTS OR OPENINGS PENETRATING THESE WALLS.
- REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
- VERIFY LOCATIONS OF THERMOSTATS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
- VERIFY LOCATIONS OF EXPOSED DUCTS WITH ARCHITECT PRIOR TO INSTALLATION.
- DUCT DIMENSIONS INDICATED ON PLANS ARE FREE AREA DIMENSIONS.
- SUPPLY AND RETURN AIR DUCT SHALL BE INTERNALLY LINED WHERE SPECIFIED.
- ALL COVER SIZES ON MECHANICAL PLANS ARE GIVEN IN FREE AREA REQUIRED. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS AND LOCATIONS.
- COORDINATE TERMINAL BOX AND BALANCING DAMPER LOCATIONS CAREFULLY TO INSURE PROPER AND ADEQUATE ACCESS TO FILTERS, MOTORS, CONTROL VALVES, CONTROL PANELS, ETC. PROVIDE ACCESS PANELS AS SPECIFIED WHERE REQUIRED TO ASSURE THIS ACCESS.
- CEILING PLENUM SPACE IS VERY TIGHT. WHERE REQUIRED, DUCTS OR PIPES SHALL BE ROUTED BETWEEN LIGHT FIXTURES AND UP AND OVER OTHER DUCTS OR PIPES USING THE SPACES BETWEEN STRUCTURAL JOISTS OR BEAMS WHERE APPLICABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR CAREFULLY COORDINATING ALL TRADES. EXISTING UNKNOWN CONDITIONS MAY AFFECT EXACT DUCT OR PIPE ROUTING, OR EXISTING CONDITIONS MAY NEED TO BE MODIFIED TO ACCOMMODATE DUCTS AND PIPES.

**JKV | EMS BUILDING**  
506 NW MURRAY RD  
LEE'S SUMMIT, MISSOURI 64061

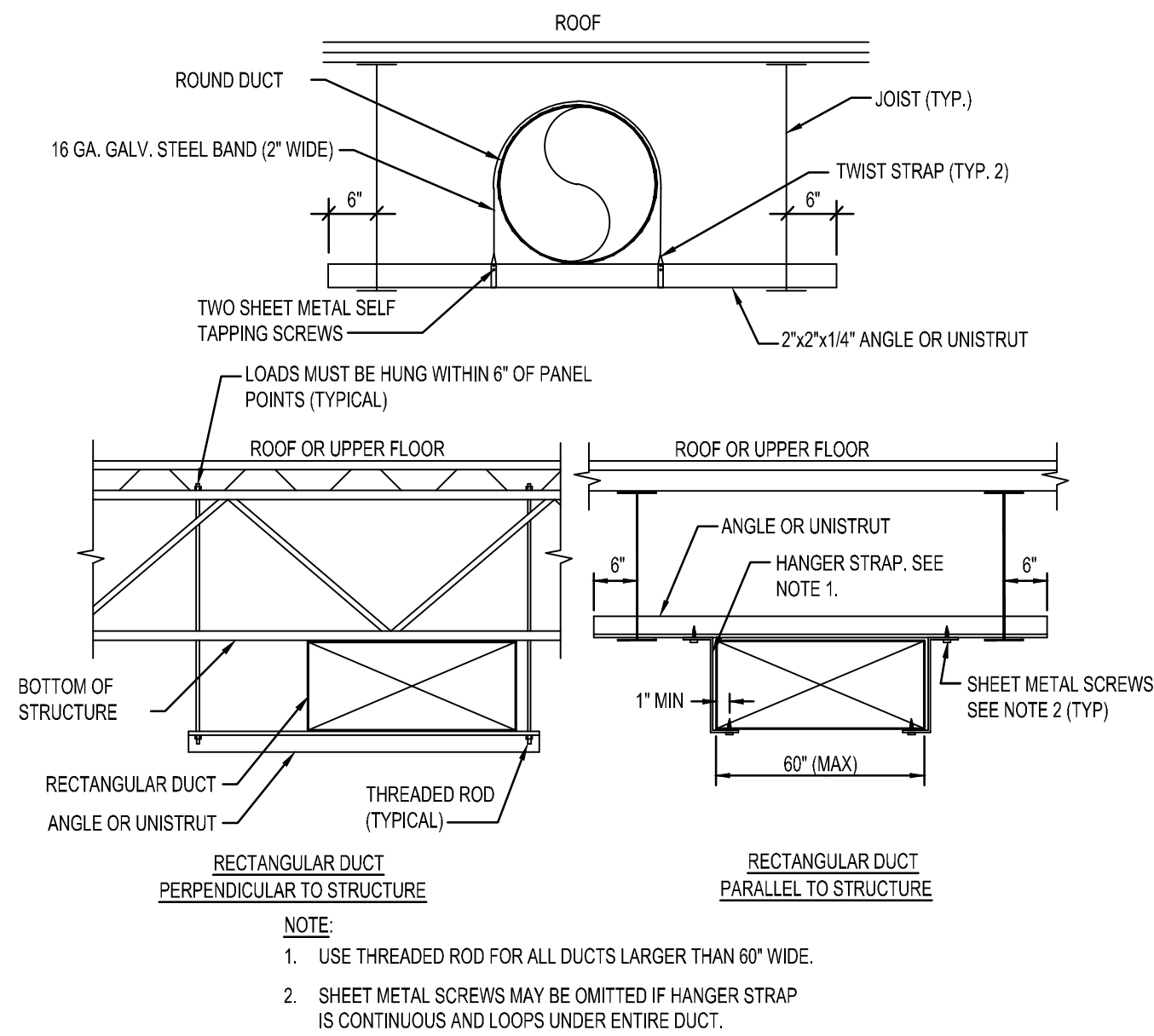
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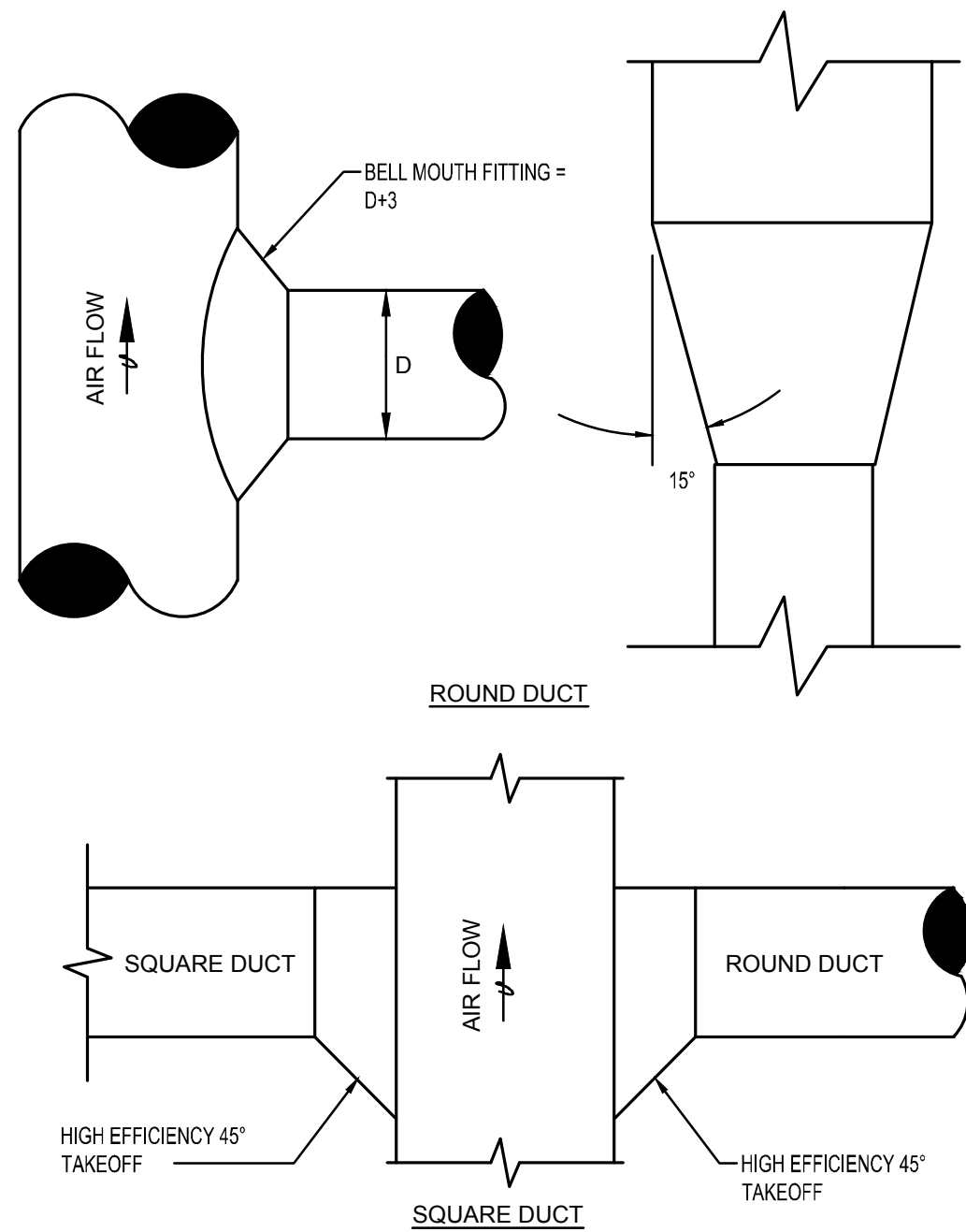
PROFESSIONAL SEAL  
**M101**  
ISSUE DATE: 20 JUN 2025  
COLLINS WEBB #: 25016

MECHANICAL NOTES,  
SYMBOLS & ABBREVIATIONS

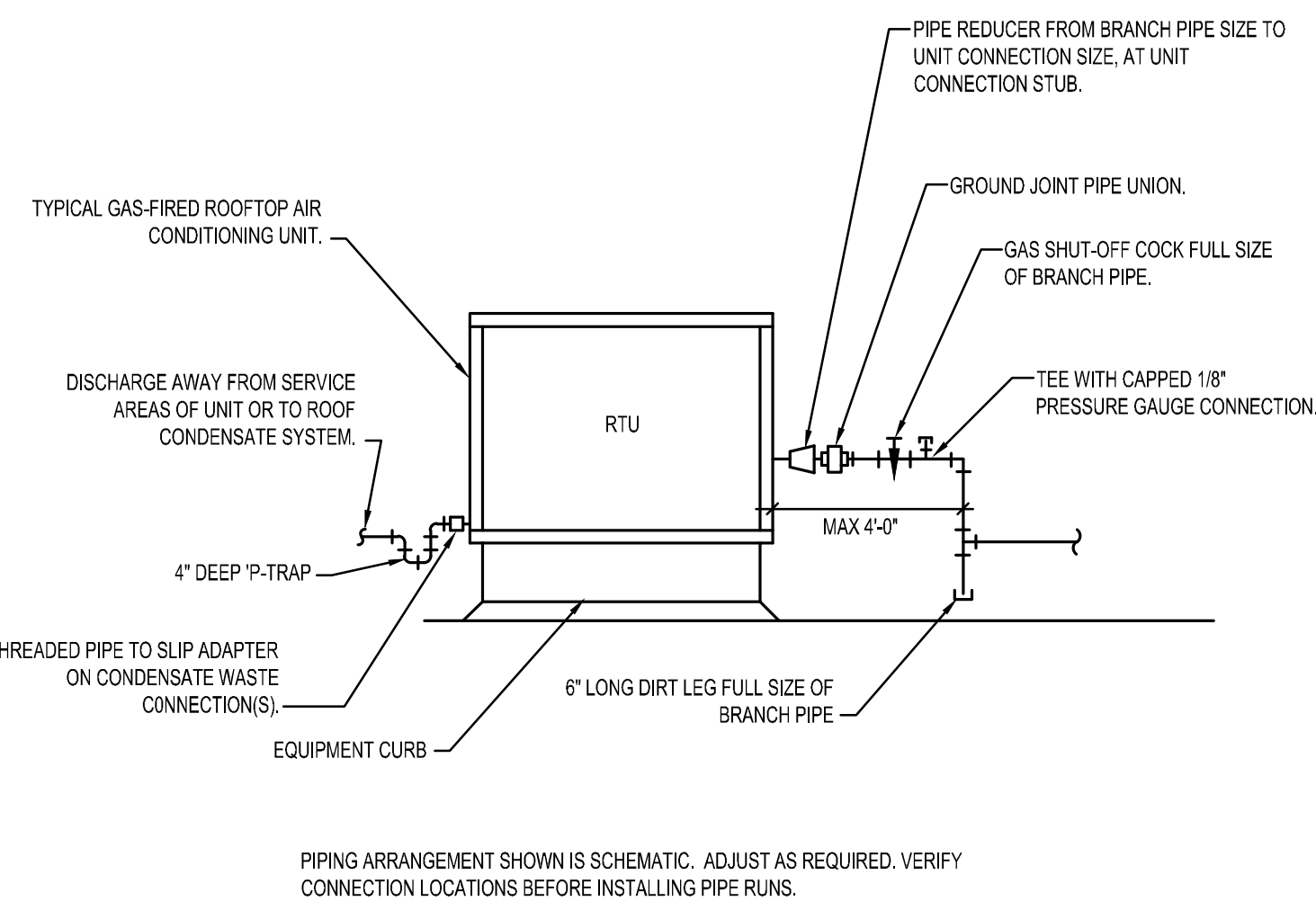




7 DUCT HANGERS AND SUPPORTS  
NOT TO SCALE



4 DUCT TAKEOFFS AND FITTINGS  
NOT TO SCALE



1 RTU PIPING DETAIL  
NOT TO SCALE

## ROOFTOP UNIT SCHEDULE (GAS HEAT)

MARK	MANUFACTURER	MODEL	SERVES	NOMINAL TONNAGE	SUPPLY AIR	MIN OA	SUPPLY FAN			CONDENSER FAN		COMPRESSOR		COOLING COIL		HEATING DATA		ELECTRICAL				WEIGHT (LBS)	NOTES	
							ESP	HP	FLA	QTY	FLA	QTY	RLA	TOTAL MBH	SENSIBLE MBH	EAT (DBWB)	SEER (EER)	INPUT MBH	OUTPUT MBH	V/PH/Hz	MCA			MOCp
RTU-1,2	CARRIER	48FEEA05	MEETING / KITCHEN	4	1800	300	0.8	1	7.1	1	1.5	1	13.4	48.5	35.8	80/67	14.0	110	88	208/3/60	26	30	700	1,2,3,4,5
RTU-3	CARRIER	48FEEA04	OFFICES	3	1200	200	0.8	3/4	5.1	1	1.5	1	12.2	33.4	24.6	80/67	14.0	67	54	208/3/60	22	30	650	1,2,3,4,5
RTU-4,5,6	CARRIER	48VG-E24	BUNK AREAS	2	600-800	100	0.5	1/2	4.1	1	0.7	1	11.7	20.8	16.8	80/67	15.0	40	33	208/1/60	19.4	30	400	1,2,3,4
RTU-7,8	CARRIER	48FEEM07	FUTURE TENANT	8	2400	200	0.8	1.75	5.5	1	1.5	1	18.9	71.7	54.8	80/67	(11.2)	110	88	208/3/60	31	45	850	1,3,4,5,6

NOTES:  
1 EQUIPMENT SIZED FOR AMBIENT TEMPERATURE OF 105°F, SUMMER DB = 97.2°F, WB = 76.4°F, WINTER DB = 5.8°F.  
2 PROVIDE WITH MANUAL OUTDOOR AIR DAMPER.  
3 PROVIDE UNIT WITH 14" HIGH ROOF CURB.  
4 COORDINATE DISCONNECT SIZE WITH ELECTRICAL CONTRACTOR, PROVIDE WITH UNPOWERED CONVENIENCE OUTLET.  
5 UNIT SHALL HAVE REFRIGERANT DETECTION AND MITIGATION SYSTEM COMPATIBLE WITH ASHRAE 15.  
6 PROVIDE WITH DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF AND RETURN AIR SMOKE DETECTOR.

## EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	MOUNTING	VOLUME (CFM)	ESP (IN)	FAN RPM	DRIVE (BELT/DIRECT)	MOTOR HP WATTS	ELECTRICAL VOLTS/PH	WEIGHT (LBS)	NOTE
EF-1,2	GREENHECK	SP-B150	CEILING	100	0.25	706	DIRECT	128	120/1	20	1
EF-3	GREENHECK	SP-B110	CEILING	70	0.25	704	DIRECT	80	120/1	20	1
EF-4,5	GREENHECK	SP-B150	CEILING	140	0.25	959	DIRECT	128	120/1	20	1

NOTES:  
1 PROVIDE WITH BACK DRAFT DAMPER, DISCONNECT SWITCH, AND SPEED CONTROLLER. FAN SHALL BE INTERLOCKED WITH RESTROOM LIGHTS.

## GRILLE, REGISTER, AND DIFFUSER SCHEDULE

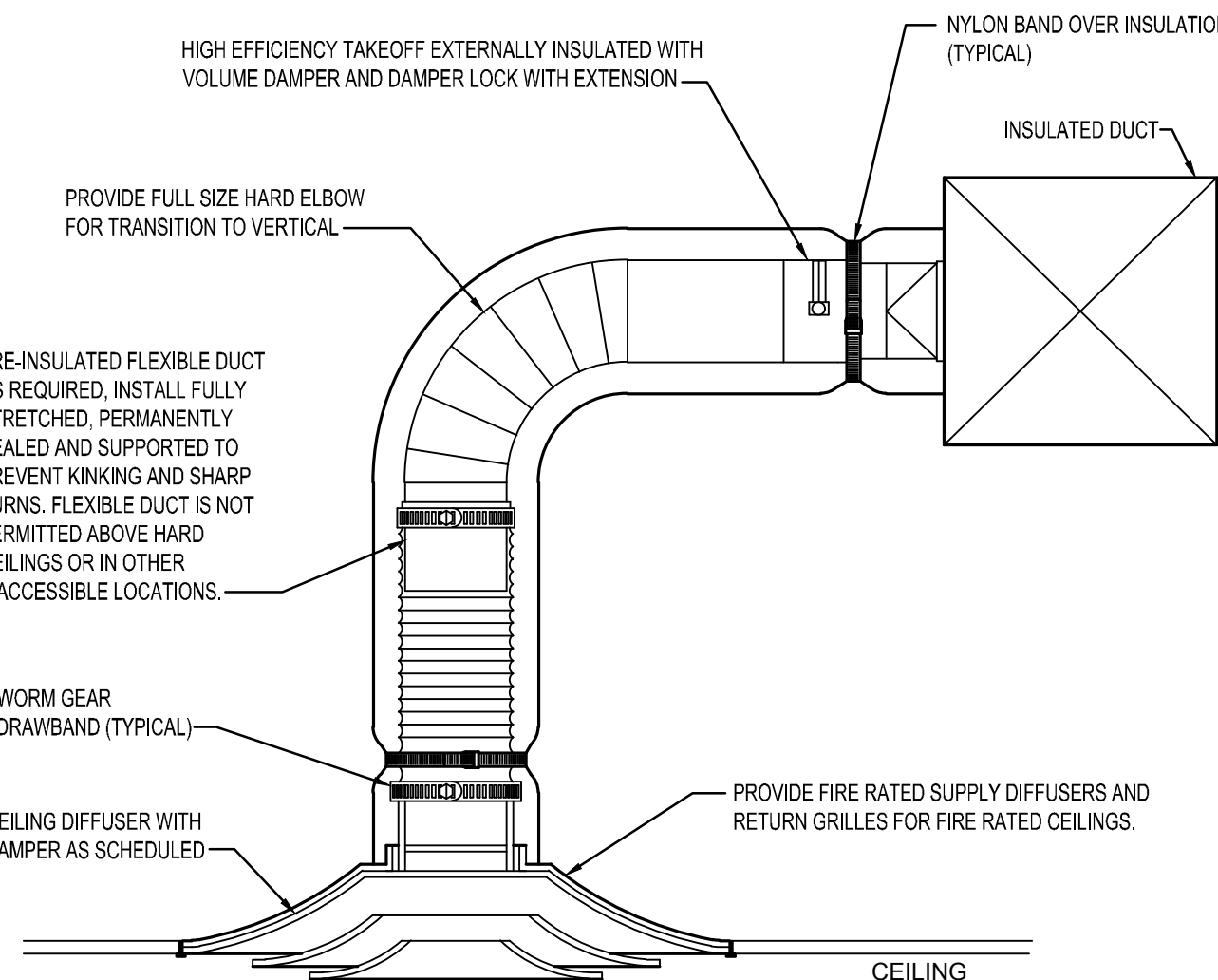
MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	NOTES
SD1	PRICE	SCD	SQUARE CONE	CEILING	24"x24"	1,2,3,4,5,6
RG1	PRICE	80	EGGCRATE	CEILING	24"x12"	1,2,3,5
RG2	PRICE	80	EGGCRATE	CEILING	24"x24"	1,2,3,5

NOTES:  
1 NECK SIZE SHOWN ON DRAWINGS.  
2 BAKED ENAMEL FINISH TO MATCH CEILING COLOR, COORDINATE WITH ARCHITECTURAL PLANS.  
3 PROVIDE NECK FOR DUCT CONNECTION.  
4 BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.  
5 FRAME TYPE TO MATCH CONSTRUCTION OF MOUNTING LOCATION, COORDINATE WITH ARCHITECTURAL PLANS.  
6 PROVIDE VOLUME DAMPER ACCESSIBLE FROM FACE OF DIFFUSER/GRILLE WHEN LOCATED IN HARD CEILING.

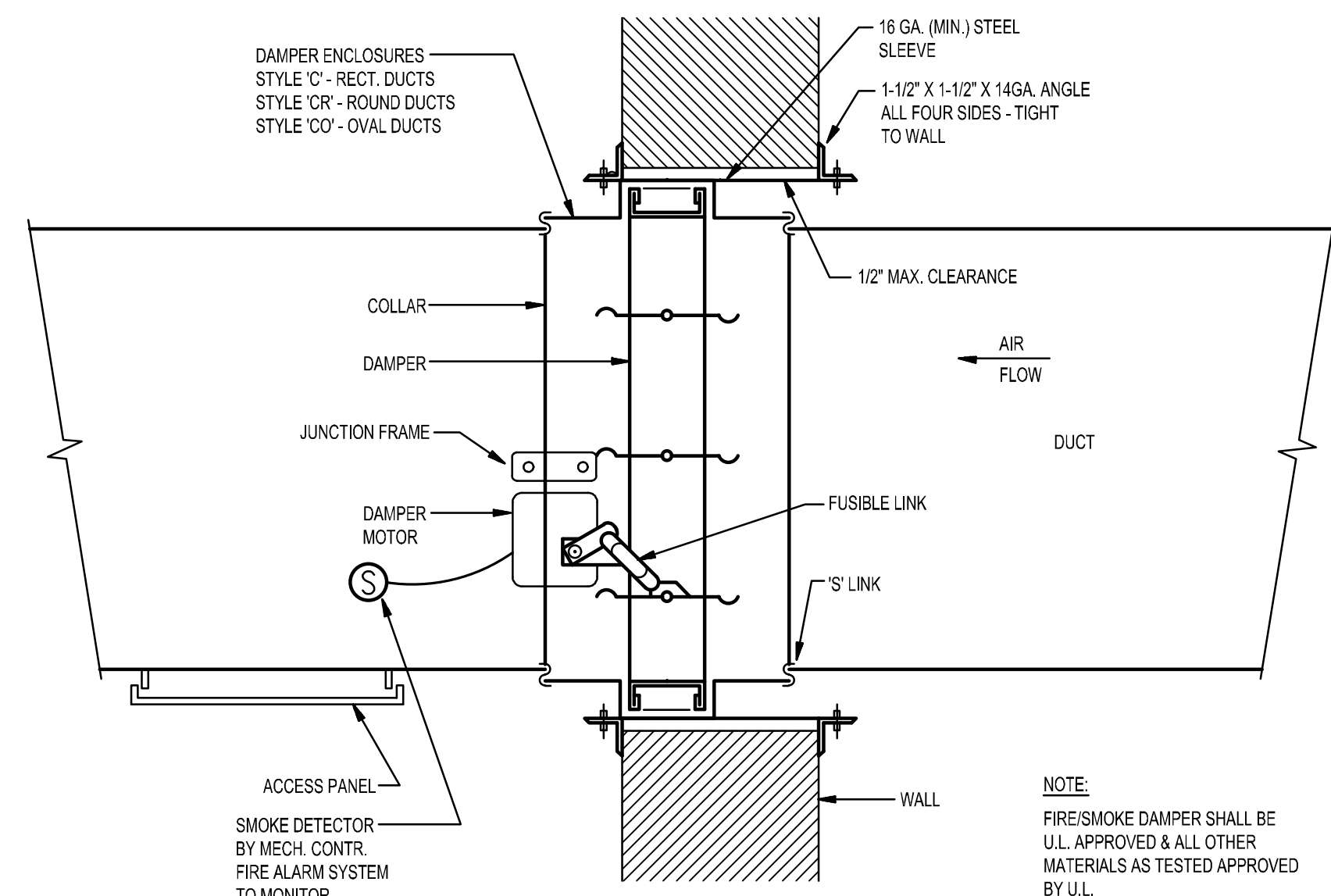
## GAS UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	LOCATION	INPUT (MBH)	OUTPUT (MBH)	AFUE	CFM	WEIGHT	ELECTRICAL				NOTES
									FLA	MOCp	PHASE	VOLTAGE	
GUH-1,2,3,4	REZVOR	UEZ55	AMBULANCE BAY	55.0	51.2	93%	967	125	1.6	15	1	120	1,2,3,4

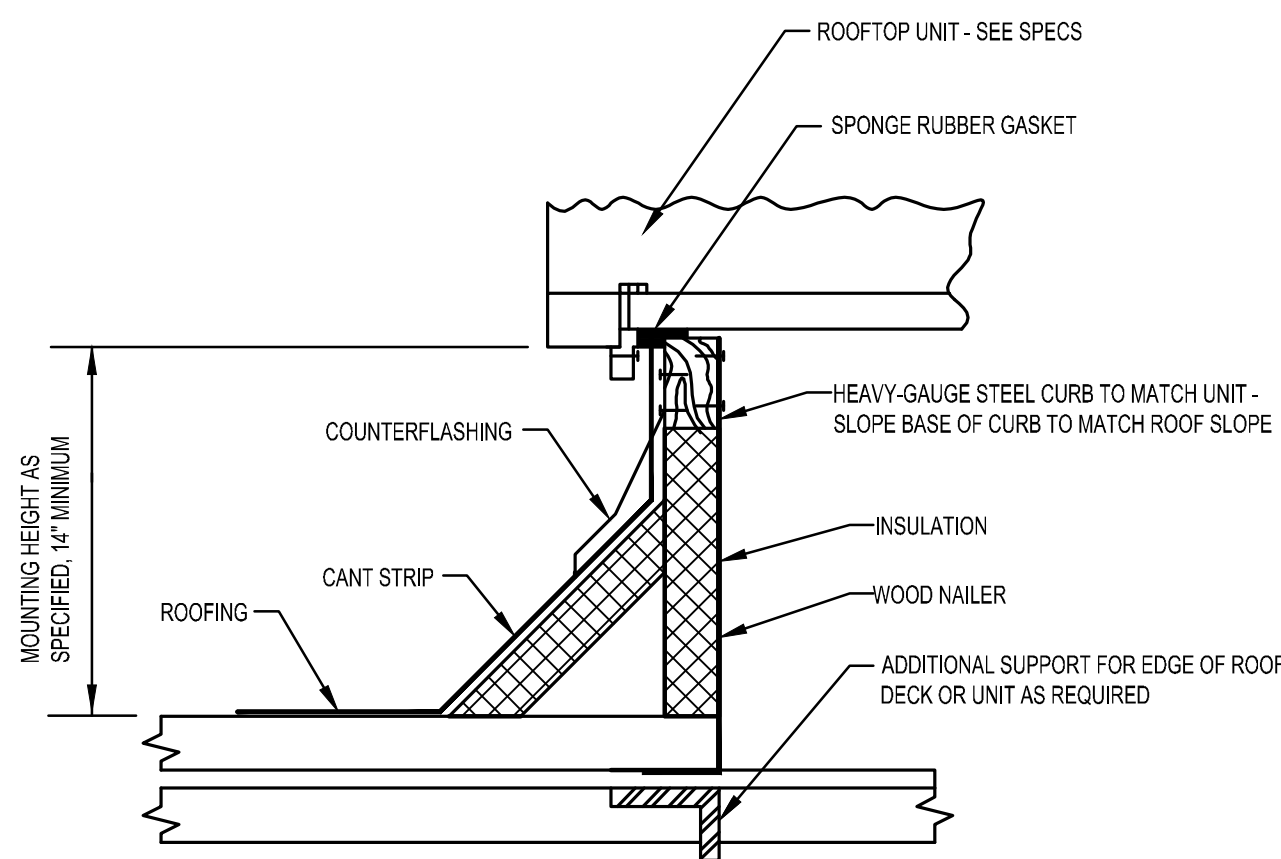
NOTES:  
1 SUPPORT FROM STRUCTURE WITH ALL-THREAD RODS, PROVIDE WITH SPRING VIBRATION ISOLATORS.  
2 PROVIDE SHUTOFF COCK AT EACH BURNER.  
3 UNIT SHALL HAVE VERTICAL VENT TERMINAL AND CONCENTRIC ADAPTER, TERMINATE WITH CONCENTRIC VENT.  
4 VERIFY ELECTRICAL CONNECTION REQUIREMENTS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.



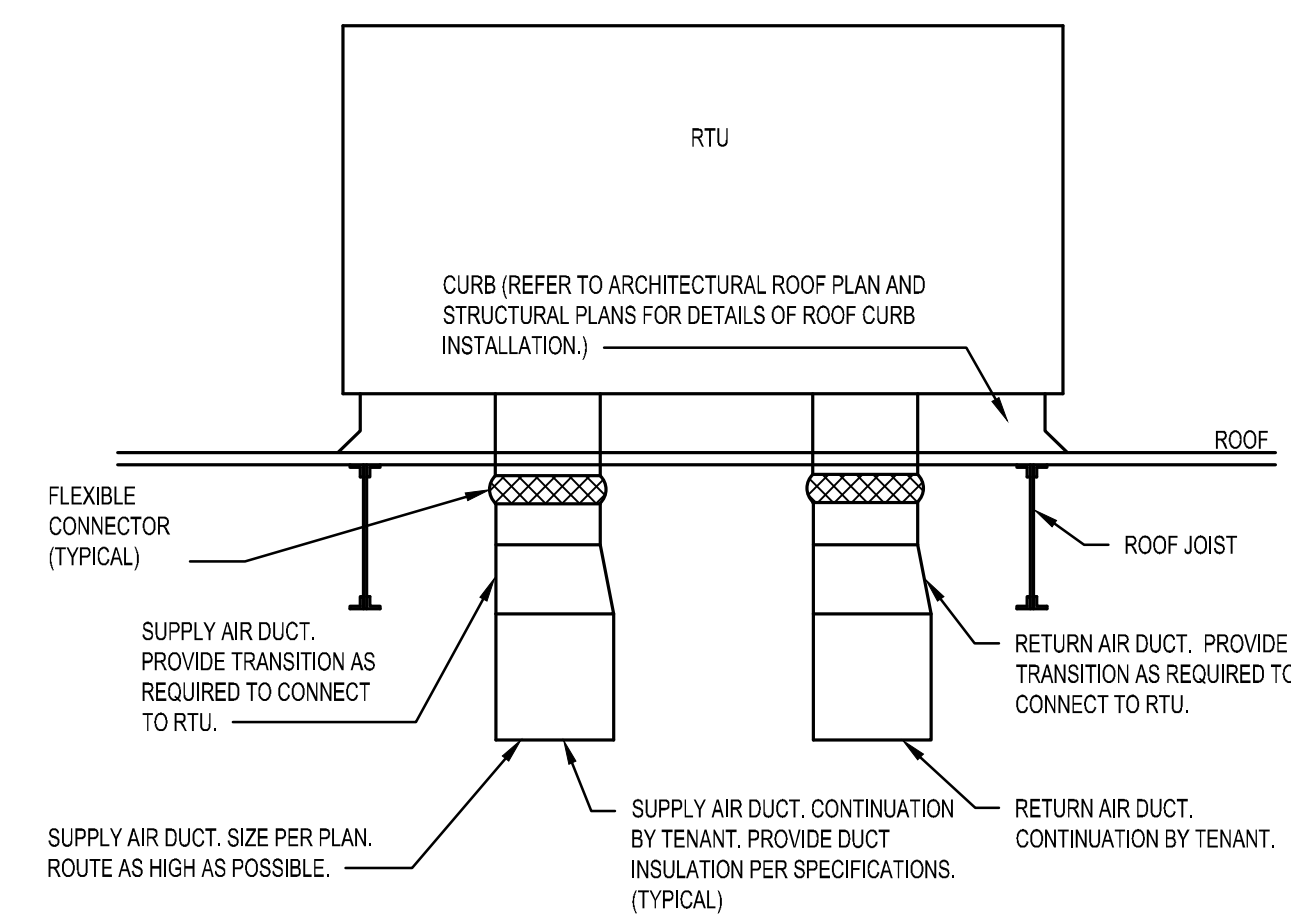
5 CEILING DIFFUSER  
NOT TO SCALE



6 COMBINATION FIRE/SMOKE DAMPER DETAIL  
SCALE: NOT TO SCALE



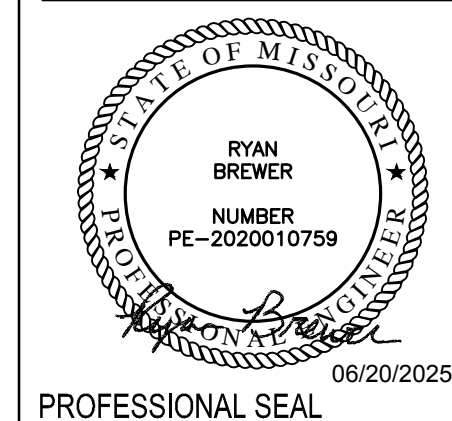
2 ROOF CURB DETAIL  
SCALE: NOT TO SCALE



3 RTU DUCTWORK DETAIL  
SCALE: NOT TO SCALE

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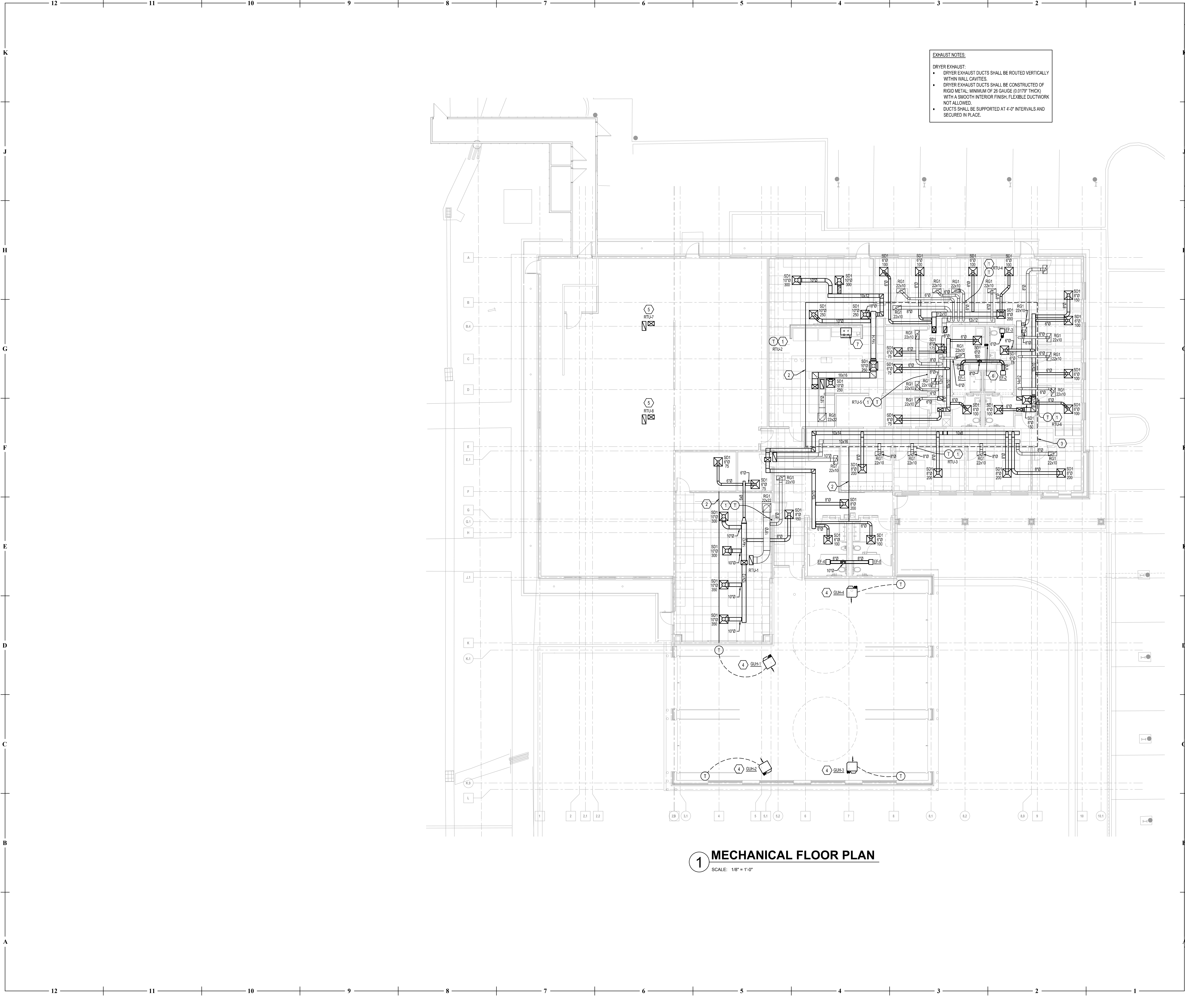
MECHANICAL SCHEDULES  
AND DETAILS



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PERMIT SET





**EXHAUST NOTES:**

DRYER EXHAUST:

- DRYER EXHAUST DUCTS SHALL BE ROUTED VERTICALLY WITHIN WALL CAVITIES.
- DRYER EXHAUST DUCTS SHALL BE CONSTRUCTED OF RIGID METAL MINIMUM OF 26 GAUGE (0.0179" THICK) WITH A SMOOTH INTERIOR FINISH. FLEXIBLE DUCTWORK NOT ALLOWED.
- DUCTS SHALL BE SUPPORTED AT 4'-0" INTERVALS AND SECURED IN PLACE.

**GENERAL NOTES**  
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET M101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. SLEEPING UNITS (BUNK ROOMS) SHALL BE PROVIDED WITH CARBON MONOXIDE DETECTORS AND ALARMS.

**KEYED NOTES:** ⬡

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT. MOUNT TOP OF THERMOSTAT AT 48" AFF PER ADA REQUIREMENTS, TYPICAL FOR ALL OPERABLE WALL-MOUNTED MECHANICAL CONTROLS UNLESS NOTED OTHERWISE. PROVIDE THERMOSTAT WITH LOCKABLE COVER. CONFIRM EXACT THERMOSTAT MODEL WITH OWNER.
2. LOW STRUCTURAL BEAM INDICATED BY SOLID LINE.
3. BEARING DOUBLE-STUD WALL INDICATED BY DASHED LINE. DUCTWORK SHALL PENETRATE WALL BETWEEN STUDS WITH A MAXIMUM DUCT WIDTH OF 10" TO ACCOUNT FOR DUCTWORK INSULATION.
4. ROUTE COMBUSTION AIR INTAKE AND VENT FROM GAS UNIT HEATER UP THROUGH ROOF AND TERMINATE WITH CONCENTRIC VENT. SIZE AND TERMINATE PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. STUB FULL SIZE SUPPLY AND RETURN DUCTWORK FROM ROOFTOP UNIT INTO FUTURE TENANT SPACE. FUTURE DUCTWORK CONTINUATION BY TENANT. COVER DUCTWORK OPENINGS WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH.
6. ROUTE DRYER EXHAUST DUCT UP THROUGH ROOF AND TERMINATE WITH WEATHERPROOF DRYER ROOF CAP. MAINTAIN MINIMUM 10'-0" CLEARANCE FROM ALL MECHANICAL AIR INTAKES. SIZE DRYER EXHAUST DUCT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. PROVIDE 30" WIDE STAINLESS STEEL EXHAUST HOOD; SUMMIT APPLIANCE MODEL SEH3630SSADA OR EQUAL. HOOD SHALL INCLUDE REMOTE TERMINAL BLOCK AND WALL SWITCH FOR ADA ACCESSIBILITY. VERIFY HOOD MODEL AND VENTING METHOD WITH OWNER. HOOD IS CONVERTIBLE AND CAN BE INSTALLED ONE OF THE FOLLOWING WAYS:
  - 7.1. DIRECT VENT TO OUTDOORS. PROVIDE 8"Ø EXHAUST DUCT ROUTED TO ROOF AND TERMINATE WITH ROOF HOOD. MAINTAIN MINIMUM 10'-0" CLEARANCE FROM ALL MECHANICAL AIR INTAKES.
  - 7.2. RECIRCULATING VENT (DUCTLESS). INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

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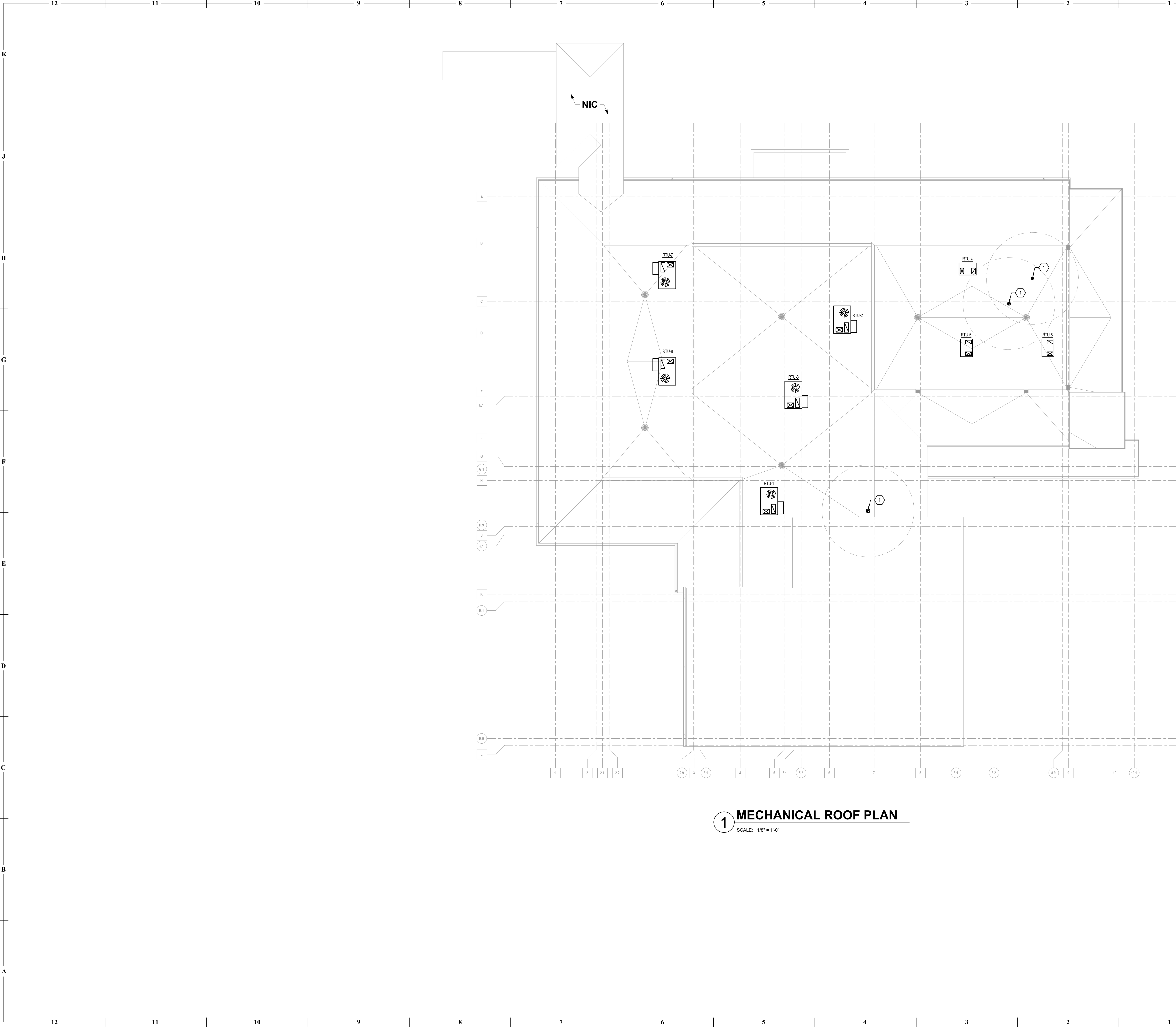
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**MECHANICAL FLOOR PLAN**

**PERMIT SET**







**GENERAL NOTES**  
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET M101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

**KEYED NOTES:** ⬡

1. RESTROOM EXHAUST DUCT, TERMINATE AT ROOF WITH ROOF CAP. MAINTAIN MINIMUM 10'-0" CLEARANCE FROM ALL MECHANICAL AIR INTAKES. TYPICAL FOR ALL EXHAUST OUTLETS AND VENTS.



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PROFESSIONAL SEAL

**M202**

ISSUE DATE: 20 JUN 2025  
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PERMIT SET

**MECHANICAL ROOF PLAN**



15000 - BASIC MECHANICAL REQUIREMENTS

DRAWINGS AND GENERAL PROVISIONS OF CONTRACT INCLUDING GENERAL, AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO THIS AND THE OTHER SECTIONS OF DIVISION 15.

READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND COORDINATE AND THE WORK OF SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. PROVIDE SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.

SCHEDULE THE COMPLETION AND INSPECTION OF WORK AND THE WORK OF SUBCONTRACTORS WORK TO COMPLY WITH THE SCHEDULE AND THE PROJECT COMPLETION DATE.

VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUAIPIED IN THE BID. SUBMITTAL OF BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE RESPONSIBILITY IN PERFORMANCE OF WORK.

READ ALL RELEVANT DOCUMENTS, BECOME FAMILIAR WITH THE JOB, SCOPE OF WORK, TYPE OF GENERAL CONSTRUCTION, AND THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. ALSO UNDERSTAND THE PURPOSE FOR WHICH THESE DOCUMENTS HAVE BEEN PREPARED AND BECOME COGNIZANT OF ALL THE DETAILS INVOLVED. COORDINATE WORK WITH THAT OF OTHERS.

DEFINITIONS

FURNISH - PURCHASE AND DELIVER TO PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT.

INSTALL - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT ORIENTATION AT THE PROPER LOCATION IN THE PROJECT.

PROVIDE - FURNISH AND INSTALL.

GENERAL REQUIREMENTS

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OTHERS SHALL BE PROVIDED. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH THE ARCHITECT-ENGINEER, AS REQUIRED.

THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK, AND WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE FURNISHED AND INSTALLED AS PART OF CONTRACT.

WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE OWNERS CRITERIA, PROVIDE THE SYSTEM WITH THE MOST STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.

ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.

ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD ENGINEERING PRACTICES.

UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.

CODES

ALL WORK SHALL CONFORM TO THE OWNERS CRITERIA, THE STATES, COUNTYS, CITIES AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS, INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID. IF ANY CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REMBURSED BY THE OWNER.

LICENSES, PERMITS, COMMISSIONING, INSPECTIONS & FEES

OBTAIN AND PAY FOR ALL LICENSES, PERMITS, COMMISSIONING, INSPECTIONS, AND FEES REQUIRED OR RELATED TO THIS WORK.

PROVIDE TO THE OWNER/ARCHITECT A COMMISSIONING PLAN, PRELIMINARY COMMISSIONING REPORT, FINAL COMMISSIONING REPORT, AND CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS

WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUAL OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO APPROVAL IN WRITING BY ARCHITECT-ENGINEER PRIOR TO BID THROUGH SHOP DRAWING SUBMITTAL PROCESS. FOR ACCEPTANCE PRIOR TO INSTALLATION, ANY CHANGES TO ELECTRICAL SERVICE, STRUCTURAL FRAMING, ETC. OR ANY OTHER MODIFICATION THAT IS REQUIRED BY THE USE OF ALTERNATE EQUIPMENT SHALL BE COORDINATED WITH OTHER TRADES AND SHALL INCLUDE ALL COSTS TO BID FOR THE REQUIRED CHANGES. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT NO EXPENSE TO THE OWNER.

WARRANTY

WARRANTEE ALL MATERIALS AND WORK PROVIDED UNDER THIS CONTRACT AND MAKE GOOD, REPAIR OR REPLACE AT NO EXPENSE TO THE OWNER, ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION. EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.

QUALITY ASSURANCE

INDUSTRY STANDARDS AND CODES, UNLESS MODIFIED BY THESE SPECIFICATIONS, THE DESIGN, MANUFACTURER, TESTING AND METHOD OF INSTALLING ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL CONFORM TO THE FOLLOWING:

1. AIR CODE FOR REFRIGERATION APPARATUS
2. ANSI B6.1 SAFETY CODE FOR MECHANICAL REFRIGERATION
3. STANDARDS OF NATIONAL FIRE PROTECTION ASSOCIATION
4. SMACNA
5. ASHRAE

RECORD DRAWINGS

MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS: LOCATION OF CONCEALED PIPING VALVES AND DUCTS, REVISIONS, ADDENDUMS, AND CHANGE ORDERS, AND SIGNIFICANT DEVIATIONS MADE

NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTORS COORDINATION WITH OTHER TRADES.

AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. A SET OF REPRODUCIBLE DRAWINGS ALONG WITH ONE SET OF BLUELINES OF THE MOST RECENT SET OF DRAWINGS WITH TEMPERATURE CONTROL DRAWINGS INCLUDED SHALL BE DELIVERED TO THE ARCHITECT UPON COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

DISCREPANCIES IN DOCUMENTS

DRAWINGS, PLANS, SPECIFICATIONS, AND DETAILS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWINGS, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE UNCLEAR, ADVISE THE ARCHITECT-ENGINEER IN WRITING, OF VARIATIONS TO CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, ARCHITECT-ENGINEERS INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

PHASING REQUIREMENTS

INCLUDE IN BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PHASE OF THE PROJECTS HVAC, PLUMBING AND SPRINKLER SERVICE IN OPERATION. IF APPLICABLE, SCHEDULE IN WRITING WITH ARCHITECT ONE WEEK PRIOR TO ANY SHUT DOWN OF THE HVAC, PLUMBING OR FIRE PROTECTION SYSTEMS.

DEMOLITION

COORDINATE THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY OTHER. COORDINATE ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT.

VERIFY SCOPE OF AND THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND ASSOCIATED ROOF CURBS NOT TO BE REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE. VERIFY ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/PAVING FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT. ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.

CUTTING AND PATCHING

PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS SPECIFICATION. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT.

PATCHING SHALL BE OF THE SAME WORKMANSHIP, MATERIAL AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO THE ARCHITECT.

EXISTING UTILITIES, ETC. THAT ARE DAMAGED DURING THE CONSTRUCTION PERIOD, WHETHER OR NOT DUE TO NEGLIGENCE SHALL BE REPAIRED OR REPLACED AND LEFT IN A CONDITION SUITABLE TO THE ARCHITECT.

SLEEVES

PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR. COORDINATE THROUGH THE ARCHITECT ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.

ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE RTV FOAM, 3M FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.

SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL, PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL, MINIMUM.

HANGERS

HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL, SUCH AS ANGLE IRON, BANDS, CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.

HANGERS MUST BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OF BAR JOIST. WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LANDLORD CRITERIA.

HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION, INSTALL 1/8 LONG SPURT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.

HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DIELECTRICALLY SEPARATED.

PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODE.

JOB CONDITIONS

PROTECT MATERIALS, APPARATUS AND EQUIPMENT FROM DAMAGE, MOISTURE, DIRT, DEBRIS AND WORK OF OTHER TRADES.

OPERATION MANUALS AND INSTRUCTIONS

PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS AT THE COMPLETION OF THE PROJECT. SUBMIT THREE HARD BOUND COPIES TO ARCHITECT.

SCHEDULE A MEETING WITH THE OWNERS REPRESENTATIVE AT THE TIME TO PROVIDE DETAILED INFORMATION ON THE OPERATING AND MAINTENANCE OF EQUIPMENT.

SUBMITTALS

SUBMIT WITHIN THIRTY (30) DAYS AFTER THE DATE OF NOTICE TO PROCEED AND BEFORE PURCHASING ANY MATERIALS OR EQUIPMENT. SUBMIT TO THE ARCHITECT FOR REVIEW A COMPLETE LIST, IN SIX (6) COPIES, OF ALL MATERIALS INCORPORATED IN THE WORK. THIS LISTING SHALL BE ARRANGED BY THE ORDER OF OCCURRENCE IN THE SPECIFICATIONS, FOLLOWED BY THE ITEMS ON THE DRAWING NOT SPECIFICALLY INCLUDED IN THE SPECIFICATIONS.

AFTER THE LIST HAS BEEN PROCESSED BY THE ARCHITECT, SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA OF ALL EQUIPMENT. THESE SUBMITTALS SHALL BE SUBMITTED WITHIN THIRTY (30) DAYS AFTER THE PROCESSING DATE OF THE ORIGINAL SUBMITTAL LIST. SUBMISSIONS SHALL BE MADE EARLY ENOUGH IN PROJECT TO ALLOW FOR (10) WORKING DAYS FOR REVIEW BY ARCHITECT-ENGINEER WITHOUT CAUSING DELAYS OR CONFLICTS IN THE PROJECTS PROGRESS.

ALL SUBMITTALS SHALL BE COMPLETE AND SHALL BE IN THREE-RING, LOOSE-LEAF BINDERS, NO CONSIDERATION WILL BE GIVEN TO PARTIAL SUBMITTALS, UNLESS NOTED

OTHERWISE BY ARCHITECT. EACH ITEM SHALL HAVE A COVER PAGE STATING PROJECT, SPECIFICATION AND PARAGRAPH REFERENCE NUMBER, OR DRAWING REFERENCE NUMBER, AND SCHEDULED EQUIPMENT IDENTIFICATION NUMBER, IF APPLICABLE.

THE REVIEW OF SUBMITTALS DOES NOT RELIEVE RESPONSIBILITY OF SHOP DRAWING ERRORS IN DETAILS, SIZES, QUANTITIES, WIRING DIAGRAM ARRANGEMENTS AND DIMENSIONS WHICH DEViate FROM THE SPECIFICATIONS, CONTRACT DRAWINGS AND/OR JOB CONDITIONS AS THEY EXIST.

IF APPARATUS OR MATERIALS ARE SUBSTITUTED FOR THOSE SPECIFIED UNDER THIS SECTION, AND SUCH SUBSTITUTIONS NECESSITATE CHANGES IN OR ADDITIONAL CONNECTIONS, PIPING SUPPORTS OR CONSTRUCTIONS, SAME SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. ASSUME COST AND ENTIRE RESPONSIBILITY THEREOF. ARCHITECT'S PERMISSION TO MAKE SUCH SUBSTITUTION SHALL NOT RELIEVE FULL RESPONSIBILITY FOR WORK.

TEST AND BALANCE REPORT: SUBMIT AT FINAL INSPECTION OPERATION AND MAINTENANCE MANUALS. SUBMIT COPIES IN COMPLIANCE WITH SECTION, OPERATION AND MAINTENANCE MANUALS.

15400 - HEATING VENTILATION AND & AIR CONDITIONING

PRODUCTS: ALL MATERIALS AND EQUIPMENT SHALL BE NEW, SYSTEMS SHALL FUNCTION CORRECTLY AS A WHOLE, AND IN ALL ITS PARTS, UP TO THE SPECIFIED CAPACITY. SYSTEMS OR DEVICES FAILING TO MEET PERFORMANCE REQUIREMENTS SHALL BE REPLACED, ALTERED OR REPAIRED AS REQUIRED TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS. WORK DAMAGED OR IMPAIRED BY SUCH REPLACEMENTS, ALTERATIONS, OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITIONS, AT NO ADDITIONAL COST TO THE OWNER. WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED, THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. BEFORE ORDERING EQUIPMENT, THE PHYSICAL DIMENSIONS SHALL BE CHECKED TO VERIFY FIT IN SPACES ALLOTTED ON THE DRAWINGS. CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE REMOVED AT THE PROPER TIME FOR SETTING OR EMBEDMENT SO AS TO CAUSE NO DELAY. DUCTWORK AND EQUIPMENT ASSEMBLIES SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. ADDITIONAL DUCTWORK AND APPURTENANCES REQUIRED FOR PROPER OPERATION OF EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

MANUFACTURER'S NAMES AND CATALOG NUMBERS: SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAMES AND MODEL OR CATALOG NUMBERS. THIS DOES NOT INDICATE THAT THE MATERIAL AND EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM. REQUIREMENTS FOR SPECIFIC FINISHES, MATERIALS OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURER'S STANDARDS. ASCERTAIN THAT SUCH MODIFICATIONS ARE FULLY CONSIDERED.

DIAGRAMS, NAMEPLATES AND LABELS: EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS AND CATALOG NUMBER ON A PLATE SECURELY AFFIXED IN A CONSPICUOUS PLACE. THE NAMEPLATE OF A DISTRIBUTING AGENT WILL NOT BE ACCEPTED. ALL PIECES OF EQUIPMENT, VALVES, STARTERS, DISCONNECTS, AND ALL PNEUMATIC AND ELECTRIC CONTROL INSTRUMENTS AND APPARATUS SHALL BE IDENTIFIED WITH 1/16" THICK BLACK LAMINATED PLASTIC NAMEPLATES, WITH 1/16" HIGH WHITE LAMINATED LETTERS. SIMILAR AND LIKE EQUIPMENT SHALL BE DESIGNATED WITH NUMERICAL SUFFIX (EXAMPLE, THERMOSTAT, -1). THE NAMEPLATE IDENTIFICATIONS SHALL COINCIDE WITH ITEMS APPROPRIATELY IDENTIFIED ON THE MECHANICAL SYSTEMS DRAWING. (NAME, ADDRESS AND PHONE NUMBER OF CONTRACTOR). LETTERS SHALL BE 1/4" HIGH AND LOCATED IN A CONSPICUOUS PLACE NEAR THE HVAC EQUIPMENT.

EXECUTION

INSTALLATION AND WORKMANSHIP: THE WORK SHALL BE PERFORMED BY QUALIFIED MECHANICS. ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL BE INSTALLED IN NEAT, WORKMANLIKE MANNER. MATERIALS, DEVICES OR EQUIPMENT WHICH, IN THE OPINION OF THE ARCHITECT-ENGINEER, IS IMPROPERLY INSTALLED SHALL BE REMOVED AND REINSTALLED IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER. THE WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES, WHERE THE WORK IS DEPENDENT UPON WORK OF OTHER TRADES OR WORK ALREADY IN PLACE. SUCH OTHER WORK AND WORK IN PLACE SHALL BE EXAMINED AND SHALL BE IN PROPER CONDITION AND STATE OF COMPLETION BEFORE CONTINUING THE INSTALLATION. THE INSTALLATION OF WORK SHALL, IN GENERAL, BE AS INDICATED ON THE DRAWINGS. WHERE NECESSARY, THE CONTRACTOR SHALL, AS INDICATED SHALL BE FOLLOWED AS ACCURATELY AS POSSIBLE. ANY NECESSARY DEVIATIONS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT-ENGINEER. PROVIDE DRAWINGS SHOWING PROPOSED CHANGES. APPROVAL IS REQUIRED BEFORE CHANGES SHALL TAKE EFFECT.

CUTTING AND PATCHING

LAYOUT OPENINGS FOR CUTTING BY OTHER TRADES AS REQUIRED. CUTTING OF STEEL, CONCRETE OR ANY OTHER STRUCTURAL PART MUST BE APPROVED IN WRITING BY ARCHITECT-ENGINEER PRIOR TO CUTTING.

WATERPROOFING

DO NOT CUT OR PENETRATE WATERPROOFED SURFACES, OR WATERPROOFING MEMBRANES, WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY ARCHITECT-ENGINEER.

PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DRAINAGE STEEL AS REQUIRED.

ELECTRICAL WORK

POWER WIRING FROM PANELS TO MOTOR CONTROLLERS AND FROM CONTROLLERS TO MOTORS IS SPECIFIED IN DIVISION 16. MOTOR STARTERS NOT SPECIFIED TO BE FURNISHED WITH THE MOTORS FROM THE FACTORY ARE SPECIFIED IN DIVISION 16. SUBMIT WIRING DIAGRAMS FOR APPROVAL, AND FURNISH APPROVED DIAGRAMS TO THE ELECTRICAL CONTRACTOR FOR COORDINATION. ELECTRICAL CONTROL WIRING FOR CONNECTION OF TEMPERATURE CONTROLLERS, PUSH BUTTONS, INTERLOCKS IN MOTOR CONTROLLERS, AND LIKE ITEMS IS SPECIFIED IN THE CONTROL SECTION(S) IN THIS DIVISION. FURNISH ALL EQUIPMENT WITH COMPLETE INTERNAL CONTROL WIRING. ELECTRICAL WORK SPECIFIED IN THIS DIVISION SHALL CONFORM TO APPLICABLE PROVISIONS OF DIVISION 16. ALL CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE MOTORS CONFORMING TO CHARACTERISTICS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS DOORS (ACCESS PANELS)

PROVIDE ACCESS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF VALVES, CONTROLS, DAMPERS, EQUIPMENT AND LIKE ITEMS. PROVIDE ACCESS DOORS (ACCESS PANELS) CONFORMING TO REQUIREMENTS OF DIVISION 8 SPECIFICATIONS. PANELS SHALL BE LOCATED TO MAKE ALL ITEMS EASILY ACCESSIBLE.

CLEAN UP

REFER TO GENERAL CONDITIONS FOR CLEAN-UP. CLEAN ALL MATERIALS AND EQUIPMENT OF DIRT, DUST, PAINT, SPOTS AND STAINS, SOIL MARKS AND OTHER FOREIGN MATTER.

FINAL INSPECTION

GIVE NOTICE TO THE ARCHITECT-ENGINEER THAT THE WORK IS READY FOR FINAL INSPECTION.

1. SUBMIT TEST AND BALANCE REPORT AND COMPLETE REQUIREMENTS AS NOTED.
2. SUBMIT LETTER FROM CONTROL MANUFACTURER CERTIFYING THAT CONTROLS HAVE BEEN CHECKED FOR OPERATION AND CALIBRATION, AND THAT THE SYSTEM IS OPERATING AS INTENDED.

FURNISH NECESSARY MECHANICS TO OPERATE SYSTEM, MAKE NECESSARY ADJUSTMENTS AND ASSIST WITH FINAL INSPECTION.

INSTRUCTION OF OWNER'S OPERATING PERSONNEL: INCLUDE THE COST OF THE SERVICES OF QUALIFIED INSTRUCTORS TO INSTRUCT THE OWNER'S OPERATING PERSONNEL, IN THE OPERATION, ADJUSTMENT, CARE AND MAINTENANCE OF ALL HVAC EQUIPMENT AND SYSTEMS. INSTRUCTION SHALL BE PERFORMED AT A TIME APPROVED BY THE OWNER AND AFTER ALL HVAC EQUIPMENT AND SYSTEMS ARE INSTALLED, COMPLETE, ADJUSTED AND OPERATING TO SPECIFIED REQUIREMENTS. NOTIFY THE ARCHITECT-ENGINEER WHEN INSTRUCTIONS WILL BE GIVEN. QUALIFICATIONS OF INSTRUCTORS SHALL BE SUBJECT TO APPROVAL OF THE OWNER AND EQUIPMENT MANUFACTURER. ADDITIONAL REQUIREMENTS CONCERNING OPERATION AND MAINTENANCE OF MECHANICAL EQUIPMENT AND SYSTEMS MAY BE SPECIFIED IN OTHER SECTIONS. TWO COPIES OF ACKNOWLEDGEMENT OF ALL REQUIRED INSTRUCTIONS TO ADDITIONAL COST TO THE OWNER. ASSUME COST AND ENTIRE RESPONSIBILITY THEREOF. REPRESENTATIVE, SHALL BE SUBMITTED TO THE ARCHITECT-ENGINEER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT. AN ADDITIONAL COPY OF THIS ACKNOWLEDGEMENT IS REQUIRED IN EACH COPY OF OPERATION AND MAINTENANCE MANUALS REQUIRED IN THE SECTION, OPERATION AND MAINTENANCE MANUALS.

OPERATION AND MAINTENANCE MANUALS

FURNISH THREE COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT-ENGINEER, FOR APPROVAL AND FOR THE OWNER, ON ALL EQUIPMENT AND SYSTEMS. THE MANUALS SHALL BE BOUND IN HARD BACK, THREE-RING LOOSE-LEAF BINDERS. MANUALS SHALL CONTAIN A TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTORS AND MATERIAL AND EQUIPMENT SUPPLIERS.

A COPY OF ACKNOWLEDGEMENT OF INSTRUCTION TO THE OWNERS OPERATING PERSONNEL, IN THE OPERATION OR FOR THE OWNER, ON ALL MECHANICAL EQUIPMENT AND SYSTEMS, GIVEN BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNERS PERSONNEL DESCRIBING HOW TO STOP AND START EACH PIECE OF EQUIPMENT; HOW TO SET THE TEMPERATURE CONTROL SYSTEM FOR NORMAL OPERATION AND NORMAL RESTARTING PROCEDURES; CAUTION AND WARNING NOTICES. APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF MATERIAL, AND EQUIPMENT FURNISHED UNDER DIVISION 15000. RECORD DRAWINGS OF ALL SYSTEMS INCLUDING ELECTRICAL AND CONTROL DIAGRAMS, TEST AND BALANCE REPORT, COPIES OF CERTIFICATES OF INSPECTION, GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVER THE MANUALS TO THE OWNER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT.

HYDRA-PNEUMATIC PIPING

CONDENSATE DRAIN: PROVIDE CONDENSATE DRAIN FOR ALL AIR CONDITIONING UNITS AND PIPE AS DENOTED ON DRAWINGS. CONDENSATE DRAIN PIPING SHALL BE INSTALLED WITH TRAP AT THE COIL CONNECTION AND SHALL HAVE A MINIMUM SEAL DEPTH EQUAL TO THE RESPECTIVE AIR HANDLING UNIT FAN STATIC PRESSURE. DEPTH SHALL BE A MINIMUM OF 2".

HVAC INSULATION

LOW PRESSURE DUCTWORK INSULATION: EXTERNAL INSULATION SHALL BE R-6 MINIMUM SCHULLER TYPE SMALLTITE, FSK SPN-GLAS OR APPROVED EQUAL, WITH AN EMBOSSED ALUMINUM FOIL FACING. INTERNAL INSULATION SHALL BE R-4 MINIMUM LINER WITH A COATED AIR SIDE SURFACE TO PREVENT CONDENSATION. APPLY ADHESIVES AND FASTENERS PER SMACNA AND THE MANUFACTURER. ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE. ALL CONCEALED DUCTWORK SHALL HAVE EXTERNAL INSULATION, UNCONCEALED DUCTWORK SHALL BE INTERNALLY LINED. DUCTWORK INSTALLED IN UNCONDITIONED SPACES SHALL BE R-12 MINIMUM SCHULLER TYPE SMALLTITE, FSK SPN-GLAS OR APPROVED EQUAL, WITH AN EMBOSSED ALUMINUM FOIL FACING.

ALL AIR SUPPLY DIFFUSERS BACKS AND NECKS, SHALL BE INSULATED WITH R-6 MINIMUM MANVILLE SERIES SLATELIN, OR APPROVED EQUAL, FIBERGLASS BLANKET INSULATION.

ADHESIVES, MASTIC, SEALANTS: ADHESIVE SHALL BE FOSTERS 35-20, STUOWEED PINS SHALL BE SEALED WITH FOSTERS 35-20 ADHESIVE. ALL JOINTS, SEAMS AND BREAKS IN THE VAPOR BARRIER SHALL BE SEALED WITH FOSTERS 35-20, REINFORCED WITH 4 INCH WIDE GLASS FABRIC.

TERMINAL HEAT TRANSFER UNITS

DESCRIPTION: INSTALL AIR CONDITIONING UNITS OF THE CAPACITIES INDICATED, COMPLETE WITH GAS-FIRED HEATING SYSTEM, WHERE INDICATED ON THE DRAWINGS. UNITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE ASME AND ANSI CODES AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES. UNITS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST ASHRAE STANDARD 21, WHERE SPECIFIED. OPERATING CONDITIONS ARE OTHER THAN AIR STANDARD CONDITIONS, CAPACITIES SHALL BE INTERPOLATED FROM ARI CONDITIONS.

MANUFACTURER

UNITS SHALL BE TRANE, LENNOX, AOMX OR APPROVED EQUAL.

EXHAUST FANS

INLINE EXHAUST FAN: INSTALL DIRECT DRIVE CENTRIFUGAL INLINE EXHAUST FAN BY GREENHECK OR APPROVED EQUAL WITH GALVANIZED STEEL HOUSING, BACKWARD INCLINED ALUMINUM WHEEL, ACCESS PANELS INTEGRAL DUCT CONNECTION FLANGES, BALL BEARING MOTORS, AND CORROSION RESISTANT FASTENERS. FAN SHALL COME INSTALLED WITH NEARLY TOGGLE SWITCH, MOUNTED AND WIRED. SOLID STATE SPEED CONTROLLER SHIPPED LOOSE AND PSC MOTOR.

WATER SOURCE HEAT PUMPS

DESCRIPTION: INSTALL WATER SOURCE HEAT PUMP OF CAPACITIES INDICATED MANUFACTURED BY FLORIDA HEAT PUMP, MCQUAY OR AN APPROVED EQUAL. FACTORY ASSEMBLED AND RATED ACCORDING TO AHRI-558-1-1. GALVANIZED STEEL CASING WITH ACCESS PANELS FOR MAINTENANCE AND FILTER REPLACEMENT, KNOCKOUTS FOR ELECTRICAL AND PIPING CONNECTIONS, FLANGED DUCT CONNECTIONS AND CABINET INSULATION OF 1/2" THICK, MILD DENSITY, COATED GLASS FIBER. THE UNIT SHALL BE DESIGNED TO OPERATE WITH ENTERING FLUID TEMPERATURES BETWEEN 50° AND 100° F IN COOLING AND BETWEEN 50° AND 80° F IN HEATING.

THE UNITS SHALL BE WARRANTED BY THE MANUFACTURER AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR ON ALL PARTS AND FIVE (5) YEARS ON COMPRESSOR.

REFRIGERATION CIRCUITS SHALL UTILIZE R-410A. THE UNIT SHALL CONTAIN SEALED REFRIGERANT CIRCUITS INCLUDING HERMETIC COMPRESSORS, THERMAL EXPANSION VALVE, METERS, DEVICES, REFRIGERANT DRAIN, FINED TUBE AIR TO REFRIGERANT HEAT EXCHANGERS, REFRIGERANT REVERSING VALVES AND SERVICE PORTS. COMPRESSORS SHALL BE HIGH EFFICIENCY, DESIGNED FOR HEAT PUMP DUTY. INTERNALLY SPRING ISOLATED (EXCEPT FOR SCROLL TYPE COMPRESSORS) FOR MAXIMUM SOUND ATTENUATION AND MOUNTED ON VIBRATION ISOLATORS. COMPRESSOR MOTORS SHALL BE EQUIPPED WITH OVERLOAD PROTECTION. THE FINED TUBE COIL SHALL BE CONSTRUCTED OF LANCED ALUMINUM FINNS NOT EXCEEDING 14 FINS PER INCH. COILS SHALL HAVE A BAKED POLYESTER ENAMEL COATING FOR PROTECTION AGAINST MOST AIRBORNE CHEMICALS. THE COAXIAL WATER-TO-REFRIGERANT HEAT EXCHANGERS SHALL BE CONSTRUCTED OF A CONVOLUTED COPPER INNER TUBE AND STEEL OUTER TUBE WITH A DESIGNED REFRIGERANT WORKING PRESSURE OF 450 PSIG AND A DESIGNED WATER SIDE WORKING PRESSURE OF NO LESS THAN 40 PSIG.

UNITS 5 TONS AND LARGER, THE FANS SHALL BE DELTA DRIVEN FORWARD CURVE TYPE WITH DYNAMICALLY BALANCED WHEELS). THE FAN HOUSINGS SHALL BE REMOVABLE

FROM THE UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTORS. MOTORS SHALL BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

UNITS SMALLER THAN 6 TONS: THE FAN SHALL BE DIRECT DRIVE CENTRIFUGAL FORWARD CURVED TYPE WITH A DYNAMICALLY BALANCED WHEEL. FAN HOUSING SHALL BE REMOVABLE FROM UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTOR. THE MOTOR SHALL BE THREE SPEED PSC TYPE AND BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

DUCTWORK: LOW PRESSURE, GALVANIZED STEEL

QUALITY ASSURANCE: DUCTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH HVAC DUCT CONSTRUCTION STANDARDS PUBLISHED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA).

JOB CONDITIONS

INSPECT THE DRAWINGS AND VERIFY EXISTING CONDITIONS IN THE FIELD. REPORT CONFLICTS BEFORE STARTING FABRICATION.

DUCT MATERIAL

WEIGHTS AND GAGES SHALL BE IN ACCORDANCE WITH TABLE 1 OF "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY SMACNA. DUCT MATERIAL SHALL BE GALVANIZED STEEL.

SPLITTER DAMPERS

SPLITTERS SHALL BE 18 GAGE GALVANIZED STEEL WITH HORIZONTAL AND VERTICAL DIMENSIONS SUFFICIENT TO CLOSE OFF AIR TO BRANCH. PROVIDE VENTILON NO. 607 END BEARINGS AND VENTILON NO. 609 DAMPER ASSEMBLY.

VOLUME DAMPERS

BLADE DAMPERS SHALL BE 18 GAGE STEEL, SINGLE BLADE 10" X 7" X 1/8", OPPOSED BLADE ON ALL DUCTS OVER 8" X 8". PROVIDE VENTILON NO. 607 END BEARINGS AND VENTILON NO. 601 SELF-LOCKING REGULATOR. DAMPER RODS SHALL BE 1/2" SQUARE BARS WITH BLADES SECURELY KEYED TO BAR.

TURNING VANES

SQUARE AND RECTANGULAR ELBOWS SHALL CONTAIN TITUS NO. AG-25 TURNING VANES.

HANGERS

IN ACCORDANCE WITH CHAPTER IV OF SMACNA.

FLEXIBLE CONNECTIONS

FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR EACH AIR HANDLING DEVICE TO PREVENT TRANSMISSION OF VIBRATIONS. MAKE FLEXIBLE CONNECTION A MINIMUM OF 4 INCHES WIDE OF VENTILAS AS MADE BY VENTFABRICS, INC.

INSTALLATION

GENERAL: SPILT, DRAIN OR TURN DUCTS AS NECESSARY TO AVOID OBSTRUCTIONS AND, IN SUCH CASES, PROVIDE AIR STREAM DEFLECTORS AND INCREASE SIZE OF DUCT TO AN EQUIVALENT AREA.

SPLITTERS: RIGIDLY ATTACH SPLITTERS TO PIVOT ROD AND OPERATING LINKAGE. SET DAMPERS ASSEMBLY ON RAISED INSULATED BASE ON UNCONCEALED SPACES. VOLUME DAMPERS: SUPPLY AND MAKE UP DUCTWORK IN CONCEALED SPACES. SET REGULATOR ON RAISED BASE ON INSULATED DUCTWORK. MARK END OF DAMPER ROD TO SHOW DAMPER POSITION.

FLEXIBLE CONNECTIONS: SECURE FLEXIBLE CONNECTIONS TO DUCT AND UNIT WITH GALVANIZED STEEL STRAPS HOLDING THE MATERIAL IN FORMED GALVANIZED STEEL CHANNELS. TEST TO ENSURE PROPER INSTALLATION.

PUSHS: PROVIDE SQUARE HEAD TEST PLUGS AS REQUIRED FOR INSERTION OF TEST APPARATUS. PROVIDE A RING AND A REMOVABLE INSULATION PLUG WHERE DUCTS ARE INSULATED.

PAINTING: PAINT INTERIOR OF DUCTWORK FLAT BLACK WHERE VISIBLE THROUGH GRILLES AND REGISTERS.

SEALING: DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA "SEAL CLASS B".

CORRECTIONS

WHERE FLEXIBLE DUCTWORK FOUND TO VIBRATE, CHATTER OR PULSATE AND REPLACE WITH NEW DUCTWORK.



ELECTRICAL ABBREVIATIONS

AC	ALTERNATING CURRENT
AHU	AIR HANDLING UNIT
A OR AMPS	AMPERES
AFC	ABOVE FINISH COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BTC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
C	CONDUIT (E.C. IS EMPTY CONDUIT)
CF	CEILING FAN
CM	COFFEE MAKER
CT	COOKTOP
D	DEDICATED CIRCUIT
DOO	DUPLEX CONVENIENCE OUTLET
DP	DISPOSAL
DW	DISHWASHER
DY	DRYER
EMT	ELETRICAL METALLIC TUBING
EF	EXHAUST FAN
EWIC	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)
EX	EXISTING
FCU	FAN COIL UNIT
GFIC/GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFI/P	GROUND FAULT INTERRUPTER PROTECTED
GRD	GROUND
H	HORIZONTAL MOUNT (RECEPTACLE)
HD	VENTILATION HOOD
HP	HORSEPOWER
HT	HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER)
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
Hz	HERTZ
IS	ISOLATED GROUND (DUPLEX RECEPT. - NEMA 5-20RIG)
KCM	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT-AMPERES (1000 VOLT-AMPERES)
KW	KILOWATTS (1000 WATTS)
LMO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
MW	MICROWAVE (COORD MTG HT W/ ARCHITECT)
NIC	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE
NF	NOT FUSED
OPCI	OWNER FURNISHED CONTRACTOR INSTALLED
PNL	PANEL
PH OR Ø	PHASE
P	POLE
PVC	POLYVINYL CHLORIDE
RF	REFRIGERATOR
RO	RANGE
SPD	SURGE PROTECTIVE DEVICE
T	TAMPERPROOF RECEPTACLE
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION RECEPTACLE
UC	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
UL	UNDERWRITERS LABORATORIES
UNO.	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERES
VD	VENDING MACHINE (24" AFF)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WA	WASHER
WD	WARMING DRAWER
WO	WALL OVEN
WP	WEATHERPROOF
WPWR	WEATHERPROOF/WEATHER RESISTANT
WUANT	DISCONNECT IS SUPPLIED WITH THE UNIT


GENERAL ELECTRICAL NOTES

- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, REQUIREMENTS OF THE AHJ AND ALL LOCAL & STATE CODES.
- DO NOT SCALE FROM THESE DRAWINGS.
- REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.
- ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.
- ALL JUNCTION BOXES SHALL HAVE A COVER.
- COORDINATE EACH LIGHT FIXTURE INSTALLATIONS W/ ACTUAL CEILING TO BE FURNISHED.
- ALL BRANCH CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P BREAKER W/ 2412, 1112EG, 3/4".
- ALL BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT BE SMALLER THAN 3/4". UNLESS SPECIFICALLY NOTED OTHERWISE.
- ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH DEDICATED NEUTRALS UNLESS NOTED OTHERWISE. WHERE NEUTRALS ARE INDICATED TO BE SHARED, MULTIWIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH 2P OR 3P BREAKERS AS REQUIRED PER NEC 210.4.
- ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT GROUND.
- ALL FIXTURES SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) WITH 12 GAUGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET OR EXCEED THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES.
- ELECTRICAL DEVICE MOUNTING HEIGHTS, UNO:  
PANELBOARDS 78" AFF TO TOP OF PANEL  
SWITCHES 48" AFF TO TOP OF JUNCTION BOX  
RECEPTACLES 18" AFF TO CENTER OF RECEPTACLE  
TELEDATA OUTLETS 18" AFF TO CENTER OF RECEPTACLE  
APARTMENT LOADCENTERS PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR)
- ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO SCALE ON THE FLOOR PLANS.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT WITHIN THE SPACES SHOWN ON THE PLANS AND COMPLYING WITH ALL CODE REQUIRED CLEARANCES.
- ELECTRICAL CONTRACTOR TO LABEL ALL DEVICES (RECEPTACLES, SWITCHES, PANELBOARDS, DISCONNECTS, ETC.) WITH CIRCUIT NUMBER AND PANELBOARD DESIGNATION. RECEPTACLES, SWITCHES, AND SIMILAR DEVICES TO HAVE PRE-PRINTED, SELF ADHESIVE LABEL.
- PANELBOARDS, DISCONNECT SWITCHES AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE, LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING).
- PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.

ELECTRICAL SYMBOLS

LIGHTING FIXTURES/DEVICES			POWER EQUIPMENT/DEVICES		
SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL		12000V, 30, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED		277480V, 30, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	2X4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		JUNCTION BOX	WALL OR CEILING
	2X2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		FUSED SAFETY SWITCH (E.G. 30/203 INDICATES A 30A, 3-POLE SWITCH WITH 20A FUSES)	
	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACK-UP			NON-FUSED SAFETY SWITCH (E.G. 30NF3 INDICATES A 30A, 3-POLE SWITCH WITHOUT FUSES)	
	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR RATED SWITCH	
	EMERGENCY EXIT SIGN. PROVIDE ARROW(S) AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR	
	SINGLE POLE SWITCH 20A (120/277V)			NEMA 5-20R SIMPLEX RECEPTACLE	WALL - 18" AFF
	THREE WAY SWITCH 20A (120/277V)			NEMA 5-20R DUPLEX RECEPTACLE	WALL - 18" AFF
	FOUR WAY SWITCH 20A (120/277V)			NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	
	WALL BOX DIMMER SWITCH			NEMA 5-20R QUAD-PLEX RECEPTACLE	WALL - 18" AFF
	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING		NEMA 5-20R SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF
	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF TO TOP OF JUNCTION BOX		SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY		NEMA 5-20R - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL #US820AC3W	WALL - 18" AFF
	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING		NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
COMMUNICATION/LOW-VOLTAGE DEVICES				HUBBELL CFM SERIES FLOOR BOX (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	CARD READER (VERIFY EXACT REQUIREMENTS)			HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELEDATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF		HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELEDATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING		HUBBELL S1PT SERIES 4" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELEDATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING		HUBBELL S1PTT SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
	TELEVISION OUTLET	WALL OR CEILING		HUBBELL S1R SERIES 6" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND AV CONNECTION CAPABILITY	FLOOR - FLUSH
	SPEAKER OUTLET	FIELD VERIFY		CONDUIT IN OR UNDER FLOORGRADE	
	TELEPHONE TERMINAL BOARD	WALL		CONDUCTOR HOME RUN - (H) HOT, (N) NEUTRAL, (E) EQUIPMENT GROUND, & (I) ISOLATED GROUND	
	SECURITY CAMERA OUTLET	FIELD VERIFY		EQUIPMENT CONNECTION	
	PUSH BUTTON			CONDUIT IN CEILING OR WALL	

NOTE: NOT ALL SYMBOLS MAY BE USED.

-  IF MOUNTED ABOVE A COUNTER, DEVICE TO BE WALL MOUNTED 6" ABOVE FINISHED COUNTER OR 4" TO TOP OF JUNCTION BOX (WHICHEVER IS LOWER). IF NOT MOUNTED ABOVE A COUNTER, DEVICE TO BE WALL MOUNTED AT 48" AFF TO TOP OF JUNCTION BOX AS REQUIRED TO MEET ADA REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS/ELEVATIONS.



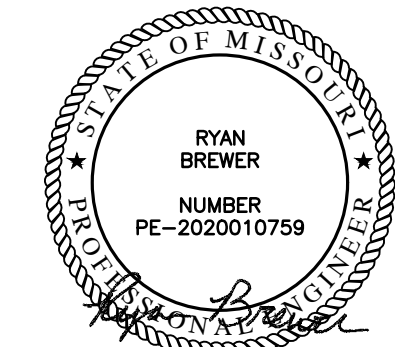
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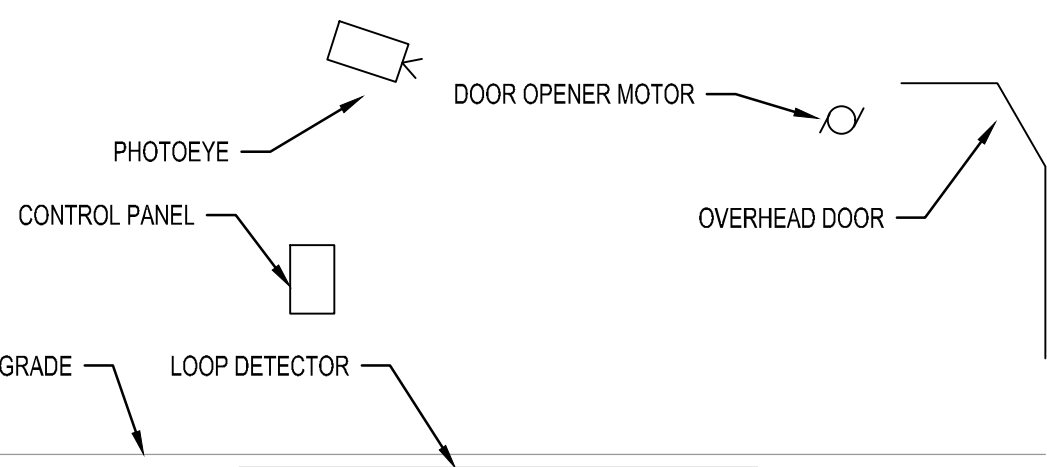
E101

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ELECTRICAL NOTES,  
SYMBOLS & ABBREVIATIONS



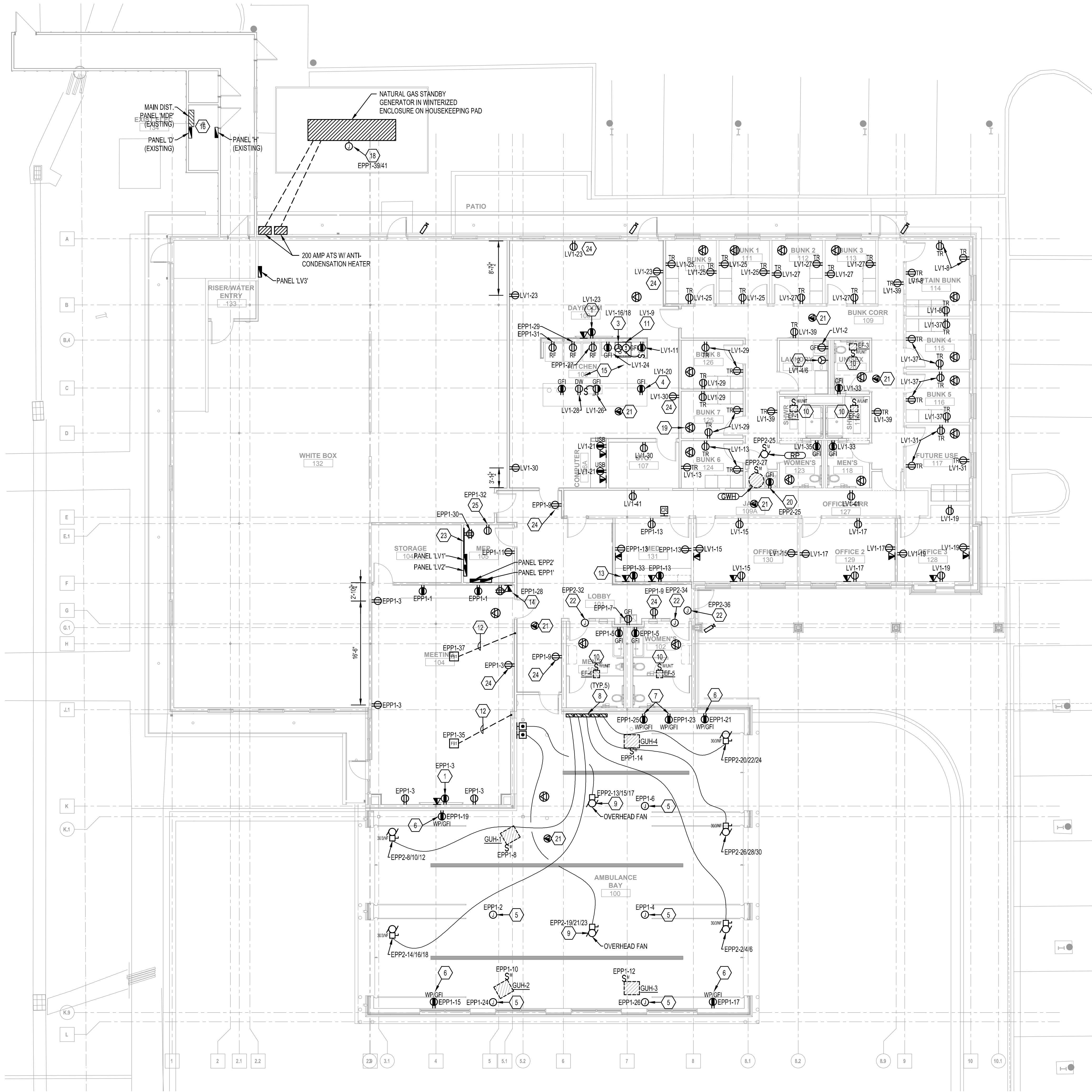
NOTE:  
THIS DETAIL IS SCHEMATIC IN NATURE. PROVIDE ALL WIRING,  
COMPONENTS AND ACCESSORIES AS REQUIRED FOR A  
COMPLETE AND OPERATIONAL DOOR OPENING SYSTEM. REFER  
TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR  
ADDITIONAL INFORMATION.



## OVERHEAD DOOR SCHEMATIC DIAGRAM

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

2



## ELECTRICAL POWER PLAN

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

1

## GENERAL NOTES

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
3. PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRINGS FROM TELEPHONE/DATA OUTLETS TO ABOVE ACCESSIBLE CEILING. VERIFY EXACT REQUIREMENTS WITH TELEPHONE EQUIPMENT SUPPLIER AND/OR TENANT.
4. CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS.
5. REMOVE EXCESS WIRING RESULTING FROM DEMOLITION. ELECTRICAL CONTRACTOR TO RE-CIRCUIT OUTLETS LEFT ON INCOMPLETE CIRCUITS.
6. WHERE POSSIBLE, RE-USE SPARE CIRCUITS RESULTING FROM DEMOLITION PRIOR TO PULLING NEW CIRCUITS FROM PANELBOARD.
7. ALL DEVICES AND FIXTURES LABELED 'EX' ARE EXISTING TO REMAIN. ALL DEVICES AND FIXTURES LABELED 'XAR' ARE EXISTING TO BE RELOCATED.
8. EXISTING CONDITIONS INDICATED IN THESE DOCUMENTS ARE BASED ON A CURSORY SITE REVIEW AND DO NOT REPRESENT A COMPLETE "AS-BUILT" SET OF DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULLY INVESTIGATE ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES TO THESE DOCUMENTS OR THE DESIGN INTENT.
9. ALL 20V-10-15 AMP AND 20 AMP DWELLING UNIT, DORMITORY UNIT AND GUEST ROOM CIRCUITS SERVING OUTLETS OR DEVICES SHALL BE PROVIDED WITH A COMBINATION TYPE AFCI CIRCUIT BREAKER PER NEC 210.12(A).
10. PROVIDE LISTED TAMPER-RESISTANT RECEPTACLES FOR ALL 15 AMP AND 20 AMP, 120V AND 250V NON-LOCKING RECEPTACLES IN AREAS REQUIRED PER NEC 406.12.

## KEYED NOTES:

1. POWER AND DATA FOR WALL MOUNTED TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
2. SPECIAL RECEPTACLE FOR DRYER POWER. FIELD VERIFY EXACT CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
3. SPECIAL RECEPTACLE FOR RANGE POWER. FIELD VERIFY EXACT CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
4. POWER FOR MICROWAVE LOCATED IN MILLWORK. FIELD COORDINATE EXACT LOCATION WITH ARCHITECT/MILLWORK SUPPLIER PRIOR TO ROUGH-IN.
5. PROVIDE CORD REEL WITH 50' CORD AND RECEPTACLE FOR AMBULANCE CHARGING POWER. FIELD COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
6. RECEPTACLE FOR PRESSURE WASHER POWER. FIELD VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
7. RECEPTACLE FOR AED CHARGING STATIONS. FIELD VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
8. BAY DOOR CONTROL PANEL WITH OPEN/CLOSE/STOP BUTTONS INTEGRATED INTO PANEL. FIELD VERIFY EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. VERIFY EXACT LOCATION OF CONTROL PANEL(S) WITH OWNER PRIOR TO ROUGH-IN. PROVIDE ALL LINE AND LOW-VOLTAGE WIRING BETWEEN CONTROL PANEL AND RADIO CONTROL(S), (LOOP DETECTOR(S) AND MOTION DETECTOR(S)) FOR A COMPLETE AND OPERATIONAL SYSTEM. REFER TO SCHEMATIC DETAIL (THIS SHEET) FOR ADDITIONAL INFORMATION.
9. POWER FOR OVERHEAD FAN. FIELD VERIFY EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. VERIFY LOCATION OF MANUAL CONTROL WITH OWNER PRIOR TO ROUGH-IN. PROVIDE ALL LINE AND LOW-VOLTAGE WIRING BETWEEN FAN AND CONTROLLER AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
10. CONNECT FAN TO LIGHTING SWITCHES IN THIS AREA. CONTROL INTENT IS FOR FAN TO ENERGIZE 'ON/OFF' WITH LIGHT FIXTURES IN THIS AREA.
11. POWER FOR RANGE HOOD. FIELD VERIFY EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. PROVIDE CONTROL SWITCH ABOVE COUNTER AS REQUIRED TO MEET ADA.
12. PROVIDE (1) 1/2" CONDUIT FOR POWER AND (1) 1-1/4" CONDUIT FOR DATA FROM FLOOR BOX TO NEAREST WALL AND UP INTO ACCESSIBLE CEILING. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. PATCH AND REPAIR CONCRETE AS REQUIRED.
13. POWER FOR RADIO/SPEAKER SYSTEM. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.
14. POWER AND DATA FOR AV CABINET. FIELD VERIFY EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
15. FIELD VERIFY EXACT CONNECTION REQUIREMENTS OF ALL KITCHEN APPLIANCES PRIOR TO ROUGH-IN.
16. PROVIDE AN ALTERNATE PRICE TO REPLACE EXISTING PANEL 'D' AND 'MDP'. EXISTING PANELS ARE FEDERAL PACIFIC PANELS. OWNER TO CONFIRM IF PANELS SHALL BE REPLACED OR REMAIN.
17. PROVIDE (1) 1" EMPTY CONDUIT WITH PULL STRING FROM ATS TO GENERATOR FOR CONTROL WIRING AS REQUIRED.
18. POWER FOR GENERATOR ACCESSORY POWER (BLOK HEATER, BATTERY CHARGER, ETC.). FIELD VERIFY EXACT CONNECTION WITH GENERATOR MANUFACTURER PRIOR TO ROUGH-IN.
19. SPEAKER, TYPICAL. FIELD VERIFY EXACT REQUIREMENTS WITH OWNER AND AV SUPPLIER.
20. RECEPTACLE FOR THERMOSTATIC MIXING VALVE. FIELD VERIFY EXACT LOCATION WITH PLUMBING CONTRACTOR.
21. DATA CONNECTION FOR WIFI EXTENDER. FIELD VERIFY EXACT CONNECTION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.
22. POWER FOR AUTOMATIC DOOR OPENER. FIELD VERIFY EXACT CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE ALL LINE & LOW-VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
23. PROVIDE 3/4" X 4" X 8' FIRE RESISTANT PLYWOOD FOR TELE/DATA TERMINAL BOARD. COORDINATE EXACT LOW-VOLTAGE REQUIREMENTS WITH OWNER.
24. CENTER RECEPTACLE ON WALL. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.
25. POWER FOR MEDIA RACK. FIELD VERIFY EXACT CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.

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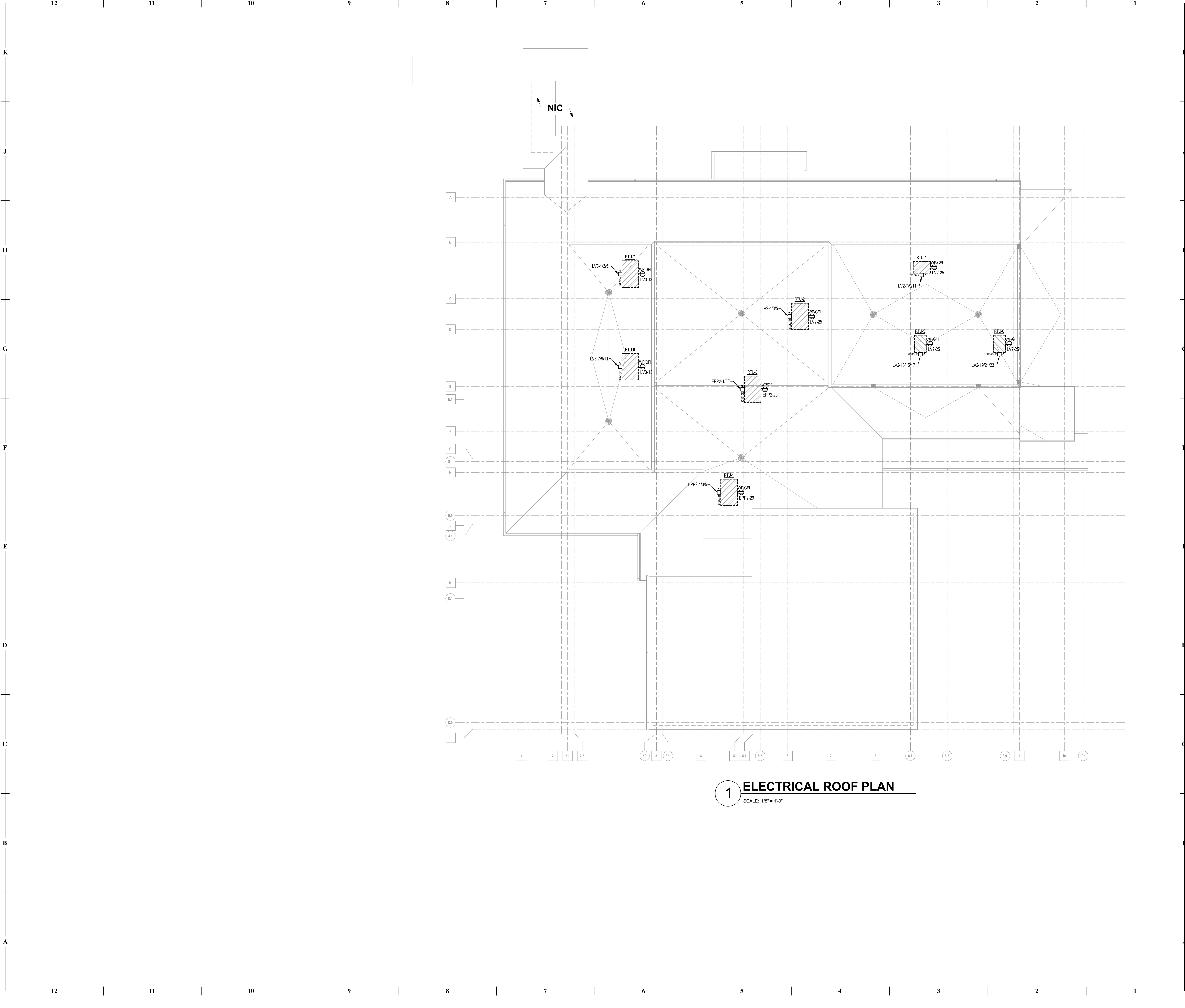
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ELECTRICAL  
POWER PLAN



PERMIT SET





**1 ELECTRICAL ROOF PLAN**  
SCALE: 1/8" = 1'-0"

- GENERAL NOTES**  
(NOT ALL NOTES APPLY)
1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
  2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
  3. PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRINGS FROM TELEPHONE/DATA OUTLETS TO ABOVE ACCESSIBLE CEILING. VERIFY EXACT REQUIREMENTS WITH TELEPHONE EQUIPMENT SUPPLIER AND/OR TENANT.
  4. CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS.
  5. REMOVE EXCESS WIRING RESULTING FROM DEMOLITION. ELECTRICAL CONTRACTOR TO RECIRCUIT OUTLETS LEFT ON INCOMPLETE CIRCUITS.
  6. WHERE POSSIBLE, RE-USE SPARE CIRCUITS RESULTING FROM DEMOLITION PRIOR TO PULLING NEW CIRCUITS FROM PANELBOARD.
  7. ALL DEVICES AND FIXTURES LABELED 'EX' ARE EXISTING TO REMAIN. ALL DEVICES AND FIXTURES LABELED 'EXR' ARE EXISTING TO BE RELOCATED.
  8. EXISTING CONDITIONS INDICATED IN THESE DOCUMENTS ARE BASED ON A CURSORY SITE REVIEW AND DO NOT REPRESENT A COMPLETE "AS-BUILT" SET OF DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULLY INVESTIGATE ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES TO THESE DOCUMENTS OR THE DESIGN INTENT.

**KEYED NOTES:** ◻



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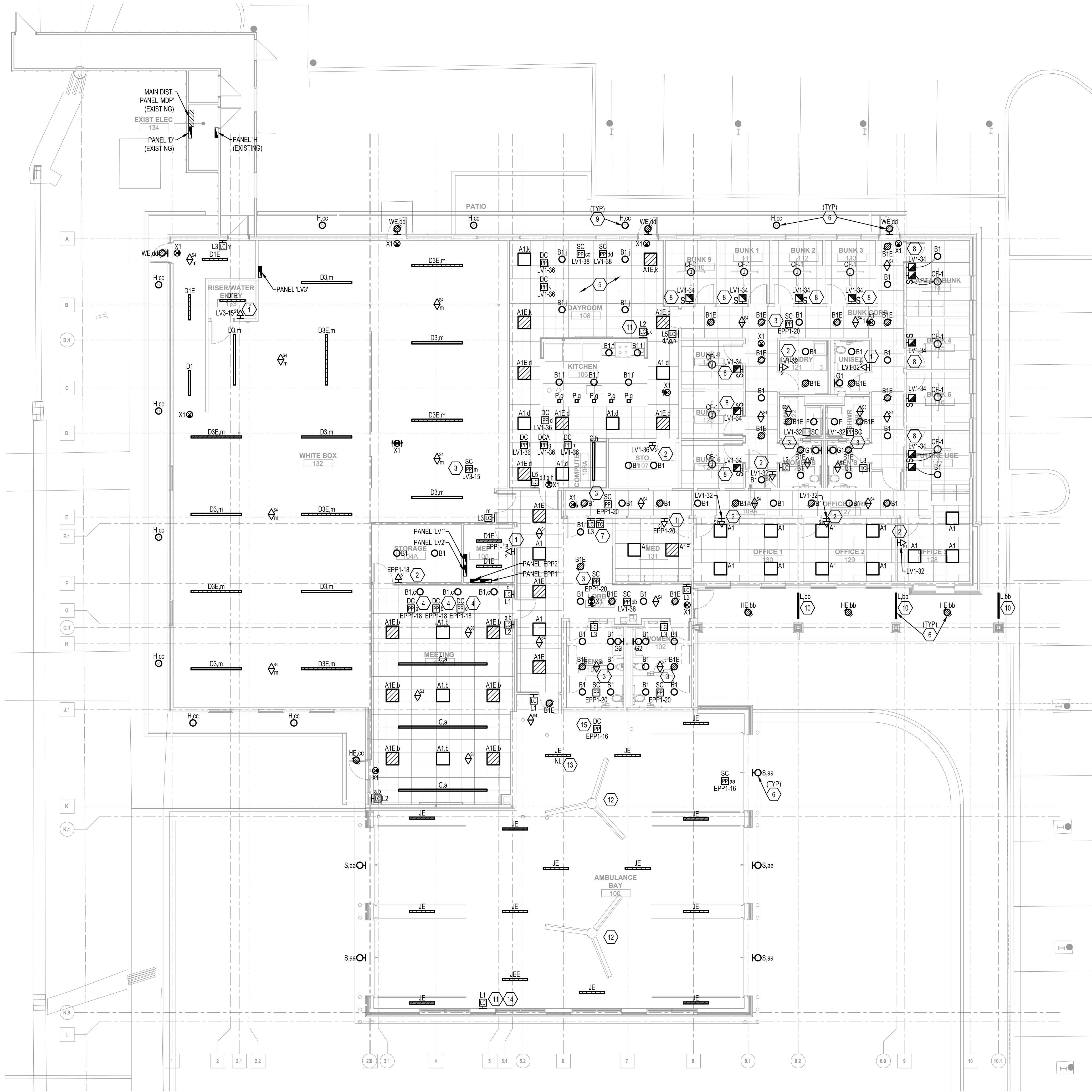
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**ELECTRICAL  
ROOF PLAN**

PERMIT SET





**1 ELECTRICAL LIGHTING PLAN**  
SCALE: 1/8" = 1'-0"

**GENERAL NOTES**  
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
3. CIRCUIT ALL EXISTING SIGNS TO NEAREST EMERGENCY LIGHTING CIRCUIT (OR NEAREST LIGHTING CIRCUIT IF NO GENERATOR).
4. VERIFY ALL EXISTING BRANCH CIRCUITING. CONTRACTOR SHALL WIRE FIXTURES IN ACCORDANCE WITH SWITCHING INDICATED. CONNECTED LOAD ON 277V-20A CIRCUITS SHALL NOT EXCEED 4000W. 120V-20A CIRCUITS SHALL NOT EXCEED 1800W.
5. EXISTING FIXTURES TO BE RELOCATED, AND EXISTING FIXTURES TO REMAIN SHALL BE REFURBISHED AND CLEANED. REPLACE BAD BALLASTS/DRIVERS AS WELL AS DIM. OR BURNED OUT LAMPS. LAMP COLOR AND WATTAGE TO MATCH EXISTING.
6. ALL DEVICES AND FIXTURES LABELED 'EX' ARE EXISTING TO REMAIN. ALL DEVICES AND FIXTURES LABELED 'EXR' ARE EXISTING TO BE RELOCATED.
7. EXISTING CONDITIONS INDICATED IN THESE DOCUMENTS ARE BASED ON A CURSORY SITE REVIEW AND DO NOT REPRESENT A COMPLETE "AS-BUILT" SET OF DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULLY INVESTIGATE ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES TO THESE DOCUMENTS OR THE DESIGN INTENT.

**KEYED NOTES:**

1. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE AUTO 'ON', AUTO 'OFF' WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH.
2. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE MANUAL 'ON', AUTO 'OFF' WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH.
3. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE AUTO 'ON', AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.
4. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE MANUAL 'ON', AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.
5. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE 'ON'/'OFF' VIA DIGITAL TIMECLOCK WITH OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION(S). FIELD VERIFY TIME-OF-DAY SCHEDULE WITH OWNER.
6. EXTERIOR LIGHTING TO BE 'ON'/'OFF' VIA TIME-OF-DAY SCHEDULE VIA DIGITAL TIMECLOCK. FIELD VERIFY TIME-OF-DAY SCHEDULE WITH OWNER.
7. PROPOSED LOCATION OF DIGITAL TIMECLOCK. FIELD VERIFY EXACT LOCATION WITH OWNER.
8. PROVIDE WALL CONTROLS FOR CEILING FAN, ITS LIGHT KIT, AND DOWNLIGHT (WHERE APPLICABLE). DESIGN INTENT IS TO CONTROL FAN, LIGHT KIT, AND DOWNLIGHT (WHERE APPLICABLE) SEPARATELY. ALL LIGHTING SHALL DIM VIA WALLBOX DIMMER. FIELD VERIFY AND COORDINATE ALL LINE- AND LOW-VOLTAGE WIRING REQUIRED FOR LIGHT AND FAN CONTROLS AT WALL SWITCH LOCATION.
9. REPLACE EXISTING SOFFIT DOWNLIGHTS ONE-FOR-ONE. FIELD VERIFY EXACT LOCATION, QUANTITY, AND SIZE PRIOR TO REPLACEMENT. FIXTURES SHALL BE DAMP LOCATION RATED.
10. THIS FIXTURE IS PROVIDED WITH A REMOTE DRIVER. PROVIDE IN ACCESSIBLE INTERIOR LOCATION. COORDINATE ALL LINE- AND LOW-VOLTAGE WIRING FOR A COMPLETE AND OPERATIONAL SYSTEM.
11. FIELD COORDINATE LOCATION OF THIS SWITCH WITH OWNER PRIOR TO ROUGH-IN.
12. FIELD COORDINATE EXACT LOCATIONS OF LIGHTING FIXTURES IN THIS AREA. LIGHTING FIXTURES SHALL NOT BE PLACED ABOVE CEILING FANS OR WITHIN THEIR RADIUS TO AVOID A 'STROBING' EFFECT.
13. THIS FIXTURE TO BE A 'NIGHTLIGHT' WITH 24/7 OPERATION.
14. PROVIDE WITH WEATHERPROOF COVER.
15. LIGHTING CONTROL INTENT:
  - 15.1. AMBULANCE BAY SHALL OPERATE ON TIME-OF-DAY SCHEDULE AS DESCRIBED IN KEYNOTE 5, THIS SHEET.
  - 15.2. DURING TIMES WHICH LIGHTS ARE SCHEDULED 'OFF' MOTION SENSED BY OCCUPANCY SENSOR NEAR DOOR INTO LOBBY SHALL ACTIVATE TIME SWITCH OVERRIDE AND ENERGIZE THE LIGHTS 'ON'.

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**ELECTRICAL  
LIGHTING PLAN**



PERMIT SET





## VOLTAGE DROP CHART

**BRANCH CIRCUIT VOLTAGE DROP WIRING  
SCHEDULE FOR 1Ø CIRCUITS**

BRANCH CIRCUIT RATING (AMPS)	WIRE SIZE (AWG)	MAXIMUM LENGTH OF BRANCH CIRCUIT (FEET)				
		120V	208V	240V	277V	480V
20A	#12	50	90	110	125	200
	#10	80	150	175	200	350
	#8	140	230	280	320	550
	#6	215	375	430	500	870
30A	#10	50	100	110	130	225
	#8	80	160	180	210	360
	#6	135	250	280	325	560
	#4	220	400	450	525	910

**NOTES:**


1. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
2. CONDUCTOR SIZES ARE BASED ON SOLID COPPER CONDUCTORS FOR WIRES SMALLER THAN #6 AND STRANDED COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.
3. LIMITS FOR CONDUCTOR LENGTH SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED UP TO 80% OF THE BRANCH BREAKER RATING. FIELD VERIFY EXACT BRANCH CIRCUIT LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

## GENERAL NOTES

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
3. FIELD VERIFY ALL ELECTRICAL WORK WITH OWNER PRIOR TO START OF PROJECT.

## KEYED NOTES:



1. AFTER DEMOLITION, VERIFY IF EXISTING PANEL 'H' HAS ANY LOADS THAT ARE EXISTING TO REMAIN. IF THERE ARE NO EXISTING LOADS TO REMAIN, PROVIDE AN ALTERNATE PRICE TO SERVE PANEL 'H' LVZ FROM THE EXISTING 200A BREAKER SERVING PANEL 'H'. INCREASE PANEL BUSSING FROM 100A TO 200A AND INCREASE FEEDER TO A 200A FEEDER AS REQUIRED.
2. EXISTING PANEL IS A FEDERAL PACIFIC PANEL. PROVIDE AN ALTERNATE PRICE TO REPLACE THIS PANEL WITH NEW IF REQUESTED BY OWNER.



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1800 - ELECTRICAL

GENERAL

DESCRIPTION

DIVISION 16 OF THE SPECIFICATIONS COVERS ALL ELECTRICAL WORK FOR THE PROJECT. WORK SHALL INCLUDE LABOR, MATERIAL AND ACCESSORIES NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS, INCLUDING CONNECTION AND CHECKOUTS OF EQUIPMENT FURNISHED BY OTHERS (OTHER TRADES, THE OWNER AND OTHER CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS OR AS REQUIRED.

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE A PART OF THESE SPECIFICATIONS AND ELECTRICAL DRAWINGS. THIS TRADE SHALL CONSULT THEM FOR INSTRUCTIONS WHICH APPLY. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL LAYOUT AND WORK INCLUDED. ELECTRICIAN SHALL FOLLOW DRAWINGS IN LAYOUT THE ELECTRICAL WORK AND CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION AND SPACES IN WHICH WORK WILL BE INSTALLED.

CODES, PERMITS, INSPECTION AND COMMISSIONING

INSTALLATION SHALL COMPLY WITH ALL LAWS APPLYING TO ELECTRICAL WORK IN EFFECT, INCLUDING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE NATIONAL ELECTRICAL SAFETY CODE, ALL LOCAL GOVERNING CODES AND ORDINANCES, WITH THE REGULATIONS OF THE SERVING ELECTRICAL UTILITY COMPANY. PROVIDE ALL REQUIRED PERMITS AND INCLUDE THE COST OF SAME IN THE COST OF THE PROJECT. OBTAIN AND PAY FOR (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ALL REQUIRED INSPECTIONS AND REVIEWS. PROVIDE FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

QUALITY ASSURANCE

THE FOLLOWING INDUSTRY STANDARDS AS APPLICABLE TO ELECTRICAL WORK SHALL APPLY TO THE WORK OF THIS DIVISION EXCEPT THAT, WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MORE THAN THE LISTED STANDARD, THESE SPECIFICATIONS SHALL TAKE PRECEDENCE:

UL - UNDERWRITERS' LABORATORIES

NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION  
NECA - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION  
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE  
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS

ALL MATERIALS SHALL BE NEW, UL LISTED AND LABELED WHERE LABELED MATERIALS ARE AVAILABLE, UNDAMAGED AND FREE OF DEFECTS AT TIME OF INSTALLATION. MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT OR OTHERWISE DAMAGED PRIOR TO OR DURING INSTALLATION SHALL NOT BE REPAIRED AT THE JOB SITE, BUT SHALL BE REPLACED WITH NEW MATERIALS. WHEN THE MANUFACTURERS NAME APPEARS IN THESE SPECIFICATIONS AND DRAWINGS, IT SHALL BE CONSTRUED THAT THE MANUFACTURER HAS TO MEET THE FULL REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS.

SUBMITTALS

SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE ARCHITECT FOR ENGINEERS REVIEW ELECTRONICALLY OR HARD COPIES. INCLUDE SUFFICIENT INFORMATION TO INDICATE COMPLETE COMPLIANCE WITH SPECIFICATIONS. PROVIDE SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW ONE WEEK FOR ENGINEER REVIEW TIME. THE ENGINEERS SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES, OR FOR OMITTING COMPONENTS OR FITTINGS, OR FOR NOT COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND/OR OTHER TRADES.

OWNER RECORDS

ACCUMULATE DURING THE PROGRESS OF THE JOB, THE FOLLOWING DATA IN DUPLICATE, AND PREPARE IN A NEAT BROCHURE OR PACKET FOLDER TO BE TURNED OVER TO THE OWNER AT SUBSTANTIAL COMPLETION: RECORD DRAWINGS PER ABOVE.

ALL WARRANTIES, GUARANTEES, AND MANUFACTURERS DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF THESE INSTRUCTIONS SHALL BE FRAMED AND POSTED AS DIRECTED ON THE PREMISES.

CERTIFIED LIGHTING AND LIGHTING CONTROLS COMMISSIONING AS REQUIRED BY CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

MANUFACTURERS' NAMES AND CATALOG NUMBERS  
IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

IN THE CASE OF PANELBOARDS, SAFETY SWITCHES AND OTHER EQUIPMENT REQUIRING WIRE AND CABLE TERMINATIONS, ASCERTAIN THAT LUG SIZES AND WIRING OUTLETS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DIFFERING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, DUCTWORK, WIRING, INSULATION, ETC., CHANGES REQUIRED TO ACCOMPLISH SUCH DIFFERENCES SHALL BE ACCOMPLISHED AT NO COST TO THE OWNER.

PROTECTION OF EQUIPMENT  
ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER, IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, STORAGE AND CONSTRUCTION. MANUFACTURER'S RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT SHALL BE THOROUGHLY DRIED AND PUT THROUGH A DIELECTRIC TEST, AT THE EXPENSE OF THE CONTRACTOR, TO ASCERTAIN THE SUITABILITY OF THE APPARATUS OR IT SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

DAMAGED OR DEFECTIVE EQUIPMENT: INSPECT ALL ELECTRICAL EQUIPMENT AND MATERIALS PRIOR TO INSTALLATION. INSTALLATION OR PLACEMENT INTO SERVICE OF DAMAGED MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER IS PROHIBITED. REPLACE OR REPAIR TO NEW CONDITION, AS CERTIFIED BY THE MANUFACTURER, AND TEST DAMAGED EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS AT NO ADDITIONAL COST TO THE OWNER. EQUIPMENT REQUIRED FOR THE TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

WORKING CLEARANCE

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON DIMENSIONS OF A PARTICULAR MANUFACTURER. (GENERALLY THE FIRST NAMED). WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE, IT IS THE RESPONSIBILITY OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES. MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION, CONTRACTUAL, ADJUSTMENT, MAINTENANCE AND NECESSARY REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT OF EQUIPMENT.

COORDINATION

INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT ACCURATE SCALE WHERE SEVERAL ELEMENTS OF ELECTRICAL OR COMBINED MECHANICAL/STRUCTURAL/ELECTRICAL WORK MUST BE SEQUENCED AND POSITIONED WITH PRECISION IN ORDER TO FIT INTO THE AVAILABLE SPACE.

SHOW THE ACTUAL PHYSICAL DIMENSIONS REQUIRED FOR PROPER INTEGRATION OF EQUIPMENT WITH BUILDING SYSTEMS.

PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS TO ANY EQUIPMENT. WHEN ELECTRICAL DATA ON APPROVED SHOP DRAWINGS DIFFERS FROM CONTEMPLATED DESIGN, MAKE NECESSARY ADJUSTMENTS TO THE WIRING, DISCONNECTS, AND BRANCH-CIRCUIT PROTECTION FOR THE EQUIPMENT ACTUALLY INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

DAMAGE FROM INTERFERENCE CAUSED BY INADEQUATE COORDINATION SHALL BE RECTIFIED AT NO ADDITIONAL COST TO THE OWNER.

WORKMANSHIP

ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEERS WRITTEN APPROVAL.

EXCAVATION AND BACKFILL

EXCAVATION, TRENCHING AND BACKFILLING ARE SPECIFIED IN SECTION EXCAVATION. TRENCHING AND BACKFILLING FOR UTILITIES. CONDUIT IS TO BE INSTALLED AS SPECIFIED FOR PIPELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB. BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OR EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

PENETRATIONS

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS.

ROOFS: COORDINATE ALL ROOF PENETRATIONS WITH ENGINEER, OWNER, AND AS APPLICABLE, THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH DIVISION 15, FLASH-AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATING OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

WALLS AND FLOORS - SLEEVES FOR RACEWAYS AND CABLES  
STEEL PIPE SLEEVES: ASTM A 53A 33M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRIP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED "WALL PIPE," EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL SATERSTOP, UNLESS OTHERWISE INDICED.

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRAION SEALANTS, TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN THROUGH-PENETRAION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE TRAY PENETRAIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTM E 814, BY UNDERWRITERS LABORATORIES, INC., OR OTHER NRTL ACCEPTABLE TO AHJ.

ACCEPTABLE MANUFACTURERS - HULTI, INC., 3M CORP., RECTORS&EAL, SPECIFY TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

ELECTRICAL SERVICE

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

PROVIDE SECONDARY SERVICE INTO THE BUILDING WITH CONDUIT AND WIRING AS SHOWN ON THE PLANS, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND RACEWAYS AND CABLES AND SECONDARY CONNECTIONS TO UTILITY TRANSFORMERS AS REQUIRED BY SERVING ELECTRICAL UTILITY COMPANY. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE GROUNDING SYSTEM, PERMANENTLY AND EFFECTIVELY GROUND AND BOND THE ELECTRICAL INSTALLATION IN A THOROUGH AND EFFICIENT MANNER AND IN CONFORMANCE (AT A MINIMUM) WITH N.E.C. OR THESE DOCUMENTS, WHERE THEY EXCEED CODE REQUIREMENTS. USE BARE OR INSULATED CONDUCTORS, AS SPECIFIED HEREIN, AND OTHER MATERIALS INDICATED ON THE DRAWINGS.

PROVIDE ALL NECESSARY ENCLOSURES REQUIRED BY THE OWNER FOR THE UTILITY COMPANY METERING. REFER TO DRAWINGS FOR MINIMUM REQUIREMENTS. COORDINATE WITH UTILITY COMPANY PRIOR TO BID FOR ALL REQUIREMENTS.

PRODUCTS

GENERAL

ALL EQUIPMENT OF A PARTICULAR KIND, SUCH AS WIRING DEVICES AND PANELBOARDS AND LIGHTING FIXTURES OF THE SAME TYPE, SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH PANELS. SIZE AS REQUIRED FOR PROPER ACCESS AND MAINTENANCE. MINIMUM ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENING WHERE HAND ACCESS ONLY IS REQUIRED.

PROVIDE LABELS FOR EACH MOTOR CONTROLLER, SAFETY SWITCH, RELAY, PANELBOARD, CONTACTOR, TIMER, CONTROL DEVICE, METER AND CIRCUIT BREAKER. LABELS SHALL BE LAMINATED, PHENOLIC STRIPS 1/16" THICK, AND ENGRAVED TO SHOW BLACK LETTERS ON A WHITE BACKGROUND NOT LESS THAN 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURERS BRACKETS AND BE LEGIBLE. WHERE MANUFACTURERS BRACKETS ARE NOT PROVIDED, MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ADHESIVE.

RACEWAYS

CONDUIT, RIGID STEEL, GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.1. FITTINGS SHALL BE PIPE THREADED, MALLEABLE IRON. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUIT, PVC: POLYVINYLCHLORIDE SCHEDULE 40 PIPE SPECIFICALLY MANUFACTURED AND LABELED (UL STANDARD 651) FOR USE AS ELECTRICAL CONDUIT. FITTINGS SHALL BE EITHER SOCKET WELDED TYPE OR PIPE THREADED WITH INSULATED THROAT.

CONDUIT, FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH GALVANIZED OR SHERADIZED FITTINGS. LISTED PER UL-L. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH OVERALL JACKET OF LIQUID TIGHT PVC, UL LISTED. FITTINGS SHALL BE STEEL OR MALLEABLE IRON INSULATED THROAT, WATERTIGHT.

ELECTRIC METALLIC TUBING: GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH TRADE SIZE SHALL BE COMPRESSION TYPE, MANUFACTURED FROM MALLEABLE IRON OR STEEL, AND RAIN AND/OR CONCRETE-TIGHT AS REQUIRED BY INSTALLATION. POT METAL OR DIE CAST TYPE FITTINGS ARE PROHIBITED. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUCTORS AND CABLES

GENERAL: SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF ANNEALED (SOFT) COPPER COMPLYING WITH ICSA S-65-658NEMA WC70, SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER, CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO. 8 AWG AND LARGER-STRANDED. TYPE THHNW-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO. 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING CIRCUITS; SOLID COPPER, TYPE THWN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB); TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE); OR DUAL RATED TYPE THHN/THWN-3. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO. 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70-B AND BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF CIRCUITS. CONDUCTORS AND CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICE) IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE THREE NO. 12 AWG CONDUCTORS IN 3/4" RACEWAY, AND A 20A SINGLE POLE CIRCUIT BREAKER.

CONDUCTOR INSULATION TYPES: 90-DEGREE C-RATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICSA S-65-658NEMA WC70.  
COLORS FOR 208/120V CONDUCTORS  
PHASE A: BLACK  
PHASE B: RED  
PHASE C: BLUE  
NEUTRAL: WHITE  
EQUIPMENT GROUND: GREEN  
ISOLATED GROUND: GREEN WITH YELLOW STRIPE

COLORS FOR 480/277V CONDUCTORS  
PHASE A: BROWN  
PHASE B: ORANGE  
PHASE C: YELLOW  
NEUTRAL: WHITE  
EQUIPMENT GROUND: GREEN

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES, SUCH AS LOW VOLTAGE CONTROL AND SHIELDED INSTRUMENT WIRING, SHALL BE AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER.

CONTROL WIRING: STRANDED COPPER CONDUCTORS, 800V INSULATION, OF THE PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED FUNCTION. MINIMUM SIZE: NO. 14 AWG UNLESS NOTED OTHERWISE.

MC TYPE CABLE CAN BE USED IF ACCEPTED BY LOCAL AUTHORITY AND GOVERNING CODES FOR WHIPS FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE 600V, UNJACKETED: ANSI E119 AND E84, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1589, NFPA 70 ARTICLE 330, ALUMINUM OR GALVANIZED STEEL, INTERLOCKED ARMOR, THHN- OR XHHW-INSULATED CONDUCTORS; COLOR CODE: ICSA METHOD 1, WITH GREEN INSULATED GROUNDING CONDUCTOR.

PROVIDE A DEDICATED EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH BRANCH CIRCUIT.

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2%.

GFCI CIRCUITS: DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL, FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT. BRANCH CIRCUITS FED FROM GFCI CIRCUIT BREAKERS, LIMIT THE ONE-WAY CONDUCTOR LENGTH TO 100 FEET BETWEEN THE PANELBOARD AND THE MOST REMOTE RECEPTACLE OR LOAD ON THE GFCI CIRCUIT.

BOXES  
OUTLET BOXES: GALVANIZED PRESSED STEEL WITH GALVANIZED STEEL EXTENSION RINGS OR PLASTER RINGS OR TILE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH AND LOCKMOUNTED TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INSOPAR AS MATERIAL, GAUGES, DIMENSIONS, AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES ARE NOT SIZED ON THE DRAWINGS, THEY SHALL BE SIZED IN ACCORDANCE WITH

N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED WITH BRASS MACHINE SCREWS.

WIRING DEVICES

SWITCHES: HEAVY DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE-POLE, DOUBLE-POLE, THREE-POLE, OR FOUR-WAY AS NOTED ON DRAWINGS OR AS REQUIRED FOR THE SWITCHING ARRANGEMENTS IN EACH SPACE. HUBBELL #HBL122" OR EQUAL. COORDINATE SWITCH COLORS WITH COVERPLATES AS DESCRIBED BELOW UNDER "PLATES".

SWITCHES, SPECIAL PURPOSE: KEY OPERATED, HEAVY-DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE OR MULTI-POLE AS NOTED OR AS REQUIRED. HUBBELL #HBL122" OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT RATED, SPECIFICATION GRADE 20 AMPERES DUPLEX UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #R362 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE, HUBBELL #R361 OR EQUAL.

DUST AND MOISTURE RESISTANT: MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR R6307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE, HUBBELL #R6F-3622" OR EQUAL.

CORROSION RESISTANT: SIMILAR AND APPROVED EQUAL TO STANDARD RECEPTACLE, EXCEPT FABRICATED FROM YELLOW MELAMINE PLASTIC WITH YELLOW NYLON FACE AND EXPOSED METAL PARTS FINISHED TO RESIST CORROSION, (NEMA 5-11R - HUBBELL #R2CM61).

ISOLATED GROUND, DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-3622" OR EQUAL.

RECEPTABLES, SPECIAL PURPOSE: SPECIAL PURPOSE OUTLETS SHALL BE AS SCHEDULED ON DRAWINGS.

PLATES: PROVIDE PLATES FOR ALL OUTLET BOXES. PLATES SHALL BE OF SUITABLE CONFIGURATION FOR THE NUMBER AND TYPE OF DEVICES SERVED, SHALL BE ONE PIECE, SHALL OVERLAP OUTLET BOX EDGE AND ROOM SURFACES, AND SHALL BE SMOOTH FINISH NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT PRIOR TO INSTALLATION.

STANDARD INTERIOR: IVORY FINISHED ON LIGHT COLORED WALLS - COORDINATE ALL COLORS WITH ARCHITECT

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-USE NEMA 3R, UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT CORUS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES. COMPLYING WITH NFPA 70 406.8 (A) OR (B) REQUIREMENTS FOR ATTENDED OR UNATTENDED USE AS APPLICABLE.

ACCEPTABLE MANUFACTURERS: HUBBELL, PASS & SEYMOUR, LEVITON AND COOPER.

CABINETS AND ENCLOSURES

FURNISH AND INSTALL FLUSH CABINETS AND ENCLOSURES AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED. UNIT SHALL BE PROVIDED WITH DEAD FRONT SUB PANEL, RECESSED AS REQUIRED, TO HOUSE CONTROLS. DOOR SHALL BE PROVIDED WITH CONCEALED HINGES AND FLUSH KEY OPERATED LOCK. DOOR AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL FINISHES. PROVIDE KNOCK-OUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS REQUIRED TO MEET FIELD CONDITIONS. EXACT BOX/BOARD SIZE TO BE COORDINATED WITH EQUIPMENT SUPPLIER.

CIRCUIT DISCONNECTS

SAFETY SWITCHES: SAFETY SWITCHES SHALL CONSIST OF A BOX, FRONT COVER, AND CIRCUIT PROTECTOR DEVICE ALL MANUFACTURED AND ASSEMBLED IN ACCORDANCE WITH NEMA STANDARDS

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH U.L. LISTING AND LABEL. THE CIRCUIT PROTECTOR DEVICE SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY, IF REQUIRED. UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAIN/TIGHT ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANELBOARDS

SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE UL-L LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1. THE LATEST UL STANDARD (UL-85) AND SHALL HAVE A TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL AND FINISH WITH BAKED ON GRAY ENAMEL OVER RUST INHIBITOR. EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR PLASTIC AND HELD IN A METAL FRAME, AND CONCEALED TRIM CLAMPS FOR MOUNTING TO THE BOX. ALL LOCKS SHALL BE MASTER KEYED AND ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

ALL INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THE DESIGN OF THE INTERIOR SHALL PERMIT REPLACEMENT OF INDIVIDUAL BRANCH BREAKERS WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT MACHINE DRILLING OR TAPPING. BUS BARS FOR PANELS RATED 600 AMPERES OR MORE SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR TIN FINISH ALUMINUM (5% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANON CIRCUIT BREAKERS ONLY BE THE PHASE SEQUENCE TYPE AND ACCEPT BRANCH CIRCUIT BREAKERS ONLY. PANELBOARD BUS STRUCTURE AND MAIN BREAKER OR MAIN LUGS SHALL BE RATED AS SCHEDULED ON DRAWING. SUCH RATINGS SHALL BE ESTABLISHED BASED ON HEAT RISE TESTS IN ACCORDANCE WITH UL STANDARDS. GROUP INCOMING CABLE LUGS AT ONE END FOR SEPARATION FROM LONG SIDE CABLES. EQUIPMENT NEUTRAL BUSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-ON THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS ONE, TWO OR THREE POLE WITH INTEGRAL CROSSBAR FOR MULTI-POLE UNITS, EQUIPPED WITH AN OVERCENTER, TRIP-FREE, TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLED INDICATION OF BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARDS.

EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON DRAWINGS. THE RATING SHALL BE ESTABLISHED BY TESTING WITH THE OVERCURRENT DEVICES MOUNTED IN THE PANELBOARD, THE SHORT CIRCUIT TESTS ON THE OVERCURRENT DEVICES ON THE STRUCTURE SHALL BE MADE SIMULTANEOUSLY BY CONNECTING THE FAULT TO EACH OVERCURRENT DEVICE WITH THE PANELBOARD CONNECTED TO ITS RATED SUPPLY VOLTAGE.

REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS SPECIFICALLY INDICATED ON PANELBOARD SCHEDULES. WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY LABELLED BY NEC REQUIREMENTS.

METHOD OF TESTING SHALL BE PER UL STANDARDS. PANELBOARDS SHALL BE MARKED WITH THEIR MAXIMUM SHORT CIRCUIT CURRENT RATING AT THE SUPPLY VOLTAGE.

APPROVED MANUFACTURERS: SQUARE-D CO. OR EQUAL BY GE, SIEMENS AND/OR Eaton.

OVERCURRENT PROTECTIVE DEVICES  
FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 800 VOLTS AND BELOW SHALL BE UL CLASS RK-1, CURRENT-LIMITING, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERE RMS SYMMETRICAL INTERRUPTING CAPACITY ON NON-MOTOR CIRCUITS AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: RUSSMANN, LITTELFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SEPARATE COORDINATION).

CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED WHERE CALLED FOR ON DRAWINGS. BREAKERS SHALL BE THERMAL MAGNETIC MOLDED-CASE WITH QUICK-MAKE, QUICK-BREAK, OVER CENTER TOGGLE TYPE MECHANISM AND TRIP-FREE HANDLE MECHANISM. THE BREAKER SHALL BE ENCLOSED IN A SUITABLE NEMA RATED ENCLOSURE. BREAKERS SHALL BE OF SAME MANUFACTURER AS THOSE IN THE PANELBOARDS.

TIMESWITCHES  
ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY; COMPLYING WITH UL917, SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING, 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUTE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

OUTDOOR PHOTOELECTRIC SWITCHES  
SOLID STATE, WITH SPST DRY CONTACT, RATED FOR 1800-VA TUNGSTEN OR 1000-VA INDUCTIVE, TO OPERATE CONNECTED RELAY, CONTACTOR COILS OR MICROPROCESSOR INPUT, COMPLYING WITH UL 773A.

TELEPHONE AND DATA SYSTEMS

FURNISH AND INSTALL A SYSTEM OF PROPERLY SIZED AND PROPERLY LOCATED OUTLETS WITH ASSOCIATED CONNECTING CONDUIT RUNS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD. FURNISH AND INSTALL RACEWAYS, FOR INCONVENIENT LOCATIONS WHERE INDICATED.  
OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

OUTLET COVER PLATES: TELEPHONE OUTLET COVER PLATES SHALL MATCH THOSE SPECIFIED FOR ADJACENT WIRING DEVICES, INCLUDING THOSE WITH SPECIAL FINISHES.

RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN ACCORDANCE WITH CORRESPONDING RACEWAYS SPECIFIED HEREIN AND IN OTHER SECTIONS.

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNERS FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGH-IN WHERE DIRECTED BY ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO OWNER.

TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK SO THAT BOTH TELEPHONE CO. AND OWNERS REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPLI TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO P ABOVE ACCESSIBLE CEILING OR UP TO STRUCTURE WHERE NO CEILING EXISTS, UNLESS SHOWN OTHERWISE ON DRAWINGS.

TELEPHONE TERMINAL BOARD: PRIOR TO INSTALLATION OF TELEPHONE TERMINAL BOARD, THE EXACT LOCATION SHALL BE VERIFIED WITH THE TELEPHONE CO. THE TELEPHONE TERMINAL BOARD SHALL BE PROVIDED WITH A DOUBLE DUPLEX RECEPTACLE LOCATED WHERE INDICATED ON THE DRAWINGS. THE TERMINAL BOARD SHALL BE CONSTRUCTED OF 4" X 8" X 3/4" PLYWOOD WITH TWO (2) COATS OF FLAME RETARDANT PAINT UNLESS NOTED OTHERWISE ON DRAWINGS.

LIGHTING

FIXTURES ARE SPECIFIED IN THE SCHEDULE BY MANUFACTURER'S NAME AND CATALOG NUMBER.

ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED THERMAL PROTECTION.

ALL LAMPS USED ON THIS PROJECT SHALL BE NEW, DELIVERED TO THE JOB SITE IN THE ORIGINAL PACKING CASES AND SLEEVES AND SHALL BE OF THE SAME MANUFACTURER.

PROVIDE FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS SUITABLE FOR OPERATION OF LAMPS SPECIFIED, TOTAL HARMONIC DISTORTION LESS THAN 20%; FREQUENCY OF OPERATION OF 20 KHZ OR GREATER WITH NO VISIBLE FLICKER; LINE TRANSIENT WITHSTAND RATINGS AS DEFINED IN ANSI/EETEC CATEGORY A. APPROVED MANUFACTURERS: ADVANCE OR EQUAL BY MAGNETEK, MOTOROLA OR OSRAM.

HID BALLASTS SHALL BE AUTO TRANSFORMER REACTOR, HIGH POWER FACTOR PORTED AND ENCASED TO MINIMIZE SOUND. APPROVED MANUFACTURERS: GE, SYLVANIA, OR OSRAM.

LED LIGHT FIXTURES ARE TO BE PROVIDED WITH COMPATIBLE DRIVER AND MUST BE COORDINATED WITH CONTROL TYPE INDICATED. CONTRACTOR IS RESPONSIBLE TO ENSURE CONTROLS ARE CAPABLE OF PROPERLY CONTROLLING LIGHT FIXTURES AS INDICATED WITHIN THESE DRAWINGS.





**WIRING OF MECHANICAL EQUIPMENT**  
PROVIDE ALL RACEWAYS AND POWER WIRING FOR ALL DIVISION 15 EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, INCLUDING, BUT NOT LIMITED TO, PUMPS, WATER HEATERS, AND HVAC EQUIPMENT, AND ALL LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15. CONNECT PER MANUFACTURER'S WIRING DIAGRAMS. COORDINATE WITH DIVISION 15 FOR DISCONNECTS FURNISHED WITH EQUIPMENT, AND PROVIDE ALL DISCONNECT SWITCHES AS REQUIRED. AFTER INSTALLING WIRING, VERIFY THAT EACH MOTOR LOAD HAS THE CORRECT PHASE ROTATION.

VERIFY THE ACTUAL "MAXIMUM OVERCURRENT PROTECTION" DEVICE RATINGS AND "MINIMUM CIRCUIT AMPACITY" CONDUCTOR SIZING FOR MECHANICAL INSTALLATIONS ON ACTUAL REQUIRED AMPERAGES, WHICH MAY VARY SOMEWHAT FROM THE CONDUCTOR AND EQUIPMENT SIZES SHOWN ON THE DRAWINGS; HOWEVER, IN NO CASE, REDUCE THE SIZE OF CONDUCTORS INDICATED ON THE DRAWINGS WITHOUT AUTHORIZATION FROM THE ENGINEER. PROVIDE PROPERLY SIZED ELECTRICAL WIRING AND EQUIPMENT WITHOUT EXTRA COST TO THE OWNER. NOTIFY THE ENGINEER OF ALL CHANGES REQUIRED IN THE ELECTRICAL INSTALLATION DUE TO EQUIPMENT VARIANCES SO THAT THE EFFECTS ON FEEDERS, BRANCH CIRCUITS, PANELBOARDS, FUSES AND CIRCUIT BREAKERS CAN BE CHECKED PRIOR TO PURCHASING AND INSTALLATION. BE RESPONSIBLE FOR COORDINATING WITH DIVISION 15 TO VERIFY THE ACTUAL AMPACITIES AND CORRECT SIZES OF ALL CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICES FOR ALL EQUIPMENT, AND CORRECT OVERLOAD HEATERS FOR ALL MOTORS, WHEN STARTERS ARE PROVIDED UNDER DIVISION 16.

PROVIDE ALL RACEWAYS, POWER WIRING, AND LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15, FOR ALL THERMOSTATS, TEMPERATURE CONTROL DEVICES, AND CONTROLS, INCLUDING, BUT NOT LIMITED TO, NIGHT-STATS, WATER HEATER INTERLOCKS, TIME SWITCHES AND OVERRIDE TIMERS. SEE MECHANICAL DRAWINGS FOR LOCATIONS AND TEMPERATURE CONTROL DIAGRAM. LOW-VOLTAGE CONDUCTORS FOR THERMOSTATS AND TEMPERATURE CONTROL SYSTEMS MAY BE RUN EXPOSED ABOVE FINISHED ACCESSIBLE CEILINGS, IF APPROVED AND LISTED FOR THIS PURPOSE, BUT SHALL BE INSTALLED IN CONDUIT WITHIN WALLS AND WHERE EXPOSED IN THE WORK AREAS.

**EXECUTION**  
**METHOD OF PROCEDURE**  
ERECT EQUIPMENT PARTS AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCES AND DELAYS IN THE EXECUTION OF THE WORK CARE SHALL BE USED IN THE ERECTION AND INSTALLATION OF ALL EQUIPMENT AND MATERIALS TO AVOID MARRING SURFACES OF THE WORK. DAMAGES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

EQUIPMENT REQUIRING ELECTRICAL SERVICE SHALL NOT BE ENERGIZED OR PLACED IN SERVICE UNTIL ALL INTERESTED PARTIES HAVE BEEN DULY NOTIFIED AND ARE PRESENT OR HAVE WAIVED THEIR RIGHT TO BE PRESENT. WHERE EQUIPMENT TO BE PLACED IN SERVICE INVOLVES SERVICE OR CONNECTION FROM ANOTHER CONTRACTOR OR THE OWNER, NOTIFY THE OWNER IN WRITING WHEN THE EQUIPMENT WILL BE READY. THE OWNER SHALL BE NOTIFIED AS FAR IN ADVANCE AS POSSIBLE, OF THE DATE THE VARIOUS ITEMS OF EQUIPMENT WILL BE COMPLETE.

THE WORK OF THIS TRADE INCLUDES ROUGH-IN FOR AND FINAL CONNECTION AND REQUIRED TO ALL MISCELLANEOUS EQUIPMENT FURNISHED BY OTHERS, OR UNDER OTHER DIVISIONS OF THE WORK. THIS SHALL INCLUDE POWER AND CONTROL WIRING, WIRING DEVICES AND COVER PLATES FOR BUILT-IN EQUIPMENT ARE INCLUDED IN THE WORK OF THIS DIVISION. SAFETY DISCONNECTS AND OTHER MISCELLANEOUS PROTECTIVE DEVICES REQUIRED BY N.E.C. ARE INCLUDED IN THE WORK OF THIS DIVISION. DO ALL ROUGH-IN AND FINAL CONNECTIONS FROM APPROVED SHOP DRAWINGS ONLY.

COMPLIANCE WITH THE DRAWING AND ANY NOTES THEREON IS REQUIRED. PROVIDE OPENINGS THROUGH WALLS, PARTITIONS, FLOORS, AND ROOFS AS REQUIRED FOR ELECTRICAL WORK.

PROVIDE SLEEVES FOR ELECTRICAL WORK PASSING THROUGH WALLS, PARTITIONS, ROOFS, AND FLOORS. SLEEVES SHALL EXTEND THROUGH FLOORS, WALLS AND PARTITIONS AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS OTHERWISE SPECIFIED. FIRE WALL AND/OR FLOOR INTEGRITY SHALL BE RESTORED AFTER PENETRATION. SLEEVES IN CONCRETE AND MASONRY WALLS, CONCRETE FLOORS AND ROOFS, SHALL BE FABRICATED FROM STANDARD GALVANIZED STEEL PIPE WITH ENDS FINISHED SMOOTH, BURR FREE, WITHOUT SHARP EDGES. SLEEVES IN WALLS, ROOFS, AND FLOORS OF OTHER CONSTRUCTION AND THROUGH SUSPENDED CEILINGS SHALL BE FABRICATED FROM 22 U.S. GAUGE GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND THREE INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. SPACE BETWEEN FLOOR SLEEVES AND PASSING CONDUIT SHALL BE FILLED WITH DUCT SEAL, PACKING AND CAULKED WITH WATERPROOF COMPOUND AS APPROVED. WHERE CONDUITS PASS THROUGH WATERPROOFED FLOORS OR WALLS, SLEEVES SHALL BE FABRICATED SUCH THAT WATERPROOFING CAN BE FLASHED ONTO AND AROUND THE SLEEVE.

**RACEWAYS**  
ALL POWER AND LIGHTING CIRCUITS SHALL BE RUN IN METALLIC RACEWAYS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE. THESE RACEWAYS SHALL BE RUN CONCEALED IN ALL FINISHED AREAS, AND WHERE RUN EXPOSED SHALL BE SQUARE TO THE BUILDING AND HELD TIGHT TO THE BUILDING CONSTRUCTION. LOW VOLTAGE, TELEPHONE, INTERCOM, MUSIC, ALARM AND SECURITY WIRING RUN ABOVE ACCESSIBLE CEILINGS SHALL BE RUN USING INSULATED, PLENUM RATED CABLE. PROVIDE LOW VOLTAGE CABLE IN CONDUIT IF REQUIRED BY LOCAL A.H.I. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION. METALLIC CONDUIT FOR THESE SYSTEMS SHALL BE PROVIDED ONLY WHERE RUN INSIDE WALLS. THE DRAWINGS INDICATE THE REQUIRED SIZE OF ALL RACEWAYS (EXCEPT AS HEREINAFTER SPECIFIED), THE POINTS OF TERMINATION AND THE SUGGESTED ROUTING. HOWEVER, THE INSTALLER IS RESPONSIBLE FOR PROPER COORDINATION WITH BUILDING STRUCTURE AND THE WORK OF OTHER TRADES. FURNISH ALL REQUIRED BENDS, ELBOWS, FITTINGS, JUNCTION AND PULL BOXES, WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS, THAT MAY BE REQUIRED TO SATISFY CODES AND THE STANDARDS OF GOOD PRACTICE. WHERE CONDUITS FOR BOTH BRANCH AND FEEDER CIRCUITS ARE RUN CONCEALED, THEY MAY BE RUN OUT OF SQUARE TO THE BUILDING PROVIDING THE SHORTEST POSSIBLE RUN IS UTILIZED. RACEWAY SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS AND N.E.C. FILL.

CONDUIT SHALL BE CONSTRUED AS ELECTRICAL RACEWAYS AND SHALL CONFORM TO THE FOLLOWING: CONCEALED IN SUSPENDED CEILINGS AND INTERIOR PARTITIONS - EMT WITH SET SCREW TYPE FITTINGS. UNDERGROUND OR BELOW INTERIOR SUBS - GRS. (NOTE: PVC CONDUIT IS PERMITTED OUTSIDE FOR PARKING AREA LIGHTING, SIGNS, ETC. ELBOWS SHALL BE GRS). EXPOSED ON BUILDING EXTERIOR - GRS.

CONDUIT BENDS SHALL BE MADE TO THE LARGEST POSSIBLE RADIUS FOR EASE IN PULLING CONDUCTORS AND TO PROVIDE A NEATLY INSTALLED APPEARANCE. EQUIPMENT AND CONDITIONS PERMITTING, POWER CONDUIT BENDS SHALL CONFORM TO THE FOLLOWING: 1-1/2 IN. - 18 IN. RADIUS; 2 IN. - 24 IN. RADIUS; 2-1/2 IN. - 24 IN. RADIUS; 3 IN. - 36 IN. RADIUS.

GRS CONDUIT SHALL BE CUT WITH POWER OR HACKSAW AND CLEANLY REAMED

TO REMOVE ALL "BURRS" AND ALL FIELD CUT THREADS SHALL BE PAINTED WITH WHITE LEAD BEFORE COUPLINGS ARE APPLIED.

EMPTY CONDUIT SYSTEMS INSTALLED FOR COMMUNICATION SYSTEMS, PUBLIC TELEPHONES, OWNER ITEMS AND OTHER SYSTEMS AS INDICATED ON DRAWINGS SHALL BE INSTALLED COMPLETE WITH NYLON PULL WIRES PROPERLY TAGGED AT BOTH ENDS FOR IDENTIFICATION.

WHERE BUILDING VENTILATION CONDITIONS ARE SUCH THAT AIR MAY FLOW CONTINUOUSLY IN CONDUITS, CAUSING CONDENSATION AND THE COLLECTION OF MOISTURE, THE CONDUITS SHALL BE SEALED AT EACH END WITH A PLUGABLE N.E.C. AND INSTALLED WITHIN THE RACEWAY. CONDUCTOR SHALL BE CONTINUOUS BETWEEN A GROUNDING SCREW IN THE EQUIPMENT JUNCTION BOX AND A GROUND ATTACHMENT IN THE NEAREST OUTLET BOX IN THE RIGID METALLIC CONDUIT SYSTEM. THIS REQUIREMENT INCLUDES ALL FLEXIBLE CONDUIT.

GENERALLY FOR TELEPHONE AND SUPPLEMENTAL COMMUNICATION SYSTEMS NO 6 AWG CONDUCTOR TO EACH PROTECTOR CABINET, OTHER CABINET, OR DEVICE INSTALLATION SHALL BE CONSIDERED SUFFICIENT, FROM THE SERVICE GROUND (UNLESS INDICATED OTHERWISE).

**GROUNDING MATERIAL**  
GROUND-RODS - 1/2" DIA., 10' LONG, COPPERWELD GROUND CONDUCTOR - SIZE AS PER N.E.C. REQUIREMENTS, SOFT DRAWN OR SOFT ANNEALED, COPPER WIRE. JOINTS AND CONNECTIONS - MOLDED FUSION WELDING PROCESS USING PROPER MOLD AND THE NUMBER, SIZE AND TYPE CARTRIDGE FOR THE JOINT OR CONNECTION, WATERPIPE CONNECTION, SILICON BRONZE APPROVED MECHANICAL CONNECTOR DESIGNED FOR THE PIPE AND CABLE TO BE BONDED.

**PANELBOARD INSTALLATION**  
MOUNT PANELBOARDS WITH CENTERLINE AT 5 FT.-4IN. ABOVE FINISH FLOOR, EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 8 FT.-5 IN. ABOVE FINISH FLOOR, ARRANGE BREAKERS SO THAT THE BREAKER RATING IS VISIBLE WITH THE PANEL FRONT IN PLACE.

PANEL DIRECTORIES, AS A MINIMUM, SHALL BE TYPEWRITTEN AND INDICATE BREAKER POSITION NUMBER AND EQUIPMENT SERVED. THE PANEL IDENTIFICATION SHALL BE LOCATED ON THE PANEL TRIM AND SHALL CONSIST OF A BLACK LAMINATED PHENOLIC LABEL, SCREW MOUNTED, WITH THE PANEL IDENTIFICATION MATCHING PANEL IDENTIFICATION ON DRAWINGS. LABEL ALL CONDUCTORS WITH ADHESIVE WRAP LABELS WITHIN 2 IN. OF THE CONDUCTOR TERMINATION PRIOR TO INSTALLATION OF TRIM.

**LIGHTING FIXTURE INSTALLATION**  
PROVIDE A LIGHTING FIXTURE FOR EACH AND EVERY OUTLET IN ACCORDANCE WITH TYPE DESIGNATION AND FIXTURE SCHEDULE ON THE DRAWINGS. VERIFY THE ARCHITECTURAL FINISHES AND CEILING CONSTRUCTION AND - REGARDLESS OF THE CATALOG NUMBER PREFIXES AND SUFFIXES SHOWN - PROVIDE FIXTURES WITH THE PROPER TRIM, FRAMES, SUPPORTS, AND HANGER AND OTHER MISCELLANEOUS APPURTENANCES TO PROPERLY COORDINATE WITH SAID FINISHES. REINFORCE CEILING CONSTRUCTION AS REQUIRED TO PROPERLY SUPPORT THE WEIGHT OF FIXTURES INSTALLED THEREON.

IMMEDIATELY PRIOR TO FINAL INSPECTION, THOROUGHLY CLEAN ALL FIXTURES INSIDE AND OUT, INCLUDING PLASTICS AND GLASSWARE. ADJUST TRIM TO FIT ADJACENT SURFACES. REPLACE BROKEN OR DAMAGED PARTS. INSTALL NEW LAMPS, ELECTRICALLY AND MECHANICALLY TEST THE SYSTEM FOR PROPER OPERATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM LOCAL CODE AUTHORITIES AND MAKING ANY REVISIONS DIRECTED BY THEM ON EMERGENCY AND EXT LIGHTING.

**CLEANING**  
THOROUGHLY CLEAN ALL FIXTURES, SWITCHES, OTHER DEVICES, PANELBOARDS, AND EQUIPMENT PROVIDED OR CONNECTED IN THIS CONTRACT. ALL SURFACES SHALL BE PROPERLY POLISHED AND SHALL BE FREE OF PAINT AND ALL OTHER DIRT OR DEBRIS. TOUCHUP OR COMPLETELY REFINISH ALL EQUIPMENT FURNISHED WITH FACTORY FINISHES THAT IS DAMAGED DURING DELIVERY OR CONSTRUCTION. PROPERLY PROTECT THE FRONTS OF ALL PANELBOARDS, SWITCHBOARDS AND SIMILAR EQUIPMENT TO PREVENT MARRING AND OTHER DEFACING.

AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY THE WORK OF THE TRADESMEN DOING ELECTRICAL WORK, AT COMPLETION OF THE WORK, REMOVE ALL RUBBISH, TOOLS, EQUIPMENT, AND SURPLUS MATERIALS. BROOM CLEAN ALL ASSIGNED SPACES PRIOR TO LEAVING THE PREMISES.

**TESTING AND LOAD BALANCING**  
TEST ALL CIRCUITS TO ASSURE THEM TO BE FREE OF GROUNDS AND SHORTS. LIGHT AND TEST EACH LAMP. PROVE AND TEST THE AVAILABLE VOLTAGE ON THE LOAD SIDE OF EACH DISCONNECT. VERIFY PROPER OPERATION OF THE DISCONNECT. VERIFY THE PHASE SEQUENCE, VOLTAGE, AND ROTATION AT EACH MOTOR IN THE PRESENCE OF THE INSTALLER. RUN EACH MOTOR WITH ITS CONTROL AS NEARLY AS POSSIBLE UNDER OPERATING CONDITIONS FOR A SUFFICIENT LENGTH OVER TIME TO DEMONSTRATE CORRECT ALIGNMENT, WIRING CAPACITY, SPEED, AND OVERALL SATISFACTORY OPERATION. CHECK THAT THE PROPER OVERLOAD HEATERS HAVE BEEN INSTALLED BY READING THE MOTOR NAMEPLATE. ADJUST THE SIZE OF THE OVERLOAD HEATER AS REQUIRED TO MATCH THE MOTOR NAMEPLATE. OPERATE ALL MAIN AND FEEDER SWITCHES AND BREAKERS.

THE VARIOUS BRANCH CIRCUITS SERVED FROM THE LIGHTING PANELBOARDS VARY IN LOADING. CAREFULLY BALANCE THE ACTUAL OPERATING LOAD ON EACH PANELBOARD WHEN ALL LOAD IS TURNED ON AND THE SYSTEM IS OPERATING AT 100% DEMAND. THE UNBALANCE SHALL NOT EXCEED 10%. DURING FINAL INSPECTION, FURNISH THE TEST INSTRUMENTS AND QUALIFIED PERSONNEL TO PERFORM COMPLETE TESTING. COSTS OF ALL TESTING, INCLUDING THE INCIDENT COSTS FOR RETESTING OCCASIONED BY DEFECTS AND FAILURES OF THE EQUIPMENT TO MEET THE SPECIFICATIONS, SHALL BE BORNE BY THE CONTRACTOR.

FURNISH AT THE COMPLETION OF THE PROJECT A FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTING AUTHORITY.

END OF SECTION 16000

EQUIPMENT, RACEWAY SYSTEMS, WIRING SYSTEM NEUTRALS, RECEPTACLES AND POWER OUTLETS, MOTORS AND MOTORIZED EQUIPMENT, SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. ARTICLE 250.

GROUND RECEPTACLES AND POWER OUTLETS TO THE CONDUIT SYSTEM WITH A GREEN GROUNDING CONDUCTOR SIZE IN ACCORDANCE WITH N.E.C. AND CONNECTED BETWEEN THE DEVICE GROUNDING SCREW AND THE OUTLET BOX. CONNECTION TO THE BOX MAY BE A 1" CLIP OR BY A 1024 SCREW THREADED INTO A HOLE IN THE BACK OF THE BOX AND USED FOR NO OTHER PURPOSE. EQUIPMENT CONNECTED TO THE ELECTRICAL SYSTEM SHALL BE GROUNDED WITHIN INSULATED GREEN GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. AND INSTALLED WITHIN THE RACEWAY. CONDUCTOR SHALL BE CONTINUOUS BETWEEN A GROUNDING SCREW IN THE EQUIPMENT JUNCTION BOX AND A GROUND ATTACHMENT IN THE NEAREST OUTLET BOX IN THE RIGID METALLIC CONDUIT SYSTEM. THIS REQUIREMENT INCLUDES ALL FLEXIBLE CONDUIT.

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END OF SECTION 16000

**JKV | EMS BUILDING**  
506 NW MURRAY RD  
LEE'S SUMMIT, MISSOURI 64061

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RYAN  
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307B SW Market St., Lee's Summit, Missouri 64063 | 816.249.2270 |  
www.collinswebb.com

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