

HISTORIC AND DESIGN REVIEW COMMISSION

February 07, 2024

HDRC CASE NO: 2023-494
ADDRESS: 107 S PINE ST
LEGAL DESCRIPTION: NCB 600 BLK 4 LOT 17 & 18
ZONING: AE-1, H
CITY COUNCIL DIST.: 2
APPLICANT: Abe Gonzales/LS Contracting Inc
OWNER: Shetigho Nakpodia/REDEEMER PRAISE CHURCH
TYPE OF WORK: Amendment to a previously approved design regarding the construction of a side addition
APPLICATION RECEIVED: January 18, 2024
60-DAY REVIEW: February 04, 2024 (Postponed to February 07, 2024, by applicant)
CASE MANAGER: Edward Hall

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to amend a previously approved addition at 107 S Pine, an individual landmark. Within this request the applicant has proposed the following:

1. Install an asphalt shingle roof in place of the previously approved standing seam metal roof. The applicant has also proposed to amend both siding and window materials.
2. Modify the previously approved fenestration regarding window placement and profiles. The rear façade is now void of fenestration.
3. Modify the previously approved footprint, predominantly by removing a portion of the proposed footprint in place of a rear pedestrian entrance and ADA ramp and centering/squaring the southern mass.

All other design elements appear to be consistent with the previously approved design. The applicant has changed since the review and approval of the previous application and design.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 3, Guidelines for Additions

1. Massing and Form of Residential Additions

A. GENERAL

- i. Minimize visual impact*—Site residential additions at the side or rear of the building whenever possible to minimize views of the addition from the public right-of-way. An addition to the front of a building would be inappropriate.
- ii. Historic context*—Design new residential additions to be in keeping with the existing, historic context of the block. For example, a large, two-story addition on a block comprised of single-story homes would not be appropriate.
- iii. Similar roof form*—Utilize a similar roof pitch, form, overhang, and orientation as the historic structure for additions.
- iv. Transitions between old and new*—Utilize a setback or recessed area and a small change in detailing at the seam of the historic structure and new addition to provide a clear visual distinction between old and new building forms.

B. SCALE, MASSING, AND FORM

- i. Subordinate to principal facade*—Design residential additions, including porches and balconies, to be subordinate to the principal façade of the original structure in terms of their scale and mass.
- ii. Rooftop additions*—Limit rooftop additions to rear facades to preserve the historic scale and form of the building from the street level and minimize visibility from the public right-of-way. Full-floor second story additions that obscure the form of the original structure are not appropriate.

- iii. Dormers*—Ensure dormers are compatible in size, scale, proportion, placement, and detail with the style of the house. Locate dormers only on non-primary facades (those not facing the public right-of-way) if not historically found within the district.
- iv. Footprint*—The building footprint should respond to the size of the lot. An appropriate yard to building ratio should be maintained for consistency within historic districts. Residential additions should not be so large as to double the existing building footprint, regardless of lot size.
- v. Height*—Generally, the height of new additions should be consistent with the height of the existing structure. The maximum height of new additions should be determined by examining the line-of-sight or visibility from the street. Addition height should never be so contrasting as to overwhelm or distract from the existing structure.

3. Materials and Textures

A. COMPLEMENTARY MATERIALS

- i. Complementary materials*—Use materials that match in type, color, and texture and include an offset or reveal to distinguish the addition from the historic structure whenever possible. Any new materials introduced to the site as a result of an addition must be compatible with the architectural style and materials of the original structure.
- ii. Metal roofs*—Construct new metal roofs in a similar fashion as historic metal roofs. Refer to the Guidelines for Alternations and Maintenance section for additional specifications regarding metal roofs.
- iii. Other roofing materials*—Match original roofs in terms of form and materials. For example, when adding on to a building with a clay tile roof, the addition should have a roof that is clay tile, synthetic clay tile, or a material that appears similar in color and dimension to the existing clay tile.

B. INAPPROPRIATE MATERIALS

- i. Imitation or synthetic materials*—Do not use imitation or synthetic materials, such as vinyl siding, brick or simulated stone veneer, plastic, or other materials not compatible with the architectural style and materials of the original structure.

C. REUSE OF HISTORIC MATERIALS

- i. Salvage*—Salvage and reuse historic materials, where possible, that will be covered or removed as a result of an addition.

4. Architectural Details

A. GENERAL

- i. Historic context*—Design additions to reflect their time while respecting the historic context. Consider character-defining features and details of the original structure in the design of additions. These architectural details include roof form, porches, porticos, cornices, lintels, arches, quoins, chimneys, projecting bays, and the shapes of window and door openings.
- ii. Architectural details*—Incorporate architectural details that are in keeping with the architectural style of the original structure. Details should be simple in design and compliment the character of the original structure. Architectural details that are more ornate or elaborate than those found on the original structure should not be used to avoid drawing undue attention to the addition.
- iii. Contemporary interpretations*—Consider integrating contemporary interpretations of traditional designs and details for additions. Use of contemporary window moldings and door surroundings, for example, can provide visual interest while helping to convey the fact that the addition is new.

Standard Specifications for Windows in Additions and New Construction

Consistent with the Historic Design Guidelines, the following recommendations are made for windows to be used in new construction:

- **GENERAL:** Windows used in new construction should be similar in appearance to those commonly found within the district in terms of size, profile, and configuration. While no material is expressly prohibited by the Historic Design Guidelines, a high quality wood or aluminum-clad wood window product often meets the Guidelines with the stipulations listed below.

- **SIZE:** Windows should feature traditional dimensions and proportions as found within the district.
- **SASH:** Meeting rails must be no taller than 1.25". Stiles must be no wider than 2.25". Top and bottom sashes must be equal in size unless otherwise approved.
- **DEPTH:** There should be a minimum of 2" in depth between the front face of the window trim and the front face of the top window sash. This must be accomplished by recessing the window sufficiently within the opening or with the installation of additional window trim to add thickness. All windows should be supplied in a block frame and exclude nailing fins which limit the ability to sufficiently recess the windows.
- **TRIM:** Window trim must feature traditional dimensions and architecturally appropriate casing and sloped sill detail.
- **GLAZING:** Windows should feature clear glass. Low-e or reflective coatings are not recommended for replacements. The glazing should not feature faux divided lights with an interior grille. If approved to match a historic window configuration, the window should feature true, exterior muntins.
- **COLOR:** Wood windows should feature a painted finish. If a clad or non-wood product is approved, white or metallic manufacturer's color is not allowed and color selection must be presented to staff.

FINDINGS:

- a. The primary structure located at 107 S Pine St is a 1-story church and a locally designated individual landmark. The structure features a cross gable roof configuration, gothic-style arched wood windows, and wood lap and fish scale wood shingle siding. The structure was designated as an individual landmark in 2017 as part of the Eastside Churches designation initiative.
- b. **PREVIOUS APPROVAL** – A Certificate of Appropriateness was issued by the Historic and Design Review Commission in 2021 for the construction of a side addition. The following stipulations were included:
 - i. That the applicant installs aluminum clad wood windows that meet the following stipulations: Meeting rails must be no taller than 1.25" and stiles no wider than 2.25". White manufacturer's color is not allowed, and color selection must be presented to staff. There should be a minimum of two inches in depth between the front face of the window trim and the front face of the top window sash. This must be accomplished by recessing the window sufficiently within the opening or with the installation of additional window trim to add thickness. Window trim must feature traditional dimensions and architecturally appropriate sill detail.
 - ii. That the standing seam metal roof features panels that are 18 to 21 inches wide, seams that are 1 to 2 inches tall, a crimped ridge seam and a standard galvalume finish. Ridges are to feature a double-munch or crimped ridge configuration; no vented ridge caps or end caps are allowed. An on-site inspection must be scheduled with OHP staff prior to the start of work to verify that the roofing material matches the approved specifications.
 - iii. That cement board siding features a smooth finish and no faux grain with a maximum reveal of 4 to 6 inches.
 - iv. That the board and batten siding features boards that are twelve (12) inches wide with battens that are 1 – ½" wide.
 - v. That the applicant meets all setback standards as required by city zoning requirements and obtains a variance from the Board of Adjustment if applicable.
- c. **CURRENT REQUEST** – At this time, the applicant is requesting a Certificate of Appropriateness for approval to amend the previously approved design regarding fenestration, materials, and the rear façade's design. The applicant has changed since the 2021 request.
- d. **MATERIALS (Roof)** – The applicant has proposed to install an asphalt shingle roof in place of the previously approved standing seam metal roof. The Guidelines for Additions 3.A. notes that materials that match in type, color, and texture as the original should be used. Additionally, the Guidelines note that any new materials introduced to the site as a result of an addition must be compatible with the architectural style and materials of the original structure. Staff finds the installation of an asphalt shingle roof to be inconsistent with the Guidelines. While an existing addition features an asphalt shingle roof, the original structure features a standing seam metal roof. Staff finds the roofing material of the original structure should be matched. The standing seam metal roof should feature smooth panels that are 18 to 21 inches wide with no corrugation or striation, seams that are 1 to 2 inches in height, a crimped ridge seam and either a standard galvalume finish or a color to match the patina of the original roof (red).

- e. MATERIALS (Siding) – The applicant has proposed composite siding materials in both a lap and board and batten profile. Staff finds that all horizontal lap siding should feature a four (4) inch exposure and a smooth finish. Board and batten siding should feature boards that are twelve (12) inches wide, battens that are 1.5 inches wide and a smooth finish.
- f. MATERIALS (Windows) – The applicant has proposed to install vinyl clad windows. Generally, staff does not find windows feature vinyl materials or elements to be appropriate. Staff recommends the applicant install materials that are consistent with the adopted specifications for windows in new construction and additions.
- g. FENESTRATION – The applicant has proposed to modify the previously approved fenestration regarding window placement and profiles. The rear façade is now void of fenestration. Generally, staff finds the changes in fenestration to be minimal; however, staff finds that fenestration should be added to the rear façade as that façade is currently void of fenestration or façade separation.
- h. REAR FAÇADE – The applicant has proposed to modify the previously approved footprint, predominantly by removing a portion of the proposed footprint in place of a rear pedestrian entrance and ADA ramp and centering/squaring the southern mass. Generally, staff finds this scope of work to be appropriate; however, as noted in finding g, staff finds that fenestration should be added to the rear façade.

RECOMMENDATION:

- 1. Staff does not recommend approval of item #1, the installation of an asphalt shingle roof in place of the previously approved standing seam metal roof. Staff recommends a standing seam metal roof be installed, as noted in finding d. The standing seam metal roof should feature smooth panels that are 18 to 21 inches wide with no corrugation or striation, seams that are 1 to 2 inches in height, a crimped ridge seam and either a standard galvalume finish or a color to match the patina of the original roof (red). An on-site inspection must be scheduled with OHP staff prior to the start of work to verify that the roofing material matches the approved specifications.
- 2. Staff recommends approval of item #2, fenestration modifications with the following stipulations:
 - i. That windows feature materials that are consistent with the adopted specifications for windows in new construction and additions; typically wood or aluminum clad wood. Staff recommends against the use of vinyl products.
 - ii. That fenestration is added to the rear façade, as noted in finding g.
- 3. Staff recommends approval of item #3, a modification to the footprint and rear façade with the stipulation that fenestration is added to the rear façade.

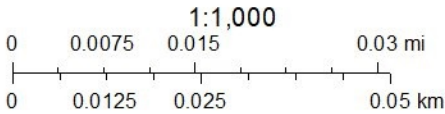
In addition to the above stipulations, staff recommends the following regarding materials.

- i. That all horizontal lap siding features a four (4) inch exposure and a smooth finish. Board and batten siding should feature boards that are twelve (12) inches wide, battens that are 1.5 inches wide and a smooth finish.

City of San Antonio One Stop



January 30, 2024



LS Contracting Inc.
27280 Smithson Valley Rd.
San Antonio, TX 78261
210-416-1844

REVISED

January 10, 2024

Office of Historic Preservation City of San Antonio
1901 S. Alamo Street
San Antonio, Texas 78204

RE: New Construction at 107 S. Pine St.

We are requesting a Certificate of Appropriateness for the new construction of a building at 107 S. Pine St. This was previously approved by OHP but with a different designer/architect. The Owner had to take a different approach due to costs with previous designer hence we were hired to re-design and re-submit this project not as an addition but as a new construction.

The current building at 107 S. Pine St. is called Redeemer's Praise Church and is designated as a Historic Landmark. The Church delivers hope to the community, and is a place for all to seek refuge, including family and individual guidance, nourishment, clothing for the poor, and homeless. The Pastor (Pastor Shetighe) and volunteers prepare meals in the Church which are then delivered around the San Antonio area, they also distribute meals to outdoor Food Banks weekly.

The Church is a 2483 sf. building, it is a wood frame building. It has a high-pitched gable roof, wood siding, and standing seam metal roof, with gothic-style windows.

New Construction – 2097 square foot new building will be located on the west side of the Church on vacant lot. The new construction will be the new location for all the food preparations. With a new kitchen, meeting room and shower/bathrooms. The side of the new building off of Omaha Street will have a walkway between the Church and the new construction for incoming and outgoing deliveries.

The new construction will meet historic guidelines and the exterior will mirror the Church as we are aware of this requirement. This exterior was previously approved by OHP with the following so we will maintain the same guidelines suggested.

Paint selection for exterior cement board lap siding – SW2839 and trim SW2833.

Please let me know if you need any additional information.

Thank you,

Abraham Gonzales
LS Contracting Inc.



Main Entrance to Church faces East – on corner of Pine Street and Omaha St.



Side of Church facing South on 300 block of Omaha St



Back of Church facing West towards empty lot for new construction



Side of Church facing North



View of North side of Church from Pine St and Commerce



Residential homes across the street from the Church on 300 block of Omaha St



Business across the street from the Church on Pine St/Commerce



Empty lot on North side of Church (not owned by Church)– lot is on corner of Pine St and Commerce



Rendering of Church and new construction off of Omaha St



Rendering of Church and new construction – top view



Rendering of Church and new construction – entrance to Church on right side facing East



City of San Antonio – One Stop

[illegible]

GENERAL NOTES

1. ALL WORK IS TO BE DONE BY THE GENERAL CONTRACTOR EXCEPT AS NOTED OTHERWISE.
2. THE SCOPE OF THE DOCUMENTS: THESE DRAWINGS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERMS OF DESIGN CONCEPT, THE MAJOR ARCHITECTURAL ELEMENTS, THE TYPE OF STRUCTURE, THE DIMENSIONS OF THE WORK, MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS. ON THE BASIS OF THE GENERAL SCOPE INDICATED OR DESCRIBED, THE CONTRACTOR SHALL FURNISH ALL ITEMS REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
3. THE CONTRACTOR SHALL BE REQUIRED TO ASSUME ALL RESPONSIBILITY FOR JOB SITE CONDITIONS AND JOB SITE SAFETY, INCLUDING ALL PERSONS AND PROPERTY. THIS REQUIREMENT IS CONTINUOUS AND NOT LIMITED TO NORMAL WORK HOURS. THE CONTRACTOR AGREES TO INDEMNIFY AND HOLD OWNER AND ARCHITECT HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF THE WORK ON THIS PROJECT.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AS REQUIRED FOR CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TAPS, EXTENSIONS, WATER AND ELECTRICITY FOR ALL PROJECT FUNCTIONS, INCLUDING CONTRACTOR'S ONSITE OFFICES AND STORAGE. IF REQUIRED, THE CONTRACTOR SHALL MODIFY/ADJUST/RELOCATE EXISTING UTILITY LINES AND CONTACT UTILITY COMPANY FOR COORDINATION BEFORE COMMENCING WITH SUCH WORK. THE CONTRACTOR SHALL TAKE PRECAUTION TO PROTECT THE UTILITIES AND STRUCTURES AT THE PROJECT SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF THE UTILITIES IMMEDIATELY UPON BREAK OR DAMAGE TO ANY UTILITY LINE OR AFFIRMANCE, OR THE INTERRUPTION OF THEIR SERVICE. IF ANY CONFLICT/DISCREPANCY ARISES FROM EXISTING UTILITIES AND/OR REQUIREMENTS OF THE PROJECT, CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER SO THAT DISCREPANCY/CONFLICT MAY BE RESOLVED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. SHOULD A DISCREPANCY APPEAR IN THE DRAWINGS OR SPECIFICATIONS OR IN THE WORK DONE BY OTHERS FROM THE CONTRACT DOCUMENTS THAT AFFECT ANY WORK, CONTRACTOR IS TO NOTIFY THE OWNER AT ONCE FOR INSTRUCTIONS ON HOW TO PROCEED. IF THE CONTRACTOR PROCEEDS WITH THE WORK AFFECTED WITHOUT INSTRUCTIONS FROM THE OWNER, THE CONTRACTOR SHALL MAKE GOOD/CORRECT ANY RESULTING DAMAGE OR DEFECT TO THE SATISFACTION OF THE OWNER. SHOULD A CONFLICT OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR WHERE DETAIL REFERENCES ON THE CONTRACT DOCUMENTS HAVE BEEN OMITTED, THE CONTRACTOR IS DEEMED TO HAVE ESTIMATED THE MORE EXPENSIVE MATERIALS AND CONSTRUCTION METHOD SHOWN, UNLESS A WRITTEN DECISION FROM THE OWNER HAS BEEN OBTAINED WHICH DESCRIBES AN ALTERNATE METHOD AND/OR MATERIALS.
6. THE CONTRACTOR SHALL CONFINES HIS OPERATION ON THE SITE TO AREAS PERMITTED BY THE OWNER. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL ORDINANCES, PERMITS AND ALL APPLICABLE LAWS, INCLUDING TENANT ACCESSIBILITY STANDARDS. THE JOBSITE SHALL BE MAINTAINED IN A CLEAN, ORDERLY CONDITION, FREE OF DEBRIS AND LITTER AND SHALL NOT BE UNNECESSARILY EQUIPPED WITH ANY MATERIALS OR EQUIPMENT. EACH SUBCONTRACTOR, IMMEDIATELY UPON COMPLETION OF EACH PHASE OF HIS WORK, SHALL REMOVE ALL TRASH AND DEBRIS THAT RESULTED FROM HIS OPERATION.
7. ALL MATERIALS ON SITE SHALL BE PROPERLY STACKED AND PROTECTED TO PREVENT DAMAGE AND DETERIORATION DUE TO WEATHER. PROJECT MATERIALS MUST BE PROTECTED FROM THE WEATHER FOR THE ENTIRE PROJECT.
8. THE CONTRACTOR SHALL DO ALL CUTTING, TRIMMING OR PATCHING OF HIS WORK THAT MAY BE REQUIRED TO MAKE ITS SEVERAL PARTS FIT TOGETHER PROPERLY AND SHALL NOT ENDANGER ANY OTHER WORK BY CUTTING, EXCAVATING OR OTHERWISE ALTERING THE TOTAL WORK OR ANY PART OF IT. ALL PATCHING, REPAIRING AND REPLACING OF MATERIALS AND SURFACES, CUT OR DAMAGED IN EXECUTION OF WORK SHALL BE DONE WITH APPLICABLE MATERIALS SO SURFACES REPAIR OR COMPLETION MATCH SURROUNDING SIMILAR SURFACES.
9. NO PORTIONS OF THE WORK THAT REQUIRE SUCH DRAWING OR SPECIFICATION SHALL BE COMPLETED UNTIL SUBMISSION HAS BEEN REVIEWED BY THE GENERAL CONTRACTOR AND OWNER. ALL SUCH PORTIONS OF THE WORK SHALL BE IN STRICT ACCORDANCE WITH DRAWINGS AND SAMPLES.
10. INSTALL ALL MANUFACTURED ITEMS, MATERIALS AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, INCLUDING SUCH SPECIFICATIONS, AND WHERE STRONGER, SHALL BE APPLIED.
11. PROVIDE ALL NECESSARY BLOCKING, BACKING, BRACING, FASTENERS AND ATTACHMENTS FOR LIGHT FIXTURES, ELECTRIC UNITS, FIXTURES, PLUMBING FIXTURES AND ALL OTHER ITEMS REQUIRING SUCH FOLLOW MANUFACTURER'S RECOMMENDATIONS AT A MINIMUM.
12. WHERE LARGE STUDS OR RUNNERS ARE REQUIRED TO COVER PIPING AND CONDUITS, THE LARGER STUD SIZE OF FURRING SHALL EXTEND THE FULL SURFACE OF THE WALL WIDTH AND LENGTH WHERE FURRING OCCURS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UP-TO-DATE PLANS AVAILABLE AT THE JOB SITE AT ALL TIMES.
14. ALL PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED AIR AND WATER TIGHT, CAULKED WITH TWO PART SEALANT EACH SIDE. WHERE WALLS ARE FIRE RATED, CONTRACTOR TO USE FIRE RATED CAULKING.
15. STRUCTURAL ENGINEER WILL BE CONSULTED ON EXISTING STRUCTURE WHERE ROOFTOP UNITS ARE INSTALLED. WHEN TENANT IMPROVEMENTS AFFECT ROOF, CONTRACTOR SHALL CONTACT OWNER AND CONTRACT WITH OWNER'S ROOFING COMPANY. IF OWNER'S ROOFING COMPANY IS NOT THE SAME COMPANY THAT THEY PERFORM ANY ROOF WORK TO MAINTAIN ANY TYPE OF WARRANTY ON PREVIOUSLY PERFORMED ROOF WORK.
16. DIMENSIONS:
 - A. DIMENSIONS SHALL HAVE PREFERENCE OVER SCALE.
 - B. DIMENSIONS ARE TO O STUD UNLESS OTHER USE NOTED.
 - C. CEILING HEIGHT DIMENSIONS ARE FROM FINISH FLOOR OR SLAB TO FINISH FACE OF CEILING.
17. GENERAL CONTRACTOR TO SUBMIT PRODUCT DOCUMENTATION TO ARCHITECT. OWNER SHOWN WINDOWS AND GLASS MEET THE MINIMUM ENERGY CODE REQUIREMENTS (U-FACTOR AND SHGC) - REFERENCE WINDOW SCHEDULE OR REQUEST COPY OF INTERNATIONAL ENERGY CONSERVATION CODE CERTIFICATES FOR THIS PROJECT.
18. THIRD PARTY INSPECTIONS REQUIRED BY CITY ARE TO BE COORDINATED BETWEEN OWNER AND GENERAL CONTRACTOR. SEE CITY REQUIREMENTS FOR QUALIFIED INSPECTOR COMPATIBLE AND REQUIRED INSPECTIONS, INCLUDING THIRD-PARTY ENERGY CODE SERVICES/QUALIFICATIONS/INSPECTIONS.
19. WHERE FIGURES OR DIMENSIONS HAVE BEEN OMITTED FROM THE DRAWINGS, THE DRAWINGS SHALL NOT BE SCALED. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE DESIGNER OR OWNER OF ANY OMISSIONS.
20. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR HAVING THE SUBCONTRACTORS COORDINATE THEIR WORK WITH THE CONTRACTOR OF THE OTHER TRADES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:
 21. THE CONTRACTOR IS TO FILE FOR AND SECURE ALL APPROVALS, TESTS, INSPECTIONS AND CERTIFICATES OF COMPLIANCE AS REQUIRED. THE OWNER WILL SUBMIT DRAWINGS AND FEES FOR PERMITTING.
 22. THE CONTRACTOR IS RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS NECESSARY FOR COMPLETION OF WORK.
 23. THE OWNER, ARCHITECT, DESIGNER, OR ENGINEER WILL NOT BE RESPONSIBLE FOR ANY VERBAL INSTRUCTIONS.
 24. SPECIFIED ITEMS HAVE BEEN SELECTED BECAUSE THEY REFLECT THE STANDARDS OF QUALITY DESIRED, OR POSSIBLE FEATURES REQUIRED TO PRESERVE THE DESIGN CONCEPT. THE DESIGNER THEREFORE PRESERVES THE RIGHT TO REQUIRE THE USE OF THE SPECIFIED ITEMS. ANY REQUESTS FOR ALTERNATES FOR SPECIFIED ITEMS MUST BE SUBMITTED TO THE DESIGNER IN WRITING, TOGETHER WITH PROOF OF THE EQUALITY OF SUCH ITEMS. IN ALL CASES, THE CONTRACTOR SHALL PROVIDE PROOF OF QUALITY SUCH AS BOTH A BIDDER AND THE DESIGNER SHALL BE FINAL.
 25. ALL SCRAP FROM LUMBER, CRATING, PAPER, AND SIMILAR TYPES OF TRASH ARE TO BE REMOVED FROM THE SITE ON A DAILY BASIS. TRASH IS NOT TO BE ALLOWED TO ACCUMULATE.
 26. THE MATERIALS AND LABOR TO BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL PAYMENT. CONTRACTOR TO PROVIDE (SUPPLY AND INSTALL) ALL EQUIPMENT, LABOR SERVICES, AND MATERIALS REQUIRED FOR THE COMPLETE APPROVED INSTALLATION OF THE SYSTEMS AS CALLED FOR.
 27. ALL MATERIALS, CONSTRUCTION, AND FINISHES TO BE FIRE RATED, FIREPROOFED AND FIRE RETARDANT TO MEET LOCAL, STATE, AND APPLICABLE NATIONAL FIRE CODES. ALL MATERIALS TO BE NEW AND OF THE BEST QUALITY AVAILABLE AND SHALL BE U.L.F.M. RATED AS REQUIRED. NO COMBUSTIBLE MATERIALS ARE TO BE INSTALLED ABOVE CEILING GRID.
 28. TENANT'S CONTRACTOR SHALL VERIFY WITH THE OWNER ALL FIXTURES BY OTHERS.
 29. THE CONTRACTOR SHALL KEEP ALL HANDBOOKS, PAPERWORK, AND KEY IN A MARKED ENVELOPE. ALL KEYS TO BE TAGGED WITH PROPER LOCATIONS. THIS ENVELOPE SHOULD BE TURNED OVER TO THE STORE OPERATIONS MANAGER WITH CERTIFICATE OF CUSTODY.
 30. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE A CAREFUL INSPECTION OVER THE CONSTRUCTION AS A WHOLE, ASSURING HIMSELF THAT THE WORK ON THAT PART OF THE PROJECT IS READY FOR FINAL ACCEPTANCE BEFORE CALLING UPON THE DESIGNER AND OWNER TO MAKE A FINAL INSPECTION.
 31. THE GENERAL CONTRACTOR SHALL INSTALL GROMMETS AS NEEDED AT ALL BUILT IN COUNTERS AT LOCATIONS OF ELECTRICAL OUTLETS, TYPICAL THROUGHOUT.
 32. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR HAVING THE SUBCONTRACTORS COORDINATE THEIR WORK WITH THE WORK OF THE OTHER TRADES INCLUDING WORK NOT IN THE CONTRACT.
 33. THE GENERAL CONTRACTOR SHALL COORDINATE HIS ACTIVITIES DURING CONSTRUCTION WITH THE OWNER'S PROJECT MANAGER.
 34. ALL MATERIALS AND LABOR TO BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL PAYMENT. CONTRACTOR TO PROVIDE (SUPPLY AND INSTALL) ALL EQUIPMENT, LABOR SERVICES, AND MATERIALS REQUIRED FOR THE COMPLETE APPROVED INSTALLATION OF THE SYSTEMS AS CALLED FOR.
 35. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE A CAREFUL INSPECTION OVER THE CONSTRUCTION AS A WHOLE, ASSURING HIMSELF THAT THE WORK ON THAT PART OF THE PROJECT IS READY FOR FINAL ACCEPTANCE BEFORE CALLING UPON THE ARCHITECT AND OWNER TO MAKE A FINAL INSPECTION.
 36. THE GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
 37. JOINTS AND OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED, OR OTHERWISE SEALED TO LIMIT INFILTRATION AND EXFILTRATION.
 38. SUPPORT WIRES FOR THE LAY-IN CEILING GRID MUST NOT BE CONNECTED TO ANY MECHANICAL, ELECTRICAL, PLUMBING OR FIRE PROTECTION PIPING OR EQUIPMENT.
 39. THE GENERAL CONTRACTOR SHALL REPAIR AND/OR REPAIR OWNER'S PROPERTY DAMAGED DURING CONSTRUCTION. ACCESS PANELS IN CEILING MUST BE LOCATED TO PROVIDE ACCESS TO MECHANICAL EQUIPMENT AS REQUIRED BY CODE.
 40. ALL MATERIALS USED IN THE CONSTRUCTION OF THIS SPACE MUST BE ASBESTOS FREE.
 41. THE GENERAL CONTRACTOR MUST CONTRACT WITH OWNER APPROVED SPRINKLER CONTRACTOR.
 42. MATERIALS AND PRODUCTS SPECIFIED FOR USE IN THIS TENANT LEASE SPACE SHALL NOT CONTAIN ASBESTOS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER HAZARDOUS MATERIALS.
 43. ALL DRAINS MUST BE ACCESSIBLE AND HAVE CLEANSOUTS.
 44. THE TENANT SHALL SLEEVE, FIRE STOP, FLASH & CAULK ALL PENETRATIONS SO AS TO PROVIDE AND ADEQUATE SEAL.

CODE ANALYSIS

1. SCOPE OF WORK: NEW COMMUNITY CENTER BUILDING FOR AN EXISTING CHURCH IN A PREVIOUSLY VACANT LOCATION. INCLUDES ARCHITECTURAL, INTERIOR DESIGN, STRUCTURAL, CIVIL, ELECTRICAL, AND MECHANICAL.	△
2. GOVERNING CODES: ALL WORK SHALL BE IN CONFORMANCE WITH, BUT NOT LIMITED TO, THE REQUIREMENTS OF THE FOLLOWING, AND ANY OTHER FEDERAL, STATE, AND LOCAL CODES, LAWS AND ORDINANCES THAT APPLY: • BUILDING - 2021 INTERNATIONAL BUILDING CODE W/ AMENDMENTS • EXISTING BUILDING - 2021 INTERNATIONAL EXISTING BUILDING CODE W/ AMENDMENTS • MECHANICAL - 2021 INTERNATIONAL MECHANICAL CODE W/ AMENDMENTS • PLUMBING - 2021 INTERNATIONAL PLUMBING CODE W/ AMENDMENTS AND THE 2018 INTERNATIONAL FUEL GAS CODE • FIRE PROTECTION - 2021 INTERNATIONAL FIRE & GAS CODE W/ AMENDMENTS • ENERGY - 2021 INTERNATIONAL ENERGY CONSERVATION CODE W/ AMENDMENTS • ELECTRICAL - 2020 NATIONAL ELECTRICAL CODE W/ AMENDMENTS • ACCESSIBILITY - 2012 TEXAS ACCESSIBILITY STANDARDS W/ AMENDMENTS	△
3. DEPARTMENT OF INSPECTION: CITY OF SAN ANTONIO DEVELOPMENT SERVICES CLIFF MORTON DEVELOPMENT AND BUSINESS SERVICES CENTER 1901 SOUTH ALAMO SAN ANTONIO, TEXAS 78204 (210) 207-1111	
4. CONSTRUCTION TYPE: ONE STORY TYPE V-B CONSTRUCTION - NOT SPRINKLED	△
5. OCCUPANCY GROUP: BUSINESS GROUP A-3 INCLUDES ASSEMBLY USES INTENDED FOR WORSHIP, RECREATION OR AMUSEMENT AND OTHER ASSEMBLY USES NOT CLASSIFIED ELSEWHERE IN GROUP A INCLUDING, BUT NOT LIMITED TO: COMMUNITY HALLS, PLACES OF RELIGIOUS WORSHIP.	△
6. AREA: GROSS LEASABLE AREA OF APPROXIMATELY 2,098 SF.	
7. OCCUPANCY LOAD: REFER TO SHEET A31 FOR OCCUPANCY LOAD BREAKDOWN.	

CLIENT:	REDEEMER PRAISE CHURCH 101 S. PINE STREET SAN ANTONIO, TEXAS 78203
PROJECT ADDRESS:	101 S. PINE STREET SAN ANTONIO, TEXAS 78203
PROJECT COORDINATOR:	FRAUSTO DESIGNS 8600 WURZBACH ROAD, SUITE 902 SAN ANTONIO, TEXAS 78240 (210) 223-3315 / (210) 223-3391 FAX CONTACT: DAVID FRAUSTO
PROJECT ENGINEERS:	GARCIA MODESTO, INC. FIRM 19386 3935 HUNTERS ROCK SAN ANTONIO, TEXAS 78230
PROJECT STRUCTURAL ENGINEERS:	HQ-ENGINEERING, LLC CONTACT: HUGO L. QUINTERO (710) 378-6000
PROJECT CIVIL ENGINEERS:	URBANE ENGINEER LLC CONTACT: EDGAR MUNOZ, MS, P.E. (710) 681-4180

DEFINITIONS

G.C.	REPRESENTS WORK TO BE PERFORMED BY THE TENANT'S GENERAL CONTRACTOR OR SUBCONTRACTORS FOR THE TENANT'S GENERAL CONTRACTOR
OWNER	REPRESENTS WORK OR ITEMS TO BE FURNISHED OR FURNISHED AND INSTALLED BY THE OWNER OR SUBCONTRACTORS WORKING DIRECTLY FOR THE OWNER

AFF.	ABOVE FINISH FLOOR	I.D.S.	INTERNAL DOWNSPOUT
B'LK	BLOCKING	K.E.S.	KITCHEN EQUIP. SUPPLIER
CKT.	CIRCUIT	LAV.	LAVATORY
CL	CENTERLINE	MANUF.	MANUFACTURER
CLG.	CEILING	MAX.	MAXIMUM
CONC.	CONCRETE	MIN.	MINIMUM
CONT.	CONTINUOUS	MIR	MIRROR
CPT	CARPET	MTL.	METAL
CTRTP.	COUNTERTOP	N.I.C.	NOT IN CONTRACT
DN	DOWN	NO.	NUMBER
DIA	DIAMETER	O.C.	ON CENTER
DTL (\$)	DETAIL (\$)	O.D.	OUTSIDE DIMENSION
DWG (\$)	DRAWING (\$)	O.H.	OVERHEAD
EA	EACH	OPNG	OPENING
EL.	ELEVATION	PLYWD	PLYWOOD
EQ.	EQUAL	RAD	RADIUS
EQUIP.	EQUIPMENT	RE:	REFERENCE
EXIST.	EXISTING	REQ'D.	REQUIRED
EXP.	EXPANSION	S.C.	SOLID CORE
F.P.	FIREPROOF	SCHED.	SCHEDULE
FIN	FINISH (ED)	STL.	STEEL
GA.	GAUGE	S.A.T.	SUSPENDED ACOUSTICAL TILE
GYP. BD.	GYPSUM BOARD	TYP.	TYPICAL
GWB	GYPSUM WALL BOARD	U.N.O.	UNLESS NOTED OTHERWISE
G.C.	GENERAL CONTRACTOR	VAR	VARIABLES
GALV.	GALVANIZED	V.C.T.	VINYL COMPOSITION TILE
GL.	GLASS	W/	WITH
HDW.	HARDWARE	WAIN.	WAINSCOT
HGT.	HEIGHT	WD.	WOOD
HM.	HOLLOW METAL	•	AT
H.C.	HOLLOW CORE		

REDEEMER PRAISE CHURCH
LOVE COMMUNITY CENTER

PROJECT LOCATION
LOVE COMMUNITY CENTER

I-37

ALAMODOME

S CHERRY ST

E COMMERCE ST

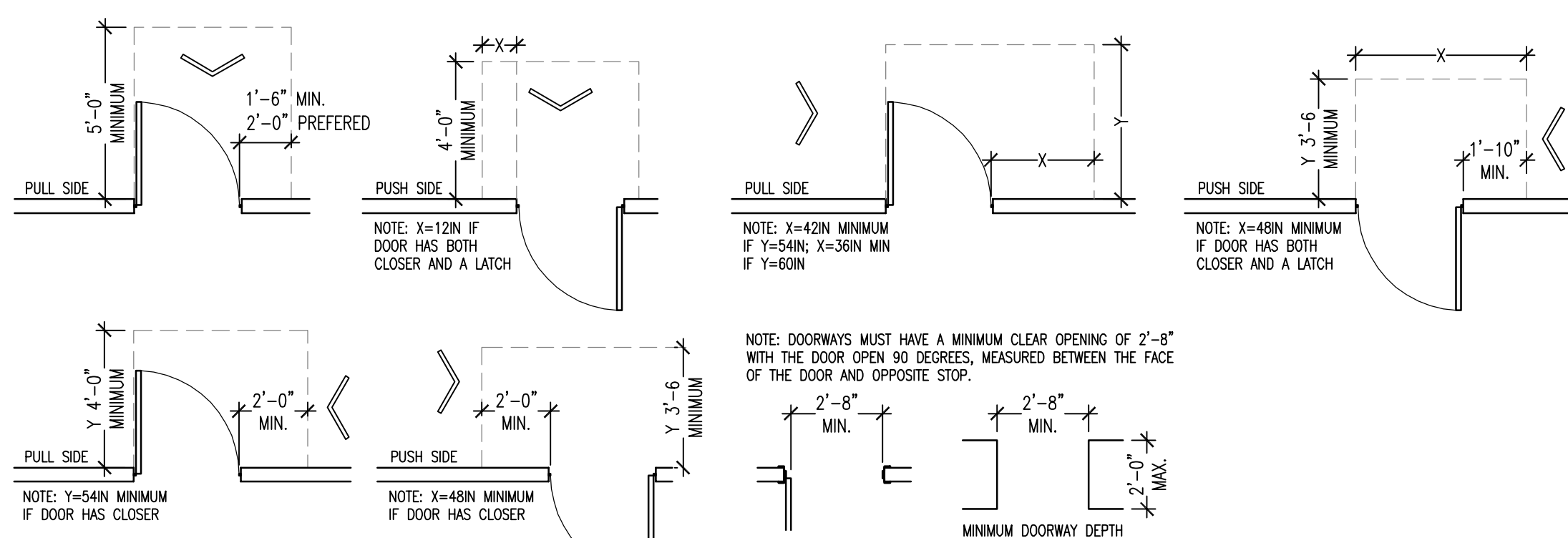
OMAHA ST

SPINE ST

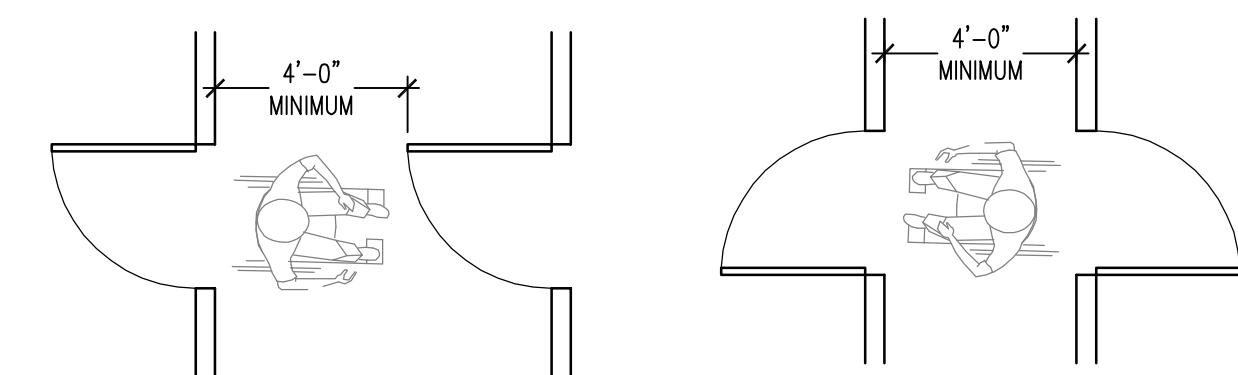
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Drawn	EJP
Job	22101
Sheet	A1.0
of	Sheets

NOTE:

1. MANEUVERING SPACE AT ALL ENTRY'S AND DOORS TO HAVE 2% MAXIMUM SLOPE IN ALL DIRECTIONS.
2. ALL DOORS IN ALCOVE SHALL COMPLY WITH THE CLEARANCES FOR FRONT APPROACH.



ALL DOORS IN ALCOVE SHALL COMPLY WITH THE CLEARANCES FOR FRONT APPROACH.



NOTE: 4'-0" MINIMUM REQUIRED BETWEEN TWO (2) DOORS IN SERIES IN OPEN POSITION.

1. Such entrances shall be connected by an accessible route to public transportation stops, to accessible parking and passenger loading zones, and public streets or sidewalks if available. They shall also be connected by an accessible route to all accessible spaces or elements within the building or facility.
2. Service entrances shall not be the sole accessible entrance unless it is the only entrance to a building or facility (for example in a factory or garage).

1. **REVOLVING DOORS & TUNNELS:** Revolving doors or tunnels shall not be the only means of passage at an accessible entrance or along an accessible route. An accessible gate or door shall be provided adjacent to the turnstiles or revolving doors and shall be designated as to facilitate the same use pattern.
2. **GATES:** Gates, including ticket gates shall meet all applicable specifications on this section.
3. **DOUBLE LEAF DOORWAY:** If double leaf doorway have to independently operated door leaves, then at least one leaf shall meet the clear width and maneuvering clearances specifications. That leaf shall be an active leaf.
4. **CLEAR WIDTH:** Doorways shall have a minimum clear opening of 32 in with the door open 90 degrees, measured between the face of the door and opposite stop.

EXCEPTION: Doors not requiring full user passage, such as shallow closets, may have the clear opening reduced to 20 in minimum.

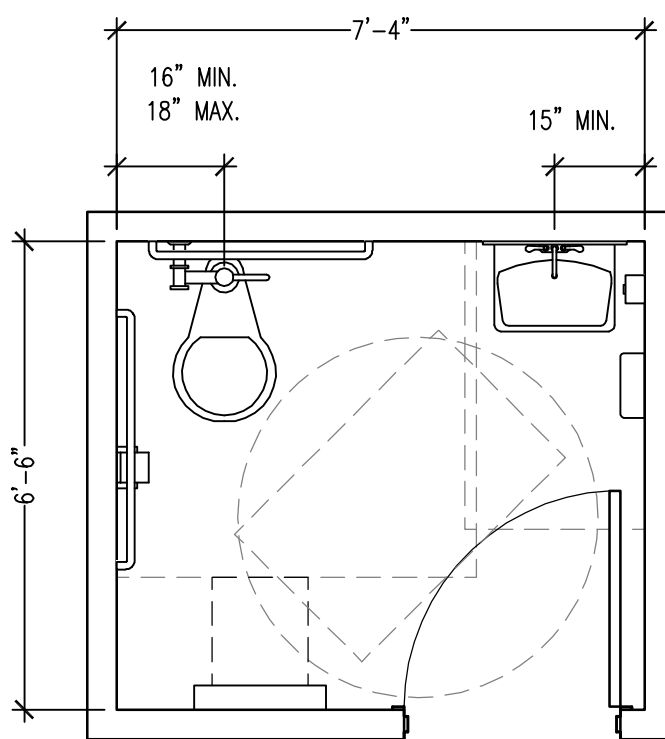
5. **MANEUVERING CLEARANCES AT DOORS.** Minimum maneuvering clearances at doors they are not automatic or power assisted shall be shown. The floor or ground area within the required clearances shall be level and clear.
6. **TWO DOORS IN SERIES.** The minimum space between two hinged or pivoted doors in series shall be 48 in plus the width of the any door swinging into the space. Doors in series shall swing either in the same direction or away from the space between the doors.

208. PARKING SPACES

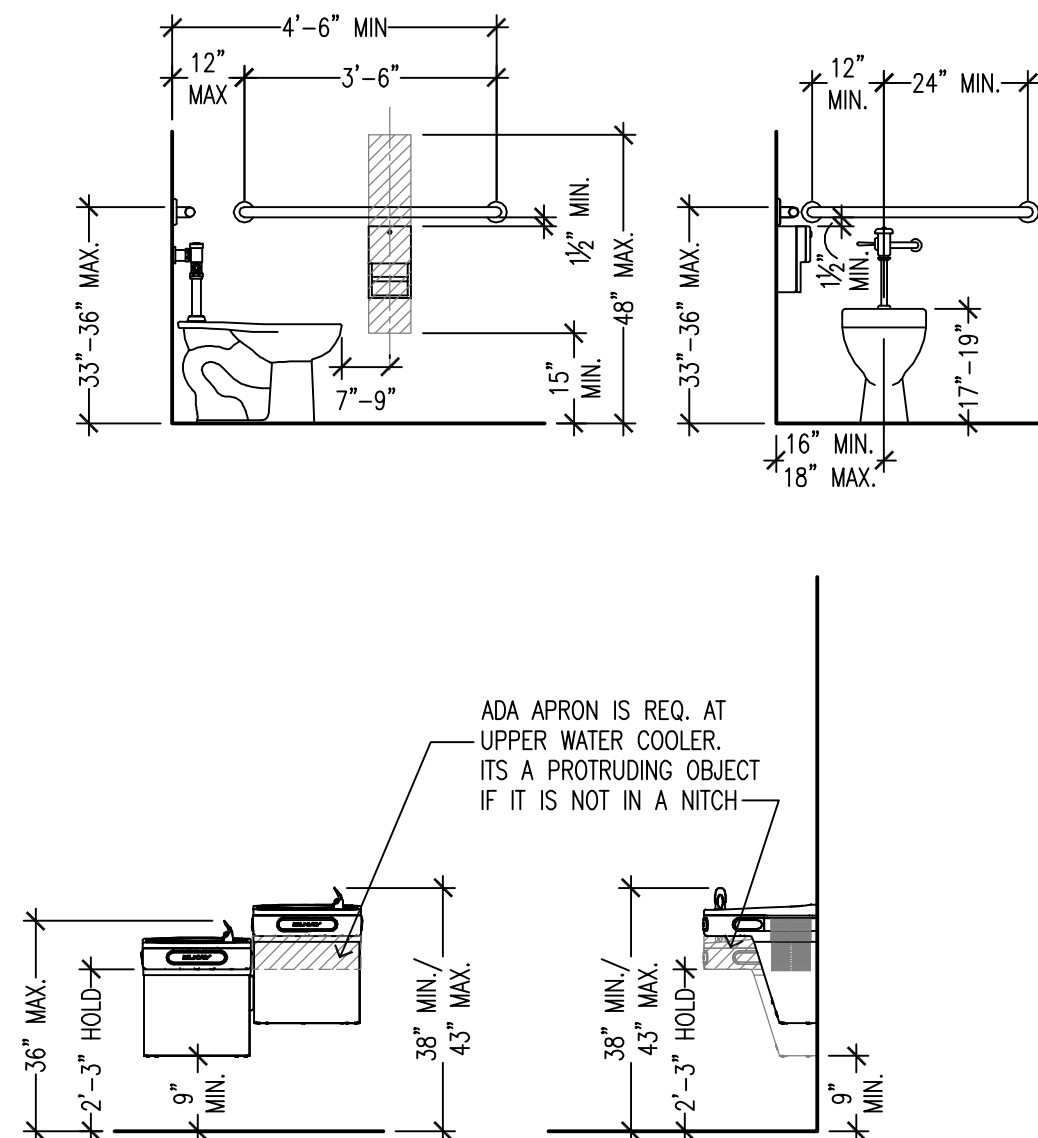
TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
201 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2 PERCENT OF TOTAL 20, PLUS 1 FOR EACH 100, OR FRACTION THEREOF, OVER 1000

- NOTE:
1. ACCESS SPACE ADJACENT TO ACCESSIBLE SPACE SHALL BE AT LEAST 60 INCHES WIDE MINIMUM.
2. ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESSIBLE ROUTE TO THE ACCESSIBLE SPACE AND SHALL BE DESIGNATED AS SUCH.
3. IF PASSENGER LOADING ZONES ARE PROVIDED, THEN AT LEAST ONE PASSENGER LOADING ZONE SHALL COMPLY.
4. IF PASSENGER PARKING SPACES SHALL BE AT LEAST 96 INCHES IN WIDTH, PARKING ACCESSIBLE SPACES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE.
5. TWO ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESSIBLE PARKED VEHICLE.
6. IF PASSENGER PARKING SPACES ARE PROVIDED, THEN AT LEAST ONE PASSENGER PARKING SPACE AND ACCESS AISLE SHALL BE LEVEL WITH SURFACE SLOPE NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS.
7. EACH ACCESSIBLE PARKING SPACE SHALL BE DESIGNATED AS RESERVED BY A VERTICALLY ORIENTED "P" OR SUSPENDED SIGN SHOWING THE SYMBOL OF ACCESSIBILITY (PROVIDE ADDITIONAL SIGNS FOR "VAN ACCESSIBLE"). CHARACTERS AND SYMBOLS ON SUCH SIGNS SHALL BE LOCATED 60 INCHES MINIMUM ABOVE THE GROUND FLOOR OR PAVING SURFACE SO THEY CANNOT BE OBSCURED BY A VEHICLE.
8. PROVIDE MINIMUM VERTICAL CLEARANCE OF 114 INCHES AT ACCESSIBLE PASSENGER LOADING ZONES AND ALONG ONE VEHICLE ACCESS ROUTE TO SUCH AREAS FROM SIDE ENTRANCE(S) AND EXIT(S); AT PARKING SPACES COMPLYING WITH "VAN ACCESSIBILITY" PROVIDE MINIMUM VERTICAL CLEARANCE OF 114 INCHES ALONG ONE VEHICLE ACCESS ROUTE TO SUCH AREAS FROM SIDE ENTRANCE(S) AND EXIT(S).

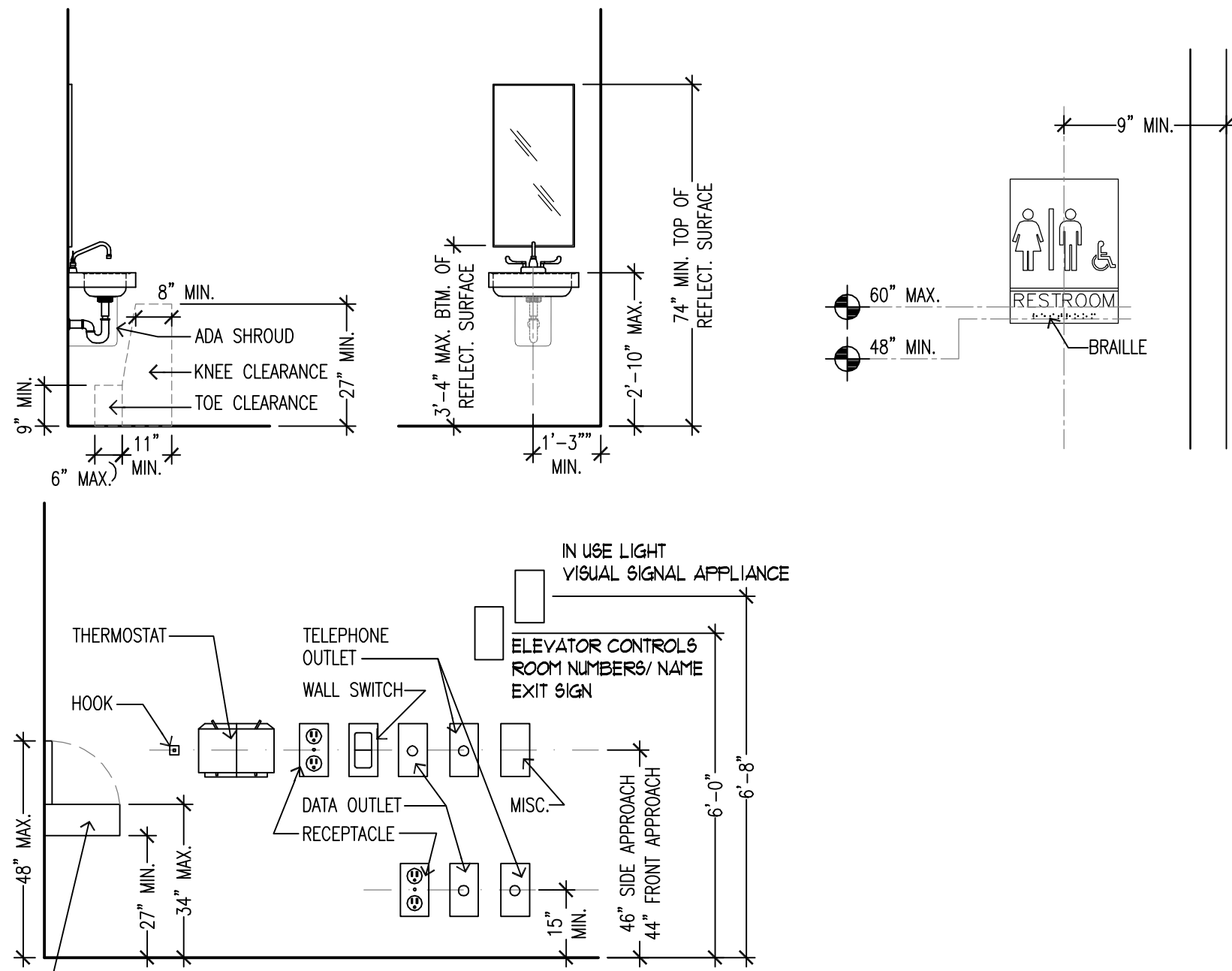
- A. A paved accessible parking space must include:
 - (1) The international symbol of accessibility printed conspicuously on the surface in a color that contrasts with the background color;
 - (2) The words "no parking" printed on any access aisle adjacent to the parking space, the words must be printed:
 - (A) in all capital letters;
 - (B) With a letter height of at least twelve inches, and a stroke width of at least two inches; and,
 - (C) Centered within each access aisle adjacent to the parking space; and
3. A sign identifying the consequences of parking illegally in a paved accessible parking space, the sign must:
 - (A) At a minimum state "violators subject to fine and towing in a letter height of at least one inch
 - (B) Be mounted on a pole, sign, wall, or freestanding board;
 - (C) Be no more than eight inches below a sign required by Texas Accessibility Standards, §502.6;
 - (D) Be installed so that the bottom edge of the sign is no lower than 48 inches and no higher than 80 inches above ground level.
- B. A parking sign identifying the consequences of parking illegally with Texas Accessibility Standards, §502.6 that includes the requirements in subsection (a)(3)(i)(A) satisfies subsection (a)(3)(i).



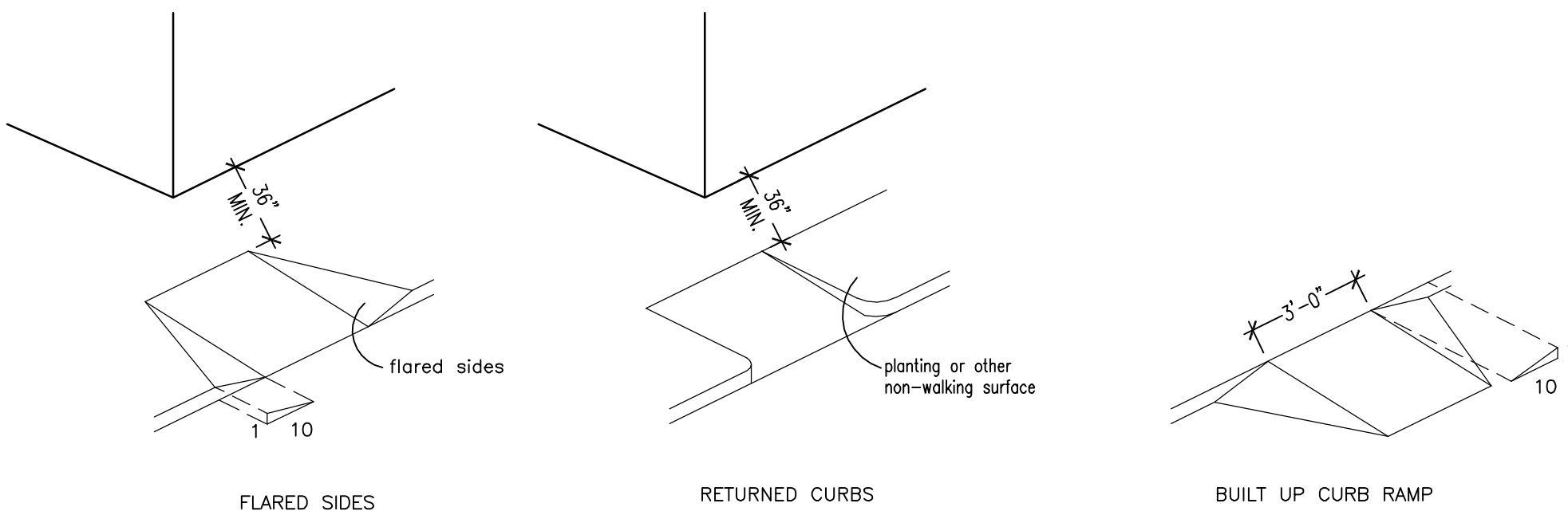
1. The nominal diameter or width of the gripping surfaces of a handrail or grab bar shall be $1\frac{1}{2}$ " or the shape shall provide an equivalent gripping surface. If handrails or grab bars are mounted adjacent to a wall, the space between the wall and the grab bar shall be $1\frac{1}{2}$ ".
2. Grab bars shall be designed to withstand 250 pounds of force in all directions and shall not rotate within their fittings



OBJECTS WITH LEADING EDGES OF MORE THAN 27"
AND NOT MORE MORE THAN 80" ABOVE THE FINISH
FLOOR OR GROUND SHALL PROTRUDE 4" MAXIMUM
HORIZONTALLY INTO THE CIRCULATION PATH.



1. Slope: The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30 in. If it is technically infeasible because of space limitations for curbs ramps, the maximum slope may be 1:10, but only for existing buildings with existing sidewalks. For ramps that may have slopes and transitions from roadways, walkways, gutters, and/or curbs, the maximum slope shall be 1:10. Maximum slopes of adjoining curbs, from road surface immediately adjoining curb, or sidewalk or other ramp shall not exceed 1:20.
2. Width: The minimum width of a curb ramp shall be 36 in, excluding flared sides.
3. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing. In situations where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.
4. Surface: (1) Textures shall consist of exposed crushed stone aggregate, roughened concrete, rubber, raised abrasive strips, or grooves exposed to the full width and depth of the curb ramp. Surfaces are not raised, etched, or grooved in a way that would create a tripping hazard. (2) The surface texture shall be uniform across the width and depth of curb ramps shall have a light reflective value and texture that significantly contrasts with that of adjoining pedestrian routes.
5. Sides: (1) Curb ramps: If a curb ramp is located where pedestrians must walk across the ramp, or where it is not protected by handrails or guardrails, it shall have flared sides; the maximum slope of the flare shall be 1:10. Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp.
6. Obstructions: Curb ramps shall be located or protected to prevent the obstruction by parked vehicles, any flared sides, or any other objects.
7. Obstructions: Curb ramps shall be located or protected to prevent the obstruction by parked vehicles, any flared sides, or any other objects.
8. Diagonal Curb Crossings: Curb ramps at marked crossings shall be wholly confined within the markings, excluding flared sides.
9. Localized Curb Ramps: (a) Curbs (or corner type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48 in in length of the slope parallel to the direction of pedestrian flow. (b) If the curb ramp is not parallel to the direction in the markings. If diagonal curb ramps have flared sides, they shall also have at least a 24 in long segment of straight curb located on each side of the curb ramp and within the marked crossing.
10. Level area: A level area at least 48 in long shall be provided at the top of the curb ramp. If curb ramps at both sides and at a level area at least 48 in long between the curb ramps in the part of the island between the crossings.



A cross-section diagram of a road. The central portion is labeled "5'-0" MINIMUM" and is flanked by two sloped areas, each labeled "1:20 MAXIMUM". The diagram is enclosed in a rectangular frame.

1 1/2" diameter railing

36"

34"

Handrail shall extend for a horizontal distance of at least one tread depth beyond the last riser nosing.

12" MIN.

36"

34"

27"

1'-0"

1'-0"

1/2" DIAMETER HANDRAIL

3'-0"

3"

1. GENERAL: Ground and floor surfaces along accessible routes and in accessible rooms and spaces including floors, walks, ramps, stairs and curb ramps shall be stable, firm and slip resistant. Soft and loose materials such as sand, gravel, bark, mulch or wood chips are not suitable, cobblestone and other irregular surfaces having texture that constitutes an obstacle or hazard, such as improperly laid flagstone, shall not be a part of accessible routes, spaces and elements.
2. CHANGES IN LEVEL: Changes in level up to $\frac{1}{4}$ in may be vertical and without edge treatment. Changes in level between $\frac{1}{4}$ in and $\frac{1}{2}$ in shall be beveled with a slope no greater than 1:2. Changes in level greater than $\frac{1}{2}$ in shall be accomplished by means of a ramp that complies.
3. CARPET: If carpet or carpet tiles are used on ground or surface, then it shall be securely attached, have a firm cushion, pad, or backing, or a non-cushion pad, and have a level loop, textured loop, level cut pile, or firm cut/uncut pile texture. The maximum pile thickness shall be $\frac{1}{4}$ in. Exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire length of the exposed edge.
4. GRATING: Gratings shall be used only on accessible routes. When they shall have spaces no greater than $\frac{1}{2}$ in wide in one direction. If gratings have elongated openings, then shall be placed so that the longer dimension is perpendicular to the dominate direction of travel.

1. Any part of an accessible route with a slope greater than 1:20 shall be considered a ramp and shall comply with these requirements.
 - a. The steepest possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30in.
 - b. CLEAR WIDTH: The minimum clear width of a ramp 30 ft or less in length shall be 36 in. Ramps more than 30 ft in length shall have a minimum clear width of 48 in.
 - c. LANDINGS: Ramps shall have level landings at bottom and top of each ramp and each ramp run. Landings shall have the following features:
 1. a. The landing shall be at least as wide as the width of the ramp run leading to it.
 2. b. The landing length shall be a minimum of 60 in clear.
 3. c. If ramps change direction at landing, the minimum landing size shall be 60 in by 60 in.
 4. d. If a doorway is located at a landing, then the area in front of the doorway shall comply with requirements under 4.05.05.03.
2. HANDRAILS: If a ramp run is a rise greater than 6 in or a horizontal projection greater than 72 in, then it shall have handrails on both sides. Handrails are not required on curb ramps or adjacent to seating in assembly areas. Handrails shall have the following features:
 - a. Handrails shall be provided along both sides of ramp segments. The inside handrail or switchback or dogleg ramps shall always be continuous.
 - b. If handrails are not continuous, they shall extend at least 12 in beyond the top and bottom of the ramp segment and shall be parallel with floor or ground surface.
 - c. The clear space between the handrail and the wall shall be 1½ in.
 - d. Gripping surface shall be continuous.
 - e. Top of handrail gripping surface shall be mounted between 34 in and 38 in above ramp surface.
 - f. Ends of handrails shall either rounded or returned smoothly to floor, wall or post.
 - g. Handrails shall not rotate within their fittings.
3. CROSS SLOPE & SURFACE: The cross slope of a ramp surface shall be no greater than 1:50.
 - a. Edges and landings shall have slip resistant surfaces, such as rubber mats, tiles, walls, railings or protection surface that prevents people from slipping off the ramp. Curb shall be a minimum of 2 in high.

REVISIONS	BY



LOVE COMMUNITY CENTER

REDEEMER PRAISE CHURCH

1107 S. PINE STREET, SAN ANTONIO, TEXAS 78203



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SECTION II - SUSPENDED CEILING SYSTEMS		SECTION III - PAINTING & FINISHING		H. WORKMANSHIP		SECTION IV - SOLID SURFACE		J. CLEANING	
A. DESCRIPTION OF WORK		A. DESCRIPTION OF WORK		1. Furnish and lay drop cloths in all areas where painter's finish work is being done, to protect floors and other adjacent work and materials from defacement. Remove and properly replace all temporary protections and coverings removed from any part of the work or finish. Any damage resulting from neglect of these requirements shall be repaired at the Contractor's expense to the complete satisfaction of the Owner.		A. DESCRIPTION OF WORK		1. Upon completion of work remove all surplus materials and tools from the premises and leave the premises clean.	
B. MATERIALS		2. Finish alcoves, recesses, and closets, not specified otherwise, with some treatment as specified or scheduled for the space immediately adjacent.		2. Maintain the work in a neat and orderly condition, promptly removing empty containers, wrappings, waste, rubbish and like matter from the site.		1. The extent of solid polymer fabrications is shown on the Drawings and includes:			
1. Acoustical panels throughout. Leave space shall be furnished and installed by G.C. Ceiling tile shall be as specified in plans. See Finish Schedule.		3. All lighting fixtures, ventilating grilles, and other mechanical or electrical devices mounted in or on ceilings or walls shall be painted to match surrounding surfaces unless items are factory-finished devices.		3. Employ only experienced and competent workers, assume all responsibility for the work, and repair all damage to the painting work by parties involved.		A. countertops and backsplashes			
2. Ceiling suspension system shall include all main tees, cross complete installation. Color to be white. Maximum dimension complete installation Color to be white. Maximum dimension between supports shall be 48". Preclude 15/16" exposed tee-grid.		4. All exposed iron and steel work throughout, the finished spaces of the building, including but not limited to hollow steel frames and doors, piping, conduit, pipe covering, hangers, mechanical, electrical and other equipment and installations shall be enameled over a primary coat.		4. Allow ample drying time between coats, and sand properly to give a smooth finish. Carefully cover back edges of trim, edges of doors, and touch up any marred places as a result of putting on hardware or work of other trades.		2. The following sections contain requirements that relate to this Section:			
3. Where required by the Drawings or where required to conform to fire-rating regulations of the local building authority, provide hold-down clips for ceiling tile plus all other accessories for a complete fire-rated installation.		5. Finish to match all adjacent returns, edges, and recesses which will be exposed in the finished work and which will be seen from any angle.		5. Seal door edges immediately after fitting.		A. Finish carpentry/architectural woodwork B. Casework C. Plumbing		SECTION V - VINYL WALLCOVERING	
C. DELIVERY AND STORAGE		6. Paint exposed surfaces whether or not colors are designated in schedules, except where natural finish of material is specifically noted as a surface not to be painted.		6. Carefully protect other work and leave the job clean.		B. APPLICABLE STANDARDS		A. PRODUCT DELIVERY, HANDLING AND STORAGE	
1. Deliver acoustic ceiling materials to job site in original, unopened packages, bearing manufacturer's name and label identifying each type acoustic unit.		7. "Paint" as used herein means all coating system materials including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.		1. APPLICATION		1. Standards of the following, as referenced herein: American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association (NEMA), Federal Specifications (FS).		1. Deliver and store all wallcovering in undamaged condition as packaged by the manufacturer, with manufacturer's seals and labels intact.	
2. Comply with manufacturer's recommendations for storage of material to be used in the work.		8. Do not paint over any code-required labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.		2. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint, until paint is of uniform finish color and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.		C. SUBMITTALS		B. SUBMITTALS	
D. INSTALLATION		B. SUBMITTALS		3. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only before final installation of equipment, unless otherwise specified.		1. Shop Drawings: Indicate dimensions, component sizes, fabrication details, attachment provisions and coordination requirements with adjacent work.		1. Product data - Submit manufacturer's technical data and installation instructions for each type of wall-covering and installation materials.	
1. Installer to examine conditions under which acoustic work is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected in an acceptable manner.		1. Product data: Submit manufacturer's technical information including paint label analysis and application instructions for each material proposed for use.		4. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, black paint.		2. Samples: Submit minimum 2 inch by 2 inch samples. Indicate full range of color and pattern variation. Approved samples will be retained as a standard for work.		2. Samples - Submit full width samples of each type of wallcovering, illustrating range of color and pattern variations.	
2. Installation of ceiling shall be the pattern indicated on the reflected ceiling plan and shall coordinate with mechanical, electrical and sprinkler system requirements.		2. Samples: Submit samples for Designer's review and approval of color, sheen and texture.		5. Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.		3. Product Data: Indicate product description, fabrication information and compliance with specified performance requirements.		3. Maintenance instructions - Submit manufacturer's printed instructions for maintenance of installed work, including precautions for use of cleaning materials which could damage wallcovering.	
3. All items to be supported shall be hung with wires of the size and spacing to support the ceiling system and all other work supported therefrom. System shall be square and level with no more than 1/8" variation in a 10' span.		C. PRODUCT DELIVERY AND STORAGE		6. Allow sufficient time between successive coating to permit proper drying. Do not rescoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.		4. Maintenance Data: Submit manufacturer's care and maintenance data, including care, repair and cleaning instructions and maintenance video. Provide maintenance kit for matte finishes. Include in project close-out documents.		4. Replacement materials - After completion of work, deliver to project site not less than 6 linear yards of each type, color, and pattern of wallcovering installed. Furnish replacement materials from same production run as materials installed.	
E. CLEANING		1. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label.		J. INTERIOR WOODWORK		D. PRODUCT DELIVERY AND STORAGE		C. JOB CONDITIONS	
1. Grid and all tiles shall be thoroughly clean and free of marks, cuts, indentations, spots, foreign paint or other blemishes and imperfections or shall be replaced.		2. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue.		1. First: Enamel undercoater, one coat.		1. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label.		1. Maintain constant minimum temperature of 60° f at areas of installation for at least 12 hours prior to and 48 hrs. after application of materials.	
F. REPLACEMENT MATERIALS		3. Keep storage space clean and orderly. Keep all waste and paint rags in metal containers, tightly covered or safely disposed of at end of each working day. Take every precaution to avoid fire. Provide approved type of fire extinguisher immediately outside each paint storage space.		2. Second & Third: Two Coats of alkyd High-gloss enamel. See Finish Schedule for specification.		2. Deliver no components to project site until areas are ready for installation. Store indoors.		2. Illuminate areas of installation using permanent lighting systems.	
1. Contractor shall provide five (5) full tiles of replacement material at the completion of the project.		D. JOB CONDITIONS		K. INTERIOR GYPSUM WALLBOARD		3. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent physical damage or staining following installation for duration of project.		3. Prior to installation, remove all dirt, grease, old adhesive, loose paint, and plaster from wall. Fill openings, cracks, crevices, and holes with spackling compound. Sand all rough spots smooth.	
G. WARRANTY		1. Coordinate with other trades to ensure adequate illumination, ventilation and dust-free environment during application and drying paint.		1. Texture: level 5 finish		E. JOB CONDITIONS		4. Prime walls using suggested primer, as per recommended manufacturer's instructions.	
1. Provide ceiling system guarantee in writing against defects in labor, materials, and maximum deflection of 1/800th of the span for a period of one year from date of Owner/tenant acceptance.		2. Temperature and humidity shall be within manufacturer's recommended tolerances.		2. Primer: Vinyl-pigmented primer.		1. Coordinate with other trades to ensure adequate illumination, and proper environment during fabrication and application.		D. INSTALLATION	
SECTION IV - RESILIENT FLOORING		3. Examine areas and conditions under which painting work is to be applied and notify Contractor of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable.		3. Second Coat: Alkyd low-lustre enamel.		2. Temperature and humidity shall be within manufacturer's recommended tolerances.		1. Place wallcovering panels consecutively in order cut from rolls, including filling of spaces above or below openings. Hang by reversing alternate strips except on match patterns.	
A. DESCRIPTION OF WORK		4. Do not paint over rust, dirt, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to the final paint performance.		4. Extent: Gypsum wallboard.		3. Examine areas and conditions under which work is to be applied and notify Contractor of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable.		2. Apply adhesive to back of wallcovering and place in accordance with manufacturer's instructions. Install seams plumb, and at least 1-1/2" away from corners. Horizontal seams are not permitted. Overlap seams and double-cut to assure tight closure. Roll, brush or use broad knife to remove air bubbles, wrinkles, blisters and other defects. Cut wallcoverings evenly to edges of wall penetrations.	
1. Furnish all labor and materials for a complete installation of all resilient floor covering as shown on the drawings and as called for in the Finish Schedule.		5. Starting of painting work will be construed as acceptance of surfaces and conditions within particular areas.		L. ADDITIONAL PAINT		F. ALLOWABLE TOLERANCES		3. Trim selvages as required to assure color uniformity and pattern match.	
2. Bases shall be set-on type vinyl. See Finish Schedule.		E. PREPARATION		1. Provide Owner, at completion of job, with one gallon of paint in each color selected. Paint to be supplied in tightly sealed containers labeled with color sample.		1. Variation in component size: +/-8 inch.		4. Remove excess adhesive along finished seams while it is still wet using warm water and clean sponge, and wipe dry.	
3. Adhesive shall be type as recommended by tile manufacturer.		1. Remove or protect during painting all accessories, fixtures and similar items installed prior to painting and not required to be painted. If removed, carefully replace and adjust after completion of painting.		M. CLEANING		2. Location of openings: +/-8 inch from indicated location.		5. Place wallcovering panels in precise factory-numbered sequence, including filling of spaces above or below openings. Match pattern carefully at seams. If all walls are to be covered in a space, locate start and finish sheets in most inconspicuous location.	
B. PREPARATION		2. Seal knots, pitch streaks, and resinous sapwood with recommended sealer prior to priming.		1. Upon completion of painting remove all surplus materials and scaffolds from the premises and leave the premises clean.		G. WARRANTY		6. Protect finished work installed by other trades prior to work under this section.	
1. Application shall not begin until the work of all other trades, including painting, is complete. Maintain all rooms and sub-floors at a minimum of 70 degrees F. for at least 48 hours before, during, and 48 hours after application of tile.		3. Clean all metal surfaces of all dust, grease, rust, and scale, using benzene, steel wool and wire brushes if necessary. Clean damaged areas of factory-applied priming coats and repaint with metal primer.		2. Remove all paint from floor, hardware, glass and other surfaces not painted.		1. Provide manufacturer's warranty against defects in materials, fabrication and installation. Warranty shall provide for replacement or repair of material and labor for a period of ten years, beginning at Date of Substantial Completion.		E. WARRANTY	
2. Lay tile with grain running in checkerboard pattern, with grain reversed in adjacent in adjacent tile.		4. All surfaces shall be dry and sanded properly. Fill small nail holes with putty, and larger voids with plastic wood and sand smooth. All millwork not primed before delivery shall be primed or sealed immediately upon arrival at the jobsite.		3. Touch-up as necessary after patching and repair of other trades.		2. For fabrications with installed warranty coverage, identify by affixing manufacturer's fabrication/installation source plate.		1. Provide a guarantee in writing against manufacturer's defects for a period of one year. If defects become evident within this period, the manufacturer will replace wallcovering and assume installation costs.	
C. INSTALLATION		F. GYPSUM BOARD FINISHES				3. Maintain surfaces in accordance with manufacturer's care and maintenance instructions.		DIVISION 10 -- SPECIALTIES	
1. Follow printed instructions of the manufacturer, especially regarding the storage and application of the base.		1. All gypsum board for walls shall have all nailheads bedded in cement, joints closed with U.S. Gypsum Pert-A-Tape and Pert-A-Bead shall be prepared and applied in strict accordance with manufacturer's directions. All partitions shall be taped and bedded full height of construction.				H. ACCESSORY PRODUCTS		A. FIXTURES AND EQUIPMENT INSTALLATION	
2. Place vinyl composition tile with adhesive cement in strict compliance with the manufacturer's recommendations. Butt tightly to vertical surfaces, thresholds, nosings, and edgings.		2. Where gypsum board abuts dissimilar materials, cover edge of gypsum board with U.S. Gypsum Pert-A-Trim, and bed with gypsum bedding paste.				1. Joint Adhesive: Manufacturer's standard two-part adhesive kit to create inconspicuous, non-porous joints by chemical bond.		1. Contractor shall accept delivery, provide all labor and material necessary to suitably store and install all millwork, fixtures and equipment to be installed.	
3. Upon completion of the installation, clean floors and base, wax with water emulsion wax and leave in satisfactory condition.		G. MATERIALS PREPARATION				I. WORKMANSHIP		B. SIGNS	
4. Lay tile with grain running in checkerboard pattern, with grain reversed in adjacent in adjacent tile.		1. Mix and prepare painting materials in accordance with manufacturer's directions.				1. Maintain the work in a neat and orderly condition, promptly removing empty containers, wrappings, waste, rubbish and like matter from the site.		1. Illuminated signage shall be furnished and installed by the contractor. Contractor shall provide all electrical requirements for proper installation of signage.	
D. GUARANTEE		2. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.				2. Employ only experienced and competent workers, assume all responsibility for the work, and repair all damage to the work by parties involved.		C. FIRE EXTINGUISHERS	
1. Guarantee materials and work in writing against defects in labor and materials for a period of one year from date of acceptance.		3. Turpentine shall be distilled, and oil shall be boiled and filtered linseed oil.				3. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.		1. Kiddle or equal dry chemical #10 wall-mounted Type ABC in accordance with NFPA #10. Locate as required by local codes.	
		4. Oil-based paints and enamels shall be factory prepared and packaged materials by approved manufacturers.				4. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work. Reinforce joints as required.		D. SLATWALL	
						5. Adhere sinks and lavatory bowls to tops using manufacturer's recommended sealant, adhesive and mounting hardware.		1. Furnish and install slatwall as manufactured by marlite or approved equal.	
						6. Provide backsplashes and sidesplashes as indicated on the Drawings. Adhere to tops using manufacturer's standard color matched silicone sealant.		2. Slatwall shall be displayed 20000 paint ready to accept paint as scheduled. Grooves to be at 3" O.C. horizontally.	
						7. Keep components clean during installation. Remove adhesives, sealants and other stains. Keep clean until Date of Substantial Completion. Replace stained and damaged components.			
						8. Protect surfaces from damage until Date of Substantial Completion. Repair work or replace damaged work which cannot be repaired to Architect's satisfaction.			
						9. Carefully protect other work and leave the job clean.			
						I. APPLICATION			
						1. Manufacture and install in accordance with manufacturer's directions.			
						2. Provide surfaces with a uniform matte finish in Gloss range of 5-20.			
						3. Backsplashes: Fabricate backsplashes using 1/2 inch solid polymer material. Create 1/2 inch radius cove at intersection of counters and backsplashes.			
						4. Counter Tops - General: 1/2 inch thick solid polymer material adhesively joined with inconspicuous seams, having edge details as detailed on the Drawings.			
						a. Surfaces # Hot Drop-Ins: 1/2 inch thick solid polymer material, adhesively joined with no exposed seams. Provide expansion joints in counter top as needed. Make cut-outs to templates furnished by the equipment manufacturer. Reinforce edges and cut-outs as recommended by the manufacturer. Provide insulation between solid polymer material and adjacent hot water pipes and food warmers. Thermally isolate hot applications from cold.			
						b. Surfaces # Cold Drop-Ins: 1/2 inch thick solid polymer material, adhesively joined with no exposed seams, having edge details as indicated on the Drawings. Provide expansion joints in counter top as needed. Make cut-outs to templates furnished by the equipment manufacturer. Reinforce edges and cut-outs as recommended by the manufacturer. Provide insulation between solid polymer material and adjacent cold surfaces. Thermally isolate hot applications from cold.			

REVISIONS

BY

REGISTERED ARCHITECT

ALYSE R. TRAUBER

2009

STATE OF TEXAS

LOVE COMMUNITY CENTER

REDEEMER PRAISE CHURCH

107 S. PINE STREET, SAN ANTONIO, TEXAS 78203

Frausto Partners

8600 WUZZBACH ROAD

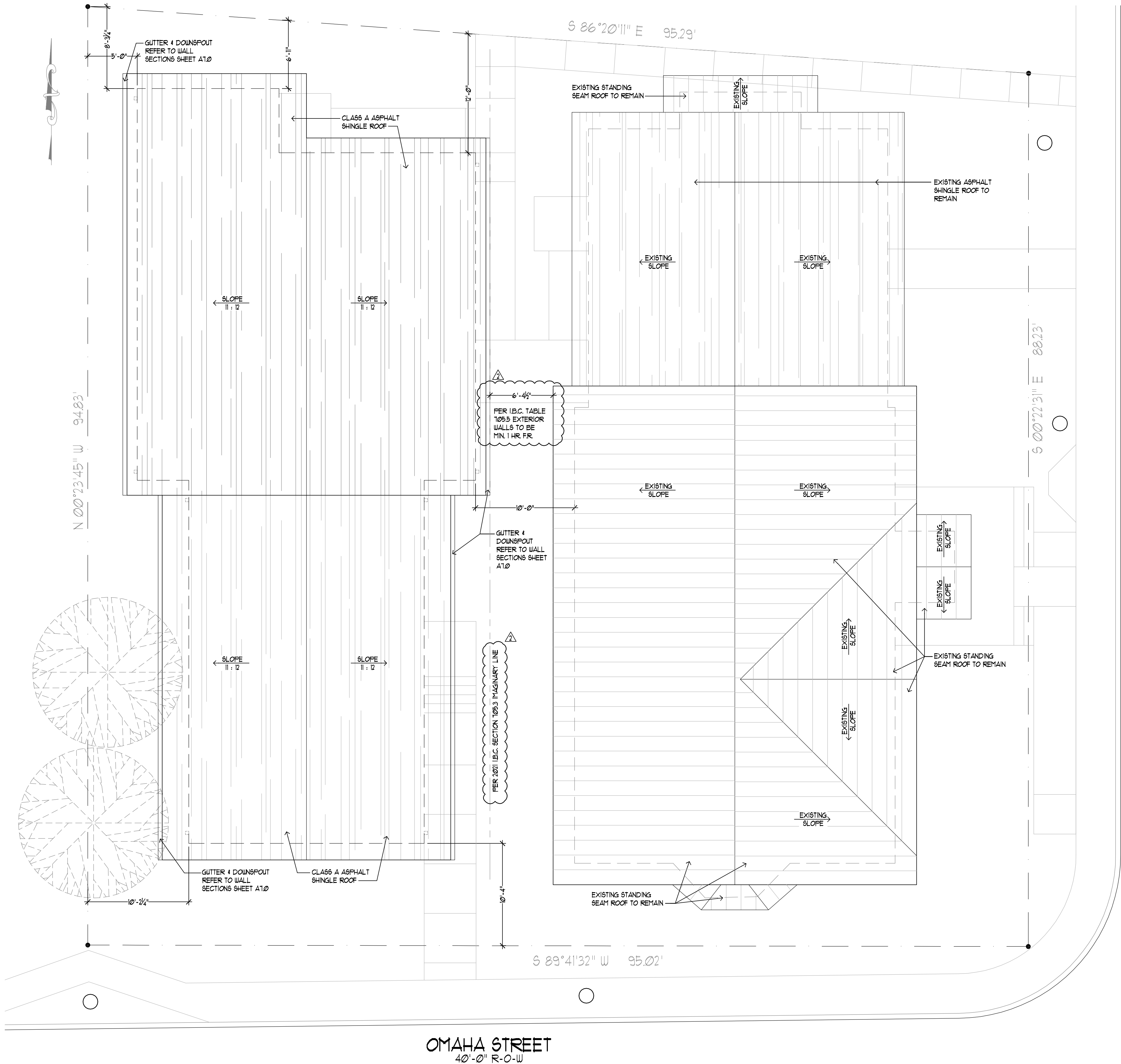
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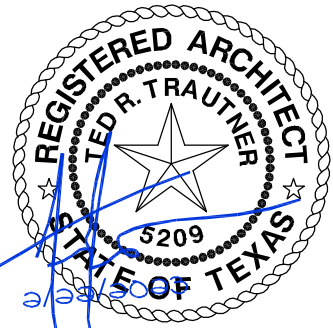


301 ROOF PLAN / SITE PLAN
SCALE: 3/16" = 1'-0"

S. PINE STREET
55'-6" R-O-W

OMAHA STREET
40'-0" R-O-W

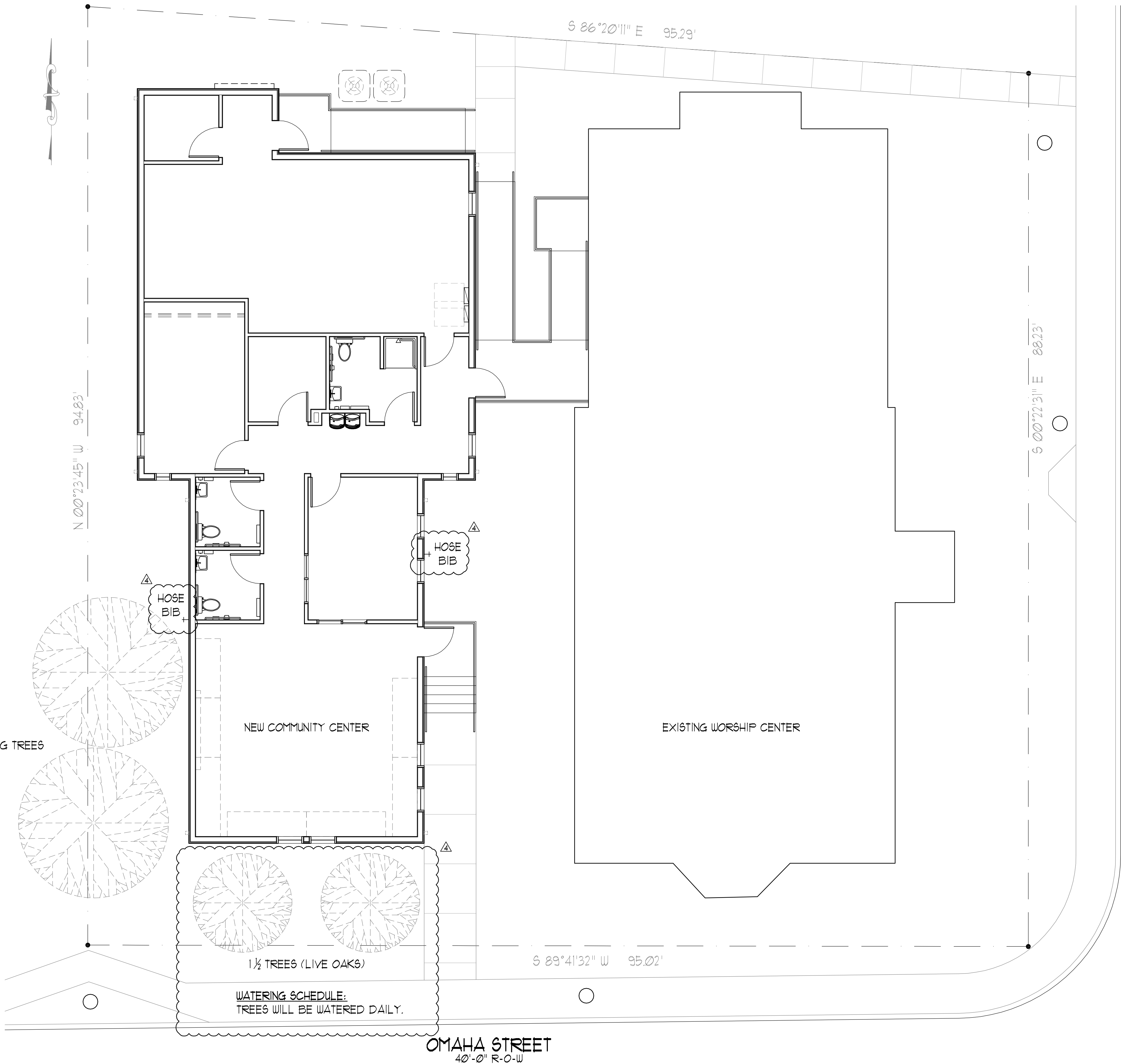
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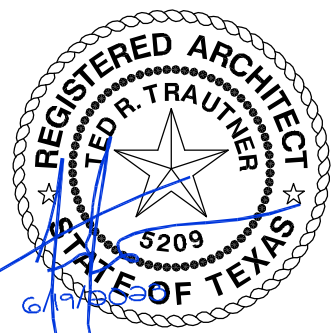


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3-01 SITE PLAN
SCALE: 3/16" = 1'-0"

REVISIONS	BY
△ 03/09/2023	EJP
△ 06/19/2023	EJP



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OCCUPANCY LOAD
PLUMBING COUNT

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OCCUPANCY LOAD

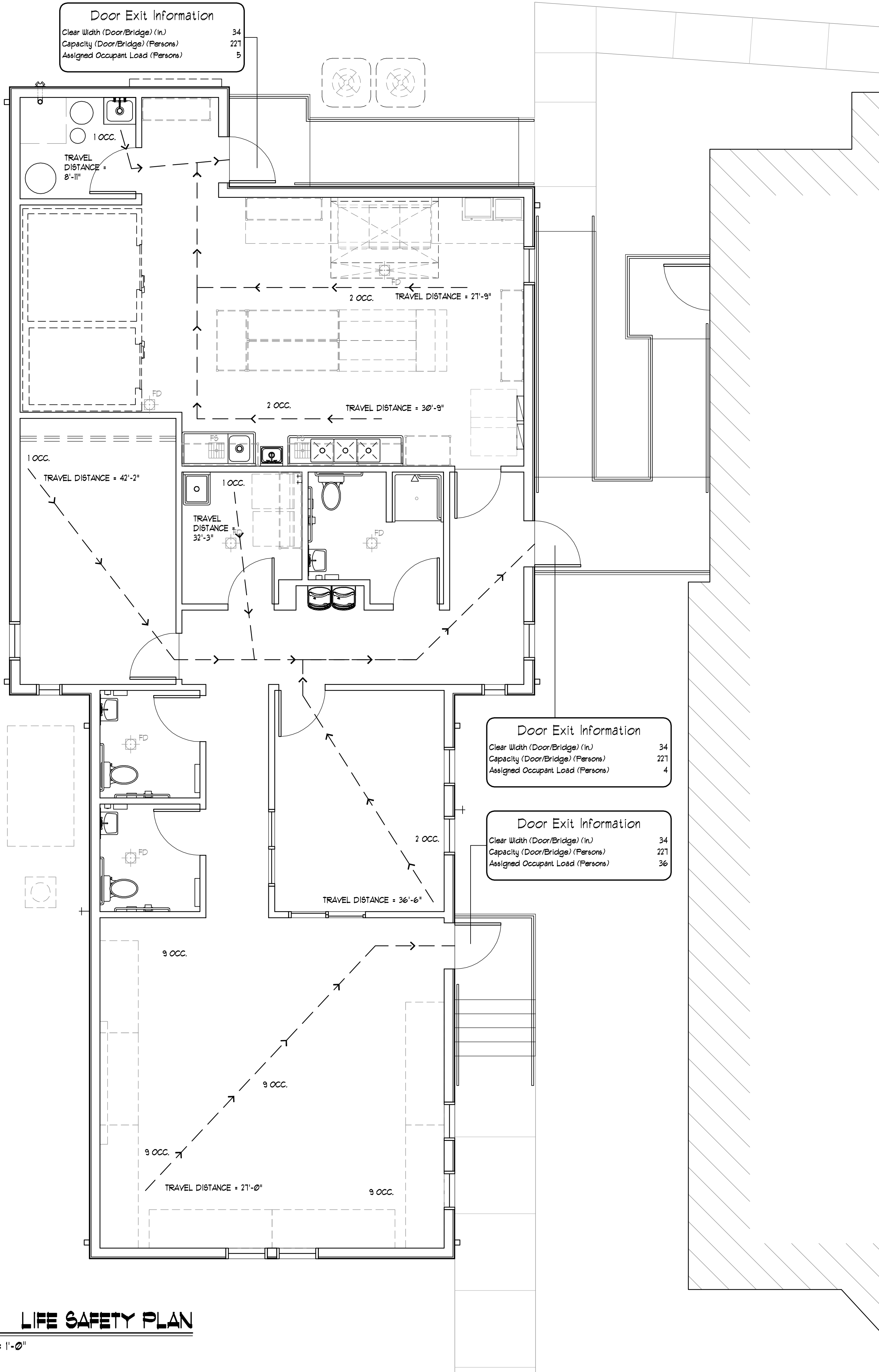
ROOM NAME	OCCUPANCY	SQUARE FOOTAGE	OCCUPANCY LOAD FACTOR	OCCUPANCY LOAD
CONFERENCE ROOM	ASSEMBLY, STANDING SPACE	534 SF	15 GROSS	36
KITCHEN	COMMERCIAL	620 SF	200 GROSS	4
UTILITY ROOM	ACCESSORY STORAGE AREAS	63 SF	300 GROSS	1
OFFICE	MECHANICAL EQUIPMENT ROOM	176 SF	150 GROSS	2
STORAGE ROOM	BUSINESS AREA	198 SF	300 GROSS	1
LAUNDRY ROOM	ACCESSORY STORAGE AREAS	72 SF	300 GROSS	1
SHOWER ROOM	MECHANICAL EQUIPMENT ROOM	16 SF	0 GROSS	0
RESTROOMS	-	103 SF	0 GROSS	0
CORRIDOR	-	290 SF	0 GROSS	0
TOTAL:	BUILDING	2038 SF		45

OCCUPANCY CLASSIFICATION: A3 (RELIGIOUS SERVICES)
AT OCCUPANCY LOAD: 45
SPLIT MEN / WOMEN: 22.5

PLUMBING COUNT

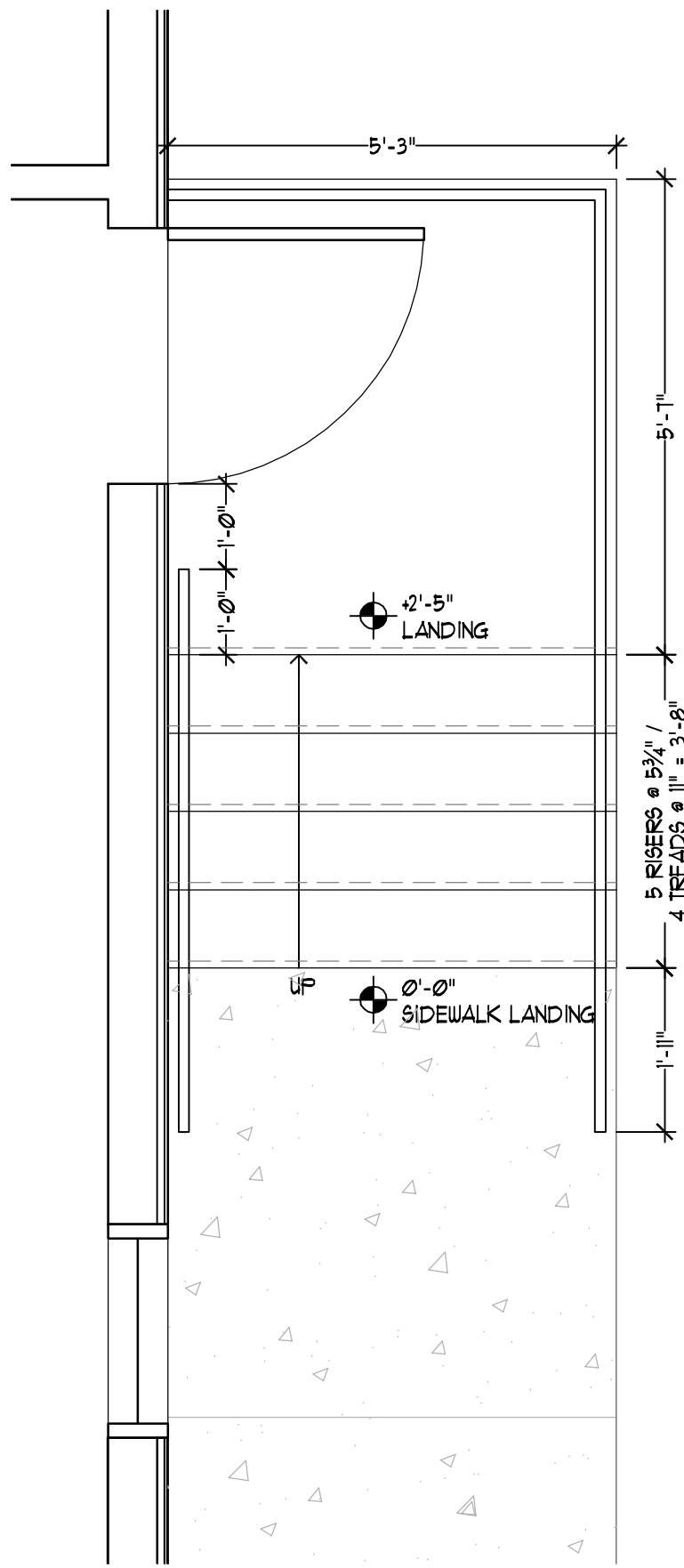
WATER CLOSETS / URINALS *		LAVATORIES	DRINKING FOUNTAINS	OTHERS
MALE	FEMALE			
1 PER 150	1 PER 75	1 PER 200	1/1000	1 SERVICE SINK
0.15	0.30	0.23	0.05	
1	1	1	1	1

1. 2018 IFC 4102: SMALL OCCUPANCIES. DRINKING FOUNTAINS SHALL NOT BE REQUIRED FOR AN OCCUPANT LOAD OF 15 OR FEWER.
2. 2018 IFC TABLE 403.1: FOR BUSINESS AND MERCANTILE CLASSIFICATIONS WITH AN OCCUPANT LOAD OF 15 OR FEWER, A SERVICE SINK SHALL NOT BE REQUIRED.
3. 403.2 SEPARATE FACILITIES. WHERE PLUMBING FIXTURES ARE REQUIRED, SEPARATE FACILITIES SHALL BE PROVIDED FOR EACH SEX.
EXCEPTIONS:
1. SEPARATE FACILITIES SHALL NOT BE REQUIRED FOR DWELLING UNITS AND SLEEPING UNITS.
2. SEPARATE FACILITIES SHALL NOT BE REQUIRED IN STRUCTURES OR TENANT SPACES WITH A TOTAL OCCUPANT LOAD, INCLUDING BOTH EMPLOYEES AND CUSTOMERS, OF 15 OR FEWER.
4. SEPARATE FACILITIES SHALL NOT BE REQUIRED IN MERCANTILE OCCUPANCIES IN WHICH THE MAXIMUM OCCUPANT LOAD IS 100 OR FEWER.
5. SEPARATE FACILITIES SHALL NOT BE REQUIRED IN BUSINESS OCCUPANCIES IN WHICH THE MAXIMUM OCCUPANT LOAD IS 25 OR FEWER.

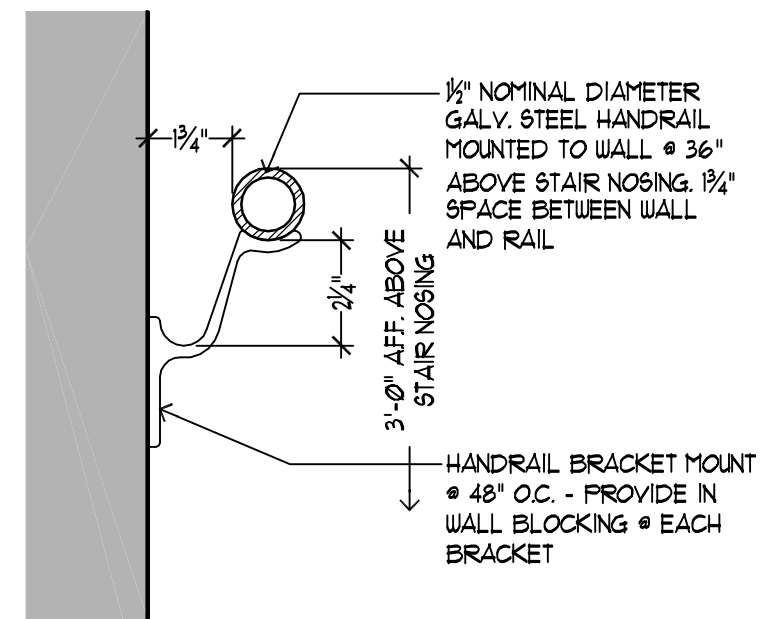


3.1-01 LIFE SAFETY PLAN

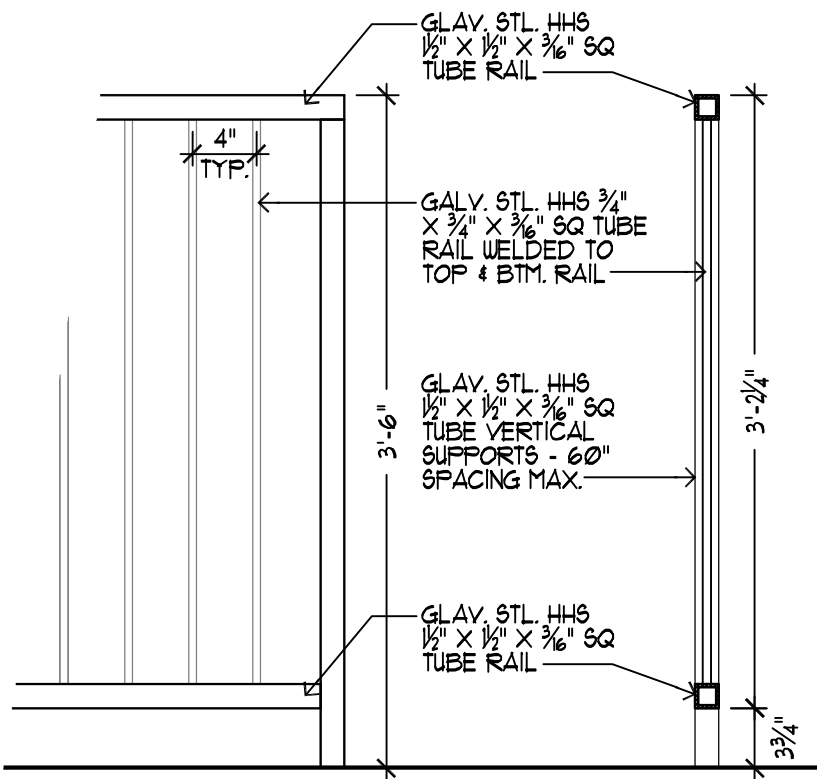
SCALE: 1/4" = 1'-0"



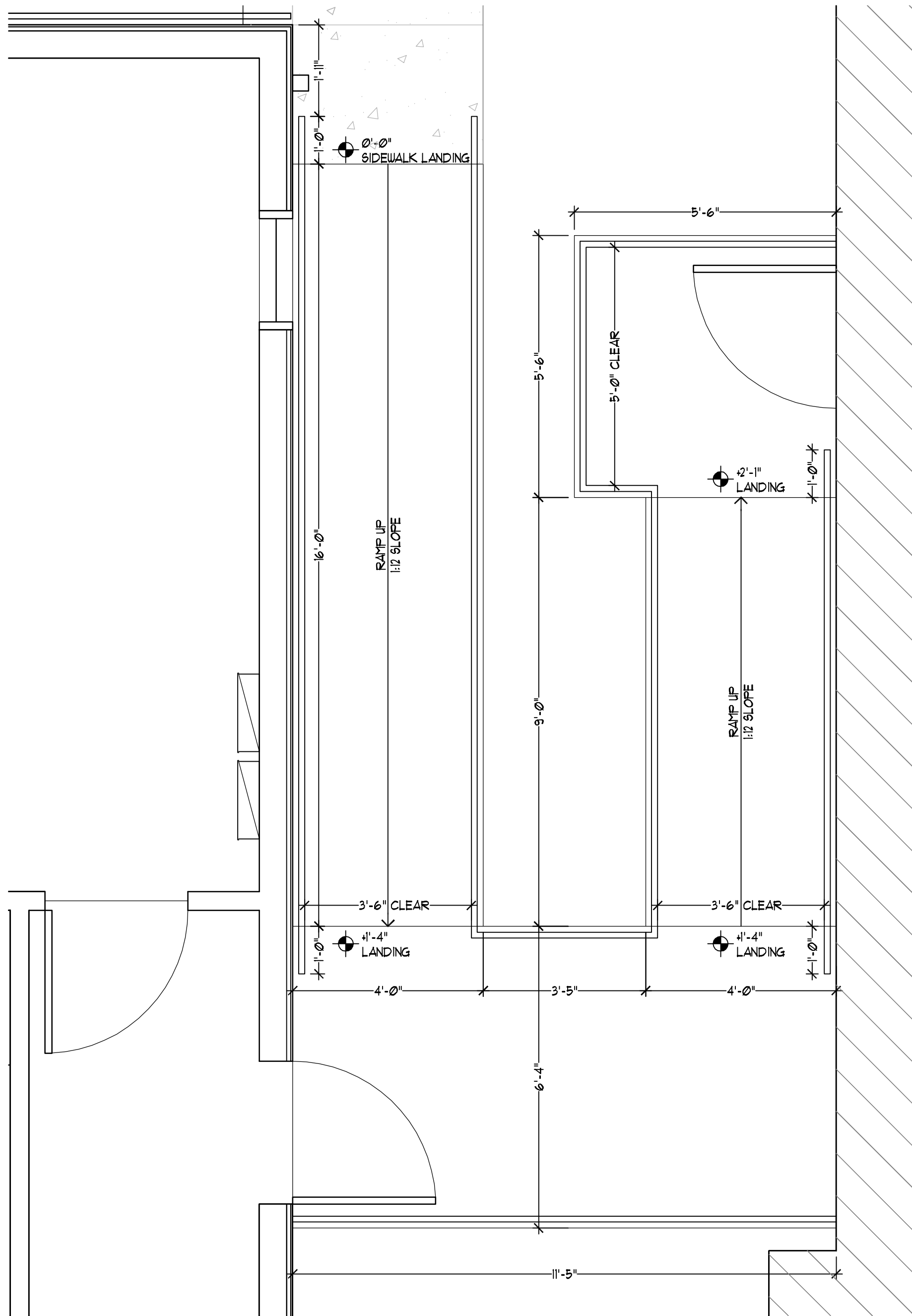
32-01 ENLARGED STAIRS PLAN
SCALE: 1/2" = 1'-0"



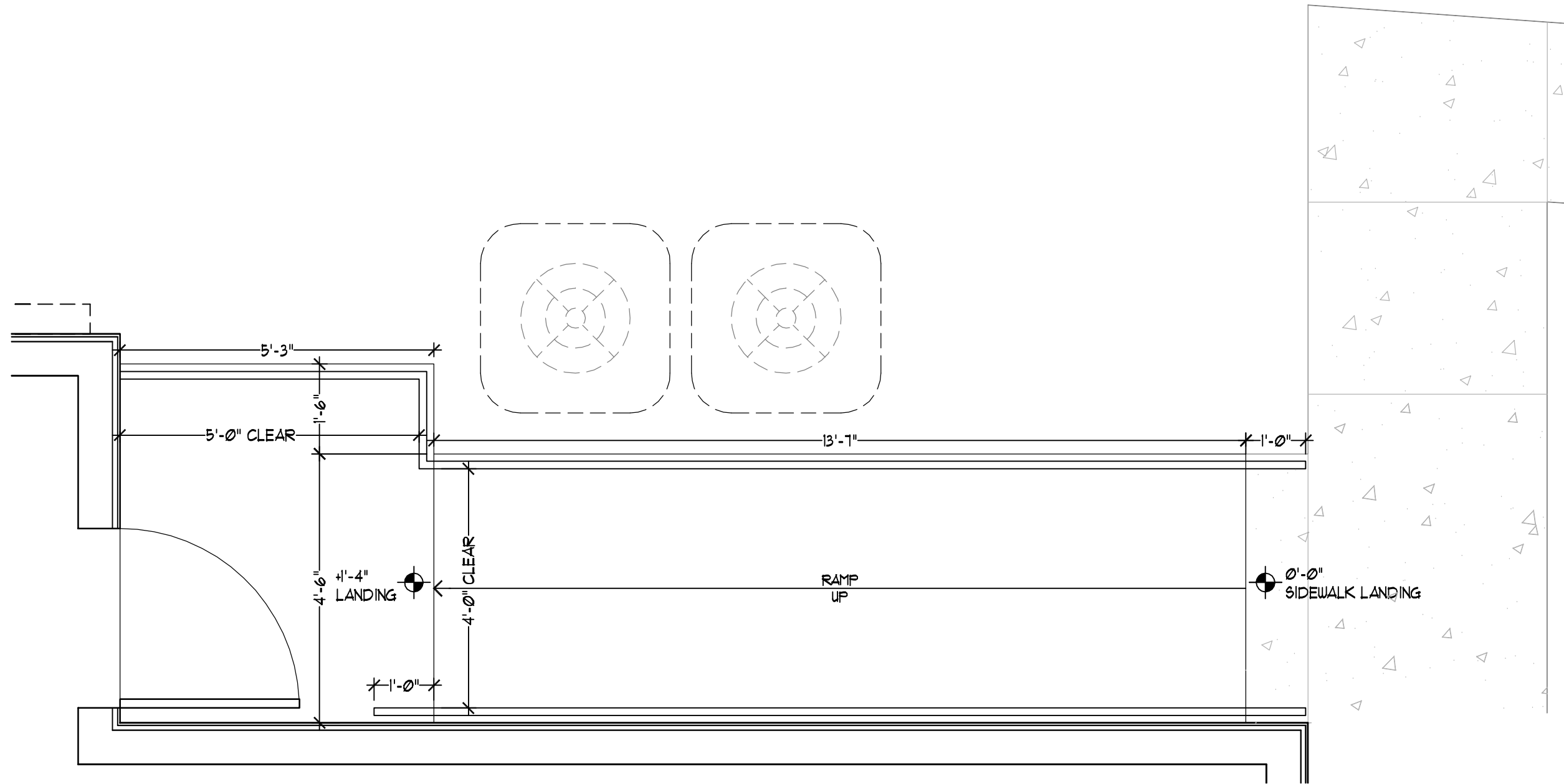
32-04 WALL MOUNTED RAILING DETAIL
SCALE: 3" = 1'-0"



32-04 METAL RAILING ELEV. & SECTION
SCALE: 1" = 1'-0"

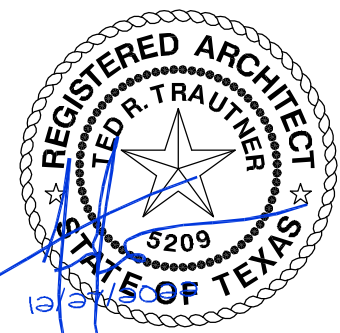


32-02 ENLARGED H/C RAMP PLAN
SCALE: 1/2" = 1'-0"



32-03 ENLARGED DELIVERY RAMP PLAN
SCALE: 1/2" = 1'-0"

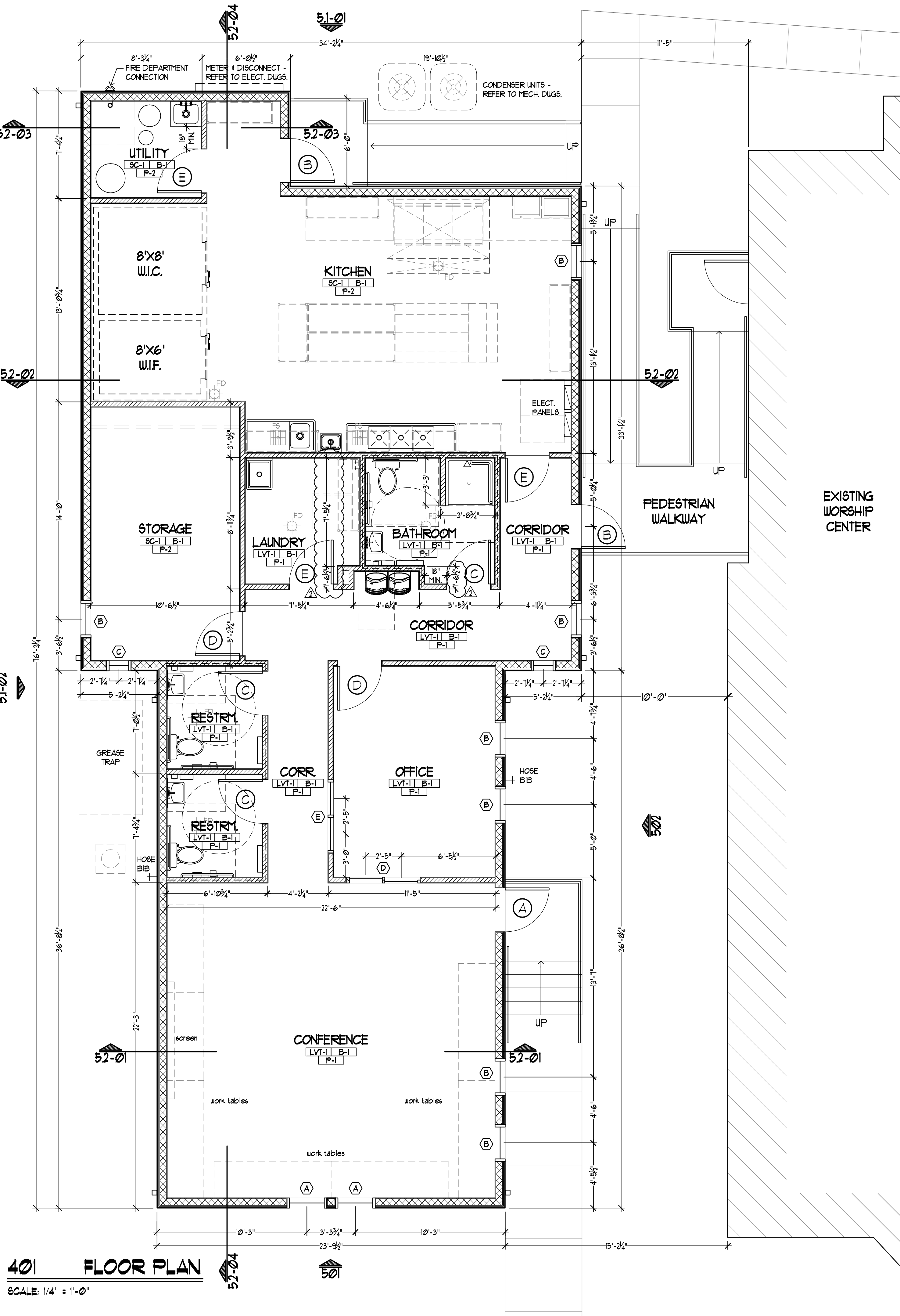
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401 FLOOR PLAN
SCALE: 1/4" = 1'-0"

WALL KEY

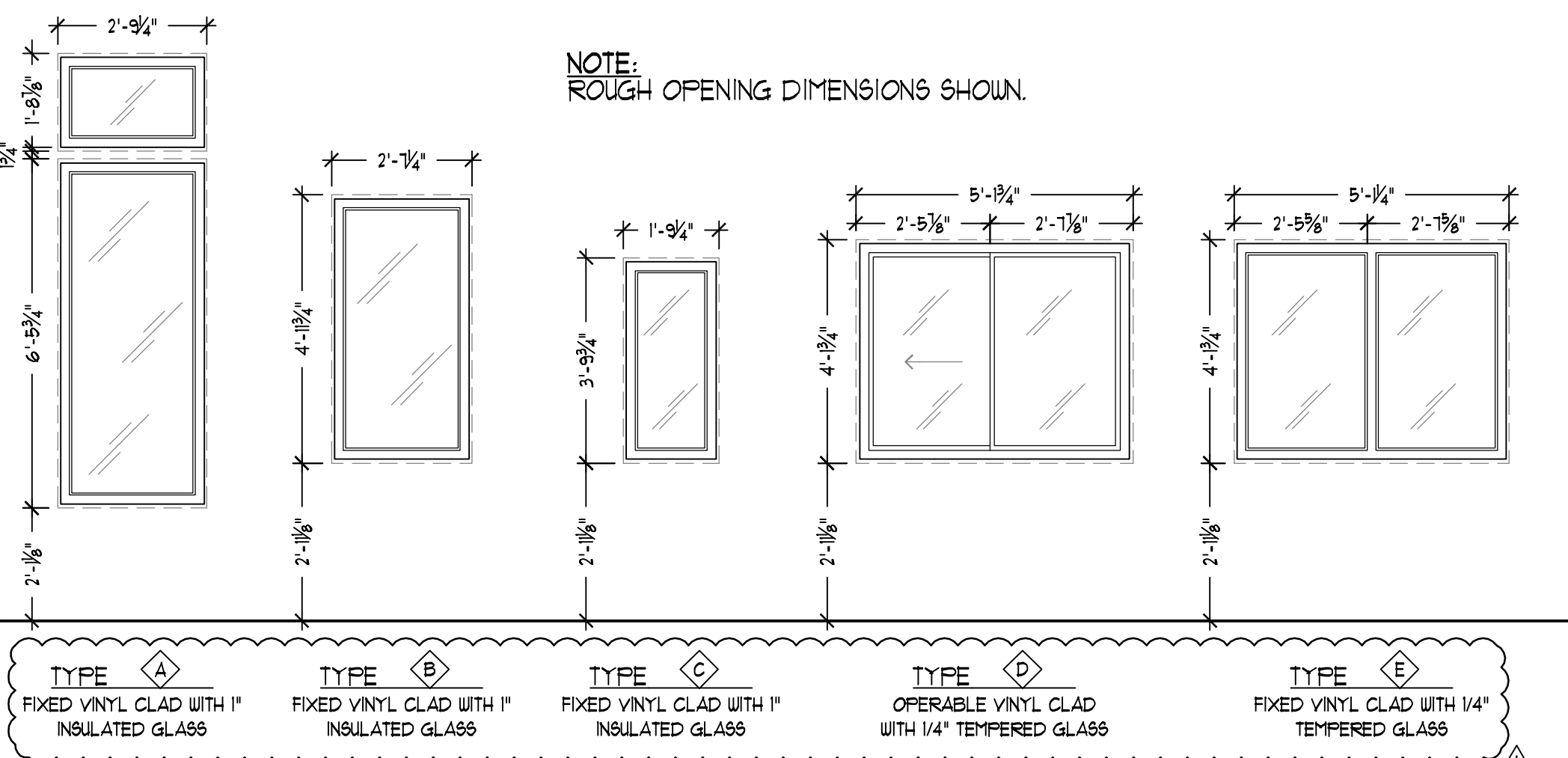
	NEW 1 HOUR FIRE RATED EXTERIOR PARTITIONS: 2X6 F.T. WOOD STUDS @ 16" O.C. WITH MOISTURE BARRIER (TYP) ON 1/2" EXTERIOR SHEATHING. R-19 BATT INSULATION. 5/8" FIRE-RESISTANT TYPE "X" GYPSUM BOARD TO UNDERSIDE OF STRUCTURAL DECK. ALL VOIDS AND PENETRATIONS SHALL BE FILLED WITH FIRE STOPS. TAPE, FLOAT, AND FINISH AS PER DRAWINGS. FULL HEIGHT CEDAR BOARD BATTEN 4 BOARD EXTERIOR FINISH.
	NEW INTERIOR PARTITIONS: 2X4 F.T. WOOD STUDS @ 16" O.C. TO A MIN. OF 8" ABOVE CEILING HEIGHT. 5/8" GYP. BD. FULL HEIGHT OF WALL. TAPE, FLOAT, AND FINISH AS PER PLANS.
	WINDOWS AS PER SCHEDULE.
NOTES: 1. ALL DIMENSIONS ARE TO STUD, UNLESS NOTED OTHERWISE ON PLAN. 2. ALL DIMENSIONS FROM EXISTING CONSTRUCTION ARE TO EXISTING WALL FINISH, UNLESS NOTED OTHERWISE. 3. PROVIDE SOUND ATTENUATION TO WALLS WITH --- 4. REFER TO SHEET A61 FOR DOOR DETAILS.	

DOOR SCHEDULE

MARK	SIZE	DESCRIPTION
(A)	3'-0"	NEW ONE HOUR RATED HOLLOW METAL EXTERIOR TWO PANEL ENTRY DOOR W/ H.M. FRAME. PROVIDE KEYED CYLINDRICAL LEVER LOCK TYPE W/ DEADBOLT. PROVIDE 10"x10" SAFETY GLASS. PROVIDE DOOR CLOSER, WALL STOP, THRESHOLD, DOOR SWEEP 4 WEATHERSTRIP. PAINT ALL SIDES DOOR AND FRAME P-3 SEMI-GLOSS. G.C. TO PROVIDE VINYL DIE-CUT LETTER SIGN (2" HIGH LETTERS) TO READ "THIS DOOR TO REMAIN UNLOCKED DURING OPERATING HOURS". VERIFY THAT ALL HARDWARE IS COMPLETE. DOORS SHALL COMPLY WITH 2018 I.B.C. 10101.3.4. REFER TO DETAIL 61-03, 61-04 4 61-05.
(B)	3'-0"	NEW ONE HOUR RATED HOLLOW METAL EXTERIOR TWO PANEL ENTRY DOOR W/ H.M. FRAME. PROVIDE KEYED CYLINDRICAL LEVER LOCK TYPE. PROVIDE 10"x10" SAFETY GLASS. PROVIDE PANIC HARDWARE, DOOR CLOSER, KICKPLATE, THRESHOLD, DOOR SWEEP 4 WEATHERSTRIP. PAINT ALL SIDES DOOR AND FRAME P-3 SEMI-GLOSS. REFER TO DETAIL 61-03, 61-04 4 61-05.
(C)	3'-0"	NEW SOLID CORE WOOD TWO PANEL DOOR W/ H.M. FRAME. PROVIDE CLOSER AND LEVER TYPE PRIVACY LOCKSET. PAINT ALL SIDES DOOR AND FRAME P-3 SEMI-GLOSS. REFER TO DETAIL 61-08, 61-09 4 61-10.
(D)	3'-0"	NEW SOLID CORE WOOD TWO PANEL DOOR W/ H.M. FRAME. PROVIDE LEVER TYPE KEYED LOCKSET. PAINT ALL SIDES DOOR AND FRAME P-3 SEMI-GLOSS. REFER TO DETAIL 61-08, 61-09 4 61-10.
(E)	3'-0"	NEW SOLID CORE WOOD TWO PANEL DOOR W/ H.M. FRAME. PROVIDE LEVER TYPE PASSAGE LOCKSET. PAINT ALL SIDES DOOR AND FRAME P-3 SEMI-GLOSS. REFER TO DETAIL 61-08, 61-09 4 61-10.
NOTES: 1. ALL HARDWARE TO BE SATIN NICKEL FINISH. 2. ALL EXIT DOORS WILL BE OPERABLE FROM INSIDE WITHOUT USE OF A SPECIAL KEY OR SPECIAL KNOWLEDGE. 3. ALL DOORS WITH GLAZING SHALL HAVE SAFETY GLAZING COMPLY WITH SECTIONS 2406.11 THROUGH 2406.14 OF 2018 I.B.C. HUMAN IMPACT LOADS. 4. REFER TO ADA REQUIREMENTS SHEET A11.		

WINDOW SCHEDULE

MARK	UNIT SIZE		FRAME SIZE	FINISH	DETAILS			REMARKS
	WIDTH	HEIGHT			HEAD	JAMB	SILL	
A	2'-8"	6'-4"	2" X 4 1/2"	VINYL CLAD	62-04	62-05	62-06	CLEAR GLASS WITH THERMAL BREAK
	2'-8"	1'-8"	2" X 4 1/2"	VINYL CLAD	62-04	62-05	62-05 SH	CLEAR GLASS WITH THERMAL BREAK
B	2'-6"	4'-10"	2" X 4 1/2"	VINYL CLAD	62-01 4 62-04	62-02 4 62-05	62-06	CLEAR GLASS WITH THERMAL BREAK
C	1'-8"	3'-8"	2" X 4 1/2"	VINYL CLAD	62-01	62-02	62-03	CLEAR GLASS WITH THERMAL BREAK
D	5'-0"	4'-0"	2" X 4 1/2"	VINYL CLAD	62-01	62-08	62-09	OPERABLE SLIDING WINDOW
E	5'-0"	4'-0"	2" X 4 1/2"	VINYL CLAD	62-10	62-11 SH	62-11	-
NOTES: 1. REFER TO SHEET A62 FOR WINDOW DETAILS.								



402 WINDOW TYPES
SCALE: 3/8" = 1'-0"

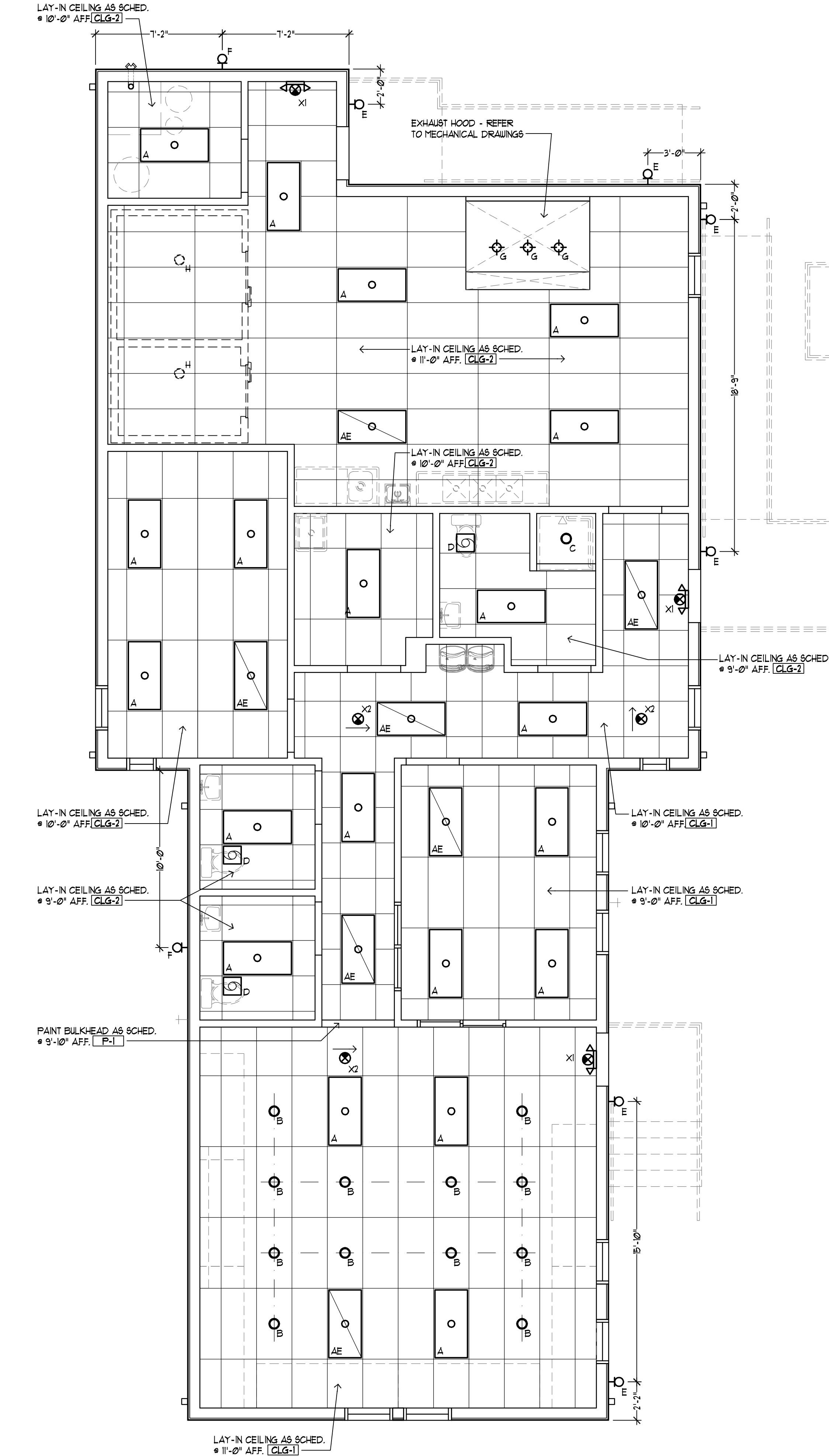
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4.1-01 REFLECTED CEILING PLAN

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

LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER / MODEL	CONTACT	MOUNTING	LAMPS
A	INDUSTRIAL LIGHTING PRODUCTS LED 2X4 FLAT PANEL / VPAN24-55L/UNV-35	VENESSA BABCOCK 210-182-4234	LAY-IN	LED 4TW / 80 CRI / 3500K
AE	INDUSTRIAL LIGHTING PRODUCTS LED 2X4 FLAT PANEL WITH EMERGENCY BATTERY PACK / VPAN24-55L/UNV-35-EM10	VENESSA BABCOCK 210-182-4234	LAY-IN	LED 5TW / 80 CRI / 3500K
B	HE WILLIAMS 6" LED DOWNLOAD / 6DR-TL-10-9-35-DIM-UNV-0-W-OF-C5	VENESSA BABCOCK 210-182-4234	RECESSED	LED 8.7W / 3500K / 90 CRI
C	HE WILLIAMS 6" LED DOWNLOAD / 6DR-TL-10-9-35-DIM-UNV-5-W-OF-C5	VENESSA BABCOCK 210-182-4234	RECESSED	LED 8.7W / 3500K / 90 CRI
D	NUTONE RESTROOM VENT FAN / LPN80	LOCAL HARDWARE STORE	RECESSED	N/A
E	EXTERIOR DECORATIVE WALL SCONCE	-	SURFACE	-
F	ATLAS AMERICAN LIGHTING LED WALL PACK / W6FL-60LED-4K-BK-EB	VENESSA BABCOCK 210-182-4234	SURFACE	LED 58W / 83 CRI / 4000K
G	LED EXHAUST HOOD LIGHT	KITCHEN EQUIPMENT INSTALLER	EQUIPMENT SURFACE	LED 11W 120V
H	LED WALK-IN UNIT LIGHT	KITCHEN EQUIPMENT INSTALLER	EQUIPMENT SURFACE	LED 11W 120V
X1	LIGHT ALARMS COMBINATION EXIT SIGN/ EMERGENCY LIGHT / UGLXN60DR-ZLEDIR	VENESSA BABCOCK 210-182-4234	SURFACE	LED 2.6W
X2	LIGHT ALARMS LED DOUBLE FACE EXIT SIGN / 6LEARY	VENESSA BABCOCK 210-182-4234	SURFACE	LED 2.6W

NOTE: SEE ELECTRICAL PLANS FOR LIGHTING SPECIFICATIONS. THIS REFLECTED CEILING PLAN SHALL BE REFERENCED FOR LIGHTING PLACEMENT AND QUANTITY OF FIXTURES.

- ADDITIONAL NOTES:
1. PROVIDE LENSED LAMPS FOR LIGHTING FIXTURES INSTALLED ABOVE FOOD SERVICE OR FOOD PREPARATION AREAS OR WHERE SPECIFIED, TEFLON COATED LAMPS.
 2. ALL FIXTURES SHALL BE AS SPECIFIED HEREIN. NO SUBSTITUTIONS WILL BE PERMITTED WITHOUT THE DESIGNER'S AND ENGINEER'S EXPRESS WRITTEN CONSENT. NO EXCEPTIONS.
 3. ALL FLUORESCENT LIGHT FIXTURES ARE EQUIPPED W/ ENERGY SAVING BALLAST & REDUCED WATTAGE LAMPS.
 4. PROVIDE EMERGENCY POWERED BATTERY PACK BATTERY BALLAST FOR ALL 24 HOUR LAMPS.
 5. GENERAL CONTRACTOR SHALL FURNISH ALL REQUIRED MATERIALS FOR THE PROPER INSTALLATION OF ALL LIGHT FIXTURES.
 6. ELECTRICAL CONTRACTOR TO CROSS REFERENCE FIXTURE SCHEDULE WITH ELECTRICAL PANEL SCHEDULE BEFORE PLACING ORDER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
 7. GENERAL CONTRACTOR TO INSTALL ALL SPEAKERS AT HEIGHTS AND WITH MOUNTING TYPES AS PER OWNER'S INSTRUCTIONS.
 8. EMERGENCY LIGHTING SHALL BE INSTALLED 6" BELOW CEILING HEIGHTS.

FINISH SCHEDULE

KEY	PRODUCT	MANUFACTURER	CONTACT	DESCRIPTION	LOCATION	FLAME SPREAD CLASS.
P-1	PAINT	SHERWIN WILLIAMS	LOCAL STORE	SATIN FINISH	WALLS	GYPSUM BOARD FLAME SPREAD: 15 / CLASS A
P-2	PAINT	SHERWIN WILLIAMS	LOCAL STORE	SEMI GLOSS FINISH	STORAGE, KITCHEN & UTILITY WALLS	GYPSUM BOARD FLAME SPREAD: 15 / CLASS A
P-3	PAINT	SHERWIN WILLIAMS	LOCAL STORE	SEMI GLOSS FINISH	DOORS / RAILING	CLASS A
P-4	PAINT	SHERWIN WILLIAMS	LOCAL STORE	-	OUTDOOR SIDING & BB WALLS	CLASS A
P-5	PAINT	SHERWIN WILLIAMS	LOCAL STORE	-	OUTDOOR TRIM	CLASS C
LVT-1	LUXURY VINYL TILE	-	-	-	-	FLAME SPREAD: 25 / CLASS A
SC-1	SEALED CONCRETE	-	-	-	-	N/A CONCRETE NOT COMBUSTIBLE
B-1	VINYL BASE	-	-	-	-	FLAME SPREAD: 25 / CLASS A
CLG-1	LAY-IN CEILING TILE	USG INTERIORS, INC.	(800) 950-3839	ASTRO ACOUSTICAL PANELS - 2'X4'X5/8" (SLT) - NO. 8243 - COLOR: WHITE - GRID PROFILE: DXL	CONFERENCE, OFFICE, CORRIDORS	FLAME SPREAD: 25 / CLASS A
CLG-2	LAY-IN CEILING TILE	USG INTERIORS, INC.	(800) 950-3839	SHEETROCK BRAND CLIMATEPLUS VINYL - 2'X4'X1/2" (50) - NO. 3170 - COLOR: WHITE - GRID PROFILE: DXL	RESTROOMS, BATHROOM, LAUNDRY, STOR. KIT. & UTILITY	FLAME SPREAD: 25 / CLASS A

NOTE: UNDER "LOCATION" GENERAL LOCATIONS ONLY ARE INDICATED TO AID THE G.C. IN DETERMINING FINISH APPLICATIONS. G.C. IS RESPONSIBLE FOR DETERMINING EXACT LOCATIONS OF FINISHES BY REFERRING TO PLAN ELEVATIONS, SECTIONS AND DETAILS. DISCREPANCIES AND QUESTIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGNER.

- NOTES:
1. ALL REMAINING MATERIAL SHALL BE THE PROPERTY OF THE OWNER AND SHALL REMAIN STORED ON SITE AS PER OWNER'S INSTRUCTIONS.
 2. PAINTING CONTRACTOR SHALL RETURN AFTER STORE SET-UP TO TOUCH-UP DOORWAYS, ETC. AS NEEDED.
 3. PAINTING CONTRACTOR SHALL SUBMIT SAMPLES TO DESIGNER OF ALL PAINTS AND STAINS TO BE USED THROUGHOUT. REFER TO GENERAL SPECIFICATIONS.
 4. ALL FINISHES SHALL BE AS SPECIFIED - NO SUBSTITUTIONS WILL BE PERMITTED, NO EXCEPTIONS. (THIS INCLUDES MANUFACTURER, STYLE, AND COLOR).
 5. MANUFACTURER'S INSTALLATION INSTRUCTIONS MUST BE FOLLOWED.
 6. ALLOW SIX WEEK LEAD TIME FOR ALL SPECIALTY ITEMS. VERIFY LEAD TIMES FOR ALL FINISHES.
 7. ALL QUARRY TILE SHALL BE SEALED.
 8. USE DOUBLE GLAZED EDGE TILE OR BULLNOSE TILE AT ALL EXPOSED CORNERS.
 9. PAINT ALL MECHANICAL GRILLS SAME AS THE ADJACENT SOFFIT (TYP.)

REVISIONS	BY



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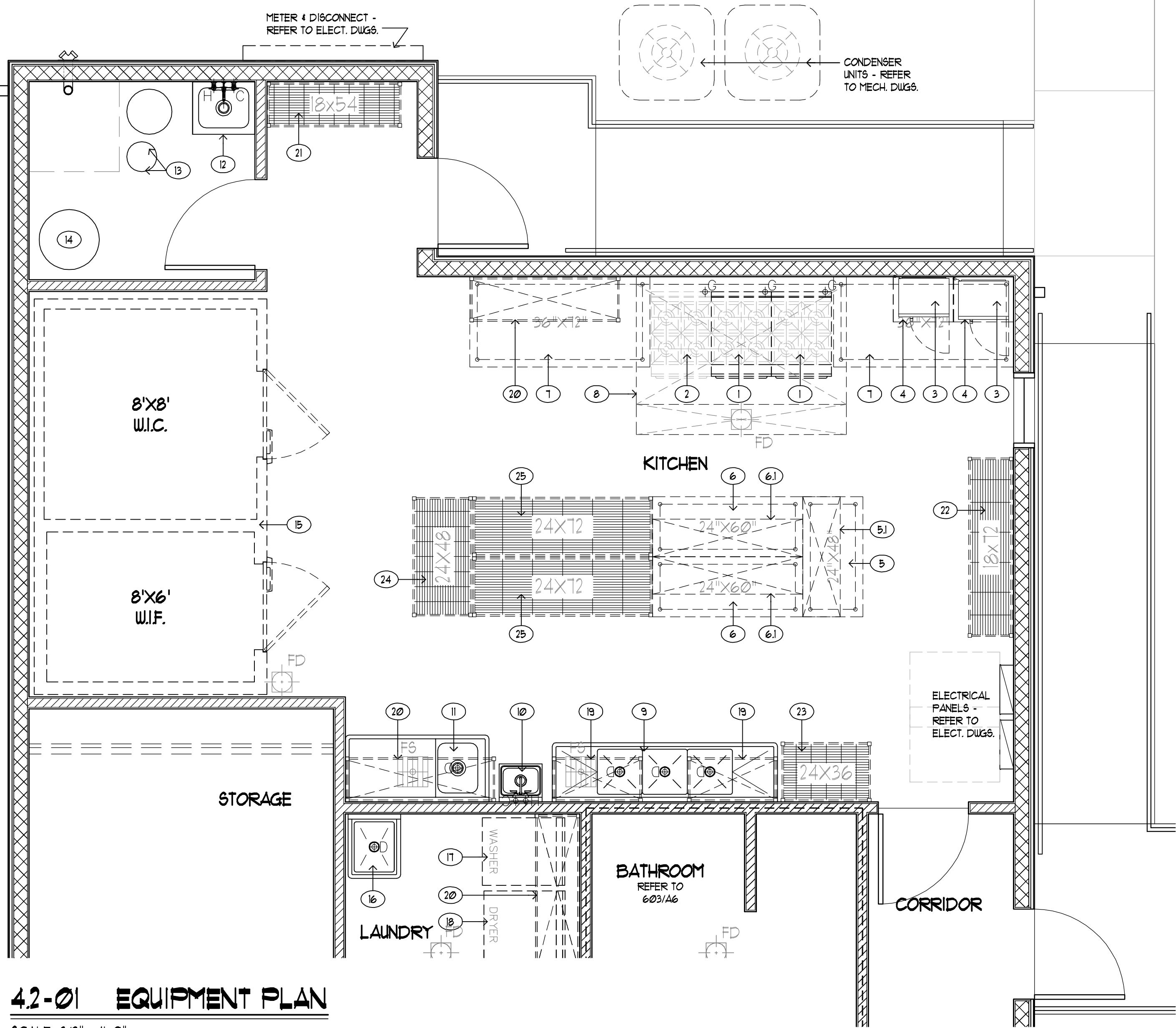
REDEEMER PRAISE CHURCH
107 S. PINE STREET, SAN ANTONIO, TEXAS 78203



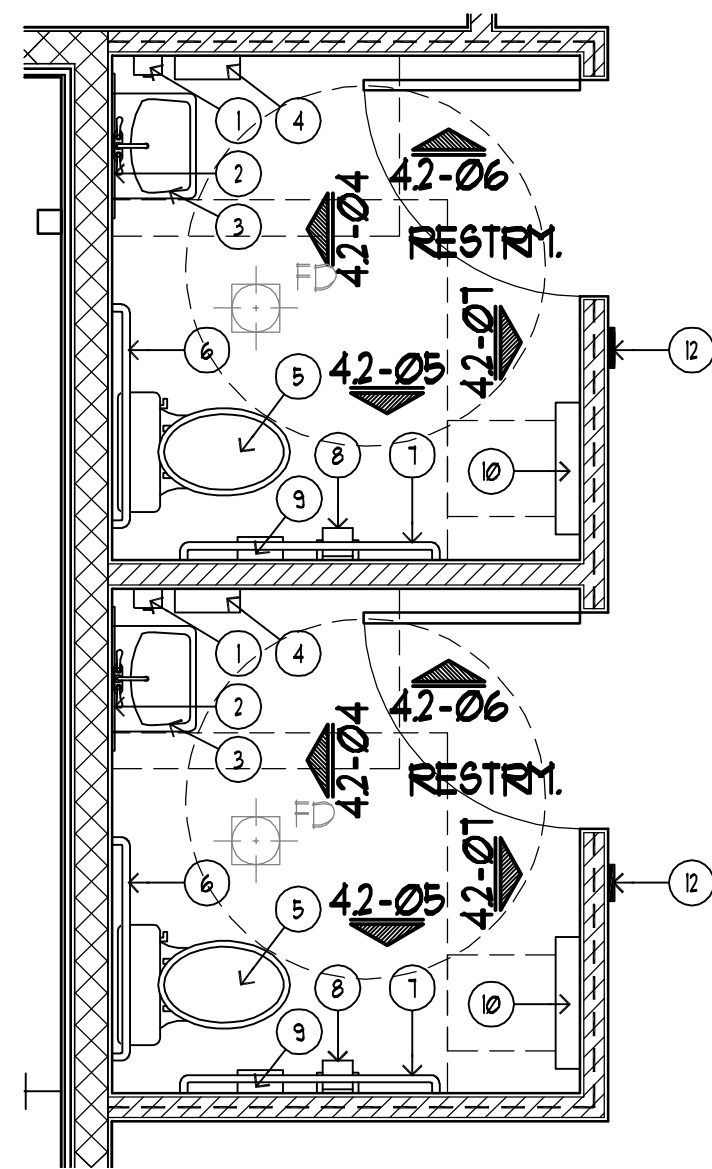
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LIGHT FIXTURE SCHEDULE
FINISH SCHEDULE

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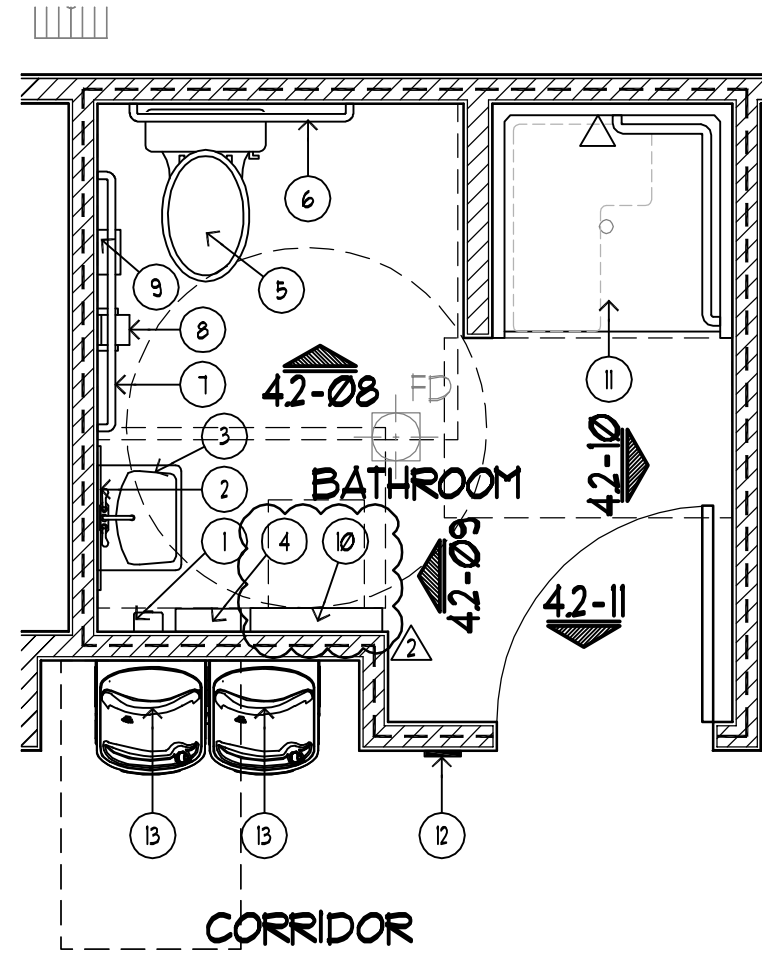
A4.1
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42-01 EQUIPMENT PLAN
SCALE: 3/8" = 1'-0"



42-02 ENLARGED RESTROOM PLAN
SCALE: 3/8" = 1'-0"



42-03 ENLARGED SHOWER PLAN
SCALE: 3/8" = 1'-0"

EQUIPMENT SCHEDULE

MARK	QTY.	EQUIPMENT	MANUFACTURER/DIMENSIONS	FURN.	INST.
1	2	GAS RANGE WITH 4 OPEN BURNERS AND STANDARD OVEN	WOLF / C24S-4BN	G.C.	G.C.
2	1	FUTURE GAS RANGE WITH 4 OPEN BURNERS AND STANDARD OVEN	WOLF / C24S-4BN	-	-
3	2	MICROWAVE OVEN	WINCO / B7W-1000ST	G.C.	G.C.
4	2	MICROWAVE OVEN SHELF	ADVANCE TABCO / MS-18-24	G.C.	G.C.
5	1	STAINLESS STEEL WORK TABLE WITH 5" SPLASH & UNDERSHELF / 24" X 48"	ADVANCE TABCO / SKG-344	G.C.	G.C.
5.1	1	STAINLESS STEEL TABLE MOUNTED SHELF / 5" X 48"	ADVANCE TABCO / ODS-15-48	G.C.	G.C.
6	2	STAINLESS STEEL WORK TABLE WITH 5" SPLASH & UNDERSHELF / 24" X 60"	ADVANCE TABCO / SKG-345	G.C.	G.C.
6.1	1	STAINLESS STEEL TABLE MOUNTED SHELF / 5" X 60"	ADVANCE TABCO / ODS-15-60	G.C.	G.C.
7	2	STAINLESS STEEL WORK TABLE WITH 5" SPLASH & UNDERSHELF / 36" X 12"	ADVANCE TABCO / SKG-366	G.C.	G.C.
8	1	EXHAUST HOOD WITH MAKE UP AIR	REFER TO MECHANICAL DRAWINGS	G.C.	G.C.
9	1	THREE COMPARTMENT SINK	ADVANCE TABCO / FC-3-1018-10R	G.C.	G.C.
10	1	WALL MOUNTED HAND SINK	ADVANCE TABCO / T-FS-60	G.C.	G.C.
10.1	1	WALL MOUNTED SOAP DISPENSER	ADVANCE TABCO / T-FS-12	G.C.	G.C.
10.2	1	WALL MOUNTED PAPER TOWEL DISPENSER	ADVANCE TABCO / T-FS-35	G.C.	G.C.
11	1	ONE COMPARTMENT SINK	ADVANCE TABCO / 93-1-24-36R	G.C.	G.C.
12	1	MOP SINK	ADVANCE TABCO / 9-OP-20	G.C.	G.C.
13	1	WATER SOFTENER SYSTEM	REFER TO PLUMBING DRAWINGS	G.C.	G.C.
14	1	HOT WATER HEATER	REFER TO PLUMBING DRAWINGS	G.C.	G.C.
15	1	WALK-IN COMBINATION COOLER & FREEZER	KOLPAK OR EQUAL / COOLER: 8'-0" X 8'-0" / FREEZER: 6'-0" X 8'-0"	G.C.	G.C.
16	1	LAUNDRY SINK	ADVANCE TABCO / FC-1-1620	G.C.	G.C.
17	1	LAUNDRY WASHER	VERIFY WITH OWNER	OWNER	G.C.
18	1	LAUNDRY DRYER	VERIFY WITH OWNER	OWNER	G.C.
19	LOT	HEAVY DUTY WALL MOUNTED WIRE SHELVE	2 ROUS METRO / 18" X 36" / PROVIDE IN WALL BLOCKING AS REQUIRED	G.C.	G.C.
20	LOT	HEAVY DUTY WALL MOUNTED WIRE SHELVE	2 ROUS METRO / 18" X 60" / PROVIDE IN WALL BLOCKING AS REQUIRED	G.C.	G.C.
21	LOT	WIRE SHELVE UNIT	METRO / 18"D X 54" L (5 TIER)	G.C.	G.C.
22	LOT	WIRE SHELVE UNIT	METRO / 18"D X 72" L (5 TIER)	G.C.	G.C.
23	LOT	WIRE SHELVE UNIT	METRO / 24"D X 36" L (5 TIER)	G.C.	G.C.
24	LOT	WIRE SHELVE UNIT	METRO / 24"D X 48" L (5 TIER)	G.C.	G.C.
25	LOT	WIRE SHELVE UNIT	METRO / 24"D X 72" L (5 TIER)	G.C.	G.C.

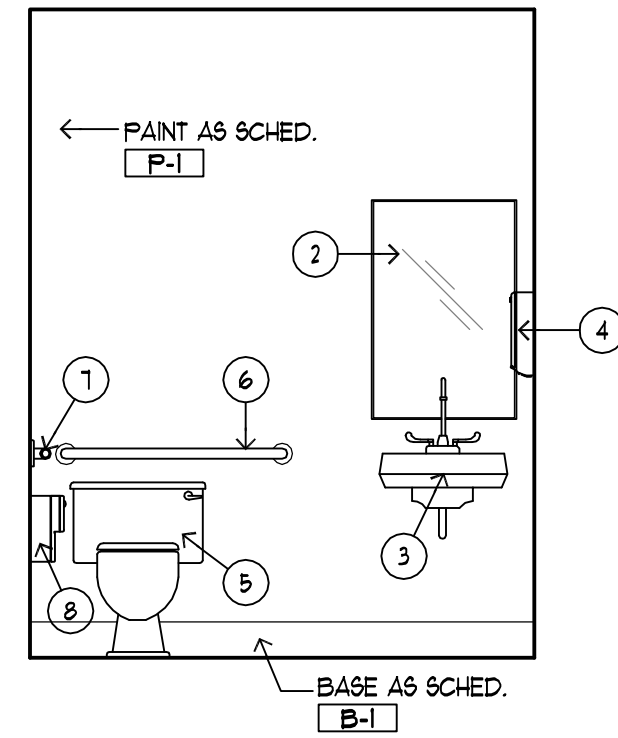
RESTROOM ACCESSORIES SCHEDULE

MARK	QTY.	EQUIPMENT	MANUFACTURER/DIMENSIONS (W X D X H)	FURN.	INST.
1	3	LIQUID SOAP DISP.	BOBRICK / B-2111 SURFACE MOUNTED SOAP DISPENSER	G.C.	G.C.
2	3	MIRROR	BOBRICK / BOBRICK / B-165 2436 MIRROR WITH STAINLESS STEEL CHANNEL FRAME	G.C.	G.C.
3	3	WALL MOUNTED LAVATORY	SEE ENGINEERING PLANS	G.C.	G.C.
4	3	WALL MOUNTED PAPER TOWEL DISPENSER	BOBRICK / B-2670 SURFACE MOUNTED CLASSIC SERIES	G.C.	G.C.
5	3	ADA WATER CLOSET	SEE ENGINEERING PLANS	G.C.	G.C.
6	3	ST. STEEL GRAB BAR	BOBRICK / B-5806-36" X 1 1/2" DIAMETER - CONCEALED MOUNT W/ SNAP FLANGE, PEENED GRIP, POLISHED ENDS	G.C.	G.C.
7	3	ST. STEEL GRAB BAR	BOBRICK / B-5806-42" X 1 1/2" DIAMETER - CONCEALED MOUNT W/ SNAP FLANGE, PEENED GRIP, POLISHED ENDS	G.C.	G.C.
8	3	TOILET PAPER DISPENSER	BOBRICK / B-2888 / MULTIROLL (SURFACE MTD.)	G.C.	G.C.
9	3	SANITARY NAPKIN DISPOSAL	BOBRICK / B-2710 / SURFACE MTD.	G.C.	G.C.
10	3	BABY CHANGING UNIT	KOALA-KARE / KB10-00 / SURFACE MTD.	G.C.	G.C.
11	1	SHOWER STALL	ACCESSIBLE ACRYLIC 36"X 36" ONE PIECE SHOWER STALL WITH CENTER DRAIN, FOLD UP SHOWER BENCH AND GRAB BARS - AQUATIC 1363EROST OR EQUAL, CONTACT AT 202-345-1272	G.C.	G.C.
12	3	ADA RESTROOM SIGN	REFER TO SHEET A11 FOR MOUNTING HEIGHTS AND NOTES ON BRAILLE.	G.C.	G.C.
13	2	ELECT. WATER COOLER (DRINKING FOUNTAIN)	SEE PLUMBING PLANS	G.C.	G.C.

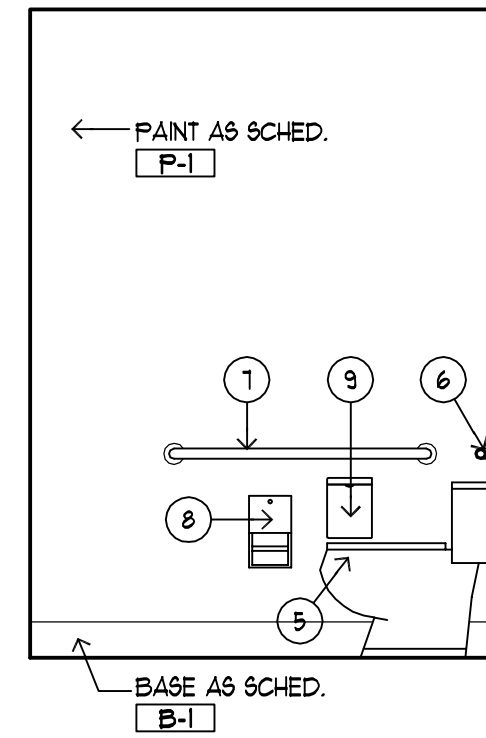
NOTES:
1. FOR BOBRICK CONTACT - DEA SPECIALTIES, DAVID OLIVER - 210-523-1073.
2. REFER TO A11 FOR A.D.A. MOUNTING HEIGHTS AND GENERAL NOTES.

WALK-IN COOLER SPECIFICATIONS:

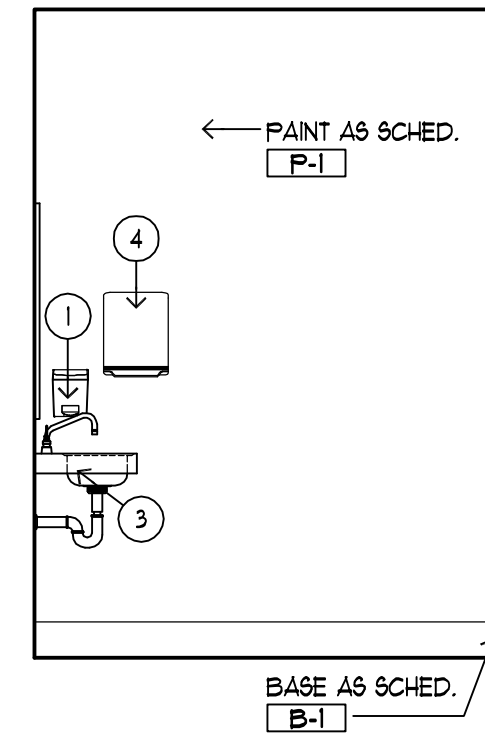
- Panel size: 4" thick nominal
- Metal Finish: Interior and exterior 26 GA Embossed Galvalume
- Maximum flame spread rating of 15



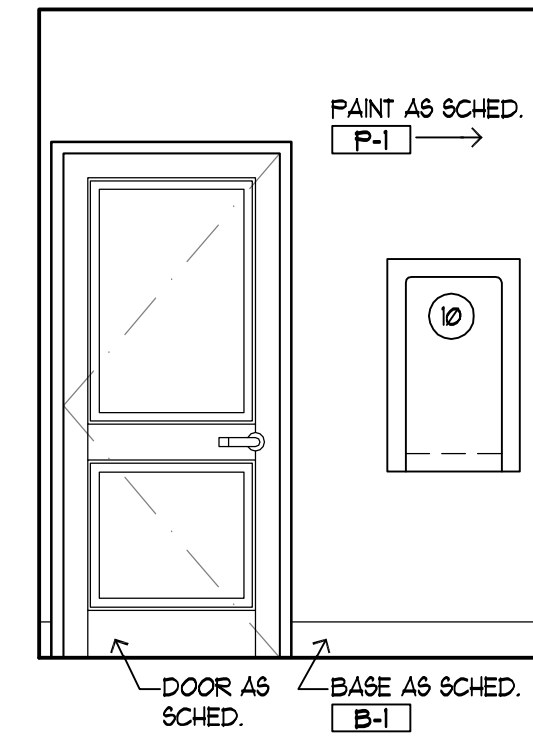
42-04 INT. ELEV.
SCALE: 3/8" = 1'-0"



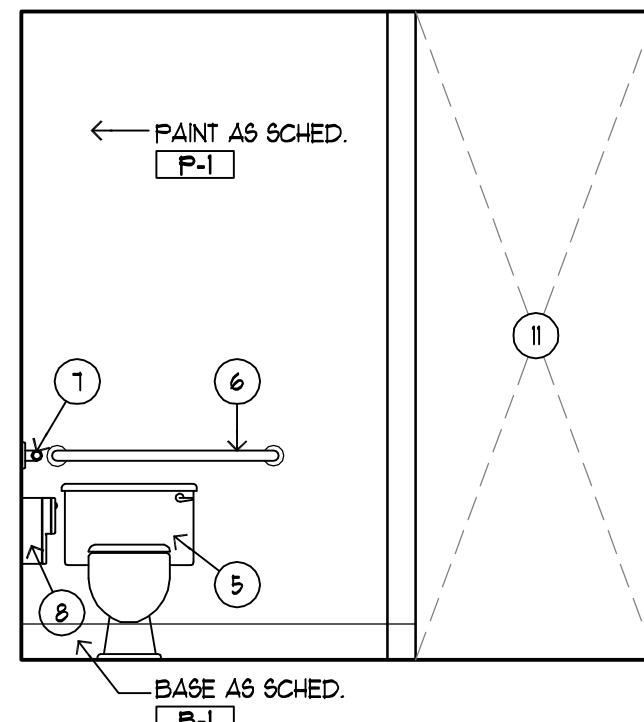
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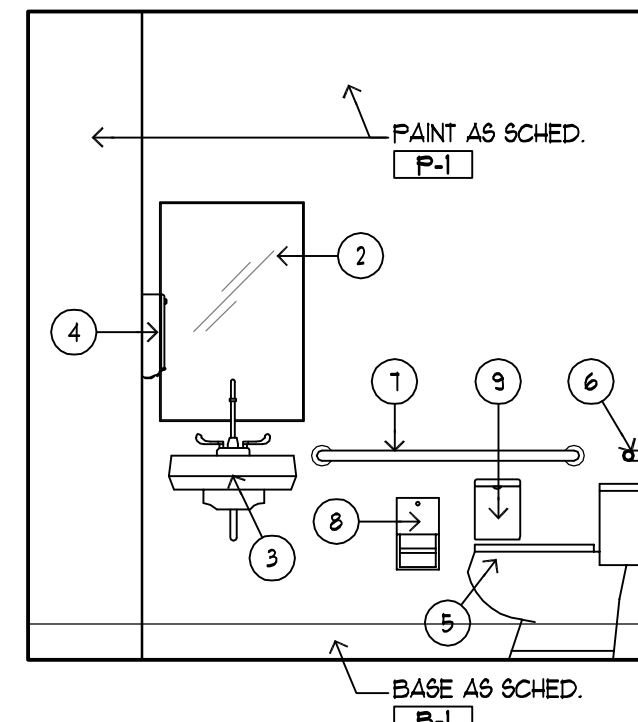
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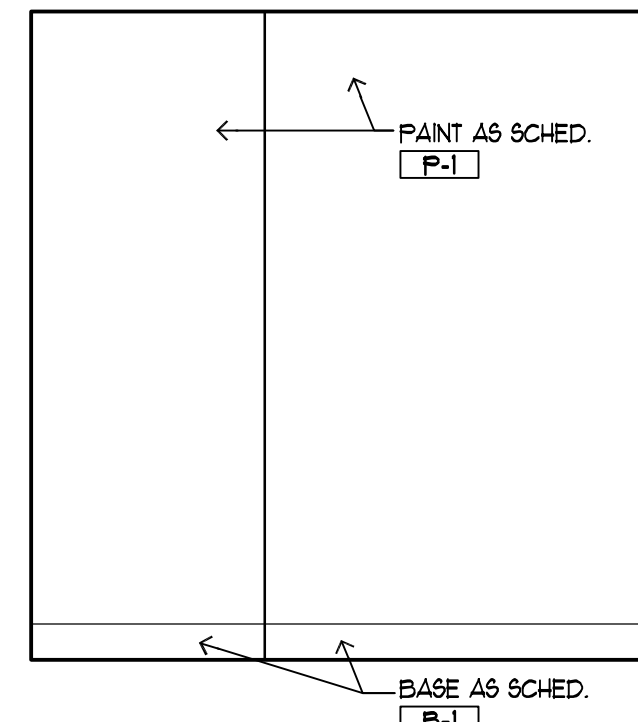
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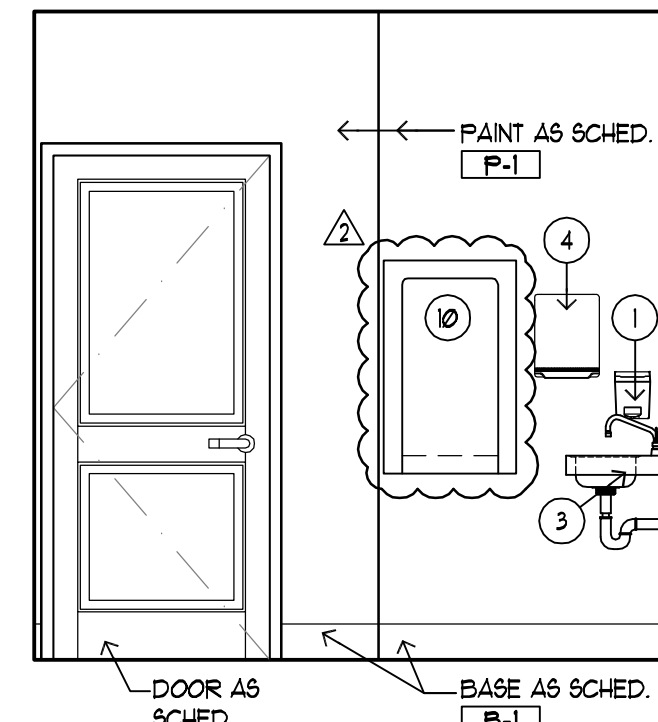
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42-09 INT. ELEV.
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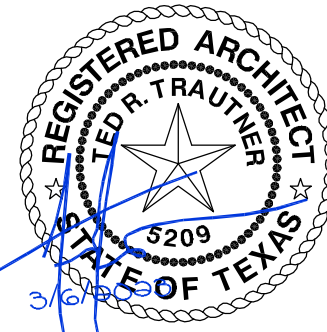


42-10 INT. ELEV.
SCALE: 3/8" = 1'-0"



42-11 INT. ELEV.
SCALE: 3/8" = 1'-0"

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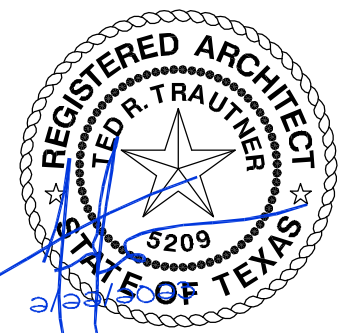
Frausto Designs
8605 WUZZBACH ROAD
SAN ANTONIO, TX 78240
210-262-1985

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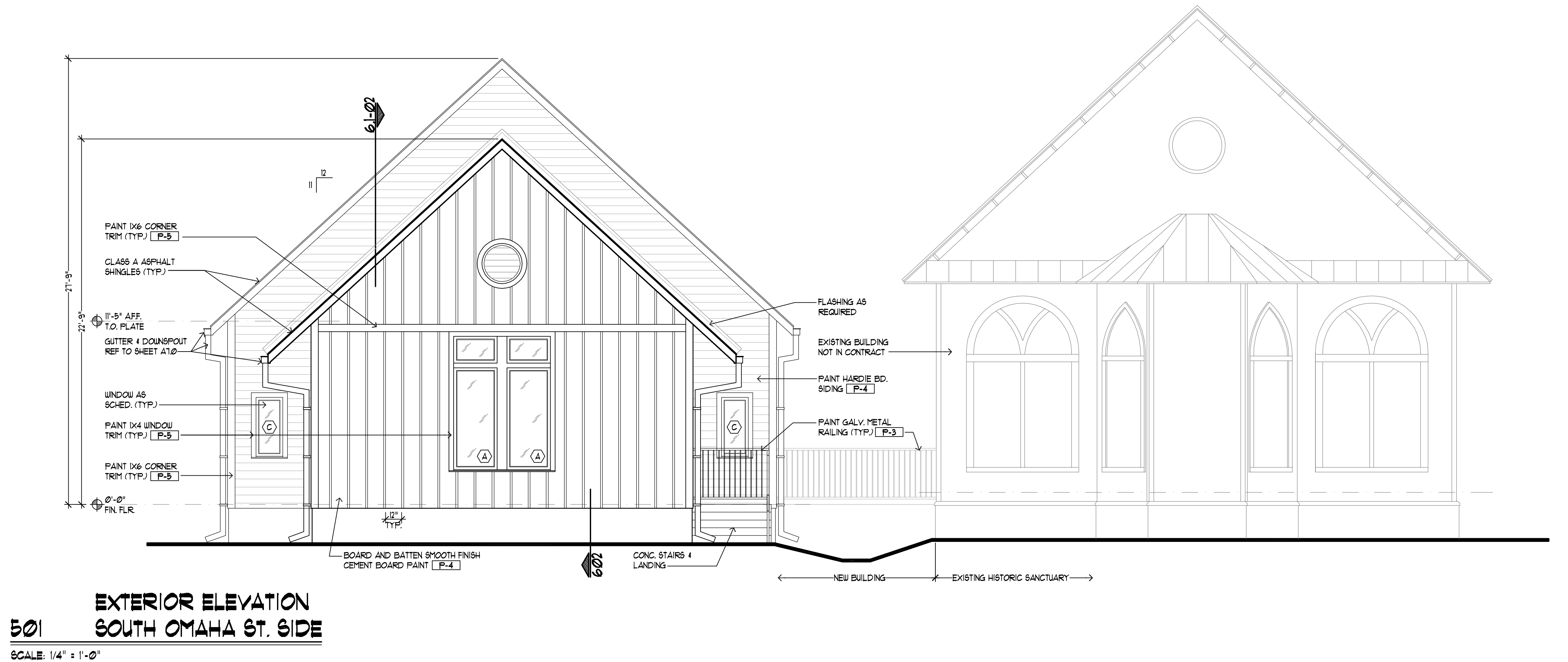
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AS PER 2021 I.B.C. 105.3 OPENINGS

EXTERIOR WALL A IS WITHIN THE 10'-15' SEPARATION RANGE

- WALL AREA IS 375 SF WITH 21 SF FR. DOOR & 48 SF WINDOWS
- UNPROTECTED OPENING: $375 \times 15\%$ (ALLOWABLE AREA) = 56.25
- PROTECTED OPENINGS: $375 \times 45\%$ (ALLOWABLE AREA) = 168.75
- UNDER 105.8.4 MIXED OPENINGS: PER EQUATION 1-2 $(A_p/ap) + (A_u/au) \leq 1$
 $(21/68.75) + (48/168.75) = 0.24 + 0.28 = 0.52 \leq 1$

EXTERIOR WALL B IS WITHIN THE 5'-10' SEPARATION RANGE

- WALL AREA IS 349 SF WITH 21 SF FR. DOOR & 24 SF WINDOWS
- UNPROTECTED OPENING: $349 \times 10\%$ (ALLOWABLE AREA) = 34.90
- PROTECTED OPENING: $349 \times 25\%$ (ALLOWABLE AREA) = 87.25
- UNDER 105.8.4 MIXED OPENINGS: PER EQUATION 1-2 $(A_p/ap) + (A_u/au) \leq 1$
 $(21/87.25) + (24/34.90) = 0.24 + 0.69 = 0.93 \leq 1$

EXTERIOR WALL C IS WITHIN THE 25'-30' SEPARATION RANGE

- WALL AREA IS 11 SF WITH 21 SF FR. DOOR
- PROTECTED OPENING: ALLOWABLE AREA - UNLIMITED

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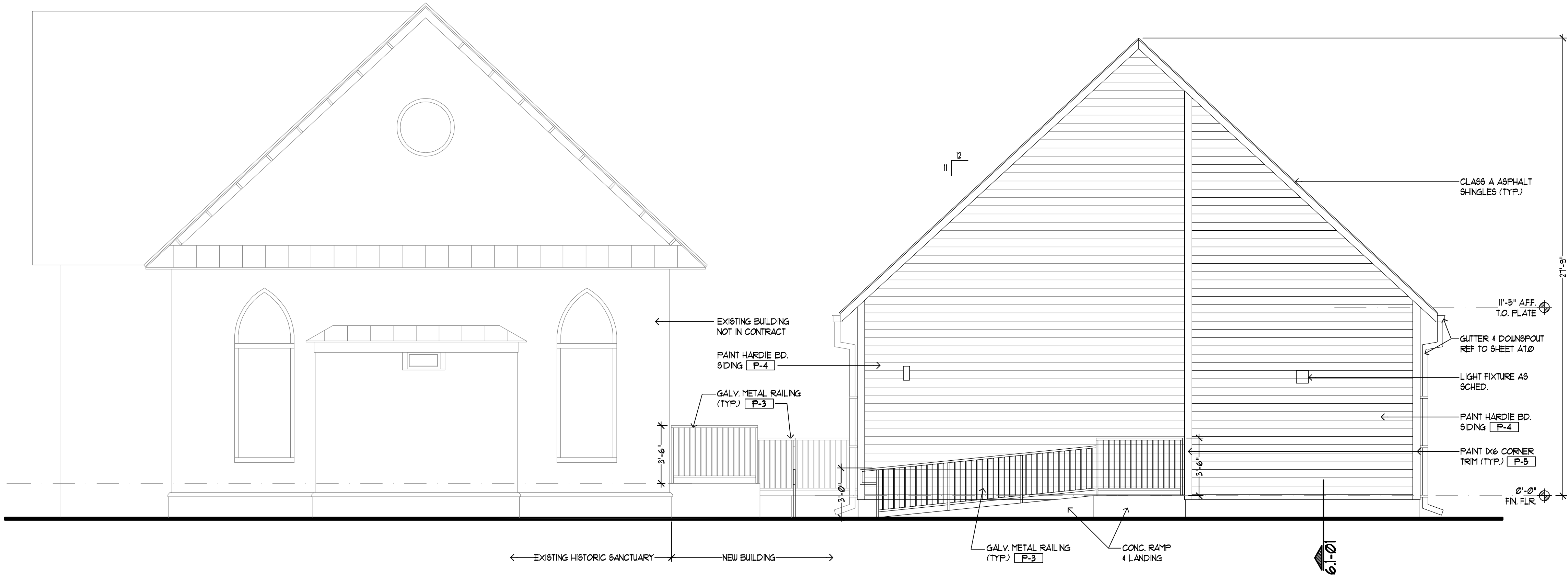
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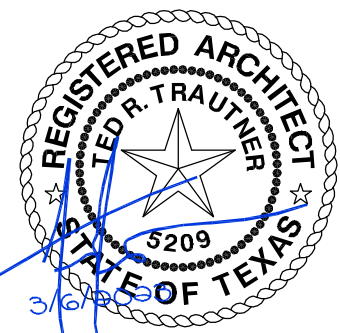


EXTERIOR ELEVATION
 5.1-01 NORTH SIDE
 SCALE: 1/4" = 1'-0"



EXTERIOR ELEVATION
 5.1-02 WEST SIDE
 SCALE: 1/4" = 1'-0"

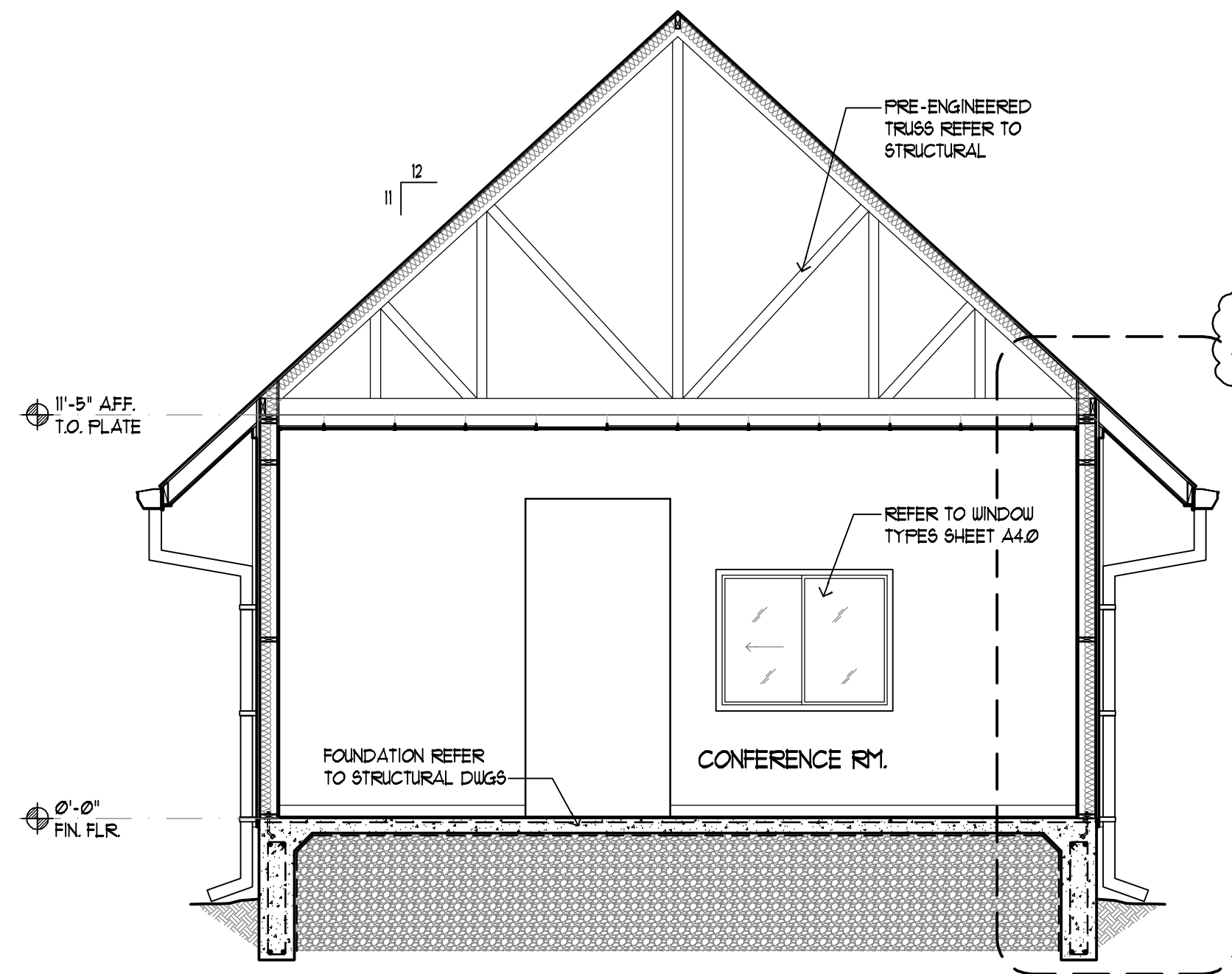
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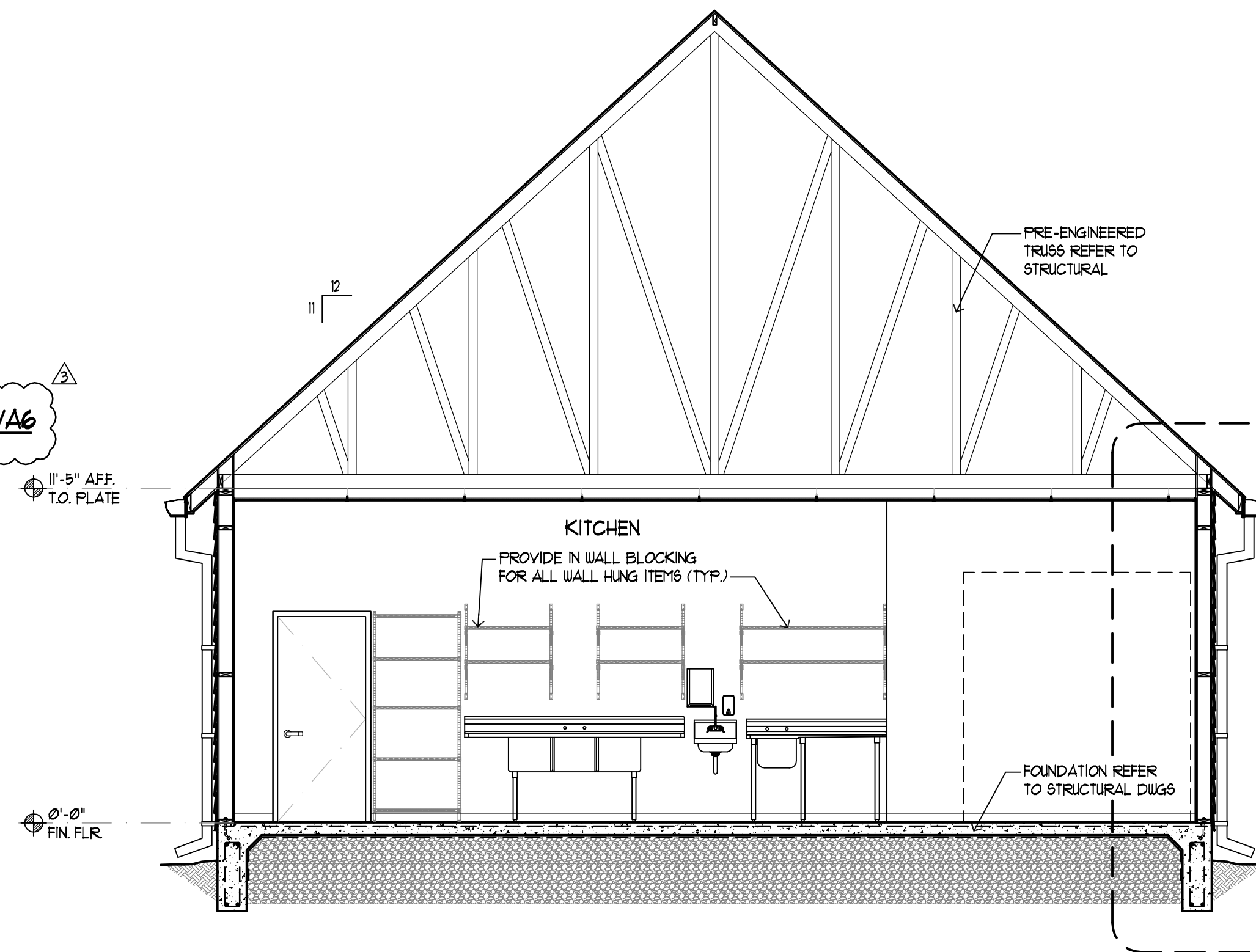
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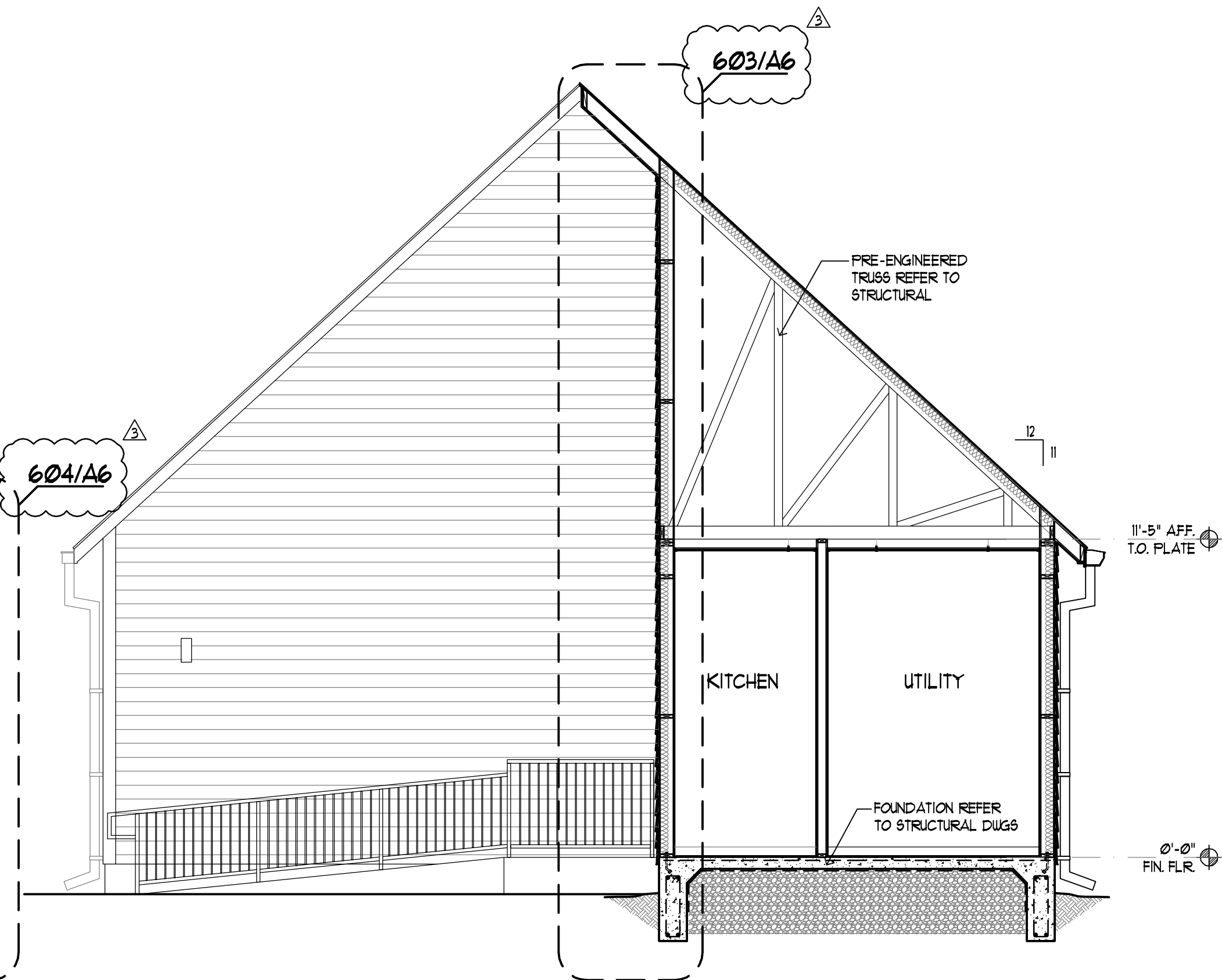
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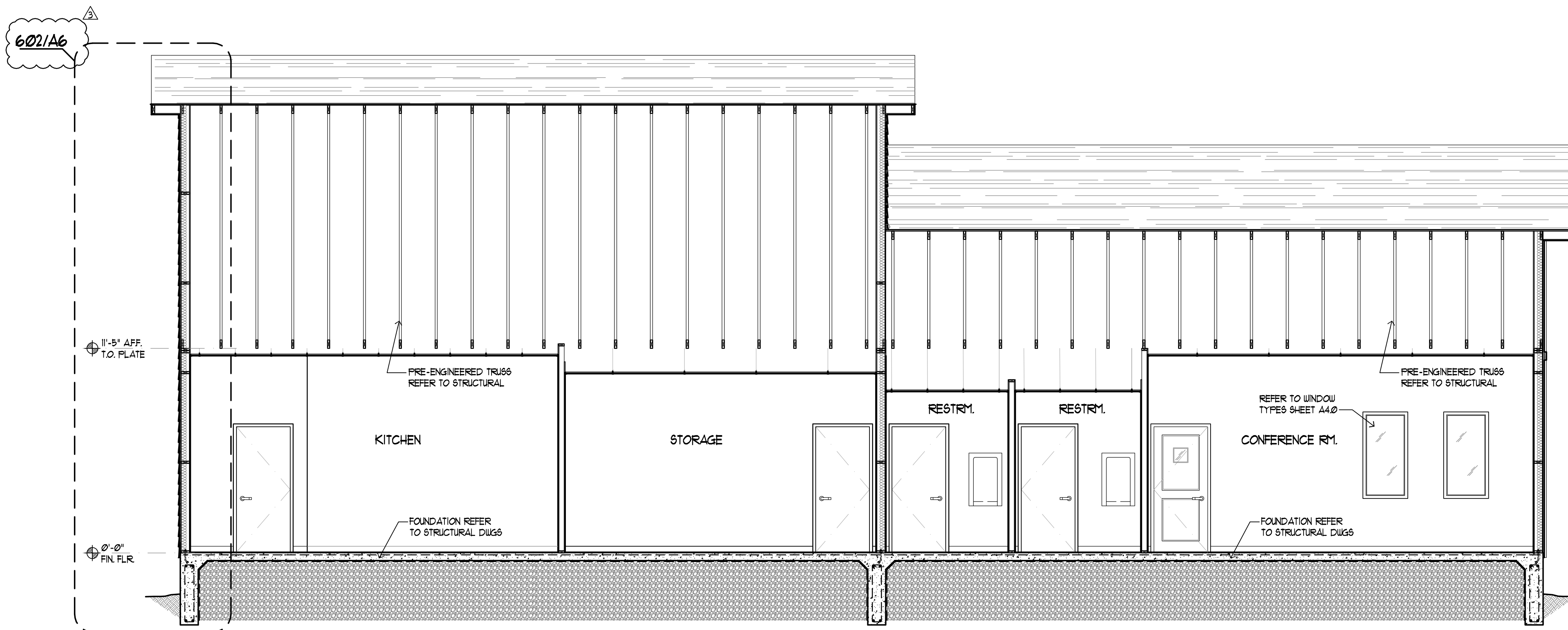
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5.2-02 BUILDING SECTION
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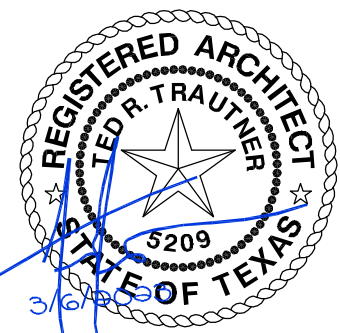


5.2-03 BUILDING SECTION
SCALE: 1/4" = 1'-0"



5.2-04 BUILDING SECTION
SCALE: 1/4" = 1'-0"

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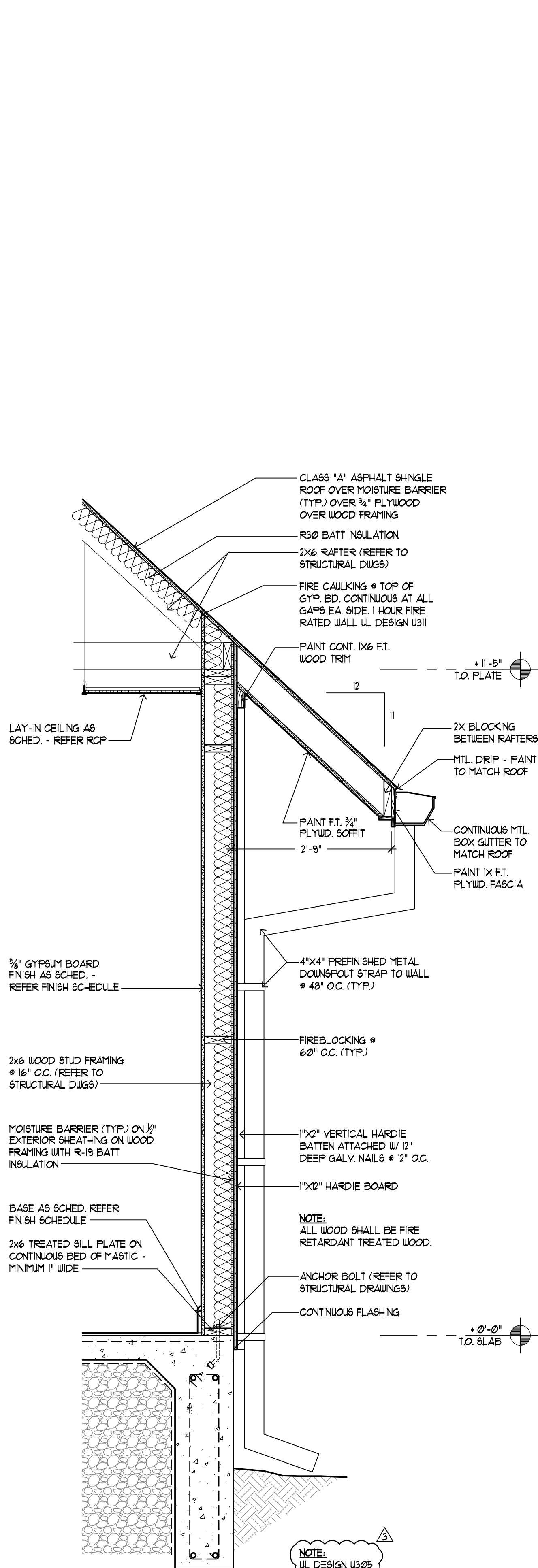
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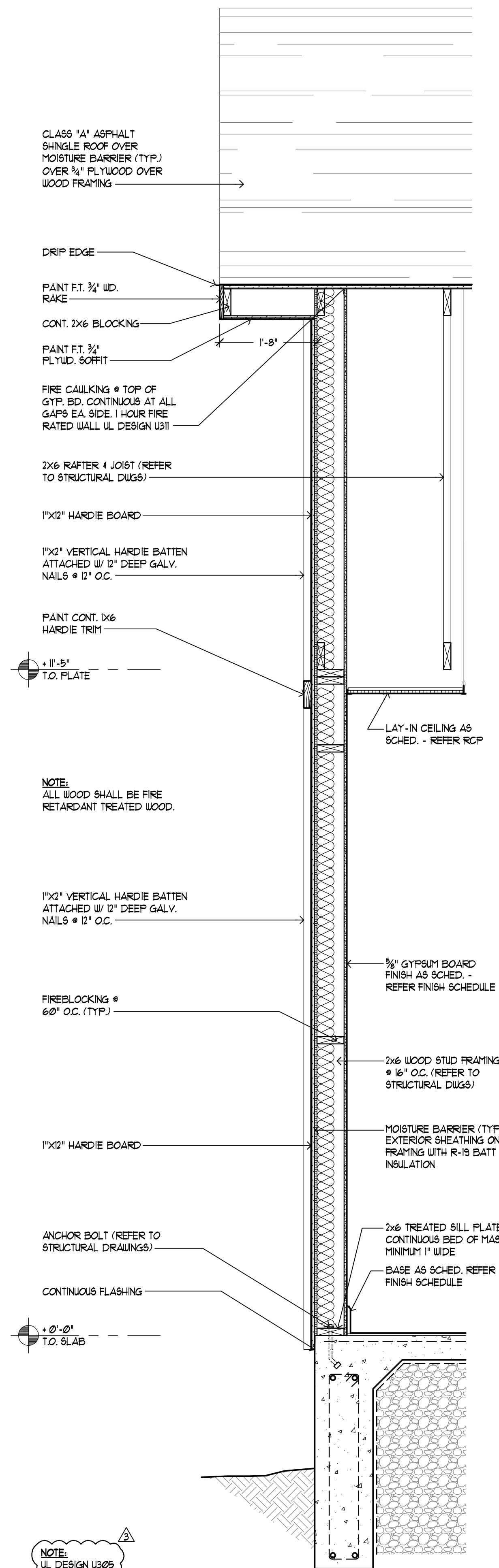
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EXTERIOR WALL SECTIONS

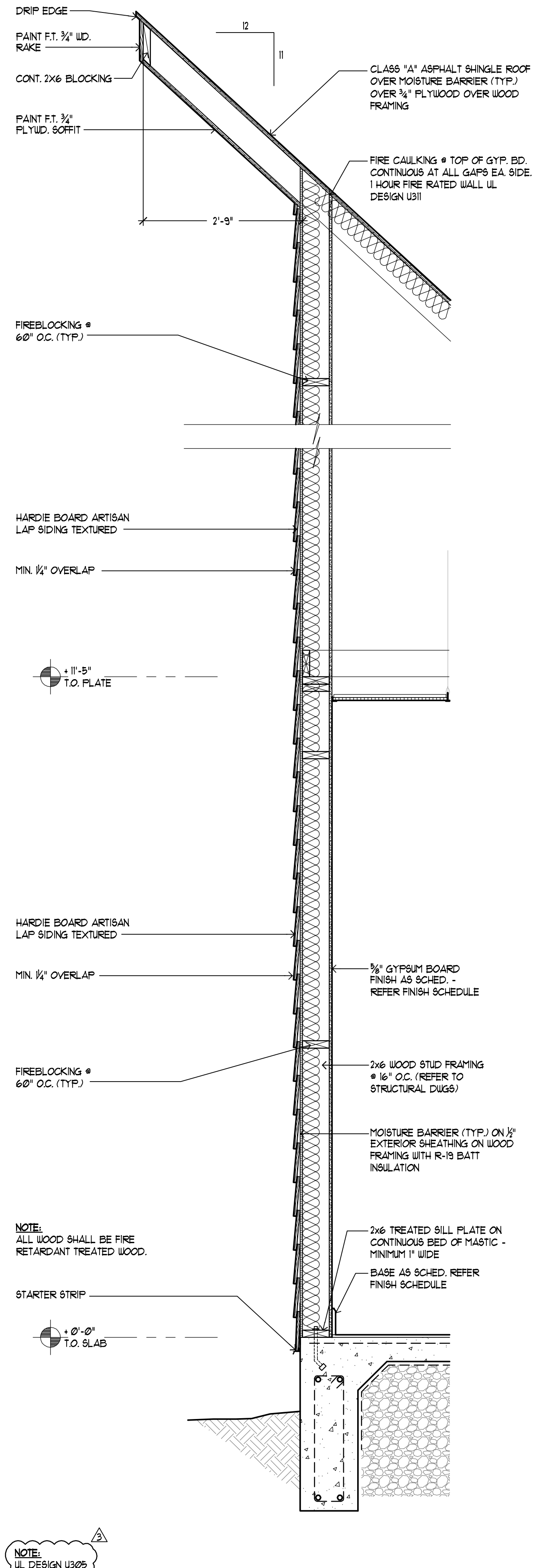
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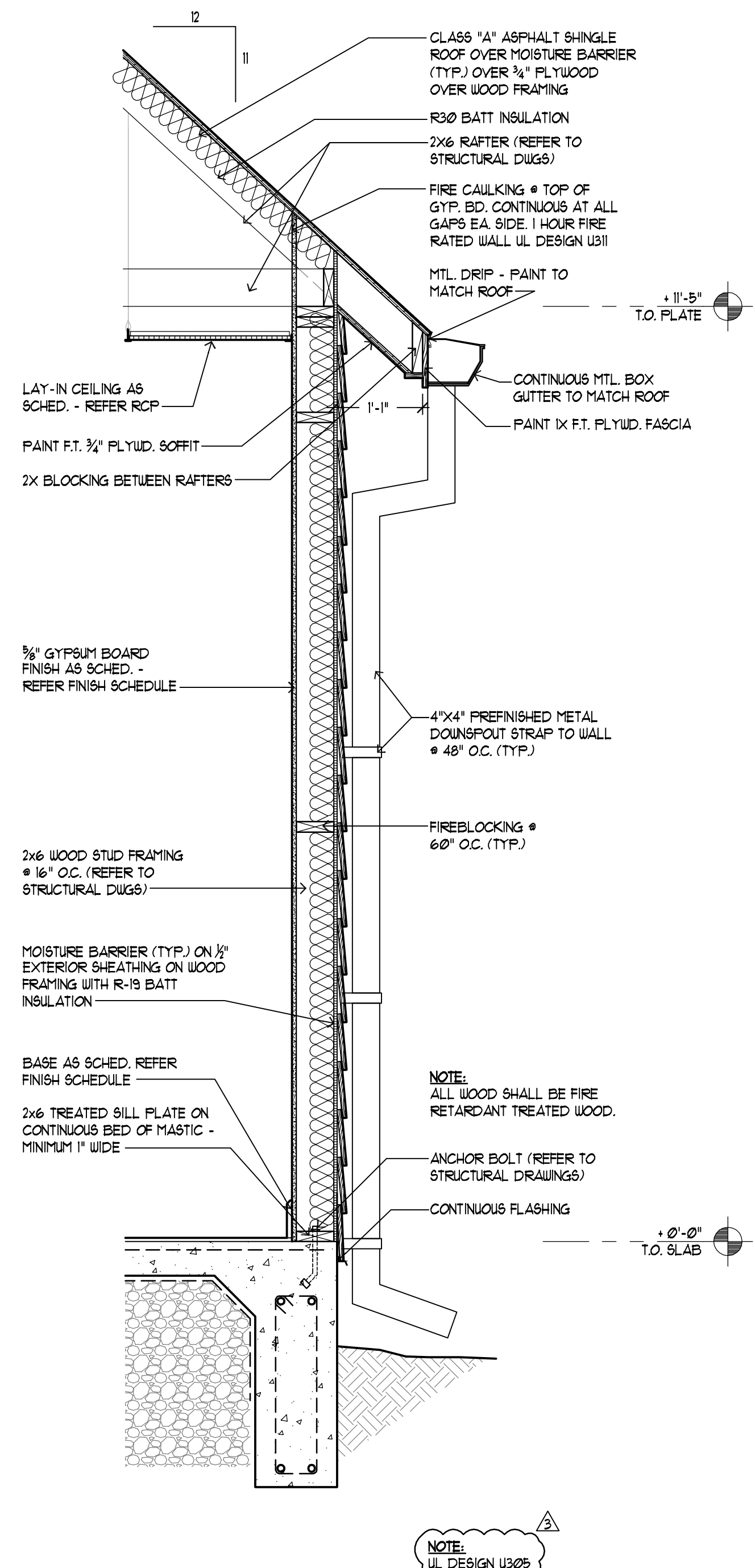
601 WALL SECTION
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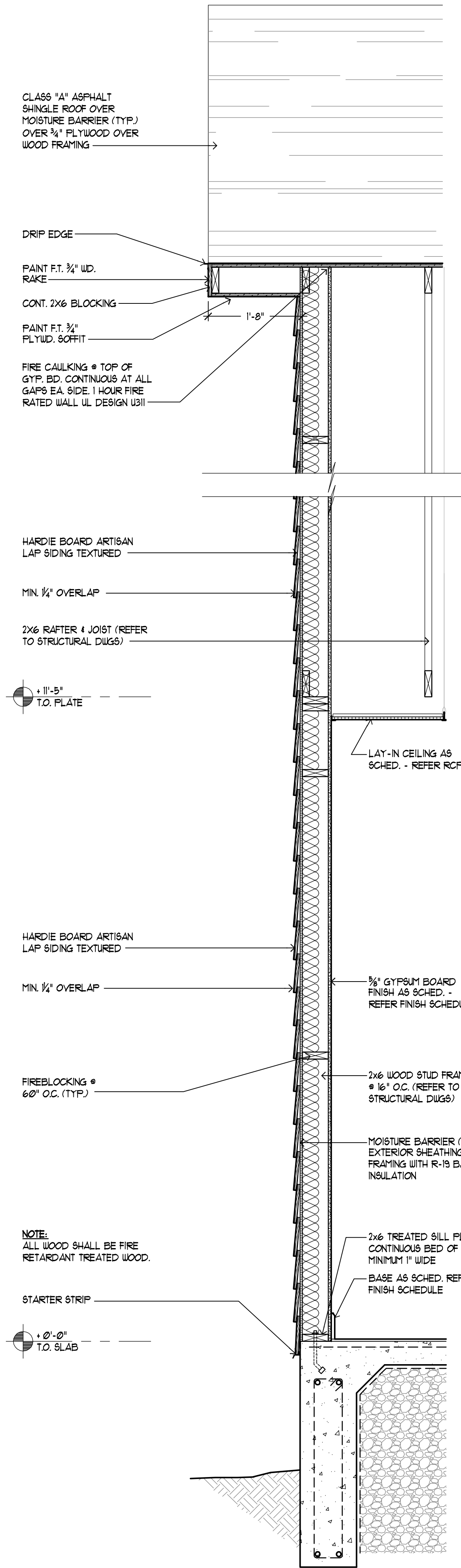
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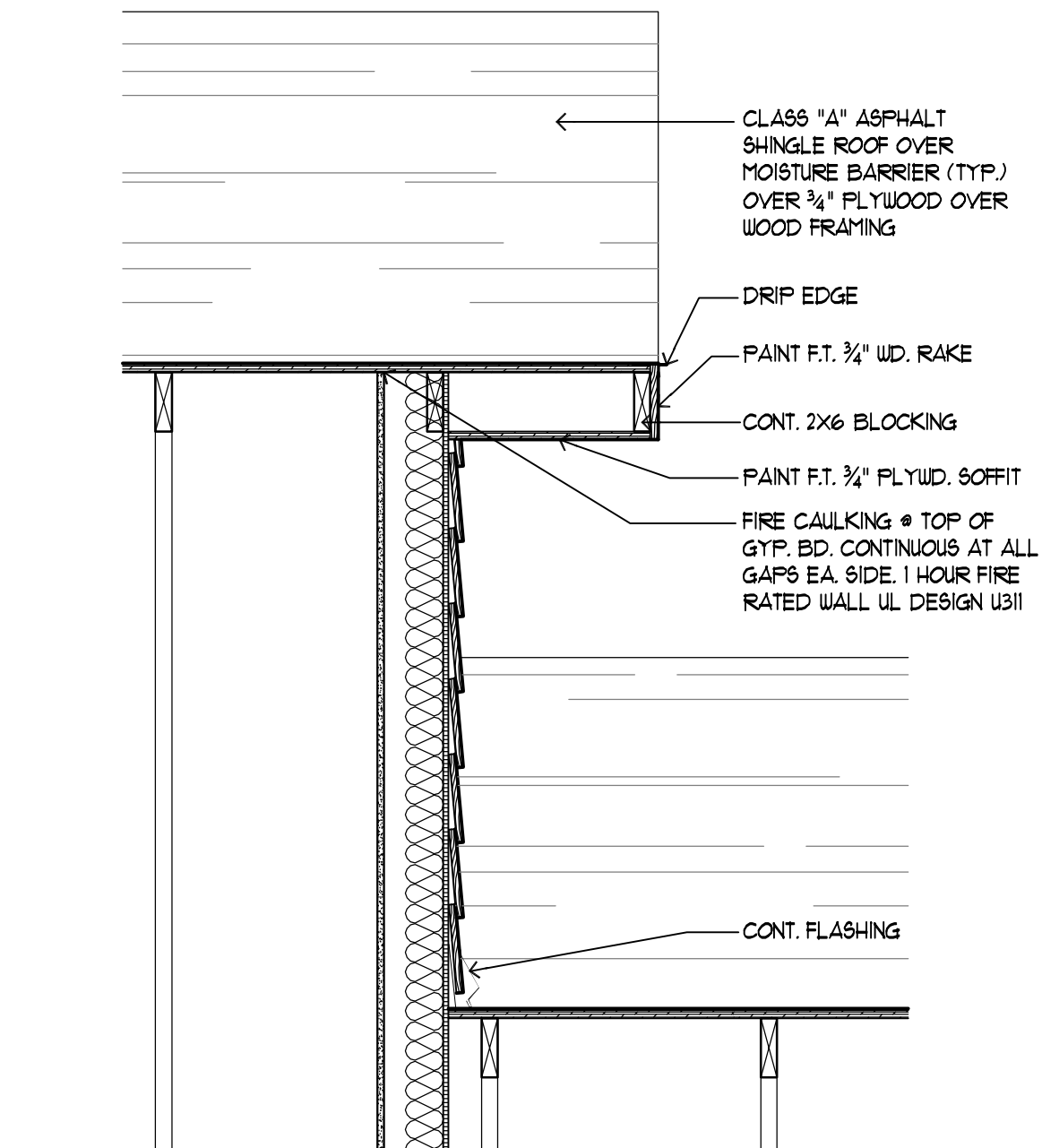
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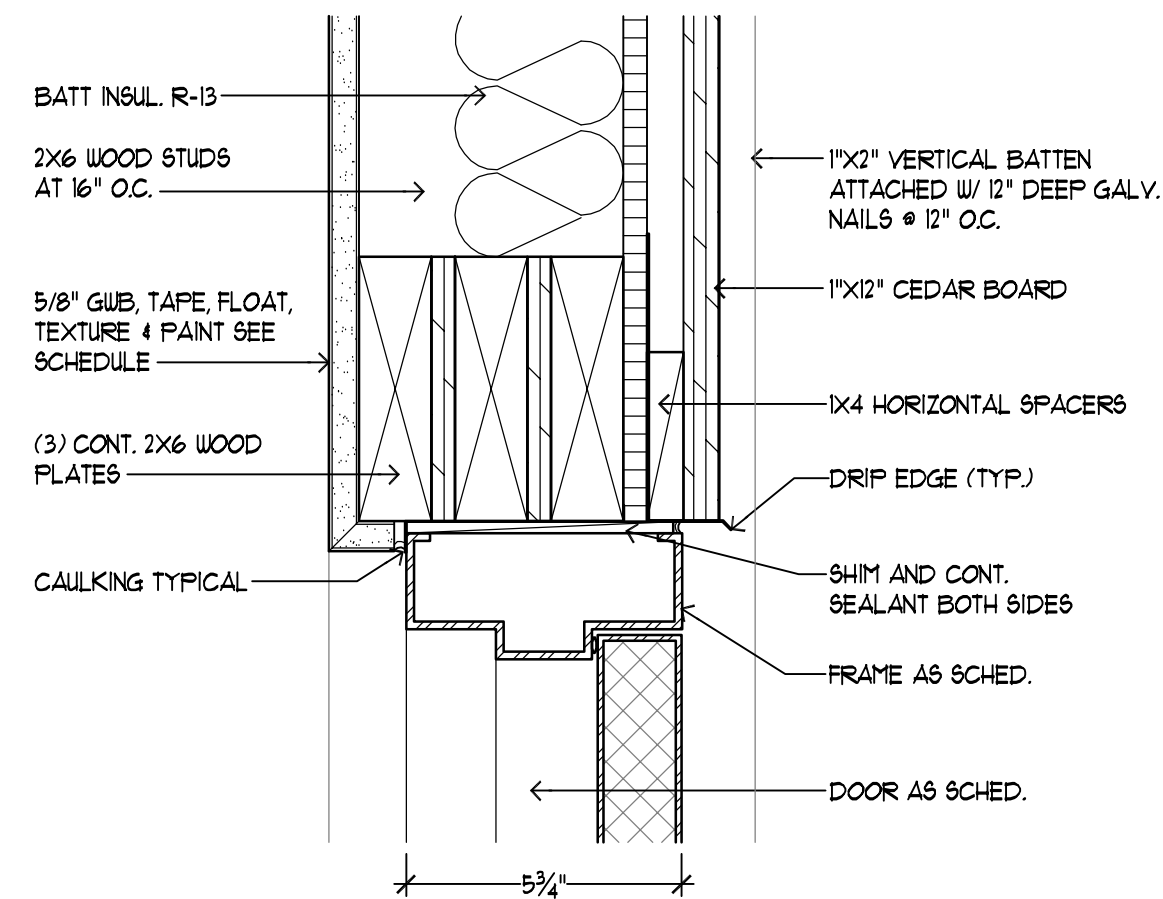
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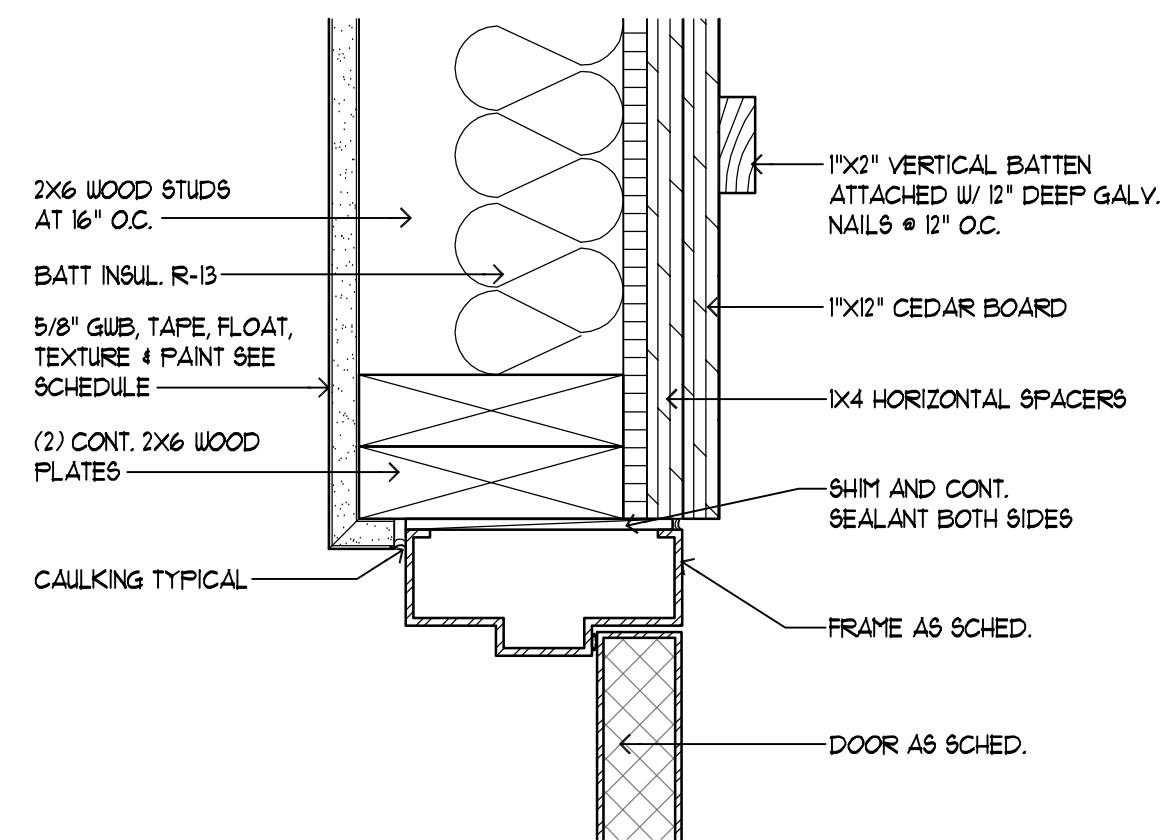
6.1-01 WALL SECTION
SCALE: 3/4" = 1'-0"



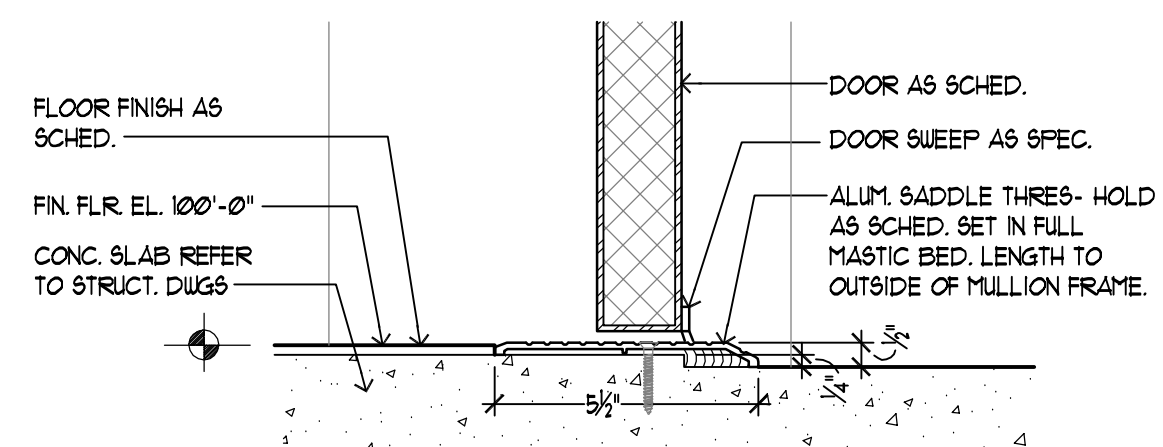
6.1-02 WALL SECTION
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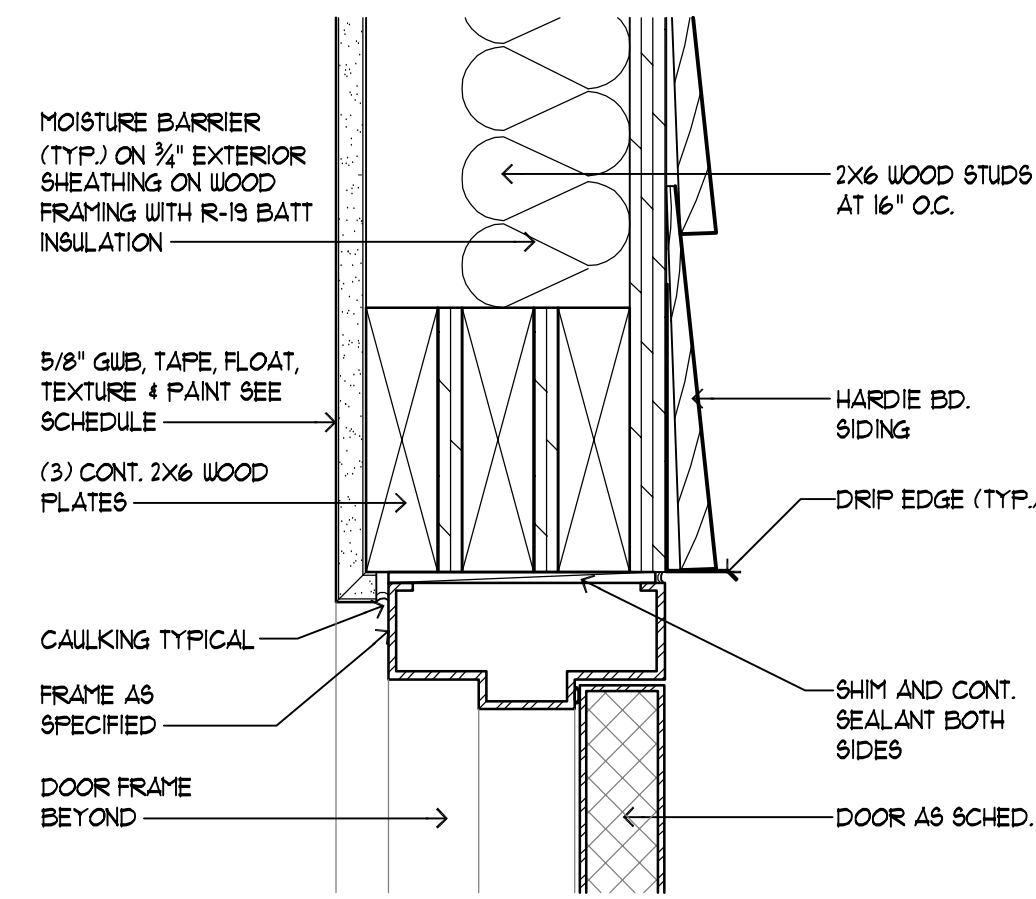
6.1-03 DOOR HEAD SECTION
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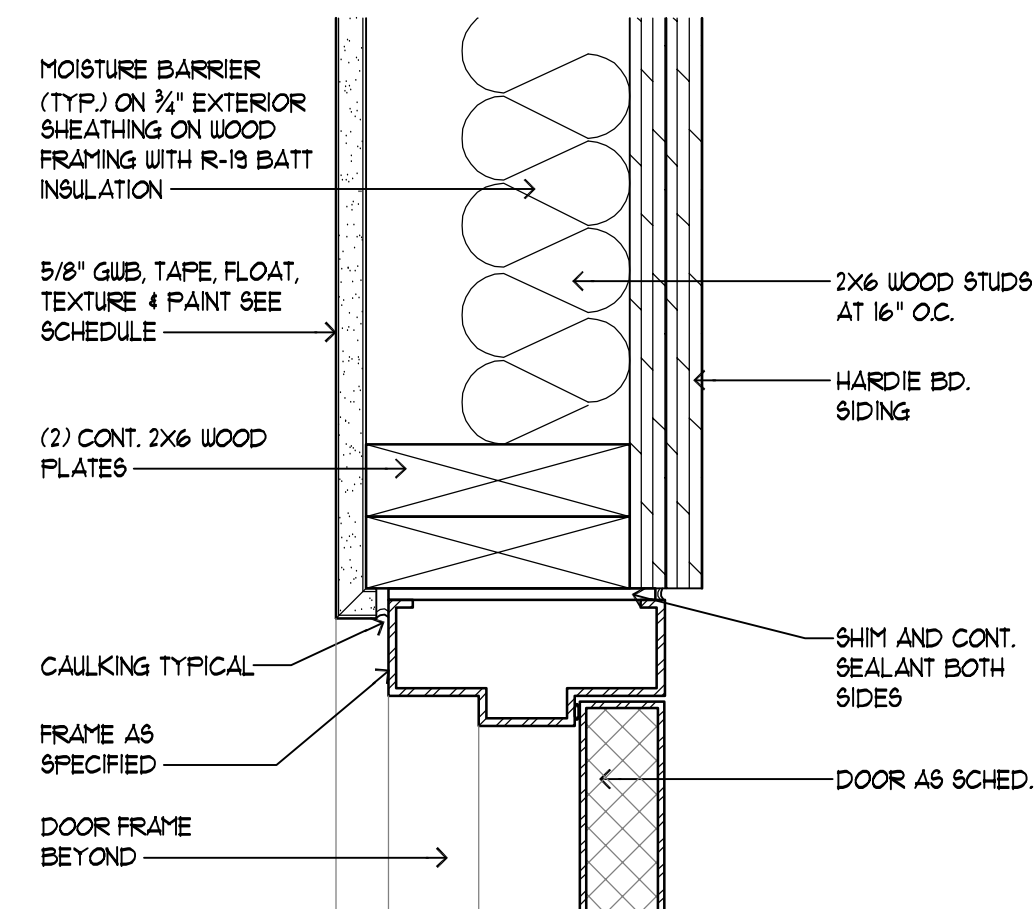
6.1-04 DOOR JAMB SECTION
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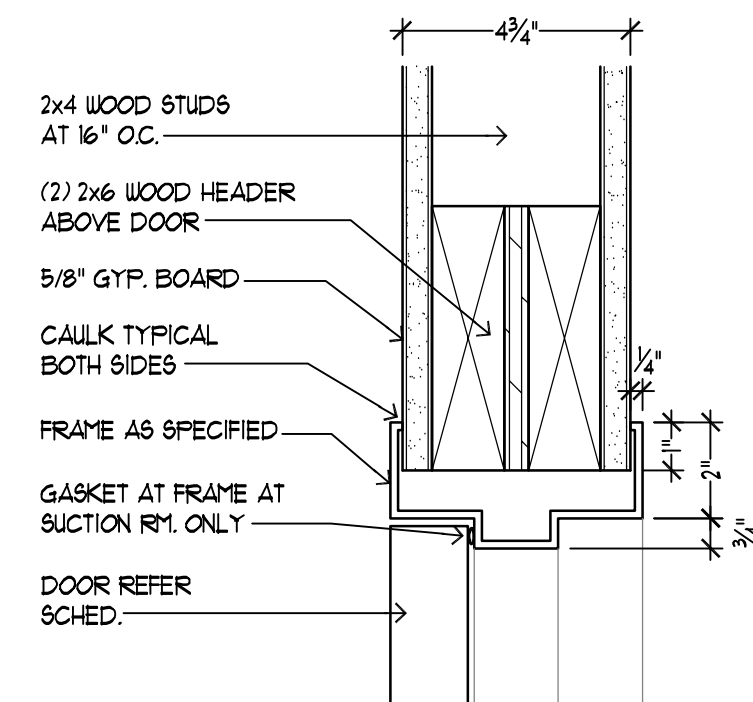
6.1-05 DOOR SILL SECTION
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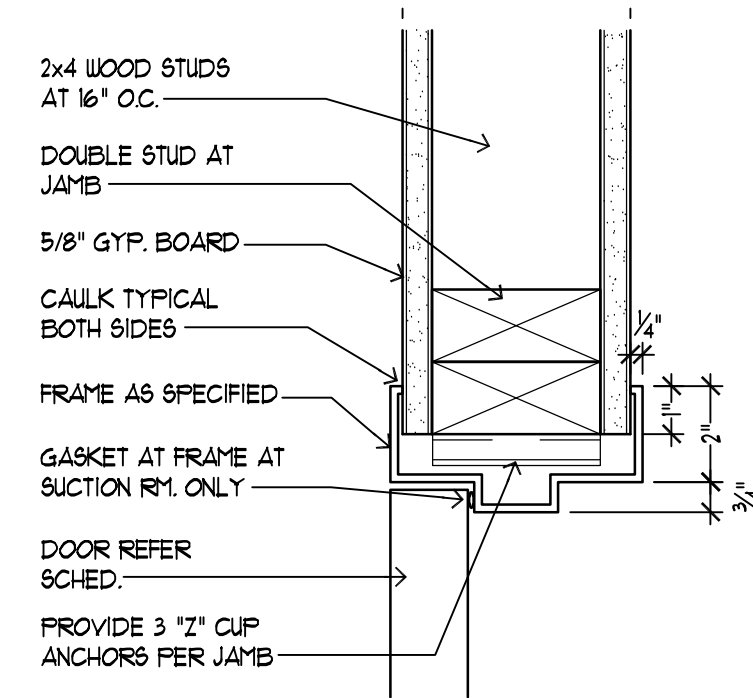
6.1-06 DOOR HEAD SECTION
SCALE: 3" = 1'-0"



6.1-07 DOOR JAMB SECTION
SCALE: 3" = 1'-0"



6.1-08 DOOR HEAD SECTION
SCALE: 3" = 1'-0"



6.1-09 DOOR JAMB SECTION
SCALE: 3" = 1'-0"

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DEMOLITION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS AND/OR APPROVALS BEFORE COMMENCING DEMOLITION ACTIVITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING FROM THE SITE ALL ITEMS SHOWN TO BE DEMOLISHED UNLESS OTHERWISE INDICATED. ALL MATERIALS SHALL BE DEMOLISHED AND REMOVED FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
3. ALL EXISTING ITEMS NOT SPECIFICALLY NOTED TO BE DEMOLISHED SHALL REMAIN. CONTRACTOR IS RESPONSIBLE FOR REPLACING EXISTING ITEMS REMOVED DURING DEMOLITION ACTIVITIES THAT WERE TO REMAIN.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL UTILITY COMPANIES REGARDING THE REMOVAL OF EXISTING SERVICES, EXISTING POWER/COMMUNICATIONS/LIGHT POLES, ETC..
5. STATUS AND EXACT LOCATION OF EXISTING UTILITIES IS APPROXIMATE ONLY. CONTRACTOR SHALL EXERCISE CARE IN FIELD LOCATING AND DETERMINING STATUS OF ALL UTILITIES ON THE SITE. THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOR RESOLUTION PRIOR TO COMMENCING WORK AS WELL AS PROVIDE AS-BUILT NOTATIONS OF THE ACTUAL LOCATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF UTILITIES WEATHER SHOWN OR NOT SHOWN IN THE PLANS.
6. ALL NECESSARY EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR CONSTRUCTION ACTIVITY. EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
7. FOR TREES SHOWN TO REMAIN, THE CONTRACTOR SHALL INSTALL TREE PROTECTION IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL NOT REMOVE NOR DAMAGE ANY TREES WITHOUT THE PERMIT TO DO SO.
8. NO PARKING AND/OR STORAGE SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES TO REMAIN.
9. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT, CURBS AND SIDEWALK JUNCTURES, NO IRREGULAR CUTS SHALL BE ACCEPTED. CONCRETE WALKS, DRIVES, CURBS, BRICK PAVEN AND PAVEMENT TO BE DEMOLISHED SHALL BE SAW-CUT ALONG STRAIGHT LINES PERPENDICULAR OR RADIAL TO THE EDGES OF PROPOSED WORK.
10. THE CONTRACTOR SHALL PROTECT ALL PINS, BENCH MARKS, CONSTRUCTION STAKES, OR OTHER CONTROL POINTS. CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHMENT OF ANY CONTROL POINTS AT THEIR OWN EXPENSE.
11. CONTRACTOR SHALL NOT DEMOLISH ANY PUBLIC OR PRIVATE WATER AND/OR WASTE WATER LINES WITHOUT APPROVAL. EXISTING WATER AND WASTE WATER SERVICES SHALL REMAIN ACTIVE AND OPERATIONAL UNTIL NEW SERVICES ARE CONNECTED AND FUNCTIONAL. NO ABANDONED SERVICES SHALL REMAIN CONNECTED TO THE WATER AND/OR WASTE WATER LINES.
12. ALL REMOVED ITEMS SHALL BE DISPOSED OF OFF THE INSTALLATION IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS AT THE EXPENSE OF THE CONTRACTOR.
13. MANHOLES, STRUCTURES, TREES AND OTHER MISCELLANEOUS ITEMS TO BE REMOVED SHALL HAVE RESULTING VOIDS BACKFILLED AND COMPACTED ACCORDING TO SPECIFICATIONS.
14. SIGNS AND TRAFFIC RELATED DEVICES TO REMAIN OR TO BE RELOCATED, WITHIN THE WORK SITE, SHALL BE PROTECTED AT CONTRACTOR EXPENSE THROUGHOUT CONSTRUCTION. SIGNS TO BE RELOCATED SHALL HAVE NEW POST INSTALLED.
15. ALL WATER AND NATURAL GAS DEVICES REMOVED SHALL HAVE LINES CUT AND CAPPED AT POINT OF REMOVAL.
16. WHERE ELECTRICAL OR COMMUNICATION DEMOLITION IS NEEDED, ENSURE ALL CONDUCTORS OR WIRING IN THE AFFECTED CONDUIT OR DUCT-BANK ARE REMOVED COMPLETELY.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISPOSAL PERMITS AND REGULATIONS REQUIREMENTS.
18. CONTRACTOR SHALL NOTIFY CORRESPONDING UTILITY OWNER PRIOR TO ISOLATING TRANSFORMER, CUTTING SERVICES, AND DISCONNECTING POWER FROM THE OVERHEAD OR UNDERGROUND POWER LINES. DEMOLITION MAY NOT COMMENCE UNTIL AUTHORIZATION HAS BEEN RECEIVED BY THE UTILITY OWNER.
19. REMOVAL AND/OR RELOCATION OF TEMPORARY UTILITIES UTILIZED BY OTHERS ARE TO BE COORDINATED WITH CORRESPONDING UTILITY OWNER PRIOR COMMENCEMENT OF CONSTRUCTION.
20. WHERE PEDESTRIAN AND DRIVER SAFETY IS ENDANGERED IN THE AREA OF REMOVAL WORK, USE TRAFFIC BARRICADES WITH FLASHING LIGHTS.

EXISTING UTILITIES NOTES:

1. THE UTILITY PLAN HAS BEEN PREPARED USING AVAILABLE EXISTING UTILITY DATA. EXISTING UTILITY DATA SHOWN WAS OBTAINED FROM A FIELD SURVEY OF OF THE VISIBLE FEATURES AT THE SITE AND PUBLIC RECORD MAPS OBTAINED FROM THE UTILITY COMPANIES.
2. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS PRIOR TO CONSTRUCTION LO LOCATE AND TAG THEIR UTILITIES PRIOR EXCAVATION.
 - 3.1. SAN ANTONIO WATER SYSTEM (SAMS): 210.233.2010
 - 3.2. SAN ANTONIO RIVER AUTHORITY (SARA): 210.302.4200
 - 3.3. CITY OF SAN ANTONIO (COSA) DRAINAGE: 210.207.2800
 - 3.4. COSA SIDEWALK AND TRENCHING DIVISION: 210.821.3240
 - 3.5. COSA TRAFFIC SIGNAL OPERATIONS: 210.207.7765
 - 3.6. ONE CALL BOARD OF TEXAS: 800.545.6005
 - 3.6.1. AT&T
 - 3.6.2. TIME WARNER CABLE
 - 3.6.3. SPECTRUM
 - 3.6.4. VALERO ENERGY
 - 3.6.5. NUSTAR ENERGY
4. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN IN THE PLANS AND/OR UTILITY RECORD MAPS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING AND EXPOSING UTILITY CONFLICTS PRIOR CONSTRUCTION.
5. STATUS AND EXACT LOCATION OF EXISTING UTILITIES IS APPROXIMATE ONLY. CONTRACTOR SHALL EXERCISE CARE IN FIELD LOCATING AND DETERMINING STATUS OF ALL UTILITIES ON THE SITE. THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOR RESOLUTION PRIOR TO COMMENCING WORK AS WELL AS PROVIDE AS-BUILT NOTATIONS OF THE ACTUAL LOCATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF UTILITIES WEATHER SHOWN OR NOT SHOWN IN THE PLANS. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WEATHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR RESPONSIBILITY TO REPAIR AT HIS/HERS EXPENSE.
6. DUE TO FEDERAL REGULATIONS TITLE 49 PART 192.161 CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
7. EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION MUST BE INSTALLED PRIOR TO ANY DEMOLITION. REFERENCE EROSION & SEDIMENTATION CONTROL PLAN SHEET.
8. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR WILL BE REQUIRED TO REPAIR OR REPLACE THE DAMAGED FACILITIES AT CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES.
10. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.
11. WATER JETTING THE BACKFILL OF STORM DRAIN TRENCHES WILL NOT BE PERMITTED.
12. NORTHINGS AND EASTINGS LISTED ON THESE PLANS ARE TO CENTER OF BOX FOR JUNCTION BOXES AND GRATE INLETS AND TO OUTSIDE CORNER FACE OF CURB FOR ALL CURB AND COMBINATION INLETS. ALL LENGTHS OF PIPE ARE TO INSIDE FACE OF STRUCTURES.
13. CONTRACTOR SHALL ENSURE PROPER SIZE OF JUNCTION BOXES NEEDED WHERE INDICATED ON PLAN. CONTRACTOR SHALL CONNECT STORM DRAIN PIPE TO JUNCTION BOXES PER MANUFACTURES SPECIFICATIONS.
14. ALL STORM DRAIN TO JUNCTION BOX CONNECTIONS SHALL HAVE CONCRETE COLLARS.
15. ALL GRATE INLETS MUST BE H20 RATED GRATES.
16. TOPS OF MANHOLES, JUNCTION BOXES AND GRATES SHALL BE SET FLUSH TO FINISHED SURFACE BASED UPON GRADING PLAN.
17. LIMITS OF CONSTRUCTION ARE SHOWN ON THE EROSION & SEDIMENTATION CONTROL PLAN(S).
18. REFERENCE "TREE LIST" ON EXISTING CONDITIONS SURVEY & DEMOLITION PLAN AND EROSION & SEDIMENTATION CONTROL PLAN FOR TREE INFORMATION.

DIMENSIONAL CONTROL NOTES:

1. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT OR LIMITS OF DIMENSIONS NECESSARY FOR CONSTRUCTION OF THE PROJECT.
2. THE CONTRACTOR SHALL PRESERVE ALL CONTROL POINTS, PROPERTY PINS, BENCH MARKS, HUBS OR OTHER KEY CONTROL POINTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO RE-ESTABLISH ANY SUCH POINTS AT THEIR OWN EXPENSE IN THE EVENT THEY ARE REMOVED.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ALL HORIZONTAL AND VERTICAL CONTROL PER THE CONSTRUCTION DRAWINGS.
5. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL USE THE PROPERTY PINS FOR HORIZONTAL CONTROL POINTS. BENCHMARKS ARE NOT TO BE USED FOR HORIZONTAL CONTROL
6. ALL DIMENSIONAL CONTROL POINTS OR DIMENSIONS ARE TO THE FACE OF CURB, FACE OF RETAINING WALL, AND CENTER OF PAINT STRIPING. ALL DIMENSIONS ARE PERPENDICULAR TO THE POINT OF REFERENCE.
7. REFER TO THE ARCHITECTURAL AND STRUCTURAL PLANS FOR ADDITIONAL DIMENSIONAL CONTROL INFORMATION.
8. BUILDING(S) FOUNDATION(S) SHALL NOT BE ESTABLISHED USING CIVIL PLANS. CONTRACTOR SHALL ESTABLISH BUILDING(S) FOUNDATION(S) USING STRUCTURAL FOUNDATION PLANS.
9. CURB RADII ARE 3-FEET UNLESS OTHERWISE NOTED ON THE DRAWINGS.

PAVEMENT & STRIPING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY OR TxDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITY AND STORM DRAIN SYSTEM PRIOR TO CONSTRUCTION
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
4. THE CONTRACTOR SHALL VERIFY ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
5. ALL PAINT SHALL BE 4" WIDE REFLECTIVE PAINT: WHITE ON ASPHALT PAVING AND YELLOW ON CONCRETE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
6. ALL PAVEMENT MARKINGS SHALL RECEIVE TWO COATS OF PAINT.
7. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
8. ALL SIGNS SHALL CONFORM TO MUTCD, LATEST EDITION.
9. THE CONTRACTOR SHALL SAW CUT EXISTING PAVING, CURB, AND SIDEWALKS TO PROVIDE A SMOOTH TRANSITION. NO JAGGED OR IRREGULAR EDGES WILL BE ALLOWED.
10. ALL CURBS SHALL BE 6" UNLESS OTHERWISE NOTED.
11. ALL STANDARD PERPENDICULAR PARKING STALLS ARE 9' x 18' AND COMPACT PARKING STALLS ARE 8' x 16' UNLESS DIMENSIONED OTHERWISE.

STORMWATER POLLUTION PREVENTION NOTES:

1. DO NOT DISTURB VEGETATED ARES (TREES, GRASS, WEED, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
2. LOCATIONS OF CONSTRUCTION ENTRANCE/EXITS, CONCRETE WASHOUT PITS, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARDS TO BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED IN WORKING CONDITIONS AT ALL TIMES.
6. CONTRACTOR, THE THE EXTEND PRACTICAL, SHALL MINIMIZE THE AMOUNT OF AREA DAMAGED AS SOON AS POSSIBLE AFTER ANY DAMAGE TO EXISTING TREES, UTILITIES, OR IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE ESTABLISHED PER APPLICABLE PROJECT SPECIFICATIONS.
7. BEST MANAGEMENT PRACTICES MAY INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADEMENT AREAS.
8. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED.
9. ALL TEMPORARY BMPs WILL BE REMOVED ONCE WATERSHED IS STABILIZED.
10. MUD OR DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.
11. PRIOR TO INITIATION OF SUBSEQUENT PHASES OF CONSTRUCTION, TEMPORARY BMPs INCLUDING SILT FENCING, CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND CONSTRUCTION STAGING AREA SHALL BE FIELD LOCATED AS APPROPRIATE FOR THE AREA OF CONSTRUCTION.
12. TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT, TEMPORARY BMPs MAY REQUIRE ADJUSTMENT BASED ON PHASING OF CONSTRUCTION OF THE DEVELOPMENT. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED AS APPROPRIATE.
13. TEMPORARY BMPs SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMPs SHALL BE LOCATED WITHIN THE PROJECT LIMITS.
14. UPON COMPLETION OF THE PROJECT AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND REMOVAL OF TEMPORARY POLLUTION ABATEMENT MEASURES THAT CONFLICT WITH SITE IMPROVEMENTS SUCH AS LANDSCAPING AND FENCES SO AS TO PREVENT SEDIMENT FROM ESCAPING THE PROJECT SITE.

STORM DRAINAGE NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK SHALL COMPLY WITH THE PROJECT GEOTECHNICAL REPORT, THE PROJECT SPECIFICATIONS, AND THE CURRENT CITY, COUNTY OR TxDOT "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
2. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES. THE CONTRACTOR SHOULD EXERCISE EXTREME CAUTION WHEN WORKING NEAR EXISTING UTILITIES AND SHOULD THEY BE DAMAGED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR WILL BE REQUIRED TO REPAIR OR REPLACE THE DAMAGED FACILITIES AT CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES.
4. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.
5. WATER JETTING THE BACKFILL OF STORM DRAIN TRENCHES WILL NOT BE PERMITTED.
6. NORTHINGS AND EASTINGS LISTED ON THESE PLANS ARE TO CENTER OF BOX FOR JUNCTION BOXES AND GRATE INLETS AND TO OUTSIDE CORNER FACE OF CURB FOR ALL CURB AND COMBINATION INLETS. ALL LENGTHS OF PIPE ARE TO INSIDE FACE OF STRUCTURES.
7. CONTRACTOR SHALL ENSURE PROPER SIZE OF JUNCTION BOXES NEEDED WHERE INDICATED ON PLAN. CONTRACTOR SHALL CONNECT STORM DRAIN PIPE TO JUNCTION BOXES PER MANUFACTURES SPECIFICATIONS.
8. ALL STORM DRAIN TO JUNCTION BOX CONNECTIONS SHALL HAVE CONCRETE COLLARS.
9. ALL GRATE INLETS MUST BE H20 RATED GRATES.
10. TOPS OF MANHOLES, JUNCTION BOXES AND GRATES SHALL BE SET FLUSH TO FINISHED SURFACE BASED UPON GRADING PLAN.
11. BEDDING FOR ALL UTILITIES SHALL BE PER THE PROJECT SPECIFICATIONS. NO WATER JETTING OF BACKFILL MATERIAL WILL BE ALLOWED.

GRADING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK, NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS AND/OR GEOTECHNICAL REPORT, SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL STANDARDS SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPING AND TOPSOIL MAY BE STOCKPILED IN SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREET, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK.)
11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
12. IN PROPOSED PAVING AREAS, IT IS INTENDED THAT THE MINIMUM GRADE IS 1/4" ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.
13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IN ANY UTILITY CONFLICTS ARE DISCOVERED.
16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
18. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATIONS OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. ALL EXISTING UTILITIES SHALL BE VERIFIED IN THE FIELD WHETHER SHOWN ON THE PLAN OR NOT PRIOR TO INSTALLATION OF ANY NEW LINES.
3. ALL FILL MATERIAL IS TO BE PLACED, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
4. CONTRACTOR SHALL CALL FOR THE LOCAL JURISDICTIONAL INSPECTIONS AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
5. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL JURISDICTION WITH REGARDS TO MATERIALS AND INSTALLATION OF THE UTILITIES AND STORM DRAINS.
6. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
7. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL COMPLY WITH THE FOLLOWING AS APPLICABLE:
 - A. CURRENT "SAN ANTONIO WATER SYSTEM STANDARDS SPECIFICATION FOR CONSTRUCTION"
 - B. CURRENT "SAN ANTONIO WATER SYSTEM UTILITY SERVICE REGULATIONS"
 - C. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION"
 - D. CURRENT TxDOT "STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND DRAINAGE"
 - E. CURRENT CITY OF SAN ANTONIO "RIGHT-OF-WAY ORDINANCE AND CRITERIA MANUAL"
 - F. CURRENT "SAN ANTONIO RIVER AUTHORITY REGULATIONS"
8. MINIMUM TRENCH WIDTH FOR MAINS SHALL BE 2 FEET.
9. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
10. CONTRACTORS SHALL PROTECT ALL EXISTING TREES, FENCES, PAVING, UTILITIES, AND OTHER STRUCTURES SCHEDULED TO REMAIN. ANY STRUCTURE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
11. THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL FINAL UTILITY AS-BUILD MEASUREMENTS, TOPS AND LENGTH OF SERVICE CONNECTIONS OF THE PROJECT.
12. ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT HIS SOLE EXPENSE.
13. GAS AND ELECTRIC ALIGNMENTS SHOWN ON THIS DRAWING ARE CONCEPTUAL. THE ACTUAL DESIGN AND LOCATIONS SHALL BE DETERMINED BY THE LOCAL SERVICE PROVIDER OR MEP ENGINEER.
14. CONTRACTOR SHALL COORDINATE ELECTRIC AND GAS LINE INSTALLATION WITH LOCAL SERVICE PROVIDER. THE SERVICE PROVIDER WILL BE RESPONSIBLE FOR INSTALLATION OF GAS LINE TO WITHIN 5' OF BUILDING.
15. REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
16. SEE IRRIGATIONS AND ARCHITECTURAL PLANS FOR ADDITIONAL CONDUIT LOCATIONS. VERIFY ALL CONDUIT AND SLEEVE LOCATIONS PRIOR TO PLACING ANY PAVEMENT.
17. CONTRACTOR SHALL INSTALL ALL CONDUITS WITH A MINIMUM 4-FOOT SWEEP RADIUS. ALL CONDUITS SHALL HAVE A PULL STRING TO BE INSTALLED BY THE CONTRACTOR.
18. NO WORK SHALL BE ALLOWED WITHIN THE PUBLIC RIGHT-OF-WAY W/O AN APPROVED PERMIT.
19. THE CONSTRUCTION OF UNDERGROUND PRIMARY ELECTRIC AND GAS DISTRIBUTION SYSTEMS SHALL BE GOVERNED BY THE ENGINEERING CONSTRUCTION PLANS PREPARED BY THE LOCAL SERVICE PROVIDER. THIS DRAWING SHALL SERVE ONLY AS REFERENCE DOCUMENT TO COORDINATE LOCATION OF THE PROPOSED PRIMARY ELECTRIC AND GAS DISTRIBUTION SYSTEM. THE LOCAL SERVICE PROVIDER'S CONSTRUCTION DRAWINGS AND CONSTRUCTION DETAILS SHALL GOVERN.
20. BEDDING FOR ALL UTILITIES SHALL BE PER THE PROJECT SPECIFICATIONS. NO WATER JETTING OF BACKFILL MATERIAL WILL BE ALLOWED.

WATER NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES FOR THE WATER SYSTEM WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE SAMS AND SARA CONSTRUCTION SPECIFICATIONS.
 2. PIPELINE CHLORINATION SHALL BE BY THE CONTRACTOR ACCORDING TO THE SERVICE PROVIDER'S CONSTRUCTION SPECIFICATIONS.
 3. ALL WATER LINES SHALL BE FOUR-FOOT (4') BURY UNLESS OTHERWISE NOTED.
 4. ALL WATER LINES SHALL BE PVC PIPE UNLESS OTHERWISE INDICATED. ALL 6 & 8-INCH PVC WATER LINES SHALL BE CLASS 150 (DR18), MEETING AWWA C500 STANDARDS. ALL SERVICES 4 INCH AND SMALLER SHALL BE SCHEDULE 80 PVC. DUCTILE IRON WATER LINES SHALL BE CLASS 50.
 5. S. ALL WATER LINES MUST BE INSTALLED A MINIMUM DISTANCE OF 9-FEET HORIZONTALLY FROM SANITARY SEWER MAINS AND LATERALS, ALL VERTICAL CROSSINGS MUST CONFORM TO TCEQ, 30 TAC, CHAPTER 290, SEPARATION REQUIREMENTS AND METHODS. WHEREVER POSSIBLE ALL WATER LINES SHALL CROSS ABOVE SANITARY SEWER LINES.
 6. THE CONTRACTOR SHALL PERFORM A HYDROSTATIC TEST ON THE FIRE LINE PER THE FIRE DEPARTMENT'S REQUIREMENTS. THE HYDROSTATIC TEST SHALL FOLLOW THE PROCEDURE LISTED IN THE LOCAL FIRE CODE.
 7. ALL OTHER LINES SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR, PER LOCAL JURISDICTIONAL REQUIREMENTS.
 8. AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH THE OWNER WITH ALL FITTING-TO-FITTING DIMENSIONS, TYPES, AND MANUFACTURES OF MATERIALS USED LOCATIONS FOR ALL VALVES, BENDS, ETC.
 9. THE SITE SHALL BE EXCAVATED OR FILLED TO SUBGRADE PRIOR TO THE CONSTRUCTION OF WATER AND FIRE LANES BY THE CONTRACTOR.
 10. ALL SERVICES SHALL BE BROUGHT TO WITHIN 5 FEET OF THE BUILDING. BUILDING CONTRACTOR SHALL INCLUDE IN THEIR BID THE COST TO CONNECT ALL SERVICES TO THE BUILDING.
 11. REFER TO PLUMBING PLAN FOR LOCATION OF ALL WATER SERVICES TO BUILDING.
 12. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS FOR THE PROJECT INDICATED ON THE PLANS OR AS NEEDED AT NO ADDITIONAL PAYMENT.
 13. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS FOR THE PROJECT INDICATED IN THE PLANS OR AS NEEDED AT NO ADDITIONAL PAYMENT.
 14. UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INCLUDE FIRE HYDRANT, 6" GATE VALVE, 6" VALVE BOX, ANCHOR BEND, AND ALL 6" DUCTILE IRON PIPE REQUIRED TO COMPLETE INSTALLATION. (DUCTILE IRON PIPE SHALL INCLUDE ALL PIPE FROM THE MAIN LINE TO THE FIRE HYDRANT.)
 15. ALL FITTINGS SHALL BE MECHANICAL JOINT.
 16. CONTRACTOR MUST BE AN APPROVED SAWS AND APPROVED FIRE LINE CONTRACTOR.
 17. ALL PIPE DIMENSIONS ARE APPROXIMATE ONLY.
 18. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND COMPLETING AND COORDINATING ALL NECESSARY TESTS.
 19. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND VALVES AS INDICATED ON THE ATTACHED WATER DISTRIBUTION SYSTEM DETAIL SHEET.
 20. ALL PDC STANDPIPES SHALL HAVE A 4" LINE CONNECTING TO FIRE SPRINKLER SYSTEM OF EACH BUILDING. CONTRACTOR SHALL VERIFY SIZE OF LINE WITH MEP PLANS. IF DISCREPANCIES EXIST MEP PLAN SHALL GOVERN AND CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY. CONTRACTOR SHALL REFER TO MEP PLANS FOR DETAILS OF CONNECTION AND ALIGNMENT OF LINE.
- SANITARY SEWER NOTES:
1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
 2. NO VERTICAL STACKS SHALL BE ALLOWED.
 3. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FT. OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 160 P.S.I. (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAMS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
 4. ALL SEWER PIPES SHALL BE PVC (SDR 26), UNLESS OTHERWISE NOTED.
 5. PRIOR TO CONSTRUCTION CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
 6. CONTOURS SHOWN ARE FOR GRAPHICAL USE ONLY.
 7. MANHOLE OPENINGS ARE 30" AS PER TCEQ CHAPTER 217.55
 8. CONTRACTOR TO INSTALL PERMANENT MARKERS AT THE END OF ALL SEWER LATERALS, PER HOUSE LATERAL DETAIL DD-854-01.
 9. ALL 6" SEWER LATERALS WILL BE SET AT A MINIMUM 2% SLOPE.
 10. BACKFILL MUST COMPLY WITH SAWS SPECIFICATIONS 804.4.
 11. TOPS OF EXISTING MANHOLES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO BE 0.50 FEET ABOVE FINISHED GROUND ELEVATIONS IN UNPAVED AREAS WITH WATER TIGHT LIDS.

CAUTION UNDERGROUND NOTES:

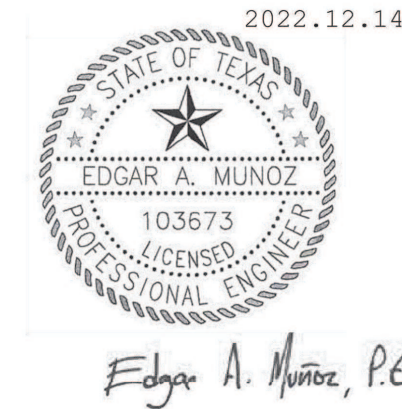
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE, AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. THE CONTRACTOR MUST CONTACT 1-800-DIG-TESS AND CALL APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION AND/OR START OF CONSTRUCTION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION NOTE:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTORS AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.



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SUITE 504
SAN ANTONIO, TX 78240
210-262-1365

SHEET TITLE:	MARK:	DESCRIPTION:				DATE:
		DESIGNED BY:	FILE NUMBER:	FILE NAME:	PLOT SCALE:	
CIVIL GENERAL NOTES		EAM				
LOVE COMMUNITY CENTER		TMJ				
107 S. PINE ST., SAN ANTONIO, TEXAS		EAM				
DAVID FRAUSTO DESIGNS						
8600 WURZBACH RD. SUITE #504, SAN ANTONIO, TEXAS						

DRAWING NUMBER:

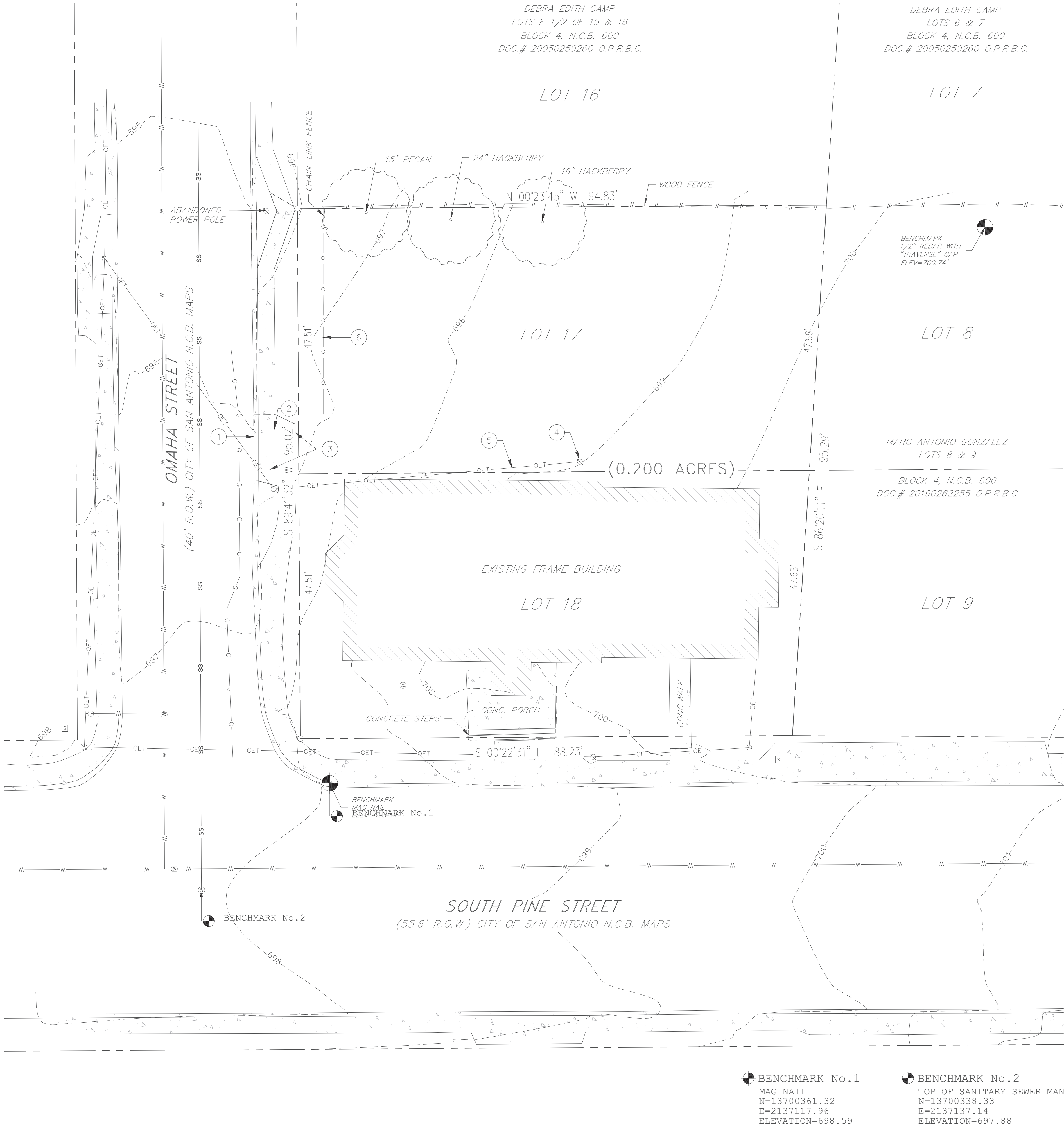
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SHEET
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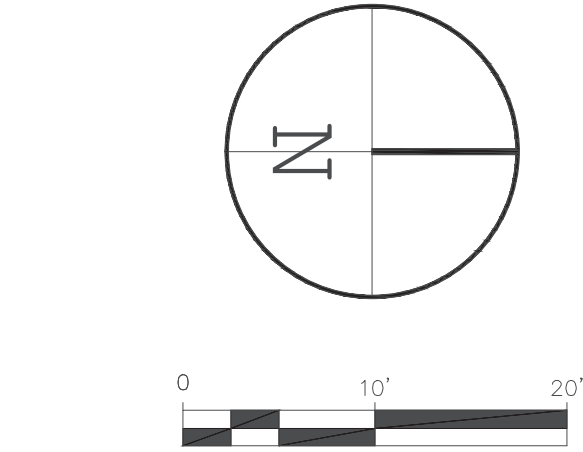
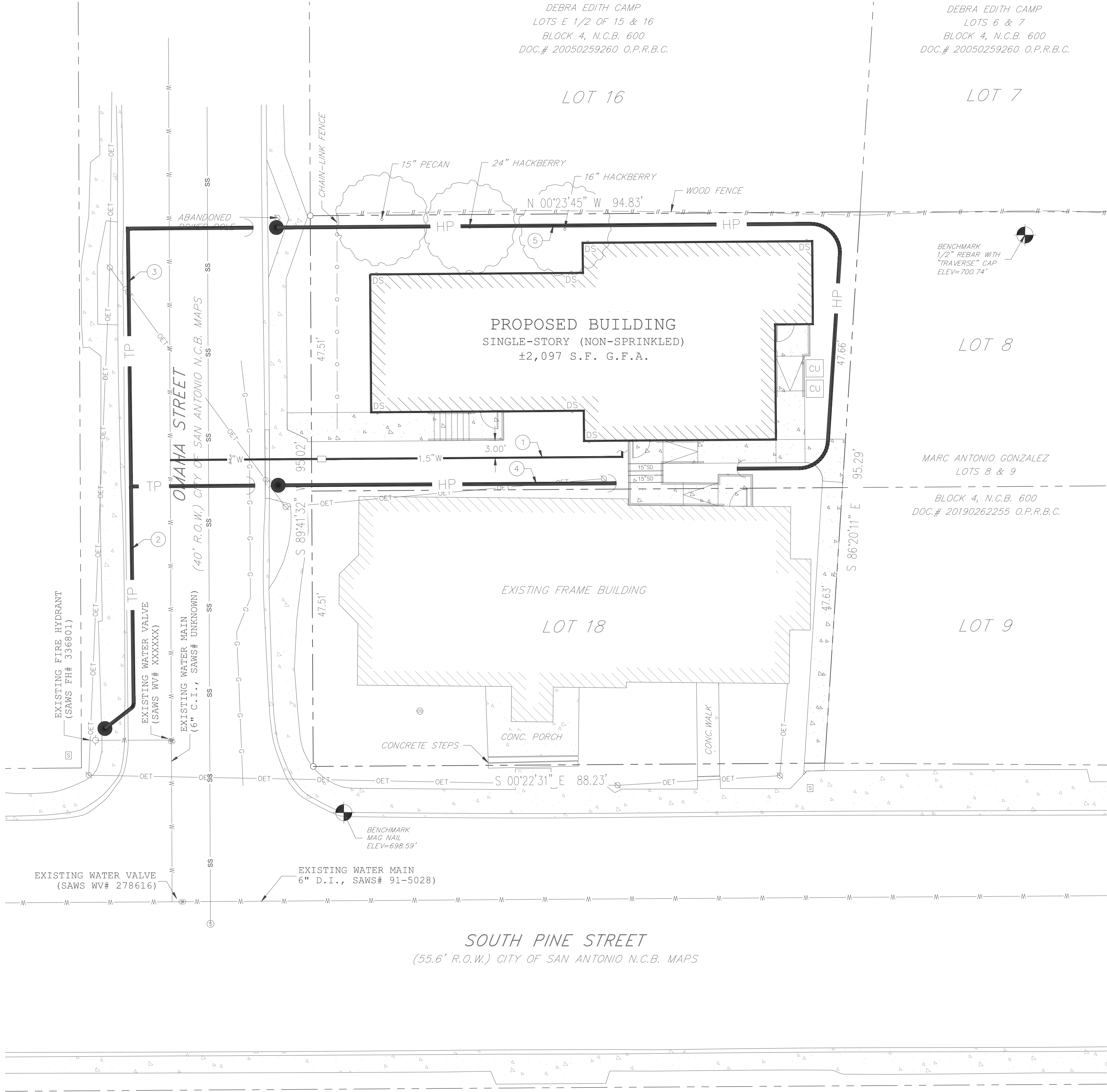
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Date: Jan 04, 2023, 11:53am User ID: Urbane Engineer



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Date: Jan 04, 2023, 11:56am User ID: Urbane Engineer



- LEGEND
- BOUNDARY/PROPERTY LINE
 - EXISTING EASEMENT LINE
 - EXISTING CONCRETE CURB
 - PROPOSED CONCRETE CURB
 - KEYNOTE
 - PROPOSED BUILDING
 - EXISTING CHAIN LINK FENCE
 - EXISTING TREE
 - PROPOSED CONCRETE PAVEMENT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING WATER MAIN
 - PROPOSED FIRE LANE
 - TRUCK PULL HOSE LAY
 - HAND PULL HOSE LAY

- KEYNOTES
- 1 PROPOSED DOMESTIC WATER SERVICE
 - 2 65 L.F. ~ TRUCK PULL HOSE LAY
 - 3 110 L.F. ~ TRUCK PULL HOSE LAY
 - 4 58 L.F. ~ HAND PULL HOSE LAY
 - 5 150 L.F. ~ HAND PULL HOSE LAY

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SHEET TITLE:		MARK:		DESCRIPTION:		DATE:	
FIRE PROTECTION PLAN							
LOVE COMMUNITY CENTER		DESIGNED BY: EAM		FILE NUMBER:			
107 S. PINE ST., SAN ANTONIO, TEXAS		DRAWN BY: TMJF		FILE NAME:			
DAVID FRAUSTO DESIGNS		CHECKED BY: EAM		PLOT SCALE:			
8600 WURZBACH RD. SUITE #504, SAN ANTONIO, TEXAS		DATE: 12.14.2022		SHEET SIZE: 24"x36"			

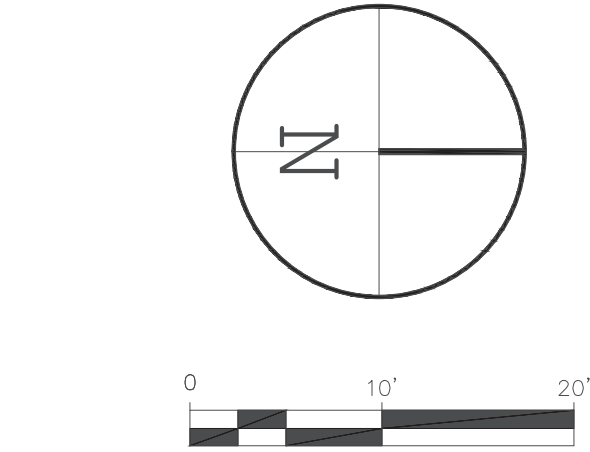
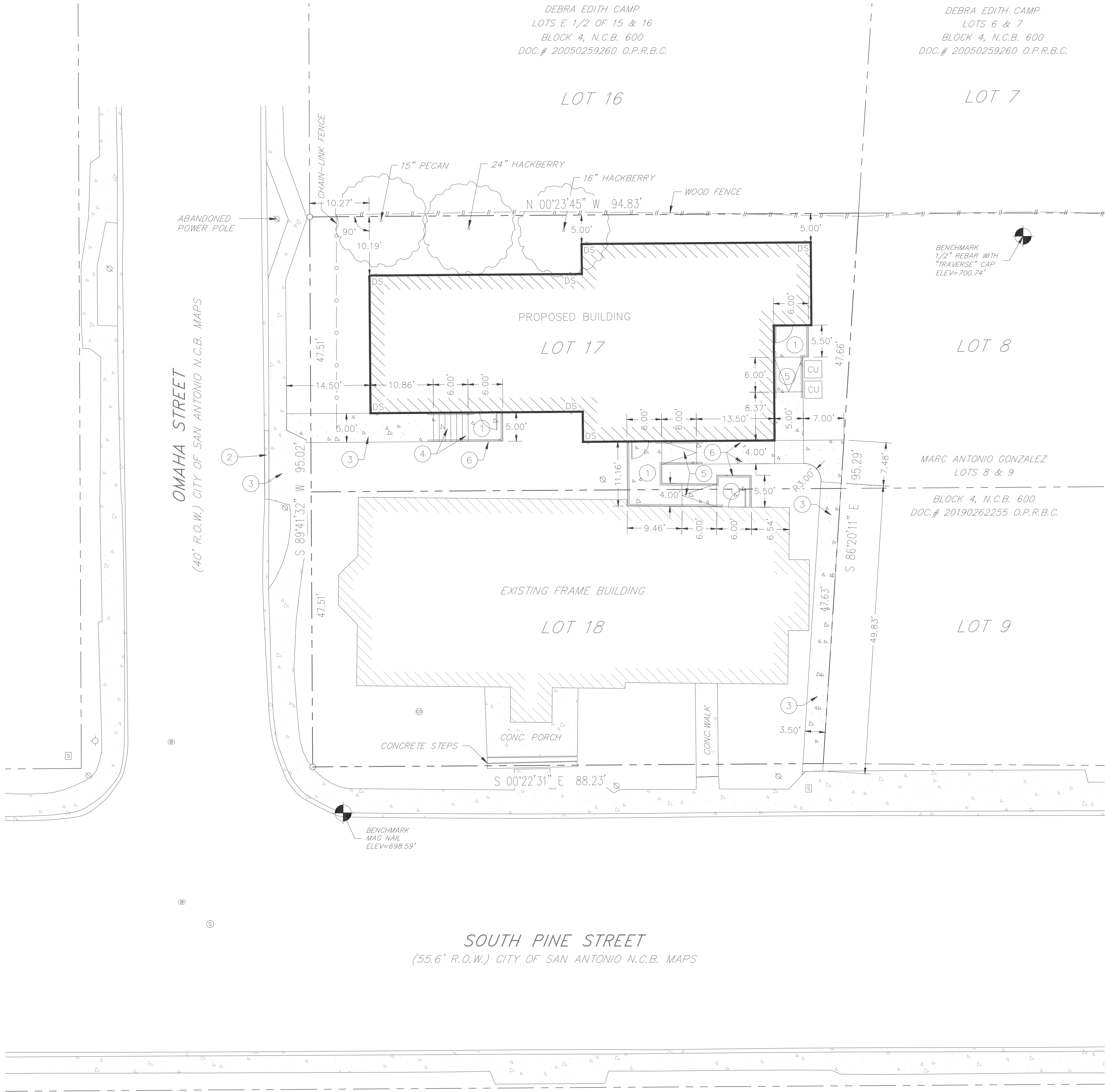
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CS-101

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- LEGEND
- BOUNDARY/PROPERTY LINE
 - ADJACENT/PROPERTY LINE
 - PROPOSED EASEMENT LINE
 - EXISTING CONCRETE CURB
 - EXISTING WOOD FENCE
 - EXISTING CONCRETE
 - PROPOSED CONCRETE
 - PROPOSED PAVEMENT
 - EXISTING WATER VALVE
 - EXISTING CLEANOUT
 - EXISTING SANITARY SEWER MANHOLE
 - EXISTING POWER POLE
 - SET 1/2" REBAR W/MDS CAP
 - EXISTING SIGN
 - BENCHMARK
 - O.P.R.B.C.
 - KEYNOTES
 - EXISTING TREE

- KEYNOTES
- PROPOSED CONCRETE (FOUNDATION) LANDING, REF: STRUCTURAL
 - PROPOSED CONCRETE CURB, REF: C-501, DETAIL 1
 - PROPOSED CONCRETE SIDEWALK, REF: C-501, DETAIL 2
 - PROPOSED CONCRETE STEPS, REF: C-501, DETAIL 3 & STRUCTURAL & ARCHITECTURAL
 - PROPOSED ADA CONCRETE RAMP (FOUNDATION), REF: STRUCTURAL
 - PROPOSED HANDRAIL, REF: ARCHITECTURAL

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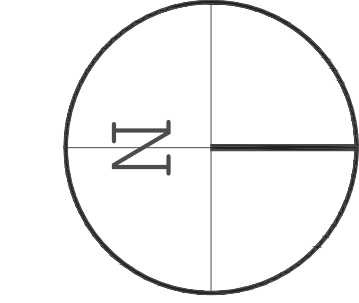
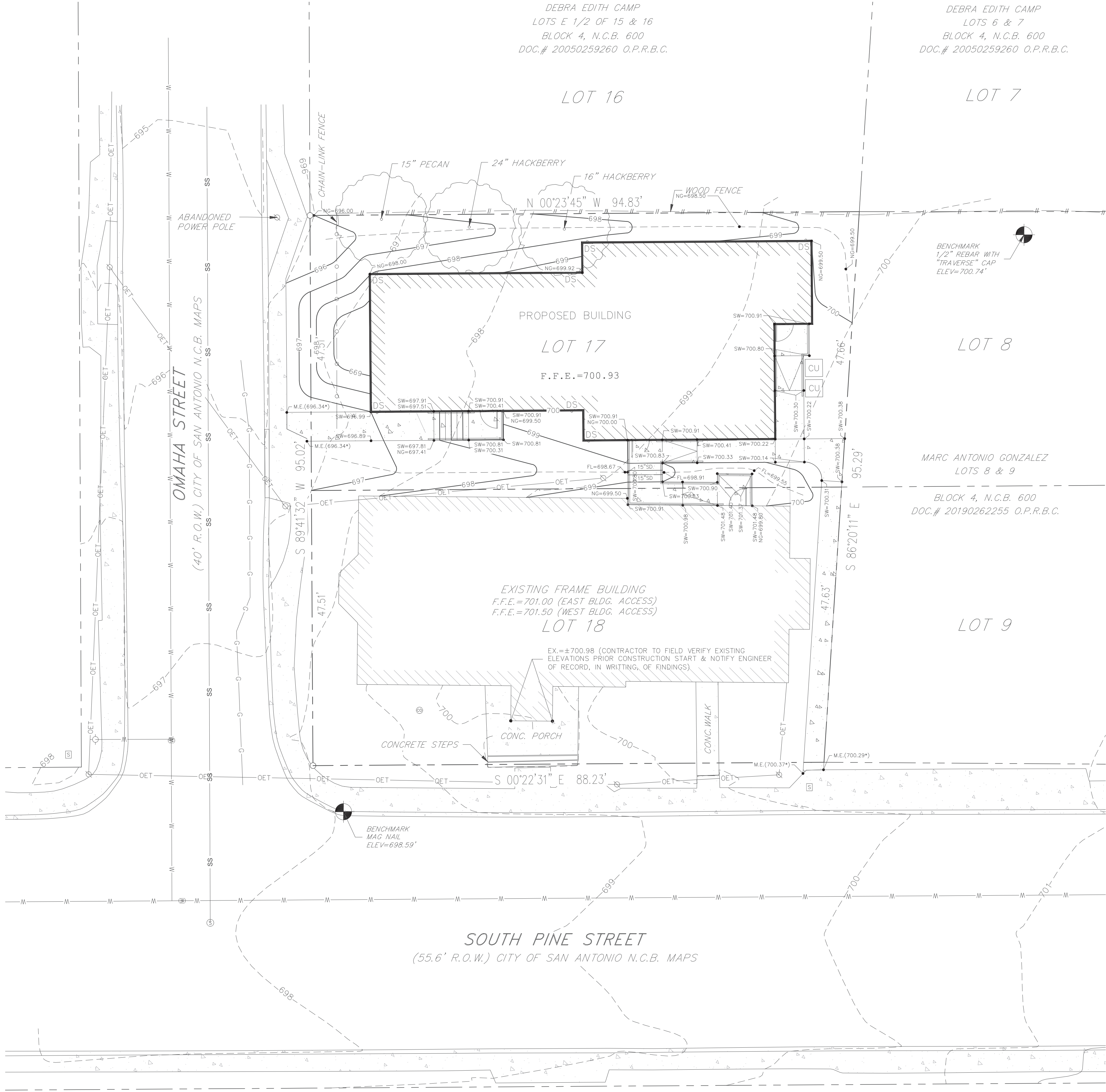
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			LOVE COMMUNITY CENTER 107 S. PINE ST., SAN ANTONIO, TEXAS			
			DAVID FRAUSTO DESIGNS 8600 WURZBACH RD. SUITE #504, SAN ANTONIO, TEXAS			

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CS-102

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- LEGEND
- BOUNDARY/PROPERTY LINE
 - - - ADJACENT/PROPERTY LINE
 - - - PROPOSED EASEMENT LINE
 - ===== EXISTING CONCRETE CURB
 - - - 697 EXISTING CONTOURS
 - ===== 697 PROPOSED CONTOURS
 - ===== EXISTING WOOD FENCE
 - ===== EXISTING CONCRETE
 - ===== PROPOSED CONCRETE
 - ===== EXISTING WATER VALVE
 - ===== EXISTING CLEANOUT
 - ===== EXISTING SANITARY SEWER MANHOLE
 - ===== EXISTING POWER POLE
 - ===== SET 1/2" REBAR W/MDS CAP
 - ===== EXISTING SIGN
 - ===== BENCHMARK
 - ===== T TOP OF CURB ELEVATION
 - ===== G GUTTER ELEVATION
 - ===== SW TOP OF SIDEWALK GRADE ELEVATION
 - ===== NG NATURAL GROUND GRADE ELEVATION
 - ===== FL FLOW LINE GRADE ELEVATION
 - ===== F.F.E. FINISH FLOOR ELEVATION
 - ===== O.P.R.B.C. OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY
 - ===== M.E. MATCH EXISTING (E.G. ELEVATION)
 - ===== FG FINISH GRADE ELEVATION
 - ===== KEYNOTES
 - ===== EXISTING TREE

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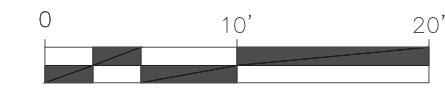
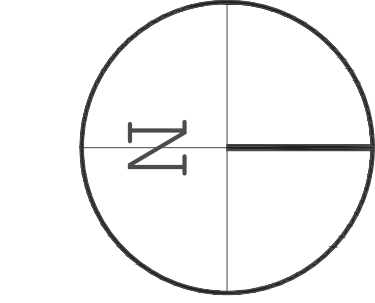
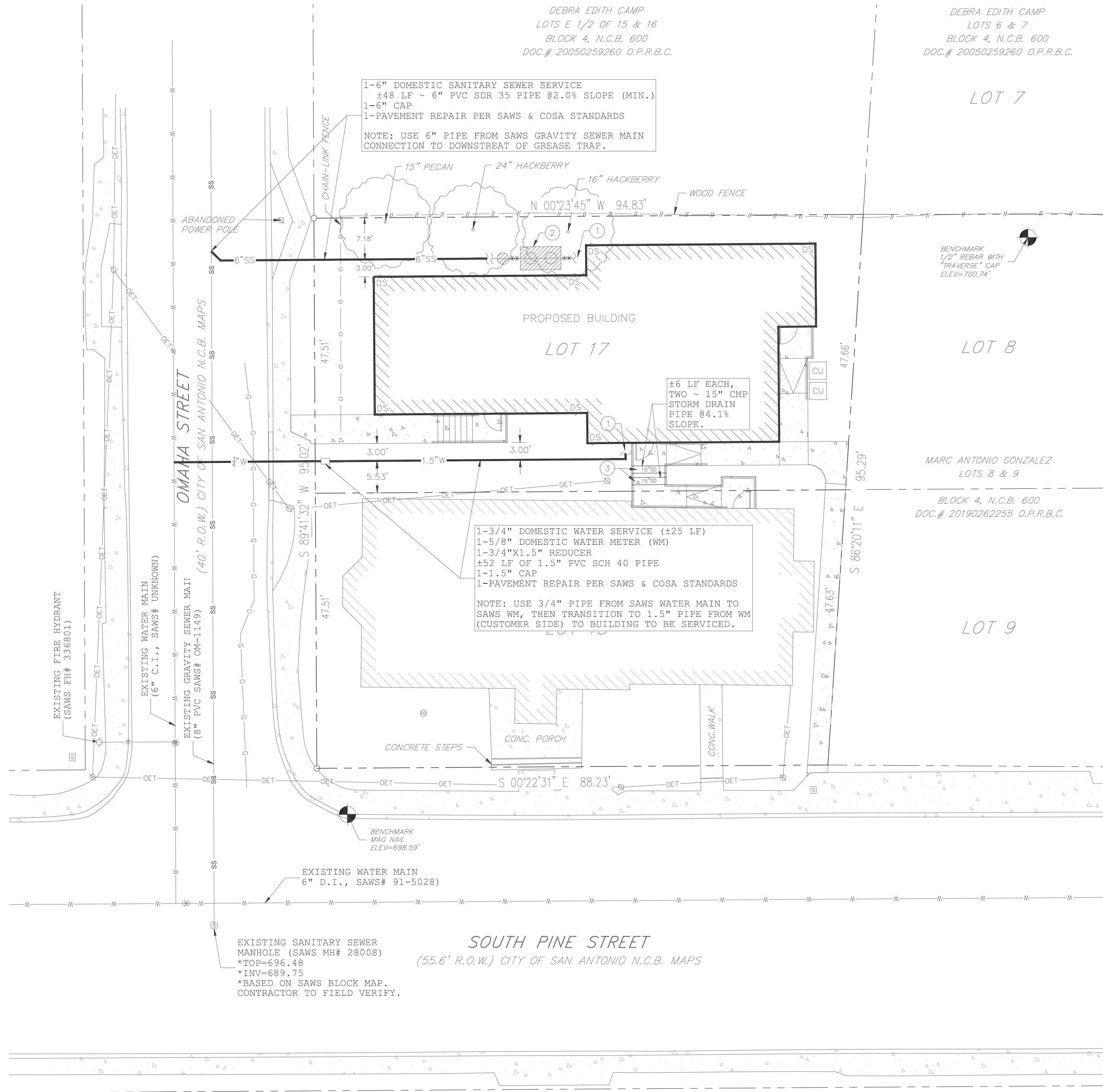
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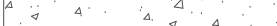








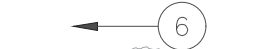
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DRAWING NUMBER:
CG-102

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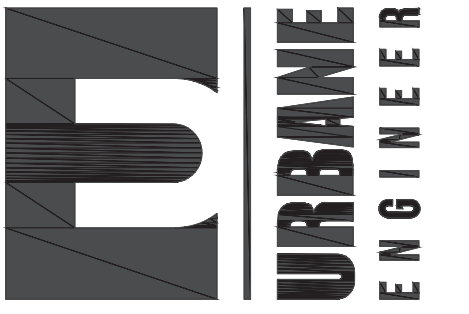


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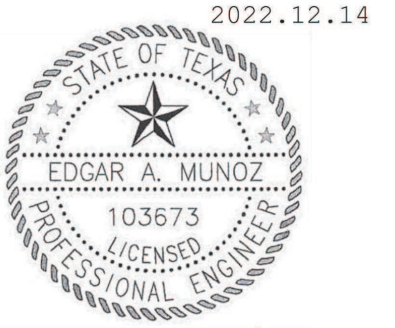
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	ADJACENT/PROPERTY LINE
	PROPOSED EASEMENT LINE
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	EXISTING CONTOURS
	EXISTING WATER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN LINE
	EXISTING GAS LINE
	EXISTING OVERHEAD ELECTRIC AND TELEPHONE LINE
	EXISTING WOOD FENCE
	EXISTING CHAIN-LINK FENCE
	EXISTING CONCRETE
	PROPOSED CONCRETE
	EXISTING WATER VALVE
	EXISTING CLEANOUT
	EXISTING SANITARY SEWER MANHOLE
	EXISTING POWER POLE
	SET 1/2" REBAR W/MDS CAP
	EXISTING SIGN
	BENCHMARK
O.P.R.B.C.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY
	KEYNOTES
	EXISTING TREE
	EXISTING TREE TO BE REMOVED

KEYNOTES

- ① REFER TO MEP FOR CONTINUATION.
- ② GRASE TRAP. REFER TO MEP FOR DETAILS.
- ③ 15" CMP STORM DRAIN PIPES. REFER TO STRUCTURAL FOR REINFORCEMENT DETAILS.



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SHEET TITLE: UTILITY PLAN	MARK:	DESCRIPTION:	DATE:
LOVE COMMUNITY CENTER 107 S. PINE ST., SAN ANTONIO, TEXAS	DESIGNED BY: EAM		
	FILE NUMBER:		
	DRAWN BY: TMJT		
	FILE NAME:		
	CHECKED BY: EAM		
DAVID FRAUSTO DESIGNS 8600 WURZBACH RD. SUITE #504, SAN ANTONIO, TEXAS	PLOT SCALE:		
	DATE: 12.14.2022		
	SHEET SIZE: 24"x36"		

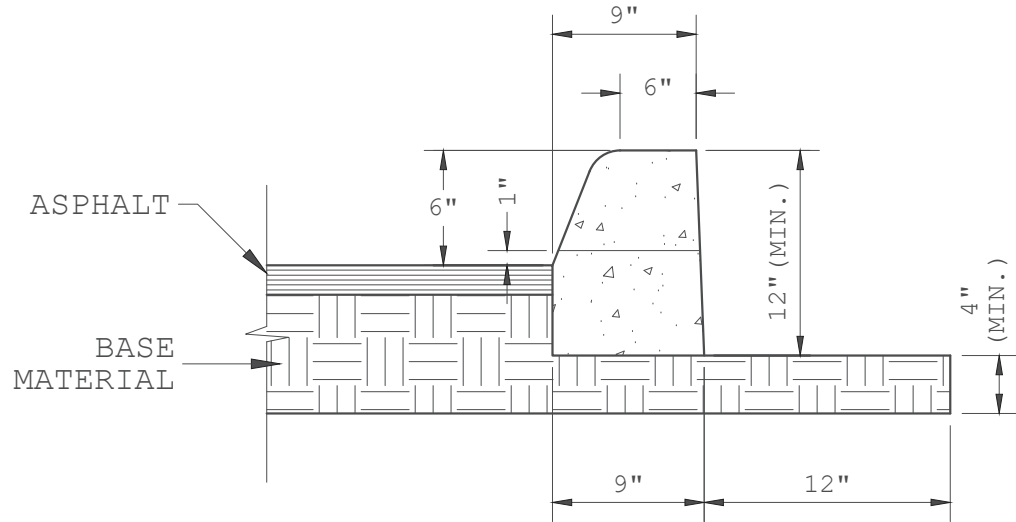
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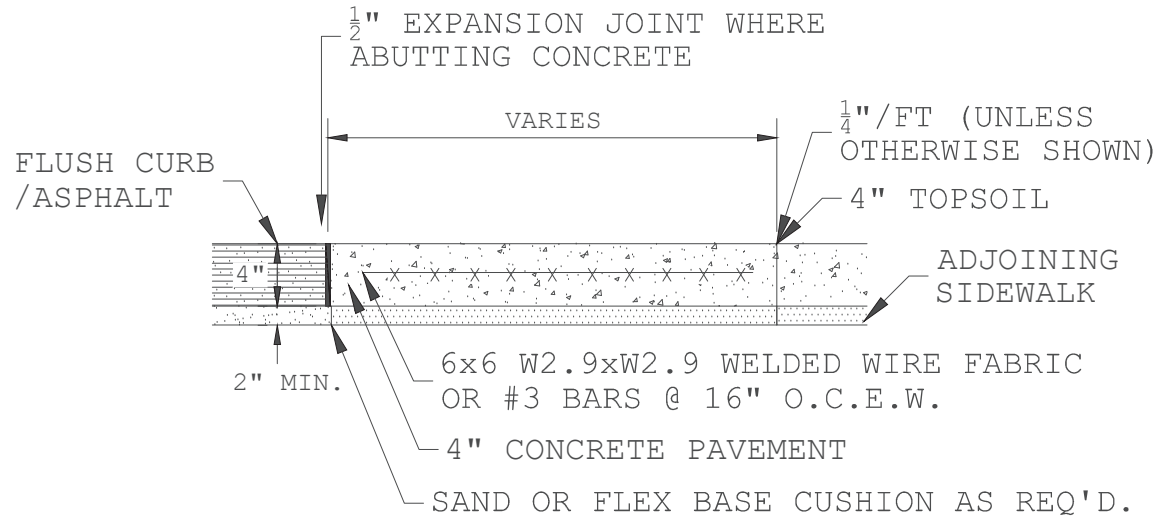
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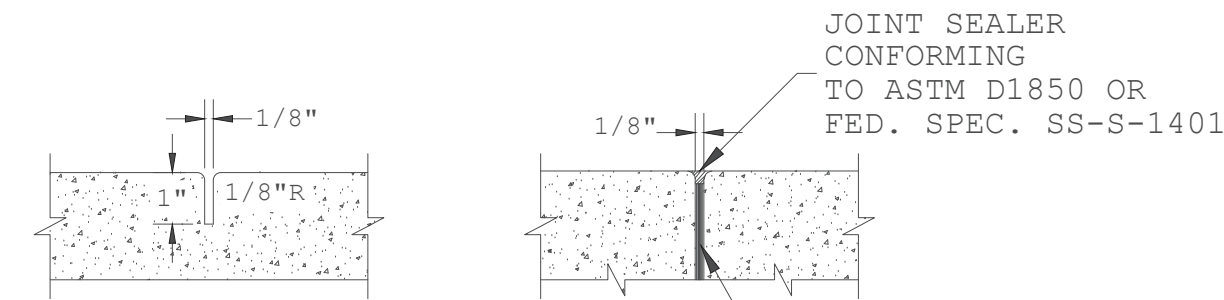
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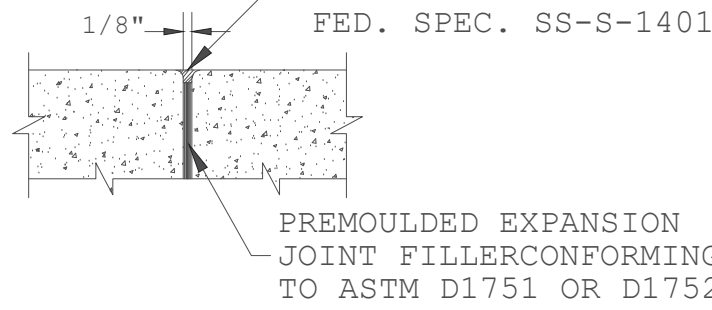
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CONCRETE CURB
N.T.S.



CONCRETE WALK SECTION

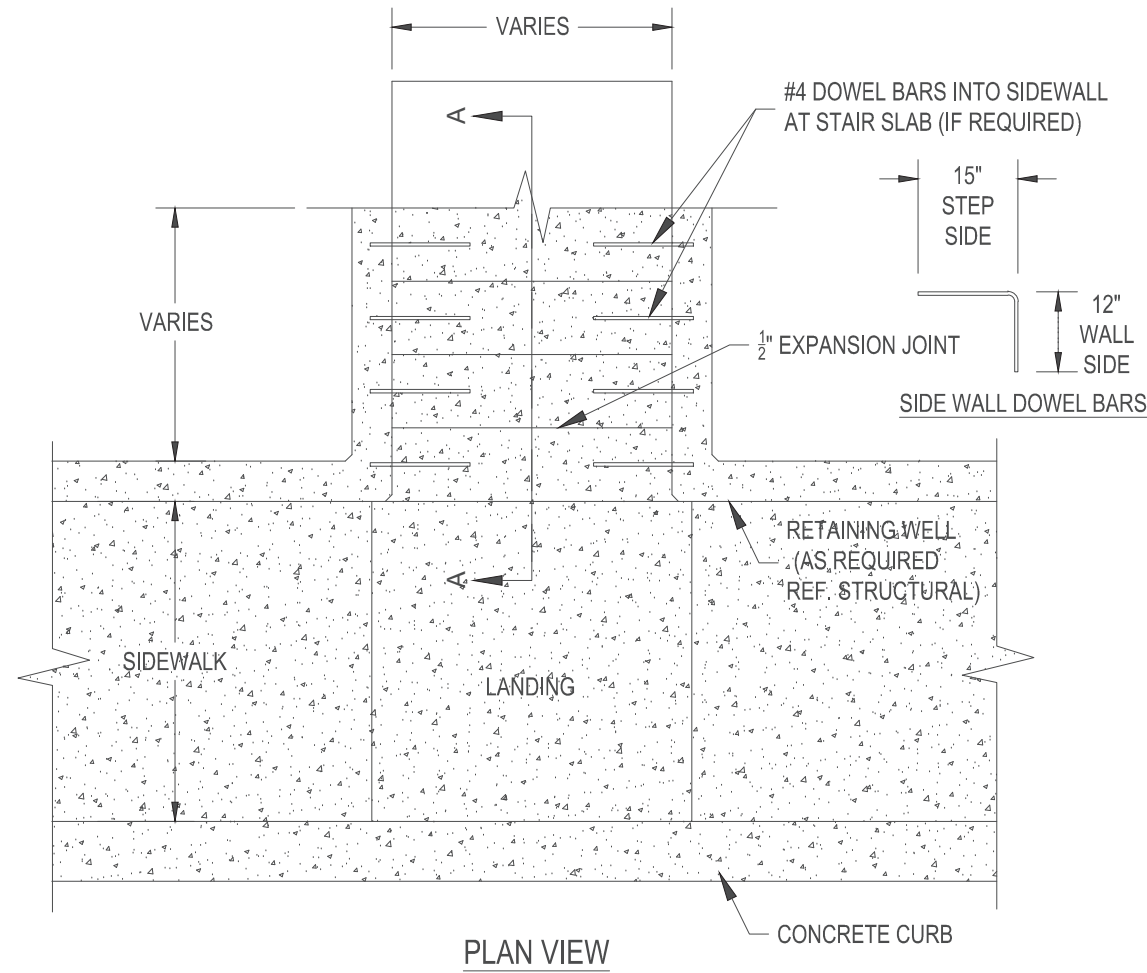


CONTRACTION JOINT
JOINTS TO BE SPACED
5' O.C.E.W.

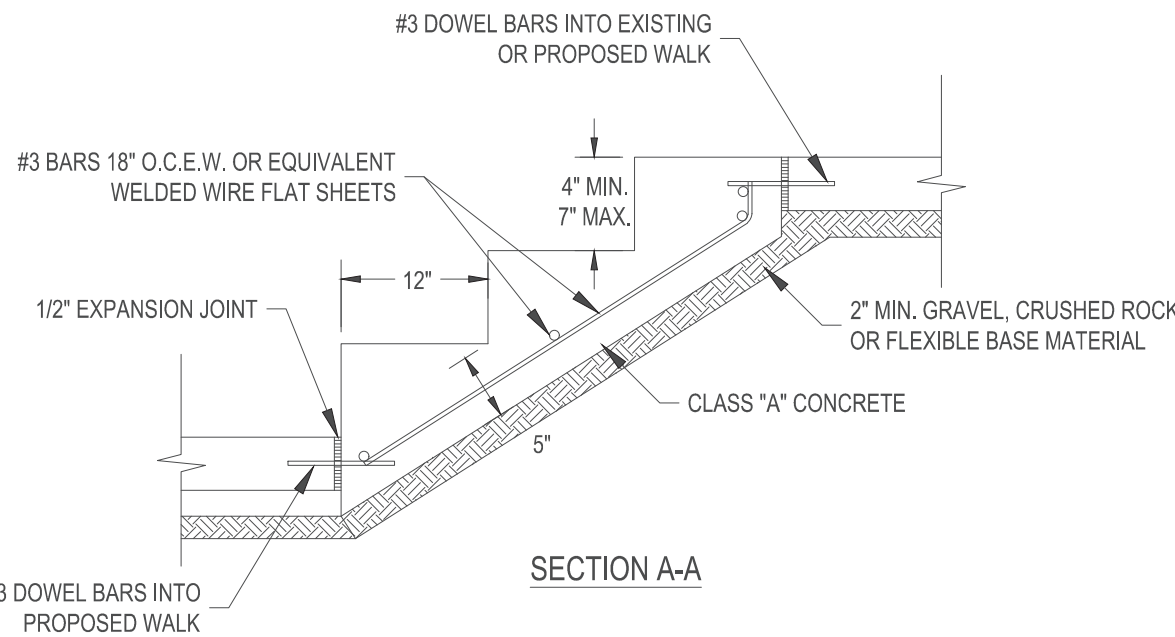


EXPANSION JOINT

2
CONCRETE SIDEWALK DETAILS
N.T.S.

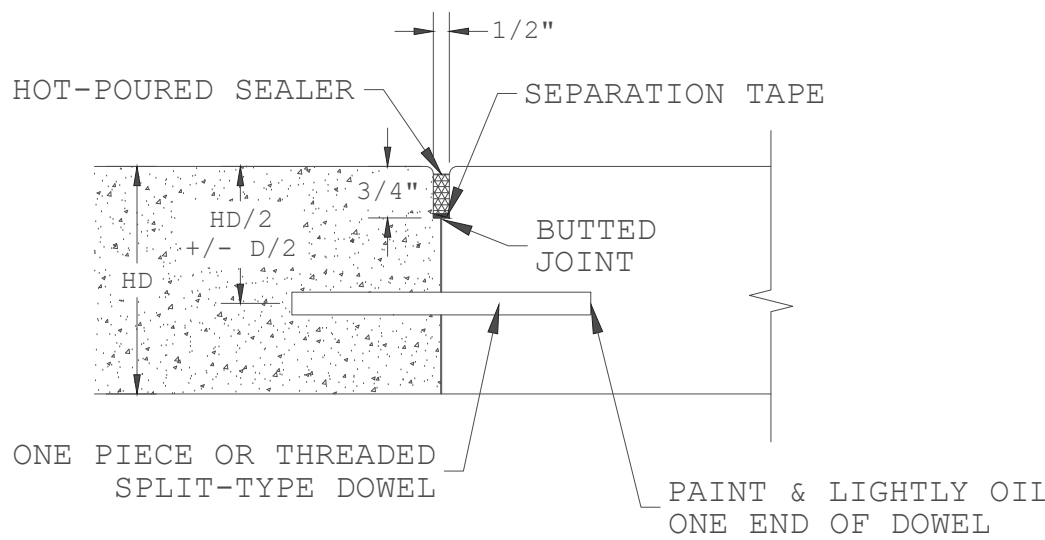


PLAN VIEW




SECTION A-A

3
TYPICAL CONCRETE STEP(S) DETAILS
N.T.S.




EXISTING/PROPOSED CONSTRUCTION
JOINT FOR RIGID PAVEMENT
N.T.S.


4



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				FILE NUMBER:	FILE NAME:	PLOT SCALE:	SHEET SIZE: 24"x36"	
CIVIL DETAILS - 1				DESIGNED BY: EAM	FILE NUMBER:	FILE NAME:	PLOT SCALE:	SHEET SIZE: 24"x36"
LOVE COMMUNITY CENTER 107 S. PINE ST., SAN ANTONIO, TEXAS				DRAWN BY: TMJF	FILE NUMBER:	FILE NAME:	PLOT SCALE:	SHEET SIZE: 24"x36"
DAVID FRAUSTO DESIGNS 8600 WURZBACH RD. SUITE #504, SAN ANTONIO, TEXAS				CHECKED BY: EAM	FILE NUMBER:	FILE NAME:	PLOT SCALE:	SHEET SIZE: 24"x36"
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DRAWING NUMBER:
C-501

SHEET IDENTIFICATION
SHEET OF

STRUCTURAL NOTES

GENERAL:

- GN-1 BUILDING CODE: IBC 2021 EDITION
- GN-2 THE DETAILS DESIGNATED AS "TYPICAL DETAILS", APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN DETAILS.
- GN-3 THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE REQUIREMENTS OF OTHER TRADES (ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ETC.) WITH THE STRUCTURAL DOCUMENTS PRIOR TO FABRICATION OR INSTALLATION OF ANY STRUCTURAL MEMBERS.
- GN-4 THE CONTRACTOR AND FABRICATOR SHALL VERIFY ALL QUANTITIES, DIMENSIONS AND CONDITIONS THOROUGHLY WITH THE CONTRACT DOCUMENTS AND THEN NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE SUBMITTING SHOP DRAWINGS AND PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS FOR DIMENSIONS.
- GN-5 COMPLETED SHOP DRAWINGS SHALL BE PROVIDED, AS SPECIFIED, FOR ALL FABRICATED ITEMS AND SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO FABRICATION. STRUCTURAL DRAWINGS SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS. USE OF STRUCTURAL DRAWINGS WITHOUT PERMISSION IS GROUNDS FOR REJECTION OF SHOP DRAWINGS. THE STRUCTURAL ENGINEER WILL REVIEW SHOP DRAWINGS FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. THEREFORE, ALL CLOUDED DIMENSIONS, INDICATED ON ANY SHOP DRAWINGS, THAT ARE RELATIVE TO EXISTING STRUCTURES SHALL BE VERIFIED BY THE CONTRACTOR AND FABRICATOR. AS A MINIMUM, THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED AS WELL AS SHOP DRAWINGS LISTED IN THE DEFERRED SUBMITTAL SECTION OF THESE NOTES:
- A. CONCRETE MIX DESIGN FOR EACH TYPE OF CONCRETE TO BE USED.
- B. CONCRETE REINFORCING STEEL SHOP DRAWINGS INCLUDING PLACEMENT DRAWINGS AND CUT SHEETS.
- C. PREFABRICATED WOOD TRUSSES. (GENERAL CONTRACTOR SHALL SUBMIT TO THE CITY PRIOR TO CERTIFICATE OF OCCUPANCY)
- GN-6 SHOP DRAWINGS NOT PREVIOUSLY REVIEWED BY THE GENERAL CONTRACTOR SHALL BE RETURNED WITHOUT REVIEW BY STRUCTURAL ENGINEER. STRUCTURAL ENGINEER DOES NOT BEAR ANY RESPONSIBILITY TO THE STRUCTURAL MEMBERS BUILT WITHOUT APPROVED SHOP DRAWINGS.
- GN-7 GENERAL CONTRACTOR SHALL INSPECT JOB FOR COMPLETION BEFORE SCHEDULING ANY OBSERVATION BY THE ENGINEER.
- GN-8 SEE ARCH'L. AND MEP DRAWINGS FOR LOCATIONS AND SIZES OF SLAB OPENINGS, SLEEVES, INSERTS, ANCHORS AND BOLTS REQUIRED BY VARIOUS TRADES.
- GN-9 ALL PLUMBING CONDUITS AT FOUNDATION SHOULD HAVE FLEXIBLE CONNECTIONS TO SUSTAIN A MAXIMUM DIFFERENTIAL MOVEMENT OF 1 INCH.
- GN-10 THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. CONTRACTOR SHALL CONSIDER ALL CONSTRUCTION LOADS APPLIED TO THE PARTIALLY COMPLETED STRUCTURE UNTIL ALL PERMANENT CONNECTIONS ARE MADE, AND ENCLOSED PERMANENTLY AS PER CONSTRUCTION DOCUMENTS.
- GN-11 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE ADEQUACY OF THE STRUCTURE TO SUPPORT ALL CONSTRUCTION LOADS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE TO DESIGN OR CHECK THE STRUCTURE FOR CONSTRUCTION ACTIVITIES.
- GN-12 THE ENGINEER SHALL NOT HAVE CONTROL OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- GN-13 PERIODIC SITE OBSERVATIONS BY FIELD REPRESENTATIVES OF HQ-ENGINEERING,LLC ARE SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THESE LIMITED SITE OBSERVATIONS ARE NOT INTENDED TO BE A CHECK OF THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO INFORM THE OWNER OF DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.
- GN-14 PROTECT ALL REMAINING EXISTING STRUCTURES. ANY DAMAGE TO AN EXISTING STRUCTURE SHALL BE REPAIRED TO EQUIVALENT OR BETTER CONDITION.
- GN-15 PROVIDE CONTROL JOINTS AT 15'-0" ON CENTER MAXIMUM FOR ALL BRITTLE FINISHES.
- GN-16 IF CONFLICT EXISTS BETWEEN DRAWINGS, NOTES, AND SPECIFICATIONS, THE STRICTEST REQUIREMENTS SHALL GOVERN.

SCHEDULE OF SITE OBSERVATIONS BY ENGINEER:

- SO-1 ALL STRUCTURAL ELEMENTS OF THE BUILDING SHALL BE OBSERVED BY THE STRUCTURAL ENGINEER'S REPRESENTATIVE DURING THE CONSTRUCTION PHASE, SO THAT A FINAL LETTER OF COMPLIANCE CAN BE PROVIDED TO THE OWNER AND/OR BUILDING AUTHORITY.
- SO-2 PRIOR TO THE BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE A MEETING WITH THE STRUCTURAL ENGINEER TO SET UP A SCHEDULE FOR THE FOLLOWING OBSERVATIONS, NOT TO EXCEED THE SPECIFIED NUMBER OF VISITS:
- A. CONCRETE: FOR EACH CONCRETE POUR UNLESS NOTED OTHERWISE BY THE ENGINEER. SEE NOTE 5 OF CONCRETE AND CONCRETE REINFORCEMENT – ONE VISIT.
- B. TIMBER FRAMING: AFTER ALL WOOD FRAMING AND CONNECTIONS ARE MADE BUT BEFORE APPLYING SHEATHING. – ONE VISIT
- C. NOTIFY ARCHITECT AT LEAST 24 HOURS BEFORE EACH SITE OBSERVATION IS REQUIRED TO ALLOW TIME FOR ARRANGEMENTS TO BE MADE WITH ENGINEER FOR SITE OBSERVATION.
- SO-3 THESE STRUCTURAL OBSERVATIONS ARE THE REQUIREMENTS OF THE STRUCTURAL ENGINEER AND DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE 2018 INTERNATIONAL BUILDING CODE. SPECIAL INSPECTION SHALL BE PERFORMED BY THE SPECIAL INSPECTOR WHO SHALL BE HIRED BY OWNER TO MEET CHAPTER 17 OF IBC 2018.

DEFERRED DESIGN SUBMITTAL:

- DD-1 SUBMITTALS LISTED IN DD-2 ARE TO BE DESIGNED, DETAILED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS. SEE PLANS AND SPECIFICATIONS FOR DESIGN REQUIREMENTS OF THESE ELEMENTS.
- DD-2 ITEM RESPONSIBLE FOR SHOP DRAWING REVIEW RESPONSIBLE FOR INSPECTION
- o ROOF TRUSSES STRUCTURAL ENGINEER AND BUILDING INSPECTOR (COSA) BUILDING INSPECTOR (COSA)

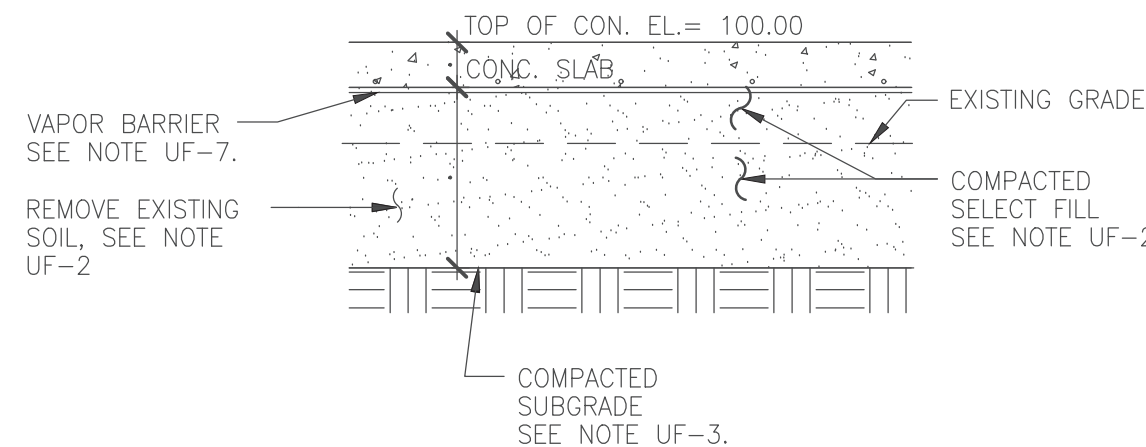
DESIGN LOADS:

- DL-1 DEAD LOADS INCLUDE THE WEIGHT OF CONSTRUCTION MATERIALS INCORPORATED INTO THE BUILDING, INCLUDING BUT NOT LIMITED TO WALLS, FLOORS, ROOFS, CEILINGS, STAIRWAYS, BUILT-IN PARTITIONS, FINISHES, CLADDING AND OTHER SIMILARLY INCORPORATED ARCHITECTURAL AND STRUCTURAL ITEMS, AND FIXED SERVICE EQUIPMENT. ALL DEAD LOADS ARE CONSIDERED PERMANENT LOADS.
- DL-2 DEAD LOADS FOR MECHANICAL UNITS ARE BASED ON THE WEIGHTS OF EQUIPMENT, AS INDICATED ON THE STRUCTURAL DRAWINGS (INCLUDING THE WEIGHT OF CONCRETE PADS, WHERE INDICATED). ANY CHANGES IN TYPE, SIZE, LOCATION OR NUMBER OF PIECES OF EQUIPMENT SHOULD BE REPORTED TO THE ARCHITECT FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE PLACEMENT OF SUCH EQUIPMENT.
- DL-3 UNIFORM DESIGN LIVE LOADING IS AS FOLLOWS:
- o ROOF.....20 PSF
 - o LIGHT STORAGE.....125 PSF
 - o OFFICES + PARTITIONS.....70 PSF
 - o FIRST FLOOR CORRIDORS.....100 PSF
- DL-4 ROOF LIVE LOADS MAY BE REDUCED.
- DL-5 SNOW LOAD:
- o GROUND SNOW LOAD, Pg.....5 PSF
- DL-6 WIND LOADS:
- o RISK CATEGORY.....II
 - o ULTIMATE DESIGN WIND SPEED, Vult.....105 MPH
 - o ALLOWABLE DESIGN WIND SPEED, Vasd.....90 MPH
 - o EXPOSURE CATEGORY.....B
 - o INTERNAL PRESSURE COEFFICIENT..... +/- 0.18 , 0.55, 0.00
 - o FOR COMPONENTS AND CLADDING GROSS WIND PRESSURE, SEE DL-9.
- DL-7 EARTHQUAKE DESIGN DATA:
- o SEISMIC IMPORTANCE FACTOR Ie.....1.0
 - o RISK CATEGORY.....III
 - o MAPPED SPECTRAL RESPONSE ACCELERATIONS:
 - Ss.....0.13g
 - S1.....0.03g
 - o SITE CLASS "cs"
 - o SPECTRAL RESPONSE COEFFICIENTS
 - Sds.....0.13g
 - Sd1.....0.04g
 - o SEISMIC DESIGN CATEGORY "A"
 - o BASIC SEISMIC FORCE-RESISTING SYSTEM -- STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
 - o DESIGN BASE SHEAR, V = N/A
 - o SEISMIC RESPONSE COEFFICIENT, Cs = N/A
 - o RESPONSE MODIFICATION COEFFICIENT, R = N/A
 - o ANALYSIS PROCEDURE = N/A
- DL-8 UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS FOR FUTURE FLOORS, ROOFS OR OTHER LOADS.

BUILDING PAD PREPARATION:

A SUBSURFACE SOIL STUDY WAS PREPARED BY PSI. THEIR REPORT/PROJECT NUMBER FOR THIS SITE IS 0312-2726 AND WAS COMPLETED ON OCTOBER 27, 2022. THIS GEOTECHNICAL REPORT AND ITS ADDENDUMS WAS USED IN THE DESIGN OF THE STRUCTURES FOUNDATION. THE GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THIS REPORT PRIOR TO THE BEGINNING OF ANY FOUNDATION WORK.

- UF-1 PROVIDE TEMPORARY PROVISION FOR DRAINAGE OF THE BUILDING PAD AREA DURING CONSTRUCTION AND PERMANENT DRAINAGE AWAY FROM BUILDING AFTER CONSTRUCTION.
- UF-2 AT THE ENTIRE AREA OCCUPIED BY THE BUILDING (AND FOR A DISTANCE OF 5.0 FT. OUTSIDE OF THE BUILDING), REMOVE ALL ORGANIC AND OTHER DELETERIOUS MATERIALS. DO NOT USE FOR UNDERFLOOR FILL. REMOVE SOIL PER GEOTECHNICAL REPORT TO ACHIEVE THE PVR MENTIONED IN UF-10. EXPOSED SUBGRADE SHALL BE RELATIVELY LEVEL.
- UF-3 THE EXPOSED SUBGRADE SHALL BE SCARIFIED AND COMPACTED PER THE GEOTECHNICAL REPORT MENTIONED ABOVE.
- UF-4 BRING THE BUILDING PAD TO UNDERSIDE OF SLAB WITH SELECT STRUCTURAL FILL AS SPECIFIED PER THE GEOTECHNICAL REPORT TO ACHIEVE A MAX. PVR LISTED IN UF-10.
- UF-5 PERFORM ALL EARTHWORK DESCRIBED ABOVE BEFORE TRENCHING FOR GRADE BEAMS, MEP ITEMS, OR UTILITY LINES.
- UF-6 EXCAVATE BEAM TRENCHES TO MEET PLANNED DIMENSIONS. PRIOR TO PLACEMENT OF CONCRETE, HAND COMPACT BOTTOM OF BEAM TRENCHES PER THE GEOTECHNICAL REPORT STANDING WATER SHOULD NOT BE PERMITTED IN THE BEAM TRENCHES AFTER FINAL COMPACTION AND BEFORE PLACEMENT OF CONCRETE. REMOVE ALL LOOSE MATERIALS AND UNSUITABLE SOILS DUE TO RAINFALL OR BY DESICCATION.
- UF-7 PLACE 10 MIL "YELLOW GUARD" OR REVIEWED EQUIVALENT ON TOP OF SELECT FILL. SMOOTH SUBGRADE TO PREVENT PROTRUSIONS THAT MAY CAUSE DAMAGE OR RUPTURE FILM. LAY FILM ON SUBGRADE INCLUDING BEAM AND FOOTING SOFFITS AND SIDES OF BEAMS AND FOOTINGS USING WIDEST PRACTICAL WIDTHS. LAP EDGES OF FILM 6" WITH TOP LAP PLACED IN DIRECTION OF CONCRETE FLOW AND TAPE ALL JOINTS. CUT FILM AROUND PIPES AND ROUGH-INS AND SEAL CUTS WITH PRESSURE SENSITIVE TAPE.
- UF-8 AT AREAS OUTSIDE THE BUILDING LINE, SLOPE THE TOP SURFACE OF FILL A MIN. 5% FOR A DISTANCE OF 10 FEET TO MATCH FINISH GRADE SLOPE AND HOLD DOWN A MINIMUM OF 10 INCHES BELOW FINISH FLOOR LINE. GUTTER DOWNSPOUTS EXTEND AT LEAST THREE (3) FEET PAST THE EDGE OF BUILDING, UNLESS NOTED OTHERWISE ON THE CIVIL ENGINEERS CONSTRUCTION DOCUMENTS.
- UF-9 THE OWNER IS TO EMPLOY AN INDEPENDENT TESTING LABORATORY TO TAKE DENSITY TESTS FOR SUBGRADE & EACH LIFT OF SELECT FILL TO MEET THE REQUIREMENTS FOR SPECIAL INSPECTIONS.
- UF-10 THE FOLLOWING DESIGN PARAMETERS WERE USED TO DESIGN THE FOUNDATION
- o SOIL BEARING CAPACITY – 2,500 PSF.
 - o MAX. PVR FOR SLAB ON GROUND IS TO BE 1"
- UF-11 IF UTILITY TRENCHES ARE REQUIRED, WE RECOMMEND THAT MEASURES BE TAKEN TO PROHIBIT TRANSMITTING WATER UNDER THE BUILDING PAD. REFERENCE GEOTECHNICAL REPORT OR CONTACT GEOTECHNICAL ENGINEER FOR BACKFILL REQUIREMENTS.
- UF-12 BUILDING PAD DETAIL:



CONCRETE AND CONCRETE REINFORCEMENT:

- CN-1 STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH THE CODE APPLICABLE EDITION OF "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)", THE AMERICAN CONCRETE INSTITUTE.
- CN-2 ALL CONCRETE REINFORCEMENT SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL, CONFORMING TO ASTM A 615, GRADE 60, EXCEPT WELDABLE REBARS ASTM A706, GR. 60, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, GRADE 70"
- CN-3 DETAIL REINFORCING BARS AND PROVIDE BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH ACI 315.
- CN-4 ALL REINFORCING SHALL BE PROPERLY CHAIRED AND TIED PER ACI 315 (SP66) AND CRSI (PLACING REINFORCING BARS) PRIOR TO PLACING CONCRETE.
- CN-5 PLACEMENT OF ALL REINFORCING STEEL SHALL BE OBSERVED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT UNLESS APPROVED OTHERWISE.
- CN-6 ALL CONCRETE SHALL BE NORMAL WEIGHT STONE AGGREGATE CONCRETE UNLESS NOTED OTHERWISE. AGGREGATE SHALL MEET ASTM C33 REQUIREMENTS, AND SHALL BE 3/4" TO 1 1/2" NOMINAL AGGREGATE SIZE. PROVIDE ADMIXTURES AS REQUIRED TO IMPROVE WORKABILITY. THE GENERAL CONTRACTOR SHALL COORDINATE SLUMP REQUIREMENTS UNLESS NOTED OTHERWISE IN STRUCTURAL DOCUMENTS. PLASTIC CONCRETE TEMPERATURE SHALL NOT EXCEED 90 DEGREES PRIOR TO PLACEMENT. ALL CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 DAYS USING MOIST CURING PROCEDURES, OR CURING COMPOUNDS WHICH WILL NOT INTERFERE WITH THE BONDING OF FINISH TILE FLOORS. NO FLY ASH SHALL BE USED AT ARCHITECTURALLY EXPOSED CONCRETE WITHOUT PRIOR APPROVAL FROM ARCHITECT. THE FLYASH CONTENT SHALL NOT EXCEED THE PERCENTAGE OF CEMENTITIOUS MATERIALS SHOWN BELOW. IN ADDITION TO ABOVE THE CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:
- | DESCRIPTION OF USE | f'c | MAX W/C | FLYASH CONTENT |
|--------------------|-----------|---------|----------------|
| SLAB-ON-GRADE | 3,000 PSI | N/A | 25% MAX |
| FOOTINGS | 3,000 PSI | N/A | 25% MAX |
- CN-7 PROVIDE A SET OF CYLINDERS IN ACCORDANCE WITH ASTM C 31 TO BE TAKEN BY AN INDEPENDENT TESTING LAB AT THE FREQUENCY SPECIFIED IN ACI 318 AND THE GOVERNING BUILDING CODE WITH LOCAL AMENDMENTS. COMPRESSION TEST RESULTS SHALL BE REPORTED TO THE ENGINEER WITHIN 24 HOURS.
- CN-8 NO SUBSEQUENT CONSTRUCTION WILL BE ALLOWED UNTIL CONCRETE HAS REACHED 75% OF DESIGN STRENGTH.
- CN-9 PORTLAND CEMENT SHALL CONFORM TO ASTM – C150, TYPE I/II.
- CN-10 NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER.
- CN-11 CONCRETE COVER SHOULD BE AS FOLLOWS:
- A. FOOTINGS AND OTHER PRINCIPAL STRUCTURAL MEMBERS IN WHICH CONCRETE IS CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH – 3 INCHES.
 - B. WHERE CONCRETE SURFACES, AFTER REMOVAL OF FORMS, ARE EXPOSED TO WEATHER OR EARTH:
 - o BARS 3/4" AND LARGER IN DIAMETER.....2 INCHES
 - o BARS SMALLER THAN 5/8" IN DIAMETER.....1 1/2 INCHES
 - C. WHERE SURFACES ARE NOT DIRECTLY EXPOSED TO WEATHER OR EARTH:
 - o SLAB ON GRADE (FROM TOP OF SLAB).....1 1/2 INCHES
 - o SLABS, WALLS, JOISTS
 - o No. 14 AND No. 18 BARS.....1 1/2 INCHES
 - o No. 11 BARS AND SMALLER.....3/4 INCHES
 - o BEAMS, COLUMNS
 - o PRIMARY REINF., TIES, STIRRUPS, SPIRALS.....1 1/2 INCHES

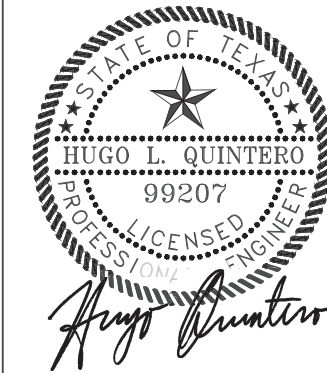
- CN-12 MECHANICAL AND ELECTRICAL CONDUIT CAN NOT BE PLACED IN BEAMS PARALLEL TO BEAM REINFORCING. PROVIDE A MINIMUM OF 1 1/2" CLEAR BETWEEN CONDUIT AND PARALLEL REINFORCING. DO NOT "BUNDLE" CONDUITS. CONDUITS SHALL BE PLACED IN THE MIDDLE ONE THIRD OF THE SLAB THICKNESS OR BEAM DEPTH.
- CN-13 SET AND BUILD INTO FORM WORK ANCHORAGE DEVICES AND OTHER EMBEDDED ITEMS REQUIRED FOR OTHER WORK THAT IS ATTACHED TO OR SUPPORTED BY CAST-IN-PLACE CONCRETE. REBAR PROJECTING FROM CONCRETE SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE.

POST-INSTALLED CONCRETE ANCHORS:

- PI-1 POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. IF ADHESIVE / MECHANICAL ANCHOR IS GENERICALLY CALLED OUT ON THE CONSTRUCTION DOCUMENTS, ANY ANCHOR MENTIONED BELOW IS ACCEPTABLE. IF SPECIFIC ANCHOR IS CALLED FOR, SUBSTITUTION MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD FOR EACH CASE.
- PI-2 ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY THE ANCHOR MANUFACTURER OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. ANCHOR CAPACITY IS DEFENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
- PI-3 CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S RECOMMENDATIONS. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY FERROSCAN, GPR, X-RAY OR OTHER MEANS ACCEPTABLE TO THE STRUCTURAL ENGINEER-OF-RECORD.
- PI-4 SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. SUBSTITUTIONS WILL ALSO BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
- PI-5 THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
- PI-6 THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
- PI-7 MECHANICAL ANCHORS FOR CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED CONCRETE RECOGNITION.
- PI-8 PRE-APPROVED MECHANICAL ANCHORS FOR CONCRETE INCLUDE:
- A) SIMPSON STRONG-TIE "TITEN-HD" AND "TITEN-HD ROD HANGER"
 - B) SIMPSON STRONG-TIE "STRONG-BOLT" AND "STRONG-BOLT 2"
 - C) SIMPSON STRONG-TIE "TORO-CUT"
 - D) HILTI "KWIK HUS-E2" OR "KWIK HUS-E2-1" SCREW ANCHORS
 - E) HILTI "KWIK BOLT T2" EXPANSION ANCHOR
 - F) HILTI "HDA" UNDERCUT ANCHOR
 - G) HILTI "HSL-3" EXPANSION ANCHOR
 - H) POWERS "POWER-BOLT +"
- PI-9 ADHESIVE ANCHORS FOR CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE RECOGNITION.
- PI-10 PRE-APPROVED ADHESIVE ANCHORS FOR CONCRETE INCLUDE:
- A) SIMPSON STRONG-TIE "SET-XP" AND AT-XP"
 - B) HILTI "HIT-RE 500-SD" ADHESIVE
 - C) HILTI "HIT-HY 200" SAFE SET SYSTEM WITH HILTI "HIT-Z" ROD.
 - a. NO CLEANING IS REQUIRED FOR HIT-Z ANCHORS FOR TEMPERATURES ABOVE 41°F.
 - b. FOR TEMPERATURE BELOW 41°F FOR HIT-Z ANCHOR INSTALLATIONS, USE HILTI TE-CD OR TE-YD HOLLOW DRILL BITS WITH VC 20/40 VACUUM SYSTEM.
 - c. FOR ALL TEMPERATURES FOR REBAR INSTALLATIONS, USE HILTI TE-CD OR TE-YD HOLLOW DRILL BITS WITH VC 20/40 VACUUM SYSTEM.
 - D) HILTI "HIT-HY 200" SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM
 - E) POWERS FASTENERS "PE1000 +"" ADHESIVE
 - F) POWERS FASTENERS "AC100 + GOLD" ADHESIVE ANCHORING SYSTEM



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F-11874



12-23-2022

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NO.	DESCRIPTION OF ISSUE	DATE			
			REVISION #1		
Δ		08/02/23			

DRAWN BY: YD

CHECKED BY: HQ

DATE

12/23/2022

PROJECT NUMBER

702

DRAWING TITLE

STRUCTURAL
NOTES

SHEET NUMBER:

S1.0

STRUCTURAL NOTES

FASTENING SCHEDULE:

CONNECTION	FASTENING ^{a,m}	LOCATION
1. Joist to sill or girder	3 – 8d common (2½"x0.131") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	toenail
2. Bridging to joist	2 – 8d common (2½"x0.131") 2 – 3"x0.131" nails 2 – 3" 14 gage staples	toenail each end
3. 1"x6" Subfloor or less to each joist	2 – 8d common (2½"x0.131")	face nail
4. Wider than 1"x6" subfloor to each joist	3 – 8d common (2½"x0.131")	face nail
5. 2" Subfloor to joist or girder	2 – 16d common (¾"x0.162")	blind and face nail
6. Sole plate to joist or blocking	16d (¾" x 0.135") at 16"o.c. 3" x 0.131" nails at 8"o.c. 3" 14 gage staples at 12"o.c.	typical face nail
Sole plate to joist or blocking at braced wall panel	3" – 16d (¾"x0.135") at 16"o.c. 3"x0.131" nails at 16" 4 – 3" 14"gage staples per 16"	braced wall panels
7. Top plate to stud	2 – 16d common (¾"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	end nail
8. Stud to sole plate	4 – 8d common (2½"x0.131") 4 – 3"x0.131" nails 3 – 3" 14 gage staples	toe nail
	2 – 16d (¾"x0.162") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	end nail
9. Double Studs	16d (¾" x 0.135") at 24"o.c. 3" x 0.131" nails at 12" o.c. 3" 14 gage staples at 8"o.c.	face nail
10. Double top plates	16d (¾"x0.135") at 16"o.c. 3"x0.131" nails at 12" o.c. 3" 14 gage staples at 12"o.c.	typical face nail
Double top plates	8 – 16d common (¾"x0.162") 12 – 3" x0.131" nails 12 – 3" 14 gage staples	lap splice
11. Blocking between joists or at braced wall panel	3 – 8d common (2½"x0.131") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	toenail
12. Rim joist to top plate	8d (2½"x0.131") at 6"o.c. 3"x0.131" nails at 6"o.c. 3" 14 gage staples at 6"o.c.	toenail
13. Top plates, laps and intersections	2 – 16d common (¾"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	face nail
14. Continuous header, two pieces	16d common (¾"x0.162")	16"o.c. along edge
15. Ceiling joists to plate	3 – 8d common (2½"x0.131") 3 – 3" x0.131" nails 5 – 3" 14 gage staples	toenail
16. Continuous header to stud	4 – 8d common (2½"x0.131")	toenail
17. Ceiling joists, laps over partitions	3 – 16d common (¾"x0.162") minimum, 4 – 3"x0.131" nails 4 – 3" 14 gage staples	face nail
18. Ceiling joists to parallel rafters	3 – 16d common (¾"x0.162") minimum, 4 – 3"x0.131" nails 4 – 3" 14 gage staples	face nail
19. Rafter to plate	3 – 8d common (2½"x0.131") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	toenail
20. 1" Diagonal brace to each stud and plate	2 – 8d common (2½"x0.131") 2 – 3"x0.131" nails 3 – 3" 14 gage staples	face nail
21. 1"x8" Sheathing to each bearing	3 – 8d common (2½"x0.131")	face nail
22. Wider than1"x8"sheathing to each bearing	3 – 8d common (2½"x0.131")	face nail
23. Built-up corner studs	16d common (¾"x0.162") 3" x0.131" nails 3" 14 gage staples	24"o.c. 16"o.c. 16"o.c.

FASTENING SCHEDULE: (CONT.)

CONNECTION	FASTENING ^{a,m}	LOCATION
24. Built-up girder and beams	20d common (4"x0.192") 32"o.c. 3"x0.131" nails at 24"o.c. 3" 14 gage staples at 24"o.c.	face nail at top and bottom staggered on opposite sides
	2 – 20d common (4"x0.192") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	face nail at ends and at each splice
25. 2" Planks	16d common (¾"x0.162")	at each bearing
26. Collar tie to rafter	3 – 10d common (3"x0.148") 4 – 3"x0.131" nails 4 – 3" 14 gage staples	face nail
27. Jack rafter to hip	3 – 10d common(3"x0.148") 4 – 3"x0.131" nails 4 – 3" 14 gage staples	toenail
	2 – 16d common (¾"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	face nail
28. Roof rafter to 2-by ridge beam	2 – 16d common (¾"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	toenail
	2 – 16d common (¾"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	face nail
29. Joist to band joist	3 – 16d common (¾"x0.162") 4 – 3" x0.131" nails 4 – 3" 14 gage staples	face nail
30. Ledger strip	3 – 16d common (¾"x0.162") 4 – 3" x0.131" nails 4 – 3" 14 gage staples	face nail
31. Wood structural panels and particleboard ^b Subfloor, roof and wall sheathing (to framing)	1/2" and less 6d ^{c,1} 2 3/8"x0.113" nail ⁿ 1 3/4" 16 gage ^o 19/32" TO 3/4" 8d ^d or 6d ^e 2 3/8"x0.113" nail ^p 2"-16 gage ^p 7/8" TO 1" 8d ^c 1 1/8" TO 1 1/4" 10d ^d or 8d ^d 3/4" and less 6d ^e 7/8" TO 1" 8d ^e 1 1/8" TO 1 1/4" 10d ^d or 8d ^e	
Single floor (Combination subfloor-underlayment to framing)		
32. Panel siding (to framing)	1/2" and less 6d ^f 5/8" 8d ^f	
33. Fiberboard sheathing ⁹	1/2" No. 11 gage roofing nail ^h 6d common nail (2"x0.113") No. 16 gage staple ⁱ 25/32" No. 11 gage roofing nail ^h 8d common nail (2½"x0.131") No. 16 gage staple ⁱ	
34. Interior paneling	1/4" 4d ^j 3/8" 6d ^k	

- For Sl: 1 inch = 25.4 mm.
- a. Common or box nails are permitted to be used except where otherwise stated.
- b. Nails spaced at 6 inches on center at edges, 12 inches at intermediate supports except 6 inches at supports where spans are 48 inches or more. For nailing of wood structural panel and particle board diaphragms and shear walls, refer to section 2305. Nails for wall sheathing are permitted to be common, box or casing.
- c. Common or deformed shank (6d – 2"x0.113"; 8d – 2 1/2"x0.131"; 10d – 3"x0.148").
- d. Common (6d – 2" x0.113"; 8d – 2 1/2"x0.131"; 10d – 3"x0.148").
- e. Deformed shank (6d – 2"x0.113"; 8d – 2 1/2"x0.131"; 10d – 3"x0.148").
- f. Corrosion-resistant siding (6d – 1 7/8"x0.106"; 8d – 2 3/8"x0.128") or casing (6d – 2"x0.099"; 8d – 2 1/2"x0.113") nail.
- g. Fasteners spaced 3 inches on center at exterior edges and 6 inches on center at intermediate supports, when used as structural sheathing. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications.
- h. Corrosion-resistant roofing nails with 7/16–inch–diameter head and 1 1/2–inch length for 1/2–inch sheathing and 1 3/4–inch length for 25/32–inch sheathing.
- i. Corrosion-resistant staples with nominal 7/16–inch crown and 1 1/8–inch length for 1/2–inch sheathing and 1 1/2–inch length for 25/32–inch sheathing. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
- j. Casing (1 1/2"x0.080") or finish (1 1/2"x0.072") nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
- k. Panel supports at 24 inches. Casing or finish nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
- m. For roof sheathing applications, 8d nails (2 1/2"x0.113") are the minimum required for wood structural panels.
- n. Staples shall have minimum crown width of 7/16 inch.
- o. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.
- p. Fasteners spaced 4 inches on center at edges, 6 inches at intermediate supports for subfloor and wall sheathing and 3 inches on center at edges, 6 inches at intermediate supports for roof sheathing.
- Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.

TIMBER FRAMING:

- TF-1 TIMBER FRAMING AND PLYWOOD SHEATHING SHALL CONFORM TO THE CODE APPLICABLE EDITIONS OF THE AMERICAN PLYWOOD ASSOCIATION (APA) PLYWOOD DESIGN SPECIFICATION, AND THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH THE N.F.P.A. SUPPLEMENT.
- TF-2 STUDS SHALL BE DOUBLED AT ALL ANGLES, CORNERS, BEAM SUPPORTS AND AROUND ALL OPENINGS. REFER DETAIL 01/S3.1.
- TF-3 BEAMS MADE UP OF SEVERAL 2X PIECES SHALL HAVE NO SPLICES EXCEPT OVER SUPPORTS. NAIL BOARDS TOGETHER, REFER DETAIL 04/S3.1.
- TF-4 ALL SILL PLATES SHALL BE #2 TREATED SOUTHERN PINE AND SHALL BE ATTACHED TO THE FOUNDATION WITH 1/2" DIAMETER BOLTS WITH A MINIMUM OF 7" EMBEDMENT INTO THE CONCRETE AT 4'-0"o.c.. THERE SHALL BE A MINIMUM OF 2 BOLTS PER PIECE WITH ONE BOLT LOCATED WITHIN 12" OF EACH END OF EACH PIECE UNLESS NOTED OTHERWISE ON THE FRAMING PLANS OR DETAILS IF GREATER.
- TF-5 PLACE SINGLE PLATE AT BOTTOM OF ALL STUD WALLS.
- TF-6 NAILING AND THE ATTACHMENT OF ALL FRAMING MEMBERS SHALL BE AS SPECIFIED ON THE FASTENING SCHEDULE. COMMON WIRE NAILS OR SPIKES OR GALVANIZED BOX NAILS SHALL BE USED FOR ALL FRAMING UNLESS NOTED OTHERWISE.
- TF-7 ALL EXTERIOR WALLS AT CORNERS AND MAIN CROSS STUD PARTITIONS SHALL BE BRACED AT LEAST EVERY 25 FEET AND AT EACH END WITH 4'-0" WIDE x 1/2" THICK PLYWOOD DIAPHRAGM FROM THE TOP PLATE TO THE BOTTOM PLATE. FASTEN TO STUDS W/ 10d NAILS AT 6"o.c. MAX. AND AT 12"o.c. TO BLOCKING.
- TF-8 ALL TIMBER FRAMING (EXCEPT WALL STUDS) MEMBERS SHALL BE NO.2 SOUTHERN YELLOW PINE WITH 15% MAXIMUM MOISTURE UNLESS NOTED OTHERWISE. STUDS SHALL BE S-P-F (SPRUCE-PINE-FIR) GRADE 2 OR BETTER. COLUMNS SHALL BE NO. 2 DOUGLAS FIR-LARCH WITH 15% MAX. MOISTURE.
- TF-9 ALL HEADERS AND BEAMS INCLUDING PARALLAM BEAMS SHALL BE Laterally SUPPORTED ON THEIR COMPRESSION EDGE AT INTERVALS OF 24"o.c. OR CLOSER.
- TF-10 ALL STUD WALLS SHALL BE A MINIMUM OF 2x4 SPACED AT 16"o.c. FOR HEIGHT NOT EXCEEDING 10 FEET, UNLESS NOTED OTHERWISE ON FRAMING PLAN OR ARCHITECTURAL DRAWINGS. USE 2x6 SPACED AT 16"o.c. FOR HEIGHT NOT EXCEEDING 14 FEET. ALL STUD WALLS SHALL BE CONTINUOUS AND HAVE SOLID BLOCKING AT MID-HEIGHT, BUT NOT TO EXCEED 6' VERTICALLY.
- TF-11 SOLID 2x BLOCKING SHALL BE PROVIDED AT ENDS AND AT POINT OF SUPPORTS OF ALL WOOD JOISTS AND SHALL BE PLACED BETWEEN SUPPORTS IN ROWS NOT EXCEEDING 8'-0" APART.
- TF-12 ROOF SHEATHING PLYWOOD ROOF SHEATHING SHALL BE 3/4" THICK APA STRUCTURAL 1 32/16 RATED SHEATHING EXTERIOR WITH EXTERIOR GLUE. PLYWOOD SHEATHING EXPOSED AT OVERHANGS OR OTHERWISE PERMANENTLY EXPOSED TO WEATHER SHALL BE C-C EXT. – OFFPA GRADE OR BETTER. INSTALL WITH LONG DIMENSION OF PANEL ACROSS SUPPORTS. SPACE PANEL ENDS AND PANEL EDGES 1/8" UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER. SUITABLE EDGE SUPPORT SHALL BE PROVIDED IN ACCORDANCE WITH RECOMMENDATIONS OF THE AMERICAN PLYWOOD ASSOCIATION BY USE OF PLY CLIPS, TONGUE AND GROOVE PANELS, OR LUMBER BLOCKING BETWEEN JOIST. PANEL END JOINTS SHALL OCCUR OVER FRAMING. PLYWOOD ROOF SHEATHING SHALL BE ATTACHED TO SUPPORT FRAMING USING 8d NAILS. NAIL SPACING SHALL BE 6" ALONG PANEL EDGES AND 12" AT INTERMEDIATE SUPPORTS.
- TF-13 ALL WOOD IN CONTACT WITH STEEL, MASONRY CONCRETE, AND/OR GROUND SHALL BE PRESSURE PRESERVATIVE TREATED AND RATED FOR GROUND CONTACT.
- TF-14 UNLESS OTHERWISE SHOWN ON PLANS, WOOD LINTELS OVER OPENINGS SHALL BE DOUBLE 2x8 WITH 1/2" PLYWOOD HEADERS FOR SPANS UNDER 6'-0". FOR SPANS 6'-0" TO 8'-0", WOOD LINTELS SHALL BE DOUBLE 2x12 WITH 1/2" PLYWOOD HEADERS.
- TF-15 ALL FRAMING MEMBERS FRAMING INTO THE SIDE OF A HEADER SHALL BE ATTACHED WITH METAL HANGERS.

ABBREVIATIONS

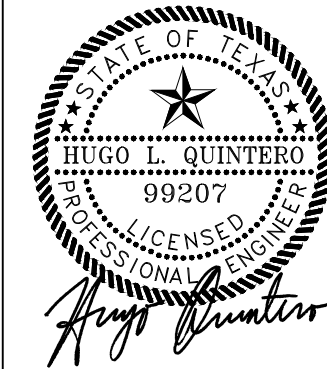
&	– AND	I.D.	– INSIDE DIAMETER
@	– AT	IN.	– INCH
C	– CENTERLINE	INV.	– INVERTED
°	– DEGREE	INT.	– INTERIOR
Ø	– DIAMETER	JST.	– JOIST
#	– NUMBER/POUND	JT.	– JOINT
A.B.	– APPROX.	K	– KIP (THOUSAND POUNDS)
ARCH.	– ARCHITECT/ARCHITECTURAL	L	– ANGLE
ADH.	– ADHESIVE	LBS.	– POUND
ALT.	– ALTERNATE	L.D.H.	– LONG DIMENSION HORIZONTAL
B.P.	– BASE PLATE	LF	– LINEAR FOOT
B.L.	– BUILDING LINE	LLH	– LONG LEG HORIZONTAL
B.U.R.	– BUILT-UP ROOF	LG.	– LONG
BM.	– BEAM	LLV	– LONG LEG VERTICAL
B.W.	– BOTH WAYS	MAX.	– MAXIMUM
BOT.	– BOTTOM	MECH.	– MECHANICAL
BLDG.	– BUILDING	MEZZ.	– MEZZANINE
BSMT.	– BASEMENT	MFR.	– MANUFACTURER
BRG.	– BEARING	MID.	– MIDDLE
B.TWN.	– BETWEEN	MIN.	– MINIMUM
CANT.	– CANTILEVER	MISC.	– MISCELLANEOUS
C.I.P.	– CAST-IN-PLACE	MAS.	– MASONRY
CLG.	– CEILING	NS	– NEAR SIDE
CLR.	– CLEAR	NOM.	– NOMINAL
CMU	– CONCRETE MASONRY UNITS	N.T.S.	– NOT TO SCALE
COL.	– COLUMN	ON	– ON CENTER
CONC.	– CONCRETE	O.D.	– OUTSIDE DIAMETER
CONTR.	– CONTRACTOR	O.H.	– OPPOSITE HAND
C.J.	– CONSTRUCTION JOINT	OPNG.	– OPENING
CONN.	– CONNECTION	OPP.	– OPPOSITE
CONST.	– CONSTRUCTION	P/C	– PRECAST
CONT.	– CONTINUOUS	PREFAB.	– PREFABRICATED
D.E.	– DECK EDGE	PSF	– POUND PER SQUARE FOOT
DEMO.	– DEMOLITION	PSI	– POUND PER SQUARE INCH
DIA.	– DIAMETER	PL	– PLATE
DIAG.	– DIAGONAL	R	– RISER
DIM.	– DIMENSION	RAD.	– RADIUS
D.L.	– DEAD LOAD	R.D.	– ROOF DRAIN
DBL	– DOUBLE	REF.	– REFERENCE
DN.	– DOWN	REINF.	– REINFORCING/REINFORCED
DWL	– DOWEL	REQ'D	– REQUIRED
DWG.	– DRAWING	SPAC.	– SPACES/SPACING
EA.	– EACH	SCHED.	– SCHEDULE
E.F.	– EACH FACE	SECT.	– SECTION
E.J.	– EXPANSION JOINT	SHT.	– SHEET/SHEATHING
ELEV.	– ELEVATION	SIM.	– SIMILAR
EQ.	– EQUAL	SPEC.	– SPECIFICATION
EQUIP.	– EQUIPMENT	SL.	– SLOPE
E.W.	– EACH WAY	STIFF.	– STIFFENERS
EXIST.	– EXISTING	STIR.	– STIRRUPS
EXP.	– EXPANSION	SQ.	– SQUARE
EXT.	– EXTERIOR	STD.	– STANDARD
FDN.	– FOUNDATION	STL.	– STEEL
F.D.	– FLOOR DRAIN	STR.	– STAIR
F.S.	– FAR SIDE	STRUCT.	– STRUCTURE/STRUCTURAL
FIN.	– FINISH	SYM.	– SYMMETRICAL
F.L.D.	– FIELD	T	– TEAD
FLR.	– FLOOR	T&B	– TOP AND BOTTOM
FT.	– FOOT OR FEET	THK.	– THICK/THICKNESS
FTG.	– FOOTING	T.O.C.	– TOP OF CONCRETE
GA.	– GAGE	T.O.J.	– TOP OF JOIST
GALV.	– GALVANIZED	T.O.S.	– TOP OF STEEL
GR.	– GRADE	T.O.W.	– TOP OF WALL
HK.	– HOOK	TYP.	– TYPICAL
HORIZ.	– HORIZONTAL	U.N.O.	– UNLESS NOTED OTHERWISE
HCA	– HEADED CONCRETE ANCHOR	VERT.	– VERTICAL
H.S.	– HIGH STRENGTH	W/	– WITH
		W.P.	– WORK POINT
		W.W.F.	– WELDED WIRE FABRIC

PREFABRICATED WOOD ROOF TRUSSES:

- WT-1 PREFABRICATED WOOD TRUSSES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN TEXAS, IN ACCORDANCE WITH THE DESIGN SPECIFICATION FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES, CODE APPLICABLE TPI EDITION FOR THE TRUSS PLATE INSTITUTE.
- WT-2 TRUSS MEMBERS AND CONNECTIONS SHALL BE PROPORTIONED, WITH A MAXIMUM ALLOWABLE STRESS INCREASE FOR LOAD DURATION OF 25 PERCENT, TO WITHSTAND THE FOLLOWING SUPERIMPOSED LOADS. LOADS SHOWN DO NOT INCLUDE TRUSS SELF WEIGHT.
- DEAD LOAD.....5 P.S.F.
(INCLUDING TRUSS OWN WEIGHT & METAL ROOF)
APPLIED TO TOP CHORD OF TRUSS
.....10 P.S.F.
APPLIED TO BOTTOM CHORD OF TRUSS
- LIVE LOAD.....20 P.S.F.
APPLIED TO TOP CHORD OF TRUSS
.....10 P.S.F.
APPLIED TO BOTTOM CHORD OF TRUSS (NOT ACTING SIMULTANEOUSLY WITH TOP CHORD LIVE LOADS)
.....17 P.S.F.
NET UPLIFT APPLIED TO TOP CHORD OF TRUSS
- WT-3 THE TRUSS MANUFACTURER SHALL SUBMIT THE FOLLOWING CERTIFICATIONS, SEALED BY THE ENGINEER RESPONSIBLE FOR DESIGN, FOR THE ARCHITECTS APPROVAL PRIOR TO FABRICATION OF ANY MATERIALS:
- A. CERTIFICATION THAT THE MANUFACTURER IS LICENSED TO FABRICATE TRUSSES UTILIZING THE CONNECTOR SYSTEM PROPOSED.
- B. CERTIFICATION THAT THE TRUSSES ARE DESIGNED TO MEET THE LOAD CRITERIA SPECIFIED HEREIN.
- WT-4 FABRICATION AND INSTALLATION DRAWINGS SHALL BE SUBMITTED TO THE CONTRACTOR FOR APPROVAL OF SIZE, SHAPE, TEMPORARY BRACING AND LAYOUT PRIOR TO FABRICATION OF MATERIALS.
- WT-5 TOP CHORDS SHALL BE DESIGNED TO RESIST BENDING INDUCED BY THE ROOF DEAD LOAD AND LIVE LOAD.
- WT-6 DEFLECTIONS DUE TO LIVE LOAD SHALL BE LIMITED TO L/360.
- WT-7 CONNECT ROOF TRUSSES TO THE BEARING WALL OR SUPPORT BEAM AT EACH END WITH FRAMING ANCHOR TO BE SPECIFIED AFTER TRUSS SHOP DRAWING SUBMITTAL. CONTRACTOR SHOULD INCLUDE (\$1,500) ALLOWANCE FOR MATERIALS AND INCLUDE ALL LABOR IN HIS BID.
- WT-8 PROVIDE LONGITUDINAL WOOD DIAGONAL BRACES TO TRUSSED RAFTER RIDGES AT 20'-0" o.c. MAXIMUM. TRUSSED RAFTER CONNECTIONS SHALL HAVE A MINIMUM OF 2 – 16D NAILS UNTIL PERMANENT ROOF SHEATHING IS APPLIED. SEE DETAIL 01/S4.2 .
- WT-9 PROVIDE BOTTOM CHORD BRACING AS SHOWN ON DETAIL 02/S4.2 AS TRUSSES ARE SET IN PLACE. BOTTOM CHORD BRACING TO BE LEFT IN PLACE AFTER ERECTION IS COMPLETED EXCEPT SOLID SHEATHING IS ATTACHED DIRECTLY TO BOTTOM OF TRUSS TO ACT AS BRACING.
- WT-10 CARE SHALL BE TAKEN DURING THE DELIVERY AND INSTALLATION OF THE TRUSSES TO PREVENT EXCESSIVE LATERAL BENDING AND POSSIBLE JOINT DAMAGE. TRUSSES SHALL BE HANDLED, INSTALLED, AND BRACED IN ACCORDANCE WITH TRUSS PLATE INSTITUTE HIB-91 COMMENTARY AND RECOMMENDATIONS FOR HANDLING INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES. DESIGN FOR TRUSS BRACING SHALL BE IN ACCORDANCE WITH TRUSS PLATE INSTITUTE DSB-89 RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES. ALL DAMAGED TRUSSES SHALL BE REPLACED. ONLY REPAIRS AUTHORIZED BY THE TRUSS MANUFACTURER'S ENGINEER WILL BE ALLOWED.
- WT-11 ALL TRUSSES SHALL BE INSTALLED PLUMB, SQUARE AND PROPERLY ALIGNED AT THE SPECIFIED SPACING. BRACING SHALL BE PROVIDED BOTH DURING ERECTION AND AFTER PERMANENT INSTALLATION HAS BEEN COMPLETED. GABLE END OR FIRST TRUSS BRACING, LATERAL BRACING, CROSS BRACING AND DIAGONAL BRACING CAN BE USED TO PROVIDE TEMPORARY AND/OR PERMANENT BRACING.



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DATE

12/23/2022

PROJECT NUMBER

702

DRAWING TITLE

STRUCTURAL
NOTES

SHEET NUMBER:

S1.1

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS NOTES:

SP-1 SPECIAL INSPECTION WORK IS NOT INCLUDED IN THE STRUCTURAL ENGINEER'S SCOPE OF SERVICES. THE OWNER WILL ENGAGE A TESTING AGENCY TO CONDUCT SPECIAL TESTS AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION AS THE RESPONSIBILITY OF THE OWNER. ALL INSPECTION REPORTS SHALL BE COPIED TO THE STRUCTURAL ENGINEER, AND A FINAL LETTER OF COMPLIANCE SHALL BE PROVIDED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (TYPICALLY ARCHITECT) TO THE OWNER OR BUILDING AUTHORITY.

SPECIAL INSPECTION SHALL INCLUDE:

- o SITE PREPARATION
- o CAST-IN-PLACE DEEP FOUNDATION ELEMENTS (NOT REQUIRED)
- o CONCRETE
- o WOOD
- o WELDING OF STRUCTURAL STEEL (NOT REQUIRED)
- o STEEL ELEMENTS OF COMPOSITE CONSTRUCTION (NOT REQUIRED)
- o BOLTING OF STRUCTURAL STEEL (NOT REQUIRED)
- o STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (NOT REQUIRED)
- o OPEN WEB STEEL JOISTS AND JOIST GIRDERS (NOT REQUIRED)
- o MASONRY I (NOT REQUIRED)
- o MASONRY II (NOT REQUIRED)

SP-2 INSPECTOR QUALIFICATIONS: QUALIFICATIONS LISTED IN THE TESTING & INSPECTION REQUIREMENTS TABLES ARE RECOMMENDATIONS OF THE LOCAL MEMBERS OF THE TEXAS COUNCIL OF ENGINEERING LABORATORIES. IT IS ALSO RECOMMENDED THAT THE SPECIAL INSPECTORS SHOULD BE EMPLOYED BY AN AGENCY ACCREDITED BY ANY NATIONALLY RECOGNIZED ACCREDITING BODY SUCH AS AASHTO, A2LA, NVLAP, ICC ETC.

SP-3 DEFINITIONS:
ACI – AMERICAN CONCRETE INSTITUTE
ADSC-IAFD – ADSC: THE INTERNATIONAL ASSOCIATION OF FOUNDATION DRILLING
AISC – AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASNT – AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING
ASTM – AMERICAN SOCIETY FOR TESTING MATERIALS
AWS – AMERICAN WELDING SOCIETY
CWI – CERTIFIED WELDING INSPECTOR
CRSI – CONCRETE REINFORCING STEEL INSTITUTE
IBC – INTERNATIONAL BUILDING CODE
PCI – PRECAST/PRESTRESSED CONCRETE INSTITUTE
PTI – POST-TENSIONING INSTITUTE

SP-4 TESTING AND INSPECTION DIRECTED BY ASTM E329 GUIDELINES WHERE NOTED * ON THE TESTING & INSPECTION REQUIREMENTS TABLES.

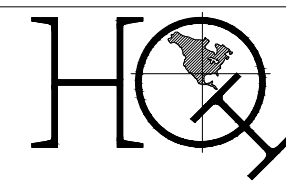
SP-5 THE SPECIAL INSPECTOR CANNOT BE AN EMPLOYEE OF THE CONTRACTOR.

SP-6 WHERE STRUCTURAL MEMBERS AND ASSEMBLIES ARE SHOP FABRICATED, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO THE CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS, UNLESS THE FABRICATOR IS REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. EXCEPTION: SPECIAL INSPECTIONS SHALL NOT BE REQUIRED WHERE THE WORK IS PERFORMED ON THE PREMISES OF A FABRICATOR THAT IS ENROLLED IN A NATIONALLY ACCEPTED INSPECTIONS PROGRAM ACCEPTABLE TO THE REGISTERED DESIGN PROFESSIONAL IN CHARGE. AT THE COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL UPON REQUEST AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

VERIFICATION AND SPECIAL INSPECTION OF WOOD CONSTRUCTION			
Required Verification, Inspection and Testing WOOD CONSTRUCTION	Frequency of Verification and Inspection	IBC Section and Frequency of Inspection IBC 1705.5	Inspector Qualifications
1. Fabrication process of prefabricated wood structural elements and assemblies shall be in accordance with IBC 1704.2.5 and local amendments	Periodic	IBC 1704.2.5, 1705.5.2; Prefabricated Wood Truss and Timber Framing Notes on construction documents and specification sections 06100, 06150, 06173, 06181	Technical Representative under direction of Licensed Engineer
2. Inspect wood structural panel sheathing construction for the following:			
a. Grade and thickness shown on approved building plans.	Periodic	IBC 1705.5, Timber Framing Notes on construction documents and specification section 06150	Technical Representative under direction of Licensed Engineer
b. Nominal size of framing members at adjoining panel edges, per approved building plans.	Periodic		
c. Nail or staple diameter and length, per approved building plans.	Periodic		
d. Number of fastener lines and the spacing between fasteners in each line and at edge margins, per approved building plans.	Periodic		
3. Trusses over 60'-0", inspector shall verify the following:			
a. Temporary installation restraint/bracing per approved truss submittal.	Periodic	IBC 1704.2.5; 1705.5; Prefabricated Wood Roof Truss Notes on construction documents and specification section 06173	Licensed Engineer or his/her Representative
b. Permanent individual truss member restraint/bracing are installed per approved truss submittal.	Periodic		
4. Site built assemblies	Periodic	IBC 1705.5; Timber Framing Notes on construction documents and specification section 06100	Licensed Engineer or his/her Representative
5. High-load diaphragms: Verify sheathing grade and thickness, nominal size of framing members adjoining panel edges, nail/staple diameter and length, and fastener pattern per requirements of the approved construction documents.	Periodic	IBC 1704.2; 1705.5.1; Timber Framing Notes on construction documents and specification section 06150	
6. Pre-fabricated wood truss bracing: Verify that all permanent and lateral bracing has been installed per requirements of the approved construction documents.	Periodic	IBC 1705.5.2; Prefabricated Wood Roof Truss Notes and Details shown on the construction documents and specification section 06173	

TESTING AND INSPECTION REQUIREMENTS FOR CONCRETE CONSTRUCTION (INCLUDING SPECIAL INSPECTIONS)			
Required Verification and Inspection CONCRETE CONSTRUCTION	Frequency of Verification and Inspection	IBC Section and Reference Standard IBC 1705.3	Inspector Qualifications
1. Inspection of reinforcing steel, including prestressing tendons and placement.	Periodic	IBC 1908.4; ACI 318: 20, 25.2, 25.3, 26.5.1-26.5.3; Concrete and Concrete Reinforcement Notes on construction documents and Specifications	* Qualifications based on ASTM E329
2. Reinforcing bar welding:			
a. Verify weldability of reinforcing bars other an ASTM A 706	Periodic	AWS D1.4; ACI 318: 26.5.4; Concrete and Concrete Reinforcement Notes on construction documents and Specifications	CWI or Associate CWI
b. Inspect single-pass welds, maximum 5/16"	Periodic		
c. Inspect all other welds	Continuous		
3. Inspect anchors cast in concrete	Periodic	ACI 318: 17.8.2; Specifications	Technician trained in field of work and has at least one year of experience
4. Inspection anchors installed in hardened concrete members.			
a. Adhesive anchors installed in horizontal position, upward inclined position, or as indicated on plans	Continuous	ACI 318: 17.8.2.4; Specifications	Technician trained in field of work and ACI Adhesive Anchor Certified
b. Mechanical anchors and adhesives anchors not defined in part 4a	Periodic	ACI 318: 17.8.2; Specifications	
5. Verifying use of required design mix.	Periodic	IBC 1904.1, 1904.2, 1908.2, 1908.3; ACI 318: Ch. 19, 26.4.3, 26.4.4; Concrete and Concrete Reinforcement Notes on construction documents and Specifications	* Qualifications based on ASTM C1077
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete.	Continuous	IBC 1908.10; ASTM C 172, C31; ACI 318: 26.4.5, 26.12; Concrete and Concrete Reinforcement Notes on construction documents and Project Specifications	* Qualifications based on ASTM C1077
7. Inspection of concrete and shotcrete placement for proper application techniques.	Continuous	IBC 1908.6, 1908.7.7, 1908.8; ACI 318: 26.4.5; Project specifications	* Qualifications based on ASTM C1077
8. Inspection for maintenance of specified curing temperature and techniques.	Periodic	IBC 1908.9; ACI 318: 26.4.7-26.4.9; Concrete and Concrete Reinforcement Notes on construction documents and Project Specifications	* Qualifications based on ASTM C1077

TESTING AND INSPECTION REQUIREMENTS FOR SITE PREPARATION FOR SOIL SUPPORTED FOUNDATIONS (INCLUDING SPECIAL INSPECTIONS)			
Required Verification and Inspection	Frequency of Verification and Inspection	IBC Section and Reference Standard IBC 1705.6	Inspector Qualifications
SITE PREPARATION FOR SOIL SUPPORTED FOUNDATIONS			
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Periodic	Geotechnical Report; Site Preparation for Soil Supported Foundation Notes on construction documents.	* Qualifications based on ASTM D3740
2. Verify excavations are extended to proper depth and have reached proper material.	Periodic		
3. Perform classification and testing of compacted fill materials.	Periodic		
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Continuous		
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	Periodic		
6. Chemical Injection: Quality controlled testing and evaluation prior and subsequent to injection shall be performed by the Geotechnical Engineer to determine the effectiveness of the chemical injection process. The Geotechnical Engineer or his representative shall monitor the injection process to verify area coverage, injection depth and to review and monitor the swell test results.	Periodic		



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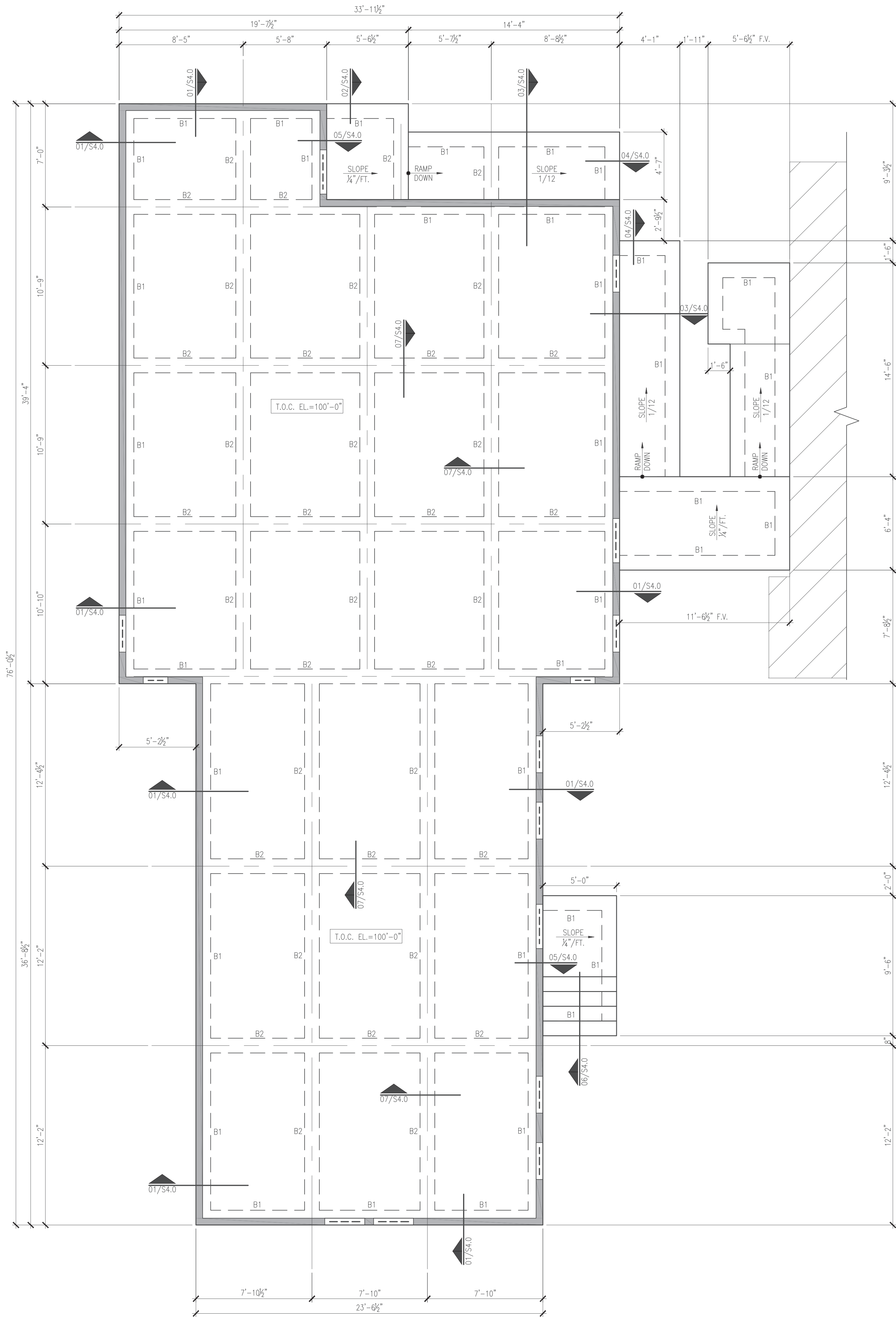
702

DRAWING TITLE

SPECIAL
INSPECTIONS

SHEET NUMBER:

S1.2



01 FOUNDATION PLAN

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

- PLAN NOTES:
- SEE S1.0 FOR GENERAL NOTES.
 - SEE S3.0 FOR TYPICAL FOUNDATION DETAILS.
 - SEE S3.1 FOR TYPICAL FRAMING DETAILS.
 - XX'-XX" - INDICATES TOP OF CONCRETE ELEVATION.
 - SLAB-ON-GRADE SHALL BE 5" THICK CONCRETE SLAB OVER PREPARED SUBGRADE. REINFORCED W/ #4 @ 12"O.C. LAP SPLICE = 1'-6".
 - SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF FLOOR RECESS, DROPS, & SLOPES NOT DIMENSIONED ON PLANS. VERIFY EXACT LOCATIONS OF ALL MECHANICAL CHASE OPENINGS WITH ARCHITECTURAL & MEP DRAWINGS.
 - FILL MEASURE FINAL GRADE BEAM PRIOR TO ORDERING & SCHEDULE STIRRUPS, OTHERWISE PROVIDE HAIRPINS.
 - DENOTES LOAD BEARING WALL (TYPICAL 2x6 STUDS AT 16"O.C. TYP. U.N.O.)

CONCRETE GRADE BEAM SCHEDULE				
MK	"W"	"D"	REINFORCING	REMARKS
B1	12"	36"	2-#6 TOP AND BOTTOM W/ #3 STIRRUPS @18"O.C.	TYP. EXT. BEAM (U.N.O.)
B2	12"	30"	2-#6 TOP AND BOTTOM W/ #3 STIRRUPS @18"O.C.	TYP. INT. BEAM (U.N.O.)
NOTES:				
EXTERIOR SCHEDULED CONCRETE BEAM DEPTHS ARE MINIMUM. INCREASE EXTERIOR DEPTH TO MAINTAIN A MINIMUM OF 30" BELOW FINAL EXTERIOR GRADE.				
ADD CONTINUOUS #3 @ 12"O.C. HORIZONTAL BARS AT EA. FACE WHEN BEAM DEPTH BECOMES DEEPER THAN 36" DUE TO LOWER FINAL GRADE (TYPICAL).				
PROVIDE 3'-0" LAPS AT ALL SPLICES IN CONTINUOUS TOP AND BOTTOM BARS AT GRADE BEAMS.				



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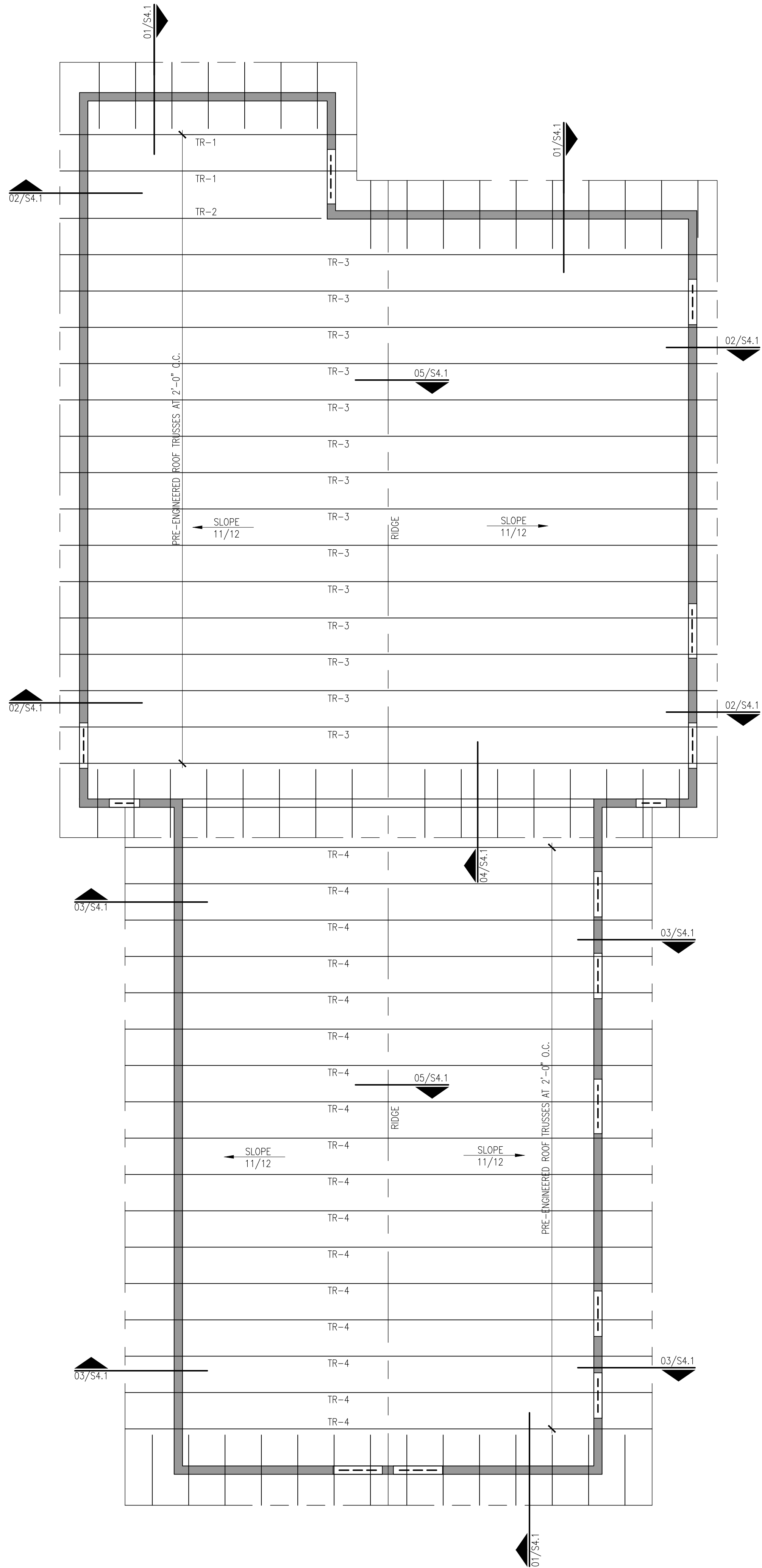
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NO.	DESCRIPTION OF ISSUE	DATE	REVISION #1		
1		03/23			

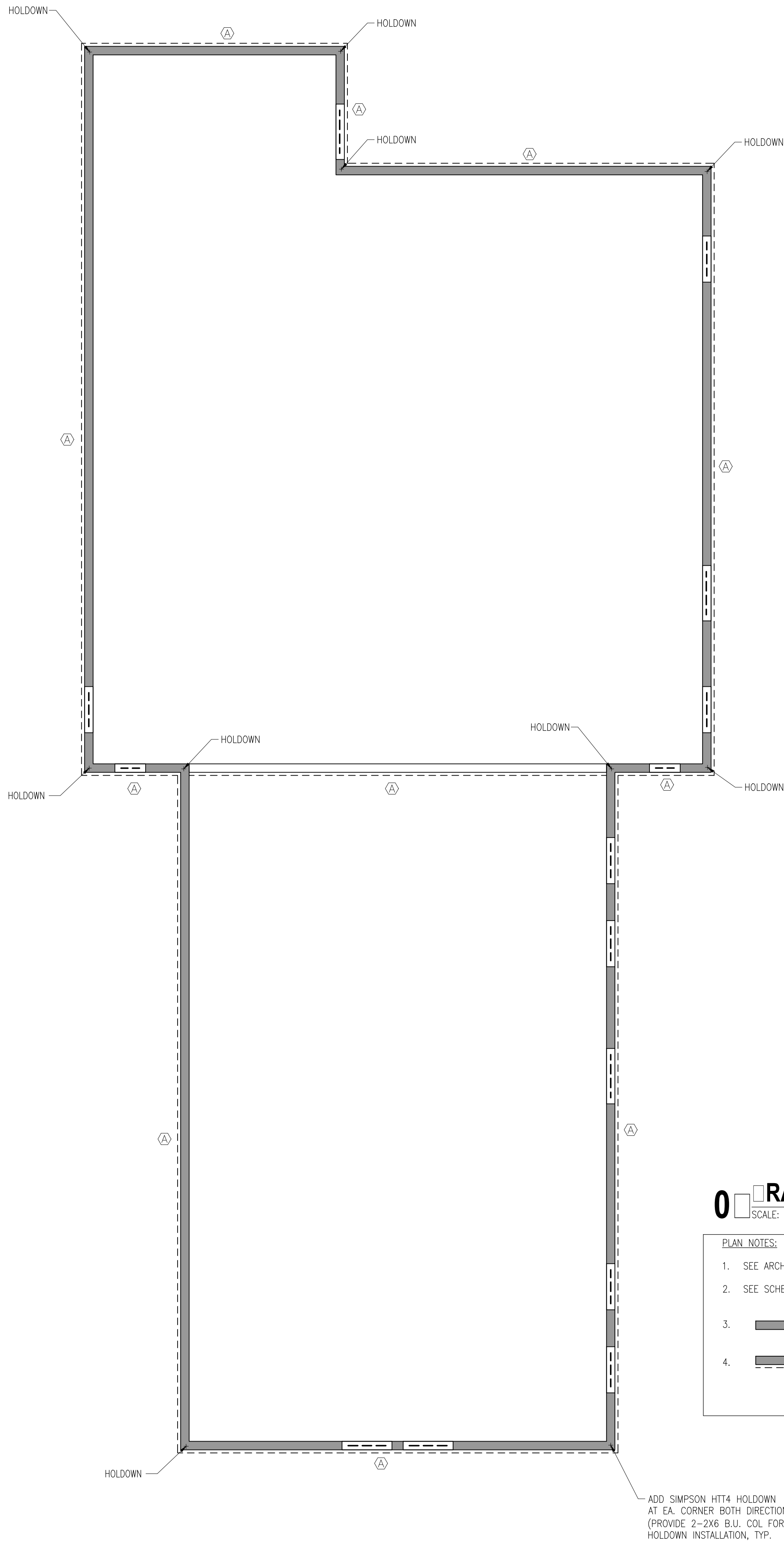
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DATE
12/23/2022
PROJECT NUMBER
702
DRAWING TITLE
FOUNDATION PLAN

SHEET NUMBER:
S2.0



01 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"



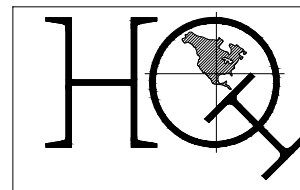
02 FOUNDATION PLAN
SCALE: 1/4"=1'-0"

PLAN NOTES:

- SEE ARCHITECTURAL DRAWINGS FOR ALL PLATE HEIGHTS.
- SEE SCHEDULE FOR ALL BEAMS AND HEADERS.

- THICK LINE DENOTES LOAD BEARING WALLS (TYPICAL 2X6 STUDS AT 16" O.C., TYP. U.N.O.)
- 3/4" OSB SHEATHING ON ONE WALL FACE ONLY (WHERE SHOWN AT WINDOW AND DOOR OPENINGS, CONTINUE OSB ABOVE & BELOW WINDOWS AND DOORS) NAIL SPACING SHALL NOT EXCEED 6" O.C. AT EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS

ADD SIMPSON HIT4 HOLDOWN
AT EA. CORNER BOTH DIRECTIONS
(PROVIDE 2-2X6 B.U. COL FOR
HOLDOWN INSTALLATION, TYP.)



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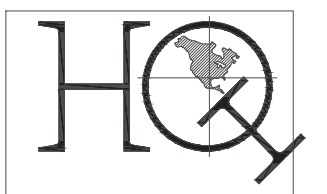
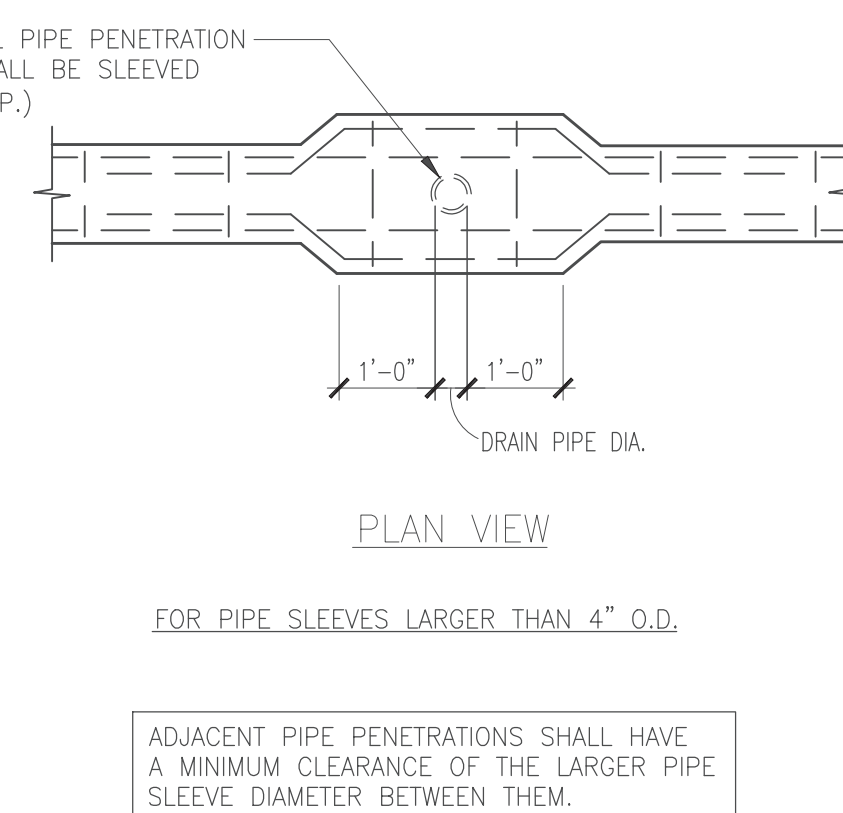
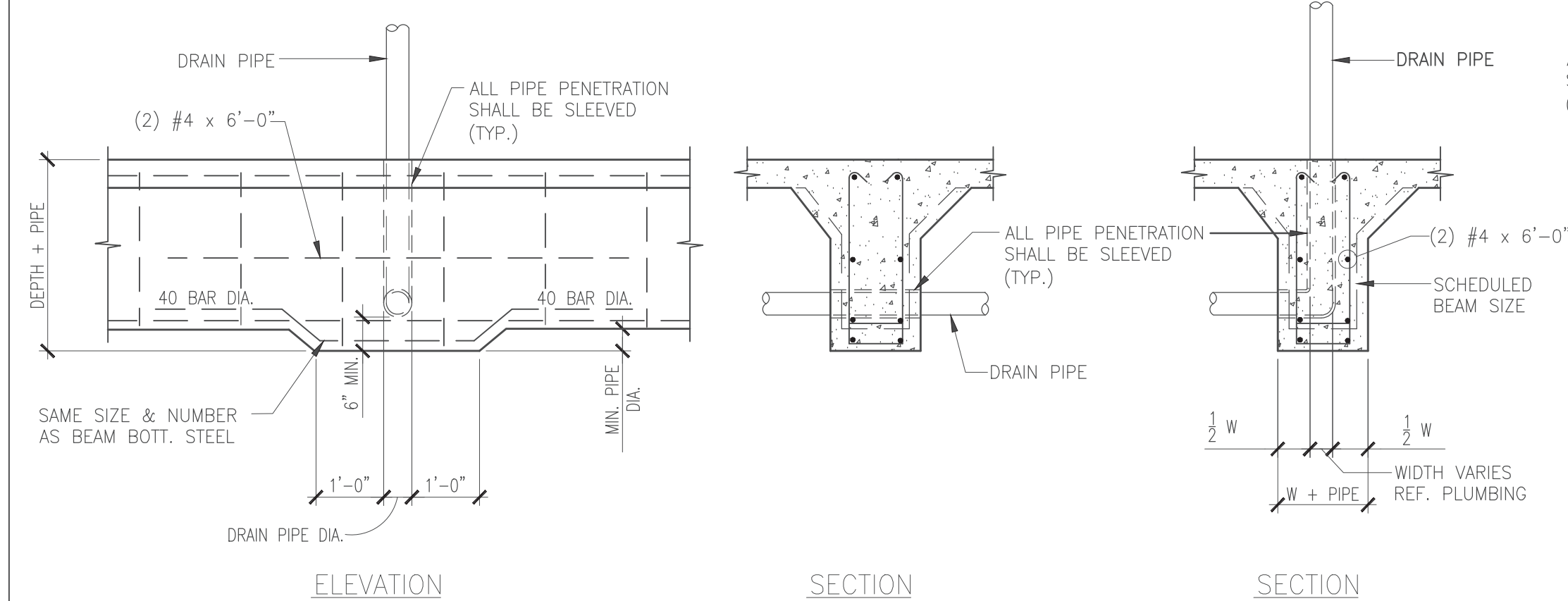
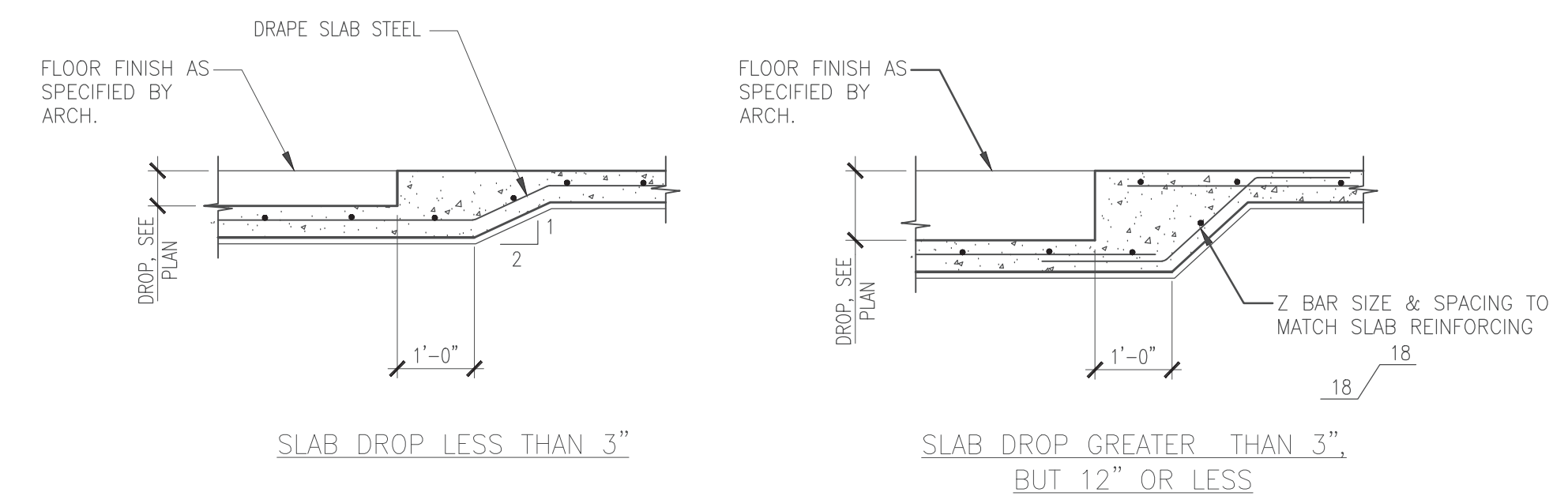
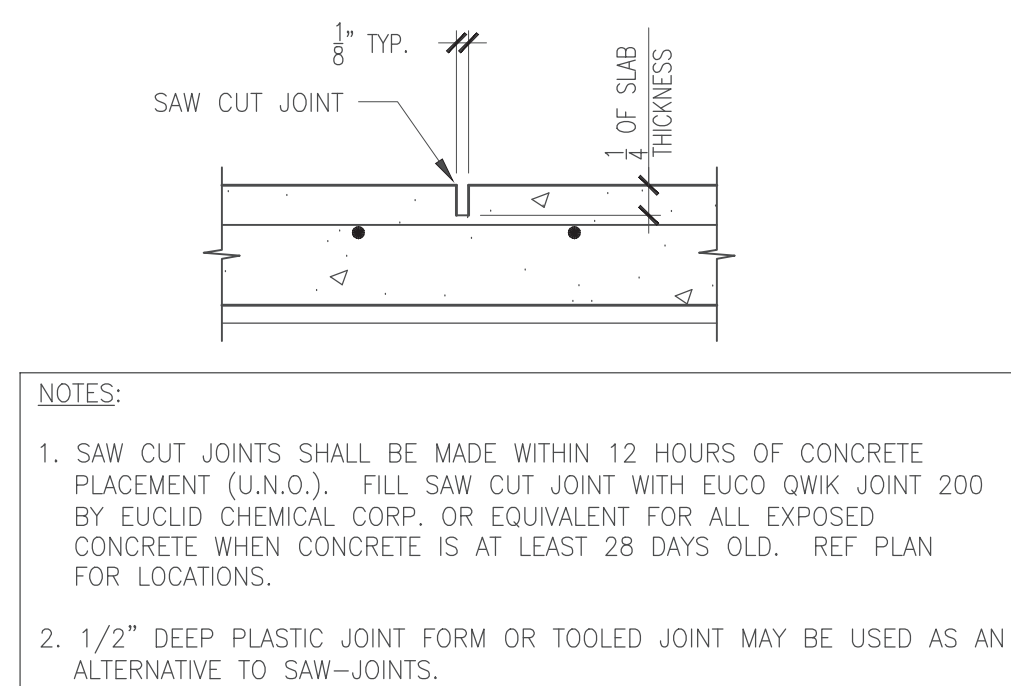
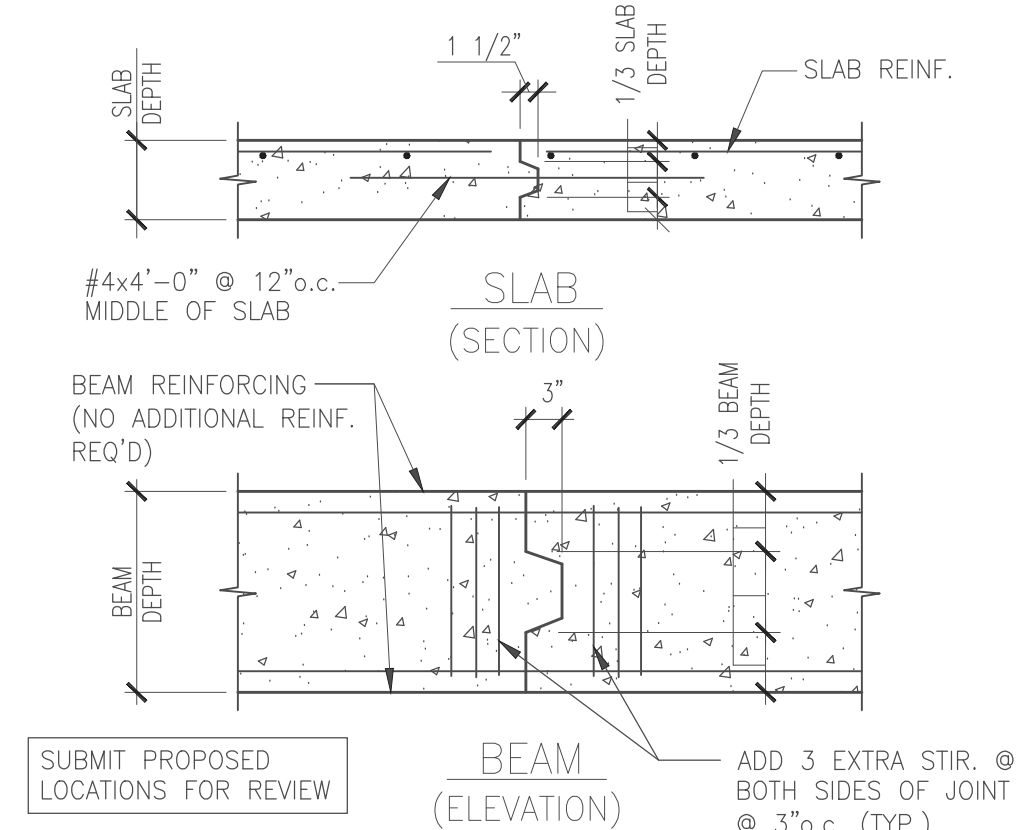
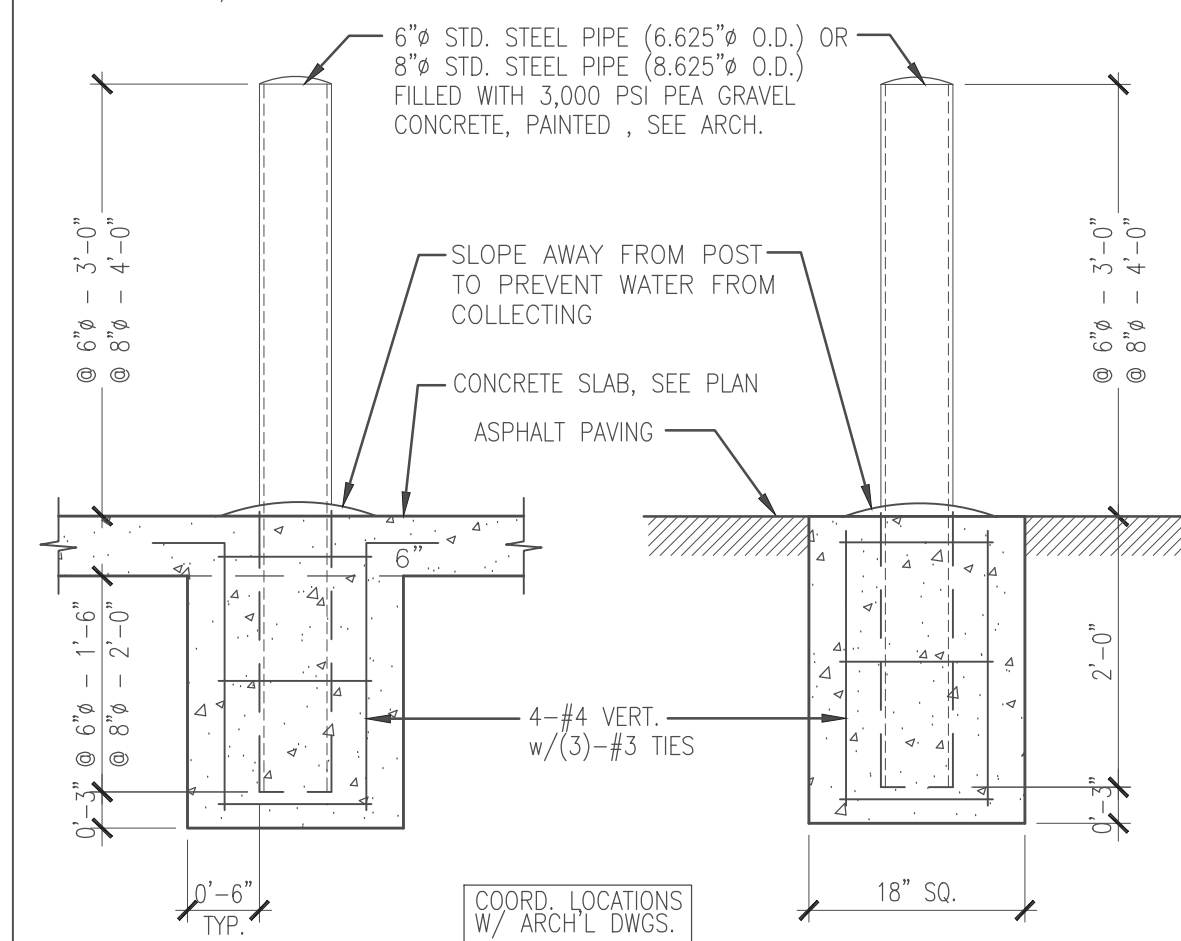
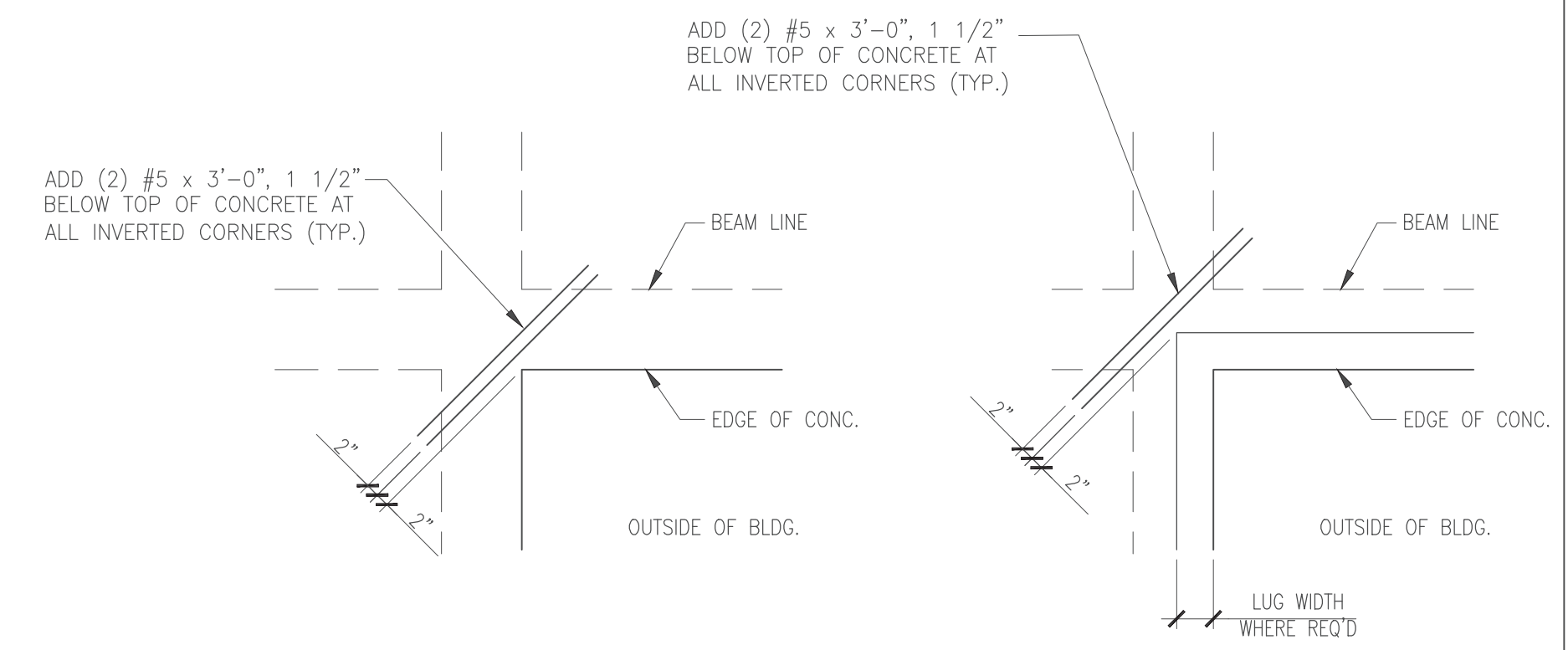
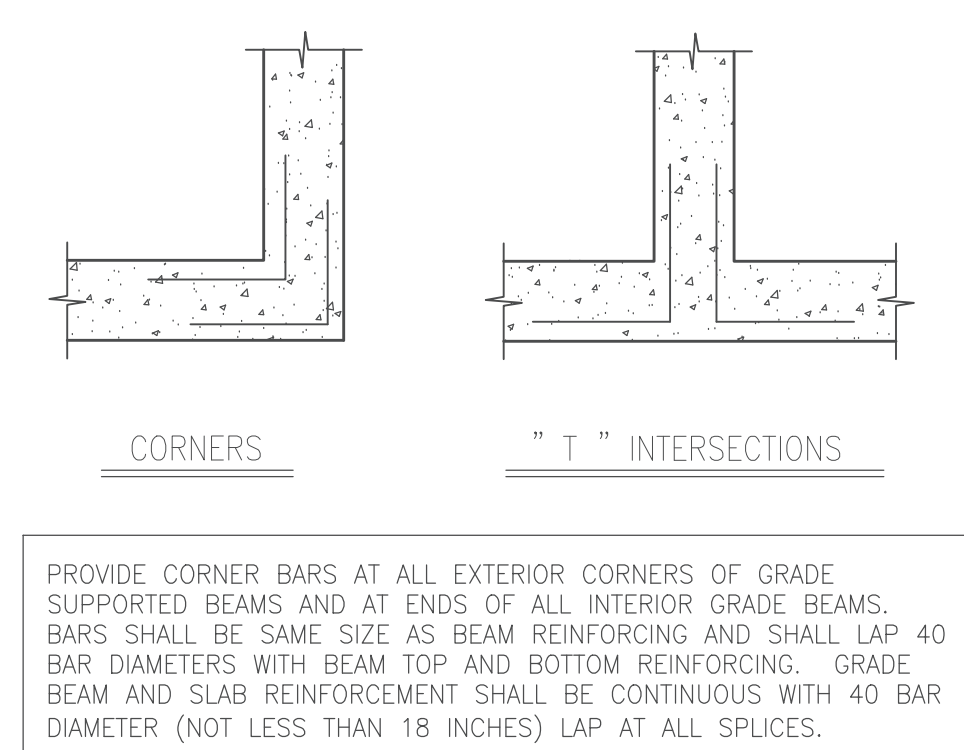
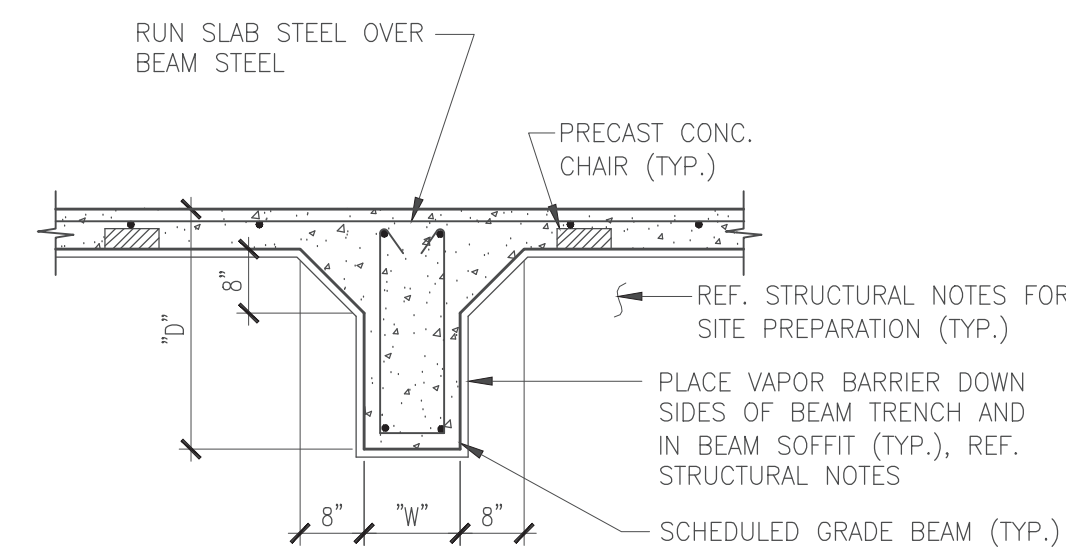
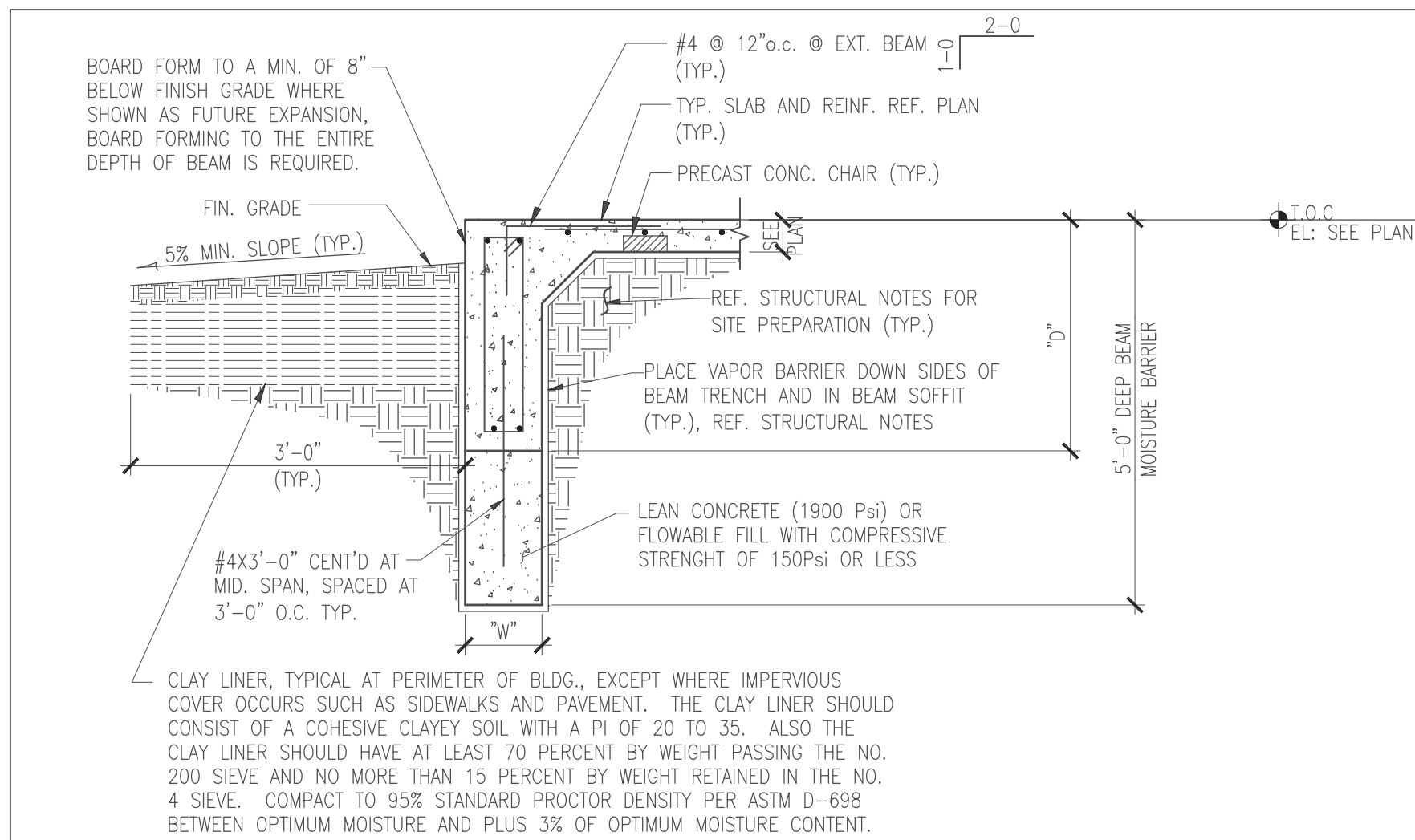
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ROOF
RAMING
RACING
PLAN

SHEET NUMBER:

S2.1



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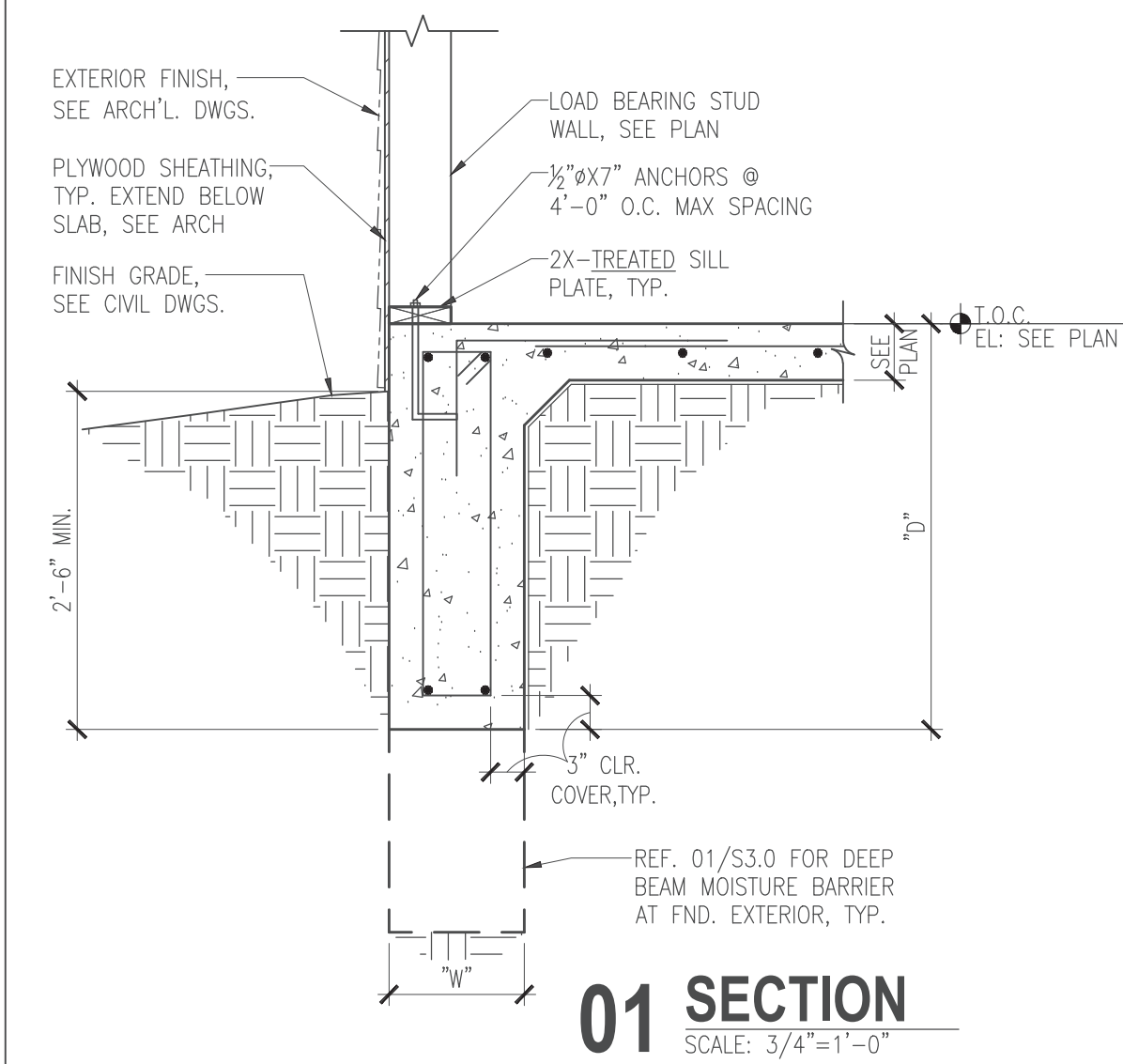
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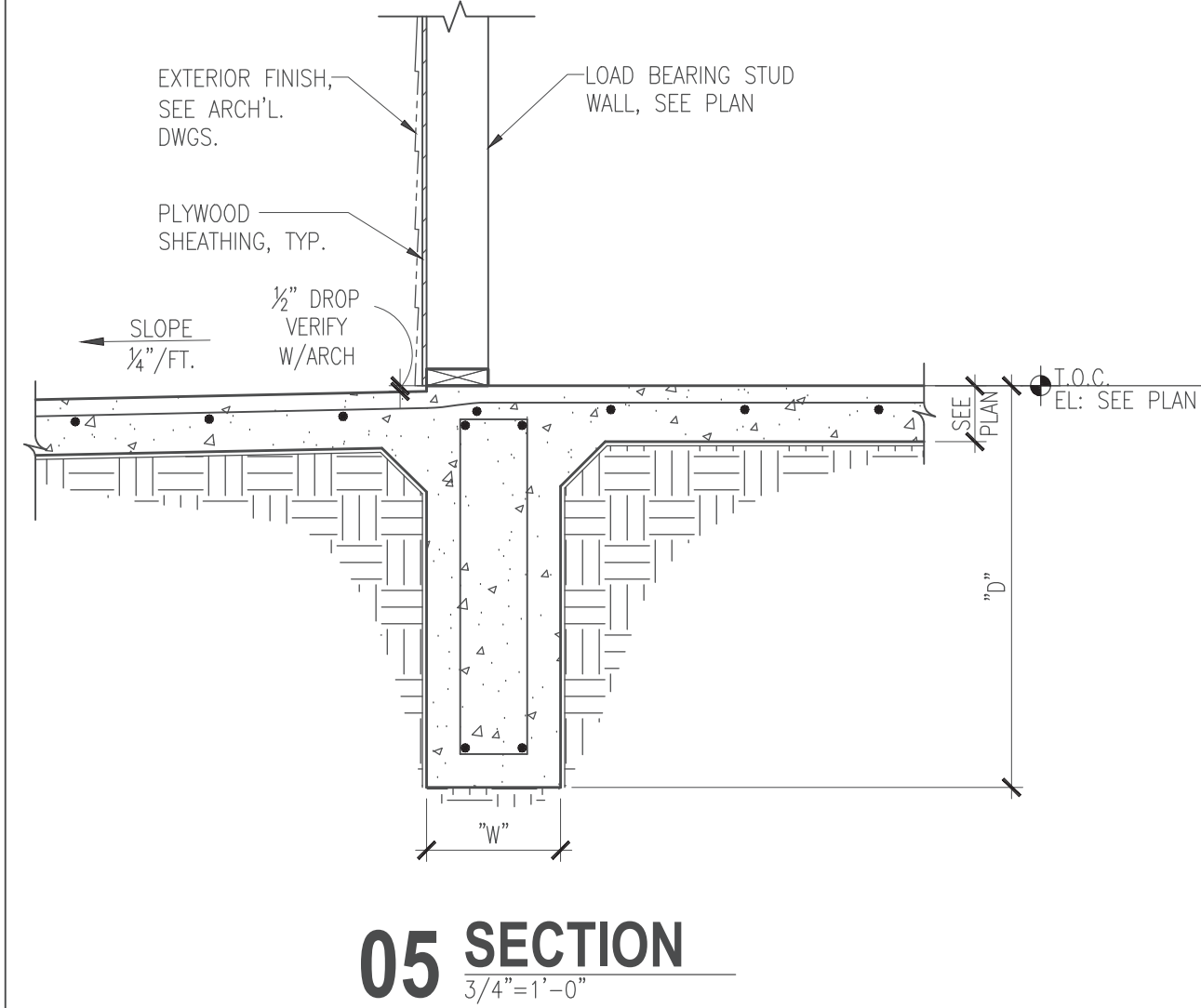
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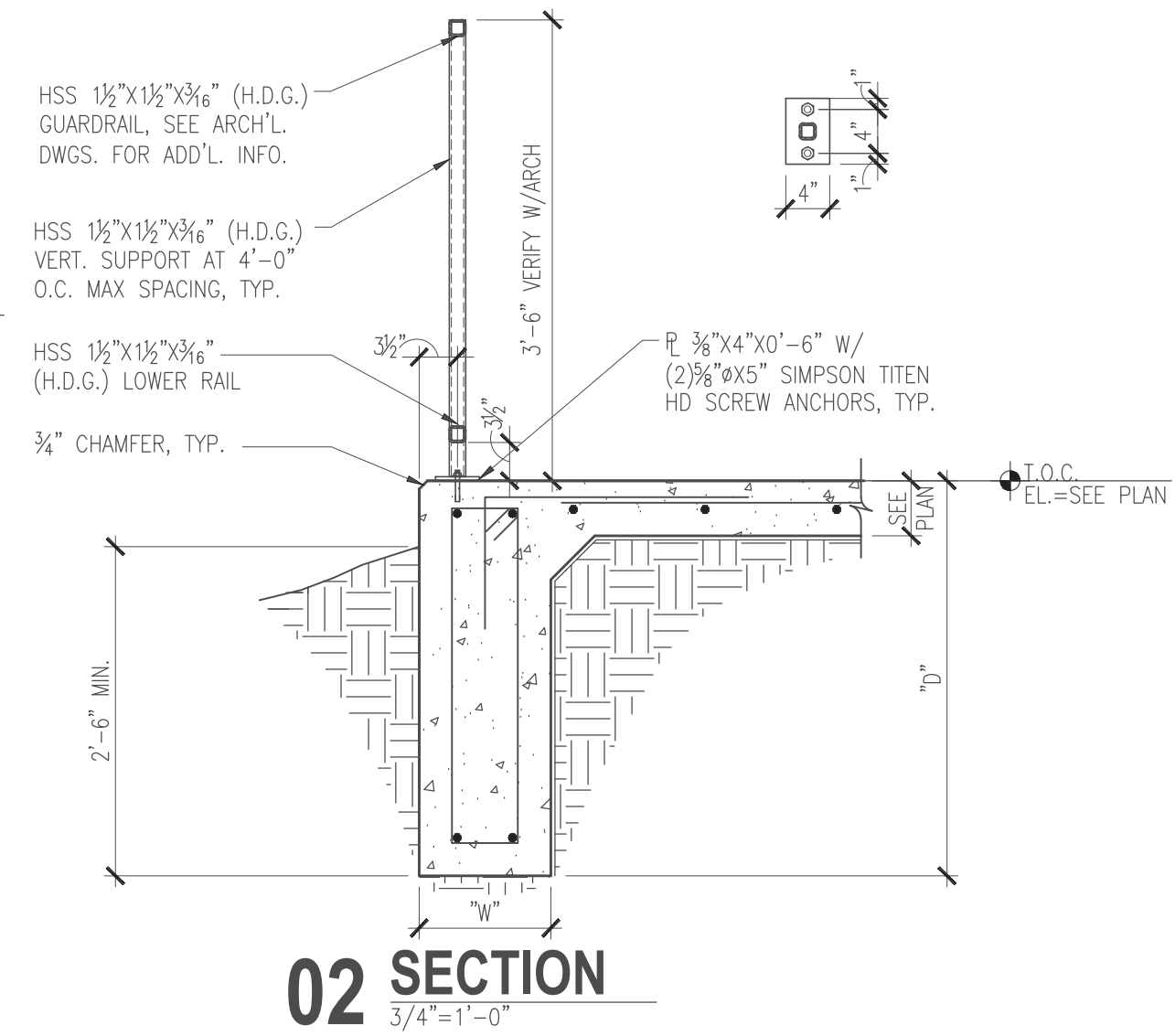
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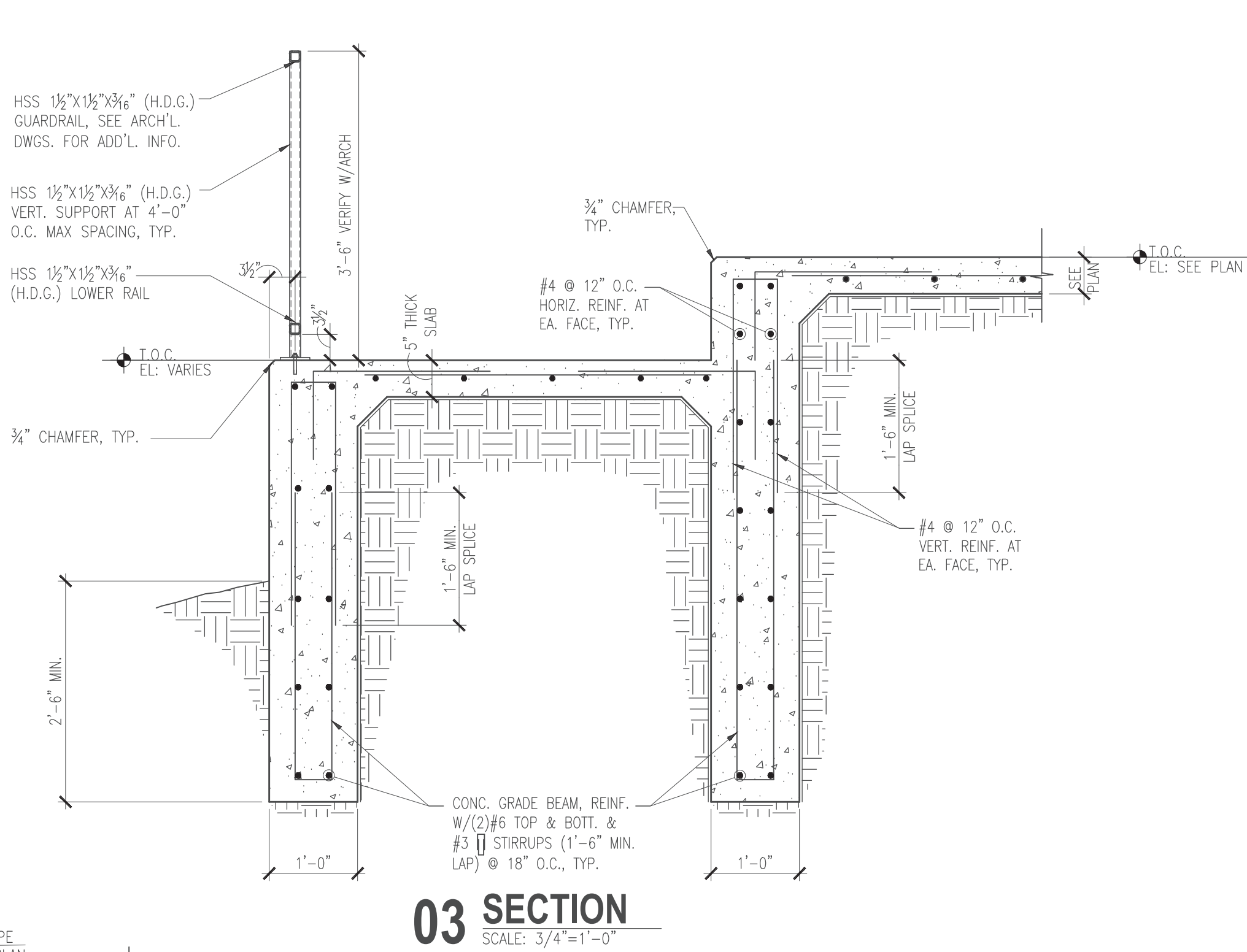
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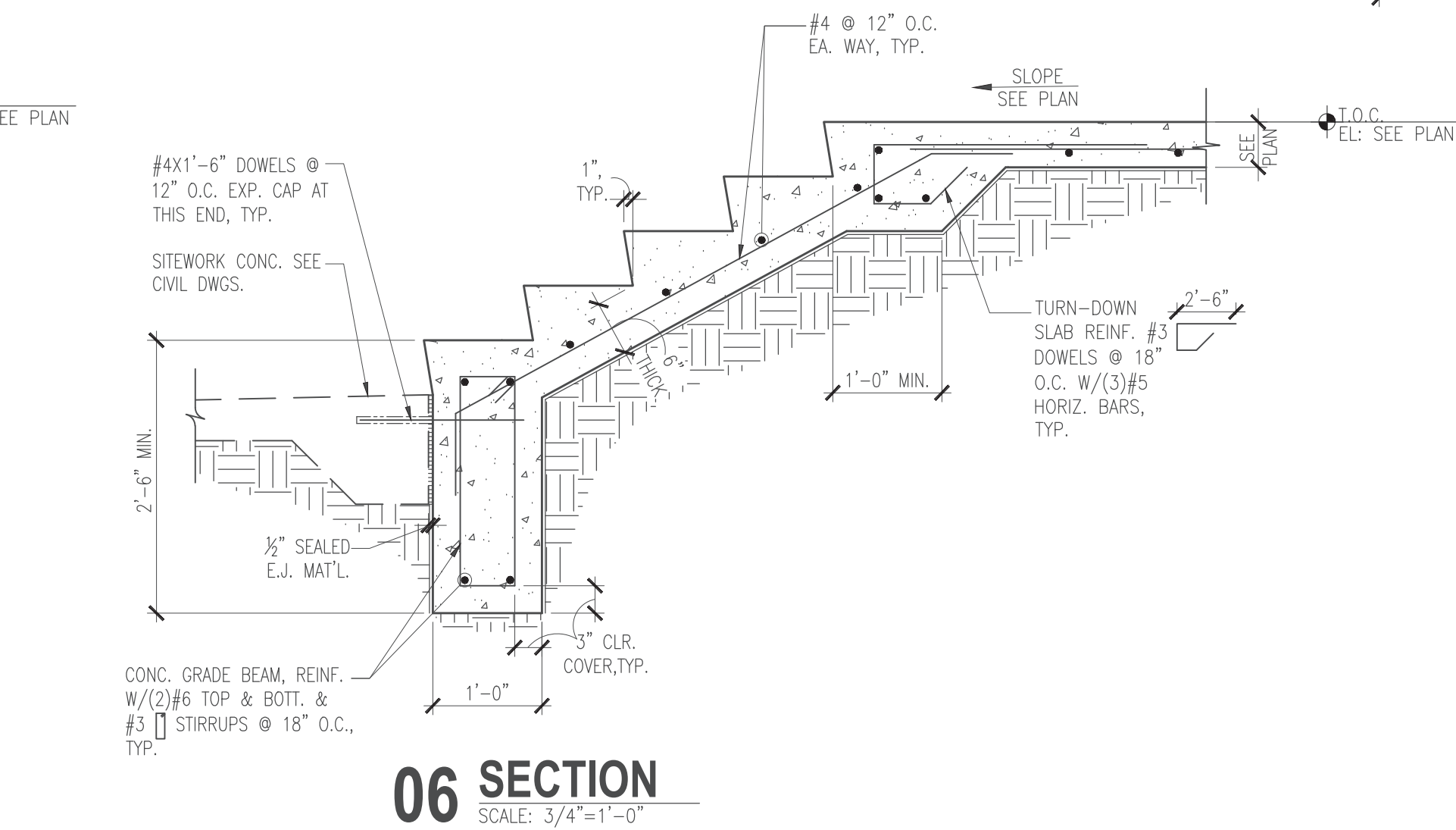
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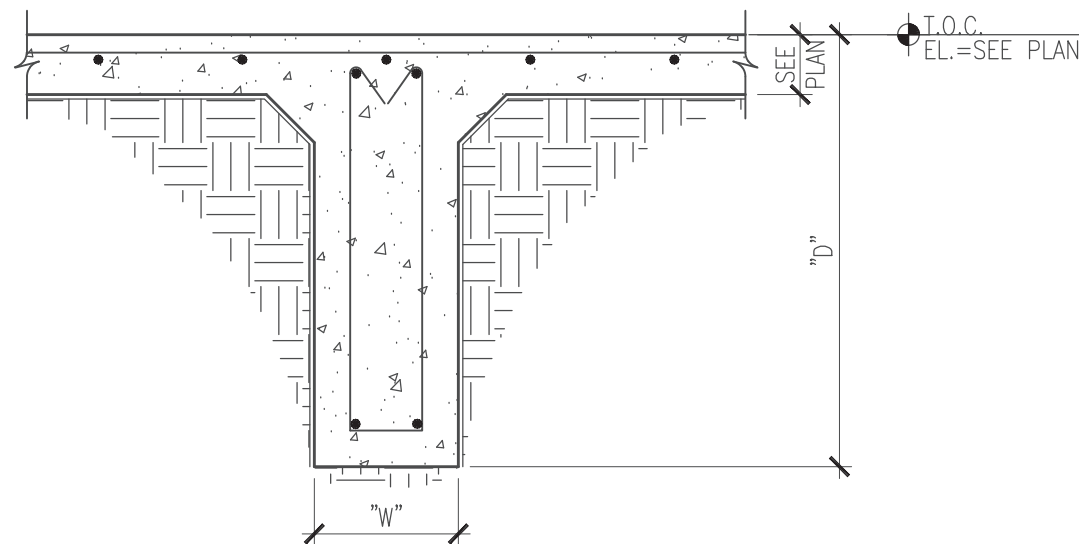
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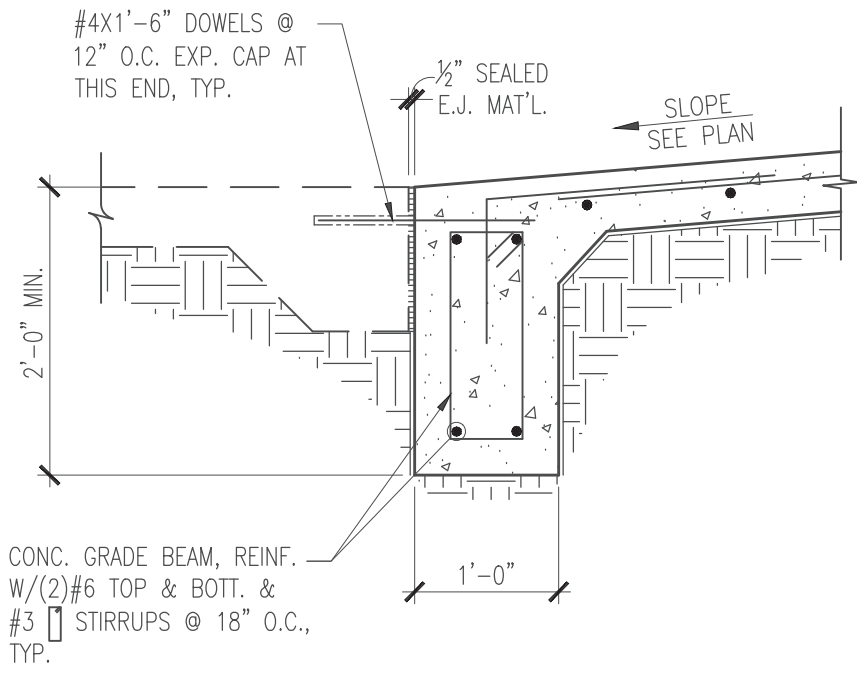
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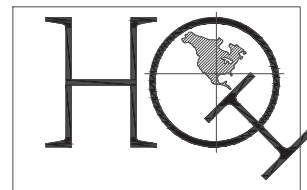
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SCALE: 3/4"=1'-0"



07 SECTION
3/4"=1'-0"



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



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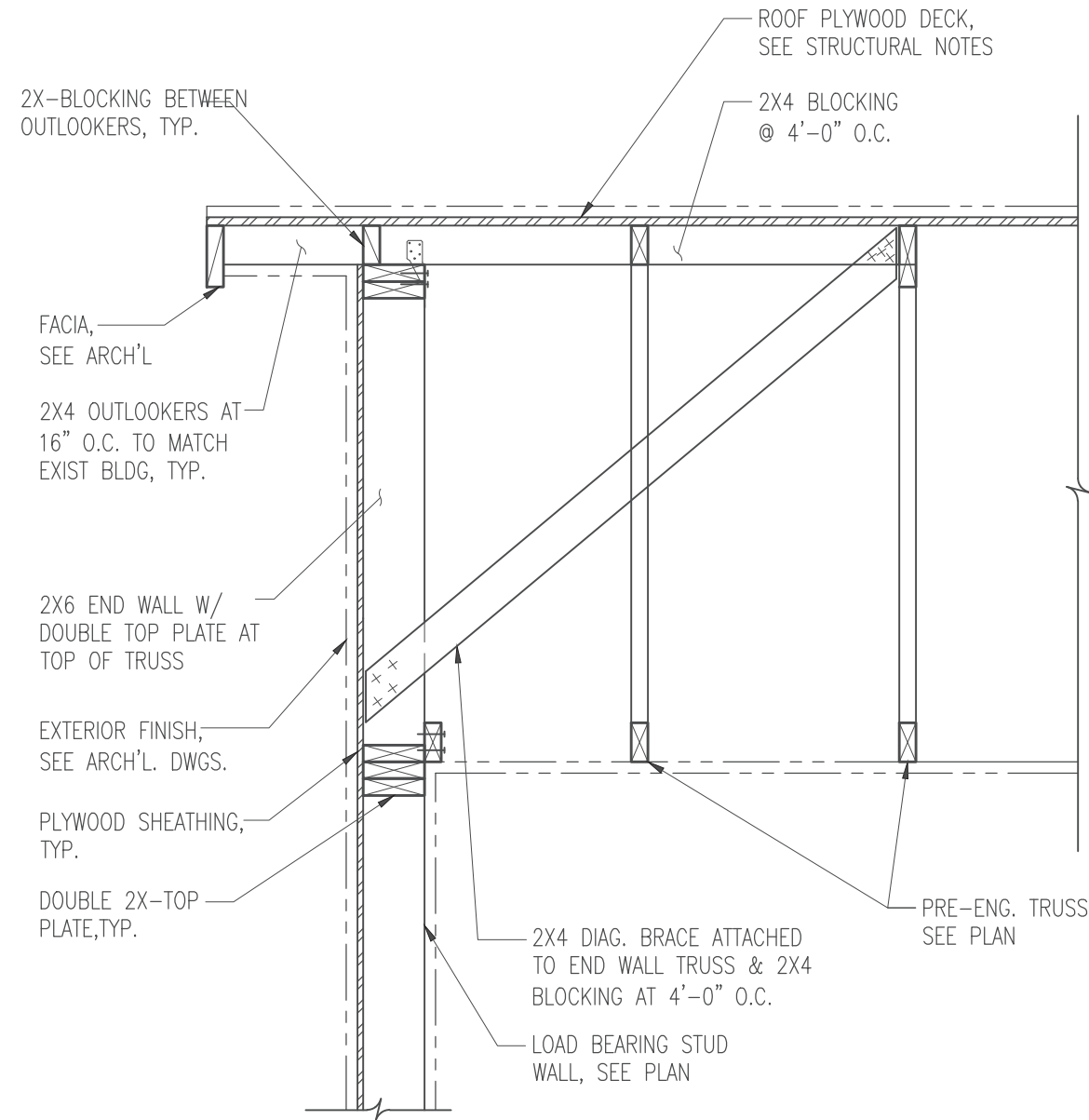
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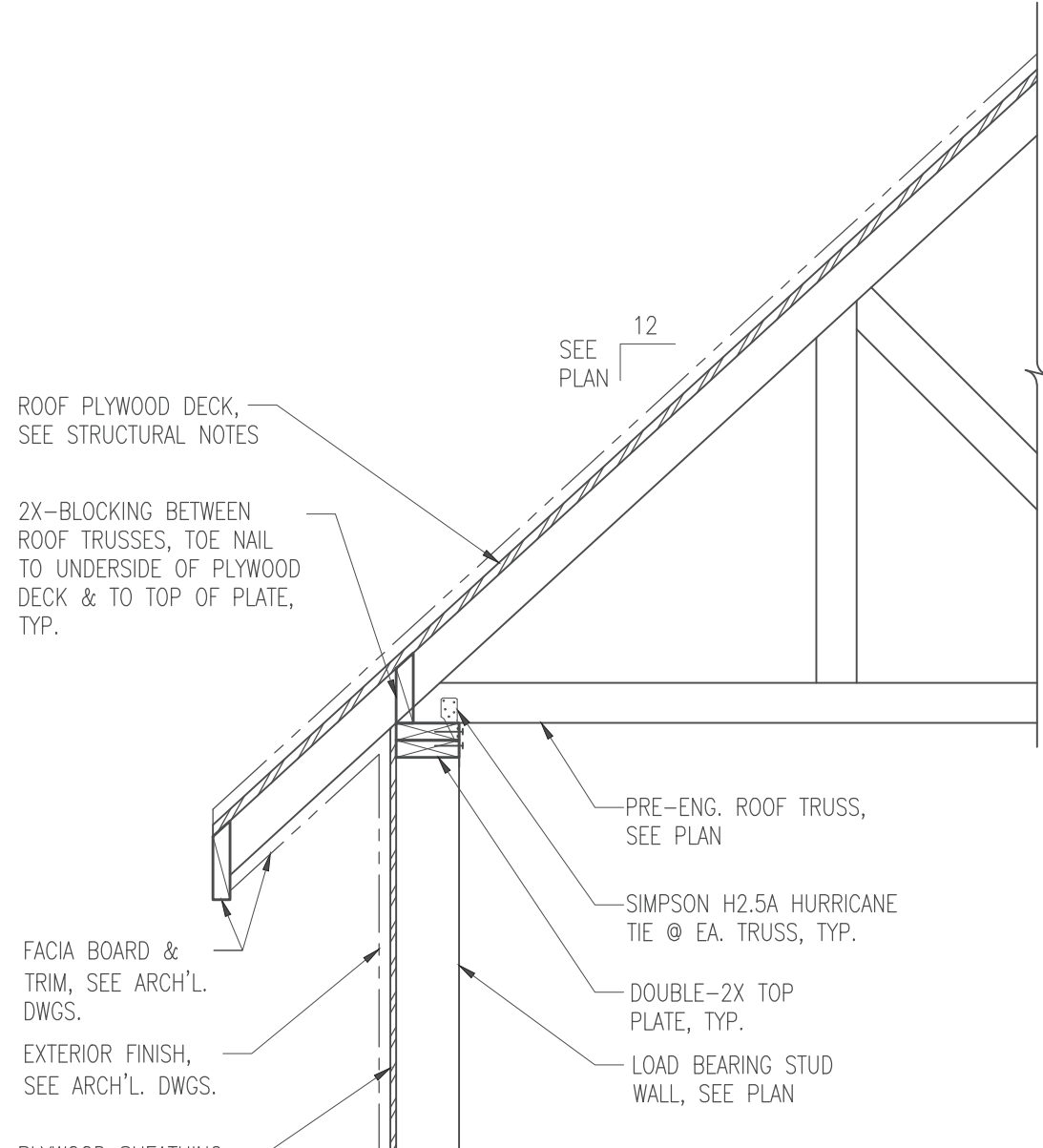
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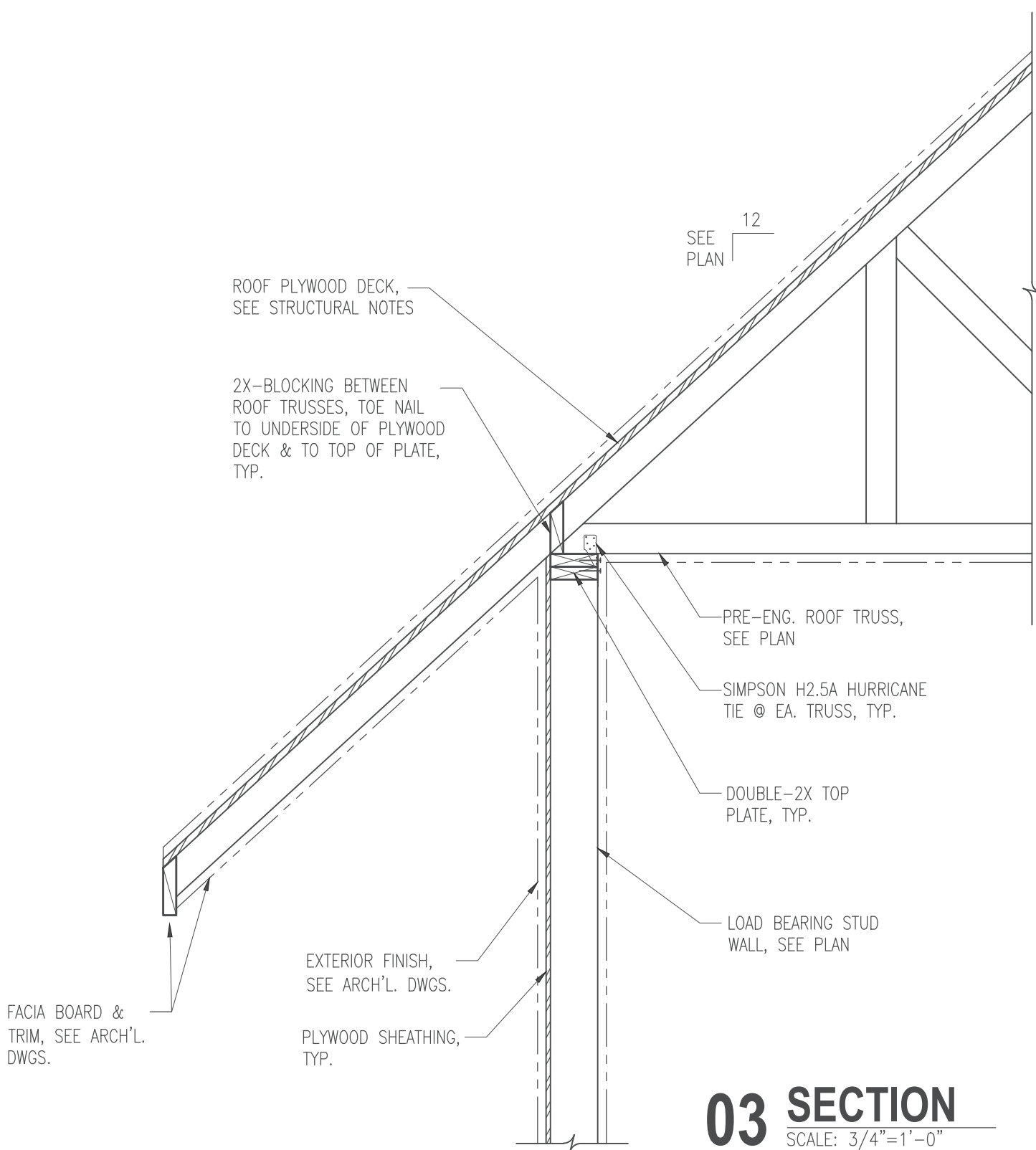
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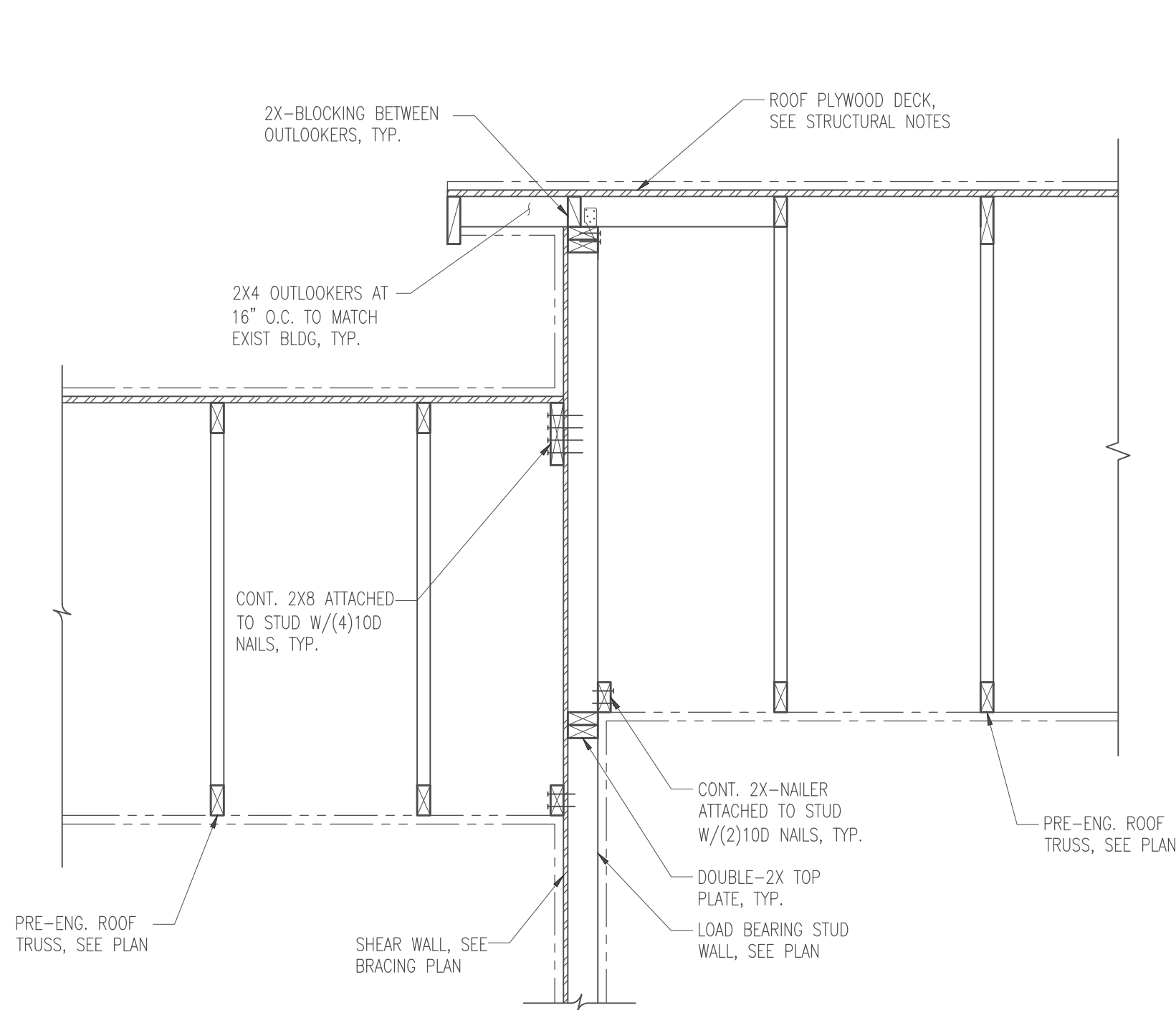
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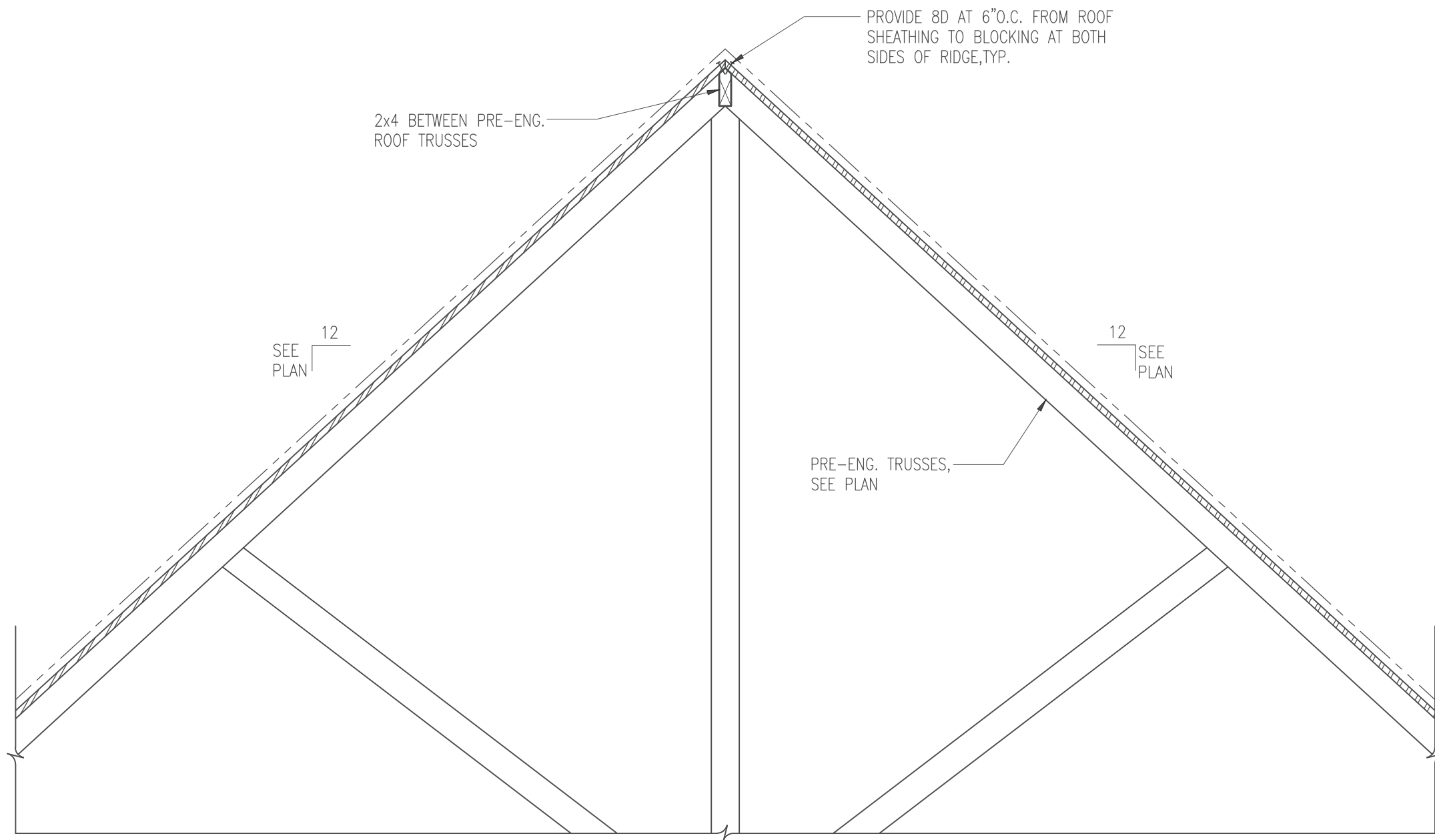
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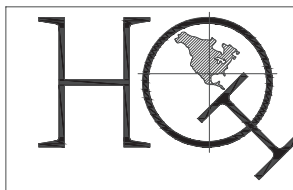
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SCALE: 3/4"=1'-0"



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



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



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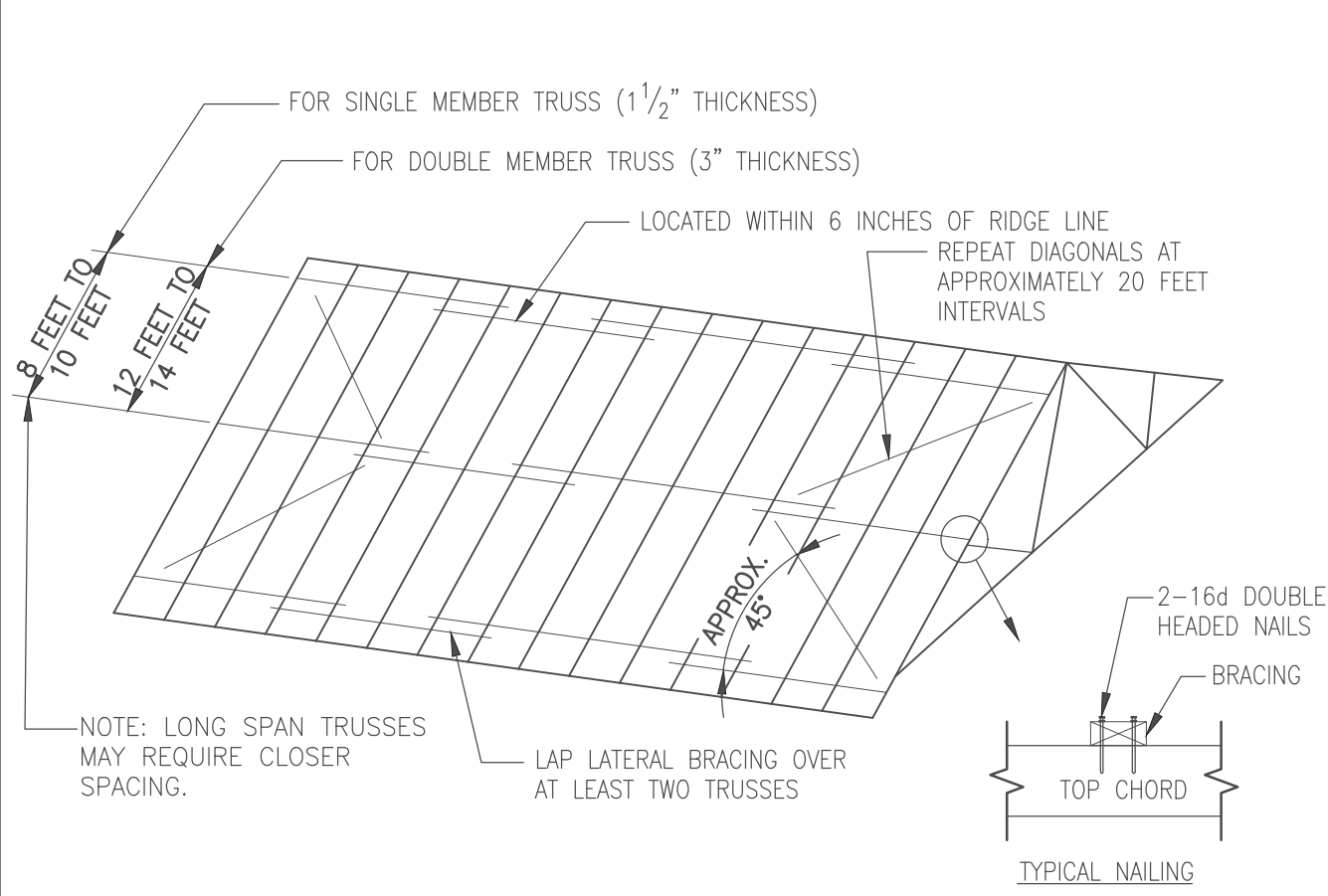
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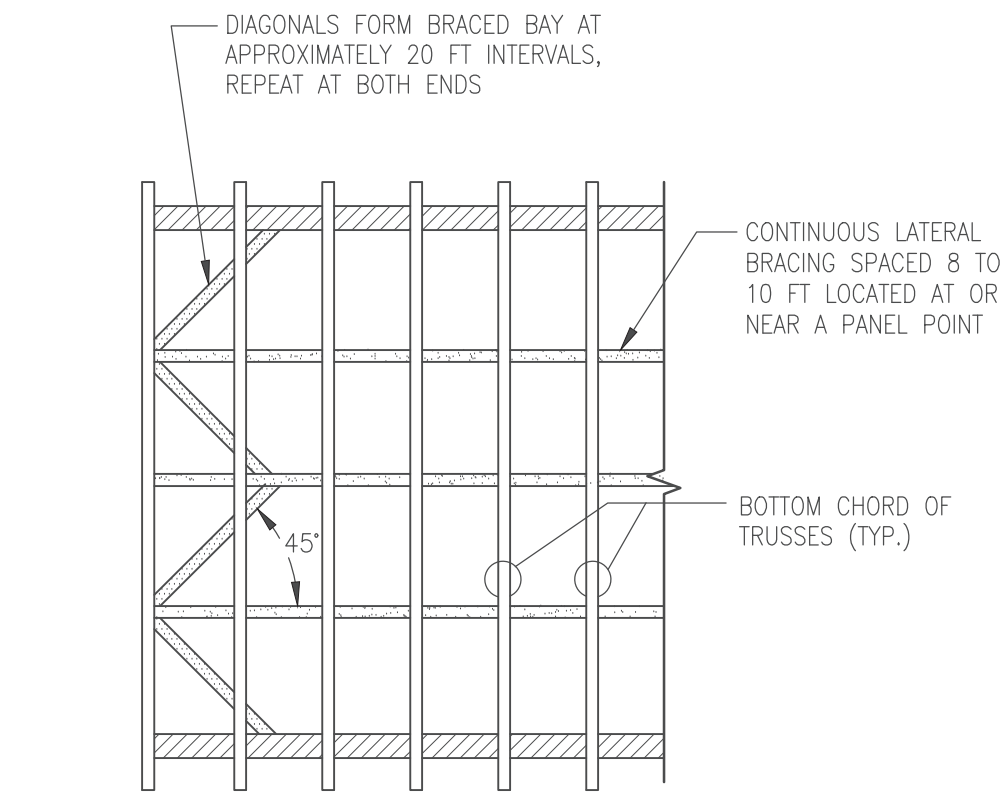
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SECTIONS

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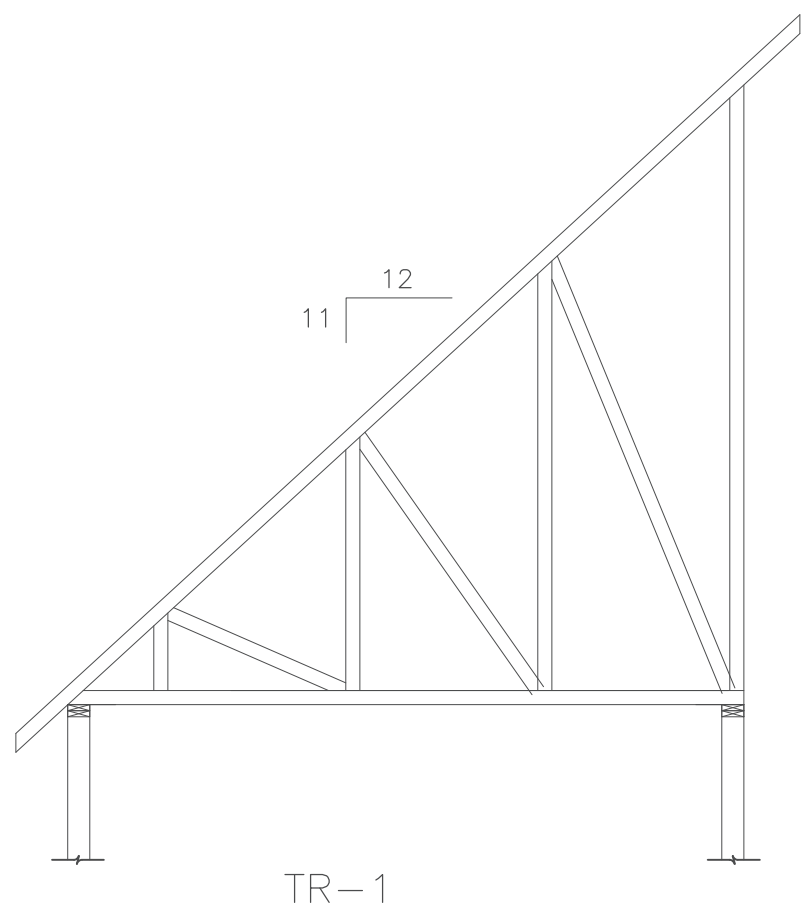
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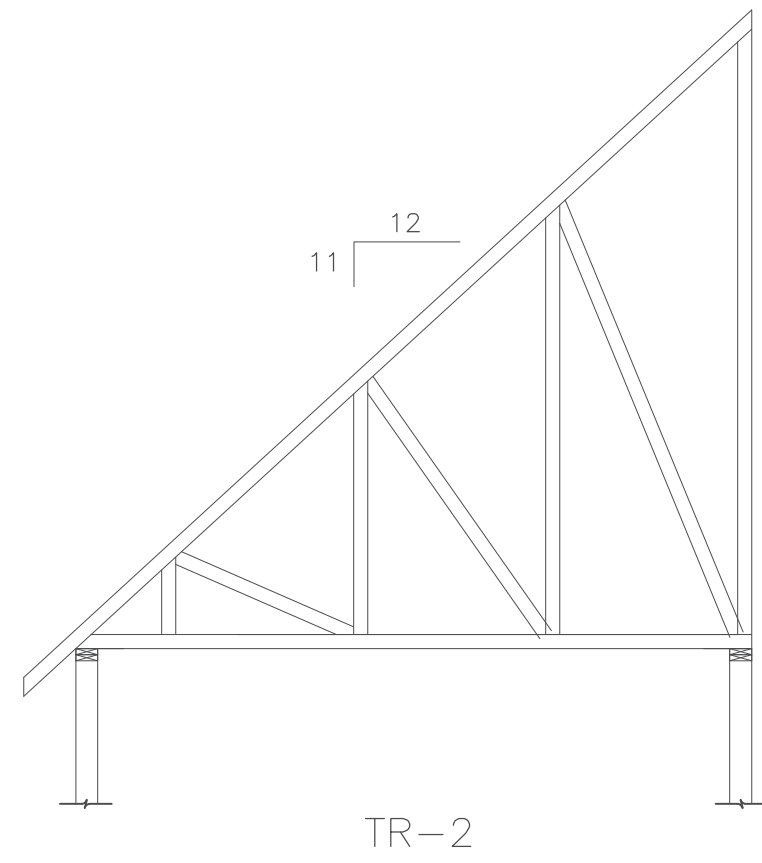
01 TYP. TEMPORARY TRUSS DIAGONAL BRACING FOR A COMPRESSION CHORD
SCALE: NONE



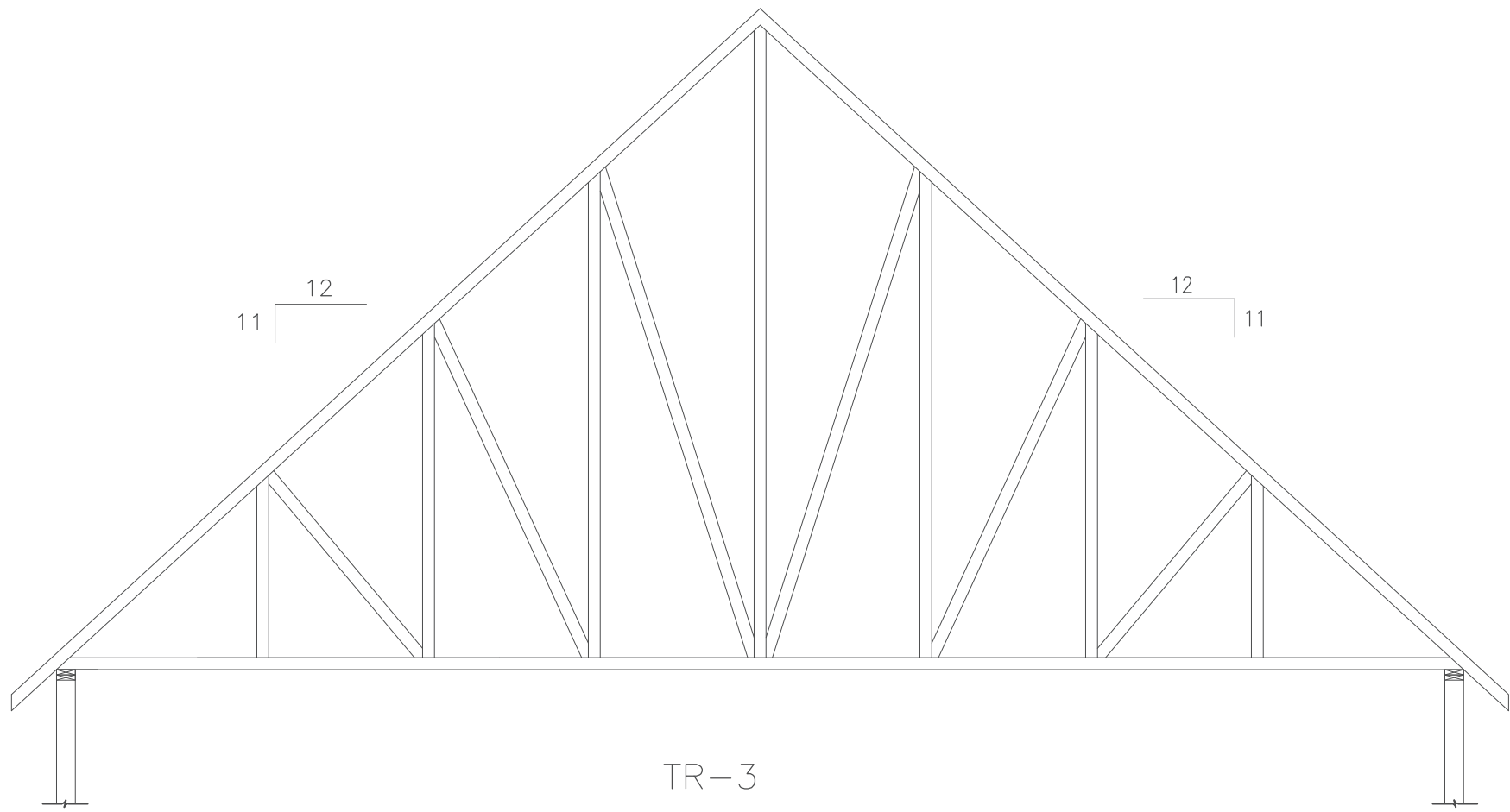
02 TYP. BOTTOM CHORD ERECTION BRACING DETAIL
SCALE: NONE



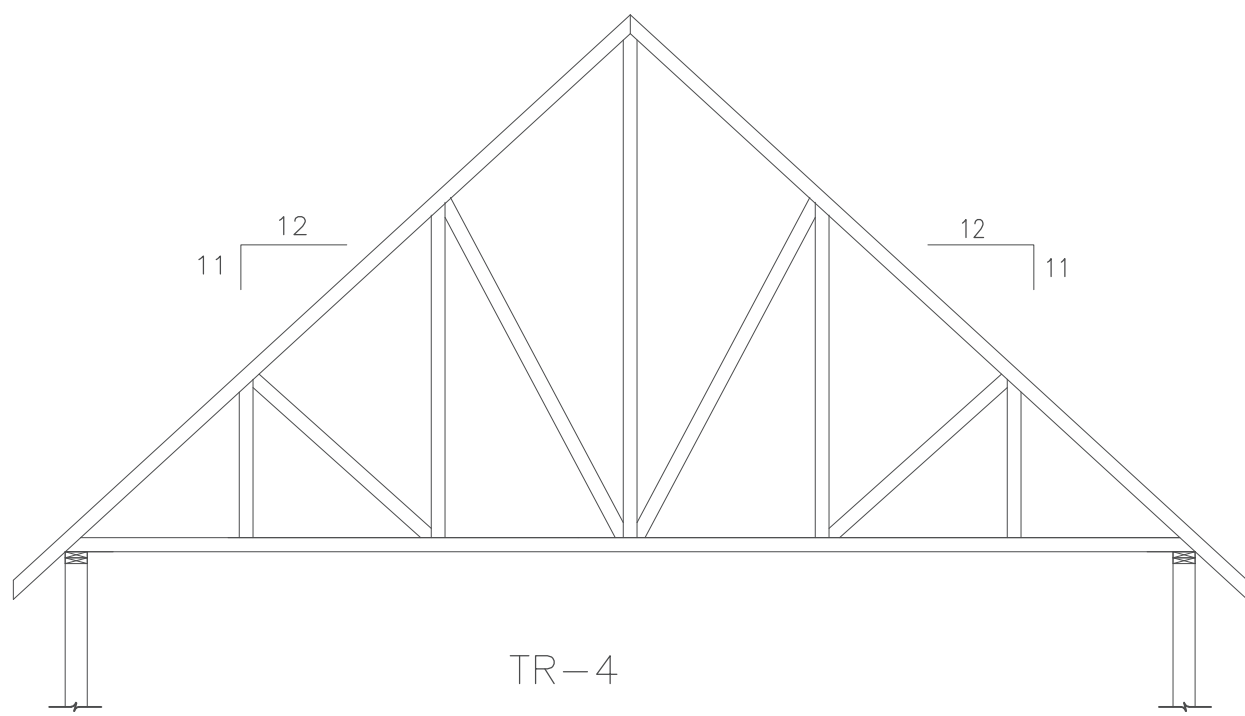
03 TRUSS PROFILES
SCALE: NONE



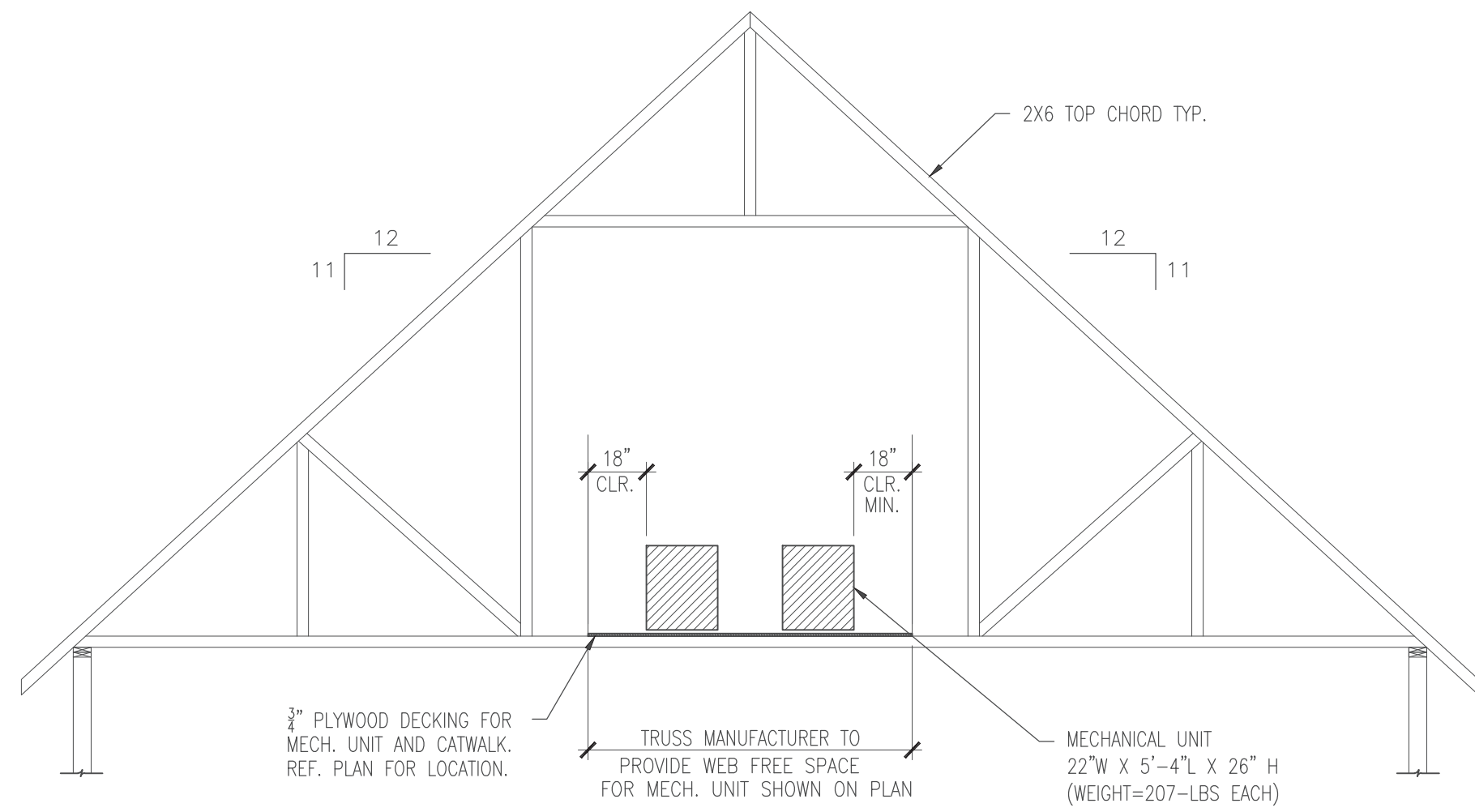
04 TRUSS PROFILES
SCALE: NONE



05 TRUSS PROFILES
SCALE: NONE



06 TRUSS PROFILES
SCALE: NONE



07 WOOD TRUSS AT MECHANICAL UNIT ELEVATION
SCALE: NONE



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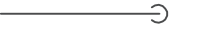

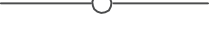




























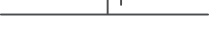













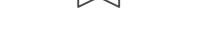





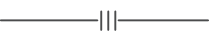








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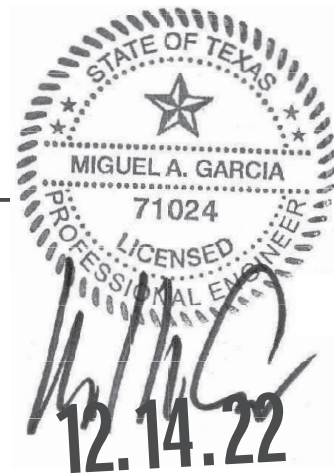
702
DRAWING TITLE
TYPICAL
DETAILS
& TRUSS
PROFILES

SHEET NUMBER:

S4.2

REVISIONS	BY

ABBREVIATIONS		PIPING SYMBOLS	SYMBOLS	PIPING TYPES	GENERAL NOTES:
<u>IDENTIFIER</u>	<u>DESCRIPTION</u>				
AFF	ABOVE FINISHED FLOOR		CFM, CUBIC FEET PER MINUTE	— CWS — CONDENSER WATER SUPPLY	<p>1. ALL DRAWINGS, SPECIFICATIONS, AND OTHER RELATED DOCUMENTS SHALL BE CONSIDERED A PART OF THIS CONTRACT AS FAR AS THEY APPLY TO THE WORK OF THIS CONTRACT, AS IF REFERRED TO IN FULL.</p> <p>2. DUCTWORK AND PIPING LAYOUTS ARE SCHEMATIC DIAGRAMS AND ARE INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE AND CAPACITY AND DO NOT INDICATE WHICH PIPE OR DUCT IS ABOVE OR BELOW THE OTHER. ALL OFFSETS ARE NOT NECESSARILY SHOWN. CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS AND FITTINGS TO AVOID CONFLICT WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND STRUCTURAL AND ARCHITECTURAL ELEMENTS WITHOUT ADDITIONAL COST TO THE OWNER. IF AREAS OF CONFLICT ARE ENCOUNTERED, THE ARCHITECT SHALL BE NOTIFIED AND CONTRACTORS RECOMMENDATIONS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE WORK HAS BEGUN.</p> <p>3. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION & DETAILS REGARDING ROOF CURBS AND PENETRATIONS, INCLUDING INSULATING, FLASHING, COUNTERFLASHING & SEALING AND COORDINATE WITH THE ROOFING CONTRACTOR.</p> <p>4. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES. THE COST OF ANY WORK AS A RESULT OF FAILURE TO COORDINATE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR & SHALL BE PERFORMED AT NO COST TO THE OWNER.</p> <p>5. ALL EQUIPMENT SHALL BE FURNISHED WITH SHOP DRAWINGS, INSTALLATION GUIDELINES, MAINTENANCE MANUALS, SCHEDULES, TAGS, AND LETTER OF GUARANTEE IN A BINDER (THREE-RING) WITH TABS. ALL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH THESE DOCUMENTS & THE EQUIPMENT MANUFACTURER'S RECOMMENDATION.</p> <p>6. THERE SHALL BE NO RIGID CONTACT BETWEEN CONDUIT, PIPES, CEILING WIRES, AND DUCTWORK.</p> <p>7. PROPER FIRE PROTECTION MEASURES, SATISFACTORY TO THE LOCAL FIRE DEPARTMENT SHALL BE TAKEN WHEN WELDING OR CUTTING WITH TORCHES OR ELECTRIC ARC.</p> <p>8. ALL REMOVED EQUIPMENT, MATERIALS AND DEBRIS SHALL BE LEGALLY DISPOSED OF OFF OF SITE BY THIS CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES, RULES AND REGULATIONS.</p> <p>9. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF ANY WALLS, ROOF, OR FLOOR DURING CONSTRUCTION REQUIRED BY HIS TRADE.</p> <p>10. ALL FIELD CONDITIONS AND DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED PRIOR TO SUBMITTING BIDS & PRIOR TO COMMENCEMENT OF WORK (INCLUDING UNIT ORIENTATION). NO ALLOWANCE WILL BE MADE FOR NOT COMPLYING WITH THIS REQUIREMENT.</p> <p>11. THIS CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO OWNER'S EQUIPMENT.</p> <p>12. BALANCE AND CERTIFY ALL AIR SYSTEMS AS PER SPECIFICATIONS. REFER TO DRAWINGS FOR FLOW REQUIREMENTS.</p> <p>13. HVAC CONTRACTOR SHALL CHANGE FILTERS IN ALL AIR HANDLING UNITS EVERY 3 MONTHS DURING COURSE OF CONSTRUCTION AND PRIOR TO DELIVERY OF SYSTEM TO OWNER.</p> <p>14. UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED ON VIBRATION ISOLATORS TO PREVENT THE TRANSMISSION OF SOUND TO THE BUILDING STRUCTURE. VIBRATION ISOLATORS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND ON ACTUAL WEIGHT DISTRIBUTION OF THE EQUIPMENT FURNISHED. DEFLECTIONS SHALL BE AS NOTED ON THE EQUIPMENT SHOP DRAWING SUBMITTALS.</p> <p>15. ALL MECHANICAL CONTROLS (THERMOSTATS, ETC.) SHALL BE FURNISHED AND INSTALLED AS PER BARRIER-FREE SUBCODE OF UNIFORM CONSTRUCTION CODE. THERMOSTAT FOR EACH ZONE SHALL BE CAPABLE OF AUTOMATICALLY SETTING BACK OR SHUTTING DOWN HEATING AND COOLING SYSTEM DURING NIGHT AND WEEKENDS, AND HAVE AN ACCESSIBLE OVERRIDE TO TURN SYSTEM ON/OFF DURING OFF-HOURS.</p> <p>16. THERMOSTAT WIRING SHALL BE RUN IN CONCEALED SPACE, WALL OR CHASE.</p> <p>17. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL THERMOSTATS WITH ARCHITECT PRIOR TO INSTALLATION.</p> <p>18. DUCT MOUNTED SMOKE DETECTORS SHALL BE PROVIDED IN ALL AIR HANDLING UNITS SUPPLYING AIR QUANTITIES GREATER THAN OR EQUAL TO 2000 CFM.</p>
AFG	ABOVE FINISHED GRADE		 THERMOSTAT	— CWR — CONDENSER WATER RETURN	
BTU	BRITISH THERMAL UNITS		 TEMPERATURE SENSOR	— CHWS — CHILLED WATER SUPPLY	
CFM	CUBIC FEET PER MINUTE		 SUPPLY AIR FLOW	— CHWR — CHILLED WATER RETURN	
DB	DRY BULB		 RETURN/EXHAUST AIR	— PCHS — PRIMARY CHILLED WATER SUPPLY	
DH	DOOR HEATER		 UNDERCUT DOOR	— PCHR — PRIMARY CHILLED WATER RETURN	
EAT	ENTERING AIR TEMPERATURE		 DUCT SMOKE DETECTOR	— SCHS — SECONDARY CHILLED WATER SUPPLY	
EDB	ENTERING DRY BULB		 4 WAY CEILING DIFFUSER	— SCHR — SECONDARY CHILLED WATER RETURN	
EER	ENERGY EFFICIENCY RATIO		 3 WAY CEILING DIFFUSER	— HWS — HEATING HOT WATER SUPPLY	
EWB	ENTERING WET BULB		 2 WAY CEILING DIFFUSER	— HWR — HEATING HOT WATER RETURN	
EF	EXHAUST FAN		 EXHAUST GRILLE/RETURN REGISTER	— PHWS — PRIMARY HEATING HOT WATER SUPPLY	
FAI	FRESH AIR INTAKE		 SUPPLY DUCT UP	— PHWR — PRIMARY HEATING HOT WATER RETURN	
FLA	FULL LOAD AMPS		 RETURN/EXHAUST DUCT UP	— SHWS — SECONDARY HEATING HOT WATER SUPPLY	
GC	GENERAL CONTRACTOR		 SUPPLY DUCT DOWN	— SHWR — SECONDARY HEATING HOT WATER RETURN	
HP	HORSEPOWER		 RETURN/EXHAUST DUCT DOWN	— HHWS — HIGH TEMP. HEATING HOT WATER SUPPLY	
IPLV	INTEGRATED PART LOAD VALUES		 FLEXIBLE DUCT	— HHWR — HIGH TEMP. HEATING HOT WATER RETURN	
LAT	LEAVING AIR TEMPERATURE		 FIRE DAMPER	— HSTM — HIGH PRESSURE STEAM (100 PSI)	
MBH	THOUSAND BTU PER HOUR		 COMBINATION FIRE/ SMOKE DAMPER	— MSTM — MEDIUM PRESSURE STEAM (60 PSI)	
MFR	MANUFACTURER		 SMOKE DAMPER	— LSTM — LOW PRESSURE STEAM (15 PSI)	
MOD	MOTOR OPERATED DAMPER			— PC — PUMPED CONDENSATE RETURN	
NIC	NOT IN CONTRACT			— GR — GRAVITY CONDENSATE RETURN	
OA	OUTSIDE AIR			— D — DRAIN	
RG	RETURN GRILLE			— A — COMPRESSED AIR	
RH	RADIANT HEATER			— MU — MAKE-UP WATER	
RLA	RATED LOAD AMPS			— RHG — REFRIGERANT HOT GAS LINE	
RT	ROOFTOP UNIT			— RS — REFRIGERANT SUCTION LINE	
SDD	DUCT-MOUNTED SMOKE DETECTOR			— RL — REFRIGERANT LIQUID LINE	
SP	EXTERNAL STATIC PRESSURE			----- SANITARY DRAIN BELOW FLOOR	
UH	UNIT HEATER			----- SANITARY VENT	
UNO	UNLESS NOTED OTHERWISE			— GW — GREASE (KITCHEN) WASTE	
VIC	VIBRATION ISOLATION CONNECTION			— SD — STORM DRAIN	
VIF	VERIFY IN FIELD			— OD — OVERFLOW DRAIN	
WC	WATER COLUMN			— — — COLD WATER	
WG	WATER GAUGE			— — — HOT WATER	
WH	WALL HEATER			— — — HOT WATER RECIRCULATION	
WP	WEATHER PROOF (NEMA 3R)			— G — NATURAL GAS	
				— F — FIRE STANDPIPE, FIRE LINE	
				— FS — FIRE SPRINKLER	
				— FOS — FUEL OIL SUPPLY	
				— FOR — FUEL OIL RETURN	
				— FOV — FUEL OIL VENT	
				— TP — TRAP PRIMER	
					
					
					
					
					
					
					



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SAN ANTONIO, TEXAS 78230



LOVE COMMUNITY CENTER

REDEEMER PRAISE CHURCH

107 S. PINE STREET, SAN ANTONIO, TEXAS 78203



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 COSA COMMENTS	030323
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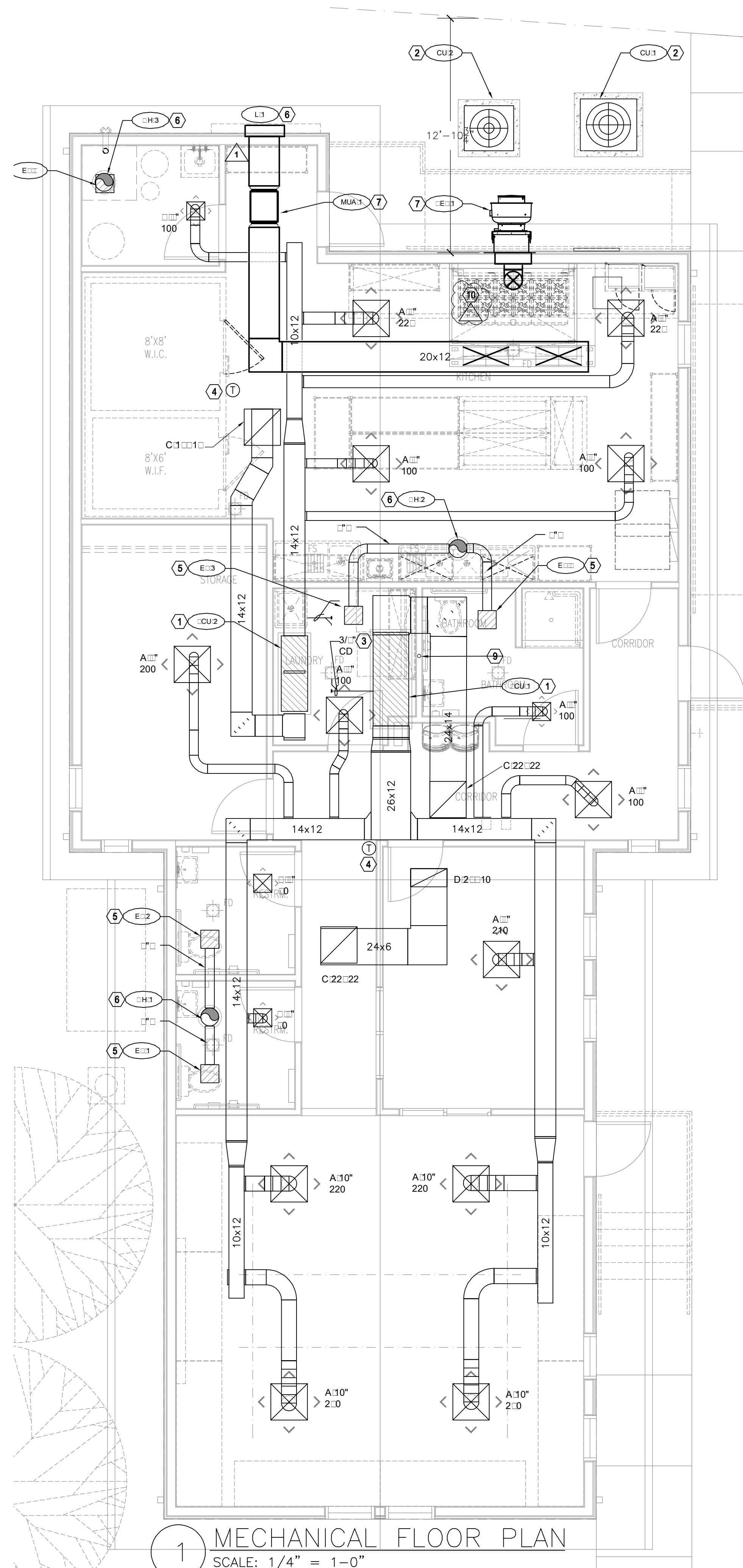
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1 MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

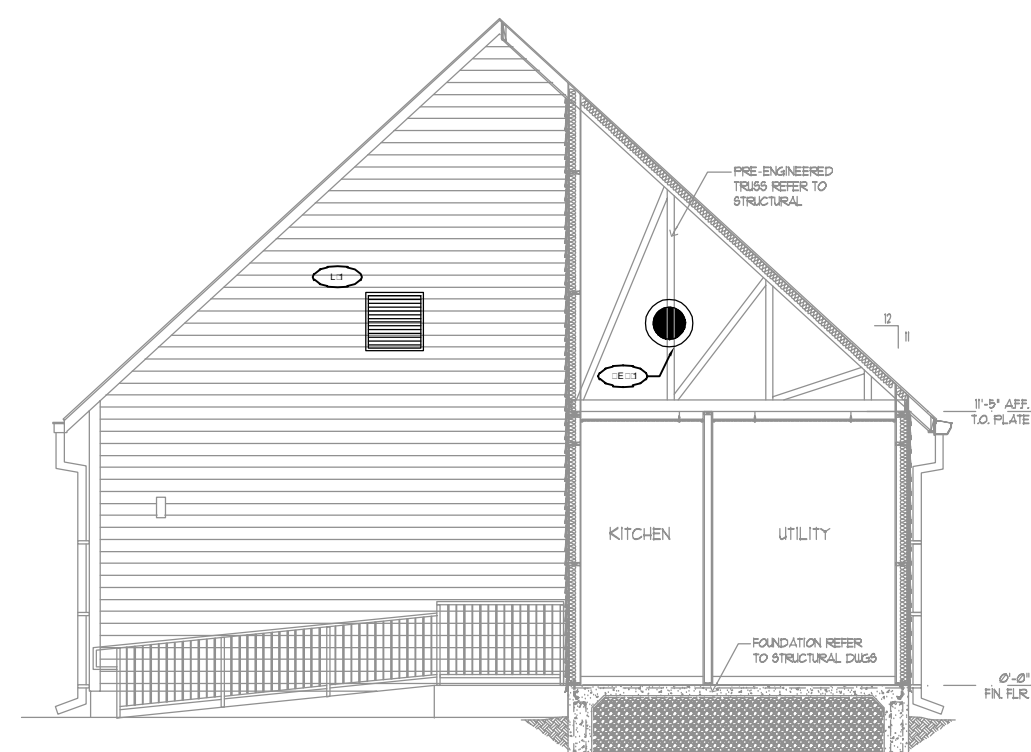
SCALE: 1/4" = 1'-0"

GENERAL MECHANICAL NEW WORK NOTES:

1. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
2. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF EQUIPMENT, DUCTS, AND GRILLES, ETC. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT COMPLETE MECHANICAL SYSTEMS BE FURNISHED, INSTALLED, TESTED AND READY FOR OPERATION WHETHER EVERY ITEM OF EQUIPMENT, ACCESSORY, DEVICE, ETC. IS SHOWN. REFERENCE SHALL BE MADE TO THE FULL DRAWING PACKAGE INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR COORDINATION AND POTENTIAL CONFLICTS. THE MECHANICAL SUBCONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICTS WITH OTHER TRADES, OR FOR PROPER EXECUTION OF THE WORK. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATING DUCTWORK.
3. DUCT DIMENSIONS INDICATED ON DRAWINGS ARE CLEAN INSIDE AIR STREAM DIMENSIONS.
4. NEW A/C EQUIPMENT SHALL BE CLEANED AFTER THE FINISHING OF DRYWALL AND PRIOR TO THE RELEASE OF BUILDING TO OWNER. MECHANICAL CONTRACTOR TO PROVIDE ALL DOCUMENTATION WITH DATE AND TIME OF UNIT CLEANING AND CONSTRUCTION FILTER REPLACED WITH NEW.
5. ALL UNITS GREATER THAN 2,000 CFM REQUIRE A DUCT MOUNTED SMOKE DETECTOR. VERIFY CURRENT ADOPTED STATE AND LOCAL CODE REQUIREMENTS FOR MOUNTING LOCATION OF SMOKE DETECTOR.
6. REFLECTED CEILING PLANS ARE FOR DESIGN INTENT. ALIGNMENT OF FIXTURES, SPRINKLER HEADS, DIFFUSERS AND OTHER DEVICES TO BE SYMMETRICAL IN THE ROOMS, ALIGNED WITH EACH OTHER, AND AS SHOWN. CEILING HEIGHTS ARE SCHEDULED IN ROOM FINISH SCHEDULE. ABOVE CEILING SPACE IS LIMITED. THEREFORE COORDINATION OF ALL SYSTEMS WITH NEW STRUCTURES IS CRITICAL. COORDINATION SHOP DRAWINGS FOR REFLECTED CEILING SHALL BE SUBMITTED SHOWING LOCATIONS OF ALL FIXTURES, SPRINKLER HEADS, DIFFUSERS, AND OTHER DEVICES FOR REVIEW BY THE ARCHITECT PRIOR TO INSTALLATION OF ANY SYSTEMS.
7. EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER DRAWINGS AND CUT SHEETS BEFORE FABRICATING OF DUCTWORK, PIPING, OR POURING OF HOUSEKEEPING PADS.
8. ALL DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR LOW, MEDIUM, AND HIGH PRESSURE DUCTWORK.
9. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 10 FEET DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET FLUES, OR PLUMBING VENTS. COORDINATE WITH PLUMBING CONTRACTOR AND OTHER TRADES.
10. FIRE/SMOKE DAMPERS SHALL BE INSTALLED AT ALL DUCT PENETRATIONS OF FIRE/SMOKE RATED WALLS.
11. PROVIDE VOLUME DAMPERS AT ALL SUPPLY AS ESTABLISHED BY THE LATEST EDITION OF SMACNA DUCT CONSTRUCTION MANUAL AND MECHANICAL DETAILS.
12. ALL DUCTWORK SHALL BE CONSTRUCTED OF A MINIMUM OF 26 GAUGE GALVANIZED STEEL OR GREATER OF U.S. STANDARD SHEET METAL A GAUGE ONE HOUR RATED, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
13. ACCESS TO MUA WILL BE PROVIDED IN COMPLIANCE WITH IMC 306.3 (APPLIANCES IN ATTICS).

KEYED MECHANICAL NEW WORK NOTES:

- ① ROUTE AND INSTALL AN OUTLINE HORIZONTAL DISCHARGE. ROUTE ACCESS TO MAINTENANCE REFER TO SCHEDULES AND DETAILS. ROUTE STRUCTURAL SUPPORTS AS REQUIRED TO SUPPORT UNIT AND INSULATE CONDENSATE TRAY. COORDINATE EXACT LOCATION WITH ARCHITECT
- ② ROUTE AND INSTALL CONDENSATE UNIT TO ROUND MOUNT ON PRE-ARRANGED LAD. REFER TO DETAILS AND SCHEDULE.
- ③ ROUTE 3/4" INSULATED CONDENSATE LINE WITH 1/4" SLOPE TO THE EXHAUST SINK TALE.
- ④ ROUTE AND INSTALL PROGRAMMABLE THERMOSTAT MOUNTED AT ADA COMPLAINT HEIGHT.
- ⑤ ROUTE AND INSTALL CEILING MOUNTED EXHAUST FAN. REFER TO SCHEDULES AND DETAILS.
- ⑥ ROUTE AND INSTALL RADIANT HOOD ON ROOF. REFER TO SCHEDULES AND DETAILS.
- ⑦ ROUTE AND INSTALL DUCTH EQUIPMENT. REFER SCHEDULES AND DETAILS.
- ⑧ ROUTE AND INSTALL 2"X2" LOUVER FOR INTAKE AIR WITH COMPLETE SILENCER PLenum.
- ⑨ ROUTE DUCT TO DRYER, UNLESS OTHERWISE PERMITTED OR REQUIRED BY THE DRYER MANUFACTURERS INSTALLATION INSTRUCTIONS AND ALLOWED BY THE BUILDING CODES. LOCAL DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF 10 FEET INCLUDING THE 2" DUCT. REELECT THE DUCT MEET SHALL BE DEDUCTED FOR EACH 2" DUCT RUN. EXCEEDS 10 FT.
- ⑩ CHECK HOOD COMPLY WITH MIN. CLEARANCE ESTABLISHED BY MANUFACTURER.




2 MECHANICAL NORTH ELEVATION
SCALE: 1/4" = 1'-0"

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



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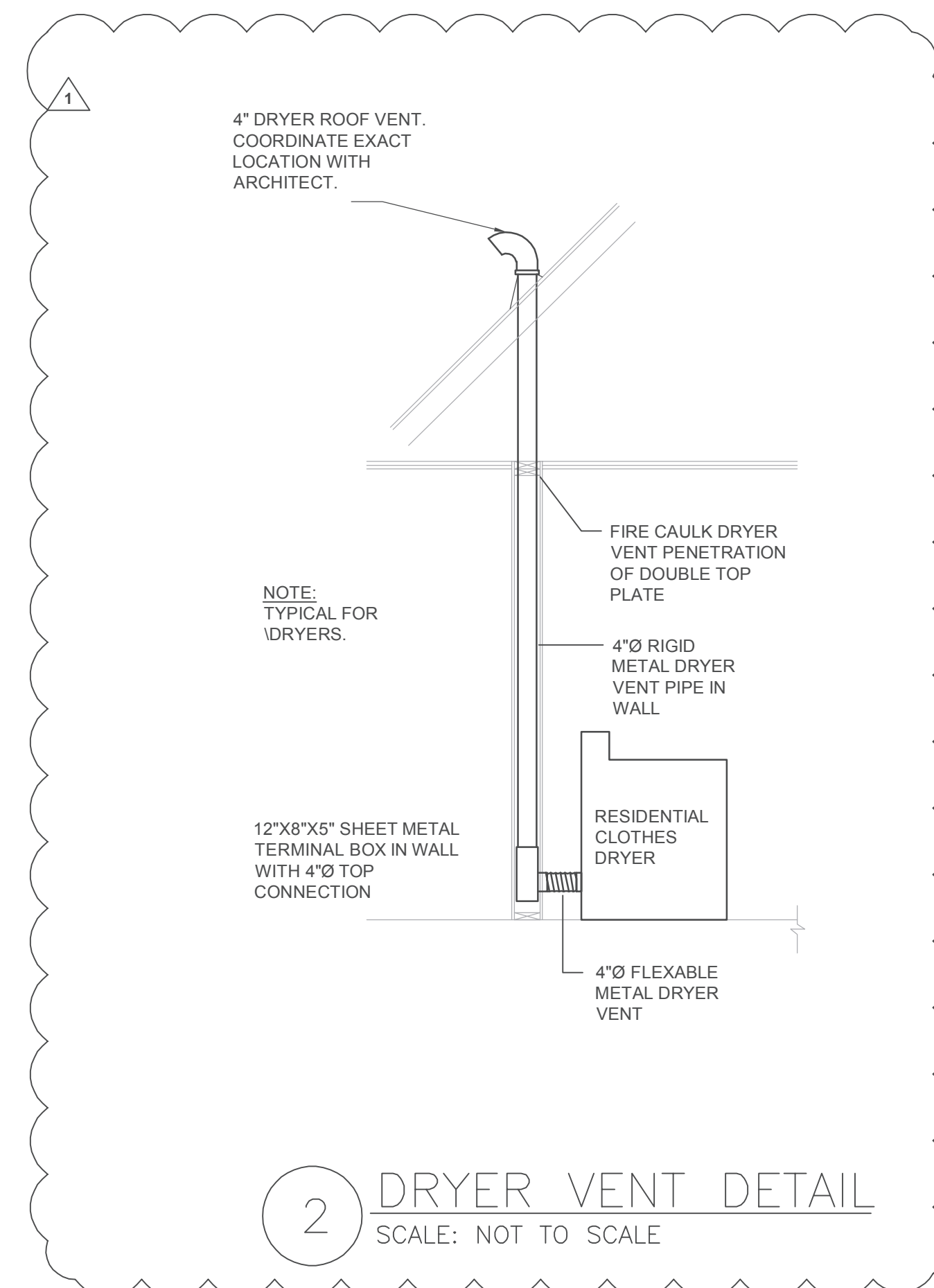
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1 MECHANICAL ROOF PLAN
SCALE: 1/4" = 1'-0"

- ## GENERAL MECHANICAL NEW WORK NOTES:
1. ALL MECHANICAL EQUIPMENT SHALL BE 10"-0" MIN. FROM EDGE OF ROOF.
 2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
 3. NEW A/C EQUIPMENT SHALL BE CLEANED AFTER THE FINISHING OF DRYWALL AND PRIOR TO THE RELEASE OF BUILDING TO OWNER. MECHANICAL CONTRACTOR TO PROVIDE ALL DOCUMENTATION WITH DATE AND TIME OF UNIT CLEANING AND CONSTRUCTION FILTER REPLACED WITH NEW.
 4. EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER DRAWINGS AND CUTSHEETS BEFORE FABRICATING OF DUCTWORK, PIPING, OR POURING OF HOUSEKEEPING PADS.
 5. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 10 FEET DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET, FLUES, OR PLUMBING VENTS. COORDINATE WITH PLUMBING CONTRACTOR AND OTHER TRADES.
 6. COORDINATE LOCATIONS OF ROOF OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
 7. FIRE/SMOKE DAMPERS SHALL BE INSTALLED AT ALL DUCT PENETRATIONS OF FIRE/SMOKE RATED WALLS.

KEYED MECHANICAL NEW WORK NOTES:

- 1 PROVIDE AND INSTALL GRAVITY HOOD ON ROOF. REFER TO SCHEDULES AND DETAILS.
- 2 PROVIDE AN INSTALL DRYER ROOF VENT SIMILAR TO DRYER JACK MODEL 477. REFER TO MANUFACTURER RECOMENDATION AND COORDINATE OPENING WITH ARCHITECT.



2 DRYER VENT DETAIL
SCALE: NOT TO SCALE



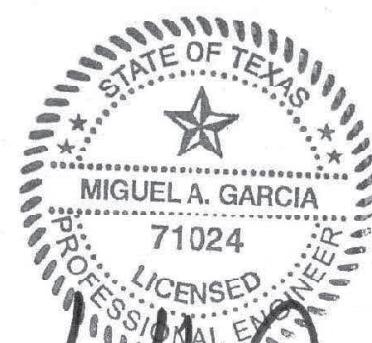
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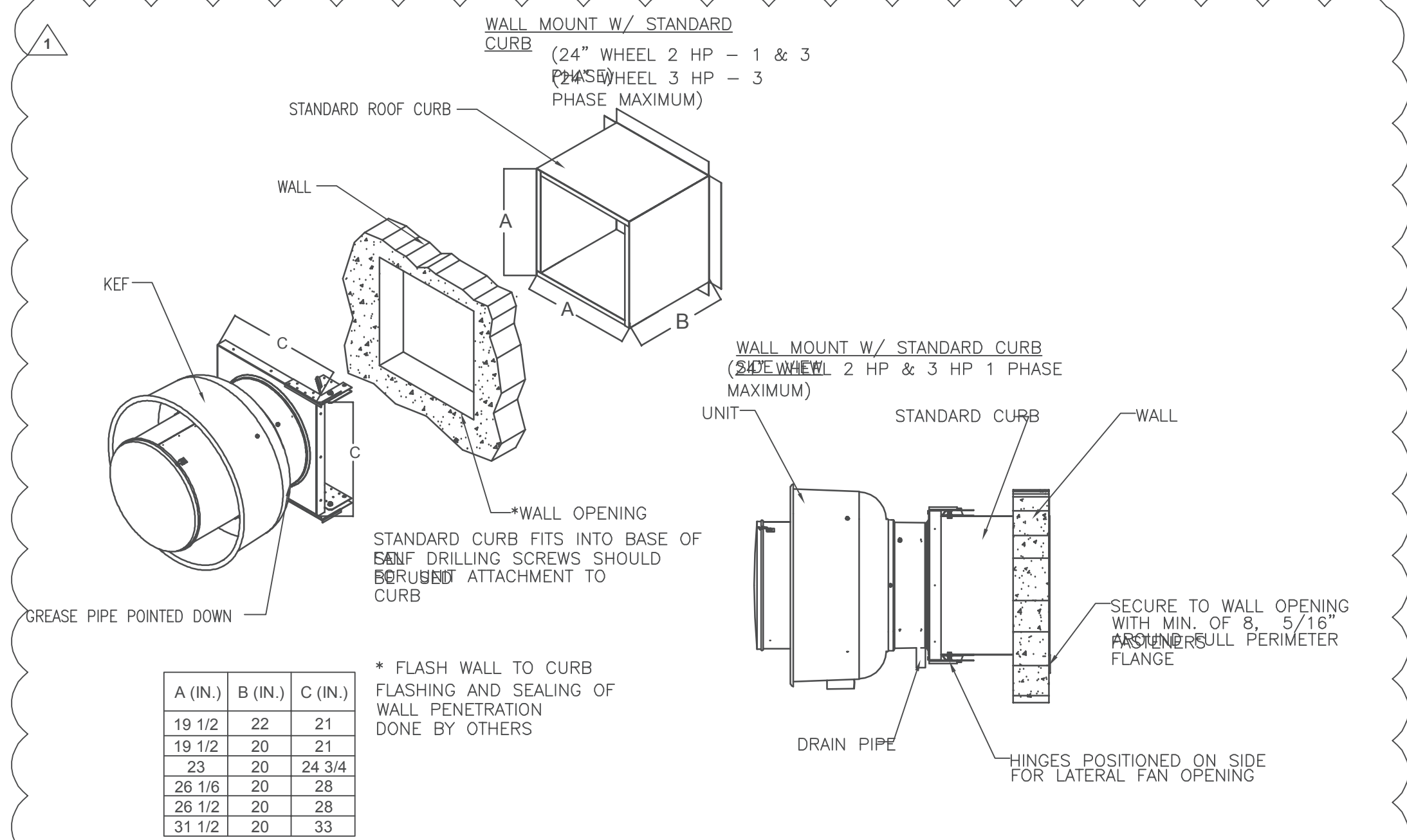


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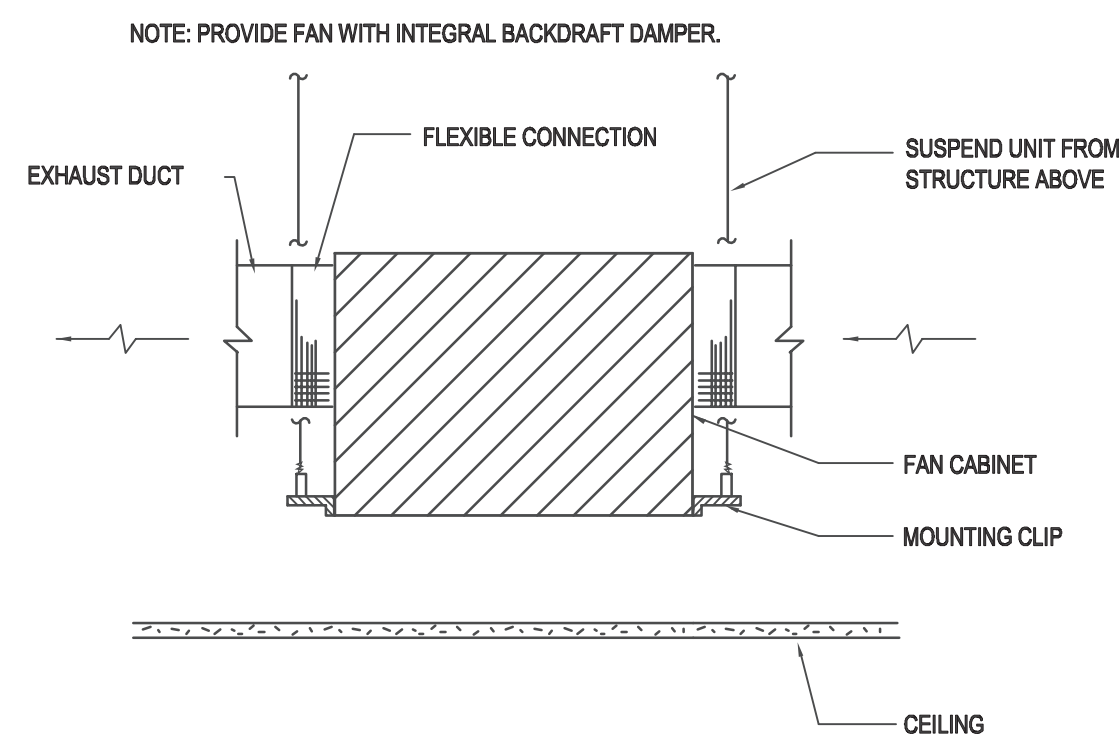
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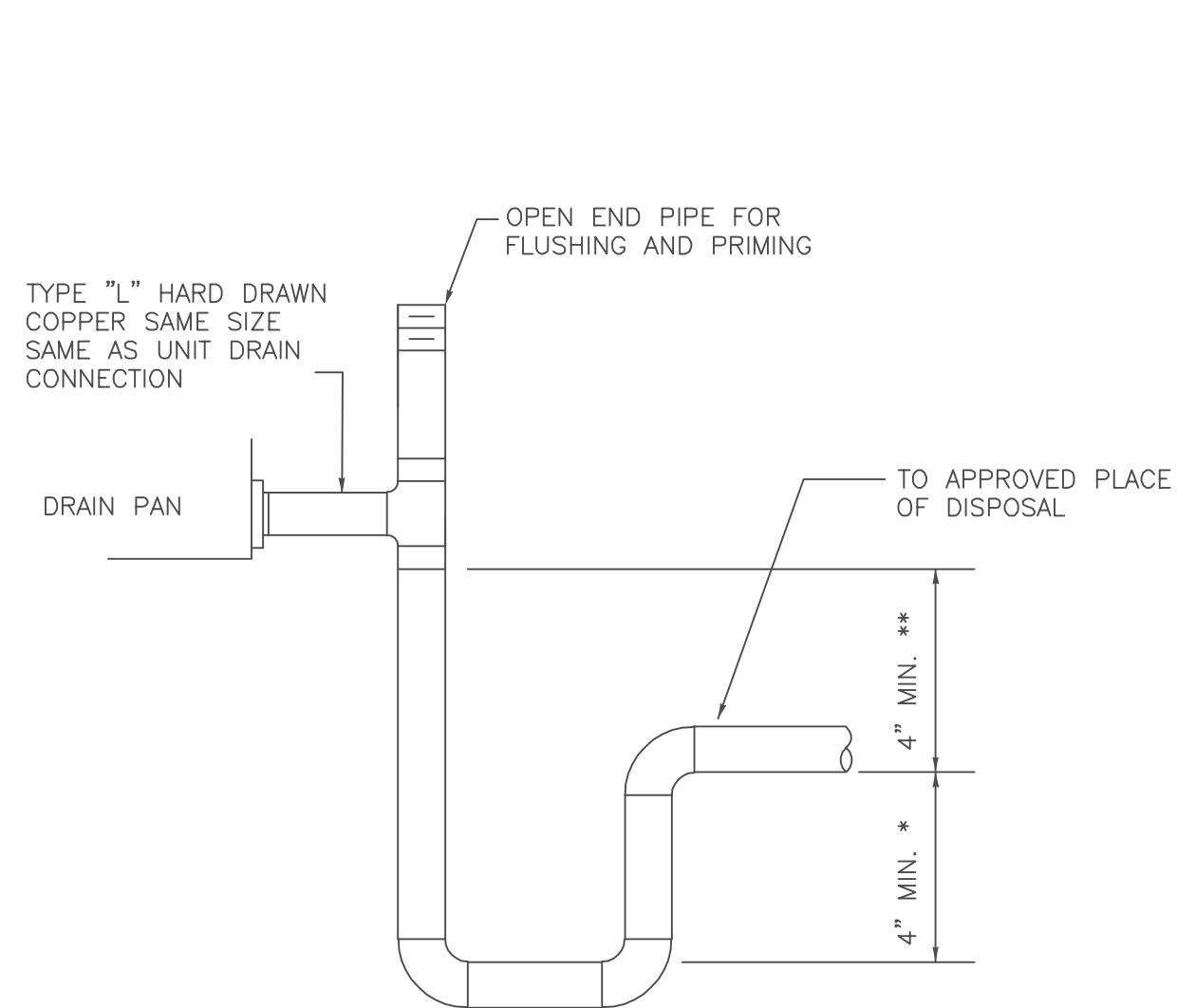
A (IN.)	B (IN.)	C (IN.)
19 1/2	22	21
19 1/2	20	21
23	20	24 3/4
26 1/8	20	28
26 1/2	20	28
31 1/2	20	33

* FLASH WALL TO CURB FLASHING AND SEALING OF WALL PENETRATION DONE BY OTHERS

1 THROUGH WALL CURB INSTALLATION
SCALE: NO SCALE

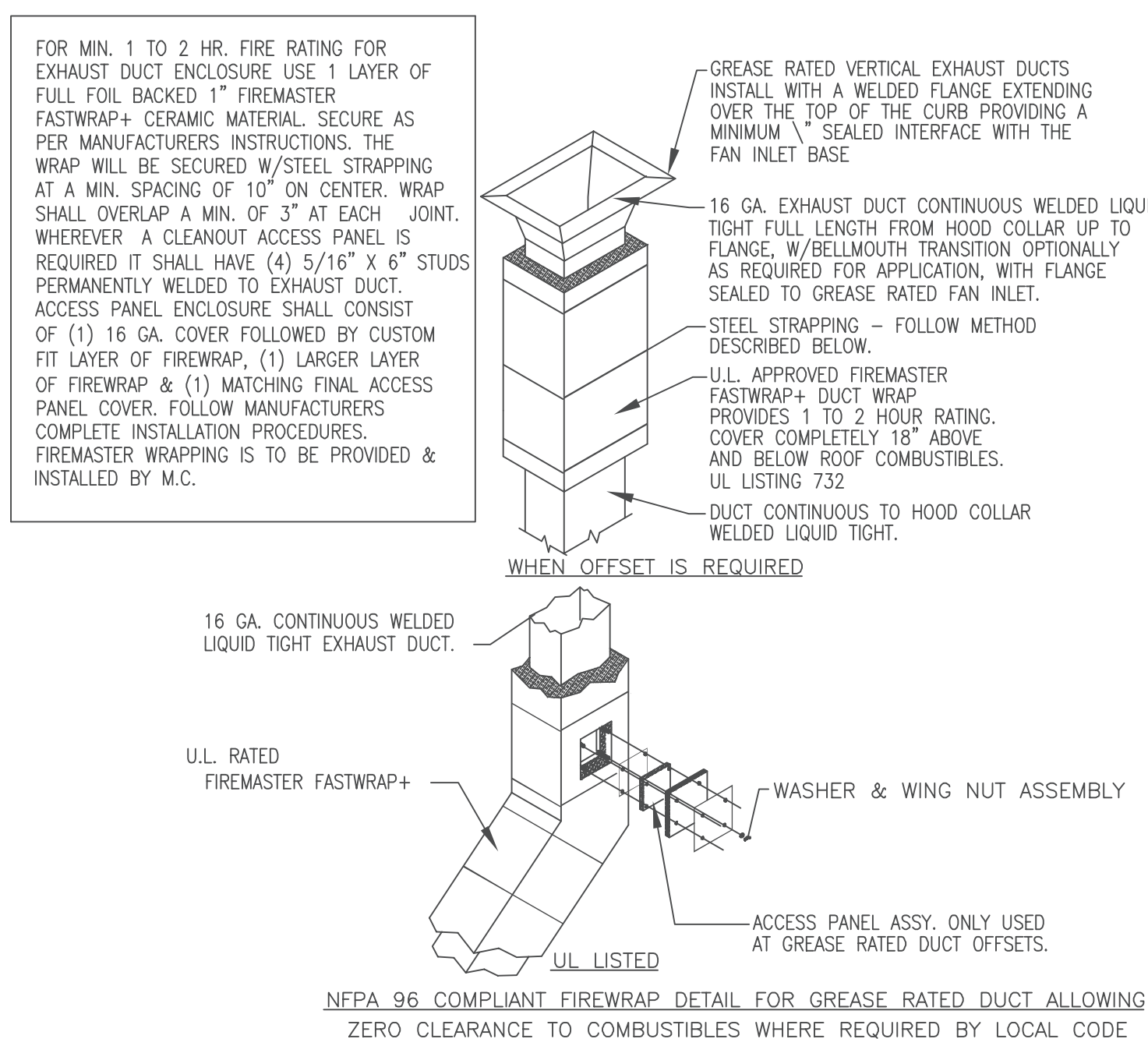


4 INLINE EXHAUST DETAIL
SCALE: NO SCALE



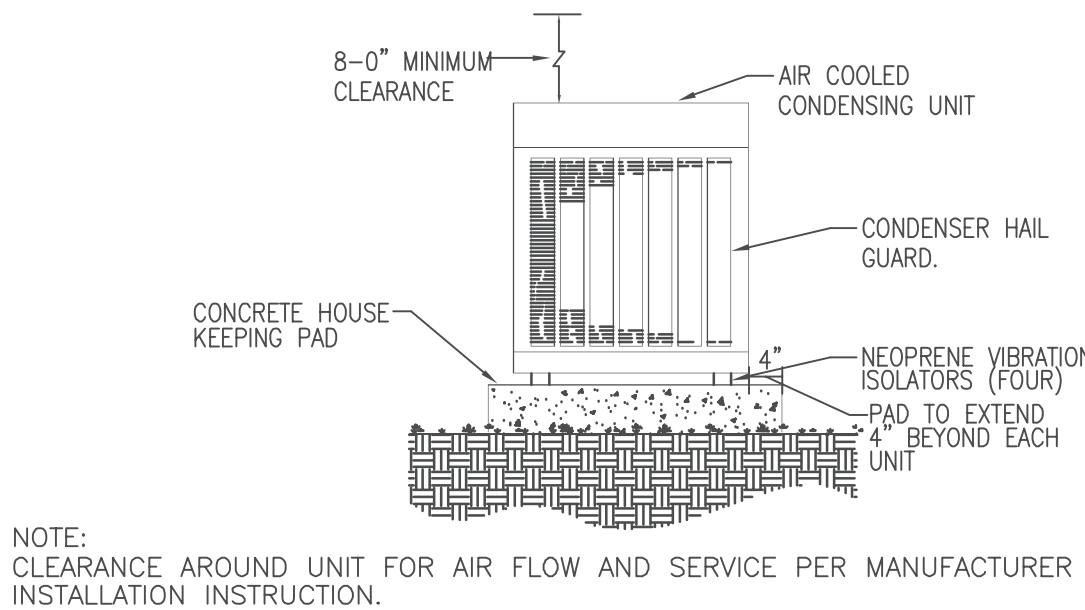
* OR 1" PLUS UNIT TOTAL PRESSURE WHICHEVER IS GREATER FOR BLOW THRU UNIT.
** OR 1" PLUS UNIT TOTAL PRESSURE WHICHEVER IS GREATER FOR DRAW THRU UNIT.

7 CONDENSATE DRAIN TRAP DETAIL
SCALE: NO SCALE



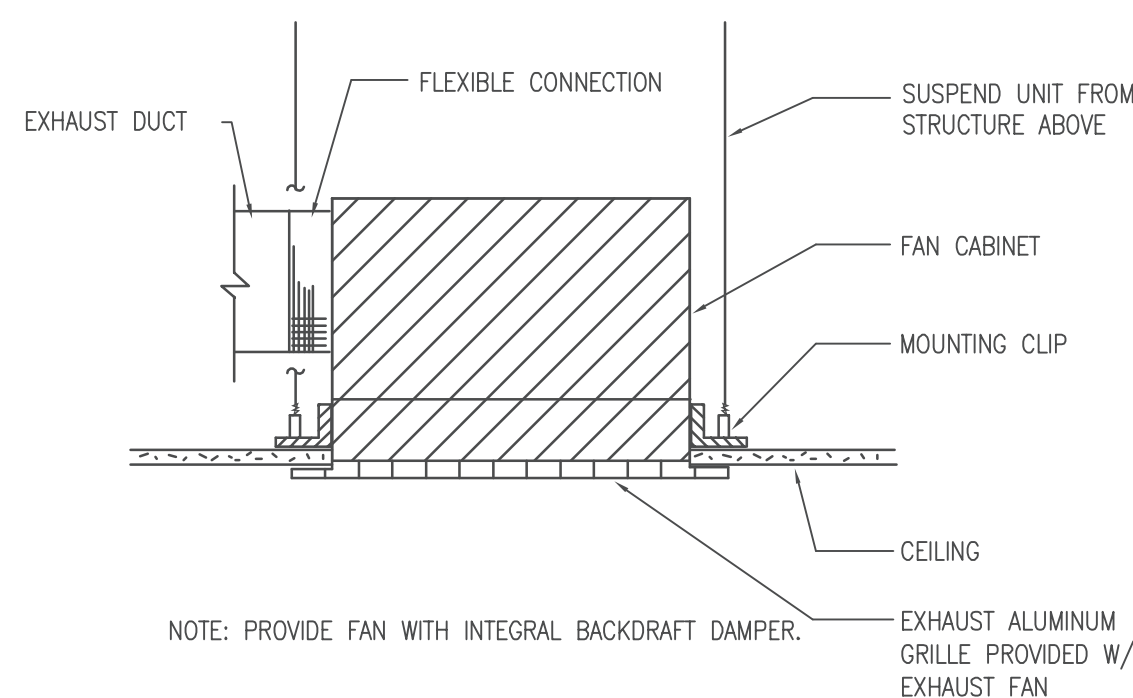
NEPA 96 COMPLIANT FIREWRAP DETAIL FOR GREASE RATED DUCT ALLOWING ZERO CLEARANCE TO COMBUSTIBLES WHERE REQUIRED BY LOCAL CODE

8 CLEARANCE TO COMBUSTIBLES
SCALE: NOT TO SCALE

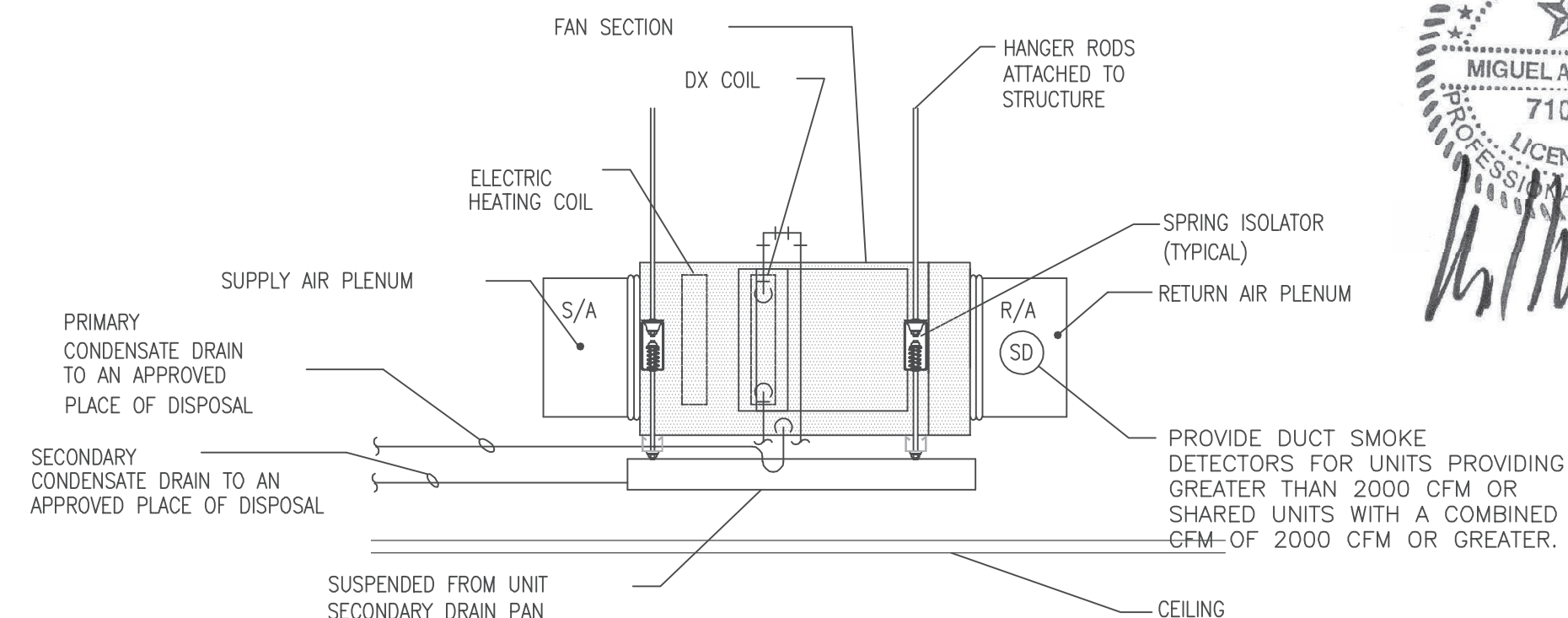


NOTE: CLEARANCE AROUND UNIT FOR AIR FLOW AND SERVICE PER MANUFACTURER INSTALLATION INSTRUCTION.

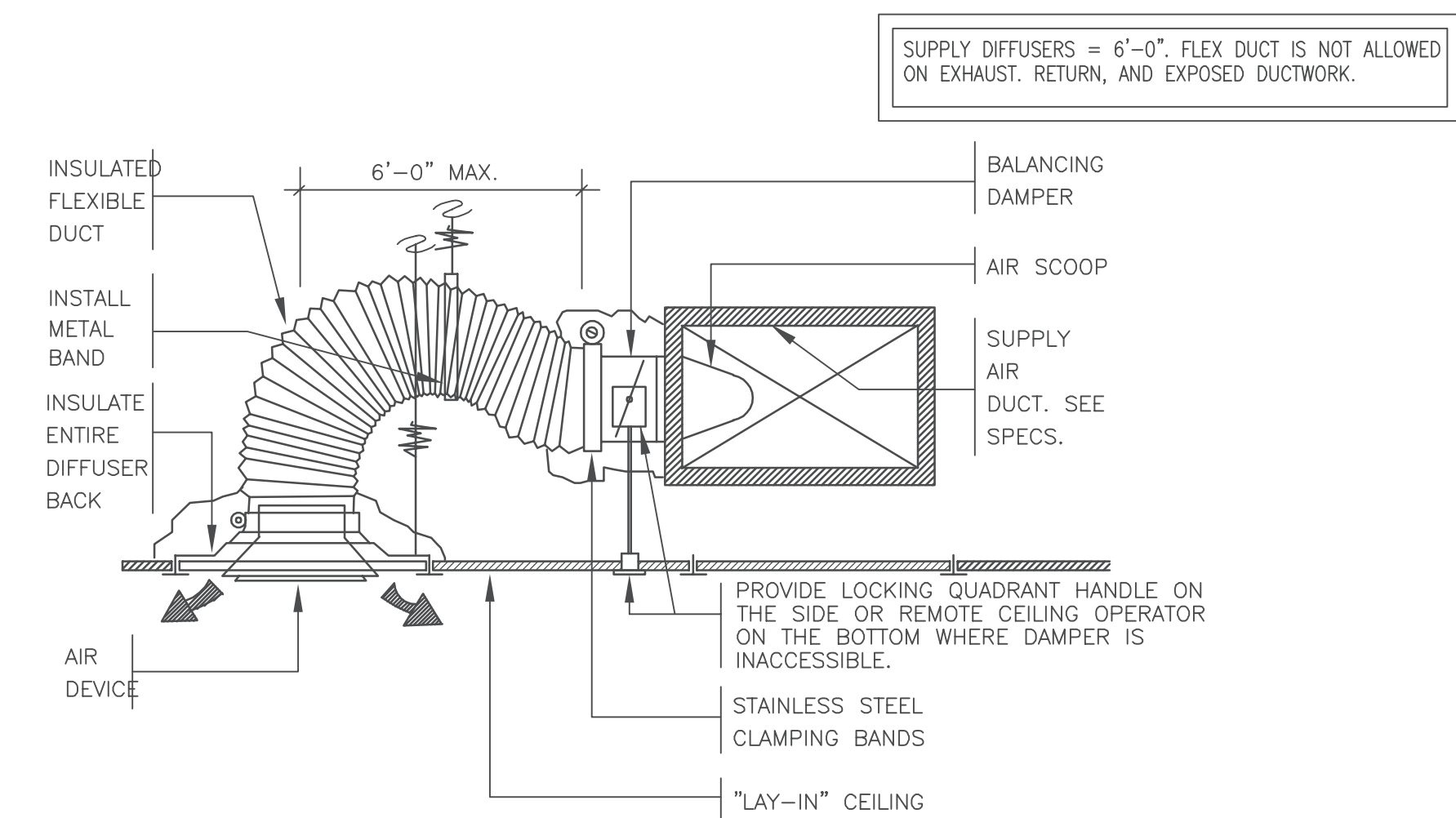
2 CONDENSING UNIT DETAIL
SCALE: NOT TO SCALE



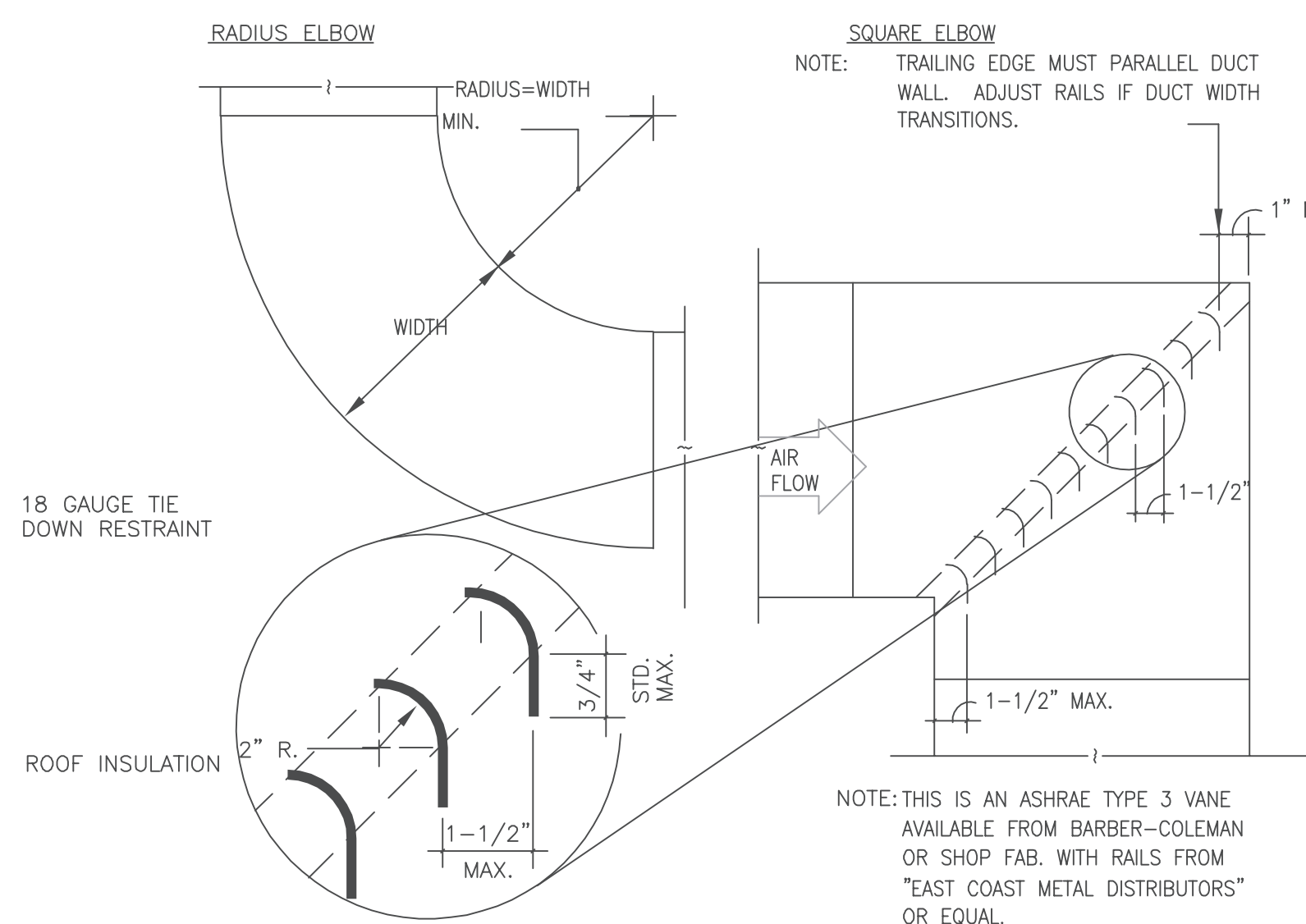
5 CEILING MOUNTED EXHAUST DETAIL
SCALE: NO SCALE



3 AIR HANDLING UNIT MOUNTING DETAIL
SCALE: NO SCALE

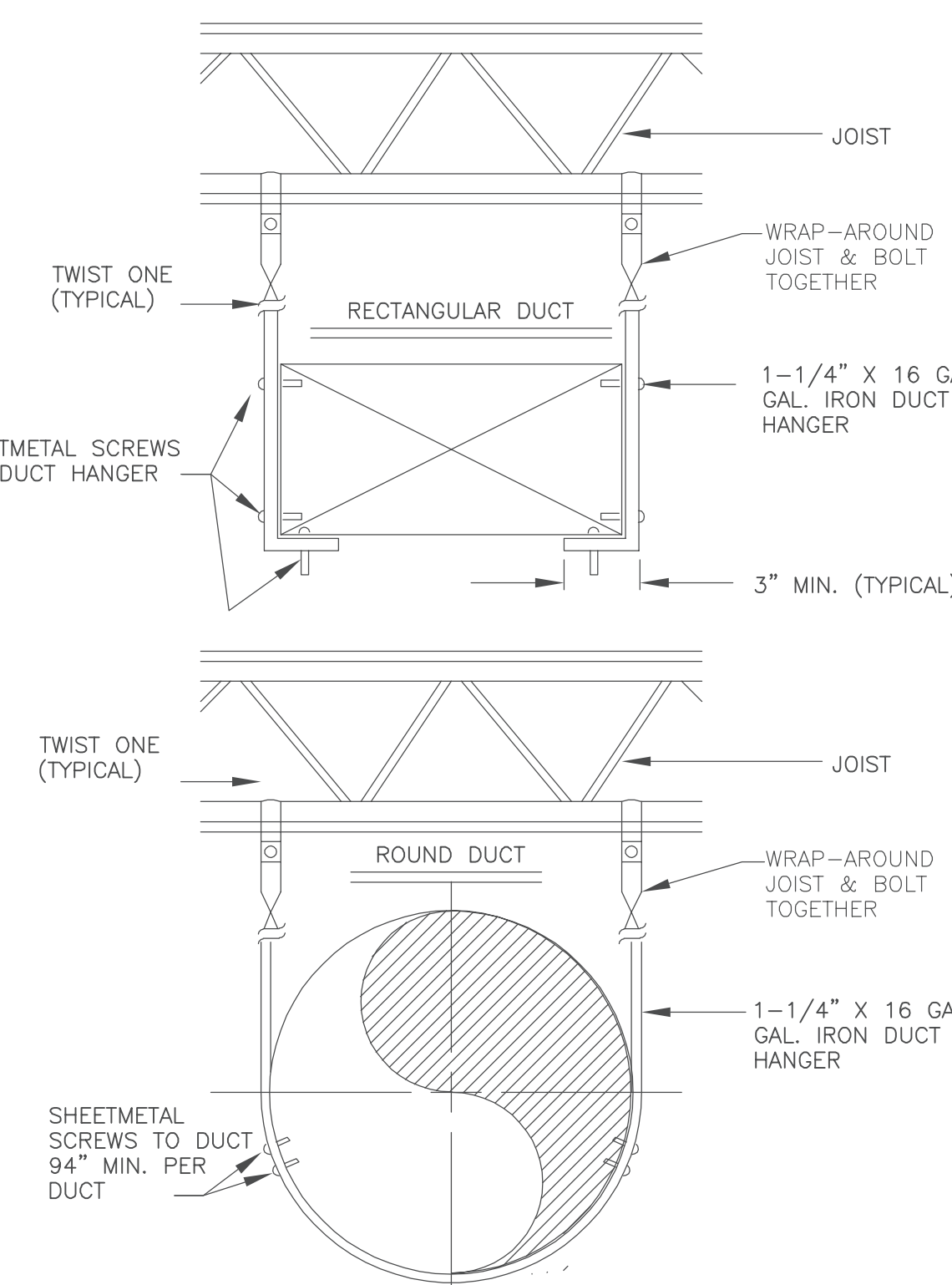


6 FLEXIBLE DUCT TAP DETAIL
SCALE: NOT TO SCALE



NOTE: THIS IS AN ASHRAE TYPE 3 VANE AVAILABLE FROM BARBER-COLEMAN OR SHOP FAB. WITH RAILS FROM \"EAST COAST METAL DISTRIBUTORS\" OR EQUAL.

9 TYP. DUCT ELBOW
SCALE: NOT TO SCALE



10 DUCT HANGERS
SCALE: NOT TO SCALE

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AIR CONDITIONING UNIT SCHEDULE			
R410A ELECTRIC			
DESIGNATION	FCU-1 / CU-1		FCU-2 / CU-2
CARRIER MODEL	FZ4ANP061/24SPA660		FZ4ANP036/24SPA636
SEER2/EER2	15.2/13		14.5/12
NET COOLING CAPACITY (MBH)	5121.0		29.1
NET SENSIBLE COOLING CAPACITY (MBH)	41.3		22.8
EAT (DB) DEG F	76.5		76.0
EAT (WB) DEG F	63		63
LAT (DB) DEG F	55.3		55.9
LAT (WB) DEG F	53.47		53.53
AMBIENT TEMP (DEG F)	105		105
AUXILIAR ELECTRIC HEATER (KW)	15		8
SUPPLY AIR (CFM)	1840		1050
OUTSIDE AIR (CFM)	310		240
FAN (HP)	3/4		1/2
E.S.P.	0.6		0.6
INDOOR VOLTAGE/PHASE/HZ	230/1/60		230/1/60
MINIMUM CIRCUIT AMPACITY	51.8		48.5
MAXIMUM FUSE SIZE	60		50
WEIGHT (LB)	201		122
OUTDOOR VOLTAGE/PHASE/HZ	230/1/60		230/1/60
MINIMUM CIRCUIT AMPACITY	33.4		16.7
MAXIMUM FUSE SIZE	50		25
WEIGHT (LB)	242		198
COND DRAIN LINE SIZE (" NPT)	3/4"		3/4"
REFRIGERANT SUCTION LINE SIZE	7/8		5/8
REFRIGERANT LIQUID LINE SIZE	3/8		3/8

Notes (1-5-TON):

- CASING LEAKAGE RATES SHALL BE 2% OR LESS.
- FURNISH WITH SLIDE OUT BLOWER ASSEMBLY.
- FURNISH WITH SINGLE WALL CASING WITH R-4 INSULATION AND MICROBIAL COATING.
- FURNISH WITH ELECTRONIC EXPANSION VALVE WITH LOW AMBIENT AND SUPER-HEAT PROTECTION.
- PROVIDE 2" THROWAWAY FILTERS.
- REFRIGERANT SIZE IS CONNECTION EQUIPMENT SIZE. VERIFY THE REFRIGERATION LINES ACCORDING DISTANCE.
- PROVIDE WITH PROGRAMMABLE THERMOSTAT.

DESIGN OUTDOOR AIR BALANCE SCHEDULE			
EQUIPMENT		EXHAUST AIR (CFM)	REPLACEMENT AIR (CFM)
INTAKE	EXHAUST		
	EF-1	75	
	EF-2	75	
	EF-3	50	
	EF4	125	
	EF5	50	
	KEF-1	1575	
FCU-1			310
			240
MAU-1			1418
		TOTAL EXHAUST AIR (CFM)	TOTAL REPLACEMENT AIR (CFM)
		1950	1968
		NET EXFILTRATION (CFM)	
		18	
DOES TOTAL REPLACEMENT AIR FLOW RATE MEET OR EXCEED THE EXHAUST AIR FLOW RATE?			YES

NOTES:

1. THIS SCHEDULE IS TO SHOW COMPLIANCE WITH 403 "MECHANICAL VENTILATION" OF THE 2018 IMC.

FAN SCHEDULE					
MARK	EF-1	EF-2	EF-3	EF-4	EF-5
SERVES	RESTROOM	RESTROOM	LAUNDRY	RESTROOMS	UTILITY
CFM	75	75	50	125	50
E.S.P. (IN W.G.)	0.5	0.5	0.5	0.5	0.5
TYPE	CEILING	CEILING	CEILING	CEILING	CEILING
DIRECT/BELT DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
FAN RPM	930	930	930	940	930
MOTOR HORSEPOWER (HP)	36.5 W	36.5 W	36.5 W	71 W	36.5 W
VOLTS/PHASE/HERTZ	115/1/60	115/1/60	115/1/60	115/1/60	115/1/60
SONES	2	2	2	3.5	2
WEIGHT (LBS)	15	15	15	25	15
MANUFACTURER	COOK	COOK	COOK	COOK	COOK
MODEL NO.	GC-148	GC-148	GC-148	GC-186	GC-148
NOTES	1	1	1	1	1
NOTES:					
1. PROVIDE STD DISCONNECT, WHITE ALUM GRILLE, PREWIRED FAN SPEED CONTROLLER, GRAVITY DAMPER & RUBBER ISOLATORS.					

GRAVITY HOOD SCHEDULE			
MARK	GH-1	GH-2	GH-3
SERVES	EF-1/EF-2	EF-3/EF-4	EF-5
CFM	150	225	75
MAX. P.D. (IN. W.G.)	0.5	0.5	0.5
INTAKE/RELIEF	RELIEF	RELIEF	RELIEF
THROAT SIZE (FT2)	0.394	0.852	0.394
WEIGHT (LBS.)	20	30	20
MANUFACTURER	COOK	COOK	COOK
MODEL NO.	PR08	PR12	PR08

NOTES:

1. PROVIDE ROOF CURB.
2. PROVIDE GRAVITY DAMPER
3. PROVIDE BIRDSCREEN

MARK	MANUFACTURER/ MODEL	MODULE SIZE	MAX NC	REMARKS	NOTES
A	TITUS / TMS-AA	24"X24" SUPPLY	26	ALUMINUM CONSTRUCTION.	1, 2, 3
B	TITUS / TMS-AA	12"X12" SUPPLY	26	ALUMINUM CONSTRUCTION.	1, 2, 3
C	TITUS / 50F	24"X24" EGGRATE RETURN	26	ALUMINUM CONSTRUCTION.	1, 2, 3, 4
D	TITUS / 50F	24"X12" EGGRATE RETURN	26	ALUMINUM CONSTRUCTION.	1, 2, 3, 4

NOTES:

1. PROVIDE STANDARD WHITE FINISH FOR ALL AIR DEVICES UNLESS NOTED OTHERWISE ON PLAN.
2. PAINT ALL SURFACES VISIBLE THROUGH FACE OF RETURN AIR GRILLES FLAT BLACK. THIS SHALL INCLUDE PIPING, CONDUIT,
3. PROVIDE FRAME FOR MOUNTING AIR DEVICE IN LAY-IN GRID CEILING UNLESS REFLECTED CEILING PLAN INDICATES HARD CEILING. IN AREAS WITH HARD CEILINGS, PROVIDE FRAMES FOR SURFACE MOUNTING.
4. UNLESS OTHERWISE NOTED, BRANCH DUCTS SERVING AIR DEVICES SHALL BE SAME SIZE AS NECK OF AIR DEVICE.



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REDEEMER PRAISE CHURCH

107 S. PINE STREET, SAN ANTONIO, TEXAS 78203

Frausto Designs

8600 WUJERZACH ROAD
SUITE 604
SAN ANTONIO, TX 78240
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HEATING, VENTILATION AND AIR CONDITIONING SPECIFICATIONS
DIVISION 15 – MECHANICAL
SECTION – 15700

15700.01 GENERAL

- A. PROVISIONS OF THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS, WHETHER ATTACHED HERETO OR NOT, SHALL GOVERN ALL WORK UNDER THIS SECTION.
- B. ALL WORK COVERED UNDER THE FOLLOWING HVAC SPECIFICATIONS AND CONTRACT DRAWINGS IS TO BE PROVIDED AND INSTALLED BY AND IS TO BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR, HERE IN REFERRED TO AS THE CONTRACTOR.
- C. WHERE MANUFACTURERS' NAMES, CATALOG NUMBERS, OR TRADE NAMES APPEAR IN THE SPECIFICATIONS, IT IS NOT THE INTENT TO RESTRICT OR ELIMINATE COMPETITION, BUT MERELY TO ESTABLISH QUALITY OF MATERIAL REQUIRED. WHERE THE WORDS "OR APPROVED EQUAL" APPEAR THE "EQUAL" ITEM MUST CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS AND MUST BE SUBMITTED WITH COMPLETE INFORMATION TO THE ENGINEER FOR APPROVAL. IT IS IMPORTANT TO NOTE THAT ALL COSTS OF ADDITIONAL WORK REQUIRED OF OTHER TRADES CAUSED BY A SUBSTITUTION OF EQUIPMENT AND/OR MATERIALS SHALL BE BORNE BY THE CONTRACTOR.
- D. FOR FURTHER DETAILS OF THE INSTALLATION REQUIREMENTS, REFER TO THE FIXTURE PLANS, REFRIGERATION SCHEDULES, FLOOR PLANS, PLUMBING PLANS, ELECTRIC PLANS, AIR CONDITIONING, HEATING AND VENTILATION PLANS, MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ALL APPLICABLE CODES AND ORDINANCES.
- E. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED COMPONENTS AND ACCESSORIES NECESSARY TO FACILITATE A COMPLETE INSTALLATION, INCLUDING ALL LABOR REQUIRED TO COMPLETE THE INSTALLATION AND PERFORM THE SERVICE COVERED BY THIS SPECIFICATION. THE CONTRACTOR IS RESPONSIBLE FOR UNLOADING, ASSEMBLING, AND INSTALLING ALL HVAC EQUIPMENT AND RELATED ITEMS UNLESS OTHERWISE SPECIFIED.
- F. THE CONTRACTOR SHALL FAMILIARIZE THEMSELF WITH THE PROJECT AND SHALL COOPERATE WITH OTHER CONTRACTORS DOING WORK IN THE BUILDING. IF ANY CONFLICT, INTERFERENCE OR DISCREPANCIES COME TO THE ATTENTION OF THE CONTRACTOR, HE SHALL NOTIFY THE ENGINEER IMMEDIATELY, BEFORE PROCEEDING ANY FURTHER WITH THE INSTALLATION.
- G. NO ADDITIONAL PAYMENT OVER AND ABOVE THE CONTRACT PRICE WILL BE MADE UNLESS THE CONTRACTOR RECEIVES A WRITTEN ORDER BY THE OWNER OR HIS REPRESENTATIVE FOR THE ADDITIONAL WORK.
- H. PRIOR TO SUBMITTING THE PROPOSALS, THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS, SPECIFICATIONS, AND OTHER AVAILABLE ESTIMATING DATA, AND SHALL BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED, AND ITS RELATION TO THE OTHER WORK IN THIS PROJECT. NO CONSIDERATION WILL BE GIVEN FOR ANY ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE FURNISHED OR WORK TO BE DONE. IT SHALL BE CLEARLY UNDERSTOOD THAT THE SUBMISSION OF A PROPOSAL INDICATES A COMPLETE UNDERSTANDING OF AND AGREEMENT TO ALL THE ITEMS AND CONDITIONS SPECIFIED HEREIN, OR INDICATED ON THE DRAWINGS.

- I. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER, ANY DISCREPANCIES INDICATED ON DIFFERENT DRAWINGS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR ERRORS SHOWN ON EITHER DRAWINGS OR SPECIFICATIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF RGM ENGINEERING AND ASSOCIATES, INC. FOR DECISION PRIOR TO BID SUBMISSION.
- J. COMPLY WITH THE LATEST APPLICABLE REQUIREMENTS OF THE INC. IECC, NFPA AND THE LOCAL INSPECTION AUTHORITY WHO SHALL HAVE FINAL JURISDICTION. COMPLY ALSO WITH ALL REQUIREMENTS OF AMENOMENTS TO THE CODES FROM AUTHORITY HAVING JURISDICTION.

15700.02 DESIGN CONDITIONS

- A. OUTDOOR DESIGN CONDITIONS ARE TO CONFORM TO VALUES FOR THE SPECIFIC LOCATION AS OUTLINED IN ASHRAE HANDBOOK FUNDAMENTALS VOLUME, LISTED IN CHAPTER 26 TABLE 1A, FROM COLUMNS OF 99.0% VALUES FOR HEATING AND 0.4% VALUES FOR COOLING.
- B. INDOOR DESIGN TEMPERATURES FOR MAIN SALES AREA ARE INDICATED ON THE PLANS. ALL OTHER HEATED AND COOLED AREAS ARE TO MAINTAIN TO DEG. F. HEATING AND 75 DEG. F. COOLING DURING OCCUPIED HOURS AT PUBLISHED OUTDOOR CONDITIONS. UNOCCUPIED REQUIREMENTS SHALL BE IN ACCORDANCE WITH INTERNATIONAL CODE SETBACK REQUIREMENTS.
- C. INDOOR DESIGN RELATIVE HUMIDITY SHALL NOT EXCEED 30 PERCENT FOR HEATING. THE ACTUAL DESIGN RELATIVE HUMIDITY FOR COOLING SHALL BE WITHIN THE COMFORT ENVELOPE AS DEFINED IN ASHRAE 55, LISTED IN APPENDIX A, AND SELECTED FOR THE MINIMUM SYSTEM ENERGY USE FOR AIR CONDITIONING AND VENTILATION AND IN ACCORDANCE WITH THE OPERATING REQUIREMENTS OF THE DISPLAY FIXTURES, WHICH SHALL NOT EXCEED 55% RH.

15700.03 SCOPE OF WORK

- A. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, RIGGING, APPLIANCES, TOOLS AND ACCESSORIES REQUIRED TO PROVIDE, INSTALL, CONNECT, AND TEST THE COMPLETE HEATING, VENTILATING AND AIR CONDITIONING SYSTEM AND ASSOCIATED EQUIPMENT IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS.
- B. THE HVAC CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL TAXES, FEES AND OTHER COSTS IN CONNECTION WITH HIS WORK. THE CONTRACTOR SHALL FILE ALL NECESSARY APPROVALS OF ALL DEPARTMENTS HAVING JURISDICTION, AND OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVER SAME TO THE ARCHITECT BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. THE CONTRACTOR SHALL INCLUDE IN HIS SCOPE OF WORK WITHOUT EXTRA COST TO THE OWNER, ALL LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT DRAWINGS AND DOCUMENTS), IN ORDER TO COMPLY WITH ALL APPLICABLE CODES, LAWS, ORDINANCES, RULES, AND REGULATIONS.
- C. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER AND ALL APPLICABLE CODES, AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE LATEST APPLICABLE EDITIONS OF THE ASHRAE GUIDE AND DATA BOOK, UL, ASME, NEMA, IIR, AMCA, NEC, NFPA, IEEE, OSHA, SMACNA, UNIFORM BUILDING AND MECHANICAL CODES.
- D. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL HVAC WORK IS PROVIDED AND INSTALLED IN STRICT ACCORDANCE WITH STATE AND LOCAL CODE SEISMIC RESTRAINT REQUIREMENTS.

SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO:

- * ROOFTOP HVAC UNITS
- * EXHAUST FANS
- * SHEET METAL WORK AND INSULATION
- * AIR DEVICES INCLUDING DIFFUSERS, REGISTERS AND GRILLES
- * SYSTEM TEST AND BALANCE
- * WARRANTY FOR ONE YEAR

15700.04 CONTRACT DRAWINGS

- A. THE DRAWINGS ARE INTENDED TO SHOW THE GENERAL ARRANGEMENT AND THE EXTENT OF THE WORK TO BE DONE, HOWEVER, THE EXACT LOCATION AND ARRANGEMENT OF ALL PARTS SHALL BE DETERMINED AS THE WORK PROGRESSES.
- B. THE LOCATIONS OF ALL PIPING, DUCTS AND EQUIPMENT AS SHOWN ON THE PLANS ARE APPROXIMATELY CORRECT, BUT THEY ARE SUBJECT TO SUCH MODIFICATIONS AS MAY BE NECESSARY AT THE TIME OF INSTALLATION TO MEET ANY CONDITIONS. SUCH CHANGES SHALL BE IMMEDIATELY REVIEWED WITH THE ENGINEER AND INSTITUTED BY THIS CONTRACTOR WITHOUT EXTRA COST.
- C. THE LOCATIONS OF ALL PARTS AND EQUIPMENT SHALL BE COORDINATED WITH THE WORK OF ALL OTHER TRADES PRIOR TO SUBMITTING SHOP DRAWINGS FOR FABRICATION AND EQUIPMENT PURCHASE APPROVALS.

15700.05 SHOP DRAWING REVIEWS AND APPROVALS

- A. ALL DETAILED EQUIPMENT CUTS, SHOP DRAWINGS, SUBSTITUTIONS, CHANGES, ETC. MUST BE SUBMITTED TO ARCHITECT, ENGINEER AND OWNER REPRESENTATIVE FOR FINAL REVIEW AND APPROVAL PRIOR TO PURCHASING, FABRICATING OR INSTALLING ANY PORTION OF THE HVAC CONTRACT.
- B. SHOP DRAWINGS MUST SHOW ALL HVAC COMPONENTS WITH DUCTWORK DRAWN IN DOUBLE LINE, AT A SCALE OF 1/4" = 1'-0". THESE DRAWINGS MUST BE FULLY DETAILD, DIMENSIONED AND COORDINATED, INDICATING ALL OTHER TRADES AND DISCIPLINES.
- C. FURNISH TO THE ARCHITECT/ENGINEER FOR REVIEW, SIX(6) COPIES OF SUCH EQUIPMENT SUBMITTALS AND SETTING DRAWINGS OR DIAGRAMS AS MAY BE REQUIRED FOR THE PROPER EXECUTION OF THE WORK. PROVIDE THREE (3) SETS OF DRAWINGS FOR ALL SHEET METAL WORK TO ARCHITECT/ENGINEER FOR USE IN REVIEW PROCESS.
- D. CONTRACTORS MAY MAKE NECESSARY ADJUSTMENTS TO SUIT CONDITIONS AND IN ORDER TO COMPLY WITH THE GUARANTEE OF PERFORMANCE OF THE SYSTEMS. APPROVALS MUST BE OBTAINED FROM THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION CHANGES.
- E. APPROVALS MUST ALSO BE OBTAINED FROM LOCAL AND STATE AUTHORITIES, INSURANCE UNDERWRITERS, OR OTHER AGENCIES HAVING JURISDICTION.
- F. ALL WIRING DIAGRAMS OF THERMOSTATS, DAMPERS, INTERLOCKS ETC. SHALL BE INCLUDED ON SHOP DRAWINGS OR IF SUBMITTED SEPARATELY, SIX COPIES SHALL BE PROVIDED PRIOR TO ANY INSTALLATION OF THE HVAC CONTRACT.
- G. UPON OWNER REQUEST, CONTRACTOR IS TO SUBMIT ACCURATE AS-BUILT SHOP DRAWINGS IN DIGITAL FORMAT REFLECTING ALL CHANGES TO THE MECHANICAL PLANS PRIOR TO REQUESTING FINAL PAYMENT.

15700.06 DETAILS OF EQUIPMENT

- A. SUBMIT FOR APPROVAL SIX (6) COPIES OF THE MANUFACTURER'S DETAILED CERTIFIED DIMENSIONAL DRAWINGS OF ALL EQUIPMENT.

15700.07 SUBSTITUTIONS

- A. AS NOTED ON THE PLANS AND DESCRIBED ON THE SCHEDULES, SUBSTITUTIONS MUST SATISFY ALL REQUIREMENTS AND MUST BE APPROVED BY THE ARCHITECT/ENGINEER.

15700.08 MATERIALS AND LABOR

- A. ALL MATERIALS SHALL BE NEW AND MUST MEET THE STANDARDS AS STIPULATED IN THE LATEST EDITION OF ASHRAE GUIDE AND DATA BOOK.
- B. GOOD WORKMANSHIP AND LABOR SHALL BE PERFORMED BY QUALIFIED MECHANICS AND MUST COMPLY WITH ASHRAE STANDARDS.

15700.09 ORDINANCES, SERVICES, PERMITS AND FEES

- A. AS REQUIRED FOR THE PROPER INSTALLATION, ALL WORK SHALL BE PROVIDED BY THE CONTRACTOR IN FULL ACCORDANCE WITH THE REQUIREMENTS OF ALL LOCAL, STATE AND NATIONAL BUREAUS, BOARD OF FIRE UNDERWRITERS AND AUTHORITIES HAVING JURISDICTION, WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- B. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL NECESSARY PERMITS PRIOR TO WORK COMMENCEMENT.
- C. CONTRACTOR SHALL PREPARE, AT HIS EXPENSE, ANY AND ALL SHOP DRAWINGS AS REQUIRED TO OBTAIN PERMITS AND APPROVALS.
- D. THESE DOCUMENTS SHALL BE SIGNED AND SEALED BY A DULY LICENSED ENGINEER AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.

15700.10 CHASES, CUTTING, PATCHING, ETC.

- A. ALL CHASES, ROOF OPENINGS, CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH FULL INFORMATION REGARDING SIZE AND LOCATIONS, AND DETAILS OF ALL REQUIRED OPENINGS, CHASES OR OTHER PROVISIONS FOR THIS WORK TO THE GENERAL CONTRACTOR.
- B. SHOULD ANY CUTTING AND PATCHING BE NECESSARY AS A RESULT OF FAILURE TO FURNISH SUCH INFORMATION IN A TIMELY MANNER, IT WILL THEN BE DONE BY THE GENERAL CONTRACTOR AT THE EXPENSE OF THE CONTRACTOR.

15700.11 TEMPORARY LIGHT AND POWER

- A. THE ELECTRICAL CONTRACTOR ARRANGES FOR, INSTALLS AND MAINTAINS TEMPORARY LIGHT AND POWER AS DESCRIBED IN THE ELECTRICAL SPECIFICATIONS.
- B. IT WILL BE THE DUTY OF THE CONTRACTOR TO ACQUAINT HIMSELF WITH THE LIMITATIONS OF THIS SERVICE BY THE ELECTRICAL CONTRACTOR, AND TO PLAN HIS WORK ACCORDINGLY.

15700.12 TEMPORARY HEAT

- A. TEMPORARY HEAT FOR CONSTRUCTION PURPOSES AND FOR DRYING OUT THE BUILDING SHALL BE PROVIDED WHEN ORDERED BY THE GENERAL CONTRACTOR AND COSTS THEREOF WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- B. REFER TO THE GENERAL CONDITIONS WHEREIN TEMPORARY HEAT IS PROVIDED BY THE GENERAL CONTRACTOR AT HIS EXPENSE.
- C. THE USE OF THE PERMANENT HEATING SYSTEM FOR TEMPORARY HEAT IS AT THE DIRECTION AND EXPENSE OF THE GENERAL CONTRACTOR AND SHALL NOT OBLIGATE THE OWNERS IN ANY MANNER WHATEVER.

15700.13 ELECTRICAL WORK

- A. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS FOR POWER WIRING AND CONNECTIONS OF ALL EQUIPMENT AND CONTROLS. THE CONTRACTOR SHALL PROVIDE CONTROL COMPONENTS AND WIRING DIAGRAMS FOR ALL HVAC EQUIPMENT TO ELECTRICAL CONTRACTOR AS REQUIRED. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONTROL WIRING, AND THE CONTRACTOR SHALL SUPERVISE ITS INSTALLATION WHEN REQUESTED.
- B. THE DELIVERY OF ALL CONTROL COMPONENTS SHALL BE SCHEDULED SO AS NOT TO DELAY THE PROJECT. THE CONTRACTOR SHALL RECEIVE A SIGNED, DATED RECEIPT OF ALL ITEMS DELIVERED TO ELECTRICAL CONTRACTOR.
- C. FUSED DISCONNECT SWITCHES WHERE REQUIRED, WILL BE FURNISHED BY THE HVAC CONTRACTOR UNLESS SPECIFICALLY NOTED TO BE SUPPLIED BY THE ELECTRICAL CONTRACTOR. WEATHERPROOF FUSED DISCONNECTS SHALL BE FURNISHED FOR ALL OUTDOOR AND WET, INDOOR APPLICATIONS.
- D. HVAC CONTRACTOR SHALL PROVIDE ALL MOTOR STARTERS AS FOLLOWS: MOTORS 1/2 HP AND LARGER SHALL BE PROVIDED WITH COMBINATION UNFUSED LINE SWITCH AND CROSS-THE-LINE MAGNETIC STARTERS WITH START-STOP PUSH BUTTONS AND PILOT LIGHTS. UNLESS AUTOMATIC CONTROL IS REQUIRED. IN THIS CASE, STARTERS ARE TO BE PROVIDED WITH H.O.A. SELECTOR SWITCH AND CONTROL TRANSFORMER. ALL MOTORS BELOW 1/2 HP WHICH ARE NOT AUTOMATICALLY CONTROLLED SHALL BE PROVIDED WITH MANUALLY OPERATED STARTERS. ALL STARTERS SHALL BE BUILT AND RATED IN ACCORDANCE WITH NEMA AND IEEE STANDARDS. ALL STARTERS TO INCLUDE THERMAL OVERLOAD RELAYS AND HEATERS PROPERLY SIZED TO PROTECT MOTOR. ALL POLY-PHASE MOTORS SHALL BE PROVIDED WITH PHASE PROTECTION.
- E. THE CONTRACTOR TO VERIFY ALL ELECTRICAL POWER ON JOB SITE PRIOR TO ORDERING NEW EQUIPMENT.
- F. THE CONTRACTOR SHALL PROVIDE ALL SMOKE DETECTORS FOR EMERGENCY SHUTDOWN TO COMPLY TO THE LATEST STATE & NFPA 90A CODES.

15700.14 LABELING

- A. ALL CONTROL DEVICES SHALL BE CLEARLY LABELED WITH PLASTIC NAME PLATES WITH NUMBERS AND LETTERS NO LESS THAN 3/8" IN HEIGHT. A FRAMED PERMANENT OPERATING WIRING DIAGRAM SHALL BE LOCATED NEAR EACH SYSTEM SO THAT OPERATION OF THAT SYSTEM IS READILY AVAILABLE AT ALL TIMES. INTERNAL WIRING DIAGRAM OF INDIVIDUAL RELAYS, SHALL ALL BE LOCATED IN THEIR RESPECTIVE BOXES.
- B. 15700.15 SCHEDULING REQUIREMENTS

- A. THE CONTRACTOR SHALL PERFORM HIS WORK IN THE BUILDING WHEN AS DIRECTED, AND GENERALLY IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION AND OPERATION OF THE BUILDING, SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OTHER TRADES, OWNER AND OCCUPANTS.

- B. CONSULT WITH THE GENERAL CONTRACTOR FOR SEQUENCE OF CONSTRUCTION PRIOR TO SUBMITTING BID. SOME OR ALL OF THIS WORK MAY BE PERFORMED IN PHASES OR ON AN OVERTIME SCHEDULE. BID SHALL INCLUDE ALL SUCH PREMIUM TIME COSTS AND SHALL ELIMINATE ANY SUBSEQUENT REQUESTS FOR EXTRA COMPENSATION.

15700.16 COORDINATION

- A. ALL WORK SHALL BE COORDINATED WITH THE STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ARCHITECTURAL, FIRE PROTECTION AND LIGHTING DRAWINGS APPLYING TO THIS PROJECT PRIOR TO SUBMITTING SHOP DRAWINGS FOR FABRICATION APPROVAL.
- B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL INVOLVED PARTIES AND PREPARE A SHOP DRAWING WHICH WILL ACCURATELY LOCATE AND DIMENSION ALL REQUIRED ROOF OPENINGS, CURBS AND SUPPORT PLATFORMS BASED UPON APPROVED EQUIPMENT SUBMITTALS.
- C. ALL DIFFUSERS AND CEILING RETURNS SHALL BE COORDINATED WITH LIGHTING, SPEAKERS, SPRINKLER HEADS, ETC. IN FIELD WITH OWNER, TENANT AND ARCHITECT.

15700.17 RIGGING

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RIGGING, HOISTING AND FASTENING INTO PLACE ALL EQUIPMENT UNDER THIS CONTRACT AND SHALL COORDINATE WITH THE GENERAL CONTRACTOR REGARDING THE LOCATION OF ALL EQUIPMENT WITHIN, OUTSIDE AND ON TOP OF THE BUILDING TO INSURE PROPER ACCESS, SAFETY AND PROTECTION OF PEOPLE AND BUILDING SYSTEMS.

- B. WHERE EQUIPMENT MUST BE MOVED OVER THE ROOF, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REINFORCING AND PROTECTING THE ROOF STRUCTURE AS REQUIRED TO AVOID OVERLOADING. SUCH SITUATIONS MUST BE APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO MOVING EQUIPMENT.

5700.18 ROOF PROTECTION

- A. WHEN WORKING ON THE FINISHED ROOF, THE CONTRACTOR MUST PROVIDE PLYWOOD SHEETS TO PROTECT ROOFING AND MUST TAKE ALL PRECAUTIONS TO AVOID DAMAGING THE ROOF. NO OPENINGS SHALL BE CUT IN THE ROOF AFTER THE ROOFING HAS BEEN COMPLETED UNLESS THEY ARE INSTALLED BY THE ROOFING CONTRACTOR, PAID FOR BY THE CONTRACTOR AND COORDINATED WITH THE GENERAL CONTRACTOR.

15700.20 FLASHING & CURBS

- A. ALL DUCTS AND PIPING PASSING THROUGH THE ROOF SHALL BE FITTED WITH INSULATED CURBS, FLASHING COLLARS, RINGS OR SIMILAR DEVICES TO PROVIDE WATERTIGHT PROTECTION.
- B. PROVIDE PRE-FAB CURBS AROUND ALL ROOF OPENINGS AND FLASHINGS TO MAKE WATERTIGHT OPENINGS. INCLUDE PITCH COLLARS AROUND ALL OPENINGS WHICH DO NOT HAVE CURBS. ALL CURBS TO SET ON ROOF STEEL, NOT DECKING AND ALL EQUIPMENT TO BE SET LEVEL. THE CONTRACTORS SHALL PROVIDE TAPERED CURBS AS REQUIRED.
- C. FLASHINGS AND CURB WORK SHALL ALL BE INSTALLED IN COORDINATION WITH THE WORK OF THE ROOFING AND GENERAL CONTRACTORS.
- D. FURNISH AND INSTALL PATE EQUIPMENT SUPPORTS FOR ROOF MOUNTED CONDENSING UNITS, UTILITY TYPE FANS, CHILLERS, ETC. ALL EQUIPMENT SUPPORTS SHALL BE PROPERLY SECURED TO BUILDING STRUCTURE. PROVIDE FLASHING AND COUNTER FLASHING TO MAKE WATERTIGHT CONSTRUCTION.

15700.21 FIRE RATED CONSTRUCTION

- A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FROM THE ARCHITECTURAL PLANS, AREAS IN THE BUILDING WHICH HAVE BEEN DESIGNATED AS HAVING A FIRE RATING AND PROVIDE AND INSTALL THE NECESSARY FIRE DAMPERS WITH ACCESS DOORS. IF ANY DISCREPANCY EXISTS BETWEEN THE INDICATED AND REQUIRED FIRE DAMPER REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BID DATE.
- B. THE CONTRACTOR MUST PROVIDE ALL FIRE RATED, DAMPERS, DIFFUSERS, GRILLES, REGISTERS, FIRE LINKS, ETC., IN ORDER TO COMPLY WITH ALL APPLICABLE CODES FOR FIRE RATED CONSTRUCTION, EVEN IF NOT EXPLICITLY SHOWN ON DRAWINGS.

15700.22 TEST & INSPECTIONS

- A. THE CONTRACTOR SHALL PERFORM TESTS AND INSPECTIONS TO THE COMPLETE DUCT INSTALLATION FOR ANY LEAKS, DEFECTS OR ALL SUCH DEFICIENCIES DISCOVERED AS A RESULT OF THE TESTS, SHALL BE IMMEDIATELY REPAIRED.
- B. THE CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS AND CORRECTIONS TO THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS FOR THE PURPOSE OF EQUALIZING THE FLOW OF AIR. ANY DAMPERS, DEFLECTORS OR DIFFUSERS NECESSARY TO BRING ABOUT THIS ADJUSTMENT, WHETHER SPECIFICALLY SHOWN AND SPECIFIED OR NOT, SHALL BE PROVIDED BY THE CONTRACTOR.
- C. EQUIPMENT AND SYSTEMS WHICH NORMALLY OPERATE DURING CERTAIN SEASONS OF THE YEAR SHALL BE TESTED DURING THE APPROPRIATE SEASON. TESTS SHALL BE PERFORMED ON INDIVIDUAL EQUIPMENT, SYSTEMS, AND THEIR RESPECTIVE CONTROLS.
- D. WHENEVER THE EQUIPMENT OR SYSTEM UNDER TEST IS INTERRELATED WITH, AND DEPENDS UPON THE OPERATION OF OTHER EQUIPMENT, SYSTEMS AND CONTROLS FOR PROPER OPERATION, THE LATTER SHALL BE OPERATED SIMULTANEOUSLY WITH THE EQUIPMENT OR SYSTEM BEING TESTED.
- E. AIR LEAKAGE TEST --- THE COMPLETE AIR HANDLING SYSTEMS, ALL VENTILATING EXHAUST SYSTEMS, INCLUDING ALL CONVENTIONAL SUPPLY AND RETURN DUCTWORK SHALL BE TESTED. LEAKAGE SHALL NOT EXCEED 5% OF RATED CFM AT RATED PRESSURE. ALL THE AIR LEAKS FOUND SHALL BE CORRECTED WITHIN ACCEPTABLE MARGIN.
- F. THE CONTRACTOR SHALL DEMONSTRATE THAT ALL EQUIPMENT AND APPARATUS FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS.
- G. ALL WORK PROVIDED UNDER THE CONTRACT SHALL OPERATE WITHOUT ANY OBJECTIONABLE NOISE OR VIBRATION. SHOULD OPERATION OF ANY ONE OR MORE OF THE SYSTEMS PRODUCE NOISE, OR VIBRATION, WHICH IS IN THE OPINION OF THE ENGINEER OBJECTIONABLE, THE CONTRACTOR SHALL AT HIS OWN EXPENSE MAKE CHANGES IN EQUIPMENT, ETC., AND DO ALL WORK NECESSARY TO ELIMINATE THE OBJECTIONABLE NOISE OR VIBRATION.

15700.23 OPERATING INSTRUCTIONS

- A. THREE COPIES OF THE OPERATING INSTRUCTIONS, SEQUENCE OF OPERATIONS AND CONTROL DIAGRAMS FOR THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEM SHALL BE GIVEN TO THE OWNER, TOGETHER WITH MAINTENANCE SCHEDULING AND SERVICE DATA.

15700.24 OPERATIONS

- A. THE HVAC CONTRACTOR SHALL HAVE COMPETENT MECHANICAL PERSONNEL PRESENT TO OWNER PROPER OPERATION OF ALL EQUIPMENT.

15700.25 BALANCING

- A. NEBB CERTIFIED BALANCING CONTRACTOR MUST BE A COMPANY WHICH IS INDEPENDENT OF THE MECHANICAL CONTRACTOR AND BE APPROVED FOR USE BY THE ENGINEER PRIOR TO BALANCING THE SYSTEM.
- B. BALANCE THE HEATING AND COOLING SYSTEMS TO PROVIDE UNIFORM TEMPERATURES IN ALL HEATED OR COOLED AREAS AND ROOMS.
- C. BALANCE NEW AIR SYSTEMS TO QUANTITIES INDICATED AND FURNISH TO OWNER A REPORT INDICATING FAN PERFORMANCE, DIFFUSER, REGISTER AND GRILLE SIZES, LOCATIONS, CFM VALUES, DX COIL BYPASS VALVES, OUTSIDE AIR CFM QUANTITIES, MOTOR HP, RATED AMP, ACTUAL AMP, RATED VOLTAGE, ACTUAL VOLTAGE ETC.
- D. THE CONTRACTOR SHALL SUBMIT BALANCE REPORT PRIOR TO FINAL ACCEPTANCE.

15700.26 WARRANTY

- A. THE CONTRACTOR SHALL WARRANTY IN WRITING ALL MATERIALS AND WORKMANSHIP FOR THE PERIOD OF ONE(1) YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER. THIS SHALL INCLUDE AN AGREEMENT TO REPAIR AND MAKE GOOD OR REPLACE AT NO COST TO OWNER ANY AND ALL DEFECTS OF HIS WORK, EQUIPMENT, APPARATUS, OR MATERIALS DURING THAT PERIOD, WHICH ARISE FROM INCORRECT WORKMANSHIP, IMPROPER OR INFERIOR MATERIALS, OR DEFECTIVE EQUIPMENT. THIS WARRANTY SHALL INCLUDE REPLACEMENT OF ALL PARTS OR BASIC COMPONENTS AS REQUIRED INCLUDING LABOR.
- B. ALL NEW COMPRESSORS TO BE PROVIDED WITH A TOTAL OF FIVE(5) YEARS WARRANTY PERIOD, LABOR AND PARTS FOR FIRST YEAR, AND PARTS FOR REMAINING FOUR(4) YEARS.
- C. WHEN SPECIAL GUARANTEES COVERING INSTALLATION, OPERATION OR PERFORMANCE OF ANY SYSTEMS OR APPLIANCES FURNISHED UNDER THE HVAC CONTRACT ARE HEREIN REQUIRED, THE FULL RESPONSIBILITY FOR FULFILLMENT OF SUCH GUARANTEES MUST BE ASSUMED BY THE HVAC CONTRACTOR, WHO SHALL OBTAIN WRITTEN GUARANTEES IN TRIPLICATE FROM ANY AND ALL SUBCONTRACTORS WITH TWO (2) COPIES TO BE FILED WITH THE ARCHITECT PRIOR TO FINAL ACCEPTANCE.
- D. CERTAIN EQUIPMENT HAVE BEEN SPECIFIED WITH STAINLESS STEEL HEAT EXCHANGERS. IF APPROVED ALTERNATES OR A DESIGN CHANGE ON THE SPECIFIED EQUIPMENT RENDERS THIS OPTION UNAVAILABLE THEN AN EQUIVALENT WARRANTY SHALL BE PROVIDED WITH THE STANDARD HEAT EXCHANGER.

15700.27 FINAL APPROVAL

- A. UPON WRITTEN APPROVAL NOTIFICATION BY THE CONTRACTOR THAT HIS WORK IS COMPLETED AND READY FOR ACCEPTANCE, ALL REQUIRED INSPECTIONS AND TESTS SHALL BE PERFORMED BY THE CONTRACTOR, AS DIRECTED BY, AND IN THE PRESENCE OF THE OWNER. IF FAILURE TO COMPLY WITH THE CONTRACT REQUIREMENTS ARE DISCOVERED, THE HVAC CONTRACTOR SHALL AT ONCE REMEDY ALL DEFECTS AND SHORTCOMINGS AND PERFORM ANY ADDITIONAL REQUIRED TESTS AT HIS EXPENSE.

15700.28 FILTER CHANGES

- A. HVAC CONTRACTOR MUST NOT OPERATE ANY HVAC UNITS WITHOUT FILTERS INSTALLED DURING CONSTRUCTION SEQUENCE.

- B. FILTERS MUST BE CHANGED TWO (2) WEEKS PRIOR TO FINAL BALANCING OF THE SYSTEM. THIS FILTER CHANGE MUST BE WITNESSED BY A REPRESENTATIVE OF THE OWNER.

15700.29 MISCELLANEOUS

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL OF HIS DEBRIS.
- B. THE CONTRACTOR SHALL FIELD VERIFY PROJECT REQUIREMENTS, AND EXISTING CONDITIONS PRIOR TO BID SUBMISSION.
- C. THE CONTRACTOR SHALL PROVIDE SUFFICIENT FIREPROOF TARPAILLANS, AND COVER ALL EQUIPMENT IN WORK AREA WITH SAME DURING WORK OPERATIONS.
- D. DO NOT SCALE FROM THE DRAWINGS; FOLLOW WRITTEN DIMENSIONS WHERE GIVEN AND FIELD VERIFY ALL DIMENSIONS WHERE NECESSARY.
- E. REFER TO CONTRACT DRAWINGS FOR GENERAL HVAC NOTES.

15700.30 SHEET METAL WORK

- A. FURNISH AND INSTALL ALL SHEET METAL DUCTWORK, PLENUMS, GOOSENECKS, AND ALL ITEMS OF METAL WORK AS NECESSARY TO COMPLETE THE VARIOUS AIR CONDITIONING, VENTILATING AND HEATING SYSTEMS OF THE BUILDING SO THEY ARE READY FOR SATISFACTORY OPERATION. WHILE THE INSTALLATION SHOULD ADHERE TO THE PLANS AND SPECIFICATIONS AS MUCH AS POSSIBLE, THE CONTRACTOR SHALL BE ENTITLED TO MODIFY THE RUNS AND SIZES OF THE DUCTWORK AND TO MAKE OFFSETS, WHERE NECESSARY TO ACCOMMODATE BUILDING CONDITIONS, ONLY AFTER RECEIPT OF WRITTEN APPROVAL FROM THE ENGINEER. ALL SUCH CHANGES OR OFFSETS SHALL BE INDICATED IN THE "AS-BUILT" DRAWINGS SUBMITTED AT THE END OF THE PROJECT.
- B. PROVIDE DEFLECTOR FINS, TURNING VANES, PLENUMS, FIRE DAMPERS, AIR INTAKES, EXHAUST DUCTS, GOOSENECKS AND ALL ITEMS OF METAL WORK, AS REQUIRED.
- C. DUCTWORK SHALL BE CONSTRUCTED ACCORDING TO THE "EQUIPMENT HANDBOOK" PUBLISHED BY ASHRAE AND "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY SMACNA.
- D. SHEET METAL GAUGES, TRANSVERSE JOINTS, LONGITUDINAL SEAMS AND INTERMEDIATE REINFORCING MUST BE IN CONFORMANCE WITH SMACNA STANDARDS AS FOLLOWS:

- 1) LOW PRESSURE DUCTS PER SMACNA TABLE 2" W.G.
- 2) MEDIUM PRESSURE DUCTS PER SMACNA TABLE 4" W.G.
- 3) HIGH PRESSURE DUCTS PER SMACNA TABLE 6" W.G.

- E. ALL DUCTWORK SHALL BE CONSTRUCTED OF A MINIMUM OF 26 GAUGE GALVANIZED STEEL OR GREATER OF U.S. STANDARD SHEET METAL GAUGE ONE HOUR FIRE RATED, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- F. ALL CHANGES IN DIRECTION, HORIZONTAL OR VERTICAL, SHALL BE SHAPED TO PERMIT THE EASIEST POSSIBLE AIR FLOW, USING CENTERLINE RADIUS OF 1-1/2 X WIDTH. FOR ALL CASES WHERE 90 DEGREE SQUARE ELBOWS ARE USED, APPROVED DOUBLE THICKNESS TURNING VANS SHALL BE USED. HVAC CONTRACTOR TO SUBMIT DETAILS FOR APPROVAL.
- G. ALL DUCTWORK SHALL BE BUILT WITH APPROVED JOINTS AND SEAMS SMOOTH ON THE INSIDE WITH LAPS MADE IN THE DIRECTION OF THE AIR FLOW AND NO FLANGES PROJECTING INTO THE AIR STREAM. OUTSIDE SEAMS AND JOINTS SHOULD BE AS NEAR TO AIR TIGHT AS POSSIBLE WITH A NEAT FINISH. THE CONTRACTOR TO CALCUL ALL JOINTS WHICH ARE NOT MECHANICALLY TIGHT.

- H. VOLUME DAMPERS AS SHOWN ON DRAWINGS AND AS REQUIRED FOR PROPER OPERATION, SHALL BE INSTALLED IN THE VARIOUS BRANCHES FOR USE IN BALANCING THE SYSTEM. VOLUME DAMPERS SHALL BE OF MULTI-OPPOSED BLADE CONSTRUCTION FOR ALL DUCTS OVER 12" IN DEPTH. ALL VOLUME DAMPERS TO BE OF THE LOCKING QUADRANT TYPE WITH APPROVED LOCKING DEVICES MOUNTED OUTSIDE OF THE DUCT IN AN ACCESSIBLE PLACE.

- I. FIRE DAMPERS --- WHERE DUCTWORK PERCES FIRE RATED WALLS, SHAFTS, STOPPING OR FLOORS TYPE B, UL LISTED FIRE DAMPERS SHOULD BE INSTALLED. FIRE DAMPERS SHALL BE AS MANUFACTURED BY AIR BALANCE INC., REISIN, OR APPROVED EQUAL. REFER TO THE DRAWINGS FOR SPECIFIC INSTALLATION REQUIREMENTS.

- J. ACCESS DOORS SHALL BE PROVIDED IN THE SHEET METAL DUCTWORK WHERE REQUIRED FOR INSPECTION, AUTOMATIC CONTROL DAMPERS, FIRE DAMPERS, FILTERS, OR ANY OTHER APPARATUS CONCEALED BEHIND SHEET METAL WORK. ACCESS DOORS IN INSULATED DUCT SHALL BE DOUBLE PANEL AND INSULATED. ALL ACCESS DOORS TO BE SECURED WITH HEAVY DUTY WINDOW TYPE LATCHES, COMPLETED WITH GASKETS AND FRAMES.

- K. ALL DUCTWORK AND PIPING TO BE LOCATED ABOVE THE CEILING SPACE UNLESS OTHERWISE NOTED.

- L. ALL SUPPLY AND EXHAUST DUCTWORK SHALL BE HUNG FROM THE TOP OF STRUCTURAL MEMBERS.

- M. WHEN USED, ALL GREASE HOOD EXHAUST DUCT SHALL BE WELDED STEEL WITH CURRENT FIRE RATED INSULATION, PROVIDE FIRE RATED ACCESS PANELS WHERE REQUIRED.

15700.31 FLEXIBLE CONNECTIONS

- A. THE INTAKE AND DISCHARGE COLLARS OF ALL IN-LINE FANS, AIR CONDITIONING UNITS AND HEATERS SHALL BE PROVIDED WITH APPROVED FLEXIBLE CONNECTIONS TO ELIMINATE VIBRATION IN THE DUCTWORK. USE 10 OZ. DOUBLE WOVEN CANVAS CONNECTIONS AND INSTALL IN CLOSE PROXIMITY TO THE HVAC EQUIPMENT.

15700.32 FLEXIBLE DUCTWORK

- A. USE UL LISTED, STANDARD 181, CLASS 1 AIR DUCT MATERIAL WITH FLAME SPREAD NO HIGHER THAN 25, AND SMOKE DEVELOPMENT NO HIGHER THAN 50.
- B. ALL FLEXIBLE DUCTWORK MUST BE INSULATED.
- C. FLEXIBLE DUCTWORK IS USED TO ALLOW FOR FLEXIBILITY IN FINAL LOCATION OF DIFFUSERS, GRILLES, AND REGISTERS. LENGTH IS NOT TO EXCEED LINEAR MEASURE OF 5'-0", EXTEND SHEET METAL DUCT WITHIN 5'-0" OF AIR DEVICE FOR COMPLIANCE. FLEXIBLE DUCTWORK IS NOT ALLOWED FOR USE IN ANY PART OF RETURN OR EXHAUST AIR SYSTEMS. FLEXIBLE DUCTS SHALL NOT PASS THROUGH FIRE RATED CONSTRUCTION.
- D. FLEXIBLE DUCTWORK IS TO BE INSTALLED WITH GOOD WORKMANSHIP, SUPPORTED 24" ON CERTAIN TO MAINTAIN FULL CROSS SECTIONAL AREA THROUGHOUT.

15700.33 DUCT INSULATION

- A. ON ALL CONCEALED SUPPLY DUCTWORK, FURNISH AND INSTALL OWENS CORNING FOIL FACED, FIBERGLASS DUCTWRAP WITH AN INSTALLED INSULATING VALUE OF R-6. INSULATION SHALL BE ATTACHED TO SHEET METAL DUCTS BY MEANS OF WIRE BANDS OR SIMILAR PASTERING. ALL JOINTS AND GAPS IN THE APPLIED INSULATION SHALL BE FILLED WITH MASTIC TO A THICKNESS OF THE APPLIED INSULATION. THIS SHALL APPLY TO ALL HEATING AND COOLING DUCTS, UNLESS OTHERWISE NOTED ON THE PLANS.
- B. INTERNALLY LINE ALL EXPOSED SUPPLY DUCTS. FURNISH AND INSTALL NOT LESS THAN 1-1/2" ULTRA LINER, WITH A THERMAL EFFICIENCY OF (.24). APPLY TO METAL WITH ADHESIVE AND FURTHER SECURE WITH WELDED PINS AND SPEED WASHERS 12" O.C. ENSURE THAT IMPRINTED SURFACE FACES AIR STREAM. FURTHERMORE, INSTALL 2" WIDE SHEET METAL NOSING ON LEADING EDGES OF LINER TO PREVENT THE LINER FROM BEING PICKED UP BY AIR FLOW.
- C. INSULATION SHALL BE CUT SLIGHTLY LONGER THAN CIRCUMFERENCE OF DUCT TO ENSURE FULL THICKNESS AT CORNERS. INSULATION SHALL BE ADHERED TO DUCT WITH FIRE RESISTANT ADHESIVE, FOSTER 30-33 OR APPROVED EQUAL, APPLIED TO DUCT IN 4" WIDE BRUSH STRIPS, ON 12" CENTERS. INSULATION SHALL BE FURTHER SECURED WITH LOOPS OF #12 WIDTH GAUGE GALVANIZED STEEL WIRE ON 12" CENTERS.
- D. DUCT INSULATION SHALL HAVE A VAPOR BARRIER FACING TYPE FSK (.001 ALUMINUM FOIL, GLASS FIBER, KRYT) LAMINATE, APPLIED OVER THE INSULATION. ALL JOINTS SHALL BE SEALED WITH 2" SIZE VAPOR BARRIER TAPE SEALED WITH FOSTER 30-33 OR EQUAL.
- E. ALL FLEXIBLE DUCTWORK SHALL BE INSULATED.
- F. ALL ROUND DUCTWORK SHALL BE INSULATED WITH FIBERGLASS DUCTWRAP.
- G. ALL SHEET METAL DUCTWORK LOCATED OUTDOORS SHALL BE EXTERNALLY LINED WITH 1" THICK OWENS CORNING 800 FR DUCT BOARD STAPLED EVERY 2" WITH HEAT SENSITIVE FOIL TAPE COVERING AT ALL JOINTS. USE MECHANICAL DUCT FASTENERS 2"-0" ON CENTER ALONG CENTER LINE OF EACH SIDE OF DUCT. COAT DUCT BOARD WITH MARATHON INDUSTRIES IC 550 WHITE MASTIC IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

- H. INTERNALLY LINE ALL DUCTS FROM UNIT SUPPLY AND RETURN CONNECTIONS TO 10'-0" FROM UNIT TO MINIMIZE NOISE. FURNISH AND INSTALL NOT LESS THAN 1" ULTRA LINER, WITH A THERMAL EFFICIENCY OF (.24). APPLY TO METAL WITH ADHESIVE AND FURTHER SECURE WITH WELDED PINS AND SPEED WASHERS 12" O.C. ENSURE THAT IMPRINTED SURFACE FACES AIR STREAM. FURTHERMORE, INSTALL 2" WIDE SHEET METAL NOSING ON LEADING EDGES OF LINER TO PREVENT THE LINER FROM BEING PICKED UP BY AIR FLOW.

15700.36 CONDENSATE CONNECTIONS

- A. ALL INTERIOR HVAC EQUIPMENT CONDENSATE DRAINS ARE TO BE BY CONTRACTOR.
- B. THE CONTRACTOR TO SUPPLY AND INSTALL TRAPPED CONDENSATE TRAPS AND DRAINS TO NEAREST APPROVED PLUMBING SYSTEM FOR ALL HVAC EQUIPMENT.

15700.37 AIR CONDITIONING UNITS

ROOFTOP UNITS

- A. FURNISH AND INSTALL "PACKAGED TYPE" EQUIPMENT AS SHOWN ON THE SCHEDULES. REFER TO EQUIPMENT SCHEDULE FOR MANUFACTURER. ALL REFRIGERATION SYSTEM COMPONENTS SHALL BE COMPLETELY FACTORY ASSEMBLED AND SHIPPED FULLY CHARGED ON A COMMON BASE. ALL UNITS TO BE FACTORY TESTED, COMPLETELY WIRED, WEATHER PROOFED FOR ROOFTOP USE, PROVIDED WITH FILTERS AND OF CAPACITIES AS SHOWN ON THE SCHEDULES.
- B. COMPRESSORS SHALL BE ACCESSIBLE HERMETIC TYPE, EXCEPT FOR UNITS UNDER 15 H.P., WITH CRANK CASE HEATER, OIL SIGHT GLASS AND OIL CHARGE CONNECTION. COMPRESSORS ARE TO BE SPRING ISOLATOR MOUNTED. COMPRESSORS TO HAVE 5 (1 AND 4) YEAR WARRANTY.
- C. EVAPORATOR COIL SHALL BE CONSTRUCTED OF SEAMLESS COPPER TUBING WITH RIPPLED AND CORRUGATED ALUMINUM FINS. COIL TO BE FED BY THERMAL EXPANSION VALVE AND ORIFICE TYPE DISTRIBUTOR.
- D. SUPPLY FAN TO BE FORWARD CURVE, CENTRIFUGAL DESIGN, STATICALLY AND DYNAMICALLY BALANCED FOR QUIET OPERATION. BEARINGS TO BE SELF ALIGNING, LUBRICATABLE BALL TYPE WITH EXTENDED LUBRICATION LINES. COMPLETE FAN ASSEMBLY SHALL BE ISOLATED FROM UNIT.
- E. PROVIDE DIFFERENTIAL ENTHALPHY CONTROLLED ECONOMIZERS WITH BAROMETRIC RELIEF WHEN SPECIFIED ON SCHEDULES.
- F. REFRIGERATION CYCLES MUST BE SUCH THAT AT 40 DEG.F. AMBIENT OR ABOVE, WHEN THE THERMOSTATS CALL FOR COOLING, THE COMPRESSOR WILL START AND REMAIN IN OPERATION UNTIL THE THERMOSTAT IS SATISFIED. PROVIDE TWO STAGES CONTROL OF COOLING WITH TWO CIRCUIT COOLING COIL WHEN SPECIFIED ON SCHEDULES.
- G. FILTERS SHALL BE 1" FIBERGLASS FARR-AIR THROWAWAY OR APPROVED EQUAL WITH MEDIA CONTAINED IN A RIGID FRAME HAVING SUPPORTING MESH ACROSS BOTH ENTERING AND LEAVING FACES OF THE MEDIA. REFER TO SCHEDULES FOR ANY SPECIAL FILTER REQUIREMENT.
- H. ALL CONTROLS TO BE FACTORY WIRED AND ENCLOSED IN A WEATHER-PROOF CABINET. FURNISH AS STANDARD ALL MOTOR STARTERS AND FUSING FOR SINGLE POINT CONNECTION WITH CONTROL TRANSFORMER, HIGH PRESSURE CUT OUT AND FAN CYCLING HEAD PRESSURE CONTROL, LOW PRESSURE CUT OUT, SINGLE PUMP DOWN, FREEZE/STAT, OIL PRESSURE SWITCH, AND THERMOSTATS WITH AUTOMATIC SUMMER WINTER CHANGEOVER.
- I. REFRIGERATION PIPING SHALL BE COMPLETELY FACTORY INSTALLED. EACH CIRCUIT TO HAVE FILTER AND SIGHT GLASS, MOISTURE INDICATOR, AND SOLENOID VALVE FOR 15 TON UNITS AND UP.
- J. ALL CONDITIONED SECTIONS SHALL BE INSULATED WITH 1-INCH FOIL FACED GLASS FIBER.
- K. ROOF CURBS SHALL BE PROVIDED FOR ALL UNITS UNLESS STRUCTURAL PLATFORM ABOVE ROOF IS PROVIDED. CURB TO BE MINIMUM OF 14 INCHES IN HEIGHT 12 GAUGE CONTINUOUS GALVANIZED STEEL. PROVIDE GASKETS FOR MOUNTING BETWEEN UNIT BASE AND CURB. CURB TO SET DIRECTLY ON ROOF STEEL WITH REQUIRED ADJUSTMENTS FOR ROOF PITCH TO PROVIDE A LEVEL UNIT WHEN SET. REFER TO SECTION 15160 FOR SEISMIC RESTRAINT REQUIREMENTS.
- L. SEE HVAC DRAWINGS FOR EXACT UNIT SPECIFICATIONS.

15700.38 SUPPORTS

REVISIONS	BY
<div>Δ</div> COSA COMMENTS	030323

CONTROL INFORMATION

MARK	ELECTRICAL CONTROL PACKAGE		USER INTERFACE		FANS CONTROLLED											
	MODEL	LOCATION	TYPE	LOCATION	FAN #	TYPE	FAN	FAN MARK	ZONE	CFM	MOTOR HP	MOTOR VOLT	CYCLE	MOTOR PHASE	MOTOR STARTER IN PANEL	VFD IN PANEL
CONTROLS	GKC-CV-S-11-1-1-0	RIGHT CABINET ON HOOD 1	FULL COLOR TOUCHSCREEN	CABINET – RIGHT CABINET ON HOOD 1	1	EXHAUST	E1	KEF-1	1	1575	0.75	115	60	1	NO	NO
					2	SUPPLY	S1	MUA OPTION	1	1418	0.5	115	60	1	NO	NO

CONTROL FEATURES

HOOD LIGHT CONTROL
TEMP SENSORS (FACTORY INSTALLED) - QTY. 1
DRY FIRE CONTACTS - QTY. 1
LIGHTS OFF DURING FIRE
EXHAUST MAX DURING FIRE
SUPPLY OFF DURING FIRE



GREENHECK
BUILDING VALUE IN AIR.

DOC NUMBER: #####

REV: #####

CAUTION

UNIT MUST BE GROUNDED IN ACCORDANCE WITH N.E.C. POWER MUST BE OFF WHILE SERVICING.



ATTENTION

L'APPAREIL DOIT ÊTRE MIS À LA TERRE CONFORMÉMENT AU CODE C.E. L'ALIMENTATION DOIT ÊTRE COUPÉE DURANT L'ENTRETIEN.

COMMERCIAL APPLIANCE OUTLET CENTER
ELECTRICAL RATINGS: 110-240V, 1PHASE, 50-60HZ, 15A
BASE FILE #E200616, ML FILE #E313951

THESE DRAWINGS SHALL NOT BE REMOVED FROM THIS EQUIPMENT. USE COPPER CONDUCTORS RATED TO 90°C UNLESS SPECIFIED. TORQUE CONTROL & GROUND BLOCKS TO 8 LBS. IN. TORQUE POWER LUGS/SCREWS TO COMPONENT RATINGS LISTED. TORQUE CONTROL BOARD SCREW TERMINALS TO 3.5 LBS. IN. FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM. SEE IOM FOR ADDITIONAL INFORMATION. OR CALL FACTORY AT 1-800-371-6858.

PRG VERSION: V4
FIELD WIRED (CÂBLE LOCALLEMENT) _____
FACTORY WIRED (CÂBLE À L'USINE) _____

NE PAS RETIRER CES DESSINS DE CET ÉQUIPEMENT SAUF INDICATION CONTRAIRE. UTILISER DES CONDUCTEURS EN CUIVRE CLASSÉS 90 °C. SERRER LES BORNES DE COMMANDE ET DE MISE À LA TERRE À 8 LB-PO. SERRER LES COSSES/VIS D'ALIMENTATION AUX COUPLES INDICQUÉS POUR LE COMPOSANT. SERRER LES BORNES À VIS DE LA CARTE DE COMMANDE À 3.5 LB-PO. LA RÉSISTANCE DU CÂBLAGE DE COMMANDE LOCAL NE DOIT PAS DÉPASSER 0.75 OHM. POUR PLUS D'INFORMATION, CONSULTER LE MANUEL OU APPELER 1-800-371-6858.

WIRING DIAGRAM CODE: #####

JOB NAME:

REDEEEMER KVS

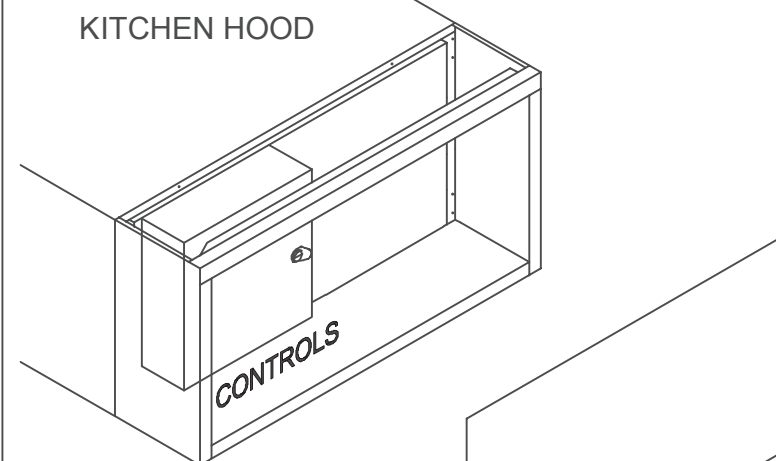
MODEL: GKC-CV-S-11-1-1-0

SERIAL NUMBER: WDSN#

MARK: CONTROLS

CABINET DETAILS

DRAWING NOT TO SCALE



USER INTERFACE DETAILS

MOUNTING TYPE
FACTORY MOUNTED:
UTILITY CABINET - RIGHT END OF HOOD

USER INTERFACE CONTROL
FANS AND LIGHTS

INTERFACE CABLE LENGTH
7FT (FACTORY PROVIDED)

MOUNTING LOCATION:
UTILITY CABINET ON HOOD
(INNER CONTROL BOX: 12 X 20 X 6)

NOTES:

1) WHEN CONTROLS ARE MOUNTED IN HOOD-MOUNTED OR WALL-MOUNTED UTILITY CABINET, FOR HOOD OR WALL CABINET DIMENSIONS SEE HOOD SUBMITTAL.

2) MINIMUM OF 36" OF CLEARANCE RECOMMENDED IN FRONT OF CONTROL CABINET

ZONE CONFIGURATION					WIRING DIAGRAM CODE: #####							
ZONE #	ZONE	ROOM TEMP			JOB NAME:	REDEEEMER KVS						
1	Z1	PRESET			MODEL:	GKC-CV-S-11-1-1-0						
					SERIAL NUMBER:	WDSN#						
					MARK:	CONTROLS						
					DOC NUMBER: #####	REV: #####						
DEFAULT SETTINGS / PARAMÈTRES PAR DÉFAUT												
FACTORY SETTINGS												
TYPE: CV												
CONFIGURATION: STANDARD												
ZONES: 1												
HOODS: 1												
SUMPS: 0												
EXHAUST FANS: 1												
SUPPLY FANS: 1												
MB ROOM SENSOR: NO												
MB TEMP SENSORS: 1												
HIGH TEMP FAULT: NO												
FREEZE PROTECTION: YES												
GAS RESET: NO												
FAN PROVING: NO												
BMS: NONE												
ZONE SETTINGS												
SEE ZONE CONFIGURATION IN TABLE ON LEFT												
HOOD SETTINGS												
SEE HOOD CONFIGURATION IN TABLE ON LEFT												
EXHAUST FAN SETTINGS												
SEE FAN CONFIGURATION IN TABLE ON LEFT												
SUPPLY FAN SETTINGS												
SEE FAN CONFIGURATION IN TABLE ON LEFT												
SENSOR SETTINGS												
SEE HOOD CONFIGURATION IN TABLE ON LEFT												
USER INTERFACE SETTINGS (MB)												
FAN & LIGHT BUTTONS: SHOW BOTH (SEPERATE)												
USER INTERFACE SETTINGS (HCB)												
NA												
GENERAL SETTINGS												
TIME ZONE: CENTRAL DAYLIGHT (DEFAULT)												
FIRE/FAULT SETTINGS												
EXHAUST DURING FIRE: MAX												
SUPPLY DURING FIRE: OFF												
LIGHTS DURING FIRE: OFF												
BMS SETTINGS												
NA												
PRG VERSION: V4												
FAN CONFIGURATION												
FAN #	TYPE	FAN	FAN MARK	ZONE	MIN CFM	MAX CFM	MODBUS VFD	VFD ADDRESS	MIN FREQ.	MAX FREQ.	MIN VDC	MAX VDC
1	EXHAUST	E1	KEF-1	Z1	-	1575	NO	-	-	-	-	10.0
2	SUPPLY	S1	MUA OPTION	Z1	-	1418	NO	-	-	-	-	10.0

(OPTIONAL ON/OFF INPUTS)

DI-1A ☒ DIGITAL IN 1

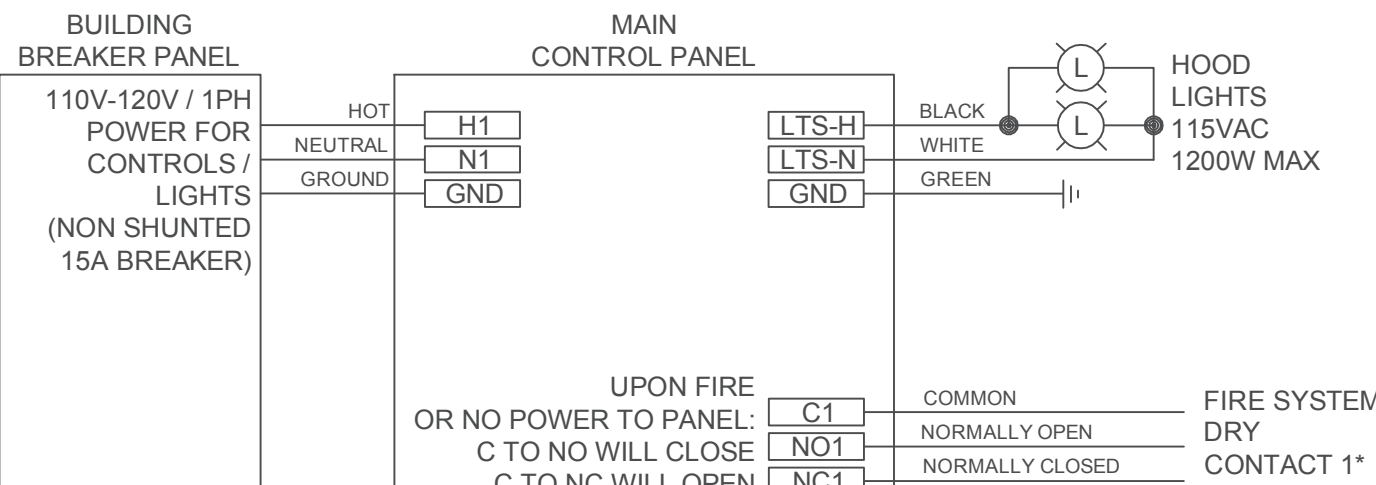
DI-1B ☒ FAN ON/OFF (DEFAULT)

DI-2A ☒ DIGITAL IN 2

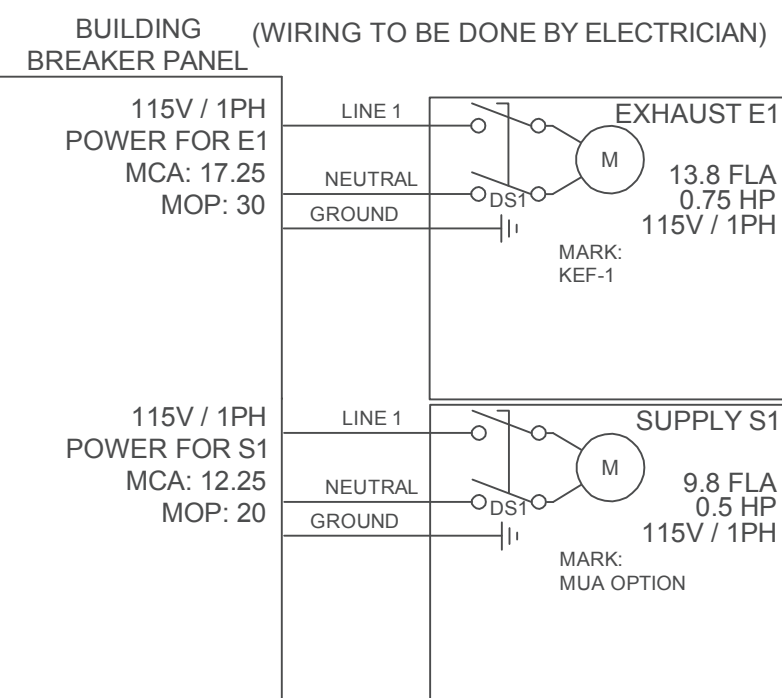
DI-2B ☒ LIGHT ON/OFF (DEFAULT)

**WHEN FIRE SYSTEM IS ARMED, FS-C TO FS-NC SHOULD HAVE CONTINUITY

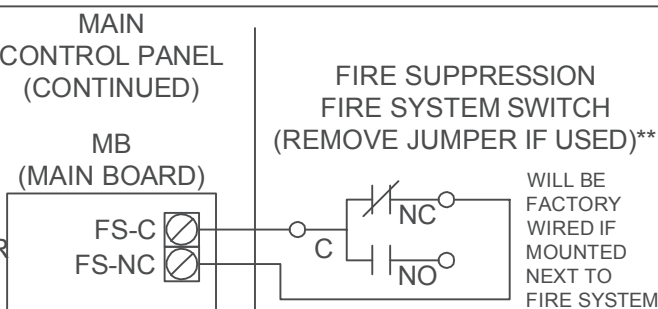
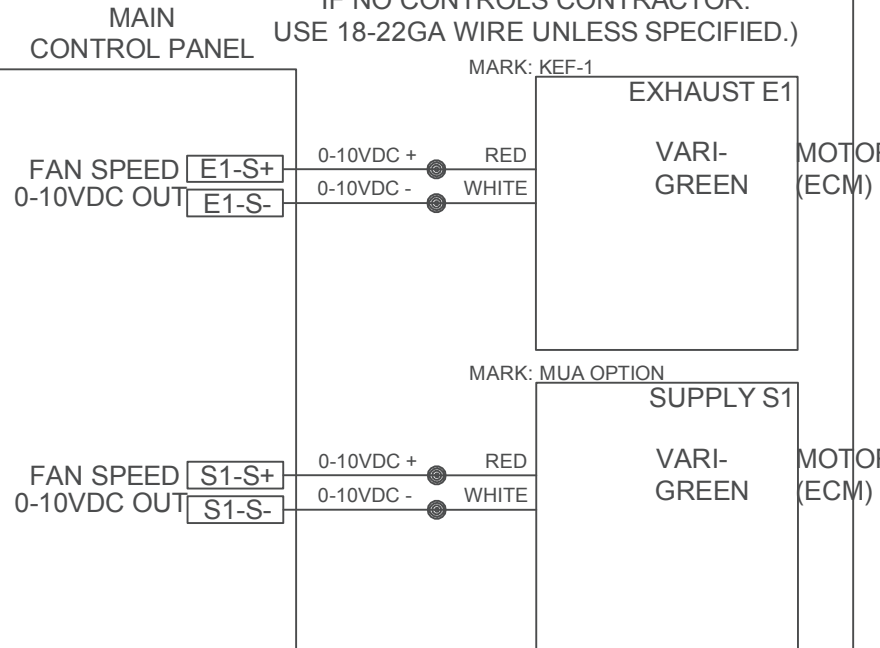
POWER WIRING FOR KITCHEN CONTROLS
(WIRING TO BE DONE BY ELECTRICIAN)



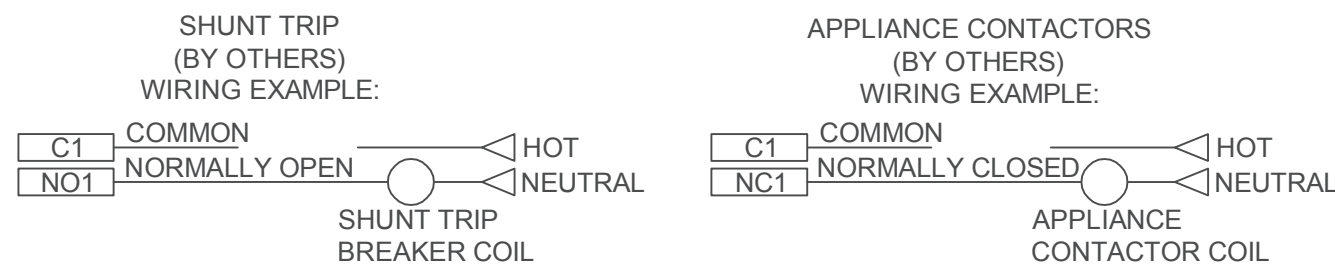
POWER WIRING FROM BREAKER
PANEL DIRECT TO FANS



CONTROL WIRING FOR KITCHEN CONTROLS
(WIRING TO BE DONE BY ELECTRICIAN, IF NO CONTROLS CONTRACTOR, USE 18-22GA WIRE UNLESS SPECIFIED.)



*FIRE SYSTEM DRY CONTACT WIRING EXAMPLES

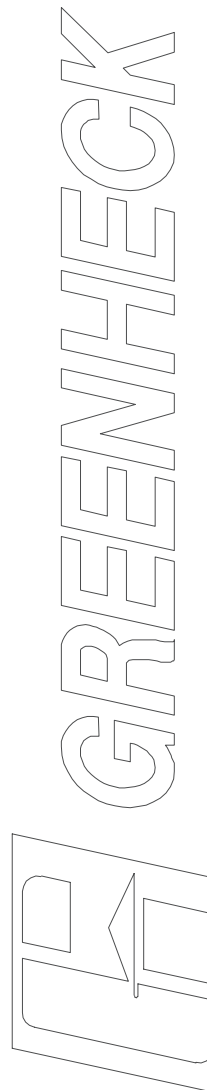


REDEEEMER KVS

CONTROLS

PROJECT
2/28/2023

MECHANICAL REPS INC
AARON LEE
AARONL@MECHREPS.COM
(210)650-9005



GARCIA MODESTO, INC.
ENGINEERING SERVICES
FIRM #2556
3935 - HUNTERS ROCK
SAN ANTONIO, TEXAS 78230

LOVE COMMUNITY CENTER

REDEEMER PRAISE CHURCH

107 S. PINE STREET, SAN ANTONIO, TEXAS 78203



8600 VALERZACH ROAD
SUITE 500
DALLAS, TX 75240
214-262-1565

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HOOD INFORMATION																	
HOOD NO.	MAR	MODEL	HOOD DIMENSIONS IN.			HOOD CONSTR.	COORDIN. LOAD / DUTY RATING	EXHAUST						SUPPLY		TOTAL HEIGHT L.S.	SECTION LOCATION
			LENGTH	WIDTH	HEIGHT			TOTAL CFM	COLLAR SIZE					MUA CFM	AC CFM		
						30 SS HERE ENCLOSED		WIDTH	LENGTH	D.A.	CFM	S.D.					
1	HOOD 1	CECIS			2		HEAVY	17			12	17	0.7	1		2	SINGLE

HOOD INFORMATION													
HOOD NO.	MAR	LIGHTING DETAILS				RELEASE / EXTRACTION DETAILS				UTILITY CAPABILITIES			
		STRUCTURE TYPE CUL / LAM / INO	QTY	FOOT CANDLES	TYPE / MODEL MATERIAL	QTY	SEE THRU		LOCATION	FIRE SYSTEM		CONTROLS	
							L	H		TYPE	SIZE	MODEL	INTERFACE
1	HOOD 1	INCANDESCENT / LOE 100 A10 CULS NOT INCL	1	17	TRACTOR STAINLESS STEEL	1	1	20	RIGHT	ANSUL R102	3	CC	TOUCHSCREEN

SUPPLY ELEMENT INFORMATION																					
HOOD NO.	MAR	OS.	TYPE	SEEN			INSULATED	DAMERIS	LED LIGHTS		TOTAL C/M	COLLARS									
				L		H			SU	LED		QTY	TYPE	MOUNT N	QTY	L	D/A	C/M	S.D.	EL.	
1	HOOD 1	FRONT	AS		1		NO	YES	NO		1	1	MUA	FACTORY	2	12	30		70	0.02	2

HOOD OPTIONS

UL 710 LISTED □ / OUT E HAUST □ RE DAM ER UL MH1172 □

HOOD TO □ INSULATED □ OR ZERO CLEARANCE TO COMUSTIBLES

□ AC □ INTE RAL AIR SECTE 3 IN □ DE □ ZERO CLEARANCE

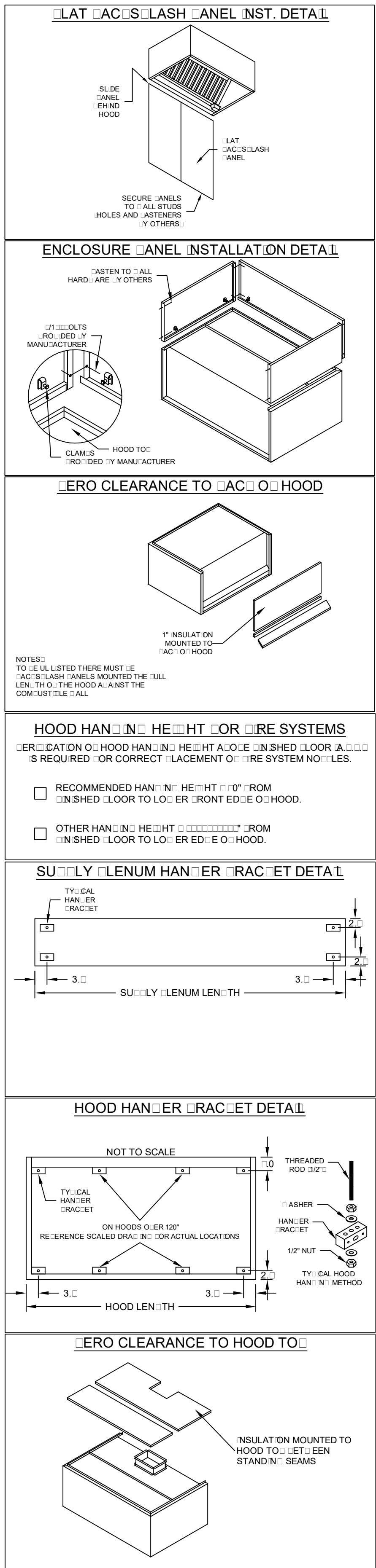
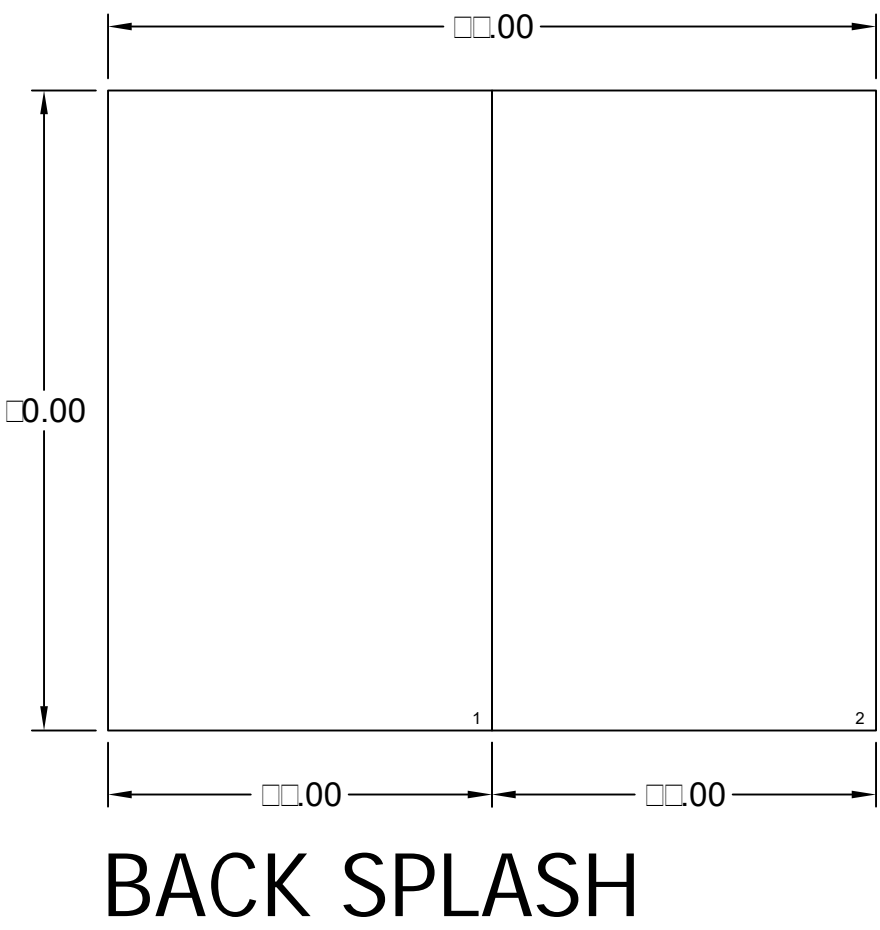
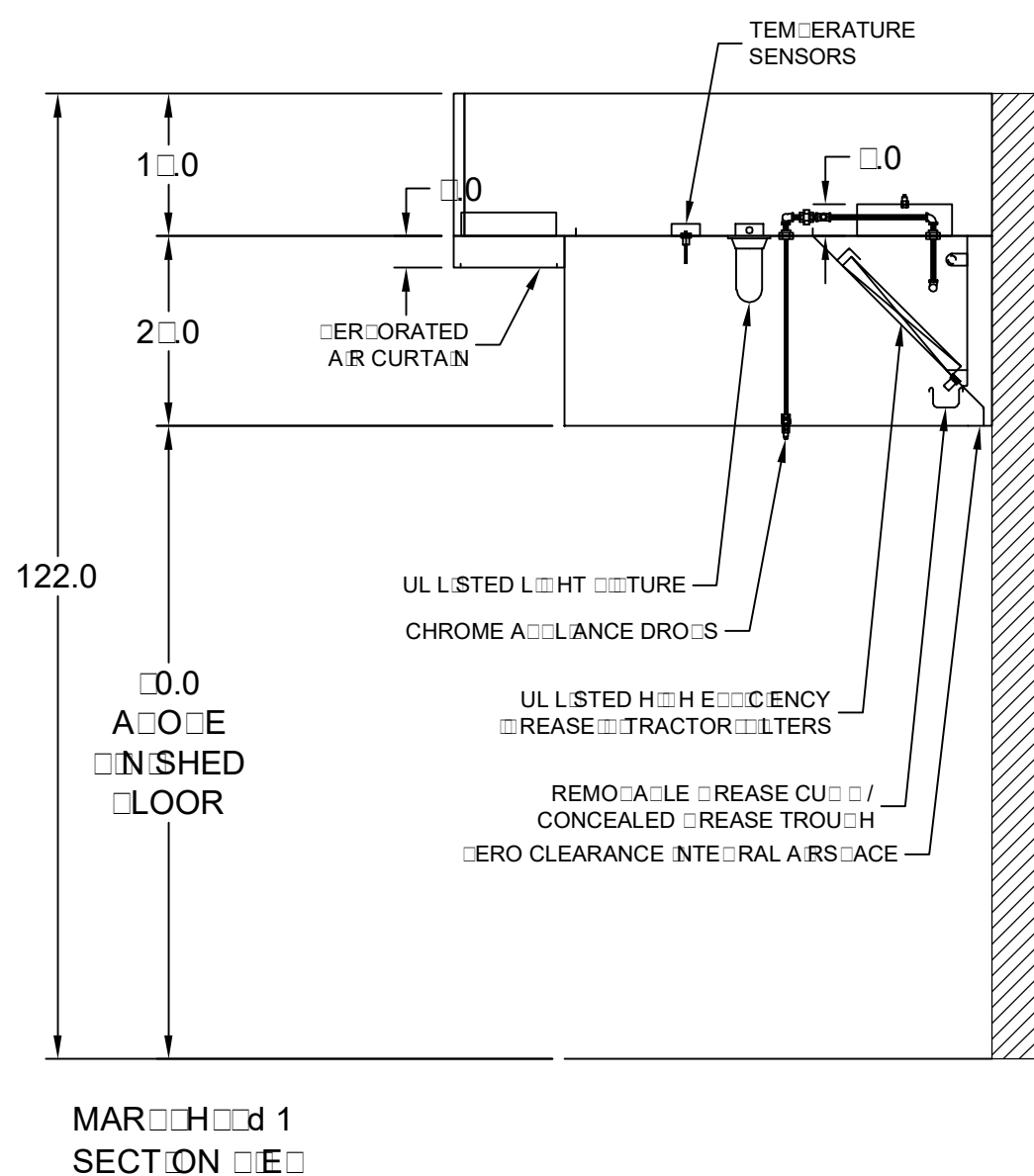
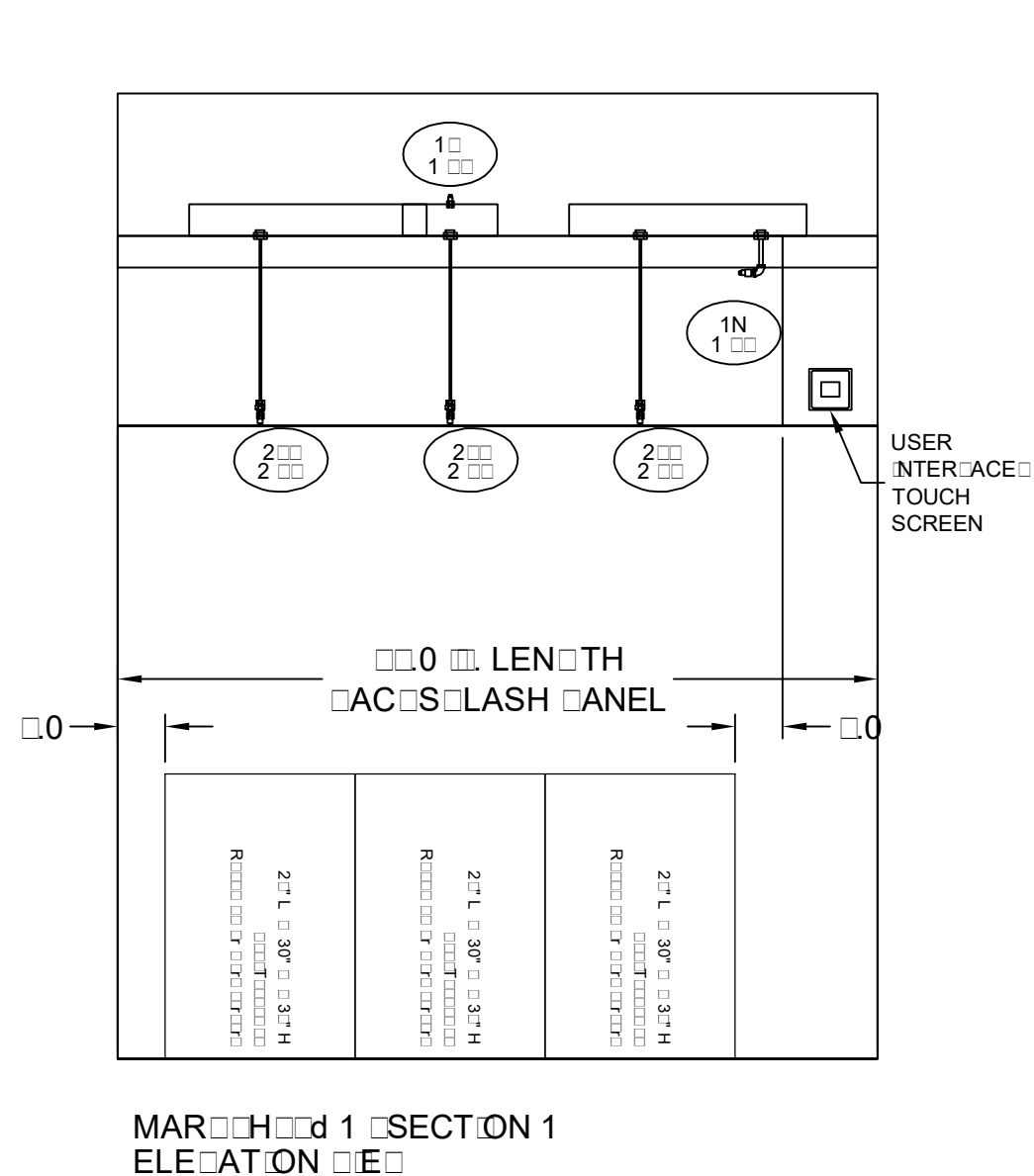
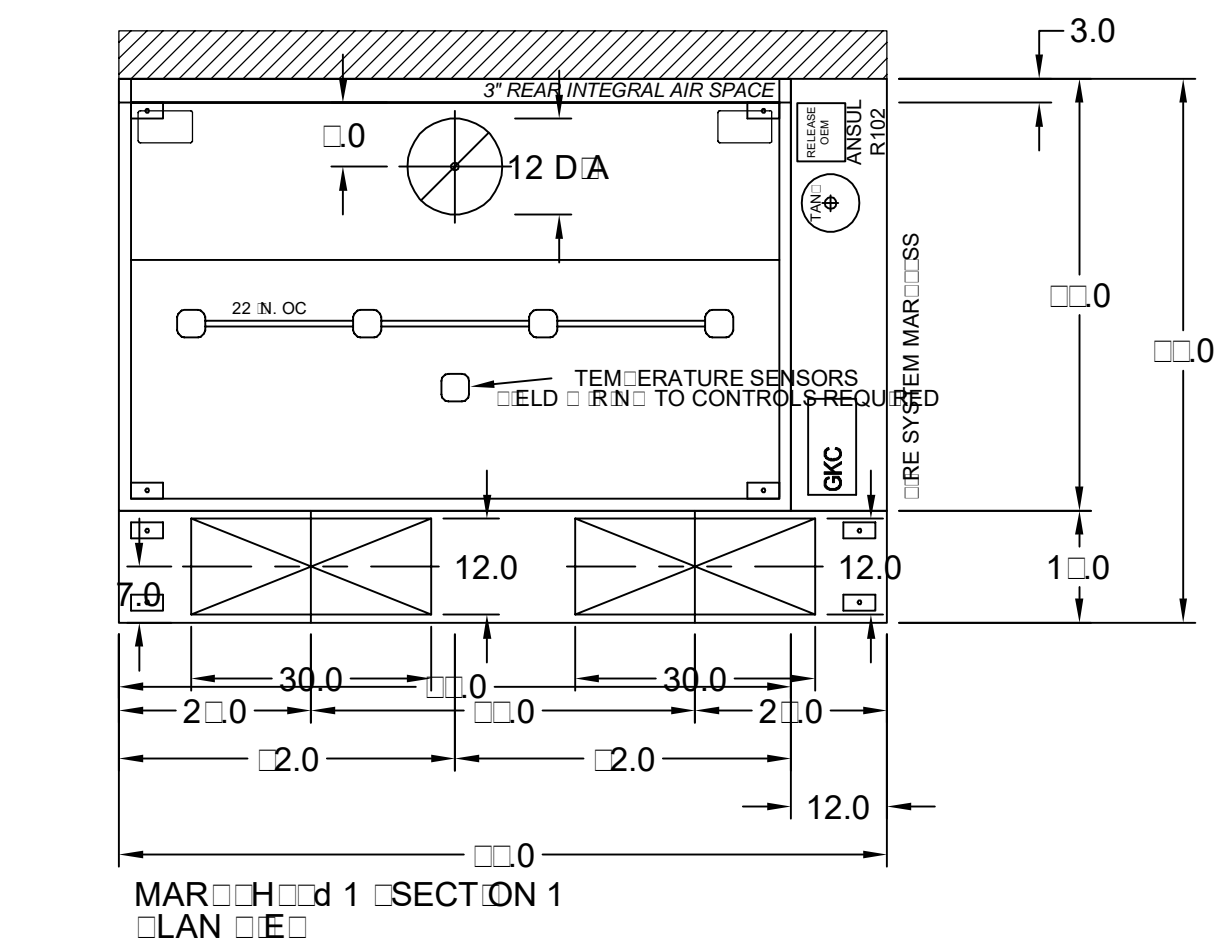
1 □ IN H □ CEILING ENCLOSURES □ FRONT LEFT □ HT □ □ EL D INSTALLED

□ ACTORY MOUNTED E HAUST COLLAR S □

□ AC □ SLASH □ 0.00 IN H □ □ 00 IN L ON □

□ ER □ OR MANCE ENHANCING L □ □ EL CT ECHNOLOGY


STAND IN □ SEAM CONSTRUCTION □ OR SUPEROR STRENGTH



REDEEMER ☐☐S

2/2/2023

MECHANICAL RESIN
ARON LEE
ARONL@MECHRESIN.COM



GARCIA MODESTO, INC.
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3935 HUNTERS ROCK
SAN ANTONIO, TEXAS 78230

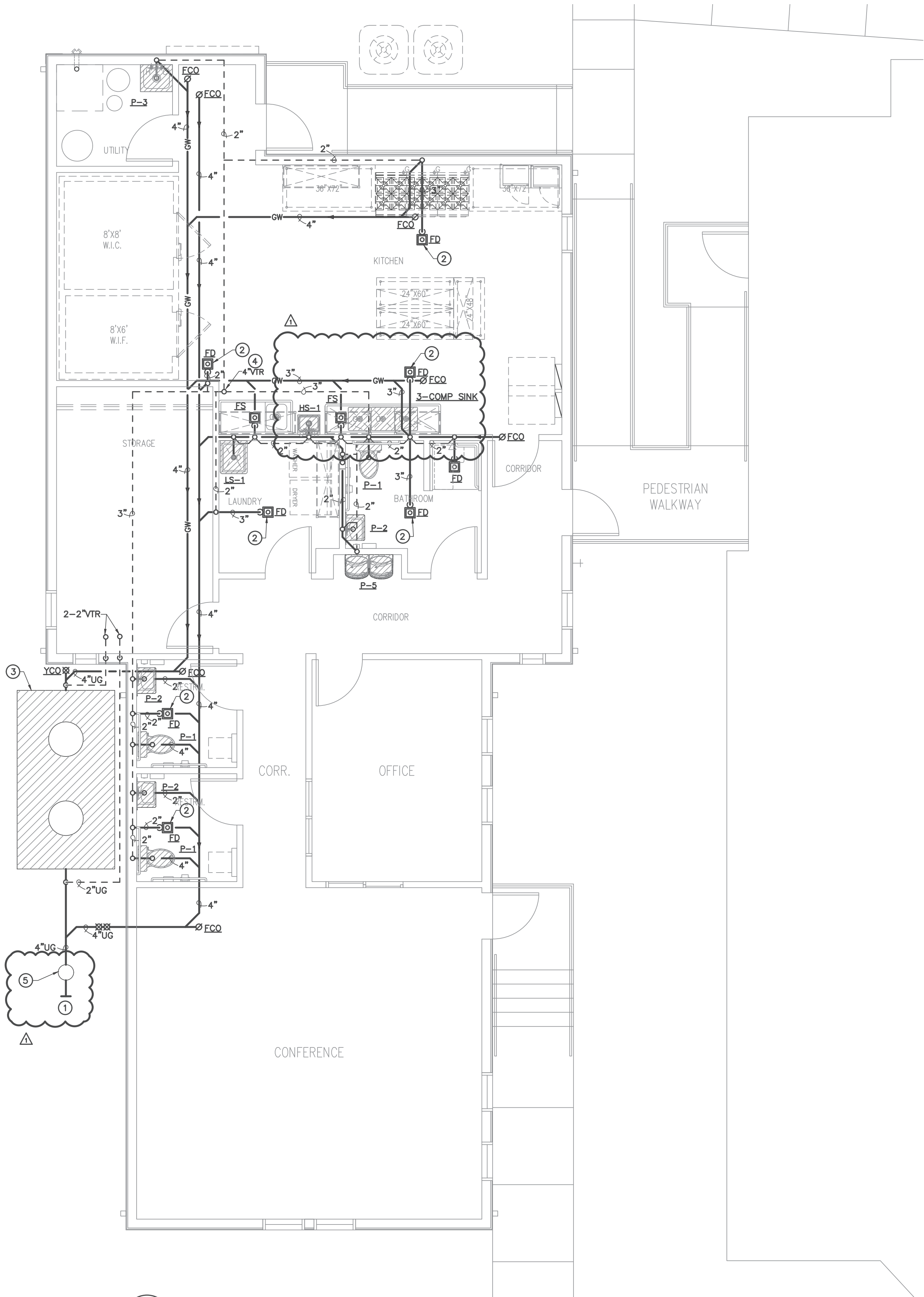
REVISIONS	BY
<div><div></div><div>2-15-23</div><div>CITY COMMENTS</div></div>	

PLUMBING GENERAL NOTES:

1. ROOF PENETRATIONS SHALL BE DONE IN STRICT COMPLIANCE WITH SPECIFICATIONS AND SHALL BE LEAK PROOF.
2. ALL PLUMBING WORK SHALL BE DONE IN STRICT COMPLIANCE WITH ALL GOVERNING CODES, INCLUDING THE 2018 INTERNATIONAL PLUMBING CODE, 2011 NEC, AND THE LOCAL AHJ.
3. THE PLUMBING CONTRACTOR SHALL GUARANTEE THE COMPLETE PLUMBING SYSTEM TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF 12 MONTHS FROM DATE OF FINAL ACCEPTANCE BY LANDLORD.
4. PROVIDE TEMPERATURE CONTROL MIXING VALVES (MV) AT ALL LAVATORIES AND HAND SINKS.
5. PROVIDE WALL CLEANOUTS AT ALL LAVATORIES AND HAND SINKS.

PLUMBING KEYED NOTES:

- ① 4" SANITARY WASTE STUB OUT. REFERENCE CIVIL DRAWINGS FOR CONTINUATION.
- ② CONTRACTOR TO PROVIDE TRAP GUARDS AT FLOOR DRAIN.
- ③ PROVIDE AND INSTALL 1000 GALLON GREASE INTERCEPTOR.
- ④ NEW 4" VENT THRU ROOF LOCATION. CONTRACTOR TO VERIFY LOCATION IN FIELD.
- ⑤ CONTRACTOR TO PROVIDE AND INSTALL GATCO TREATMENT SYSTEM 6" SAMPLE WELL.



ABBREVIATIONS

- AC ABOVE CEILING
- AD ACCESS DOOR
- AFF ABOVE FINISHED FLOOR
- AP ACCESS PANEL
- BF BELOW FLOOR
- CLG CEILING
- CO CLEANOUT
- FCO FLOOR CLEAN OUT
- GPM GALLONS PER MINUTE
- P-2 PLBG. FIXTURE DESIGNATION
- PLBG PLUMBING
- POC POINT OF CONNECTION
- VTR VENT THRU ROOF
- YCO YARD CLEANOUT

PLUMBING SYMBOLS

- | WCO

WALL CLEANOUT
- | FCO

FLOOR CLEANOUT
- | YCO

YARD CLEANOUT
- | FD

FLOOR DRAIN
(SIZE & TYPE NOTED IN SPECIFICATION)
- | V

VENT PIPE (PLUMBING)
- | S

SOIL, WASTE PIPE OR SANITARY SEWER
- | H

COLD WATER PIPE
- | R

HOT WATER (120°)
- | R

HOT WATER PIPE RECIRC.
- | G

GAS
- | GW

GREASE WASTE

1 PLUMBING FLOOR PLAN - WASTE & VENT
SCALE: 1/4" = 1'-0"

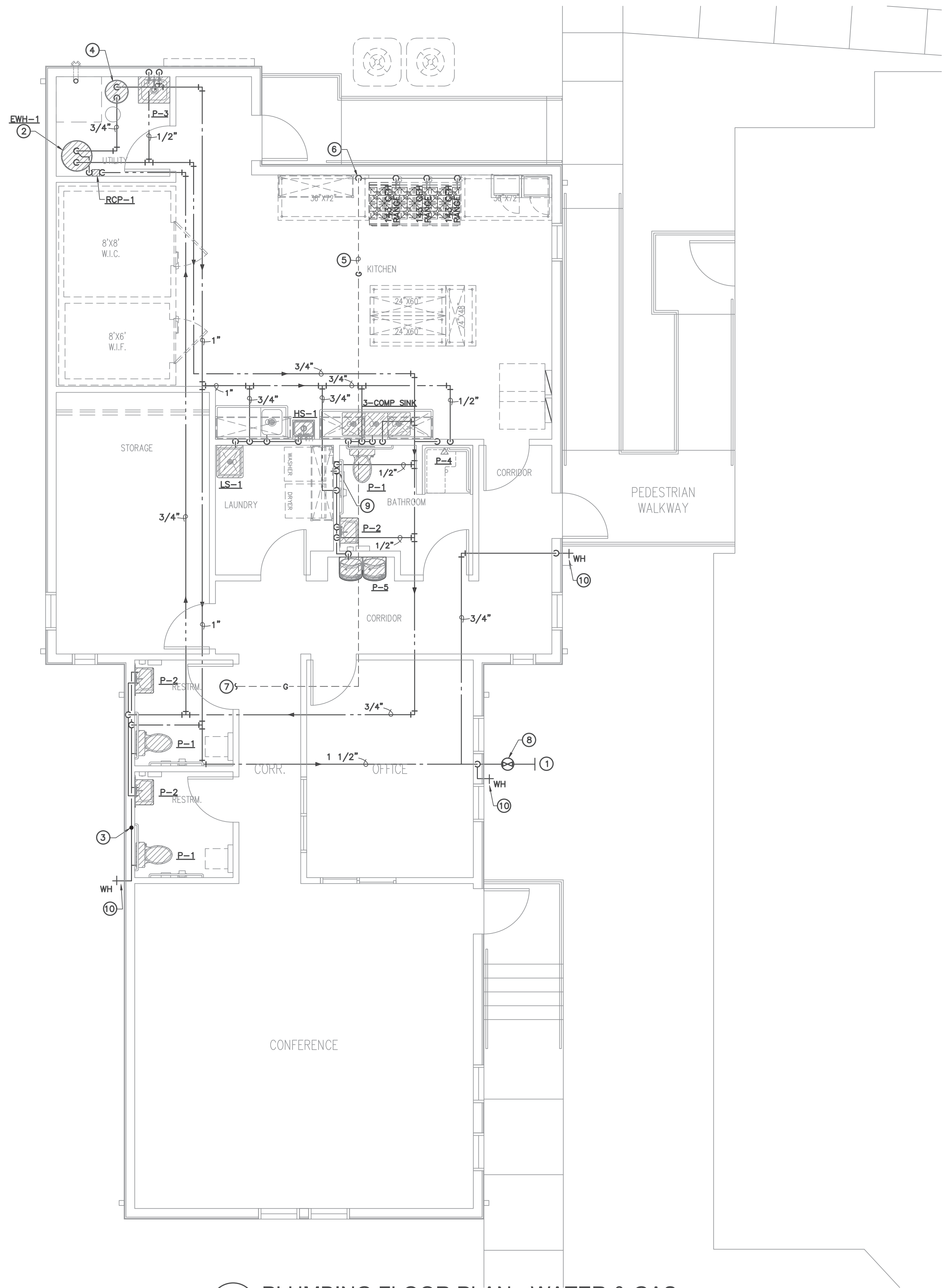


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Firm # 2556
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San Antonio, TX 78230
Project Manager:
David Vasquez
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107 S. PINE STREET, SAN ANTONIO, TEXAS 78203



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PLUMBING GENERAL NOTES:

- 1. ROOF PENETRATIONS SHALL BE DONE IN STRICT COMPLIANCE WITH SPECIFICATIONS AND SHALL BE LEAK PROOF.
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- 4. PROVIDE TEMPERATURE CONTROL MIXING VALVES (MV) AT ALL LAVATORIES AND HAND SINKS.
- 5. PROVIDE WALL CLEANOUTS AT ALL LAVATORIES AND HAND SINKS.

PLUMBING KEYED NOTES:

- ① 1 1/2" DOMESTIC WATER STUB OUT. REFERENCE CIVIL DRAWINGS FOR CONTINUATION.
- ② ELECTRIC WATER HEATER REF: DETAIL 4/P3.
- ③ PROVIDE TYPE "A" WATER HAMMER ARRESTOR WITH ACCESS DOOR.
- ④ CONTRACTOR TO PROVIDE AND INSTALL GEMLINE-90 90,000 GRAINS WATER SOFTNER OR APPROVED EQUAL.
- ⑤ 1 1/2" GAS PIPING ON ROOF.
- ⑥ 1 1/2" GAS LINE DOWN THRU ROOF WITH AGA APPROVED BALL VALVE. PROVIDE A LINE SIZE ELECTRONICALLY ACTUATED SOLENOID VALVE AT 48" A.F.F. INTERLOCKED WITH FIRE SUPPRESSION SYSTEM.
- ⑦ ROUTE AND CONNECT NEW GAS PIPING TO NEW GAS METER.
- ⑧ SHUT-OFF VALVE IN CAST IRON BOX.
- ⑨ CONTRACTOR TO PROVIDE AND INSTALL GUY GRAY #B200 WASHER BOX OR APPROVED EQUAL.
- ⑩ CONTRACTOR TO PROVIDE AND INSTALL WALL HYDRANT (WH) - WOODFORD MODEL #RB65 ANTI-SIPHON FREEZELESS OR APPROVED EQUAL.

1 PLUMBING FLOOR PLAN - WATER & GAS
SCALE: 1/4" = 1'-0"

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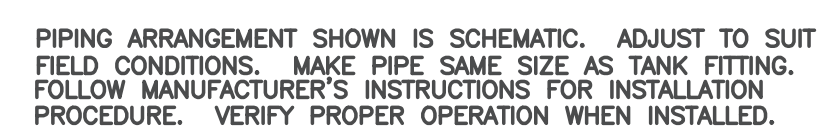
8600 WURZBACH ROAD
SUITE 504
SAN ANTONIO, TX 78240
210-662-1345

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Of	Sheets



SCALE: NOT TO SCALE



EXPANSION TANK INSTALLATION SHALL OCCUR ONLY WHEN THERE IS A BACK FLOW PREVENTION DEVICE INSTALLED WITHIN THE TENANT SPACE WATER SYSTEM OR BUILDING WATER SYSTEM. FIELD VERIFY BACKFLOW PREVENTION DEVICE.

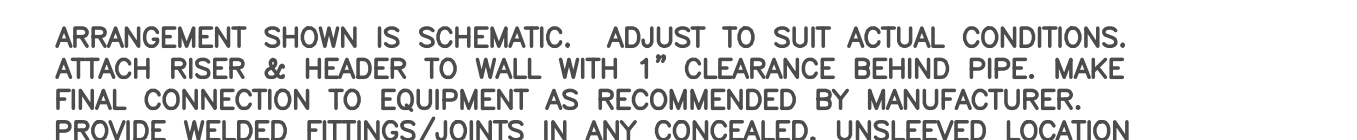
SCALE: NOT TO SCALE



SCALE: NOT TO SCALE



4) ON PLATFORM
SCALE: NOT TO SCALE

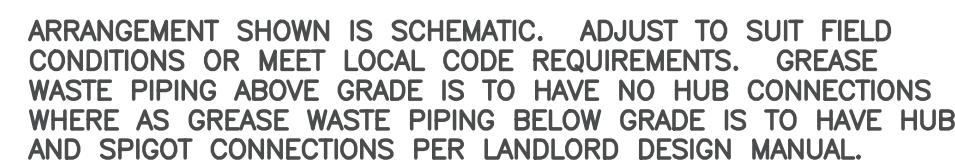


SCALE: NOT TO SCALE



PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT
INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO
NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE
USED TO SUPPORT TWO OR MORE PIPES. PIPES SHALL BE SPACED AS FOLLOWS:
4"=12' 3"=12' 2"=12' 0" 2"=9' 1"=12'-8" 1"=4'-7" 1"=6" 3/4"=6" 1/2"=5",
CAST IRON: 10' AND ONE NEAR ALL JOINTS. STEEL: 4"=14' 3"=12 2'-1/2"=11'
2"=10' 1"=1/2"=9' 1"=7' 3/4"=8' 1/2"=5". LOCATE HANGERS AS CLOSE AS POSSIBLE
TO TURNS AND TEES. PIPES PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN
JOINTS/LOCATIONS. LOCATE HANGERS TO MINIMIZE DEFLECTIONS. LOCATIONS,
ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY.
PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED
STEEL STRUTS FOR STEEL IS NOT ACCEPTABLE. REFER TO CODES FOR FURTHER
INFORMATION.

SCALE: NOT TO SCALE



7) SINK DETAIL
SCALE: NOT TO SCALE



8) SCALE: NOT TO SCALE

① GREASE INTERCEPTOR SHALL BE INSTALLED AS PER LOCAL AND CITY CODES.

<u>GREASE INTERCEPTOR SIZING:</u>			
MEALS/PEAK HOURS	X	WASTE FLOW RATE	X
75		5 GALLONS	
			X
		RETENTION TIME	
		1.5 HOURS	
			X
			STORAGE FACTOR
			1.0



APPROVED MANUFACTURERS: BELL & GOSSETT, ARMSTRONG

1 1/2" GAS LINE TO TENANT
GAS METER LOCATION.
TOTAL DEMAND IS;
429 CFH AT 4oz. DELIVERY
PRESSURE.



12 PLUMBING RISER - GAS
SCALE: NOT TO SCALE

ELECTRICAL SPECIFICATIONS
DIVISION 16 – ELECTRIC

16100.02 DRAWINGS AND SPECIFICATIONS

A. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER, AND WHAT IS CALLED FOR ON ONE, SHALL BE AS IF CALLED FOR BY BOTH.
B. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL DESIGN, LAYOUT, AND ARRANGEMENT OF EQUIPMENT AND VARIOUS SYSTEMS. HOWEVER, BEING DIAGRAMMATIC THE DRAWINGS DO NOT NECESSARILY SHOW ALL DETAILS SUCH AS JUNCTION BOXES, PULL BOXES, WIRING, ETC. NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

C. STUDY AND REVIEW ALL CONTRACT DOCUMENTS, INCLUDING DRAWINGS AND SPECIFICATIONS FOR ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER PORTIONS OF THE WORK TO AVERT POSSIBLE INSTALLATION CONFLICTS. ADJUST ELECTRICAL WORK TO CONFORM TO ALL CONDITIONS INDICATED THEREIN. SHOULD CONFLICTS ARISE WHICH REQUIRE CHANGES IN THE CONTRACT DOCUMENTS, NOTIFY THE ARCHITECT AND OWNER. SECURE WRITTEN APPROVAL AND AGREEMENT ON NECESSARY ADJUSTMENTS BEFORE THE BIDDING.

D. DISCREPANCIES BETWEEN DRAWINGS, BETWEEN DRAWINGS AND SPECIFICATIONS, OR BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR ERRORS ON EITHER DRAWINGS OR SPECIFICATIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF RGM ENGINEERING FOR A DECISION BEFORE THE SPECIFIC BIDDING.

16100.05 PERMITS, FEES, TAXES AND ROYALTIES

A. ARRANGE AND PAY FOR ALL NECESSARY PERMITS, FEES, TAXES, AND ROYALTIES IN CONNECTION WITH ELECTRICAL WORK.

16100.06 CODES AND REGULATIONS

A. COMPLY WITH THE LATEST APPLICABLE REQUIREMENTS OF THE NEC, NESC, OSHA, NFPA AND THE LOCAL ELECTRICAL INSPECTION AUTHORITY WHO SHALL HAVE FINAL JURISDICTION. COMPLY ALSO WITH ALL REQUIREMENTS OF LOCAL UTILITY AND TELEPHONE COMPANIES.

REPORT TO THE ENGINEER PRIOR TO SUBMITTING BIDS, ANY PART OR PORTION OF THE ELECTRICAL DESIGN WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE APPLICABLE LOCAL OR STATE CODES OR REQUIREMENTS OF LOCAL UTILITY OR TELEPHONE COMPANIES. OTHERWISE BE HELD RESPONSIBLE TO PROVIDE INSTALLATION WHICH WILL COMPLY WITH THESE CODES AND REGULATIONS.

APPLICABLE CODES AND ORDINANCES AND LOCAL INTERPRETATIONS ARE TO TAKE PRECEDENCE WHEN THEY CONFLICT WITH, OR ARE MORE STRINGENT THAN THE ELECTRICAL DESIGN. DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE WHERE DESIGN IS MORE STRINGENT THAN CODES AND ORDINANCES.

16100.07 STANDARDS

A. MATERIALS AND INSTALLATION SHALL ALSO CONFORM TO LATEST STANDARDS AND PRACTICES OF THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE), THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND THE NATIONAL BUREAU OF STANDARDS.

B. THE FOREGOING RULES, STANDARDS AND REGULATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING HIGHER GRADES OF MATERIALS AND WORKMANSHIP WHICH ARE SPECIFIED HEREIN OR INDICATED ON DRAWINGS.

16100.09 PRODUCT DATA AND SUBMITTALS

A. FURNISH PRODUCT DATA AND SUBMITTALS FOR REVIEW BY THE CONSULTING ENGINEER AND OWNER PRIOR TO INSTALLATION.

B. FURNISH DETAILED AND DIMENSIONED PRODUCT DATA, SUBMITTALS, AND SHOP DRAWINGS FOR ALL ELECTRICAL DISTRIBUTION EQUIPMENT, LIGHTING FIXTURES AND LAMPS, SPECIAL EQUIPMENT, SPECIAL SYSTEMS AND SPECIAL APPARATUS WHICH ARE TO BE PROVIDED FOR INSTALLATION IN THIS WORK.

C. INCLUDE CATALOG CUTS, DIMENSIONAL AND OPERATING DATA, WIRING DIAGRAMS FOR SPECIAL SYSTEMS, AND SUCH OTHER DATA AS MAY BE REQUIRED BY RGM ENGINEERING AND OWNER. SUBMIT SAMPLES OF EQUIPMENT WHEN REQUESTED BY THE CONSULTING ENGINEER AND OWNER.

D. SUBMITTALS SHALL BE PROVIDED IN 3-RING HARD BACK BINDERS.

16100.10 MINOR DEVIATIONS AND CHANGES

A. FURNISH AND INSTALL ENTIRE ELECTRICAL INSTALLATIONS AS DESIGNED AND IN ACCORDANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. MINOR DEVIATIONS NECESSITATED BY FIELD CONDITIONS OR EQUIPMENT BEING SUPPLIED MAY BE MADE UPON APPROVAL OF THE ARCHITECT, ENGINEERING AND OWNER. CHANGES IN DESIGN AND INSTALLATION SHALL BE DONE IN THE MANNER PROVIDED FOR IN THE GENERAL CONDITIONS.

16100.11 CUTTING AND REPAIRING

A. PROVIDE ALL CUTTING, PATCHING CHANNELING, CORE DRILLING, ETC., IN BUILDING STRUCTURE NECESSARY FOR ELECTRICAL WORK. LOCATE HOLES TO BE DRILLED, OUTLETS, ETC., COORDINATE WORK WITH ALL OTHER TRADES ON THE JOB, AND MAKE ARRANGEMENTS FOR NECESSARY OPENINGS AND CHASES. SEAL ALL HOLES CUT FOR WIRING RUNS. NO CUTTING, CHANNELING, CORE DRILLING, ETC. SHALL BE DONE WITHOUT PRIOR APPROVAL OF THE ARCHITECT. MAKE NECESSARY REPAIRS TO FINISHED BUILDING WHERE PATCHING OR REFINISHING IS NECESSARY DUE TO ELECTRIC WORK. ACTUAL WORK INVOLVED IN THESE REPAIRS SHALL BE DONE BY SKILLED CRAFTSMEN IN THE TRADES INVOLVED.

16100.12 MATERIALS

A. FURNISH AND INSTALL ALL MATERIAL, EQUIPMENT, AND DEVICES WHICH ARE NEW, FIRST QUALITY, BEAR THE LISTED LABEL OF THE UNDERWRITERS LABORATORIES, INC. AND WHICH ARE ACCEPTED BY RGM ENGINEERING FOR INSTALLATION IN THIS PROJECT. REPLACE, IN A MANNER ACCEPTED BY THE CONSULTING ENGINEER AND PAY FOR ALL EQUIPMENT OR MATERIALS DAMAGED IN THE COURSE OF INSTALLATION OR TESTING.

BASIC BID SHALL INCLUDE MANUFACTURERS AND CATALOG NUMBERS AS SHOWN IN THESE SPECIFICATIONS, OR ON THE DRAWINGS WITH NO EQUALS, UNLESS SPECIFICALLY INDICATED. SPECIFIED MATERIALS, EQUIPMENT, AND DEVICES SHALL BE FURNISHED AND INSTALLED UNDER CONTRACT UNLESS CHANGED BY MUTUAL AGREEMENT BETWEEN CONTRACTOR AND THE CONSULTING ENGINEER.

SUBSTITUTE EQUIPMENT OF OTHER MANUFACTURERS WHICH IS EQUIVALENT TO OR SUPERIOR THAN THAT SPECIFIED MAY BE PROPOSED. HOWEVER, SUCH SUBSTITUTIONS MUST BE ACCEPTED IN WRITING BY THE CONSULTING ENGINEER PRIOR TO BIDDING.

IF SUBSTITUTIONS ARE NOT REQUESTED OR GRANTED, THE SPECIFIED MATERIALS AND EQUIPMENT MUST BE INSTALLED. THE DECISION OF RGM ENGINEERING REGARDING SUBSTITUTIONS SHALL BE FINAL. IT SHALL BE THE ELECTRICAL CONTRACTORS RESPONSIBILITY UNDER THIS SECTION OF THE SPECIFICATION TO NOTIFY ALL CREATED TRADES OF THE ACCEPTED SUBSTITUTIONS AND TO ASSUME FULL RESPONSIBILITY FOR ALL COSTS CAUSED AS A RESULT OF THE SUBSTITUTION. PRIOR TO START OF WORK, SUBMIT TO THE ENGINEER A COMPLETE LIST OF TYPES, MATERIALS, AND EQUIPMENT AND MANUFACTURERS OF THESE ITEMS WHICH ARE TO BE FURNISHED FOR THIS WORK.

B. COPPER WIRE MUST BE USED. ALUMINUM WIRE WILL NOT BE ACCEPTED.

C. EQUIPMENT AND MATERIALS MUST COMPLY WITH THE REQUIREMENTS OF THE UTILITY COMPANY, AND WHERE REQUIRED, SHALL BE SUBMITTED TO THEM FOR THEIR APPROVAL.

16100.15 GUARANTEE

A. FURNISH TO OWNER A FORMAL GUARANTEE COVERING ENTIRE ELECTRICAL SYSTEM, TO BE FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE OF INSTALLATION BY OWNER. DURING THIS PERIOD, PROVIDE ALL LABOR AND NEW MATERIALS WHERE REQUIRED, TO REPAIR OR REPLACE ALL DEFECTS TO THE SATISFACTION OF OWNER AT NO ADDITIONAL COST.

16100.16 FINAL ACCEPTANCE AND WORK CLOSE-OUT

A. CONTRACTOR SHALL INSPECT THE ENTIRE ELECTRICAL INSTALLATION TO ASSURE THAT ALL WORK IS COMPLETED AND ALL SYSTEMS ARE FULLY OPERATIONAL, BEFORE CALLING FOR A FINAL ACCEPTANCE OF THE WORK. ALL CERTIFICATES INCLUDING ACCEPTANCE OF LOCAL INSPECTION AUTHORITY MUST BE PRESENTED AT THAT TIME.

16100.19 CLEANING AND PAINTING

A. IN GENERAL, EXCEPT WHERE SPECIFIED OTHERWISE HEREIN, FINISH PAINTING OF CONDUITS, BOXES, POLES, AND EQUIPMENT WHERE SPECIFIED TO BE DONE IN FIELD, SHALL BE DONE BY OTHER TRADES UNDER ANOTHER SECTION OF THE SPECIFICATIONS. PROTECT ELECTRICAL APPARATUS, CABINETS, BOXES AND ALL OTHER EQUIPMENT NORMALLY FURNISHED ON THE JOB WITH FACTORY APPLIED FINISH, EITHER PAINTED OR GALVANIZED, DURING STORAGE AND INSTALLATION. CLEAR ALL ELECTRICAL EQUIPMENT SUCH AS LIGHTING FIXTURES, LAMPS, SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, ETC., OF CONSTRUCTION DIRT, DRILL CHIPS, DEBRIS, JUST PAINT SMEARS, ETC., BEFORE COMPLETION OF WORK. CLEAN OR TOUCH-UP AND REPAINT ALL SCARS BLEMISHES, RUST SPOTS, ETC., TO ORIGINAL STATE OF FINISH.

16100.20 TRENCHING AND BACKFILL

A. PROVIDE ALL TRENCHING AND BACKFILLING REQUIRED FOR ELECTRICAL WORK.

16100.21 SCOPE OF WORK

A. WORK UNDER THIS CONTRACT COMPRISES THE PROVIDING OF ALL LABOR, MATERIAL, EQUIPMENT, TRANSPORTATION, SCAFFOLDING, RIGGING, TOOLS AND RELATED ITEMS AND SUBCONTRACT WORK FOR A COMPLETE OPERATING ELECTRICAL SYSTEM AND INCLUDES BUT IS NOT LIMITED TO:

TRENCHING AND BACKFILL.
TEMPORARY LIGHT AND POWER.
CUTTING AND PATCHING.
SHOP DRAWINGS.
TESTING AND ADJUSTMENTS.
CLEANING AND PAINTING.
ELECTRICAL SERVICE CONDUITS.
LOW VOLTAGE FEEDERS
LIGHT AND POWER DISTRIBUTION PANELS.
LIGHTING BRANCH CIRCUIT WIRING.
CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS.
LIGHTING FIXTURES AND LAMPS.
TELEPHONE SYSTEM AS INDICATED ON PLANS.

B. ITEMS MENTIONED IN THE ABOVE SCHEDULE ARE LISTED FOR THE PURPOSE OF DESCRIBING BASIC SPECIFICATION CONTENTS AND SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM EXECUTING ANY WORK DESCRIBED THROUGHOUT THE SPECIFICATION OR INDICATED ON DRAWINGS BECAUSE OF ITS DETAILED OMISSION IN THIS SCHEDULE.

16100.22 SHOP DRAWINGS AND MANUFACTURER'S SUPERVISION REQUIRED

A. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING, PRIOR TO FABRICATION, INCLUDING ALL ACCESSORIES AND MANUFACTURER'S SUPERVISION WHERE INDICATED:

PANELS
MOLDED CASE CIRCUIT BREAKERS.
LIGHTING FIXTURES AND LAMPS.
CABLE TRAYS
SECURITY SYSTEM
FIRE ALARM

16100.23 GROUNDING

A. PROVIDE ALL ELECTRICAL SYSTEM GROUNDING IN ACCORDANCE WITH THE NEC AND ANY STATE AND LOCAL CODE REQUIREMENTS, EVEN IF NOT SHOWN ON THE DRAWINGS. INCLUDE ADDITIONAL GROUNDING CONDUITS IN NON-METALLIC RACEWAYS, EVEN THOUGH THE DRAWINGS SHOW ONLY CIRCUIT AND/OR NEUTRAL CONDUITS.

B. RECEPTACLES WHICH DO NOT HAVE THEIR MOUNTING YOKES CONNECTED TO RECEPTACLE GROUNDING POINT SHALL BE GROUNDED WITH A GREEN INSULATED GROUNDING JUMPER CONNECTED TO OUTLET BOX. PROVIDE A SEPARATE GROUND CONDUCTOR WITH BRANCH CIRCUIT WIRING WHEN INDICATED ON DRAWINGS OR WHEN REQUIRED BY CODE.

C. GROUND CABLES SHALL BE CONTINUOUS WITHOUT JOINTS OR SPLICES THROUGH ITS LENGTH. IF BARE GROUND CONDUCTORS ARE RUN THROUGH METALLIC CONDUIT, THEY BE SECURELY BONDED TO EACH CONDUIT AT THE ENTRANCE AND EXIT. ALL CONNECTIONS TO EQUIPMENT OR CONDUIT SHALL BE MADE WITH APPROVED TYPE OF SOLDERLESS CONNECTOR, AND SAME SHALL BE THOROUGHLY CLEANED AND BRIGHT BEFORE CONNECTION IS MADE SO AS TO ENSURE A GOOD METAL CONTACT. CONNECTIONS WHICH WILL BE INACCESSIBLE AFTER COMPLETION OF PROJECT SHALL BE MADE BY THE CABLED OR THERMO WELD PROCESS.

D. GROUNDING CONNECTIONS: UTILIZE BURDYN "THERMOWELD" PROCESS FOR ALL CABLE-TO-CABLE, CABLE-TO-STEEL, AND CABLE-TO-GROUND ROD CONNECTIONS.

E. WHEN THE MAXIMUM RESISTANCE TO GROUND SPECIFIED ABOVE CANNOT BE ACHIEVED, THE CONTRACTOR SHALL INCREASE THE LENGTH AND QUANTITY OF GROUND RODS TO ACHIEVE THIS RESISTANCE REQUIRED. WHERE INCREASED, QUANTITY AND LENGTH OF GROUND RODS DO NOT PRODUCE THE MAXIMUM SPECIFIED RESISTANCE, SOIL TREATMENT AROUND GROUND RODS SHALL BE PROVIDED.

F. SOIL TREATMENT TO REDUCE GROUND RESISTANCE AROUND COPPER WELD GROUND RODS SHALL BE PROVIDED AS FOLLOWS:

1. EXCAVATE CIRCULAR TRENCH AROUND EACH ELECTRODE AND 2'-6" BELOW TOP OF ELECTRODE. FILL WITH 100 POUNDS OF MAGNESIUM SULFATE.

2. SEPARATE ELECTRODE FROM CHEMICAL TO 18" RADIUS WITH STONEFREE EARTH. BACKFILL USE EXTREME CARE TO AVOID DIRECT CHEMICAL CONTACT WITH THE ELECTRODE.

16100.24 WIRING – GENERAL

A. ALL BRANCH CIRCUIT WIRING RUN WITHIN THE BUILDING AND NOT EXPOSED TO MOISTURE, SHALL BE INSTALLED IN ELECTRO-METALLIC TUBING AND RUN CONCEALED IN NEW WALLS, CEILINGS AND/OR SLABS, BUT EXPOSED ON EXISTING SURFACES WHERE CONDUITS CANNOT BE CONCEALED.

B. ALL BRANCH CIRCUIT WIRING RUN OUTSIDE OF THE BUILDING AND EXPOSED TO MOISTURE SHALL BE INSTALLED IN RIGID METALLIC CONDUIT AND RUN CONCEALED IN NEW CONSTRUCTION, BUT EXPOSED ON EXISTING CONSTRUCTION.

C. ALL ELECTRIC AND TELEPHONE SERVICE SHALL BE IN RIGID METALLIC CONDUIT. SLOPE CONDUIT AWAY FROM BUILDING A MINIMUM OF 3" IN 100'.

D. ALL RACEWAYS UNDER ROADS, WALKS OR OTHER PAVED AREAS SHALL BE RIGID GALVANIZED CONDUIT.

E. ALL UNDERGROUND WIRING OUTSIDE BUILDING AND UTILITY COMPANY SERVICES, SHALL BE IN RIGID NON-METALLIC CONDUIT SCHEDULE-40 (UNLESS NOTED OTHERWISE ON DRAWINGS) AND SHALL BE ENCASED IN CONCRETE, BURIED BELOW THE FLOOR LINE.

F. RIGID NON-METALLIC CONDUIT SHALL BE ALLOWED IN STRUCTURAL SLABS, UNLESS DISAPPROVED BY THE STRUCTURAL ENGINEERS.

G. INSTALL RACEWAYS FROM BOX-TO-BOX OR TERMINATIONS AS SHOWN ON THE DRAWINGS OR AS REQUIRED TO AFFECT CIRCUITING DESCRIBED WITH CIRCUIT NUMBERS ADJACENT TO EQUIPMENT. GROUPING HOME RUNS OR COMBINING WIRES IN COMMON RACEWAYS WILL BE ALLOWED, WITH A MAXIMUM OF FOUR SINGLE POLE BRANCH CIRCUITS IN A RACEWAY. INCREASE WIRE SIZES AND RACEWAYS WHERE REQUIRED TO AVOID LOSS OR AMPACITY AS REQUIRED BY NATIONAL ELECTRICAL CODE.

H. PROVIDE "OZ" OR EQUAL CONDUIT SEALS FOR ALL RACEWAYS, WIRES OR CABLES PASSING THROUGH FOUNDATIONS, FLOORS, WALLS, FOOTINGS, CRAWLER AND FREEZER WALLS.

I. ALL UNDERGROUND WIRING AND RACEWAYS SHALL BE A MINIMUM OF 24" BELOW FINISHED GRADE EXCEPT WIRING OVER 600 VOLTS WHICH SHALL BE 30" BELOW FINISHED GRADE, UNLESS NOTED OTHERWISE. WIRING IN SLAB SHALL BE INSTALLED IN SCHEDULE 40 RIGID NON METALLIC CONDUIT.

16100.25 CONDUITS AND RACEWAYS

A. ALL CONDUITS SHALL BE 1/2" MINIMUM TRADE SIZE DIAMETER, UNLESS SPECIFIED OTHERWISE.

B. ALL RIGID STEEL CONDUITS SHALL HAVE THREADS PAINTED WITH THOMAS AND BETTS COPPER SHIELD WHERE CONDUIT IS EXPOSED TO WEATHER OR DAMPNESS.

C. RIGID NON-METALLIC CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 347 OF THE NATIONAL ELECTRICAL CODE. NO SECTION OR LENGTH OF CONDUIT SHALL BE EXPOSED. ALL ELBOWS SHALL BE RIGID GALVANIZED TO AVOID CUTTING WITH PULL WIRES AND TAPES. CONDUIT SHALL BE PROTECTED FROM LIGHT DURING STORAGE AND INSTALLATION.

D. RACEWAYS SHALL BE CAPPED WITH BUSHINGS DURING CONSTRUCTION AND SWABBED CLEAN BEFORE DRAWING IN WIRE.

E. CONDUITS SHALL BE CUT SQUARE AND REAMED AND ALL TERMINALS SHALL BE MADE UP TIGHT.

F. RIGID CONDUIT SYSTEM SHALL BE MADE UP WITH THREADED FITTINGS AND COUPLINGS.

G. EXPOSED RACEWAYS SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO SURFACES WIRED OVER AND SHALL BE PROVIDED WITH FITTINGS OR STANDARD MANUFACTURED ELBOWS.

H. SUPPORTS ON ALL RACEWAYS SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO SURFACES WIRED OVER AND SHALL BE SPACED AT A MAXIMUM OF 10'. SUPPORTS ON RACEWAYS LARGER THAN 2" SHALL BE SPACED AT A MAXIMUM OF 6'.

I. FASTENINGS SHALL BE LAG SHIELDS, RAW PLUGS, WOOD SCREWS, LAG BOLTS, BEAM CLAMPS OR TOGGLE BOLTS. NO WOODEN PLUGS WILL BE PERMITTED. NO NAILS WILL BE PERMITTED.

J. CONDUITS AND HANGERS SHALL BE INSTALLED IN A MANNER NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. THIS SHALL INCLUDE TRAPEZE HANGERS TO STRADDLE DUCTS, PIPES OR OTHER OBSTRUCTIONS, WHERE NECESSARY. NO PERFORATED STRAP IRON WILL BE PERMITTED.

K. PROVIDE A CONDUIT EXPANSION FITTING WHEREVER RUN CROSSES AND EXPANSION JOINT IN THE STRUCTURE, AND WHERE CONDUIT IS ATTACHED TO SEPARATE STRUCTURES. EXPANSION FITTING SHALL BE "OZ" TYPE "AX," THOMAS AND BETTS, STEEL CITY OR APPROVED EQUAL.

L. RIGID NON-METALLIC CONDUIT SHALL BE POLYVINYL CHLORIDE SCHEDULE-40 HEAVY WALL, MADE BY CARLON OR APPROVED EQUAL.

M. SURFACE METAL RACEWAY SHALL BE WIREMOLD, KINDORF OR APPROVED EQUAL.

N. RIGID CONDUIT BUSHINGS SHALL BE IMPACT RESISTANT PLASTIC INSULATING TYPE, AS MADE BY THOMAS & BETTS, APPLETON, STEEL CITY OR APPROVED EQUAL.

O. ELECTRO-METALLIC TUBING SHALL BE REPUBLIC, ETP, NATIONAL OR APPROVED EQUAL WITH SCREW-TYPE FITTINGS.

P. ALL STEEL CONDUITS IN DIRECT CONTACT WITH EARTH SHALL BE PAINTED WITH TWO(2) COATS OF BLACK ASPHALT, PRIOR TO INSTALLATION.

Q. PROVIDE A CONTINUOUS RED PLASTIC STRIP 1"-0" ABOVE TOP OF ALL UNDERGROUND RACEWAYS.

R. CONDUIT SUPPORTS AND HANGERS SHALL BE GALVANIZED BY STEEL CITY, KINDORF OR EQUAL. 16100.27 PULL OR JUNCTION BOXES AND WIRING TROUGHS

A. FURNISH AND INSTALL PULL OR JUNCTION BOXES WHERE INDICATED OR WHERE NECESSARY TO FACILITATE PULLING OF CONDUCTORS. ALL BOXES SHALL BE SIZED ACCORDING TO NEC REQUIREMENTS.

B. BOXES SHALL BE FORMED OF HOT DIPPED GALVANIZED SHEET STEEL EXCEPT WHERE SPECIFIED OTHERWISE.

C. BOXES INSTALLED IN WET AREAS OR WHERE EXPOSED TO WEATHER SHALL BE GALVANIZED WITH CAST BOLTED COVERS.

E. ALL COVERS ON BOXES AND TROUGHS SHALL BE SCREW COVER TYPE, OR COMBINATION HINGED AND SCREWED TYPE.

16100.28 WIRES AND CABLES – 600 VOLT INSULATION

A. WIRE AND CABLE SHALL BE COPPER AND SHALL HAVE CURRENT CARRYING CAPACITY NOT LESS THAN INDICATED AND SHALL CONFORM TO UL STANDARDS. CONDUCTOR SIZES SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL NOT BE LESS THAN NO. 12 AWG FOR POWER AND LIGHTING WORK UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL NO. 8 B&S GAUGE WIRE AND LARGER SHALL BE STRANDED UNLESS OTHERWISE NOTED ON DRAWINGS. VOLTAGE RATING OF CONDUCTORS WHICH OPERATE AT 600 VOLTS AND BELOW SHALL BE 600 VOLTS. TYPE THIN INSULATION SHALL BE USED FOR ALL SIZES OF WIRE WITH XHHW USED FOR RISERS, UNLESS OTHERWISE NOTED. RECESSED LIGHTING FIXTURES IN HUNG CEILINGS SHALL BE SUPPLIED WITH TYPE AF INSULATED WIRE IN FLEXIBLE METAL CONDUIT, IN LENGTHS NOT EXCEEDING 6 FEET, FROM ADJACENT JUNCTION BOX. TYPE THIN INSULATED WIRE MAY BE USED FOR BRANCH CIRCUIT WIRING, PROVIDING THE AMPACITIES AT WHICH IT IS EMPLOYED ARE BASED ON THE ALLOWABLE AMPACITY OF 75% WIRE.

B. CABLES IN HIGH TEMPERATURE AREAS SHALL HAVE AN INSULATION TYPE SUITABLE FOR THE TEMPERATURE CABLES USED IN SPACES FOR ENVIRONMENTAL AIR SHALL CONFORM WITH APPLICABLE NEC REQUIREMENTS.

16100.29 WIRE SPLICING AND TERMINATING OF 600 VOLT CONDUCTORS

A. SPLICES OF WIRES UP TO 3 #8 CONDUCTORS SHALL BE MADE WITH PRESSURE TYPE CONNECTORS. WIRE NUTS OR SCREW CAPS WILL NOT BE PERMITTED. SPLICES ABOVE THIS SIZE SHALL BE MADE WITH APPROVED MECHANICAL CONNECTORS, SCOTCHFILL AND SCOTCH #88 VINYL TAPE.

B. SPLICES IN CABLES #6 GAUGE AND LARGER SHALL BE MADE WITH CAST SLEEVE TYPE CONNECTORS WITH SET SCREWS, SCOTCHFILL AND SCOTCH #88 VINYL TAPE.

C. COPPER CONDUCTOR TERMINATIONS SHALL BE MADE WITH MECHANICAL SET SCREW, PRESSED COPPER LUGS. TWO(2) BOLT LUGS SHALL BE USED IF NECESSARY, TO OBTAIN SUFFICIENT CONTACT SURFACE OR 200 AMPERES PER SQUARE INCH CAPACITY TO MAINTAIN RIGID IN TERMINATING LARGE CABLES.

D. SMALL WIRE SPLICES SHALL BE MADE WITH THOMAS AND BETTS WIRE NUTS OR APPROVED EQUAL CONNECTORS.

E. LARGE WIRE SPLICES SHALL BE MADE WITH "OZ" TYPE XW AND "OZ" TYPE XTP, OR APPROVED EQUAL CONNECTORS.

F. TERMINAL LUGS SHALL BE PRESSED COPPER SCREW LUGS AS MADE BY MAC OR EQUAL.

16100.30 WIRING DEVICES AND PLATES

A. PROVIDE AT EVERY INDICATED OUTLET THE PROPER DEVICES AND PLATES AS SPECIFIED HEREIN OR ON THE DRAWINGS. WHERE MORE THAN ONE DEVICE IS INDICATED IN ONE LOCATION, THEY SHALL BE GANGED TOGETHER IN ONE BOX AND UNDER ONE PLATE AS REQUIRED.

B. DEVICES LISTED ARE TO ESTABLISH TYPE, COLOR, OPERATION AND CAPACITY. MANUFACTURERS SHALL BE HUBBELL, PASS AND SEYMOUR, OR ARROW HART.

C. COLOR TO BE CHOSEN BY ARCHITECTS.

16100.32 LAMPS AND FIXTURES

A. PROVIDE FIXTURES AS SHOWN ON THE FIXTURE SCHEDULE AND DESCRIBED BELOW. THE FIXTURES SHALL BE SUPPLIED COMPLETE WITH LAMPS AND ANY AUXILIARY DEVICES NECESSARY FOR THEIR FUNCTION. FIXTURES SHALL BE SECURELY FASTENED TO THE CEILING STRUCTURE, AS WELL AS THE OUTLET BOX WHERE NECESSARY TO MAINTAIN PROPER ALIGNMENT.

B. HID BALLAST SHALL BE HIGH POWER FACTOR TYPE.

C. FIXTURES SHALL BE DESIGNED AND APPLIED SUCH THAT THE BALLAST/FIXTURE COMBINATION WITH ALL UNITS IN-PLACE IN THE ROOM OR SPACE SHALL HAVE AN INAUDIBLE SOUND.

D. FIXTURE/BALLAST COMBINATION SHALL BE DESIGNED TO LIMIT MAXIMUM BALLAST CASE TEMPERATURE TO 90 DEG.C.

E. LIGHTING FIXTURES SHALL CONFORM TO ARTICLES 410 AND 300-22 OF THE NEC.

F. FOR THE SIGNS, PROVIDE CONNECTIONS WITH WATERPROOF JUNCTION BOXES OR AS SPECIFIED ON THE PLANS.

G. ALL EXTERIOR LIGHTING FIXTURES WHERE EXPOSED TO WEATHER SHALL BE UL TESTED FOR WET LOCATIONS. OUTDOOR CANOPY LIGHTING FIXTURES SHALL BE UL LISTED FOR DAMP LOCATIONS.

E. EXTERIOR LIGHTING FIXTURES SHALL BE CONTROLLED BY A PHOTOCELL-ON/ TIMER-OFF SCHEME. CONTRACTOR TO PROVIDE ALL MATERIALS, CONTACTORS, AND HARDWARE AS REQUIRED.

16100.33 TELEPHONE CONDUIT SYSTEM

A. PROVIDE A COMPLETE TELEPHONE SYSTEM AS INDICATED ON THE PLANS WITH OUTLET BOXES, PLATES AND CABINETS FOR THE INSTALLATION OF TELEPHONE AND WIRING BY THE TELEPHONE COMPANY.

B. ALL RACEWAYS, CABINETS, OUTLETS, ETC., AND THE METHOD OF INSTALLATION SHALL COMPLY WITH THE REGULATIONS AND REQUIREMENTS OF THE TELEPHONE COMPANY.

16100.36 SERVICE AND CURRENT CHARACTERISTICS

A. ELECTRICAL SERVICE SHALL BE BROUGHT IN OVERHEAD OR UNDERGROUND BY THIS CONTRACTOR FROM THE UTILITY COMPANY POLE TO THE PAD OR POLE MOUNTED TRANSFORMER AND TO THE MAIN FUSE SWITCHBOARD LOCATED AS SHOWN ON THE DRAWINGS. ELECTRICAL CONTRACTOR TO COORDINATE ALL NECESSARY REQUIREMENTS WITH THE UTILITY COMPANY.

B. SERVICE SHALL BE THREE PHASE, FOUR WIRE, 120/208 VOLTS OR AS SHOWN ON PLANS.

16100.38 SAFETY AND DISCONNECT SWITCHES

A. BASE NAMED MANUFACTURER – SQUARE 'D'.

B. UNLESS NOTED OTHERWISE, ALL OTHER SWITCHES SHALL SQUARE 'D' WIRE DUTY CLASS 3110.

C. ALL DISCONNECT SWITCHES SHALL BE LOCKABLE IN THE "ON" OR "OFF" POSITION.

D. OTHER ACCEPTABLE MANUFACTURERS – GENERAL ELECTRIC, WESTINGHOUSE, CUTLER-HAMMER.

16100.42 MOLDED CASE CIRCUIT BREAKERS

A. BASED NAMED MANUFACTURER – "G.E."

B. CIRCUIT BREAKERS SHALL BE OF THE MOLDED CASE BOLTED IN TYPE CONSISTING OF THE NUMBER OF POLES AND AMPERE RATINGS AS NOTED ON THE DRAWINGS.

C. CIRCUIT BREAKERS SHALL BE OF THE INDICATING TYPE PROVIDING "ON," "OFF," AND "TRIPPED" POSITIONS OF THE OPERATING HANDLE. WHEN THE BREAKER IS TRIPPED, THE HANDLE SHALL ASSUME A POSITION BETWEEN "ON" AND "OFF" POSITIONS. BREAKERS SHALL BE OF THE QUICK-MAKE QUICK-BREAK TYPE WITH INVERSE TIME CHARACTERISTICS SECURED THROUGH THE USE OF A BI-METALLIC AND A MAGNETIC TRIPPING ELEMENT.

D. TWO AND THREE POLE BREAKERS SHALL BE THE COMMON TRIP TYPE. HANDLE EXTENSIONS PROVIDING COMMON MANUAL OPERATION WILL NOT BE ACCEPTABLE.

16100.43 LIGHTING AND POWER PANELS

A. BASED NAME MANUFACTURER – "G.E."

B. THE LIGHTING PANELBOARDS SHALL BE FOR THE DEAD FRONT, AUTOMATIC MOLDED CASE CIRCUIT BREAKER TYPE.

C. CABINETS SHALL BE CODE GAUGE WITH MINIMUM 4" SIDE, TOP, AND BOTTOM GUTTERS AND A MINIMUM OF 20" WIDE. PROVIDE SUBFED LUGS AND A MINIMUM OF 8" TOP, BOTTOM AND SIDE GUTTERS FOR FEEDER TAPS WITHIN PANELBOARDS AND WHEN FEEDERS ARE INSTALLED IN SIDE GUTTERS.

D. THE PANELS SHALL BE FACTORY ASSEMBLED COMPLETE WITH BREAKERS. ANY CIRCUIT BREAKER SHALL BE CAPABLE OF REPLACEMENT WITHOUT DISTURBING ANY OTHER BREAKER. THE MAIN BUS BARS OR BRANCH WIRE CONNECTORS. THE PANELS SHALL BE CAPABLE OF HAVING BRANCH CIRCUITS ADDED WITHOUT ADDITIONAL MACHINING, DRILLING, OR TAPPING. BRANCH CIRCUITS SHALL BE SEQUENCED PHASED ON THE MAIN BUS CARRYING CAPACITY SHALL BE DETERMINED ON A BASIS OF NOT MORE THAN 750 AMPERES PER SQUARE INCH OF CROSS SECTIONAL AREA FOR ALUMINUM BUSES.

E. THE PANELS SHALL BE ARRANGED FOR 3 PHASE, 4 WIRE, 120/208 VOLT SERVICE AS REQUIRED.

F. CIRCUIT BREAKERS SHALL BE AS SPECIFIED IN "MOLDED CASE CIRCUIT BREAKER" SECTION OF THE H. ALL PANELS SHALL BE PROVIDED WITH A COMPLETE TYPE-WRITTEN DIRECTORY OF ALL CONNECTED AND SPECIFICATIONS. MINIMUM INTERRUPTING CAPACITY – 120/208 VOLT SYSTEMS TO BE COORDINATED WITH LOCAL UTILITY COMPANIES SO AS TO INTERRUPT THE AVAILABLE FAULT CURRENT.

G. OTHER ACCEPTABLE MANUFACTURERS – SIEMENS ITE, WESTINGHOUSE, GENERAL ELECTRICAL, CUTLER-HAMMER.

H. THE PANELS SHALL BE LOCATED AND SIZED AS INDICATED ON PRINTS AND CONNECTED AS SHOWN ON THE RISER DIAGRAM.

16100.48 TEMPORARY LIGHT AND POWER

A. THE ELECTRICAL CONTRACTOR SHALL PROVIDE, MAINTAIN, AND OPERATE A SUITABLE TEMPORARY ELECTRIC DISTRIBUTION SYSTEM FOR LIGHT AND POWER.

B. ALL NECESSARY MATERIALS, I.E., PANELBOARDS, SWITCHES, FUSES, CABLES, RECEPTACLE OUTLETS, SUPPORTS AND OVER CURRENT PROTECTION, INCLUDING GROUND FAULT CIRCUIT INTERRUPTERS, 15 AMP. SINGLE-PHASE RECEPTABLES, 30 AMP SINGLE-PHASE OUTLETS, AND ALL OTHER ACCESSORIES REQUIRED FOR THE TEMPORARY DISTRIBUTION SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

C. ALL NECESSARY LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND MAINTENANCE AND SUBSEQUENT REMOVAL OF THE TEMPORARY DISTRIBUTION SYSTEM, INCLUDING ALL FUSES AND LAMPS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

D. ALL NECESSARY SLEEVES AND SUPPORTS, AS MAY BE REQUIRED FOR THE TEMPORARY DISTRIBUTION SYSTEM SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.

E. MINIMUM TEMPORARY LIGHTING WITHIN ALL PORTIONS OF THE BUILDING SHALL BE BASED UPON A LIGHTING INTENSITY OF TEN(10) FOOT CANDLES THROUGHOUT. PROPERLY GUARDED LEFT HAND THREADED LAMPS FOR MEETING OSHA REQUIREMENTS AND THE FOLLOWING MINIMUM LAMPING REQUIREMENTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR:

ROOMS OR SPACES 100 SQ. FT. TO 250 SQ. FT., NOT LESS THAN TWO(2) 100-WATT LAMPS.
ROOMS OR SPACES OVER 250 SQ. FT. AND UNDER 500 SQ. FT., NOT LESS THAN FOUR(4) 100-WATT LAMPS.

ROOMS OR SPACES OVER 500 SQ. FT., NOT LESS THAN TWO(2) 200-WATT LAMPS OVER 1,000 SQ. FT. OR FRACTION THEREOF.

ALL WIRING, OUTLETS AND LAMPS AS REQUIRED SHALL BE PROVIDED TO CREATE PROPER ADEQUATE LIGHTING IN STAIRS, CORRIDORS AND PASSAGES.

FOR SECURITY REASONS, LIGHTING IN STAIRS, CORRIDORS AND PASSAGES SHALL REMAIN ENERGIZED CONSTANTLY, 24 HOURS OF EACH DAY.

THE ELECTRICAL CONTRACTOR SHALL MAINTAIN HIGHER LIGHTING INTENSITIES AS NECESSARY, IN AREAS WHERE CONCRETE FINISHING AND WORK OF SIMILAR NATURE IS IN PROGRESS, AT NO ADDITIONAL COST TO THE CONTRACTOR.

F. MINIMUM TEMPORARY POWER WITHIN ALL BUILDINGS PROVIDED BY ELECTRICAL CONTRACTOR FOR ELECTRICALLY OPERATED SMALL TOOLS SHALL BE BASED ON A MINIMUM OF 0.50 WATTS PER SQUARE FOOT. ALL POWER OUTLETS SHALL BE PROPERLY GROUNDED CONFORMING TO NEC AND RULES AND REGULATIONS PRESCRIBED BY OSHA AS WELL AS ALL OTHER AGENCIES HAVING JURISDICTION WITHIN LOCAL. WHEN SUCH CODES OR REGULATIONS ARE INCONSISTENT, THE MORE STRINGENT SHALL PREVAIL.

G. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL FEEDERS AND LIGHTING/POWER DISTRIBUTION CENTERS OF SUFFICIENT CAPACITY FOR THE REQUIREMENTS OF THE ENTIRE BUILDING, WITH SUFFICIENT NUMBER OF OUTLETS AT SUCH CONVENIENT LOCATIONS SO THAT GROUNDED EXTENSION CORDS OF NOT OVER 100 FEET IN LENGTH WILL REACH ALL WORK AREAS REQUIRING TEMPORARY POWER OR LIGHT. FEEDERS AND BRANCH CIRCUITS SHALL BE EXTENDED TO KEEP PACE WITH CONSTRUCTION.

16289 SURGE PROTECTION DEVICE

NOTE: SEE ELECTRICAL PLANS FOR LIGHTING SPECIFICATIONS. THIS REFLECTED CEILING PLAN SHALL BE REFERENCED FOR LIGHTING PLACEMENT AND QUANTITY OF FIXTURES.

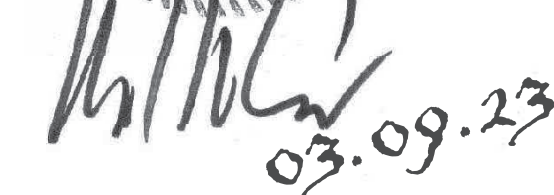

ADDITIONAL NOTES:

1. PROVIDE LENSED LAMPS FOR LIGHTING FIXTURES INSTALLED ABOVE FOOD SERVICE OR FOOD PREPARATION AREAS OR, WHERE SPECIFIED, TEFLON COATED LAMPS.
2. ALL FIXTURES SHALL BE AS SPECIFIED HEREIN. NO SUBSTITUTIONS WILL BE PERMITTED WITHOUT THE DESIGNER'S AND ENGINEER'S EXPRESS WRITTEN CONSENT-NO EXCEPTIONS.
3. ALL FLUORESCENT LIGHT FIXTURES ARE EQUIPPED W/ ENERGY SAVING BALLAST & REDUCED WATTAGE LAMPS.
4. PROVIDE EMERGENCY POWERED BATTERY PACK BATTERY BALLAST FOR ALL 24 HOUR LAMPS.
5. GENERAL CONTRACTOR SHALL FURNISH ALL REQUIRED MATERIALS FOR THE PROPER INSTALLATION OF ALL LIGHT FIXTURES.
6. ELECTRICAL CONTRACTOR TO CROSS REFERENCE FIXTURE SCHEDULE WITH ELECTRICAL PANEL SCHEDULE BEFORE PLACING ORDER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
7. GENERAL CONTRACTOR TO INSTALL ALL SPEAKERS AT HEIGHTS AND WITH MOUNTING TYPES AS PER OWNER'S INSTRUCTIONS.
8. EMERGENCY LIGHTING SHALL BE INSTALLED 6" BELOW CEILING HEIGHTS.

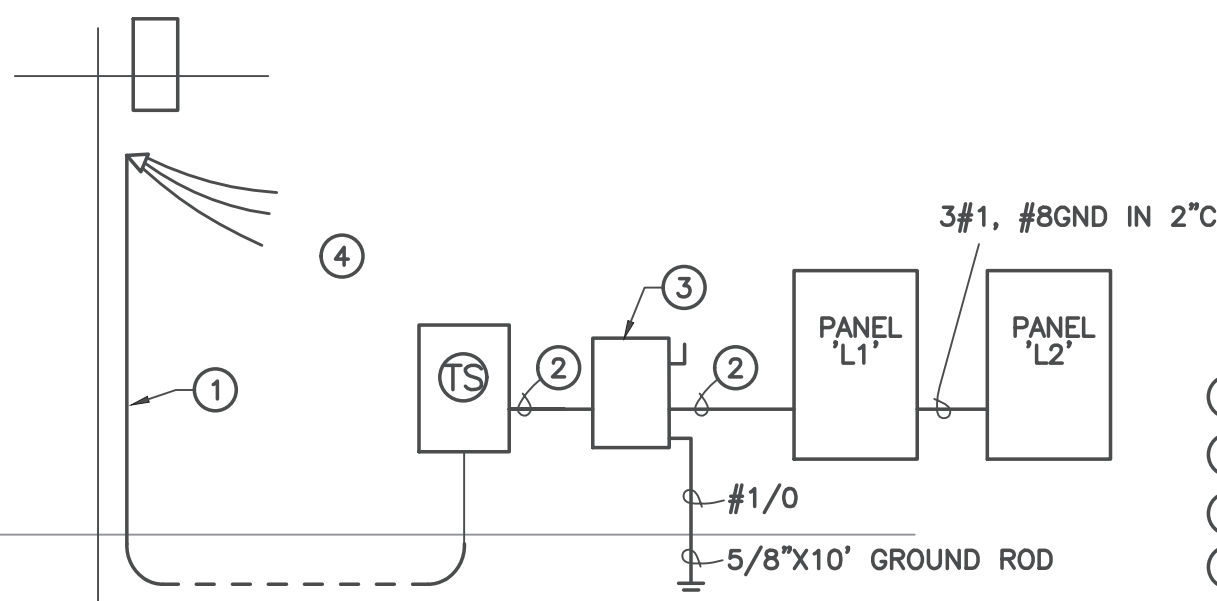
1. ENSURE ALL LIGHTING FIXTURES HAVE PROPER LAMPS INSTALLED AND ARE FUNCTIONAL.
2. TEST ALL EXIT SIGNS, EMERGENCY LIGHTING FIXTURES, AND EMERGENCY BALLAST FURNISHED INTEGRAL FIXTURES.
3. VERIFY EXTERIOR LIGHTING CONTROLLERS ARE WORKING AND THE PHOTOCELL OVERRIDE WORKING. SET EXTERIOR LIGHTING CONTROLLER TIME SEQUENCE PER OWNER'S INSTRUCTIONS.
4. VERIFY ALL OCCUPANCY AND PRESENCE SENSORS HAVE BEEN INSTALLED AND ARE OPERATIONAL.
5. ENSURE ALL WALL BOX DIMMING AND SCENE DIMMING CONTROLLERS ARE INSTALLED AND OPERATIONAL.
6. VERIFY THE FOLLOWING:
 - 6.1 SENSORS HAVE BEEN LOCATED AND AIMED PER THE MANUFACTURERS RECOMMENDATIONS.
 - 6.2 STATUS INDICATORS ON DEVICES ARE OPERATIONAL AND CORRECT.
 - 6.3 DEVICES CONTROL LIGHTING FIXTURES AS INDICATED ON DRAWINGS.
 - 6.4 TIME DELAYS HAVE BEEN SET AS PER THE OWNER'S INSTRUCTIONS.
 - 6.5 MOVEMENT IN ADJACENT AREAS AND/OR CYCLING OF HVAC SYSTEMS DOES NOT FALSE TRIGGER SENSORS.
7. ALL CONTROLS SHALL BE IN ACCORDANCE WITH APPLICABLE PORTIONS OF IECC SECTION C405.2.1, C405.2.1.1 AND C405.2.2.



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- ONE-LINE KEYED NOTES**
- 3#350 IN 2 1/2" C
 - 3#350, #4 GND IN 2 1/2" C
 - 400A/300AF/2P/N3R/HD
 - COORDINATE SERVICE SIZE WITH UTILITY COMPANY PRIOR TO ROUGH-IN.

ONE-LINE DIAGRAM

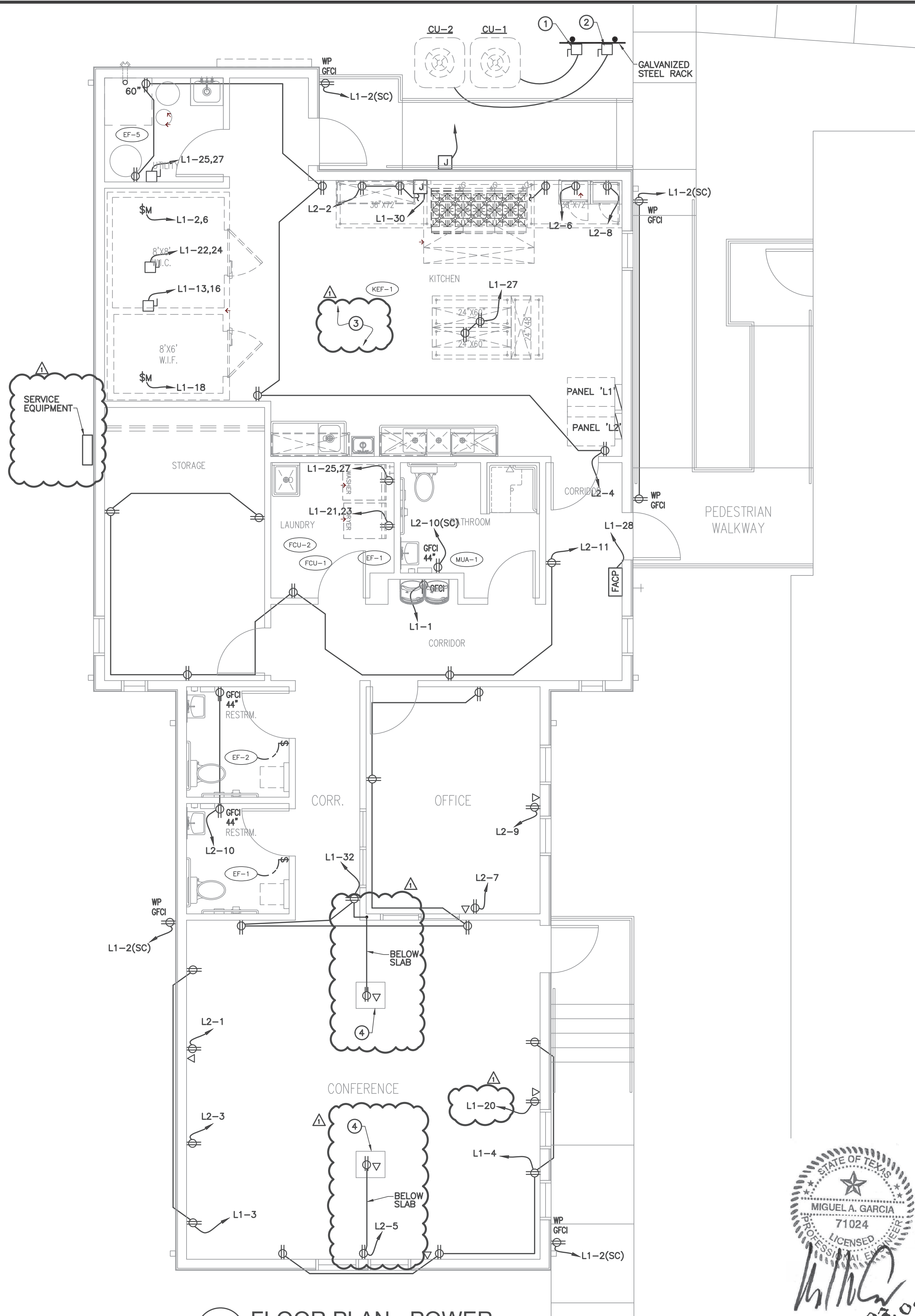
NTS

PANELBOARD SCHEDULE													
PANEL:	L1'	REDEEMER CHURCH COMM CTR											
PROJECT:	1"	REDEEMER CHURCH COMM CTR											
FED FROM:	1"	REDEEMER CHURCH COMM CTR											
VOLTAGE:	240	120											
PHWIRE:	1	3W											
SUB-FEED LUGS:													
CONDUIT/CONDUCTORS:													
CIRCUIT DESCRIPTION	CONDUIT SIZE	COND. SIZE (AWG)	NEUT. SIZE (AWG)	E.G.C. SIZE (AWG)	TYPE LOAD	LOAD VA	CKT #	CKT #	CKT #	CKT #	LOAD VA	TYPE LOAD	CONDUIT SIZE
ELECTRIC DRINKING FOUNTAIN													
RCPTS-CONFERENCE ROOM													
FCU-2													
CU-2													
EF-1/2													
EF-3/4/5													
WASHER													
DRYER													
WATERHEATER													
RCPTS-KITCHEN ISLAND													
LIGHTS													
EXTERIOR LIGHTS													
SPARE													
PANEL 'L2'													
CONNECTED LOADS SUMMARY													
TOTALS													
KVA													
AMPS													
1. TOTAL NEC DEMAND LOAD													
2. ADD LARGEST MOTOR (25%)													
3. ADD LIGHTING PER VA/SP (SEE NOTE 2)													
4. SUB-TOTAL LOAD													
5. NOT USED													
6. TOTAL NEC LOAD WITH FUTURE LOAD													
LOAD ANALYSIS NOTES AND PANELBOARD TYPICAL NOTES:													
1. REFER TO THE TYPICAL LOAD ANALYSIS NOTES ON THIS DRAWING SHEET.													
2. REFER TO THE TYPICAL PANELBOARD KEYED NOTES ON THIS DRAWING SHEET.													
3. YELLOW SHADDED LOADS ARE TO BE CONFORMED IN FIELD BY CONTRACTOR PRIOR TO INSTALLATION.													

PANELBOARD SCHEDULE													
PANEL:	L2'	REDEEMER CHURCH COMM CTR											
PROJECT:	1"	REDEEMER CHURCH COMM CTR											
FED FROM:	1"	REDEEMER CHURCH COMM CTR											
VOLTAGE:	240	120											
PHWIRE:	1	3W											
SUB-FEED LUGS:													
CONDUIT/CONDUCTORS:													
CIRCUIT DESCRIPTION	CONDUIT SIZE	COND. SIZE (AWG)	NEUT. SIZE (AWG)	E.G.C. SIZE (AWG)	TYPE LOAD	LOAD VA	CKT #	CKT #	CKT #	CKT #	LOAD VA	TYPE LOAD	CONDUIT SIZE
RCPT-CONF ROOM													
RCPT-CONF ROOM													
RCPT-CONF ROOM													
RCPT-OFFICE													
RCPT-OFFICE													
RCPTS-CORRIDOR/STORAGE													
SPARE													
SPARE													
SPARE													
BUSSED SPACE													
BUSSED SPACE													
BUSSED SPACE													
CONNECTED LOADS SUMMARY													
TOTALS													
KVA													
AMPS													
1. TOTAL NEC DEMAND LOAD													
2. ADD LARGEST MOTOR (25%)													
3. ADD LIGHTING PER VA/SP (SEE NOTE 2)													
4. SUB-TOTAL LOAD													
5. NOT USED													
6. TOTAL NEC LOAD WITH FUTURE LOAD													
LOAD ANALYSIS NOTES AND PANELBOARD TYPICAL NOTES:													
1. REFER TO THE TYPICAL LOAD ANALYSIS NOTES ON THIS DRAWING SHEET.													
2. REFER TO THE TYPICAL PANELBOARD KEYED NOTES ON THIS DRAWING SHEET.													
3. YELLOW SHADDED LOADS ARE TO BE CONFORMED IN FIELD BY CONTRACTOR PRIOR TO INSTALLATION.													

EQUIPMENT CONNECTION SCHEDULE													
EQUIPMENT TAG	VOLTAGE / PHASE	KW / KVA	VOLTAGE / PHASE	MOTOR (HP)	EQUIPMENT (PLA)	EQUIPMENT (MCA)	QEP	DISCONNECTING MEANS	ENCLOSURE NEMA RATING	Wire & Conduit Size	Circuit Number	Notes	
TERMINAL UNITS													
FCU-1	240/1					53.8	502	60A/NF/2P/N1		SEE PANEL SCHEDULE	L1-6,8		
FCU-2	240/1					45	502	60A/NF/2P/N1		SEE PANEL SCHEDULE	L1-5,7		
CONDENSER UNITS													
CU-1	240/1					32.4	502	SEE RISER DIAGRAM		SEE RISER DIAGRAM	L1-10,12		
CU-2	240/1					18.1	302	SEE RISER DIAGRAM		SEE RISER DIAGRAM	L1-9,11		
EXHAUST FANS													
EF-1	120/1	36.6 W		201	38A/NF/1P/N1			2 #12, #12 GND IN 1/2" C		L1-13	3		
EF-2	120/1	36.6 W		201	38A/NF/1P/N1			2 #12, #12 GND IN 1/2" C		L1-13	3		
EF-3	120/1	36.6 W		201	38A/NF/1P/N1			2 #12, #12 GND IN 1/2" C		L1-13	3		
EF-4	120/1	71 W		201	38A/NF/1P/N1			2 #12, #12 GND IN 1/2" C		L1-13	3		
EF-5	120/1	36.6 W		201	38A/NF/1P/N1			2 #12, #12 GND IN 1/2" C		L1-13	3		
KITCHEN EQUIPMENT													
MUA	120/1				20.8	351	60A/NF/2P/N3R	2 #10, #10 GND IN 3/4" C		L1-34			
KEF-1	120/1				19.8	201	30A/NF/1P/N3R	2 #10, #10 GND IN 3/4" C		L1-36			
WATERHEATER													
EW1-1	240/1					302	30A/NF/2P	N1	2 #10, #10 GND IN 3/4" C				

NOTES:
1. CONTROLS PROVIDED BY DIVISION 15, INSTALLED AND WIRED THROUGH DIVISION 16.
2. ONE POINT OF CONNECTION, WIRING BETWEEN EXTERIOR UNIT AND INTERIOR UNIT BY DIVISION 15.
3. CONTROLLED PER SEPARATE LIGHT SWITCH.
GENERAL NOTES:
1. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL EQUIPMENT SUBMITTALS PRIOR TO ELECTRICAL ROUGH-IN.

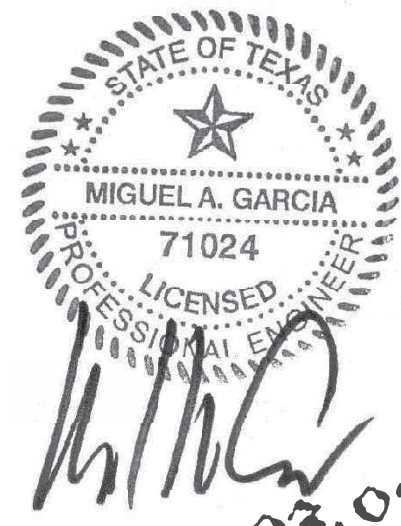


FLOOR PLAN - POWER

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

ELECTRICAL KEYED NOTES

- 60A/NF/2P/N3R
- 30A/NF/1P/N3R
- RECEPTACLES IN KITCHEN TO BE GFCI PROTECTED PER NEC 210.8(B)(2).
- DUAL SERVICE FLOOR OUTLET BOX.



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REVISIONS	BY
1	ETC COMMENTS

LOVE COMMUNITY CENTER

REDEEMER PRAISE CHURCH

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Product Catalog

WINDOWS AND PATIO DOORS





With nearly 75 years of manufacturing experience and craftsmanship built into every window and patio door we produce, Lincoln continues to provide products with strong visual appeal and outstanding performance. A long history of satisfied homeowners is proof of our exceptional customer service before and after the sale.

We are continually expanding and refining our list of products, options and accessories to meet ever changing market needs. Our windows and patio doors are independently tested and certified to meet energy efficiency requirements and structural performance expectations. Also, in order to maintain the high level of quality you expect, we test products in-house against rigid industry manufacturing standards.

Whether your project is residential, light commercial or replacement, we are confident Lincoln has the products to meet your needs.



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Residential

Every new residential project is the culmination of a persons' dreams. Product selection, from flooring to shingles, are all key elements to fulfillment of that dream. Lincoln windows and patio doors are made to compliment any architectural style in size, shape and color to help your dream become a reality.



Remodeling

Your home is where your heart is. Do a makeover on something you love! There has never been a better time to improve comfort levels, lower energy costs and increase market value. Our Revitalize Series includes remodeling products designed specifically for your next replacement window project.



Light Commercial

A school, library, office complex, country club, fire house, armory, hotel, assisted living facility, or condominium – one thing these examples all have in common is their Lincoln windows. Some are installed in new construction and some as renovations. Lincoln windows, beautiful as residential products, also meet the demands of light commercial applications.

The Environment

Our management team feels strongly about protecting and preserving the environment and we have implemented programs to reduce landfill waste and lower energy consumption.

We recycle: aluminum, anti-freeze, ballasts, batteries, cardboard, cellular PVC, copper wire, electronics, fluorescent light bulbs, freon, glass, oil, oil filters, paper, plastic bottles, sawdust, scrap metal, shrink wrap, soda cans, steel, tin, tires, vinyl and wood.



Energy Efficiency

Our products are tested and certified for water penetration, air infiltration, structural integrity and thermal performance. We also offer numerous product enhancements to increase energy savings such as thermal breaks, weatherstripping and high performance glass. In addition, we engage in lean and sustainable manufacturing processes and strive to use suppliers that do the same.



Testing and Certification

Our products carry certification by the National Fenestration Rating Council (NFRC). In addition, Lincoln is an ENERGY STAR Partner. One portion of a product's certification is derived from computerized simulation, which computes the thermal value of the product. Another is physical testing to establish air and water infiltration and structural performance. We strive for the best in our windows and doors.



Aluminum clad is definitely the most popular exterior choice from Lincoln, offering color flexibility and structural strength while providing a homeowner with a low maintenance exterior. Extruded aluminum .050 thick frame and sash cladding protects homes from the outdoor elements and add structural integrity for maximum functionality. The Aluminum Clad Collection is wide-ranging and includes a full line of windows, patio doors and a multitude of options.

Beauty, durability, variety and performance are all brought to you by the Aluminum Clad Collection and built with pride at Lincoln.

Features

- **Available Product:**
Full product selection.
- **Maintenance:**
Minimal. Periodic soap & water.
- **Structural Performance:**
Superior strength and rigidity for all-weather protection.
- **Thermal Performance:**
High. Good for meeting Energy Star.

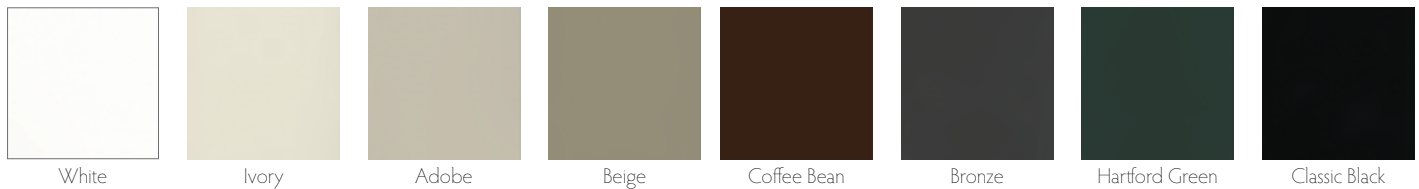


Frame and Sash Finishes

We offer eight standard colors, thirty-eight feature colors, seven spray-on anodized colors and have the ability to match from a customer's sample.

All of our standard, feature and custom color options are painted to AAMA 2605 performance requirements. AAMA 2605 high performance paint is the preferred choice of designers, architects and builders. Exceptional color retention and minimal chalking are leading characteristics of this premium paint finish.

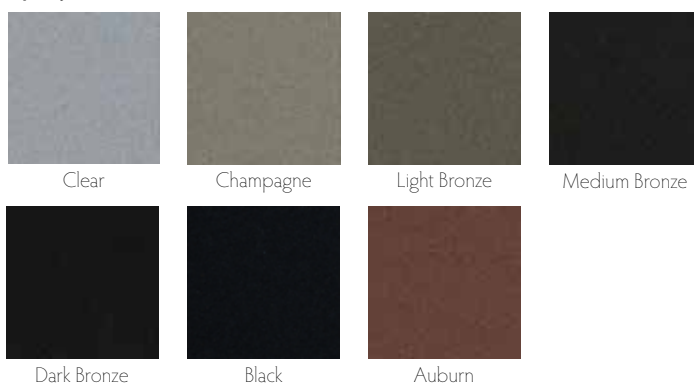
Standard Colors - AAMA 2605



Feature Colors - AAMA 2605



Spray-On Anodized Colors - AAMA 2604



Custom Colors - AAMA 2605



Due to printing limitations, the colors shown are for representation only.

Our thought process behind the Vinyl Clad Collection is simple. Create an exceptional value-based window platform that performs well without sacrificing quality attributes like cladding thickness, amount of material and product enhancement choices.

Vinyl clad exteriors resist the harmful effects of salt water spray, UV damage and have excellent color retention making it a great choice for harsh environments.

Vinyl clad products have a high level of energy efficiency and superior exterior protection along with a multitude of available options.

Features

- **Available Product:**
Limited product selection.
- **Maintenance:**
Very minimal. Periodic soap and water.
- **Structural Performance:**
Excellent resistance to harsh coastal environments.
- **Thermal Performance:**
Very high.





Frame and Sash Finishes

Our vinyl clad product is offered in 2 extruded colors, White and Adobe. No sacrifices are made in the manufacturing of the Vinyl Clad line. In fact, many builder clients favor the traditional exterior appearance, excellent color steadfastness, value-based product pricing and exceptional energy performance, all backed with a strong Lincoln warranty.

Extruded Colors



White

Adobe

The best of both worlds! Combine a traditional window look with today's modern exterior options. Create your hybrid window package by picking a traditional trim/casing and then choose an aluminum clad or vinyl clad sash. This unique blend of conventional window parts and popular accent trim best describes this collection.

Casings are non-rot cPVC and will take heat reflective and UV resistant paint well, allowing you to match our clad sash. For the more adventuresome, you can create a color contrast between the sash and frame. Historical appearances will charm an architectural eye and our durable low-maintenance qualities will satisfy an owners concern for longevity.

Features

- **Available Product:**
Extensive product selection.
- **Maintenance:**
Moderate. Apply UV resistant paint and periodic check-up.
- **Structural Performance:**
Excels in strength and design flexibility.
- **Thermal Performance:**
High.





Primed Frames

Wood with a white factory applied water-based acrylic latex primer and white, paintable cellular PVC sill, blindstop & casings.

- Five (5) standard exterior trim options: 2" Brickmould, Williamsburg Trim, Backband, 2-Piece Backband and Flat Casing (up to 8").
- Two (2) sill nosing options: 1" and 2"



Aluminum or Vinyl Clad Sash

Choose a low-maintenance sash option in either extruded aluminum or vinyl.

- Extruded Aluminum Clad Sash: Painted to AAMA 2605 performance requirements in 8 standard colors, 38 feature and custom colors. Also available in AAMA 2604 spray-on anodized in 7 finishes.
- Extruded Vinyl Clad Sash: Available in 2 extruded colors, White & Adobe.

This time-honored window design captures the original depth and beauty of Lincoln products. Our Primed Wood products are architect friendly and designed for new construction or historical renovation.

High risk rot-prone components are substituted with cPVC parts ready for a high quality heat reflective and UV resistant exterior paint color choice.

From a traditionalist point-of-view, Lincoln's stylish windows, patio doors and shapes are dimensionally accurate, historically desired and design friendly.

Features

- **Available Product:**
Extensive product selection.
- **Maintenance:**
Moderate. Apply UV resistant paint and periodic check-up.
- **Structural Performance:**
Exceptional strength.
- **Thermal Performance:**
Very high.





Frame Finishes

Wood with a white factory applied, water-based, acrylic primer and white, paintable cellular PVC sill, blindstop and casings or all-wood with a white factory applied water-based acrylic latex primer.



Sash Finish

Wood with a white factory applied, water-based acrylic latex primer.

Nothing demonstrates class better than the warmth and beauty of all natural wood. Lincoln's Natural Wood Collection clearly defines elegance and charm on both the exterior and interior of your home or business.

Wood is nature's exceptional natural insulator. Environmentally friendly wood is a very energy efficient window construction material and is a renewable resource.

Protect your investment by applying a quality stain and sealer on both window surfaces and enhance the appearance all while blending in with your native landscape.

Features

- **Available Product:**
Extensive product selection.
- **Maintenance:**
Frequent. Apply high-grade finish and inspect annually.
- **Structural Performance:**
Exceptional strength.
- **Thermal Performance:**
Very high.





Frame & Sash Finishes

High-grade natural wood inside and out in three beautiful species.



Fir



Mahogany



Pine

Trim

Add that finishing touch to the exterior of your windows and patio doors by adding one of the many brickmould and casings offered by Lincoln. Along with enriching the aesthetics of your home, these factory-applied trims reduce the installation labor and hassle.

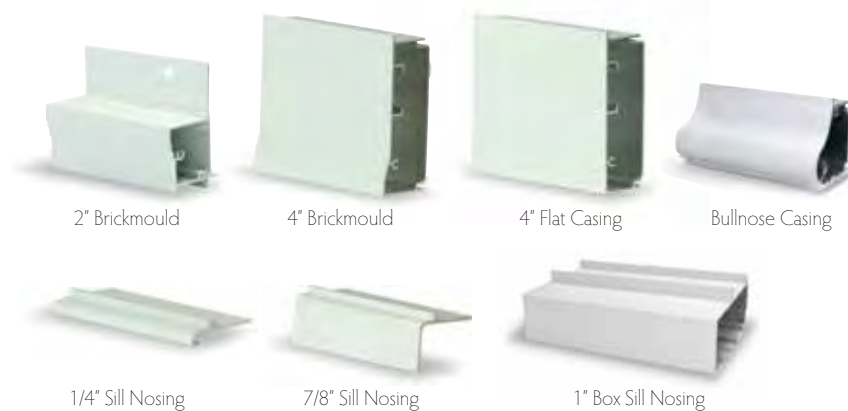
For aluminum clad units, Lincoln offers extruded aluminum brickmould in 2" and 4" widths, Bullnose Casing and 4" flat casing, along with 3 different sill nosing options. All come factory applied and are available in all of our aluminum clad colors.

Also available - a factory applied rigid aluminum nailing flange and color matched drip cap. This .050 extruded option features mitered corners with supplied gaskets.



Rigid Aluminum Nailing Flange

Extruded Aluminum



Note: 4" Brickmould & Flat Casings require installation clips.

The Lincoln vinyl clad windows feature an accessory groove to the exterior, just like our aluminum clad line, which will accept 2" brickmould, 3-1/2" flat casing and 7/8" Sill Nosing. These vinyl trims feature a 1" x 1" J-channel and integral nailing flange. The original window nailing fin remains fully intact strengthening the entire system. Architects will enjoy our attention to detail by providing an authentic sill profile.

Vinyl



The wood exterior product lines are available with cPVC 2" brickmould. Other styles of cPVC trim include Backband and Williamsburg along with flat casings up to 8" in width. When using heavier trims, the double hung & casement lines come with an optional 2" sill nosing for complimentary style. Primed and stain grade unfinished brickmould, sill and sill nosing are also available as options.

cPVC



2" Brickmould



Williamsburg



Backband



Flat Casing
Any dimension up to 8"



1" Sill Nosing



2" Casement Sill Nosing



2" Double Hung Sill Nosing



Primed Wood



2" Brickmould



Williamsburg



Flat Casing
Any dimension up to 8"



1" Sill Nosing

Natural Wood



2" Brickmould



Williamsburg



Flat Casing
Any dimension up to 8"



1" Sill Nosing



Dressed up or dressed down, all windows and doors have trim. Lincoln offers trim variations for the convenience of the builder and the end user. Of course trim has a utilitarian function as a bridge between the window and the wall inside and out. However, trim ultimately frames the window in its setting. The exterior trim rounds out the architectural presentation. Interior trim becomes the frame for nature's setting.

Multiple Mull Options

- Tight and Spread Mulls

Panning

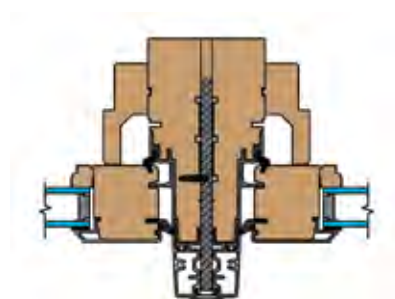
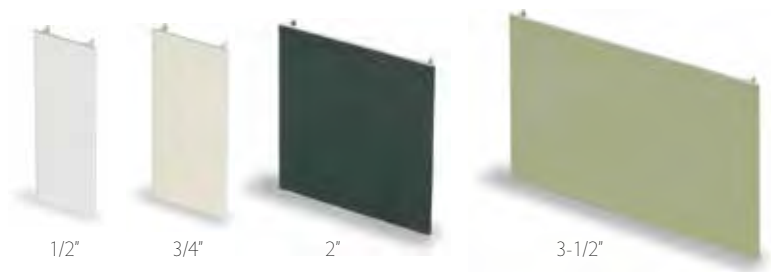
- Fills void between



Spread Mulls

When your project requires windows and patio doors in multiple-wide configurations, Lincoln has the mulls to make them right. Typical mulling is done with a tight unit to unit mull clip. Spread mulls add additional spacing between windows and patio doors. Popular reasons for utilizing a spread mull would include: accommodating a special opening with standard size windows, to achieve a 'heavier' look and the ability to work around essential structural framing. Spread mulls can be done both vertically and horizontally.

Extruded Aluminum



New - 1/4" Extruded Aluminum Spread Mull with 1/4" Steel Reinforcement

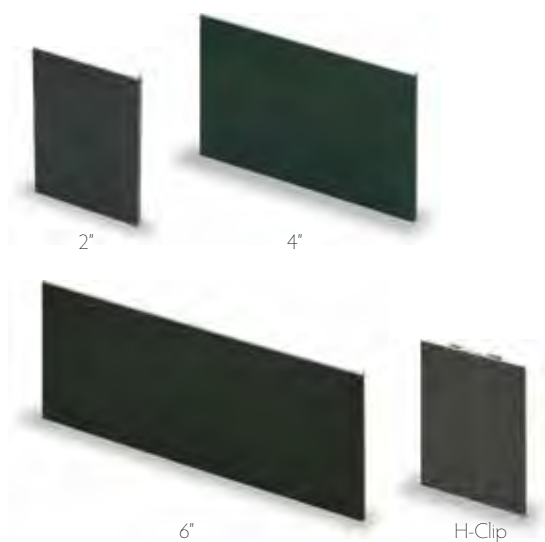
Vinyl





Panning Systems

Lincoln also offers a panning system for aluminum clad exteriors. These additional trims snap into the accessory groove which can add additional width and height to the exterior appearance of a window or patio door. This system will fill space from a window frame to the building thereby covering the framing material and nail fins. Incorporate an H-Clip and create an adjustable panning used to join two units fairly far apart. The panning system is a nice feature commonly used for remodeling when there are existing and varying openings.





Finishes

Define inner beauty by choosing a time saving, factory applied interior finish from Lincoln.

Natural Wood: Lincoln will leave your interior wood surface sanded smooth, ready for stain and sealer.

Primed: If you plan to paint the interior of your windows and patio doors, have them primed with a white factory applied, water-based acrylic latex primer.

Pre-Finish Options: To take things a step further, we offer factory applied top-coats of paint intended to be your final coat of paint with the nail holes filled reducing jobsite finishing costs. Choose from our traditional Pre-Finish White or contemporary Pre-Finish Black.



Primed



Pre-Finish White



Pre-Finish Black



Wood Species

Nothing enhances the look and feel of a room more than the richness and beauty of wood. Lincoln product comes standard with a pine interior which has a nice smooth finish ideal for accepting paint and stain alike.

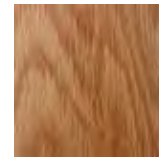


Pine

For those looking to really enhance the character of a project, Lincoln also offers six additional wood species. The popular red oak, white oak, cherry, alder, mahogany and fir options all come with their own unique color and grain patterns to really enhance the character of the window.



Alder



Red Oak



White Oak



Cherry



Mahogany



Fir

Trim

Lincoln offers interior trims in ten profiles for radius products. Customers benefit from our ability to shape the trim at the time a unit is produced.



Jamb Extensions

When installing a window, increasing the depth of the window frame to accommodate the wall thickness is sometimes necessary. This can easily be accomplished with the use of jamb extensions. These factory applied extensions are available in all seven wood species.



Here is another opportunity to have your windows and doors made to fit the interior design, décor and style of the room. Additionally, the exterior interacts with the overall architecture and creates fantastic curb appeal. Enhancing windows and doors with lite divisions definitely puts the icing on the cake. Although there are standard lite configurations designated for all products, custom designs are also welcome.

Lite & Grille Options

- Simulated Divided Lite (SDL)
- Interior Wood Grille
- Internal Aluminum Grille (GBG)
- Lincoln Divided Lite (LDL)



Simulated Divided Lite

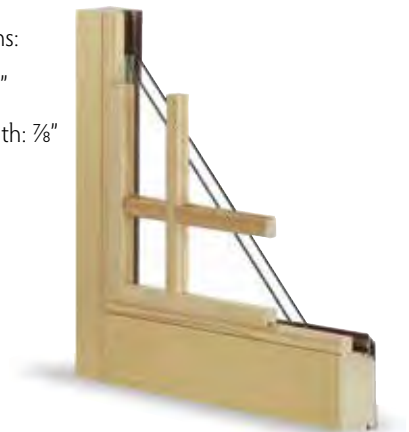
- $\frac{5}{8}$ ", $\frac{7}{8}$ ", $1\frac{1}{8}$ " and 2"
- Profiled or Square
- Bronze, Black & Mill Finish
Shadow Bar



Simulated Divided Lite

Interior Wood Grille

- Single Profile Widths:
 $\frac{5}{8}$ ", 1", $1\frac{1}{8}$ " and $1\frac{1}{4}$ "
- Double Profile Width: $\frac{7}{8}$ "
- With Surround
- Without Surround



Interior Wood Grille
(With Surround)



Internal Aluminum Grille

- 1 1/8" Double Profiled
- Color Matched to Cladding
- Two-Toned (white one side, 9 standard colors on other side)



Internal Aluminum Grille

Lincoln Divided Lite

- 7/8" and 1 1/4"
- Authentic Divided Lites
- True Historic Appeal



Lincoln Divided Lite
(Primed only)

The glass in windows and patio doors has the single largest effect on energy efficiency. Lincoln's standard insulated glass offering includes double strength glass combined with a warm edge spacer. For greater energy efficiency, argon is added to all Low-E glass units, at no cost to the customer, with the exception of those units requiring capillary/breather tubes.* Choose Lincoln's standard glass or a combination of the options for appearance, performance and comfort.

* These are units shipped over high elevations. Lincoln does not guarantee that the initial argon fill rate will be maintained over the life of the product. Argon depletion may decrease energy efficiency. For more information, contact your local distributor or Lincoln Wood Products, Inc.

Insulated Glass Construction

Our insulating glass (IG) is constructed with four major components. It's the quality of these components, sheet glass, desiccant material, sealants and spacers that set companies apart.

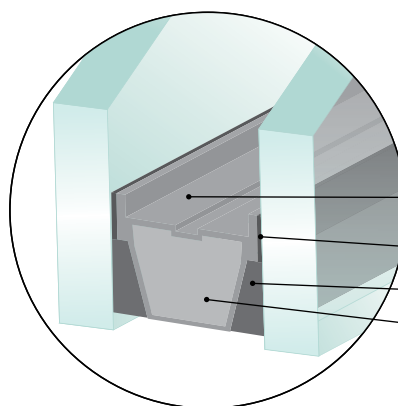
Let's consider the sheet glass. We exclusively utilize double-strength glass (3.2mm) even on the smallest sizes. Some companies believe this should be an upgrade while we eliminated the thinner glass option many years ago.

Quality desiccant material is used to absorb moisture within the IG unit during assembly and the polyisobutylene sealant provides excellent adhesion to the glass with a low moisture vapor transmission rate for years of outstanding field performance.

Choose one of our premium warm-edge spacer systems to complete your perfect glazing package.



WARM EDGE SPACER



Endur IG Spacer

1. Stainless steel spacer available in mill finish, bronze, black or white.
2. "Polyisobutylene" primary seal.
3. Specially formulated secondary seal.
4. Desiccant material.

LoE-180™

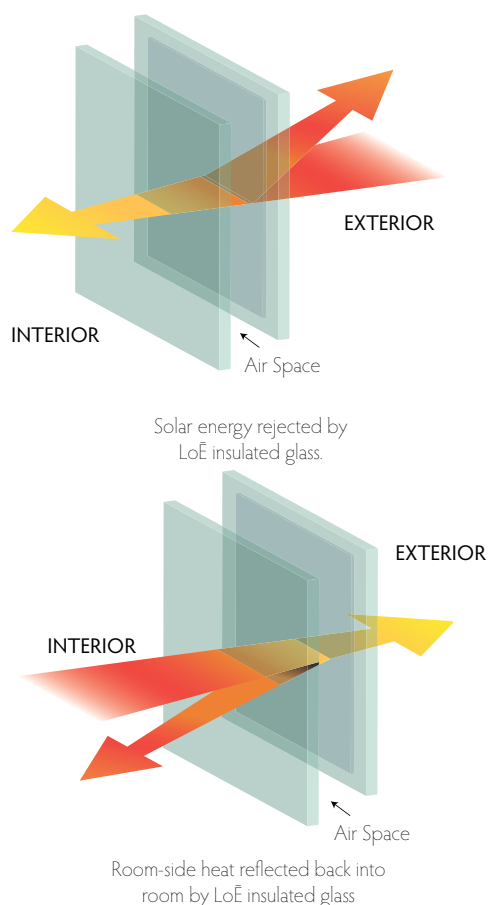
Constructed with a single LoE coating, this glass option is perfect for climates where solar heat gain is welcome. LoE-180™ outperforms clear IG glazing with warmer inside glass temperatures and better UV protection.

Projects looking for passive solar glazing solutions including good U-Value performance in conjunction with higher Solar Heat Gain Coefficients experience positive benefits with LoE-180™.

LoE²-272®

Safeguard your home from the elements by using this nearly invisible protection. Consisting of two microscopic layers of silver sealed in the airspace, this glass is a nice step-up from our standard offering.

Obtain an affordable balance of U-value, solar shading, visible light transmittance and UV protection by choosing LoE²-272®.



LoE³-366™/Neat®

Controlling solar heat gain just became easier with the unparalleled performance of LoE³-366™/Neat® glass technology. By adding a third layer of silver coating, LoE³-366™/Neat® effectively blocks solar gain and reflects heat more efficiently.

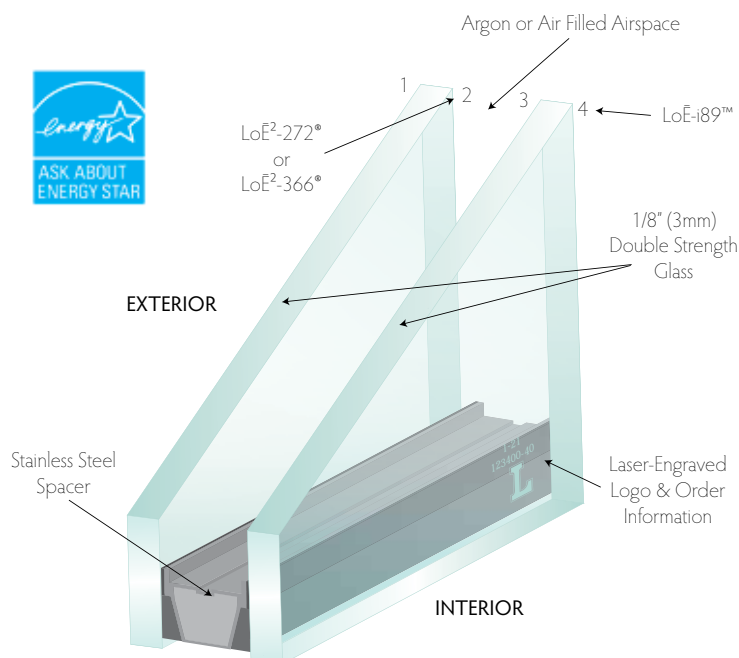
In addition to reducing heat gain, the goal with any high performance glazing is clarity. LoE³-366™/Neat® was produced to show a minimum of exterior "mirror" reflectance and does not require smoke-colored tints that can darken your home's interior.

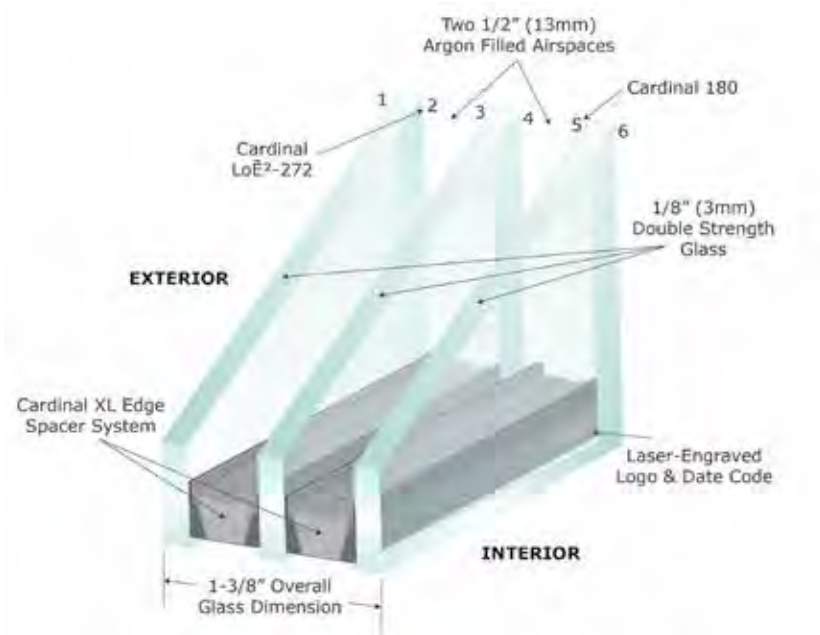
Dual Low-E2 (LoE i89™/LoE²-272®) and Dual Low-E3 (LoE i89™/LoE³-366®)

Our most ecologically aware combination of glass products designed for projects requiring extraordinary energy efficiencies.

As the ENERGY STAR® program ratchets up its requirements, our glass offering continues to provide consumers with an ability to comply. Lincoln's Dual Low-E options are the next generation insulating glass packages that tackle these stricter requirements by combining LoE²-272® or LoE³-366® with a room side LoE coating (LoE-i89™ is on surface #4). Don't worry, LoE-i89™ performs well without sacrificing glass clarity, doesn't require special cleaning and provides additional UV protection.

This energy efficient glass lowers U-Values and retains more of your costly heat inside for the Northern and North/Central zones. Assembling Dual Low-E with our foam spacer system further improves U-value performance.

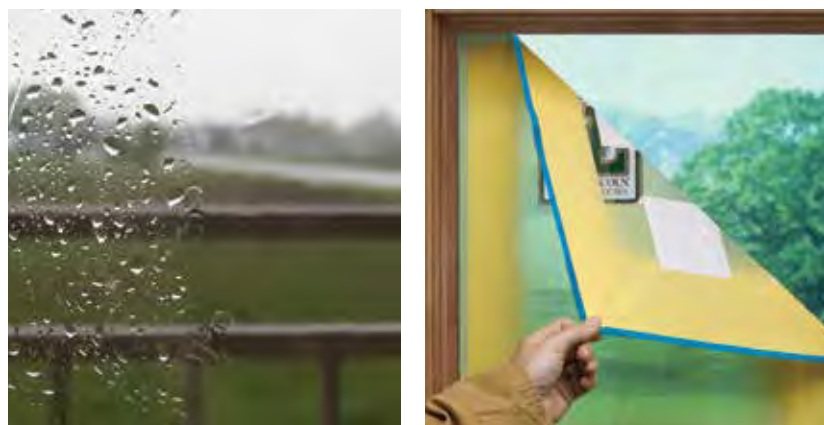




Triple Pane Glass

Experience excellent thermal comfort with Lincoln's most energy conscious glazing selection-Triple Pane Glass. This glass offering utilizes 3 sheets of double strength glass, Cardinal's Endur IG spacers and features an Argon Gas fill. Triple Pane glass is perfect for your new energy efficient home.

Clients enjoy reduced condensation during freezing cold weather, better UV protection and improved Sound Transmission Class (STC) ratings by including Triple Pane glass.



Without Neat®

With Neat®

Preserve®

Neat® and Preserve®

Neat®: Combines a permanent layer of silicon dioxide, which causes water to sheet off leaving fewer water spots, and a layer of titanium dioxide that reacts with the sun's UV rays causing organic material on the glass to decompose - no manual activation required.

Preserve®: A low density polyethylene adhesive that protects the glass during shipping and construction making clean-up a quick and easy process.

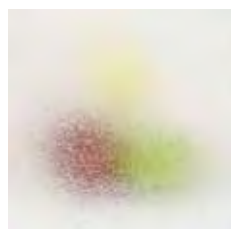
Specialty Glass Options

The majority of projects utilize clear glass, but occasionally a project requires the use of a specialty glass. Whether it be to conceal the view from the exterior of a building, distort the details of objects through the glass or provide an extra level of safety, we have a variety of specialty glasses that will meet your needs. Our specialty glass options include: laminated, obscure, tempered, tinted and spandrel.

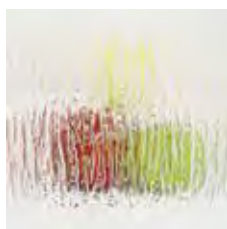
Obscure Patterns



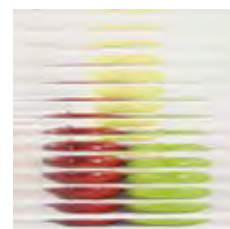
Glue Chip



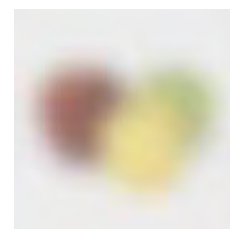
Pattern 62 (Obscure)



Rain

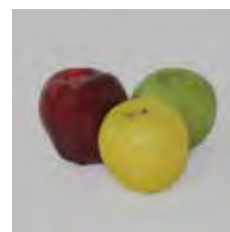


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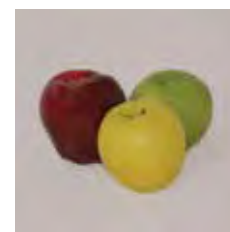


Matte Frost

Tinted Glass



Grey



Bronze

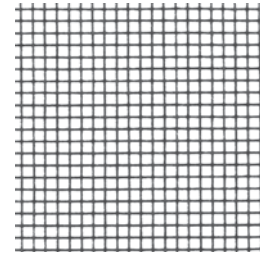
Screen Mesh

Screens allow you to enjoy the fresh air while keeping insects and debris out of your home. Lincoln offers three practical options.

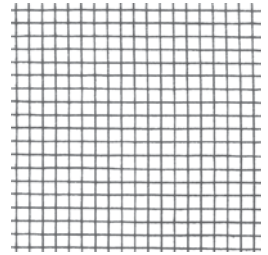
BetterVue: Our standard screen mesh. Made of fiberglass, it has thinner strands and a tighter weave than traditional fiberglass screen providing better visibility, increased light transmittance, greater airflow, improved curb appeal and enhanced protection from small insects (no-see-ums), debris and dust.

UltraVue: The least visible of our screen mesh options. The strands of UltraVue are thinner than BetterVue, providing even better airflow, optical clarity and insect protection.

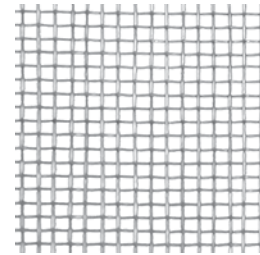
Aluminum (charcoal wire): The most widely used metal for screens and is a great option for homes with pets or kids.



BetterVue



UltraVue

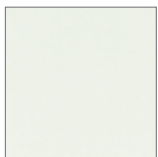


Aluminum

Screen Finishes

Lincoln interior screens are available in five metal frame finishes. Our color-matched PVC corner keys help keep interiors from scuffing during removal and installation. Double Hungs, Gliders and Patio Doors feature color-matched screen frames to match the exterior.

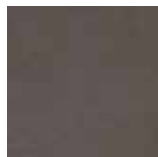
Standard Colors



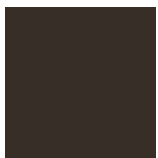
White



Coppertone



Bronze



Faux Bronze



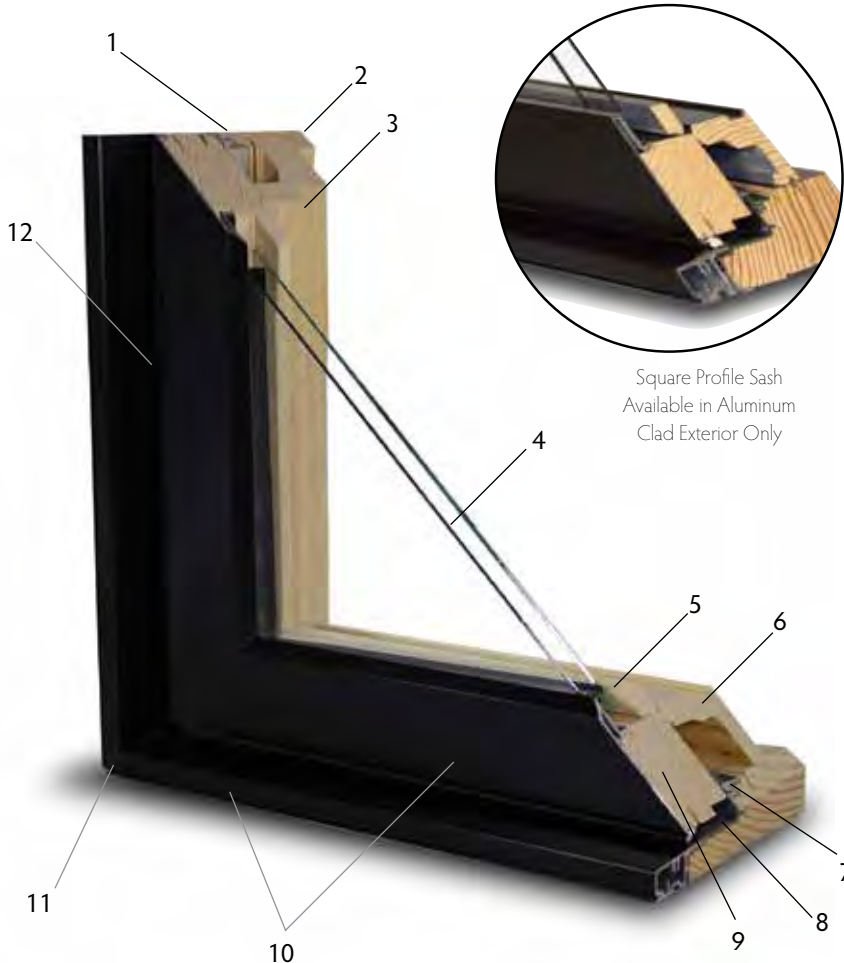
Black



Available as a traditional cranking unit or as our increasingly popular push-out style, Lincoln casements and awnings have a lot to offer.

Casement and awning features include an architecturally pleasing recessed sash, mortise and tenon joinery, multi-point locking hardware with single handle activation and adjustable hinges.

Awnings can be mulled above or below a studio window or utilized as a standalone element. Because they are hinged at the top, awnings provide secure ventilation and shed water during a light rain.



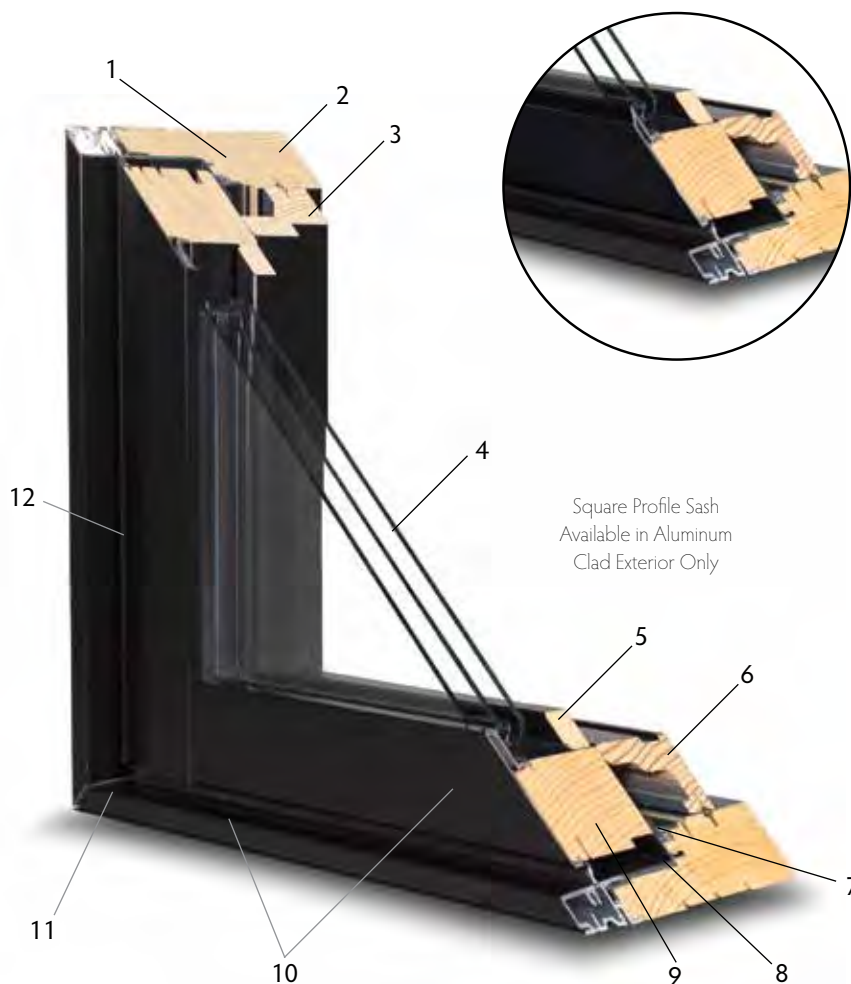
Square Profile Sash
Available in Aluminum
Clad Exterior Only

Specifications

Maximum RO Width	42 ½"
Maximum RO Height	96 ½"
Sash Thickness	1 ¾" thick

1-3/4" Sash

1. 4-9/16" jamb.
2. 1-3/16" thick side jambs, head and sill.
3. Clean interior stop design.
4. 7/8" warm edge insulating glass.
5. Interior wood glazing bead.
6. Maximum thickness sill cover.
7. Full surround frame weatherstrip.
8. Thermally enhanced frame with specialty composite polymer.
9. 1-3/4" thick sash.
10. .050 extruded aluminum on sash and frame. Vinyl exteriors utilize .050 extruded PVC vinyl. Wood units have primed sash on the exterior with cPVC, sill nosing and brickmould.
11. Gasketed frame corners on aluminum clad products with corner key for added stability.
12. Sash weatherstrip with combination drip cap detail on top rail.



Specifications

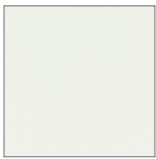
Maximum RO Width	36 1/2"
Maximum RO Height	84 1/2"
Sash Thickness	2 1/4" thick

2-1/4" Sash - Triple Pane

1. 4-9/16" jamb.
2. 1-3/16" thick side jambs, head and sill.
3. Clean interior stop design.
4. 1-1/4" triple glazed warm edge insulating glass.
5. Interior wood glazing bead.
6. Maximum thickness sill cover.
7. Full surround frame weatherstrip.
8. Thermally enhanced frame with specialty composite polymer.
9. 2-1/4" thick sash.
10. .050 extruded aluminum on sash and frame. Vinyl exteriors utilize .050 extruded PVC vinyl. Wood units have primed sash on the exterior with cPVC, sill nosing and brickmould.
11. Gasketed frame corners on aluminum clad products with corner key for added stability.
12. Sash weatherstrip with combination drip cap detail on top rail.

Hardware

Casement & Awning: Lincoln products feature a low profile folding handle, advantageous for use with some window treatments and provide lower clearance for removal of window screen. As standard, operating hardware (crank handle, operator cover and lever lock) are a soft coppertone color that blends well with most clear wood finishes. All casements feature adjustable hinge tracks for proper sash alignment.



White



Coppertone



Bronze



Faux Bronze



Matte Black



Polished Brass



Oil-Rubbed Brass



Satin Nickel

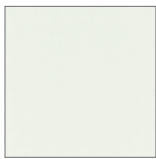
Contempo casement hardware: Contemporary enthusiasts utilize the Contempo gear cover and handle as the finishing touch to a clean crisp design aesthetic. Cover and handle are metal, have a durable finish yet are an affordable upgrade. This style fits all Lincoln crank out casement and awning windows.



Standard Finishes



Matte Black



White



Faux Bronze



Satin Nickel

Special Order Finishes*

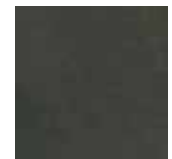
*May require additional lead time.



Bronze



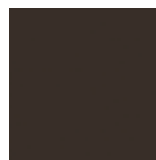
Polished Brass



Oil-Rubbed Brass

Push-Out Casement & Awning: Single handle for easy operation and available in five finishes: Faux Bronze, Polished Brass, Black, White and Satin Nickel. Multi-point locking system directly routed into the stile for greater performance, security and durability.

3-point stainless steel high-friction washability hinges on top and bottom keep the window in place and allow access to clean the glass from the inside.



Faux Bronze



Black



Polished Brass



Satin Nickel



White



Screens

Standard: Casement & Awning windows come standard with 5 metal frame finishes to compliment hardware.

Retractable: Available on our traditional casement and our push-out style casement, retractable screens roll up for convenient storage when not desired. Screens are operated with a simple touch and roll up with very little effort. Enjoy crisp clean interior lines because operating tracks are hidden with a wood cover.

Hinged: Designed for our push-out style casement products, Lincoln's hinged screen offers classic styling and excellent functionality. This screen option is supplied with an attractive color-matched knob for easy operation.

Sash Limiters: Thinking safety? Lincoln offers safe and secure sash limiters. This release mechanism keeps the window from being opened no more than four inches, allows the window to be fully opened for quick emergency exits and resets automatically every time the window is opened - all meeting the requirements of ASTM F2090.



Retractable Screen



Hinged Screen





Styles

Casement: The Lincoln crank-out casement is a versatile design with exceptional architectural appeal, performance and strength. Available in many combinations of types and sizes, our casement line delivers outstanding value without sacrificing or limiting product options.

Stylish Truth brand operators function smoothly while opening the sash to a full 90° for maximum ventilation. Single-lever multipoint sash locks pull tight to a full perimeter weatherstrip for security against the elements. Heavy frames and sash components are standard.



Radius Top Casement: Lincoln casements with a radius design element are sure to add elegance and charm to any building project. Segment head casements and our traditional casements have matching sight lines so they can cosmetically complement each other.

Segment head operating windows combined with stationary units and studio picture windows create many design options. Exterior (outboard) hinges allow for easy operation. Radius interior trim is available for the finishing touch.



Push-Out French Casement: Continental flavor is apparent in Push-out French casement windows –one window frame – two operating sash – one clear opening. Push-out French casements are available in standard twin casement widths for perfect vertical sight line presentations when used in combination with standard casement windows.

Their popularity is additionally increased due to egress code requirements for width. Operation, via the centrally located lever activates a multi-point system that functions easily and locks securely.

Awning: As part of Lincoln's casement family, traditional crank-out awning windows look great and perform efficiently year-after-year. Awnings match casement/studio profiles, are stackable and can be mulled above (as a transom) or below in multiple combinations.

Awning characteristics allow venting from the bottom and will shed light rain. Sash locks, located on the side jambs, pull sash tight to the frame weatherstripping and make traditional awning units very secure against turbulent weather.



Push-Out Casement and Awning: These windows are beautiful inside and out. The sash swings open with a simple turn of the handle, while the friction hinges keep it firmly in place whether fully or partially opened.

Traditional hinged screens add a historical touch-of-class and feature a color matched knob. Or, choose a retractable screen that rolls up when not needed, leaving a clear view of the outdoors.



Casement Bay and Bow: Casement bay and bow units offer contemporary styling, create a roomy feeling, increase ventilation and can be built in many combinations.

Bay units are constructed using three windows or more. Flankers are aligned with a center unit at 45° or 30° angles.

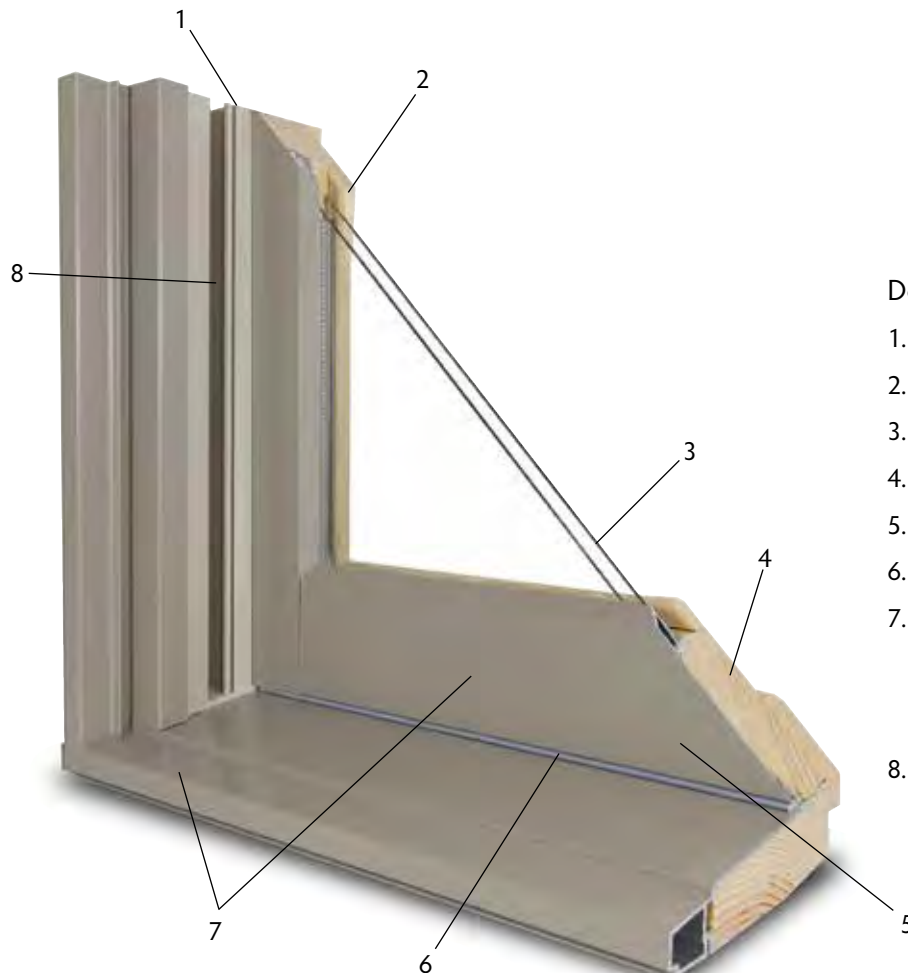
Bow windows typically feature a series of 3-6 casements mulled as a radius.

Bay/Bow windows may include factory-assembled head and seat boards and a cable kit to compensate for overhanging weight and aid in installation.



Double hung windows are popular due to their traditional design that compliments so many different styles of homes. They're also easy to operate, maintain and clean.

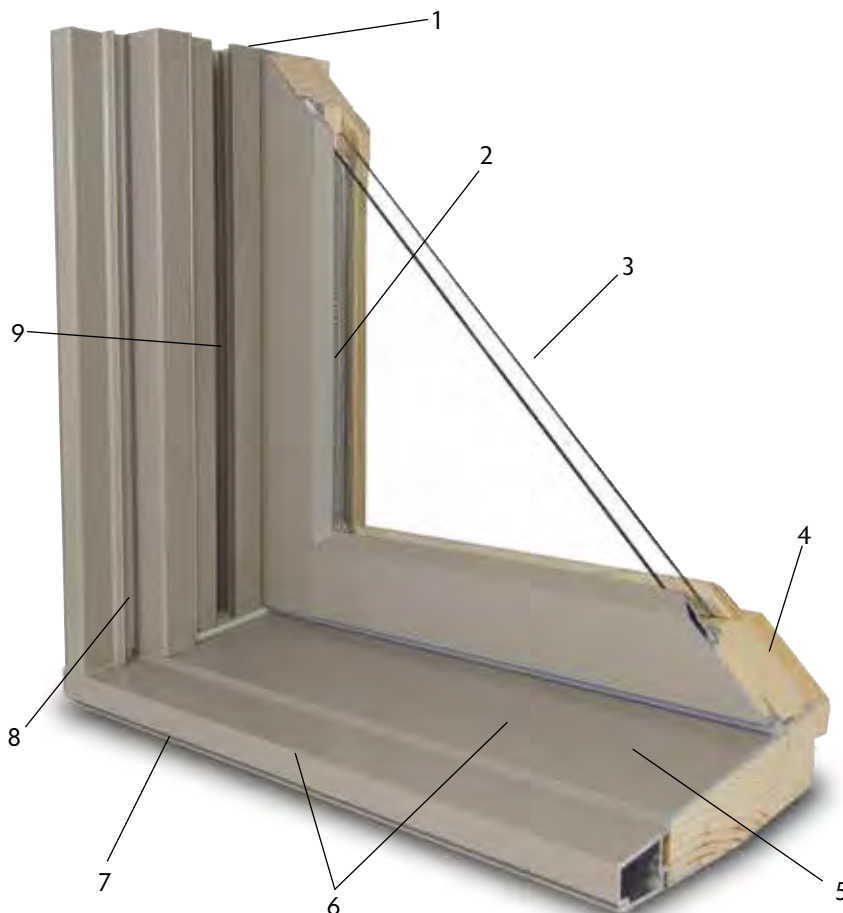
Lincoln double hungs allow architects, designers and builders to customize and tailor each individual project. Your specialist will create a contemporary edge with the clean lines of our narrow rail sash. Or stick with a strong historical influence by utilizing our traditional wide rail sash. Double hungs offer the flexibility to accommodate many design elements and are a great choice for both residential or light commercial projects.



Specifications	
Maximum RO Width	45 3/4"
Maximum RO Height	93"
Sash Thickness	1 7/16" thick
Bottom Rail Height	2 1/16"

Double Hung with Wide Rail Sash

1. Full 4-9/16" jamb depth.
2. Interior wood glazing bead.
3. 1 1/16" warm edge insulating glass.
4. 1-7/16" thick sash.
5. Traditional wide rail sash profile option.
6. Weatherstripped at head, sill and checkrail.
7. .050 extruded aluminum on sash and frame. Vinyl exteriors utilize .050 extruded PVC vinyl. Wood units have primed sash on the exterior with cPVC sill, sill nosing, blindstops and brickmould.
8. Recessed jambliner option with inverted balance system.



Specifications	
Maximum RO Width	45 3/8"
Maximum RO Height	93"
Sash Thickness	1 7/8" thick
Bottom Rail Height	1 1/8"

Double Hung with Narrow Rail Sash

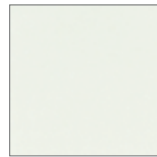
1. Full 4-9/16" jamb depth.
2. Sloped putty-glazed styling.
3. 11/16" warm edge insulating glass.
4. Contemporary narrow rail sash profile option.
5. Low-profile 8° sloped sill.
6. .050 extruded aluminum on sash and frame. Vinyl exteriors utilize .050 extruded PVC vinyl. Wood units have primed sash on the exterior with optional cPVC sill, brickmould and blindstop.
7. Full perimeter accessory groove.
8. Integral screen channel.
9. Concealed jambliner option with inverted balance system.



Hardware

Locks & Tilt Latches: Available in seven hardware finishes, two low-profile pick resistant locks are used on units with 37 3/8" box size and wider. Units smaller than 37 3/8" box size have one lock.

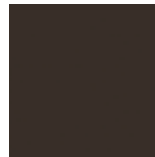
Color matched double hung tilt latches are set into the check rail of the bottom sash and concealed in the top rail on the upper sash. Spring loaded, they release to tilt in with ease. Made to last and out of sight, these lock options are sure to please.



White



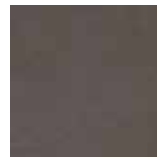
Coppertone



Faux Bronze



Black



Bronze



Satin Nickel



Polished Brass

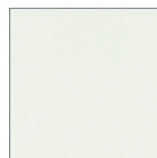


Oil-Rubbed Brass



Sash Lift/Pull Handles: Our stylish lift/pull handles are available in three popular finishes that match sash locking hardware. They are also very easy-to-grab and easy to install after the interior finishing process is complete. These handles reduce damage from opening your windows by providing a solid area to grasp.

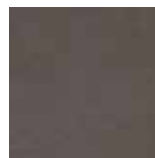
Not available for narrow rail double hung



White



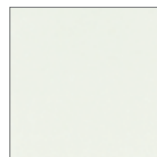
Coppertone



Bronze



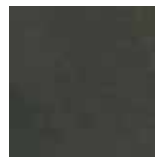
Sash Limiters: Thinking safety? Lincoln offers safe and secure sash limiters. This release mechanism keeps the window from being opened no more than four inches, allows the window to be fully opened for quick emergency exits and resets automatically every time the window is opened - all meeting the requirements of ASTM F2090.



White



Chrome



Oil-Rubbed Brass



Jambliner Options

Lincoln offers two different jambliner options for our double hung window lines. Both options utilize an inverted balance system for consistent performance and durability.

The standard jambliner comes in either beige or white and is recessed in the frame to minimize its visibility.

The concealed jambliner takes the design aesthetic a step further. From the exterior, the jambliner is concealed by color matched cladding. From the interior, the jambliner design utilizes a clear pine insert to give more wood warmth when the window is closed.



Standard Jambliner - White Balances
Exterior View



Standard Jambliner - White Balances
Interior View



Concealed Jambliner - Beige Balances
Exterior View



Concealed Jambliner - Beige Balances
Interior View



Styles

Double Hung: This arrangement is an ageless window type that offers some unique advantages. Sash tilt in for easy cleaning, ventilation is improved by opening the top and bottom sash equally and classic historical appeal is achieved when using Lincoln double hungs.

Our traditional window is equipped with advanced energy saving features. For example, Lincoln double hung checkrails incorporate the use of interlocks, weatherstrip and high-quality sash locks for a precision fit.



Radius Top Double Hung: Built as a single hung, Lincoln segment head and quarter segment windows are part of our double hung family. By utilizing the same parts and simply fixing the top sash, radius top hung windows can be mixed with traditional double hungs to create exciting elevations.

As with all Lincoln radius shapes, interior trim is available for the finishing touch. Segment head windows include a half screen.



Double Hung Bay: What could be more exciting than installing a Lincoln double hung bay window at the heart of your room? This attractive window combination is sure to add both functionality and flair.

Bay units are constructed using three windows or more. Flankers are aligned with a center unit at 45° or 30° angles. Center units can consist of operating double hungs or studio windows.

Double hung bay windows may include factory-assembled head and seat boards and a cable kit to compensate for overhanging weight and aid in installation.

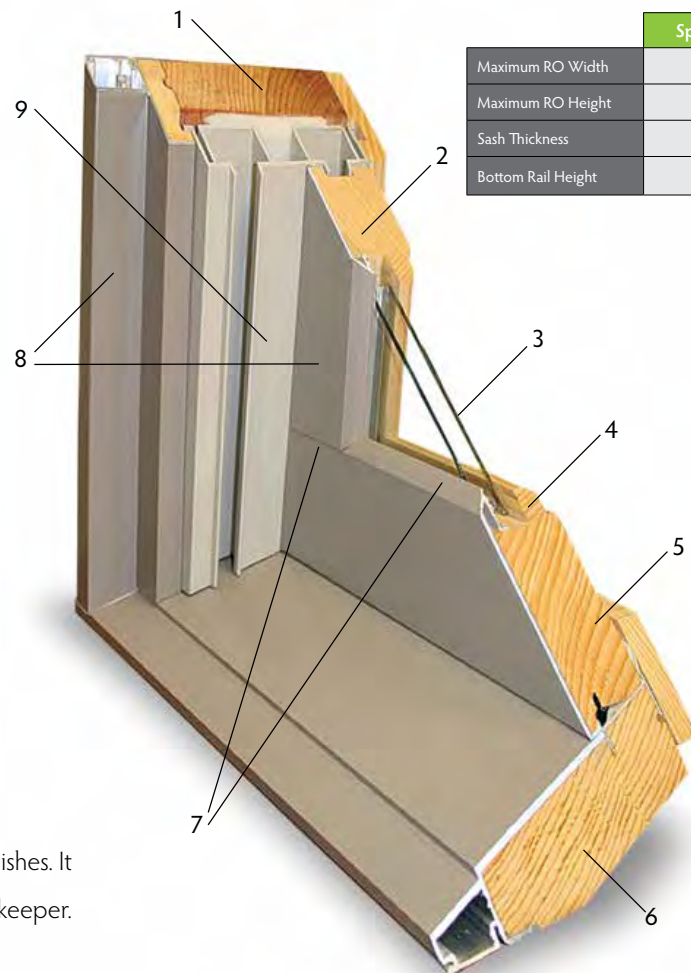


Searching for a really big window? The Lincoln Quantum double hung is the answer. Patterned after huge double hung windows typically found in older public buildings, the Quantum establishes its' value in both new traditional construction and the renovation of existing historical buildings. Quantum double hung windows are also available in a replacement kit package for replacement of existing over-size windows.

Not available in Vinyl Clad exterior.

Quantum Double Hung

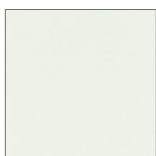
1. 5-7/16" jamb.
2. 1-3/4" thick sash.
3. 7/8" warm edge insulating glass.
4. Interior glazing bead.
5. Historical 3-1/4" bottom rail.
6. 1-7/32" thick sill with 14° sill angle.
7. Mortise and tenon sash with putty-glazed style.
8. .050 extruded aluminum on sash and frame.
9. Heavy foam-backed PVC jambliners with four block and tackle balances per sash.



Specifications	
Maximum RO Width	56 3/8"
Maximum RO Height	114 7/8"
Sash Thickness	1 3/4" thick
Bottom Rail Height	3 1/4"

Hardware

Window Locks: Quantum sash locks are available in four finishes. It is a heavy-duty lock with alignment nubs that inset into the keeper. Typical Quantum double hung units have two locks.



White



Coppertone



Polished Brass



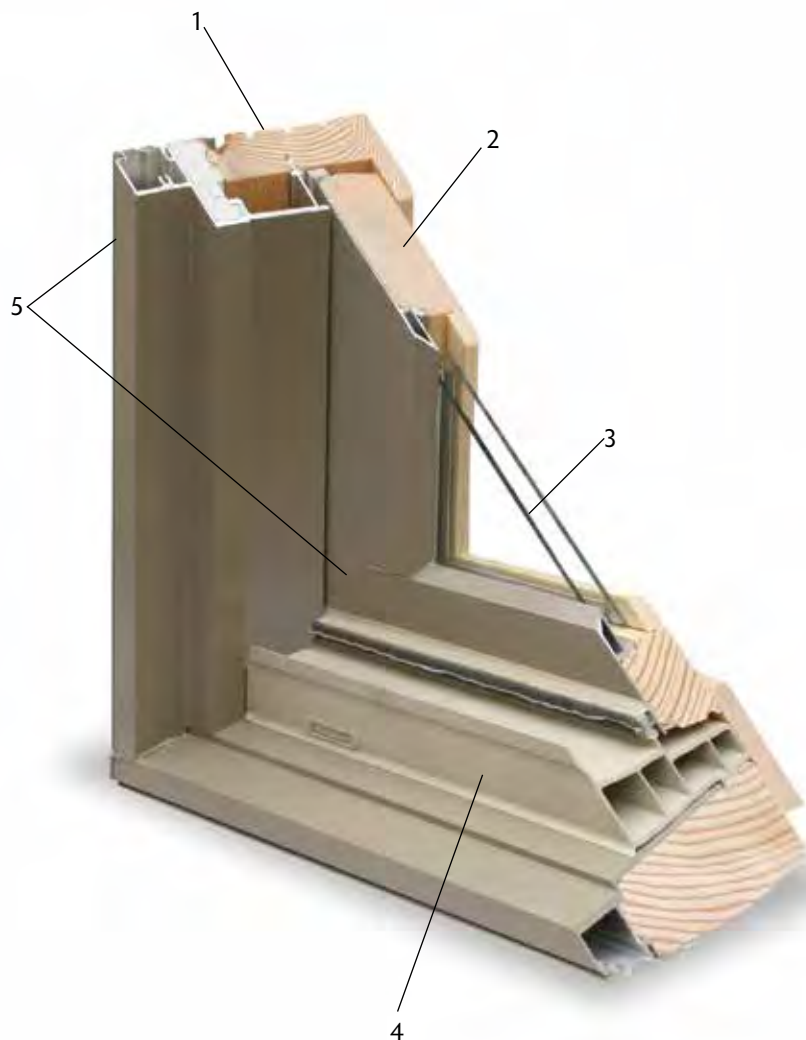
Bronze



Lincoln gliders are available as a single unit with one side fixed and the other operable or as a triple unit with operating sash flanking a studio center. Left or right handing for single units is specified at the time of order. Sash glide smoothly and evenly over a vinyl track for long-lasting trouble-free operation.

Also choose from a full or half screen option, eight hardware finishes, an array of exterior types and different interior wood species.

Not available in Vinyl Clad exterior.



Glider

1. 4-9/16" jamb.
2. 1-7/16" thick sash.
3. 11/16" warm edge insulating glass.
4. Heavy extruded PVC sill track.
5. .050 extruded aluminum on sash and frame. Wood units have primed sash on the exterior with cPVC sill, sill nosing, blindstops and brickmould.

Styles

Glider: The gliders' main characteristic is its ability to slide easily on a heavy vinyl track. Lincoln gliders are the perfect utility window because they blend well with a twin casement from afar and are an exceptional value.

Our traditional glider is equipped with advanced energy saving features. For example, glider checkrails incorporate the use of interlocking sash, weatherstrip and high-quality locks for a precision fit.



Triple Glider: Lincoln's energy efficient triple glider is built to fill large openings and can be installed where casement windows, that open outward, are just not practical. Triple gliders operate from each end for excellent ventilation and utilize a studio center to capture your view.

Glider offer simple operation and are extremely durable because they have fewer moving parts. Triple gliders also reduce your energy consumption by featuring fully weather-stripped sash with interlocking checkrails.



Hardware

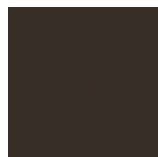
Locks & Tilt Latches: Available in seven hardware finishes, two low-profile pick resistant locks are used on units with 32" glass and taller. Units smaller than 32" tall have one lock.



White



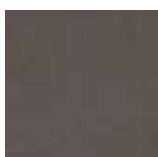
Coppertone



Faux Bronze



Black



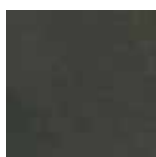
Bronze



Satin Nickel



Polished Brass



Oil-Rubbed Brass



Modern architecture often includes higher sidewalls and open spaces. Filling a wall with glass has never been easier - we have just the right sizes and shapes.

Lincoln offers rectangular & geometric units as well as radius products together totaling 20 different designs. Specialty windows can be complementary to our standard product or complete stand-alone windows.



Full Stop



Square Stop

Radius Sash Set
(Shown with brickmould)

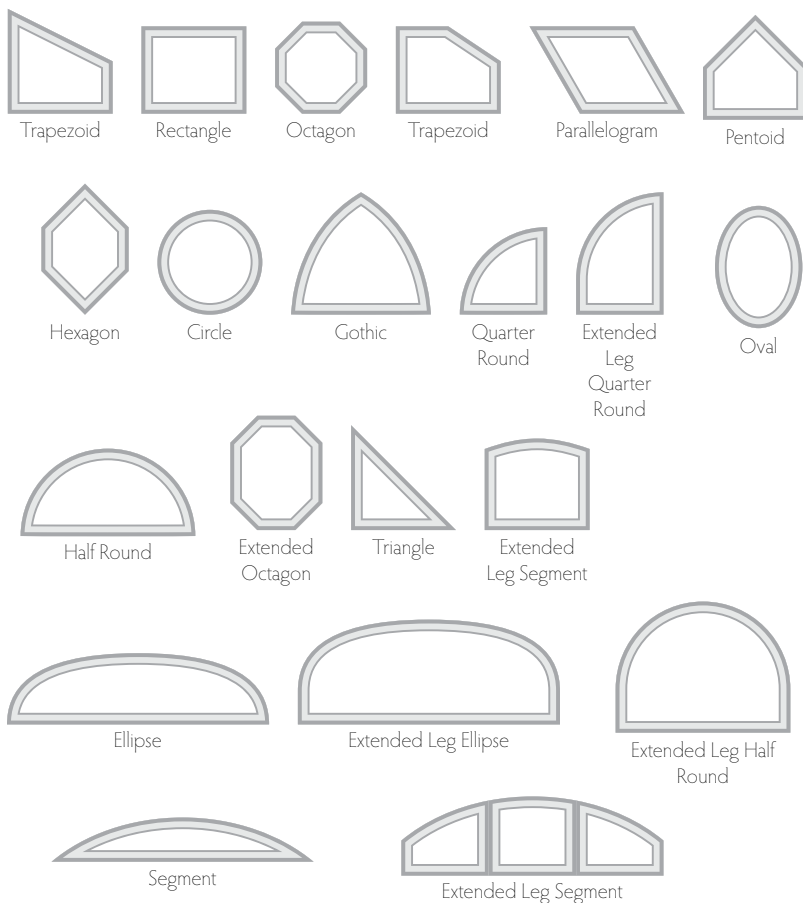
1. 4-9/16" jamb.
2. Interior wood glazing stop options.
3. 3/4" warm edge insulating glass. with 1 3/8" triple pane optional.
4. 1" thick frame.
5. .050 extruded aluminum frame. Vinyl exteriors utilize .050 extruded PVC vinyl. Wood units have primed frame exterior with cPVC brickmould and glazing stop.



Styles

Shaped Windows: Be exciting, distinctive and even a little daring by incorporating a specialty window into your next project! Choose an elegant shape as the focal point of your elevation or as an accent in a foyer or gable. Let Lincoln's specialty department work for you!

Lincoln specialty shapes are crafted from a CAD template and built as a direct set frame or a sash and frame style. Radius shaped interior trim is available in ten different profiles, providing superb fit and finish.





Direct Set: A direct set shape is best described by installing a piece of insulated glass 'directly' into its frame. This is the most cost effective means to purchasing a non-operating window. Lincoln direct set windows can be built in every shape we offer including radius products and geometric shapes.

Direct sets are custom-sized windows and can include: multiple grille types, three glazing stop options, six wood species, applied jamb extensions, interior prime or pre-finish, all glass options and nearly any paint color.

Recent design trends led us to a contemporary style square stop profile - available on all direct set products.



Sash Set: A sash set Lincoln window employs a heavier look by adding a sash component within a frame (glass is glazed into a sash which is then installed into a frame). This design complements our operating units and is commonly used in combinations because glass sightlines match better.

Architecturally, a sash set is usually favored for its enhanced aesthetics. This type of window construction is both appealing and functional. View our options section for additional features such as: exterior trims, grilles, interior casings, colors and our many glass choices.



Studio Windows: The studio window is designed to compliment an operating unit as a mulled combination or they can stand alone. Because studios are often fairly large windows, they add a sense of openness to a room and often times are positioned for a great view of the outdoors.

Lincoln constructs fixed studio windows as a direct set or in a sash and frame design. This is a perfect unit for commercial projects when venting is not required or the window is inconvenient to reach. Non-operable windows are also very energy efficient.

Transoms: With taller ceiling heights and the popularity of great rooms, you need your windows and patio doors to look and feel in proportion to the design. You can always go with a taller window or door, but transoms offer an exceptional design opportunity. Not only do you get the benefit of more light, you add a key architectural element to your room.

Transoms may be split to align with the window or patio door configuration or can be a one-piece design that extends over the entire span. Our transoms are made to exacting standards and can be built with narrow and wide stiles to maintain site lines. When looking for a little extra style or flair, transoms are a simple and attractive solution for your taller window and patio door requirements.



Corner Windows: From the outside, corner windows help break up the visual mass of a home and provide unique architectural appeal. From the interior, they provide a way to emphasize an incredible view or landscape while allowing sunlight to come in the room from separate directions throughout the day.

The Lincoln corner window is available up to a maximum 96" box width on one side and 72" box width on the other. Maximum box height is 96" with the overall square foot of glass size to not exceed 50 square feet per side.

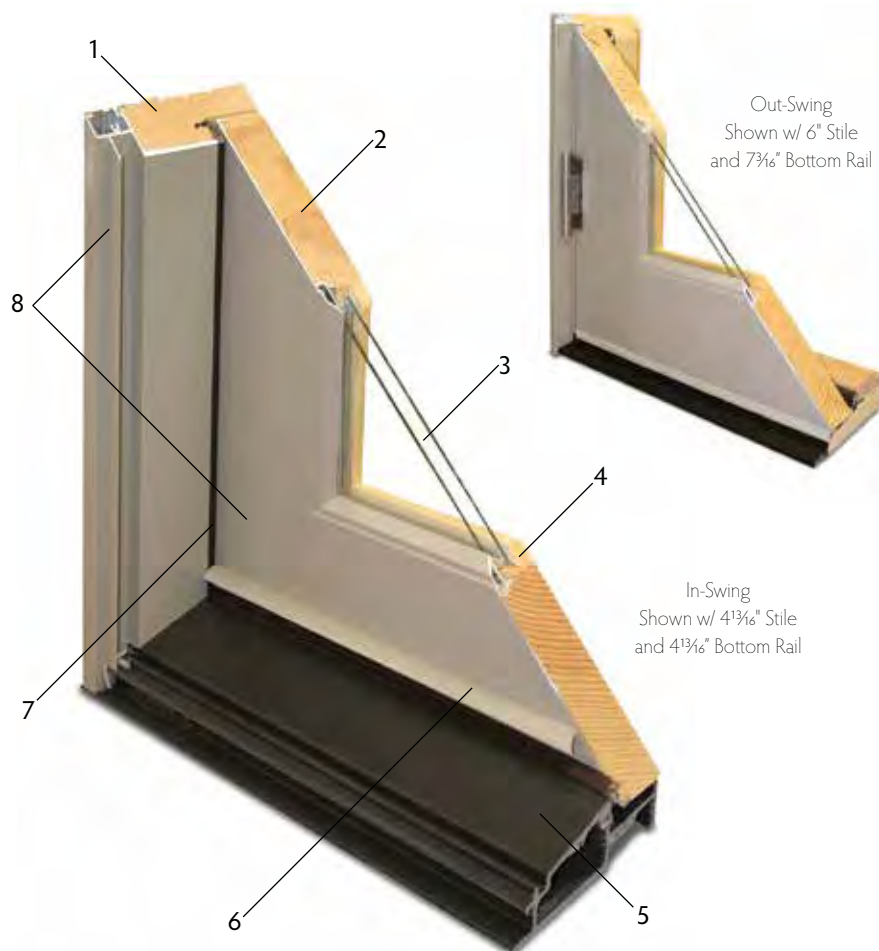
The specialized center mull post is the significant design feature providing the structural support with minimal sight line interference. This mull post, with an extruded aluminum exterior cover, takes up only 3-1/16" of visual space from each direction.



Our most comprehensive door category, swing products are widely used for nearly every type of project including new construction, remodeling and light commercial. Swing doors are versatile, long-lasting and design friendly.

Configurations

- 1, 2, 3 and 4-wide
- French doors: 2, 3 and 4-wide
- Transoms: 1, 2, 3 and 4-wide
- Sidelites: 2 1/2", 3 3/8" & 4 13/16" Stiles
- Segment head:
 - 1 and 2-wide
 - French 2-wide
 - Quarter segment French sidelite
- Full Radius



Specifications	
Maximum RO Width	1 wide = 3' 7 7/8" -- 2 wide = 6' 2 7/8"
Maximum RO Height	9' 2 3/4"
Door Panel Thickness	1 3/4" thick panels
Stile Widths	3 3/8", 4 13/16" & 6"
Top Rail Heights	3 3/8", 4 13/16" & 6"
Bottom Rail Heights	4 13/16", 7 3/8" & 12"

1. 4 5/8" jamb.
2. 1 3/4" thick panels.
3. 3/4" tempered insulating glass.
4. Interior wood glazing bead.
5. .125 pultruded resin coated fiberglass sill.
6. Panel drip edge.
7. Full surround weatherstrip.
8. .050 extruded aluminum clad on sash and frame. Wood units have primed panels on the exterior with cPVC brickmould.



The 2 1/4" door program is the perfect complement and extension to Lincoln's significant swing door offering. Greater heights (up to 10' tall) are achieved with the 2 1/4" panel system including our optional Lifestyle door panel. 5-point locking hardware is standard.

Configurations

- 1 & 2 wide
- French doors: 2 wide
- Transoms: 1 & 2 wide
- Sidelites: 3 3/8" & 4 13/16" Stiles



	Specifications
Maximum RO Width	1 wide = 3' 7 7/8" -- 2 wide = 7' 2 1/2"
Maximum RO Height	10' 2 3/4"
Door Panel Thickness	2 1/4" thick panels
Stile Widths	3 3/8", 4 13/16" & 6"
Top Rail Heights	3 3/8", 4 13/16" & 6"
Bottom Rail Heights	4 13/16", 7 3/8" & 12"

1. 5 1/8" jamb.
2. 2 1/4" thick panels.
3. 3/4" tempered insulating glass & 1 3/8" Triple Pane.
4. Interior wood glazing bead.
5. .125 pultruded resin coated fiberglass sill.
6. Panel drip edge.
7. Full surround weatherstrip.
8. .050 extruded aluminum clad on sash and frame. Wood units have primed panels on the exterior with cPVC brickmould.

Options

Design flexibility and accommodating accurately describe Lincoln's swing patio doors. Three different size options for stiles, rails and mid-rails epitomize versatility with options to customize doors for any design aesthetic.

- Top Rail sizes: 3 $\frac{3}{8}$ ", 4 $\frac{13}{16}$ ", 6"
- Stile sizes: 3 $\frac{3}{8}$ ", 4 $\frac{13}{16}$ ", 6"
- Mid Rail sizes: 3 $\frac{3}{4}$ ", 4 $\frac{3}{4}$ ", 6 $\frac{3}{4}$ "
- Bottom Rail sizes: 4 $\frac{13}{16}$ ", 7 $\frac{1}{16}$ ", 12"

These doors limit the limitations. Pick the door that's right for you from Lincoln and enjoy the possibilities.



Styles

In-Swing: Make a statement with Lincoln's most popular door product. In-swing doors blend with almost every architectural theme and they are incredibly stylish. Secure multipoint hardware makes a Lincoln in-swing door both beautiful and strong.

Adjustable hinges are standard (residential) and ball-bearing hinges (light commercial) are available. Easy operating color matched sliding screens feature extruded framing for superior strength.

Out-Swing: Lincoln out-swing door products are packed with performance. The harder the weather pushes against the operable panels, the tighter the weatherstrip seal on the frame becomes.

Also, by swinging to a building's exterior, this type of door will not create an interruption to your interior décor. Durable maple thresholds are standard. Optional ADA compliant (low profile) thermally broken sills are available.

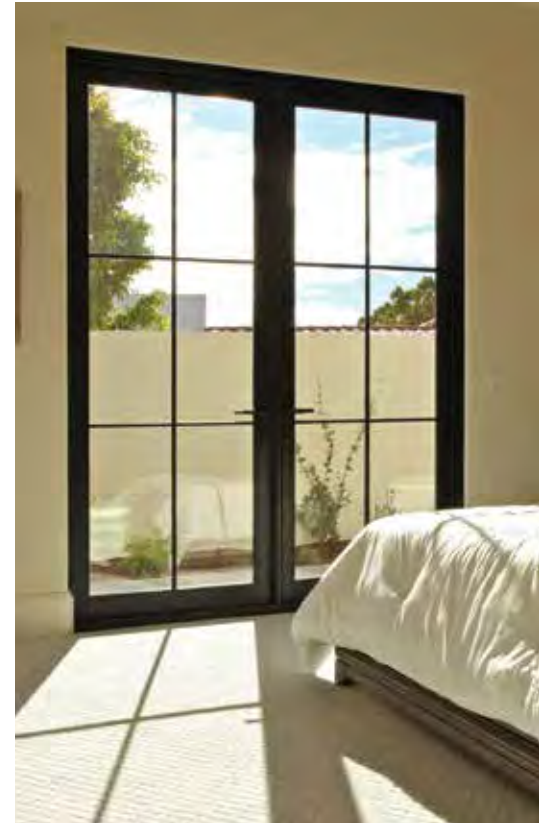




French Doors

A French style swing patio doors' most distinguishable feature is its ability to have both panels operate. Lincoln offers extremely functional in-swing or out-swing models that can be used for large object passageways. An active panel operates as the primary operator and the passive panel need only be utilized when you want the entire use of the opening. French doors may also be configured with different panel widths. Offset panel sizes create an entrance style look with the functionality of a large net clear opening.

Our strong three-point hardware system looks great, locks securely and is available with either a handle activated bolt or center activated bolt (dummy handle optional). French doors are available in 2, 3 or 4-wide configurations.



Segment Top

Enhance your home with a little curve appeal from Lincoln. By utilizing a segment top swing patio door in your design you incorporate a subtle accent that compliments almost any architectural theme.

The radius option, available in 6' radius only, can be used with both in-swing and out-swing patio doors. Select your radius top option for a single door or use it with our factory mulled side-lite combinations for a more dramatic statement.

Whether viewed from the curb or inside your home, the gentle slope of our radius doors have lasting design appeal.



Entry Sill

Lincoln's entry sill option resists weathering, keeps air and water out while providing long-lasting adjustability.

- Adjustable PVC rail with ImperiSeal continuous gasket
- Bronze contemporary exterior color
- Composite underlayment is durable, non-rot and thermally advanced
- In-swing doors with 4 5/8" or 6 5/8" jamb depth.
- Color matched door sweep



Quanex Sill
(Shown with Frame Screen Track Filler)

In-Swing Extended Jamb

Lincoln swing doors feature a 4 5/8" jamb depth that will accommodate an additional 2" clad extrusion to the exterior. Doors extended in this fashion will have full hinge travel on a 6 5/8" wall thickness. Additional interior wood jamb extensions are available for thicker walls.



Extended Jamb
(Shown with 2" Brickmould Option)



ADA Sill

ADA Sill

Low profile sills are easily adaptable to our frame components making the Lincoln swing doors ADA code compliant and can be used in most light commercial applications.

ADA sills are constructed with extremely durable dark bronze anodized aluminum complete with a thermal break for better energy efficiency. This option is available in 4 5/8" and 6 5/8" jamb depth.



Mid-Rail & Wide Bottom Rail

Accessorize your swing doors by inserting an optional mid-rail. Rails run horizontally and can be located at virtually any height. Additional divisions are made by adding a vertical rail. The spaces created can be filled with raised panels, flat panels or insulated glass. Mid-rail sizes are 3 ¾", 4 ¾" and 6 ¾" and may be used together on the same panel.

Three bottom rail choices add versatility to swing patio door panels. The bottom rail options include nominal measurements of 4 13/16", 7 3/16" and 12". Choose one of the bottom rails with any door height and design a door panel best suited for your project. Commonly used on taller residential doors and in light commercial applications, our durable 12" bottom rail allows ample room for a kick plate.



Flat Panel & Raised Panel

With a mid-rail used horizontally and/or vertically, you can place panels at standard and custom height locations to further enhance the door design.

The stylish and architecturally friendly raised panel adds depth and feel to contemporary or traditional design themes. Raised door panels feature durable color-matched polane painted exteriors.

Flat panels are popular because of straight clean aesthetically pleasing lines. These panels are insulated with a painted extruded aluminum veneer exterior (Aluminum Clad) and thick stain-grade wood interiors.



Commercial Doors

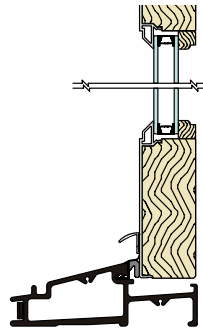
Fitting your commons area or vestibule with Lincoln's diverse door offering allows for continuity in design with matching clad colors, glazing appearance, durability, delivery and performance all backed with a substantial warranty.

Our door products are stylish, functional (both in-swing or out-swing) and can be specified with nearly endless size options and design configurations.

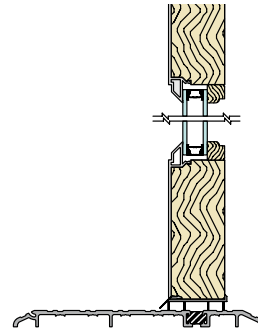
ADA Sill

Some commercial applications require swing door thresholds that do not exceed ½" total height above finished floor height.

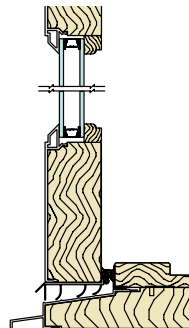
- Strategically located thermal break under door panel to reduce thermal transfer.
- Available on doors both at 4 ½" and 6 ½". Interior extension jambs can be utilized for walls that vary.
- Bronze anodized finish.



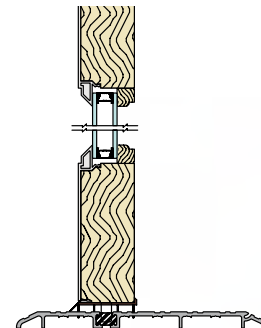
In-Swing Standard Sill



In-Swing ADA Sill



Out-Swing Standard Sill



Out-Swing ADA Sill



Concealed Cable Prep and Panel Spacing

A concealed cable route can be specified for doors to eliminate unsightly rods.

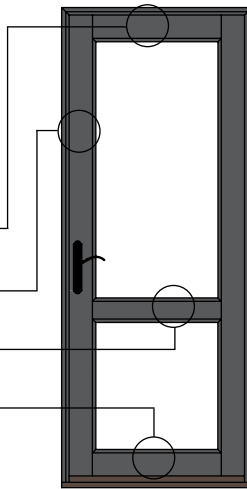
The cable prep consists of a $\frac{3}{4}$ " x $\frac{3}{4}$ " continuous route profile hidden inside the door panel for use with VonDuprin (or similar) panic bar systems.

Double wide doors can be specified without an astragal with spacing between panels for your weatherstrip detail. Options include: $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ".

Panel Combinations

Lincoln door panel thickness of $1\frac{3}{4}$ " and $2\frac{1}{4}$ " & multiple stile and rail configuration will suit your building's style.

- Top Rail sizes: $3\frac{3}{8}$ ", $4\frac{13}{16}$ ", 6"
- Stile sizes: $3\frac{3}{8}$ ", $4\frac{13}{16}$ ", 6"
- Mid Rail sizes: $3\frac{3}{4}$ ", $4\frac{3}{4}$ ", $6\frac{3}{4}$ "
- Bottom Rail sizes: $4\frac{13}{16}$ ", $7\frac{3}{16}$ ", 12"



Ball Bearing Hinges

Optional 4" ball bearing hinge are available in 9 spectacular finishes.

Hinges feature a $\frac{5}{8}$ " radius corner and NRP (non-removable pins) for added security.



Pre-Finished White and Black Interiors

Take one thing off the general contractors' task list by finishing the interiors. Factory-applied painted interiors will save valuable time and money all while protecting the wood during the construction phase. Introduce your builder client to the peace of mind that a Lincoln factory finish provides.



Pre-Finish White

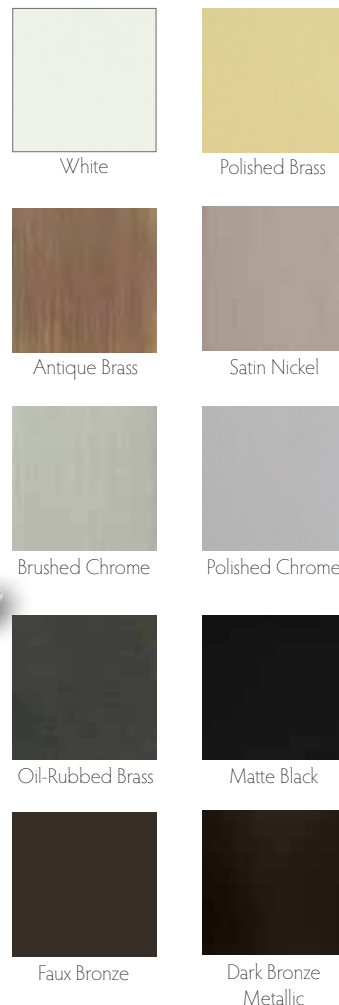
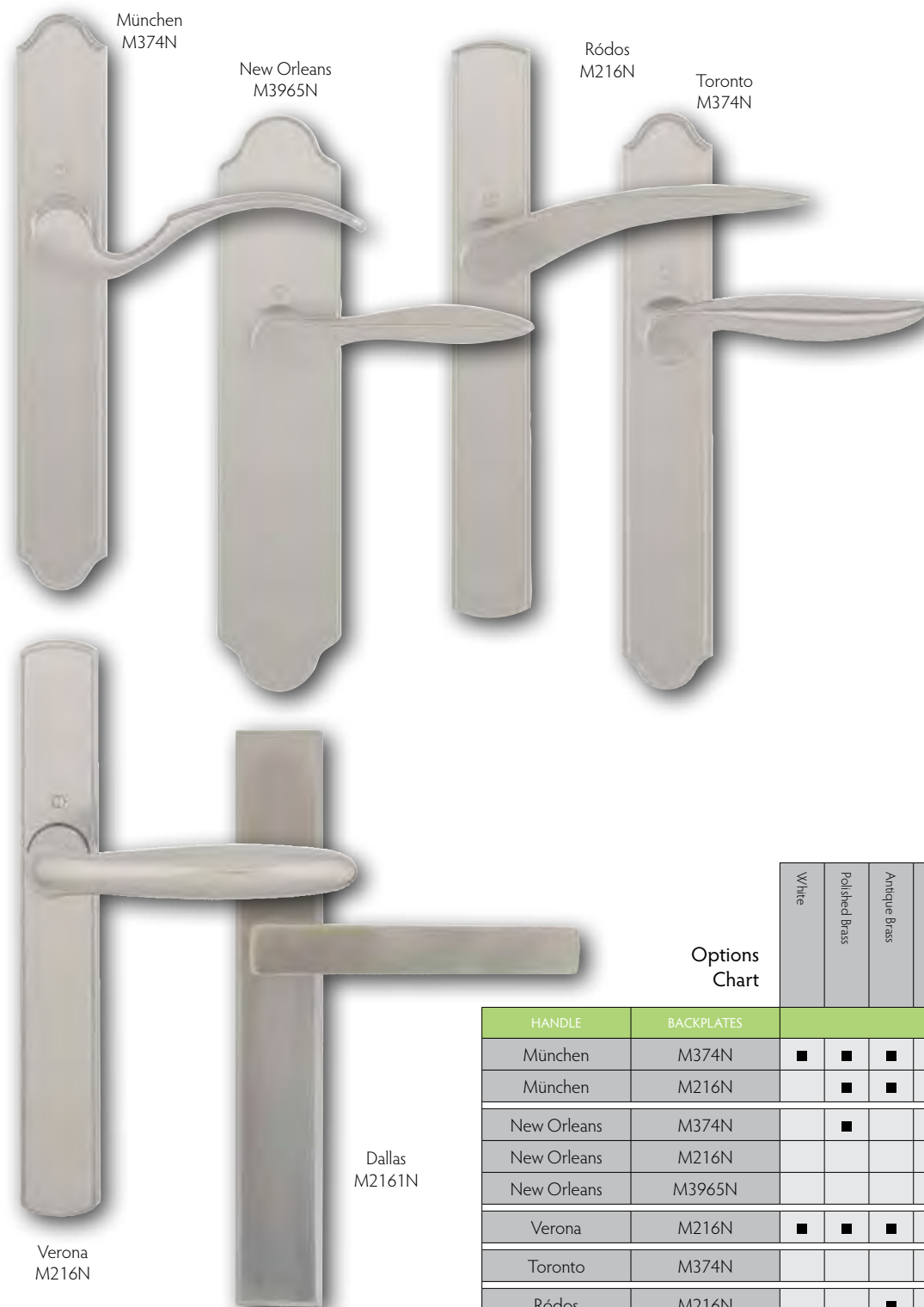


Pre-Finish Black



Hardware

Handles & Backplates: Our handles are manufactured using the finest quality brass alloys. The surface of the handle, except oil-rubbed, is protected by a transparent enamel finish which offers strength and durability as well as a smooth, blemish free surface. Oil-Rubbed has a “live” finish that changes over time. Celebrate your distinctive design style by creating a handle package from our many finish options, lever choices and backplate styles.



Options
Chart

HANDLE	BACKPLATES	FINISHES									
		White	Polished Brass	Antique Brass	Brushed Chrome	Polished Chrome	Satin Nickel	Oil-Rubbed Brass	Faux Bronze	Matte Black	Dark Bronze Metallic
München	M374N	■	■	■	■	■	■	■	■	■	■
München	M216N		■	■	■		■	■	■	■	
New Orleans	M374N		■				■		■	■	
New Orleans	M216N						■	■	■	■	
New Orleans	M3965N						■		■		
Verona	M216N	■	■	■	■	■	■	■	■	■	
Toronto	M374N				■		■	■	■	■	
Ródos	M216N			■	■		■		■	■	
Dallas	M2161N		■				■		■	■	■

3-Point & 5-Point Hardware: As standard, active door panels utilize our multi-point (3-Point or 5-Point) hardware system. Engaging the multi-point system creates a tight seal, maintains straight door panels and is an added security measure. Passive doors are equipped with either a handle activated bolt system or the flush bolt version firing rods securely into the head and sill.


Single Point Hardware: While specifying your next entry system, consider the Single Point Hardware mechanism for easier operation. This hardware is simple to operate as no handle activation is required to throw the deadbolt or engage other locking points. This system accepts the same trim hardware and can be keyed alike to match all your other Lincoln swing doors.



Hinges: In-swing doors are equipped with adjustable hinges including a secure non-removable pin to ensure safe and smooth operation. Adjustments are made via the large 3/16" hex head screw both vertically (Set Hinge) and horizontally (Guide Hinge).



Standard Hinge Finishes

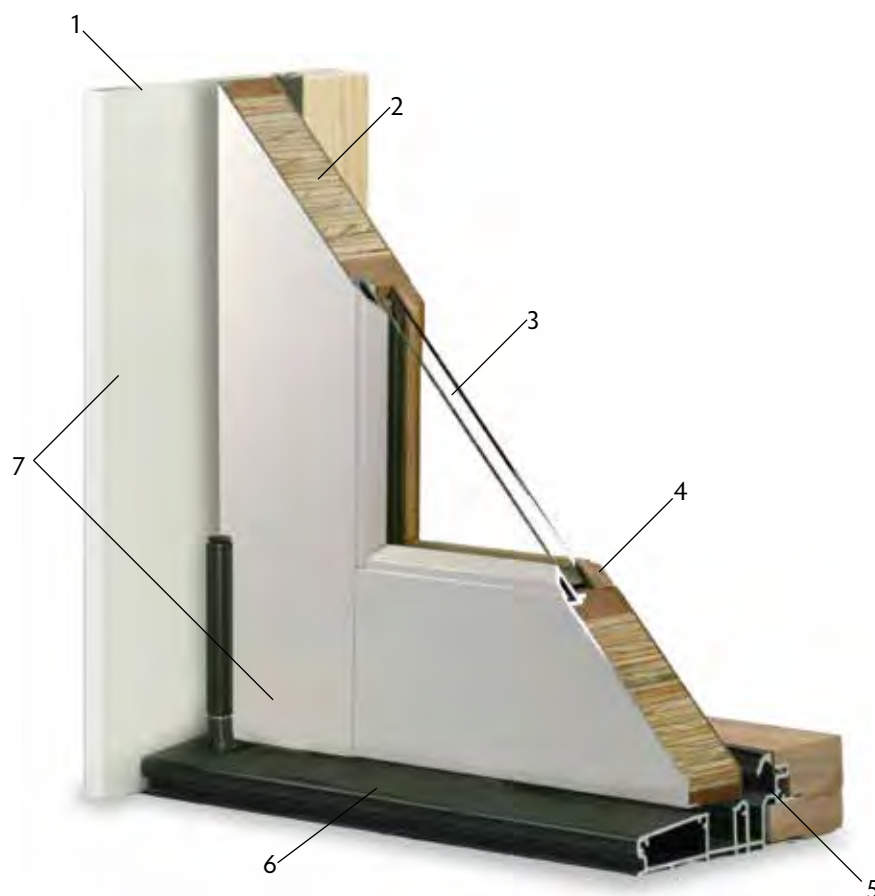
					
Polished Brass	Antique Brass	Brushed Chrome	Oil-Rubbed Brass		
					
Grey Powder Coat	White Powder Coat	Gold Powder Coat	Matte Black		
					
Satin Nickel	Antique Nickel	Faux Bronze	Bronze Anodized	Resista® Satin Nickel	Resista® Polished Brass

Distinctive rooms require an exceptional door system. Lincoln Folding doors, when completely opened, leave a stunning unobstructed view. Multiple configurations consist of stacking panels and may include an operable out-swing panel.

Configurations

Numerous out-swing configurations are available anywhere from one to eight panels in each direction and can include an access panel. The innovative hinge system enables all door panels to be made the same size regardless of the door configuration.

See examples of Lincoln's matching Folding Window at www.lincolnwindows.com.



	1 3/4" Panel Thickness	2 1/4" Panel Thickness
Maximum Panel Width	3' 6"	3' 6"
Maximum Panel Height	9' 0"	10' 0"
Maximum Number of Panels	16 Panels	16 Panels
Approx. Maximum Width	48'	48'
Maximum Height	9' 4 3/4"	10' 4 3/4"

NOTE: When using maximum door width and height, door may exceed maximum door weight. Calculated weight check should be done.

1. 5 1/2" jamb with clad exterior. 6 1/8" jamb on primed exterior.
2. 1 3/4" & 2 1/4" thick panels.
3. 3/4" tempered insulating glass & 1 3/8" Triple Pane. (2 1/4" panels only)
4. Interior wood glazing bead.
5. Full surround weatherstrip.
6. .080 extruded aluminum sill (shown) or recessed floor channel guide option.
7. .050 extruded aluminum clad on panels and frame.

Hardware

Track, Guide Channel and Sill: The Folding patio door has a top mounted track system allowing the weight of door to be carried on the header. The bottom guide glides with minimal effort in a polypropylene floor channel lining allowing a smooth, almost silent rolling action. A low threshold guide channel is available for internal applications - no obtrusive door sill, just a recessed track in the floor.

Handles & Backplates: The main operating panel for the folding door system utilizes the same high quality HOPPE hardware found on all Lincoln swing patio doors. The benefits include: matching styles, color continuity and the keyed alike feature.

Pull Handles, Hinges and Twinpoint: The remaining panels in the folding door system are operated using heavy-duty pull handles and hinges. Three hinges come standard with each Door panel - with a fourth hinge added for doors over 7'4". The twinpoint lever activates concealed rods into the head and sill for secure locking action.

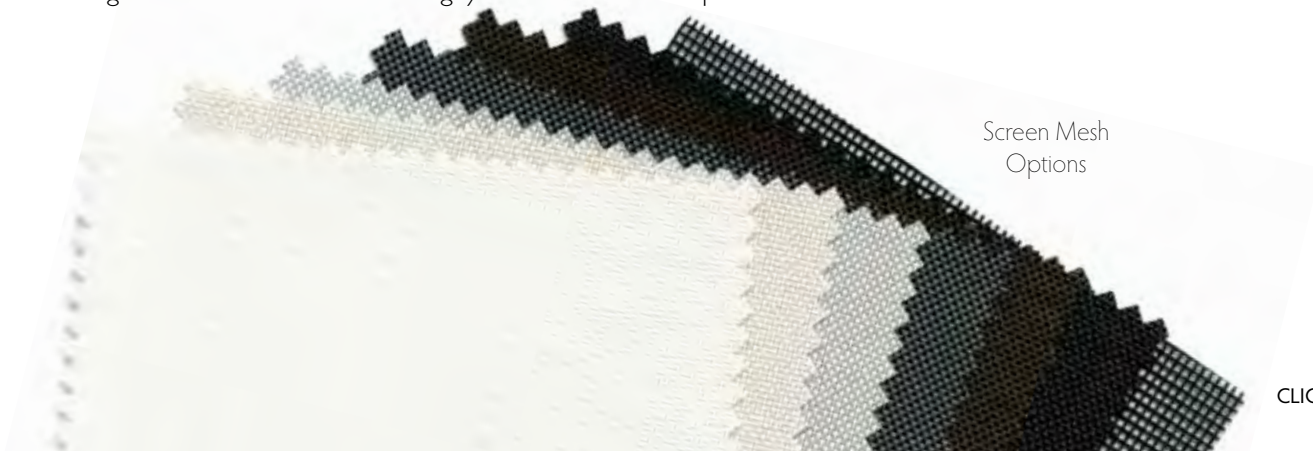
Screens

All screens are made-to-order and specially configured for each bi-fold door system. They are available for openings up to 24' wide x 10' high and feature load balancing technology for effortless operation while remaining firmly in any chosen position until further pressure is applied. Screens store easily into its own frame when a clear opening is desired.

The tough PVC-coated polyester mesh used in the screen is hard wearing, resistant to damage, easy to clean and can be replaced if necessary. Choose a single function or double functioning system where six mesh options are available.



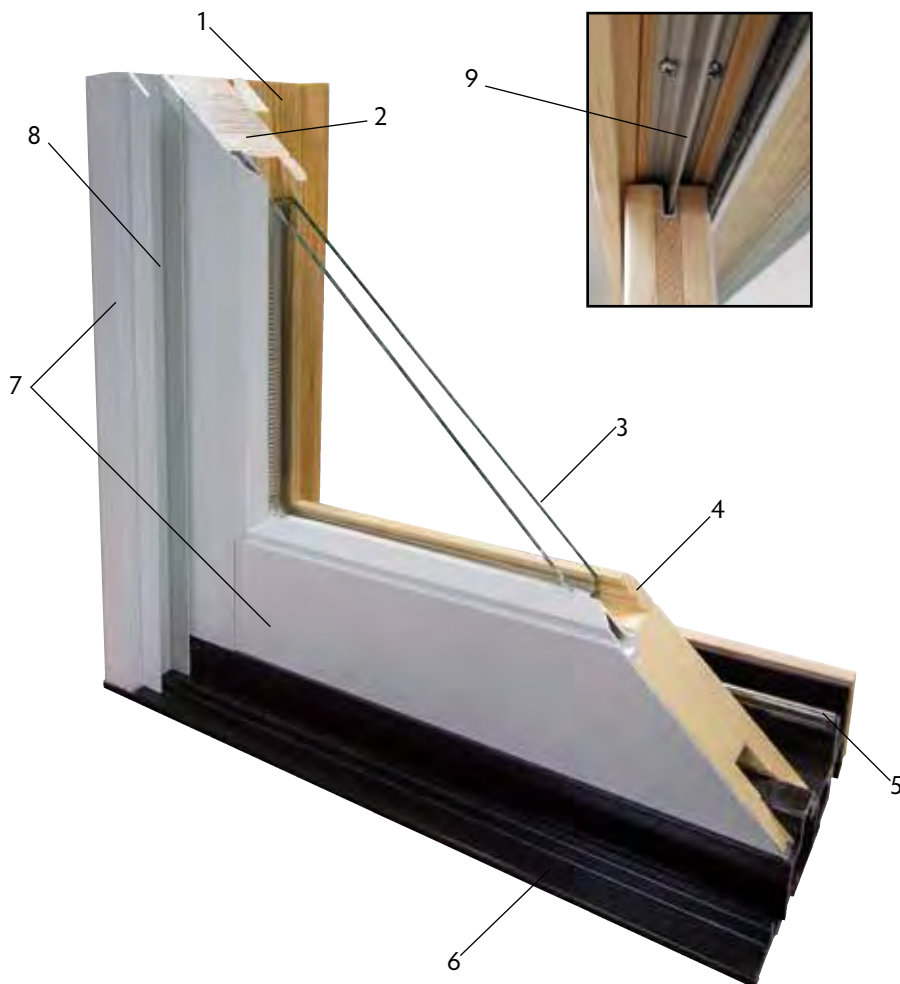
Screen Mesh
Options



Featuring wide, lifestyle or narrow styles, our slide doors are a beautiful combination of practicality and performance. Light up your room and keep the weather outside all while avoiding the clearance needed with a swinging patio door.

Configurations

- 3 Stile Widths: 2 1/2", 3 3/8" & 4 13/16"
- 2-wide
- 3-wide
- 4-wide (OXXO)
- Transoms: 1, 2, 3 and 4-wide
- Sidelites



1. 4 5/16" jamb.
2. 1 3/4" thick panels.
3. 3/4" tempered insulating glass.
4. Interior wood glazing bead.
5. .022 stainless steel roller track cover.
6. .125 pultruded resin coated bronze fiberglass sill.
7. .050 extruded aluminum clad on panels and frame. Wood units have primed panels on the exterior with cPVC brickmould.
8. Integral screen channel.
9. "t-Rail" Panel Guide System.



Standard Sill



High Performance Sill

Hardware

Rollers & Handles: Slide patio doors feature a dual lock and keeper system with an optional keyed lock. This 2-point hardware securely engages the heavy-duty keeper by latching both upward and downward. Door panels glide easily on durable ball-bearing rollers.



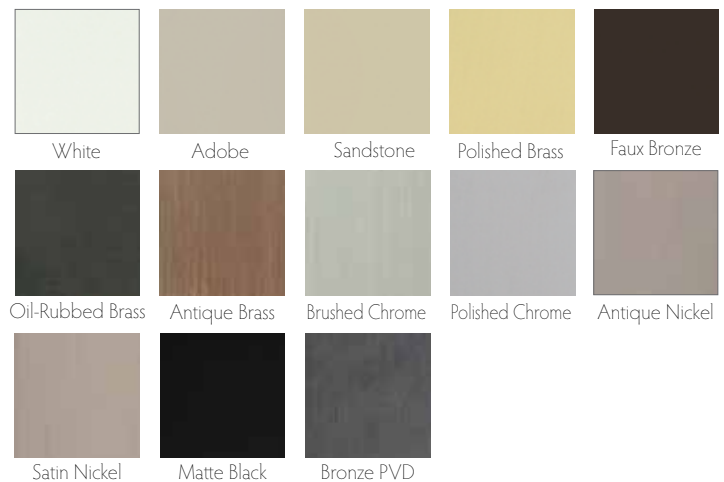
Allure Handleset (standard): Both functional and attractive, with its painted metal available in five popular finishes. Keyed cylinders are optional.

Signature Handleset: Available in twelve finishes. If there is more than one door on a project, they may be ordered keyed alike. The latch mechanism is dual point, latching both up and down to resist forced entry by lifting the panel. Keyed cylinders are standard.

Contempo Handleset: Building and completing a contemporary or modern design theme off requires the straight sleek lines of the Contempo handle set. The shape and color options pair nicely with the Dallas Hardware found on our swing doors creating the perfect room accent. Keyed cylinders are standard. Available in nine finishes.

Flush Pull Hardware: While large pull handles do add leverage, sometimes they are difficult to design around. Flush Pull hardware has exactly the minimal interior exposure some interior décor's call for. Available in three finishes.

Finish Options	White	Adobe	Sandstone	Polished Brass	Faux Bronze	Oil-Rubbed Brass	Antique Brass	Brushed Chrome	Polished Chrome	Antique Nickel	Satin Nickel	Matte Black	Matte Black
Allure	■	■	■		■							■	
Signature	■	■	■	■	■	■	■	■	■	■	■	■	
Contempo	■			■	■	■	■	■			■	■	
Flush Pull											■	■	■



Stile Options

Slide doors continue to be a popular design for tighter spaces and are minimally invasive because an open panel simply covers the fixed portion. Looking for a lot of glass, choose from 2 narrow stile options; 2 1/2" and 3 3/8". These traditional sliding patio doors provide the most visible glass of all our door products. No room for a swinging door? Then compliment your home with an elegant wide 4 13/16" stile slide door from Lincoln. Our wide stiles feature more wood than a traditional slide door and become the perfect choice when using an alternate wood species.

Screens

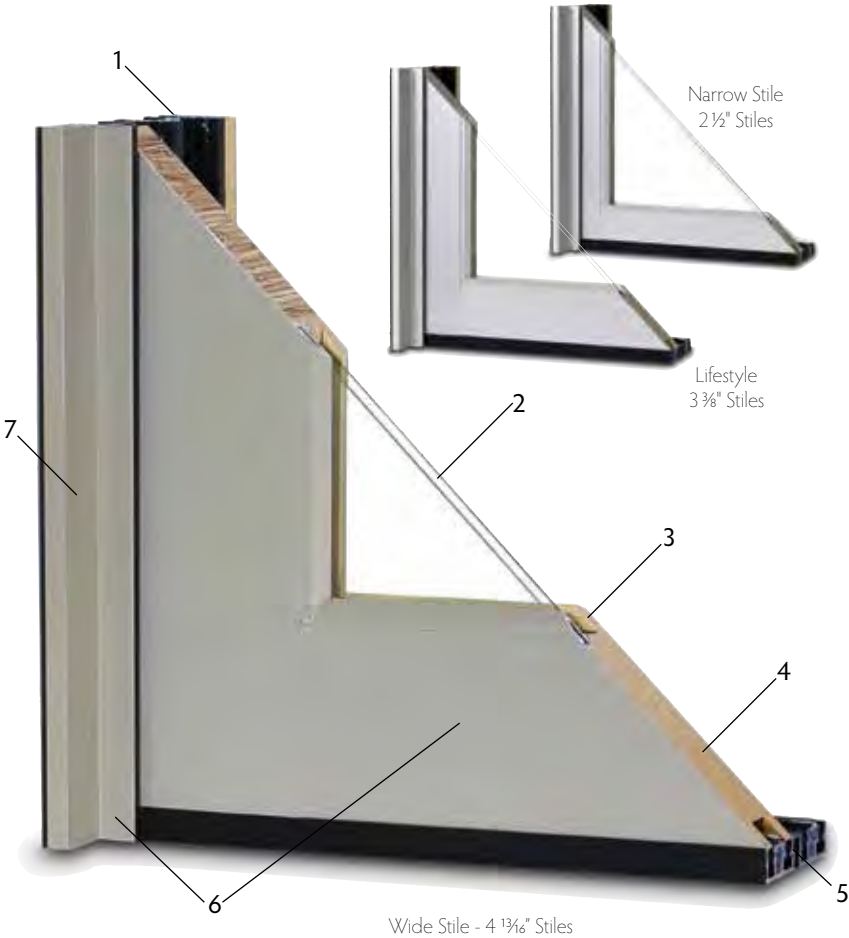
Sliding patio door screens offer a heavy-duty extruded frame channel available in all our aluminum clad colors. There are adjustable rollers on top and bottom. Screen mesh options include BetterVue, UltraVue and aluminum.

Lincoln's multi-slide patio door is an extremely versatile system designed where immense areas of glass are desirable. A closed door will highlight elegant wide-stile panels or emphasize thin sight lines when using our narrow stile options.

Configurations

We offer numerous stacking or pocketing configurations from one panel to ten, creating a superb range of door widths and heights.

** It is highly recommended that the Multi Slide Door is installed in areas with a minimum 8' overhang to prevent water or air infiltration.*



	Specifications	
	1 3/4" Panel Thickness	2 1/4" Panel Thickness
Maximum Panel Width	4' 1/2"	6' 0"
Maximum Panel Height	9' 0"	10' 0"
Maximum Number of Panels	10 Panels	10 Panels
Approx. Maximum Width	38'	38'
Maximum Height	9' 3/8"	10' 3/8"
Stile Options	2 1/2", 3 3/8", 4 13/16"	3 3/8", 4 13/16"
Minimum Roof Overhang	8' 0"	8' 0"

1. Modular frame system.
2. 3/4" tempered insulating glass. 1 3/8" triple pane optional with 2 1/4" thick panels.
3. Interior wood glazing bead.
4. 1 3/4" thick panels. 2 1/4" thick panels optional.
5. Thermally-broken bronze anodized sill.
6. .050 extruded aluminum on panels and frame.
7. Frame width accommodates from 1 to 10 panels.



Our Lift & Slide is truly elegant, architecturally driven and entirely functional. Modern building systems allow for massive openings and Lincoln's ability to utilize panels up to 5' by 10' fits this design criteria perfectly. Operational concerns? No problem! The 'lift' system elevates the panel for simple, easy 'slide' action. Walls of patio doors will disappear leaving the extraordinary uninterrupted view you long for.

Configurations

- Pocketing
- Stacking
- 90° Corner/Inverse 90°
- One Way Direction
- Bi-Parting

Panel Options

Lincoln multi-slide doors systems feature 1 ¾" or 2 ¼" thick panels, perfect for your next building project whether its modern, contemporary or traditional appearing. Capture your spectacular view with just the right panel choice, door size and operational function.

- **Narrow Stile:** 2 ½" Wide - 1 ¾" thick Only
- **Lifestyle Stile:** 3 ¾" Wide - 1 ¾" or 2 ¼" thick
- **Wide Stile:** 4 13/16" Wide - 1 ¾" or 2 ¼" thick

Operational Choices

Stacking: The stacking system allows all operating panels to fit over the end stationary panel. Door jamb widths will vary with the number of panels/tracks utilized. A pull handle is commonly used with this door for an additional design element.

Pocketing: Doors disappear fully into a specially designed wall cavity. A pocketing arrangement employs a flush lock permitting the locking panel to completely slide out-of-sight. What remains is an entirely open space.

Bi-Parting: Operating panels oppose to operate and join in the center with an astragal.

	Specifications
Maximum Panel Width	6' 0"
Maximum Panel Height	10' 0"
Minimum Panel Width	2' 0"
Maximum Number of Panels	10 Panels
Minimum Number of Panels	1
Door Panel Thickness	2 ¼"

Multi-Slide Hardware

Two styles of lever pull handlesets are available for multi-slide stacking door configurations. The multi-slide comes standard with a stainless steel 2-point locking mechanism built for lasting appearance and performance. The adjustable rollers glide easily, quietly and are available in stainless steel.



Our multi-slide patio doors are manufactured with Hoppe two point locking system.

Flush Pull Hardware

The attractive flush pull handles, designed to allow the panels to recess fully for pocketed multi-slide systems, can also be used for the stacking panel configurations when minimal hardware is desired. The flush pulls comes standard with the same 2-point locking gear utilized by the lever pull option.

Also available with Lincoln Standard Slide Patio Door with 3 $\frac{3}{8}$ " & 4 $\frac{1}{16}$ " stiles.



Lift-&-Slide Hardware

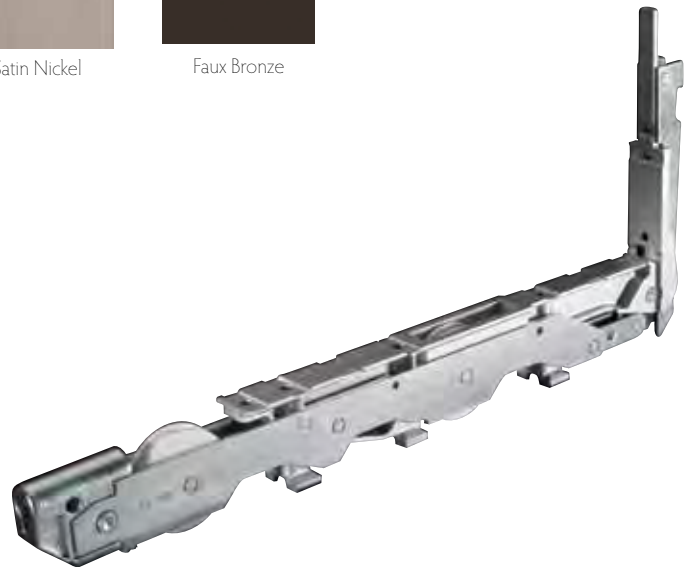
Operate these magnificent doors by turning the solid brass lever handle 180 degrees to 'lift' the panel easily up off of the sill track and on to the corrosion resistant carrier hardware. The 'slide' operation is smooth as the glass reinforced nylon rollers glide on a stainless steel track cap. Stacking doors feature non-removable hardware standard and pocketing doors use removable hardware as standard.



Satin Nickel



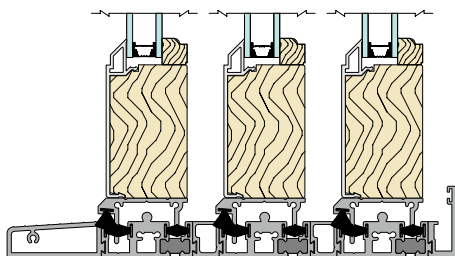
Faux Bronze



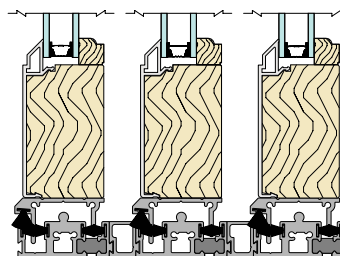
Carrier Bogie Wheel System

Sill Options

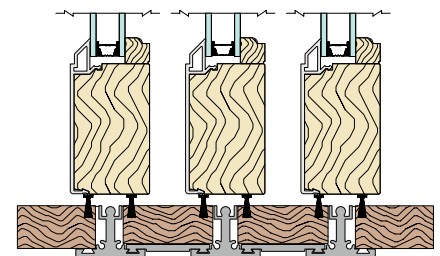
Three distinctive low profile sill options are available for the Multi-Slide and Lift & Slide doors and they accommodate nearly any flooring condition. The full width sill has an inside riser and a nosing system running the complete length of the door unit. The staggered track system features a flat edge, creating a smooth transition to floor coverings. A weep system is available. Lincoln's 'T' track allows for a flooring detail between the track system minimizing the visible track area.



Full Sill w/ Nosing & Riser
Multi-Slide with 1-3/4" Panels



Stagger Sill - Low Profile
Multi-Slide with 1-3/4" Panels



T-Track Sill
Multi-Slide with 1-3/4" Panels



Revitalize
REPLACEMENT WINDOWS & PATIO DOORS

OUT WITH THE OLD AND IN WITH THE NEW!

Do you live with any or all of the following: (1) high energy bills due to heat loss in the winter and heat gain in the summer, (2) fogging glass or water damage caused by condensation, (3) chipping paint or rotting wood, (4) difficulties with opening and cleaning, (5) excessive air and noise penetration, (6) fading window coverings, carpet and upholstery? You don't have to!

Over the years, windows and patio doors can become worn from continual use and exposure to the elements. In addition to being hard to operate and looking unattractive, they are not usually energy efficient. By simply replacing old windows and patio doors, you can easily eliminate these problems and increase the energy efficiency, comfort, appearance and value of your home - all in record time with little or no inconvenience to daily living.

Whether your remodeling project consists of replacing a few windows, adding on a room, bringing your home up to code or making historical renovations, we have the product that will meet your exacting specifications. Revitalize your home!

CALL: 800.967.2461



Take your old, drafty, hard to operate, inefficient windows and update them with all of today's technology and styles. Over the years, the sash, balance systems and hardware of a window may wear out, while the trim and frame can remain in good condition. Lincoln makes updating these windows a snap by offering three replacement window options, the Lincoln Fit double hung, Lincoln Fit casement and the Double Hung Replacement Kit. You can easily increase the energy efficiency, comfort, appearance and value of your windows in record time with little or no inconvenience to daily living.



Lincoln Fit Insert Windows

Window replacement doesn't have to mean ripping out the old window and damaging drywall. The Lincoln Fit is designed to be installed from the interior or exterior of the home with minimal disruption to the existing frame and trim. Every Lincoln Fit is custom sized to your exact specifications, ensuring a perfect fit for your window opening. This versatile product is available for double hung, casement, transom and picture window replacements.

Double Hung Replacement Kit

Even huge jobs become small projects with the Double Hung Replacement Kit. There is no reason to replace or even disturb the interior or exterior trim. The replacement kit utilizes the existing window frame in combination with snap-in jamb liners and energy efficient sash. Since we offer custom sizing, finding the right size replacement for your project is easy.









When only the best will do.

Choose Lincoln for your new construction, remodeling or even light commercial projects. With almost 75 years of manufacturing experience built into every unit, we engineer our windows and patio doors for visual appeal as well as outstanding performance. In addition, Lincoln backs it up with exceptional customer service before and after the sale.

We are continually expanding our list of products, options and accessories. Check us out online for the latest offerings in the building industry. We are confident that we have the perfect windows and patio doors to harmonize with your ideas and designs.



Lincoln Wood Products, Inc.
1400 W. Taylor Street • P.O. Box 375
Merrill, Wisconsin 54452-1355
800-967-2461 • Fax: 715-536-9783
www.lincolnwindows.com



Learn more about our products and options by contacting a local authorized Lincoln dealer or visiting us online at lincolnwindows.com.



Committed to protecting and preserving the environment.

Lincoln Windows is committed to environmental stewardship. As responsible corporate citizens, we are dedicated to manufacturing energy efficient products and managing our resources in a manner that reduces our impact on the environment.



Lincoln Windows is an ENERGY STAR® Partner.



Many of our products carry certification by the National Fenestration Rating Council (NFRC).



Lincoln products carry an extensive warranty. Ask your dealer for complete information.

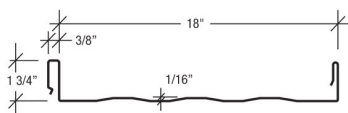
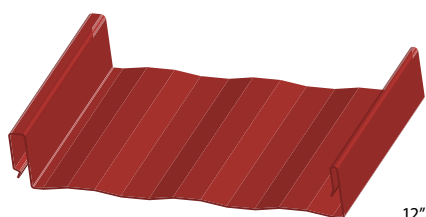


Lincoln Windows & Patio Doors proudly supports the American Institute of Architects (AIA) Continuing Education System (CES).

STANDING SEAM METAL ROOFING

LOKSEAM®

LokSeam® is a snap-together standing seam roof system with a 1 3/4" tall vertical rib, for use on roofs with a minimum slope of 3:12. LokSeam® panels are available in 12", 16" and 18" widths. LokSeam® panels can be installed over open framing or a solid substructure and are capable of transitioning from roof to fascia with the use of a rib cover. LokSeam® does not require a solid substructure for support.



Features and Benefits:

- Narrower widths, heavier gauges, striations and embossing minimize oil canning.
- Panels can be installed on roofs with a transition by using MBCI's die-formed rib covers.
- Numerous UL 580 Construction rating are available, as well as UL 790, Class A for external fire, numerous roof assemblies for UL 263 for internal fire and the UL 2218 Class 4 impact rating.
- LokSeam® carries Florida approval rating.

Product Specifications

- **Applications:** Roof
- **Coverage Widths:** 12", 16", 18"
- **Minimum Slope:** 3:12
- **Panel Attachment:** Concealed Fastening System, Standard and UL90 Clips
- **Gauges:** 24 (standard); 22 (12", 16", 18"), 26 (12") (optional)
- **Finishes:** Striated (standard); Embossed Striated (optional)
- **Coatings:** Galvalume Plus®, Signature® 200, Signature® 300, Signature® 300 Metallic

STANDING SEAM METAL ROOFING

CATEGORY	CHARACTERISTIC	TEST METHOD	PURPOSE	RESULT
ENVIRONMENTAL	Impact Resistance	UL 2218	Determines Impact Resistance of prepared Roof Covering Materials	Class 4 Rating
FIRE RESISTANCE	Room Fire Performance	UL 790	Standard for Standard Test Methods for Fire Tests of Roof Coverings	See Class A Fire Rating Data Sheet
	Room Fire Performance	UL 263	Standard for Fire Tests of Building Construction and Materials. Requires installation over a non-combustible substrate to qualify for Class A rating. Installation over a combustible substrate qualifies for Class C rating.	For use in Design Nos. P225, P227, P230, P237, P265, P268, P508, P510, P512, P701, P711, P720, P722, P726, P731, P734, P801, P815, P819.
STRUCTURAL	Uplift Resistance	ASTM E 1592	Provides a standard procedure to evaluate or confirm structural performance under uniform static air pressure difference	See Load Chart Section
	Gravity Loads	AISI S100	North American Specification for the Design of Cold-Formed Steel Structural Members	See Section Properties and Allowable Load Table Section
ROOF LISTINGS	Roof Performance Underwriters Laboratories	UL 580	Determines the uplift resistance of roof assemblies consisting of the roof and roof coverings materials	Class 90 Rating - Construction Number 254, 255, 261, 303, 342, 343, 414, 436, 445, 446, 448, 486, 508A, 543 and 544.
	Roof Performance Florida Approval	ASTM E 1592 FM 4471 UL 790	Florida product approval is the approval of products and systems, which comprise the building envelope and structural frame, for compliance with the structural requirements of the Florida Building Code.	See FL# 11819.4, 11819.5 and 11903.6
	Roof Performance Texas Department of Insurance	UL 580 UL 1897	TWIA provides windstorm and hail insurance in areas exposed to hurricanes and currently provides windstorm and hail coverage in the following 14 "first tier" Texas coastal counties: Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kenedy, Kleberg, Matagorda, Nueces, Refugio, San Patricio and Willacy.	See RC-61 and RC-526

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FULL-LINE PRODUCT COLLECTION





Beyond the appeal of the products.

For more than 75 years, Allura has been building its enviable reputation by Making the Material Difference — focusing on the things that make a real difference for our customers. We begin by providing service through a team of professionals dedicated to exceeding your expectations. We're adamant about ensuring you get the right material in the right location at the right time. To do so, we offer a full line of building materials that deliver the distinctive look and unsurpassed performance you demand.

Unlike wood, vinyl and other traditional building materials, Allura Fiber Cement products resist damage from hail or termite attacks, resist rot, are noncombustible, and are free from manufacturing defects. They are also suitable in both hot and cold climates and are fire resistant. What's more, Allura products feature realistic wood grain and textures, come in an incredible array of colors and are paintable for unlimited design possibilities.



When it comes to the natural look you want with none of the hassles, Allura fiber cement products are all you need.

- *Durable, engineered to endure harsh weather and high-wind climates*
- *Noncombustible, Class A fire rating*
- *Superior aesthetics*
- *Factory pre-primed*
- *Distinctive, more realistic textures*
- *30-year limited warranty*
- *Best ROI for homeowners* for 8 years in a row*

* According to Remodeling Cost vs Value Report



LAP SIDING



Classic style. State-of-the-art performance.

Combining the appearance and workability of wood with the durability of specially formulated fiber cement, Allura Lap Siding not only looks great but lasts considerably longer than traditional exterior wall cladding or vinyl siding.



AVAILABLE TEXTURES *



Traditional Cedar



Smooth

DESIGNER'S CORNER

Our Traditional Cedar texture features a deep, realistic wood grain appearance for an unbeatable classic style, while the Smooth texture creates a cleaner, modern aesthetic. You can even customize your design utilizing our extensive range of widths. No matter the style, Allura Lap Siding has got yours covered.

LAP SIDING*

Thickness	Width	Length	Exposure
5/16"	5 1/4"	12'	4"
5/16"	6 1/4"	12'	5"
5/16"	7 1/4"	12'	6"
5/16"	8 1/4"	12'	7"
5/16"	9 1/4"	12'	8"
5/16"	12"	12'	10 3/4"

* 1 1/4" min. overlap with all Lap Siding. Check market availability, as products may vary.

PANEL SIDING





Versatility that spans traditional to contemporary.

Designed for everything from sidewalls to overhead accents, Allura Panel Siding adds beautifully versatile — and exceedingly durable — distinction to your next project.

TECHNICAL SPECIFICATIONS

Thickness	Width	Length
5/16"	4'	8'
5/16"	4'	9'
5/16"	4'	10'
5/16"	4'	12'

* Check market availability, as products may vary.

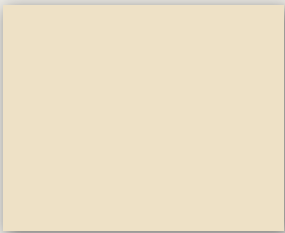
AVAILABLE TEXTURES*



Traditional Cedar

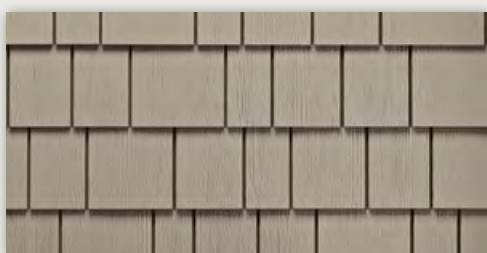


8" OC Groove

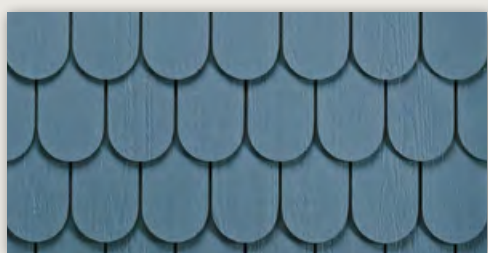


Smooth

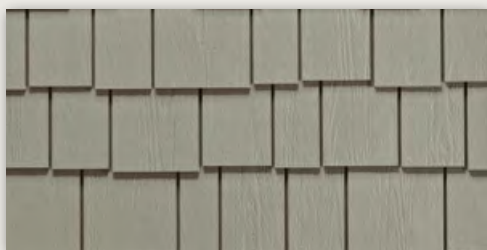
SHAKE



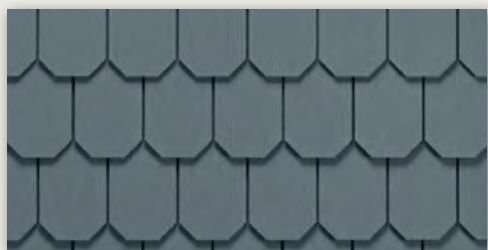
Random Square - Straight Edge



Half Rounds



Random Square - Staggered Edge



Octagons

The undeniable allure of texture and detail.

Replacing split or rotted wood shingles is a thing of the past thanks to Allura Shake. Featuring the natural beauty of cedar, our Shake provide the appearance of wood without the wear and tear, ideal for everything from small facades to large areas to full wall applications. What's more, our Shake achieves the look of individual shingles in easy-to-install panels. To elevate the authenticity even further, opt for Allura Shake Select, the innovative interlocking 3-panel system that minimizes repeating patterns to deliver a truly random aesthetic. All of which deliver a lot of extra curb appeal without a lot of extra work.

Allura Shake*

- Primed only
- Two textures: Traditional Cedar & Combed

STAGGERED EDGE

Thickness	Dimensions	Exposure
1/4"	16" x 48"	6"

STRAIGHT EDGE

Thickness	Dimensions	Exposure
1/4"	16" x 48"	7"
1/4"	12" x 48"	5"

HALF ROUNDS & OCTAGON

Thickness	Dimensions	Exposure
1/4"	16" x 48"	7"

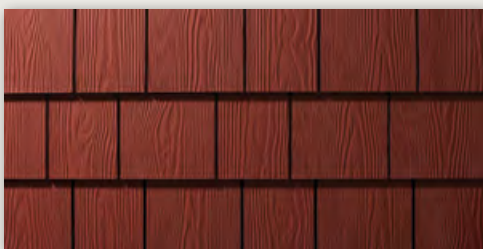
* Check market availability, as products may vary.



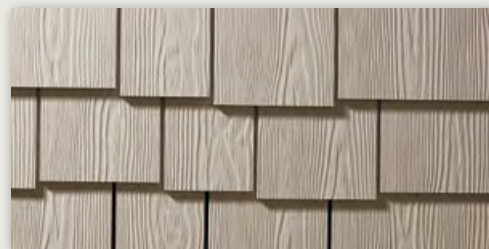
DESIGNER'S CORNER

When it comes to creativity and versatility, Allura Shake is all you need to establish a look that's all your own. Whether you prefer the classic Straight Edge look, the "randomness" of Staggered Edge or the decorative possibilities of our Half Round, Allura Shake makes your design ideas come alive.

SHAKE SELECT



Random Square – Straight Edge



Random Square – Staggered Edge

Innovative design for random beauty.

It's possible to achieve the look of handcrafted randomly placed shake shingle siding without actually installing individual shake shingles, one by one.

Allura's Shake Select siding achieves the truly distinctive look once only possible with individual cedar shingles with a fiber cement product that's unsurpassed in its ability to stand up to the harshest weather, wood-devouring insects or whatever else Mother Nature throws its way.

Allura Shake Select*

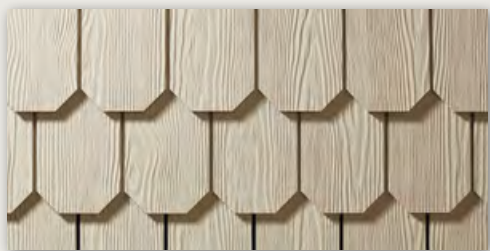
- Available in Straight Edge & Staggered Edge
- Traditional Cedar texture
- Available in Factory Prefinished & Primed

Thickness	Dimensions	Exposure
5/16"	16" x 48"	7"

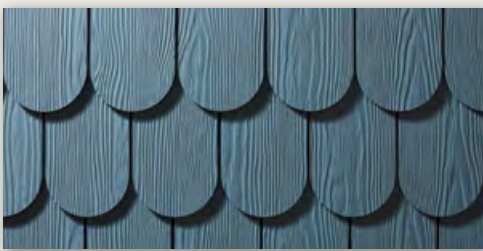
** Check market availability, as products may vary.*

DESIGNER'S CORNER

A repeating pattern is the last thing you want to see when standing on the curb looking at one of your finished homes. Allura has overcome this annoyance through an ingenious, one-of-a-kind system that utilizes a series of three distinct 4' X 8' panels and an intuitive installation sequence. With Allura Random Shake, installers can knock out 4' X 8' sections in a fraction of the time it would take to place individual shingles over that same surface area. Allura Shake Select is truly unique, delivering the look of old world craftsmanship in a beautiful new way.



Octagons



Half Rounds

TRIM



Tie it all together.

Thanks to our special fiber cement formulation, Allura Trim has all the advantages of wood and none of the hassles. It looks like wood yet is incredibly durable. It won't rot, warp or splinter and is designed to significantly outperform wood in every way. Best of all, there is no need for special tools on the job site. Our Trim can be cut with the same saw blades and installed with the same tools normally used for wood products. Why bother with wood? Trim provides the look and long-lasting protection you need to bring your home that all-important finishing touch.



TRIM FEATURES

- Available in reversible Cedar/Smooth board for added versatility
- 15-year limited warranty

DESIGNER'S CORNER

Nothing brings the look of your home together quite like Allura Trim. Its clean lines, exceptional durability and paintability provide the ultimate in beauty and versatility. Allura Trim is the perfect finishing touch.

		Nominal Width*							
Size	Thickness	2"	3"	4"	5"	6"	8"	10"	12"
7/16"	7/16"			●		●	●		●
4/4	3/4"	●	●	●		●	●	●	●
5/4	1"	●	●	●	●	●	●	●	●
8/4	1 1/2"			●		●			

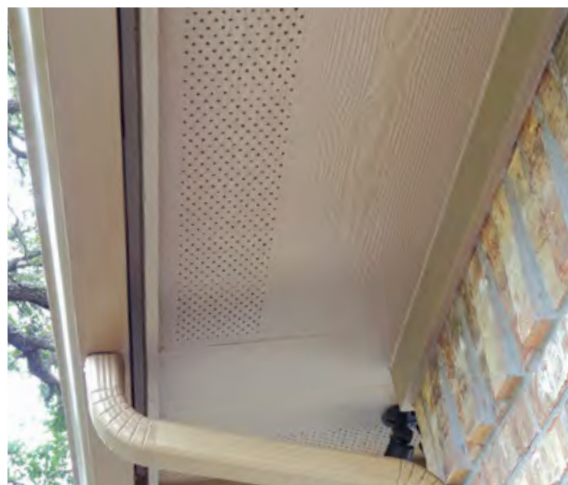
All available in 12-ft. lengths

**Check market availability, as products may vary.*



Industry-leading
15-year Transferable Trim
Limited Warranty

SOFFIT



Elevate the look and performance.

Available in both vented and non-vented styles, Allura Soffit Panels will neither warp nor rot. Unlike traditional wood, they are engineered to repel moisture, withstand any climate, and provide extensive protection around the home. Soffit helps equalize the roof temperature from top to bottom by supplying a consistent airflow along the entire underside of the roof deck.

For outdoor ceiling applications, including porches and gazebos. Allura Fiber Cement Beadboard is perfect. Best of all, it's weather-, rot- and fire-resistant. Raise your expectations for any outdoor ceiling with the aesthetics and durability of Allura Beadboard.

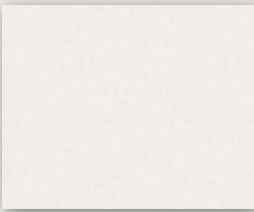
DESIGNER'S CORNER

Whether you prefer Smooth or Cedar texture, Allura Soffit options allow you to ensure your home's design style is consistent from every angle.

AVAILABLE TEXTURES *



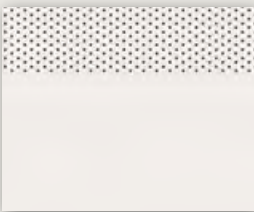
Traditional Cedar



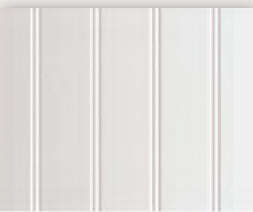
Smooth



Traditional Cedar Vented



Smooth Vented



Beadboard
(only available for Ceiling Soffit)

EAVES SPECIFICATIONS

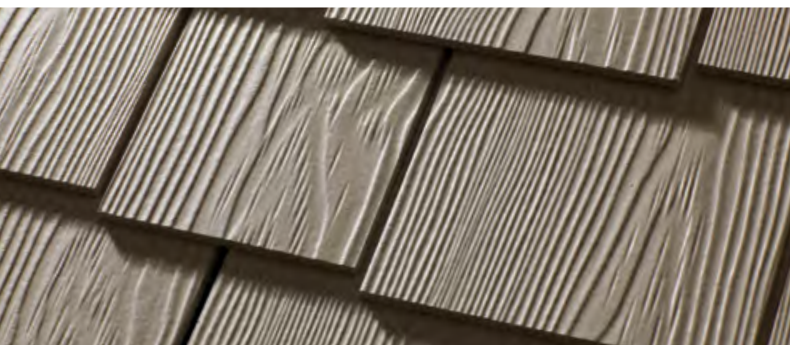
Type	Thickness	Width	Length
Vented/Non-Vented	¼"	24"	8'
Vented/Non-Vented	¼"	24"	12'
Vented/Non-Vented	¼"	16"	12'
Vented/Non-Vented	¼"	12"	12'

CEILING SPECIFICATIONS

Type	Thickness	Width	Length
Non-Vented	¼"	4'	8'
Beadboard	5/16"	4'	8'

* Check market availability, as products may vary.

PRE-FINISHED



Build in more durability with pre-painted fiber cement.

Opt for pre-finished fiber cement siding to build in quality and durability. Unlike retail paint made from a clear base tinted with synthetic pigments, the paint formulated for fiber cement manufacturers uses natural color pigments, which are renowned for their superior durability, coverage, stability and resistance to fading. (Ancient cave drawings used natural pigments, and they haven't disappeared after 30,000 years.) Pre-painted siding from Allura is guaranteed for 15 years — up to twice the durability of an on-site application.

ALWAYS THE RIGHT CONDITIONS

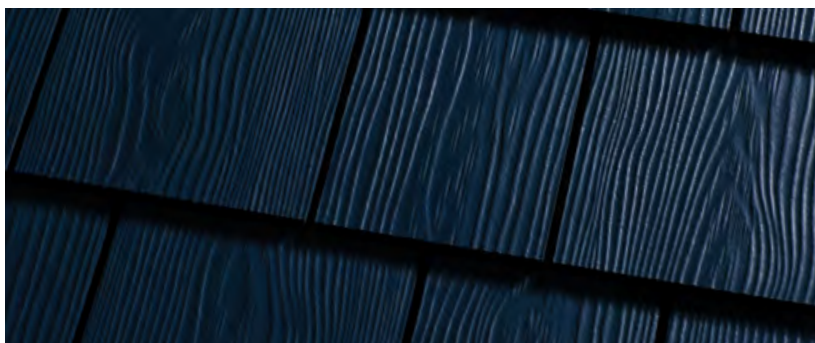
Paint will never apply with the same consistency and control on a vertical surface in outdoor conditions as it will in a cutting-edge painting facility. Not only is pre-painted siding application more consistent, but the coating is also thicker.

Moisture can prevent paint adherence to virtually any substrate. For best results, painters should delay for 24-hours after any precipitation and should avoid application altogether within 4 hours before forecasted rain. Additionally, most paint labels recommend painting when the relative humidity is between 40-60%, but in many areas around the United States, the humidity almost never drops below 60%.

When temperatures outside are too high or too low, painting the building's siding is also problematic. To create a durable film, the air temperature must be over 35° and lower than 90°. But weather is never a problem in the factory, where painting conditions are perfect 365 days a year.

DESIGNER'S CORNER

Would you prefer to have a new car delivered with just the primer applied? Imagine trying to match that factory finish out in your driveway. When a product is finished in a controlled factory setting with specially formulated coatings, it delivers unrivaled results. It's that simple.

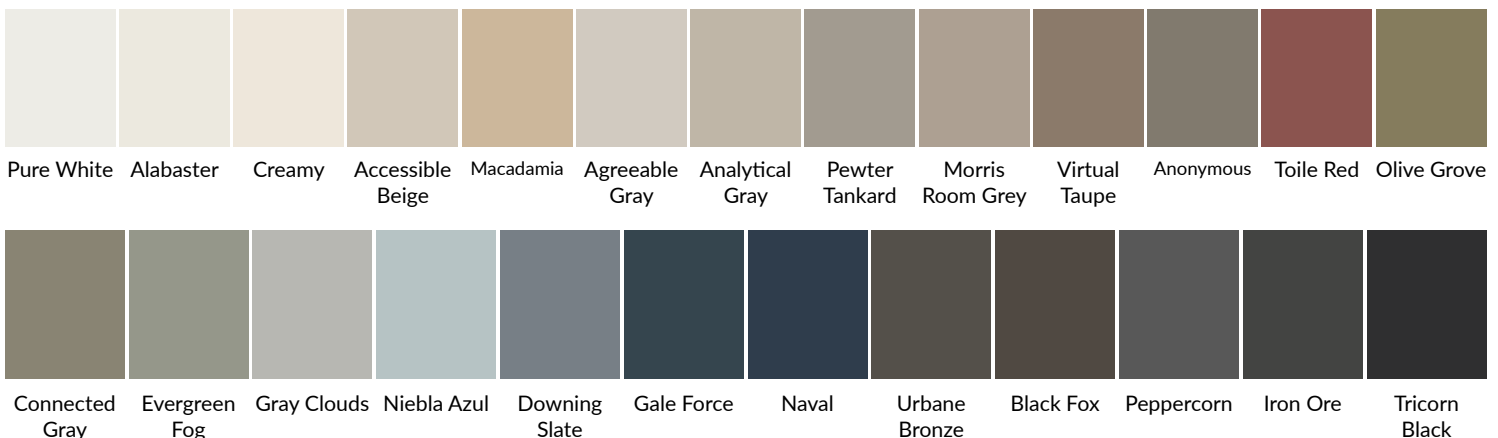


Unleash your imagination.



Allura's proprietary Spectrum™ Finishing System not only ensures unparalleled protection against the elements, but also brings out your style in a gorgeous palette of eye-catching designer colors. But that's only part of the story. Beneath our alluring Spectrum finish lies a strong precision process. Optimal defense is built in with our primer/sealer for premium weather protection and machine-applied coats of Spectrum color.

With 25 solid colors available to choose from our Spectrum pre-painted collection, your homeowner can rest assured knowing they won't need to repaint for 15 years. We back this claim up with a 15-year warranty on all our pre-finished options.



Or if you have a special request beyond our existing samples, you can create your own custom look with our Spectrum Plus™ curated collection. This offers a palette of beautiful colors reserved exclusively for your use in your market. Contact your Allura sales representative for more details on both of these customized programs to determine what best fits your needs.

The color samples shown here are as accurate as printing methods will permit.

For a physical color card, a request form or to find a preferred dealer near you, please visit AlluraUSA.com.

We don't just promise world-class service. *We guarantee it.*

At Allura, we believe the building industry is first and foremost a service industry. We understand time is money and you deserve respectful, courteous and knowledgeable customer service. So you can always count on us for helpful technical support, customer service reps and managers who are eager to assist you with all your Allura fiber cement needs.



ON-TIME SHIPMENTS

We take pride in delivering full and on-time shipments. If for any reason your direct Allura order does not ship on your promised ship date, please contact Allura's Customer Support immediately, so we can assist you.

QUALITY PRODUCTS & PROTECTED INVESTMENT

With over 75 years of experience, Allura provides a top-line fiber cement product using our advanced formulation and quality-control monitoring. Every piece of fiber cement product delivered from Allura will be palletized and wrapped to protect your investment.



BACKED BY CONFIDENCE.

Allura fiber cement siding products are backed by our
30-year Transferable Limited Product Warranty*.

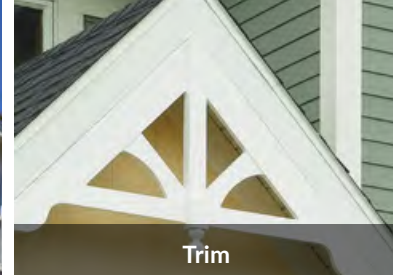
*Please review our Limited Transferable Warranty for specific details. Use of the product subjects you to a Limited Warranty and Arbitration Agreement. For a copy and further details, visit Allurausa.com/warranties.



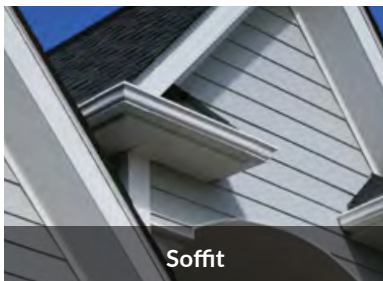
Lap Siding



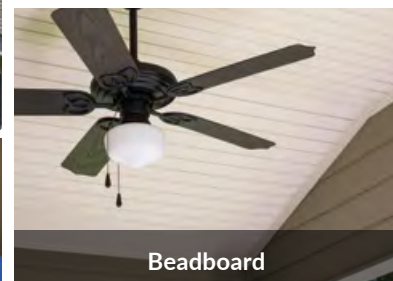
Shake



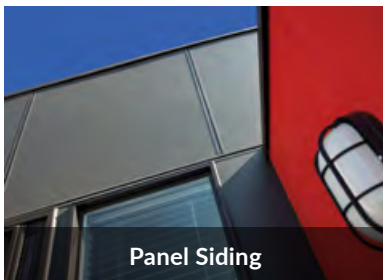
Trim



Soffit



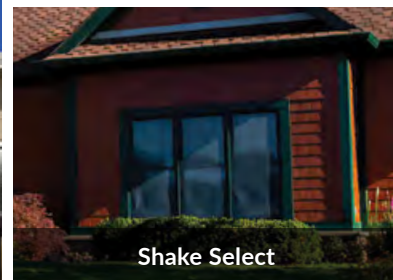
Beadboard



Panel Siding



Panel



Shake Select



AlluraUSA.com

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*Please review our Limited Transferable Warranty for specific details. Use of the product subjects you to a Limited Warranty and Arbitration Agreement. For a copy and further details, visit Allurausa.com/warranties.