GENERAL REQUIREMENTS

A. THE GENERAL STRUCTURAL NOTES EMPLOY THE FOLLOWING DEFINITIONS AND ABBREVIATIONS:
   1. CONTRACT DOCUMENTS – THE LATEST SET OF DRAWINGS, SPECIFICATIONS, AND RECORDED ADDENDA AND AMENDMENTS ISSUED FOR BID OR CONSTRUCTION.
   2. LICENSED PROFESSIONAL (STRUCTURAL) ENGINEER – AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED AND QUALIFIED TO PERFORM THE WORK REQUIRED.
   3. STRUCTURAL ENGINEER OF RECORD – LICENSED PROFESSIONAL ENGINEER WHO IS IN RESPONSIBLE CHARGE FOR THE PREPARATION, SIGNING, DATING, SEALING, AND ISSUING OF STRUCTURAL ENGINEERING DOCUMENTS FOR ENGINEERING SERVICE OR CREATIVE WORK.
   4. DELEGATED ENGINEER – A LICENSED PROFESSIONAL ENGINEER WHO PROVIDES SERVICES OR CREATIVE WORK REGARDING A PORTION OF THE ENGINEERING PROJECT. THE DELEGATED ENGINEER IS THE ENGINEER OF RECORD FOR THAT PORTION OF THE ENGINEERING PROJECT. TYPICALLY, DELEGATED ENGINEERS FALL INTO ONE OF THE FOLLOWING CATEGORIES:
      a. AN INDEPENDENT CONSULTANT
      b. AN EMPLOYEE OR OFFICER OF AN ENTITY SUPPLYING COMPONENTS TO A FABRICATOR OR CONTRACTOR
      c. AN EMPLOYEE OR OFFICER OF A FABRICATOR OR CONTRACTOR
   5. DELEGATED ENGINEERING DOCUMENTS – ENGINEERING DOCUMENTS THAT ARE PREPARED BY A DELEGATED ENGINEER.
   6. DESIGN TEAM – DESIGN PROFESSIONALS INCLUDING THE ARCHITECT, STRUCTURAL ENGINEER, CIVIL ENGINEER, MEP ENGINEER, AND ANY OTHER CONSULTANT THAT ISSUES CONTRACT DOCUMENTS.
   7. CONTRACTOR – GENERAL CONTRACTOR, CONSTRUCTION MANAGER, DESIGN BUILDER, OR ANY OTHER ENTITY CONTRACTED BY THE OWNER TO PERFORM THE WORK.
   8. SHOP DRAWINGS – DRAWINGS DEPICTING INSTALLATION MEANS AND METHODS AND CATALOG INFORMATION ON STANDARD PRODUCTS. SHOP DRAWINGS SHALL BE PREPARED BASED ON ENGINEERING DIRECTION CONTAINED IN CONTRACT DOCUMENTS BY A CONTRACTOR, FABRICATOR, MANUFACTURER, OR LICENSED PROFESSIONAL ENGINEER, FOR INCORPORATION INTO THE PROJECT.
   9. ESTABLISHED CHANNELS – AT THE ONSET OF THE PROJECT, ARCHITECT, OWNER, AND CONTRACTOR SHALL ESTABLISH DESIRED LINES OF COMMUNICATION BETWEEN ALL PROJECT PARTIES. THESE AGREED UPON LINES OF COMMUNICATION ARE THE ESTABLISHED CHANNELS.

B. GENERAL STRUCTURAL NOTES ARE APPLICABLE TO THE DESIGN AND CONSTRUCTION OF THE ENTIRE PROJECT AND THUS ARE APPLICABLE TO EVERY SHEET WITHIN THIS SET.

C. WHERE A DETAIL, TYPICAL DETAIL, SECTION, TYPICAL SECTION, OR PLAN NOTE IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL SIMILAR OR LIKE CONDITIONS, UNLESS NOTED OTHERWISE.

D. ISOMETRIC VIEWS ARE FOR VISUALIZATION PURPOSES ONLY AND DO NOT CONVEY ALL OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

E. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE DRAWINGS AND ANY OTHER CONTRACT DOCUMENT OR APPLICABLE CODE OR STANDARD OF PRACTICE DURING BIDDING, THE PROVISION RESULTING IN THE GREATER COST APPLIES. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT DURING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR CLARIFICATION TO THE DESIGN TEAM, WHO WILL PROVIDE A WRITTEN RESPONSE IN RETURN.

F. SPECIFICATIONS HAVE BEEN ISSUED ON THIS PROJECT BY THE STRUCTURAL ENGINEER OF RECORD AND ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. SEE SPECIFICATIONS FOR MATERIALS TESTING REQUIREMENTS.

G. THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE. THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR THE QUALITY AND CORRECTNESS OF THE WORK.

H. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATION OF THE STRUCTURAL WORK WITH OTHER TRADES INCLUDING, BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, AND MEP FOR FLOOR SLAB STEPS, SLOPES AND CURBS, FLOOR SLAB FINISH, OPENINGS IN STRUCTURAL FLOORS, ROOFS AND WALLS, ETC.

I. THE BUILDING HAS BEEN DESIGNED BY THE STRUCTURAL ENGINEER OF RECORD TO RESIST THE CODE REQUIRED VERTICAL AND LATERAL FORCES IN ITS FULLY COMPLETED CONDITION. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED BRACING, SHORING, AND OTHER CONSTRUCTION SUPPORTS NECESSARY TO ENSURE THE BUILDING'S STABILITY AND SAFETY THROUGHOUT THE DURATION OF CONSTRUCTION. FURTHER, THE CONTRACTOR SHALL NOT OVERLOAD THE STRUCTURE DURING CONSTRUCTION. THE CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER TO PROVIDE THE ANALYSIS AND DESIGN NECESSARY TO DETERMINE POTENTIALLY OVERLOADED, UNSTABLE, OR HAZARDOUS CONDITIONS THAT MAY OCCUR AT ANY STAGE DURING CONSTRUCTION.

J. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND COORDINATE WITH THE CONTRACT DOCUMENTS AND SHOP DRAWINGS.

K. THE CONTRACTOR SHALL NOT EMPLOY CONSTRUCTION MEANS OR METHODS THAT MAY DAMAGE UTILITIES, ADJACENT BUILDINGS, OR PROPERTY. DOCUMENTATION OF ADJACENT CONDITIONS PRIOR TO CONSTRUCTION IS RECOMMENDED. FURTHER, THE CONTRACTOR SHALL EITHER ADEQUATELY CONFINE THE SITE OR PROTECT ADJACENT PROPERTY FROM DAMAGE.

L. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROJECT SAFETY AND OSHA REQUIREMENTS. SHOULD THE STRUCTURAL ENGINEER OF RECORD NOTIFY THE CONTRACTOR OF A POTENTIALLY UNSAFE CONDITION, IT IS SOLELY AS A COURTESY FROM ONE PROFESSIONAL TO ANOTHER. IT SHOULD NOT BE INTERPRETED AS THE STRUCTURAL ENGINEER OF RECORD ASSUMING ANY RESPONSIBILITY FOR PROJECT SAFETY.

M. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFE SPAN AND ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE BUILDING OWNER. THIS PROGRAM SHALL INCLUDE, BUT NOT BE LIMITED TO: PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO A SALINE OR OTHER HARSH CHEMICAL ENVIRONMENT.

N. THE USE OF DE-ICING CHEMICALS ON ANY EXPOSED STRUCTURAL ELEMENT IS DISCOURAGED AND WILL ACCELERATE DETERIORATION OF STRUCTURAL ELEMENTS.

O. THE BUILDING OWNER SHALL NOT ALTER OR MODIFY ANY STRUCTURAL ELEMENT WITHOUT CONSULTING A LICENSED PROFESSIONAL ENGINEER. FURTHER, BUILDING OWNER SHALL NOT RENOVATE, REPURPOSE, ADD-ON TO, OR OTHERWISE MODIFY THE EXISTING STRUCTURAL SYSTEMS WITHOUT CONSULTING A LICENSED PROFESSIONAL ENGINEER.

P. CONTRACT DRAWINGS SHOW MAJOR OPENINGS IN FLOORS AND WALLS AND DO NOT NECESSARILY SHOW ALL OPENINGS REQUIRED. THE CONTRACTOR SHALL COORDINATE ALL OPENING SIZES AND LOCATIONS BETWEEN ALL DISCIPLINES AND TRADES. ADDITIONAL OPENINGS, BLOCKOUTS, AND SLEEVES MAY BE REQUIRED AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR REQUIREMENTS WITHIN THE CONTRACT DOCUMENTS. OPENINGS REQUIRED, BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS, MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

Q. THE CONTRACTOR SHALL COORDINATE PIPING AND CONDUIT EMBEDDED IN OR ATTACHED TO SLABS, SLABS-ON-DECK, BEAMS, AND COLUMNS. ANY REQUIRED MODIFICATIONS TO STRUCTURAL MEMBERS OR THEIR REINFORCEMENT AS A RESULT OF EMBEDMENT OR ATTACHMENT SHALL BE SUBMITTED TO THE DESIGN TEAM FOR THEIR REVIEW. SEE GENERAL STRUCTURAL NOTES SECTION "DESIGN CRITERIA" FOR LIMITATIONS OF MEP LOADING ON STRUCTURAL SYSTEMS.

R. THE STRUCTURAL ENGINEER OF RECORD'S ROLE DURING CONSTRUCTION
   1. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT ASSUME CONTROL OF, OR RESPONSIBILITY FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, PROJECT SAFETY, THE ACTS AND OMISSIONS OF THE CONTRACTOR, OR THEIR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
   2. STRUCTURAL ENGINEER OF RECORD SHALL NOT HAVE AUTHORITY TO STOP THE WORK OR AUTHORIZE CHANGES TO ANY CONTRACT SUM.
   3. PERIODIC SITE VISITS BY REPRESENTATIVES OF THE STRUCTURAL ENGINEER OF RECORD ARE SOLELY FOR THE PURPOSE OF BECOMING GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE WORK AND DETERMINING, IN GENERAL, IF THE WORK OBSERVED IS BEING PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THIS LIMITED OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS AND THAT OBSERVATIONS ARE QUALITATIVE, NOT QUANTITATIVE. THIS LIMITED INFORMATION WILL BE USED TO ADVISE THE OWNER/CONTRACTOR/ARCHITECT OF POTENTIAL DEFICIENCIES.

S. CLARIFICATION OF POSITION OF STRUCTURALLY FRAMING ELEMENTS
   1. USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS, DO NOT SCALE ANY DIMENSIONS.
   2. IF NOT INDICATED ON DRAWINGS, ASSUME EQUAL SPACING BETWEEN ESTABLISHED DIMENSIONS.
   3. CENTER LINES OF COLUMNS AND FOUNDATIONS SHALL COINCIDE WITH GRID LINE INTERSECTION, UNLESS NOTED OTHERWISE.
   4. CENTER LINES OF FOOTINGS, GRADE BEAMS, AND WALLS SHALL COINCIDE WITH CENTER LINES OF FOUNDATIONS, UNLESS NOTED OTHERWISE.
   5. CENTER LINES OF FRAMING MEMBERS SHALL COINCIDE WITH COLUMN CENTER LINES, UNLESS NOTED OTHERWISE.
   6. ELEVATIONS SHOWN ARE TO TOP OF FOUNDATIONS, SLABS, OR BEAMS, UNLESS NOTED OTHERWISE.

T. SEE ARCHITECTURAL, CIVIL, MEP, AND VERTICAL TRANSPORTATION CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS INCLUDING, BUT NOT LIMITED TO:
   1. CIVIL
      a. SITING OF BUILDING GRID LINES WITH RESPECT TO CITY BENCHMARKS
      b. SITE PREPARATION
      c. BACKFILLING MATERIALS AND REQUIREMENTS INCLUDING DRAINAGE ADJACENT TO RETAINING WALLS
      d. SITE ELEMENTS OUTSIDE OF BUILDING ENVELOPE
      e. NEW AND EXISTING SITE UTILITIES
   2. ARCHITECTURAL
      a. PLAN DIMENSIONS AND PROJECT DATUM
      b. SLAB EDGE DIMENSIONS AND FINISH ELEVATIONS
      c. WATERPROOFING AND DAMP PROOFING DETAILS
      d. SLAB SLOPES, STEPS AND DEPRESSIONS, RAMPS, TRENCHES
      e. EMBEDMENTS, INSERTS, BLOCKOUTS, ETC.
      f. CONCRETE FINISHES AND TOPPING SLABS
      g. CONCRETE CURBS AND HOUSEKEEPING PADS
      h. INTERIOR NON-STRUCTURAL MASONRY PARTITIONS
      i. LIFE SAFETY, FIRE RATING
      j. METAL PAN STAIRS AND SUPPORTS
      k. OPERABLE PARTITIONS
   3. MEP
      a. PIPE AND DUCT SIZES FOR OPENING AND SLEEVE COORDINATION
      b. FLOOR DRAINS
      c. UNDERFLOOR AND PERIMETER DRAINAGE SYSTEMS
      d. EQUIPMENT CURBS
      e. CONDUITS AND EMBEDMENTS IN WALLS AND SLABS
   4. VERTICAL TRANSPORTATION
      a. INSERTS, HANGERS, TRENCHES, PITS, CONDUITS IN WALLS AND SLAB

V. THIS BUILDING DOES NOT QUALIFY AS A THRESHOLD BUILDING PER CHAPTER 553.71 OF THE FLORIDA STATUTES. HOWEVER, VARIOUS INSPECTIONS ARE REQUIRED TO BE PERFORMED BY THE ENFORCING AGENCY. FOR THIS PROJECT, STRUCTURAL SYSTEMS REQUIRING INSPECTION INCLUDE:
   1. __________
   2. __________

ELECTRONIC DATA/REPRODUCTION

A. ALL INFORMATION CONTAINED IN THE ELECTRONIC FILES OF THE CONTRACT DOCUMENTS ARE INSTRUMENTS OF SERVICE OF THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD AND SHALL NOT BE USED FOR OTHER PROJECTS, ADDITIONS TO THE PROJECT, OR THE COMPLETION OF THE PROJECT BY OTHERS. ELECTRONIC FILES OF THE STRUCTURAL DOCUMENTS REMAIN THE PROPERTY OF JEZERINAC GROUP AND IN NO CASE SHALL THEIR TRANSFER BE CONSIDERED A SALE.

B. THE USE OF ELECTRONIC FILES OR REPRODUCTIONS OF THESE CONTRACT DOCUMENTS BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES THEIR ACCEPTANCE OF ALL INFORMATION SHOWN HEREIN AS CORRECT AND OBLIGATES THEMSELVES TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS OR OMISSIONS THAT MAY OCCUR HEREIN. THE USE OF ELECTRONIC FILES DOES NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROPER CHECKING AND COORDINATION OF DIMENSIONS, DETAILS, SIZE, AND QUANTITIES.

C. DIMENSIONS AND ELEMENT SIZES AND LOCATIONS IN THE ELECTRONIC FILES MAY NOT BE PRECISE AND, IN SOME CASES, HAVE BEEN INTENTIONALLY ALTERED FOR PRESENTATION PURPOSES. DO NOT SCALE DIMENSIONS ELECTRONICALLY OR OTHERWISE.

D. WHEN USED FOR THE PREPARATION OF SHOP DRAWINGS, ALL INFORMATION NOT APPLICABLE TO THE SUBCONTRACT SHALL BE REMOVED FROM THE DRAWINGS, INCLUDING, BUT NOT LIMITED TO: SHEET NUMBERS, SECTION MARKS, TITLE BLOCKS, AND REFERENCES TO THE CONTRACT DOCUMENTS.

SUBMITTALS

A. REFER TO DIVISION 01 OF SPECIFICATIONS FOR SUBMITTAL PROCEDURES AND REQUIREMENTS. REFER TO THE APPLICABLE SPECIFICATION SECTIONS FOR TECHNICAL CONTENT.

B. SUBMIT SPECIFIC COMPONENTS SUCH AS COLUMNS, FOUNDATIONS, ETC, IN A SINGLE PACKAGE. SUBMIT SIMILAR FLOORS TOGETHER.

C. **[TEN]** WORKING DAYS PRIOR TO SUBMITTING SHOP DRAWINGS, THE CONTRACTOR SHALL SUBMIT, FOR REVIEW AND COMMENT BY THE STRUCTURAL ENGINEER OF RECORD, A SCHEDULE WHICH DETAILS THE ESTIMATED QUANTITY OF SHOP DRAWINGS AND THE DATE THE SHOP DRAWINGS WILL BE RECEIVED BY THE STRUCTURAL ENGINEER OF RECORD. THE STRUCTURAL ENGINEER OF RECORD SHALL HAVE THE OPPORTUNITY TO REVIEW THE PROPOSED SCHEDULE AND SUBMIT COMMENTS TO THE CONTRACTOR. THE FINAL SHOP DRAWING SCHEDULE SHALL BE DEVELOPED AND SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD. IN ACCORDANCE WITH THE SHOP DRAWING SCHEDULE, THE STRUCTURAL ENGINEER OF RECORD WILL RETURN THE SHOP DRAWING ITEMS WITHIN TEN WORKING DAYS AFTER HAVING RECEIVED THE REPRODUCIBLE SHOP DRAWING.

D. THE CONTRACTOR SHALL REVIEW EACH SUBMITTAL PRIOR TO FORWARDING TO ARCHITECT AND STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR SHALL STAMP EACH SUBMITTAL VERIFYING THAT THE FOLLOWING IS ADDRESSED:
   1. THE SUBMITTAL IS REQUESTED.
   2. THE SUBMITTAL IS BASED ON THE LATEST DESIGN.
   3. THE SUBMITTAL IS CLEARLY CLOUDED FOR ALL THE DIFFERENCES FROM THE CONTRACT DOCUMENTS ON THE FIRST SUBMITTAL.
   4. THE SUBMITTAL IS CLEARLY CLOUDED FOR ALL CHANGES AND ADDITION FROM PREVIOUS SUBMITTAL.
   5. THE ARCHITECT'S AND STRUCTURAL ENGINEER OF RECORD'S COMMENTS FROM ANY PREVIOUS SUBMITTALS ARE ADDRESSED.
   6. THE WORK IS COORDINATED AMONGST ALL CONSTRUCTION TRADES.
   7. THE SUBMITTAL IS COMPLETE.
   8. THE SUBMITTAL SHALL INCLUDE A STAMP INDICATING PROJECT NAME AND LOCATION, SUBMITTAL NUMBER, AND SPECIFICATION SECTION NUMBER.

E. THE STRUCTURAL ENGINEER OF RECORD'S REVIEW OF SUBMITTALS SHALL BE FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT.

F. THE STRUCTURAL ENGINEER OF RECORD SHALL RETURN, WITHOUT COMMENT, SUBMITTALS WHICH THE CONTRACTOR HAS NOT STAMPED OR WHICH DO NOT MEET THE ABOVE REQUIREMENTS.

G. FOR THE COMPONENTS DESIGNED BY A DELEGATED ENGINEER: PROVIDE SHOP DRAWINGS, DESIGN CALCULATIONS, AND A COVER LETTER SIGNED AND SEALED BY THE DELEGATED ENGINEER. LETTER SHALL INDICATE THAT THE SHOP DRAWINGS ARE IN CONFORMANCE WITH THE DELEGATED ENGINEER'S CALCULATIONS. REFER TO APPLICABLE SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

H. DEFERRED SUBMITTALS ARE MANUFACTURER OR CONTRACTOR DESIGNED COMPONENTS PER THE CONTRACT DOCUMENTS. THESE ELEMENTS OF THE DESIGN ARE DEFERRED SUBMITTAL COMPONENTS AND HAVE NOT BEEN PERMITTED UNDER THE BASE BUILDING APPLICATION. DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD, WHO SHALL REVIEW THEM FOR GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE CONTRACTOR SHALL SUBMIT THESE REVIEWED DEFERRED SUBMITTAL DOCUMENTS TO THE BUILDING OFFICIAL FOR APPROVAL. THESE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN TEAM HAS REVIEWED AND THE BUILDING OFFICIAL HAS APPROVED. SEE BELOW FOR THE LIST OF DEFERRED SUBMITTALS.

I. THE FOLLOWING SUBMITTALS ARE REQUIRED TO BE SUBMITTED FOR STRUCTURAL ENGINEER OF RECORD REVIEW AS OUTLINED IN THE SPECIFICATIONS:

031000	CONCRETE FORMWORK	(SS, CALC)
032000	CONCRETE REINFORCEMENT LAYOUT	(S)
033000	CONCRETE MIX DESIGNS	(CALC, TA)
033000	CONCRETE CONSTRUCTION JOINT LAYOUT	(S)
042200	MASONRY REINFORCEMENT LAYOUT	(S)
051400	STRUCTURAL ALUMINUM FRAMING	(DF, SS, CALC)
053100	STEEL ROOF DECK	(S)

S = SHOP DRAWING REQUIRED
DF = DEFERRED SUBMITTAL
SS = SIGNED AND SEALED SHOP DRAWINGS PREPARED BY A LICENSED DELEGATED ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED.
CALC = SUPPORTING CALCULATIONS REQUIRED, SIGNED AND SEALED BY A LICENSED DELEGATED ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED.
REC = ITEMS SUBMITTED FOR RECORD ONLY AND WILL NOT HAVE STRUCTURAL ENGINEER OF RECORD SHOP DRAWING STAMP AFFIXED.
GEO = ITEMS SUBMITTED TO CONSTRUCTION GEOTECHNICAL ENGINEER FOR THEIR REVIEW.
TA = ITEMS SUBMITTED TO OWNER'S TESTING AGENCY FOR THEIR REVIEW.

GOVERNING CODES & STANDARDS

BUILDING CODE:	FBC 2020	FLORIDA BUILDING CODE, BUILDING
STANDARDS:	ASCE 7	AMERICAN SOCIETY OF CIVIL ENGINEERS: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
	ACI 318	AMERICAN CONCRETE INSTITUTE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
	TMS 402	THE MASONRY SOCIETY: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
	AISC 360	AMERICAN INSTITUTE OF STEEL CONSTRUCTION: SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
	AISC 341	AMERICAN INSTITUTE OF STEEL CONSTRUCTION: SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS
	AWS D1.1	AMERICAN WELDING SOCIETY: STRUCTURAL WELDING CODE - STEEL
	AWS D1.3	AMERICAN WELDING SOCIETY: STRUCTURAL WELDING CODE - SHEET STEEL
	AWS D1.4	AMERICAN WELDING SOCIETY: STRUCTURAL WELDING CODE - REINFORCING STEEL
	AISI S100	AMERICAN IRON AND STEEL INSTITUTE: NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS

DESIGN CRITERIA

A. STRUCTURE LOCATION:
   LONGITUDE: 26.620631
   LATITUDE: -81.647235

B. LOADING:
   1. SUPERIMPOSED DEAD & LIVE LOADS:
   ALL DEAD LOADS LISTED BELOW ARE IN ADDITION TO THE STRUCTURE'S SELF-WEIGHT.

	DEAD LOAD	LIVE LOAD
ROOF:		
ENCLOSED	20 PSF	20 PSF REDUCIBLE

   2. RAIN LOAD:
      DESIGN RAINFALL: 4.5"/HOUR (100-YEAR, 1-HOUR RAINFALL)
      RAINWATER AT LOWEST POINT OF ROOF SHALL NOT POND DURING DESIGN RAINFALL
      DESIGN RAIN LOAD, R: 20 PSF
   3. WIND LOAD:
      ULTIMATE DESIGN WIND SPEED, V_{ult}: 160 MPH
      NOMINAL DESIGN WIND SPEED, V_{asd}: 124 MPH
      RISK CATEGORY: II
      WIND EXPOSURE CATEGORY: C
      ENCLOSURE CLASSIFICATION: OPEN (BUS SHELTER)
      ENCLOSED (SUPPORT BUILDING)
      INTERNAL PRESSURE COEFFICIENT: +/-0.18 (ENCLOSED) AND 0.00 (OPEN)
      COMPONENTS & CLADDING DESIGN PRESSURES: SEE WIND PRESSURE DIAGRAMS

C. FUTURE EXPANSION:
   NO PROVISIONS HAVE BEEN MADE FOR FUTURE VERTICAL OR HORIZONTAL EXPANSION OF THE STRUCTURE.

D. SERVICEABILITY:
   1. DEFLECTION LIMITS: TOTAL LOAD DEFLECTION ONLY APPLIES TO THE DEFLECTION DUE TO THE CREEP COMPONENT OF LONG-TERM DEAD LOAD DEFLECTION PLUS THE SHORT-TERM DEFLECTION. LONG-TERM DEFLECTION OF WOOD STRUCTURAL MEMBERS SHALL BE CALCULATED IN ACCORDANCE WITH THE AWC NDS. IT IS PERMITTED TO ESTIMATE THE CREEP-COMPONENT OF THE LONG-TERM DEFLECTION AS THE IMMEDIATE DEAD LOAD DEFLECTION.
      a. ROOF MEMBERS
         - TOTAL LOAD DEFLECTION: L/240
         - TRANSITORY LOAD DEFLECTION: L/360
      b. EXTERIOR WALLS & CLADDING
         - WIND LOAD DEFLECTION: L/240

EARTHWORK & FOUNDATIONS

A. GEOTECHNICAL INVESTIGATION REPORT
   1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT AS FOLLOWS:
      a. *REPORT TITLE: GEOTECHNICAL EXPLORATION REPORT - PROPOSED REBUILD AT THE PDC - WEST PALM BEACH, FLORIDA (REPORT No. 0630.2200087.0000)*
      b. *PREPARED BY: UNIVERSAL ENGINEERING SCIENCES, 1215 WALLACE DRIVE, DELRAY BEACH, FL 33444*
      c. *DATED: JUNE 13, 2022*
   2. THE GEOTECHNICAL INVESTIGATION REPORT IS AVAILABLE TO THE CONTRACTOR UPON REQUEST TO THE OWNER. THE INFORMATION HEREIN MAY BE USED BY THE CONTRACTOR FOR HIS GENERAL REFERENCE ONLY. THE GEOTECHNICAL INVESTIGATION REPORT RECOMMENDATIONS SHALL SUPERSEDE THE MINIMUM CRITERIA STATED IN THE STRUCTURAL GENERAL NOTES.

B. SHALLOW FOUNDATIONS
   1. FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
   2. FOUNDATION SIZES AND REINFORCEMENT ARE BASED ON AN ALLOWABLE BEARING PRESSURE OF 2500 PSF PER THE GEOTECHNICAL INVESTIGATION REPORT.
   3. FOUNDATIONS SHALL BEAR A MINIMUM OF 1'-6" BELOW ADJACENT EXTERIOR GRADE.
   4. FOUNDATIONS SHALL BEAR ON COMPACTED STRUCTURAL FILL, NATURAL SOILS, OR ROCK PREPARED PER THE GEOTECHNICAL INVESTIGATION REPORT.
   5. PRIOR TO PLACEMENT OF CONCRETE, A QUALIFIED GEOTECHNICAL ENGINEER SHALL VERIFY SOILS CONFORMANCE TO THE RECOMMENDATIONS AND ASSUMPTIONS IN THE GEOTECHNICAL INVESTIGATION REPORT. ALL ADVERSE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT/ STRUCTURAL ENGINEER OF RECORD.
   6. SOILS BELOW FOUNDATIONS NOT MEETING DESIGN BEARING PRESSURE SHALL BE REMEDIATED PER THE GEOTECHNICAL INVESTIGATION REPORT AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE FOUNDATIONS.
   7. CENTER ALL FOUNDATIONS UNDER THEIR RESPECTIVE COLUMNS OR WALLS, UNLESS NOTED OTHERWISE.
   8. TOP OF FOUNDATION ELEVATIONS PROVIDED ON THE CONTRACT DRAWINGS ARE FOR PURPOSE OF THE CONTRACT AND SHALL BE ADJUSTED, AS REQUIRED, AT THE TIME OF EXCAVATION TO BEAR ON PROPERLY PREPARED SUPPORT SUBGRADE (PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS).

C. EARTHWORK AND EXCAVATION
   1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING, BUT NOT LIMITED TO: LAGGING, SHORING, AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS, AND UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT AND OSHA REGULATIONS.
   2. EXCAVATION SHALL NOT OCCUR WITHIN ONE FOOT OF THE ANGLE OF REPOSE OF ANY SOIL BEARING FOUNDATION UNLESS THE FOUNDATION IS PROTECTED AGAINST SETTLEMENT.
   3. THE EXTENT OF SUBGRADE PREPARATION SHALL EXTEND A MINIMUM OF 5'-0" BEYOND THE BUILDING PERIMETER.
   4. THE CONTRACTOR SHALL PROVIDE A SUBGRADE BENEATH THE SLAB-ON-GROUND PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
   5. UNLESS NOTED IN THE GEOTECHNICAL INVESTIGATION REPORT, COMPACT FILL TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR ASTM D-1557. EACH LAYER SHALL NOT EXCEED 8" LOOSE THICKNESS. COMPACT PRIOR TO THE PLACEMENT OF THE NEXT LAYER. COMPACTION SHALL MEET ALL RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION REPORT.
   6. PLACEMENT OF FILL AND COMPACTION SHALL BE MONITORED AND ACCEPTED BY A RETAINED TESTING AGENCY. PERFORM A MINIMUM OF ONE FIELD DENSITY TEST (ASTM D-1556 OR D-6938) FOR EVERY 2,500 SQUARE FEET OF EACH LAYER. THE TESTING AGENCY SHALL RANDOMLY SELECT TEST LOCATIONS.
   7. THE CONTRACTOR SHALL DETERMINE THE EXTENT OF THE CONSTRUCTION DEWATERING SYSTEMS REQUIRED FOR THE EXCAVATION. AT A MINIMUM, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING SITE.
   8. THE CONTRACTOR SHALL SUBMIT CONSTRUCTION DEWATERING PLAN TO THE GEOTECHNICAL ENGINEER FOR APPROVAL PRIOR TO BEGINNING EXCAVATION.
   9. THE CONTRACTOR SHALL INSTALL ALL NECESSARY DEWATERING SYSTEMS.

SLAB-ON-GROUND

A. THE SLAB-ON-GROUND HAS BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.

B. SLAB THICKNESSES AND REINFORCEMENT ARE BASED ON A MODULUS OF SUBGRADE REACTION OF (150 PCI PER THE GEOTECHNICAL INVESTIGATION REPORT).

C. SUBGRADE PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.

D. FOR INTERIOR SLABS, PLACE A 10-MIL (MINIMUM) VAPOR RETARDER BETWEEN THE SOIL AND BOTTOM OF SLAB. SEE CAST-IN-PLACE CONCRETE SPECIFICATIONS FOR APPROVED VAPOR RETARDER PRODUCTS/MANUFACTURERS. DO NOT USE VAPOR RETARDERS AT EXTERIOR SLABS. SEE ARCHITECTURAL CONTRACT DOCUMENTS FOR PROJECT SPECIFIC REQUIREMENTS.

E. IF THE SLAB-ON-GROUND HAS BEEN DESIGNATED AS A STRUCTURAL SLAB-ON-GROUND IN THE CONTRACT DOCUMENTS, NO SAW CUTTING OF THE SLAB IS PERMITTED.

F. CONTROL JOINTS SHALL BE CUT INTO THE SURFACE OF THE SLAB, IN EACH DIRECTION. SEE THE TYPICAL SAW CUT JOINT DETAIL FOR TIME, DEPTH, AND SPACING OF JOINT REQUIREMENTS UNLESS NOTED OTHERWISE. CONTROL JOINTS SHALL BE CONSTRUCTED SUCH THAT THE AREA CONTAINED BY THE CONTROL JOINTS HAS A MAXIMUM RATIO OF LONG SIDE TO SHORT SIDE OF 1.5 TO 1 UNLESS NOTED OTHERWISE. DO NOT CONSTRUCT CONTROL JOINTS SUCH THAT L-SHAPED SLAB PANELS ARE CREATED.

G. COLUMN ISOLATION JOINTS SHALL BE CONSTRUCTED PER THE TYPICAL COLUMN ISOLATION JOINT DETAIL IN ORDER TO PROVIDE ADEQUATE SPACE FOR COLUMN INSTALLATION.

H. CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL. SLAB CONSTRUCTION JOINTS SHALL BE DOWELED.

I. WHERE SPECIFIED ON PLAN, WELDED WIRE REINFORCEMENT SHALL BE INSTALLED. WELDED WIRE REINFORCEMENT SHALL BE PROPERLY CHAIRED SUCH THAT IT IS LOCATED AT A DEPTH OF 1 1/2" FROM THE TOP OF SLAB.

J. REFERENCE ARCHITECTURAL AND MEP DOCUMENTS FOR SLAB FINISHES AND SLOPES NOT REFERENCED ON THE STRUCTURAL DOCUMENTS. THE MINIMUM SLAB THICKNESS SPECIFIED IN THE CONTRACT DOCUMENTS MUST BE MAINTAINED.

K. REFERENCE ARCHITECTURAL DOCUMENTS FOR VAPOR RETARDER AND SLAB AND CONTROL JOINT SEALANT REQUIREMENTS.

L. CONDUITS SHALL NOT BE PLACED WITHIN THE SLAB. CONDUITS SHALL BE PLACED BENEATH THE SLAB.

CONCRETE

A. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH DIVISION 03 OF THE SPECIFICATIONS.

B. FOR CONCRETE MIXTURE REQUIREMENTS SEE SCHEDULE ON SHEET S003.

C. THE USE OF RECYCLED CONCRETE IS PROHIBITED WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.

D. NORMAL WEIGHT CONCRETE SHALL BE USED FOR ALL CONCRETE MEMBERS UNLESS NOTED OTHERWISE. NORMAL WEIGHT CONCRETE SHALL HAVE A CURED DENSITY OF 145 PCF ±5 PCF. WHERE LIGHT WEIGHT CONCRETE IS SPECIFIED THE CURED DENSITY SHALL BE 112 PCF ±3 PCF.

E. EACH MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER AND THE INTENDED LOCATION OF PLACEMENT ON THE SPECIFIC PROJECT SHALL BE CLEARLY STATED.

F. ALL PROPOSED CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN BEAMS, WALLS, AND SLABS UNLESS SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS OR BY WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD. FOR MILD REINFORCED MEMBERS, CONSTRUCTION JOINTS SHALL OCCUR WITHIN THE MIDDLE THIRD OF A MEMBER'S SPAN. ALL APPROVED CONSTRUCTION JOINTS SHALL BE INDICATED, DIMENSIONED, AND DETAILED ON THE CONCRETE REINFORCEMENT SHOP DRAWINGS.

G. GIRDERS, BEAMS, HAUNCHES, DROP PANELS, DROP CAPS, AND CAPITALS SHALL BE POURED MONOLITHICALLY AS PART OF THE SLAB SYSTEM UNLESS NOTED OTHERWISE.

H. PROVIDE A ¾ INCH CHAMFER AT ALL EXPOSED CORNERS OF BEAMS, WALLS, ETC UNLESS NOTED OTHERWISE.

I. CONCRETE CORING AND INSTALLATION OF DRILLED ANCHORS IS NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.

J. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL CONCRETE DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL COORDINATE BETWEEN THE ARCHITECTURAL, STRUCTURAL, AND MEP DRAWINGS TO FURNISH DIMENSIONED DRAWINGS THAT LOCATE AND SIZE ALL SLAB EDGES, OPENINGS, AND PENETRATIONS. THESE DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL.

K. EMBEDDED CONDUITS, PIPES, AND SLEEVES
   1. THE OUTSIDE DIAMETER OF CONDUITS, PIPES, AND SLEEVES SHALL NOT EXCEED ONE-THIRD THE THICKNESS OF THE SLAB, WALL OR BEAM IN WHICH THEY ARE EMBEDDED. EMBEDMENTS SHALL NOT SIGNIFICANTLY REDUCE THE CAPACITY OF THE MEMBERS THEY PENETRATE.
   2. THE MINIMUM CLEAR COVER FOR CONDUITS, PIPES, AND SLEEVES SHALL BE 1 ½" FOR CONCRETE EXPOSED TO EARTH OR WEATHER AND ¾" FOR CONCRETE NOT EXPOSED TO EARTH OR WEATHER.
   3. ALUMINUM EMBEDMENTS AND EMBEDMENTS MADE OF ANY OTHER MATERIAL HARMFUL TO THE CONCRETE OR REINFORCEMENT ARE PROHIBITED.
   4. EMBEDMENTS NOT SHOWN ON THE CONTRACT DOCUMENTS SHALL BE DESIGNED TO RESIST THE EFFECTS OF MATERIAL, PRESSURE, AND TEMPERATURE THAT THEY WILL BE SUBJECTED TO. THE WORK SHALL BE COORDINATED AMONGST ALL CONSTRUCTION TRADES.
   5. THE CONTENTS OF EMBEDDED PIPES SHALL NOT FLOW UNTIL THE CONCRETE HAS REACHED ITS SPECIFIED DESIGN STRENGTH.
   6. CONDUITS, PIPES, AND SLEEVES SHALL BE PLACED BETWEEN TOP AND BOTTOM LAYERS OF REINFORCEMENT IN SLABS AND BETWEEN INNER AND OUTER LAYERS OF REINFORCEMENT IN WALLS.
   7. EMBEDDED ITEMS SHALL BE FABRICATED AND INSTALLED SUCH THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS SPECIFIED LOCATION IS NOT REQUIRED.

CONCRETE REINFORCEMENT

A. ALL CONCRETE REINFORCEMENT SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 03 OF THE SPECIFICATIONS.

B. ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE.

C. WHERE WELDS ARE INDICATED FOR REINFORCING STEEL ON THE DRAWINGS, REINFORCING STEEL SHALL BE A706, GRADE 60 UNLESS OTHERWISE NOTED.

D. WELDED WIRE REINFORCEMENT SHALL CONFORM TO THE MATERIAL REQUIREMENTS OF ASTM A1064.

E. ALL 90°, 135°, AND 180° HOOKED REINFORCEMENT SPECIFIED AND GRAPHICALLY DEPICTED IN THE CONTRACT DOCUMENTS SHALL BE DETAILED IN ACCORDANCE WITH ACI 318 STANDARD HOOK GEOMETRY FOR DEFORMED BARS IN TENSION AND FOR STIRRUPS, TIES, AND HOOPS.

F. FOR EVERY VERTICAL OR HORIZONTAL BAR DISCONTINUED BY AN OPENING, ONE BAR (MINIMUM OF 2 BARS) SHALL BE ADDED AT SIDE OF OPENING (HALF TO EACH SIDE, TYPICAL).

G. FOR CONCRETE CLEAR COVER TO REINFORCEMENT SEE SCHEDULE ON SHEET S003 UNLESS NOTED OTHERWISE. CLEAR COVER IN PARENTHESES () DENOTES CLEAR COVER WHEN THE AS-BUILT APPLICATION IS EXPOSED TO WEATHER.

H. ALL LAP SPLICES SHALL BE CLASS B TENSION LAP SPLICES IN ACCORDANCE WITH ACI 318 UNLESS NOTED OTHERWISE. SEE LAP SPLICE SCHEDULE ON SHEET **[S .]** FOR LAP SPLICE LENGTHS. UNLESS NOTED AS CONTINUOUS, REINFORCEMENT SHALL ONLY BE SPLICED AT LOCATIONS SHOWN ON THE CONTRACT DOCUMENTS. SPLICES AT NON-SPECIFIED LOCATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL.

I. A MINIMUM LAP SPLICE OF 8" SHALL BE PROVIDED AT ALL END AND SIDE LAP CONDITIONS FOR WELDED WIRE REINFORCEMENT UNLESS NOTED OTHERWISE.

J. MECHANICAL SPLICES ARE REQUIRED WHERE SPECIFIED ON THE CONTRACT DOCUMENTS. MECHANICAL SPLICES ARE ALSO REQUIRED TO SPLICE #14 AND #18 BARS. MECHANICAL SPLICES MAY ALSO BE USED AT THE CONTRACTOR'S OPTION, PROVIDED THE MECHANICAL SPLICES HAVE A CURRENT ICC-ES REPORT DEMONSTRATING THEY CAN DEVELOP 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR IN TENSION OR COMPRESSION. MECHANICAL SPLICES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL.

K. THE USE OF WELDED SPLICES IS PROHIBITED UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL SUBMIT THE LOCATIONS OF WELDED SPLICES TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL. IF APPROVED, WELDED SPLICES SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.

L. DOWELS SHALL MATCH SIZE AND SPACING OF PRIMARY REINFORCEMENT UNLESS NOTED OTHERWISE.

M. SEE TYPICAL DETAILS FOR REINFORCEMENT REQUIRED AT OPENINGS AND PENETRATIONS.

N. SUBMIT SHOP DRAWINGS WHICH ADEQUATELY DEPICT THE REINFORCEMENT BAR SIZES AND PLACEMENT. WRITTEN DESCRIPTION OF REINFORCEMENT WITHOUT ADEQUATE SECTIONS, ELEVATIONS, AND DETAILS IS NOT ACCEPTABLE.

STRUCTURAL DRAWING LIST

SHEET NUMBER	SHEET NAME
S001	GENERAL NOTES
S002	GENERAL NOTES
S003	GENERAL SCHEDULES
S101	FOUNDATION & ROOF FRAMING PLANS
S201	SECTIONS & DETAILS
S202	SECTIONS & DETAILS

No. 80234

WILLIAM J. RAIOLA PE NO.: 80234

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY WILLIAM J. RAIOLA P.E. ON 02/23/23
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CERTIFICATE OF AUTHORIZATION FL #30785
JG Project #: 22.21.011

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE BUILDING CODES AND MATERIAL SPECIFICATIONS.

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REVISIONS

No.	Description	Date

100% Contract Documents

LEHIGH ACRES PARK AND RIDE
1121 VILLAGE LAKES BLVD., LEHIGH ACRES, FLORIDA 33972

02/23/2023

S001

CONCRETE MASONRY

A. MANUFACTURE AND INSTALL ALL CONCRETE MASONRY IN ACCORDANCE WITH DIVISION 04 SPECIFICATIONS. ALL MASONRY DESIGN SHALL CONFORM TO TMS 402 AND ALL MASONRY CONSTRUCTION SHALL CONFORM TO TMS 602.

B. ALL LOAD-BEARING, NON-LOAD-BEARING, AND BACKUP WALL CONCRETE MASONRY UNIT CONSTRUCTION SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:
1. CONCRETE MASONRY UNITS: ASTM C90, NORMAL WEIGHT (135 PCF)
2. MORTAR: ASTM C270, TYPE 'S' OR 'M' PORTLAND CEMENT/LIME ONLY (USE TYPE 'M' MORTAR WHEN MASONRY IS IN DIRECT CONTACT WITH SOIL; TYPE 'S' IS IN ALL OTHER CONDITIONS)
3. GROUT: ASTM C476
4. PORTLAND CEMENT: ASTM C150, TYPE I (TYPE III MAY BE USED FOR COLD-WEATHER CONSTRUCTION)
5. HYDRATED LIME: ASTM C207, TYPE 'S'
6. AGGREGATE: ASTM C404 (FOR GROUT)
7. STEEL REINFORCEMENT: ASTM A615, GRADE 60
8. JOINT REINFORCEMENT: ASTM A1064, TRUSS OR LADDER TYPE, GALVANIZE PER ASTM A153, TYPE B-2

C. CONCRETE MASONRY UNITS:
1. F'_M SHALL BE **[2000]** PSI (MINIMUM NET AREA CMU COMPRESSIVE STRENGTH SHALL BE **[2000]** PSI).
2. LAY CONCRETE MASONRY UNITS IN RUNNING BOND UNLESS NOTED OTHERWISE WITH UNITS DESIGNED TO ALIGN WITH WEBS IN EACH COARSE.

D. MORTAR:
1. HEAD AND BED JOINTS SHALL BE 3/8 INCHES FOR THE THICKNESS OF THE FACE SHELL. WEBS ARE TO BE FULLY MORTARED IN ALL COURSES OF: PIERS, COLUMNS AND PILASTERS, IN THE STARTING COURSE, AND WHERE AN ADJACENT CELL IS TO BE GROUTED. REMOVE MORTAR PROTRUSIONS EXTENDING ½ INCHES OR MORE INTO CELLS TO BE GROUTED.
2. PROVIDE FULL FACE SHELL MORTAR COVERAGE ON MASONRY UNIT HORIZONTAL AND VERTICAL (BED AND HEAD) FACE SHELL JOINTS.

E. GROUT:
1. MASONRY GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF **[3000]** PSI AT 28-DAYS.
2. GROUT MIX SHALL CONTAIN PORTLAND CEMENT, AGGREGATE, AND A GROUT-ENHANCING SHRINKAGE-COMPENSATING ADMIXTURE.
3. MAXIMUM SIZE OF AGGREGATE SHALL BE 3/8 INCH. SLUMP SHALL BE 8 TO 11 INCHES. WATER REDUCING ADMIXTURES MAY BE USED.
4. GROUT ALL MASONRY CONTAINING REINFORCEMENT, **[ALL CELLS OF 4-HOUR RATED WALLS]**, AND WHERE INDICATED ON THE DRAWINGS. ALLOW MORTAR TO CURE 24 HOURS PRIOR TO GROUTING. PROVIDE CLEANOUT OPENINGS AT THE BASE OF THE CELLS CONTAINING REINFORCEMENT TO CLEAN THE CELL AND TO TIE THE VERTICAL BAR TO THE DOWEL. IN HIGH-LIFT GROUTING, USE 5'-0" (MAXIMUM) LIFTS, WITH ½ HOUR TO 1 HOUR BETWEEN LIFTS.
5. GROUT SHALL BE VIBRATED WHILE PLACING TO ENSURE THAT CELLS ARE COMPLETELY FILLED.

F. STEEL REINFORCEMENT:
1. PROVIDE VERTICAL REINFORCEMENT IN CELLS OF CONCRETE MASONRY UNITS (FULLY EMBEDDED IN GROUT) AS SHOWN ON THE PLANS AND OTHER DETAILS. MINIMUM REINFORCEMENT OF EXTERIOR MASONRY SHALL BE AS FOLLOWS:
   a. 1-#5 AT A MAXIMUM SPACING OF 48 INCHES
   b. 1-#5 AT EACH CORNER
   c. HEAVIER REINFORCEMENT MAY BE REQUIRED BY PLAN NOTES OR DETAILS IN THE DRAWINGS.
2. REINFORCE WALLS WHERE INDICATED ON THE DRAWINGS AND AT ALL INTERSECTIONS, EACH SIDE OF OPENINGS AND AT THE ENDS OF WALLS. USE BAR SPACERS AT 10 FEET ON CENTER WHERE GROUT POUR HEIGHT EXCEEDS 10 FEET.
3. ALL VERTICAL REINFORCEMENT SHALL HAVE STANDARD HOOK INTO BOND BEAM. TERMINATE AT HIGHEST BOND BEAM IF MASONRY DOES NOT EXTEND TO ROOF OR GROUTED CELL IS NOT CONTINUOUS TO ROOF. HOOK SHALL EXTEND TO THE UPPERMOST HORIZONTAL REINFORCEMENT OF THE BOND BEAM AND HAVE A MINIMUM EMBEDMENT OF 6 INCHES.
4. ALL HORIZONTAL REINFORCEMENT AT ENDS OF BOND BEAMS SHALL HAVE STANDARD HOOK INTO VERTICAL GROUTED CELL. PROVIDE CORNER BARS SUCH THAT HORIZONTAL REINFORCEMENT IS CONTINUOUS AROUND CORNERS.
5. COVER TO STEEL REINFORCEMENT WITHIN MASONRY ELEMENTS SHALL NOT BE LESS THAN THE FOLLOWING:
   a. EXPOSED TO EARTH OR WEATHER: 1 ½ INCHES (#5 AND SMALLER BARS), 2 INCHES (#6 AND LARGER BARS)
   b. NOT EXPOSED TO EARTH OR WEATHER: 1 ½ INCHES

G. JOINT REINFORCEMENT:
1. JOINT REINFORCEMENT SHALL BE LADDER TYPE, **[9 GAUGE]**, SPACED VERTICALLY AT EVERY 2 COURSES UNLESS NOTED OTHERWISE.
2. PROVIDE JOINT REINFORCEMENT SPACED VERTICALLY AT EVERY COURSE FOR MASONRY BELOW GRADE AND IN PARAPETS AND CANTILEVERED WALLS.
3. PROVIDE TWO ROWS OF JOINT REINFORCEMENT AT EVERY COURSE AT TOP AND BOTTOM OF OPENINGS (EXTEND 24 INCHES EACH SIDE).
4. PROVIDE TWO ROWS OF JOINT REINFORCEMENT AT EVERY COURSE AT BOND BEAMS.
5. OVERLAP DISCONTINUOUS JOINT REINFORCEMENT BY AT LEAST 6 INCHES.
6. USE PREFABRICATED CORNERS AND TEES.
7. EXTEND JOINT REINFORCEMENT A MINIMUM OF 4 INCHES INTO THE TIE BEAM.
8. REFER TO PLANS AND DETAILS FOR BONDED JOINT REQUIREMENTS AT WALL CORNERS AND INTERSECTIONS. WHERE INDICATED ON DRAWINGS, INTERLOCK WALLS WITH METAL TIES, ANCHORS, OR PREFABRICATED JOINT REINFORCEMENT UNLESS NOTED OTHERWISE ON DRAWINGS OR SEE SPECIFICATIONS.
9. LONGITUDINAL WIRES OF JOINT REINFORCEMENT SHALL BE FULLY EMBEDDED IN MORTAR OR GROUT WITH A MINIMUM HORIZONTAL EDGE COVER OF 5/8 INCHES WHEN EXPOSED TO EARTH AND WEATHER AND ½ INCHES WHEN NOT EXPOSED TO EARTH OR WEATHER.

H. REINFORCED MASONRY WALL CONSTRUCTION SHALL BE INSPECTED BY AN ENGINEER OR ARCHITECT IN ACCORDANCE WITH TMS 602.

I. WHERE ANCHOR BOLTS, WEDGE ANCHORS, OR ANCHORS SET IN EPOXY ARE PLACED IN A MASONRY WALL, FILL CELLS WITH GROUT FOR BOLTED COURSE, ONE COURSE ABOVE AND TWO COURSES BELOW.

J. USE PRESSURE-TREATED WOOD FOR WOOD IN CONTACT WITH MASONRY.

K. CALCIUM CHLORIDE SHALL NOT BE USED IN MORTAR OR GROUT.

L. REFER TO ARCHITECT'S DRAWINGS FOR THE EXTENT OF MASONRY WALLS AND DIMENSIONED LOCATION OF OPENINGS. NON-LOAD BERING WALLS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

M. CONCRETE MASONRY UNITS SHALL BE CUT BELOW BEAMS, LINTELS, OR BOND BEAMS AS REQUIRED IN ORDER TO SET CONTINUOUS BEAM, LINTEL, OR BOND BEAMS AT THE PROPER ELEVATION.

N. ALL CELLS BELOW GRADE AND SLAB-ON-GROUND SHALL BE FULLY GROUTED.

O. THE FOLLOWING CRITERIA REGARDING PIPES AND CONDUITS EMBEDDED IN MASONRY SHALL BE ADHERED TO (SEE MEP DRAWINGS FOR LOCATIONS OF SLEEVES, PIPES, CONDUIT, ACCESSORIES, ETC). THESE CRITERIA WILL BE STRICTLY ENFORCED:
1. CONDUITS, PIPES, AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO MASONRY AND MEETING THE CRITERIA BELOW SHALL BE PERMITTED TO BE EMBEDDED IN MASONRY. ALL OTHER CONDUITS, PIPES, AND SLEEVES SHALL NOT BE EMBEDDED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
2. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL MASONRY.
3. CONDUITS, PIPES, AND SLEEVES PASSING THROUGH A WALL SHALL NOT SIGNIFICANTLY IMPAIR THE STRENGTH OF THE CONSTRUCTION. CONDUITS, PIPES, AND SLEEVES SHALL NOT PASS THROUGH JAMBS, LINTELS, BOND BEAMS, OR SHEAR WALLS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
4. CONDUITS AND PIPES SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER.
5. CONDUITS AND PIPES SHALL BE FABRICATED AND INSTALLED SO THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED.
6. CONDUITS AND PIPES, WITH FITTINGS, EMBEDDED WITHIN A COLUMN OR WALL SHALL NOT DISPLACE MORE THAN 2 PERCENT OF THE NET SECTION OR AS REQUIRED BY FIRE PROTECTION.

P. ALL MASONRY WALLS SHOWN ON THE STRUCTURAL DRAWINGS HAVE BEEN DESIGNED TO RESIST THE REQUIRED CODE VERTICAL AND LATERAL FORCES IN THE FINAL CONSTRUCTED CONFIGURATION ONLY ASSUMING FULL BRACING TOP, BOTTOM, AND/OR SIDE OF WALL AS SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY AND ADEQUATELY BRACE ALL MASONRY WALLS AT ALL STAGES DURING CONSTRUCTION TO RESIST ERECTION LOADS AND LATERAL LOADS THAT COULD OCCUR PRIOR TO THE COMPLETION OF CONSTRUCTION.

Q. CONTROL JOINTS SHALL BE PROVIDED IN ALL CONCRETE MASONRY CONSTRUCTION. REFER TO TYPICAL CONTROL JOINT DETAIL FOR GUIDELINES AND SPACING.

PARKER / MUDGETT / SMITH ARCHITECTS, INC.
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REVISIONS

No.	Description	Date

No. 80234

WILLIAM J. RAIOLA PE NO.: 80234

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY WILLIAM J. RAIOLA P.E. ON 02/23/23
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JG Project #: 22.21.011

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LEHIGH ACRES PARK AND RIDE

1121 VILLAGE LAKES BLVD., LEHIGH ACRES, FLORIDA 33972

02/23/2023

S002

CONCRETE MIXTURE REQUIREMENTS

APPLICATION	EXPOSURE CLASS	f'c	TEST AGE	MODULUS OF ELASTICITY	MAXIMUM W/CM	AIR CONTENT	NOMINAL MAXIMUM AGGREGATE	MAXIMUM CONCRETE WEIGHT
FOOTINGS	F0	3000 PSI	28 DAYS	3122 KSI	SEE NOTE 2	SEE NOTE 3	1"	150 PCF
EXTERIOR SLAB-ON-GROUND	F1	4500 PSI	28 DAYS	3824 KSI	0.55	4.5% ± 1.5%	1"	150 PCF
SLAB-ON-GROUND	F0	3000 PSI	28 DAYS	3122 KSI	SEE NOTE 2	SEE NOTE 3	1"	150 PCF
ELEVATED SLABS & BEAMS	F0	5000 PSI	28 DAYS	4031 KSI	SEE NOTE 2	SEE NOTE 3	3/4"	150 PCF

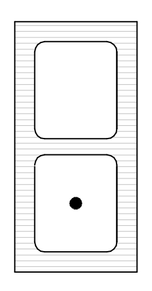
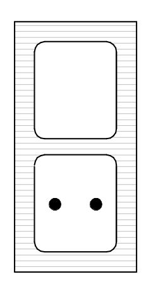
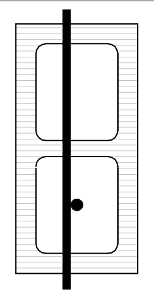
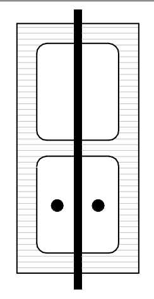
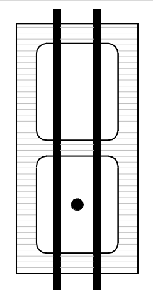
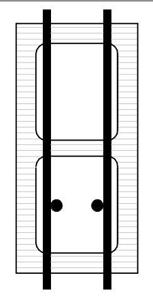
NOTES:

1. EXPOSURE CATEGORIES AND CLASSES FOR SULFATES, PERMEABILITY, AND CORROSION PROTECTION OF REINFORCEMENT IS CLASS ZERO UNLESS NOTED OTHERWISE.
2. WATER/CEMENT RATIO SHALL BE AS REQUIRED FOR THE SPECIFIED CONCRETE MIX DESIGN. THERE IS NO MAXIMUM WATER/CEMENT RATIO REQUIREMENT FOR THE EXPOSURE CLASSIFICATION ASSOCIATED WITH THIS APPLICATION. MAXIMUM WATER/CEMENT RATIO IS NOT APPLICABLE FOR DURABILITY REQUIREMENTS IN LIGHTWEIGHT CONCRETE.
3. THERE IS NO MANDATORY TARGET AIR CONTENT FOR THIS APPLICATION. THE CONTRACTOR MAY CHOOSE TO ADD AIR ENTRAINMENT TO IMPROVE THE WORKABILITY AND FINISHING PROPERTIES OF THE MIX. AIR CONTENT SHALL BE AS REQUIRED FOR THE SPECIFIED CONCRETE MIX.

CAST-IN-PLACE CONCRETE (NON-PRESTRESSED) CLEAR COVER SCHEDULE

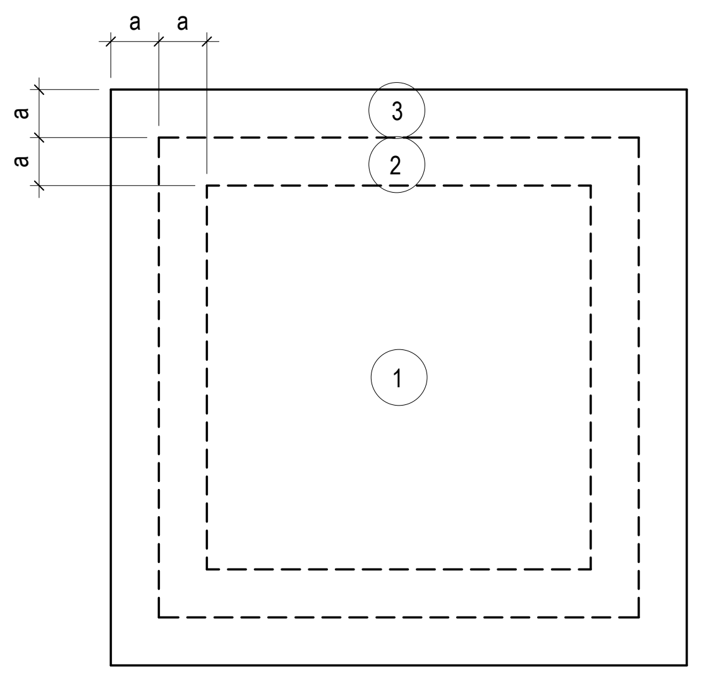
APPLICATION	BOTTOM	TOP	SIDES
FOUNDATIONS	3"	2"	3"
SLAB-ON-GROUND	SEE DETAILS	SEE DETAILS	3"
RETAINING WALLS	N/A	N/A	2"
WALLS	N/A	N/A	¾" (2")
COLUMNS	N/A	N/A	1 ½" (2")
ELEVATED SLABS	¾" (2")	¾" (2")	¾" (2")
BEAMS	1 ½" (2")	1 ½" (2")	1 ½" (2")

CMU - REINFORCING SPLICES[1]

BAR WITH SPLICE	VERTICAL BARS[2]		HORIZONTAL BARS[3]			
	 1 VERT.	 2 VERT.	 1 VERT. 1 HORIZ.	 2 VERT. 1 HORIZ.	 1 VERT. 2 HORIZ.	 2 VERT. 2 HORIZ.
#4	21"	26"	21"	21"	26"[4]	45"[4]
#5	26"	40"	29"	26"	40"[4]	70"[4]
#6	43"	74"	57"	43"	74"[4]	131"[4]
#7	60"	107"	81"	60"	107"[4]	NOTE 5

NOTES:

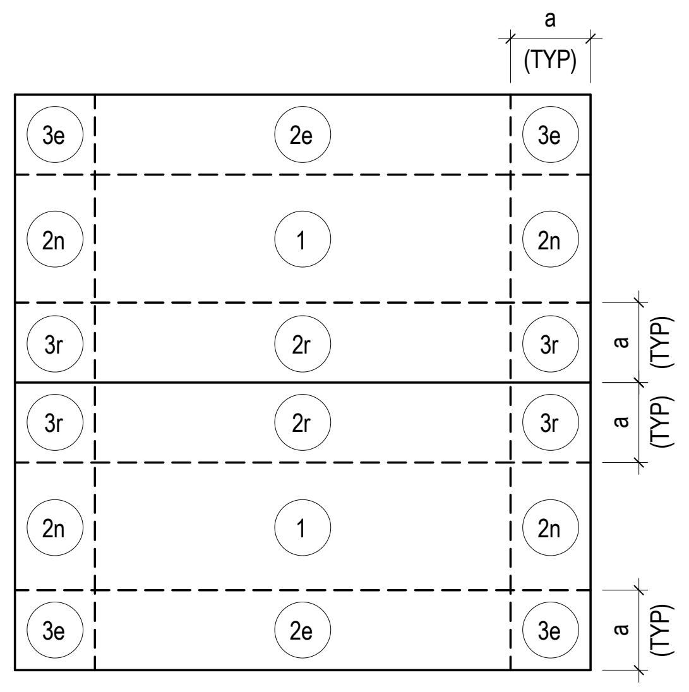
1. SEE TYPICAL REBAR LAYOUT DETAIL FOR BAR PLACEMENT. WHERE BARS OF DIFFERENT SIZES ARE TO BE SPLICED, THE SPLICE LENGTH SHALL BE THAT REQUIRED FOR THE LARGER BAR.
2. SPLICES OF VERTICAL REINFORCEMENT SHALL BE PLACED NEXT TO THE MAIN BAR AS INDICATED IN THE ILLUSTRATION.
3. SPLICES OF HORIZONTAL REINFORCEMENT SHALL BE PLACED VERTICALLY OVER THE MAIN BAR.
4. SPLICES OF HORIZONTAL REINFORCEMENT IN WALLS CONTAINING TOW BARS PER COURSE SHALL BE STAGGERED.
5. 8" CMU WALL IS NOT WIDE ENOUGH TO PERMIT THIS CONDITION.



a = 3'-8"

TYPICAL OPEN STRUCTURE COMPONENT AND CLADDING GROSS WIND PRESSURES (BUS CANOPY)

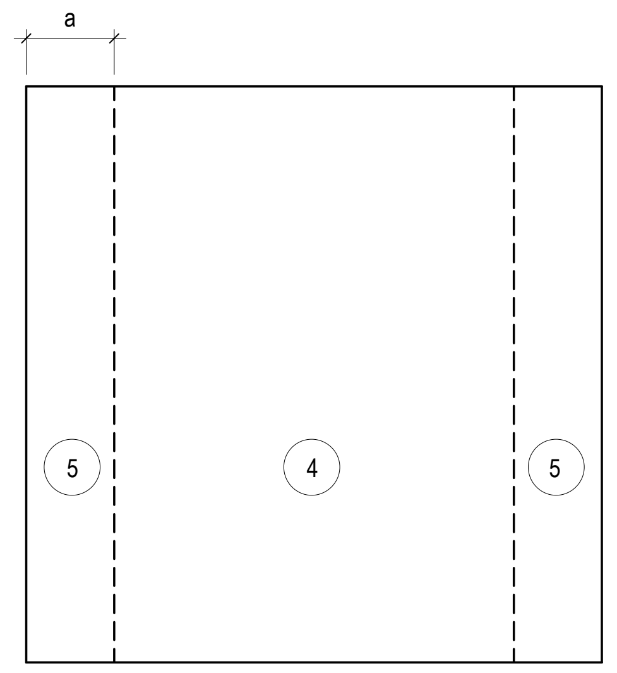
COMPONENTS & CLADDING EXTERNAL PRESSURE LOADS (PSF)			
EFFECTIVE WIND AREA (FT²)	1	2	3
<10	-44 48	-68 72	-133 96
20	-44 48	-68 72	-68 72
50	-44 48	-44 48	-44 48



a =3'-8"

GABLE ROOF 7° < SLOPE ≤ 45° COMPONENT AND CLADDING GROSS WIND PRESSURES (SUPPORT BUILDING)

COMPONENTS & CLADDING EXTERNAL PRESSURE LOADS (PSF)						
EFFECTIVE WIND AREA (FT²)	1	2e	2n	2r	3e	3r
<10	-97 53	-97 53	-107 53	-97 53	-131 53	-107 53
20	-83 47	-83 47	-96 47	-83 47	-116 47	-96 47
50	-63 39	-63 39	-81 39	-63 39	-97 39	-81 39
>100	-48 33	-48 33	-69 33	-48 33	-82 33	-69 33



a = 3'-8"

WALL ELEVATION

COMPONENTS & CLADDING EXTERNAL PRESSURE LOADS (PSF)		
EFFECTIVE WIND AREA (FT²)	4	5
<10	-63 58	-78 58
50	-57 52	-66 52
100	-54 49	-60 49
500	-48 43	--48 43

NOTES:

1. FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD SHALL BE TAKEN FROM THE NEXT LOWEST TABULATED EFFECTIVE AREACH
2. DESIGN VALUES SHOWN IN THIS TABLE ARE ULTIMATE VALUES FOR USE WITH LRFD DESIGN. VALUES MAY BE MULTIPLED BY 0.6 FOR USE WITH SERVICE LEVEL OR ASD DESIGN. REFER TO THE BUILDING CODE FOR APPLICABLE LOAD COMBINATIONS.
3. a = 3'-8". SEE ROOF PLAN MAP BELOW FOR LOCATION OF a-ZONES. WALL a-ZONE LOCATIONS TO MATCH ROOF a-ZONES.
4. POSITIVE PRESSURE VALUES REFER TO FORCES ACTING TOWARDS BUILDING OR COMPONENT FACE, NEGATIVE PRESSURE VALUES REFER TO FORCES ACTING AWAY FROM BUILDING OR COMPONENT FACE.
5. EACH COMPONENT AND ITS CONNECTION SHALL BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
6. PARAPET COMPONENTS AND CLADDING ARE THOSE ELEMENTS WHICH EXIST ABOVE THE HORIZONTAL PLANE OF THE ROOF AND SHALL BE DESIGNED FOR:
   - POSITIVE AND NEGATIVE PRESSURES 4 OR 5 APPLIED TO THE SHEATHING OR PANELING AND ITS CONNECTION ON OUTSIDE FACE.
   - POSITIVE PRESSURES 4 OR 5 APPLIED TO THE SHEATHING OR PANELING AND ITS CONNECTION ON ROOF SIDE FACE.
   - NEGATIVE PRESSURES 2 OR 3 APPLIED TO THE SHEATHING OR PANELING AND ITS CONNECTION ON ROOF SIDE FACE.
   - P4/5 SHALL BE APPLIED TO THE DESIGN OF THE STRUCTURAL ELEMENT OF THE PARAPET AND ITS CONNECTION, INCLUDING BUT NOT LIMITED TO THE STUD FRAMING OF THE PARAPET.
7. A DESIGN WIND PRESSURE HORIZONTAL VALUE OF 94 PSF AND VERTICAL VALUE OF 74 PSF SHALL BE APPLIED TO COMPONENTS WHICH ARE EITHER ROOFTOP STRUCTURES OR ROOFTOP APPURTENANCES AND THEIR CONNECTION. EXAMPLES OF THIS ARE RTUs, AHUs, AND SCREEN WALLS.
8. ROH# : DENOTES DESIGN WIND PRESSURE VALUES WHICH SHALL BE APPLIED AT ROOF OVERHANGS TO TOP SURFACE CLADDING OR SHEATHING AND ITS CONNECTION. SOFFIT CLADDING OR SHEATHING SHALL BE DESIGNED FOR SIMILAR PRESSURE TO THE ADJACENT WALL PRESSURE. A COMBINATION OF THESE FORCES SHALL BE APPLIED TO THE STRUCTURAL ELEMENT OF THE OVERHANG AND ITS CONNECTION, INCLUDING BUT NOT LIMITED TO THE STUD FRAMING OF THE OVERHANG.
9. ALL DOORS TO BE RATED TO RESIST DESIGN WIND PRESSURES SPECIFIED.

ABBREVIATIONS

ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT OR ARCHITECTURAL
ASD	ALLOWABLE STRESS DESIGN
B/	BOTTOM OF
B/B	BACK-TO-BACK
BLDG	BUILDING
BLKG	BLOCKING
BP	BASE PLATE
BRG	BEARING
BOT	BOTTOM
BTWN	BETWEEN
C	COMPRESSION
CFS	COLD-FORMED STEEL
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLR	CLEAR OR CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN(S)	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
D&E	DRILL & EPOXY
db	REINFORCING BAR DIAMETER
DBA	DEFORMED BAR ANCHOR
DCW	DEMAND CRITICAL WELD
°	DEGREE(S)
Ø	DIAMETER
DIAG	DIAGONAL
DIM(S)	DIMENSION(S)
DL	DEAD LOAD
DWG(S)	DRAWING(S)
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EOS	EDGE-OF-SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F/F	FACE-TO-FACE
FD	FLOOR DRAIN
FF	FINISH FLOOR
FND	FOUNDATION
FS	FAR SIDE
FT	FEET
FTG	FOOTING
GA	GAGE, GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GDR	GIRDER
GEN	GENERAL
GYP	GYPSUM
HCA	HEADED CONCRETE ANCHORS
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH
INFO	INFORMATION
INT	INTERIOR
ICC-ES	INTERNATION CODE COUNCIL - EVALUATION SERVICE
JST(S)	JOIST(S)
K	KIPS (1,000 POUNDS)
KLF	KIP PER LINEAR FOOT
KSF	KIP PER SQUARE FOOT

ABBREVIATIONS

KSI	KIPS PER SQUARE INCH
L	LENGTH
LB(S)	POUND(S)
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LRFD	LOAD RESISTANCE FACTORED DESIGN
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LTS	LAP TENSION SPLICE
LW	LIGHT WEIGHT
LWC	LIGHT WEIGHT CONCRETE
M	MOMENT
MAX	MAXIMUM
MC	MOMENT CONNECTION(S)
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG(S)	OPENING(S)
OPP	OPPOSITE
OSL	OUTSTANDING LEG
PAF	POWDER ACTUATED FASTENER
PERP	PERPENDICULAR
PJF	PREFORMED JOINT FILLER
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PCST	PRECAST
PREFAB	PRE-FABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSIONED
REF	REFERENCE
REINF	REINFORCE(D) (ING) OR (MENT)
REQ(D)	REQUIRE(D)
REV	REVISION
RTU	ROOF TOP UNIT
SCHED	SCHEDULE(D)
SDL	SUPERIMPOSED DEAD LOAD
SER	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FOOT (FEET)
SIM	SIMILAR
SLRS	SEISMIC LOAD RESISTING SYSTEM
SOG	SLAB-ON-GROUND
SP	SPACE
SPEC(S)	SPECIFICATION(S)
SS	STAINLESS STEEL
STD	STANDARD
STIFF	STIFFENER
STR	STRUCTURE OR STRUCTURAL
SYM	SYMMETRICAL
T	TENSION
T&B	TOP AND BOTTOM
T&G	TONGUE & GROOVE
T/	TOP OF
TEMP	TEMPERATURE OR TEMPORARY
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	SHEAR
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

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JG Project #: 22.21.011

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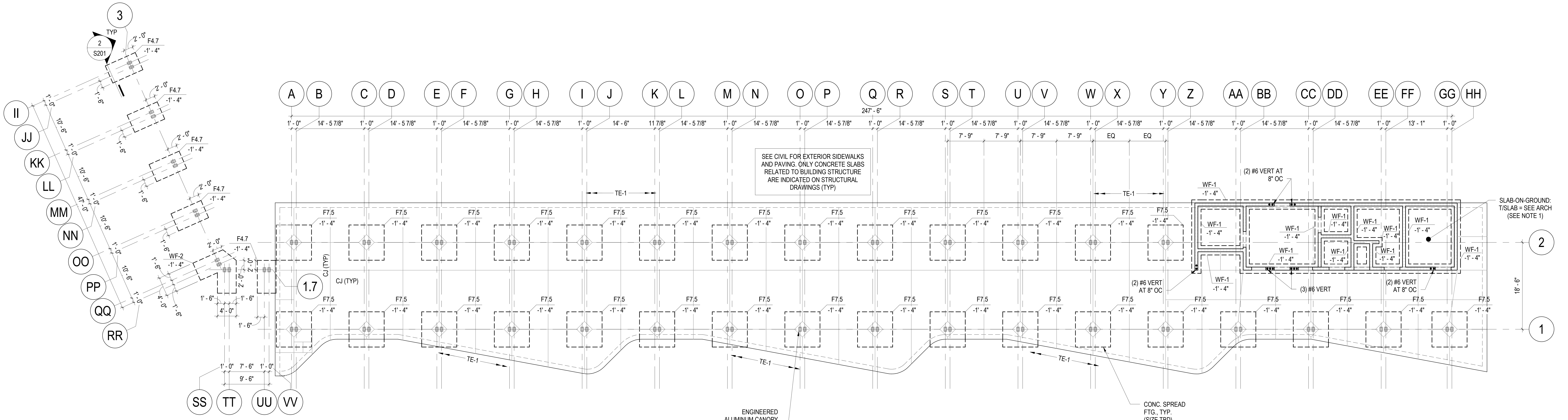
S003

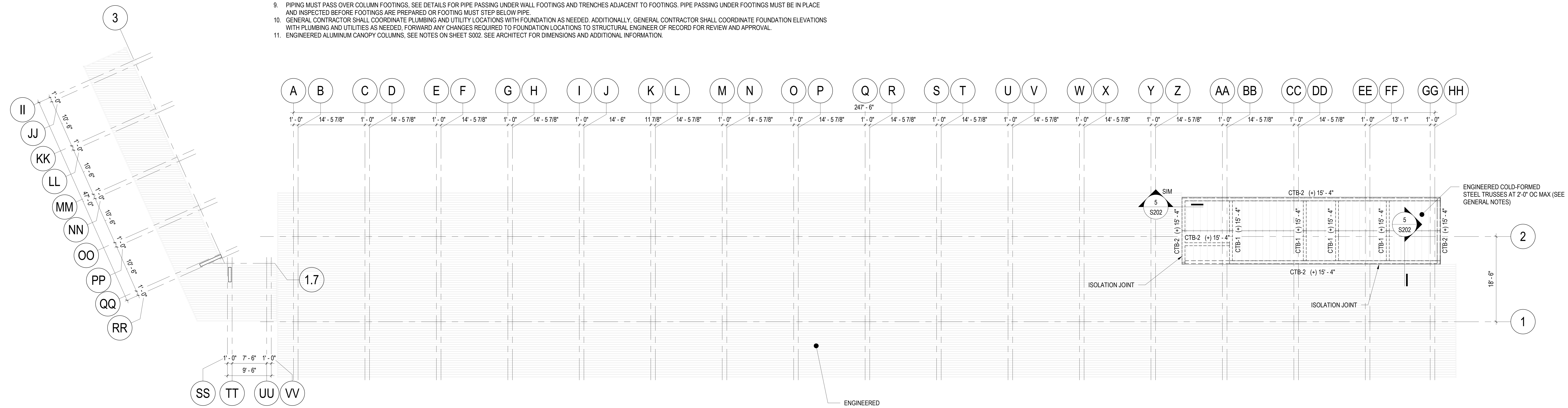


① FOUNDATION PLAN

3/32" = 1'-0"

NOTES:

1. SLAB-ON-GROUND SHALL BE A 4" THICK NWC CONCRETE SLAB REINFORCED WITH ONE LAYER OF 6x6-W2xW2 WELDED WIRE REINFORCING PLACED AT 1/3 DEPTH FROM TOP OF SLAB. VERIFY ALL DIMENSIONS, ELEVATIONS AND SLAB FINISHES WITH ARCHITECTURAL DRAWINGS BEFORE BEGINNING CONSTRUCTION. SEE ARCHITECTURAL DRAWINGS FOR SLOPES, DEPRESSIONS, DROPS AND DRAIN LOCATIONS IN SLAB. FOR DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.
2. CJ: DENOTES SLAB-ON-GROUND CONTROL JOINT. SPACING SHALL NOT EXCEED 15'-0" UNLESS NOTED OTHERWISE.
3. PLACE MIN 10 MIL VAPOR BARRIER OVER TERMITE TREATED, WELL COMPACTED FILL, SEE ARCH.
4. FOR CONCRETE FINISH, SEE ARCH.
5. WF#: DENOTES CONTINUOUS FOOTING, SEE SCHEDULE ON 1/ S201 . ELEVATIONS REFER TO TOP OF FOOTING ELEVATION.
6. F#: DENOTES ISOLATED FOOTING, SEE SCHEDULE ON 2/ S201 . ELEVATIONS REFER TO TOP OF FOOTING ELEVATION.
7. TE-#: DENOTES THICKENED EDGE SLAB, SEE DETAIL ON 3/ S201.
8. ▭ DENOTES 8" THICK LOAD-BEARING CMU WALL REINFORCED WITH #6 AT 2'-0" OC IN GROUT FILLED CELLS. PROVIDE #6 VERT IN GROUT FILLED CELLS AT ALL WALL ENDS, CORNERS, INTERSECTIONS AND AT LOCATIONS NOTED ON PLAN.
9. PIPING MUST PASS OVER COLUMN FOOTINGS, SEE DETAILS FOR PIPE PASSING UNDER WALL FOOTINGS AND TRENCHES ADJACENT TO FOOTINGS. PIPE PASSING UNDER FOOTINGS MUST BE IN PLACE AND INSPECTED BEFORE FOOTINGS ARE PREPARED OR FOOTING MUST STEP BELOW PIPE.
10. GENERAL CONTRACTOR SHALL COORDINATE PLUMBING AND UTILITY LOCATIONS WITH FOUNDATION AS NEEDED. ADDITIONALLY, GENERAL CONTRACTOR SHALL COORDINATE FOUNDATION ELEVATIONS WITH PLUMBING AND UTILITIES AS NEEDED, FORWARD ANY CHANGES REQUIRED TO FOUNDATION LOCATIONS TO STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL.
11. ENGINEERED ALUMINUM CANOPY COLUMNS, SEE NOTES ON SHEET S002. SEE ARCHITECT FOR DIMENSIONS AND ADDITIONAL INFORMATION.



② ROOF FRAMING PLAN

3/32" = 1'-0"

NOTES:

1. SEE ARCH FOR FINISHES, SEE ARCH FOR DIMENSIONS AND ADDITIONAL INFORMATION.
2. ENGINEERED ALUMINUM CANOPY SYSTEM. SEE NOTES ON SHEET S002. SEE ARCHITECT FOR DIMENSIONS AND ADDITIONAL INFORMATION.
3. CTB-X DENOTES CONCRETE TIE BEAMS. SEE SCHEDULE THIS SHEET.

CONCRETE BEAM SCHEDULE

TYPE MARK	SIZE		LONGITUDINAL BARS		STIRRUPS		REMARKS
	WIDTH	HEIGHT	BOTTOM LONG BARS	TOP LONG BARS	STIRRUPS TYPE	STIRRUPS SIZE & SPACING	
CTB-1	7 5/8"	16"	(2) #5	(2) #5	T2	#3 AT 12" OC	
CTB-2	7 5/8"	24"	(2) #5	(2) #5	T2	#3 AT 12" OC	REDUCE TIE SPACING TO 10" OC OVER OPENINGS GREATER THAN 6'-0", PROVIDE (2) #5 BAR CONT EA FACE SPACED EQUALLY BETWEEN TOP AND BOTTOM REINFORCEMENT

WILLIAM JOHN RAIOLA
No. 80234

WILLIAM J. RAIOLA PE NO.: 80234

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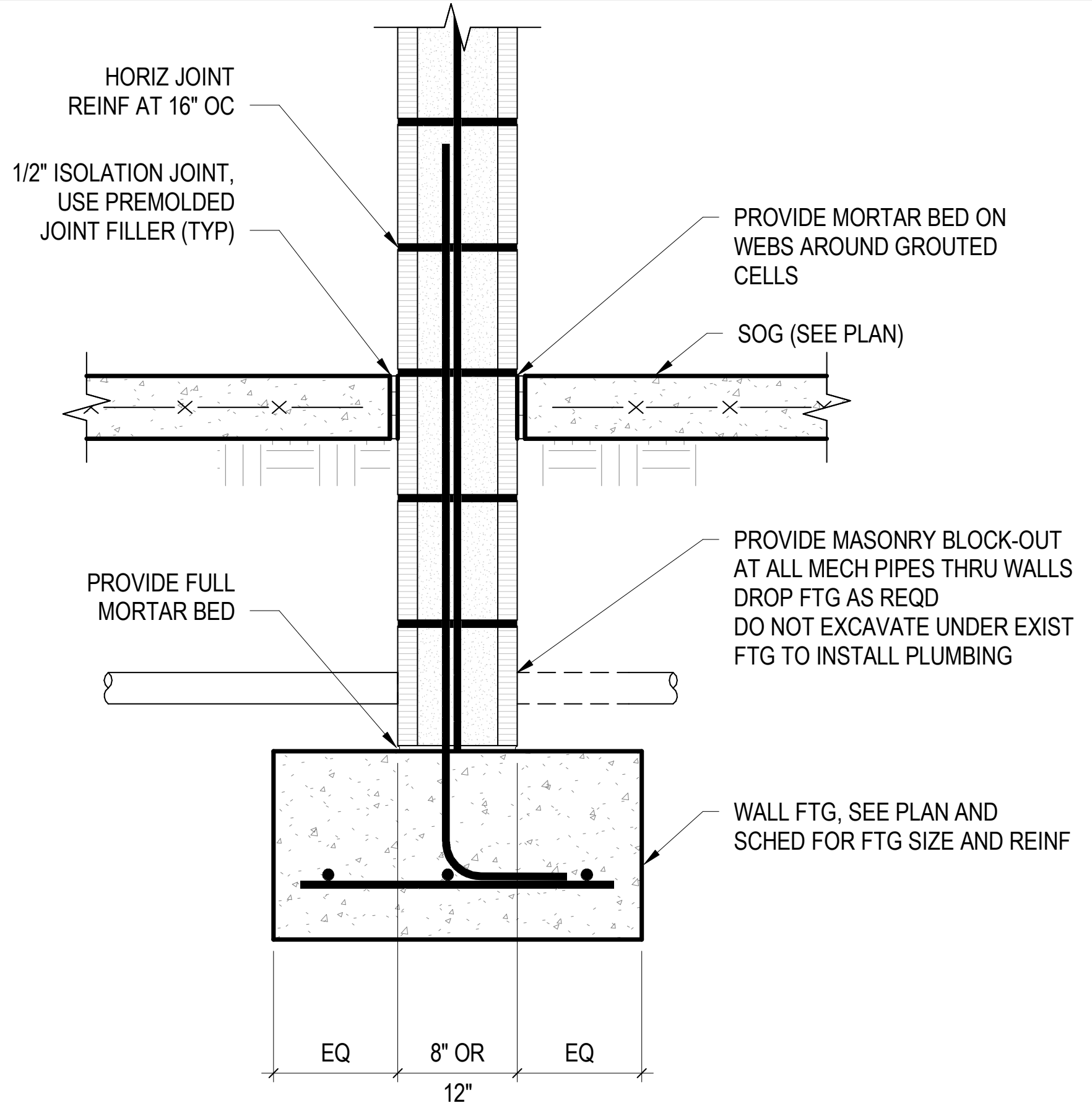
S101

CONTINUOUS WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING
WF-1	2' - 0"	1' - 0"	(2) #5 LONG BOT & #5 TRANS AT 12" OC BOT
WF-2	4' - 0"	1' - 6"	(5) #5 LONG TOP & BOT & #5 TRANS AT 10" OC TOP & BOT

ISOLATED FOOTING SCHEDULE

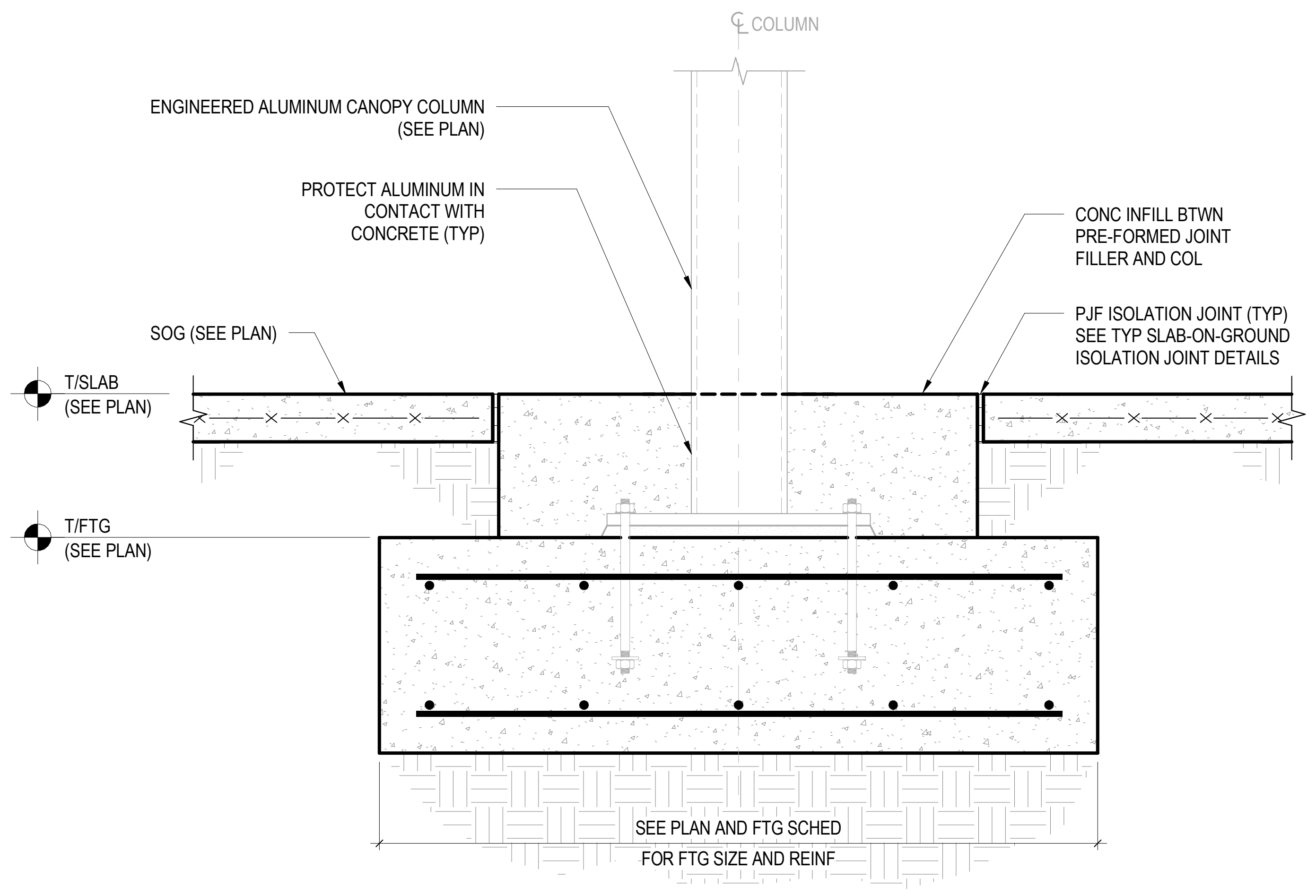
MARK	LENGTH	WIDTH	THICKNESS	TOP REBAR - LONG BARS	TOP REBAR - SHORT BARS	BOTTOM REBAR - LONG BARS	BOTTOM REBAR - SHORT BARS	Comments
F4.7	7' - 0"	4' - 0"	1' - 6"	(6) #5	(11) #5	(6) #5	(11) #5	
F7.5	7' - 6"	7' - 6"	1' - 6"	(10) #5	(10) #5	(10) #5	(10) #5	



WALL FOOTING DETAIL AT EXTERIOR

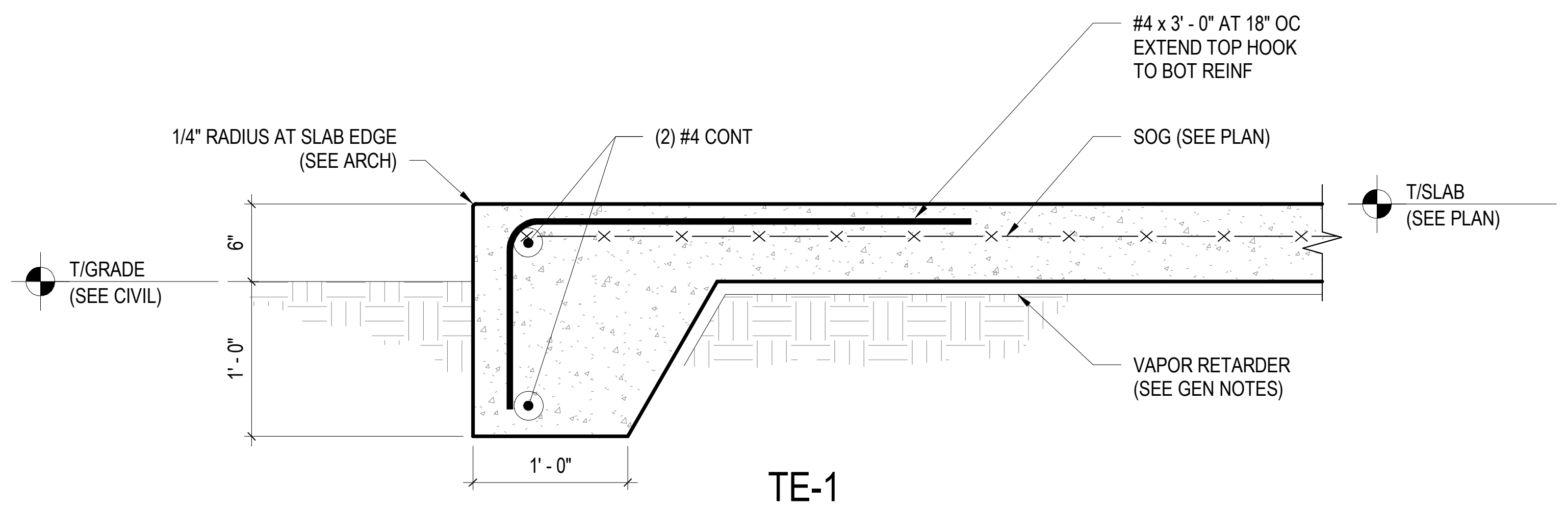
1 DETAIL

1" = 1'-0"



2 SECTION

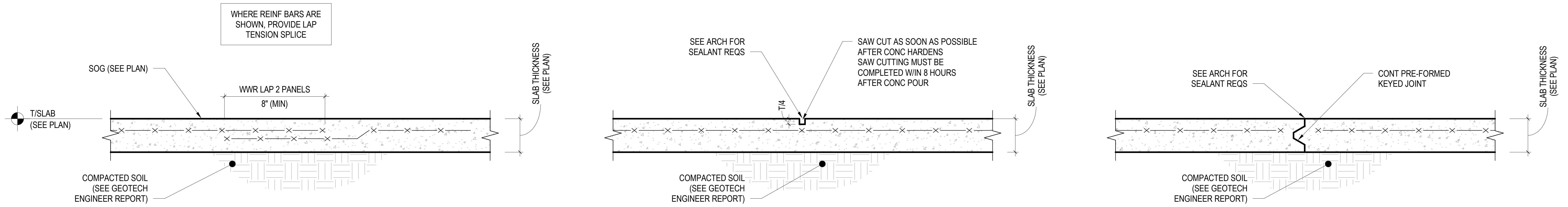
1" = 1'-0"



TE-1
TYPICAL SLAB EDGE

3 DETAIL

1" = 1'-0"



SLAB-ON-GROUND

SAW CUT JOINT

CONSTRUCTION JOINT

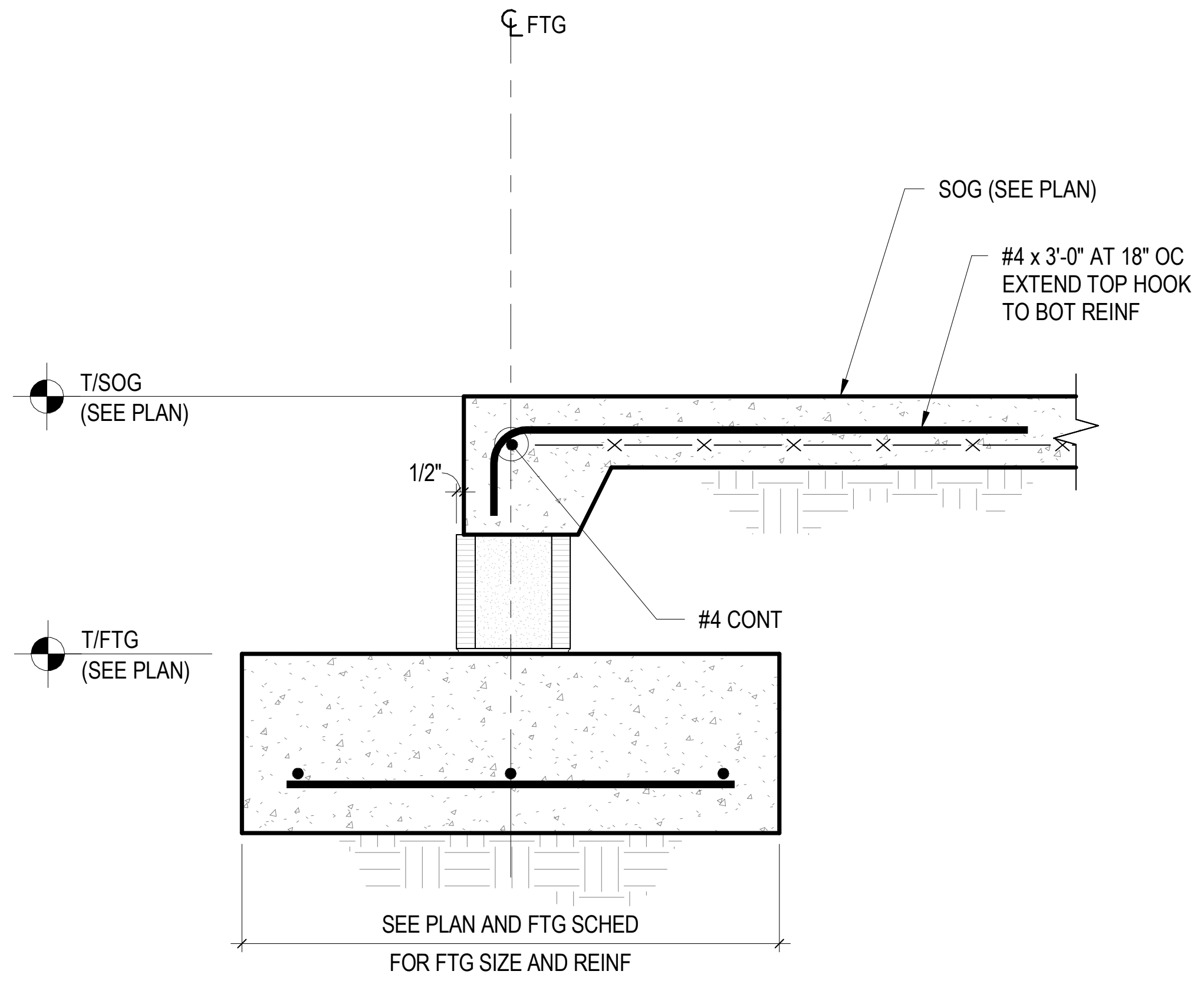
NOTES:

1. WHERE NOT INDICATED ON PLAN PROVIDE JOINTS AT COLUMN CENTER LINES AND BETWEEN COLUMN CENTER LINES WITH SPACING OF JOINTS NOT TO EXCEED 36 TIMES THE SLAB THICKNESS

TYPICAL SLAB-ON-GROUND DETAILS

4 DETAIL

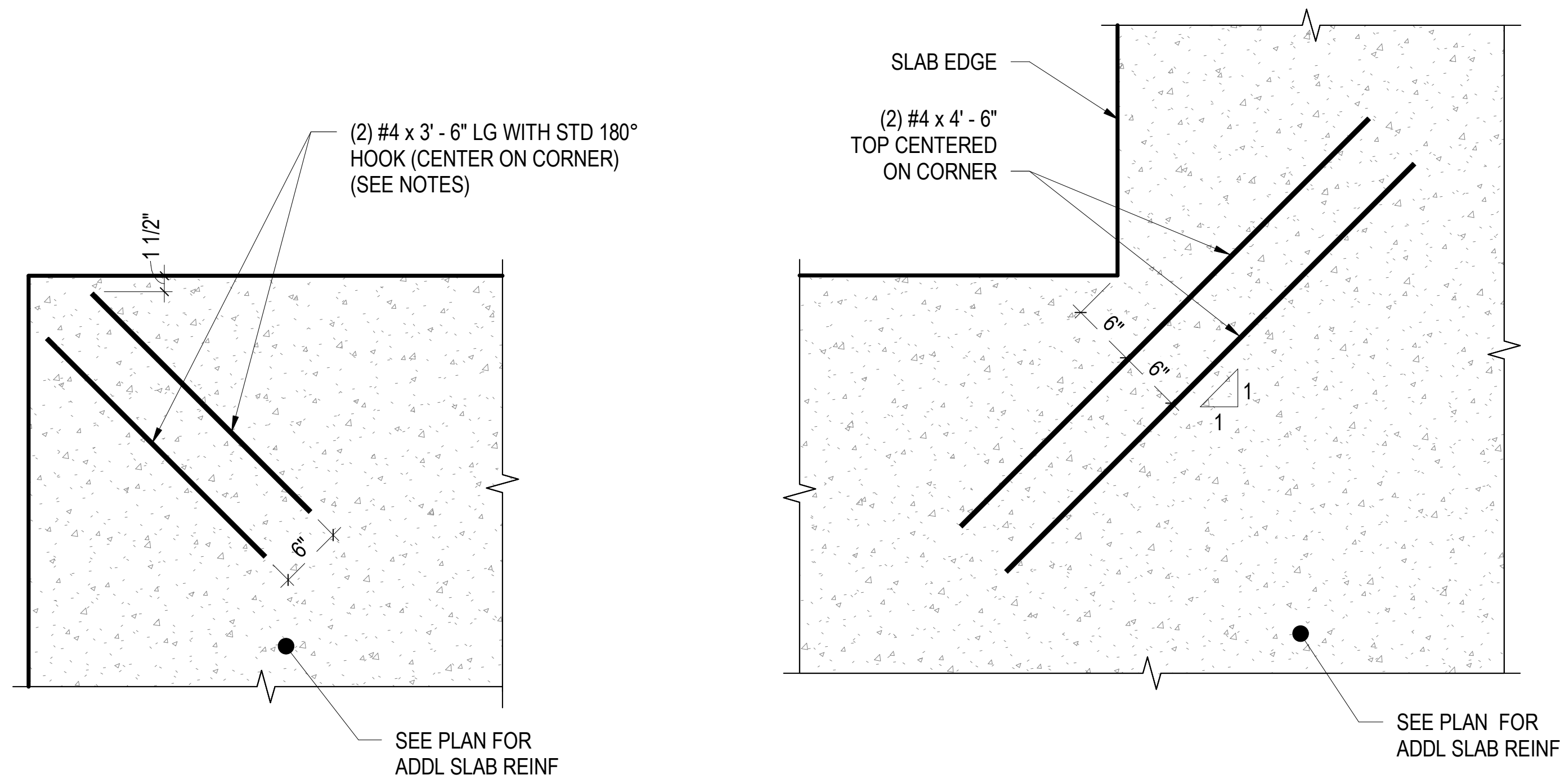
1" = 1'-0"



TYPICAL THRESHOLD

5 SECTION

1" = 1'-0"



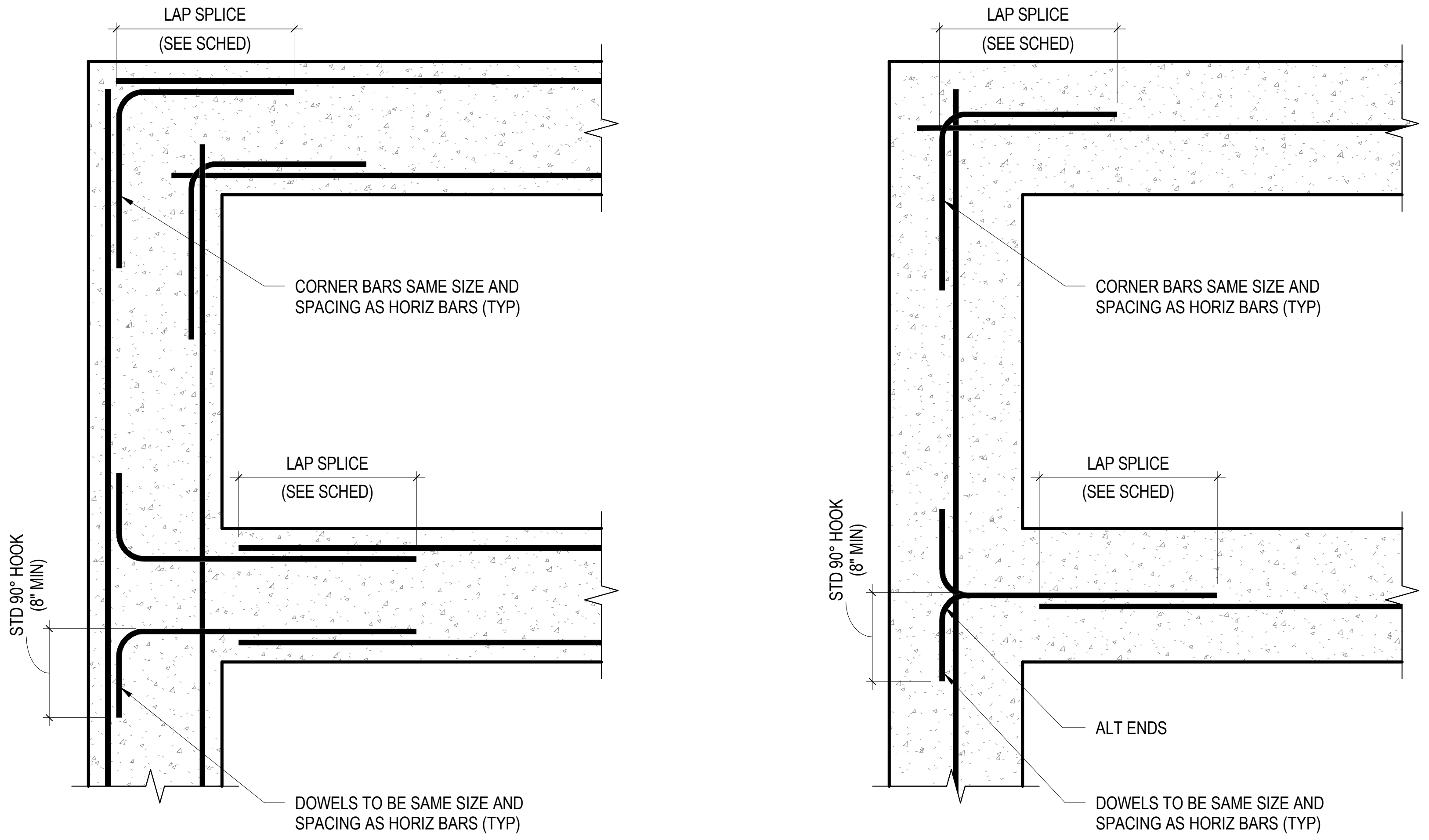
TYPICAL ADDITIONAL SLAB CORNER REINFORCEMENT

NOTES:

1. INSTALL BELOW TOP LAYER OF SLAB REINFORCING.

6 DETAIL

3/4" = 1'-0"



TYPICAL CORNER BARS FOR CONCRETE WALL AND FOOTING CONSTRUCTION

7 DETAIL

1" = 1'-0"

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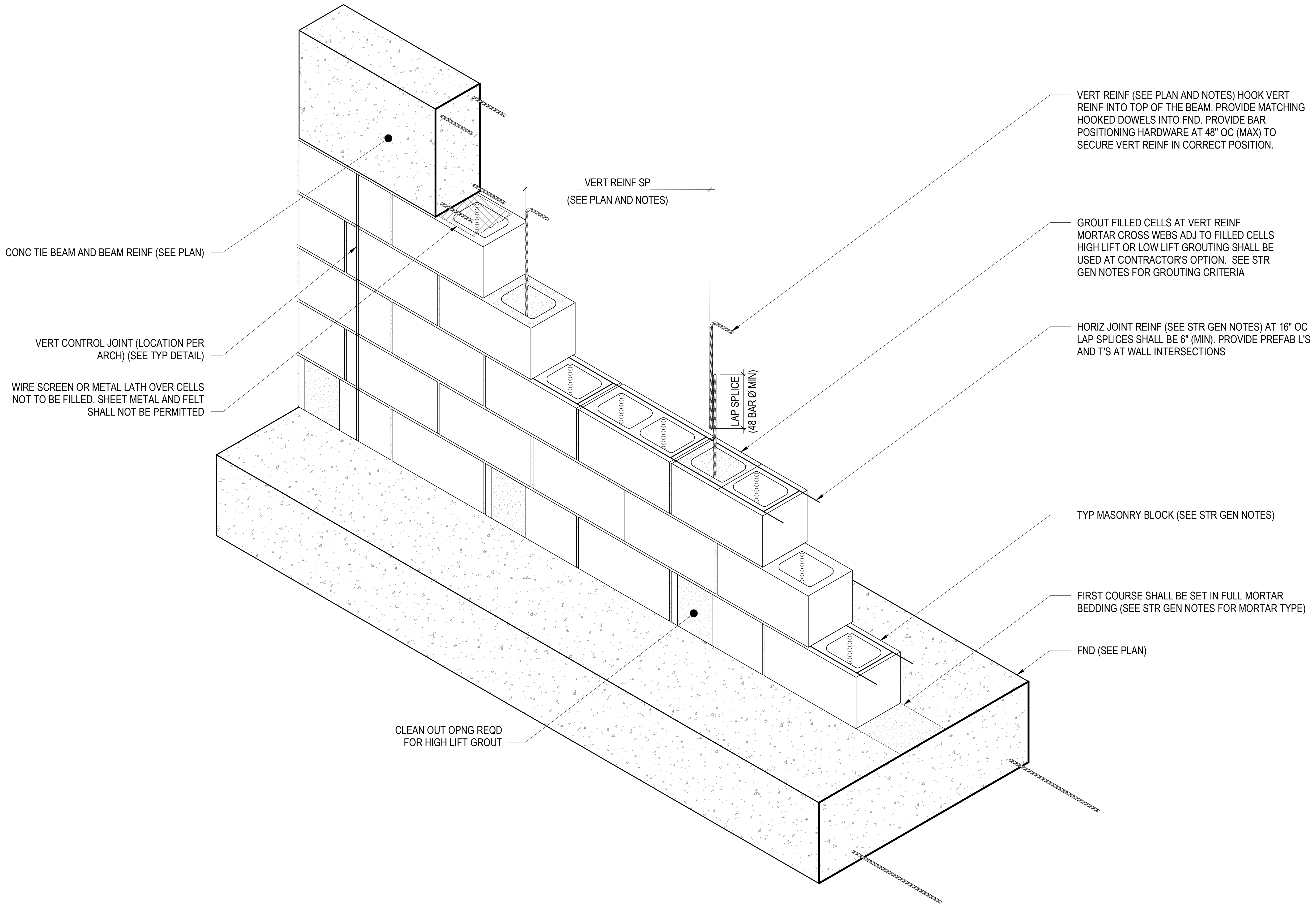
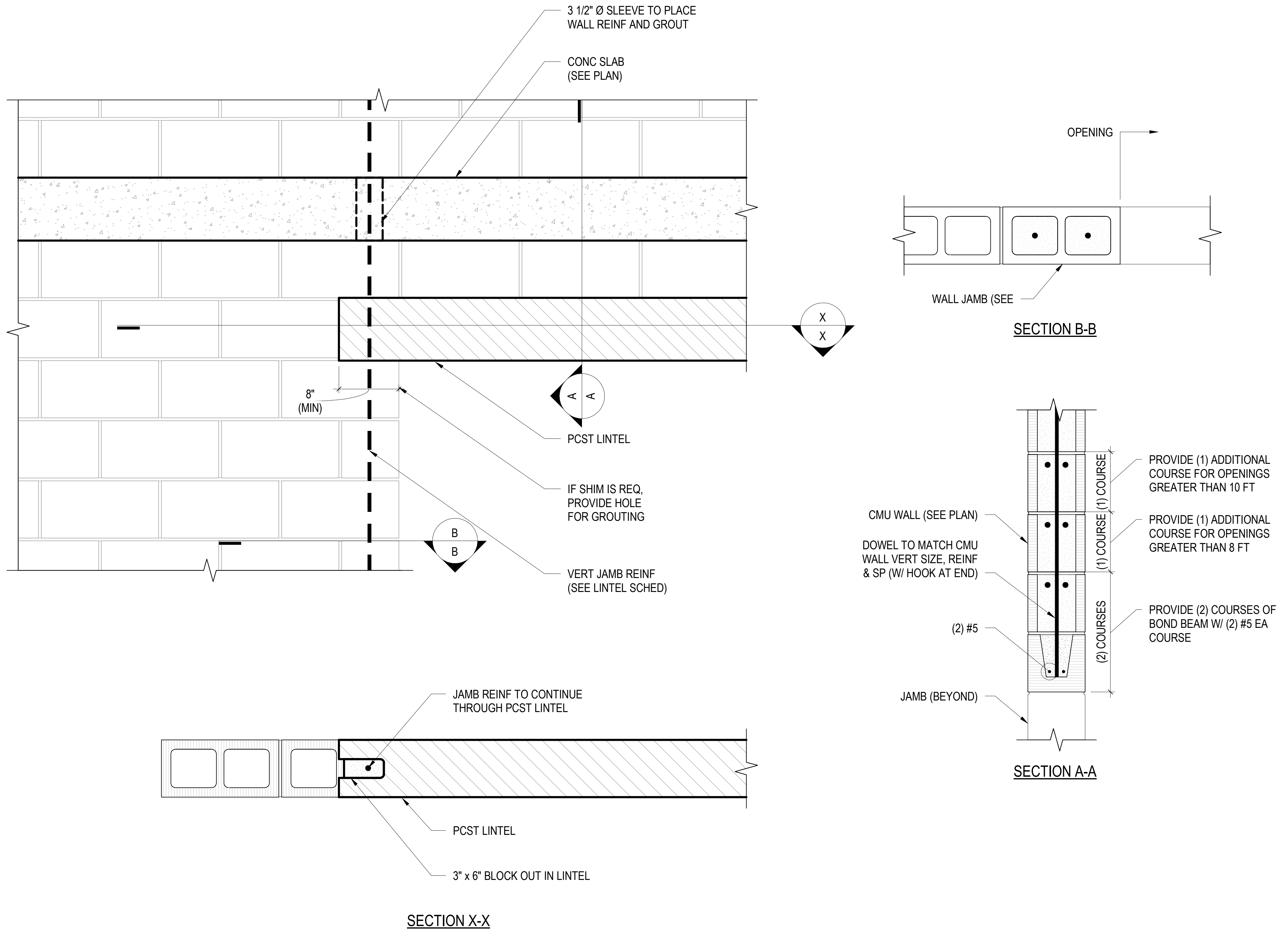


CMU WALL CONSTRUCTION

1 DETAIL

1" = 1'-0"



SECTION X-X

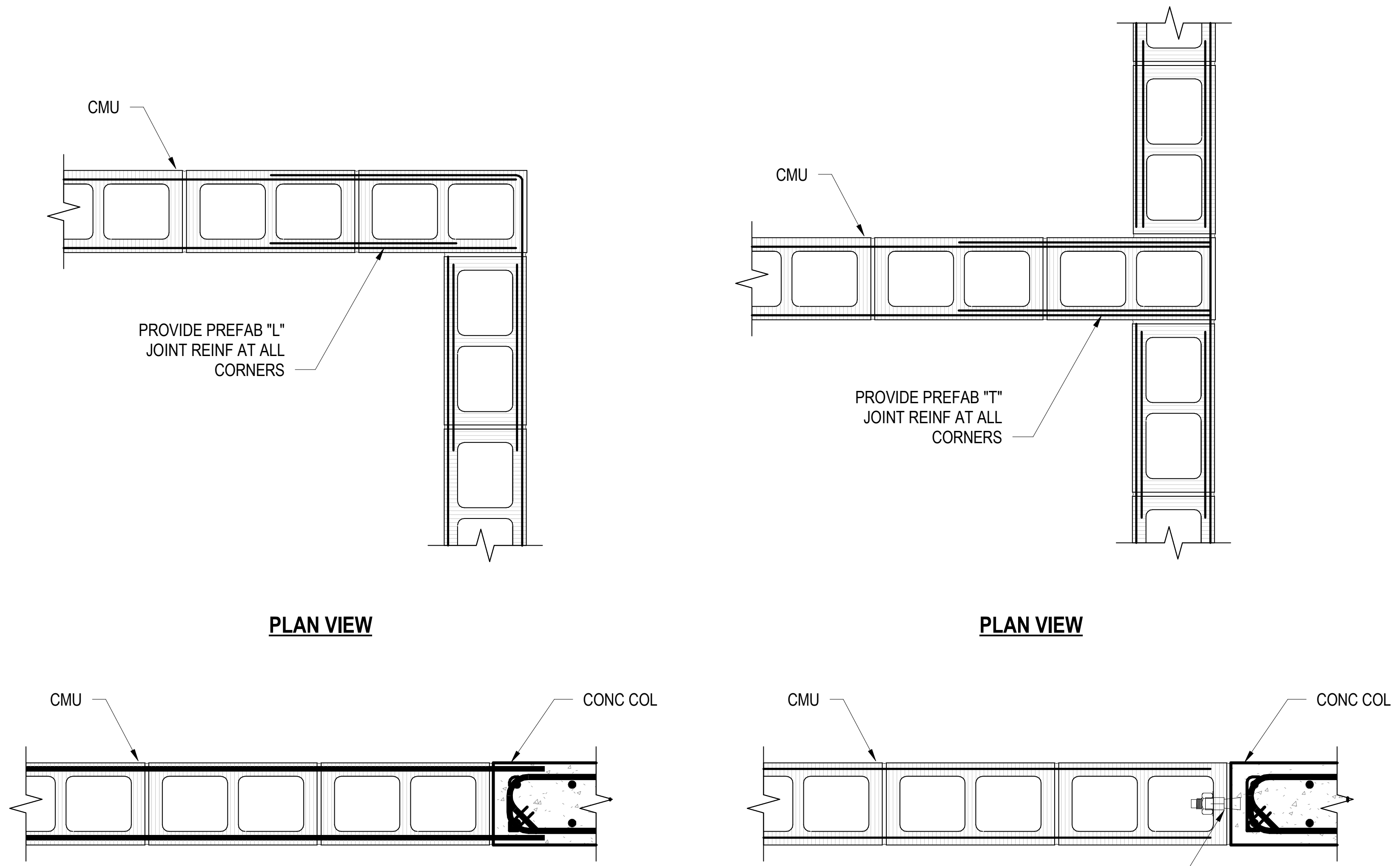
SECTION B-B

SECTION A-A

CMU PRECAST LINTEL SUPPORT

2 SECTION

1" = 1'-0"



PLAN VIEW

PLAN VIEW

PLAN VIEW

(CMU LAID BEFORE COL)

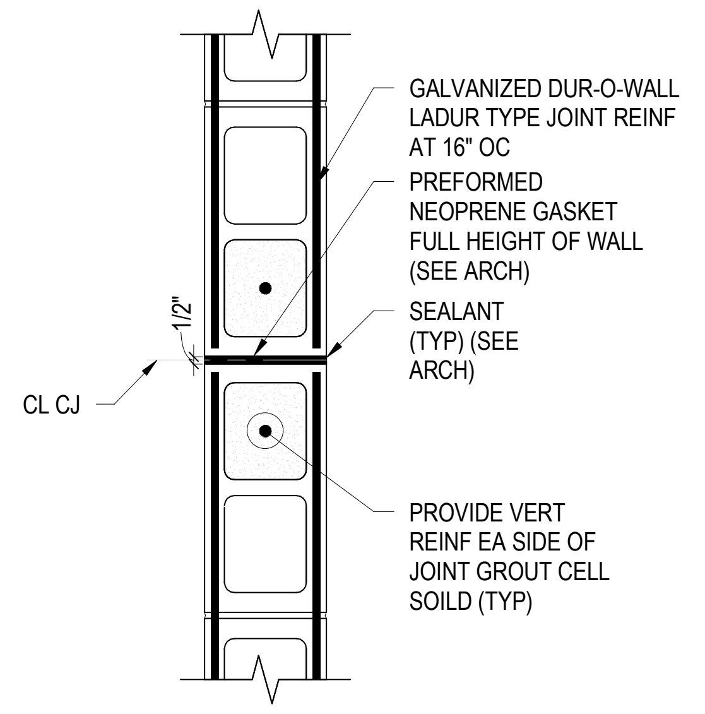
PLAN VIEW

(CMU LAID AFTER COL)

TYPICAL CMU JOINT REINFORCEMENT

3 DETAIL

1" = 1'-0"



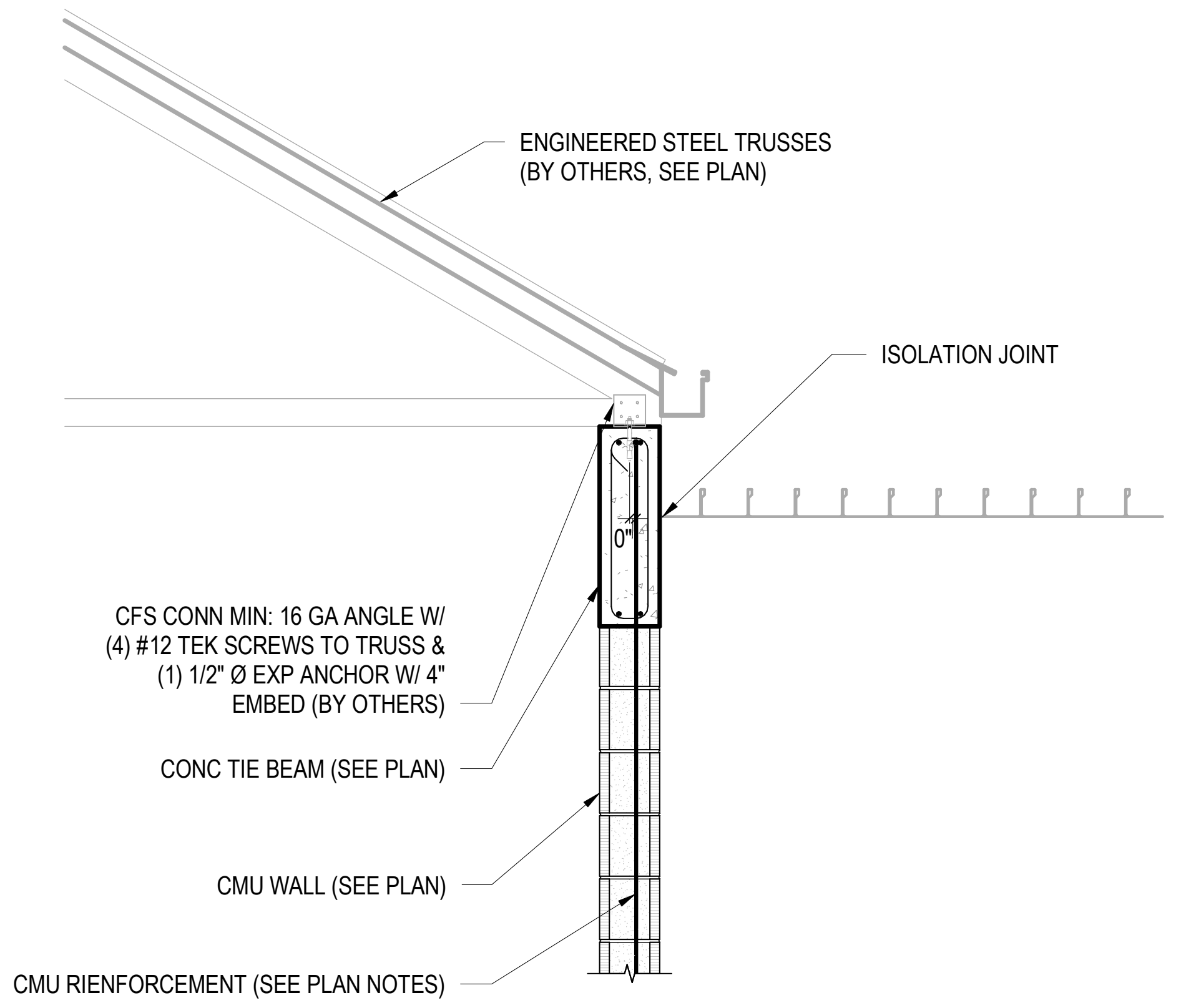
NOTES:

1. HORIZONTAL JOINT REINFORCING SHALL BE STOPPED EACH SIDE OF CONTROL JOINT. TIE BEAM REINFORCING SHALL BE CONTINUOUS THROUGH CONTROL JOINT.
2. CMU CONTROL JOINT LOCATIONS SHALL BE AS SPECIFIED BY ARCHITECT. JOINTS SHALL NOT OCCUR WITHIN 24" FROM THE CENTERLINE OF REINFORCED PILASTERS OR WITHIN 24" OF WALL OPENINGS.

CMU CONTROL JOINT

4 DETAIL

1" = 1'-0"



5 DETAIL

1/2" = 1'-0"

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