MISCELLANEOUS

1. THE STRUCTURAL SYSTEM IS UNSTABLE UNTIL ALL CONNECTIONS HAVE BEEN MADE AND ALL CONCRETE HAS REACHED ITS MINIMUM DESIGN STRENGTH, AS SHOWN IN THE STRUCTURAL DOCUMENTS.

2. THE STRUCTURAL DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES AND SEQUENCES.

3. CONTRACTOR TO SUPPORT, BRACE AND SECURE EXISTING STRUCTURE AS REQUIRED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION.

4. APPLICABLE BUILDING CODE: FLORIDA BUILDING CODE 8TH EDITION (2023).

5. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 8TH EDITION (2023).

6. DESIGN GRAVITY LOADS:

AREA	SUPERIMPOSED LIVE LOAD (FBC, TABLE 1607.1)
ROOF	20 PSF
FLOOR	100 PSF (SLAB-ON-GROUND)
STEEL CANOPY	20 PSF
FABRIC AWNING	5 PSF

AREA	DEAD LOAD
ROOF	20 PSF

7. ULTIMATE DESIGN WIND SPEED = 133 MPH (FBC, FIGURE 1609.3.1)
ASD NOMINAL DESIGN WIND SPEED = 103 MPH (FBC, TABLE 1609.3.1)
RISK CATEGORY II (FBC, TABLE 1604.5)
REFER TO 1/S2.1 FOR WIND PRESSURES AND MORE INFO.

8. RAIN INTENSITY: 7.32 IN/HR (15-MIN), 4.08 IN/HR (60-MIN)

9. COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. DO NOT SCALE DRAWINGS.

10. CONTACT ENGINEER WITH ANY QUESTIONS OR DISCREPANCIES FOUND ON DRAWINGS.

11. THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

12. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL OF RECORD.

13. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.

14. THE CONTRACTOR SHALL INFORM THE PROFESSIONAL OF RECORD IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE PROFESSIONAL OF RECORD'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE PROFESSIONAL OF RECORD OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE PROFESSIONAL OF RECORD HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.

MATERIAL AND SHOP DRAWING SUBMITTALS

1. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND MARKED "APPROVED" PRIOR TO SUBMITTING TO THE ARCHITECT. NON-CONFORMING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.

2. SUBMIT SHOP DRAWINGS AS REQUIRED HEREIN IN DIGITAL PDF FORMAT WITH A HIGH-RESOLUTION. ALLOW FOR TWO WEEKS REVIEW TIME AFTER RECEIPT OF SUBMITTALS BY THIS FIRM. ALL SUBMITTALS SHALL BE SIGNED/SEALED BY THE SPECIALTY OR DELEGATED ENGINEER, AS NOTED BELOW. REFER TO THE SPECIFIC SECTION ON THIS SHEET FOR MORE INFORMATION REGARDING THE SHOP DRAWING SUBMITTAL.
   A) STRUCTURAL STEEL
   B) CONCRETE MIX DESIGN
   C) CONCRETE REINFORCING STEEL
   D) MASONRY REINFORCING STEEL
   E) PRECAST CONCRETE MASONRY
   F) STEEL JOISTS
   G) METAL DECK
   H) COLD-FORMED METAL FRAMING DATA

3. CONTRACTOR SHALL NOT BE RELIEVED FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS OR MIX DESIGNS BY THE ENGINEER'S REVIEW THEREOF.

4. SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTHS, DIMENSIONS, ETC.

5. SHOP DRAWING REVIEW COMMENTS BY THIS FIRM SHALL BE TRANSMITTED TO THE ARCHITECT OF RECORD ONLY FOR THEIR REVIEW. THE ARCHITECT WILL TRANSMIT AN ELECTRONIC COPY OF ALL REVIEWED SUBMITTALS TO THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DISTRIBUTING THE REVIEWED SHOP DRAWINGS TO THE IMPACTED TRADES OR SUBCONTRACTORS.

6. CHANGES AND ADDITIONS MADE ON SHOP DRAWING RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED AS SUCH. THE PURPOSE OF THE RE-SUBMITTAL SHALL BE NOTED IN THE SUBMITTAL OR ON A TRANSMITTAL ATTACHED TO THE SHOP DRAWINGS. A RE-REVIEW OF THE REVISED SHOP DRAWING SUBMITTAL WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL. THE CONTRACTOR IS RESPONSIBLE FOR THE COSTS ASSOCIATED WITH RE-SUBMITTING MULTIPLE (MORE THAN ONE) SHOP DRAWING SUBMITTALS AT THE ENGINEER OF RECORD'S HOURLY RATES.

DELEGATED ENGINEERING

1. A LICENSED PROFESSIONAL (DELEGATED) ENGINEER SHALL BE RETAINED TO DESIGN THE FOLLOWING:
   1) OPEN-WEB STEEL JOISTS
   2) PRE-FABRICATED CANOPIES
   3) PRE-FABRICATED ACCESS LADDER AND FALL PROTECTION

2. THE DELEGATED ENGINEER SHALL BE EXPERIENCED IN THE DESIGN OF THE REFERENCED PRODUCT OR ASSEMBLY.

3. THE DELEGATED ENGINEER MUST BE PROVIDED WITH A COPY OF THESE DRAWINGS AND SPECIFICATIONS.

4. IT IS THE DELEGATED ENGINEER'S RESPONSIBILTY TO REVIEW THE ENGINEER OF RECORD'S WRITTEN ENGINEERING REQUIREMENTS AND AUTHORIZATION FOR THE DELEGATED ENGINEERING DOCUMENT TO DETERMINE THE APPROPRIATE SCOPE OF ENGINEERING.

5. THE DELEGATED ENGINEERING DOCUMENT SHALL COMPLY WITH THE WRITTEN ENGINEERING REQUIREMENTS RECEIVED FROM THE ENGINEER OF RECORD. THEY SHALL INCLUDE THE PROJECT IDENTIFICATION AND THE CRITERIA USED AS A BASIS FOR ITS PREPARATION. IF A DELEGATED ENGINEER DETERMINES THERE ARE DETAILS, FEATURES OR UNANTICIPATED PROJECT LIMITS WHICH CONFLICT WITH THE WRITTEN ENGINEERING REQUIREMENTS PROVIDED BY THE ENIGINEER OF RECORD, THE DELEGATED ENGINEER SHALL TIMELY CONTACT THE ENGINEER OF RECORD FOR RESOLUTION OF CONFLICTS.

6. THE DELEGATED ENGINEER SHALL FORWARD THE DELEGATED ENGINEERING DOCUMENT TO THE ENGINEER OF RECORD FOR REVIEW. ALL FINAL DELEGATED ENGINEERING DOCUMENTS REQUIRE THE SEAL AND SIGNATURE OF THE DELEGATE ENGINEER AND INCLUDE: A) DRAWINGS INTRODUCING ENGINEERING INPUT SUCH AS DEFINING THE CONFIGURATION OR STRUCTURAL CAPACITY OF STRUCTURAL COMPONENTS AND/OR THEIR ASSEMBLY INTO STRUCTURAL SYSTEMS. B) CALCULATIONS.

SITE WORK

1. A SUBSURFACE INVESTIGATION AND REPORT SHALL BE PROVIDED BY THE OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY ASSUMED SOIL BEARING PRESSURE. ALL SITE PREPARATION SHALL BE DONE IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT.

2. THE SLAB/FOUNDATION DESIGN IS BASED ON A "SPREAD OR CONTINUOUS FOOTINGS" OPTION.

3. ASSUMED SOIL BEARING PRESSURE = 2,000 PSF.

4. TESTING MAY INCLUDE, BUT IS NOT LIMITED TO, DENSITY TESTS, AUGER BORINGS, OR STANDARD PENETRATION BORINGS.

5. A COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR.

6. THE TESTING LABORATORY SHALL SPECIFY SOIL PREPARATION PROCEDURES AND COMPACTION REQUIREMENTS NECESSARY TO OBTAIN THE DESIGN SOIL BEARING PRESSURE.

7. A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE PRESENT TO OVERSEE THE SUBGRADE MODIFICATION, TO EVALUATE THE SUBGRADE SOILS FOR SUITABLILITY, TO DETERMINE THE FOR DENSITY. THE CONTRACTOR/OWNER SHALL USE THE SAME GEOTECHNICAL ENGINEER THAT PREPARED THE GEOTECHNICAL REPORT FOR FOUNDATION TESTING/INSPECTIONS.

8. FOUNDATION WALLS THAT RETAIN EARTH SHALL BE BRACED AGAINST BACKFILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE.

9. THE SIDES OF FOOTINGS MAY BE EARTH-FORMED IF THE EXCAVATION CAN BE KEPT VERTICAL, CLEAN, AND STABLE; OTHERWISE, PLYWOOD FORMS MUST BE USED.

CAST IN PLACE CONCRETE

1. CONCRETE TO BE NORMAL WEIGHT WITH THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS:
   A) FOOTINGS, SLAB-ON-GRADE.........3000 PSI
   B) COLUMNS, BEAMS..........................4000 PSI

2. CONCRETE SHALL BE READYMIX PER ASTM C94:
   A) PORTLAND CEMENT – ASTM C 150
   B) AGGREGATES – ASTM C33 (3/4" MAX.)
   C) NO CALCIUM CHLORIDE
   D) AIR ENTRAINING – ASTM C260
   E) WATER REDUCING – ASTM C494
   F) FLYASH – ASTM C618 CLASS F (20% MAXIMUM BY WEIGHT)
   G) WATER – CLEAN AND POTABLE

3. REINFORCING STEEL: ASTM A615 GRADE 60.

4. REQUIRED SLUMP RANGE = 3" TO 5".

5. WELDED WIRE FABRIC: ASTM A-185. FURNISH IN SHEETS, NOT ROLLS.

6. MOISTURE/VAPOR RETARDER: 10 MIL POLYETHYLENE. LAP 6" AND TAPE ALL JOINTS.

7. CODES AND STANDARDS: (CURRENT EDITION)
   ACI 301 "SPEC FOR STRUCTURAL CONCRETE FOR BUILDINGS."
   ACI 305 "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING."
   ACI 318 "BLDG. CODE REQUIREMENTS FOR REINF. CONCRETE."
   ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."

8. MINIMUM LAP SPLICE = 30 BAR DIAMETERS UNLESS NOTED OTHERWISE.

9. PROVIDE PROPERLY TIED SPACERS, CHAIRS, BOLSTERS, ETC, AS REQUIRED AND NECESSARY TO ASSEMBLE, PLACE AND SUPPORT ALL REINFORCING IN PLACE. USE WIRE BAR TYPE SUPPORTS COMPLYING WITH CRSI RECOMMENDATIONS. USE PLASTIC TIP LEGS ON ALL EXPOSED SURFACES.

10. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL OPENINGS, SLEEVES, AND SLAB RECESSES AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED. NO SLEEVE, OPENING, OR INSERT MAY BE PLACED IN BEAMS, JOISTS, OR COLUMNS UNLESS APPROVED BY THE ENGINEER.

11. CONTRACTOR SHALL VERIFY EMBEDDED ITEMS, INCLUDING BUT NOT LIMITED TO ANCHOR BOLTS, BOLT CLUSTERS, WELD PLATES, ETC..., BEFORE PLACING CONCRETE. NOTIFY ENGINEER OF ANY CONFLICTS WITH REBAR.

12. SEE ARCHITECTURAL DRAWINGS FOR REQUIRED CONCRETE FINISHES.

13. ALL CONCRETE SHALL BE CURED IMMEDIATELY AFTER FINISHING OPERATIONS IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS:
   A) APPLY A 30% SOLIDS LIQUID MEMBRANE FORMING CHEMICAL CURING COMPOUND IN ACCORDANCE WITH ASTM C-309.
   B) PROVIDE CONTINUOUS MOISTURE TO CONCRETE IN ACCORDANCE WITH ACI 301.

14. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE PROPER DESIGN AND CONSTRUCTION OF ALL FORMWORK, SHORING, AND RESHORING. DESIGN SHALL BE PERFORMED BY A LICENSED FLORIDA ENGINEER.

15. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO PERFORM THE FOLLOWING CONCRETE TESTS ON SITE.
   A) CYLINDER STRENGTH TESTS – ASTM C39; ONE SET OF FOUR CYLINDERS FOR EACH 50 CUBIC YARDS OR FRACTION THEREOF. TEST ONE CYLINDER AT 7 DAYS AND TWO AT 28 DAYS. HOLD THE FINAL CYLINDER IN RESERVE.
   B) SLUMP TESTS – ASTM C143

16. ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR.

17. RESTRICT THE ADDITION OF MIX WATER AT THE JOB SITE. DO NOT ADD WATER WITHOUT THE APPROVAL OF THE GENERAL CONTRACTOR AND DO NOT EXCEED SLUMP LIMITATIONS OR TOTAL ALLOWABLE WATER TO CEMENT RATIO. USE COLD WATER FROM THE TRUCK TANK AND REMIX TO ACHIEVE CONSISTENCY. TEST REPORTS SHALL INDICATE QUANTITY OF WATER ADDED AT THE JOB SITE. ALL TESTS SHALL BE PREPARED AFTER THE ADDITION OF WATER TO THE MIX.

18. MAXIMUM WATER TO CEMENT RATIO WHEN NO BACK-UP DATA IS AVAILABLE:
   A) 4000 PSI, 28-DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.44 MAXIMUM (NON-AIR-ENTRAINED), 0.36 MAXIMUM (AIR-ENTRAINED).
   B) 3000 PSI, 28-DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.58 MAXIMUM (NON-AIR-ENTRAINED), 0.47 MAXIMUM (AIR-ENTRAINED).

19. REINFORCING BAR COVER:
   A) FOOTINGS 3"
   B) COLUMNS 1-1/2"
   C) BEAMS 1-1/2"

20. CONCRETE SHALL BE PLACED WITHIN 90 MINUTES OF BATCH TIME.

21. WHERE BAR LENGTHS ARE GIVEN ON DRAWINGS, LENGTH OF HOOK, IF REQUIRED, IS NOT INCLUDED.

22. PROVIDE COMMERCIAL FORM COATING COMPOUNDS THAT WILL NOT BOND, STAIN, OR ADVERSELY AFFECT CONCRETE SURFACES. WET FORMS BEFORE PLACING CONCRETE.

23. ALL CONCRETE SHALL BE CONSOLIDATED IN PLACE USING INTERNAL VIBRATORS.

24. REPAIR AND PATCH DEFECTIVE AREAS WITH CEMENT MORTAR IMMEDIATELY AFTER REMOVAL OF FORMS, EXCEPT WHERE REINFORCING IS VISIBLE. CONTACT STRUCTURAL ENGINEER FOR EVALUATION OF EXPOSED REINFORCING.

25. PROVIDE CORNER BARS AT ALL BEAM AND WALL FOOTING CORNERS TO MATCH HORIZONTAL BARS.

26. SUBMITTALS:
   A) SUBMIT PROPOSED CONCRETE MIX DESIGN PRIOR TO CONSTRUCTION, INCLUDING BACKUP DATA IN ACCORDANCE WITH ACI 301-20 CHAPTER 4, SECTION 4.2.3, EXCLUDING SECTION 4.2.3.4B, INDICATING WHERE CONCRETE IS TO PLACED WITHIN THE STRUCTURE.
   B) SUBMIT DETAILED SHOP DRAWINGS OF REINFORCING BARS SHOWING NUMBER, SIZE, AND LOCATION. INCLUDE BAR LISTS AND BEND DIAGRAMS.

27. SLOPE ALL WALKWAYS AWAY FROM THE BUILDING.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION, EXCEPT CHAPTER 4.2.1, CODE OF STANDARD PRACTICE.

2. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY, AWS D1.1. ALL WELDING SHALL BE PERFORMED USING E70XX, LOW HYDROGEN ELECTRODES, U.N.O. ELECTRODES ARE TO BE PROTECTED FROM MOISTURE.

3. ALL CONNECTIONS TO BE SINGLE PLATE OR DOUBLE ANGLE FRAMED BEAM CONNECTION PER AISC UNLESS NOTED OTHERWISE. ALL BOLTS TO BE 3/4" DIAMETER UNLESS NOTED OTHERWISE. SHOP CONNECTIONS MAY BE WELDED OR BOLTED. WELDS ARE TO BE EQUAL IN STRENGTH TO BOLTS. ALL FIELD CONNECTIONS ARE TO BE BOLTED WITH ASTM A325N OR A490 BOLTS (BEARING TYPE BOLTS WITH THREADS IN THE SHEAR PLANE) INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS. ALL BOLTS SHALL BE TIGHTENED SNUG TIGHT UNLESS OTHERWISE NOTED.

4. SIZE AND USE OF HOLES: SEE AISC TABLE J3.3 U.N.O.
   A) OVERSIZED OR LONG-SLOTTED HOLES ARE NOT PERMITTED U.N.O. MAXIMUM HOLE DIAMETER = BOLT DIAMETER + 1/16".
   B) LARGER HOLES ARE PERMITTED IN STANDARD COLUMN BASE PLATES. MAXIMUM HOLE DIAMETER = BOLT DIAMETER + 3/8". HARDENED WASHERS, TO COVER THE LARGER HOLE, SHALL BE PROVIDED.
   C) LARGER HOLES ARE NOT PERMITTED IN WIND FRAME COLUMN BASE PLATES. MAXIMUM HOLE DIAMETER = BOLT DIAMETER + 1/16".
   D) SLOTTED HOLES: A PLATE WASHER OR A CONTINUOUS BAR WITH STANDARD HOLES, HAVING A SIZE SUFFICIENT TO COMPLETELY COVER THE SLOT AFTER INSTALLATION, AND A MIN. OF 5/16" THICK SHALL BE PROVIDED. TACK WELD NUT TO BOLT AFTER ERECTION.

5. ALL STEEL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER (WITHIN THE MILL TOLERANCE) LOCATED ABOVE THE HORIZONTAL CENTERLINE BETWEEN THE END CONNECTIONS.

6. VERIFY THE EXACT SIZE AND LOCATION OF ALL ROOF OPENINGS FOR MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO FABRICATION OF MATERIALS.

7. SHOP PAINT – METAL ALKYD-OIL PRIMER, ANY OF THE FOLLOWING: SEE ARCHITECT FOR PREFERRED COLOR.

MANUFACTURER	DESIGNATION
PORTER	NO. 298
MOBILE	NO. 13F812
TINEMEC	NO. 1009
AMERON	NO. 5102 AMERCOAT

SHOP PAINT ALL SURFACES OF STEEL EXCEPT ANCHOR BOLTS AND SURFACES TO BE FIELD WELDED. APPLY PAINT IN ACCORDANCE WITH SSPC-PA1, SHOP FIELD AND MAINTENANCE PAINTING. APPLY PAINT IN SUFFICIENT VOLUME OR COATS TO PROVIDE A MINIMUM DRY FILM THICKNESS OF AT LEAST 3 MILS BUT NOT MORE THAN 5 MILS.

8. SURFACE PREPARATION – PREPARE STEEL SURFACE IN ACCORDANCE WITH SSPC-SP3 POWER TOOL CLEANING. ANY METHOD IN CONFORMANCE WITH AN SSPC SPECIFICATION OF HIGHER QUALITY THAN LISTED WILL BE ACCEPTABLE. AT OPTION OF CONTRACTOR, WHEELABRATOR MAY BE USED FOR PREPARATION OF STEEL SURFACES, PROVIDING RESULTANT SURFACE IS EQUAL IN ALL RESPECTS TO THOSE REQUIRED.

9. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO PERFORM THE FOLLOWING TESTS.
   A) VISUALLY INSPECT ALL STEEL MEMBERS AND CONNECTIONS.
   B) TEST 50 PERCENT OF FULL PENETRATION WELDS.

10. ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR.

11. STRUCTURAL STEEL SHAPES, TEES – ASTM A992.

12. STRUCTURAL STEEL ANGLES, CHANNELS, PLATES, BARS – ASTM A36.

13. STRUCTURAL STEEL TUBING – ASTM A500 GRADE B OR C.

14. STEEL PIPE – ASTM A53 GRADE B.

15. ANCHOR BOLTS – F1554 GRADE 36.

16. NO SPLICES SHALL BE PERMITTED IN ANY STRUCTURAL STEEL MEMBER UNLESS SHOWN ON APPROVED SHOP DRAWINGS.

17. SUBMITTALS: CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS SHOWING ALL STRUCTURAL STEEL LAYOUTS AND DETAILS, SIZES OF MEMBERS, TYPE OF STEEL, CONNECTION DETAILS, WELDS, BOLTS, ETC., AS REQUIRED TO FABRICATE AND ERECT ALL STRUCTURAL STEEL FRAMING. ALL CONNECTIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BY THE DETAILER AND SUBMITTED ON SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED FLORIDA ENGINEER. STEEL STAIRS SHALL ALSO BE SUBMITTED ON SEALED DRAWINGS.

18. NON-SHRINK GROUT SHALL BE: NONMETALLIC SHRINKAGE-RESISTANT GROUT, PREMIXED, NONMETALLIC, NONCORROSIVE, NONSTAINING PRODUCT CONTAINING SELECTED SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AGENTS, PLASTICIZING AND WATER-REDUCING AGENTS, COMPLYING WITH CE-CRD-C621.

19. NO FIELD WELDING OF GALVANIZED MEMBERS IS PERMITTED.

20. ERECTION
   A) BEFORE ERECTION, THE CONTRACTOR IS TO REMOVE ALL MUD, DIRT OR OTHER FOREIGN MATTER, WHICH ACCUMULATES DURING HANDLING AND STORAGE.
   B) DRIFTING TO ENLARGE UNFAIR HOLES WILL NOT BE PERMITTED. DRILL SUCH HOLES TO ACCOMMODATE THE NEXT LARGER SIZE FASTENER, WHERE POSSIBLE.
   C) AFTER ERECTION, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS WHERE SHOP COAT HAS BEEN DAMAGED. SPOT AND PRIME AREAS USING SAME MATERIAL AS SHOP COAT.
   D) SET ALL MEMBERS SO THAT, IN THEIR FINAL LOCATION, LEVEL, PLUMBNESS AND ALIGNMENT ARE WITHIN THE TOLERANCES PRESCRIBED BY AISC CODE.

MASONRY

1. MASONRY INSPECTION SHALL BE PROVIDED BY A QUALIFIED AGENT IN ACCORDANCE WITH TMS 602-1.6. INSPECTION SERVICES SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE WORK IN PROGRESS AS WELL AS MATERIALS, EQUIPMENT, AND PROCEDURES.

2. HOLLOW LOAD BEARING UNITS SHALL CONFORM TO ASTM C90, NORMAL WEIGHT, TYPE II. MINIMUM NET COMPRESSIVE UNIT STRENGTH = 1900 PSI. (NET AREA COMPRESSIVE MASONRY STRENGTH F'M = 1500 PSI).

3. MORTAR SHALL BE TYPE M OR S AND CONFORM TO ASTM C270 (PROPORTION OR PROPERTY SPECIFICATION).

4. COARSE GROUT SHALL CONFORM TO ASTM C476:
   A) 3000 PSI AT 28 DAYS.
   B) 1/4" MAXIMUM AGGREGATE.
   C) 8" – 11" SLUMP.

5. CODES AND STANDARDS:
   TMS 402 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
   TMS 602 "SPECIFICATIONS FOR MASONRY STRUCTURES"

6. PLACE ALL MASONRY IN RUNNING BOND WITH 3/8" MORTAR JOINTS. PROVIDE COMPLETE COVERAGE FACE SHELL MORTAR BEDDING, HORIZONTAL AND VERTICAL. FULLY MORTAR WEBS IN ALL COURSES OF PIERS, COLUMNS, AND PILASTERS AND ADJACENT TO GROUTED CELLS.

7. A REINFORCED CONCRETE TIE BEAM SHALL BE PROVIDED IN ALL WALLS SHOWN ON THE STRUCTURAL DRAWINGS AT EACH FLOOR, THE ROOF, AND AT TOP OF ANY PARAPET WALL. USE GALVANIZED MESH-TYPE CELL CAPS. PROVIDE CORNER BARS AT ALL BEAM CORNERS TO MATCH HORIZONTAL BARS.

8. UNLESS NOTED OTHERWISE, TIE BEAMS SHALL BE AS FOLLOWS:
   A) ROOF LEVEL: DOUBLE COURSE KNOCK-OUT BLOCKS WITH (1) #5 BAR IN EACH COURSE, FULLY GROUTED.
   B) TOP OF PARAPET: (1) #5 BAR IN GROUTED KNOCK-OUT BLOCKS.
   C) FLOOR LEVELS: DOUBLE COURSE KNOCK-OUT BLOCKS WITH (1) #5 BAR IN EACH COURSE, FULLY GROUTED.

9. VERTICAL BARS SHALL BE HELD IN POSITION AT THE TOP AND BOTTOM OF BAR AND AT 8'-0" O.C. MAXIMUM WITH A MINIMUM CLEARANCE OF 1/2" FROM MASONRY. THE CLEAR DISTANCE BETWEEN BARS SHALL NOT BE LESS THAN ONE BAR DIAMETER, NOR LESS THAN 1". CENTER BARS IN WALLS U.N.O.

10. VERTICAL REINFORCING SHALL BE AS SHOWN ON THE DRAWINGS. FILL CELLS WITH COARSE GROUT AS SPECIFIED. PROVIDE ACI 90 DEGREE STANDARD HOOKS INTO FOOTING AND ROOF TIE BEAM. LAP SPLICE VERTICAL REINFORCEMENT ABOVE FOOTING AND ABOVE EACH FLOOR LEVEL UNLESS NOTED OTHERWISE. MAINTAIN VERTICAL REINFORCING SHOWN ON PLANS ABOVE AND BELOW MASONRY OPENINGS EXCEEDING 10'-0" CLEAR. CONTINUE FOUNDATION DOWELS BELOW ALL MASONRY OPENINGS.

11. ALL REINFORCED FILL CELLS ARE TO BE CLEAN AND FREE OF ANY FOREIGN MATERIAL OR DEBRIS. REMOVE ANY FOREIGN MATERIAL FROM FILL CELLS, INCLUDING POLYSTYRENE INSULATING INSERTS, PRIOR TO GROUT POUR.

12. REINFORCING BARS SHALL BE STRAIGHT EXCEPT FOR BENDS AROUND CORNERS AND WHERE BENDS OR HOOKS ARE DETAILED ON THE PLANS.

13. WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL CORE, IT SHALL NOT BE SLOPED MORE THAN ONE HORIZONTAL IN SIX VERTICALS. DOWELS SHALL BE GROUTED INTO A CORE IN VERTICAL ALIGNMENT, EVEN THOUGH IT IS IN AN ADJACENT CELL TO THE VERTICAL WALL REINFORCEMENT.

14. PROVIDE CONTINUOUS HORIZONTAL WALL REINFORCING 9 GA. HOT-DIPPED GALVANIZED LADDER TYPE DUR-O-WALL (OR EQUIVALENT) AT 16" O.C.

15. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT DOORS AND WINDOWS FOR FIRST AND SECOND BLOCK COURSE ABOVE AND BELOW APERTURES. RUN REINFORCING CONTINUOUS OR EXTEND TWO FEET FROM APERTURE EDGE.

16. WIRE REINFORCEMENT SHALL BE LAPPED AT LEAST 6" AT SPLICES AND SHALL CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT IN THE LAPPED DISTANCE.

17. CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE OF MASONRY IN EACH GROUT POUR WHEN THE POUR HEIGHT EXCEEDS 5'. CLEANOUTS TO BE SAW-CUT 3" X 3".

18. GROUT POUR HEIGHT SHALL NOT EXCEED 24'. PLACE GROUT IN 5' MAX. LIFTS HEIGHTS.

19. CONSOLIDATE GROUT POURS AT THE TIME OF PLACEMENT BY MECHANICAL MEANS AND RECONSOLIDATE AFTER INITIAL WATER LOSS AND SETTLEMENT.

20. SEE DRAWINGS FOR MASONRY CONTROL JOINT LOCATIONS.

21. SUBMITTALS:
   A) SUBMIT PROPOSED GROUT MIX DESIGN PRIOR TO CONSTRUCTION.
   B) SUBMIT PROPOSED MORTAR MIX DESIGN PRIOR TO CONSTRUCTION.
   C) SUBMIT DETAILED SHOP DRAWINGS OF REINFORCING BARS SHOWING NUMBER, SIZE, AND LOCATION. INCLUDE BAR LISTS AND BEND DIAGRAMS.
   D) SUBMIT COMPRESSIVE STRENGTH TESTS OF PROPOSED MASONRY UNITS PRIOR TO CONSTRUCTION. MASONRY UNITS ARE TO BE TESTED IN ACCORDANCE WITH ASTM C140.

22. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO PERFORM THE FOLLOWING TESTS:
   A) SAMPLE AND TEST GROUT IN ACCORDANCE WITH ASTM C1019 FOR EACH 5000 SQ. FT. OF MASONRY.
   B) SLUMP TESTS – ASTM C143.

23. PROVIDE 8" DEEP PRECAST REINFORCED CONCRETE LINTELS OVER ALL MASONRY OPENINGS NOT SHOWN TO HAVE A STRUCTURAL BEAM. MINIMUM END BEARING = 8". LINTEL WIDTH TO MATCH MASONRY WIDTH.

POST INSTALLED ANCHORS

1. ADHESIVE ANCHORAGES, WHERE SPECIFIED ON THE DRAWINGS, SHALL CONFORM TO THE FOLLOWING –
   CONCRETE ADHESIVE ANCHORS:
   HILTI HIT-RE 500-V3 ESR-3814
   HILTI HIT-HY270
   SIMPSON SET-3G

2. DRILLING SHALL BE PERFORMED WITH A ROTARY HAMMER DRILL AND CARBIDE TIPPED DRILL BIT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE APPLICABLE ICC EVALUATION REPORT.

3. BORE HOLE CLEANING PROCEDURES MUST COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS AND THE APPLICABLE ICC EVALUATION REPORT IN ORDER TO PRODUCE A DRY, DUST-FREE HOLE.

4. INJECTION OF ADHESIVE SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND THE APPLICABLE ICC EVALUATION REPORT IN ORDER TO PRODUCE AN AIR-VOID FREE INJECTION.

5. SPECIAL CONDITIONS SUCH AS WATER SATURATED CONCRETE, WATER-FILLED HOLES, UNDERWATER AND OVERHEAD INSTALLATIONS MUST BE APPROVED BY THE ENGINEER OF RECORD AND COMPLY WITH THE APPLICABLE ICC-ES REPORT.

6. STEEL ANCHORING ELEMENTS SHALL BE THE SIZE AND GRADE SHOWN ON THE DRAWINGS AND MUST BE CLEAN, DRY AND FREE OF ANY OIL OR CONTAMINANTS.

7. SUBSTITUTIONS FOR ANCHOR SYSTEMS MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO INSTALLATION AND SHALL HAVE A VALID ICC-ES EVALUATION IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.

8. ALL ANCHOR EMBED DEPTHS SPECIFIED ON THESE DRAWINGS ARE EFFECTIVE EMBEDMENT DEPTHS. ADDITIONAL ANCHOR LENGTH AND OR HOLE DEPTH SHALL BE PROVIDED AS REQUIRED BY THE ANCHOR MANUFACTURER AND ASSOCIATED CODE APPROVALS.

OPEN WEB STEEL JOISTS AND JOIST GIRDERS (NOTED "JOISTS" HEREIN)

1. STEEL JOIST MANUFACTURER SHALL BE A MEMBER OF THE STEEL JOIST INSTITUTE. STEEL JOISTS SHALL BE DESIGNED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF THE STEEL JOIST INSTITUTE (SJI 100-2015).

2. STEEL JOISTS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE AISC STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS.

3. SEE STANDARD JOIST SPECIFICATIONS FOR CAMBER REQUIREMENTS.

4. VERIFY THE EXACT LOCATION AND WEIGHT OF ALL MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO FABRICATION OF JOISTS.

5. ALL HANGERS TO SUPPORT MECHANICAL EQUIPMENT, ETC., TO BE SUPPORTED BY THE TOP OR BOTTOM CHORD OF JOISTS SHALL BE LOCATED AT THE PANEL POINT OF THE JOIST. IF HANGERS MUST BE LOCATED IN BETWEEN PANEL POINTS, PROVIDE JOIST STIFFENER AS INDICATED IN DETAILS. ALL HANGERS TO BE LOCATED AT THE CENTERLINE OF THE BOTTOM CHORD MEMBER.

6. JOIST MANUFACTURER SHALL DESIGN ROOF JOISTS AND BRIDGING FOR THE NET WIND LOAD UPLIFT INDICATED ON THE DRAWINGS. PROVIDE UPLIFT BRIDGING AT FIRST JOIST PANEL POINTS ACCORDING TO S.J.I.

7. WHERE COLUMNS ARE NOT FRAMED IN AT LEAST TWO DIRECTIONS WITH STRUCTURAL STEEL MEMBERS, A BAR JOIST SHALL BE FIELD-BOLTED AT COLUMNS TO PROVIDE LATERAL STABILITY.

8. JOIST BRIDGING SHALL BE FURNISHED AND INSTALLED TO MEET THE DESIGN AND SPACING REQUIREMENTS OF THE SJI STANDARD SPECIFICATIONS. ALL BRIDGING AND BRIDGING ANCHORS SHALL BE COMPLETELY INSTALLED BEFORE CONSTRUCTION LOADS ARE PLACED ON THE JOISTS. REFER TO SJI STANDARD SPECIFICATIONS FOR SPECIAL BRIDGING AND ERECTION REQUIREMENTS FOR SPANS OF 40' OR MORE.

9. RIGID X-BRIDGING AS SHOWN ON THE PLANS SHALL BE BOLTED OR WELDED AT THE INTERSECTION OF THE TWO ANGLES BETWEEN JOISTS.

10. JOISTS, JOIST GIRDERS, AND ACCESSORIES SHALL HAVE ONE SHOP COAT OF PAINT MEETING THE MINIMUM PERFORMANCE REQUIREMENTS OF THE LATEST SJI SPECIFICATIONS. SEE ARCHITECT FOR PREFERRED COLOR.

11. SEE PLAN FOR ANY CONCENTRATED LOADS OR UNUSUAL CONDITIONS. ALL JOISTS SUBJECT TO SPECIAL LOADS OR CONDITIONS SHALL BE CONSIDERED "SPECIAL JOISTS".

12. SUBMITTALS: CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS SHOWING JOISTS, BRIDGING, AND ALL CONNECTIONS. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A REGISTERED FLORIDA ENGINEER.

13. JOIST DESIGN ENGINEER MUST BE PROVIDED WITH A COPY OF THESE DRAWINGS AND SPECIFICATIONS.

METAL DECKING

1. ALL METAL DECK SHALL CONFORM TO THE REQUIREMENTS OF THE STEEL DECK INSTITUTE.

2. METAL ROOF DECK SHALL BE 1 1/2" DEEP, 22 GA., WIDE RIB TYPE B AND GALVANIZED WITH A SHEET WIDTH EQUAL TO 36".

3. MINIMUM FASTENING OF ROOF DECK WITH 36/4 PATTERN OF 5/8" DIA. PUDDLE WELDS AT EACH SUPPORT PER 36" WIDTH AND (5) #10 TEK SCREW AT MIDSPAN OF SIDELAPS BETWEEN JOISTS. SEE PLANS FOR ADDITIONAL FASTENING REQUIREMENTS.

   ALTERNATE DECK FASTENING: 36/4 PATTERN WITH HILTI X-HSN 24 PINS AT EACH SUPPORT AND (5) HILTI S-SLC 01 M HWH SCREWS AT SIDELAPS.

4. MINIMUM FASTENING AT BUILDING PERIMETER OF DECK SHALL BE 5/8" DIAMETER PUDDLE WELDS AT 6" O.C.

5. INSTALL ALL DECKING 3 SPAN CONTINUOUS. LAP EDGES OVER SUPPORTS.

6. PROVIDE 1 1/2" MINIMUM DECK BEARING AT ALL SUPPORTS. DECK SHALL BE PLACED AT THE PERIMETER WITH A COMPLETE RIB BEARING ON THE STEEL SUPPORT.

7. DO NOT HANG OR ATTACH DUCTWORK, CONDUIT, PIPING, EQUIPMENT, CEILINGS, ETC. FROM METAL DECKING.

8. ALL ROOF DECK OPENINGS GREATER THAN 10" DIAMETER ARE TO HAVE SUPPORT ANGLES PER TYPICAL DECK OPENING DETAIL, INCLUDING OPENINGS FOR ROOF SUMP PANS.

9. SUBMITTALS: CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS SHOWING LAYOUT OF DECK, TYPE OF DECK, ALL CONNECTIONS INCLUDING END WELDS, SEAM WELDS, INTERMEDIATE WELDS, AND ALL ACCESSORY MATERIAL SUCH AS CLOSURES, SUMPS FOR DRAINS, ETC.

10. ALL METAL DECK WELDING IS ONLY TO BE PERFORMED BY AN AWS D1.3 CERTIFIED WELDER. CERTIFICATIONS ARE TO BE AVAILABLE ON SITE FOR VERIFICATION.

11. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO VISUALLY INSPECT ALL DECK WELDS AND FASTENERS.

COLD-FORM STEEL FRAMING

1. ALL STEEL FRAMING SHALL CONFORM TO "THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION, BY THE AISI.

2. WELDED CONNECTIONS SHALL CONFORM TO "CODE FOR WELDING IN BUILDING CONSTRUCTION, D1.0" BY THE AWS.

3. ASTM A-568 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR STEEL, CARBON AND HIGH STRENGTH LOW-ALLOY HOT ROLLED SHEET AND COLD ROLLED SHEET.

4. ALL STEEL FRAMING SHALL BE INSTALLED BY PERSONNEL EXPERIENCED IN LIGHT GAUGE STEEL FRAMING INSTALLATION.

5. WHERE STEEL FRAMING MEMBERS ARE COMPONENTS OF ASSEMBLIES INDICATED FOR A FIRE-RESISTANCE RATING, INCLUDING THOSE REQUIRED FOR COMPLIANCE WITH GOVERNING REGULATIONS, PROVIDE MEMBERS WHICH HAVE BEEN APPROVED BY GOVERNING AUTHORITIES HAVING JURISDICTION.

6. PROTECT LIGHT GAUGE STEEL FRAMING MEMBERS FROM RUSTING AND DAMAGE. DELIVER TO PROJECT SITE IN BUNDLES, FULLY IDENTIFIED WITH NAME, BRAND, TYPE AND GRADE. STORE OFF GROUND IN A DRY VENTILATED SPACE OR PROTECT WITH SUITABLE WATERPROOF COVERINGS.

7. WITH EACH TYPE OF STEEL FRAMING REQUIRED, PROVIDE MANUFACTURER'S STANDARD STEEL RUNNERS (TRACKS), BLOCKING, LINTELS, CLIP ANGLES, BRACING, REINFORCEMENTS, FASTENERS, AND ACCESSORIES AS RECOMMENDED BY MANUFACTURER FOR APPLICATIONS INDICATED, AS NEEDED TO PROVIDE A COMPLETE STEEL FRAMING SYSTEM.

8. FABRICATE METAL FRAMING COMPONENTS OF STRUCTURAL QUALITY SHEET STEEL WITH A MINIMUM YIELD POINT OF 50,000 PSI FOR STUDS, AND 33,000 PSI FOR RUNNERS; ASTM A653.

9. PROVIDE GALVANIZED FINISH TO METAL FRAMING COMPONENTS COMPLYING WITH ASTM A525 WITH A G60 COATING.

10. PROVIDE MANUFACTURER'S STANDARD STRUCTURAL "C" SHAPED STEEL STUDS OF SIZE, SHAPE, AND GAUGE INDICATED, WITH A NOMINAL 1-5/8" FLANGE AND MINIMUM 1/2" FLANGE RETURN LIP.

11. FRAMING COMPONENTS MAY BE PREFABRICATED INTO PANELS PRIOR TO ERECTION. FABRICATE PANELS PLUMB, SQUARE, TRUE TO LINE AND BRACED AGAINST RACKING WITH JOINTS WELDED. PERFORM LIFTING OF PREFABRICATED PANELS IN A MANNER TO PREVENT DAMAGE OR DISTORTION.

12. INSTALL CONTINUOUS TRACKS SIZED TO MATCH STUD DEPTH. PROVIDE FASTENERS AT CORNERS AND ENDS OF TRACKS.

13. FRAME BOTH SIDES OF EXPANSION AND CONTROL JOINTS, AS SHOWN FOR THE WALL SYSTEM, WITH SEPARATE STUDS AND DO NOT BRIDGE THE JOINT WITH COMPONENTS OF THE STUD SYSTEM.

14. WHERE REQUIRED, TEMPORARY BRACING SHALL BE PROVIDED UNTIL ERECTION IS COMPLETED.

15. RESISTANCE TO BENDING AND ROTATION ABOUT THE MINOR AXIS SHALL BE PROVIDED BY MECHANICAL LATERAL BRACING WHERE REQUIRED.

16. ATTACHMENTS OF SIMILAR COMPONENTS SHALL BE DONE BY WELDING, SCREW ATTACHMENT, OR BOLTING. WIRE TYING OF FRAMING COMPONENTS SHALL NOT BE PERMITTED.

17. WELDING OF MEMBERS LIGHTER THAN 18 GAUGE SHALL NOT BE PERMITTED.

18. SPLICES SHALL NOT BE PERMITTED.

19. FOR WELDED CONNECTIONS, FUSION WELDING IS RECOMMENDED WITH A DIRECT CURRENT WELDER OF 200 OR MORE AMPERE CAPACITY. USE A HEAT OF 60 TO 90 AMPERES (DEPENDING ON THE GAUGE OF METAL) ALONG WITH ASTM E60 ELECTRODES.

20. CONTRACTOR TO SUBMIT THE FOLLOWING:
   A) SUBMIT CERTIFICATION OF MATERIALS FROM THE MANUFACTURER TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS AND RELATED DRAWINGS.

21. SUBMITTED SHOP DRAWINGS MUST BE CHECKED AND SIGNED BY THE GENERAL CONTRACTOR.

MASONRY REINFORCING BAR LAP

60 KSI STEEL, f'm=2,000 PSI

REINFORCING SIZE (db)	TENSION BAR LAP SPLICE		COMPRESSION SPLICE
	CLASS 'A'	CLASS 'B'	
#3 (0.375)	18"	24"	12"
#4 (0.5)	24"	31"	12"
#5 (0.625)	30"	39"	16"
#6 (0.75)	47"	61"	20"
#7 (0.875)	54"	71"	24"
#8 (1.0)	62"	81"	28"

BAR DEVELOPMENT SCHEDULE

DEVELOPMENT LENGTH SHALL BE PER FOLLOWING TABLE MODIFIED PER NOTES BELOW

REINFORCING BAR SIZE (GR60)	NORMAL WEIGHT CONCRETE STRENGTH (PSI)			
	3,000	4,000	5,000	6,000
#3	1'-5"	1'-3"	1'-1"	1'-0"
#4	1'-10"	1'-7"	1'-5"	1'-4"
#5	2'-3"	2'-0"	1'-10"	1'-8"
#6	2'-9"	2'-5"	2'-2"	2'-0"
#7	4'-0"	3'-6"	3'-2"	2'-10"
#8	4'-7"	4'-0"	3'-7"	3'-3"
#9	5'-2"	4'-6"	4'-0"	3'-8"
#10	5'-10"	5'-1"	4'-6"	4'-2"
#11	6'-6"	5'-7"	5'-0"	4'-7"

NOTES:
A. FOR CLEAR SPACING BE1WEEN BARS <db AND/OR CLEAR COVER <db, MULTIPLY BY 1.5.
B. FOR TOP BARS MULTIPLY BY 1.3.
C. FOR EPOXY COATED BARS, IF SPECIFIED OR APPROVED AS AN ALTERNATE, MULTIPLY BY 1.3.
D. FOR MMFX BARS, IF SPECIFIED OR USED, USE GRADE 75 KSI VALUES.
E. WHERE MORE THAN ONE FACTOR APPLIES, PRODUCT OF ALL APPLICABLE FACTORS SHALL BE APPLIED.
F. IF DETAILER IS TO USE A DIFFERENT SCHEDULE, HE/SHE MUST SUBMIT A SEALED LETTER INDICATING THAT HIS/HER VALUES CORRESPOND TO CURRENT ACI 318 CODE.

BAR LAP SPLICE SCHEDULE

LAP SPLICE LENGTH SHALL BE PER FOLLOWING TABLE MODIFIED PER NOTES BELOW

REINFORCING BAR SIZE (GR60)	NORMAL WEIGHT CONCRETE STRENGTH (PSI)			
	3,000	4,000	5,000	6,000
#3	1'-9"	1'-6"	1'-5"	1'-3"
#4	2'-4"	2'-1"	1'-10"	1'-8"
#5	3'-0"	2'-7"	2'-4"	2'-1"
#6	3'-7"	3'-1"	2'-9"	2'-6"
#7	5'-2"	4'-6"	4'-0"	3'-8"
#8	6'-0"	5'-2"	4'-7"	4'-2"
#9	6'-8"	5'-10"	5'-2"	4'-9"
#10	7'-6"	6'-6"	5'-10"	5'-4"
#11	8'-4"	7'-3"	6'-6"	6'-0"

NOTES:
A. FOR CLEAR SPACING BE1WEEN BARS <db AND/OR CLEAR COVER <db, MULTIPLY BY 1.5.
B. FOR TOP BARS MULTIPLY BY 1.3.
C. FOR EPOXY COATED BARS, IF SPECIFIED OR APPROVED AS AN ALTERNATE, MULTIPLY BY 1.3.
D. FOR MMFX BARS, IF SPECIFIED OR USED, USE GRADE 75 KSI VALUES.
E. WHERE MORE THAN ONE FACTOR APPLIES, PRODUCT OF ALL APPLICABLE FACTORS SHALL BE APPLIED.
F. IF DETAILER IS TO USE A DIFFERENT SCHEDULE, HE/SHE MUST SUBMIT A SEALED LETTER INDICATING THAT HIS/HER VALUES CORRESPOND TO CURRENT ACI 318 CODE.

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SHEET INDEX

SHEET NUMBER	SHEET TITLE
S0.1	STRUCTURAL NOTES
S1.1	FOUNDATION PLAN
S2.1	ROOF FRAMING PLAN
S3.1	WALL SECTIONS
S3.2	WALL ELEVATION AND DETAILS
S4.1	SECTIONS AND DETAILS
S4.2	SECTIONS AND DETAILS
S4.3	SECTIONS AND DETAILS
S4.4	SECTIONS AND DETAILS

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no.	date	revision descriptions

RETAIL BUILDING TWO AT DELAND
2235 S. WOODLAND BLVD
DELAND, FL

06.11.26
date
26005
comm. no.

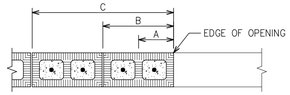
STRUCTURAL NOTES

S0.1

PLOT DATE: 6.11.2026

JAMB REINFORCEMENT SCHEDULE

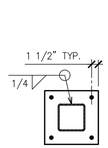
MARK	OPENING WIDTH	GROUTED CELL(S)	REINFORCEMENT PER CELL
A	LESS THAN 4'-8"	1	(1) #6 BAR
B	4'-8" TO LESS THAN 8'-0"	2	(1) #6 BAR
C	8'-0" TO LESS THAN 14'-0"	4	(1) #6 BAR



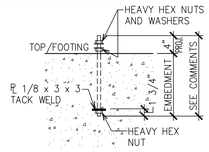
1. REFER TO FOUNDATION PLAN FOR ADDITIONAL GROUTED CELL REQUIREMENTS.
2. ALL GROUTED CELL BARS AT JAMB TO HOOK INTO FOUNDATION AND TIE BEAM.

STEEL COLUMN SCHEDULE

MARK	COLUMN SIZE	BASE PLATE	BASE PLATE TYPE	COMMENTS
HSS-4	HSS 4 X 4 X 1/4	N/A	N/A	ROOF PARAPET RETURN STUB COLUMN
HSS-6	HSS 6 X 6 X 1/4	3/4 X 12 X 12	TYPE A	(4) 3/4"ø X 16" F1554-GR36 ANCHOR BOLTS



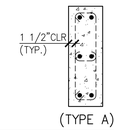
(TYPE A)



(TYP. ANCHOR BOLT)

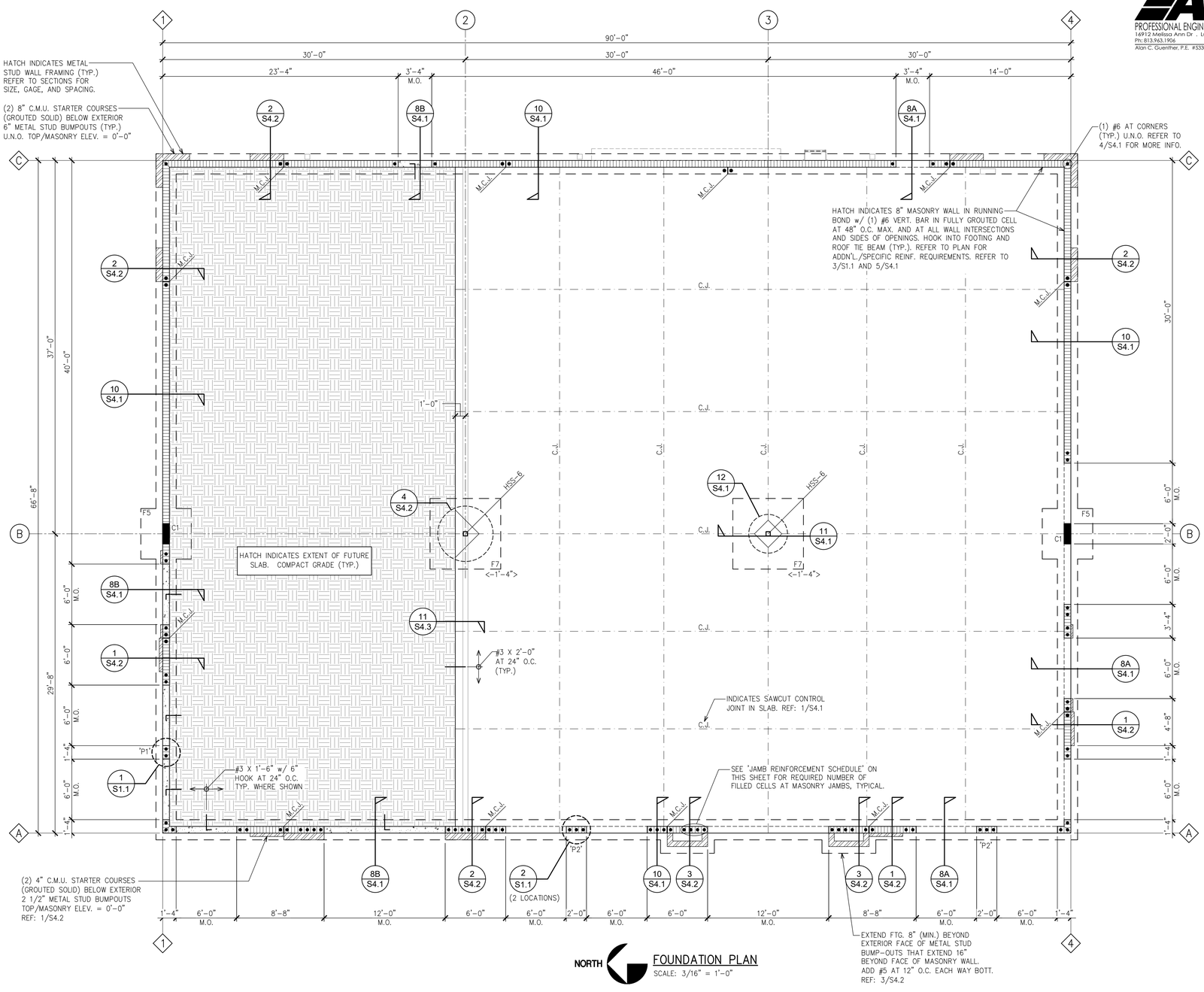
CONCRETE COLUMN SCHEDULE

MARK	SIZE	VERTICAL REINFORCING	HORIZONTAL TIES	COMMENTS
C1	8" X 24"	(6) #6	#3 AT 8"	TYPE B



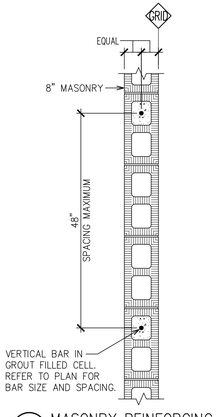
(TYPE A)

1. TIE CONCRETE COLUMNS INTO ADJACENT LOAD-BEARING MASONRY USING ONE OF THE FOLLOBUILDING METHODS:
   1.1. INSTALL DOVETAIL ANCHORS AT 16" O.C. VERTICAL
   1.2. TURN 1/2 BLOCK ON ITS SIDE EVERY OTHER COURSE TO ALLOW CONCRETE POUR TO BE KEYED INTO MASONRY.
2. REBAR DETAILER TO COORDINATE w/ DETAIL 7/S4.2
3. EXTEND HORIZONTAL JOINT REINFORCING 2" INTO TIE COLUMNS, TYP.
4. ALL CONCRETE COLUMNS SHALL BE CONTINUOUS FROM FOUNDATION TO MASONRY ROOF TIE BEAM. HOOK VERTICAL BARS WITH TIE BEAM BARS.

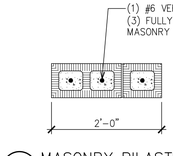


NORTH

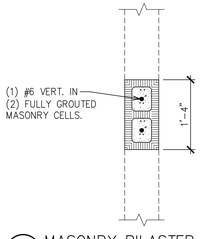
FOUNDATION PLAN
SCALE: 3/16" = 1'-0"



3 MASONRY REINFORCING
SCALE: 3/4" = 1'-0" (PLAN VIEW)



2 MASONRY PILASTER 'P2'
SCALE: 3/4" = 1'-0" (PLAN VIEW)



1 MASONRY PILASTER 'P1'
SCALE: 3/4" = 1'-0" (PLAN VIEW)

FOOTING SCHEDULE

MARK	SIZE	DEPTH	REINFORCING	COMMENTS
WF2	2'-0" WIDE X CONT.	1'-0"	(3) #5 CONT. W/ #5 TRANSV. AT 48" O.C. BOTTOM	WALL FOOTING
F5	5'-0" X 5'-0"	1'-0"	(5) #5 EACH WAY BOTTOM	COLUMN FOOTING
F7	7'-0" X 7'-0"	1'-6"	(8) #6 EACH WAY, TOP & BOTTOM	COLUMN FOOTING

FOUNDATION PLAN NOTES:

1. INTERIOR SLAB-ON-GRADE TO BE 4" THICK (3,000 PSI) W/ 6x6 - W1.4xW1.4 W.W.F. ON 10 MIL VAPOR RETARDER OVER COMPACTED AND TERMITE TREATED SOIL U.N.O. REFER TO 1/S4.1 FOR CONTROL JOINT DETAIL. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB FINISH AND FLATNESS REQUIREMENTS. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL SOIL PREPARATION REQUIREMENTS.
2. TOP OF SLAB ELEVATION = 0'-0" U.N.O.
   TOP OF EXTERIOR FOOTING ELEVATION = (-) 1'-4" U.N.O.
   < > INDICATES TOP OF FOOTING ELEVATION.
3. CENTER ALL FOOTINGS BELOW WALL OR COLUMN U.N.O.
4. ALL FOOTING REINFORCING TO BE BOTTOM BARS U.N.O.
5. PROVIDE 10" MIN. SOIL COVER OVER ALL EXTERIOR FOOTINGS. NOTIFY ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.
6. REFER TO ARCHITECTURAL/CIVIL FOR EXTERIOR SLAB AND SIDEWALK INFORMATION.
7. REFER TO ARCHITECT DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN.
8. REFER TO ARCHITECTURAL/PLUMBING DRAWINGS FOR FIXTURE/DRAIN LOCATIONS AND REQUIREMENTS.
9. SEE PLAN FOR MASONRY CONTROL JOINT (M.C.J.) LOCATIONS. COORDINATE WITH ARCHITECTURAL ELEVATIONS. REFER TO 3/S4.1 FOR MASONRY CONTROL JOINT DETAIL.
10. ALL WALL FOOTINGS TO BE TYPE "WF2" U.N.O.
11. PROVIDE CORNER BARS AT ALL CORNERS AND INTERSECTIONS OF CONTINUOUS FOOTINGS. REFER TO DETAIL 2/S4.1 FOR MORE INFO.
12. REFER TO 7/S4.1 FOR PIPE PENETRATION DETAIL.
13. REFER TO CIVIL DRAWINGS FOR BUILDING LOCATION AND BUILDING ORIENTATION ON THE SITE.
14. REFER TO 1/S2.1 FOR DESIGN WIND CRITERIA.

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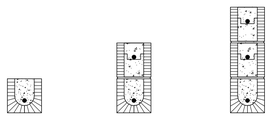
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FOUNDATION PLAN
S1.1

PLOT DATE: 6.11.2026

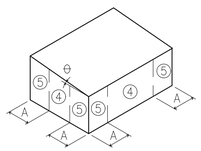
CONCRETE LINTEL SCHEDULE

MARK	SIZE	REINFORCING BARS	COMMENTS
L-1	8" X 8"	(1) #5 CONT.	TYPE A
L-2	8" X 16"	(2) #5 CONT.	TYPE B (10'-0 3/8")
L-3	8" X 24"	(3) #5 CONT.	TYPE C (10'-0 3/8")

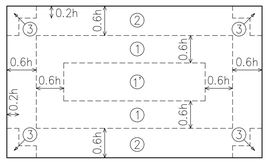


(TYPE A) (TYPE B) (TYPE C)

1. REFER TO 6/S4.1 FOR ADDITIONAL PRECAST LINTEL REQUIREMENTS.
2. ALL LINTELS AND KNOCK-OUT BLOCKS TO BE GROUTED SOLID.
3. ALL LINTELS EXCEEDING OPENING SPAN OF 14'-0" TO BE PRESTRESSED U.N.O.
4. (X'-X") INDICATES BOTTOM OF PRECAST LINTEL ELEVATION.



WALL PRESSURE ZONES
(ISOMETRIC VIEW)



ROOF PRESSURE ZONES
(PLAN VIEW)

BUILDING DATA

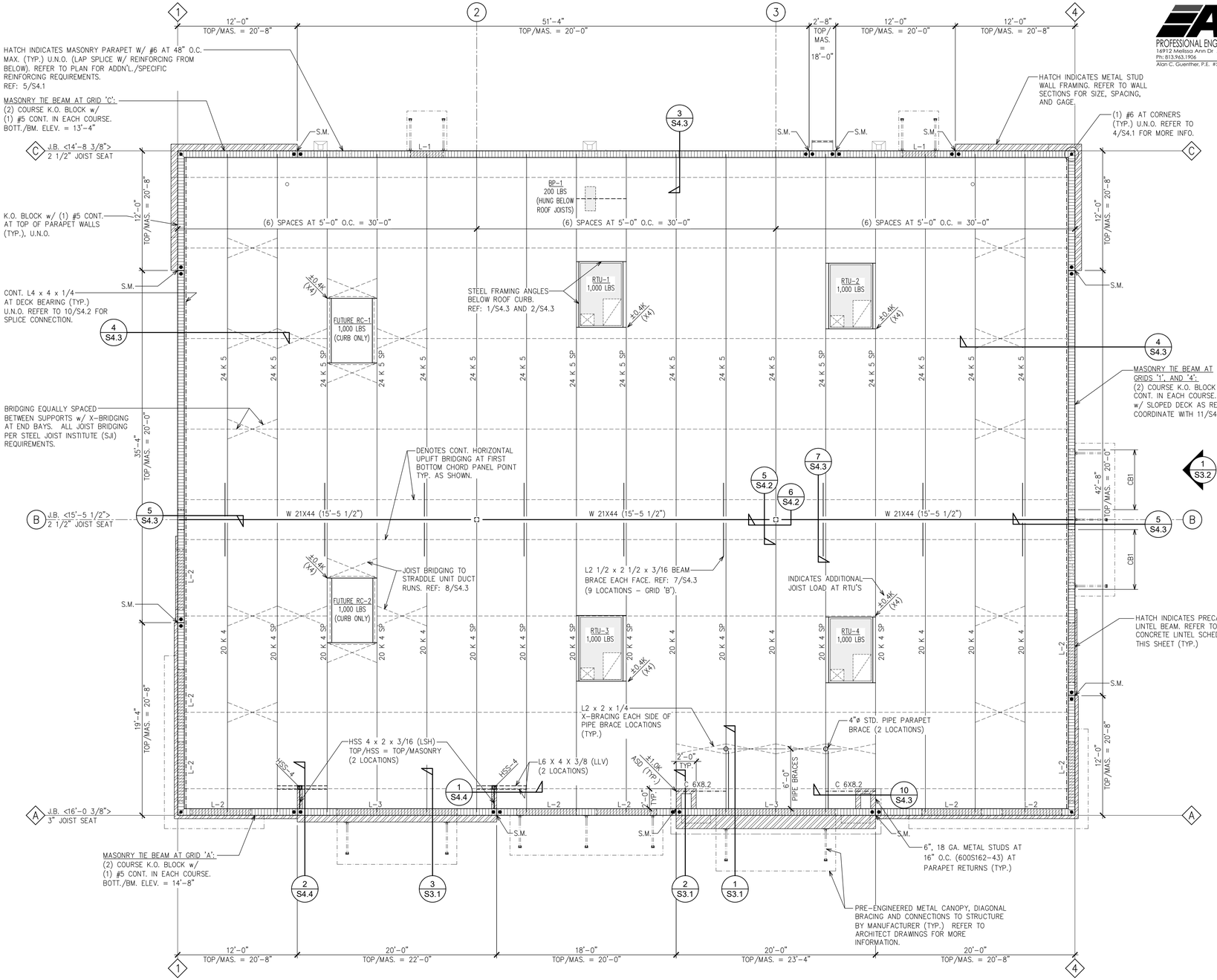
ULTIMATE WIND SPEED (mph): (FIGURE 1609)	133	INTERNAL PRESSURE COEFFICIENT: (Enclosed Building per ASCE 7-22)	+/- 0.18
WIND LOAD FACTOR:	0.6	WIND EXPOSURE CATEGORY:	B
RISK CATEGORY: (TABLE 1604.5)	II	WIDTH OF WALL EDGE STRIP (A):	6.0
ROOF ANGLE (θ): (Degrees)	A<7.0	DEAD LOAD RESISTING UPLIFT (0.6D in psf):	10.0
MEAN ROOF HEIGHT (h):	16'-0"	EDGE DISTANCE (0.6h) 0.6 X MEAN ROOF HEIGHT (Feet)	9.6
		EDGE DISTANCE (0.2h) 0.2 X MEAN ROOF HEIGHT (Feet)	3.2

DESIGN WIND LOADS - COMPONENTS & CLADDING (Values per ASD)

ROOF					WALL			
ZONE	AREA (sf)	DESIGN PRESSURE (psf) Positive	Negative	Net Uplift	ZONE	AREA (sf)	DESIGN PRESSURE (psf) Positive	Negative
1	10.0	10.00	-25.28	-15.28	4	10.0	14.52	-15.73
1	50.0	10.00	-21.41	-11.41	4	50.0	13.03	-14.24
1	100.0	10.00	-19.74	-10.00	4	100.0	12.38	-13.59
1	500.0	10.00	-15.87	-10.00	5	10.0	14.52	-19.36
1'	10.0	10.00	-14.52	-10.00	5	50.0	13.03	-16.37
1'	50.0	10.00	-14.52	-10.00	5	100.0	12.38	-15.09
1'	100.0	10.00	-14.52	-10.00				
1'	500.0	10.00	-10.00	-10.00	4P	50.0	46.84	
2	10.0	14.52	-33.35	-23.35	5P	50.0	46.84	
2	50.0	13.03	-28.37	-18.37				
2	100.0	12.38	-26.22	-16.22				
2	500.0	10.89	-21.24	-11.24				
3	10.0	14.52	-33.35	-23.35				
3	50.0	13.03	-28.37	-18.37				
3	100.0	12.38	-26.22	-16.22				
3	500.0	10.89	-21.24	-11.24				

NOTES:
1. FOR EFFECTIVE AREAS BETWEEN THOSE GIVEN ABOVE THE LOAD MAY BE INTERPOLATED, OTHERWISE USE THE LOAD ASSOCIATED WITH THE LOWER EFFECTIVE AREA.
2. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES, RESPECTIVELY.
3. SEE PRESSURE ZONE DIAGRAMS FOR CORRESPONDING ZONES.
4. EXTERIOR GLAZING OPENINGS IN BUILDINGS SHALL COMPLY WITH FLORIDA BUILDING CODE 8TH EDITION (2023) BY EITHER BEING DESIGNED FOR IMPACT RESISTANCE OR BEING PROTECTED BY IMPACT PROTECTIVE SYSTEMS WHEN ULTIMATE WIND SPEED IS 140 MPH OR MORE.

1 DESIGN WIND CRITERIA (ASD VALUES)
NOT TO SCALE

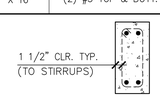


NORTH

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

CONCRETE BEAM SCHEDULE

MARK	SIZE	REINFORCING CONT. BARS	REINFORCING STIRRUPS	COMMENTS
CB1	8" X 16"	(2) #5 TOP & BOTT.	#3 AT 6" O.C.	TYPE A (10'-0")



(TYPE A)

1. REFER TO 3/S4.4 FOR TYPICAL CONCRETE BEAM REINFORCING DETAIL.
2. BEAM DEPTHS MAY BE INCREASED AS REQUIRED FOR MASONRY COURSING. COORDINATE WITH ARCHITECTURAL REQUIREMENTS.
3. (X'-X") INDICATES BOTTOM OF CONCRETE BEAM.

ROOF FRAMING PLAN NOTES:

1. METAL ROOF DECK TO BE 1 1/2" DEEP, 22 GA., GALVANIZED (G60), TYPE "B". FASTEN ROOF DECK W/ (4) 5/8" DIAMETER PUDDLE WELDS AT EACH SUPPORT AND (5) #10 TEK SCREW SIDELAP FASTENERS EQUALLY SPACED BETWEEN SUPPORTS. REFER TO 8/S4.2
2. JOIST SPACING = SEE PLAN.
3. ROOF SLOPE = 1/4" PER FOOT (MIN.) U.N.O.
4. CONTRACTOR TO COORDINATE SIZE, WEIGHT, AND LOCATION OF MECHANICAL EQUIPMENT AND PENETRATIONS WITH MECHANICAL EQUIPMENT SHOP DRAWINGS PRIOR TO JOIST FABRICATION. REFER TO DETAILS 1/S4.3 AND 2/S4.3
5. MECHANICAL CONTRACTOR SHALL VERIFY THAT WEIGHT OF ACTUAL EQUIPMENT INSTALLED DOES NOT EXCEED MAXIMUM OPERATING WEIGHT OF EQUIPMENT SHOWN ON PLAN.
6. INSTALL ROOF TOP EQUIPMENT ON DESIGNATED "SP" JOISTS. DO NOT PLACE ANY ROOF TOP EQUIPMENT ON STANDARD "K" SERIES JOISTS.
7. J.B. < > = JOIST BEARING ELEVATION. REFER TO PLAN.
8. REFER TO 10/S4.2 FOR DECK ANGLE SPLICE.
9. S.M. = INDICATES STEP TOP/MASONRY PARAPET.
10. REFER TO 1/S2.1 FOR DESIGN WIND CRITERIA.

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RETAIL BUILDING TWO AT DELAND
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DELAND, FL

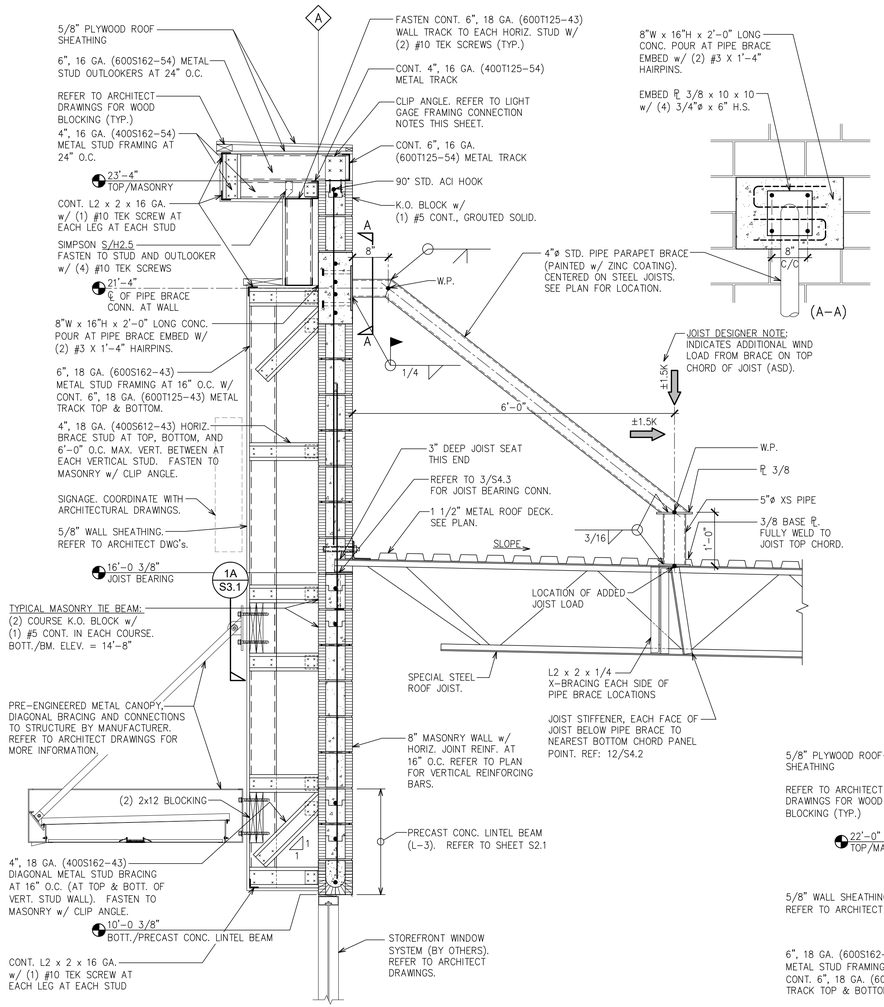
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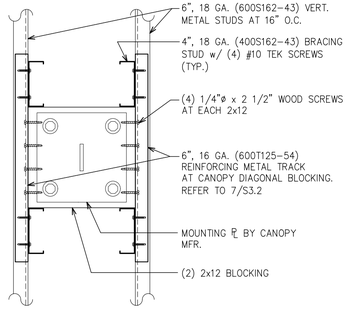
ROOF FRAMING PLAN

S2.1

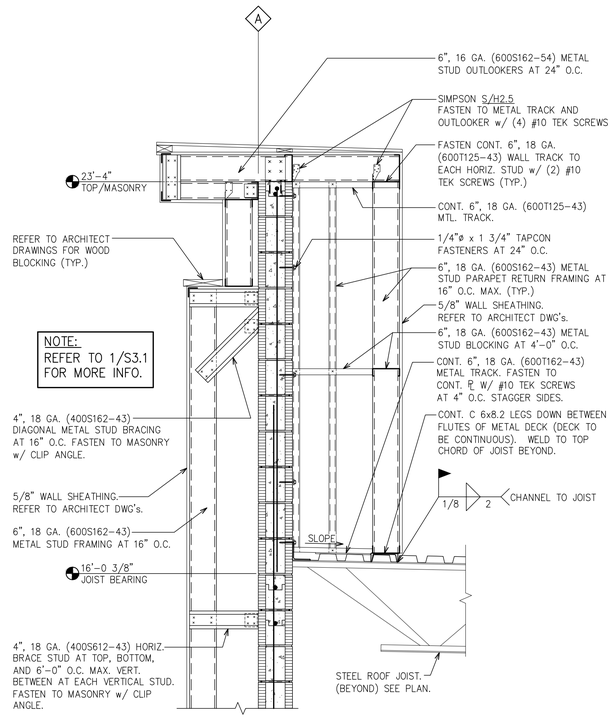
PLOT DATE: 6.11.2026



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



1A ELEVATION
SCALE: 1 1/2" = 1'-0"



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

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

LIGHT GAUGE FRAMING NOTES:

A. THE LIGHT GAUGE MEMBER SIZES INDICATED ON THE DRAWINGS ARE A MINIMUM DEPTH AND GAUGE REQUIRED TO MEET THE DESIGN INTENT AND ARE BASED ON THE PROPERTIES AND MATERIALS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) STANDARDS. ANY MANUFACTURER WHOSE PRODUCT GEOMETRIES MEETS OR EXCEED THE SSMA STANDARDS ARE ACCEPTABLE.

B. COLD-FORMED STEEL MEMBERS SHALL BE **33 KSI FOR 18 GAUGE** MATERIAL AND **50 KSI FOR 16 GAUGE** OR GREATER MATERIAL.

LIGHT GAUGE FRAMING CONNECTIONS:

1. CLIP ANGLE (MINIMUM): L 3 1/2 x 1 1/2 x 0-4 1/2 X 14 GAUGE (DIETRICH UNI-CLIP OR EQUAL, 50 KSI AND GALVANIZED).
2. METAL CLIP ANGLES SHALL BE CONNECTED TO STRUCTURAL STEEL (3/16" MIN. THICKNESS) WITH (4) 0.157"ø HILTI X-U POWDER ACTUATED FASTENERS (PAF) OR EQUAL U.N.O. MAINTAIN MINIMUM 3/4" EDGE DISTANCE AND 1" SPACING FOR FASTENERS.
3. METAL STUDS AND/OR CLIP ANGLES SHALL BE CONNECTED TO METAL STUDS WITH MINIMUM (4) #10 TEK SCREWS (GRABBER HEX HEAD DRIVALL SELF DRILLING SCREWS OR EQUAL) U.N.O.
4. METAL TRACK/RUNNER SHALL BE CONNECTED TO METAL STUD WITH (1) #10 TEK SCREW AT EACH FLANGE, 2 SCREWS TOTAL PER STUD (GRABBER HEX HEAD DRIVALL SELF DRILLING SCREWS OR EQUAL).
5. CONTINUOUS METAL STUD TRACKS SHALL BE CONNECTED TO STRUCTURAL STEEL WITH (2) 0.157"ø HILTI X-U POWDER ACTUATED FASTENERS AT 16" O.C. MINIMUM.
6. CONTINUOUS TRACKS SHALL BE FASTENED TO CONCRETE AND/OR MASONRY WITH (1) 1/4"ø X 1 3/4" TAPCON FASTENERS AT 16" O.C.
7. CLIP ANGLES SHALL BE FASTENED TO CONCRETE/MASONRY WITH (2) 1/4"ø X 1 3/4" TAPCON FASTENERS.
8. CONNECT PLYWOOD SHEATHING TO METAL STUDS WITH #10 TEK FLATHEAD SCREWS AT 6" O.C. AT PANEL EDGES AND AT 8" O.C. AT INTERIOR SUPPORTS.
9. CONNECT 5/8" THICK DENSGLASS SHEATHING TO METAL STUDS WITH #6 1-1/4" BUGLE HEAD (FINE THREAD) SCREWS AT 6" O.C. AT PANEL EDGES AND AT 6" O.C. AT INTERIOR SUPPORTS (MINIMUM).
10. AS REQUIRED, THE CONTRACTOR SHALL PROVIDE CLIP ANGLES FOR ALL METAL STUDS SO PROPER ALIGNMENT CAN BE ATTAINED. SEE FASTENING REQUIREMENTS ABOVE.
11. ALL (PAF) FASTENERS FASTENED TO STEEL SHALL PENETRATE THE BASE MATERIAL PLUS 0.25".
12. ALL (PAF) FASTENERS FASTENED TO CONCRETE/MASONRY SHALL HAVE A MINIMUM EMBEDMENT INTO THE BASE MATERIAL OF 1".

LIGHT GAUGE FRAMING CONNECTIONS (WALL SHEATHING):

1. FASTENING PATTERN AT WALL FRAMING ASSEMBLY ENDS (EXTEND 8'-0" FROM END):
   CONNECT DENSGLAS SHEATHING TO METAL STUDS WITH #6 1-1/4" BUGLE HEAD (FINE THREAD) SCREWS AT 4" O.C. AT PANEL EDGES AND AT 6" O.C. AT INTERIOR SUPPORTS (FIELD).

   FASTENING PATTERN AT WALL FRAMING INTERIOR:
   CONNECT DENSGLAS SHEATHING TO METAL STUDS WITH #6 1-1/4" BUGLE HEAD (FINE THREAD) SCREWS AT 6" O.C. AT PANEL EDGES AND AT 6" O.C. AT INTERIOR SUPPORTS (FIELD).

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06.11.26
date

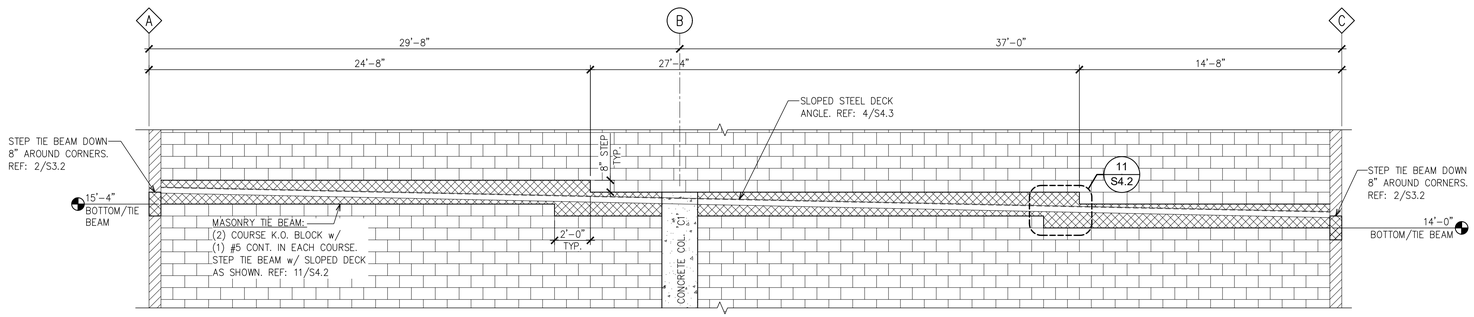
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WALL SECTIONS

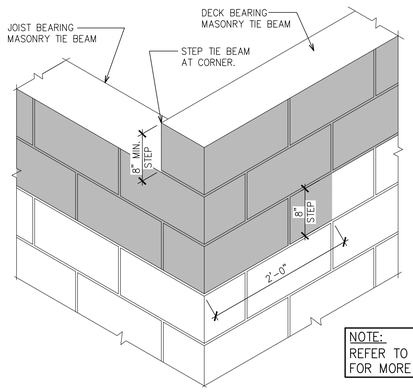
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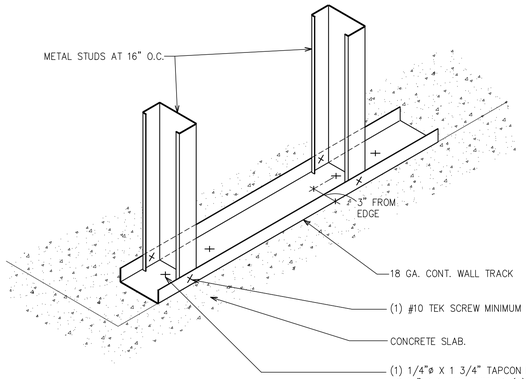
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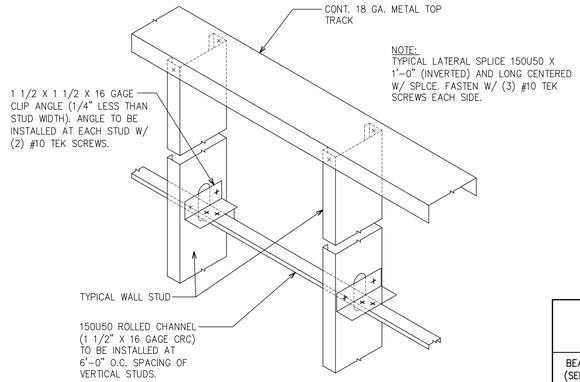
1 MASONRY TIE BEAM – EXTERIOR ELEVATION (AT GRID '4', GRID '1' OPPOSITE HAND)
SCALE: 1/4" = 1'-0"



2 MASONRY TIE BEAM – CORNER CONDITION
NOT TO SCALE



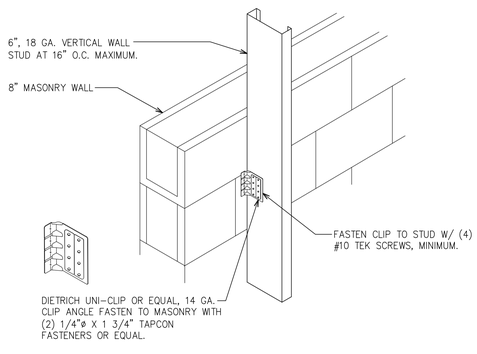
3 BASE TRACK DETAIL
N.T.S.



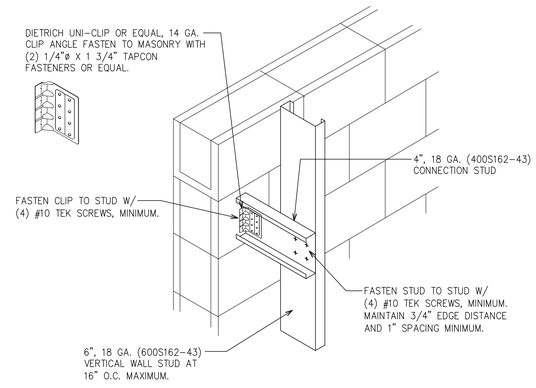
4 LATERAL BRACING DETAIL
N.T.S.

CONNECTION SCHEDULE
SINGLE-PLATE SHEAR

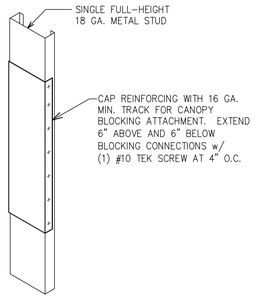
BEAM SIZE (SEE PLAN)	NUMBER OF 3/4"ø A325N BOLTS	THRU-PLATE/TAB PLATE 'L1'	THRU-PLATE/TAB PLATE THICKNESS (A36 STEEL)	FILLET WELD SIZE (E70XX)	MAXIMUM ALLOWABLE END REACTION
W8, W10	2	6"	3/8"	1/4"	21.2 KIPS
W12, W14	3	9"	3/8"	1/4"	31.8 KIPS
W16	4	12"	3/8"	1/4"	42.4 KIPS
W18	5	15"	3/8"	1/4"	53.0 KIPS
W21	6	18"	7/16"	1/4"	63.3 KIPS
W24	7	21"	7/16"	1/4"	74.2 KIPS
W27	8	24"	1/2"	1/4"	84.8 KIPS
W30	9	27"	1/2"	1/4"	95.4 KIPS



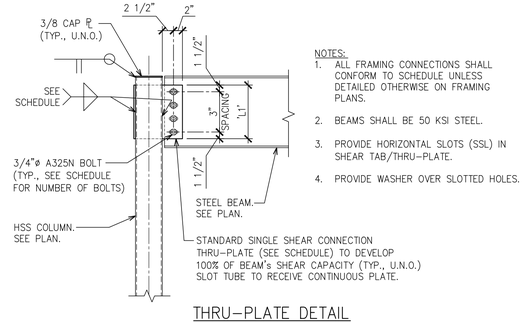
5 BRACING STUD DETAIL
N.T.S.



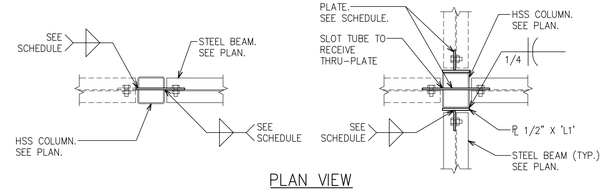
6 BRACING STUD CONNECTION DETAIL
N.T.S.



7 STUD REINFORCEMENT AT CANOPY CONNECTIONS
N.T.S.



THRU-PLATE DETAIL



PLAN VIEW

8 BEAM TO COLUMN CONNECTION
SCALE: 3/4" = 1'-0"

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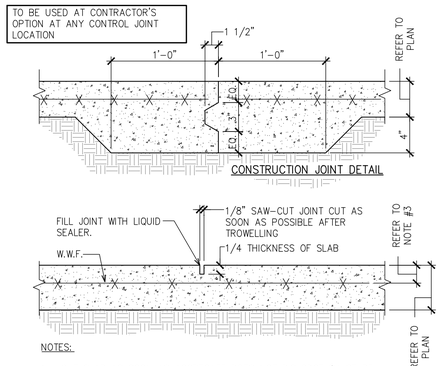
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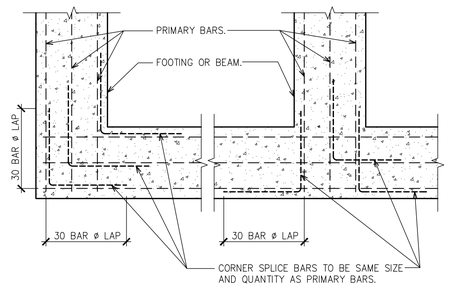
WALL ELEVATION AND DETAILS

S3.2

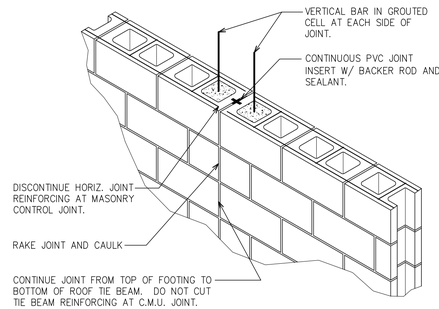
PLOT DATE: 6.11.2026



1 CONTROL AND CONSTRUCTION JOINT
SCALE: 1 1/2" = 1'-0"

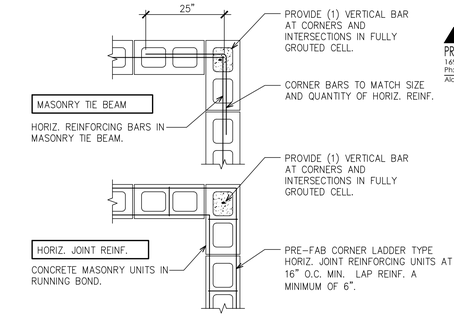


2 CORNER BAR DETAIL
NOT TO SCALE



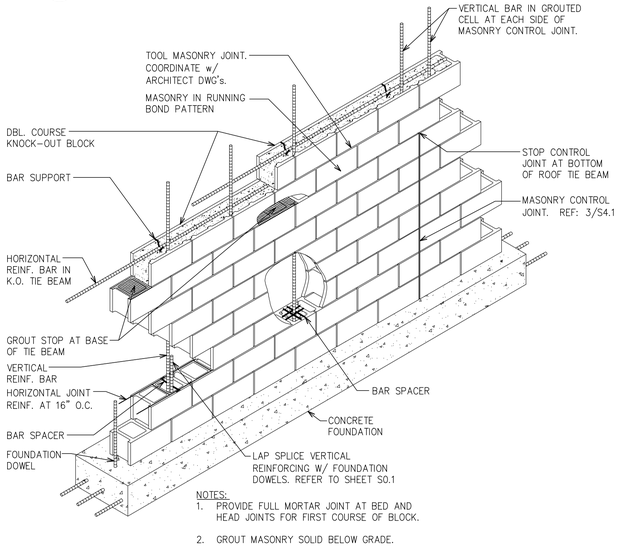
NOTES:
1. LOCATE MASONRY CONTROL JOINTS PER ARCHITECTURAL ELEVATIONS.
2. LOCATE MASONRY CONTROL JOINTS AT CHANGES IN WALL HEIGHT.
3. MAXIMUM SPACING IS 32'-0" O.C. LOCATE AWAY FROM CORNERS AT 10'-0" MIN.
4. DO NOT LOCATE MASONRY CONTROL JOINT IN MASONRY PILASTERS 2'-8" OR LESS BETWEEN OPENINGS.
5. DO NOT LOCATE MASONRY CONTROL JOINT ABOVE AN OPENING.

3 MASONRY CONTROL JOINT DETAIL
SCALE: 1 1/2" = 1'-0"



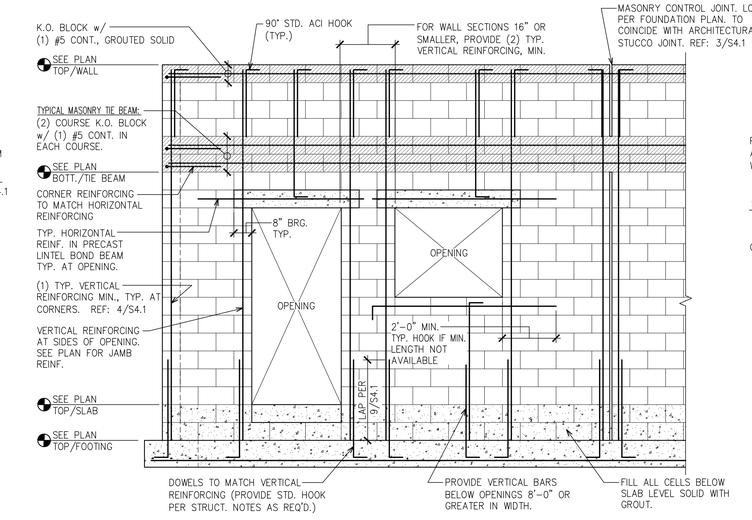
TYPICAL REINF. DETAIL AT CORNERS AND INTERSECTIONS
4 SCALE: N.T.S.

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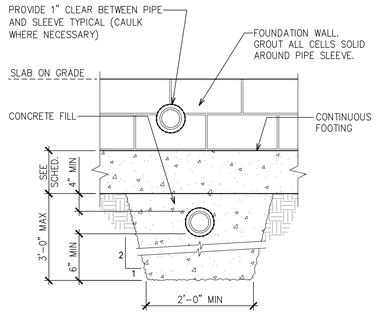
NOTES:
1. PROVIDE FULL MORTAR JOINT AT BED AND HEAD JOINTS FOR FIRST COURSE OF BLOCK.
2. GROUT MASONRY SOLID BELOW GRADE.

5 TYPICAL MASONRY CONSTRUCTION
NOT TO SCALE

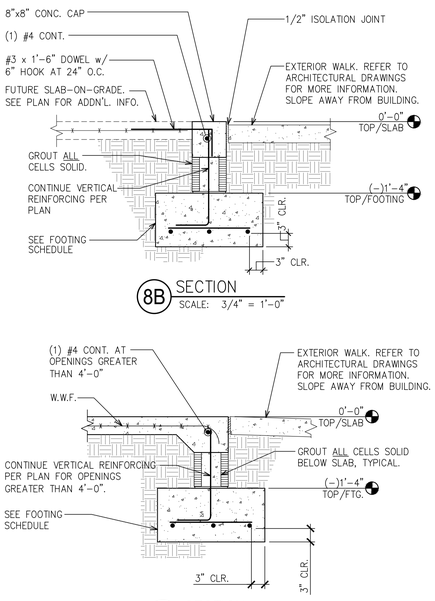


6 TYPICAL MASONRY REINFORCING AT OPENINGS - ELEVATION
NOT TO SCALE

NOTE:
CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND PIPING, CONDUIT, ETC. WITH APPROPRIATE SUBCONTRACTOR.

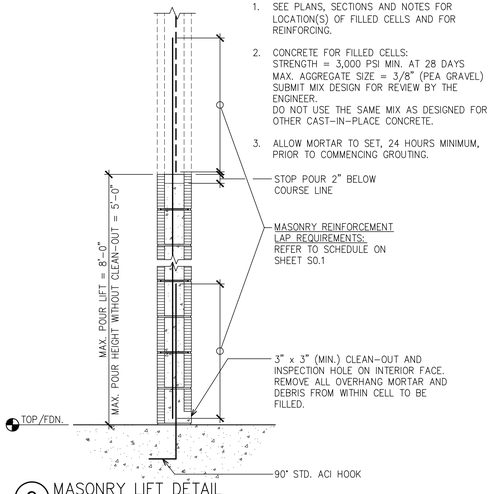


7 FOUNDATION DETAIL AT PENETRATION
NOT TO SCALE

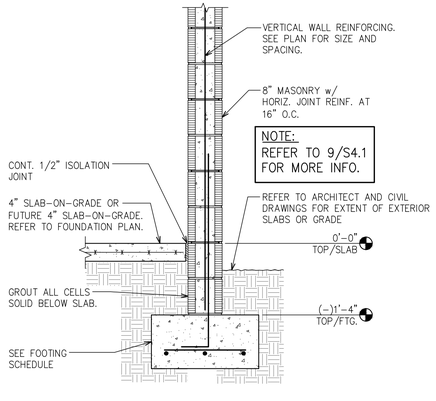


8B SECTION
SCALE: 3/4" = 1'-0"

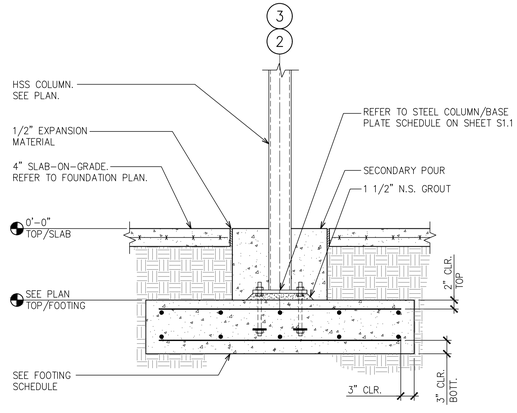
8A SECTION
SCALE: 3/4" = 1'-0"



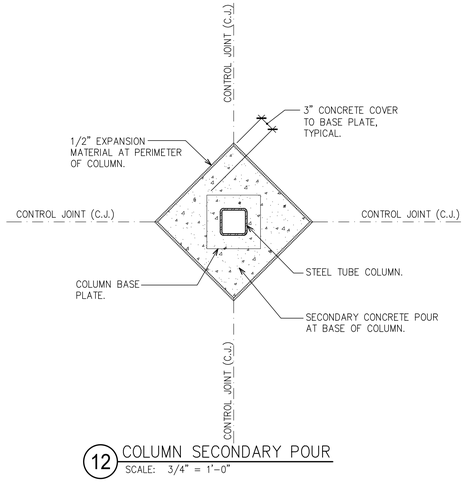
9 MASONRY LIFT DETAIL
SCALE: 3/4" = 1'-0"



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



11 STEEL COLUMN FOUNDATION
SCALE: 3/4" = 1'-0"



12 COLUMN SECONDARY POUR
SCALE: 3/4" = 1'-0"

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2235 S. WOODLAND BLVD
DELAND, FL

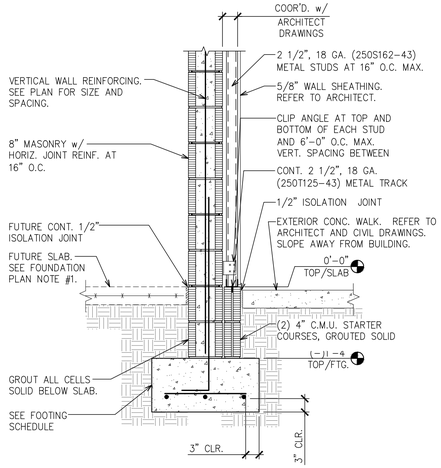
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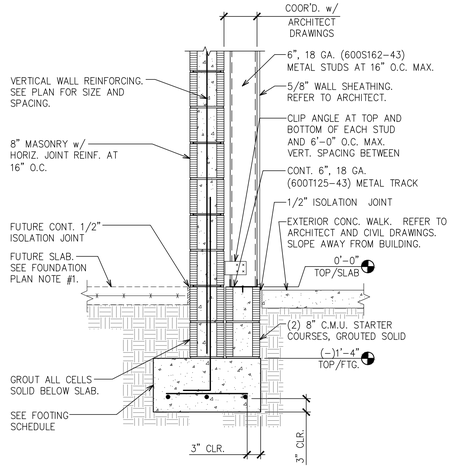
SECTIONS AND DETAILS

S4.1

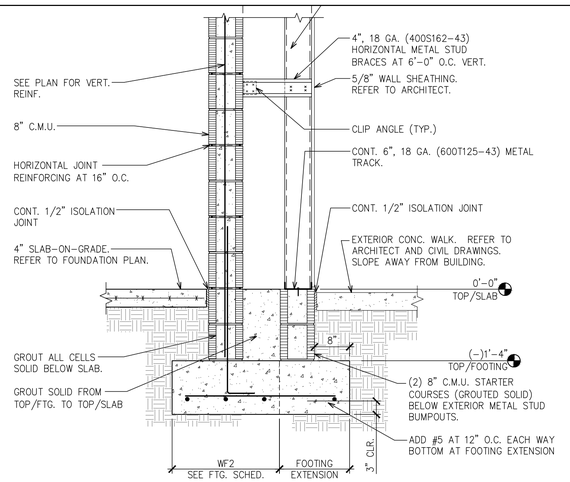
PLOT DATE: 6.11.2026



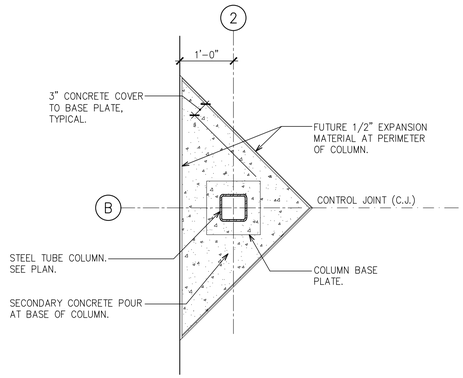
1 SECTION AT METAL STUD BUMP-OUT
SCALE: 3/4" = 1'-0"



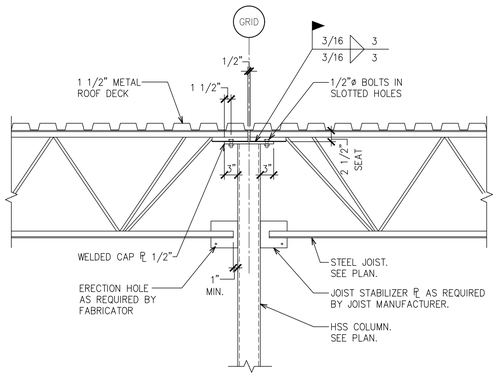
2 SECTION AT METAL STUD BUMP-OUT
SCALE: 3/4" = 1'-0"



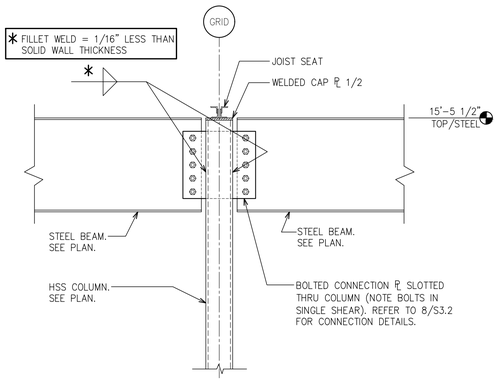
3 SECTION AT METAL STUD BUMP-OUT
SCALE: 3/4" = 1'-0"



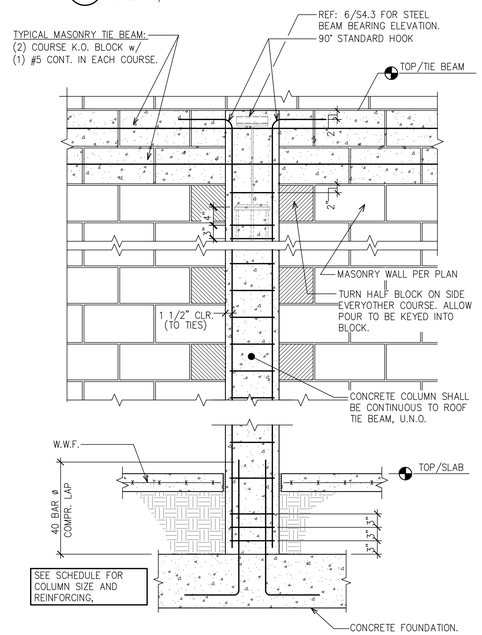
4 COLUMN SECONDARY POUR



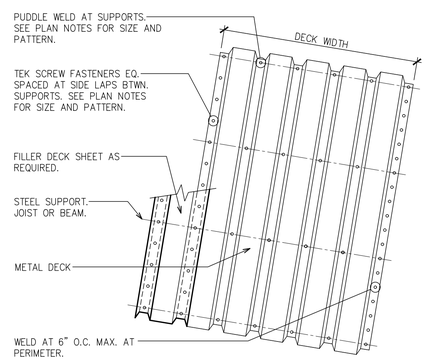
5 JOIST TO COLUMN
SCALE: 3/4" = 1'-0"



6 BEAM-COLUMN CONNECTION
SCALE: 3/4" = 1'-0"

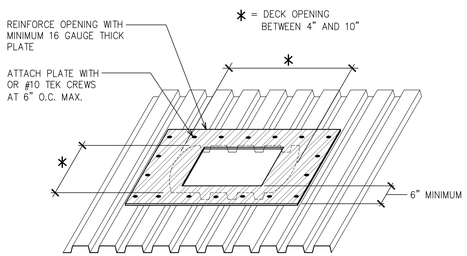


7 CONCRETE COLUMN DETAIL
SCALE: 3/4" = 1'-0"

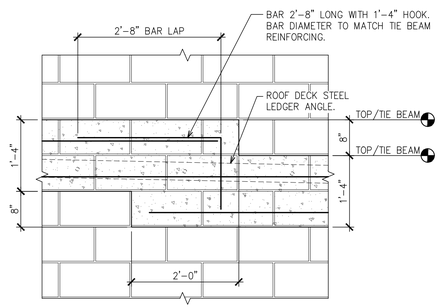


NOTES:
1. MINIMUM DECK BEARING AT END SUPPORTS = 2 1/2"
2. MINIMUM DECK LAP OVER SUPPORTS = 2"

8 METAL DECK ATTACHMENT
NOT TO SCALE

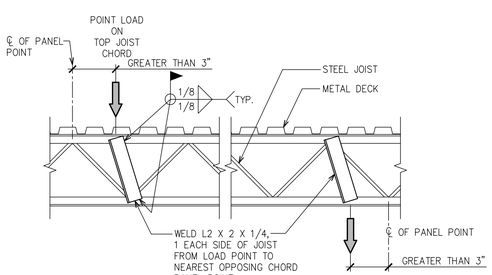


9 DECK REINFORCEMENT AT UNFRAMED ROOF OPENING
NOT TO SCALE



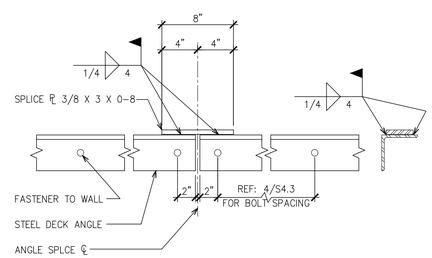
NOTES:
1. TYPICAL MASONRY TIE BEAM SHALL BE (2) COURSE KNOCK-OUT BLOCK WITH (1) #5 CONTINUOUS IN EACH COURSE AND GROUTED SOLID.
2. STEP TIE BEAM A MAXIMUM OF 8". LOCATE TIE BEAM STEPS AS REQUIRED WITH SLOPED DECK LEDGER ANGLE.

11 MASONRY TIE BEAM - STEP
NOT TO SCALE

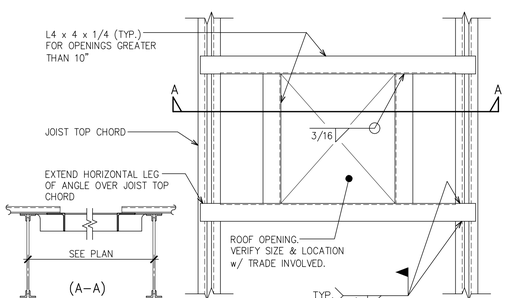


NOTES:
1. STIFFENER REQUIRED WHERE POINT LOADS OCCUR BETWEEN JOIST PANEL POINTS.
2. JOIST STIFFENERS NOT REQUIRED FOR POINT LOADS:
   ≤ 100 LBS AT TOP CHORD
   ≤ 100 LBS AT BOTT. CHORD

12 JOIST REINFORCEMENT DETAIL (TYPICAL)
NOT TO SCALE



10 DECK ANGLE SPLICE
SCALE: 1 1/2" = 1'-0"



NOTES:
1. LOCATE L4 x 4 x 1/4 FRAMES AROUND ALL ROOF OPENINGS GREATER THAN 10".
2. CONTRACTOR SHALL VERIFY LOCATION AND SIZE OF OPENINGS PRIOR TO STEEL FABRICATION.
3. REFER TO JOIST STIFFENER DETAIL 12/S4.2 FOR JOIST STIFFENERS AS REQUIRED.
4. REFER TO 9/S4.2 FOR DECK OPENINGS BETWEEN 4" AND 10".
5. NOT INTENDED FOR ROOF TOP MECHANICAL EQUIPMENT SUPPORT. REFER TO 1/S4.3 AMD 2/S4.3 FOR ANGLES SUPPORTING MECHANICAL UNITS.

13 ROOF OPENING
NOT TO SCALE

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ALAN C. GUENTHER, P.E.
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no.	date	revision descriptions

RETAIL BUILDING TWO AT DELAND
2235 S. WOODLAND BLVD
DELAND, FL

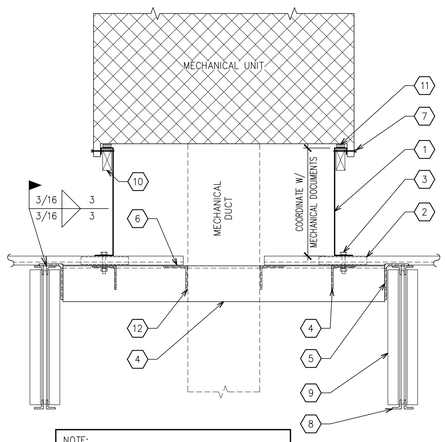
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SECTIONS AND DETAILS

S4.2

PLOT DATE: 6.11.2026

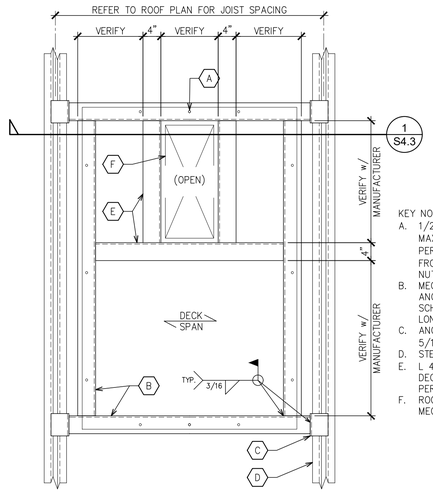


NOTE:
DO NOT BOLT THRU TOP CHORD OF ROOF JOIST UNLESS APROVED BY THE JOIST MANUFACTURER PRIOR TO INSTALLATION OF UNIT. PROVIDE WRITTEN VERIFICATION TO ENGINEER.

ROOF TOP UNIT FRAME SCHEDULE	
UNIT WEIGHT	ANGLE SIZE
0 – 1000 LB. 1001 – 3000 LB.	L4 X 4 X 1/4 L6 X 4 X 5/16

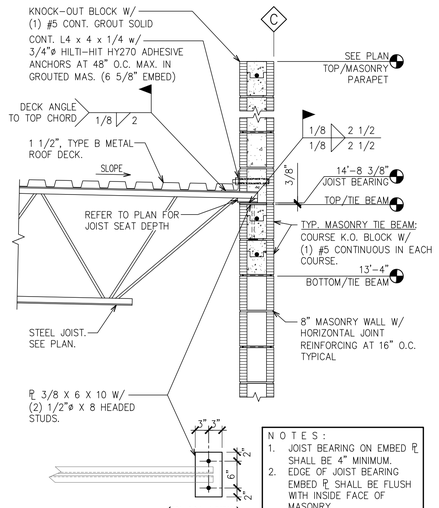
KEY NOTES:
1. PRE-FAB UNIT CURB. REFER TO MECHANICAL DOCUMENTS FOR REQUIREMENTS.
2. P.T. 2X4 X 0-6 LONG WOOD SUPPORT BLOCKING AT 24" O.C. (S.Y.P.) FASTEN TO DECK AS REQUIRED.
3. 1/2"ø THRU-BOLTS AT 24" O.C. MAXIMUM, (3) BOLTS REQUIRED PER SIDE MINIMUM, STARTING 12" FROM END/CORNER. PROVIDE NUTS AND LOCK WASHERS.
4. MECHANICAL UNIT SUPPORT ANGLE FRAME. REFER TO THE SCHEDULE FOR ANGLE SIZE. LONG LEG OF ANGLE IS VERTICAL.
5. ANGLE FRAME SEAT: L 6 X 4 X 5/16 X 0-5 (LLV).
6. METAL ROOF DECK. FASTEN TO SUPPPORT ANGLES WITH 5/8"ø PUDDLE WELDS AT 12" O.C.
7. FASTENING UNIT TO CURB (MINIMUM): 1/4-14 X 6" HWH SELF-DRILLING SCREW (BUILDEX OR EQUAL) WITH A #3 DRILL POINT AND ZINC COATED SPACED AT 12" O.C. MAXIMUM (ALL 4 SIDES), TYPICAL.
8. STEEL ROOF JOIST.
9. JOIST WEB STIFFENER, EACH SIDE. REF: 12/S4.2
10. P.T. WOOD NAILER PER CURB MANUFACTURER.
11. GASKET SEALING MATERIAL AS REQUIRED PER UNIT MANUFACTURER.
12. L 4 X 4 X 1/4 METAL ROOF DECK SUPPORT ANGLE AT PERIMETER OF DECK OPENINGS.

1 MECHANICAL UNIT – CURB SUPPORT
SCALE: 1" = 1'-0"



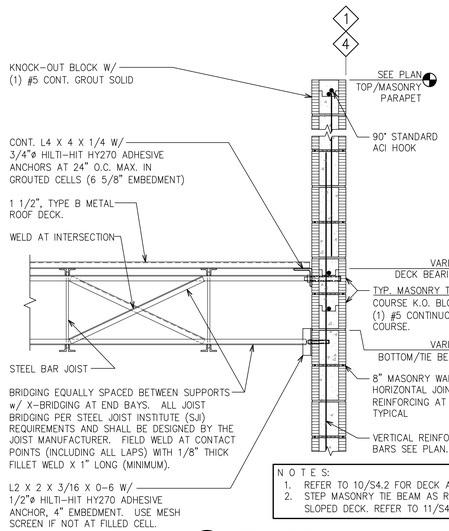
KEY NOTES:
A. 1/2"ø THRU-BOLTS AT 24" O.C. MAXIMUM, (3) BOLTS REQUIRED PER SIDE MINIMUM, STARTING 12" FROM END/CORNER. PROVIDE NUTS AND LOCK WASHERS.
B. MECHANICAL UNIT SUPPORT ANGLE FRAME. REFER TO THE SCHEDULE FOR ANGLE SIZE. LONG LEG OF ANGLE IS VERTICAL.
C. ANGLE FRAME SEAT: L 6 X 4 X 5/16 X 0-5 (LLV).
D. STEEL ROOF JOIST.
E. L 4 X 4 X 1/4 METAL ROOF DECK SUPPORT ANGLE AT PERIMETER OF DECK OPENINGS.
F. ROOF DECK OPENING FOR MECHANICAL DUCT.

2 ANGLE FRAME CURB SUPPORT–PLAN VIEW
SCALE: 3/4" = 1'-0"



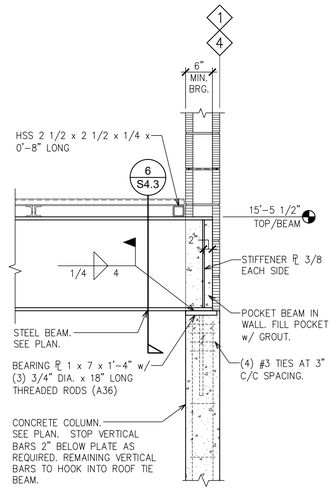
N O T E S :
1. JOIST BEARING ON EMBED ℄ SHALL BE 4" MINIMUM.
2. EDGE OF JOIST BEARING EMBED ℄ SHALL BE FLUSH WITH INSIDE FACE OF MASONRY.
3. TYPICAL JOIST SEAT DEPTH IS 2 1/2" U.N.O.

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

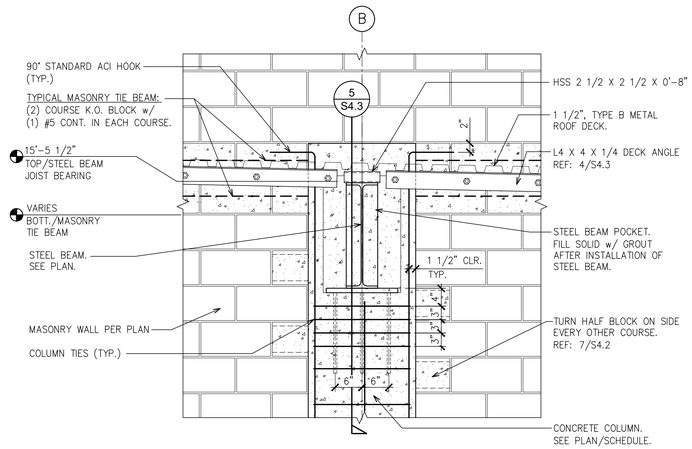


N O T E S:
1. REFER TO 10/S4.2 FOR DECK ANGLE SPLICE.
2. STEP MASONRY TIE BEAM AS REQUIRED WITH SLOPED DECK. REFER TO 11/S4.2.

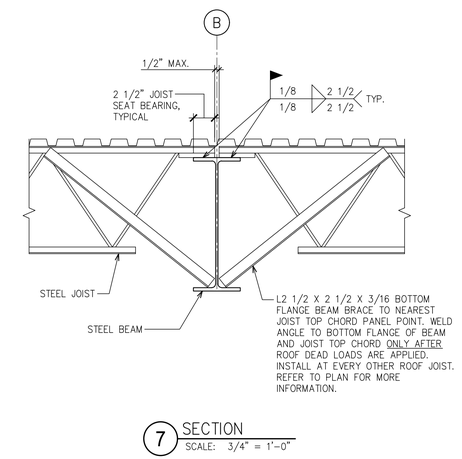
4 DECK BEARING
SCALE: 3/4" = 1'-0"



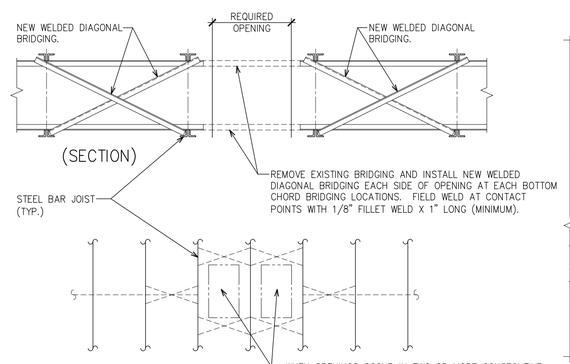
5 STEEL BEAM TO CONCRETE COLUMN
SCALE: 3/4" = 1'-0"



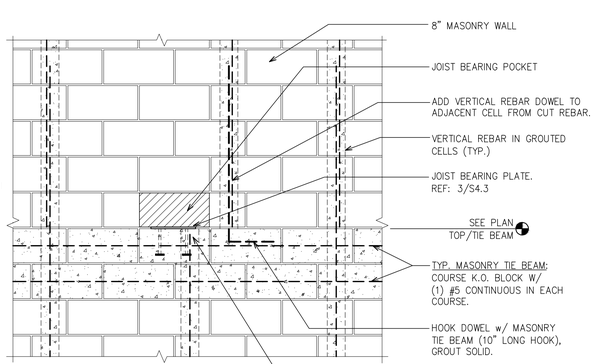
6 STEEL BEAM BEARING ELEVATION
SCALE: 3/4" = 1'-0"



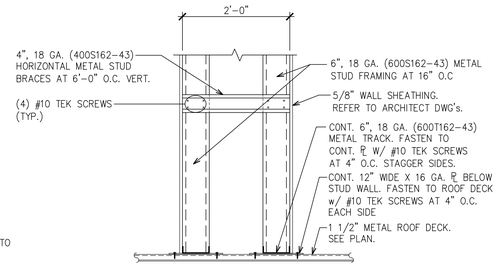
7 SECTION
SCALE: 3/4" = 1'-0"



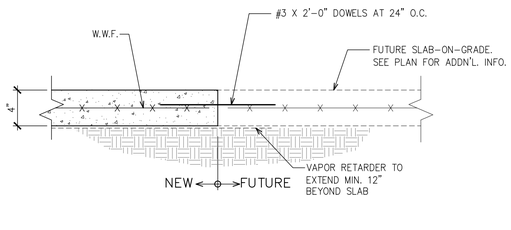
8 DISCONTINUOUS BRIDGING PLACEMENT
NOT TO SCALE (NOT CUT ON PLAN)



9 DISCONTINUOUS REINFORCING
SCALE: 3/4" = 1'-0" (NOT CUT ON PLAN)



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



11 FUTURE SLAB EDGE SECTION
SCALE: 1 1/2" = 1'-0"

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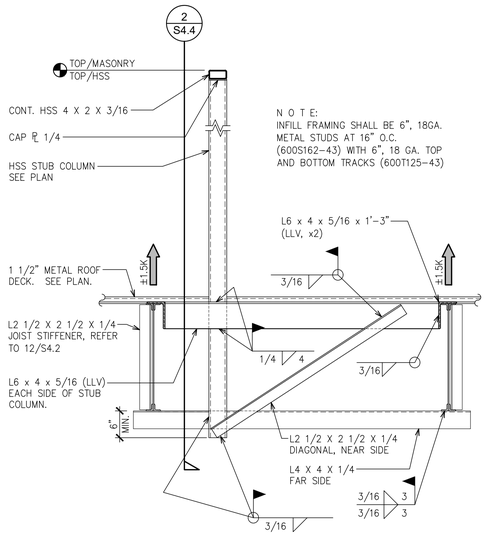
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SECTIONS AND DETAILS

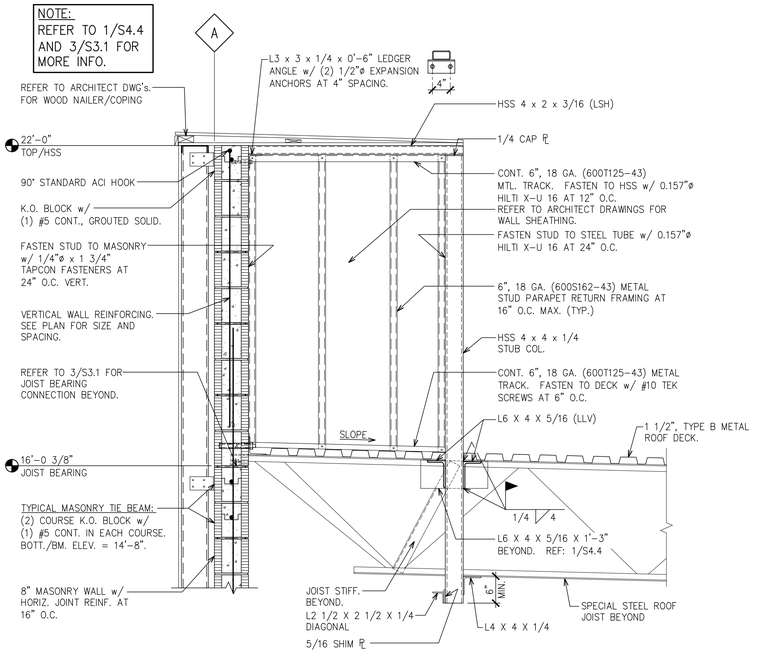
S4.3

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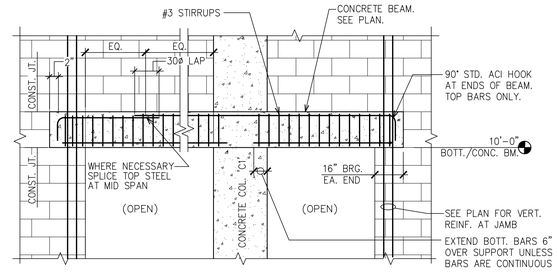


1 SECTION – ROOF STUB COLUMN
SCALE: 3/4" = 1'-0"

NOTE:
REFER TO 1/S4.4
AND 3/S3.1 FOR
MORE INFO.



2 SECTION – ROOF STUB COLUMN
SCALE: 3/4" = 1'-0"



3 CONCRETE BEAM REINFORCING DETAIL
NOT TO SCALE

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