STRUCTURAL NOTES, SPECIFICATIONS AND GENERAL REQUIREMENTS

DESIGN CRITERIA

D-1 CODES: - 8th EDITION FLORIDA BUILDING CODE (2023)
- ASCE 7-22 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"

D-2 DESIGN DEAD LOADS:

ROOF	30 PSF (15 PSF ALLOWABLE APPLIED TO WIND UPLIFT)
MASONRY	55 PSF
CONCRETE	150 PCF

DESIGN LIVE LOADS:

ROOF	20 PSF

D-3 DESIGN WIND SPEED: Vult = 160 MPH (3 SECOND GUST) PER FIGURE 1609.3
Vasd = 124 MPH PER SECTION 1609.3.1
RISK CATEGORY II (PER TABLE 1604.5)
SURFACE ROUGHNESS: C PER SECTION 1609.4.2
WIND EXPOSURE CATEGORY: C PER SECTION 1609.4
MEAN ROOF HEIGHT: 30 FT
ENCLOSED BUILDING INTERNAL PRESSURE COEFFICIENT
GCpi = +/- 0.18

ASSUMPTIONS:
A. BUILDING IS ASSUMED TO BE ENCLOSED AS DEFINED BY CHAPTER 26 OF ASCE 7-22

B. THE BUILDING SATISFIES THE REQUIREMENTS OF CHAPTER 27 PF ASCE 7-22 "ALL-HEIGHTS METHOD" AND ALL STRUCTURAL MEMBERS, CLADDING, FASTENERS, AND SYSTEMS PROVIDING THE STRUCTURAL INTEGRITY OF THE BUILDING HAVE BEEN DESIGNED FOR LOADS FROM TABLES LISTED IN ASCE 7-22 CHAPTER 27 - DIRECTIONAL PROCEDURE OF ASCE 7.

C. ALL COMPONENTS AND CLADDING SUBJECT TO WIND LOADINGS, I.E. DOORS, WINDOWS, JAMBS, ROOFING, ETC, SHALL BE DESIGNED AND FASTENED TO RESIST DESIGN WIND PRESSURES FOR COMPONENTS AND CLADDING, AS SHOWN ON PLAN.

D. ALL PRE-MANUFACTURED MAIN WIND FORCE RESISTING COMPONENTS, I.E. TRUSSES SHALL BE DESIGNED TO RESIST MAIN WIND FORCE RESISTING DESIGN FORCES, AS SPECIFIED ON PLAN AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

E. ALL GLAZING SHALL HAVE EITHER IMPACT RESISTANT GLAZING OR BE PROTECTED WITH AN IMPACT RESISTANT COVERING.
1. GLAZED OPENINGS LOCATED WITHIN 30 FT OF GRADE SHALL MEET THE REQUIREMENTS OF THE LARGE MISSILE TEST OF ASTM E 1996.
2. GLAZED OPENINGS LOCATED MORE THAN 30 FT ABOVE GRADE SHALL MEET THE REQUIREMENTS OF THE SMALL IMPACT TEST ASTM E 1996.
3. STORAGE SHEDS THAT ARE NOT DESIGNED FOR HUMAN HABITATION AND THAT HAVE A FLOOR AREA OF 720 SF OR LESS ARE NOT REQUIRED TO COMPLY WITH THE MANDATORY WINDBORNE DEBRIS IMPACT STANDARDS OF THIS CODE.
4. OPENINGS IN SUNROOMS, BALCONIES OR ENCLOSED PORCHES CONSTRUCTED UNDER EXISTING ROOFS OR DECKS ARE NOT REQUIRED TO BE PROTECTED PROVIDED THE SPACES ARE SEPARATED FROM THE BUILDING INTERIOR BY A WALL AND ALL OPENINGS IN THE SEPARATING WALL ARE PROTECTED IN ACCORDANCE WITH SECTION 1609.1.2 ABOVE. SUCH SPACES SHALL BE PERMITTED TO BE DESIGNED AS EITHER PARTIALLY ENCLOSED OR ENCLOSED STRUCTURES

F. OWNER OR CONTRACTOR SHALL OBTAIN NECESSARY INSTALLATION SPECIFICATIONS AND INSPECTIONS REQUIRED TO COMPLY WITH MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION OF COMPONENTS AND CLADDING FOR HURRICANE PRONE REGIONS.

D-4 PREPARE SITE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT TITLED "SUBSURFACE EXPLORATION" , PREPARED BY ARDAMAN & ASSOCIATES, INC. ARDAMAN & ASSOCIATES INC. PROJECT NO. 23-66-5430, DATED MAY 22, 2023

1. SOIL BEARING PRESSURE USED FOR DESIGN PER REPORT IS 2500 PSF

D-5 RAIN LOADS PER ASCE 7-22 CHAPTER 8: WATER DRAINS TO FREE EDGE, RAIN LOAD NOT APPLICABLE.

GENERAL NOTES

G-1 REVIEW ALL PROJECT DOCUMENTS PRIOR TO FABRICATION AND START OF CONSTRUCTION. REPORT ANY DISCREPANCIES TO ARCHITECT OR STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH WORK.

G-2 THE MASONRY WALLS ARE NOT DESIGNED TO WITHSTAND TEMPORARY CONSTRUCTION LOADS. IT IS THE CONTRACTOR'S RESPONSIBILITY AT ALL TIMES TO MAINTAIN WALL STABILITY DURING THE CONSTRUCTION PHASE OF THIS PROJECT.

G-3 IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM ALL DAMAGE DURING CONSTRUCTION.

G-4 NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE REDUCED IN SIZE OR STRENGTH WITHOUT PRIOR APPROVAL IN WRITING FROM THE STRUCTURAL ENGINEER.

G-5 COORDINATE STRUCTURAL AND OTHER DRAWINGS THAT ARE PART OF THE CONTRACT DOCUMENTS FOR ANCHORED, EMBEDDED OR SUPPORTED ITEMS WHICH MAY AFFECT THE STRUCTURAL DRAWINGS (I.E. MECHANICAL, ELECTRICAL, PLUMBING, DUCTWORK, ETC.)

G-6 ALL DETAILS AND SECTIONS ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT EXCEPT WHERE A SEPARATE DETAIL IS SHOWN.

G-7 THE INTENTION OF THE PLANS AND SPECIFICATIONS IS TO PROVIDE ALL NECESSARY DETAILS TO CONSTRUCT A COMPLETE STRUCTURE. WHEN SPECIFIC INFORMATION IS MISSING OR IS IN CONFLICT. THE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.

G-8 THE ENGINEER SHALL NOT BE RESPONSIBLE FOR LAYOUT, DIMENSIONAL ERRORS OR DISCREPANCIES RESULTING FROM THE REPRODUCTION AND USE OF CONTRACT DRAWINGS FOR ERECTION AND SHOP DRAWINGS. USE OF CONTRACT DRAWINGS REPRODUCED IN WHOLE OR ANY PART IN SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR NOR SUBCONTRACTORS FROM THEIR RESPONSIBILITY TO ACCURATELY LAYOUT, COORDINATE, DETAIL, FABRICATE AND INSTALL A COMPLETE STRUCTURE.

G-9 REVIEW ALL SHOP DRAWINGS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND FOR COMPLETENESS AND ANSWER ALL CONTRACTOR RELATED QUESTIONS. STAMP AND INITIAL ALL SHEETS PRIOR TO SUBMITTING SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR REVIEW. NON-COMPLIANCE WITH THIS REQUIREMENT WILL RESULT IN REJECTION OF SUBMITTAL.

G-10 PRIOR TO ANY WORK, CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS TO VERIFY THE WORK CAN BE DONE AS INTENDED BY THESE DRAWINGS TO PRODUCE A FIRST CLASS PIECE OF WORK. CONTRACTOR SHALL CUT OPEN WALLS AND CEILINGS AS DEEMED NECESSARY TO VERIFY STRUCTURE IS AS ASSUMED BY THESE DRAWINGS. CONTACT M.K. STRUCTURAL WITH ANY DISCREPANCIES OF DRAWINGS OR ASSUMED CONDITIONS PRIOR TO ANY WORK.

SHALLOW FOUNDATIONS

SF-1 SOIL TO BE STRIPPED, COMPACTED AND TESTED IN ACCORDANCE WITHTHE RECOMMENDATIONS OF THE SOILS ENGINEER AND PROJECT SPECIFICATIONS.

SF-2 CENTER ALL FOOTINGS UNDER THEIR RESPECTIVE COLUMNS OR WALLS UNLESS OTHERWISE SHOWN ON PLANS. MAXIMUM MISPLACEMENT OR ECCENTRICITY - 2". TOLERANCE FOR MISLOCATION OF COLUMN DOWELS OR ANCHOR BOLTS TO BE PER ACI OR AISC STANDARDS.

SF-3 HORIZONTAL JOINTS IN FOOTINGS WILL NOT BE PERMITTED.

SF-4 COORDINATE PLUMBING LINES WITH FOOTING LOCATIONS FOR INTERFERENCE. INDIVIDUAL FOOTINGS CAN BE LOWERED WITH THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER. CONTINUOUS WALL FOOTINGS SHOULD BE STEPPED AS DETAILED ON THE DRAWINGS.

SF-5 EXCAVATING UNDER OR NEAR IN-PLACE FOOTINGS/FOUNDATIONS WHICH DISTURBS THE COMPACTED SOIL BENEATH THE FOOTINGS/FOUNDATIONS WILL NOT BE PERMITTED.

SF-6 REINFORCING SHALL BE SUPPORTED ON PRECUTS CONCRETE PADS. DOWELS FOR COLUMNS AND FILLED CELLS SHALL BE SECURED IN PLACE PRIOR TO POURING CONCRETE. USE TEMPLATES FOR SETTING COLUMN DOWELS AND ANCHOR BOLTS.

DRILL-IN BOLTS, HEADED STUDS, SCREWS AND DOWELS

DI-1 WEDGE BOLTS SHALL BE ITW RAMSET/REDHEAD BOLTS OR APPROVED EQUIVALENT INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DO NOT CUT EXISTING REINFORCING TO INSTALL.

DI-2 MASONRY AND CONCRETE SCREWS SHALL BE MANUFACTURED BY RAMSET/REDHEAD "TAPCONS" OR APPROVED EQUAL INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

DI-3 ANCHORING ADHESIVE SHALL BE A TWO-COMPONENT SOLID EPOXY-BASED DISPENSED THROUGH A STATIC-MIXING NOZZLE SUPPLIED BY THE MANUFACTURER. SYSTEM SUPPLIED IN MANUFACTURER'S STANDARD SIDE-BY-SIDE CARTRIDGE AND EPOXY SHALL MEET THE MINIMUM REQUIREMENTS OF ASTM C-881 SPECIFICATION FOR TYPE I, II, IV AND V, GRADE 3, CLASS B AND C AND MUST DEVELOP A MINIMUM 10,560 PSI COMPRESSIVE YIELD STRENGTH AFTER 7-DAY CURE.

DI-4 GROUTED ANCHORS SHALL BE SIMPSON EPOXY-TIE ADHESIVE SYSTEM OR APPROVED EQUIVALENT INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

DI-5 DRILL-IN REBAR DOWELS AND THREADED ROD ANCHORS (A307) SHALL BE SET USING A TWO-PART EPOXY AS DESCRIBED ABOVE.

DI-6 HEADED STUDS (H.S.) SHALL BE "NELSON" OR APPROVED EQUAL. INSTALL USING MANUFACTURER'S SPECIFICATIONS AND IN ACCORDANCE WITH AWS D1.1. ATTACHMENT OF STUDS SHALL BE SUFFICIENT TO DEVELOP THE FULL CAPACITY OF EACH INDIVIDUAL STUD (PER AWS D1.1).

DI-7 EXPANSION ANCHORS MAY BE SUBSTITUTED FOR ANCHOR BOLTS ONLY WITH THE APPROVAL OF THE ENGINEER OF RECORD IN WRITING. EXPANSION ANCHORS USED SHALL BE HILTI, SIMPSON, RAWL, OR APPROVED EQUAL. STEEL ERECTOR SHALL BE NOTIFIED OF ANY DRILLED OR EXP. ANCHOR

TILT UP PANELS

TUP-1 ALL PANELS ARE VIEWED FROM THE INSIDE OF BUILDING LOOKING OUT.

TUP-2 PANEL THICKNESS SHALL BE AS INDICATED ON PLANS. SPECIAL ATTENTION MUST BE GIVEN TO THE LOCATION AND PLACEMENT OF THE REINFORCING.

TUP-3 REFER TO THE ARCHITECTURAL DRAWINGS FOR FINISH REQUIREMENTS, CHAMFERS, REVEALS, ETC.

TUP-4 PANELS SHALL NOT BE LIFTED UNTIL CONCRETE HAS ATTAINED THE MINIMUM MODULES OF RUPTURE AND COMPRESSIVE STRENGTH AS REQUIRED BY LIFTING ENGINEER AND UNTIL PANELS HAVE REACHED A MINIMUM OF 75% OF THE SPECIFIED 28 DAY COMPRESSIVE STRENGTH AS VERIFIED BY TEST.

TUP-5 THE CONTRACTOR SHALL PROVIDE DESIGN FOR THE LIFT INSERTS AND ANY ADDITIONAL REINFORCING STEEL REQUIRED FOR THE LIFTING OPERATION. HOWEVER, NO ADDITIONAL REINFORCING SHALL BE ADDED WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER. THE DESIGNERS OF THE LIFTING INSERTS MUST CONSIDER THE REINFORCING ALREADY PRESENT IN THE PANELS AS INDICATED IN THIS SET OF CONSTRUCTION DRAWINGS.

TUP-6 THE CONTRACTOR SHALL CHECK ALL PANELS DIMENSIONS, PLATE LOCATIONS AND DETERMINE THE LOCATIONS OF ALL OPENINGS REQUIRED. NO PANEL WORK SHALL BE PERFORMED WITHOUT CONTRACTORS APPROVAL OF ALL OF THE ABOVE. THE CONTRACTOR IS INDICATING THAT HE HAS REVIEWED THE ABOVE AND APPROVES THE PANEL DRAWINGS FOR ACCURACY BY THE COMMENCEMENT OF PANEL CONSTRUCTION EVEN IF FORMAL STAMPED APPROVAL HAS NOT BEEN INDICATED ON THOSE DRAWINGS.

TUP-7 MISCELLANEOUS OPENINGS MAY BE REQUIRED FOR FIRE LINES, PLUMBING, SANITARY LINES, ELECTRICAL CONDUITS, ETC. CORE DRILLING OR SAWCUTTING AFTER ERECTION OF PANELS MUST HAVE THE APPROVAL OF THE ARCHITECT AND ENGINEER PRIOR TO PERFORMANCE OF THE WORK.

TUP-8 THE REINFORCING STEEL SUPPLIER SHALL PROVIDE SHOP DRAWINGS INDICATING ALL NECESSARY INFORMATION REQUIRED TO ACCURATELY POSITION THE REBAR AS INDICATED. ENSURE CHAIRS, BOLSTERS OR OTHER MEANS OF SUPPORTING REBARS AND PROVIDE AND ACCURATELY DETAILED. ALL REINFORCING BARS SHALL BE 40 BAR DIA LAP.

TUP-9 THE SLAB SHALL BE PRETREATED WITH A RELEASING AGENT PRIOR TO PLACEMENT OF CONCRETE FOR THE TILT UP. MANUFACTURER'S REQUIREMENTS SHALL BE UTILIZED IN PLACING OF THE RELEASING AGENT AND COMPATIBILITY WITH ANY FUTURE COATINGS SHALL BE VERIFIED.

TUP-10 SEE SHEET S5.0 FOR TILT-UP PANEL DETAILS.

REINFORCED CONCRETE

RC-1 ALL CONCRETE DESIGN AND PLACEMENT SHALL BE IN STRICT ACCORDANCE WITH THE ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," ACI 318.

RC-2 PROVIDE (4) TEST CYLINDERS FOR EACH 50 C.Y. OF CONCRETE PLACED OR FRACTION THEREOF.

RC-3 STRUCTURAL CONCRETE SHALL CONFORM TO ACI 301 SPECIFICATIONS AND SHALL DEVELOP THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:

SPREAD AND WALL FOOTINGS	3000 PSI
COLUMNS AND WALLS	4000 PSI
BEAMS AND SLABS	4000 PSI
TILT UP WALLS	4000 PSI
ALL OTHER CONCRETE	3000 PSI

RC-4 USE REGULAR WEIGHT CONCRETE.

RC-5 STRUCTURAL CONCRETE SHALL CONFORM TO ACI 301 AND HAVE THE FOLLOWING SLUMPS, WATER CEMENT RATIO & AGGREGATE REQUIREMENTS:

LOCATION	SLUMP	W/C RATIO	MAX. AGGREGATE
FOOTINGS	4"+/-1"	0.55	ASTM #57
SLABS ON GRADE	4"+/-1"	0.52	ASTM #57
COLUMNS	5"+/-1"	0.48	ASTM #57
BEAMS AND SLABS	5"+/-1"	0.48	ASTM #57
TILT UP WALLS	5"+/-1"	0.48	ASTM #57
TIE BMS & TIE COL'S	5"+/-1"	0.48	ASTM #8 PEAROCK

SUBMIT DESIGN MIXES FOR APPROVAL AT LEAST ONE WEEK PRIOR TO CONCRETE POUR. DESIGN MIX SUBMITTALS MUST INDICATE PROPOSED LOCATION OR TYPE OF USE. FAILURE TO DO SO WILL CAUSE DELAY AND/OR REJECTION OF SUBMITTALS.

RC-6 MAXIMUM WATER TO CEMENT RATIO WHEN NO BACK-UP DATA IS AVAILABLE:
a) 3000 PSI, 28 DAY COMPRESSIVE STRENGTH; W/C RATIO 0.58 MAXIMUM (NON-AIR ENTRAINED), 0.47 MAXIMUM (AIR ENTRAINED)

RC-7 FLYASH, WHEN USED, SHALL BE LIMITED TO 20% OF THE CEMENTITIOUS MATERIAL. DO NOT USE FOR EXPOSED SLABS

RC-8 SUBMIT COPIES OF CONCRETE MIX DESIGN TO ENGINEER FOR APPROVAL INFORMATION SHALL INCLUDE CEMENT CONTENT, WATER/CEMENT RATIO, SLUMP, ENTRAINED AIR, ADMIXTURE CONTENT AND QUANTITY.

RC-9 ALL REINFORCEMENT SHALL BE FASTENED AND SECURED TOGETHER TO PREVENT DISPLACEMENT BY CONSTRUCTION LOADS OR THE PLACING OF CONCRETE

RC-10 THE USE OF JITTERBUGS TO CONSOLIDATE CONCRETE WILL NOT BE PERMITTED.

RC-11 ALL PUMPED CONCRETE WITH #57 AGGREGATE IS TO CONTAIN A HIGH RANGE WATER REDUCING AGENT. MINIMUM SIZE OF DISCHARGE TO BE 4" I.D.

RC-12 A 2" I.D. DISCHARGE MAY BE USED WITH #8 AGGREGATE. USE PLASTICIZER ADMIXTURE IF NECESSARY TO INCREASE SLUMPS BEYOND THAT NOTED ABOVE.

RC-14 ALL REINFORCING STEEL SHALL BE DETAILED, FABRICATED AND INSTALLED IN ACCORDANCE WITH ACI 318 AND ACI DETAILING MANUAL, ACI-315 LATEST EDITION.

RC-15 REINFORCEMENT WITH LIGHT RUST, MILL SCALE OR A COMBINATION OF BOTH SHALL BE CONSIDERED SATISFACTORY, PROVIDED THE MINIMUM DIMENSIONS (INCLUDING HEIGHT OF DEFORMATIONS) AND WEIGHT OF A HAND-WIRE-BRUSHED TEST SPECIMEN ARE NOT LESS THAN APPLICABLE SPECIFICATION REQUIREMENTS IN THE ASTM STANDARDS REFERENCE IN ACI 318. REINFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60, LATEST REVISION, WITH SUPPLEMENT (S1), MARKED "S".

RC-16 ALL SLABS ON GRADE SHALL BE REINFORCED WITH:
6" SLAB ON GRADE: 4"X4" - W3.5xW3.5 WELDED WIRE REINFORCEMENT (WWR) LOCATED IN THE MIDDLE TO UPPER THIRD PORTION OF SLAB

W.W.R. SHALL BE SUPPORTED WITH APPROVED MATERIALS OR SUPPORTS NOT EXCEEDING 3 FT OR IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS

RC-17 WELDED WIRE REINF. TO COMPLY WITH ASTM A1064 SHEETS ONLY, NO ROLLS. INSTALL ON BRICKS OR BOLSTERS, AT MID-DEPTH OF THE SLAB.

RC-18 LAP CONTINUOUS REINF. AS NOTED IN LAP SPLICE SCHEDULE OR MIN 40 BAR DIA. LAP CONT. BOTTOM STEEL OVER SUPPORT AND CONT. TOP STEEL AT MIDSPAN UNLESS OTHERWISE SPECIFIED.

RC-19 TERMINATE ALL DISCONTINUOUS TOP BARS WITH STANDARD 90 DEGREE HOOK (PLACED VERTICALLY) UNLESS NOTED OTHERWISE.

RC-20 PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED:

MINIMUM COVER:	LOCATION AND CONDITION:
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL BARS 3"
B. CONCRETE EXPOSED TO EARTH OR TO WEATHER	#6 OR GREATER 2" #5 OR SMALLER 1-1/2"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
1.SLABS, WALLS, AND JOISTS	#11 OR SMALLER 3/4" #14-#18 1-1/2"
2.BEAMS AND COLUMNS: (PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS)	ALL BARS 1-1/2"
D.SLABS ON GRADE:	SINGLE MAT, TOP 1/2 TO 1/3 OF THICKNESS

RC-21 SLEEVE ALL PENETRATIONS THROUGH BEAMS AND SLABS INDIVIDUALLY. CORE DRILLING WILL NOT BE PERMITTED. SUBMIT LOCATION AND SIZE OF SLEEVES THROUGH BEAMS TO ENGINEER FOR REVIEW PRIOR TO CASTING CONCRETE. WHERE PIPING PENETRATES CONCRETE BEAMS, PLACE TWO #3 STIRRUPS @ 3" O.C. EACH SIDE OF PIPE, UNLESS OTHERWISE NOTED.

RC-22 NO REINFORCING BARS SHALL BE CUT TO ACCOMMODATE THE INSTALLATION OF ANCHORS, EMBEDS OR OTHER ITEMS.

RC-23 USE THE STRUCTURAL DRAWINGS INCLUDING REVISIONS AND ADDENDA IN CONJUNCTION WITH REVIEWED SHOP DRAWINGS FOR PLACEMENT OF REINFORCING.

RC-24 AT CHANGES IN DIRECTION OF CONCRETE WALLS, BEAMS & STRIP FOOTINGS, PROVIDE CORNER BARS OF SAME SIZE AND QUANTITY UNLESS NOTED OTHERWISE AS HORIZONTAL STEEL.

RC-25 ALL EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE PRIOR TO CONCRETE PLACEMENT.

RC-26 THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FOR PROVIDING THE CONSTRUCTION OF ALL FORMWORK IN ACCORDANCE WITH ACI 347.

RC-27 PLACE CONCRETE PER ACI 304. USE INTERNAL MECHANICAL VIBRATION FOR ALL CONCRETE. LIMIT MAXIMUM FREE FALL DROP OF CONCRETE TO 6'-0" FOR #57 AGGREGATE AND 8'-0" FOR #8 AGGREGATE. ALL PRECAUTIONS SHOULD BE TAKEN TO AVOID SEGREGATION OF CONCRETE DURING PLACEMENT.

RC-28 FOOTING SIZES SHOWN ARE FOR FOOTINGS CONSTRUCTED WITH SIDE FORMS. IF SOIL MATERIAL CAN HOLD A VERTICAL SHAPE, IT CAN BE USED AS AN EARTH FORM PROVIDED FOOTING WIDTH IS INCREASED 1" IN EACH HORIZONTAL DIRECTION. ALL SLOUGHED MATERIAL SHALL BE REMOVED FROM EXCAVATION BEFORE AND DURING PLACEMENT OF CONCRETE.

RC-29 PLACEMENT OF CONDUIT AND PIPES IN CONCRETE SHALL CONFORM TO ACI 318, SECTION 20.7 AND 26.8

RC-30 REFERENCE ACI310.1-20 FOR REQUIREMENTS OF POLISHED CONCRETE

METAL DECKING

MD-1 ROOF METAL DECK SHALL BE 1.5 TYPE "B" (G-60) OR APPROVED EQUAL.

MD-2 METAL DECK MANUFACTURER SHALL BE A MEMBER OF THE STEEL DECK INSTITUTE AND ALL DESIGN SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS.

MD-3 SEE FASTENER REQUIREMENTS ON THIS SHEET FOR SCREWING AND SIDE LAP REQUIREMENTS.

MD-4 DECK SUBMITTALS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED ENGINEER AND SHALL INCLUDE THE INTENDED FASTENING PATTERNS AND SHALL INDICATE THE CAPACITY UNDER COMBINED STRESSES DUE TO UPLIFT & DIAPHRAGM ACTION.

STRUCTURAL STEEL

S-1 FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC "MANUAL OF STEEL CONSTRUCTION," FIFTEENTH EDITION AND THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS," LATEST EDITION.

S-2 MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED:
STRUCTURAL STEEL: GRADE A992 (Fy = 50 ksi)
ANGLES AND PLATES: ASTM A36 (Fy = 36 ksi)
ANCHOR BOLTS AND MACHINE BOLTS: ASTM A307 OR A36.
STRUCTURAL STEEL TUBING; ASTM A500, GRADE B, TYPE E OR S
HEADED STUD ANCHORS ASTM A108 GRADE S 1010 THRU 1020

S-3 UNLESS NOTED OTHERWISE, ALL BOLTS SHALL BE 3/4" DIAMETER A-325 AND SHALL BE BEARING TYPE CONNECTIONS.

S-4 ALL SHOP AND FIELD WELDING SHALL BE DONE BY CURRENTLY CERTIFIED WELDERS IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE," LATEST EDITION.

S-5 USE E70XX ELECTRODES FOR ALL WELDING UNLESS NOTED OTHERWISE. GRIND SMOOTH ALL EXPOSED WELDS.

S-6 DO NOT WELD TO EMBEDS UNTIL CONCRETE HAS CURED AT LEAST 72 HOURS. USE APPROPRIATE WELDING PROCESSES TO LIMIT HEAT BUILDUP IN EMBED TO AVOID PLATE EXPANSION AND CRACKING OF CONCRETE.

S-7 HEADED STUD ANCHORS SHALL BE A307 AS MANUFACTURED BY NELSON STUD OR APPROVED EQUIVALENT. STUD WELDING SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE."

S-8 SURFACE PREPARATION AND SHOP PAINTING OF ALL STRUCTURAL STEEL MEMBERS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE "CODE OF STANDARD PRACTICE "OF AISC.

S-9 SHOP PAINT-METAL ALKYD-OIL PRIMER, ANY OF THE FOLLOWING: SEE ARCHITECT FOR PREFERRED COLOR. MANUFACTURER DESIGNATION PORTER NO. 296 MOBILE NO. 13F812 TINEMIC NO. 1009 AMERON NO. 5102 AMERCOAT.

S-10 SHOP PAINT ALL STEEL EXCEPT SURFACES TO BE EMBEDDED IN CONCRETE, FIELD WELDED, OR COVERED WITH SPRAY-ON FIRE PROOFING. 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.

S-11 GROUT UNDER BEARING PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 6000 PSI IN 7 DAYS. VIBROPRUF #11, BY LAMBERT CORPORATION, OR ACCEPTED SUBSTITUTE.

S-12 ALL STEEL EXPOSED TO EXTERIOR CONDITIONS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

STEEL JOISTS

SJ-1 WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR OPEN-WEB STEEL JOISTS AND LONG SPAN STEEL JOINTS, OF THE STEEL JOIST INSTITUTE, LATEST REVISION.

SJ-2 HANGERS FOR SUPPORT OF EQUIPMENT, OR MEMBERS SUPPORTING SUCH HANGERS, SHALL BE LOCATED AT PANEL POINTS OF JOISTS.

SJ-3 JOISTS SHALL BE DESIGNED TO SUPPORT THE LOADS LISTED, THOSE INDICATED ON PLANS AND AN ADDITIONAL CONCENTRATED DEAD LOAD NOT TO EXCEED 500# TO BE PLACED AT ANY PANEL POINT ALONG THE LENGTH OF THE JOIST. DEAD LOADS SHALL BE IN ACCORDANCE WITH THE MATERIALS SHOWN WITHIN THE CONTRACT DOCUMENTS AND SHALL BE NOTED ON THE SHOP DWG SUBMITTAL BY THE JOIST MANUF.

SJ-4 JOIST BOTTOM CHORDS SHALL BE DOUBLE ANGLES.

SJ-5 ROOF JOISTS AND BRIDGING SHALL BE DESIGNED TO RESIST A NET UNFACTORED UPLIFT PRESSURE AS SHOWN ON PLANS.

SJ-6 JOIST SIZES SHOWN ON PLANS SHALL BE THE MINIMUM ACCEPTABLE.

SJ-7 EXTEND AND CONNECT ALL BOTTOM CHORDS AFTER THE DEAD LOAD IS APPLIED AT LOCATIONS ON PLANS.

SJ-8 JOIST SHOP DWGS SHALL BE SUBMITTED WITH CALCULATIONS SIGNED/SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. SHOP DWGS SUBMITTED NOT SIGNED/SEALED WILL BE RETURNED WITHOUT REVIEW.

SJ-9 JOIST MANUFACTURER SHALL COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOADS DUE TO EQUIPMENT TO BE HUNG FROM ROOF STRUCTURE. ALL ADD'L LOADS SHALL BE CLEARLY INDICATED ON SHOP DWG SUBMITTALS.

SJ-10 JOIST TO BE DESIGNED TO ALLOW 1" MAXIMUM DIFFERENCE IN CAMBER BETWEEN ADJACENT PARALLEL JOISTS.

SJ-11 ALL STEEL JOISTS GREATER THAN FORTY FEET IN LENGTH REQUIRE A ROW OF BOLTED BRIDGING TO BE IN PLACE PRIOR TO SLACKENING OF HOIST LINES.

REINFORCED MASONRY

M-1 MASONRY CONSTRUCTION SHALL CONFORM TO TMS 402-16 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND TMS 602-16 "SPECIFICATIONS FOR MASONRY STRUCTURES" , ASTM C-476, ASTM C-1019 AND NCMA TEK. EXCEPT AS AMENDED BELOW.

M-2 CONTRACTOR SHALL OBTAIN COPY OF MASONRY CODE AND SPECIFICATIONS FOR REFERENCE AT THE JOBSITE.

M-3 STRUCTURE HAS BEEN DESIGNED AS A BEARING WALL STRUCTURE. ALL MASONRY UNITS SHALL BE LAID PRIOR TO CONCRETE PLACEMENT OF COLUMNS, BEAMS AND SLABS FOR THE SAME STORY.

M-4 USE TYPE "M" MORTAR FOR ABOVE GRADE APPLICATIONS AND TYPE "S" MORTAR FOR BELOW GRADE APPLICATIONS. MORTAR SHALL CONFORM TO ASTM C270 (PROPORTION OR PROPERTY SPECIFICATION)

M-5 MASONRY UNITS SHALL CONFORM TO ASTM C90, NORMAL WEIGHT, TYPE II. MINIMUM NET COMPRESSIVE UNIT STRENGTH OF 2000 PSI TO PROVIDE NET AREA COMPRESSIVE STRENGH OF MASONRY (Fm') OF 1500 PSI.

M-6 ALL COLUMNS AND BEAMS INTEGRATED IN CMU WALLS ARE 8" AND 12" NOMINAL AND 7-5/8" AND 11-5/8" ACTUAL DIMENSIONS.

M-7 COARSE GROUT SHALL CONFORM TO ASTM C476, LATEST REVISION:
a.) 2500 PSI AT 28 DAYS
b.) 1/4" MAXIMUM AGREGATE SIZE
c.) 8" TO 11" SLUMP
d.) PROVIDE CLEANOUTS FOR LIFTS GREATER THAN 5'-0" IN HEIGHT. PUMP 4'-0" MAXIMUM GROUT LIFTS. FOR HIGH LIFT (12'-0" MAX). GROUTING WITH 30 MINUTE DELAY BETWEEN LIFTS.

M-8 A REINFORCED CONCRETE TIE BEAM OR MASONRY TIE BEAM SHALL BE PROVIDED IN ALL WALLS SHOWN ON THE STRUCTURAL DRAWINGS AT EACH FLOOR AND THE ROOF. USE GALVANIZED MESH TYPE CELL CAPS. PROVIDE CORNER BARS AT ALL BEAM CORNERS TO MATCH HORIZONTAL BARS.

M-9 UNLESS NOTED OTHERWISE, TIE BEAMS SHALL BE:
a.) 8"x24" CAST-IN-PLACE CONCRETE TIE BEAM REINFORCED W/ (2) #5 TOP AND BOTTOM W/ #3 STIRRUPS @ 16" O.C.

M-10 VERTICAL REINFORCING FOR FILLED CELLS SHALL CONFORM TO ASTM 615.

M-11 PROVIDE VERTICAL REINFORCEMENT IN GROUT FILLED CELLS:
A. AS SHOWN ON THE DRAWINGS
B. MAXIMUM 32" O.C.
C. AT ALL CORNERS AND INTERSECTIONS
D. AT ANCHORAGE OF CONNECTIONS OR BEARING OF BEAMS

M-12 REINFORCING BARS SHALL BE LAPPED 48 BAR DIAMETERS WHERE SPLICED AND SHALL BE WIRED TOGETHER. LAP VERTICAL REINFORCEMENT ABOVE GRADE BEAM AND ABOVE EACH FLOOR UNLESS NOTED OTHERWISE.

M-13 REINFORCE WALLS WITH LADDER-TYPE REINFORCEMENT EQUAL TO STANDARD DUR-O-WAL IN BED JOINTS 9-GA OR APPROVED EQUAL AT 16" O.C. MEASURED VERTICALLY U.O.N. PLACE PER MFR. RECOMMENDATIONS. EXTEND INTO COLUMNS, OR PROVIDE DOVETAIL ANCHORS TO SECURE MASONRY TO COLUMNS. PROVIDE PREFABRICATED "TEE" OR CORNER SECTIONS AT WALL INTERSECTIONS.

M-14 PROVIDE FULL MORTAR BEDDING AROUND ALL FILLED CELLS WITH VERTICAL REINFORCING.

M-15 PLACE ALL MASONRY IN RUNNING BOND WITH 3/8" MORTAR JOINTS.

M-16 AT INTERSECTING WALLS FIFTY PERCENT OF THE MASONRY SHALL BE LAID IN OVERLAPPING MASONRY BONDING PATTERN

M-17 REFER TO TYPICAL WALL SECTIONS FOR MAXIMUM CONSTRUCTION HEIGHT OF MASONRY WALLS. PROVIDE CLEAN-OUT HOLES AT BASE OF FILLED CELL WHEN THE CONCRETE POUR EXCEEDS 5 FEET IN HEIGHT.

M-18 GROUT FOR FILLED CELLS SHALL BE VIBRATED DURING PLACEMENT USING A "PENCIL" TYPE VIBRATOR.

M-19 VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT THE TOP AND BOTTOM OF BAR AND AT 8'-0" OC MAXIMUM WITH A MINIMUM CLEARANCE OF 1/2" FROM MASONRY. THE CLEAR DISTANCE BETWEEN BARS SHALL NOT BE LESS THAN ONE BAR DIAMETER OR 1". CENTER BARS IN WALLS UNLESS NOTED OTHERWISE.

M-20 ALL REINFORCED CELLS ARE TO BE CLEAN AND FREE OF ANY FOREIGN MATERIAL OR DEBRIS.

M-21 TESTING OF GROUT TO COMPLY WITH ASTM C-1019.

M-22 OPENINGS SHALL HAVE BLOCK CELL AT EACH JAMB FILLED WITH GROUT AND REINFORCED.

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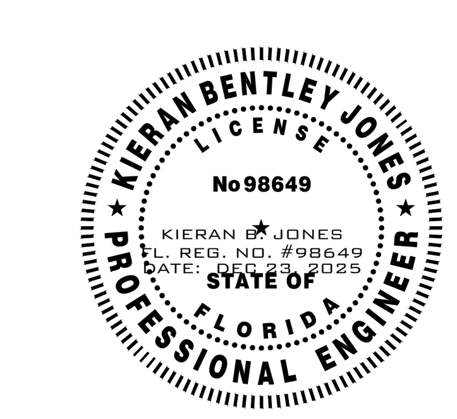

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S1.0

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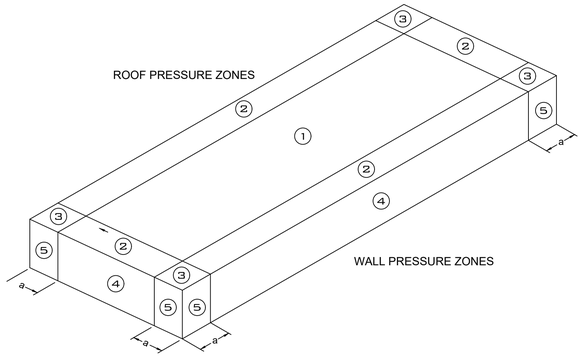
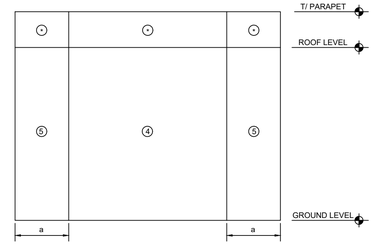
COMPONENTS AND CLADDING DESIGN WIND PRESSURES

WIND PRESSURE (PSF) @ 160MPH, EXP C									
ROOF ZONES, Ultimate Pressures					ROOF ZONES, Nominal Pressures (V=124mph)				
ZONE	AREA	POS	NEG	w/ OH	ZONE	AREA	POS	NEG	w/ OH
1	10	26.2	-102.7	-	1	10	16.0	-61.6	-
1	20	24.6	-95.9	-	1	20	16.0	-57.5	-
1	50	22.4	-87.0	-	1	50	16.0	-52.2	-
1	100	59.0	-80.2	-	1	100	16.0	-48.1	-
2	10	59.0	-135.5	-	2	10	35.4	-81.3	-
2	20	56.4	-126.7	-	2	20	33.8	-76.0	-
2	50	52.9	-115.2	-	2	50	31.8	-69.1	-
2	100	50.3	-106.5	-	2	100	30.2	-154.9	-
3	10	59.0	-135.5	-	3	10	35.4	-81.3	-
3	20	56.4	-126.7	-	3	20	33.8	-76.0	-
3	50	52.9	-115.2	-	3	50	31.8	-69.1	-
3	100	50.3	-106.5	-	3	100	30.2	-63.9	-
WALL ZONES, Ultimate Pressures					WALL ZONES, Nominal Pressures (V=124mph)				
4	10	59.0	-63.9	-	4	10	35.4	-38.3	-
4	20	56.4	-61.3	-	4	20	33.8	-36.8	-
4	50	52.9	-57.8	-	4	50	31.8	-34.7	-
4	100	50.3	-55.2	-	4	100	30.2	-33.1	-
5	10	59.0	-78.7	-	5	10	35.4	-47.2	-
5	20	56.4	-73.4	-	5	20	33.8	-44.1	-
5	50	52.9	-66.5	-	5	50	31.8	-39.9	-
5	100	50.3	-61.3	-	5	100	30.2	-36.8	-

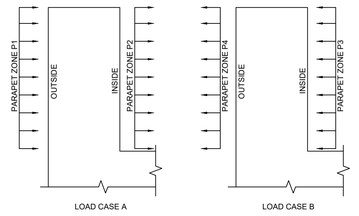
ZONE 1 - INTERIOR AREAS OF ROOF (INCLUDES ZONE 1')
ZONE 2 - EDGE ZONE
ZONE 3 - CORNER ZONE
ZONE 4 - INTERIOR AREAS OF WALL
ZONE 5 - EDGE ZONES OF WALL
DISTANCE "a" IS DEFINED AS 11.5 FT FROM DIAPHRAGM BOUNDARY FOR ROOFS AND 11.5 FT FROM ANY CORNER OF THE BUILDING FOR WALLS



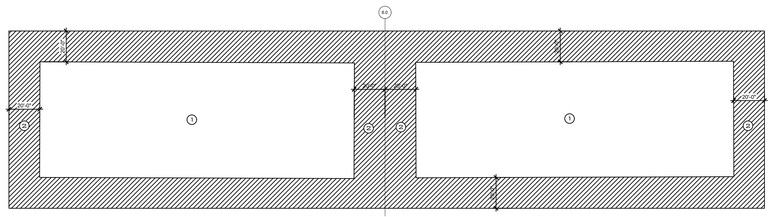
PARAPET PRESSURES (PSF) @ 160MPH, EXP C							
PARAPET ZONES, Ultimate Pressures				PARAPET ZONES, Nominal Pressures (V=124mph)			
ZONE	AREA	A	B	ZONE	AREA	A	B
4	10	178.2	-138.1	4	10	106.9	-82.9
4	20	166.7	-129.2	4	20	100.0	-77.5
4	50	151.4	-117.5	4	50	90.8	-70.5
4	100	139.9	-108.6	4	100	83.9	-65.2
5	10	178.2	-138.1	5	10	106.9	-82.9
5	20	166.7	-129.2	5	20	100.0	-77.5
5	50	151.4	-117.5	5	50	90.8	-70.5
5	100	139.9	-108.6	5	100	83.9	-65.2



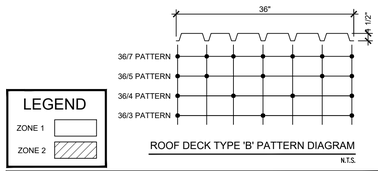
WIND LOAD WALL ZONE DIAGRAM W/ PARAPET



PARAPET WIND PRESSURE DIAGRAM



MAIN BUILDING ROOF ZONES



ROOF DECK TYPE 'B' PATTERN DIAGRAM
N.T.S.

ROOF DECK FASTENING PATTERN			
BUILDING	ZONE	DECK GAGE	ROOF DECK MINIMUM FASTENING PATTERN
MAIN ROOF	1	20 GA	36/5 HILTI X-ENP19 PAF W/ (8) #10 TEK SCREW SIDELAPS
	2	20 GA	36/7 HILTI X-ENP19 PAF W/ (8) #10 TEK SCREW SIDELAPS

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DECK FASTENING & COMPONENTS AND CLADDING SCHEDULE

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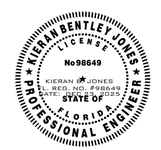

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Registered Engineer License: PE 98649

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S1.1

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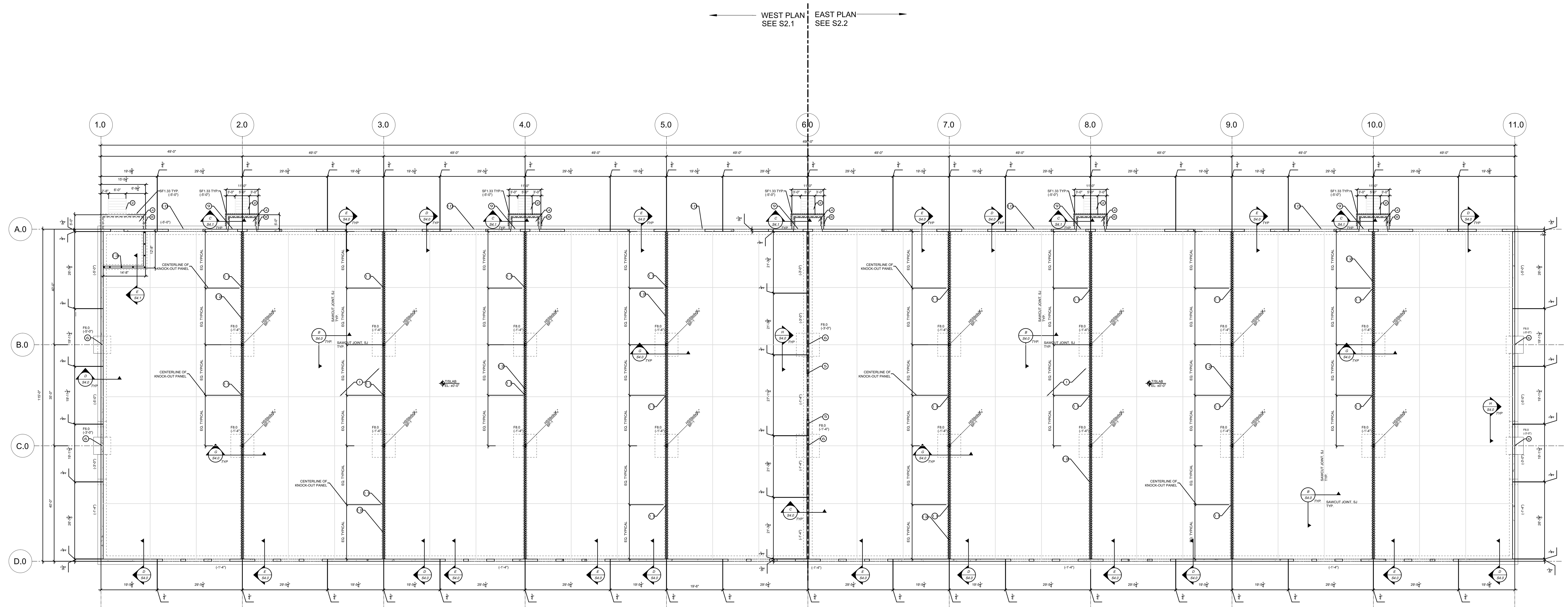
NOTES:

1. 6" THICK 4000 PSI (MIN) CONCRETE SLAB ON GRADE W/ 4x4 W3.5xW3.5 W.W.M. @ MID DEPTH OR FIBERMESH ON CLEAN COMPACTED FILL TREATED AGAINST TERMITES OVER 10MIL U.V. RESISTANT VAPOR BARRIER
2. CONCRETE STAIRS, SEE DETAIL B/S4.1 AND ARCHITECTURAL DRAWINGS
3. 9 1/4" CONCRETE TILT PANEL, SEE PLAN AND DETAILS ON SHEET S5.0, ALL PANELS ARE P-1 TYP. U.N.O.
4. 4" THICK 3000 PSI (MIN) CONCRETE SLAB ON GRADE W/6x6 W1.4xW1.4 W.W.M. OR FIBERMESH ON CLEAN COMPACTED FILL AND TREATED AGAINST TERMITES OVER U.V. RESISTANT VAPOR BARRIER. PROVIDE SAWCUT JOINTS @ 5'-0" O.C.
5. PROVIDE FULL HEIGHT 9 1/4"x36"W CONCRETE COLUMN WITH (12) #6 VERTICAL AND #3 STIRRUPS @ 8" O.C. EACH SIDE OF 20' TALL OVERHEAD DOOR OPENING
6. 9 1/4"x48" CONCRETE COLUMN IN TILT WALL PANEL, REINFORCE W/ (12) #6 BARS VERT. AND #3 TIES @ 8" O.C.
7. ALL WALL FOUNDATIONS ARE SF3.0 TYP. U.N.O.
8. COORDINATE ALL ELEVATIONS AND DIMENSIONS FOR EXTERIOR ELEVATED WALKWAYS AND RAMPS WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE CIVIL DRAWINGS FOR ON GRADE SIDEWALKS
9. COORDINATE ALL RECESS REQUIREMENTS, IF ANY, WITH ARCHITECTURAL DRAWINGS AND DOOR MANUF.
10. OPTIONAL DOCK LEVELER DETAIL A/S4.1 AT OVERHEAD DOOR IF APPLICABLE.COORDINATE WITH ARCHITECTURAL DRAWINGS AND DOOR MANUFACTURER.
11. PROVIDE KNOCK-OUT PANELS IN WALL 8'-0"W X 10'-0"H. PROVIDE PRECAST MASONRY LINTEL AT TOP OF OPENING LTL16 SEE DETAILS E&F/S6.1, COORDINATE FINAL SIZE AND LOCATION WITH OWNER AND ARCHITECT
12. HATCH INDICATES INTERIOR NON BEARING 8" MASONRY PARTITION WALL REINFORCED WITH #5 @ 48" O.C. VERTICAL IN GROUT FILLED CELLS. T/MASONRY WALL AT 14'-0". PROVIDE INTERIOR LIGHT GAUGE FRAMING ABOVE, SEE ARCHITECTURAL DRAWINGS. SEE DETAILS E&F/S6.1
13. INDICATES 8" MASONRY WALL REINFORCED W/ #5 @ 48" O.C. IN GROUTED FILLED CELLS. SEE GENERAL NOTES AND TYPICAL DETAILS

ELEVATION NOTES:

T/SLAB EL: 0'-0" TYP. U.N.O.
T/FOOTING EL: (-X'-X") NOTED ON PLAN



OVERALL FOUNDATION PLAN

SCALE: 1/20"=1'-0"

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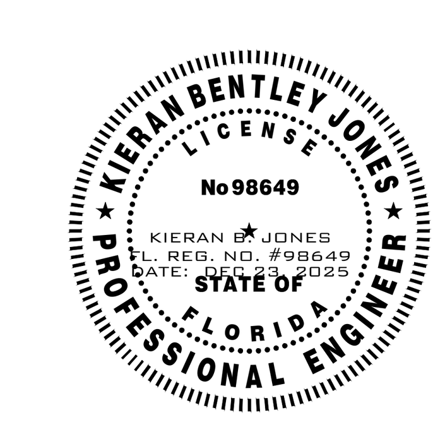

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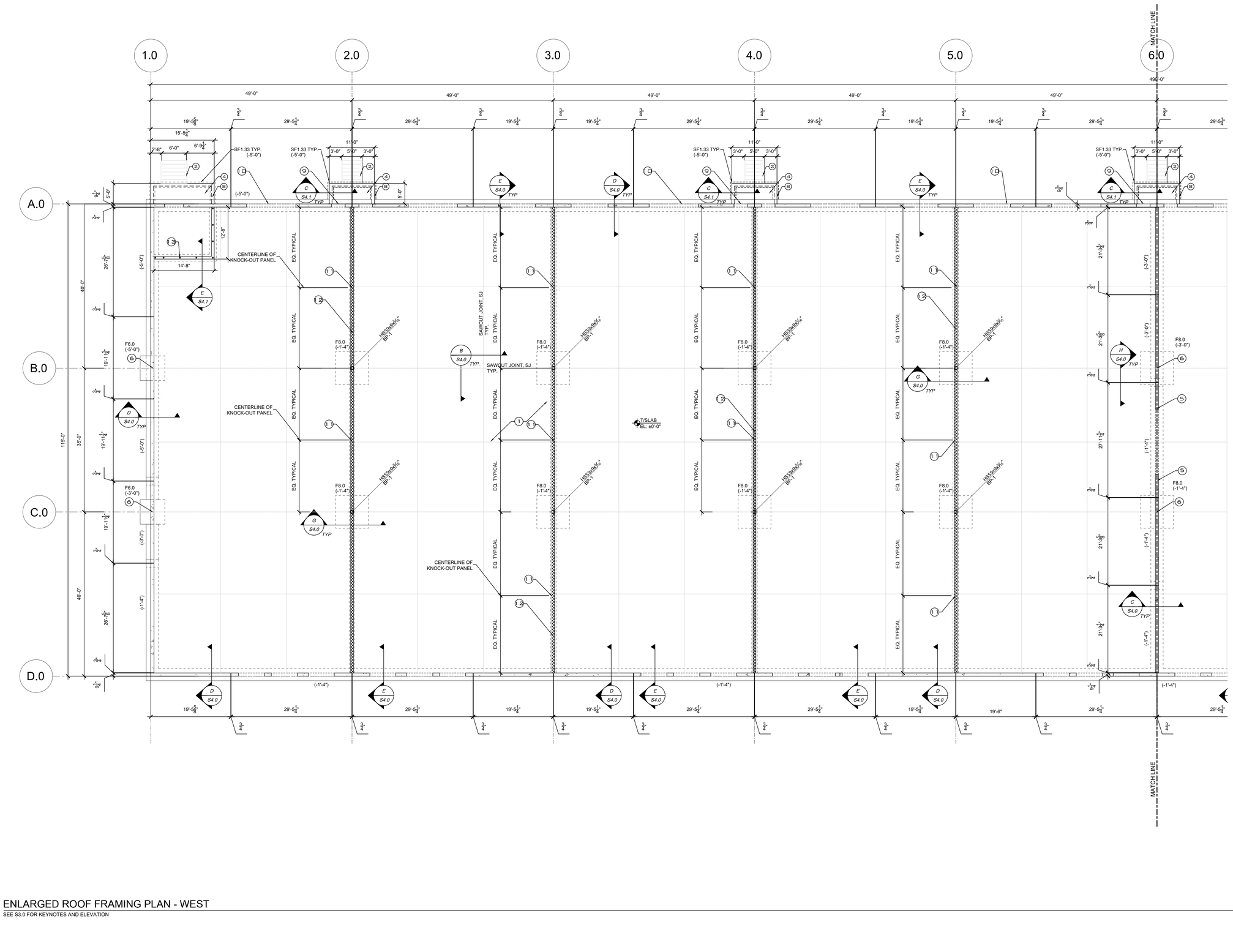

ENLARGED ROOF FRAMING PLAN - WEST

SEE S3.0 FOR KEYNOTES AND ELEVATION

SCALE: 3/32"=1'-0"

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ENLARGED FOUNDATION PLAN - WEST

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KIERAN BENTLEY JONES
LICENSE
No 98649
KIERAN B. JONES
FL REG. NO. PE98649
DATE: 12/23/2025
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Registered Engineer: Kieran B. Jones

Registered Engineer License: PE 98649

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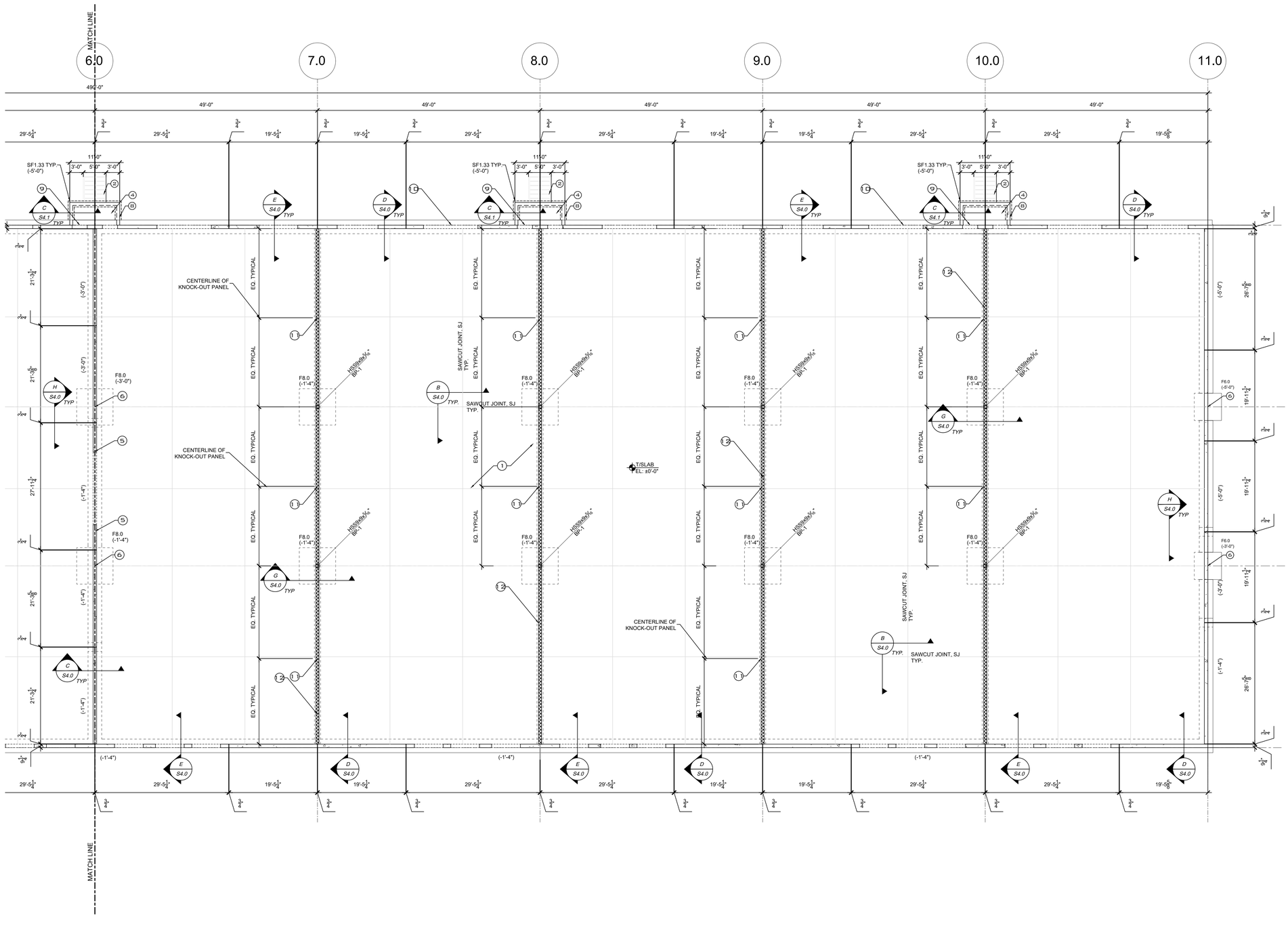

ENLARGED FOUNDATION PLAN - EAST

SEE S2.0 FOR KEYNOTES AND ELEVATION

SCALE: 3/32"=1'-0"

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ENLARGED FOUNDATION PLAN - EAST

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KIERAN B. JONES
FL REG. NO. #98649
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Registered Engineer: Kieran B. Jones
Registered Engineer License: PE 98649

sheet number

S2.2

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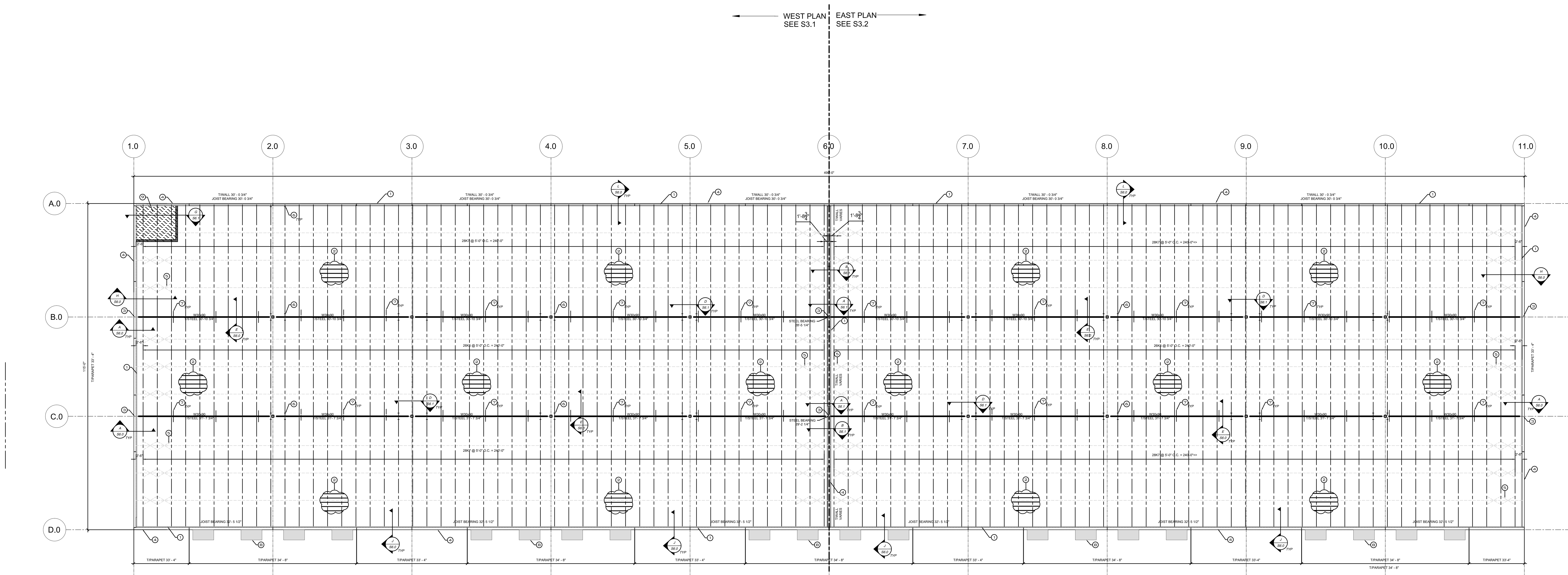
WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 24" x 36"

NOTES:

1. L5x3x1/4" LLV DECK SUPPORT ANGLE - SEE DETAIL D&H/S6.0 FOR REQUIREMENTS
2. 1 1/2", 20GA., GALVANIZED ROOF DECK, VULCRAFT TYPE "B" OR APPROVED EQUAL. SEE SHEET S1.1 FOR FASTENING PATTERN.
3. 9 1/4"x48" CONCRETE COLUMN IN TILT WALL PANEL, REINFORCE W/ (12) #6 BARS VERT. AND #3 TIES @ 8" O.C.
4. CONCRETE TILT PANEL. SEE DETAILS ON SHEET S5.0
5. L 1-3/4"x1-3/4"x7/64" HORIZONTAL BRIDGING, EQUALLY SPACED. IN ADDITION A MINIMUM OF A SINGLE LINE OF BOTTOM CHORD BRIDGING MUST BE PROVIDED NEAR THE FIRST BOTTOM CHORD PANEL POINT AT EACH END OF JOIST DUE TO WIND UPLIFT, TYPICAL.
6. JOIST SHALL BE FIELD BOLTED ON EACH SIDE OF EVERY COLUMN. SEE DETAILS F&K/S6.0
7. BOTTOM FLANGE BRACING @ 15'-0" O.C. MAX, SEE DETAIL E&F/S6.0
8. PRE-ENGINEERED METAL AWNINGS, DESIGN AND ATTACHMENT BY OTHERS. GC TO SUBMIT SIGNED AND SEALED DRAWINGS BY SPECIALITY ENGINEER FOR REVIEW AND APPROVAL
9. HATCH INDICATES 8" THICK CAST IN PLACE CONCRETE LID, SEE SECTION CUT ON SHEET S6.1. T/SLAB @ EL: 10'-8"
10. FASTEN TIE BEAM TO TILT WALL PANEL PER DETAIL A/S5.0 SIMILAR



OVERALL ROOF FRAMING PLAN

SCALE: 1/20"=1'-0"

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OVERALL ROOF FRAMING PLAN

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Registered Engineer: Kieran B. Jones
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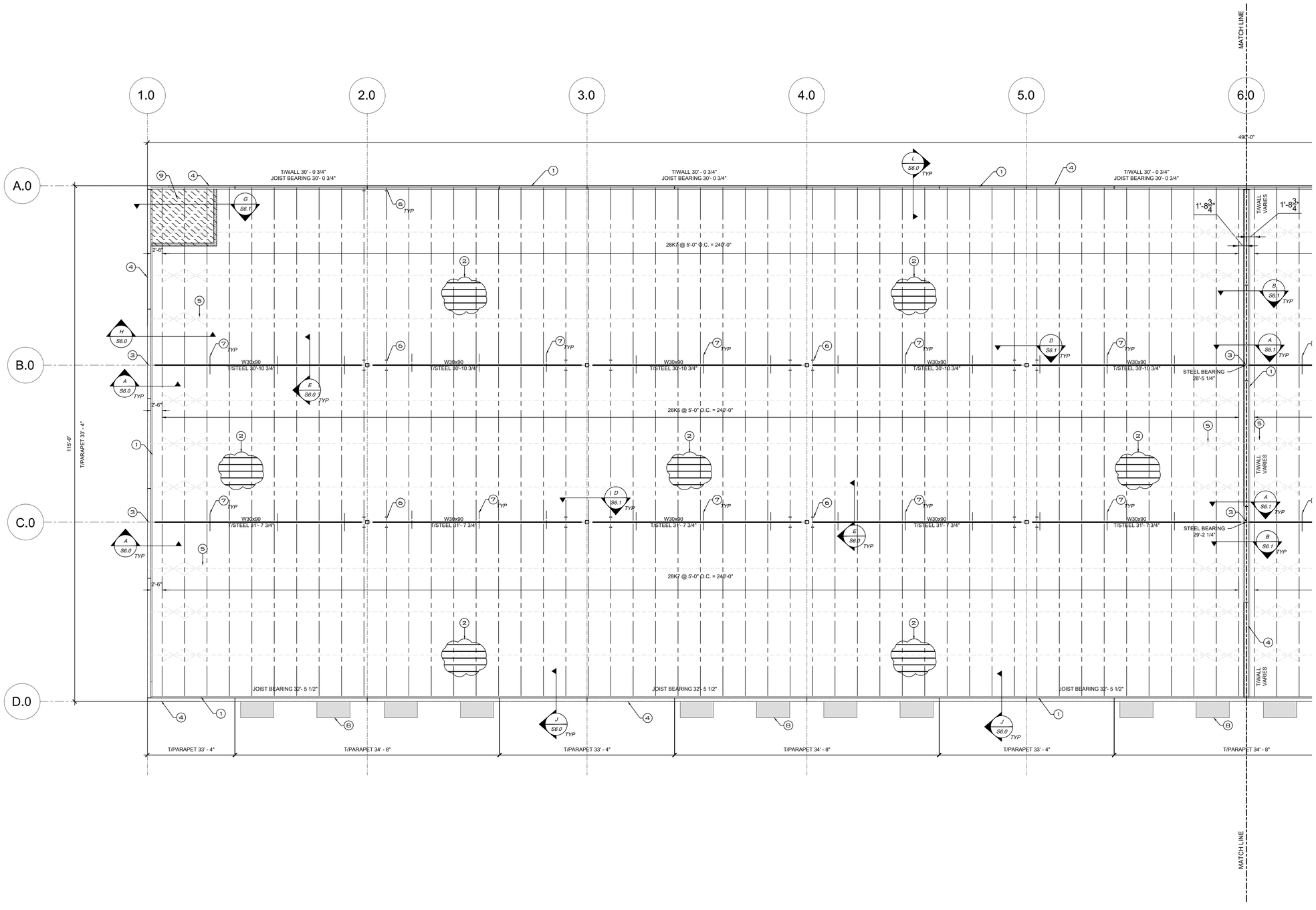

ENLARGED ROOF FRAMING PLAN - WEST

SEE S3.0 FOR KEYNOTES AND ELEVATION

SCALE: 3/32"=1'-0"

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ENLARGED ROOF FRAMING PLAN - WEST

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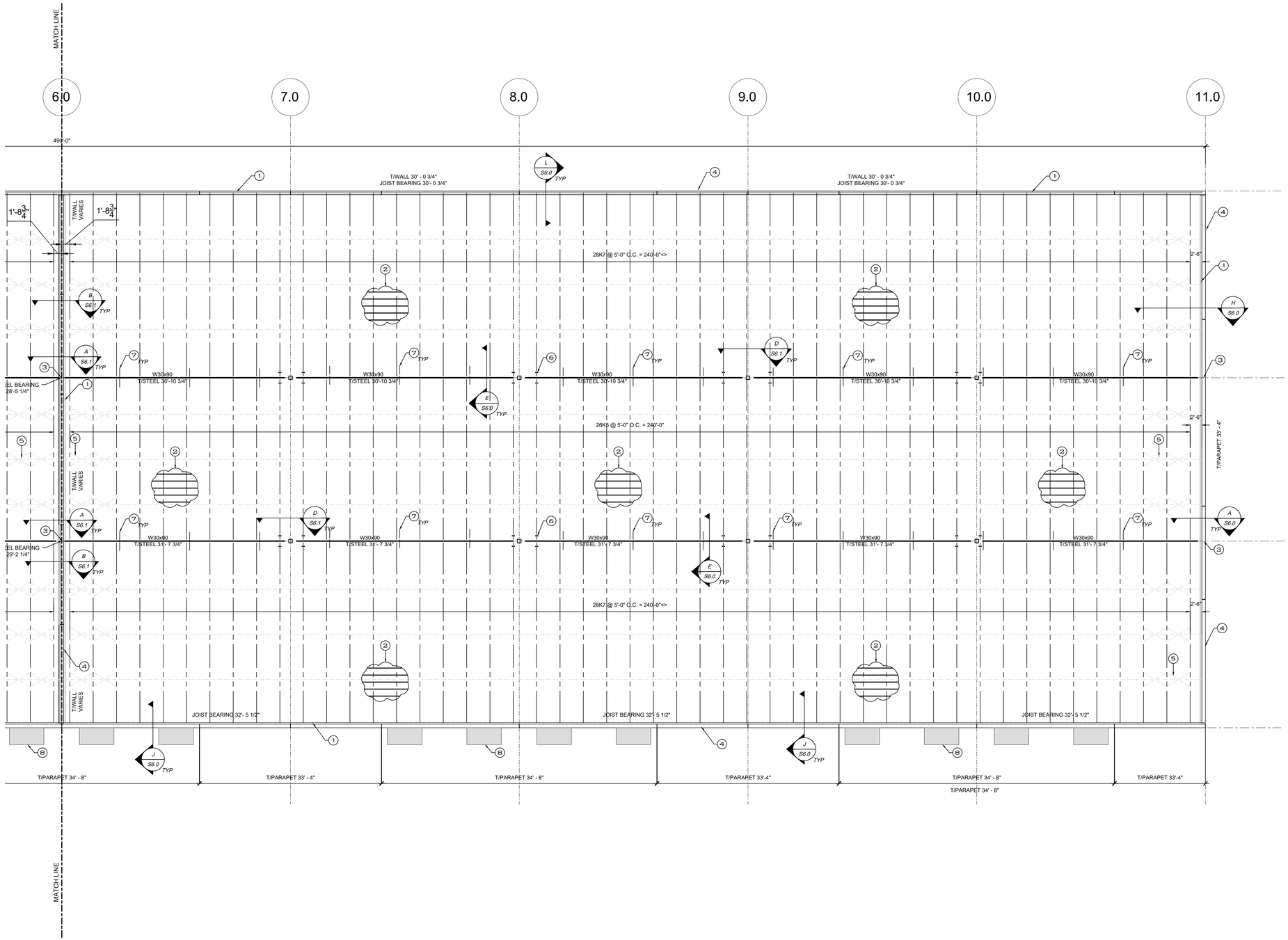

ENLARGED ROOF FRAMING PLAN - EAST

SEE S3.0 FOR KEYNOTES AND ELEVATION

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ENLARGED ROOF FRAMING PLAN - EAST

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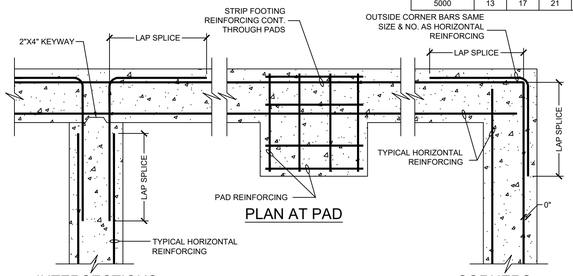
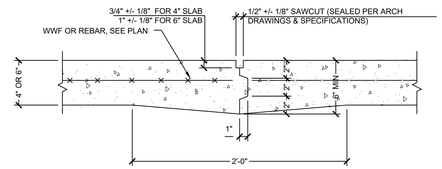
LAP SPLICE LENGTHS								
f'c	BAR NO.							
	3	4	5	6	7	8	9	10
COMPRESSION LAP SPLICE								
> 3000	12	15	19	23	27	30	34	39
CLASS A TENSION LAP SPLICE								
3000	13	17	21	25	36	42	47	53
4000	11	15	18	22	32	36	41	46
5000	10	13	16	20	28	32	36	41
CLASS B TENSION LAP SPLICE								
3000	16	22	27	33	47	54	61	68
4000	14	19	23	28	41	47	53	59
5000	13	17	21	25	37	42	47	53



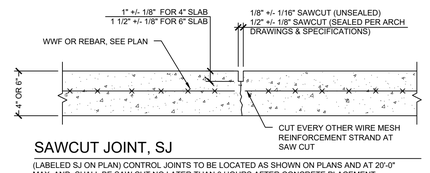
A — TYP. HORIZONTAL REINF-CONCRETE BEAMS AND FOOTINGS

SCALE 3/4"=1'-0"



CONSTRUCTION JOINT, CJ

(LABELED AS CJ ON PLAN). SUBMIT PROPOSED CONSTRUCTION JOINT LOCATIONS FOR APPROVAL PRIOR TO CONCRETE PLACEMENT.

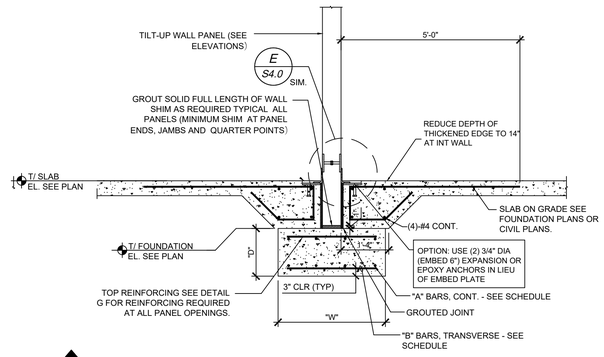


SAWCUT JOINT, SJ

(LABELED SJ ON PLAN) CONTROL JOINTS TO BE LOCATED AS SHOWN ON PLANS AND AT 20'-0" MAX. AND SHALL BE SAW CUT NO LATER THAN 8 HOURS AFTER CONCRETE PLACEMENT.

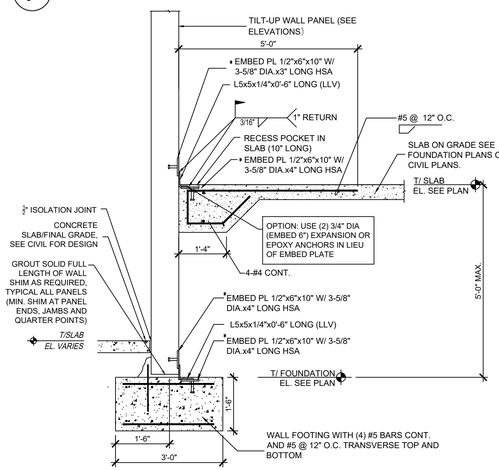
B — TYPICAL CONTROL JOINTS

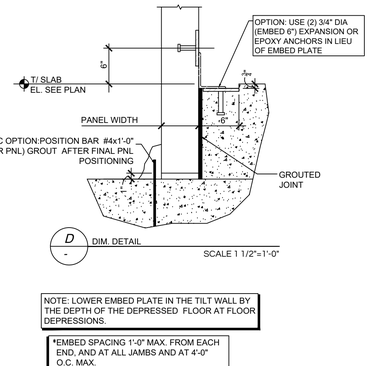
SCALE 3/4"=1'-0"



C — INTERNAL LOAD BEARING WALL FOUNDATION

SCALE 1/2"=1'-0"



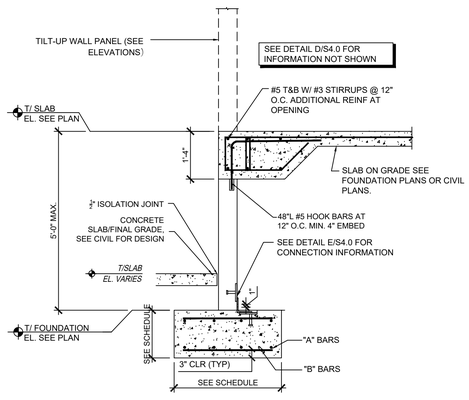


NOTE: LOWER EMBED PLATE IN THE TILT WALL BY THE DEPTH OF THE DEPRESSED FLOOR AT FLOOR DEPRESSIONS.

*EMBED SPACING 1'-0" MAX. FROM EACH END, AND AT ALL JAMBS AND AT 4'-0" O.C. MAX.
NOTE: SEE DETAIL E/S4.0 FOR DIMENSIONS NOT SHOWN

D — TILT-UP TO (SFX.XX) AND CONNECTION DETAIL

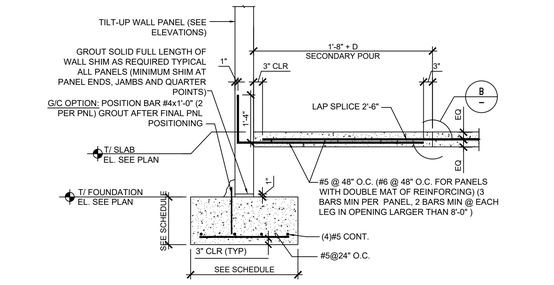
SCALE 1/2"=1'-0"



E — TYP. SF FOUNDATION AT OPENING

SCALE 1/2"=1'-0"

SF FOUNDATION SCHEDULE					
FOUNDATION DESIGNATION	DIMENSION		REBAR		REMARKS
	"W"	"D"	"A"	"B"	
SF1.33	1'-4"	1'-4"	(3)#5	#5@24" O.C.	
SF3.0	3'-0"	1'-6"	(4)#5	#5@12" O.C.	REBAR MAT TOP & BOT.



F — ALTERNATE TILT-UP TO (SF) AND CONNECTION

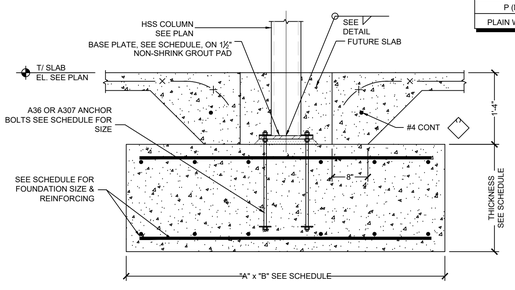
SCALE 1/2"=1'-0"

FOUNDATION SCHEDULE				
FOUNDATION DESIGNATION	DIMENSION		FOUNDATION THICKNESS	REBAR (BOTTOM)
	"A"	"B"		
F6.0	6'-0"	6'-0"	20"	(8) #6 EA. WAY
F8.0	8'-0"	8'-0"	24"	(12) #6 EA. WAY (TOP&BOT.)

LETTERED DIMENSIONS		BOLT DIAMETER							
		1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4
SQUARE PLATE	W	3	3 1/2	3 1/2	4	4 1/2	5 1/2	6	7
	T	3/8	1/2	1/2	5/8	3/4	3/4	1	1
	HOLE DIA.	5/8	3/4	7/8	1	1 1/8	1 3/8	1 5/8	1 5/8
	L	5 1/2	7 1/2	7 1/2	7 1/2	11	11	16	16
	H	7	9	9 1/2	9 1/2	13	13 1/2	19	19 1/2
	K	1 1/2	1 1/2	2	2	2	2 1/2	3	3 1/2
P (MIN)		3		4			5		
PLAIN WASHER		LIGHT					MEDIUM		

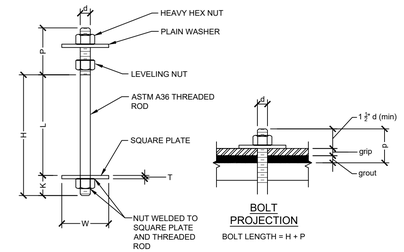
BASE PLATE SCHEDULE													
BASE PLATE DESIGNATION	BASE PLATE TYPE	BASE PLATE DIMENSIONS			COLUMN ATTACHMENT		ANCHOR RODS			COLUMN OFFSET		REMARKS
		LENGTH	WIDTH	THICKNESS	WELD "A"	WELD "B"	DIA. "D"	SPA. "S"	SPA. "G"	"H"	"V"	
BP-1	"A"	18"	18"	1"	3/8"	-	7/8"	14"	14"	-	-	NOTE 1

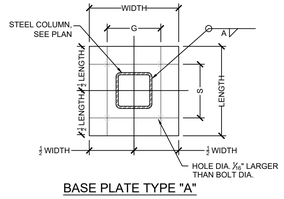
NOTES:
1. PROVIDE 12" OF EMBEDMENT ON ANCHOR RODS FOR BP-1



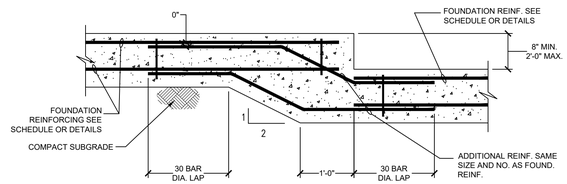
G — TYPICAL STEEL HSS COLUMN FOUNDATION (FX.X)

SCALE 3/4"=1'-0"





BASE PLATE TYPE "A"



H — TYPICAL STEPPED FOUNDATION

SCALE 3/4"=1'-0"

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CA 27800

project number

MK 25-007

BHASIN WAREHOUSE

ST. LUCIE BOULEVARD
FORT PIERCE, FL

issued for	date
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item	description	date

scale

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sheet title

FOUNDATION SECTIONS AND DETAILS

seal/signature

Registered Engineer: Kieran B. Jones

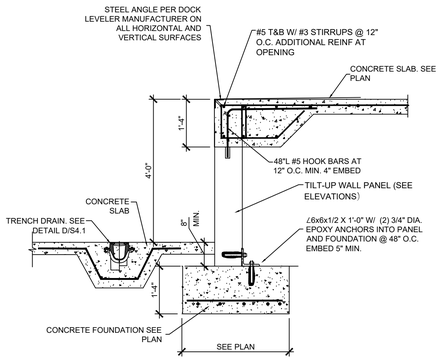
Registered Engineer License: PE 98649

sheet number

S4.0

drawn by: KBJ checked by: KBJ

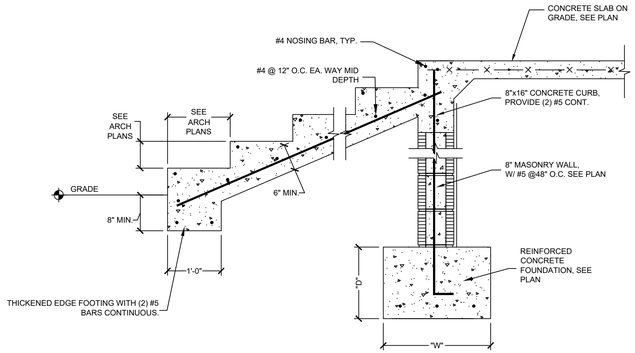
WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 24" x 36"



A
-

OPTIONAL LOADING DOCK SECTION

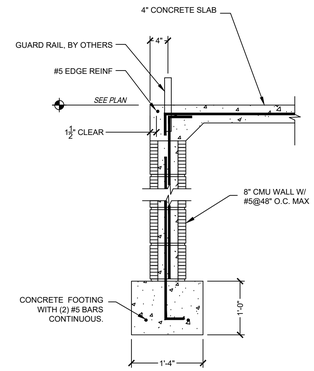
SCALE 1/2"=1'-0"



B
-

STAIR DETAIL

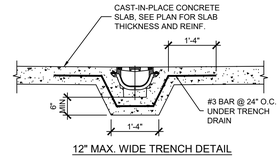
SCALE 1/2"=1'-0"



C
-

ELEVATED SIDEWALK EDGE

SCALE 1/2"=1'-0"



12" MAX. WIDE TRENCH DETAIL

D
-

TYP. TRENCH DETAIL

SCALE 1/2"=1'-0"

E
-

SPRINKLER ROOM INTERIOR WALL FOOTING

SCALE 1/2"=1'-0"

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FOUNDATION SECTIONS AND DETAILS

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KIERAN BENTLEY JONES
LICENSE
No.98649
KIERAN B. JONES
FL. REG. NO. # 98649
DATE: 12/23/2025
STATE OF FLORIDA
PROFESSIONAL ENGINEER

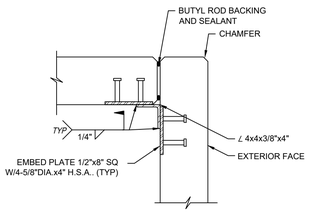
Registered Engineer: Kieran B. Jones

Registered Engineer License: PE 98649

sheet number

S4.1

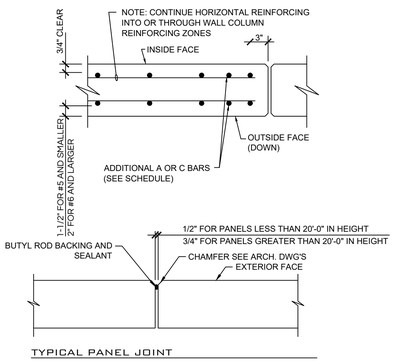
drawn by: KBJ checked by: KBJ



NOTE:
CONNECTION PLATES SHALL BE LOCATED AT 1'-0" ABOVE FINISH FLOOR, 1'-0" BELOW JOIST BEARING AND AT INTERMEDIATE POINTS NOT TO EXCEED 8'-0" O.C.

A PANEL BUTT JOINT DETAIL

SCALE 1"=1'-0"



TYPICAL PANEL JOINT

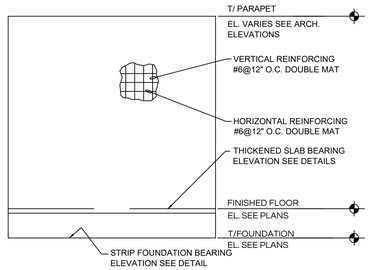
B TYPICAL PANEL DETAILS

SCALE 1"=1'-0"

TILT-UP PANEL SCHEDULE

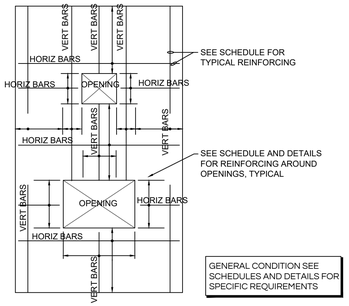
PANEL	THICKNESS	REINFORCING "H" BARS	REINFORCING "V" BARS	NOTES
P1	9 1/4"	#6@12"O.C.	#6@12"O.C.	NOTE 1

NOTES:
1. SEE DETAIL FOR DOUBLE MAT REINFORCING PLACEMENT



C TYPICAL TILT-UP PANEL REINFORCING

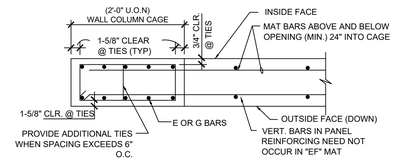
N.T.S.

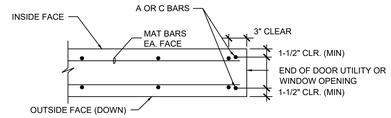


GENERAL CONDITION SEE SCHEDULES AND DETAILS FOR SPECIFIC REQUIREMENTS

D TYPICAL BAR PLACEMENT

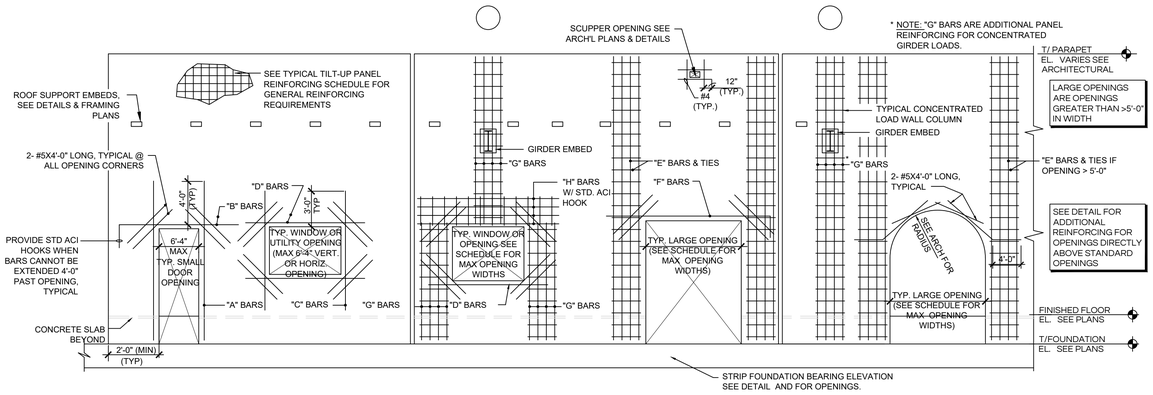
SCALE 1"=1'-0"





E WALL COLUMN ADD'L REINF

SCALE 1"=1'-0"



PANEL	"A" BARS	"B" BARS	"C" BARS	"D" BARS	"E" BARS (TIES)	"F" BARS	"G" BARS (TIES)	"H" BARS (BEAM AND TIES)	OPENING WIDTH (MAX)
P1	2-#6	2-#6	2-#6	2-#6	6-#6 VERT. W/ #3 TIES @ 6" O.C.	2-#6	8-#6 VERT. W/ #3 TIES @ 8" O.C.	2-#7 HORIZ. T&B W/ 4#5 INTERMEDIATE W/#3 TIES @ 8" O.C.	18'-0"

F TYP. OPENING AND CONCENTRATED LOAD ADDITIONAL REINF. REQUIREMENTS

SCALE 1"=1'-0"

G TYPICAL "H" BAR DETAIL

SCALE 1"=1'-0"

H TYP. UTILITY OPENING ABOVE STANDARD OPENING

SCALE 1"=1'-0"

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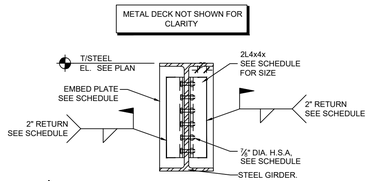
Registered Engineer: Kieran B. Jones
Registered Engineer License: PE 98649

sheet number
S5.0

drawn by: KBJ checked by: KBJ

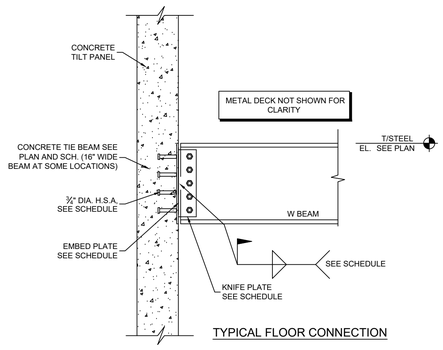
MAIN GIRDER BEAM CONNECTION				
BEAM SIZE	NO. OF ¾" DIA. A325-N BOLTS	ANGLE SIZE	AT TYPICAL CONDITION	
			EMBED PLATES	HEADED STUD ANCHORS (5")
W16	4-¾" DIA.	2L4x4x¼"x1'-0"	½"x1'-0"x1'-6"	8-3/4" DIA.
W18	5-¾" DIA.	2L4x4x¼"x1'-3"	⅝"x1'-0"x1'-10"	10-3/4" DIA.
W21	5-¾" DIA.	2L4x4x¼"x1'-3"	⅝"x1'-0"x1'-10"	10-3/4" DIA.
W24	6-¾" DIA.	2L4x4x¼"x1'-6"	¾"x1'-0"x2'-2"	12-3/4" DIA.
W27, W30	7-¾" DIA.	2L4x4x¼"x1'-9"	¾"x1'-0"x2'-8"	16-3/4" DIA.
W33	8-¾" DIA.	2L4x4x¼"x2'-0"	¾"x1'-0"x3'-0"	20-3/4" DIA.

NOTES:
1. SEE SCHEDULE ABOVE FOR NUMBER OF BOLTS (3" GA.)
2. CONNECTIONS ARE VALID FOR BEAMS WITH STANDARD OR SHORT- SLOTTED HOLES, FULLY TIGHTENED OR SNUG TIGHT.

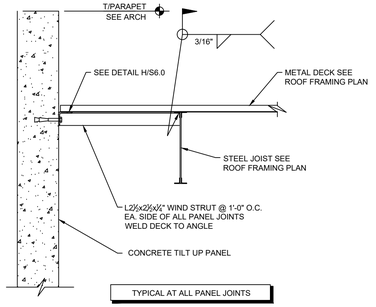


A — TYPICAL ROOF GIRDER TO TIE BEAM OR COLUMN CONCRETE CONNECTION

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



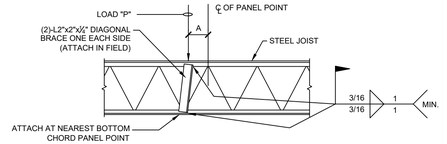
TYPICAL FLOOR CONNECTION



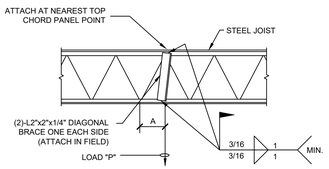
TYPICAL AT ALL PANEL JOINTS

B — ROOF DECK PANEL JOINT

SCALE 3/4"=1'-0"



LOAD ON TOP CHORD



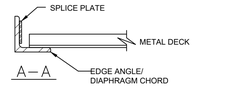
LOAD ON BOTTOM CHORD

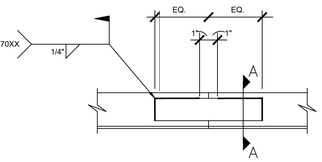
NOTES:
1. DIAGONAL BRACE IS NOT REQUIRED FOR "A" LESS THAN TWO INCHES.
2. PROVIDE DIAGONAL BRACE AT LOCATION OF CONCENTRATED LOADS SUCH AS PARTITIONS, HEAVY PIPES, MECHANICAL UNITS, HEAVY LIGHTS AND ANY OTHER CONCENTRATED LOADS AS DIRECTED BY ENGINEER.
3. P = CONCENTRATED LOAD GREATER THAN 200 LBS.

C — TYPICAL POINT LOAD ON JOIST

SCALE 3/4"=1'-0"

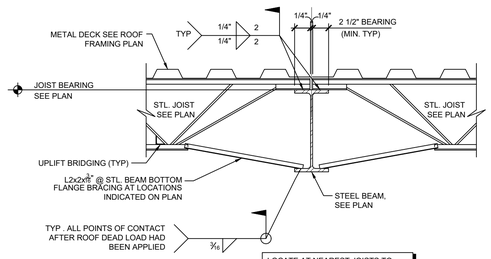
EDGE ANGLE/DIAPHRAGM CHORD SPLICES	
ANGLE	PLATE DIM.
L3x3x1/4"	1/2"x2 1/2"x9"
L4x4x1/4"	1/2"x3 1/2"x1'-0"
L5x3x1/4" LLV	1/2"x4 1/2"x10"
L5x3x1/4" LLH	1/2"x2 1/2"x1'-2"





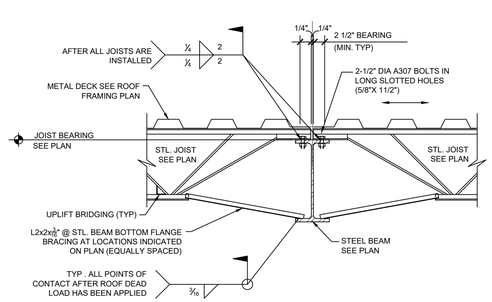
D — DIAPHRAGM CHORD SPLICE

SCALE 3/4"=1'-0"



E — TYPICAL JOIST TO BEAM

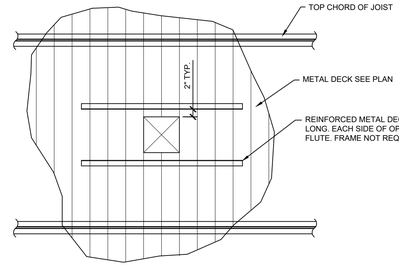
SCALE 3/4"=1'-0"



NOTE: THIS CONNECTION APPLIES ON EACH SIDE OF EVERY COLUMN

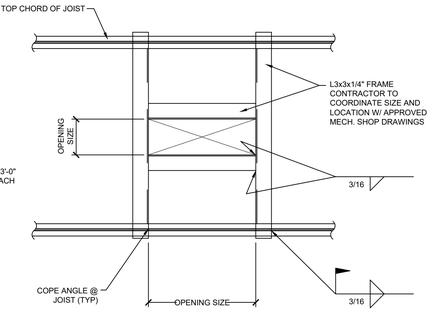
F — TYPICAL BOLTED JOIST TO BEAM

SCALE 3/4"=1'-0"



SMALL OPENING

OPENING SMALLER THAN 12" SQ. LARGER THAN 6" SQ.

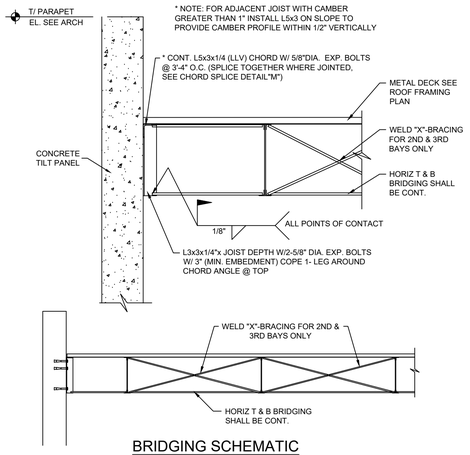


LARGE OPENING

LARGE THAN 12" SQ. OR ROUND

G — TYPICAL ROOF OPENING DETAILS

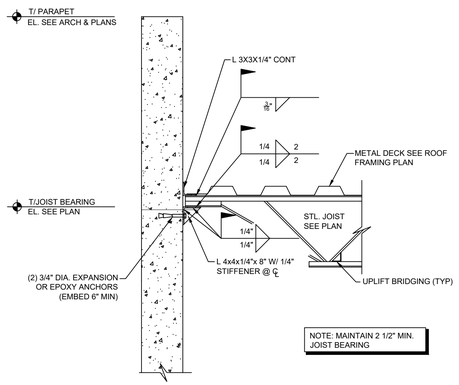
SCALE 3/4"=1'-0"



BRIDGING SCHEMATIC

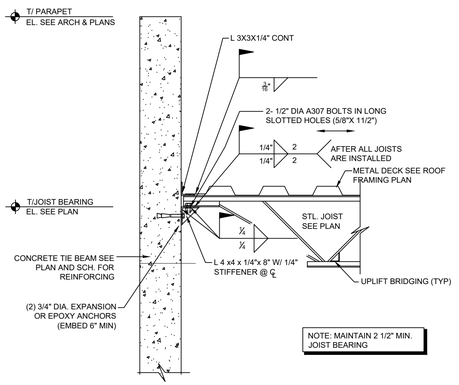
H — TYPICAL BRIDGING DETAIL

SCALE 3/4"=1'-0"



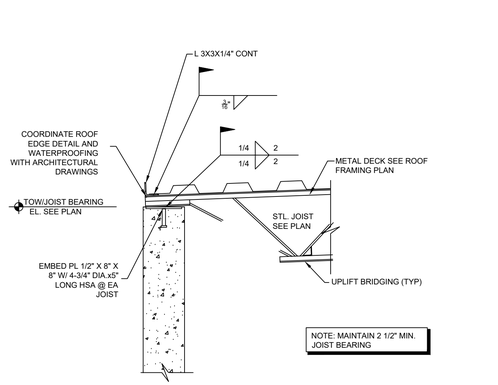
J — "K" JOIST SUPPORT DETAIL

SCALE 3/4"=1'-0"



K — BOLTED 'K' JOIST SUPPORT DETAIL

SCALE 3/4"=1'-0"



L — "K" JOIST TOW SUPPORT DETAIL

SCALE 3/4"=1'-0"

MK STRUCTURAL ENGINEERING
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Certificate of Authorization#:
CA 27800

project number

MK 25-007

BHASIN WAREHOUSE

ST. LUCIE BOULEVARD
FORT PIERCE, FL

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item	description	date

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STRUCTURAL SECTIONS AND DETAILS

seal/signature

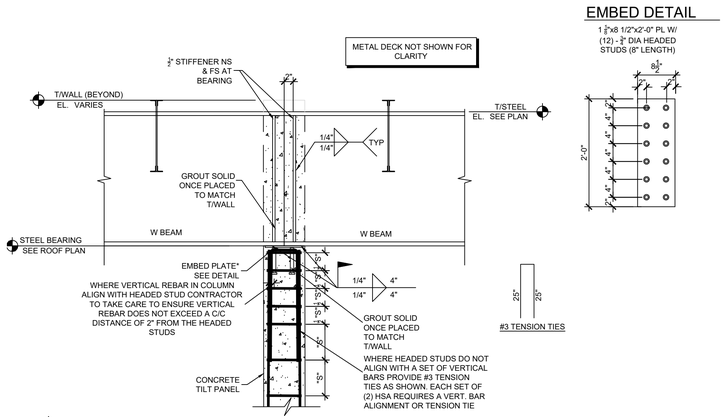
KIERAN GENTLEY JONES — LICENSE — No 98649 — KIERAN B. JONES — REG. NO. #98649 — DATE: DEC 23, 2025 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

Registered Engineer: Kieran B. Jones
Registered Engineer License: PE 98649

sheet number

S6.0

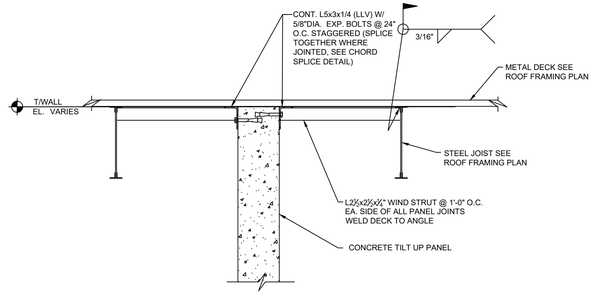
drawn by: KBJ checked by: KBJ



EMBED DETAIL

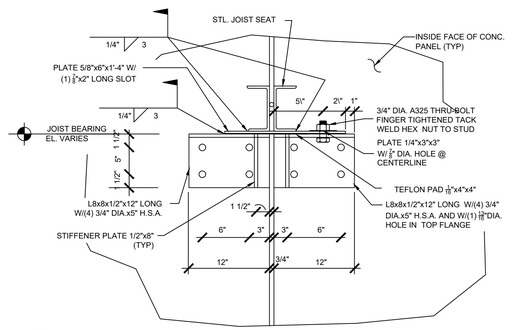
A - ROOF GIRDERS AT INTERNAL WALL

SCALE 1 1/2"=1'-0"



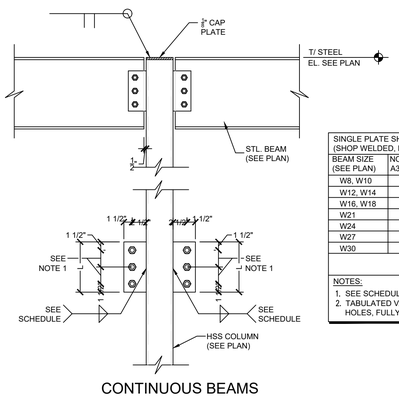
B - ROOF DECK AT INTERNAL WALL

SCALE 1 1/2"=1'-0"



C - TYP. JOIST BEARING ON PANEL JOINT

SCALE 1 1/2"=1'-0"



SINGLE PLATE SHEAR BEAM CONNECTION SCHEDULE
(SHOP WELDED, FIELD BOLTED)

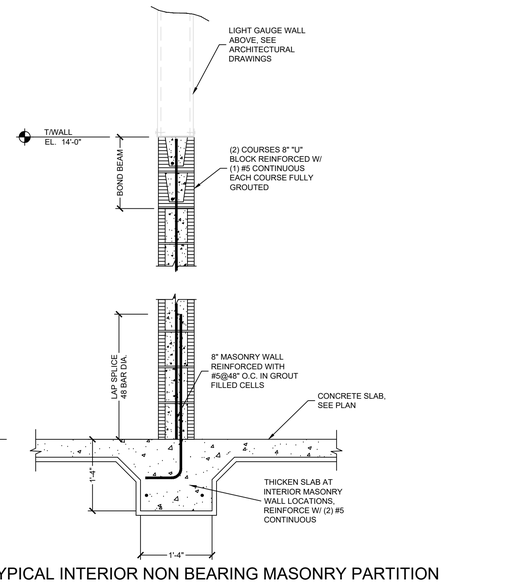
BEAM SIZE (SEE PLAN)	NO. OF 3/4" DIA. A325-N BOLTS	KNIFE PLATE THICKNESS (36 KSI)	FILLET WELD SIZE (E70XX)	MAX. ALLOWABLE END REACTION (KIPS)	LENGTH (L) (INCH)
W8, W10	2	3/8"	1/4"	8.2	6
W12, W14	3	3/8"	1/4"	16.3	9
W16, W18	4	3/8"	1/4"	26.1	12
W21	5	3/8"	1/4"	36.3	15
W24	6	3/8"	1/4"	46.3	18
W27	7	3/8"	1/4"	56.4	21
W30	8	3/8"	1/4"	66.2	24

NOTES:
1. SEE SCHEDULE ABOVE FOR NUMBER OF BOLTS (3" GA.)
2. TABULATED VALUES ARE VALID FOR BEAMS WITH STANDARD OR SHORT-SLOTTED HOLES, FULLY TIGHTENED OR SNUG TIGHT.

CONTINUOUS BEAMS
(NON-MOMENT CONNECTION)

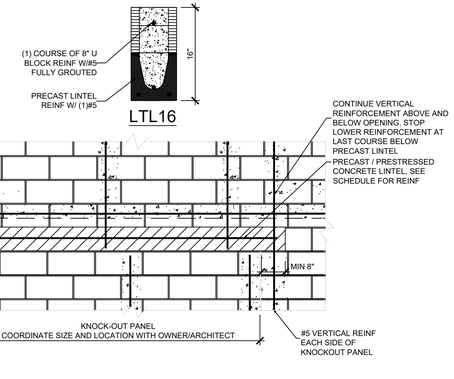
D - TYPICAL ROOF STEEL BEAM TO STEEL COLUMN CONNECTION

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



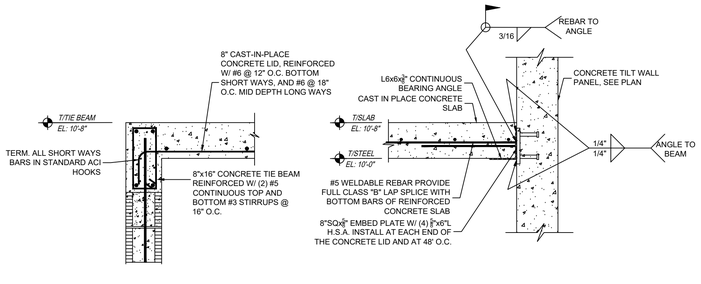
E - TYPICAL INTERIOR NON BEARING MASONRY PARTITION

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



F - REINFORCEMENT AT KNOCK-OUT PANEL

SCALE 1/2"=1'-0"



G - SECTION AT SPRINKLER ROOM CONCRETE LID

SCALE 3/4"=1'-0"

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drawn by: KBJ checked by: KBJ