GENERAL STRUCTURAL NOTES

001000:

TO THE BEST OF THE ENGINEER'S KNOWLEDGE THE PLANS AND SPECIFICATIONS FOR THIS PROJECT COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH THE FLORIDA STATUTES.

DO NOT SCALE DRAWINGS, USE DIMENSIONS PROVIDED, TYPICALLY. IN THE CASE OF DIMENSIONAL CONFLICT ARCHITECTURAL DIMENSIONS GOVERN OVER STRUCTURAL DIMENSIONS, TYPICALLY.

STRUCTURAL DRAWINGS ARE NOT TO BE REPRODUCED WITHOUT WRITTEN CONSENT FROM R.L. PLOWFIELD & ASSOCIATES, INC.

SHOP DRAWING REVIEW SHALL REQUIRE TWO (2) WEEKS FOR COMPLETION FROM TIME OF DELIVERY TO R.L. PLOWFIELD & ASSOCIATES, INC. SHOP DRAWINGS SHALL BE CHECKED & "APPROVED" BY GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO ARCHITECT.

CONTRACTORS SUBMITTING SHOP DRAWINGS TO PROVIDE THREE (3) COPIES FOR MARK-UP.

001000 BUILDING CODES:

FLORIDA BUILDING CODE - SEVENTH EDITION (2020)
ASCE 7-16
- RISK CATEGORY = TYPE II
- BASIC WIND SPEED, Vult = 175 MPH. (Vasd = 136 MPH)
- EXPOSURE C
- INTERNAL PRESSURE COEFFICIENT, GCpi = ±.18 (ENCLOSED)
- SEISMIC IMPORTANCE FACTOR, Ie = 1.0
- MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS, S_s=0.239g, S_1=0.018g
- SITE CLASS D
- DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS, S_{DS}=0.042g, S_{D1}=0.031g
- SEISMIC DESIGN CATEGORY = A

005000 STRUCTURAL LOADING:

THE STRUCTURE HAS BEEN DESIGNED IN ACCORD WITH THE BUILDING CODE AND/OR MORE RESTRICTIVE REQUIREMENTS FOR LOADS AS GIVEN BELOW UNLESS SPECIFIC AREAS OF THE DRAWING SPECIFICALLY CALL FOR DIFFERENT LOADING CRITERIA.

GRAVITY LOADING UNIFORM LIVE LOAD:
- SLAB ON GRADE AREAS ---------- 150 PSF
- ROOFS-NOMINALLY FLAT ---------- 20 PSF

WIND LOAD AS PER BUILDING CODE. (SEE SECTION 000200)

010510 DRAWING DIMENSIONS AND COORDINATION:

DIMENSIONAL INFORMATION, PRICING, ALL DETAILS AND CONSTRUCTION SHALL BE BASED ON THE ENTIRE SET OF CONTRACT DOCUMENTS. COORDINATE THE REQUIREMENTS OF ALL PROFESSIONALS. USE INFORMATION FROM APPROVED SHOP DRAWINGS TO SUPPLEMENT CONTRACT DOCUMENTS WHERE NECESSARY. REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO PROCEEDING.

011000 SCOPE OF SERVICE:

THE STRUCTURAL ENGINEER OF RECORD HAS DESIGNED AND IS RESPONSIBLE FOR ONLY THE SPECIFIC STRUCTURAL COMPONENTS SHOWN IN THIS SET OF STRUCTURAL CONSTRUCTION DOCUMENTS. IF A SPECIALTY ENGINEER, AS DEFINED BY THE DEPARTMENT OF PROFESSIONAL REGULATION, IS REQUIRED, HIS SERVICES MUST COMPLY WITH THE SCOPE OF SERVICES AS OUTLINED IN THE PROJECT CONSTRUCTION DOCUMENTS.

020000 FOUNDATIONS:

GEOTECHNICAL DATA AND RECOMMENDATIONS HAVE NOT BEEN PROVIDED. SHALLOW STRIP AND SPREAD FOOTINGS HAVE BEEN PROPORTIONED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF, TYPICALLY. GEOTECHNICAL ENGINEER SHALL BE RETAINED BY THE OWNER AND IS RESPONSIBLE FOR SPECIFYING AND MONITORING ALL TESTING, INSTALLATION, EVALUATION, AND REPORTING RELATED TO THE FOUNDATION SYSTEM, INCLUDING ALL WORKMANSHIP PROVISIONS RELATING TO THE SOIL - STRUCTURE INTERFACE. THE STRUCTURAL ENGINEER IS RESPONSIBLE FOR SPECIFYING THE MATERIALS USED TO CONSTRUCT THE FOUNDATION UNITS AND FOR THE SELECTION OF VARIOUS SIZE UNITS TO SUPPORT THE STRUCTURAL FRAME. DO NOT PLACE ANY FOOTINGS OR SLABS UNTIL RECEIPT OF WRITTEN AUTHORIZATION BY THE GEOTECHNICAL ENGINEER THAT THE PREPARED SUBGRADE HAS BEEN PROPERLY PREPARED IN ACCORD WITH THE DESIGN AND THAT ANY VARYING CONDITIONS ENCOUNTERED DURING CONSTRUCTION HAVE BEEN EVALUATED AND CORRECTED WHERE NECESSARY TO INSURE PROPER FOUNDATION PERFORMANCE.

022000 EARTHWORK:

CONTRACTOR SHALL DEWATER SITE AS NECESSARY, SO THAT ALL CONCRETE CAN BE PLACED IN THE DRY. ALL BACKFILL SHALL BE ACCOMPLISHED USING MATERIAL CONSISTING OF CRUSHED STONE AND/OR MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER. THE BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557. NO BACKFILL MATERIAL SHALL BE PLACED AGAINST WALLS WHICH DO NOT HAVE PERMANENT FLOORS AT THE TOP AND BOTTOM WITHOUT PROVISIONS FOR ADEQUATE TEMPORARY BRACING OF THOSE WALLS. PROVIDE ADEQUATE EXCAVATION BRACING IN ACCORD WITH GEOTECHNICAL ENGINEER RECOMMENDATIONS TO MAINTAIN EXISTING FOOTINGS, UTILITIES, AND OTHER IMPROVEMENTS IN A SAFE CONDITION.

022100 STRUCTURAL FILL:

FOUNDATIONS PLACED ON COMPACTED STRUCTURAL FILL HAVE BEEN DESIGNED FOR A BEARING OF 2500 PSF. FILL TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557. PLACE FILL IN LAYERS OF 8" THICK MAXIMUM AND UNDER THE DIRECT SUPERVISION OF A GEOTECHNICAL ENGINEER. FILL TO BE TESTED TO VERIFY COMPACTION.

022600 PROOF-ROLLING:

SHALLOW FOOTINGS SHALL NOT BE LESS THAN 3'-0" SQUARE AND 1'-8" EMBEDMENT OR 2'-0" WIDE STRIP AND 1'-8" EMBEDMENT AT 2500 POUNDS PER SQUARE FOOT ALLOWABLE NET BEARING ON SOIL IMPROVED BY PROOF-ROLLING NOT LESS THAN THREE COVERAGES. FOR FOOTING WIDTHS OR EMBEDMENTS LESS THAN THOSE SPECIFIED, THE ALLOWABLE BEARING PRESSURES ARE REDUCED PROPORTIONALLY. PERFORM ALL PROOF-ROLLING OPERATIONS IN ACCORD WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER IN THE PRESENCE OF THE OWNER'S AUTHORIZED AGENCY.

031000 FORMWORK:

CONTRACTOR SHALL DESIGN AND ERECT FORMWORK IN STRICT COMPLIANCE WITH ACI 347. SEE TYPICAL DETAILS FOR CAMBER REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL OPENINGS AS REQUIRED FOR OTHER TRADES. OPENINGS WHERE SHOWN ON THE STRUCTURAL DRAWINGS ARE TO IDENTIFY DESIGN INTENT ONLY. THE SPECIFIC DIMENSIONS AND LOCATIONS SHALL BE FURNISHED OR CONFIRMED BY THE TRADE REQUIRING THE OPENING. PROVIDE CHAMFERS AT ALL CORNERS IN CONCRETE MEMBERS EXPOSED TO VIEW. FORMWORK TO REMAIN IN PLACE UNTIL CONCRETE HAS ATTAINED ENOUGH STRENGTH TO SUPPORT ALL DEAD LOADS PLUS A MINIMUM OF 50 PSF OF ADDITIONAL CONSTRUCTION LOAD. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

032000 CONCRETE REINFORCEMENT:

WORK SHALL BE IN ACCORD WITH ACI 318, ACI 318R, ACI 315, ACI 318, CRSI "MANUAL OF STANDARD PRACTICE", CRSI "PLACING REINFORCING BARS", WIRE REINFORCEMENT INSTITUTE "MANUAL OF STANDARD PRACTICE-STRUCTURAL WELDED WIRE REINFORCEMENT". BARS SHALL CONFORM TO ASTM SPECIFICATION A615(91), GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. CONCRETE COVER REQUIRED AS FOLLOWS:
- A.) CAST AGAINST AND EXPOSED TO EARTH 3"
- B.) FORMED, EXPOSED TO EARTH OR WEATHER
  - #6 AND LARGER 2"
  - #5 AND SMALLER 1-1/2"
- C.) SLABS AND WALLS - NO EARTH OR WEATHER EXPOSURE
  - #11 AND SMALLER 3/4"
  - 3 HOUR FIRE RATING AND LESS 3/4"
- D.) BEAMS - 1½" (3 HOUR FIRE RATING AND LESS)
- E.) COLUMNS - 1" x HOUR RATING OR 2" WHICHEVER IS LESS. (TO MAIN VERTICAL REINFORCING)

LAP SPLICE LENGTHS SHALL BE AS FOLLOWS:
1. ALL LAP SPLICES SHALL BE TENSION CLASS "B" UNLESS OTHER LAP CONDITIONS ARE SPECIFICALLY SHOWN ON THE DRAWINGS.
2. SPLICE LENGTHS SHALL BE SHOWN ON SHOP DRAWINGS.
3. USE GENERAL HOOK BAR DEVELOPMENT LENGTHS UNLESS SPECIAL CONFINEMENT CONDITIONS ARE SATISFIED IN ACCORD WITH ACI 318.

033000 CAST-IN-PLACE CONCRETE:

PROVIDE CONCRETE MIX DESIGNS THAT ARE HVFA (HIGH VOLUME FLY ASH) WITH A MINIMUM 10% OF TOTAL CONSTRUCTION MATERIAL FROM RECYCLED ITEMS (POST-CONSUMER + ½ PRE-CONSUMER) AND FROM A PLANT LOCATED WITHIN 500 MILS OF THE PROJECT.

TO BE MIXED AND PLACED IN ACCORDANCE WITH ACI 301. ALL REINFORCED CONCRETE TO HAVE 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
ALL STRUCTURAL ELEMENTS f'c = 4000 PSI UNLESS NOTED OTHERWISE.
COLUMNS: f'c = 4000 PSI
BEAMS: f'c = 4000 PSI
SHEARWALLS f'c = 4000 PSI
ELEVATED SLABS f'c = 4000 PSI
FOUNDATION f'c = 3000 PSI
SLAB ON GRADE f'c = 3000 PSI
ALL CONCRETE MIX DESIGN SUBMITTALS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

033120 CONCRETE TESTING:

OWNER/OWNER REPRESENTATIVE WILL EMPLOY AN INDEPENDENT TESTING LABORATORY TO PERFORM THE FOLLOWING TESTS AND SUBMIT TEST REPORTS ON CAST IN PLACE CONCRETE:

ASTM C143 "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE." SLUMP SHALL NOT EXCEED LIMIT INDICATED ON APPROVED MIX DESIGN, OR 6" (WHICHEVER IS SMALLER)

ASTM C39 "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." CYLINDERS SHALL BE TAKEN FOR EACH MIX DESIGN USED, AND FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED. TEST CYLINDERS AT THE FOLLOWING AGES:

1 AT 3 DAYS
1 AT 7 DAYS
2 AT 28 DAYS

HOLD ONE RESERVE CYLINDER TO BE TESTED AS REQUESTED BY THE ENGINEER. IF REQUIRED 28 DAY STRENGTH IS ACHIEVED, THE RESERVE CYLINDER MAY BE DISCARDED.

036000 GROUT:

GROUTING IS CLASSIFIED AS "PRECISION GROUTING" FOR SUPPORT OF OPERATING MACHINE BASES, EQUIPMENT SUBJECT TO THERMAL MOVEMENT, AND BASE PLATES, BEARING PLATES, AND EXPANSION BEARINGS EXCEEDING 8" IN LEAST DIMENSION. ALL OTHER GROUTING MAY BE "ORDINARY GROUTING". METALLIC AGGREGATE GROUT MAY BE USED ONLY IN INTERIOR APPLICATIONS NOT EXPOSED TO VIEW IN FINISHED BUILDING AREAS. USE ORDINARY CEMENT GROUT ONLY WHERE SPECIFICALLY NOTED AS "CEMENT GROUT" ON DETAILS. USE NON-SHRINK GROUT FOR ALL OTHER LOCATIONS. PRECISION GROUT SHALL CONFORM TO CRD-C621-80 WHEN MIXED TO FLUID CONSISTENCY OF 22 TO 25 SECONDS (FLOW CONE METHOD, CRD-C611). REQUIRED 28 DAY STRENGTHS SHALL BE AS FOLLOWS:
CEMENT GROUT 1800 PSI
NON-SHRINK GROUT 5000 PSI
PRECISION GROUT 6500 PSI

042200 CONCRETE UNIT MASONRY:

ALL MASONRY CONSTRUCTION TO BE IN ACCORDANCE WITH "SPECIFICATION FOR CONCRETE MASONRY CONSTRUCTION", ACI 530.1 AND ALL APPLICABLE LOCAL BUILDING CODE PROVISIONS. ALL MASONRY WALLS TO BE CONSTRUCTED ENTIRELY OF UNITS CONFORMING TO ASTM C 90, AND REINFORCED WITH #3 GAGE LADDER TYPE HORIZONTAL MASONRY REINFORCING LOCATED AT 16" O.C. ALL MASONRY TO BE LAID IN TYPE "S" MORTAR (1800 PSI ON THE JOB) WITH FULL HEAD AND BED JOINTS. ALL MASONRY CONSTRUCTION TO BE EITHER BOUND BY TIE BEAM, TIE COLUMN MEMBERS OR TIED TO FRAME WITH 16 GAUGE CONTINUOUS DOVETAIL SLOT AND 12 GAUGE DOVETAIL ANCHOR SPACED @ 16" O.C. (TOP AND TWO VERTICAL SIDES).

042210 REINFORCED UNIT MASONRY:

ALL REINFORCED MASONRY CONSTRUCTION SHALL BE IN ACCORD WITH APPLICABLE PROVISIONS OF CONCRETE REINFORCEMENT, CAST-IN-PLACE CONCRETE, AND CONCRETE MASONRY. VERTICAL REINFORCING SHALL ANCHOR INTO SUPPORTING CONCRETE MEMBERS A CLASS "B" LAP LENGTH PLUS 3" OR FULL DEPTH PLUS A STANDARD HOOK. LAPS WITHIN REINFORCED MASONRY SHALL BE 48 BAR DIAMETERS. CONTRACTOR SHALL COORDINATE PLACING OF DOWELS TO ACCOMMODATE MODULE OF MASONRY UNITS. ALL VERTICAL CELLS AND BEAMS WITH REINFORCING SHALL BE FILLED WITH COARSE GROUT CONSISTING OF 3000 PSI CONCRETE WITH #8 COARSE AGGREGATE. USE HIGH-SLUMP (SUPERPLASTICIZED) WHERE HEIGHT OF LIFT EXCEEDS 4', WHERE HEIGHT OF OPEN CELL EXCEEDS 4', USE HIGH-LIFT GROUTING TECHNIQUE WHICH REQUIRES A CLEAN-OUT OPENING AT THE BOTTOM OF ALL CELLS AND PLACING THE GROUT IN MAXIMUM 4' LIFTS WITH A 30 TO 60 MINUTE DELAY BETWEEN LIFTS. ALL WALLS TO BE REINFORCED WITH #5@48" O.C. MIN. VERTICAL U.N.O.

050550 WELDING:

ALL WELDING TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE-STEEL#" D1.1 AND AS INDICATED ON THE STRUCTURAL DRAWINGS. WELDING ELECTRODES SHALL BE E70XX, UNLESS NOTED OTHERWISE. WELDING ELECTRODES, WELDING PROCESS, MINIMUM PREHEAT AND INTERPASS TEMPERATURES TO BE IN ACCORDANCE WITH THE AWS. SPECIFICATIONS. ANY STRUCTURAL STEEL DAMAGED IN WELDING TO BE REPLACED OR ACCEPTABLY REINFORCED. ALL FULL PENETRATION GROOVE WELDS TO BE SUBJECT TO RADIOGRAPHIC, MAGNETIC PARTICLE, ULTRASONIC, AND LIQUID PENETRANT INSPECTION CONDUCTED BY AN INDEPENDENT TESTING AGENCY PAID BY THE OWNER.

051200 STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
STRUCTURAL STEEL TO CONFORM TO:
- WF SHAPES---------- ASTM A572, GRADE 50 OR A992
- SHAPES & PLATES ----- ASTM A36
- PIPE ---------- ASTM A 53 GRADE B
- TUBES ---------- ASTM A 500 GRADE B

ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH ASTM A325 HIGH STRENGTH BOLTS OR WELDING. BOLTING TO BE IN ACCORDANCE WITH RCRBSJ SPECIFICATIONS. ANY CONNECTION NOT SPECIFICALLY DETAILED SHALL BE DESIGNED BY THE SPECIALTY ENGINEER FOR THE REACTIONS SHOWN ON THE STRUCTURAL CONSTRUCTION DOCUMENTS. WHERE FORCES ARE NOT PROVIDED DESIGN SHALL BE BASED ON THE MAXIMUM LOAD CAPACITIES OF THE CONNECTING MEMBERS. ALL STRUCTURAL SUBMITTALS REQUIRING ENGINEERING INPUT SHALL BE ACCOMPANIED BY DESIGN CALCULATIONS AND BE SIGNED AND SEALED BY THE SPECIALTY ENGINEER. ALL STEEL AT AND BELOW FINISHED GRADE TO BE FIELD PAINTED AND COVERED WITH A MINIMUM OF 2" CONCRETE. ALL BEAMS BEARING ON CONCRETE TO HAVE A 3/8" x 11/2 x 8" BEARING PLATE WITH TWO (2) 1/2" HEADED ANCHOR BOLTS 12" LONG, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AND A385. FABRICATOR TO COORDINATE DRAINAGE AND VENTING REQUIREMENTS FOR GALVANIZING PROCESS.

053120 STEEL ROOF DECK:

THIS SECTION COVERS NOMINALLY FLAT-TOP ROOF DECK TO SUPPORT RIGID BOARD TYPE ROOF INSULATION SYSTEMS. CONFORM TO STEEL DECK INSTITUTE (SDI) "SPECIFICATIONS AND COMMENTARY FOR STEEL ROOF DECK" AND AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS." DRAWING SHOW DECK STYLES IN 1 STANDARD SDI NOTATION WHERE "NR" IS NARROW RIB, "IR" IS INTERMEDIATE RIB, "WR" IS WIDE RIB, "3 DR" IS 3" DEEP RIB, AND THE TWO DIGIT NUMBER IS THE NOMINAL GAGE THICKNESS. ATTACHMENTS SHALL BE WITH SELF-DRILLING SCREWS INTO JOIST CHORDS WITH THICKNESSES LESS THAN 3/16" THICK, WELDING MAY BE USED INTO THICKER MEMBERS. 16 GAGE WELDING WASHERS SHALL BE USED FOR 22 GAGE DECK. WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.3-98, "STRUCTURAL WELDING CODE-SHEET STEEL". SIDE LAP FASTENERS SHALL BE #2 SELF-DRILLING SCREWS OR BUTTON PUNCHING, DEPENDING ON THE DECK STYLE. FASTENERS TO CONCRETE OR MASONRY SHALL BE 1/4" DIAMETER TAPCON OR KWIK-CON. TYPICAL FASTENER SPACING SHALL BE AS FOLLOWS:
NR/RWR
- 5/8" DIAMETER PLUG WELD TO STEEL 18" 16"
- #2 SELF-DRILLING SCREWS TO STEEL 12" 8"
- 1/4" TAPCON OR KWIK-CON TO CONCRETE 12" 8"
- SIDE LAP WITH #2 STITCH SCREWS 24" 30"
- SIDE LAPS BUTTON-PUNCHED 12" 15"

DECREASE FASTENER SPACING WHERE DRAWINGS NOTE SPECIAL DIAPHRAGM CONSIDERATIONS. PROVIDE CONTINUOUS ANGLE 2 1/2 x 2 1/2 x 1/4 (WELDED TO JOIST ENDS) TO RECEIVE DECK WHERE SUPPORT MEMBERS CHANGE DIRECTION.

054100 PRE-ENGINEERED COLD-FORMED METAL FRAMING:

THESE ARE SYSTEMS OF PRE-ENGINEERED EXTERIOR WALL & ROOF MEMBERS, COMPONENTS, AND CONNECTIONS WHICH SHALL BE DESIGNED BY A SPECIALTY ENGINEER. SUBMIT COMPLETE SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF FLORIDA. SEE SPECIFICATION "05410" FOR SUBMITTAL REQUIREMENTS FOR PRE-ENGINEERED EXTERIOR WALL FRAMING. DESIGN FABRICATION AND ERECTION SHALL CONFORM TO AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" 1991 INCLUDING COMMENTARY AND SUPPLEMENTARY INFORMATION. WELDING SHALL CONFORM TO AWS "STRUCTURAL WELDING CODE-SHEET STEEL" D1.3. AND PERFORMED ONLY BY WELDERS CERTIFIED UNDER D1.3. SELF-DRILLING SCREWS SHALL BE EQUIVALENT TO BUILDEX TEKS AND HAVE ALLOWABLE SERVICE LOAD CAPACITIES WITH 4:1 FACTOR OF SAFETY FROM TEST DATA. THE ENTIRE SYSTEM INCLUDING ALL STRUCTURAL STUDS, CONNECTORS BETWEEN STUDS AND COMPONENTS, BRIDGING, TEMPORARY BRACING FOR ERECTION, ANCHORAGE, AND ATTACHMENTS TO THE STRUCTURAL FRAMING SYSTEM SHALL BE DESIGNED BY A SPECIALTY ENGINEER. THE REVIEW OF ALL STRUCTURAL SUBMITTALS BY THE STRUCTURAL ENGINEER OF RECORD SHALL BE TO INSURE THAT HIS INTENT HAS BEEN UNDERSTOOD AND THAT THE SPECIFIED DESIGN CRITERIA HAS BEEN USED. A COPY OF ALL STRUCTURAL SUBMITTALS WILL BE RETAINED FOR RECORD KEEPING PURPOSES ONLY. COMPLETE STRUCTURAL CALCULATIONS OF ALL FRAMING CONDITIONS, COMPLETE SHOP DRAWINGS OF ALL FRAMING CONDITIONS, CONNECTOR CALCULATIONS, AND ERECTION PLANS SHALL BE SIGNED AND SEALED BY DELEGATED SPECIALTY ENGINEER AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION AND ERECTION. THE WALL SYSTEM SHOULD BE DESIGNED TO WITHSTAND WIND LOADS AS OUTLINED IN SECTION 005000 OF THE GENERAL STRUCTURAL NOTES, UNLESS NOTED OTHERWISE. IN THE ABSENCE OF SPECIFIC LOADS SHOWN IN THE ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS, USE APPLICABLE LOCAL CODE FOR LIVE LOAD AND ACTUAL WEIGHT OF BUILDING MATERIALS FOR DEAD LOAD. IF BUILDING EXPANSION JOINT EXISTS PROVIDE FRAMING ACCORDINGLY, COORDINATING WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS. COLD-FORMED STEEL SUPPLIER IS TO COORDINATE ALL DETAILS WITH ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS, TYPICALLY.

055100 METAL STAIRS:

STACK STEEL STAIR SYSTEM INCLUDING MEMBERS, COMPONENTS, AND CONNECTIONS WHICH SHALL BE DESIGNED BY A SPECIALTY ENGINEER & DETAILED BY THE SUPPLIER. SUBMIT COMPLETE SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF FLORIDA. DESIGN LOADS SHALL BE A MINIMUM OF 100 PSF UNIFORM OR 300# APPLIED TO ANY 6" X 6" AREA, WHICHEVER CONTROLS. PROVIDE DETAILS SO THAT STAIR CAN BE ASSEMBLED AND INSTALLED IN PROPER SEQUENCE WITH ADJACENT WORK. TREADS AND LANDINGS SHALL HAVE NOT LESS THAN 2" NOR MORE THAN 3" OF CONCRETE FILL FOR WALKING SURFACES. COORDINATE WITH ARCHITECTURAL DRAWINGS AND MEET ALL APPLICABLE LOCAL BUILDING CODES.

055200 METAL RAILINGS:

HANDRAILS SHALL BE DESIGNED PER CODE LISTED IN 002100. MINIMUM DESIGN LOADS SHALL BE 50 LBS/FT LINEAR LOAD OR 200 LBS. POINT LOAD AT ANY LOCATION AND IN ANY DIRECTION. FABRICATOR SHALL SUBMIT SHOP DRAWINGS SIGNED & SEALED BY REGISTERED PROFESSIONAL ENGINEER IN FLORIDA TO THE ENGINEER OF RECORD.

AA C000606

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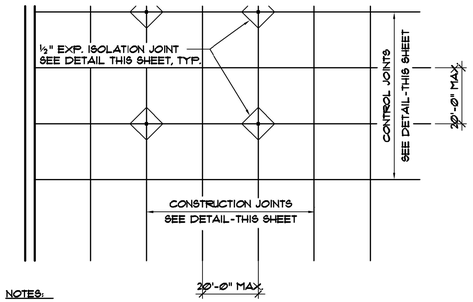
Robert L. Plowfield, Jr., P.E.
FL Registration No. 39759

REVISION

JOB NO. 22036

DATE 2-16-23

SHEET **S101** GENERAL STRUCTURAL NOTES 1 OF 10

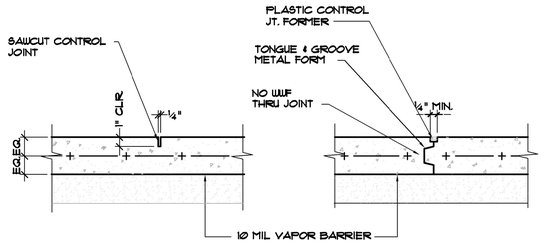


NOTES:

1. CAST SLAB USING LASER SCREED METHOD.
2. DIVIDE SLAB BY CONTROL JOINTS @ ℄ OF COLUMNS AND SUBDIVIDED AT A MAXIMUM OF 20'-0 CENTERS.
3. IN AREAS WHERE COLUMNS DO NOT OCCUR, PROVIDE CONSTRUCTION AND/OR CONTROL JOINTS AS SHOWN.

1 / S102 CONCRETE SLAB-ON-GRADE

SCALE: N.T.S.



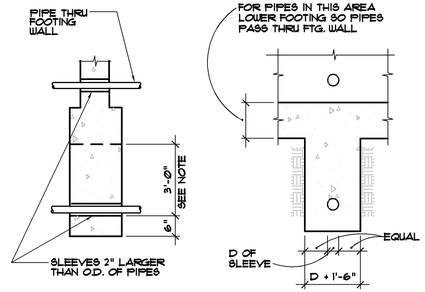
PROVIDE CONTROL JOINTS AT ALL COLUMNS AND OR 20'-0" c/c. USE PREMOLDED STRIPS

CONSTRUCTION JOINT MAY REPLACE CONTROL JOINT. SAW CUT JOINT MAY BE USED IN LIEU OF PREFORMED STRIP.

Ⓐ CONTROL JOINT DETAIL Ⓑ CONSTRUCTION JOINT DETAIL

2 / S102 SLAB-ON-GRADE JOINT DETAILS

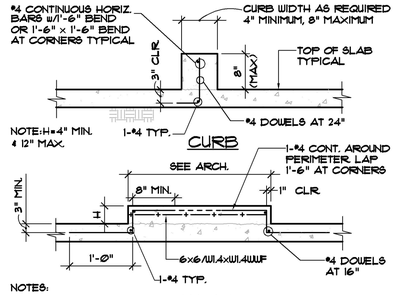
SCALE: ¾" = 1'-0"



PROVIDE SLEEVE AND CONCRETE AS SHOWN: MORE THAN 3'-0" COMPACT BACKFILL OVER PIPE TO 90% AS APPROVED BY SOILS ENGINEER, OR USE STEPPED FOOTING BELOW PIPE.

3 / S102 TYPICAL EXCAVATION PERPENDICULAR TO FOOTING

SCALE: N.T.S.



NOTES:

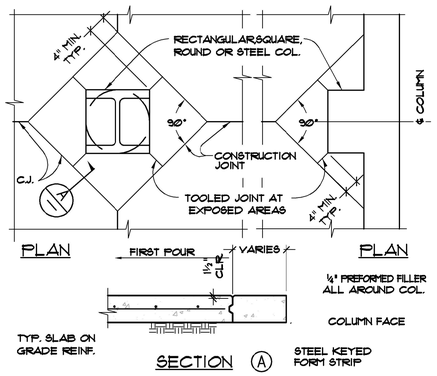
1. SEE ARCH FOR SIZE AND LOCATION OF CURBS
2. PROVIDE INSERTS AS REQ'D BY ARCH & MECH. DRAWINGS

NOTE: SEE CURB DET. FOR #4 HORIZ. BAR REQUIREMENTS

NOTE: SLAB REINF. NOT SHOWN

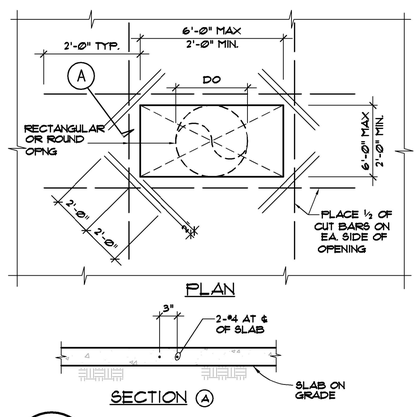
4 / S102 CONCRETE CURBS & ISLANDS

SCALE: ¾" = 1'-0"



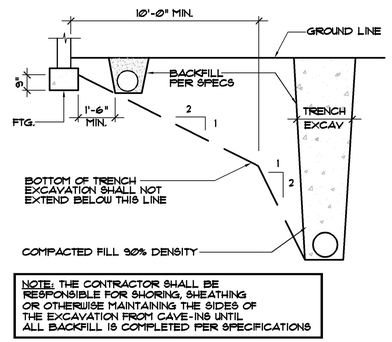
5 / S102 CONSTRUCTION JOINTS @ COLUMN IN SLAB-ON-GRADE

SCALE: ¾" = 1'-0"



6 / S102 OPENING IN SLAB ON GRADE

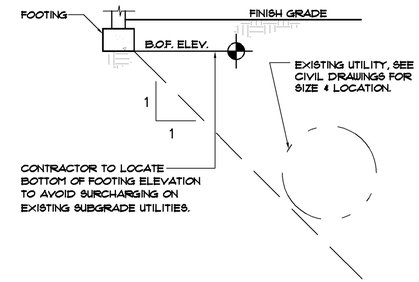
SCALE: ¾" = 1'-0"



NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING, SHEATHING OR OTHERWISE MAINTAINING THE SIDES OF THE EXCAVATION FROM CAVE-INS UNTIL ALL BACKFILL IS COMPLETED PER SPECIFICATIONS

7 / S102 EXCAVATION PARALLEL TO FOOTING

SCALE: N.T.S.



8 / S102 FOOTING PARALLEL TO EXISTING UTILITY

SCALE: ¾" = 1'-0"

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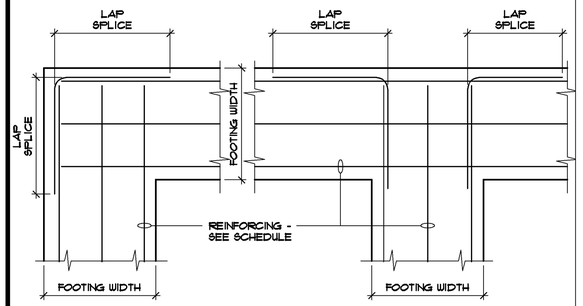
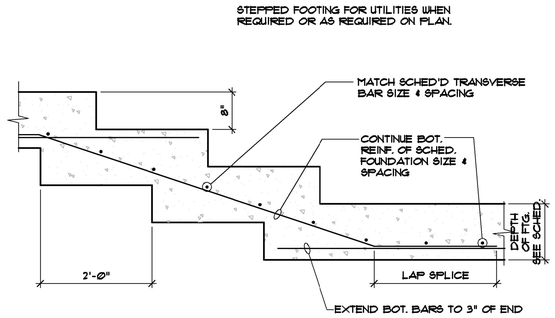
SHEET S102
STRUCTURAL SECTIONS AND DETAILS
2 OF 10



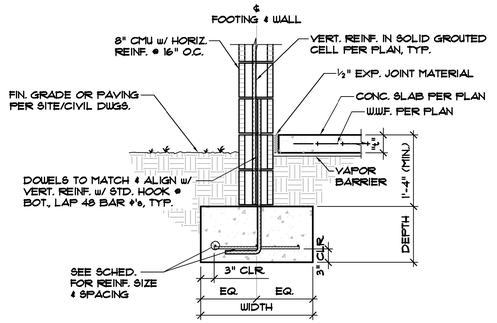
1 S103 — FOOTING INTERSECTION REINFORCING

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



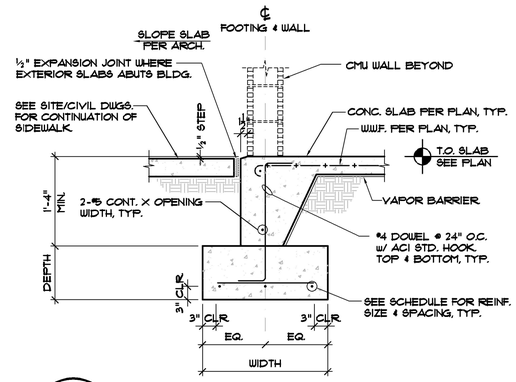
2 S103 — STEPPED FOOTING REINFORCING

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



3 S103 — TYP. EXTERIOR WALL FOOTING

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



4 S103 — EXTERIOR FOOTING @ DOOR

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

5 S103 — TYPICAL THICKENED SLAB

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

6 S103 — INTERIOR FOOTING @ STEEL COLUMN

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

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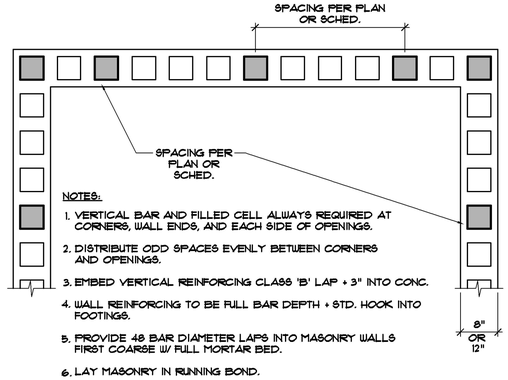
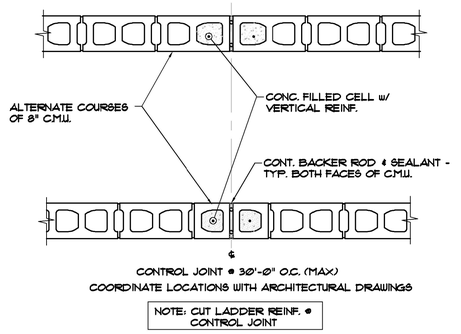
3 OF 10



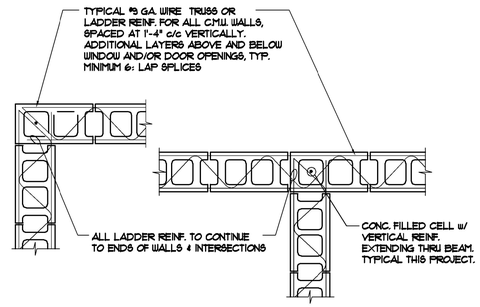
1 S104 REINFORCED MASONRY WALLS

SCALE: ¾" = 1'-0"



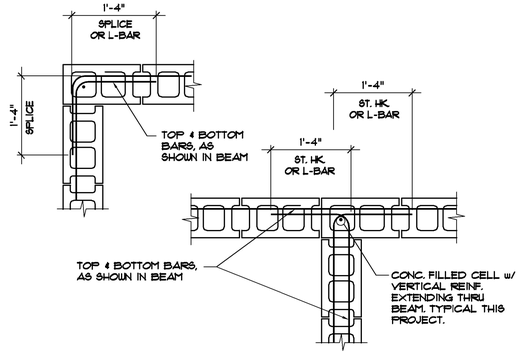
2 S104 CONTROL JOINT IN CMU WALL

SCALE: ¾" = 1'-0"



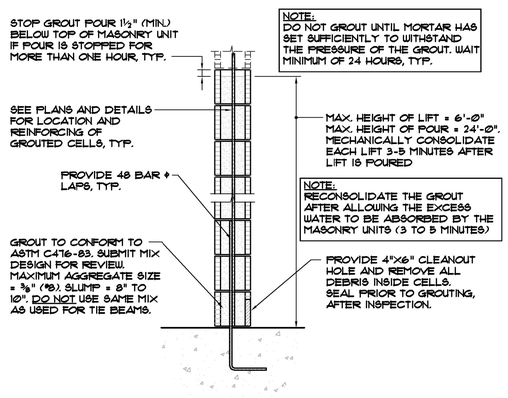
3 S104 TYPICAL WALL INTERSECTION & CORNER REINFORCING DETAIL

SCALE: ¾" = 1'-0"



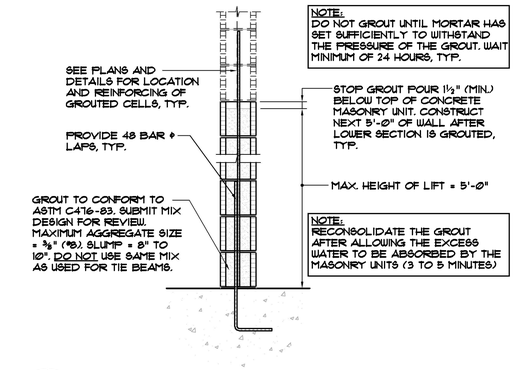
4 S104 TYPICAL BEAM INTERSECTION & CORNER REINFORCING DETAIL

SCALE: ¾" = 1'-0"



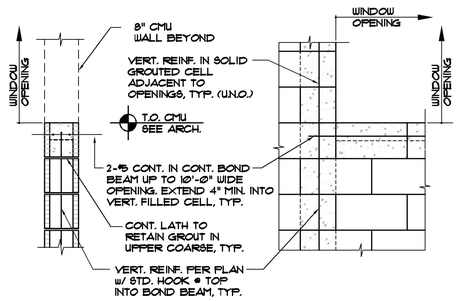
5 S104 TYPICAL HIGH LIFT GROUTING SECTION

SCALE: ¾" = 1'-0"



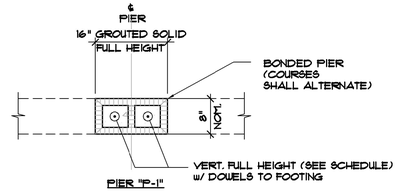
6 S104 TYPICAL LOW LIFT GROUTING SECTION

SCALE: ¾" = 1'-0"



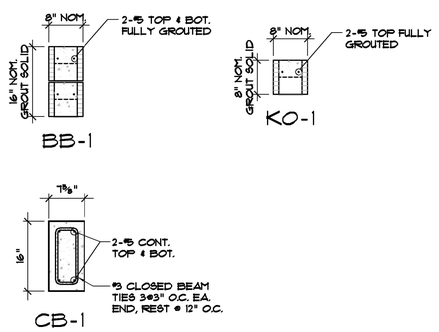
7 S104 TYPICAL BOND BEAM @ WINDOW SILL

SCALE: ¾" = 1'-0"



8 S104 MASONRY PIER DETAIL

SCALE: ¾" = 1'-0"



9 S104 BEAM SECTIONS

SCALE: ¾" = 1'-0"

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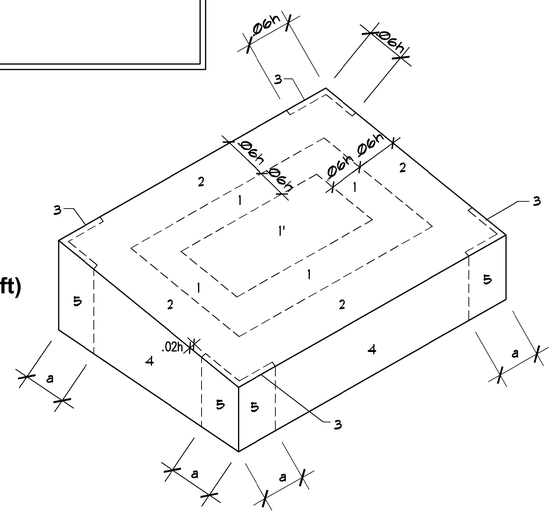
SHEET S104 STRUCTURAL SECTIONS AND DETAILS 4 OF 10

COMPONENTS AND CLADDING WIND PRESSURES (PSF) (RETAIL C)

LOCATION	ZONE	EFFECTIVE WIND AREA (A), FT^2					
		A = 10	A = 25	A = 50	A =< 100		
ROOF	1	+27.8/-109.0	+27.2/-103.2	+25.3/-91.6	+22.0/-85.8		
	1'	+27.8/-62.6	+27.2/-62.6	+25.3/-62.6	+22.0/-62.6		
	2	+27.8/-143.8	+27.2/-132.2	+25.3/-120.6	+22.0/-114.8		
	3	+27.8/-196.0	+27.2/-178.6	+25.3/-152.5	+22.0/-132.2		
WALLS	4	+68.4/-74.2	+65.5/-71.3	+59.7/-68.4	+56.8/-62.6		
	5	+68.4/-91.6	+65.5/-85.8	+59.7/-77.1	+56.8/-71.3		

NOTES:

1. EFFECTIVE WIND AREA IS SUCH AS DEFINED BY ASCE 7 FOR EFFECTIVE WIND AREAS BETWEEN THOSE GIVEN ABOVE, THE PRESSURE MAY BE INTERPOLATED, OTHERWISE USE PRESSURE WITH THE LOWER EFFECTIVE AREA.
2. WIND PRESSURES ARE GROSS POSITIVE AND NEGATIVE VALUES CALCULATED WITH THE ULTIMATE WIND SPEED (Vult) PER THE GENERAL NOTES DESIGN LOADS CRITERIA. FOR WIND PRESSURES USING NOMINAL WIND SPEED (Vasd), MULTIPLY THE ABOVE VALUES BY 0.6.
3. POSITIVE (+) WIND PRESSURE INDICATES TOWARDS THE SURFACE, NEGATIVE (-) WIND PRESSURE INDICATES AWAY FROM THE SURFACE.
4. a = 9.2 FT± h = 23.0 FT



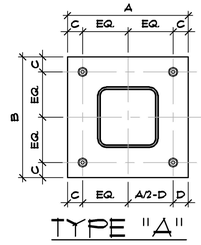
FLAT (h ≤ 60 ft)

1 / S110 COMPONENT & CLADDING WIND SCHEDULE
N.T.S.

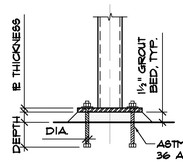
BASE PL / ANCHOR BOLT SCHEDULE

COLUMN SIZE	PLATE TYPE	BASE PLATE DIMS. A	B	C	D	E	PLATE THICKNESS	ANCHOR BOLT DIMS. DIA.	DEPTH	NUM.
HSS 8"x8"x3/16"	A	14"	14"	1½"	----	----	¾"	¾"	9"	4
HSS 4"x4"x1/4"	A	8"	8"	1½"	----	----	¾"	¾"	9"	4

NOTE: ALL BASE PL'S SHALL BE SET IN NON-SHRINK GROUT BED (1½") W/ ⅛" STEEL LEVELER PL OR LEVELER NUTS ON EACH BOLT, TYP.



TYPE "A"



ASTM F1554 GRADE 36 ANCHOR RODS W/ NUT TOP & BOT. (ASTM F1554 GRADE 55 ANCHOR RODS AT 1 1/2" DIA. BOLTS).

DETAIL "A"

2 / S110 BASE PL / ANCHOR BOLT SCHEDULE
SCALE: N.T.S.

FOUNDATION SCHEDULE

MARK	SIZE	DEPTH	T.O.F.	REINFORCING BOTTOM	REINFORCING TOP	REINFORCING TRANSVERSE	REMARKS
WF-26	2'-6" CONT.	1'-0"	-(1'-4")	3-#5 CONT.	------	#5 @ 18" O.C.	STRIP FOOTING
WF-40	4'-0" CONT.	1'-0"	-(1'-4")	5-#5 CONT.	------	#5 @ 18" O.C.	STRIP FOOTING
F-60	6'-0" x 6'-0"	1'-0"	-(1'-4")	5 - #5 EA WAY	------	------	SPREAD FOOTING
F-70	7'-0" x 7'-0"	1'-4"	-(1'-4")	7 - #5 EA WAY	------	------	SPREAD FOOTING
F-80	8'-0" x 8'-0"	1'-4"	-(1'-4")	7 - #6 EA WAY	------	------	SPREAD FOOTING

3 / S110 FOUNDATION SCHEDULE
N.T.S.

WALL SCHEDULE

	MW-1			
	8" CMU			
FND TO PARAPET	#5 @ 24" O.C.			

NOTE:
1. MW-1 UNLESS NOTED OTHERWISE.

4 / S110 WALL SCHEDULE
N.T.S.

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SHEET **S110** STRUCTURAL SCHEDULES

5 OF 10

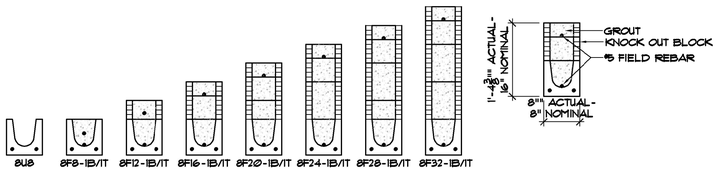
GENERAL NOTES - TABLE 1

MATERIALS
1. f'c PRECAST = 4000 PSI.
2. f'c GROUT = 3000 PSI w/⅜" MAXIMUM AGGREGATE.
3. CMU's PER ASTM C90 w/MINIMUM NET AREA COMPREHENSIVE STRENGTH = 1900 PSI.
4. REBAR PROVIDED IN PRECAST PER ASTM A615 GRADE 60.
5. FIELD REBAR PER ASTM A615 GRADE 40 OR 60.
6. MORTAR PER ASTM C270 TYPE M OR S.

STRUCTURAL NOTES
1. SHORE PRECAST AT 6'-0" O.C.
2. Safe LOAD VALUES BASED ON NOMINAL 8" BEARING (4" MINIMUM).
3. FOR COMPOSITE HEIGHTS NOT SHOWN, USE SAFE LOADS FROM THE NEXT LOWER HEIGHT.
4. FOR LENGHTS NOT SHOWN, USE SAFE LOADS FROM THE NEXT LARGER LENGTH.
5. ALL SAFE LOADS ARE EXPRESSED IN POUNDS PER LINEAR FOOT.
6. COMPOSITE BEAM SAFE LOADS ARE BASED ON ONE #5 FIELD REBAR IN BOTH TOP AND BOTTOM.
7. SAFE LOADS RATINGS PER ACI 318 AND ACI 530.

REINFORCING SCHEDULE

	'A' Steel	'B' Steel
"8" "U-LINTEL"		
2'-10"" thru 5'-10	2-#2	2-#3
6'-6"" thru 10'-6"	2-#2	2-#4
11'-4"" thru 14'-8"	2-#3	2-#5, 1-#3"
15'-4"" thru 17'-4"	2-#3	3-#5
19'-4"" thru 20'-0"	2-#4	2-#5, 1-#5"
8" "RECESS DOOR HEADER"		
2'-0"" thru 3'-0	NA	2 - #3
4'-0"" thru 8'-0"	2 - #3	2 - #4



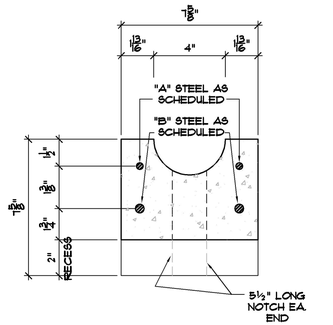
CODE DESIGNATION

8F16 - 1B/1T

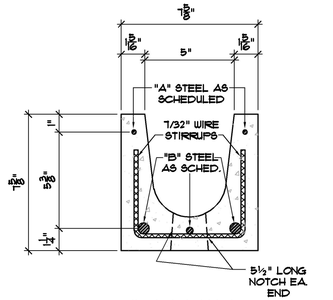
- NOMINAL WIDTH (IN.)
- F = FILLED W/ GROUT
- U = UNFILLED
- NOMINAL HEIGHT (IN.)
- QUANTITY OF #5 FIELD ADDED REBAR AT TOP OF U-LINTEL FOR UPLIFT LOAD
- QUANTITY OF #5 FIELD ADDED REBAR AT BOTTOM OF U-LINTEL CAVITY FOR GRAVITY LOAD

1 / S111 LINTEL SCHEDULE

SCALE: N.T.S.



8" RECESS DOOR HEADER



8" U-LINTEL

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SHEET **S111** STRUCTURAL SCHEDULES

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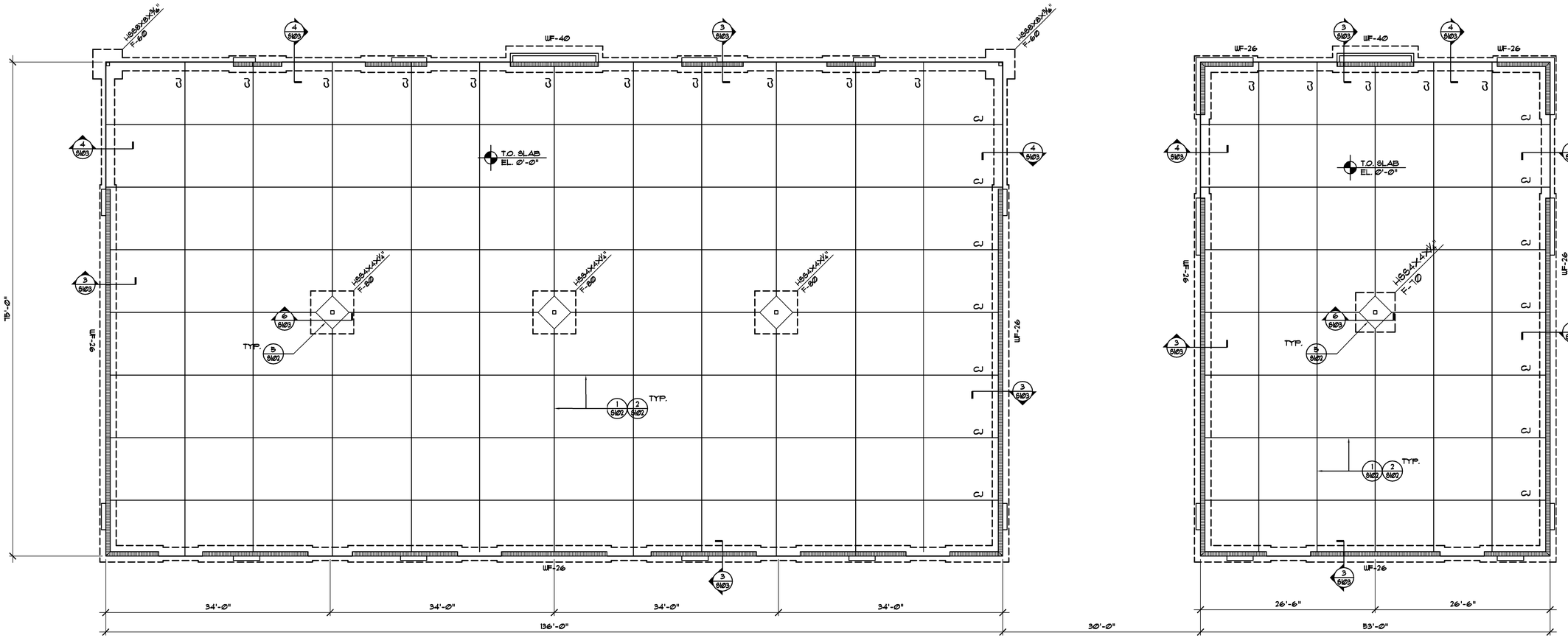

FOUNDATION PLAN NOTES:

HEXAGON NOTES:

1. TOP OF FOUNDATION -(1'-4"), U.N.O
2. PROVIDE #4 X 4'-0" LONG DIAGONAL BARS AT ALL INSIDE (RE-ENTRANT) SLAB CORNERS.
3. PROVIDE #4 X 4'-0" (MINIMUM LENGTH) FOR SLAB PENETRATIONS LARGER THAN 6" DIA. OR 6" X 6" SQUARE. PLACE IN DIAMOND SHAPE PATTERN AS SHOWN IN SECTION "6/S11". ONE SET OF FOUR MAY ENCOMPASS MORE THAN ONE PENETRATION.
4. FOR SLAB PENETRATIONS GREATER THAN 6" WIDE X 3'-0" LENGTH OR LONGER PROVIDE #5 EACH SIDE OF OPENING REBAR TO BE 12" LONGER THAN PENETRATION LENGTH.

DRAWING NOTES:

1. CONTRACTOR SHALL COORDINATE PAD LOCATIONS W/ ELECT., MECH, & PLUMBING, REFERENCE GENERAL NOTES SECTION 01051.
2. ROUTE ALL CHASES UNDER THICKENED SLAB EDGE AND COLUMN FOOTINGS, MAINTAIN A MINIMUM 6" SOIL COVER.
3. CONCRETE CONTRACTOR SHALL GROUT RECESSED THRESHOLDS.
4. COORDINATE W/ CIVIL AND ARCHITECTURAL DRAWINGS FOR CURB LOCATIONS.
5. PROVIDE MINIMUM LINTEL STRENGTH OF 1000 PLF, U.N.O.

1 / S201 FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

AA C000606

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SHEET S201 FOUNDATION PLAN

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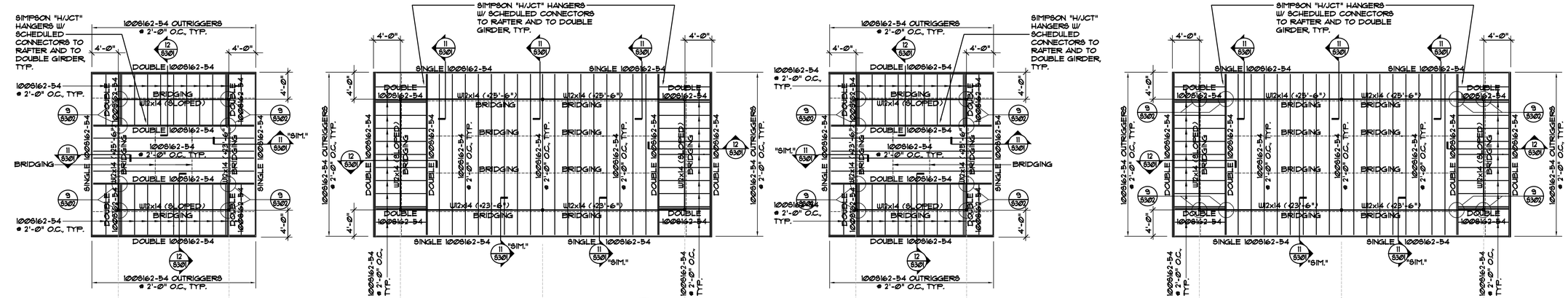
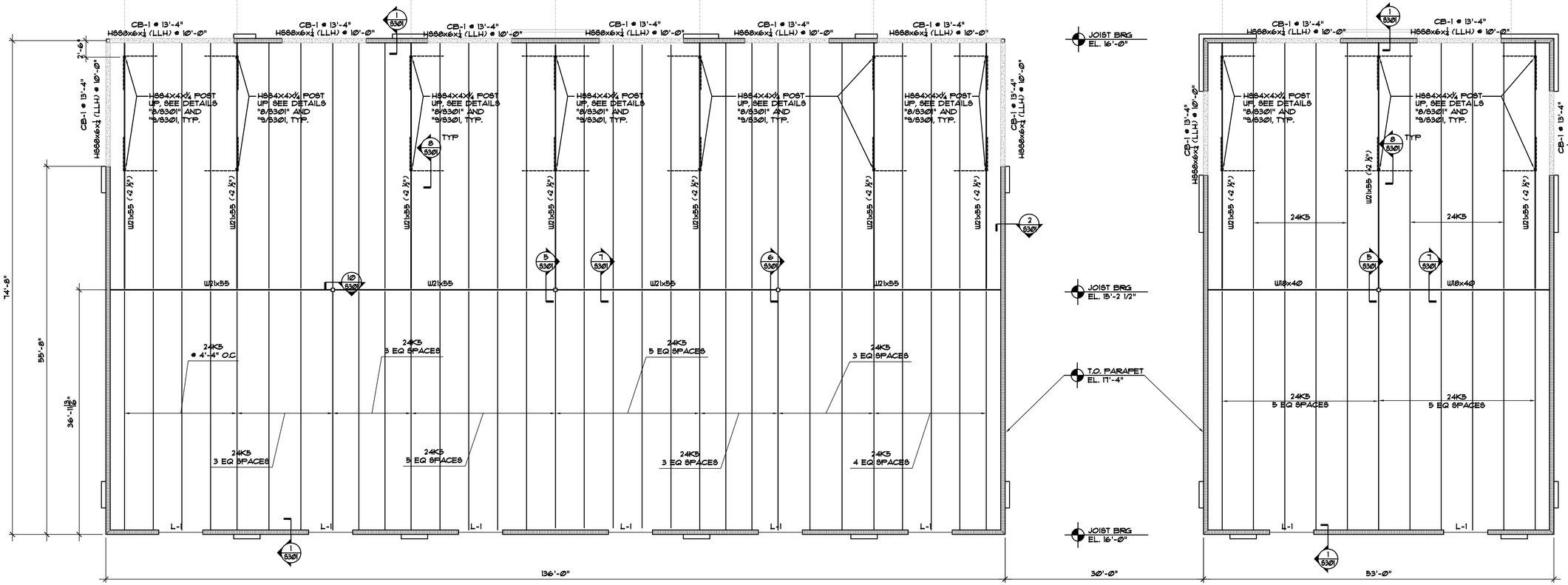


1 / S202 HIGH ROOF FRAMING PLANS

SCALE: 1/8" = 1'-0"



2 / S202 LOW ROOF FRAMING PLANS

SCALE: 1/8" = 1'-0"

HEXAGON NOTES:

1. METAL ROOF DECK: 1.5B22 GA. VULCRAFT OR EQUAL. 3-SPAN MINIMUM.
2. ROOF DECK ATTACHMENT PATTERN REQUIREMENTS (SEE DETAIL "2/S202" FOR ZONE LOCATIONS)

   ZONE 1: HILTI "X-ENP19" PAFs @ 12" O.C. PERIMETER.
   HILTI "X-ENP19" PAFs @ 36/1 @ SUPPORTS.
   2 - HILTI "S-LC" SCREW SIDELAP FASTENERS

   ZONE 2 & 3: HILTI "X-ENP19" PAFs @ 12" O.C. PERIMETER.
   HILTI "X-ENP19" PAFs @ 36/1 @ SUPPORTS.
   2 - HILTI "S-LC" SCREW SIDELAP FASTENERS
3. PROVIDE STEEL JOIST BRIDGING AND UPLIFT BRIDGING PER S.J.I. REQUIREMENTS. NET UPLIFT = 30 PSF.
4. JOIST MANUFACTURER TO COORDINATE UNIT WEIGHTS AND LOCATIONS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.
5. JOIST MANUFACTURER: BAR JOIST SUPPORTING RTU'S ARE TO BE "SP" DESIGNATION
6. ROOF ACCESS HATCH PER ARCHITECTURAL DRAWINGS. FRAME OUT OPENING WITH 4"x4"x⅜" ANGLES, SEE DETAIL "3/S303" SIMILAR.
7. SPECIALTY ENGINEERED CANOPY BELOW.
8. ALL WALLS MW-1, U.O.N.

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ROBERT L. PLOWFIELD LICENSE No 39759 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L. Plowfield, Jr., P.E.
FL Registration No. 39759

CROSSTOWN PLAZA RETAIL PLAZA

Crosstown Parkway
Port St. Lucie, Florida, 34987

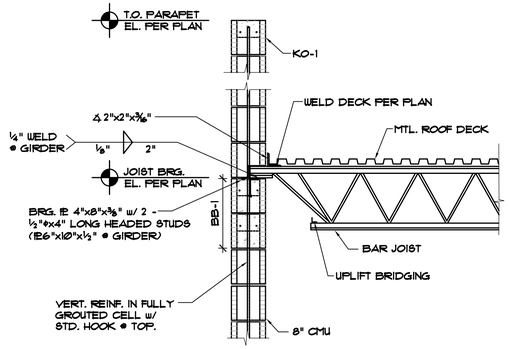
REVISION

JOB NO. 22036

DATE 2-16-23

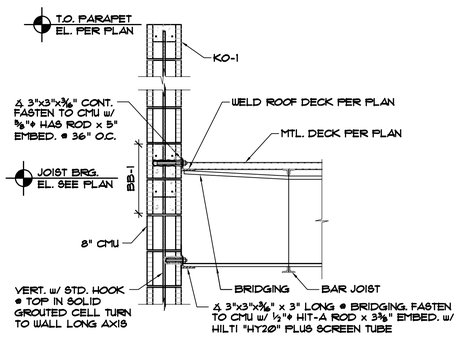
SHEET S202
ROOF FRAMING PLAN

8 OF 10



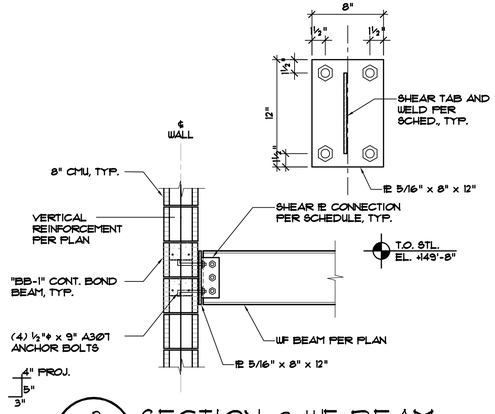
1 / S301 JOIST BEARING @ CMU

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



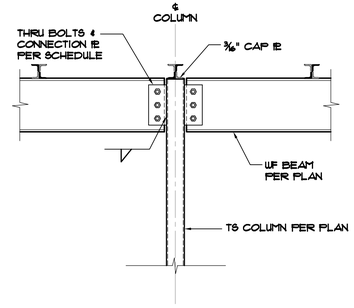
2 / S301 DECK BEARING @ CMU WALL

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



3 / S301 SECTION @ WF BEAM

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



4 / S301 BEAM CONNECTION

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

5 / S301 JOIST BRG. @ COLUMN

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

6 / S301 JOIST BRG. @ COLUMN

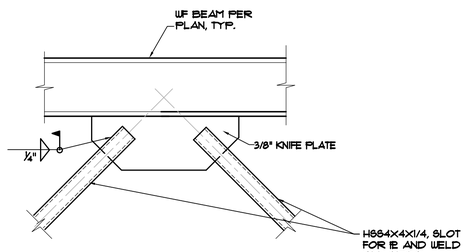
SCALE: 3/4" = 1'-0"

7 / S301 SECTION @ JOIST BRG

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

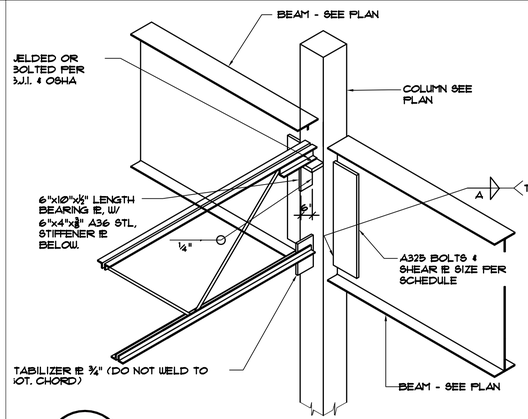
8 / S301 POST UP W/ BRACE

SCALE: N.T.S.



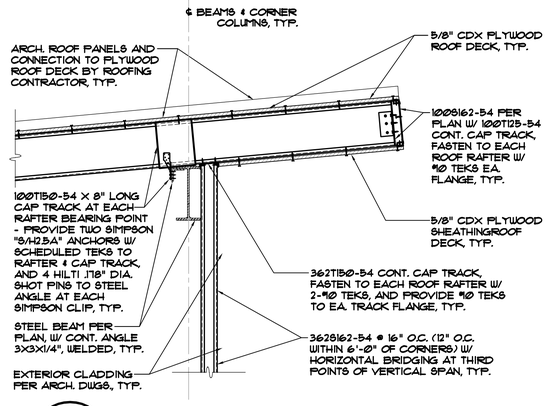
9 / S301 BEAM BRACE DOWN

SCALE: N.T.S.



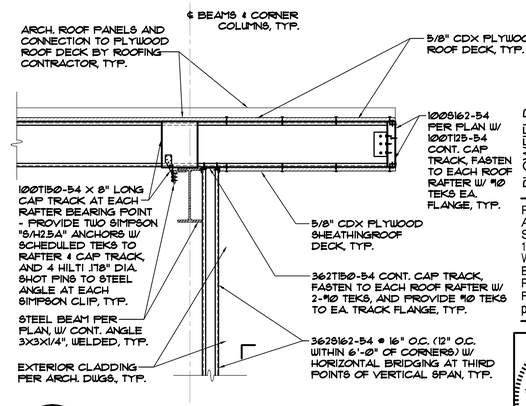
10 / S301 JOIST @ GIRDER TO TS COLUMN

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



11 / S301 CANTILEVERED HIGH ROOF EDGE

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



12 / S301 CANTILEVERED OUTRIGGER DETAIL

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

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SHEET S301
STRUCTURAL SECTIONS AND DETAILS
9 OF 10

SIMPLE BEAM CONNECTION SCHEDULE			
SHEAR PL. CONNECTION			
MEMBER DEPTH	# OF BOLTS ¾"ø A325	CONN. PL. "t"	WELD SIZE "A"
6"	2	5/16"	¼"
8" - 10"	2	5/16"	¼"
12" - 14"	3	5/16"	¼"
15" - 16"	4	⅜"	5/16"
18"	5	⅜"	5/16"
20" - 21"	5	½"	⅜"
24"	6	½"	⅜"
27"	7	½"	⅜"
30" - 33"	8	⅝"	⅜"
36"	10	⅝"	⅜"

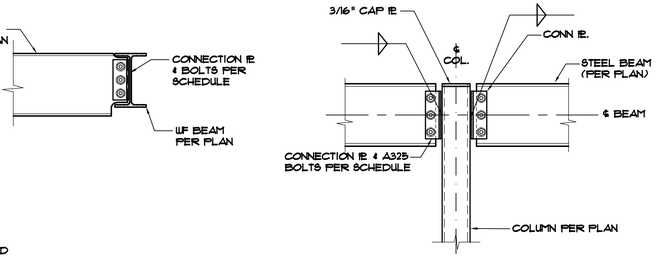
NOTES:

1.) FILLET WELDS SHALL BE AS SHOWN UNLESS A GREATER SIZED IS REQUIRED BY A.I.S.C. TABLE J2.4

2.) ALL BOLTS TO BE A325 BOLTS (U.N.O.)

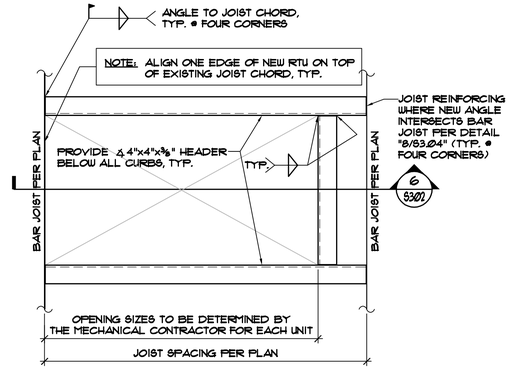
3.) DOUBLE ANGLES MAY BE SUBSTITUTED FOR CONNECTOR PLATES, PROVIDED THEY MEET OR EXCEED THE REQUIREMENTS OF THE A.I.S.C.

4.) ALL CONNECTIONS TO COLUMNS AND ALL CONNECTIONS AT VIBRATION LOAD AREAS TO BE NON SLIP (A325 S.C.). ALL OTHER CONNECTIONS MAY BE BEARING TYPE (A325 N).



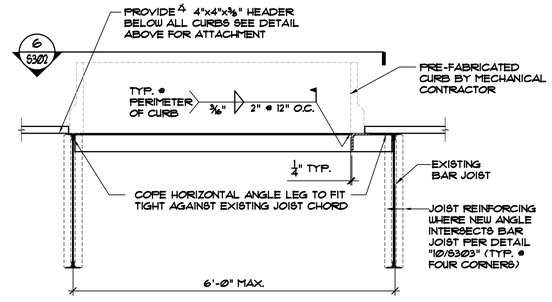
1 / S302 SIMPLE BEAM CONNECTION DETAILS

SCALE: ¾" = 1'-0"



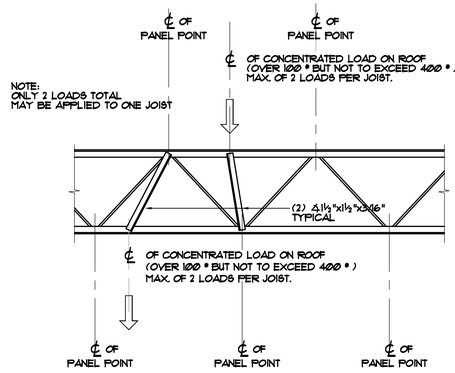
2 / S302 PLAN VIEW @ R.T.U. SUPPORT FRAMING

SCALE: ¾" = 1'-0"



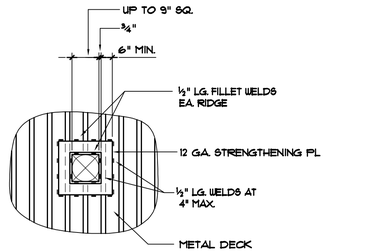
3 / S302 SECTION @ R.T.U. SUPPORT FRAMING

SCALE: ¾" = 1'-0"



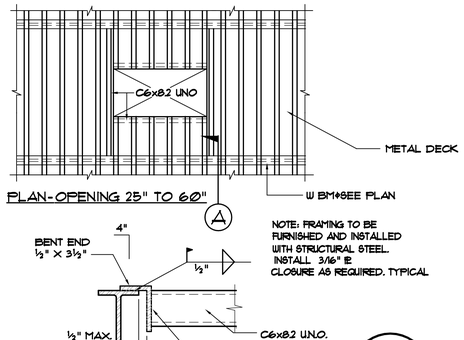
4 / S302 JOIST SUPPLEMENTAL REINFORCING

SCALE: ¾" = 1'-0"

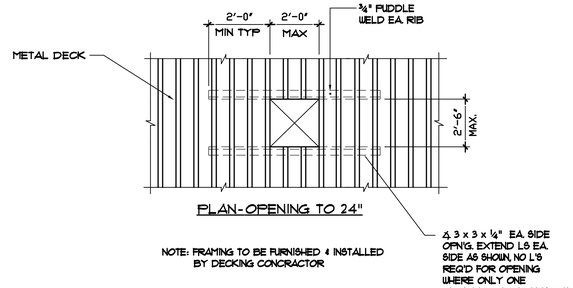


5 / S302 SMALL REINFORCED DECK OPENING DETAIL

SCALE: ¾" = 1'-0"



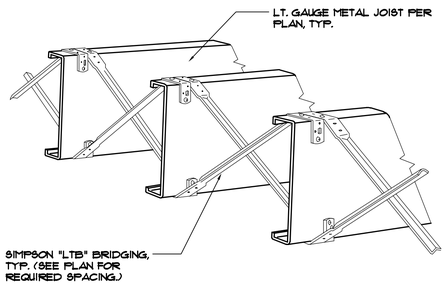
NOTE: FRAMING TO BE FURNISHED AND INSTALLED WITH STRUCTURAL STEEL. INSTALL 3/16" PL CLOSURE AS REQUIRED. TYPICAL



NOTE: FRAMING TO BE FURNISHED & INSTALLED BY DECKING CONCRACTOR

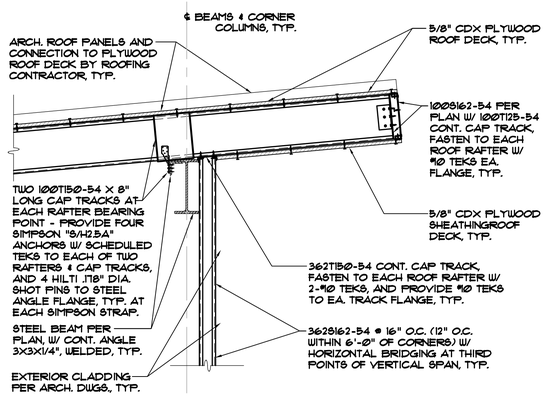
6 / S302 LARGE REINFORCED OPENINGS IN METAL DECK

SCALE: ¾" = 1'-0"



8 / S302 ROOF RAFTER BRIDGING DETAIL

SCALE: N.T.S.



9 / S302 DOUBLE RAFTER CONNECTION

SCALE: ¾" = 1'-0"

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SHEET S302
STRUCTURAL SECTIONS AND DETAILS
10 OF 10