GENERAL NOTES

BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE (IBC)

WIND LOADING:
- 120 MPH ULTIMATE DESIGN WIND SPEED, (3 SECOND GUST)
- 93 MPH NOMINAL DESIGN WIND SPEED, (3 SECOND GUST)
- EXPOSURE "C"
- RISK CATEGORY II
- ENCLOSED STRUCTURE
- INTERNAL PRESSURE COEFFICIENT = ±0.18

FM GLOBAL WIND PRESSURES AND RATINGS:
- VERTICAL DESIGN PRESSURES FOR ROOF ELEMENTS:

AREA	ZONE 1'	ZONE 1	ZONE 2	ZONE 3
10 SF OR LESS	23.0 PSF	40.0 PSF	53.0 PSF	72.0 PSF

- HORIZONTAL DESIGN PRESSURES FOR WALL ELEMENTS:

AREA	ZONE 4	ZONE 5
10 SF OR LESS	25.0 PSF	31.0 PSF

ALL ABOVE-STEEL-DECK ROOF SYSTEM SHALL HAVE THE FOLLOWING MINIMUM FACTORY MUTUAL GLOBAL WIND UPLIFT RATINGS:

WIND SPEED	ROOF (ZONE 1')	ROOF (ZONE 1)	ROOF (ZONE 2)	ROOF (ZONE 3)
95 MPH	FM1 - 60	FM1 - 90	FM1 - 120	FM1 - 150

NOTES:
1. FM GLOBAL (FMG) HORIZONTAL AND VERTICAL WIND PRESSURES WERE GENERATED USING FMG DATA SHEET 1-28 WITH AN IMPORTANCE FACTOR OF 1.15.
2. WIND PRESSURES GENERATED FROM FMG DATA SHEET 1-28 ARE BASED ON ASCE 7-05 AND ARE SUPPLEMENTAL TO THE WIND SPEED AND CODES ADOPTED BY THE LOCAL JURISDICTION LISTED UNDER THE WIND LOADING SECTION ON THIS SHEET.
3. ALL ROOF AND WALL COMPONENTS, CLADDING, AND SECONDARY STRUCTURAL FRAMING MEMBERS SHALL BE DESIGNED WITH A SAFETY FACTOR OF 2.0 FOR THE FMG PRESSURES LISTED ABOVE.
4. LIMIT THE MAXIMUM EFFECTIVE WIND AREA TO 10 ft² AS PER FMG DATA SHEET 1-28.
5. THESE WIND PRESSURES SHALL BE USED FOR THE DESIGN OF EXTERIOR COMPONENT AND CLADDING MATERIALS NOT SPECIFICALLY DESIGNED AND DETAILED BY THE ENGINEER-OF-RECORD.

DESIGN LOADS:
- ROOF DEAD LOAD = 20 PSF
- ROOF LIVE LOAD = 20 PSF

SEISMIC DESIGN CRITERIA:
- SEISMIC IMPORTANCE FACTOR, I = 1.0
- RISK CATEGORY: II
- MAPPED SPECTRAL ACCELERATIONS: S_S = 0.116; S_1 = 0.058
- SOIL SITE CLASS (PER SOILS REPORT): C
- SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 0.1; S_{D1} = 0.058
- SEISMIC DESIGN CATEGORY: A
- BASIC SEISMIC-FORCE-RESISTING SYSTEMS: INTERMEDIATE PRECAST SHEAR WALLS
- ASCE /SEI SECTION 11.7: "BUILDINGS AND OTHER STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY "A" NEED ONLY COMPLY WITH THE REQUIREMENTS OF SECTION 1.4."

SNOW LOADING:(SEE 3/S1.3)
- GROUND SNOW LOAD, P_g = 30 PSF
- DESIGN FLAT ROOF SNOW LOAD, P_{fm} = 15 PSF
- SNOW IMPORTANCE FACTOR, I = 1.0
- EXPOSURE FACTOR, C_e = 1.0
- THERMAL FACTOR, C_t = 1.0

STEEL RAILINGS

1. THE DESIGN OF ALL PRE-FABRICATED STEEL RAILINGS AND CONNECTIONS FOR THIS PROJECT SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED BY THE FABRICATOR.
2. HANDRAILS AND GUARDS SHALL BE DESIGNED FOR A 50 PLF LOAD APPLIED IN ANY DIRECTION AT THE TOP RAIL.
3. HANDRAIL ASSEMBLIES AND GUARDS SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 200 POUNDS, APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP. THIS LOAD IS NOT CONCURRENT WITH THE UNIFORM LOAD IN THE ABOVE PARAGRAPH.
4. INTERMEDIATE RAILS (COMPONENTS), BALUSTERS AND PANEL FILLERS (EXCEPT THE HANDRAIL) SHALL BE DESIGNED FOR A HORIZONTAL LOAD OF 50 POUNDS ON AN AREA OF 1 SQUARE FOOT, INCLUDING OPENINGS AND SPACE BETWEEN RAILS. THIS LOAD DOES NOT ACT CONCURRENTLY WITH THE UNIFORM OR CONCENTRATED LOADS IN THE ABOVE TWO PARAGRAPHS.
5. ALL SHOP DRAWINGS MUST BE SEALED BY THE FABRICATOR'S REGISTERED PROFESSIONAL ENGINEER. SHOP DRAWINGS SUBMITTED WITHOUT REQUIRED ENGINEER'S SEAL WILL NOT BE REVIEWED.

GENERAL REQUIREMENTS

1. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, SLOPES AND LOCATION OF DEPRESSED FLOOR AREAS. COMPARE THE STRUCTURAL SECTIONS WITH THE ARCHITECTURAL PLANS AND SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL WORK.
2. PRINCIPAL OPENINGS THROUGH THE FRAME ARE SHOWN ON DRAWINGS. HOWEVER, EXAMINE ALL OTHER DRAWINGS SO AS TO PROVIDE EVERY OPENING REQUIRED NO MATTER WHERE IT IS SHOWN. VERIFY THE SIZE AND LOCATION REQUIREMENTS FOR ALL OPENINGS. UNLESS NOTED OTHERWISE, FRAME OPENINGS WITH L4 x 4 x 1/4 ANGLES. PIPE SLEEVES THROUGH ROOF DECK WILL NOT REQUIRE FRAMING UNLESS THE OPENING EXCEEDS 10" DIAMETER.
3. REPORT OPENINGS NOT STRUCTURALLY DETAILED THAT INTERFERE WITH FRAMING.
4. VERIFY EXACT LOCATION, CLEARANCE, SPACING AND OTHER REQUIREMENTS OF HANGERS AND FRAMING TO SUPPORT NON STRUCTURAL ITEMS PRIOR TO FABRICATING SUCH HANGERS OR FRAMING.
5. UNIT LOCATIONS, SIZES AND DESIGNATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY. REFER TO THE MEP DRAWINGS FOR ALL UNIT SPECIFICATIONS. NOTIFY ARCHITECT AND ENGINEER PRIOR TO SETTING OF ANY UNIT THAT DIFFERS OR DEVIATES FROM THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS, INCLUDING LOCATION, WEIGHT, OR QUANTITY. UNITS INSTALLED WITHOUT THE ENGINEER'S APPROVAL MAY REQUIRE RELOCATION OR STRENGTHENING OF THE STRUCTURE.
6. THESE DRAWINGS MAY BE REPRODUCED FOR SHOP DRAWING USE. SEALS, COMPANY TITLE BLOCKS, ETC. SHALL BE REMOVED. IN USING THESE DRAWINGS, THE CONTRACTOR/FABRICATOR SHALL TAKE FULL RESPONSIBILITY FOR THE CORRECTNESS OF ALL DIMENSIONS SHOWN. DO NOT SCALE THE DRAWINGS.
7. IF ELECTRONIC FILES ARE RELEASED BY THE ENGINEER-OF-RECORD TO THE CONTRACTOR OR SUB-CONTRACTOR THEN THE FOLLOWING ADDITIONAL LIMITATIONS APPLY: THE ELECTRONIC FILES ARE THE PROPERTY OF THE ENGINEER-OF-RECORD AND MAY NOT BE DUPLICATED OR USED FOR ANY PROJECT OTHER THAN STATED IN THE TITLE BLOCK. THE FILES MAY NOT BE MODIFIED WITHOUT THE PERMISSION OF THE ENGINEER-OF-RECORD THE SIGNED/SEALED ORIGINAL TRACINGS OF THESE DRAWINGS GOVERN OVER THE CONTENT OF THE ELECTRONIC FILES. THE USER OF THE ELECTRONIC FILES SHALL INDEMNIFY AND HOLD THE ENGINEER-OF-RECORD HARMLESS FOR ANY SUBSEQUENT USE OR MODIFICATION OF THE ELECTRONIC FILES BEYOND THE ORIGINAL DESIGN AS SUBMITTED ON THE ORIGINAL SIGNED/SEALED TRACINGS.

TEMPORARY SUPPORT AND STABILITY OF STRUCTURAL STEEL FRAMING

1. THE STRUCTURAL STEEL FRAMING OF THIS BUILDING RELIES ON LATERAL-LOAD-RESISTING SYSTEMS AND CONNECTING DIAPHRAGM ELEMENTS TO PROVIDE FOR THE LATERAL STRENGTH AND STABILITY OF THE COMPLETED STRUCTURE.
2. THE FOLLOWING IS A SUMMARY OF THE LATERAL-LOAD-RESISTING SYSTEMS:
   CONCRETE TILT-WALL PANELS
   THE FOLLOWING IS A SUMMARY OF THE DIAPHRAGM ELEMENTS:
   METAL ROOF DECK
3. THE STEEL ERECTOR SHALL DETERMINE, FURNISH AND INSTALL ALL REQUIRED TEMPORARY BRACING AS REQUIRED TO SECURE THE STRUCTURAL STEEL FRAMING DURING CONSTRUCTION AND UNTIL ALL PORTIONS OF THE LATERAL-LOAD-RESISTING SYSTEMS AND THE DIAPHRAGM ELEMENTS HAVE BEEN INSTALLED AND PROPERLY TIED TOGETHER.
4. THE GENERAL CONTRACTOR SHALL SUPPLY THE STEEL ERECTOR WITH THE ANTICIPATED CONSTRUCTION SEQUENCE PRIOR TO BIDDING. FOR PROJECTS WHERE PORTIONS OR ALL OF THE LATERAL-LOAD-RESISTING SYSTEMS ARE NOT INCLUDED IN THE STEEL ERECTOR'S SCOPE OF WORK, THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE STEEL ERECTOR THE RESPONSIBILITY FOR THE TEMPORARY BRACING OF THE OVERALL STRUCTURE.
5. ALL COSTS ASSOCIATED WITH THE DESIGN AND INSTALLATION OF TEMPORARY BRACING MUST BE INCLUDED IN THE CONTRACTOR'S PRICE.
6. THE GENERAL CONTRACTOR AND STEEL ERECTOR ARE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION UNTIL ALL PORTIONS OF THE LATERAL-LOAD-RESISTING SYSTEM AND DIAPHRAGM ELEMENTS ARE COMPLETE AND ARE PROPERLY TIED TOGETHER AS SPECIFIED IN THE CONTRACT DRAWINGS AND SHOP DRAWINGS. IT IS ALSO THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND STEEL ERECTOR TO DETERMINE WHEN PORTIONS OF THE TEMPORARY BRACING MAY BE REMOVED. GENERAL CONTRACTOR AND ERECTOR SHALL FOLLOW ALL APPLICABLE REQUIREMENTS OF OSHA'S STEEL ERECTION STANDARDS FOR CONSTRUCTION (LATEST VERSION) AND AISC'S "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (LATEST VERSION).

SUBMITTALS-SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR THE FOLLOWING ITEMS:
   A. CONCRETE MIX DESIGNS
   B. REINFORCING STEEL IN CONCRETE ELEMENTS
   C. STRUCTURAL STEEL
   D. STEEL JOISTS AND JOIST GIRDERS
   E. MISCELLANEOUS STEEL
   F. EMBEDDED ITEMS IN CONCRETE
   G. CAST-IN-PLACE ANCHORS
   H. POST-INSTALLED ANCHORS
   I. ROOF METAL DECK LAYOUT AND ATTACHMENT
   J. TILT WALL PANEL LIFTING BOOKS (LIFTING INSERTS AND LIFTING REINFORCING)
   K. PRE-FABRICATED CANOPY OR AWNING FRAMING
2. ALL SHOP DRAWINGS MUST BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT AND ENGINEER.
3. THE CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF ALL SHOP DRAWINGS VIA EMAIL FOR REVIEW BY THE ARCHITECT AND ENGINEER.
4. THE OMISSION FROM THE SHOP DRAWINGS OF ANY ITEMS REQUIRED BY THE CONTRACT DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR THE RESPONSIBILITY OF FURNISHING AND INSTALLING SUCH ITEMS, REGARDLESS OF WHETHER THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS

1. REFER TO THE REFERENCED BUILDING CODE FOR ADDITIONAL INFORMATION, DEFINITIONS AND TESTING REFERENCES REGARDING SPECIAL INSPECTIONS.
2. THE OWNER SHALL HIRE ONE OR MORE SPECIAL INSPECTORS TO PROVIDE THE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE FOLLOWING TYPES OF STRUCTURAL WORK:
   A. STRUCTURAL STEEL
   B. CAST-IN-PLACE CONCRETE
   C. CMU MASONRY
   D. SOILS AND FOUNDATION ELEMENTS
   E. OTHER ITEMS AS SPECIFIED BELOW OR IN THE SPECIFICATIONS.
3. REFER TO THE ARCHITECTURAL AND MEP ENGINEER'S DRAWINGS AND/OR SPECIFICATIONS FOR ADDITIONAL ITEMS OF A NON-STRUCTURAL NATURE REQUIRING SPECIAL INSPECTIONS. THIS SECTION IS LIMITED ONLY TO STRUCTURAL PORTIONS OF THE PROJECT. THIS SECTION DOES NOT COVER STANDARD INSPECTIONS TO BE PERFORMED BY THE BUILDING OFFICIAL OR PERIODIC SITE VISITS/OBSERVATIONS MADE BY REPRESENTATIVES OF THE ENGINEER-OF-RECORD.
4. THE SPECIAL INSPECTOR FOR THE LISTED STRUCTURAL ITEMS SHALL BE A QUALIFIED TESTING LAB OR GEOTECHNICAL ENGINEER QUALIFIED TO INSPECT THE PARTICULAR TYPE OF CONSTRUCTION REQUIRING THE SPECIAL INSPECTION..
5. THE OWNER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE SPECIAL INSPECTIONS LISTED IN THIS SECTION, EXCEPT FOR ADDITIONAL INSPECTIONS REQUIRED DUE TO NON-CONFORMANCE OF WORK. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL COSTS INCURRED IF THE SPECIAL INSPECTOR MAKES ADDITIONAL TRIPS, REPORTS, ETC, FOR WORK FOUND TO BE NON-CONFORMING TO THE APPROVED CONSTRUCTION DOCUMENTS.
6. THE SPECIAL INSPECTOR(S) SHALL OBSERVE THE WORK TO ASCERTAIN TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF WHETHER THE WORK IS IN CONFORMANCE WITH THE APPROVED CONTRACT DRAWINGS AND SPECIFICATIONS OR NOT..
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTOR(S) AND THE ENGINEER-OF-RECORD AT LEAST 72 HOURS BEFORE COMMENCING ANY NEW TYPE OF STRUCTURAL WORK COVERED BY THIS SPECIAL INSPECTION SECTION. DURING THE ONGOING CONSTRUCTION OF A PARTICULAR TYPE OF STRUCTURAL WORK, THE NOTICE TIME MAY BE REDUCED TO 24 HOURS. THE GENERAL CONTRACTOR SHALL KEEP THE OWNER, ARCHITECT AND THE ENGINEER-OF-RECORD INFORMED OF ANY SCHEDULING PROBLEMS OR DIFFICULTIES.
8. THE SPECIAL INSPECTOR(S) SHALL FURNISH COPIES OF ALL INSPECTION REPORTS TO THE ENGINEER-OF-RECORD RESPONSIBLE FOR THE PORTION OF THE WORK BEING REVIEWED, THE ARCHITECT, GENERAL CONTRACTOR AND THE BUILDING OFFICIAL. ALL REPORTS SHALL INCLUDE THE NAME(S) OF THE INDIVIDUAL AND COMPANY PERFORMING THE SPECIAL INSPECTIONS, AS WELL AS THE DATE OF EACH INSPECTION, ITEMS REVIEWED, AREA OF EACH ITEM RELATIVE TO SPECIFIC GRID LINES/FLOOR LEVELS AND ANY DISCREPANCIES BETWEEN THE OBSERVED WORK AND APPROVED CONSTRUCTION DOCUMENTS.
9. IF ANY DISCREPANCIES OR DEFICIENCIES ARE NOTED, THE SPECIAL INSPECTOR SHALL IMMEDIATELY NOTIFY THE GENERAL CONTRACTOR (ON THE SAME DAY OF THE INSPECTION IF AT ALL POSSIBLE AND BEFORE THE INSPECTOR LEAVES THE SITE). THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR RELAYING THESE FINDINGS TO THE APPROPRIATE SUB-CONTRACTOR AND SHALL BE RESPONSIBLE FOR DIRECTING AND COORDINATING ALL CORRECTIVE ACTIONS NECESSARY TO CORRECT THE DISCREPANCIES OR DEFICIENCIES. THE SPECIAL INSPECTOR SHALL ALSO NOTIFY THE ARCHITECT AND ENGINEER WITHIN 24 HOURS, EITHER BY EMAIL OR PHONE CALL, AND WHAT CORRECTIVE ACTION WAS TAKEN, IF ANY AT THAT POINT. BY NO MEANS, HOWEVER, IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT CORRECTIVE ACTION IS TAKEN IN A TIMELY MANNER.
10. THE GENERAL CONTRACTOR SHALL CONTACT THE ENGINEER-OF-RECORD AND/OR THE ARCHITECT IF THERE ARE ANY QUESTIONS REGARDING THE PROPER CORRECTIVE ACTION TO BE TAKEN BASED ON THE SPECIAL INSPECTOR'S REPORTS AND RECOMMENDATIONS.
11. AT THE COMPLETION OF EACH TYPE OF STRUCTURAL WORK, THE SPECIAL INSPECTOR SHALL SUBMIT A SIGNED REPORT CERTIFIED BY A LICENSED ENGINEER IN THE STATE OF THE PROJECT. THE REPORT SHALL STATE WHETHER THE INSPECTED WORK WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND WHETHER THE INSPECTED WORK WAS PERFORMED IN A WORKMANLIKE MANNER.
12. THE FOLLOWING IS A SUMMARY OF THE PERIODIC AND CONTINUOUS SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT. REFER TO THE BUILDING CODE FOR ADDITIONAL REFERENCES, IF NEEDED.

STEEL CONSTRUCTION (BASED ON 2015 IBC 1705.2)

1. MATERIAL VERIFICATION OF HIGH STRENGTH BOLTS, NUTS AND WASHERS. (PERIODIC))
2. HIGH STRENGTH BOLTING INSTALLATION - BEARING BOLTS (PERIODIC) AND SLIP CRITICAL BOLTS (CONTINUOUS - INSPECT 100 PERCENT OF BOLTS)
3. WELDING INSPECTIONS OF STRUCTURAL STEEL:
   A. COMPLETE AND PARTIAL PENETRATION WELDS (CONTINUOUS - INSPECT 100 PERCENT OF WELDS)
   B. MULTI-PASS FILLET WELDS AND FILLETS WELDS LARGER THAN 5/16" (CONTINUOUS- INSPECT 100 PERCENT OF WELDS)
   C. SINGLE-PASS FILLET WELDS 5/16" IN SIZE OR SMALLER (PERIODIC)
4. STEEL CONNECTIONS (INCLUDING ANY SPECIAL BRACING, STIFFENERS, MEMBER LOCATIONS AND BOLTING) - (PERIODIC)
5. FABRICATOR SHOP INSPECTIONS (PERIODIC) ARE REQUIRED AT ANY FABRICATOR SHOP THAT HAS NOT BEEN REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.

CAST-IN-PLACE CONCRETE CONSTRUCTION (BASED ON 2015 IBC 1705.3)

1. INSPECTION OF ALL REINFORCING STEEL (INCLUDING SIZES, QUANTITIES AND PLACEMENT) - (PERIODIC)
2. INSPECTION OF ANY WELDING OF REINFORCING STEEL, INCLUDING DEFORMED BAR ANCHORS (CONTINUOUS)
3. INSPECT BOLTS OR ANCHORS INSTALLED IN CONCRETE PRIOR TO OR DURING THE PLACEMENT OF THE CONCRETE, INCLUDING SIZE, QUANTITY, LENGTH AND LAYOUT (PERIODIC)
4. VERIFY THE USE OF THE APPROVED CONCRETE DESIGN MIX (PERIODIC)
5. SAMPLING OF FRESH CONCRETE, PERFORMING SLUMP/AIR CONTENT/TEMPERATURE TESTS AND MAKING OF CONCRETE CYLINDERS FOR STRENGTH TESTS (CONTINUOUS)
6. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TECHNIQUES AND TEMPERATURES (PERIODIC)
7. VERIFICATION OF CONCRETE STRENGTH PRIOR TO REMOVAL OF ANY SHORES OR FORMS FOR ELEVATED CONCRETE BEAMS OR SLABS, AND PRIOR TO LIFTING OF ANY TILT-WALL PANELS (CONTINUOUS- FOR ALL POUR CONDITIONS)

SOILS AND SUBGRADE AND FOUNDATIONS (BASED ON 2015 IBC 1705.6)

1. PRIOR TO PLACEMENT OF ANY FILL, VERIFY THAT SITE HAS BEEN PREPARED IN ACCORDANCE WITH THE APPROVED GEOTECHNICAL REPORT.
2. DURING PLACEMENT AND COMPACTION OF FILL MATERIAL, DETERMINE THAT THE MATERIALS USED AND THE MAXIMUM LIFT THICKNESS COMPLY WITH THE APPROVED GEOTECHNICAL REPORT.
3. VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL COMPLIES WITH THE APPROVED GEOTECHNICAL REPORT.

OTHER STRUCTURAL COMPONENTS

1. SPREAD FOOTINGS: PROVIDE CONTINUOUS INSPECTION OF ALL SPREAD FOOTINGS. OBSERVE DEPTH OF FOOTING BELOW GRADE. VERIFY SOILS BEARING CONDITIONS WITH SOILS REPORT. VERIFY FOOTING SIZE AND DEPTH. VERIFY CLEANNESS OF EXCAVATION. VERIFY REINFORCING STEEL SIZE AND PLACEMENT. VERIFY PROPER VIBRATION OF PLACED CONCRETE. VERIFY SIZE AND PLACEMENT OF ANY EMBEDDED ITEM (FOR EXAMPLE ANCHOR RODS) AND SAMPLE FRESH CONCRETE PER THE SECTION ABOVE.
2. ROOF DECK ATTACHMENTS (CONTINUOUS).

FOUNDATION AND EARTHWORK

1. THE CONTRACTOR SHALL NOT CONSIDER THE PROJECT GEOTECHNICAL REPORT AN ELEMENT OF THE CONTRACT DOCUMENTS BUT SHOULD ADHERE TO RECOMMENDATIONS THERIN.
2. SEE THE PROJECT GEOTECHNICAL REPORT (**REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL EVALUATION BY BUILDING & EARTH (PROJECT NO. RD230302 DATED JULY 14, 2023)** FOR SUBGRADE PREPARATION.
3. PER THE PROJECT GEOTECHNICAL REPORT, FOOTINGS HAVE BEEN DESIGNED FOR A NET ALLOWABLE BEARING PRESSURE OF 3,000 PSF FOR SPREAD AND CONTINUOUS FOOTINGS. EXTERIOR FOOTINGS SHALL BEAR A MINIMUM DEPTH OF 1.5 FT BELOW THE LOWEST ADJACENT FINISHED GRADE.
4. BEARING ELEVATIONS FOR BOTTOM OF FOOTINGS SHALL BE VERIFIED WITH FIELD CONDITIONS. THE FOOTINGS SHALL BEAR AT A SOILS STRATA RECOMMENDED IN THE GEOTECHNICAL REPORT. WHEN SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED AT SPECIFIED BEARING STRATA, THE GEOTECHNICAL ENGINEER SHALL BE NOTIFIED.
5. FOOTINGS SHALL BE POURED AS SOON AS POSSIBLE AFTER EXCAVATION, CLEAN-OUT, INSPECTION AND INSTALLATION OF STEEL/DOWELS/ANCHOR BOLTS. NOTIFY THE GEOTECHNICAL ENGINEER AT LEAST 24 HOURS PRIOR TO DIGGING OF FOOTINGS TO SCHEDULE SITE VISITS. PROPER SOIL BEARING SHALL BE VERIFIED BY THE GEOTECHNICAL ENGINEER OR TESTING LAB PRIOR TO POURING EACH FOOTING.
6. SLAB-ON-GRADE SHALL BE PLACED OVER LOW VOLUME CHANGE MATERIAL AND VAPOR BARRIER AS SPECIFIED ON DRAWINGS/SPECIFICATIONS AND AS SPECIFIED IN THE GEOTECHNICAL REPORT.
7. WALLS RETAINING EARTH SHALL BE PROPERLY SHORED PRIOR TO AND DURING BACKFILLING.

FOUNDATION SUBSURFACE PREPARATION

1. THE LIMITS OF THE SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH THE BUILDING SLAB AND APURTENANCES. SEE THE PROJECT GEOTECHNICAL ENGINEERING REPORT FOR SUBSURFACE PREPARATION REQUIREMENTS.
2. APPURTENANCES ARE THOSE ITEMS ATTACHED TO THE BUILDING PROPER (REFER TO DRAWING SHEET SP1), TYPICALLY INCLUDING, BUT NOT LIMITED TO, THE BUILDING MAIN ENTRANCE CANOPY, SIDEWALKS, RAMPS, STOOPS, TRUCK WELLS/DOCKS, CONCRETE MAINTENANCE STRIP, COMPACTOR PAD, ETC.
3. **THE GENERAL CONTRACTOR RESPONSIBLE FOR PAD PREPARATION MUST SUBMIT THE LIMITS OF PAD PREPARATION WORK TO THE STRUCTURAL ENGINEER AND ARCHITECT FOR REVIEW BEFORE THE START OF SUBSURFACE PREPARATION.**

VAPOR BARRIER

1. PROVIDE VAPOR BARRIER, INCLUDING WATERPROOF SEAM TAPE, AND MASTIC UNDER ALL BUILDING SLAB AREAS.
2. VAPOR BARRIER USED UNDER TYPICAL BUILDING SLAB AREAS SHALL BE FROM ONE OF THE FOLLOWING MANUFACTURERS:
   A. STEGO WRAP BY STEGO INDUSTRIES, LLC.
   B. GRIFFOLYN GREEN BY REEF INDUSTRIES.
   C. XTREME VAPOR BARRIER BY TEX-TRUDE.
   D. NO SUBSTITUTIONS TO THE MANUFACTURERS LISTED ABOVE ARE PERMITTED.
   E. VAPOR BARRIER MUST BE 15 MIL PRODUCT MEETING THE FOLLWING PERFORMANCE BASED QUALITIES LISTED BELOW:
   F. PRODUCT SHALL HAVE A PERMEANCE OF LESS THAN 0.01 PERMS (grains/(ft²2 hr inHg) AS TESTED IN ACCORDANCE WITH ASTM E 1745 SECTION 7.
   G. PRODUCT SHALL HAVE A STRENGTH PER ASTM E-1745, CLASS A OR BETTER.
   H. PRODUCT SHALL HAVE A MINIMUM THICKNESS OF 15 MILS.
3. FOLLOW ALL MANUFACTURERS INSTRUCTIONS FOR INSTALLATION, INCLUDING THE FOLLOWING:
   A. ENSURE THAT THE BASE MATERIAL HAS BEEN APPROVED BY THE OWNER'S TESTING LAB OR GEOTECHNICAL ENGINEER.
   B. START VAPOR BARRIER UNDER PERIMETER GRADE BEAMS AND THEN EXTEND OVER SUBGRADE. VAPOR BARRIER SHALL RUN PARALLEL WITH THE DIRECTION OF THE CONCRETE PLACEMENT.
   C. LAP ALL EDGES (SIDES AND ENDS) A MINIMUM OF 6" AND SEAL CONTINUOUSLY WITH MANUFACTURER'S RECOMMENDED TAPE. WHERE SLAB IS INSTALLED ON TOP OF CONCRETE FOOTINGS EXTEND VAPOR BARRIER 3" ONTO CONCRETE SURFACES.
   D. REPAIR ALL PUNCTURES OR TEARS PRIOR TO CONCRETE POUR. LAP PATCHES OVER THESE AREAS A MINIMUM OF 6" AND TAPE ALL EDGES.
   E. SEAL ALL PENETRATIONS, INCLUDING PIPES, PER MANUFACTURER'S INSTRUCTIONS.
   F. ANY ELECTRICAL CONDUITS SHALL BE PLACED ABOVE THE VAPOR BARRIER AND SHALL BE FULLY ENCASED IN CONCRETE. PROVIDE A MINIMUM OF 1 1/2" COVER OF CONCRETE BENEATH THE CONDUITS. SUPPORT ALL CONDUITS USING PLATED CHAIRS OR BY TYING TO THE SLAB-ON-GRADE REINFORCING STEEL.
   G. FOR APPLICATIONS WITH FORMED VOIDS BENEATH THE SLAB PROVIDE MANUFACTURER'S RECOMMENDED METHOD TO BOND BARRIER TO UNDERSIDE OF CONCRETE SURFACE.

CONCRETE

1. CONCRETE SHALL BE NORMAL WEIGHT (UNLESS NOTED OTHERWISE). CONCRETE WORK SHALL CONFORM TO ACI 301-CURRENT EDITION.
2. MINIMUM COMPRESSION STRENGTHS AT 28 DAYS:

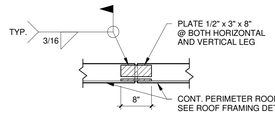
A.	ALL CONCRETE, UNLESS NOTED OTHERWISE	- 3000 PSI (MAX. 1 1/2" AGGREGATE, UNO)
B.	CONCRETE FLOOR SLABS ON GRADE	- 3500 PSI (MAX. 1 1/2" AGGREGATE)
C.	LOADING DOCK SLAB ON GRADE	- 4000 PSI (MAX. 1 1/2" AGGREGATE)
D.	SITE-CAST TILT-WALL PANELS	- 3000 PSI (MAX. 1" AGGREGATE)
E.	CONCRETE PANEL POUR STRIP	- SAME CONCRETE AS FLOOR

3. MAXIMUM WATER TO CEMENT RATIO (W/C) OF ALL CONCRETE SHALL BE 0.53.
4. AGGREGATES FOR USE IN THE FLOOR SLAB SHALL MEET THE AGGREGATE AND GRADING REQUIREMENTS OF ACI 301.2.
5. FLY ASH, WHERE USED, MAY BE SUBSTITUTED FOR PORTLAND CEMENT IN QUANTITIES NOT TO EXCEED 20 PERCENT BY FLY ASH BY MASS OF CEMENTIOUS MATERIALS. ON THIS PROJECT FLY ASH IS ONLY ALLOWED IN SITE CONCRETE AND FOUNDATION CONCRETE. FLY ASH IS NOT ALLOWED IN CONCRETE FOR THE SLAB-ON-GRADE AND TILT WALL PANELS.
6. CONCRETE FOR TROWEL-FINISHED INTERIOR CONCRETE FLOORS MADE WITH NORMAL WEIGHT AGGREGATES SHOULD NOT INCLUDE AN AIR-ENTRAINING ADMIXTURE. MAXIMUM ENTRAPPED AIR CONTENT FOR FLOOR CONCRETE SHALL BE 3 PERCENT.
7. CONCRETE FOR TILT-WALL PANELS SHALL NOT INCLUDE AN AIR-ENTRAINING ADMIXTURE. MAXIMUM ENTRAPPED AIR CONTENT FOR TILT-WALL PANELS SHALL BE 3 PERCENT.
8. HORIZONTAL CONSTRUCTION JOINTS ARE NOT PERMITTED FOR HORIZONTAL CONCRETE MEMBERS.
9. UNLESS NOTED OTHERWISE ON PLAN, ALL CONSTRUCTION JOINTS SHALL BE MADE IN THE CENTER OF SPANS WITH VERTICAL BULKHEADS.
10. PROPERLY CONSOLIDATE ALL CAST-IN-PLACE CONCRETE USING VIBRATORS DURING PLACEMENT. VIBRATE ALL CONCRETE INCLUDING THE TOP FIVE FEET OF DRILLED PIERS, FOOTINGS, GRADE BEAMS, SLABS, WALLS, COLUMNS, ETC. VIBRATE ALL CONCRETE SUCH THAT NO COLD JOINTS OR HONEYCOMBING (VOIDS) ARE PRESENT IN THE FINISHED CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST OF ANY STRUCTURAL REPAIRS TO CONCRETE DUE TO IMPROPER PLACEMENT. THE CONTRACTOR MUST PROVIDE THE ENGINEER-OF-RECORD WITH PROPOSED REPAIR MATERIALS PRIOR TO COMMENCEMENT OF ANY STRUCTURAL REPAIR WORK. THE ENGINEER MUST APPROVE IN WRITING THE PROPOSED PRODUCTS. NOTIFY THE ARCHITECT FOR ADDITIONAL INSTRUCTIONS AT ANY CONDITIONS WHERE STRUCTURAL OR COSMETIC REPAIRS ARE NECESSARY TO EXPOSED CAST-IN-PLACE CONCRETE (E.G. SLABS, WALLS, ETC.)
11. PROVIDE TWO #4 x 4'-0" LONG DIAGONAL BARS CENTERED IN SLAB AT ALL RE-ENTRANT CORNERS.

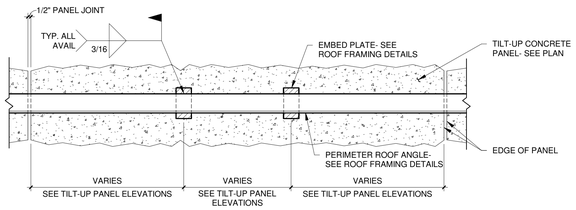
MASONRY

1. ALL CONCRETE MASONRY UNITS SHALL BE LIGHTWEIGHT ABOVE FINISHED FLOOR AND NORMAL WEIGHT BELOW GRADE. ALL HOLLOW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, TYPE 1 WITH A MINIMUM ULTIMATE COMPRESSIVE PRISM STRENGTH (F'M) OF 2,000 PSI FOR THE MASONRY ASSEMBLAGE.
2. MORTAR AT EXTERIOR WALLS, ALL LOAD-BEARING WALLS AND WALLS BELOW GRADE SHALL BE TYPE S MORTAR. MORTAR AT MASONRY VENEER SHALL BE TYPE N MORTAR. ALL MORTAR SHALL CONFORM TO ASTM C270. MASONRY CEMENT SHALL NOT BE USED FOR MORTAR.
3. ALL GROUT SHALL BE CONCRETE & HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI. MAXIMUM AGGREGATE DIAMETER SHALL BE 3/8" AND SLUMP SHALL BE 8"-11".
4. HORIZONTAL JOINT REINFORCEMENT SHALL BE LADDER TYPE CONFORMING TO ASTM A951 AND SPACED AT 16" O.C. MAX PER TMS 402.
5. ALL BOLTS, ANCHORS, REINFORCEMENT AND EMBEDDED ITEMS SHALL BE G

NOTE:
ANGLE SHALL BE CONTINUOUS ALONG THE PERIMETER OF THE ROOF. SPLICE ANGLE W/ PLATE 1/2" x 3" x 8"



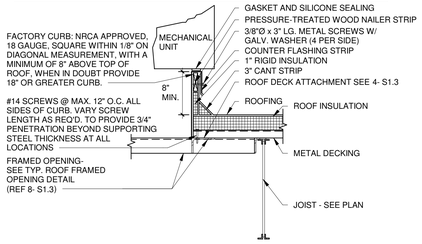
TYP. PERIMETER ROOF ANGLE SPLICE DETAIL



ELEVATION

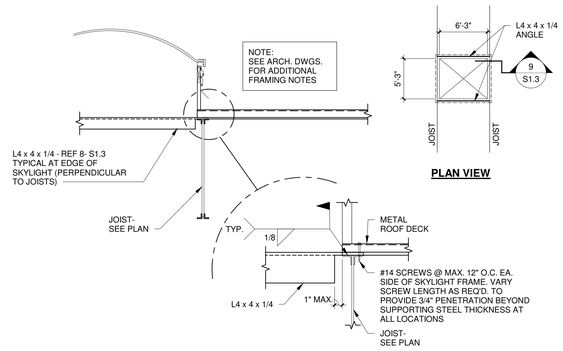
11 TYP. CONT. ANGLE CONNECTION AND SPLICE DETAIL
3/4" = 1'-0"

NOTES:
1. PROVIDE 1" x 10 GA. STEEL STRAP AT ALL CORNERS OF RTU & NOT TO EXCEED 4'-0" O.C. ATTACH EACH STRAP TO ROOF CURB WITH (4) #12 x 3" LONG GALV. SCREWS AND STRAP TO RTU WITH (4) #12 x 1" LONG SCREWS. ATTACH RTU TO ROOF CURB WITH 3/8"Ø THRU-BOLTS AT EACH CORNER.
2. RTU CURB SHALL BE SUPPORTED ON ALL 4 SIDES BY JOIST OR ADDED L6 x 4 x 3/8 (LLH) ANGLES EXTENDED TO MAIN STEEL.
3. PLACE CURB ON TOP OF ROOF DECK. CONNECT CURB THROUGH ROOF DECK TO SUPPORTING STEEL.
4. LEVEL CURB AS REQ'D. ABOVE DECK W/ TAPERED PRESSURE-TREATED BLOCKING.



10 TYP. ROOF TOP UNIT SUPPORT DETAIL
3/4" = 1'-0"

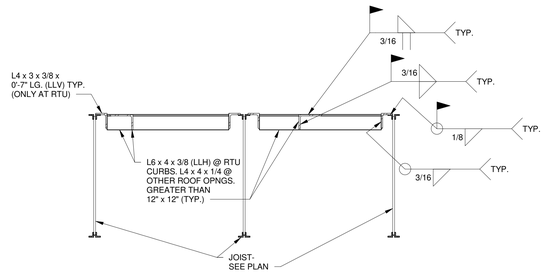
NOTE:
SEE ARCH. DWGS. FOR ADDITIONAL FRAMING NOTES



PLAN VIEW

9 TYP. SKYLIGHT FRAMING
3/4" = 1'-0"

NOTES:
1. INTERMEDIATE ANGLES WITHIN CURB PLAN AREA AT SUPPLY AND RETURN DUCT OPENINGS ARE NOT REQ'D.
2. AT L4 x 4 x 1/4 FRAMES, REMOVE CLIP ANGLES, COPE VERTICAL LEG & EXTEND
3. HORIZ. LEG OVER FRAMING - WELD ALL AROUND.
4. FOR ROOF OPENINGS 12" WIDE OR LESS (I.E.: OVER-SIZED OPENINGS FOR ROOF DRAINS), PROVIDE L2 x 2 x 1/4 FRAME AROUND OPENING & EXTEND TO JOISTS- WELD ALL AROUND.



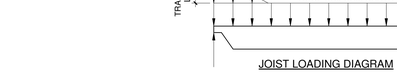
8 TYP. ROOF FRAMED OPENING DETAIL
NOT TO SCALE

BRIDGING REQUIREMENTS:
1. WHERE SKYLIGHT INTERRUPTS JOIST BRIDGING, PROVIDE ADDITIONAL 1 1/2 x 1 1/2 x 3/16 BRIDGING AS SHOWN ON EACH SIDE OF OPENING- LAP ONE JOIST BAY AT EACH END. ATTACH PER SJI BRIDGING REQUIREMENTS.
2. IF ROOF OPENING IS ADJACENT TO A JOIST GIRDER APPLY BRIDGING TO ONE SIDE ONLY.
3. IF JOIST BRIDGING IS WITHIN 1'-0" OR LESS OF SKYLIGHT OPENING, PROVIDE ADDITIONAL BRIDGING SPLICE ON ONE SIDE ONLY, NEAREST TO JOIST BRIDGING.

7 TYP. BRIDGING SPLICE AT SKYLIGHTS DETAIL
3/4" = 1'-0"

NOTE:
LOCATE ANGLE WITHIN 3" OF JOIST PANEL POINT OR INSTALL JOIST REINFORCING PER DETAIL 5- S1.3

6 TYP. SUSPENDED EQUIPMENT SUPPORT DETAIL
3/4" = 1'-0"



LOAD ON TOP CHORD

LOAD ON BOTTOM CHORD

NOTES :
1. CONTRACTOR SHALL PROVIDE JOIST REINFORCEMENT WHEN CONCENTRATED LOAD "P" IS 3" OR MORE FROM A JOIST PANEL POINT.
2. PROVIDE DIAGONAL BRACE AT LOCATION OF CONCENTRATED LOADS SUCH AS PARTITIONS, HEAVY PIPES, MECHANICAL UNITS, HEAVY LIGHTS, AND ANY OTHER CONCENTRATED LOADS THAT EXCEED 100 LBS.

5 TYP. POINT LOAD ON JOIST DETAIL
3/4" = 1'-0"

ROOF DECK FASTENING SCHEDULE

DECK FASTENER TYPE	AREA 1 PATTERN	AREA 2 PATTERN	SUITABLE BASE MATERIAL THICKNESS RANGE (in)	SIDE LAP TYPE	SPACING	REMARKS
POWDER ACTUATED HILTI X-HSN 24	36/7	36/14	1/8 TO 3/8 INCLUSIVE	HILTI S-SLC-01-M HWH SCREWS	(3) SCREWS AT (4) EQUAL SPACES BETWEEN SUPPORT FRAMING	SEE NOTES 1-3
POWDER ACTUATED HILTI X-ENP-19	36/7	36/14	THICKER THAN 1/4	HILTI S-SLC-01-M HWH SCREWS	(3) SCREWS AT (4) EQUAL SPACES BETWEEN SUPPORT FRAMING	SEE NOTES 1-3

ROOF DECK FASTENING SCHEDULE NOTES:
1. SEE 5- S1.3 FOR ROOF DIAPHRAGM AREA MAP.
2. PROVIDE ADDITIONAL DECK FASTENERS AT WALL BRACES WHERE SHOWN ON 3- S5.0 & 8- S5.0.
3. USE DECK FASTENERS AT 6" O.C. AROUND ALL ROOF OPENINGS.

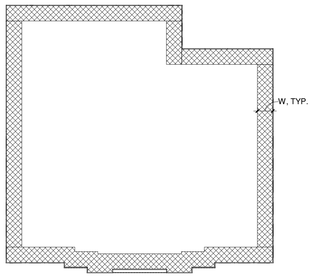
4 TYP. ROOF DECK FASTENING PATTERN DETAIL
1 1/2" = 1'-0"

NOTE:
1. SEE4- S1.3 FOR ROOF DECK FASTENING SCHEDULE.

ROOF DIAPHRAGM AREA LEGEND:

AREA 1

AREA 2, W = 16 ft

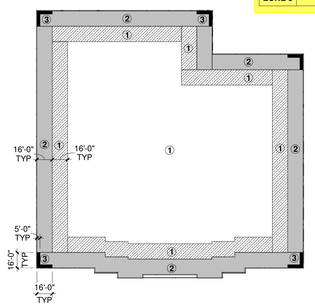


3 ROOF DIAPHRAGM AREA MAP
NOT TO SCALE

NOTES:
1. WIND PRESSURES ARE BASED ON EWA = 100 ft².
2. (+) DENOTES WIND DOWNWARD
   A. FACTORED USING 0.6W
3. (-) DENOTES NET WIND UPLIFT
   A. FACTORED USING 0.6W+0.6D
   B. MAX UPLIFT DEAD LOAD USED = 12 psf

ROOF WIND ZONE PRESSURES (PSF)

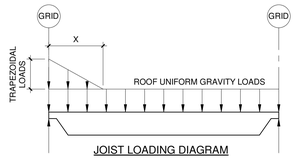
	DOWNWARD (0.6 W)	NET UPLIFT (0.6D + 0.6 W)
ZONE 1'	+12.2	-12.2
ZONE 1	+12.2	-19.2
ZONE 2	+12.2	-27.8
ZONE 3	+12.2	-34.4



2 WIND PRESSURE PLAN
NOT TO SCALE

JOIST SCHEDULE

MARK	DEPTH	TYPE	UNIFORM GRAVITY LOADS (PLF)				TRAPEZOIDAL LOADS (PLF)	
			ROOF DEAD	ROOF LIVE	SNOW LOAD	WIND UPLIFT	SNOW DRIFT LOAD	X (FT)
J1	28"	KSP	120	120	318	-226	-----	-----
J2	28"	KSP	120	120	126	-226	192	14.25
J3	28"	KSP	130	130	137	-245	475	16.25
J4	28"	KSP	120	120	126	-226	-----	-----
J5	28"	KSP	130	130	137	-245	-----	-----



JOIST LOADING DIAGRAM

JOIST AXIAL LOAD SCHEDULE

MARK	AXIAL LOADS (+/- KIPS) (FACTORED)	
	SOURCE	TOP CHORD
A	WIND	2.4
B	WIND	5.5
C	WIND	8.1
D	WIND	1.2
E	WIND	1.2

NOTE:
1. WIND FACTORED USING 0.6W

1 JOIST SCHEDULES
NOT TO SCALE

STEEL DECK GENERAL NOTES

1. ROOF DECK SHALL BE FACTORY MUTUAL GLOBAL APPROVED 1 1/2" DEEP, 20 GAUGE, GRADE 50, TYPE B METAL DECK G-60 GALVANIZED (MIN SECTION MODULUS = .227 IN^3).
2. DECK STEEL SHALL CONFORM TO THE STEEL DECK INSTITUTE (SDI) AND ASTM A653 FOR GALVANIZED DECK.
3. ALL ROOF DECK SHALL BE CAPABLE OF WITHSTANDING THE FM GLOBAL WIND PRESSURES AND RATINGS SHOWN ON S1.0.
4. ROOF DECK SHALL BE ATTACHED TO THE STEEL FRAMING PER THE ROOF DECK FASTENING PATTERN DETAIL 4/S1.3.
5. DECK SPECIFIED HAS BEEN DETERMINED BASED ON A 3 SPAN CONDITION.
   A. PROVIDE 2 LAYERS OF ROOF DECK WHERE 1 AND 2 SPAN CONDITIONS EXIST.
   B. MAKE DECK CONNECTIONS AFTER PLACEMENT OF BOTH LAYERS OF ROOF DECK.

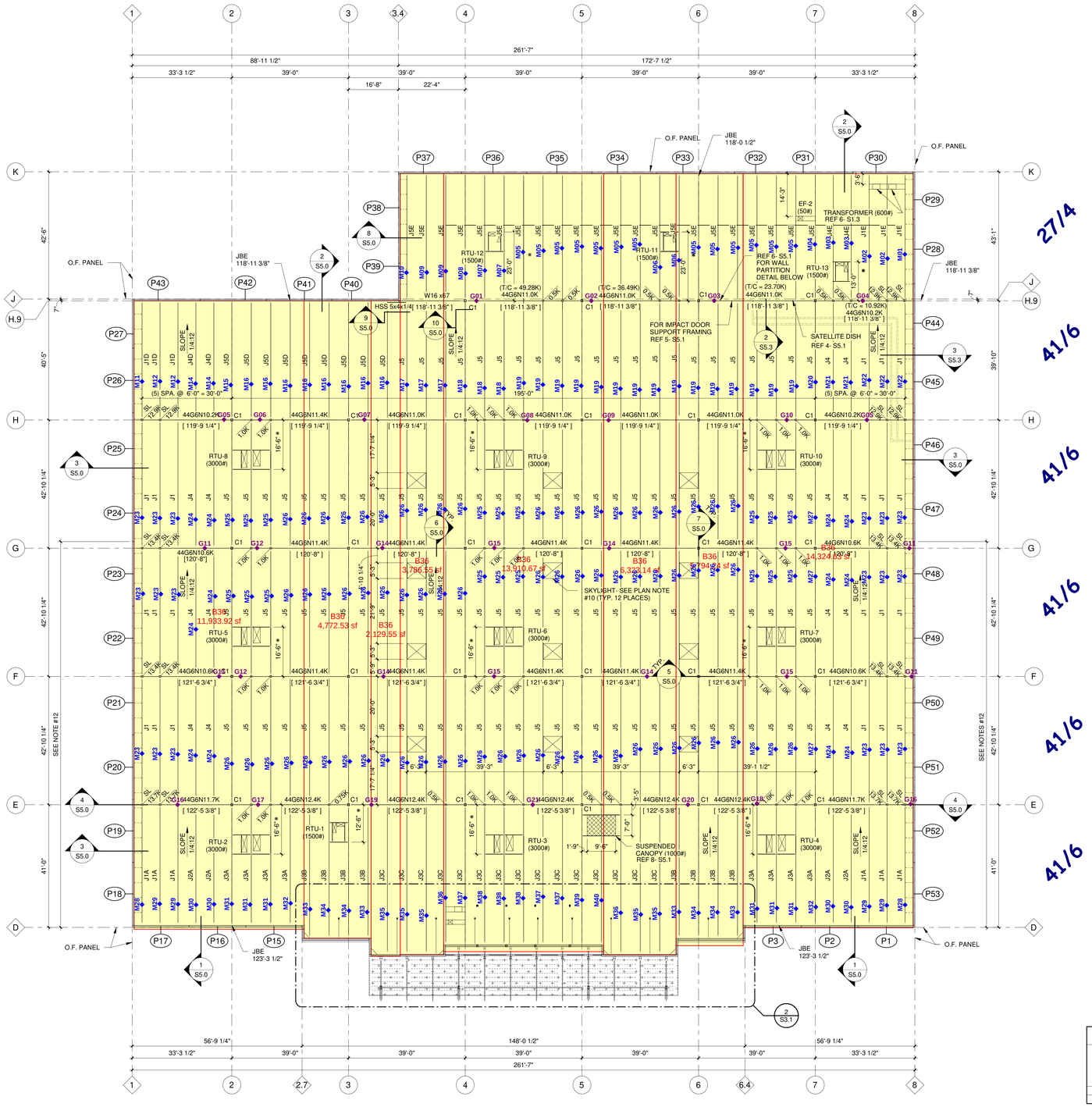
STEEL JOIST GENERAL NOTES

1. THE DESIGN, FABRICATION AND ERECTION OF STEEL JOISTS SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE FOR OPEN WEB STEEL JOISTS.
2. ALL HANGERS SUPPORTED FROM OPEN WEB JOISTS SHALL BE LOCATED AT PANEL POINTS AND SHALL BE CONNECTED WITHOUT FIELD WELDING OR DRILLING HOLES IN THE BOTTOM CHORD.
3. JOISTS SHALL HAVE BRIDGING PER SJI SPECIFICATIONS. ROOF JOISTS SHALL HAVE ADDITIONAL BRIDGING, AS REQUIRED TO RESIST STRESS REVERSAL FOR THE NET UPLIFT LOADS INDICATED. DO NOT RUN BRIDGING THROUGH SKYLIGHTS (SEE 7/S1.3).
4. "K" JOISTS FRAMING INTO OR NEAREST TO COLUMNS SHALL BE FIELD BOLTED WITH (2) 1/2" DIAMETER A307 BOLTS AND HAVE A BOTTOM CHORD STABILIZER PLATE TO PROVIDE LATERAL STABILITY DURING CONSTRUCTION. DO NOT WELD BOTTOM CHORD TO STABILIZER PLATE.
5. ALL LOADS SHOWN IN THE JOIST SCHEDULE AND ON OTHER DRAWINGS ARE DESIGN WORKING LOADS FOR ALLOWABLE STRESS DESIGN (ASD) WITH APPROPRIATE BUILDING CODE LOAD FACTORS ALREADY APPLIED. NO INCREASE IN STRESS OR LOAD REDUCTION IS ALLOWED FOR WIND OR SEISMIC LOAD COMBINATIONS.
6. UNIFORM GRAVITY AND TRAPEZOIDAL LOADS SHOWN IN THE JOIST SCHEDULE HAVE BEEN GENERATED BASED ON THE DESIGN LOADS SHOWN ON S1.0.
7. JOIST MFR. SHALL ALSO DESIGN JOISTS FOR THE FOLLOWING:
   A. WIND DOWNWARD AND NET UPLIFT LOADS SHOWN ON THIS DWG.
   B. MECHANICAL EQUIPMENT AND OTHER LOADS SHOWN ON THE ROOF FRAMING PLAN AND FRAMING SECTIONS.
8. JOISTS SHALL RESIST THE MOST CRITICAL EFFECTS FROM THE LOAD COMBINATIONS LISTED IN THE BUILDING CODE.
9. THE LIVE LOAD DEFLECTION LIMIT IS L/240.
10. PROVIDE 5" SEATS AT ALL JOISTS, U.N.O.

STEEL JOIST GIRDER GENERAL NOTES

1. THE DESIGN, FABRICATION AND ERECTION OF STEEL JOIST GIRDERS SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE FOR OPEN WEB STEEL JOIST GIRDERS.
2. JOIST GIRDERS SHALL BE FIELD BOLTED WITH 3/4"Ø A307 BOLTS AND HAVE A BOTTOM CHORD STABILIZER PLATE TO PROVIDE LATERAL STABILITY DURING CONSTRUCTION. DO NOT WELD BOTTOM CHORD TO STABILIZER PLATE.
3. JOIST GIRDER PANEL POINT LOADS SHOWN ON THE PLANS HAVE BEEN GENERATED BASED ON THE DESIGN LOADS SHOWN ON S1.0. PANEL POINT LOADS DO NOT INCLUDE JOIST GIRDER SELF-WEIGHT.
4. JOIST MFR. SHALL ALSO DESIGN JOIST GIRDERS FOR THE FOLLOWING:
   A. MECHANICAL EQUIPMENT AND OTHER LOADS SHOWN ON THE ROOF FRAMING PLAN AND FRAMING SECTIONS.
5. NO INCREASE IN STRESS IS ALLOWED FOR WIND OR SEISMIC LOAD COMBINATIONS.
6. JOIST GIRDERS SHALL RESIST THE TORSIONAL FORCES INDUCED WHEN UNEQUAL LENGTH JOISTS OR UNEQUAL LOADS BEAR ON OPPOSITE SIDES OF THE SAME JOIST GIRDER. ANY ADDITIONAL BOTTOM CHORD BRACING REQUIRED TO RESIST TORSIONAL FORCES MUST BE DESIGNED AND SPECIFIED ON THE JOIST GIRDER SUBMITTAL BY THE JOIST GIRDER MANUFACTURER.
7. JOIST GIRDERS SHALL HAVE BOTTOM CHORD BRACES AS REQUIRED BY THE JOIST MANUFACTURER. BOTTOM CHORD BRACES MAY BE EITHER WELDED OR BOLTED TO THE JOIST GIRDER AND WELDED TO THE JOIST BOTTOM CHORD.
8. JOIST GIRDERS SHALL RESIST THE MOST CRITICAL EFFECTS FROM THE LOAD COMBINATIONS LISTED IN THE BUILDING CODE.
9. THE LIVE LOAD DEFLECTION LIMIT IS L/240.
10. PROVIDE 7 1/2" SEATS AT ALL JOIST GIRDERS, U.N.O..

Joist Description	Quantity
G01	1
G02	1
G03	1
G04	1
G05	2
G06	1
G07	1
G08	1
G09	1
G10	1
G11	4
G12	2
G14	4
G15	4
G16	2
G17	1
G18	1
G19	1
G20	1
G21	1
M01	1
M02	2
M03	2
M04	1
M05	13
M06	2
M07	2
M08	1
M09	2
M10	1
M11	1
M12	2
M14	2
M15	1
M16	8
M17	3
M18	3
M19	15
M20	1
M21	2
M22	3
M23	18
M24	12
M25	18
M26	72
M27	3
M28	2
M29	4
M30	4
M31	6
M32	2
M33	4
M34	4
M35	5
M36	2
M37	3
M38	3
M39	1
M40	1



1 ROOF FRAMING PLAN

1/16" = 1'-0"

Qualifications:

Deck section properties used.

Exclusions:

Hanger Tabs, Flexible Rubber Closure
Architectural drawing.
Material for frames @ openings
Sump pans, HILTI Power Actuated Fasteners.
Deck over Canopy per S3.1
Load from Satellite dish support.
Load from brace connection, Wall brace, door support & Partition wall.
Load from Vertical track per 2/S5.3 & similar.
Research & evaluation reports.

TOTAL DECK:

1.5B, 20Ga, G60 = 643 SQ

ACCESSORIES

#10TEK SCREW = 15 BOX

LEGEND

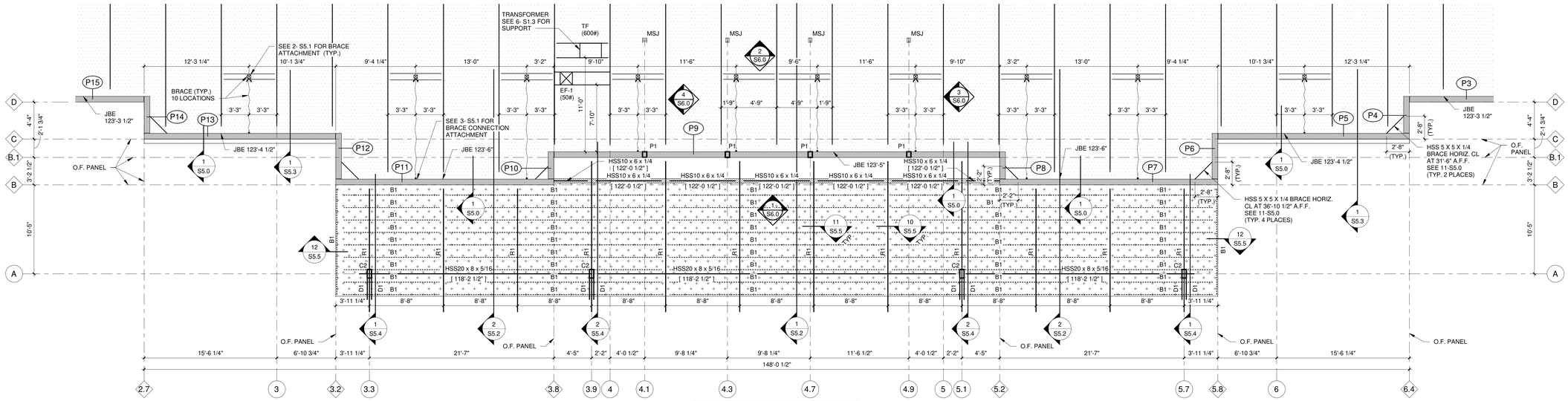
C1	COLUMN MARK (SEE COL. SCHEDULE ON THIS SHEET)
O.F.	DENOTES OUTSIDE FACE
JBE	DENOTES JOIST BEARING ELEVATION
J1	DENOTES JOIST MARK REF 1- S1.3
[122'-5 3/8"]	DENOTES TOP OF JOIST GIRDER/BEAM ELEVATION
1.5K	DENOTES ADDITIONAL CONCENTRATED DEAD LOAD FROM MECHANICAL EQUIPMENT
SN 12.7K	DENOTES ADDITIONAL CONCENTRATED LOAD FROM SNOW DRIFT
	DENOTES LIMITS OF 1 1/2" ROOF DECK (SEE PLAN NOTE #1)
	DENOTES LIMITS OF CANOPY ROOF DECK (REF 9- S5.5)
SLOPE 1/4:12	DENOTES DIRECTION & PITCH OF ROOF SLOPE (COORD. W/ ARCH.)
	DENOTES FRAMED OPENING IN ROOF- COORDINATE SIZE & LOCATION WITH MECH. CONTRACTOR REF 8- S1.3
(3000#)	DENOTES EQUIPMENT WEIGHT IN POUNDS
	DENOTES TILT-UP CONCRETE PANEL
*	DENOTES DIMENSION TO BE COORDINATED WITH MECH. DWGS.
	DENOTES L3 x 3 x 1/4 WALL BRACE @ EA. EMBED PL
P1	DENOTES PANEL MARK
	DENOTES FRAMED ROOF OPENING FOR SKYLIGHTS- COORDINATE SIZE & LOCATION WITH ARCH. (SEE DTLS. 8- S1.3 AND 9- S1.3)
	DENOTES DIAGONAL HSS5 x 5 x 1/4 KICKER
P1	DENOTES HSS8 x 6 x 1/4 POST (SEE FRAMING ELEVATIONS FOR EXACT LOCATIONS)
MSJ	DENOTES METAL STUD JAMB
B1	DENOTES HSS7 x 3 x 1/4 BEAM (SEE PARTIAL ROOF FRAMING PLAN ON 2/S3.1 FOR EXACT LOCATION)
D1	DENOTES HSS8 x 3 x 1/4 BRACE (SEE PARTIAL ROOF FRAMING PLAN ON 2/S3.1 FOR EXACT LOCATION)
R1	DENOTES HSS10 x 6 x 1/4 RAFTER (SEE PARTIAL ROOF FRAMING PLAN ON 2/S3.1 FOR EXACT LOCATION)

ROOF FRAMING PLAN NOTES

1. ROOF DECK: 1 1/2" DEEP, 20 GAUGE TYPE B DECK, GALVANIZED WIDE RIB STEEL DECK. (SEE STEEL DECK GENERAL NOTES FOR ATTACHMENT REQUIREMENTS).
2. TOP OF STEEL DENOTES TOP OF MAIN STEEL.
3. TOP OF STEEL EL. VARIES- SEE PLAN.
4. TOP OF JOIST EL. (+5"), UNLESS NOTED OTHERWISE.
5. ALL ELEVATIONS BASED ON FINISH FLOOR EL. 100'-0". REF CIVIL FOR ACTUAL FINISH FLOOR ELEVATION.
6. SEE DWG. S1.0 FOR GENERAL NOTES.
7. SEE FOUNDATION PLAN & ARCHITECTURAL DWGS. FOR DIMENSIONS NOT SHOWN.
8. COORDINATE SIZE AND LOCATION OF SKYLIGHT OPENINGS WITH ARCH. DRAWINGS.
9. COORDINATE JOIST BRIDGING LOCATIONS WITH SKYLIGHT LOCATIONS TO CLEAR SKYLIGHTS. (REF 7- S1.3 FOR MORE INFORMATION).
10. SEE 8- S1.3 & 9- S1.3 FOR SKYLIGHT FRAMING.
11. SEE 8- S1.3 & 10- S1.3FOR RTU & ROOF OPENING FRAMING.
12. JOIST SUPPLIER SHALL USE X-BRACING TERMINATION WHERE SHOWN ON PLANS SO BRIDGING DOES NOT INTERFERE WITH CLEAR STORY WINDOWS.

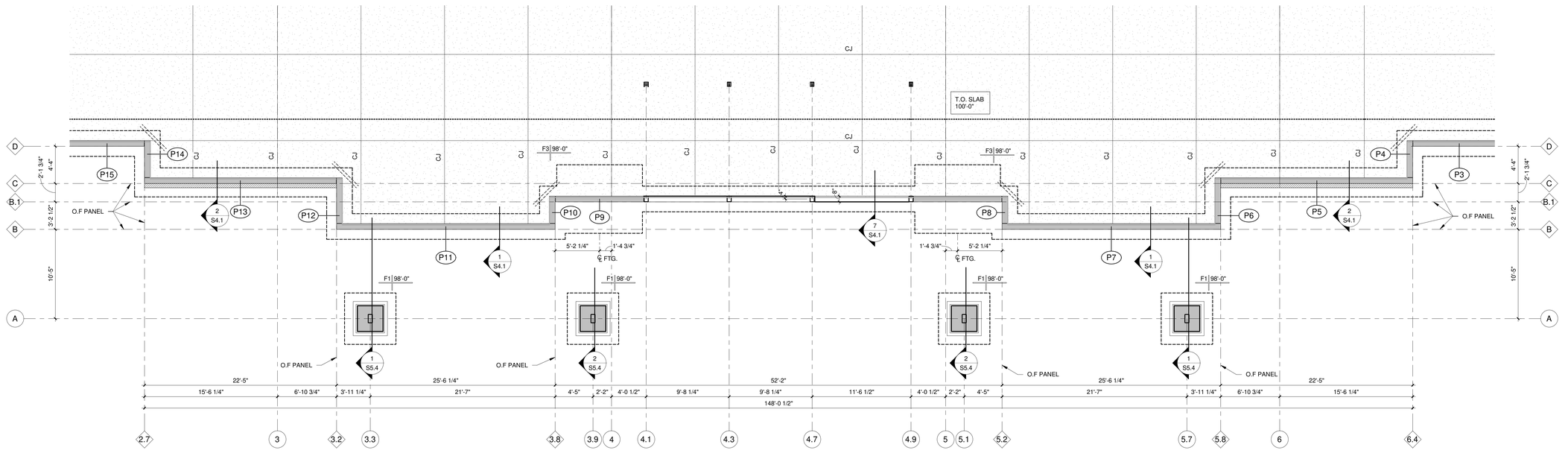
COLUMN SCHEDULE

COLUMN MARK	COLUMN SIZE	BASE PL SIZE t x B x D	BASE PL TYPE (SEE DTL. 6/S4.0)	ANCHOR RODS (SEE DTL. 5/S4.0)	BOTT. BASE PL EL.	CAP PL THICKNESS	REMARKS
C1	HSS8 x 8 x 1/4	1" x 17" x 17"	I	(4) 1" DIA.	99'-2"	3/4"	-----
C2	HSS12 x 6 x 1/4	1" x 20" x 14"	II	(4) 1" DIA.	102'-10"	3/4"	-----



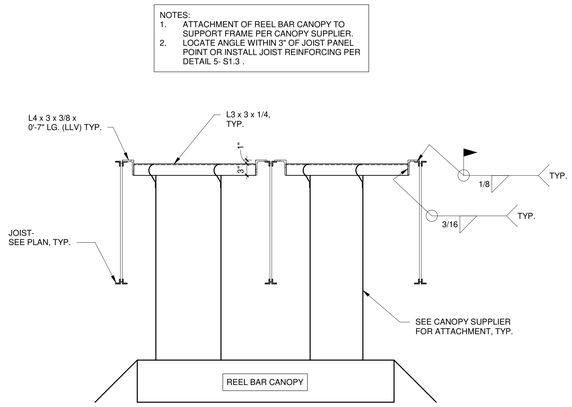
2 PARTIAL ROOF FRAMING PLAN

3/16" = 1'-0"

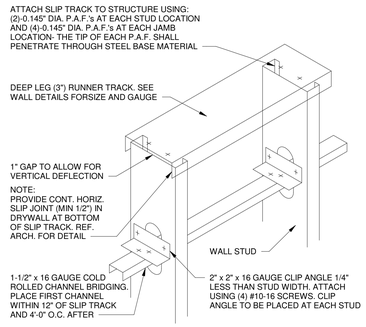


1 PARTIAL FOUNDATION PLAN

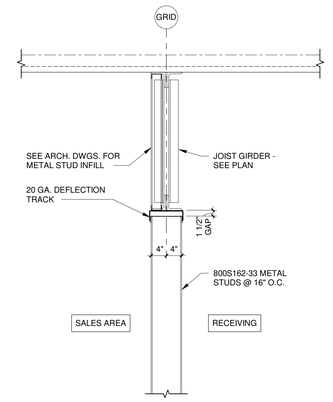
3/16" = 1'-0"



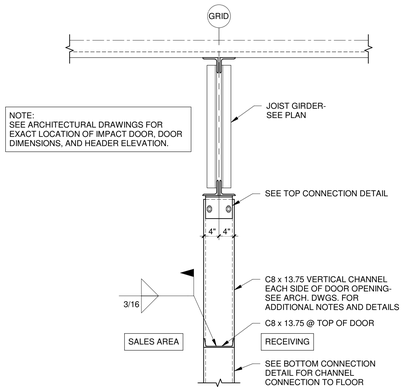
8 REEL CANOPY SUPPORT FRAME
NOT TO SCALE

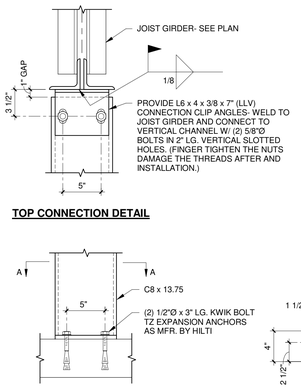


7 SLIP TRACK AND STUD BRIDGING CONNECTION DETAIL
NOT TO SCALE

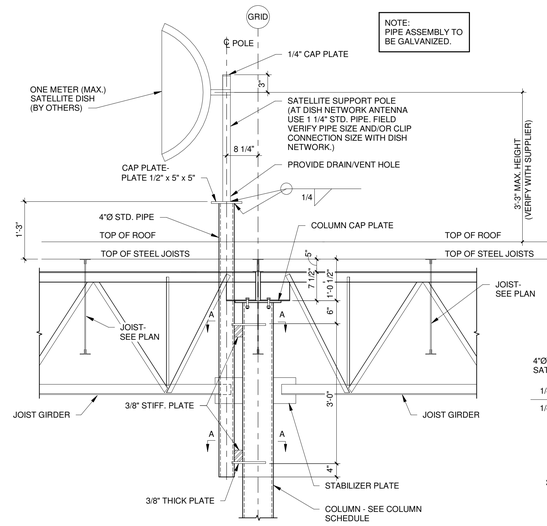


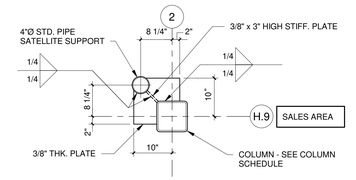
6 TYP. WALL PARTITION DETAIL
3/4" = 1'-0"





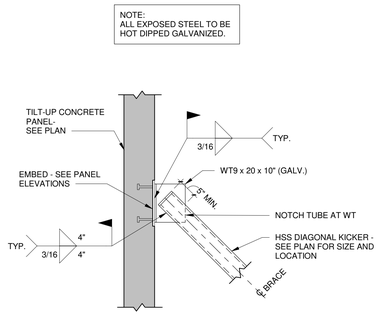
5 TYP. INTERIOR IMPACT DOOR SUPPORTING FRAMING
3/4" = 1'-0"



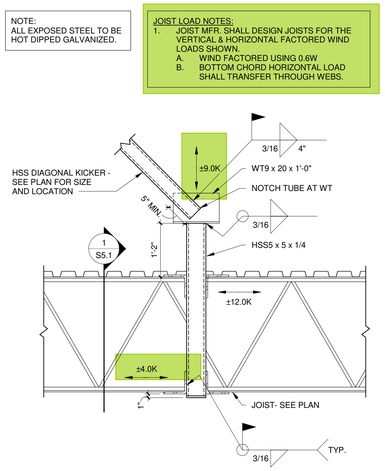


SATELLITE DISH SUPPORT — "A-A"

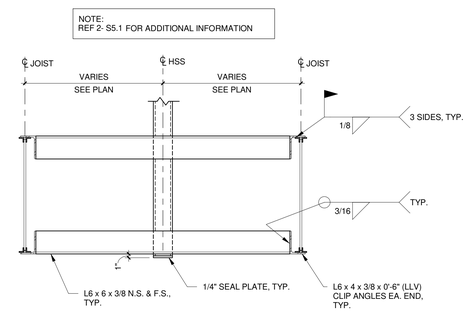
4 SATELLITE DISH SUPPORT DETAIL
NOT TO SCALE



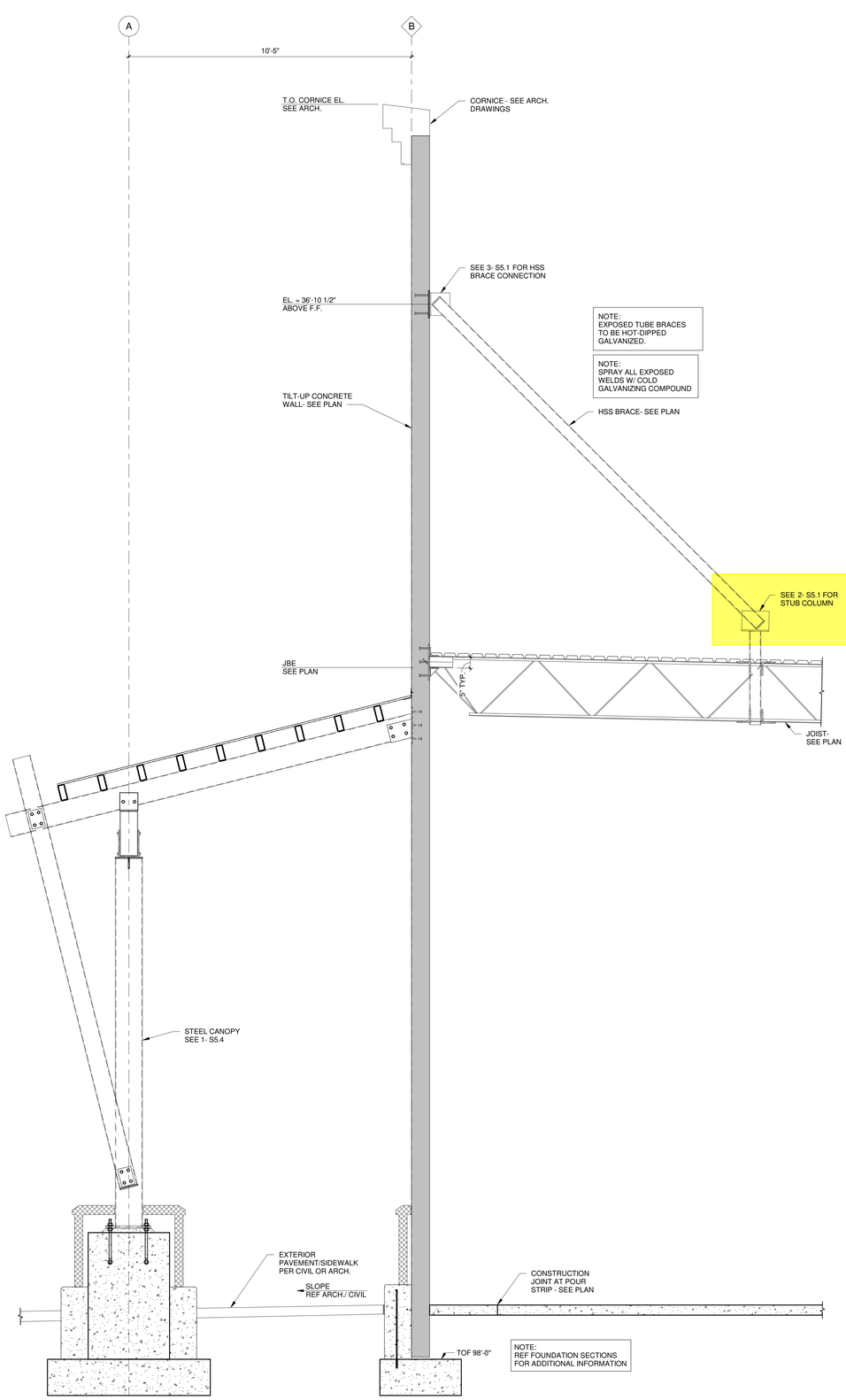
3 HSS CONNECTION AT PANEL DETAIL
NOT TO SCALE



2 BRACE CONNECTION DETAIL
NOT TO SCALE

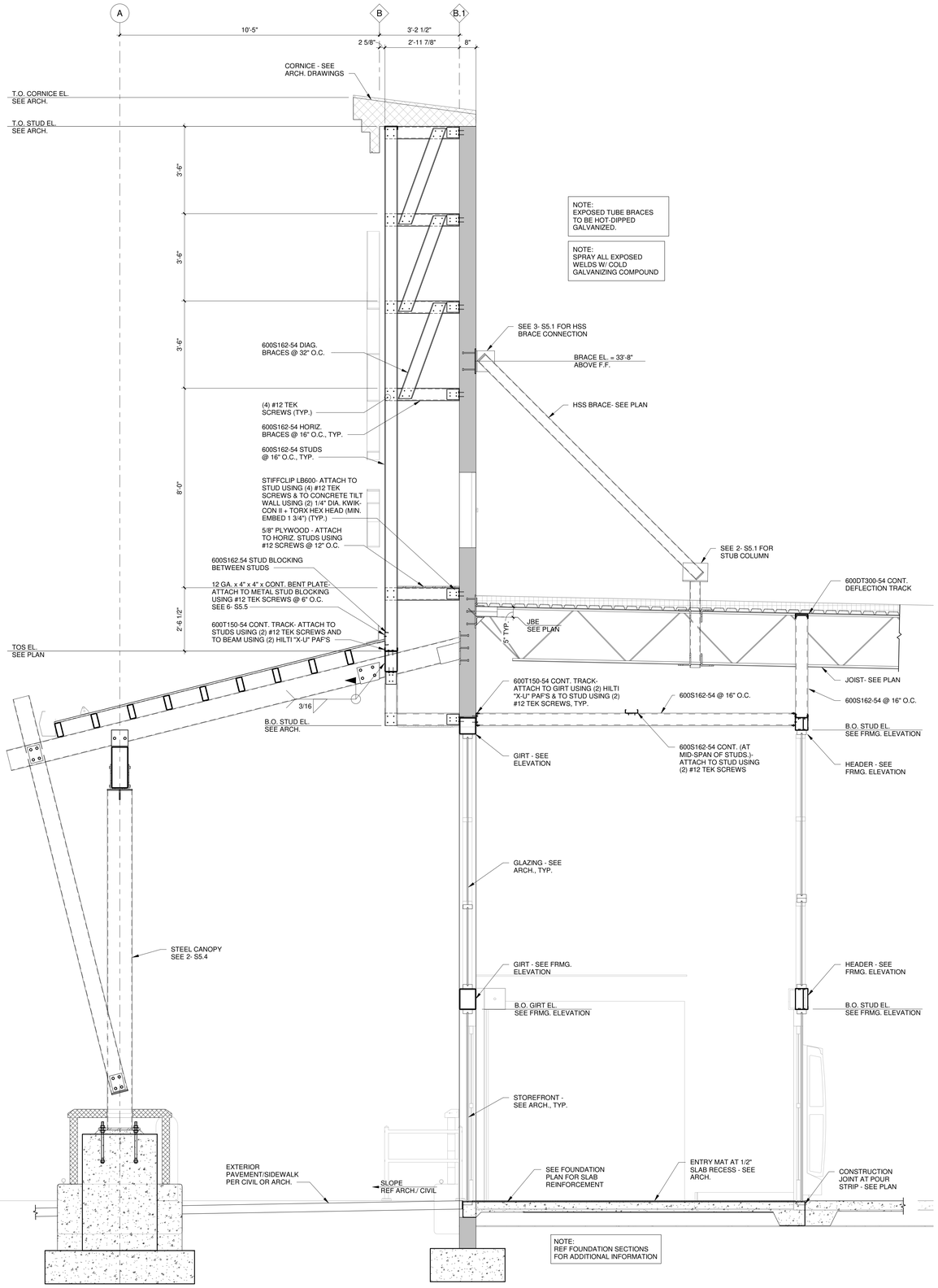


1 BRACE CONNECTION SECTION
NOT TO SCALE



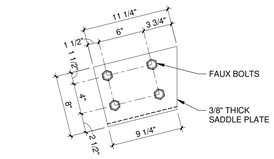
2 SECTION AT FRONT ENTRY

1/2" = 1'-0"

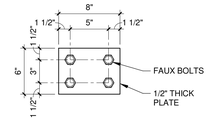


1 SECTION AT FRONT ENTRY

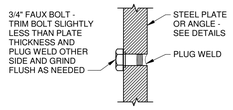
1/2" = 1'-0"



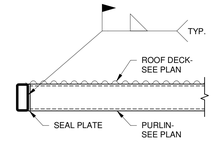
15 SADDLE PLATE
1 1/2" = 1'-0"



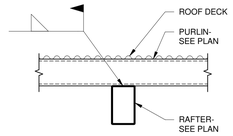
14 PLATE
1 1/2" = 1'-0"



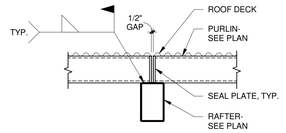
13 TYP. FAUX BOLT DTL.
NOT TO SCALE



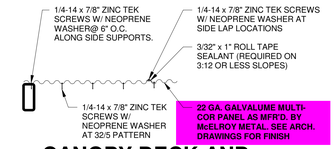
12 SECTION
NOT TO SCALE



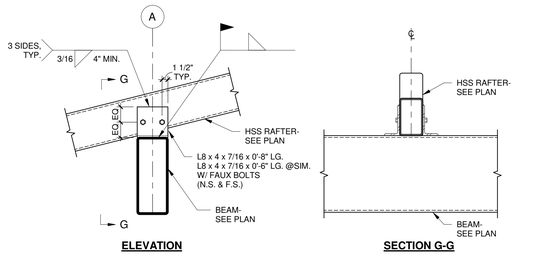
11 SECTION
NOT TO SCALE



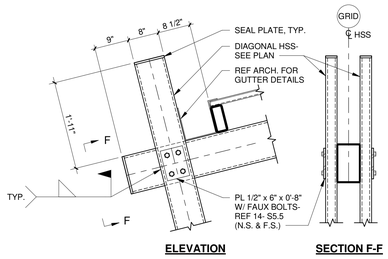
10 SECTION
NOT TO SCALE



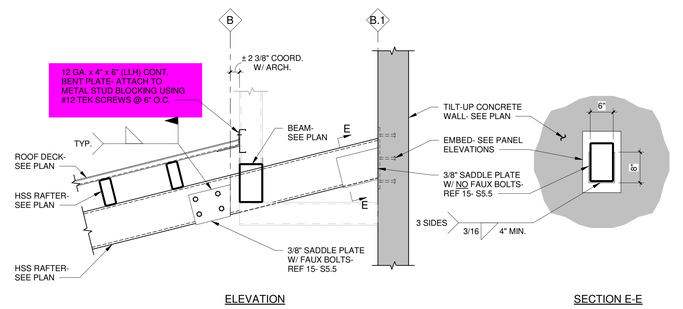
9 CANOPY DECK AND ATTACHMENT DETAIL
NOT TO SCALE



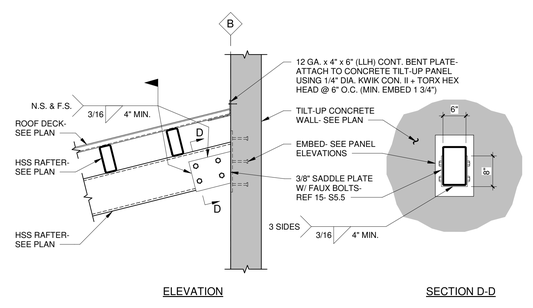
8 SECTION
NOT TO SCALE



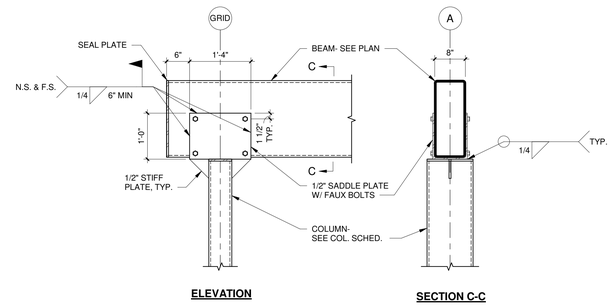
7 SECTION
NOT TO SCALE



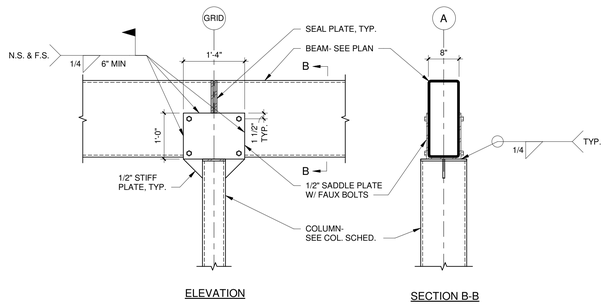
6 SECTION
3/4" = 1'-0"



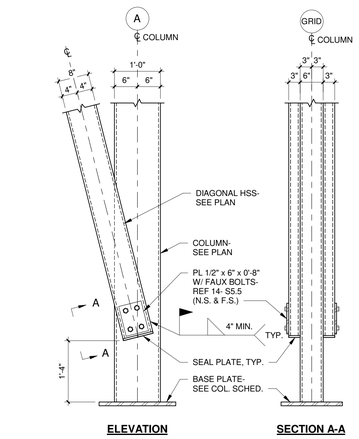
5 SECTION
3/4" = 1'-0"



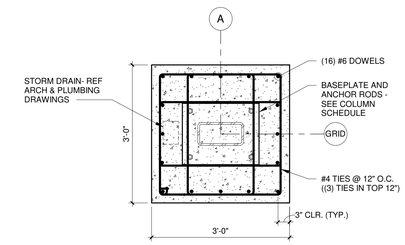
4 SECTION
NOT TO SCALE



3 SECTION
NOT TO SCALE



2 SECTION
NOT TO SCALE



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

JOISTS

NOTES :

LL DEFL **L/240** TL DEFL JOIST SPACING

DWG	MARK	QTY	BCX	DESIGNATION	SPAN	SPACE	NU PSF	TCX L	TCX R	COMMENTS
	M01	1		J1E	42'-11"	6'	27.8			1, 2, 3, 4
	M02	2		J1E	42'-11"	6'	27.8			1, 2, 3, 5
	M03	2		J4E	42'-11"	6'	19.2			1, 2, 7, 6, 58
	M04	1	1	J5E	42'-11"	6'	19.2			1, 2, 7, 58
	M05	13	2	J5E	42'-11"	6.5'	12.2			1, 2, 13, 58
	M06	2		J5E	42'-11"	6.5'	12.2			1, 2, 13, 9, 58
	M07	2		J5E	42'-11"	6.5'	19.2			1, 2, 12, 9, 58
	M08	1	1	J5E	42'-11"	6.5'	19.2			1, 2, 12, 58
	M09	2		J5E	42'-11"	6.5'	27.8			1, 2, 11, 58
	M10	1		J5E	42'-11"	6.5'	27.8			1, 2, 10, 58
	M11	1		J1D	40'-3"	6'	27.8			1, 2, 4
	M12	2		J1D	40'-3"	6'	27.8			1, 2, 5
	M14	2		J4D	40'-3"	6'	19.2			1, 2, 7, 58
	M15	1	1	J5D	40'-3"	6.5'	19.2			1, 2, 12, 58
	M16	8	1	J5D	40'-3"	6.5'	12.2			1, 2, 13, 58
	M17	3		J5	39'-10"	6.5'	12.2			1, 13, 58
	M18	3	1	J5	39'-10"	6.5'	12.2			1, 14, 58
	M19	15	2	J5	39'-10"	6.5'	12.2			1, 58
	M20	1	1	J5	39'-10"	6.5'	19.2			1, 58
	M21	2		J4	39'-10"	6'	19.2			1, 58
	M22	3		J1	39'-10"	6'	27.8			1
	M23	18		J1	42'-10 1/4"	6'	27.8			1
	M24	12		J4	42'-10 1/4"	6'	19.2			1, 58
	M25	18	2	J5	42'-10 1/4"	6.5'	12.2			1, 15, 58
	M26	72	13	J5	42'-10 1/4"	6.5'	12.2			1, 58
	M27	3	3	J5	42'-10 1/4"	6.5'	19.2			1, 58
	TOTAL	191	28							

JOISTS

NOTES : **0**

LL DEFL **L/240** TL DEFL _____ JOIST SPACING **0**

DWG	MARK	QTY	BCX	DESIGNATION	SPAN	SPACE	NU PSF	TCX L	TCX R	COMMENTS
	J28	2		J1A	40'-9"	6'	27.8			1, 16, 4
	J29	4		J1A	40'-9"	6'	27.8			1, 16, 5
	J30	4		J2A	40'-9"	6'	27.8			1, 16, 7, 58
	J31	6	1	J3A	40'-9"	6.5'	12.2			1, 16, 13, 17, 58
	J32	2	1	J3A	40'-9"	6.5'	12.2			1, 16, 13, 58
	J33	4		J3B	45'-0"	6.5'	12.2			1, 18, 13, 58
	J34	4	2	J3B	45'-0"	6.5'	12.2			1, 18, 13, 19, 20, 58
	J35	5		J3C	50'-5"	6.5'	12.2			1, 21, 13, 20, 58
	J36	2		J3C	50'-5"	6.5'	12.2			1, 21, 13, 20, 22, 58
	J37	3	1	J3C	47'-3"	6.5'	12.2			1, 21, 13, 20, 58
	J38	3		J3C	47'-3"	6.5'	12.2			1, 21, 13, 20, 17, 58
	J39	1	1	J3C	47'-3"	6.5'	12.2			1, 21, 13, 20, 22, 58
	J40	1		J3C	47'-3"	6.5'	12.2			1, 21, 13, 20, 22, 58
TOTAL	41	6								

NOTES

1	FOR JOIST DESIGNATION SEE 1/S1.3, BDL & BDR = 5"		
2	WIND AXIAL LOAD 1.2K(F) @ TC TRANSFER THRU SEAT		
3	0.2K load from Suspended equipment, See 6/S1.3		
4	add'l PNU= 40PLF for 16'-0" FTE.		
5	add'l PNU= 40PLF for 5'-0" FTE.		
6	Add'l 0.5K due to RTU @ 6'-6" & 13'-0" from RE.		
7	add'l PNU= 51PLF for 16'-0" FTE.		
8	add'l PNU= 42PLF for 32'-0" & 51PLF for 16'-0" FTE.		
9	Add'l 0.5K due to RTU @ 16'-6" & 23'-0" from RE.		
10	add'l PNU= 43PLF for 16'-0" FTE.		
11	add'l PNU= 43PLF for 5'-0" FTE.		
12	add'l PNU= 56PLF for 16'-0" FTE.		
13	add'l PNU= 45PLF for 32'-0" & 56PLF for 16'-0" FTE.		
14	add'l PNU= 45PLF for 32'-0" FTE.		
15	Add'l 0.85K due to RTU @ 10'-1" & 16'-6" from TE.		
16	WIND AXIAL LOAD 2.4K(F) @ TC TRANSFER THRU SEAT		
17	Add'l 0.85K due to RTU @ 10'-1" & 16'-6" from RE.		
18	WIND AXIAL LOAD 5.5K(F) @ TC TRANSFER THRU SEAT		
19	Add'l 0.5K due to RTU @ 6'-0" & 12'-6" from RE.		
20	See 2/S5.1 for brace loading (Top & Bott. Chord axial+Up & Down).		
21	WIND AXIAL LOAD 8.1K(F) @ TC TRANSFER THRU SEAT		
22	Add'l 0.5K due to Canopy @ 3'-5" & 10'-5" from RE.		
58	Add'l 26PLF LIVE LOAD @ TC (FOR DOWNWORD WIND)		

GIRDER

DWG	MARK	QTY	BCX	DESIGNATION	SPAN	NU	TCX L	TCX R	COMMENTS
	G01	1	1	44G6N11.0K	39'-0"				23, 24, 25, 26, 40, 48, 54
	G02	1	1	44G6N11.0K	39'-0"				23, 24, 26, 27, 40, 48, 55
	G03	1	1	44G6N11.0K	39'-0"				23, 24, 27, 40, 48, 56
	G04	1	1	44G6N10.2K	33'-3 1/2"				23, 28, 29, 30, 40, 49, 57
	G05	2	2	44G6N10.2K	33'-3 1/2"				23, 28, 31, 32, 40, 49
	G06	1	1	44G6N11.4K	39'-0"				23, 24, 33, 27, 40, 50
	G07	1	1	44G6N11.0K	39'-0"				23, 24, 27, 40, 48
	G08	1	1	44G6N11.0K	39'-0"				23, 24, 34, 35, 40, 48
	G09	1	1	44G6N11.0K	39'-0"				23, 24, 36, 40, 48
	G10	1	1	44G6N11.0K	39'-0"				23, 24, 36, 34, 40, 48
	G11	4	4	44G6N10.6K	33'-3 1/2"				23, 28, 37, 38, 40, 51
	G12	2	2	44G6N11.4K	39'-0"				23, 24, 39, 33, 40, 50
	G14	4	4	44G6N11.4K	39'-0"				23, 24, 39, 40, 50
	G15	4	4	44G6N11.4K	39'-0"				23, 24, 39, 34, 40, 50
	G16	2	2	44G6N11.7K	33'-3 1/2"				23, 28, 40, 41, 32, 52
	G17	1	1	44G6N12.4K	39'-0"				23, 24, 40, 42, 43, 53
	G18	1	1	44G6N12.4K	39'-0"				23, 24, 40, 34, 43, 53
	G19	1	1	44G6N12.4K	39'-0"				23, 24, 40, 44, 45, 53
	G20	1	1	44G6N12.4K	39'-0"				23, 24, 40, 46, 45, 53
	G21	1	1	44G6N12.4K	39'-0"				23, 24, 40, 34, 47, 53
			0						
			0						
			0						
			0						
			0						
			0						
			0						
			0						

TOTAL	0	32

NOTES

23	Add girder self-weight.	54	49.28K AXIAL (WIND-SESMIC) @ TC TRANSFER THRU WELD PLATE
24	Panel point spacing = 6'-6" each	55	36.49K AXIAL (WIND-SESMIC) @ TC TRANSFER THRU WELD PLATE
25	NU = 5.31K @ PP1, PP2, 4.4K PP3 TO REST FTE.	56	23.7K AXIAL (WIND-SESMIC) @ TC TRANSFER THRU WELD PLATE
26	Add'l load 0.5K @ PP1 & PP2 FTE	57	10.92K AXIAL (WIND-SESMIC) @ TC TRANSFER THRU WELD PLATE
27	NU = 4.4K @ each PP.		
28	Panel point spacing = 6'-0" each from TE.		
29	Add'l load 0.5K @ PP1 & PP2 and 12.9K (SL) @ PP4 & PP5 FTE.		
30	NU = 5.31K @ PP1, PP2, 7.45K PP3 TO REST FTE.		
31	Add'l load 12.9K (SL) @ PP4 & PP5 FTE.		
32	NU = 4.96K @ PP1, PP2, 6.96K PP3 TO REST FTE.		
33	Add'l load 1.0K @ PP1 & PP2 FTE		
34	Add'l load 1.0K @ PP1, PP2 & PP3 FTE		
35	NU = 4.22K @ PP1, PP2, 3.3K PP3 TO REST FTE.		
36	NU = 3.3K @ each PP.		
37	NU = 4.94K @ PP1, PP2, 7.15K PP3 TO REST FTE.		
38	Add'l load 13.4K (SL) @ PP4 & PP5 FTE.		
39	NU = 3.4K @ each PP.		
40	LL deflection = L/240		
41	Add'l load 13.7K (SL) @ PP4 & PP5 FTE.		
42	Add'l load 1.0K @ PP1 & PP2 and 0.75K @ PP5 FTE.		
43	NU = 4.43K @ PP1 to PP3, 4.65K PP4 TO REST FTE.		
44	Add'l load 0.5K @ PP5 FTE.		
45	NU = 4.65K @ PP1, 4.96k @ PP2 to PP4, 4.78K PP5 TO REST FTE.		
46	Add'l load 0.5K @ PP4, PP5 FTE.		
47	NU = 4.78K @ each PP.		
48	Girder designation 44G6N11.0K		
49	Girder designation 44G6N10.2K		
50	Girder designation 44G6N11.4K		
51	Girder designation 44G6N10.6K		
52	Girder designation 44G6N11.7K		
53	Girder designation 44G6N12.4K		