GENERAL NOTES

1. IF DURING THE PROGRESS OF THE WORK THE CONTRACTOR MAY DISCOVER ANY ERROR, INCONSISTENCY OR OMISSION IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL AT ONCE SO REPORT TO THE ARCHITECT/ENGINEER. EXTRAS WILL NOT BE ALLOWED FOR CORRECTION OF PROBLEMS THAT COULD HAVE BEEN AVOIDED BY CAREFUL REVIEW AND THE MINOR ADJUSTMENT OF SIZE AND/OR LOCATION OF VARIOUS ITEMS FOR PROPER FIT. THIS CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF HIS WORK WITH THE OTHER CONTRACTORS.

2. ANY ITEM NOT SPECIFICALLY LISTED OR SHOWN ON THE CONTRACT DOCUMENTS BUT IS INCIDENTAL TO THE COMPLETION OF THE PROJECT OR PACKAGE WILL BE CONSIDERED AS PART OF THE CONTRACT SCOPE OF WORK.

3. IN THE EVENT OF DISCREPANCY OR CONFLICTING INFORMATION PERTAINING TO THE STRUCTURAL COMPONENTS IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL ASSUME THE MORE STRINGENT OR EXPENSIVE OPTION FOR BIDDING AND CONSTRUCTION PURPOSES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEEK CLARIFICATION FROM THE ENGINEER OF RECORD DURING THE BIDDING PROCESS IF ANY DISCREPANCIES ARE IDENTIFIED.

4. THE STRUCTURAL ENGINEER OF RECORD IS NOT AND SHALL NOT BE HELD RESPONSIBLE FOR BUILDING ENVELOPE WATERPROOFING. THIS INCLUDES, BUT IS NOT LIMITED TO, ROOFING, FLASHING, WINDOWS AND DOORS, SIDING AND VENEERS, FOUNDATION WATERPROOFING, DAMP PROOFING, ETC. THIS IS THE RESPONSIBILITY OF THE ARCHITECT OF RECORD AND THE GENERAL CONTRACTOR.

5. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

6. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS, FALSEWORK, FORMWORK, AND STAGING. PROVIDE ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT. IN THE EVENT THAT THE CONTRACTOR DETERMINES THAT SHEETING OR SHORING IS REQUIRED, THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER FOR DESIGN AND DOCUMENTATION OF ALL SHEETING, SHORING AND TEMPORARY BRACING REQUIRED FOR THE WORK. IF NOT IN THE ORIGINAL CONTRACT FOR WORK, REVIEW OF ANY ENGINEERED SHEETING, SHORING AND TEMPORARY BRACING REQUIRED WILL BE CONSIDERED ADDITIONAL SCOPE OF WORK AND WILL BE CONSIDERED ADDITIONAL SERVICES.

7. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALLOWABLE CONSTRUCTION LOADS.

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.

9. ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

10. SHOULD THE CONTRACTOR SEEK APPROVAL OF A PRODUCT OTHER THAN THE BRAND OR BRANDS NAMED IN THESE SPECIFICATIONS, IT SHALL FURNISH WRITTEN EVIDENCE THAT SUCH PRODUCT CONFORMS IN ALL RESPECTS TO THE SPECIFIED REQUIREMENTS, AND THAT IT HAS BEEN USED SUCCESSFULLY ELSEWHERE UNDER SIMILAR CONDITIONS. WHERE THE SPECIFIED REQUIREMENTS INVOLVE CONFORMANCE TO RECOGNIZED CODES OR STANDARDS THE CONTRACTOR SHALL FURNISH EVIDENCE OF SUCH CONFORMANCE IN THE FORM OF TEST OR INSPECTION REPORTS, PREPARED BY A RECOGNIZED AGENCY, AND BEARING AN AUTHORIZED SIGNATURE.

11. MANUFACTURERS' STANDARD DATA AND CATALOG CUT SHEETS WILL NOT BE CONSIDERED SUFFICIENT SUPPORT FOR PRODUCT ALTERNATES IN THEMSELVES. THE ENGINEER OF RECORD WILL NOT BE RESPONSIBLE FOR SEEKING FURTHER DATA FROM THE MANUFACTURER, OR FOR OTHERWISE RESEARCHING THE PRODUCT. FAILURE TO PROVIDE COMPLETE DATA WILL RESULT IN THE REJECTION OF THE ENTIRE PRODUCT.

12. SUBMIT SHOP DRAWINGS IN THE FORM ELECTRONIC PDF FILES. IN NO CASE SHALL REPRODUCTION OF THE CONTRACT DOCUMENTS BE USED AS A SHOP DRAWING. AS A MINIMUM, SUBMIT THE FOLLOWING ITEMS FOR REVIEW:

   A. CONCRETE MIX DESIGNS
   B. REINFORCING STEEL SHOP DRAWINGS
   C. STRUCTURAL STEEL SHOP DRAWINGS [SIGNED AND SEALED]
   D. STEEL JOIST/GIRDER SHOP DRAWING
   E. METAL DECK SHOP DRAWINGS
   F. MASONRY REINFORCING ACCESSORIES
   G. WOOD TRUSS SHOP DRAWINGS [SIGNED AND SEALED]
   H. LIGHT GAGE STEEL TRUSS SHOP DRAWINGS [SIGNED AND SEALED]
   I. COLD-FORMED STEEL FRAMING SHOP DRAWINGS [SIGNED AND SEALED]

13. IF DRAWINGS INDICATE REQUIREMENT(S) FOR SIGNED AND SEALED SHOP DRAWINGS AND SIGNED AND SEALED CALCULATIONS, THEY SHALL BE PROVIDED WITH THE 1ST SUBMISSION TO ENGINEER OF RECORD, OR THEY RISK BEING REJECTED.

14. SUBMIT SHOP DRAWINGS 12 BUSINESS DAYS (MINIMUM) PRIOR TO DATE THAT RETURNED SHOP DRAWINGS ARE REQUIRED. SHOP DRAWINGS SHALL HAVE THE CONTRACTOR'S STAMP OF APPROVAL PRIOR TO REVIEW BY ENGINEER OF RECORD. THE CONTRACTOR REVIEW/APPROVAL STAMP PROVIDES CERTIFICATION TO THE ENGINEER OF RECORD THAT THE CONTRACTOR HAS VERIFIED ALL FIELD MEASUREMENTS, CONSTRUCTION CRITERIA, MATERIALS AND SIMILAR DATA AND HAS REVIEWED EACH DRAWING FOR COMPLETENESS, COORDINATION AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.

15. COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR ERRORS WILL BE AT THE CONTRACTOR'S EXPENSE.

16. THE ENGINEER HAS NO ONGOING PRESENCE ON THE SITE, NO CONTROL OF ACTIVITIES ON THE SITE, NO SUPERVISORY ROLE AND NO FIELD RESPONSIBILITY FOR SITE SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR SUPERVISION OF THE WORK INCLUDING PERSONNEL PROTECTION IN ACCORDANCE WITH OSHA AND OTHER APPLICABLE REGULATIONS AND PUBLIC PROTECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE JURISDICTION IN WHICH THE PROJECT IS BEING CONSTRUCTED.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL CONDITIONS AND MATERIALS WITHIN THE PROPOSED CONSTRUCTION AREA. THE CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY FOR ANY DAMAGE OR INJURIES BY OR DURING THE EXECUTION OF THE WORK.

18. CONTRACTOR SHALL VERIFY DIMENSIONS AND FIELD CONDITIONS PRIOR TO STARTING WORK, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PROMPTLY OF ANY DEVIATION FROM THE PLAN, UNEXPECTED CONDITIONS, OR INCIDENTS INVOLVING INJURY, COLLAPSE, PROPERTY DAMAGE OR VIOLATIONS ISSUED BY GOVERNMENT ENTITIES.

*** THE ARCHITECT/ENGINEER OF RECORD IS NOT AND SHALL NOT BE HELD LIABLE FOR SITE SAFETY ISSUES ***

MEANS & METHODS DISCLAIMER

1. THE STRUCTURAL ENGINEER OF RECORD (EOR) HAS DESIGNED THE STRUCTURAL SYSTEMS AND ELEMENTS PRESENTED IN THESE DRAWINGS SOLELY FOR THE FINAL INSTALLED CONDITION, IN ACCORDANCE WITH PROJECT SPECIFICATIONS, LOCAL BUILDING CODES, AND APPLICABLE INDUSTRY STANDARDS. THE GENERAL CONTRACTOR OR DESIGNATED CONSTRUCTION ENTITY SHALL ASSUME FULL RESPONSIBILITY FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCES, INCLUDING BUT NOT LIMITED TO TEMPORARY BRACING, COMPONENT STABILIZATION, AND COORDINATION WITH ALL TRADES AND MANUFACTURERS' REQUIREMENTS.

2. THE CONTRACTOR SHALL EXECUTE ALL CONSTRUCTION PROCESSES IN STRICT ACCORDANCE WITH LOCAL AND STATE BUILDING CODES, REGULATIONS, AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) GUIDELINES. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE SELECTION, DEPLOYMENT, AND MONITORING OF ALL EQUIPMENT, TEMPORARY STRUCTURAL SUPPORTS, SHORING, SCAFFOLDING, CRANE OPERATIONS, AND SAFETY PROGRAMS. THE CONTRACTOR SHALL MAINTAIN DOCUMENTATION OF COMPLIANCE WITH THESE REQUIREMENTS.

3. THE STRUCTURAL DESIGN AND DETAILS PROVIDED HEREIN DO NOT CONSTITUTE AN ENDORSEMENT OR APPROVAL OF ANY SPECIFIC CONSTRUCTION METHODOLOGY. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS, COORDINATE WITH MANUFACTURERS' REQUIREMENTS, AND SUBMIT FOR REVIEW ANY PROPOSED DEVIATIONS FROM THE DESIGN INTENT. THE CONTRACTOR SHALL MAINTAIN RESPONSIBILITY FOR IMPLEMENTING ALL CONSTRUCTION ACTIVITIES IN A SAFE AND APPROPRIATE MANNER.

4. THE DESCRIBED LIMITATIONS ON CONSTRUCTION SEQUENCE ARE PROVIDED TO ASSIST THE CONTRACTOR IN COORDINATING PROJECT WORK. THESE DESCRIPTIONS DO NOT FULLY ENCOMPASS ALL LIMITATIONS NOR DO THEY PRECLUDE ALTERNATIVE CONSTRUCTION SEQUENCES. REGARDLESS OF ADHERENCE TO THE DESCRIBED LIMITATIONS, THE CONTRACTOR REMAINS FULLY RESPONSIBLE FOR THE STABILITY AND SAFETY OF THE WORK UNTIL THE STRUCTURAL WORK IS COMPLETED. COMPLIANCE WITH THESE LIMITATIONS DOES NOT ABSOLVE THE CONTRACTOR OF THIS RESPONSIBILITY.

5. THE STRUCTURAL DESIGN PROVIDED HEREIN ADDRESSES ONLY THE FINAL INSTALLED CONDITION OF ALL COMPONENTS AND SYSTEMS. ANY TEMPORARY CONDITIONS, INCLUDING BUT NOT LIMITED TO TRANSPORTATION, HANDLING, STORAGE, LIFTING, ROTATING, STAGING, AND INSTALLATION OF PREFABRICATED OR MODULAR COMPONENTS, ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR MANUFACTURER.

FOUNDATION NOTES

1. A GEOTECHNICAL EXPLORATION REPORT DATED ^^/^^/^^^^ CONTAINING SUBSURFACE DATA AND FOUNDATION/EARTHWORK RECOMMENDATIONS HAS BEEN PREPARED BY ^^^^. ALL RECOMMENDATIONS CONTAINED IN THE REPORT ARE TO BE CONSIDERED PART OF THE CONTRACT DOCUMENTS.

2. ALLOWABLE BEARING CAPACITY: ^^^^ psf

3. FOUNDATION DESIGN IS BASED ON SHALLOW SPREAD FOOTINGS BEARING ON SUITABLE NATURAL SOILS AND/OR NEW COMPACTED STRUCTURAL FILL.

4. ALL ORGANIC MATERIALS, EXCESSIVELY SOFT OR LOOSE SOILS, TREES, ASPHALT, CONCRETE, DEBRIS AND OTHER DELETERIOUS MATERIALS SHOULD BE REMOVED WITHIN AND AT LEAST 5 FEET BEYOND THE BUILDING LIMIT. SEE SPECIFICATION SECTION 02110 PARAGRAPH 2.3.

5. PROOF ROLL ALL SUBGRADES, UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER. UNSUITABLE AREAS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. NO FILL FOR BUILDING SUPPORT SHALL BE PLACED UNTIL SUBGRADES AND FILL MATERIAL HAVE BEEN OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER.

6. WE RECOMMEND THAT NO FOOTINGS BE EXCAVATED THAT CAN NOT BE POURED ON THE SAME DAY.

7. AREAS REQUIRING UNDERCUT AND FILL MATERIAL DUE TO THE PRESENCE OF UNSUITABLE MATERIAL SHALL BE BACKFILLED TO THE DESIGN FOOTING SUBGRADE WITH NEW COMPACTED STRUCTURAL FILL.

8. COMPACTED STRUCTURAL FILL FOR BUILDING SUPPORT UTILIZING MATERIAL APPROVED FOR USE BY THE GEOTECHNICAL ENGINEER INCLUDE: ON-SITE GRANULAR SOILS INCLUDING GW, GP, GM, SW, SP AND SM CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). FURTHERMORE, THE MATERIAL TO BE UTILIZED AS STRUCTURAL FILL SHOULD HAVE A PLASTICITY INDEX (PI) LESS THAN 2 SUBJECT TO FINAL APPROVAL BY GEOTECHNICAL ENGINEER.

9. MATERIAL TRANSPORTED FROM OFF-SITE SHALL MEET THE REQUIREMENTS OF GEOTECHNICAL REPORT.

10. SLABS ON GRADE MAY BE SUPPORTED ON FIRM SUITABLE NATURAL SOILS, OR ON COMPACTED STRUCTURAL FILL FOLLOWING STRIPPING OF TOPSOIL, VEGETATION, ASPHALT AND ANY SOFT OR DISTURBED SOILS WITHIN THE BUILDING AREA. A FOUR INCH WASHED GRAVEL OR CRUSHED STONE LAYER CORRESPONDING TO AASHTO SIZE NO. 57 AGGREGATE SHOULD BE USED BENEATH ALL FLOOR SLABS ON GRADE.

11. COMPACTED STRUCTURAL FILL BENEATH ALL FOUNDATIONS, SLABS ON GRADE AND ADJACENT TO FOUNDATION WALLS SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS AND BE COMPACTED TO 95 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D-1557, MODIFIED PROCTOR TEST. SEE SPECIFICATION SECTION 02211, PARAGRAPH 3.4.

12. BACKFILL IMMEDIATELY BEHIND BASEMENT WALLS SHOULD BE CLEAN, GRANULAR MATERIAL CONTAINING LESS THAN TEN (10) PERCENT PASSING THE NO. 200 SIEVE (0.07MM). IN ADDITION, THE COMPACTION BEHIND THESE WALLS SHOULD BE NINETY-FIVE (95) PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557. EXCESSIVE COMPACTION MAY CAUSE DAMAGE TO THE WALLS. HAND OPERATED EQUIPMENT SHOULD BE USED FOR COMPACTION NEAR EXISTING AND NEW FOUNDATION WALLS. BACKFILL AGAINST NEW FOUNDATION WALLS ONLY AFTER FIRST FLOOR IS IN PLACE OR ADEQUATE BRACING HAS BEEN PROVIDED. CONCRETE FLOOR SLABS SHALL HAVE CURED 7 DAYS MINIMUM PRIOR TO BACKFILLING.

13. THE EXCAVATION FOR PLACEMENT OF COMPACTED STRUCTURAL FILL SHOULD EXTEND BEYOND THE EDGE OF FOOTINGS A MINIMUM DISTANCE EQUAL TO THE DEPTH OF FILL.

14. EXTEND BOTTOM OF EXTERIOR FOOTINGS AT LEAST 3 FEET BELOW THE EXTERIOR FINISH GRADE FOR PROTECTION AGAINST FROST.

15. PROVIDE 4 INCH PVC DRAIN PIPE AROUND THE PERIMETER OF THE STRUCTURE. LOCATE AT THE BOTTOM OF THE FOUNDATION WALLS AND PROVIDE POSITIVE GRAVITY FLOW TO PROPERLY DESIGNED OUTLET. SURROUND PIPE ON TOP AND OUTER SIDES BY A MINIMUM 6 INCH THICK AGGREGATE FILTER OF AASHTO SIZE NO. 7 OR 8 AGGREGATE. WRAP AGGREGATE FILTER WITH MIRAFI 140N FILTER FABRIC OR APPROVED EQUAL.

ALL SUBGRADES AND UNDERCUTS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. SOILS EXPOSED AT THE BASES OF ALL APPROVED FOUNDATION EXCAVATIONS SHOULD BE PROTECTED AGAINST ANY DETRIMENTAL CHANGE IN CONDITION, SUCH AS DISTURBANCE FROM RAIN OR FROST. SURFACE RUNOFF SHOULD BE DRAINED AWAY FROM THE EXCAVATIONS AND NOT BE ALLOWED TO POND. FOUNDATION EXCAVATIONS SHOULD BE PROTECTED FROM RAINFALL OR FREEZING CONDITIONS. SLOPE FOOTING EXCAVATIONS AS REQUIRED FOR STABILITY AND SAFETY OR PROVIDE SHEETING OR SHORING IN ACCORDANCE WITH OSHA REQUIREMENTS. IN THE EVENT THAT THE CONTRACTOR DETERMINES THAT SHEETING OR SHORING IS REQUIRED FOR EXCAVATION, THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER FOR DESIGN AND DOCUMENTATION OF ALL SHEETING AND SHORING REQUIRED FOR THE WORK. SEE SPECIFICATION SECTION 02215.

ROOF PENETRATION NOTES

THIS PORTION OF THE PROJECT FROM A ROOFING STAND POINT INVOLVES TEMPORARY REMOVAL OF ROOFING, INSULATION & DECKING ETC. AS REQUIRED FOR THE G.C. / STEEL FABRICATOR TO TAKE MEASUREMENTS OF EXISTING CONDITIONS. THE ROOFING CONTRACTOR SHALL COORDINATE WITH THE G.C. / STEEL FABRICATOR. ONCE ALL MEASUREMENTS AND ELEVATIONS ARE TAKEN, THE ROOFING CONTRACTOR SHALL TEMPORARILY CLOSE UP ROOF - MAKE WATER TIGHT. WHEN THE STEEL ERECTOR IS READY TO INSTALL STEEL (COORD. W/ ROOFING CONTRACTOR) ROOFING CONTRACTOR SHALL REOPEN ROOF FOR THIS INSTALLATION WORK. ONCE ALL STEEL IS INSTALLED, ROOFING CONTRACTOR SHALL MAKE ALL PENETRATIONS WATER TIGHT.
THIS IS A MULTI STEP PROCESS - COORDINATION IS VITAL.

DELEGATED DESIGN

1. STRUCTURAL DELEGATED DESIGNS AND SUBSEQUENT DEFERRED SUBMITTALS ARE FOR ELEMENTS, PARTS, OR PORTIONS OF THE OVERALL STRUCTURAL SYSTEM THAT ARE CRITICAL TO THE PERFORMANCE OF THE OVERALL STRUCTURAL SYSTEM.

2. STRUCTURAL DELEGATED DESIGN ITEMS REQUIRING DEFERRED SUBMITTALS INCLUDE, BUT ARE NOT LIMITED TO:
   a. STRUCTURAL STEEL CONNECTION, INCLUDING BEAMS, BRACES, MOMENT CONNECTIONS, PLATES, ETC. (SEE STEEL NOTES FOR ADDITIONAL INFORMATION).
   b. BUCKLING-RESTRAINED BRACES, GUSSET PLATES, AND CONNECTIONS. THESE DESIGNS SHALL BE BASED UPON QUALIFIED CYCLIC TESTS IN ACCORDANCE WITH SECTION K3 OF AISC 341-16.
   c. METAL OPEN WEB JOIST & GIRDERS, BRIDGING, CONNECTIONS, AND RELATED COMPONENTS
   d. COLD-FORMED METAL FRAMING, UNLESS SPECIFICALLY DESIGNED AND DETAILED IN THE STRUCTURAL DRAWINGS (SEE COLD-FORMED STEEL NOTES FOR ADDITIONAL INFORMATION).
   e. CURTAINWALL AND/OR STOREFRONT SYSTEMS.
   f. STAIRS, UNLESS SPECIFICALLY DESIGNED AND DETAILED IN THE STRUCTURAL DRAWINGS. STAIR DESIGN SHALL INCLUDE: TREADS, RISERS, STRINGERS, LANDINGS, RAILINGS (IF NOT BEING SUBMITTED SEPARATELY), ETC. LOADS IMPOSED ON MAIN STRUCTURE SHALL BE CENTERED ON MEMBERS TO NOT IMPOSE UNNECESSARY ECCENTRICITIES.
   g. SHOP-FABRICATED WOOD TRUSSES, BLOCKING, BRIDGING, BRIDGING CONNECTIONS, TRUSS HANGERS, AND RELATED COMPONENTS.
   h. TILT-UP CONCRETE WALL PANELS THAT ARE PART OF THE PRIMARY SYSTEM.
   i. PRE-CAST CONCRETE ELEMENTS AND THEIR CONNECTIONS .
   j. CASTELLATED OR CELLULAR BEAMS.
   k. HELICAL PIERS/MICRO PILES (SHALL INCLUDE, BUT NOT BE LIMITED TO, PIER LAY-OUT. QUANTITIES, SHAFT AND HELIX SIZES, FOUNDATION CONNECTION REQUIREMENTS, TEST PIER REQUIREMENTS, APPLIED SAFETY FACTORS ETC.).
   l. GROUND IMPROVEMENT SYSTEMS.
   m. CAST-IN-PLACE CONCRETE CAISSONS (SHALL INCLUDE CAISSON LAY-OUT, QUANTITIES, SHAFT SIZE, TEST REQUIREMENTS, DETAILS SHOWING ATTACHMENT OF CAISSONS TO GRADE BEAMS, PILE CAPS, AND FOUNDATIONS, ETC.).
   n. CARBON/GLASS FIBER CONCRETE REINFORCING.
   o. SHEETING, AS REQUIRED FOR EXCAVATION SUPPORT OR AS NOTED IN DRAWINGS.
   p. SHORING
   q. FALL PROTECTION SYSTEMS SUCH AS ANCHOR POINTS AND HORIZONTAL LIFE LINES

3. DESIGN CRITERIA FOR DELEGATED DESIGNS HAS BEEN PROVIDED IN THE STRUCTURAL NOTES, PLANS, AND DETAILS.

4. STRUCTURAL DEFERRED SUBMITTALS ARE COMPLETE PACKAGES FOR EACH DELEGATED DESIGN. DEFERRED SUBMITTALS SHALL BE SUBMITTED FOR REVIEW BY ARCHITECT AND ENGINEER OF RECORD AND ARE TO INCLUDE, AT MINIMUM:
   a. PLAN DRAWINGS SHOWING THE DELEGATED DESIGN AND IT'S ASSOCIATION/LOCATION IN THE OVERALL STRUCTURE
   b. SECTIONS AND DETAILS DEPICTING ANY AND ALL CONNECTION TO THE MAIN STRUCTURE
   c. CALCULATIONS FOR DELEGATED DESIGN ITEMS AND THEIR CONNECTIONS, AS WELL AS ANY AND ALL DESIGN ASSUMPTIONS. ADDITIONAL LOADS IMPOSED BY CONNECTIONS OF DELEGATED DESIGN ITEM TO MAIN STRUCTURE SHALL BE INCLUDED FOR ENGINEER OF RECORD TO REVIEW. IF PERFORMANCE CRITERIA IS STIPULATED IN STRUCTURAL DRAWINGS (SUCH AS VIBRATION PERFORMANCE, DEFLECTION CRITERIA ABOVE CODE REQUIREMENTS, ETC.) THEN THE CALCULATIONS PROVIDED MUST INCLUDE PROOF OF CONFORMANCE TO GIVEN CRITERIA
   d. ALL DRAWINGS AND CALCULATIONS SHALL BEAR THE STAMP AND SIGNATURE OF THE DESIGN PROFESSIONAL RESPONSIBLE FOR THERE DESIGN WHO IS LICENSED IN THE PROJECT JURISDICTION

5. NOTE THAT IF ANY PARTS LISTED IN NOTE 4 ARE MISSING THE DEFERRED SUBMITTAL WILL BE SUBJECT TO REJECTION UNTIL ALL REQUIRED ELEMENTS ARE PROVIDED.

6. ENGINEER OF RECORD WILL REVIEW STRUCTURAL DEFERRED SUBMITTALS TO VERIFY DESIGN CRITERIA IS COMPLIANT WITH THE APPROVED CONSTRUCTION DOCUMENTS.

7. STRUCTURAL DELEGATED DESIGN COMPONENTS SHALL NOT BE INSTALLED UNTIL APPROVED BY THE BUILDING OFFICIAL.

CONCRETE NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318 (LATEST EDITION).

2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE:
   a. FOUNDATIONS: 4000 PSI
   b. SLABS ON GRADE: 4000 PSI
   c. SLABS ON DECK: 4000 PSI, NW & LW AS INDICATED.

3. ALL CONCRETE SUBJECT TO FREEZE/THAW CYCLE SHALL BE AIR-ENTRAINED.

4. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.

5. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND BE PROVIDED IN FLAT SHEETS.

6. COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW.

7. REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE CLASS "A" TENSION LAP SPLICES FOR ALL HORIZONTAL WALL REINFORCING UNLESS OTHERWISE SHOWN ON PLAN. PROVIDE CLASS "B" TENSION LAP SPLICES FOR ALL HORIZONTAL GRADE BEAM REINFORCING.

8. CLEARANCES FOR REINFORCEMENT:
   a. CONCRETE PLACED DIRECTLY ON EARTH, FOOTINGS: 3"
   b. SLABS, FROM TOP UNLESS OTHERWISE NOTED: 1"
   c. FORMED SURFACES EXPOSED TO WEATHER OR EARTH:
      #5 BAR OR SMALLER: 1 1/2"
      #6 BAR OR LARGER: 2"

9. FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS, PROVIDE SUPPLEMENTAL REINFORCING AROUND OPENING AS SHOWN ON THE CONTRACT DOCUMENTS.

10. CONTROL JOINTS SHALL BE LOCATED BY CONTRACTOR IN ACCORDANCE WITH ACI CRITERIA, MAXIMUM SPACINGS AS PER TYPICAL SLAB ON GRADE DETAILS AND TYPICAL CONTROL JOINT LOCATION DETAILS (U.N.O.). MINIMUM CONTROL JOINT DEPTHS ARE INDICATED ON TYPICAL CONTROL JOINT DETAILS. CONTROL JOINTS WHICH ARE NOT PROMPTLY OR PROPERLY CUT AND ARE NOT FUNCTIONING SHALL BE RECUT BY THE CONCRETE CONTRACTOR. RECUTS OF JOINTS WHICH WERE NOT PROMPTLY OR PROPERLY CUT SHALL BE 3" DEEP MINIMUM.

11. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GR. 36 UNLESS NOTED OTHERWISE.

12. LAP ALL BARS MINIMUM 40 DIAMETERS. LAP ALL WWF A MINIMUM OF 6 INCHES.

13. NORMAL WEIGHT CONCRETE SHALL BE USED FOR ALL FRAMED FLOORS. THIS CONCRETE IS TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.

14. UNLESS OTHERWISE APPROVED ALL REINFORCEMENT SHALL BE BLOCKED INTO POSITION WITH PRECAST CONCRETE BLOCKS HAVING A MINIMUM COMPRESSIVE STRENGTH EQUAL TO THAT OF THE SLAB OR FOUNDATION SYSTEM.

15. SEE THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEPRESSED SLAB AREAS, DRAINS, AND DIMENSIONS.

16. PROVIDE GALVANIZED STEEL SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE WALLS, BEAMS OR SLABS. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH INTERIOR CONCRETE WALLS, BEAM OR SLABS (UNLESS NOTED OTHERWISE).

17. DO NOT PLACE UNDERGROUND UTILITIES OR PIPES BELOW FOOTINGS. IF ANY SUCH CONDITIONS OCCUR, NOTIFY THE ENGINEER IMMEDIATELY AND DROP THE BOTTOM OF FOOTING ELEVATION IN ACCORDANCE WITH THE TYPICAL STEP FOOTING AT PIPE CROSSING DETAIL IN ORDER TO CLEAR THE PIPE.

18. PROVIDE FOR ANY DEWATERING AS REQUIRED DURING EXCAVATION AND CONSTRUCTION OF THE FOUNDATION SYSTEM.

19. BOTTOM OF NEW FOOTINGS ADJACENT TO EXISTING FOUNDATIONS SHALL BE AT THE SAME ELEVATION AS THE EXISTING FOUNDATION UNLESS A 2:1 MAXIMUM SLOPE (HORIZONTAL TO VERTICAL) IS MAINTAINED BETWEEN BOTTOM OF FOOTINGS.

20. AIR-ENTRAINMENT FOR CONCRETE EXPOSED TO FROST OR WEATHER:
    (DO NOT ENTRAIN TROWEL FINISHED FLOORS OR HIGH DENSITY CONCRETE)

MAXIMUM AGGREGATE SIZE	AIR CONTENT
2 in	4% TO 6.5%
1.5 in	4% TO 7%
1 in	4.5% TO 7%
0.75 in	4.5% TO 7%

STEEL DECK NOTES

1. STEEL DECK FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO:
   a. AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS - LATEST APPLICABLE EDITION
   b. SDI "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS - LATEST EDITION.
   c. SDI "DIAPHRAGM DESIGN MANUAL"
   d. ANSI/SDI-RD1.0 STANDARD FOR STEEL ROOF DECK
   e. ANSI/SDI-NC1.0 STANDARD FOR NON-COMPOSITE (FORM) STEEL FLOOR DECK
   f. ANSI/SDI-NC1.0 STANDARD FOR COMPOSITE STEEL FLOOR DECK
   g. "STRUCTURAL WELDING CODE - SHEET STEEL" AWS D1.3 - LATEST EDITION

2. METAL FLOOR AND ROOF DECK SHALL BE AS INDICATED ON THE DRAWINGS AND BE IN ACCORDANCE WITH THE LATEST EDITION OF "SDI "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOD DECKS - LATEST EDITION.

3. METAL DECKS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A653, COATING CLASS G60.

4. ALL STEEL DECKS SHALL CONFORM TO THE FOLLOWING:
   a. GALV. METAL ROOF DECK: ASTM A653, GRADE 40, Fy = 40 KSI MIN.
   b. GALV. METAL FLOOR DECK: ASTM A653, GRADE 40, Fy = 40 KSI MIN.
   c. GALV. METAL FORM DECK: ASTM A653, GRADE 40, Fy = 40 KSI MIN.

5. DESIGN FOR 9/16", 1½", 2", 3" FORM, FLOOR AND ROOF DECKS IS BASED ON THE SECTION PROPERTIES, LOAD CAPACITIES AND U.L. FIRE RATINGS OF VULCRAFT STEEL AND ROOF AND FLOOR DECK CATALOG (2020 EDITION). DECK FROM MANUFACTURERS OTHER THAN VULCRAFT MAY BE USED ONLY IF THE DECK CHOSEN BY THE CONTRACTOR HAS THE SECTION PROPERTIES, LOAD CAPACITIES, AND U.L. RATING EQUAL OR GREATER THAN THE EQUIVALENT DECK PRODUCED BY VULCRAFT. ENGINEER AND ARCHITECT APPROVAL IS REQUIRED PRIOR TO ANY SUBSTATIONS.

6. TYPE "B" METAL ROOF DECKS SHALL HAVE MIN. 2" END LAPS.

7. DECKS SHALL HAVE MINIMUM 1½" END BEARING.

8. DECK SUPPLIER SHALL SUPPLY THE FOLLOWING SUPPLEMENTAL ITEMS REQUIRED FOR A COMPLETE INSTALLATION:
   a. CELL CLOSURE PLATES
   b. GAGE METAL POUR STOPS
   c. FINISH STRIPS
   d. RIDGE, BUTT, AND VALLEY STRIPS
   e. SUMP PANS
   f. REINFORCING CHANNELS

9. MINIMUM FASTENING REQUIREMENTS, U.N.O. ON DRAWINGS (PLANS, SCHEDULES, DETAILS & SECTIONS) FOR FORM AND ROOF DECKS:

   FASTEN METAL FORM DECK OR ROOF DECK TO SUPPORTING STEEL MEMBERS AT ALL BEARING SUPPORTS AND ALL EDGE SUPPORTS WITH HILTI POWER ACTUATED FASTENERS. ALL SIDE LAPS AT ADJACENT DECK PANELS SHALL BE WITH #10 SELF-DRILLING (TEK) SCREWS.

   a. PAF PINS:
      IF BASE STEEL THICKNESS IS 1/4" OR GREATER: HILTI X-ENP19 PINS
      IF BASE STEEL THICKNESS IS LESS THAN 1/4": HILTI X-HSN24 PINS
      IF BASE STEEL IS GAGE METAL OR LIGHT BAR JOIST: HILTI S-MD 12x24 HWH5
      WELDED OPTION: 5/8" PUDDLE WELDS (NOT APPLICABLE TO GAGE METAL OR LIGHT BAR JOISTS)
   b. SIDE LAP FASTENER SPACING: 36" O.C. MAXIMUM OR DECK SPAN / 2 (WHICH EVER IS SMALLER)
   c. PAF PINS SPACING OVER BEARING SUPPORTS ON STEEL:
      IF TYPE "B" ROOF DECK, 12" O.C.
      IF TYPE "N" ROOF DECK, 8" O.C. (SAME SPACING REQUIREMENTS FOR WELDED OPTION)
   d. PAF PINS SPACING AT EDGE SUPPORTS ON STEEL: 12" O.C. (SAME SPACING REQUIREMENTS FOR WELDED OPTION)

10. MINIMUM FASTENING REQUIREMENTS, U.N.O. ON DRAWINGS (PLANS, SCHEDULES, DETAILS & SECTIONS) FOR COMPOSITE FLOOR DECKS:

    FASTEN METAL FORM DECK OR ROOF DECK TO SUPPORTING STEEL MEMBERS AT ALL BEARING SUPPORTS AND ALL EDGE SUPPORTS WITH HILTI POWER ACTUATED FASTENERS. ALL SIDE LAPS AT ADJACENT DECK PANELS SHALL BE WITH #10 SELF-DRILLING (TEK) SCREWS.

    a. PAF PINS: HILTI X-ENP19 PINS OR 5/8" PUDDLE WELDS
    b. SIDE LAP FASTENER SPACING: 36" O.C. MAXIMUM OR DECK SPAN / 2 (WHICH EVER IS SMALLER)
    c. PAF PINS SPACING OVER BEARING SUPPORTS ON STEEL: 12" O.C. (SAME SPACING REQUIREMENTS FOR WELDED OPTION)
    d. PAF PINS SPACING AT EDGE SUPPORTS ON STEEL: 12" O.C. (SAME SPACING REQUIREMENTS FOR WELDED OPTION)
    e. HEADED SHEAR STUDS SHALL BE FIELD INSTALLED BY WELDING THROUGH METAL DECK. REMOVE FERRULES FROM THE DECK PRIOR TO PLACEMENT OF CONCRETE.

11. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ANY FABRICATION / DELIVERY.

MASONRY NOTES

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530.1 SPECIFICATION FOR MASONRY STRUCTURES (LATEST EDITION).

2. ALL CONCRETE MASONRY UNITS SHALL BE ASTM C90, GRADE N, TYPE 1 STANDARD WEIGHT BLOCKS INCLUDING STRETCHERS AND CORNER BLOCKS. SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, f'm, SHALL BE A MINIMUM OF 2150. PSI, AS DETERMINED BY THE UNIT STRENGTH METHOD OR BY PRISM TESTS.

3. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270, TYPE S. OWNER'S TESTING AGENCY SHALL VERIFY STRENGTH FROM FIELD-OBTAINED TEST CUBES.

4. WHERE INDICATED, GROUT CORES SOLID WITH A HIGH SLUMP MIX IN ACCORDANCE WITH ASTM SPECIFICATION C476 HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI. OWNER'S TESTING AGENCY SHALL VERIFY STRENGTH FROM FIELD-OBTAINED TEST CUBES. THE USE OF WATER REDUCING ADMIXTURES IN GROUT IS NOT ALLOWED.

5. PROVIDE VERTICAL REINFORCING IN GROUTED CELLS AS INDICATED. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. VERTICAL REINFORCING SHALL BE LAPPED 48 BAR DIAMETERS.

6. HORIZONTAL WALL REINFORCING SHALL BE DUR-O-WAL TRUSS DESIGN WITH 3/16"Ø SIDE RODS AND 3/16"Ø CROSS TIES. REINFORCING SHALL BE PLACED IN MASONRY WALLS AT 16" O.C., MAXIMUM. SPACE HORIZONTAL JOINT REINFORCEMENT AT 8" ON CENTER IN ALL PARAPETS. USE SHOP FABRICATED SPECIAL PIECES AT ALL CORNERS AND TEES.

7. CMU PLACED BELOW GRADE SHALL BE GROUTED SOLID.

8. CONCRETE MASONRY UNITS SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS. BOND CORNERS AND INTERSECTIONS OF LOAD BEARING WALLS. ALL EXTERNAL CORNERS SHALL BE BULL NOSE BLOCKS.

9. ALL LOAD BEARING CMU WALLS SHALL CONTAIN JOINTS WHICH ARE FULLY BEDDED.

10. FILL ALL BOND BEAMS WITH 3000 PSI CONCRETE USING 3/8" MAXIMUM AGGREGATE SIZE.

11. PROVIDE TEMPORARY BRACING OF MASONRY WALLS TO WITHSTAND LATERAL LOADS DURING CONSTRUCTION.

12. MASONRY WALLS WHICH SUPPORT LINTELS FOR DOORS, WINDOWS, DUCT OPENINGS 3FT OR LARGER (NOT INCLUDING STEEL JOISTS OR BEAMS) SHALL HAVE MINIMUM 16" WIDE CELLS GROUTED SOLID FULL HEIGHT UNDER BEARING WITH 1-#5 BAR MINIMUM VERTICAL AND DOWEL TO MATCH.

13. BRICK VENEER ANCHORS ON STUD BACKUP SHALL HAVE 3/16" ROUND HOT DIPPED GALVANIZED STEEL TIES FOR USE WITH DW-10 ANCHORS BY HOHMANN & BARNARD. LOCATE 16" O.C. VERTICALLY 32" O.C. HORIZONTALLY AND 8" O.C. AROUND OPENINGS. REINFORCEMENT FOR VENEER SHALL INCLUDE A MINIMUM OF ONE 3/16"Ø ROD IN THE VENEER CONNECTED TO ADJUSTABLE TIES. NOTE HEAVIER VENEERS MAY REQUIRE A SECOND ROD. DESIGN SHALL BE BASED ON HOHMANN AND BARNARD, INC. DW-10 SEISMICLIP INTERLOCK SYSTEM WITH BYNA-TIE MASONRY TIES.

14. FOR MULTIWYTHE MASONRY, PROVIDE ADJUSTABLE (2-PIECE) TYPE WITH SINGLE PAIR OF SIDE RODS AND CROSS TIES SPACED NOT MORE THAN 16 INCHES O.C. AND WITH SEPARATE ADJUSTABLE VENEER TIES ENGAGING THE CROSS TIES. CROSS TIES ARE EITHER U-SHAPED WITH EYES OR RECTANGULAR. SPACE SIDE RODS FOR EMBEDMENT WITHIN EACH FACE SHELL OF BACKUP WYTHE AND SIZE ADJUSTABLE TIES TO EXTEND AT LEAST HALFWAY THROUGH OUTER WYTHE BUT WITH AT LEAST 5/8 INCH COVER ON OUTSIDE FACE.

    REINFORCEMENT SHALL INCLUDE A MINIMUM OF ONE 3/16"Ø ROD IN THE VENEER CONNECTED TO ADJUSTABLE TIES. NOTE HEAVIER VENEERS MAY REQUIRE A SECOND ROD. DESIGN SHALL BE BASED ON HOHMANN AND BARNARD, INC. 165-2X S.I.S. TRUSS SEISMICLIP INTERLOCK SYSTEM. COORDINATE REINFORCEMENT REQUIREMENTS, JOINT LOCATION OF CMU BACKUP, AND NON-STANDARD CMU VENEER WITH RELATED SECTIONS AND DETAILS AND THE ARCHITECTURAL DRAWINGS.

15. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINTS.

16. LOCATION OF LINTELS AT MASONRY OPENINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.

17. UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING LINTELS FOR EACH 4 INCH THICKNESS OF MASONRY WALL WITH 8 INCHES OF BEARING AT EACH END. FOR UNEQUAL LEG ANGLES, ORIENT THE LONG LEGS VERTICAL: GALVANIZE ALL LINTELS EXPOSED TO THE WEATHER.
    - OPENINGS UP TO 4'------ L3 1/2x3 1/2x5/16
    - OPENINGS 4' TO 6'------- L4x3 1/2x5/16
    - OPENINGS 6' TO 8'------- L5x3 1/2x5/16

18. PROVIDE REBAR DOWELS FROM THE FOUNDATIONS TO MATCH VERTICAL REINFORCING SIZE AND SPACING. DOWELS SHALL HAVE STANDARD 90 DEGREE HOOKS AND LAP WITH THE FIRST LIFT OF REINFORCING. STANDARD LAP LENGTH OF GRADE 60 MASONRY REINFORCING BARS SHALL BE 48 BAR DIAMETERS.

19. PROVIDE STEEL JOIST AND BEAM BEARING PLATES AND OTHER ACCESSORIES AS INDICATED. PROVIDE 2 COURSES OF SOLIDLY GROUTED CMU BELOW ALL BEAM BEARINGS OVER A WIDTH OF 1'-4" CENTERED ON THE WALL OR BEARING POINT UNLESS OVER A BOND BEAM. SEE TYPICAL BEAM BEARING DETAIL FOR ADDITIONAL INFORMATION. PROVIDE PIERS PER PLAN AND PIER SCHEDULE.

20. CONCRETE MASONRY UNITS NOTED AS "IVANY" SHALL BE ONE- CORE, OPEN END UNITS WITH A COMPRESSIVE STRENGTH OF 3000 PSI ON THE NET AREA OF BLOCK, FURNISHED BY AN IVANY BLOCK FRANCHISE HOLDER. WALLS BUILT WITH IVANY BLOCK SHALL USE TYPE M MORTAR AND GROUT FILL SHALL BE A PEA GRAVEL MIX HAVING A 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. f'm = 2800 PSI. USE SPECIAL IVANY CORNER UNITS AT CORNERS.

21. BREAKAWAY FIRE ANCHORS SHALL BE ROLLED STRIP ZINC ALLOY IN 1/8" THICK BY HECKMANN BUILDING PRODUCTS INC., ANCHORS SHALL BE SUPPLIED AND INSTALLED BY THE GENERAL CONTRACTOR. GENERAL CONTRACTOR SHALL VERIFY ACTUAL SIZES, SHAPES AND NUMBER OF ANCHORS REQUIRED.

ANCHOR NOTES

1. CONTRACTOR IS RESPONSIBLE FOR SURVEYING AND ASCERTAINING THE EXISTING BASE CONDITIONS THICKNESS IN ACCORDANCE WITH THE EXISTING CONDITIONS AND DEMOLITIONS NOTES.

2. HIT HY 270 & 200 INJECTION ADHESIVE ANCHORS
   INJECTION ADHESIVE ANCHORS SHALL BE HYBRID ADHESIVE TYPE SYSTEM IN PREDRILLED HOLES EXCEPT WHERE DRAWINGS SPECIFICALLY CALL FOR ANOTHER TYPE OF ANCHOR ALL DESIGNS ARE BASED ON HILTI, INC. HIT HY 270 & 200 INJECTION ADHESIVE ANCHOR. INSTALL INJECTION ADHESIVE ANCHORS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

   ALL ANCHOR EMBEDMENT LENGTHS SHALL BE BASED ON THE BASE MATERIAL THICKNESS LESS 1½".

3. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII), AND APPROVED INDEPENDENT TESTING REPORT PER ACI 355.

4. ANCHOR INSTALLER(S) SHALL HAVE EXPERIENCE AND TRAINING WITH INSTALLING THE SPECIFIED POST-INSTALLED ANCHORS. INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL, OR UPWARDLY INCLINED ORIENTATIONS, SUPPORTING TENSION LOAD SHALL BE PERFORMED BY INSTALLERS CERTIFIED THROUGH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR APPROVED EQUIVALENT.

5. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING AT THE TIME OF INSTALLATION SO AS TO ACHIEVE THE INTENDED CAPACITY, UNLESS OTHERWISE PERMITTED IN WRITING FROM THE ANCHOR MANUFACTURER.

   a. MINIMUM CONCRETE AGE OF 21 DAYS
   b. MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 0.75 F'C
   c. MINIMUM CONCRETE TEMPERATURE OF 50 DEGREES FAHRENHEIT
   d. HOLES DRILLED WITH CARBIDE-TIPPED DRILL BITS,
   e. USING ROTARY IMPACT HAMMER
   f. CONCRETE IN "DRY" CONDITION
   g. HOLES THOROUGHLY CLEANED AND PREPARED IN ACCORDANCE WITH THE MPII
   h. ANCHORS FREE OF RUST, OIL, COATINGS, DIRT, MUD OR ANY DELETERIOUS MATERIALS

6. ANCHORS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE CONCRETE CAPACITY DESIGN METHODS OF ACI 318, AS MODIFIED BASED ON THE REQUIREMENTS OF THE APPROVED INDEPENDENT TESTING REPORT PER ACI 355. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER PRIOR TO USE. WHERE SUBSTITUTIONS ARE REQUESTED, CONTRACTOR SHALL PROVIDE SIGNED AND SEALED CALCULATIONS FROM CONTRACTOR'S PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE PROJECT'S JURISDICTION, DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE CAPACITY AND PERFORMANCE OF THE ORIGINAL SPECIFIED PRODUCT INCLUDING, BUT NOT LIMITED TO: COMPLIANCE WITH THE BUILDING CODE, SEISMIC USE, LOAD RESISTANCE, I NSTALLATION CATEGORY, AND IN-SERVICE CONDITIONS.

7. SPECIAL INSPECTION OF POST-INSTALLED ANCHORS SHALL BE IN ACCORDANCE WITH THE BUILDING CODE AND APPROVED INDEPENDENT TESTING REPORT PER ACI 355. AT A MINIMUM, ALL ANCHORS SHALL BE SUBJECT TO PERIODIC SPECIAL INSPECTION. IN ADDITION, ADHESIVE ANCHORS INSTALLED IN HORIZONTAL, OR UPWARDLY INCLINED ORIENTATIONS, SUPPORTING TENSION LOAD SHALL BE SUBJECT TO CONTINUOUS SPECIAL INSPECTION. IN ALL CASES THE SPECIAL INSPECTOR SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK.

8. CARE SHALL BE TAKEN TO NOT CUT OR DAMAGE EXISTING REINFORCEMENT. CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT, BY NON-DESTRUCTIVE MEANS, PRIOR TO FABRICATION OF ANCHORAGE ELEMENTS AND/OR DRILLING OF POST-INSTALLED ANCHORS TO CONFIRM THERE ARE NO CONFLICTS. CONTRACTOR IS RESPONSIBLE TO NOTIFY THE STRUCTURAL ENGINEER IN WRITING IF A CONFLICT EXISTS, FOR REVIEW PRIOR, TO COMMENCEMENT OF THE WORK.

10. PROOF LOAD TESTING (INCLUDING REQUIRED PROOF LOAD, ANCHOR TYPES, LOCATIONS, AND QUANTITIES) BY NON-DESTRUCTIVE MEANS SHALL BE PERFORMED BY AN INDEPENDENT PARTY AT THE DISCRETION OF THE STRUCTURAL ENGINEER. RESULTS OF THIS PROOF LOAD TESTING SHALL BE SUBMITTED IN WRITING FOR REVIEW.

11. ALL ANCHORS INSTALLED INTO EXISTING MASONRY SHALL BE GRADE 316 STAINLESS STEEL, UNLESS OTHERWISE NOTED.

12. INSTALLED ANCHORS:
    a. FOLLOW ANCHOR MANUFACTURER INSTALLATION INSTRUCTIONS (E.G., HILTI, SIMPSON STRONG-TIE) FOR HOLE DIAMETER, DEPTH, AND ADHESIVE TYPE. USE CARBIDE-TIPPED MASONRY BITS MATCHED TO ANCHOR SIZE.
    b. DEFAULT DRILL MODE: ROTARY HAMMER IN HAMMER-DRILL MODE (ROTATION + LIGHT PERCUSSION) FOR SOLID BRICK; SWITCH TO ROTARY-ONLY FOR SOFT, HISTORIC, OR PERFORATED BRICK TO MINIMIZE FRACTURING.
    c. VERIFICATION: PRIOR TO FULL INSTALLATION, DRILL PILOT HOLES TO CONFIRM WALL THICKNESS, SUBSTRATE CONSISTENCY, AND ACHIEVABLE EMBEDMENT—MINIMUM 1 FOR WALL RUNS <10 LF; 1 PER 20 LF FOR LONGER WALL RUNS. IF VOIDS, RUBBLE, OR INCONSISTENCIES ENCOUNTERED, CEASE WORK AND NOTIFY ENGINEER IMMEDIATELY FOR ASSESSMENT.
    d. CLEANING: AFTER DRILLING, REMOVE ALL DUST AND DEBRIS USING COMPRESSED AIR BLOW-OUT, NYLON WIRE BRUSH (MINIMUM 2 PASSES), AND VACUUM. REPEAT UNTIL CLEAN.
    e. ADAPTATION: IF EMBEDMENT DEPTH IS LESS THAN REQUIRED AFTER PILOT HOLES, TEST DRILL IN ROTARY-ONLY MODE. IF ISSUES PERSIST, DO NOT PROCEED WITHOUT ENGINEER APPROVAL. CONSIDER ALTERNATIVE ANCHORING METHODS (I.E. MECHANICAL ANCHORS OR GROUT INJECTION).

STEEL NOTES

1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO:
   a. AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" ANSI/AISC 360-16 (PART 16 OF AISC "STEEL CONSTRUCTION MANUAL")
   b. AISC "STEEL CONSTRUCTION MANUAL", 15TH EDITION
   c. AISC "DETAILING FOR STEEL CONSTRUCTION", 3RD EDITION

2. ALL WELDING SHALL CONFORM TO:
   a. "STRUCTURAL WELDING CODE - STEEL", AWS D1.1 - LATEST EDITION
   b. "STRUCTURAL WELDING CODE - SHEET STEEL" AWS D1.3 - LATEST EDITION

3. ALL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECS:
   a. WIDE FLANGE SHAPES: ASTM A992, Fy = 50 KSI.
   b. CHANNELS, ANGLES, PLATES & BARS: ASTM A36, Fy = 36 KSI
   c. CHANNELS, ANGLES, PLATES & BARS: ASTM A572 GR. 50 (WHERE NOTED)
   d. HOLLOW STRUCTURAL SECTIONS: ASTM A500 GR. B, Fy = 46 KSI
   e. STEEL PIPES: ASTM A53, GR. B, Fy = 35 KSI
   f. WELDING ELECTRODES: AWS A5.1 OR A5.5, E70XX
   g. HEADED STUDS: AWS D1.1 TYPE "B", Fu = 65 KSI (MIN.)
   h. ANCHOR RODS: ASTM F1554 GR 36, U.N.O.
      - ASTM F1554 GR. 55 (SECTION S1 WELDABILITY SUPPL.)
      - ASTM F1554 GR. 105 (WHERE NOTED)
   i. HIGH STRENGTH BOLTS: ASTM A325, U.N.O., ASTM 490 (WHERE NOTED)

4. STRUCTURAL STEEL DAMAGED DURING WELDING SHALL BE REPLACED OR REPAIRED IN A MANNER THAT IS ACCEPTABLE TO THE ENGINEER OF RECORD.

5. ALL WELDERS RETAINED BY THE CONTRACTOR SHALL HAVE NON-EXPIRED (CURRENT) EVIDENCE OF PASSING THE APPROPRIATE AWS QUALIFICATIONS TEST AND PROVIDE EVIDENCE UPON THE REQUEST OF THE ENGINEER OF RECORD, AT ANYTIME.

6. THE GENERAL CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER OF RECORD OF ANY ERECTION, FABRICATION OR INSTALLATION ERRORS OR CONDITIONS OF NON-CONFORMANCE TO THE CONSTRUCTION DRAWINGS. THE GENERAL CONTRACTOR SHALL NOT PROVIDE ANY FIELD CORRECTIONS PRIOR TO A WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.

7. AT ALL COMPOSITE STEEL FLOOR FRAMING, THE CONCRETE SLAB SHALL REACH THEIR MINIMUM DESIGN COMPRESSIVE STRENGTH PRIOR TO THE APPLICATION OF SUPERIMPOSED LOADS.

8. ALL STEEL NOT RECEIVING FIREPROOFING SHALL BE PAINTED WITH THE FABRICATOR'S RUST INHIBITIVE PRIMER. ALL PRIMER THAT IS DAMAGED IN THE FIELD AND ALL FIELD WELDS SHALL BE TOUCHED UP WITH FIELD APPLIED PRIMER.

9. ALL STEEL RECEIVING FIREPROOFING SHALL NOT BE PRIMED. REFER TO ARCHITECTURAL DRAWINGS FOR STEEL THAT IS TO BE FIREPROOFED.

10. ALL STRUCTURAL STEEL (INCLUDING BUT NOT LIMITED TO ANCHOR BOLTS, BOLTS, OTHER HARDWARE) EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PAINTING REQUIREMENTS. HOT DIPPED GALVANIZATION SHALL BE PER ASTM A123. ALL GALVANIZED SURFACES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED USING A GALVANIZING REPAIR PAINT IN ACCORDANCE WITH ASTM A780. GALVANIZING PAINT SHALL HAVE 95% ZINC BY WEIGHT. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NO LESS THAN THE COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.

11. BOLTS AND FIELD WELDS INSTALLED ON FACTORY FINISH-PAINTED STRUCTURAL STEEL SHALL BE FIELD PAINTED WITH THE SAME PAINTING SYSTEM. THE FIELD APPLIED PAINT SHALL BE APPLIED IN A MANNER SUCH THAT IT CAN NOT BE DIFFERENTIATED FROM THE FACTORY FINISH-PAINTED STRUCTURAL STEEL FROM A DISTANCE OF FIVE FEET.

12. FIELD CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER (MINIMUM) ASTM A325N HIGH STRENGTH BOLTS (MINIMUM) UNLESS NOTED OTHERWISE.

13. THE MINIMUM SIZE OF ALL FILLET WELDS SHOWN ON DRAWINGS SHALL BE IN ACCORDANCE WITH TABLE J2.4 OF AISC "STEEL CONSTRUCTION MANUAL", UNLESS NOTED OTHERWISE.

14. ALL STRUCTURAL STEEL CONNECTIONS, OTHER THAN THOSE CONNECTIONS IDENTIFIED ON THE DRAWINGS AS "FULLY DESIGNED", SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER WORKING FOR THE FABRICATOR, LICENSED IN THE JURISDICTION IN WHICH THE PROJECT IS LOCATED. CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH AISC `SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS' AND `AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES'. PROVIDE SIGNED AND SEALED SHOP DRAWINGS AND CONNECTION CALCULATIONS / TABLES.

15. FOR SHEAR CONNECTIONS, THE STEEL FABRICATOR SHALL SUBMIT TO THE ENGINEER OF RECORD TABLES FOR ALL SHEAR CONNECTIONS USED IN THE PROJECT. THE TABLES SHALL CLEARLY INDICATED THE SHEAR STRENGTH FOR ALL CONNECTION CONFIGURATIONS CONSIDERING THE BEAM SIZES, BOLT SIZES, TYPE AND QUANTITY, CONNECTION GEOMETRY, WELD SIZES,EDGE DISTANCES AND ECCENTRICITIES AND COPE DIMENSIONS. DOUBLE-ANGLE CONNECTIONS, SINGLE-ANGLE CONNECTIONS, SINGLE-PLATE CONNECTIONS, SHEAR END-PLATE CONNECTIONS AND BENT PLATE SHEAR CONNECTIONS ARE PERMITTED, UNLESS NOTED OTHERWISE.

16. MAXIMUM PERMITTED CONNECTION ECCENTRICITY IN SHEAR CONNECTIONS SHALL BE 3", UNLESS NOTED OTHERWISE.

17. MINIMUM LENGTH OF THE CONNECTION ANGLE SHALL BE AT LEAST ½ THE "T" DIMENSIONS OF THE MEMBER BEING SUPPORTED. BOLTS TO BE AT 3" O.C. VERTICAL.

18. ALL WELDS IN SHEAR CONNECTIONS SHALL BE CONTINUOUS.

19. MINIMUM THICKNESS OF SINGLE-PLATE SHEAR CONNECTIONS SHALL 3/8" WITH A MINIMUM WELD SIZE OF 0.75 x PLATE THICKNESS.

20. FULL DEPTH DOUBLE ANGLE END CONNECTIONS ARE TO BE USED ON ALL GIRDER AND BEAM CONNECTIONS TO COLUMNS.

21. FULL DEPTH DOUBLE ANGLE END SHEAR CONNECTIONS ARE TO BE USED ON ALL COMPOSITE BEAMS AND GIRDERS WITH SHEAR STUDS. CONNECTIONS ARE TO BE DESIGNED FOR 160 % OF AISC TABLE.

22. PROVIDE A MINIMUM 3/8" THICK FULL DEPTH THRU-PLATE FOR ALL PIPE AND TUBE COLUMN CONNECTIONS.

23. ALL BEAM TO BEAM AND BEAM TO COLUMN BOLTED SHEAR CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS. ALL CONNECTIONS SHALL BE DESIGNED FOR THE GREATER OF THE REACTIONS GIVEN ON THE FRAMING PLANS OR ½ THE AISC UNIFORM LOAD CAPACITY OF THE BEAM UNLESS A MORE STRINGENT CRITERIA IS GIVEN ELSEWHERE ON THE CONTRACT DOCUMENTS.

24. ALL BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH THREADS INCLUDED IN THE SHEAR PLANE, UNLESS NOTED OTHERWISE. ALL BOLTED CONNECTIONS SHALL BE BOLTED "SNUG-TIGHT", UNLESS NOTED OTHERWISE.

25. ALL STEEL BEAMS FRAMING OVER THE TOP OF COLUMNS SHALL BE FITTED WITH (2) 1/2" THICK STIFFENER PLATES ON EACH SIDE OF THE BEAM WEB. THE COLUMN CAP PLATE SHALL MATCH THE THICKNESS OF THE BEAM ABOVE (MIN. 1/2" THICK), UNLESS NOTED OTHERWISE.

26. ALL TRUSS VERTICAL AND DIAGONAL MEMBER CONNECTIONS SHALL HAVE A MINIMUM OF 3 BOLTS. ALL TRUSS CHORD MEMBER CONNECTIONS SHALL HAVE A MINIMUM OF 4 BOLTS. ALL CONNECTIONS SHALL BE DESIGNED FOR THE GREATER OF THE AXIAL LOADS GIVEN ON THE TRUSS ELEVATIONS OR MINIMUM NUMBER OF BOLTS STATED ABOVE.

27. SHEAR STUDS SHALL BE 3/4" DIA. x 4 1/2" LONG CONFORMING TO ASTM A108. SHEAR STUDS SHALL BE MANUFACTURED BY NELSON STUD WELDING COMPANY, OR APPROVED EQUAL. WELD SHEAR CONNECTORS TO SUPPORTS THROUGH DECKING UNITS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. DO NOT WELD SHEAR CONNECTORS THROUGH TWO LAYERS (LAPPED ENDS) OF DECKING UNITS. WELD ONLY ON CLEAN DRY DECK SURFACES. WELDING SHALL BE PERFORMED USING A PORTABLE STUD WELDING MACHINE. AN INDEPENDENT TESTING AGENCY SHALL BE EMPLOYED TO INSPECT SHEAR STUDS FOR PROPER INSTALLATION, SIZE, QUANTITY AND SPACING. SUBMIT WRITTEN REPORT INDICATING CONFORMANCE WITH DRAWINGS TO THE ARCHITECT PRIOR TO PLACING CONCRETE.

28. CONTRACTOR SHALL MAKE ALLOWANCES FOR ADDITIONAL CONCRETE REQUIRED AT ELEVATED DECK SUPPORTED CONCRETE SLAB FLOORS DUE TO DEFLECTION OF THE STEEL DECK FROM THE DEAD WEIGHT OF THE CONCRETE AND CONSTRUCTION LOADING IN ACCORDANCE WITH SDI GUIDELINES.

29. CONTRACTION JOINTS IN ELEVATED CONCRETE FLOORS SUPPORTED ON METAL IS NOT REQUIRED, UNLESS NOTED OTHERWISE.

30. ALL ALUMINUM AND STEEL MEMBERS TO BE TREATED OR PROPERLY SEPARATED TO PREVENT GALVANIC AND CORROSIVE EFFECTS.

31. SUBMIT ALL STEEL SHOP DRAWINGS FOR REVIEW PRIOR TO ANY FABRICATION.

32. STEEL FABRICATOR IS SOLELY RESPONSIBLE FOR SURVEYING AND VERIFICATION OF EXISTING CONDITIONS INCLUDING, BUT NOT LIMITED TO, THE LOCATION, ELEVATION, DIMENSIONS OF EXISTING WALLS, FRAMING, ETC.

33. WHERE STRUCTURAL STEEL IS INDICATED TO BE H.D. GALVANIZED, GALVANIZED A325 BOLTS, NUTS AND WASHERS SHALL BE USED.

34. ALL OPEN ENDS OF HSS AND PIPE STEEL MEMBERS SHALL BE CAPPED WITH 3/8" THICK CAP PLATE, WELDED IN PLACE WITH 3/16" CONTINUOUS FILLET WELDS, ALL AROUND, UNLESS NOTED OTHERWISE.

35. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE DESIGN PROFESSIONAL.

36. FABRICATE BEAMS WITH THE NATURAL CAMBER UP. (PROVIDE CAMBER AS INDICATED).

37. NON-SHRINK GROUT FOR COLUMN BASE PLATES SHALL BE PREMIXED (FACTORY-PACKAGED), SHRINKAGE RESISTANT, NONMETALLIC GROUT COMPLYING WITH ASTM C-1107. NON-SHRINK GROUT AGGREGATE SHALL BE NONMETALLIC, NON-CORROSIVE, NON-STAINING, MIXED WITH WATER TO CONSTANCY SUITABLE FOR APPLICATION AND A 30 MINUTE WORKING TIME. CONTRACTOR SHALL PROVIDE MANUFACTURE'S DATA SHEETS FOR APPROVAL BY ENGINEER OF RECORD, PRIOR TO CONSTRUCTION.

38. PROMPTLY PACK GROUT SOLIDLY BETWEEN BEARING SURFACES AND BASE OR BEARING PLATES SO NO VOIDS REMAIN. NEATLY AND CAREFULLY FINISH ALL EXPOSED SURFACES. PROTECT GROUT AND ALLOW TO CURE, FOLLOWING MANUFACTURER'S RECOMMENDATIONS AND WRITTEN INSTALLATION INSTRUCTION FOR SHRINKAGE-RESITANT GROUTS.

39. STEEL FABRICATOR SHALL PROVIDE ALL REQUIRED STEEL FRAMING TO SUPPORT ELEVATOR EQUIPMENT INCLUDING SHAFT RAIL BEAMS, SILL SUPPORT ANGLES AND HOIST BEAMS.

40. PRIOR TO STEEL COLUMN AND BASEPLATE FABRICATION, STEEL FABRICATOR SHALL BE PROVIDED WITH A COMPLETE SURVEY OF THE LOCATIONS OF ALREADY IN PLACE ANCHOR BOLTS, BY THE CONTRACTOR. STEEL FABRICATOR SHALL ADJUST ANCHOR BOLT HOLES ACCORDINGLY BASED ON SITE AS-BUILT CONDITIONS BEFORE THE FABRICATION OF COLUMN BASE PLATES AND DELIVERY TO THE SITE.

41. ALL LINTELS AND SHELF ANGLES SHALL HE H.D. GALVANIZED. TOUCH UP DAMAGED AREAS WITH GALVANIZING REPAIR PAINT IN ACCORDANCE WITH ASTM A780.

42. THE STEEL CONTRACTOR SHALL PROVIDE TEMPORARY BRACING TO RESIST WIND LOADS, CONSTRUCTION LOADS, ETC... DURING CONSTRUCTION. BRACING SHALL REMAIN IN PLACE UNTIL THE STRUCTURE IS CAPABLE OF SUSTAINING ALL DESIGN LOADS.

DRAWING ABBREVIATIONS

A
AB ANCHOR BOLT
ADD ADDENDUM
ADD'L ADDITIONAL
ADJ ADJACENT
AFF ABOVE FINISHED FLOOR
ALT ALTERNATE
APPROX APPROXIMATE
ARCH ARCHITECTURAL

B
BTWN BETWEEN
BLDG BUILDING
BLKG BLOCKING
BM BEAM
BOT BOTTOM
BRG BEARING
BW BEARING WALL

C
CIP CAST IN PLACE
CJ CONTROL JOINT
CJ CONSTRUCTION JOINT
CL CENTER LINE
CLR CLEAR
CMU CONCRETE MASONRY UNIT
COL COLUMN
CONC CONCRETE
CONN CONNECTION
CONST CONSTRUCTION
CONT CONTINUOUS
COORD COORDINATE
CTD CENTERED
CTR CENTER
CW CURTAIN WALL

D
D DEPTH; DEEP
DET DETAIL
DIA DIAMETER
DIM DIMENSION
DJ DEFLECTION JOINT
DL DEAD LOAD
DN DOWN
DWG DRAWING
DWGS DRAWINGS
DWLS DOWELS

E
EA EACH
EF EACH FACE
EIFS EXTERIOR INSULATION
AND FINISH SYSTEM
EJ EXPANSION JOINT
EL ELEVATION
EOD EDGE OF DECK
EOS EDGE OF SLAB
EQ EQUAL
EQUIP EQUIPMENT
EW EACH WAY
EWB EACH WAY BOTTOM
EWT EACH WAY TOP
EWEF EACH WAY, EACH FACE
EXIST EXISTING
(E) EXISTING
EXP BLT EXPANSION BOLT
EXT EXTERIOR

F
FD FLOOR DRAIN
FDN FOUNDATION
FF FINISH FLOOR
FIN FINISH
FLR FLOOR
FT FOOT
FTG FOOTING
VIF FIELD VERIFY

G
GA GAUGE
GALV GALVANIZED
GB GRADE BEAM
GEN GENERAL
GND GROUND
GR GRADE
GYP BD GYPSUM BOARD

H
HDW HARDWARE
HEF HORIZONTAL EACH FACE
HIF HORIZONTAL INSIDE FACE
HOF HORIZONTAL OUTSIDE FACE
HK HOOK
HORIZ HORIZONTAL
HP HIGH POINT
HR HOUR
HS HEADED STUD
HSKP HOUSEKEEPING
HT HEIGHT

I
IBC INTERNATIONAL BUILDING CODE
INT I INTERIOR
K KIPS (1000 LB)
KO KNOCK-OUT
KSF KIPS PER SQUARE FOOT

L
L ANGLE
LG LONG
LL LIVE LOAD
LLH LONG LEG HORIZONTAL
LLV LONG LEG VERTICAL
LOC LOCATION
LP LOW POINT
LW LIGHTWEIGHT CONCRETE

M
MAS MASONRY
MAT'L MATERIAL
MAX MAXIMUM
MECH MECHANICAL
MEMB MEMBRANE
MEP MECH, ELEC & PLUMB
MFG MANUFACTURER
MIN MINIMUM
MISC MISCELLANEOUS
MO MASONRY OPENING
MTL METAL

N
NA NOT AVAILABLE
NIC NOT IN CONTRACT
NOM NOMINAL
NS NEAR SIDE
NTS NOT TO SCALE
NW NORMAL WEIGHT CONCRETE

O
o/c ON CENTER
OD OUTSIDE DIAMETER
OH OPPOSITE HAND
OPNG OPENING
OPP OPPOSITE
OF OUTSIDE FACE

P
P/C PRECAST CONCRETE
PCF POUNDS PER CUBIC FOOT
PENT PENTHOUSE
PL PROPERTY LINE
PL PLATE
PLUMB PLUMBING
PLYWD PLYWOOD
PR PAIR
PREFAB PREFABRICATED
PSF POUNDS PER SQUARE FOOT
PSI POUNDS PER SQUARE INCH
PT POINT
PTD PAINTED

R
RAD RADIUS
RCP REFLECTED CEILING PLAN
RD ROOF DRAIN
REBAR REINFORCING BAR
REF REFER OR REFERENCE
REINF REINFORCING
REQ'D REQUIRED
RM ROOM
RO ROUGH OPENING

S
SBC STANDARD BUILDING CODE
SCHED SCHEDULE
SDL SUPERIMPOSED DEAD LOAD
SECT SECTION
SIM SIMILAR
SO STRUCTURAL OPENING
SOG SLAB ON GRADE
SPCG SPACE, SPACING
SPEC SPECIFICATION
SQ SQUARE
SS STAINLESS STEEL
SSF SOLID SURFACE
STD STANDARD
STIFF STIFFENER
STIR STIRRUP
STL STEEL
STRUC STRUCTURAL
SYM SYMMETRICAL

T
T TOP
T&B TOP AND BOTTOM
TC TOP OF CURB
THK THICK
T.O. TOP OF
T.O.B. TOP OF BEAM
T.O.C. TOP OF CONCRETE
T.O.F. TOP OF FOOTING
T.O.P. TOP OF PARAPET
T.O.S. TOP OF SLAB
T.O.STL TOP OF STEEL
T.O.W. TOP OF WALL
TYP TYPICAL

U
UNO UNLESS NOTED OTHERWISE

V
VAR VARIES
VIF VERIFY IN FIELD
VERT VERTICAL

W
w/ WITH
w/o WITHOUT
W WIDTH; WIDE
WD WOOD
WF WIDE FLANGE
WL WIND LOAD
WP WORK POINT
WWF WELDED WIRE FABRIC

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KEYPLAN

PLAN NORTH

LEGEND

OUT OF ARCHITECTURAL
SECTOR DESIGNATION
MISC ITEM AS NEEDED
MISC ITEM AS NEEDED

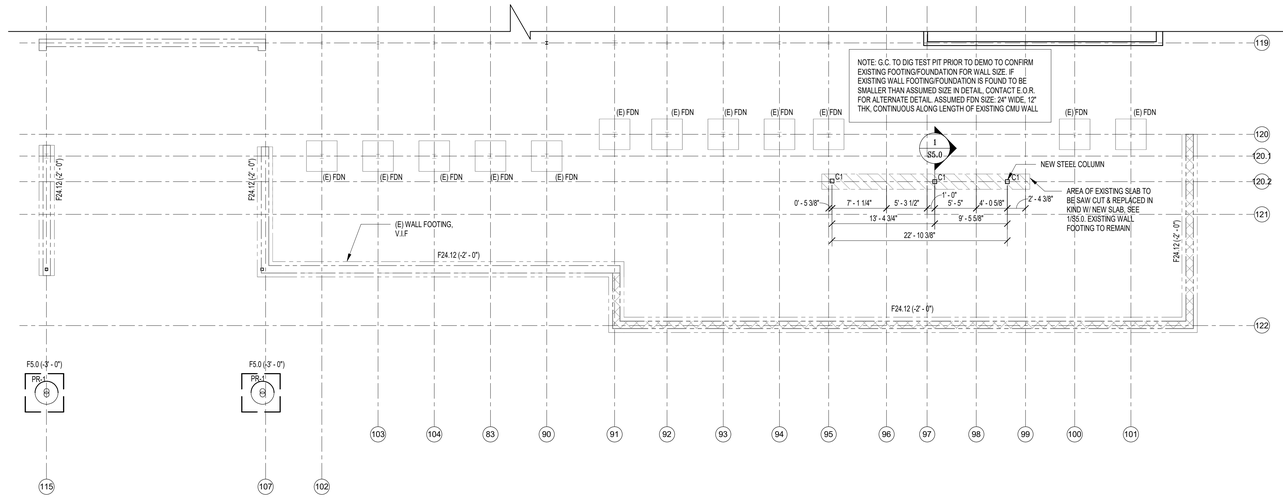
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STRUCTURAL NOTES

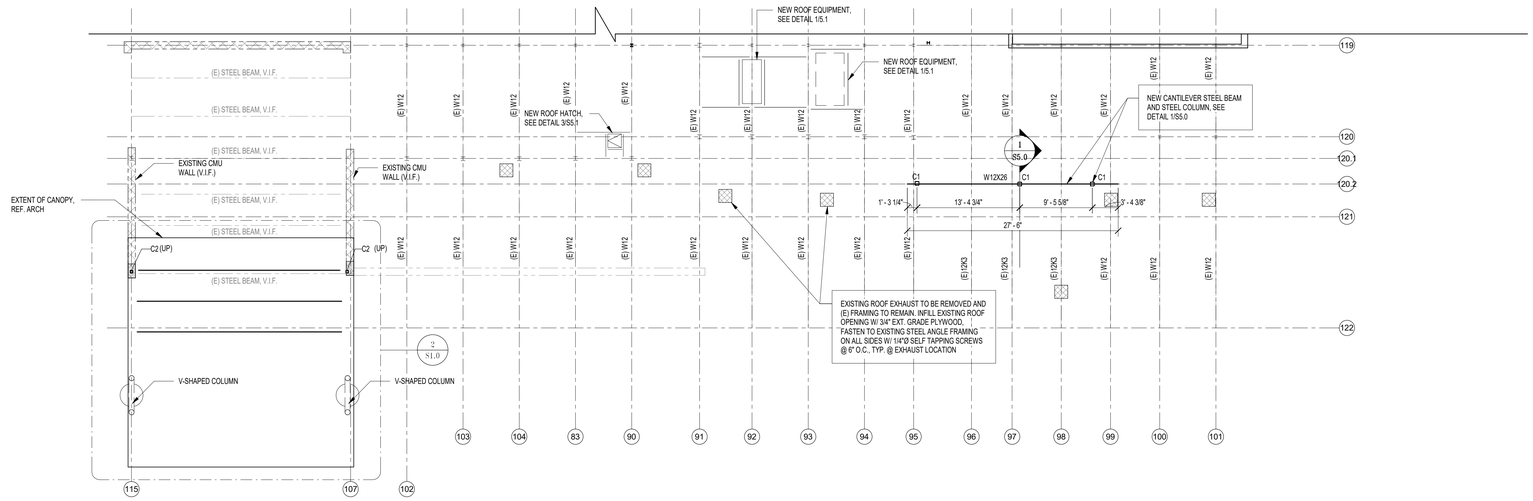
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4 S1.0 FOUNDATION PLAN

1/8" = 1'-0"



1 S1.0 EXISTING ROOF FRAMING PLAN

1/8" = 1'-0"

FIELD VERIFY EXISTING GROUTED CONDITION OF CMU CELLS DIRECTLY BELOW C2 POST-UP LOCATIONS. AT A MINIMUM, TWO (2) CELLS SHALL BE GROUTED SOLID, FULL HEIGHT.

GENERAL CONTRACTOR SHALL INCLUDE A BID ALLOWANCE TO REINFORCE THE EXISTING MASONRY PIERS BELOW POST-UP LOCATIONS IN THE EVENT THE CELLS ARE CONFIRMED HOLLOW.

REINFORCEMENT (IF REQUIRED):

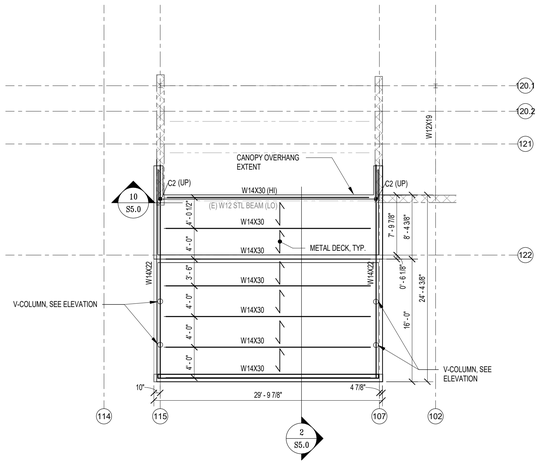
1. BREAK OUT FACE SHELLS AS NECESSARY TO INSTALL (1) #6 VERTICAL PER CELL, FULL HEIGHT.
2. GROUT CELLS SOLID, FUL HEIGHT

FIRE WATCH NOTES (SUPPLEMENTAL FOR WELDING TO STEEL JOISTS SUPPORTING WOOD PLANK ROOF):

A SITE-SPECIFIC HOT WORK PERMIT SHALL BE OBTAINED FROM THE LOCAL FIRE MARSHAL/AHJ PRIOR TO ANY FIELD WELDING. ALL WOOD PLANK SURFACES WITHIN THE WORK AREA AND WITHIN 35 FEET SHALL BE PROTECTED FROM SPARKS, SLAG, AND CONDUCTED HEAT USING FIRE-RESISTANT WELDING BLANKETS, PADS, OR SHIELDS. THE WOOD DECK SHALL BE PRE-WETTED WHERE PRACTICABLE. A DEDICATED, TRAINED FIRE WATCH SHALL BE PROVIDED ON BOTH THE WELDING SIDE AND THE ROOF SIDE DURING ALL WELDING AND FOR A MINIMUM OF 90 MINUTES AFTER WELDING IS COMPLETE AT EACH LOCATION. FIRE EXTINGUISHERS SUITABLE FOR CLASS A FIRES SHALL BE IMMEDIATELY AVAILABLE ON BOTH SIDES. THE FIRE WATCH PERSONNEL SHALL HAVE NO OTHER DUTIES, SHALL MONITOR FOR SIGNS OF SMOLDERING IN THE WOOD OR CONCEALED SPACES, AND SHALL CONDUCT THOROUGH POST-WELD INSPECTIONS OF THE ROOF ASSEMBLY (INCLUDING FOLLOW-UP CHECKS AT APPROXIMATELY 30, 60, AND 90 MINUTES). ADDITIONAL MONITORING BEYOND 90 MINUTES SHALL BE PERFORMED IF THE STEEL REMAINS HOT OR IF SMOLDERING IS SUSPECTED.

STEEL FRAMING PLAN NOTES

1. TOP OF SLAB ELEVATION = (-**'-**"). TOP OF STEEL ELEVATION = (-**'-**") (U.N.O.)
2. EXISTING CONDITIONS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.
3. [#] INDICATES QUANTITY OF 3/4" DIAMETER x 4 1/2" LONG SHEAR STUDS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT INDICATED.
5. REFER TO GENERAL NOTES AND SCHEDULES ON SHEET S0.0.
6. REFER TO TYPICAL STRUCTURAL DETAILS ON SHEET S5.0.
7. ► INDICATES "FLEXIBLE MOMENT CONNECTIONS" OTHERWISE KNOWN AS "TYPE 2 WITH WIND".
8. ALL MOMENTS INDICATED AT FLEXIBLE MOMENT CONNECTIONS ARE SERVICE LEVEL LATERAL (WIND OR SEISMIC) LATERAL LOADS. ALL CONNECTIONS ARE R=3 CONNECTIONS PER ASCE 7-16.
9. PROVIDE LINTELS ACCORDING TO GENERAL NOTES AND LINTEL SCHEDULE.



2 S1.0 CANOPY ROOF FRAMING PLAN

1/8" = 1'-0"

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6/2/2029

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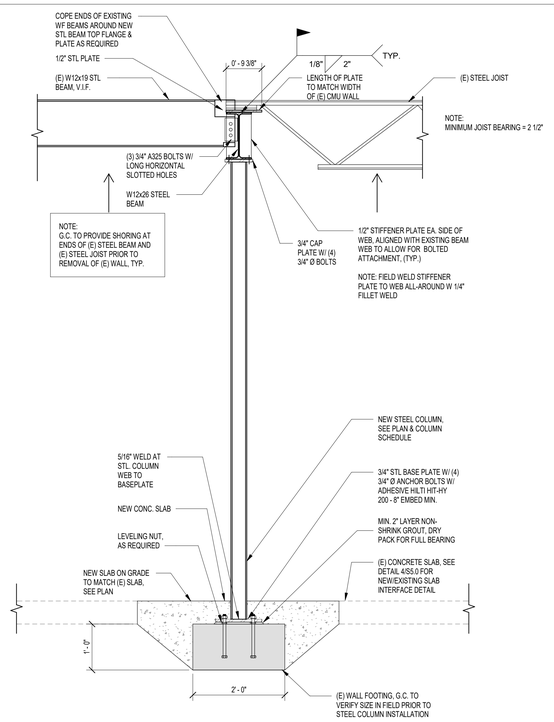
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STRUCTURAL PLANS

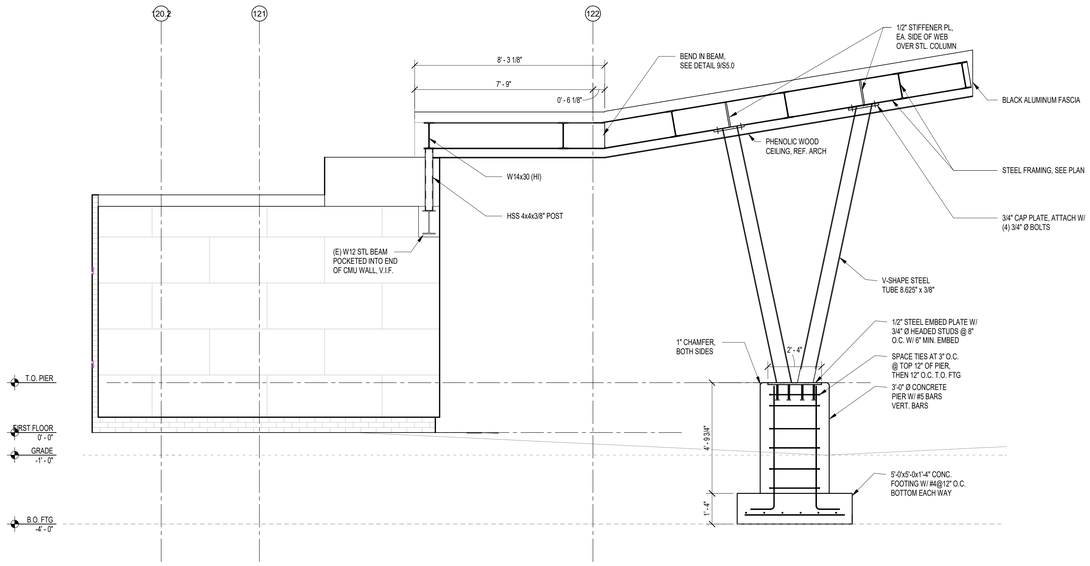
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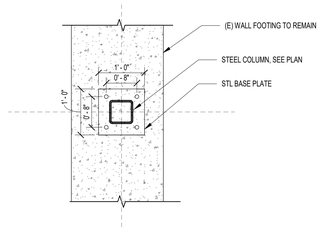
1 S5.0 NEW STEEL COLUMN DETAIL

3/4" = 1'-0"



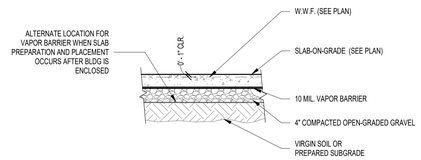
2 S5.0 CANOPY SECTION DETAIL AT FRONT ENTRANCE

3/8" = 1'-0"



3 S5.0 BASEPLATE DETAIL

3/4" = 1'-0"

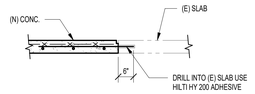


4 S5.0 SLAB ON GRADE SURFACE PREP DETAIL

1/2" = 1'-0"

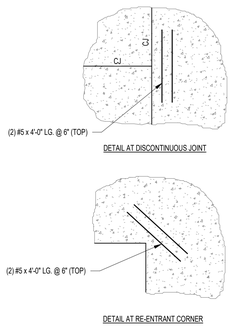
5 S5.0 SLAB ON GRADE JOINT DETAILS

1/2" = 1'-0"



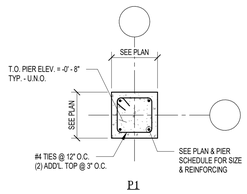
6 S5.0 NEW SLAB/EXISTING INTERFACE

1/2" = 1'-0"



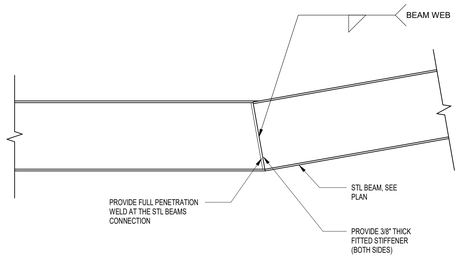
7 S5.0 CORNER CRACK CONTROL REINFORCEMENT

1/2" = 1'-0"



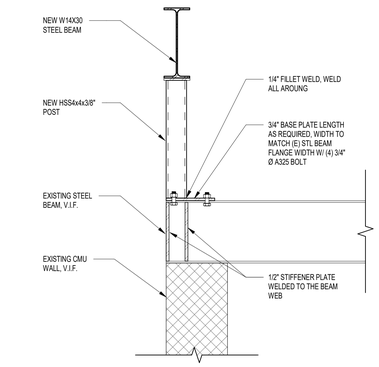
8 S5.0 CONCRETE PIER PLAN DETAIL

3/4" = 1'-0"



9 S5.0 BEND IN BEAM DETAIL

1" = 1'-0"



10 S5.0 STL BEAM & NEW POST DETAIL

1" = 1'-0"

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KEYPLAN

PLAN NORTH

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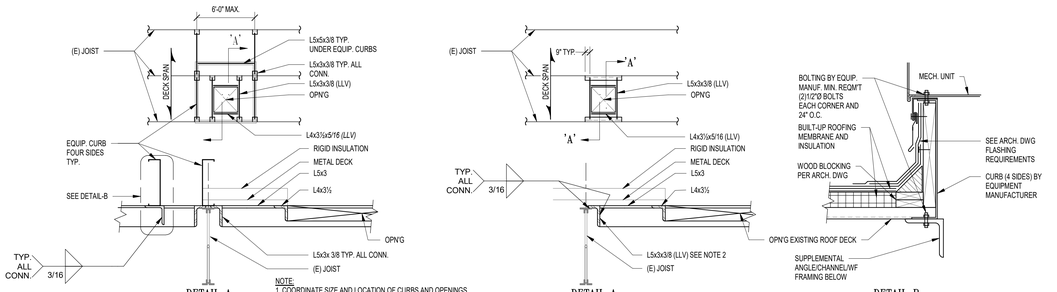
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STRUCTURAL DETAILS

DRAWING NUMBER

S5.0



DETAIL A
NTS
WITH
CURBS

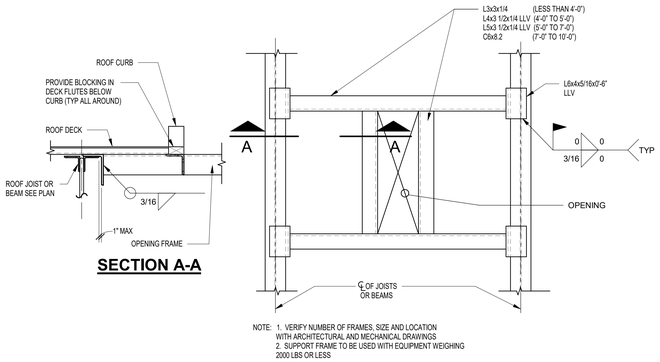
NOTE:
1. COORDINATE SIZE AND LOCATION OF CURBS AND OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.
2. ALL OPENINGS GREATER THAN 13" DIAMETER SHALL HAVE A STEEL FRAME. PROVIDE 0.057" PLATE AT OPENING LESS THAN 13" WITH 6" OVER LAP AND SCREWS AT 6" O.C. ALL AROUND.
3. METAL DECK AND REGID INSULATION SHALL BE INSTALLED BELOW MECHANICAL UNIT. ONLY OMIT AT SUPPLY AND RETURN OPENINGS.

DETAIL A
NTS
WITHOUT
CURBS

DETAIL B
NTS
WITH
CURBS

1 S5.1 TYPICAL FRAMING AT RTU OPENING

3/4" = 1'-0"



SECTION A-A

NOTE: 1. VERIFY NUMBER OF FRAMES, SIZE AND LOCATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS
2. SUPPORT FRAME TO BE USED WITH EQUIPMENT WEIGHING 2000 LBS OR LESS

2 S5.1 ROOF OPENING AND EQUIPMENT SUPPORT FRAME

1" = 1'-0"

STRUCTURAL DESIGN CRITERIA - IBC2021

MEAN ROOF HEIGHT - 20 ft

ROOF SNOW LOAD CRITERIA		
FACTOR	SECTION	VALUE
Pg-ground snow	1608.2 IBC	30.0 PSF
Pf	7.3 ASCE 7	20.0 PSF
C_e-exposure	7.3.1 ASCE 7	1.0
C_t-thermal	7.3.2 ASCE 7	1.0
Min. Roof Live Load	7.3.3 ASCE 7	21 PSF
Live Load Reduction (If used)	1607.11.1.3 IBC	NOT USED
DESIGN ROOF LIVE LOAD: 30 PSF		

WIND LOAD CRITERIA (3sec. gust)				
FACTOR	SECTION	VALUE		
V - Basic Wind Speed (See Risk Category)	1609.3 IBC	109 MPH		
Exposure	1609.4 IBC	B		
MWFRS	28.4.1 ASCE 7	See Below		
Load Direction	End Zone		Interior Zone	
	Wall	Roof	Wall	Roof
Transverse	19.2	-23.1	21.7	-16.0
Longitudinal	19.2	-23.1	21.7	-16.0
FOR COMPONENTS AND CLADDING USE IBC 2021 SECTION 1609.1 OR ASCE7-16 CH 30 WIND DESIGN				

SEISMIC LOAD CRITERIA		
FACTOR	SECTION	VALUE
Ss	1603.1.5 IBC	0.189
S_1	1603.1.5 IBC	0.063
S_{DS}	1603.1.5 IBC	0.202
S_{D1}	1603.1.5 IBC	0.101
Soil Site Class	1603.1.5 IBC	D
Seismic Design Category	1603.1.5 IBC	B
R	12.2.1 ASCE 7	-
Importance Factor	11.5.1 ASCE 7	1.0
Cs	1603.1.5 IBC	-
Base Shear	1603.1.5 IBC	-
Wind or Sesimic Controled		-

ARCHITECTURAL COMPONENTS SHALL BE SEISMICALLY DESIGNED AND SUPPORTED IN ACCORDANCE WITH IBC 2021

DESIGN LOAD SCHEDULE

LOADS SHOWN IN PSF - IBC 2018

COMPONENT	LOCATION	BASEMENT	1ST FLOOR	ROOF
ROOFING MAT. (FIBERGLASS + INS.)		00	00	5
DECKING (PLYWOOD/ROOF)		00	00	3
WOOD JOISTS/BEAMS		00	00	5
TILE FLOORING		00	00	00
MECH., ELEC., PLUMBING		00	00	00
CEILING MAT. (DRYWALL, JOISTS)		00	00	2
HARDWOOD FLOORING		00	00	00
4" SLAB ON GRADE		00	00	00
TOTAL DEAD LOAD		00	20	15
LIVE LOAD		00	30	30
TOTAL LOAD		00	50	45

FOOTING SCHEDULE

3000 PSF SOIL BEARING (ASSUMED)

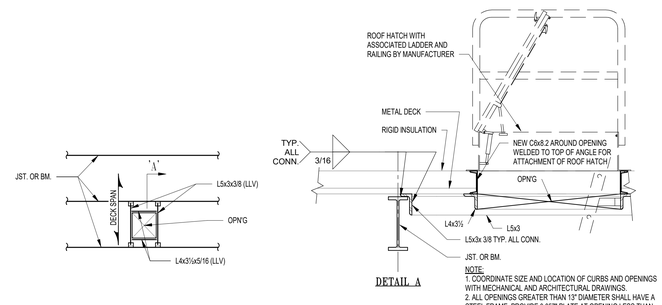
MARK	SIZE	REINFORCING
F4.0	4'-0" x 4'-0" x 1'-0"	(4) #5 BARS E.W.B.
F5.0	5'-0" x 5'-0" x 1'-0"	(5) #5 BARS E.W.B.
F24.12	2'-0" x 1'-0" x CONT.	(3) #4 BARS CONT. L.W.B. #4 BARS @ 12" O.C. S.W.B.

CONC. PIER SCHEDULE

MARK	SIZE	VERT. REINF.	Horiz. Ties
PR-1	36" DIA.	(4) #5 BARS	#4 BARS @ 4" O.C.

COLUMN SCHEDULE

MARK	SIZE	BASE PLATE
C1	HSS6X6X1/4	
C2	HSS4X4X1/4	



DETAIL A

NOTE:
1. COORDINATE SIZE AND LOCATION OF CURBS AND OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.
2. ALL OPENINGS GREATER THAN 13" DIAMETER SHALL HAVE A STEEL FRAME. PROVIDE 0.057" PLATE AT OPENING LESS THAN 13" WITH 6" OVER LAP AND SCREWS AT 6" O.C. ALL AROUND.
3. METAL DECK AND REGID INSULATION SHALL BE INSTALLED BELOW MECHANICAL UNIT. ONLY OMIT AT SUPPLY AND RETURN OPENINGS.

3 S5.1 ROOF HATCH OPENING DETAIL

3/4" = 1'-0"

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HSA PROJECT # :26-004

Heckendorn Shiles Architects

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KEYPLAN

PLAN NORTH

LEGEND

- OUT OF ARCHITECTURAL
- SECTOR DESIGNATION
- MISC ITEM AS NEEDED
- MISC ITEM AS NEEDED

ISSUE HISTORY

Δ	DATE	ISSUED FOR

SHEET TITLE

FRAMING DETAILS & SCHEDULES

DRAWING NUMBER

S5.1