STRUCTURAL NOTES

GENERAL NOTES

1. THIS PROJECT HAS BEEN DESIGNED USING THE 2015 INTERNATIONAL BUILDING CODE - NEW JERSEY EDITION.
2. STRUCTURAL SPECIAL INSPECTIONS ARE A REQUIREMENT FOR THIS PROJECT. A QUALIFIED INDEPENDENT INSPECTION AGENCY SHALL BE SELECTED TO PERFORM THIS SERVICE. ALL INSPECTIONS AS REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (SEE THE FOLLOWING TABULAR REFERENCES) ARE REQUIRED AT A MINIMUM. FOR STEEL CONSTRUCTION REFER TO TABLE 1705.2, FOR CONCRETE CONSTRUCTION SEE TABLE 1705.3, FOR MASONRY CONSTRUCTION SEE TABLE 1705.4, FOR SOILS SEE TABLE 1705.6. SEE THE NOTES ON THIS DRAWING FOR ANY ADDITIONAL INSPECTIONS REQUIRED.
3. ALL CONTRACTORS AND SUBCONTRACTORS ARE RESPONSIBLE FOR ADHERING TO THE REQUIREMENTS AS INDICATED IN THE NOTES FOR THIS JOB. FAILURE OF THE CONTRACTOR TO READ THE STRUCTURAL NOTES DOES NOT PERMIT THE CONTRACTOR TO DEVIATE FROM THEIR REQUIREMENTS.
4. NO FIELD MODIFICATIONS TO ANY STRUCTURAL COMPONENTS SHALL BE MADE WITHOUT PRIOR APPROVAL BY THE STRUCTURAL ENGINEER. THIS INCLUDES, BUT IS NOT LIMITED TO REVISIONS DUE TO MIS-LOCATION, MISFIT, OR ANY OTHER CONSTRUCTION ERRORS.
5. ALL CONSTRUCTION AND DEMOLITION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES INCLUDING ALL OSHA REGULATIONS.
6. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PEOPLE WHO MAY BE ON OR NEAR THE WORK AREA, BY MAINTAINING A SAFE WORK AREA, SAFE WORKING CONDITIONS, AND LIMITING ACCESS TO THE WORK AREA.
7. CONTRACTOR IS FULLY RESPONSIBLE FOR HIS WORKERS' SAFETY, SAFETY EQUIPMENT, FIRST AID, AND EMERGENCY HANDLING PROCEDURES.
8. CONTRACTOR SHALL PERSONALLY SUPERVISE THE WORK AND SHALL BE PRESENT AT THE WORK SITE AT ALL TIMES DURING CONSTRUCTION WORK. CONTRACTOR SHALL PROVIDE ADEQUATE PERSONNEL FOR THE PROPER COORDINATION AND EXPEDITING OF THE WORK.
9. THESE DRAWINGS SHALL NOT BE SCALED FOR PURPOSES OF CONSTRUCTION.
10. TYPICAL DETAILS ARE NOT NECESSARILY REFERENCED ON EVERY DRAWING SHEET AND SHALL BE USED BY THE CONTRACTOR AS REQUIRED FOR ALL CONDITIONS WHERE APPLICABLE.
11. IN CASE OF CONFLICT BETWEEN STRUCTURAL DRAWINGS AND OTHER DRAWINGS OF THIS PROJECT, CONTRACTOR SHALL IMMEDIATELY CONTACT ARCHITECT FOR CLARIFICATION PRIOR TO START OF WORK.
12. IN CASE OF CONFLICT BETWEEN STRUCTURAL DRAWINGS AND STRUCTURAL SPECIFICATIONS, CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER FOR CLARIFICATION PRIOR TO START OF WORK.
13. ALL COLUMN LINE AND WALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE FOR REFERENCE AND SHALL FIRST BE VERIFIED WITH THE ARCHITECTURAL DRAWINGS PRIOR TO THE START OF THE PROJECT.
14. THE CONTRACTOR IS RESPONSIBLE FOR SURVEYING AND VERIFICATION OF EXISTING CONDITIONS.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TEMPORARY SHORING OF THE EXCAVATIONS AND BUILDING STRUCTURE AS REQUIRED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION. DESIGN OF SHEETING, SHORING, SCAFFOLDING, FORM WORK, AND OTHER MEANS AND METHODS STRUCTURES SHALL BE DESIGNED BY ENGINEERS HIRED BY THE CONTRACTOR.
16. SECTIONS SHOWN ON PLANS APPLY TO SIMILAR CONDITIONS THROUGHOUT THE BUILDING.
17. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ALL DRAWINGS FOR THE PROJECT FOR THE FOLLOWING INFORMATION.
    A. LOCATION OF ALL REQUIRED OPENINGS IN WALLS, FLOORS, ROOF, ETC. ALL OPENINGS MAY NOT BE INDICATED ON STRUCTURAL DRAWINGS.
    B. SIZE AND LOCATION OF ALL SLEEVES, INSERTS, AND DEPRESSIONS.
    C. LOCATION AND SIZE OF ALL EQUIPMENT HOUSE KEEPING PADS.
18. ALL COSTS OF INVESTIGATION OR REDESIGN REQUIRED TO CORRECT CONTRACTOR MIS-LOCATION OF STRUCTURAL ELEMENTS OR OTHER CONSTRUCTION DOCUMENT DEVIATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE.
19. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL MASONRY AND STUD NON-LOAD BEARING PARTITIONS. PROVIDE SLIP CONNECTIONS THAT ALLOW FOR VERTICAL MOVEMENT OF THE BUILDING STRUCTURE AT THE HEADS OF ALL PARTITIONS. CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE TOP OF WALL LATERALLY FOR ALL CODE REQUIRED LATERAL FORCES. PROVIDE FIRE SAFING AT THE TOP OF THE WALL AS REQUIRED BY ARCHITECTURAL DRAWINGS.
20. THE DESIGN OF NON-LOAD BEARING METAL STUD AND CURTAIN WALLS SHALL BE PERFORMED BY ENGINEERS RETAINED BY THE CONTRACTOR. DRAWINGS AND CALCULATIONS FOR THESE WALLS SHALL BE PREPARED AND SUBMITTED FOR REVIEW. ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY ENGINEERS LICENSED IN THE STATE OF THE PROJECT'S JURISDICTION. DESIGN OF WALL SYSTEM AND CONNECTIONS SHALL CONSIDER ALL VERTICAL AND LATERAL LOADS REQUIRED BY THE APPLICABLE BUILDING CODE.
21. METAL STAIRS, RAILINGS, GUARDRAILS, AND LADDERS SHALL BE DESIGNED BY ENGINEERS RETAINED BY THE CONTRACTOR. DRAWINGS AND CALCULATIONS FOR THESE ITEMS SHALL BE PREPARED AND SUBMITTED FOR REVIEW. ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY ENGINEERS LICENSED IN THE STATE OF THE PROJECTS JURISDICTION. DESIGNS ARE THE RESPONSIBILITY OF THE ENGINEER RETAINED BY THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH ALL LOADS REQUIRED BY THE APPLICABLE BUILDING CODE. REVIEW OF SHOP DRAWINGS FOR THESE ITEMS WILL BE FOR CONCEPT ONLY AND WILL NOT BE A CHECK OF THE DESIGN OF THESE ITEMS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL LOCATIONS, DIMENSIONS, AND DETAILS.

SHOP DRAWINGS AND SUBMITTALS

1. SHOP DRAWINGS AND RELATED MATERIALS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT/STRUCTURAL ENGINEER. THE GENERAL CONTRACTOR SHALL REVIEW ALL SUBMISSIONS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION, TECHNICAL CONTENT, COORDINATION OF TRADES, DIMENSIONAL ACCURACY, SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL APPROVE AND SO STAMP EACH SUBMISSION.
2. SHOP DRAWINGS, WHERE REQUIRED, SHALL BE SUBMITTED AS FOLLOWS. PROVIDE ONE (1) ELECTRONIC PDF COPY TO THE ENGINEER FOR REVIEW. ONE (1) COPY WILL BE MARKED UP AND RETURNED FOR DISTRIBUTION AS REQUIRED BY THE CONTRACTOR. ALL SHOP DRAWINGS SHALL BE CHECKED PRIOR TO SUBMISSION. CONTRACTOR SHALL ALLOW (10) WORKING DAYS IN THE CONSTRUCTION SCHEDULE FOR SHOP DRAWING REVIEW. FAX SUBMITTALS OF SHOP DRAWINGS WILL NOT BE ACCEPTED.
3. STRUCTURAL DESIGN DRAWINGS (INCLUDING ORIGINAL CAD DRAWINGS) SHALL NOT BE USED AS THE BACKGROUNDS FOR THE PRODUCTION OF ANY SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW. THIS INCLUDES REBAR PLACEMENT DRAWINGS, FABRICATION DRAWINGS, ERECTION DRAWINGS, ERECTION DETAILS, ETC. THE CONTRACTOR SHALL PREPARE THEIR OWN SHOP DRAWINGS (INCLUDING DETAILS). SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
4. ANY DEVIATIONS FROM THE ORIGINAL DESIGN OR DESIGN CRITERIA AS SPECIFIED ON THE "ISSUED FOR CONSTRUCTION" DESIGN DOCUMENTS OF THE PROJECT SHALL BE NOTED (BUBBLED, NOTE, ETC.) ON THE SHOP DRAWINGS THAT ARE SUBMITTED FOR APPROVAL.
5. REVIEW OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY CONTRACT REQUIREMENTS EVEN IF SUCH ITEMS ARE NOT SHOWN ON THE SHOP DRAWINGS. THE ENGINEER'S REVIEW OF SHOP DRAWINGS IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND PROJECT REQUIREMENTS, AND DOES NOT IMPLY APPROVAL OR VARIANCE FROM THE CONTRACT DOCUMENTS. QUANTITIES WILL NOT BE CHECKED BY THE ENGINEER.
6. ALL REVISIONS TO SHOP DRAWINGS AFTER THE FIRST SUBMISSION SHALL BE APPROPRIATELY IDENTIFIED ON SUBSEQUENT SUBMISSIONS.
7. SUBSTITUTIONS TO PRODUCTS SPECIFIED ON THE DRAWINGS IS ACCEPTABLE PROVIDED THE FOLLOWING CRITERIA ARE MET. THE CONTRACTOR SHALL SUBMIT INFORMATION ON THE PRODUCT TO BE SUBSTITUTED THAT SUBSTANTIATES ITS PERFORMANCE ON AN EQUAL OR BETTER VALUE. CONTRACTOR SHALL ALLOW A MINIMUM OF (5) WORKING DAYS IN THE CONSTRUCTION SCHEDULE FOR REVIEW OF THE SUBSTITUTED PRODUCT BY THE ENGINEER.

BUILDING STRUCTURE AND LATERAL BRACING DURING CONSTRUCTION

1. THE STEEL FRAMING AND ALL CMU WALLS SHALL BE TEMPORARILY BRACED UNTIL ALL STEEL BRACING, FLOOR AND ROOF DECKS, AND CONCRETE AND CMU WALLS HAVE BEEN INSTALLED AND ALL CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
2. PROPER WEIGHT DISTRIBUTION OF CONSTRUCTION MATERIALS DURING CONSTRUCTION IS A MUST AND IS THE RESPONSIBILITY OF THE CONTRACTOR. AVOID STACKING HEAVY CONSTRUCTION MATERIALS AT MID-SPAN OF BEAMS. HEAVY CONSTRUCTION MATERIALS SHOULD BE STORED AT GROUND LEVEL AND ONLY MOVED TO ELEVATED FLOOR AND ROOF LOCATIONS WHEN REQUIRED FOR INSTALLATION.

POST-INSTALLED ANCHORS

1. THE ADHESIVE ANCHOR SYSTEM USED FOR POST-INSTALLED ANCHORAGE TO CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY PUBLISHED ACI 355.4, ACCEPTANCE CRITERIA FOR QUALIFICATION OF POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE AND COMMENTARY.
2. THE ADHESIVE ANCHORS SHALL BE SUPPLIED AS AN ENTIRE SYSTEM. THE SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO, THE NEW ADHESIVE CARTRIDGE, A CLEAN MIXING NOZZLE, EXTENSION TUBE, A DISPENSING GUN, AND ALL MANUFACTURER RECOMMENDED SUPPLIES FOR PROPERLY CLEANING THE DRILLED HOLE.
3. EYEBOLTS, THREADED STUDS, INTERNAL THREADED PARTS TO BE USED IN ADHESIVE ANCHOR ASSEMBLIES SHALL CONFORM TO ASTM A36, A193 (GRADE B7), A307, B348 (BD), OR F1554. STAINLESS STEEL ANCHOR RODS SHALL BE AISI TYPE 304 OR TYPE 316. THREADS SHALL BE UNC COARSE THREADS, UNLESS NOTED OTHERWISE. COMPATIBLE NUTS AND WASHERS SHALL BE FURNISHED WITH THE ALL-THREAD ROD AND CONSIDERED PART OF THE ASSEMBLY. THE COST OF THE HARDWARE SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLED ADHESIVE ANCHOR ASSEMBLY.
4. NUTS, WASHERS, AND OTHER HARDWARE USED WITH AN ALL-THREADED BAR ADHESIVE ANCHOR SYSTEM SHALL HAVE A MATERIAL OR AN ALLOY DESIGNATION THAT MATCHES THE ALL-THREAD MATERIAL / ALLOY. GALVANIZED ASSEMBLIES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. ELECTROPLATE GALVANIZING IS NOT ACCEPTABLE. DISSIMILAR METAL ASSEMBLIES SHALL BE SEPARATED BY NYLON, EPDM, OR OTHER APPROVED NON-METALLIC WASHERS.
5. REINFORCING BARS TO BE USED IN ADHESIVE ANCHORS ASSEMBLIES SHALL CONFORM TO ASTM A615.
6. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'c) OF 2,500 PSI AT THE TIME OF ADHESIVE ANCHOR INSTALLATION.
7. CONCRETE AT TIME OF ADHESIVE ANCHOR INSTALLATION SHALL HAVE A MINIMUM AGE OF 21 DAYS.
8. CONCRETE TEMPERATURE AT THE TIME OF ADHESIVE ANCHOR INSTALLATION SHALL BE AT LEAST 50 DEGREES F.
9. EMBEDMENT DEPTH AND ANCHOR PROJECTION (STICK-OUT) FROM THE CONCRETE SURFACE SHALL BE AS SHOWN ON THE DRAWING OR DETAIL FOR THE PARTICULAR ANCHOR OR GROUP OF ANCHORS BEING INSTALLED. ABSENT ANY INFORMATION, THE MINIMUM EMBEDMENT DEPTH SHALL BE 10 TIMES THE ANCHOR DIAMETER IN INCHES AND MINIMUM STICK-OUT SHALL BE AS REQUIRED TO MAKE THE CONNECTION.
10. ADHESIVES SHALL BE STORED AND INSTALLED AT THE SERVICE TEMPERATURE RANGES RECOMMENDED BY THE MANUFACTURER.
11. ADHESIVE ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE REQUIRMENTS OF THE MANUFACTURER AND THE CONTRACT DOCUMENTS. POST-INSTALLED ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
12. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. THESE ANCHORS ARE DESIGNATED WITH A (CERT) AFTER THE ANCHOR CALL-OUT. NOTE: SOME DOWNHAND INSTALLATIONS SHOWN ON THESE DRAWINGS SUPPORT SUSTAINED TENSION LOADS AND ARE SO DESIGNATED WITH A (CERT) AFTER THE ANCHOR CALL-OUT.
13. THE INSTALLER'S QUALIFICATIONS SHALL BE SUBMITTED AND APPROVED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT REQUIRED TO INSTALL THE ADHESIVE ANCHOR INCLUDING, BUT NOT LIMITED TO, DRILLS, SETTING TOOLS, CLEAN-OUT BRUSHES, BLOW OUT BULBS, OIL-FREE COMPRESSED AIR, SHOP VACUUMS, WRENCHES, ETC.
15. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH A ROTARY IMPACT HAMMER DRILL OR ROCK DRILL.
16. ANCHOR HOLES SHALL BE THOROUGHLY CLEANED PRIOR TO ADHESIVE INJECTION, AS REQUIRED BY THE MANUFACTURERS PRINTED INSTALLATION INSTRUCTIONS.
17. ANCHORS TO BE INSTALLED IN THE ADHESIVE SHALL BE CLEAN, OIL-FREE, AND FREE OF LOOSE RUST, PAINT, OR OTHER COATINGS.
18. INSTALLED ADHESIVE ANCHORS SHALL BE SECURELY FIXED IN-PLACE TO PREVENT DISPLACEMENT WHILE THE ADHESIVE CURES. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, ANCHORS SHALL BE INSTALLED PERPENDICULAR TO THE CONCRETE SURFACE. ANCHORS DISPLACED BEFORE FULL ADHESIVE CURE SHALL BE CONSIDERED DAMAGED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
19. REINFORCING BARS OR ALL-THREADED BARS SHALL NOT BE BENT AFTER BEING ADHESIVELY EMBEDDED IN HARDENED, SOUND CONCRETE, UNLESS PERMITTED BY THE ENGINEER.
20. ADHESIVE ANCHORS INTO CONCRETE SUBSTRATE APPLICATIONS SHALL USE THE HILTI HIT HY-200 SYSTEM.
21. ADHESIVE ANCHORS INTO SOLID GROUTED CMU SUBSTRATE APPLICATIONS SHALL USE THE HILTI HY-70 SYSTEM. EXPANSION ANCHORS INTO SOLID GROUTED CMU SUBSTRATE APPLICATIONS SHALL USE HILTI KWIK BOLT 3.
22. ADHESIVE ANCHORS INTO HOLLOW CMU SUBSTRATE APPLICATIONS SHALL USE THE HILTI HIT HY-70 SYSTEM.
23. ALL HOLES IN STEEL MEMBERS TO RECEIVE POST-INSTALLED ADHESIVE OR EXPANSION ANCHORS SHALL BE STANDARD SIZE BASED ON THE ANCHOR DIAMETER (UNLESS NOTED OTHERWISE). OVERSIZED OR SLOTTED HOLES IN THE DIRECTION OF FORCE APPLICATION ARE NOT PERMITTED.

STEEL

1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC 360 AND WITH AISC 303 - CODE OF STANDARD PRACTICE.
2. STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM SPECIFICATION A-992 (Fy = 50 KSI MIN.). ALL STEEL TUBING (HSS) SHALL CONFORM TO ASTM SPECIFICATION A-500 GRADE B (Fy = 46 KSI). ALL STEEL PIPE (STANDARD, EXTRA STRONG, DOUBLE EXTRA STRONG) SHALL CONFORM TO ASTM A501 OR ASTM A53 TYPE E OR S (GRADE B, Fy = 35 KSI). ALL CHANNELS, ANGLES AND PLATE MATERIAL SHALL CONFORM TO ASTM A36.
3. ALL BOLTS SHALL BE 3/4" DIAMETER A325-N HIGH STRENGTH BOLTS, UNLESS OTHERWISE NOTED.
4. ALL ANCHOR RODS SHALL BE FABRICATED IN ACCORDANCE WITH ASTM F1554. ALL ANCHOR RODS SHALL BE 55 KSI UNLESS OTHERWISE NOTED.
5. ALL STEEL SHALL BE THOROUGHLY CLEANED BY POWER TOOL CLEANING (SSPC SP3) PRIOR TO APPLYING PRIMER OR GALVANIZING.
6. ALL STEEL SHALL HAVE A SHOP COAT OF RUST INHIBITIVE PRIMER UNLESS OTHERWISE NOTED. ALL PRIMER THAT IS DAMAGED IN THE FIELD AND ALL FIELD WELDS SHALL BE TOUCHED UP WITH FIELD APPLIED PRIMER
7. STEEL SCHEDULED TO RECEIVE SPRAY APPLIED FIREPROOFING SHALL NOT BE PRIMED. STEEL WHICH IS TO BE FIREPROOFED IS INDICATED ON THE ARCHITECTURAL DRAWINGS.
8. GALVANIZE ALL STEEL EXPOSED TO WEATHER AND WHERE INDICATED ON THE DRAWINGS. STEEL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. ALL GALVANIZED SURFACES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED USING A GALVANIZING REPAIR PAINT IN ACCORDANCE WITH ASTM A780.
9. ALL CONNECTIONS SHALL BE BOLTED OR WELDED. FULL DEPTH CONNECTIONS ARE TO BE USED ON ALL GIRDER AND BEAM CONNECTIONS TO COLUMNS. BOLTS TO BE AT 3 INCH O/C VERTICAL PROVIDE A MINIMUM 3/8" THICK FULL DEPTH TAB PLATE FOR ALL TUBE COLUMN CONNECTIONS.
10. 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.
11. THE STEEL FABRICATOR SHALL SELECT AND COMPLETE THE STEEL CONNECTION DETAILS FOR THE SHOP DRAWINGS BASED ON THE INFORMATION CONTAINED ON THE STRUCTURAL DESIGN DRAWINGS. THE FABRICATOR SHALL COMPLETE THE CONNECTION DETAILS UTILIZING THE REQUIREMENTS IN THE AISC SPECIFICATION AND THE CONTRACT DOCUMENTS. SUBMIT THE CONNECTION DETAILS TO THE FOR APPROVAL PRIOR TO CONSTRUCTION.
12. THE DESIGN OF ALL CONNECTIONS IS THE RESPONSIBILITY OF THE STEEL CONTRACTOR AND SHALL BE PERFORMED BY A QUALIFIED PROFESSIONAL ENGINEER RETAINED BY THE STEEL CONTRACTOR. ALL CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE 2010 EDITION OF AISC 360 UTILIZING ALLOWABLE STRESS DESIGN (ASD). ALL STANDARD WIDE FLANGE BEAM CONNECTIONS NOT SHOWN SPECIFICALLY ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED USING 1/2 OF THE MAXIMUM TOTAL UNIFORM LOAD SHOWN IN TABLE 3-6 OF THE ABOVE REFERENCED AISC CODE FOR THE SPECIFIC WIDE FLANGE BEAM SIZE AND SPAN LENGTH. SEE COMPOSITE STEEL CONSTRUCTION NOTE #3 BELOW FOR DESIGN OF CONNECTIONS FOR COMPOSITE BEAM & GIRDERS WITH SHEAR STUDS. SEE PLANS FOR ANY OTHER SPECIAL CONNECTION REQUIREMENTS. SUBMIT ENGINEERING DESIGN CALCULATIONS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONSTRUCTION, PRIOR TO SUBMITTING STEEL PIECE SHOP DRAWINGS.
13. ALL SHOP AND FIELD WELDING SHALL BE PERFORMED BY WELDERS QUALIFIED, AS DESCRIBED IN "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" (AWS D1.1), TO PERFORM THE TYPE OF WORK REQUIRED.
14. ALL STEEL WELDING RODS SHALL BE E70XX.
15. THE MINIMUM SIZE OF ALL FILLET WELDS SHOWN ON DRAWINGS SHALL BE IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL TABLE J2.4 UNLESS NOTED OTHERWISE.
16. ALL MILL CAMBER TO BE ORIENTED UPWARD DURING FABRICATION AND ERECTION.
17. PRIOR TO STEEL COLUMN AND BASE PLATE FABRICATION, PROVIDE A SURVEY OF IN-PLACE ANCHOR BOLT LOCATIONS TO THE STEEL FABRICATOR. THE STEEL FABRICATOR SHALL ADJUST ANCHOR BOLT HOLES ACCORDINGLY BASED ON SITE AS-BUILT CONDITIONS BEFORE FABRICATION OF COLUMN BASE PLATES AND DELIVERY TO THE SITE.
18. GROUT FOR BASE, LEVELING, AND BEARING PLATES SHALL BE NONMETALLIC AND SHRINKAGE-RESISTANT. GROUT SHALL MEET THE REQUIREMENTS OF ASTM C 1107 AND SHALL BE FACTORY-PACKAGED, NONMETALLIC AGGREGATE, NON CORROSIVE, NON STAINING, MIXED WITH WATER TO CONSTANCY SUITABLE FOR APPLICATION AND A 30-MINUTE WORKING TIME. SUBMIT GROUT MANUFACTURES DATA SHEETS FOR APPROVAL PRIOR TO CONSTRUCTION.
19. PROMPTLY PACK GROUT SOLIDLY BETWEEN BEARING SURFACES AND BASE OR BEARING PLATES SO NO VOIDS REMAIN. NEATLY FINISH EXPOSED SURFACES. PROTECT GROUT AND ALLOW TO CURE. COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR SHRINKAGE-RESISTANT GROUTS.
20. PROVIDE BEARING PLATES WITH (2) 1/2" DIAMETER x 6" LONG HEADED STUDS FOR STEEL BEAMS BEARING UPON CMU OR CONCRETE. BEARING PLATE THICKNESS SHALL BE THE SAME THICKNESS AS THE BEAM BOTTOM FLANGE (3/8" MINIMUM). BEARING PLATE SIZE SHALL EXTEND TO WITHIN 1/2" OF THE FACE OF CMU WALLS. FILL CMU CELLS (2) COURSES BELOW THE BEAM BEARING WITH 3,000 PSI GROUT.
21. PROVIDE ALL MISCELLANEOUS STEEL FOR SUPPORT OF METAL DECK AT COLUMNS AND CMU WALLS WHERE NOT SHOWN.
22. CONTRACTOR SHALL MAKE ALLOWANCES FOR ADDITIONAL CONCRETE REQUIRED AT ELEVATED DECK SUPPORTED CONCRETE FLOORS DUE TO DEFLECTION OF THE STEEL DECK FROM THE DEAD WEIGHT OF CONCRETE AND CONSTRUCTION LOADING IN ACCORDANCE WITH SDI GUIDELINES.
23. SAW CUTTING OF CONTRACTION JOINTS IS NOT REQUIRED IN ELEVATED CONCRETE FLOORS SUPPORTED ON METAL DECK.
24. PROVIDE ALL STEEL REQUIRED TO SUPPORT ELEVATOR EQUIPMENT THIS INCLUDES SHAFT RAIL BEAMS, SILL SUPPORT ANGLES, AND HOIST BEAMS.
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 (1/2" THICK MINIMUM) UNLESS NOTED OTHERWISE.
26. PROVIDE ADJUSTABILITY IN ANGLE AND BENT PLATE CONDITIONS FOR STEEL BEAMS ADJACENT TO VERTICAL SHAFTS OR EXTERIOR WALL SPANDREL CONDITIONS. ALLOW FOR A HORIZONTAL ADJUSTMENT OF 1/2" OUTWARD OR INWARD IN THE BENT PLATE OR ANGLE TO COMPENSATE FOR STEEL ERECTION TOLERANCES. MAKE FINAL CONNECTION OF ANGLE OR BENT PLATE TO STEEL BEAM IN THE FIELD AFTER STEEL ERECTION AND FINAL ALIGNMENT.
27. FOR ALL STEEL COLUMNS EMBEDED IN OR ADJACENT TO MASONRY WALLS PROVIDE HOHMAN AND BARNARD #359 WELD-ON TIE W/ VEE-TYPE WALL TIES #VWT @ 24" ON CENTER (GALVANIZED). PROVIDE ON EACH SIDE OF WEBS OF COLUMNS EMBEDED IN CMU WALLS. FOR STEEL BEAMS ADJACENT TO CMU WALLS PROVIDE HOHMANN & BARNARD GRIPSTAY #360 W/ #365 MASONRY ANCHORS (3/16" THICK) @ 24" ON CENTER (GALVANIZED). PROVIDE ANCHORS AT EACH SIDE OF CONTROL AND EXPANSION JOINTS.
28. 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
29. SUBMIT CHECKED STEEL SHOP DRAWINGS FOR REVIEW PRIOR TO ANY FABRICATION.
30. PERFORM INSPECTIONS OF STEEL CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE BUILDING CODE.
31. ALL STEEL GRATING SHALL BE HOT ROLLED CARBON STEEL CONFORMING TO ASTM A36 AND BE GALVANIZED PER ASTM A123. ALL GRATING SHALL BE GALVANIZED NON-SERRATED WELDED STEEL FLOOR GRATING WITH 1 3/8" BEARING BARS AT 1 3/16" SPACING, CROSS BARS AT 4" SPACING TYPE WB BY HARSCO INDUSTRIAL OR APPROVED EQUAL (UNO).
32. ALL STEEL GRATING SHALL BE FASTENED TO THE FLANGE OF STEEL BEAMS WITH HOT DIPPED GALVANIZED FASTENERS TYPE X-GR RU BY HILTI OR APPROVED EQUAL. FASTENING PATTERN SHALL BE FOUR AT EACH END OF GRATING AND TWO ATTACHMENTS AT INTERMEDIATE BEAM SUPPORT PER 4'-0" WIDTH OF GRATING (UNO).

COMPOSITE STEEL CONSTRUCTION

1. FLOORS HAVE BEEN DESIGNED AS COMPOSITE BEAM AND COMPOSITE DECK, BEAM/DECK SHORING IS NOT REQUIRED UNLESS NOTED OTHERWISE.
2. COMPOSITE SHEAR STUDS SHALL BE WELDED THROUGH STEEL DECK. SHEAR STUD INSTALLATION SHALL COMPLY WITH AISC SPECIFICATIONS. SHEAR STUD MATERIAL MUST COMPLY WITH ASTM A-108 WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI. WELD STUDS TO BEAMS PER THE SPACING AS INDICATED ON THE PLANS. INSPECTION OF WELD STUD INSTALLATION SHALL BE AS REQUIRED BY THE GOVERNING BUILDING CODE AND AS DESCRIBED IN AWS D1.1.
3. FULL DEPTH DOUBLE ANGLE END CONNECTIONS ARE TO BE USED ON ALL COMPOSITE BEAMS AND GIRDERS WITH SHEAR STUDS. CONNECTIONS SHALL BE DESIGNED FOR THE REACTIONS SHOWN ON THE DRAWINGS. WHERE REACTIONS ARE NOT SHOWN CONNECTIONS ARE TO BE DESIGNED FOR 150% OF AISC TABLE VALUES.

FOUNDATIONS

1. THE CONTRACTOR SHALL READ THE SOILS REPORT AND BE THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN. ALL SITE PREPARATION AND EXCAVATION WORK IS TO BE PERFORMED IN STRICT ACCORDANCE WITH GEOTECHNICAL ENGINEERING SERVICES ~~REPORT PREPARED BY PENNONI DATED DECEMBER 7, 2016 - REVISED FEBRUARY 13, 2017.~~
2. THE PILE INSTALLATION WORK WILL BE COMPLETED UNDER A SEPARATE CONTRACT. THE PILES WILL BE INSTALLED WITH THE TOP OF PILE ELEVATION = FINISH FLOOR ELEVATION. THE SCOPE OF WORK FOR THIS PROJECT WILL INCLUDE CUTTING THE PILES TO THE APPROPRIATE LOCATION SHOWN ON THE DRAWINGS AND INSTALLING THE CAP PLATE FOR EACH PILE AS SHOWN ON THE DRAWINGS. (2)
3. DELETED.
4. DELETED.
5. DELETED.
6. DELETED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE AUTHORITIES TO LOCATE ALL POTENTIALLY BURIED UTILITIES WITHIN THE PROPOSED PROJECT SITE BUILDING FOOTPRINT PRIOR TO COMMENCING EXCAVATION FOR NEW BUILDING FOUNDATIONS.
8. EXISTING FOUNDATIONS, SLABS, PAVEMENTS, UNDERGROUND UTILITIES, AND OTHER BELOW GRADE STRUCTURES SHALL BE REMOVED FROM THE PROPOSED PROJECT SITE BUILDING FOOTPRINT. REMOVE SURFACE VEGETATION, TOPSOIL, ROOT SYSTEMS, ORGANIC MATERIAL, EXISTING FILL, AND SOFT UNSUITABLE MATERIAL FROM THE BUILDING AREA.
9. THE CONTRACTOR MUST PROVIDE SURFACE DRAINAGE AND PUMPS TO PROTECT ALL EXCAVATION FROM FLOODING OR GROUND WATER INFILTRATION. FLOODING OF ANY EXCAVATION AFTER APPROVAL OF THE SUBGRADE WILL BE CAUSE FOR COMPLETE RE-PREPARATION OF THE SUBGRADE.
10. STANDARD PROCEDURES FOR FROST PROTECTION OF FOUNDATIONS AND EXCAVATIONS SHALL BE EMPLOYED FOR WINTER CONSTRUCTION. BACKFILLING OF EXCAVATIONS SHALL BE DONE AS SOON AS POSSIBLE TO PROTECT FOUNDATIONS FROM FROST.
11. REFER TO THE GEOTECHNICAL REPORT REFERENCED ABOVE FOR ADDITIONAL SUBGRADE PREPARATION REQUIREMENTS.

DECK

1. STEEL DECK FOR THE PROJECT SHALL CONSIST OF THE TYPES NOTED ON THE STRUCTURAL DRAWINGS (SEE PLANS FOR LOCATIONS).
2. ALL METAL ROOF DECK SHALL BE PAINTED. MANUFACTURER SHALL BE A MEMBER OF THE STEEL DECK INSTITUTE. ROOF DECK MUST COMPLY WITH STEEL DECK INSTITUTE STANDARDS. ALL ROOF DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS. METAL ROOF DECK IS TO BE ATTACHED TO STRUCTURAL STEEL SUPPORTS WITH 5/8" DIAMETER PUDDLE WELDS (4 WELDS PER SHEET PER JOIST/BEAM/TRUSS). SIDE JOINTS SHALL BE FASTENED TOGETHER WITH #10 SELF-DRILLING SCREWS AT MID-SPAN BETWEEN SUPPORTS.
3. IN AREAS WHERE A SINGLE SPAN DECK CONDITION CANNOT BE AVOIDED, PROVIDE TWO (2) LAYERS OF ROOF DECK. MAKE DIAPHRAGM CONNECTIONS AFTER PLACEMENT OF BOTH LAYERS OF ROOF DECK.
4. IN AREAS OF WARPED ROOF DECK, SELF DRILLING SCREWS ARE TO BE USED ON CONNECTIONS OF STEEL ROOF DECK TO STRUCTURAL STEEL SUPPORTS. SCREW SIZES TO COMPLY WITH MANUFACTURER'S REQUIREMENTS. ATTACH DECK TO ALL SUPPORTING ROOF MEMBERS.
5. ALL WELDING OF METAL DECK SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS "SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES".
6. ALL FORM AND COMPOSITE METAL DECK SHALL BE GALVANIZED AS MANUFACTURED BY UNITED STEEL DECK, INC. OR APPROVED EQUAL. FLOOR DECK MUST COMPLY WITH STEEL DECK INSTITUTE STANDARDS. ALL FLOOR DECK SHALL BE CONTINUOUS OVER MINIMUM OF THREE SPANS.
7. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS CONCRETE POUR STOPS AND DECK CLOSURES REQUIRED AT DECK TERMINATION AND SLAB OPENINGS. COORDINATE WITH PLANS FOR REQUIRED LOCATIONS.
8. WHERE DECK SURFACES MEET AT CHANGES OF DIRECTION, THE JOINT SHALL BE COVERED WITH A MINIMUM 20-GAGE STEEL PLATE FASTENED TO DECK ON BOTH SIDES OF THE JOINT WITH #10 SELF TAPPING SCREWS AT 12" MAXIMUM O.C.
9. DECK MANUFACTURER SHALL SUPPLY ALL STEEL CANT STRIPS AND RIDGE AND VALLEY PLATES NECESSARY TO PROVIDE A FINISHED SURFACE FOR THE APPLICATION OF ROOFING.
10. PROVIDE INSPECTIONS OF METAL DECK INSTALLATION TO VERIFY, AT A MINIMUM, SOUNDNESS OF WELDS AND SIDELAP SCREW SPACING.

MASONRY

1. MASONRY UNITS SHALL BE ASTM C-90 (NORMAL WEIGHT) WITH MINIMUM COMPRESSIVE STRENGTH OF 2,800 PSI AT 28 DAYS ON THE NET AREA OF INDIVIDUAL UNITS. ALL CMU SHALL BE ERECTED IN A RUNNING BOND PATTERN AND SHALL BE LAID IN A FULL BED OF MORTAR. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL BLOCK REQUIREMENTS FOR ALL CMU LOCATED IN UL FIRE RATED ASSEMBLIES.
2. ALL MORTAR SHALL BE PORTLAND CEMENT/LIME CONFORMING TO ASTM C270. USE TYPE M MORTAR BELOW GRADE AND TYPE S MORTAR FOR CMU ABOVE GRADE. DO NOT USE ADMIXTURES THAT CONTAIN CHLORIDES.
3. GROUT SHALL BE A HIGH SLUMP MIX IN ACCORDANCE WITH ASTM SPECIFICATION C476 HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. GROUT MUST HAVE A SLUMP OF 8 TO 11 INCHES. DO NOT USE ADMIXTURES THAT CONTAIN CHLORIDES. DO NOT SUBSTITUTE MORTAR FOR GROUT. CONSOLIDATION OF GROUT IN BLOCK CORES SHOULD BE ACHIEVED WITH A LOW VELOCITY MECHANICAL VIBRATOR WHICH HAS A 3/4 INCH HEAD. THE VIBRATOR IS NORMALLY ACTIVATED FOR ONE OR TWO SECONDS IN EACH GROUTED CORE OF HOLLOW UNIT MASONRY.
4. LAID UP MASONRY STRENGTH f'm FOR THE COMPOSITE OF CMU, MORTAR AND GROUT FOR ALL STANDARD MASONRY WALLS SHALL BE 2,000 PSI.
5. ALL CONCRETE MASONRY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES ACI 530/ASCE 5/TMS 402" AND "SPECIFICATIONS FOR MASONRY STRUCTURES ACI 530.1/ASCE 6/TMS 602".
6. PERFORM INSPECTIONS OF MASONRY CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE BUILDING CODE.
7. ALL REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60.
8. PROVIDE HOT-DIPPED GALVANIZED LADDER TYPE HORIZONTAL JOINT REINFORCEMENT (MIN. 9 GAGE COLD DRAWN GALVANIZED STEEL WIRE) IN ACCORDANCE WITH ASTM A1064 AT 16" ON CENTER VERTICAL IN ALL MASONRY WALLS. SPACE HORIZONTAL JOINT REINFORCEMENT AT 8" INCHES ON CENTER IN ALL PARAPETS. USE SHOP FABRICATED SPECIAL PIECES AT ALL CORNERS AND TEES.
9. INSTALL BEARING PLATES WITH (2) 1/2" DIA. 6" LONG HEADED STUDS FOR STEEL BEAMS BEARING UPON CMU WALLS AND PIERS. FILL CMU CELLS (2) COURSES BELOW THE BEAM BEARING WITH 3,000 PSI GROUT.
10. VENEER SHALL BE ANCHORED TO STRUCTURAL BACKING IN ACCORDANCE WITH THE MASONRY BUILDING CODE MENTIONED ABOVE. FOR ADJUSTABLE TWO-PIECE ANCHORS, ANCHORS OF WIRE SIZE W1.7, AND 22-GAGE CORRUGATED SHEET METAL ANCHORS, PROVIDE AT LEAST ONE ANCHOR FOR EACH 2.67 SQUARE FEET OF WALL AREA. FOR ALL OTHER ANCHORS PROVIDE AT LEAST ONE ANCHOR FOR EACH 3.5 SQUARE FEET OF WALL AREA.
11. SPACE MASONRY VENEER ANCHORS AT A MAXIMUM OF 32 INCHES HORIZONTALLY AND 18 INCHES VERTICALLY. PROVIDE ADDITIONAL ANCHORS AROUND ALL OPENINGS LARGER THAN 16 INCHES IN EITHER DIMENSION. SPACE ANCHORS AROUND PERIMETER OF OPENING AT A MAXIMUM OF 3 FEET ON CENTER. PLACE ANCHORS WITHIN 12 INCHES OF OPENINGS.
12. ALL CMU CORES WHICH CONTAIN VERTICAL REINFORCING BARS SHALL BE GROUTED SOLID. ALL CMU PIERS SHOWN ON PLAN SHALL BE COMPLETELY GROUTED SOLID IN ALL CORES. FILLING CORES WITH MORTAR AS WORK PROGRESSES IS NOT ACCEPTABLE.
13. MINIMUM LENGTH OF LAP SPLICES FOR VERTICAL REINFORCING SHALL NOT BE LESS THAN THE FOLLOWING:
    #3 - 18 INCHES #6 - 36 INCHES
    #4 - 24 INCHES #7 - 42 INCHES
    #5 - 30 INCHES #8 - 48 INCHES
14. VERTICAL REINFORCING BARS SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING BY GALVANIZED BAR POSITIONERS SPACED AT INTERVALS NOT TO EXCEED 112 BAR DIAMETERS. PROVIDE A MINIMUM OF TWO POSITIONERS PER INDIVIDUAL REINFORCING BAR.
15. SUBMIT CHECKED SHOP DRAWINGS WHICH DETAIL THE LOCATION OF VERTICAL REINFORCEMENT PLACEMENT FOR ALL WALLS AND PIERS. THESE DRAWINGS SHALL CONTAIN THE FOLLOWING INFORMATION: WALL ELEVATIONS SHOWING LOCATION AND SIZE OF REINFORCING STEEL, LOCATION OF REINFORCING STEEL SPLICES, AND LOCATION OF BAR POSITIONERS. WALL DETAILS WHICH INDICATE WHERE REINFORCING STEEL IS LOCATED IN EACH CORE. (I.E. CENTER OF CORE, NEAR INTERIOR FACE OF WALL/PIER, NEAR EXTERIOR FACE OF WALL/PIER). DETAIL OF BAR POSITIONERS. PIER DETAILS AND ELEVATIONS SHOWING THE LOCATION AND SIZE OF REINFORCING STEEL, LOCATION OF REINFORCING STEEL SPLICES, AND LOCATION OF BAR POSITIONERS.
16. MASON TO DESIGN, FURNISH AND INSTALL ALL REQUIRED SHORING FOR ERECTION OF THE CMU MASONRY WALLS AND PIERS.
17. MASONRY CONTRACTOR SHALL PROVIDE LINTELS FOR ALL CMU OPENINGS AS INDICATED ON CONTRACT DOCUMENTS. FOR LINTELS NOT INDICATED (IN NON-LOAD BEARING WALLS) THE CONTRACTOR SHALL REFER TO THE NON-BEARING WALLS LINTEL SCHEDULE FOR THE LINTEL SIZE REQUIRED BASED ON THE ROUGH OPENING. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PIPING DRAWINGS FOR ALL CMU OPENING REQUIREMENTS. ANY REQUIRED LINTEL NOT SHOWN IN THE LINTEL SCHEDULE AND NOT MEETING THE REQUIREMENTS OF THE NON-LOAD BEARING SCHEDULE SHALL BE DESIGNED AND SUPPLIED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
18. PROVIDE CONTINUOUS KNOCK-OUT CMU BOND BEAMS IN ALL WALLS AS PER THE FOLLOWING CRITERIA UNLESS NOTED OTHERWISE ON THE CONTRACT DRAWINGS. 8" KNOCK-OUT CMU BOND BEAMS SHALL BE REINFORCED WITH (1) #5 BAR CONTINUOUS AND 12" KNOCK-OUT CMU BOND BEAMS SHALL BE REINFORCED WITH (2) #5 BARS CONTINUOUS. ALL BOND BEAMS SHALL BE FILLED SOLID WITH 3,000 PSI GROUT.
    A. PROVIDE CONTINUOUS KNOCK-OUT BOND BEAMS AT THE TOP OF ALL CMU WALLS.
    B. PROVIDE CONTINUOUS KNOCK-OUT BOND BEAMS FOR ELEVATOR AND STAIR SHAFT WALLS AT EACH FLOOR.
22. CONTRACTOR SHALL FILL THE TOP COURSE OF ALL CMU WALLS SOLID WITH 3,000 PSI GROUT AT WINDOW SILL ELEVATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATIONS AND ELEVATIONS.

COLD FORMED METAL FRAMING

1. ALL COLD FORMED METAL FRAMING SHOWN ON THE DRAWINGS HAS BEEN SPECIFIED ACCORDING TO THE STEEL STUD MANUFACTURERS ASSOCIATION FOUR PART IDENTIFICATION CODE SYSTEM.
2. ALL STEEL STUDS TO BE HOT-DIPPED GALVANIZED (G-60) PER ASTM A525. STEEL STUDS SHALL BE DESIGNED, MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE LATEST AISI SPECIFICATIONS AND SHALL COMPLY WITH ASTM A446. ALL STUDS, JOISTS, AND ACCESSORIES SHALL HAVE THE FOLLOWING MATERIALS STRENGTHS:
    A. 16 GA AND HEAVIER - Fy = 50 KSI
    B. 18 GA AND LIGHTER - Fy = 33 KSI
3. MANUFACTURER TO PROVIDE HOLES IN STUDS FOR PASSAGE OF PIPE AND WIRING. MANUFACTURER MUST INSURE THAT HOLES DO NOT INTERFERE WITH CONNECTION LOCATIONS. STUD HEADERS OVER WALL OPENINGS SHALL BE FURNISHED WITH UNPUNCHED WEBS.
4. PERFORM WELDING OF ALL COLD FORMED STEEL FRAMING IN ACCORDANCE WITH AWS D1.3 (SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES).
5. MAKE CONNECTIONS WITH SELF-DRILLING, SELF-TAPPING SCREWS, POWDER ACTUATED FASTENERS OR WELDING FOR ALL CONNECTIONS. ALWAYS USE WELDS WHERE SHOWN ON DRAWINGS. TOUCH UP WELDS WITH ZINC RICH PAINT.
6. ALL SELF-DRILLING AND SELF-TAPPING SCREWS SHALL BE AS MANUFACTURED BY BUILDEX OR APPROVED EQUAL. SCREW PENETRATION THROUGH JOINED MATERIALS SHALL NOT BE LESS THAN THREE (3) EXPOSED THREADS. SELECT SCREWS WITH AN ADEQUATE CUTTING TIP TO ACCOMMODATE THE TOTAL THICKNESS TO BE DRILLED. MAINTAIN A MINIMUM OF 1/2" DISTANCE FROM EDGE OF STEEL TO CENTERLINE OF SCREW AND A MINIMUM OF 1" BETWEEN SCREWS. WHERE SCREW ATTACHMENTS ARE MADE BETWEEN MATERIALS OF DIFFERENT THICKNESSES, THE THINNEST COMPONENT SHALL BE PENETRATED FIRST.
7. ALL POWDER ACTUATED FASTENERS SHALL BE AS MANUFACTURED BY HILTI OR APPROVED EQUAL. PROVIDE A MINIMUM OF (1) 5/16" DIAMETER STEEL WASHER ON ALL POWDER ACTUATED FASTENER CONNECTIONS TO INCREASE THE PULL-OVER CAPACITY OF THE CONNECTION. USE POWDER ACTUATED FASTENERS WITH A KNURLED SHANK FOR ALL CONNECTIONS INTO HOT ROLLED STEEL AND MAINTAIN A MINIMUM OF 3/4" EDGE DISTANCE. POWDER ACTUATED FASTENERS INTO CONCRETE SHALL HAVE A MINIMUM EDGE DISTANCE OF 3" AND MINIMUM SPACING OF 4" ON CENTER.
8. CUT ALL COLD FORMED STEEL FRAMING MEMBERS WITH SAWS OR SHEARS. FLAME CUTTING IS NOT PERMITTED.
9. INSTALLATION TOLERANCES FOR PLUMBNESS, LEVELNESS, STUD SPACING, AND SQUARENESS OF LOAD BEARING WALLS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C-1007.
10. SEAT ALL SINGLE AND MULTIPLE MEMBER METAL STUDS SECURELY IN ALL TRACKS. STUD ENDS MUST BE SQUARE CUT.
11. SPLICING OF METAL FRAMING OTHER THAN TRACK COMPONENTS IS STRICTLY PROHIBITED.
12. ALL COLD FORMED METAL FRAMING STUDS/JOISTS SHALL HAVE A 1-5/8" FLANGE UNLESS NOTED OTHERWISE.
13. ALL HEADERS IN BEARING WALLS SHALL BE SUPPORTED ON A MINIMUM OF THREE (3) STUDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
14. ALL BEARING WALL HEADERS SHALL HAVE WELDED FITTED STIFFENER STUDS TO PREVENT WEB CRIPPLING OF THE HEADER.
15. ALL HEADERS SHALL HAVE THE COMPRESSION FLANGE BRACED AT A MAXIMUM OF 2'-0" ON CENTER.
16. A CONTINUOUS LOAD PATH FROM THE ELEVATED FLOOR AND ROOF STRUCTURE IS TO BE PROVIDED IN ALL BEARING WALLS. ALL BEARING WALL STUDS SHALL ALIGN WITH FLOOR AND ROOF TRUSS POINTS OF BEARING. ADDITIONAL STUD FRAMING SHALL BE ADDED WHERE FLOOR AND ROOF TRUSSES DO NOT ALIGN WITH A WALL STUD. PROVIDE SOLID BLOCKING AS REQUIRED BETWEEN FLOORS TO PROVIDE A CONTINUOUS LOAD PATH THROUGH THE FLOOR TO THE FOUNDATION.
17. ALL STUD WALLS SHALL BE BRACED AGAINST ROTATION BY THE INSTALLATION OF MECHANICAL BRIDGING AT A MAXIMUM SPACING OF 4'-0" ON CENTER.
18. THE COMPRESSION FLANGE OF ALL FLOOR AND ROOF JOISTS SHALL BE BRACED BY MECHANICAL BRIDGING AT A SPACING NOT TO EXCEED 6'-0" ON CENTER. THE INSTALLATION OF BRIDGING SHALL BE COMPLETED PRIOR TO LOADING THE FLOOR/ROOF SYSTEM.
19. FLOOR AND ROOF JOISTS SHALL BE RESTRAINED AGAINST ROTATION AT EACH END BEARING. JOISTS SHALL BE ATTACHED TO TRACK COMPONENTS OR RESTRAINED BY THE INSTALLATION OF CONTINUOUS SOLID BLOCKING. MINIMUM END BEARING FOR ALL JOISTS SHALL BE 1 1/2". PROVIDE WEB STIFFENERS AT ALL SUPPORT AND CONCENTRATED LOAD LOCATIONS.
20. STUD ENDS SHALL BE ATTACHED TO TRACK COMPONENTS AT THE TOP AND BOTTOM OF THE WALL ASSEMBLY EXCEPT WHERE THE WALL TERMINATES AT A DEFLECTION TRACK. FIXED ATTACHMENT TO DEFLECTION TRACKS SHALL NOT BE PROVIDED. STUDS FRAMING INTO DEFLECTION TRACKS SHALL BE RESTRAINED AGAINST ROTATION BY INSTALLING MECHANICAL BRIDGING NO MORE THAN 1'-0" BELOW THE DEFLECTION TRACK.
21. CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS, CALCULATIONS, AND PRODUCT INFORMATION FOR REVIEW AND APPROVAL. SHOP DRAWINGS SHALL BE BASED ON THE CONCEPT SHOWN ON THE STRUCTURAL DRAWINGS AND SHALL INDICATE COLD FORMED STEEL MANUFACTURER, MEMBER SIZES TO BE USED, FRAMING PLANS, WALL ELEVATIONS, AND CONNECTION DETAILS OF THE COLD FORMED STEEL FRAMING.

MEMBER DEPTH:
(EXAMPLE: 6" = 600 x 1/100 INCHES)
ALL MEMBER DEPTHS ARE TAKEN AS 1/100 INCHES

FLANGE WIDTH:
(EXAMPLE: 1 5/8" = 1.62 x 1/100 INCHES)
ALL FLANGE WIDTHS ARE TAKEN AS 1/100 INCHES

600 S 162 - 54

STYLE:
(EXAMPLE: STUD OR JOIST SECTION = S)
S = STUD OR JOIST SECTIONS
T = TRACK SECTIONS
U = CHANNEL SECTIONS
F = FURRING CHANNEL SECTIONS

MATERIAL THICKNESS:
(EXAMPLE 0.054" = 54 MILS & 1 MIL = 1/1000 INCHES)
43 = 18 GAGE
54 = 16 GAGE
68 = 14 GAGE
97 = 12 GAGE

LIGHT GAGE METAL FRAMING PRODUCT IDENTIFICATION

ACCORDING TO STEEL STUD MANUFACTURERS ASSOCIATION FOUR PART IDENTIFICATION CODE SYSTEM

STRUCTURAL DRAWING INDEX

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Project:

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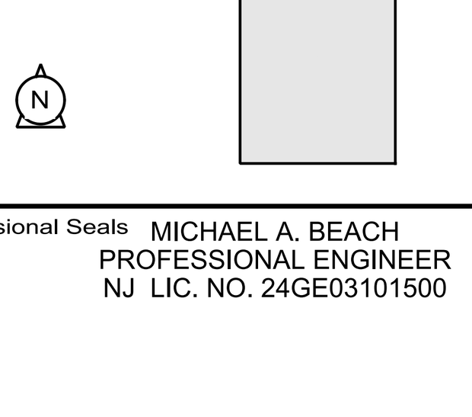
Key Plan



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No.	Description	Date
2	ADDENDUM #2	08/18/17

Drawn by: PN Reviewed by: MAB
Project No: 16.07011.00

ADDENDUM #2 - 08-18-2017

Sheet Title

STRUCTURAL
LEAD SHEET
1 OF 2

Original drawing is 42 x 30. Do not scale contents of this drawing.

Sheet Number

S001