

GENERAL NOTES

THE STRUCTURAL DRAWINGS DEPICT THE STRUCTURE IN ITS FINAL CONSTRUCTED CONFIGURATION. NEITHER CONSTRUCTION MEANS AND METHODS NOR CONSTRUCTION SAFETY ARE PART OF THE STRUCTURAL ENGINEER'S EXPERTISE OR SCOPE OF WORK.

PRINCIPAL OPENINGS ARE SHOWN ON THE DRAWINGS. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, CURBS, INSERTS, DEPRESSIONS, ETC., NOT SHOWN.

ALL DETAILS ARE TYPICAL UNLESS NOTED OTHERWISE. DETAILS SHALL APPLY TO ALL SIMILAR AND LIKE CONDITIONS.

SHOP DRAWINGS SHALL BE NEW DRAWINGS PRODUCED BY THE CONTRACTOR. ILLEGIBLE REPRODUCTIONS OF THE DESIGN DRAWINGS WILL BE REJECTED. ELECTRONIC FILES MAY BE PURCHASED FROM THE ENGINEER OF RECORD FOR THE PURPOSE OF PREPARING SHOP DRAWINGS.

CONCRETE MIX DESIGNS FOR EACH CLASS OF CONCRETE WITH TEST DATA. CONCRETE ACCESSORIES (VAPOR RETARDER, REINFORCING SUPPORT CHAIRS, VOID FORMS, ETC.)

CRANES, CONCRETE TRUCKS AND ALL OTHER HEAVILY LOADED VEHICLES ARE NOT TO BE DRIVEN ACROSS GRADE BEAMS OR BUILDING SLABS.

ERECTION OF STRUCTURAL STEEL MAY NOT BEGIN UNTIL CONCRETE FOUNDATION HAS CURED FOR A MINIMUM OF 28 DAYS.

NOTE THAT THE GROUND FLOOR SLAB IS A GROUND SUPPORTED SLAB AT GRADE AS PER THE DESIGN RECOMMENDED IN THE SOIL REPORT. IT IS NOT A STRUCTURAL SLAB AND AS SUCH IT IS NOT DESIGNED FOR ANY EXTERNAL UPWARD OR DOWNWARD LOADS.

DESIGN CRITERIA:

BUILDING CODE: INTERNATIONAL BUILDING CODE, 2006 EDITION

LIVE LOAD:

ROOF: 20 PSF

WIND LOAD:

VELOCITY 110 MPH THREE SECOND GUST EXPOSURE B IMPORTANCE FACTOR, Iw= 1.15 INTERNAL PRESSURE COEFFICIENT, Gcpi +/- 0.85

COMPONENTS AND CLADDING: ROOF NET UPLIFT (EFFECTIVE WIND AREA 20 SQUARE FEET): INTERIOR ZONE 25 PSF EXTERIOR ZONE 38 PSF CORNERS AND OVERHANGS 53 PSF (4'-0" FROM EACH CORNER)

COMPONENTS AND CLADDING: WALLS (EFFECTIVE WIND AREA 20 SQUARE FEET): INTERIOR ZONE 26 PSF CORNERS 32 PSF (4'-0" FROM EACH CORNER)

Table with 3 columns: SIZE, WEIGHT, MAX. SPACING OF HANGERS. Rows include 4" dia, 6" dia, 8" dia, 10" dia, 12" dia.

ARCHITECTURAL BARRIER ACT

Table with 2 columns: ITEM, REQUIRED CAPACITY. Rows include GRAB BAR, TUB OR SHOWER SEAT, FASTENERS & MOUNTING DEVICES.

EXISTING DIMENSIONS AND CONDITIONS

THIS PROJECT CONSISTS OF AN ADDITION AND MODIFICATIONS TO AN EXISTING BUILDING. INFORMATION ON EXISTING CONDITIONS HAS BEEN TAKEN FROM THE ORIGINAL DESIGN DRAWINGS AND SHOWN ON THESE DRAWINGS.

CONCRETE

- 1. ALL CONCRETE REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT WHERE NOTED. NO. 3 BARS SHALL CONFORM TO ASTM A615, GRADE 40, DEFORMED BAR ANCHORS SHALL CONFORM TO ASTM A496, GR 70.

ALL CONCRETE ----- 3000 PSI (w/c = 0.50 MAX)

CONCRETE SUPPLIER SHALL BE AWARE OF CEMENTS THAT CAN CAUSE LATE ETTRINGITE FORMATION IN THE CEMENT PASTE AND BE PREPARED TO SHOW THAT THE CEMENTS USED WILL NOT CAUSE THIS PROBLEM.

- 3. ALL WELDED WIRE FABRIC SHALL BE SMOOTH ROUND WIRE IN FLAT SHEETS AND SHALL CONFORM TO ASTM A185.

- 4. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AS FOLLOWS: SEE SEC. 7.7 ACI 318, LATEST EDITION FOR CONDITIONS NOT NOTED. PROVIDE CHAIR SUPPORTS (AZTEC CASTLE CHAIR, WHO SERIES "B" OR EQUAL) TO ADEQUATELY SUPPORT BARS FOR PROPER CLEARANCE AS RECOMMENDED BY THE AMERICAN CONCRETE INSTITUTE AND THE CONCRETE REINFORCING STEEL INSTITUTE.

FOOTINGS ----- 3 IN. GRADE BEAMS ----- 3 IN. BOT., 2 IN. SIDE (3" EARTH FORMED), 2" IN. TOP SLAB ON GRADE ----- 1 IN. TOP

- 5. NO HORIZONTAL JOINTS WILL BE PERMITTED IN CONCRETE EXCEPT WHERE THEY NORMALLY OCCUR OR WHERE NOTED. VERTICAL JOINTS SHALL OCCUR AT CENTER SPANS OR AT LOCATIONS APPROVED BY THE STRUCTURAL ENGINEER.

- 6. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI PUBLICATION 315, LATEST EDITION. ALL HOOKED BARS SHOWN IN DETAILS SHALL HAVE STANDARD HOOKS UNLESS NOTED OTHERWISE.

- 7. REINFORCING BARS SHALL NOT BE WELDED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

- 8. UNLESS OTHERWISE NOTED CONTINUOUS BOTTOM REINFORCING BARS SHALL BE SPLICED AT SUPPORTS AND CONTINUOUS TOP REINFORCING BARS SHALL BE SPLICED AT MID-SPAN.

- 9. ALL CONTINUOUS REINFORCEMENT SHALL LAP 40 BAR DIAMETERS AT SPLICES. PROVIDE 1-#6x6-0" TOP AND BOTTOM (TWO 36" LEGS WITH 90 DEGREE BEND) AT EACH FACE OF GRADE BEAMS AT CORNERS AND INTERSECTIONS, AND AT 18" ON CENTER VERTICALLY AT WALLS.

- 10. CONDUITS ARE NOT ALLOWED IN SLABS, BEAMS, WALLS OR COLUMNS. ALL CONDUITS SHALL BE SUSPENDED FROM OR ATTACHED TO THE CONCRETE STRUCTURE.

- 11. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE, ACI 301, LATEST EDITION.

STRUCTURAL STEEL

- 1. ALL GROUT USED UNDER STEEL COLUMN BASE PLATES SHALL BE OF NON-SHRINKABLE TYPE CONFORMING TO ASTM C1090 AND THE CORPUS OF ENGINEERS SPECIFICATION CRD-C-821 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI. 100 PERCENT OF VOID UNDER ALL BASE PLATES IS TO BE GROUTED. ALL BASE PLATES WITH A DIMENSION GREATER THAN 24" SHALL HAVE TWO 1# DIAMETER TIE RODS WITH AN ANGLE OF 45 DEGREES. EACH BASE PLATE IS LESS THAN 1/4", A PRESSURE INJECTION SYSTEM SHALL BE USED.

- 2. ALL STRUCTURAL STEEL DESIGN, DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO ALLOWABLE STRENGTH DESIGN (ASD) ACCORDING TO THE 2005 AISC SPECIFICATION.

- 3. ALL WELDING SHALL CONFORM TO THE STANDARDS OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND THE AMERICAN WELDING SOCIETY AWS D1.1 STRUCTURAL WELDING CODE-STEEL. WELDING OF REINFORCING BARS SHALL COMPLY TO THE AMERICAN WELDING SOCIETY AWS D1.4. SHORT CIRCUIT TRANSFER FOR THE GAS METAL ARC WELDING PROCESS IS NOT PERMITTED.

- 4. ELECTRODES FOR ALL FIELD AND SHOP WELDING SHALL BE CLASS E70XX.

- 5. ALL STRUCTURAL STEEL ROLLED SHAPES SHALL CONFORM TO ASTM A992, AND ALL ANGLES, BARS, CHANNELS AND PLATES SHALL CONFORM TO ASTM A36. ALL SQUARE AND RECTANGULAR TUBES (FY 46KSI) SHALL CONFORM TO ASTM A500 GRADE B AND ROUND PIPES (FY 36KSI) SHALL CONFORM TO ASTM A53 GR. B. ALL COLD-FORMED GIRTS AND PURLINS SHALL CONFORM TO ASTM A570M GR. 55.

- 6. ALL STRUCTURAL STEEL DETAILS AND CONNECTIONS SHALL CONFORM TO STANDARDS OF THE AISC. DOUBLE CONNECTIONS THROUGH COLUMN WEBS, BEAMS THAT FRAME OVER THE TOP OF COLUMNS, AND BEAM TO BEAM CONNECTIONS SHALL HAVE A BEAM ERECTION SEAT OR A STAGGERED CONNECTION WITH AT LEAST ONE INSTALLED BOLT REMAINING IN PLACE TO SUPPORT THE FIRST BEAM WHILE THE SECOND BEAM IS BEING ERECTED.

- 7. CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE SELECTED FROM THE TABLES IN PART 10 OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. TABLE 10-1 MAY BE USED FOR ALL-BOLTED DOUBLE ANGLE CONNECTIONS. TABLE 10-2 MAY BE USED FOR WELDED/BOLTED DOUBLE ANGLE CONNECTIONS. TABLE 10-3 MAY BE USED FOR ALL-WELDED DOUBLE ANGLE CONNECTIONS. BEAM CONNECTIONS USED SHALL BE ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD GIVEN IN TABLE 3-6 THROUGH 3-9 IN PART 3 OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. CONNECTIONS FOR COMPOSITE BEAMS SHALL HAVE THE STANDARD AISC CAPACITY INCREASED BY 35 PERCENT.

- 8. ALL MISCELLANEOUS WELDS (FIELD OR SHOP) SHALL BE MINIMUM SIZE FILLET ALL AROUND IN ACCORDANCE WITH AISC. WELDING OF CONTINUOUS MEMBERS SHALL BE A MINIMUM OF 2 INCHES OF 3/16 INCH FILLET STITCH WELDS AT 12 INCHES O.C., STAGGERED EACH SIDE, UNLESS OTHERWISE NOTED. COLUMN BASE PLATES, CAP PLATES AND STIFFENER PLATES SHALL BE WELDED ALL AROUND.

- 9. PROVIDE ALL NECESSARY HOLES IN MISCELLANEOUS STRUCTURAL STEEL MEMBERS FOR ATTACHMENT OF NON-STRUCTURAL ITEMS (E.G. HOLES FOR WINDOW HEAD ANCHORS), SEE ARCHITECTURAL DRAWINGS FOR REQUIREMENTS.

- 10. SPLICING OF STRUCTURAL STEEL MEMBERS WHERE NOT DETAILED IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

- 11. ALL CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL CONFORM TO ASTM A325 EXCEPT WHERE NOTED OTHERWISE. MINIMUM SIZE SHALL BE 3/4 INCH DIAMETER UNLESS NOTED OTHERWISE. BOLTS SHALL BE DIRECT TENSION INDICATING BOLTS CONFORMING TO ASTM F1852 WITH HARDENED WASHERS UNDER THE NUT AND SACRIFICIAL SPLINES. HEX NUTS SHALL CONFORM TO ASTM A563 AND WASHERS SHALL CONFORM TO ASTM F436.

STRUCTURAL STEEL CONT'D

- 12. SHOP BOLTED CONNECTIONS ARE PERMISSIBLE IF SUFFICIENT BOLT CLEARANCE IS AVAILABLE FOR TIGHTENING OF HIGH STRENGTH BOLTS. CLEARANCES SHALL BE IN ACCORDANCE WITH TABLE 7-16 AND 7-17 OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. ALL STEEL MEMBERS AND ASSEMBLIES SHALL BE SHOP FABRICATED TO THE GREATEST EXTENT POSSIBLE. TRUSSES SHALL BE FULLY SHOP ASSEMBLED. FIELD SPLICES FOR SHIPPING SHALL ONLY BE AS APPROVED BY THE ENGINEER OF RECORD. THE STEEL FABRICATOR AND THE STEEL ERECTOR SHALL COORDINATE THE SHOP FABRICATION, SHIPPING AND ERECTION OF ALL STRUCTURAL MEMBERS AND ASSEMBLIES.

- 13. HEADED ANCHORS SHALL BE MANUFACTURED FROM COLD DRAWN WIRE CONFORMING TO ASTM A108, GR.50 WITH FLUXED ENDS. STUDS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE STUD WELDING EQUIPMENT IN ACCORDANCE WITH AWS D1.1. STUDS FOR EMBEDDED PLATES AND OTHER ANCHORS SHALL BE SHOP WELDED. STUDS FOR COMPOSITE BEAMS SHALL BE FIELD WELDED.

- 14. ALL STRUCTURAL STEEL WHICH IS OUTSIDE THE BUILDING ENVELOPE SHALL BE HOT DIPPED GALVANIZED, ZINC COATING SHALL MEET THE REQUIREMENTS OF ASTM 123-73, WITH A MINIMUM COATING CLASS OF GR60 AND SHALL BE APPLIED AFTER FABRICATION. ALL FIELD WELDS SHALL BE GROUND SMOOTH AND TOUCHED UP WITH ZINC RICH PAINT.

- 15. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTOR'S SHALL COMPLY TO OSHA 29 CFR 1926 SUBPART R, SAFETY STANDARDS FOR STEEL ERECTION.

- 16. AS SCOPE AND PERFORMANCE DOCUMENTS, THE DRAWINGS AND SPECIFICATIONS DO NOT INDICATE OR DESCRIBE ALL OF THE WORK REQUIRED FOR THE PERFORMANCE AND COMPLETION OF THIS WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE FABRICATION AND INSTALLATION OF ALL MISCELLANEOUS METAL ITEMS INDICATED, DESCRIBED, OR IMPLIED ON THE STRUCTURAL AND/OR THE ARCHITECTURAL DRAWINGS. MISCELLANEOUS STEEL ITEMS, WITHIN AN ASSEMBLY AND NOT ATTACHED TO THE STRUCTURE, ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS WHETHER THEY ARE SHOWN OR NOT SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS. SUCH ASSEMBLIES INCLUDE BUT ARE NOT LIMITED TO, EXTERIOR AND INTERIOR WALL ASSEMBLIES, CEILING ASSEMBLIES, PARTITION ASSEMBLIES, SHELF AND CABINET ASSEMBLIES AND ALL OTHER SIMILAR ASSEMBLIES. ANY MISCELLANEOUS METAL ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NOT SHOWN ON STRUCTURAL DRAWINGS SHALL BE A MINIMUM OF L4x4x1/2, C7x8.8, 3/8" PLATE OR TS4x4x3/8" UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.

MASONRY NOTES

- 1. ALL CONCRETE MASONRY UNITS SHALL BE HOLLOW LOAD BEARING UNITS CONFORMING TO THE REQUIREMENTS OF ASTM C90, TYPE 1 AND THE QUALITY CONTROL STANDARDS OF THE CONCRETE MASONRY ASSOCIATION.

- 2. ALL CONCRETE MASONRY SHALL HAVE LIGHTWEIGHT MASONRY UNITS WITH A DRY DENSITY OF NOT MORE THAN 105 POUNDS PER CUBIC FOOT.

- 3. ALL MASONRY UNITS SHALL HAVE A MINIMUM NET COMPRESSIVE STRENGTH OF 2500 PSI AND A MINIMUM NET TENSILE STRENGTH OF NOT LESS THAN 125 PSI, WHEN TESTED IN ACCORDANCE WITH THE METHODS SET FORTH IN THE QUALITY CONTROL STANDARDS OF THE CONCRETE MASONRY ASSOCIATION.

- 4. MASONRY UNITS SHALL HAVE CURED FOR NOT LESS THAN 28 DAYS WHEN PLACED IN THE STRUCTURE.

- 5. ALL MASONRY UNITS SHALL HAVE A MAXIMUM LINEAR SHRINKAGE OF .065 OF 1% FROM THE SATURATED TO THE DRY CONDITION. WHEN TESTED IN ACCORDANCE WITH THE METHODS SET FORTH IN THE QUALITY CONTROL STANDARDS OF THE CONCRETE MASONRY ASSOCIATION.

- 6. MORTAR SHALL BE FRESHLY PREPARED AND UNIFORMLY MIXED IN THE RATIO OF 1 PART PORTLAND CEMENT, 1/4 PART MINIMUM TO 1/2 PART MAXIMUM LIME PUTTY OR HYDRATED LIME, DAMP LOOSE SAND NOT LESS THAN 2-1/4 AND NOT MORE THAN 3 TIMES THE SUM OF THE VOLUMES OF THE CEMENT AND LIME USED, AND SHALL CONFORM TO ASTM C270, TYPE 'S'.

- 7. GROUT FOR POURING SHALL BE OF FLUID CONSISTENCY AND MIXED IN THE RATIO BY VOLUMES, 1 PART PORTLAND CEMENT, 2 1/4 PARTS MINIMUM TO 3 PARTS MAXIMUM DAMP LOOSE SAND, 1 PART MINIMUM TO 2 PARTS MAXIMUM PEA GRAVEL, AND 0 TO 1/10 PART MAXIMUM HYDRATED LIME. MIX SHALL CONFORM TO ASTM C 476 FROM 14-28 DAY COMPRESSIVE STRENGTH OF 2500 PSI. MAXIMUM GROUT HEIGHT SHALL BE 4'-0".

- 8. GROUT FOR PUMPING SHALL BE OF FLUID CONSISTENCY AND SHALL HAVE NOT LESS THAN 7 SACKS OF CEMENT IN EACH CUBIC YARD OF GROUT. THE MIX SHALL BE SUBMITTED FOR APPROVAL.

- 9. THE COMPRESSIVE STRENGTH OF THE MASONRY (f'm) SHALL BE 1800 PSI.

- 10. ALL CELLS WITH REINFORCING BARS SHALL BE GROUTED SOLID.

- 11. ALL CELLS SHOWN TO HAVE DRILLED EXPANSION ANCHORS, EMBEDDED HEADED STUDS OR OTHER EMBEDDED ANCHORS SHALL BE GROUTED SOLID.

- 12. HORIZONTAL JOINT REINFORCEMENT SPACED AT 16" O.C. MAX. VERTICALLY SHALL CONFORM TO ASTM A951 WITH A MINIMUM YIELD STRENGTH OF 70,000 PSI AND A MINIMUM SIZE OF 9 GAGE FOR SIDE RODS AND 9 GAGE FOR TRUSS RODS.

- 13. OPENINGS IN MASONRY WALLS SHALL HAVE EITHER MASONRY OR STEEL LINTELS AS DETAILED ON THE DRAWINGS. WHEN NO LINTEL IS DETAILED A MINIMUM OF 2-#4 BARS IN A SOLID GROUTED LUNTEL BLOCK SHALL BE INSTALLED. THE BARS SHALL EXTEND A MINIMUM OF EIGHT INCHES BEYOND THE EDGE OF THE OPENING AND THE JAMB AT EACH SIDE OF THE OPENING SHALL BE GROUTED SOLID FOR A DISTANCE OF FIFTEEN INCHES WITH #5 VERTICAL MINIMUM AT EACH JAMB. LAP BARS 2'-0" MIN. OR 40 BAR DIAMETERS AT SPLICES, INTERSECTIONS AND CORNERS. STEEL LINTELS SHALL BEAR 8" MINIMUM AT EACH END ON FLASHING ABOVE AND BELOW THE ANGLE. VERTICAL CONTROL JOINTS SHALL EXTEND UP FROM THE END OF THE STEEL LINTEL UNLESS 15# FELT OR FLASHING IS PROVIDED TOP AND BOTTOM OF LINTEL ANGLE WHERE ANGLE BEARS ON BRICK.

- 14. LINTEL BLOCKS SHALL BE "U" SHAPED UNITS WITH SOLID BOTTOMS AND ARE TO BE USED OVER WINDOW AND DOOR OPENINGS. BOND BEAM BLOCKS SHALL BE OPEN BOTTOM UNITS AND ARE TO BE USED AT THE TOPS OF WALLS AND AT THE MID-HEIGHT OF WALL OR AT 8'-0" ON CENTER VERTICALLY MAXIMUM UNLESS NOTED OTHERWISE ON THE DRAWINGS. PROVIDE 2-#4 BARS IN A SOLID GROUTED BOND BEAM UNLESS NOTED OTHERWISE. LINTEL BLOCKS SHALL NOT BE USED IN PLACE OF BOND BEAM BLOCKS.

- 15. ALL MASONRY TIES TO BACKUP STRUCTURE SHALL BE HOT DIP GALVANIZED. PROVIDE A HECKMANN NO. 315 ANCHOR WITH NO. 316 TRIANGULAR TIE ON COLUMNS AT 16" (15" AT KING SIZE BRICK) ON CENTER VERTICALLY AND A HECKMANN NO. 181 OR 192 ANCHOR ON EACH SIDE. ALL BEAMS AT 16" ON CENTER HORIZONTALLY UNLESS NOTED OTHERWISE ON THE DRAWINGS. MASONRY TIES TO WALL STUDS SHALL BE A HECKMANN NO. 316 TRIANGULAR TIE WITH A HECKMANN NO. 315-C SCREW ON ANCHOR STRAP OR HECKMANN #77 WING NUT POS--TIE ANCHOR SPACED 16" (15" AT KING SIZE BRICK) ON CENTER HORIZONTALLY AND 16" ON CENTER VERTICALLY. AT ALL CORNERS AND INTERSECTIONS PROVIDE TWO VERTICAL ROWS OF ANCHORS SPACED 16" APART AND 16" ON CENTER VERTICALLY. TRIANGULAR TIES SHALL EXTEND 3/4" FROM FACE OF MASONRY. ANCHOR STRAPS SHALL BE ATTACHED TO METAL STUDS WITH TWO (2) #10-16x 1 1/2" CADMIUM PLATED HEX HEAD SHEET METAL SCREWS WITH NEOPRENE WASHER.

- 16. MASONRY WALLS SHALL HAVE VERTICAL CONTROL JOINTS AT APPROXIMATELY SIXTEEN (16) FEET ON CENTER AND FOUR (4) FEET MAXIMUM FROM CORNERS. CORNER AND END JOINTS SHALL BE IN ACCORDANCE WITH THE ARCHITECT. PROVIDE HECKMANN NO. 351 CONTROL JOINT ANCHORS AT 16" ON CENTER VERTICALLY AT BRICK MASONRY AND HECKMANN NO. 350 CONTROL JOINT ANCHORS AT 16" ON CENTER VERTICALLY AT CONCRETE MASONRY UNITS.

- 17. AT FREE VERTICAL EDGES OF WALLS PROVIDE 1-#5 WELDED IN GROUT FILLED END CORE, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

- 18. PROVIDE A MINIMUM OF #4 AT 48" ON CENTER VERTICAL WALL REINFORCING AND DOWELS IN FULLY GROUTED CELLS AT ALL EXTERIOR AND INTERIOR WALLS UNLESS A GREATER REINFORCING IS SHOWN ON THE PLANS OR IN THE DETAILS. PROVIDE 1/2" DIAMETER DEFORMED BAR ANCHORS AT 48" ON CENTER WELDED TO STRUCTURAL MEMBERS SUPPORTING MASONRY ABOVE UNLESS NOTED OTHERWISE ON THE DRAWINGS.

- 19. PROVIDE HOHMANN AND BARNARD RB-8 (OR EQUAL) REBAR POSITIONERS AT EVERY THIRD COURSE AND AT SPLICE LOCATIONS.

- 20. ALL MASONRY DESIGN IS BASED CHAPTER 21 OF INTERNATIONAL BUILDING CODE, LATEST EDITION AND ACI 530, LATEST EDITION.

STRUCTURAL TESTING AND INSPECTIONS

EARTHWORK TESTING

- 1. DURING EARTHWORK OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. SERVICES PROVIDED SHALL INCLUDE: C. VERIFY THAT THE SUBGRADE SHALL THEN BE SCARIFIED AND MOISTURE CONDITIONED TO A SIX (6) INCH DEPTH AND THEN RECOMPACTED TO BETWEEN [95 AND 100] PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D698). THE MOISTURE CONTENT SHALL BE BETWEEN [OPTIMUM AND +3] PERCENT OF THE OPTIMUM MOISTURE CONTENT. PROVIDE A MINIMUM OF FOUR (4) FIELD DENSITY TESTS ON THE SUBGRADE OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER.

SPREAD FOOTINGS TESTING

- 1. DURING SPREAD FOOTING OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. SERVICES PROVIDED SHALL INCLUDE: A. OBSERVING THE BOTTOM OF FOOTING FOR CLEANLINESS. B. CHECKING FOOTING BOTTOM FOR PROPER BEARING MATERIAL. C. NOTING DEPTH AND SIZE OF ALL FOOTINGS. D. VERIFY QUANTITY, SIZE AND LOCATION OF REINFORCEMENT AND CLEAR COVER REQUIREMENTS. E. CHECK FOR CAVING OF FOOTING WALLS. F. CHECKING THAT THE PLASTER IS CONCENTRIC WITH THE FOOTING. G. CHECKING THAT COLUMN OR GRADE BEAM DOWELS ARE LOCATED PROPERLY.

CONCRETE TESTING

- 1. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR REVIEW INDICATING CONFORMANCE WITH ACI 318, LATEST EDITION, CHAPTER 5, SECTION 5.3. 2. SLUMP TESTS, CONFORMING TO ASTM C143, SHALL BE TAKEN AT THE POINT OF DISCHARGE AT THE SAME RATE AS NOTED BELOW IN NOTE NUMBER 5. 3. AIR CONTENT TESTS CONFORMING TO ASTM C173, VOLUMETRIC METHOD FOR LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE; ASTM C231 PRESSURE METHOD FOR NORMAL WEIGHT CONCRETE; SHALL BE TAKEN FOR EACH DAY'S POUR OF EACH TYPE OF AIR-ENTRAINED CONCRETE. 4. CONCRETE TEMPERATURE SHALL BE TESTED HOURLY WHEN AIR TEMPERATURE IS 40 DEG F (4 DEG C) AND BELOW, WHEN 80 DEG F (27 DEG C) AND ABOVE, AND EACH TIME A SET OF COMPRESSION TEST SPECIMENS IS MADE. 5. ONE SET OF FOUR COMPRESSION TEST SPECIMENS CONFORMING TO ASTM C31 SHALL BE MOVED FROM THE LABORATORY-CURED SPECIMENS TO THE LABORATORY COMPRESSION TESTS SHALL CONFORM TO ASTM C39 AND SHALL CONSIST OF ONE SET FOR EACH DAY'S POUR EXCEEDING 5 CU. YDS. PLUS ADDITIONAL SETS FOR EACH 50 CU. YDS. MORE THAN THE FIRST 25 CU. YDS OF EACH CONCRETE CLASS PLACED IN ANY ONE DAY. ONE SPECIMEN SHALL BE TESTED AT 7 DAYS, TWO SPECIMENS SHALL BE TESTED AT 28 DAYS, AND ONE SPECIMEN SHALL BE RETAINED FOR LATER TESTING AS REQUIRED. 6. VERIFY CONCRETE IS BEING CONSOLIDATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF ACI 318 AND ACI 309R, LATEST EDITION. 7. VERIFY THAT POST INSTALLED ANCHORS ARE AS SPECIFIED AND THAT ANCHORS ARE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

REINFORCING STEEL INSTALLATION

- 1. DURING CAST-IN-PLACE CONCRETE STRUCTURAL MEMBER REINFORCING PLACEMENT OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. INSPECT REINFORCING UTILIZING ACI 311.4R "GUIDE FOR CONCRETE INSPECTION" AS A GUIDE. SERVICES PROVIDED SHALL INCLUDE: A. VERIFY TYPE AND GRADE OF ALL REINFORCING STEEL. B. VERIFY REBAR IS FREE OF OIL, DIRT, EXCESSIVE RUST AND FROM DAMAGE IN SHIPMENT TO SITE. C. VERIFY REINFORCING IS ADEQUATELY TIED, CHAIRED AND SUPPORTED TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT. D. VERIFY MINIMUM AND MAXIMUM CLEAR DISTANCES BETWEEN BARS AND MINIMUM STRUCTURAL DISTANCE TO OUTSIDE OF CONCRETE. E. VERIFY QUANTITY, SIZE AND LOCATION OF REINFORCEMENT. F. VERIFY MINIMUM CONCRETE COVER IS MAINTAINED BETWEEN REBAR AND SURFACE OF CONCRETE. G. VERIFY SIZE AND PLACEMENT OF REBAR. VERIFY LAP LENGTHS, LOCATIONS AND STAGGERS AND VERIFY BENDS FOR MINIMUM DIAMETER, SLOPE AND LENGTH. VERIFY HOOKED BAR LENGTHS AND LOCATIONS.

STRUCTURAL STEEL TESTING

- 1. CERTIFY WELDERS FOR THE WELD TYPES IN THE PROJECT AND CONDUCT INSPECTIONS AND TESTS AS REQUIRED, AS A MINIMUM, WELDERS SHALL BE AISC CERTIFIED. RECORD TYPES AND LOCATIONS OF DEFECTS FOUND IN WORK. RECORD WORK REQUIRED AND PERFORMED TO CORRECT DEFICIENCIES. 2. VISUALLY INSPECT 100% OF ALL FILLET WELDS. 3. VISUALLY INSPECT 100% OF ALL FULL PENETRATION WELDS, TEST 20% OF ALL FULL PENETRATION WELDS BY ONE OF THE FOLLOWING METHODS: LIQUID PENETRANT INSPECTION (ASTM E165), MAGNETIC PARTICLE INSPECTION (ASTM E709; PERFORMED ON THE ROOF PASS AND ON THE FINISHED WELD; CRACKS AND ZONES OF INCOMPLETE FUSION OR PENETRATION IS NOT ACCEPTABLE), RADIOGRAPHIC INSPECTION (ASTM E94 AND ASTM E142; MINIMUM QUALITY LEVEL OF "2-21"), OR ULTRASONIC INSPECTION (ASTM E164). IF FAILURE RATE IS 20% OR GREATER, TEST 100% OF WELDS AT CONTRACTOR'S EXPENSE UNTIL FAILURE RATE FALLS BELOW 20%. 4. ALL WELDS THAT FAIL SHALL BE REWELDED AND RETESTED UNTIL THEY PASS THE TEST. TEST TWO ADDITIONAL WELDS AT THE CONTRACTOR'S EXPENSE FOR EVERY WELD FAILURE. 5. VISUALLY INSPECT WELDS ON 100% OF ALL STUDS AND TEST 10% BY THE METHOD DESCRIBED BELOW IN COMPLIANCE WITH AWS D1.1. HEADED STUD SHALL BE TESTED BY ALTERNATELY BENDING 90 DEG. IN OPPOSITE DIRECTIONS FROM ITS ORIGINAL AXIS BY EITHER STRIKING THE STUDS WITH A HAMMER ON THE UNWELDED END OR PLACING A PIPE OR OTHER SUITABLE HOLLOW DEVICE OVER THE STUD AND MANUALLY OR MECHANICALLY BENDING THE STUD. IF FAILURE RATE IS 10% OR GREATER, TEST 100% OF STUDS AT CONTRACTOR'S EXPENSE UNTIL FAILURE RATE FALLS BELOW 10%. IF A VISUAL INSPECTION REVEALS ANY STUD THAT DOES NOT SHOW A FULL 360 DEG. FLASH (AS DEFINED IN AWS D1.1) OR ANY STUD THAT HAS BEEN REPAIRED BY WELDING, SUCH STUD SHALL BE BENT TO AN ANGLE OF APPROXIMATELY 15 DEG. FROM ITS ORIGINAL AXIS. THE DIRECTION OF BENDING FOR STUDS WITH LESS THAN 360 DEG. FLASH SHALL BE OPPOSITE TO THE MISSING PORTION OF FLASH. 6. BOLTS SHALL BE VISUALLY INSPECTED WHEN TWIST-OFF SPINNES ARE USED, OTHERWISE BOLTS SHALL BE SNUG TIGHT. 7. ALL FULL PENETRATION WELDS AT MOMENT CONNECTIONS REQUIRING TESTING SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY USING NON-DESTRUCTIVE TESTING METHODS. FOR SHOP WELDS, CERTIFICATION SHALL BE SUBMITTED PRIOR TO SHIPPING TO THE JOB SITE. FOR FIELD WELDS, CERTIFICATION SHALL BE SUBMITTED PRIOR TO FLOOR DECK INSTALLATION AND CONCRETE PLACEMENT AND PRIOR TO COVERING CONNECTIONS WITH FIREPROOFING OR ARCHITECTURAL FINISHES.

STRUCTURAL TESTING AND INSPECTIONS CONT'D

MASONRY TESTING

- 1. MASONRY TESTING SHALL CONSIST OF A QUALIFIED TESTING LABORATORY PROVIDING THE FOLLOWING SERVICES: A. VERIFY QUANTITY, SIZE AND SPACING OF REQUIRED REINFORCING SHOWN ON THE DRAWINGS. B. OBSERVE THE INSTALLATION OF MASONRY UNITS. C. INSPECTION OF GROUT SPACE, IMMEDIATELY PRIOR TO CLOSING OF CLEANOUTS AND PRIOR TO ALL GROUTING OPERATIONS. VERIFY THAT THE SPECIFIED CELLS HAVE BEEN FULLY GROUTED. D. MONITOR THE PROPORTIONING, MIXING AND CONSISTENCY OF MORTAR AND GROUT. PROVIDE 28 DAY COMPRESSIVE STRENGTH TESTS ON EACH GROUT MIX IN ACCORDANCE WITH ASTM C1019; COMPRESSION TEST MASONRY PRISMS FOR EACH TYPE OF WALL CONSTRUCTION IN ACCORDANCE WITH ASTM C1314. CONTRACTOR SHALL PREPARE ONE SET OF PRISMS FOR TESTING AT 28 DAYS. TESTS ARE TO BE CONDUCTED FOR EACH 2000 SQUARE FEET OF WALL INSTALLED, BUT NOT LESS THAN TWO TESTS.

SPECIAL INSPECTIONS

SPECIAL INSPECTION WORK AND THE FINAL LETTER OF COMPLIANCE HAVE NOT BEEN INCLUDED IN THE STRUCTURAL ENGINEER'S SCOPE OF SERVICES. THE STRUCTURAL ENGINEER WILL REQUIRE TESTING LABORATORY REPORTS ON ALL CONCRETE PLACEMENT, SOIL COMPACTON, HIGH STRENGTH BOLT INSPECTIONS AND WEI INSPECTIONS. IN ADDITION THE SOIL ENGINEER TESTING LABORATORY SHALL PROVIDE FULL TIME MONITORING AND A REPORT ON ALL DRILLED FOOTING INSTALLATIONS. THE OWNER IS RESPONSIBLE FOR SECURING THE SERVICES OF THE TESTING LABORATORY AND THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE TESTING LABORATORY IN A TIMELY MANNER PRIOR TO PROCEEDING WITH CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK REQUIRING INSPECTIONS WITHOUT THE TESTING LABORATORY'S OR SPECIAL INSPECTOR'S PRESENCE. THE STRUCTURAL ENGINEER WILL NOT PROVIDE A FINAL LETTER OF COMPLIANCE AFTER THE WORK IS COMPLETE UNLESS HE HAS PERFORMED THE SPECIAL INSPECTIONS.

SPECIAL INSPECTIONS

SPECIAL INSPECTION WORK AND THE FINAL LETTER OF COMPLIANCE HAVE BEEN INCLUDED IN THE STRUCTURAL ENGINEER'S SCOPE OF SERVICES. THE STRUCTURAL ENGINEER WILL REQUIRE TESTING LABORATORY REPORTS ON ALL CONCRETE PLACEMENT, SOIL COMPACTON, HIGH STRENGTH BOLT INSPECTIONS AND WEI INSPECTIONS. IN ADDITION THE SOIL ENGINEER TESTING LABORATORY SHALL PROVIDE FULL TIME MONITORING AND A REPORT ON ALL DRILLED FOOTING INSTALLATIONS. THE OWNER IS RESPONSIBLE FOR SECURING THE SERVICES OF THE TESTING LABORATORY AND THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE TESTING LABORATORY IN A TIMELY MANNER PRIOR TO PROCEEDING WITH CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK REQUIRING INSPECTIONS WITHOUT THE TESTING LABORATORY'S PRESENCE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD WITHIN 72 HOURS PRIOR TO PLACEMENT OF ALL CONCRETE FOR GRADE BEAMS AND SLABS SO THAT THE ENGINEER CAN OBSERVE REINFORCEMENT PLACEMENT. THE ENGINEER OF RECORD SHALL ALSO BE NOTIFIED PRIOR TO THE ADDITION OF ROOF MATERIALS OVER THE STEEL DECK. ARRANGEMENTS FOR SPECIAL INSPECTIONS SHOULD BE MADE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE STRUCTURAL ENGINEER WILL NOT PROVIDE A FINAL LETTER OF COMPLIANCE UNLESS THE PROCEDURES NOTED ABOVE HAVE BEEN FULLY CARRIED OUT.

***** EDIT FOR CITY OF HOUSTON JOBS *****
***** EDIT FOR EACH JOB *****

CHAPTER 17 OF THE 2006 INTERNATIONAL BUILDING CODE (CITY OF HOUSTON AMENDMENTS) IS INTERPRETED TO REQUIRE SPECIAL INSPECTION FOR THE FOLLOWING ITEMS:

CONCRETE CONSTRUCTION (SECTION 1704.4/TABLE 1704.4): EVALUATION OF IN-PLACE DENSITY SECTION 1704.7.3

STEEL CONSTRUCTION (SECTION 1704.3): INSPECTION OF FABRICATORS SECTION 1704.2 STRUCTURAL WELDING SECTION 1704.3.1 DETAILS OF HIGH-STRENGTH BOLTS SECTION 1704.3.2 INSTALLATION SECTION 1704.3.3

MASONRY CONSTRUCTION (SECTION 1704.5/TABLE 1704.5.1)

ISSUE LOG table with columns: NO., DATE, DESCRIPTION. Rows include 04.13.2012 BID AND PERMIT and 08.23.2012 PERMIT COMMENTS.

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08/23/2012

PROJECT NAME : City of Houston Emergency Generator Relocation 62 Riesner Houston, TX 77002



CITY OF HOUSTON GENERAL SERVICES DEPARTMENT

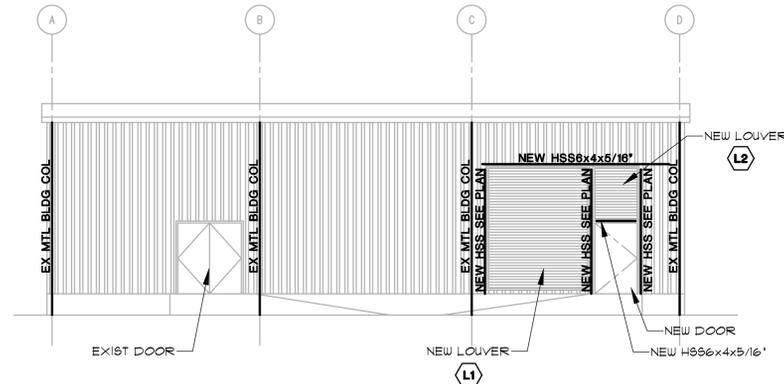
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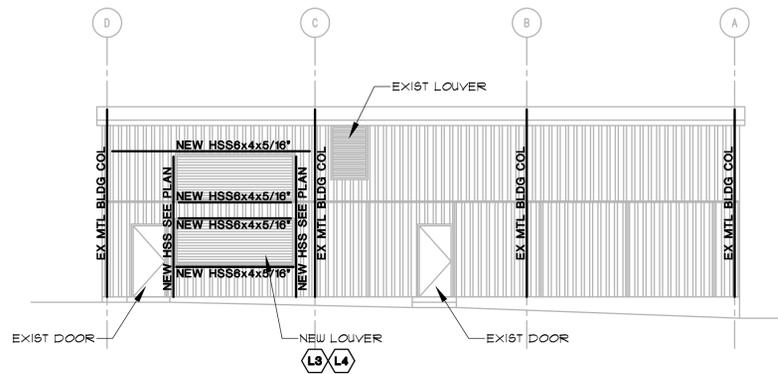
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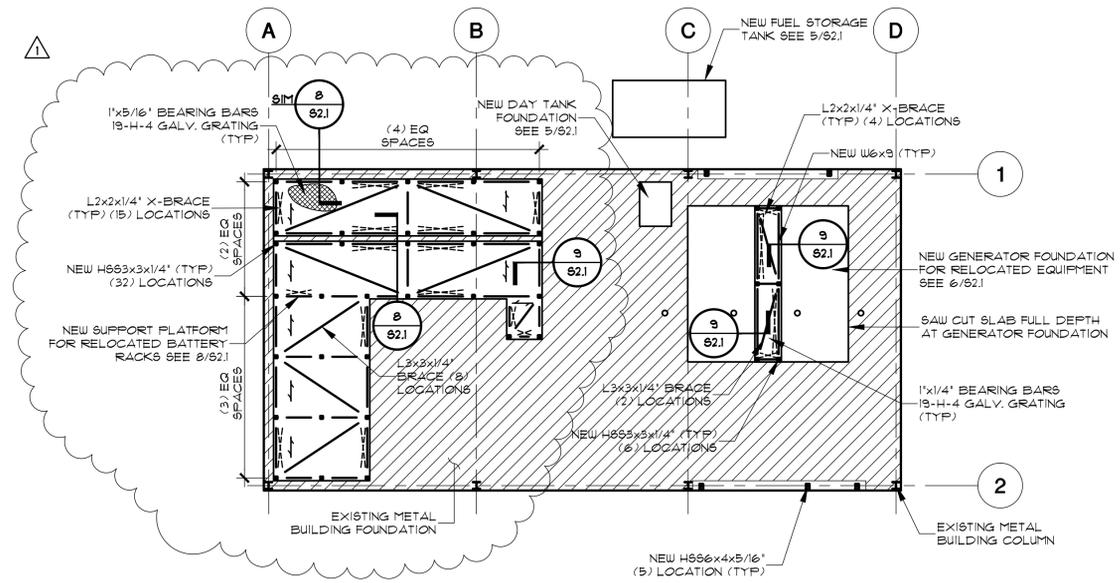
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2 EAST ELEVATION
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1 WEST ELEVATION
SCALE: 3/4" = 1'-0"



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

ISSUE LOG		
NO.	DATE	DESCRIPTION
	04.13.2012	BID AND PERMIT
Δ	08.23.2012	PERMIT COMMENTS

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PROJECT NAME :
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



REVIEWED :
 PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____
 PROJECT MANAGER _____

DATE : 04/13/2012
 G.F.S. No : _____
 SCALE : AS NOTED
 DRAWN BY : JG
 CHECKED BY : HK

SHEET TITLE :
FOUNDATION PLAN & ELEVATIONS

SHEET NO. :
S1.1

CITY DWG. NO. : 2121011

ISSUE LOG		
NO.	DATE	DESCRIPTION
	04.13.2012	BID AND PERMIT
	08.23.2012	PERMIT COMMENTS

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SEAL(S) :

08/23/2012

PROJECT NAME :

City of Houston
Emergency Generator Relocation
62 Riesner
Houston, TX 77002

CITY OF HOUSTON
GENERAL SERVICES
DEPARTMENT

REVIEWED :

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

DATE : 04/13/2012

G.F.S. No. : _____

SCALE : AS NOTED

DRAWN BY : JG

CHECKED BY : HK

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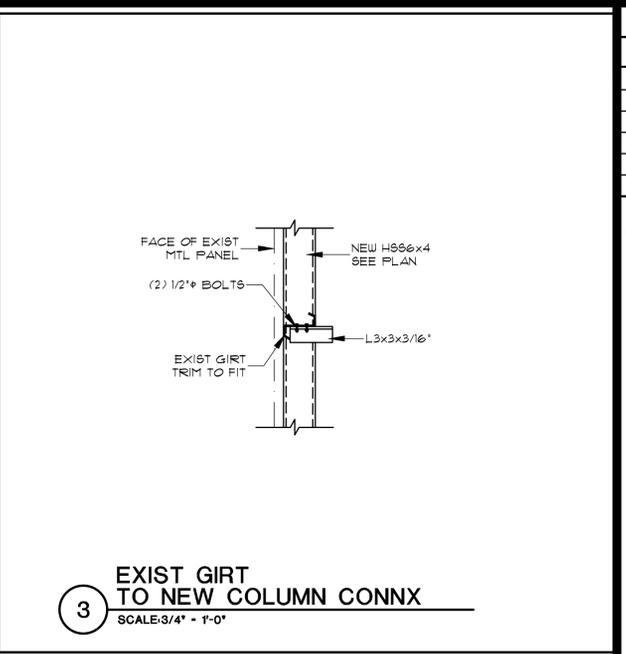
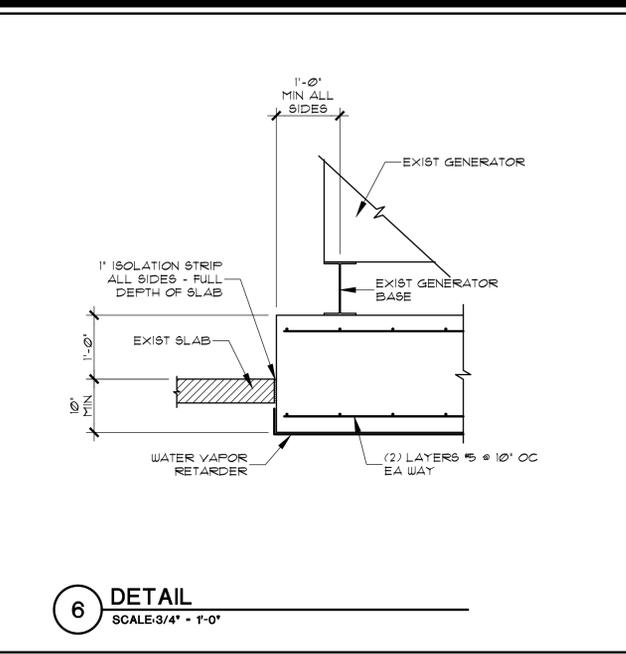
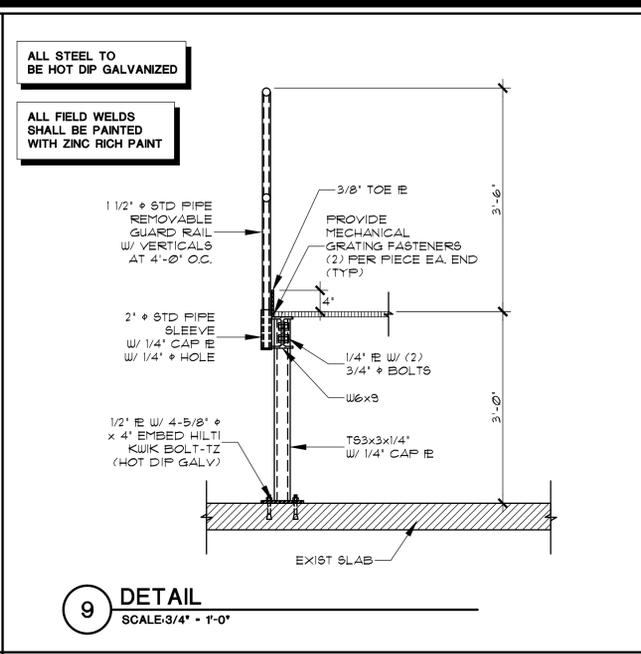
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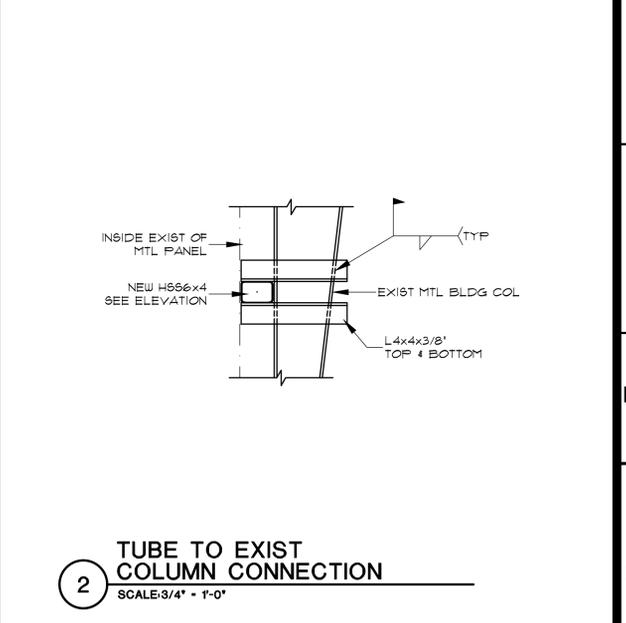
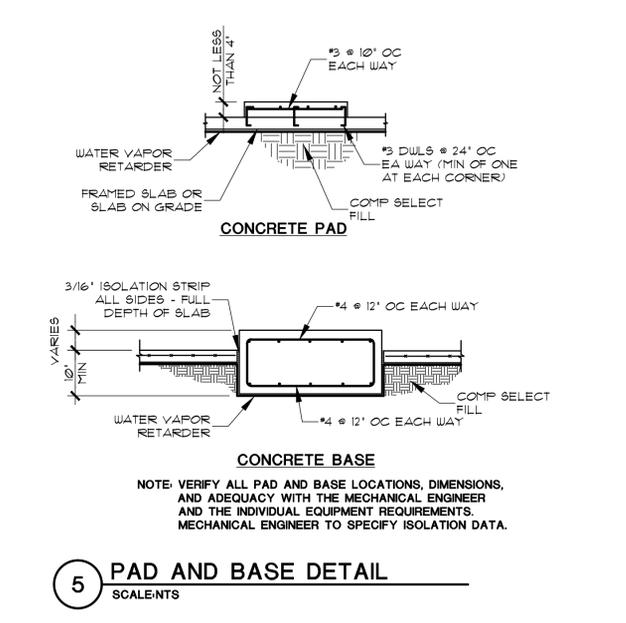
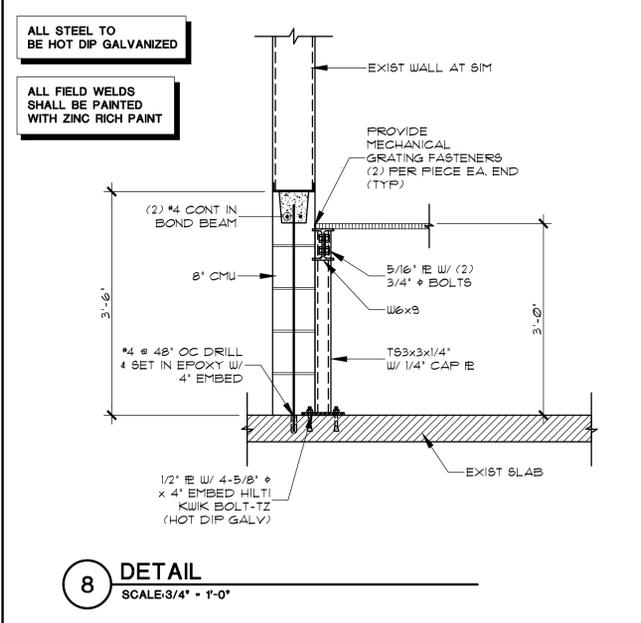
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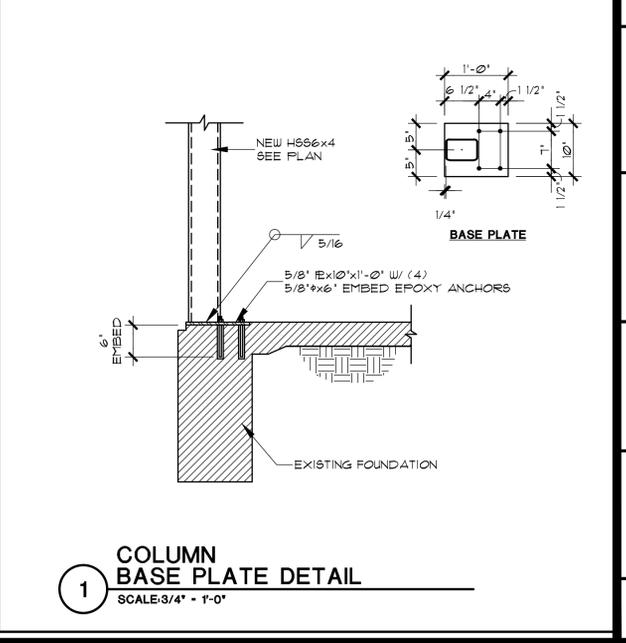
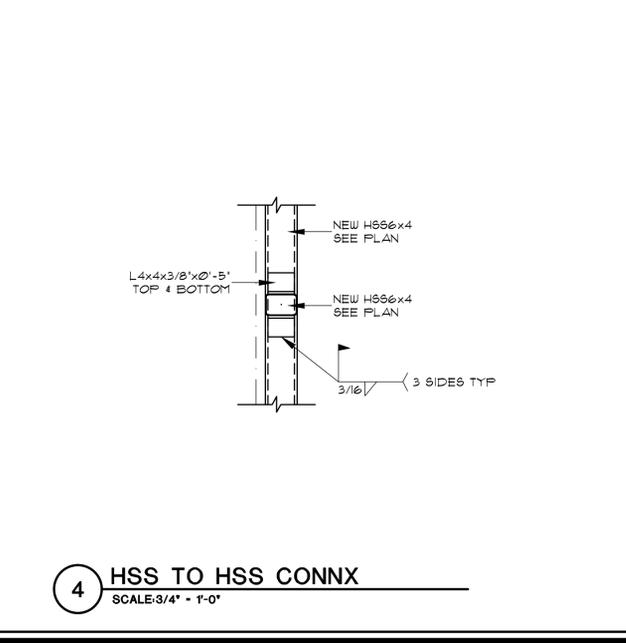
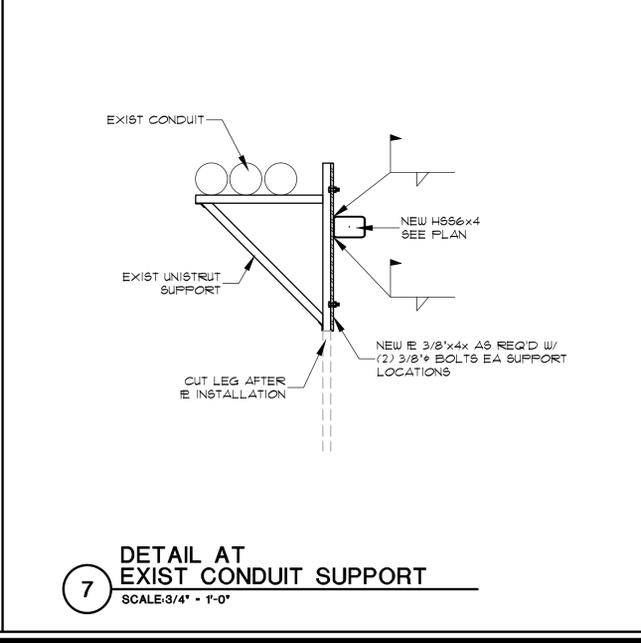
CITY DWG. NO. :



12 DETAIL
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11 DETAIL
SCALE: 3/4" = 1'-0"



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