

BY AN INDEPENDENT TESTING LABORATORY. ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID

CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES.

CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY.ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES. AT

MOMENT CONNECTIONS, REMOVE ALL WELD BACKING AND RUN-OFF TABS AND BACKGOUGE TO SOUND WELD METAL.

ANALYSIS METHOD = ASCE 7-10 12.8 "EQUIVALENT LATERAL FORCE PROCEDURE".

GENERAL STRUCTURAL NOTES APPLY UNLESS NOTED OTHERWISE STRUCTURAL STEEL (CONTINUED): BACKWELD WITH A MINIMUM 5/16" FILLET. ALL WELDING PER LATEST AMERICAN WELDING SOCIETY STANDARDS (EXCEPT STEEL JOSITS AND JOIST GIRDERS SHALL COMPLY WITH SJI STANDARDS). THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS: THE CONTRACTOR MAY SHOP WLED OR FIELD WELD AT HIS DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW. ALL FULL (COMPLETE) PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY. WHEN STRUCTURAL STEEL IS FURNISHED TO A SPECIFIED MINIMUM YIELD POINT **GENERAL:** STEEL DECKING: ROOF DECK: ATTACHMENTS: STEEL JOISTS: BOTTOM CHORDS. MINIMUM REQUIREMENTS. SHALL BE INCLUDED. GENERAL: PRECAST WORK:

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GREATER THAN 36 KSI. THE ASTM OR OTHER SPECIFICATION DESIGNATION SHALL BE INCLUDED NEAR THE
                                                                                                                                                                       THE INSTALLATION AND OPERATION OF ALL POST-TENSIONING SHALL BE IN ACCORDANCE WITH 2012 ED. OF
ERECTION MARK ON EACH SHOPPING ASSEMBLY OR IMPORTANT CONSTRUCTIONB COMPONENT. OVER ANY SHOP
                                                                                                                                                                       INTERNATIONAL BUILDING CODE, ACI 318 LATEST EDITION, AND POST-TENSIONING MANUAL (PTI) LATEST EDITION.
COAT OF PAINT. PRIOR TO SHIPMENT FROM THE FABRICATOR'S PLANT.
                                                                                                                                                                       POST-TENSIONING REINFORCING SHALL CONFORM TO THE FOLLOWING:
HIGH STRENGTH BOLTS:
ALL HIGH STRENGTH BOLTS SHALL BE ASTM A325 AND SHALL BE INSTALLED AS BEARING-TYPE CONNECTIONS
                                                                                                                                                                       POST-TENSIONING TENDON MATERIAL ------STRESS RELIEVED ----- LOW RELAXATION
WITH THREADS INCLUDED IN SHEAR PLANE (I.E. A TYPE "N" CONNECTION). BOLTS MAY BE TIGHTENED USING
                                                                                                                                                                       ASTM DESIGNATION ----- A416
                                                                                                                                                                       ULTIMATE STRENGTH ----- 270 KSI ----- 270 KSI
ANY AISC APPROVED METHOD. USE SC (SLIP CRITICAL) AT ALL MOMENT FRAMES AND BRACED FRAMES, AND
                                                                                                                                                                       TEMPORARY STRESS TO OVERCOME FRICTION ----- 216 KSI ----- 216 KSI
WHERE OTHERWISE INDICATED. ALL SLIP CRITICAL HIGH STRENGTH BOLTING SHALL BE INSPECTED BY AN
                                                                                                                                                                       ANCHOR STRESS ----- 189 KSI ----- 189 KSI
INDEPENDENT TESTING LABORATORY TO ENSURE BOLT TENSION. TORQUE CONTROLLED (TC) BOLTS W/
                                                                                                                                                                       EFFECTIVE STRESS ----- 174 KSI
TENSION INDICATORS MAY BE USED AT CONTRACTOR'S OPTION.
                                                                                                                                                                       ELONGATION ----- .0825 IN/FT ----- .0825 IN/FT ---- .0825 IN/FT
                                                                                                                                                                       CONCRETE COVER ----- 3/4" TO STRAND ----- 3/4" TO STRAND
HEADED STUDS ON COMPOSITE STEEL BEAM:
                                                                                                                                                                       CONCRETE COVER ----- 2 1/4" TO WEDGES ---- 2 1/4" TO WEDGES
                                                                                                                                                                       POST-TENSIONING DESIGN WAS PERFORMED USING LOW RELAXATION STRAND. SUPPLIER MAY SUBSTITUTE WITH
                                                                                                                                                                       STRESS RELIEVED STRAND PROVIDED THEY PERFORM AND SUBMIT THE NECESSARY CALCULATIONS.
 ALL REFERENCE TO HEADED STUDS SHALL BE AUTOMATIC WELDED HIGH STRENGTH HEADED STUDS.
ATTACHMENT SHALL CONFORM TO ALL REQUIREMENTS OF THE LATEST EDITION OF THE "RECOMMENDED
                                                                                                                                                                       SUPPLIER SHALL SUBMIT CALCULATIONS FOR ALL LOSSES FOR SPECIFIED STRESSING LENGTHS TO ENSURE
PRACTICES FOR STUD WELDING" AND THE "STRUCTURAL WELDING CODE" PUBLISHED BY THE AMERICAN
                                                                                                                                                                       MINIMUM FINAL EFFECTIVE FORCE IS MAINTAINED.
WELDING SOCIETY. CONFORMANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL QUALITY CONTROL
TESTING PROVISIONS OF THE AFOREMENTIONED PUBLICATIONS.
                                                                                                                                                                       THE SUPPLIER SHALL BASE ALL ELONGATION CALCULATIONS UPON THE MODULES OF ELASTICITY SHOWN ON
SPACING OF HEADED SHEAR CONNECTOR STUDS ON COMPOSITE STEEL BEAMS:
                                                                                                                                                                       THE MILL CERTIFICATES FOR THE TENDONS BEING FURNISHED TO THE SITE. ALL TENDONS SHALL HAVE
                                                                                                                                                                       THEIR HEAT NUMBER MARKED ON THE TAG ATTACHED TO THE TENDON.
HEADED STUDS SHALL BE UNIFORMLY SPACED. USE NOT MORE THAN ONE STUD PER RIB WHERE THE NUMBER
                                                                                                                                                                       ONE (1) SAMPLE OF EACH REEL SHALL BE TESTED BY AN APPROVED LABORATORY. TEST RESULTS SHALL BE
OF STUDS REQUIRED IS LESS THAN OR EQUAL TO THE NUMBER OF RIBS AVAILABLE. WHERE THE NUMBER OF
                                                                                                                                                                       SUBMITTED TO THE ARCHITECT, STRUCTURAL ENGINEER AND BUILDING DEPARTMENT BEFORE STRESSING.
STUDS REQUIRED EXCEEDS THE NUMBER OF RIBS AVAILABLE. PLACE A MINIMUM OF ONE STUD PER RIB FULL
LENGTH OF THE BEAM. PLACE ADDED STUDS (NO MORE THAN TWO PER RIB TOTAL) IN EACH RIB BEGINNING
                                                                                                                                                                       SUPPLIER SHALL SUBMIT SHOP DRAWINGS AS PER SPECIFICATION.
AT THE SUPPORTS AT EACH END AND MOVING TOWARDS MIDSPAN UNTIL REQUIRED NUMBER OF STUDS IS
SUPPLIED. MINIMUM LONGITUDINAL STUD SPACING IS 6 STUD DIAMETERS CENTER TO CENTER. MAXIMUM
                                                                                                                                                                       ANCHORAGE HARDWARE SHALL BE IN ACCORDANCE WITH I.C.B.O. REPORT 4597. TYPE U-5. AS SUPPLIED BY
LONGITUDINAL STUD SPACING IS 12" CENTER TO CENTER. MINIMUM TRANSVERSE STUD SPACING IS 4 STUD
                                                                                                                                                                       PRECISION POST TENSION OR OTHER MANUFACTURE WITH CURRENT AND EQUIVALENT I.C.B.O. APPROVAL.
DIAMETERS CENTER TO CENTER. MINIMUM TRANSVERSE DISTANCE BETWEEN EDGE OF BEAM AND CENTERLINE
                                                                                                                                                                       ANCHORAGES EXPOSED TO WEATHER, OR UTILIZED IN EXTERIOR APPLICATIONS, SHALL USE AN ENCAPSULATED
OF STUD IS 1". STUDS SHALL PROJECT A MINIMUM OF 1 1/2" ABOVE THE TOP OF THE STEEL DECK AND
SHALL BE HELD A MINIMUM 3/4" CLEAR OF THE TOP OF THE CONCRETE SLAB. CONTRACTOR SHALL SUBMIT
SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
                                                                                                                                                                         DRAWING SCOPE:
                                                                                                                                                                          THESE DRAWINGS HAVE BEEN PRODUCED FOR CORE AND SHELL PERMIT PRIOR TO COMPLETION OF
                                                                                                                                                                         ALL DISCIPLINE'S DRAWINGS (FOOD SERVICE, INTERIORS, ETC.) AND THEREFORE MAY NOT FULLY
                                                                                                                                                                         COORDINATED, AND SHOULD NOT BE CONSIDERED FINAL CONSTRUCTION DOCUMENTS. AS SUCH,
DECK SHALL BE 1 1/2" DEEP, 36" WIDE, 20 GAGE GALVANIZED STEEL. WITH MINIMUM YIELD
                                                                                                                                                                          THESE DRAWINGS ARE SUBJECT TO CHANGE AS ALL THE CONSTRUCTION DOCUMENTS ARE
STRESS OF 38 KSI, WITH MINIMUM S = 0.230 IN3 AND I = 0.231 IN4 PER FOOT OF WIDTH. DECK SHALL
                                                                                                                                                                          COMPLETED. THE FOLLOWING GENERAL ITEMS MAY NOT BE INCLUDED OR FULLY COORDINATED ON
 BE ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AS 3 SPAN MINIMUM AND SHALL BE
                                                                                                                                                                          THESE DRAWINGS. THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE COST ALLOWANCES FOR
ATTACHED FOR A MINIMUM DIAPHRAGM SHEAR CAPACITY OF 1451 PLF USING THE FOLLOWING MINIMUM
                                                                                                                                                                          THESE ITEMS. THIS IS NOT AN ALL INCLUSIVE LIST; IT IS ONLY INTENDED TO CONVEY IN GENERAL
                                                                                                                                                                          TERMS WHAT MAY NOT BE SHOWN. PROVIDE COST ALLOWANCE FOR THE FOLLOWING ITEMS NOT
                                                                                                                                                                         SHOWN ON THESE DRAWINGS:
WELD DECK TO SUPPORTING MEMBERS WITH 7- 1/2" DIAMETER OR 3/8" X 1" PUDDLE WELDS PER SHEET AT
ENDS, END LAPS AND AT INTERMEDIATE SUPPORTS, AND AT 12" O.C. AT PERIMETER BEAMS AND OPENING
                                                                                                                                                                            ADD LOADS TO PREFABRICATED ROOF JOISTS FOR:
EDGES RUNNING PARALLEL TO THE DECK. SIDE SEAM ATTACHMENT SHALL BE PUNCH LOK II AT 8" O.C.
                                                                                                                                                                              A. MECHANICAL EQUIPMENT
                                                                                                                                                                             B. KITCHEN HOODS
COMPOSITE FLOOR DECK:
                                                                                                                                                                              C. MECHANICAL AND PLUMBING PIPING OVER 4" DIA.
                                                                                                                                                                              D. FIRE SPRINKLERS PIPES OVER 4" DIA.
DECK SHALL BE 2" DEEP, 36" WIDE, 20 GAGE GALVANIZED STEEL, WITH MINIMUM YIELD
                                                                                                                                                                               E. CHANDELIER AND LIGHT FIXTURE LOADS OVER 200 LBS.
STRESS OF 38 KSI, WITH MINIMUM S = 0.361 IN3 AND I = 0.423 IN4 PER FOOT OF WIDTH. DECK SHALL
                                                                                                                                                                               F. SCREEN WALL LOADS
 BE DEFORMED/INDENTED TO PROVIDE A MECHANICAL BOND WITH THE CONCRETE. DECK SHALL BE ERECTED IN
                                                                                                                                                                              G. BALLROOM RIGGING POINTS
ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AS 2 SPAN MINIMUM AND SHALL BE ATTACHED FOR A
                                                                                                                                                                              H. LIGHTING /HANGING LOADS OVER STAGE
MINIMUM DIAPHRAGM SHEAR CAPACITY OF 2229 PLF USING THE FOLLOWING MINIMUM ATTACHMENTS (SHORE
                                                                                                                                                                           . MISCELLEANOUS STEEL ALLOWANCE FOR:
DECK AT SINGLE SPAN OR IF SPAN BETWEEN SUPPORT MEMBERS EXCEEDS 8'-0"):
                                                                                                                                                                                  FOLDING PARTITION SUPPORTS
                                                                                                                                                                              B. ROOFTOP EQUIPMENT SUPPORT
 WELD DECK TO SUPPORTING MEMBERS WITH 4 - 1/2" DIAMETER OR 3/8" X 3/4" PUDDLE WELDS PER SHEE
                                                                                                                                                                               C. BALLROOM RIGGING POINTS
AT ENDS, END LAPS AND AT INTERMEDIATE SUPPORTS, AND AT 12" O.C. AT PERIMETER BEAMS AND
                                                                                                                                                                               D. PIPING SUPPORTS FROM ROOF
 OPENINGS EDGES RUNNING PARALLEL TO THE DECK. SIDE SEAM ATTACHMENT SHALL BE PUNCH LOK II AT
                                                                                                                                                                               E. STAGE HANGING LOADS
                                                                                                                                                                              F. SCREEN WALLS ON ROOFS
                                                                                                                                                                              G. ELEVATOR SUPPORT STEEL
                                                                                                                                                                             H. SLAB EDGE BENT PLATE AT PERIMETER AND ALL INTERIOR EDGES/OPENINGS
                                                                                                                                                                              I. MISC. BRACING AT PERIMETER WALLS
ALL JOISTS SHALL BE DESIGNED, FABRICATED, WELDED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION
                                                                                                                                                                              J. CLADDING SUPPORT STEEL
OF THE "STANDARD SPECIFICATIONS" OF THE STEEL JOIST INSTITUTE.
                                                                                                                                                                             K. CHANDELIER/LIGHT FIXTURE SUPPORTS
                                                                                                                                                                              L. SOFFITS/SPECIALTY CEILINGS
JOIST SIZES INDICATED ON PLANS ARE MINIMUMS. JOIST AND GIRDER LOADS SHOWN ON PLANS ARE
                                                                                                                                                                             M. FLOOR PENETRATIONS
 SUPERIMPOSED AND DO NOT INCLUDE SELF-WEIGHT. JOIST MANUFACTURER SHALL DESIGN AND SUBMIT
                                                                                                                                                                              N. CANOPIES
 CALCULATIONS BY A REGISTERED ENGINEER FOR ALL JOISTS, EXCEPT PARALLEL CHORD JOISTS WITH UNIFORM
                                                                                                                                                                              O. MECHANICAL LOUVERS
LOADS AND CONTINUOUSLY SUPPORTED COMPRESSION CHORDS PER SJI STANDARD LOAD TABLES. JOIST
                                                                                                                                                                              P. WINDOW WASH/TIE OFFS
MANUFACTURER SHALL DESIGN AND SUBMIT CALCULATIONS BY A REGISTERED ENGINEER FOR ALL JOIST
                                                                                                                                                                              Q. CONNECTIONS NOT SHOWN
                                                                                                                                                                                                                                                                                                                                    REVIT MODEL NOTES:
GIRDERS AND SPECIAL JOISTS. CALCULATIONS SHALL INCLUDE DEFLECTION AND CAMBER REQUIREMENTS. ROOF
                                                                                                                                                                            CONCRETE ALLOWANCE FOR:
LIVE LOAD DEFLECTIONS SHALL BE LIMITED TO SPAN/240,. TOTAL LOAD DEFLECTIONS SHALL BE LIMITED TO
                                                                                                                                                                             A. CURBS, SUMPS, HOUSEKEEPING PADS, SLOPED FLOORS, DRAINS, RECESSED SLABS,
                                                                                                                                                                                                                                                                                                                                     THE REVIT MODEL FOR THIS PROJECT
SPAN/180. ALL JOIST AND JOIST GIRDERS SHALL BE CAMBERED FOR THE DESIGN DEAD LOAD.
                                                                                                                                                                                 BLOCKOUTS, ETC.
                                                                                                                                                                                                                                                                                                                                      S PROVIDED FOR THREE—DIMENSIONAL
MANUFACTURER SHALL ADD ADDITIONAL WEB MEMBERS AS REQUIRED AND ADJUST CHORD AND WEB SIZES
                                                                                                                                                                              B. MISC. LANDSCAPING WALLS
ACCORDINGLY, BUT SHALL NOT ALTER DEPTH OF JOISTS AND JOIST GIRDERS. DESIGN CALCULATIONS SHALL
                                                                                                                                                                                                                                                                                                                                     DESIGN INTENT, GENERAL PROJECT
                                                                                                                                                                              C. CHORD BARS IN SLAB OVER METAL DECK. ASSUME 4 #5 CONT. AT ALL SLAB EDGES AND
INCLUDE SUPERIMPOSED LOADS FOR FRAMING SUPPORTED EQUIPMENT, PIPING LOADS, HANGING LOADS, ETC
                                                                                                                                                                                  AROUND ALL INTERIOR OPENINGS (10' EXTENSIONS AROUND OPENING).
                                                                                                                                                                                                                                                                                                                                     COORDINATION, AND CLASH DETECTION
VERIFY SIZE, WEIGHT AND LOCATION OF EQUIPMENT AND HANGING LOADS WITH ARCHITECTURAL, MECHANICAL
                                                                                                                                                                              D. CHORD BARS IN TOPPING SLAB OVER DOUBLE TEES AT PARKING GARAGE. ASSUME 4 #6
                                                                                                                                                                                                                                                                                                                                     THE LEVEL OF DETAIL IS NOT SUITABLE
 PLUMBING, ELECTRICAL, FOOD SERVICE, A.V., INTERIORS, AND OTHER SPECIALTY DRAWINGS — TYPICAL.
                                                                                                                                                                                  CONT. AT ALL SLAB EDGES AND AROUND ALL INTERIOR OPENINGS (10' EXTENSIONS
SPRINKLER OR PLUMBING PIPING GREATER THAN 4" IN DIAMETER MUST BE ADDED TO JOIST DESIGN LOADS (SEE
                                                                                                                                                                                                                                                                                                                                     TO BE USED AS A FABRICATION TOOL
                                                                                                                                                                                  AROUND OPENING).
FIRE PROTECTION, MECHANICAL, AND PLUMBING DRAWINGS).
                                                                                                                                                                            ADDITION TO THE ABOVE, PROVIDE COST ALLOWANCES FOR THE FOLLOWING QUANTITY INCREASES
                                                                                                                                                                                                                                                                                                                                     BY THE GENERAL CONTRACTOR OR
                                                                                                                                                                          IN ADDITION TO WHAT IS SHOWN ON THESE DRAWINGS:
                                                                                                                                                                                                                                                                                                                                     SUBCONTRACTORS. SEPARATE
                                                                                                                                                                              1. STRUCTURAL STEEL BEAMS, COLUMNS, BRACED FRAMES, ETC: +15% QUANTITY
JOIST SUPPLIER SHALL DESIGN FOR LOADS FROM OTHER DISCIPLINES. LOADS SHOWN ON STRUCTURAL PLAN
                                                                                                                                                                                                                                                                                                                                     FABRICATION MODELS MUST BE
                                                                                                                                                                              2. INCLUDE CAMBERS FOR ALL STEEL BEAMS WITH SPANS 20' AND OVER.
DO NOT INCLUDE ADDITIONAL CAPACITY TO SUPPORT MECHANICAL OR PLUMBING LOADS GREATER THAN 4" DIA.
                                                                                                                                                                                                                                                                                                                                     CREATED BY THE GENERAL
                                                                                                                                                                              3. HEADED STUD ON COMPOSITE STEEL BEAMS: +10% QUANTITY
JOIST SUPPLIER TO VERIFY ALL BRACE LOADS AND EXTENDED END LOADS NOT SPECIFICALLY SHOWN ON PLANS
                                                                                                                                                                              4. FOUNDATIONS (CONCRETE AND REBAR): +10% QUANTITY
OR DETAILS (FOR BID PURPOSES ASSUME 1000 LB FORCE MINIMUM). ALL ROOF JOISTS AND JOIST GIRDER SHALL
                                                                                                                                                                                                                                                                                                                                     CONTRACTOR OR SUBCONTRACTORS.
                                                                                                                                                                             5. P.T. SLABS (P.T. AND REBAR) +15% QUANTITY
 BE DESIGNED TO ACCOMMODATE A FUTURE MECHANICAL LOAD OF 1,000 POUNDS PER JOIST AT ANY PANEL POINT
LOCATION IN ADDITION TO ANY MECHANICAL LOADS SHOWN ON DRAWINGS (1 LOAD PER JOIST).
                                                                                                                                                                                                                                                     Structural Sheet List
 CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SEALED BY A REGISTERED ENGINEER
FOR REVIEW PRIOR TO MANUFACTURE. SHOP DRAWINGS AND CALCULATIONS SHALL INCLUDE DETAILS OF ANY
OPTIONAL FIELD SPLICES, AND IF HIGH STRENGTH BOLTS OR FULL PENETRATION WELDS ARE UTILIZED,
CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING LABORATORY TO CERTIFY COMPLIANCE WITH AISC AND
AWS SPECIFICATIONS RESPECTIVELY.
JOISTS OR BEAMS TO BE EQUALLY SPACED BETWEEN COLUMN LINES - TYPICAL U.N.O. PROVIDE BRIDGING AS
REQUIRED, PER SJI SPECIFICATIONS. WHERE BOTTOM CHORD WELDING IS INDICATED, DO NOT WELD BOTTOM
CHORD TO SUPPORT UNTIL FULL DEAD LOAD IS IN PLACE.
WHERE CROSS BRIDGING INTERFERES WITH MECHANICAL INSTALLATIONS, REMOVE THIS CROSS BRIDGING
AFTER TOTAL DEAD LOAD IS APPLIED AND REPLACE WITH HORIZONTAL ANGLES 2" X 2" X 3/16" AT TOP AND
MANUFACTURER SHALL DESIGN JOIST AND JOIST GIRDERS IN ACCORDANCE WITH THE UL DESIGN
REQUIREMENTS IN ORDER TO ACHIEVE THE FIRE RATING SPECIFIED IN ARCHITECTURAL DRAWINGS.
MANUFACTURER SHALL DESIGN JOIST SHOES WHERE BEARING LENGTH IS LESS THAN 4" AT LH SERIES JOIST
AND LESS THAN 3" AT K SERIES JOIST.
                                                                                                                                                                                                                                                                                    Designed | Drawn | Checked | -
COLD FORMED LIGHT GAGE STEEL FRAMING (DEFERRED SUBMITTAL):
                                                                                                                                                                                                                                                                                      By | By | By
                                                                                                                                                                                              Sheet Name
                                                                                                                                                              S001 GENERAL STRUCTURAL NOTES
S002 GENERAL STRUCTURAL NOTES
S003 TYPICAL DETAILS

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ALL COLD-FORMED STEEL FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH
MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF "SPECIFICATIONS
FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" BY THE AMERICAN IRON AND STEEL
                                                                                                                                                               S004 TYPICAL DETAILS
S005 TYPICAL DETAILS
S006 TYPICAL DETAILS
S007 SCHEDULE SHEET
S008 SCHEDULE SHEET
                                                                                                                                                                                                                                                                                                 | S.W. | S.S. | | X | X | X | X | X | X | X | X
 STEEL FOR 14 AND 16 GAGE STUDS AND JOISTS, AND FOR ALL DIAGONAL TENSION STRAPS SHALL HAVE A
                                                                                                                                                                                                                                                                                               MINIMUM YIELD STRENGTH OF 50 KSI. STEEL FOR ALL 18 AND 20 GAGE STUDS AND JOISTS, AND FOR ALL

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GAGES OF TRACK, ACCESSORIES AND BRIDGING SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI. STEEL
SHALL BE GALVANIZED AT LOCATIONS EXPOSED TO WEATHER AND WHEREVER NOTED.
ALL STUD FRAMING (BOTH INTERIOR AND EXTERIOR) SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE VERTICAL DEFLECTION OF THE STRUCTURE OF UP TO 3/4" LIVE LOAD DEFLECTION, UNLESS GREATER VALUE
                                                                                                                                                                                                                                                                                      S.S. | S.W. | S.S. |X|X|X|X|X|X|X| | X | X | X | X | X
                                                                                                                                                                    S101 OVERALL FOUNDATION PLAN
                                                                                                                                                               S102 OVERALL BINGO FOUNDATION PLAN
S103-2 PARKING GARAGE FOUNDATION PLAN - AREA A
S104-2 PARKING GARAGE SECOND FLOOR PLAN - AREA A

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IS NOTED ON PLANS OR DETAILS. UTILIZE SLIP TRACK OR OTHER SIMILAR MEANS.
ALL STUDS SHALL BE SECURELY SEATED FOR FULL END BEARING ON TOP AND BOTTOM TRACK. UNLESS NOTED
                                                                                                                                                                   OTHERWISE, PROVIDE DOUBLE STUDS AT ALL JAMBS, CORNERS, INTERSECTIONS, BEAM BEARINGS AND JOIST
BEARINGS. BRIDGING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION WITH THE FOLLOWING
                                                                                                                                                                 107-2 PARKING GARAGE FOOTTH FLOOR FLAN - AREA A
3111-2 FOUNDATION PLAN - AREA B
3112-2 FOUNDATION PLAN - AREA C

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FOR WALLS WITH NO AXIAL LOAD, PROVIDE BRIDGING AT MID-HEIGHT FOR WALLS LESS THAN OR EQUAL TO
10'-0" HIGH, AND 5'-0" O.C. MAXIMUM FOR WALLS GREATER THAN 10'-0" HIGH. FOR AXIAL LOAD
                                                                                                                                                                 S113-2 FOUNDATION PLAN - AREA D
                                                                                                                                                                                                                                                                                   BEARING WALLS, PROVIDE BRIDGING EQUALLY SPACED AT 4'-0" MAXIMUM. IN ADDITION, BRIDGING SHALL
 BE PROVIDED AT ROOF LINES AND ELSEWHERE AS NOTED ON THE DRAWINGS. SOLID BLOCKING SHALL BE
INSTALLED IN LIEU OF BRIDGING WHERE NOTED ON THE DRAWINGS.
                                                                                                                                                                                                                                                                                                <u>116-2 IENLARGED PLANS</u>
STEEL STUD DETAILS AND GAGES DEPICATED ON STRUCTURAL DRAWINGS SHOW GENERAL STRUCTURAL
                                                                                                                                                                S117-2 ENLARGED PLANS
S121-3 FOUNDATION PLAN - AREA M
S122-3 PORTE COCHERE FOUNDATION PLAN
S131-2 SECOND FLOOR FRAMING PLAN - AREA B
S131A-2 BINGO LEVEL REINFORCING PLAN - AREA B

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REQUIRMENTS AND ARE FOR SCHEMATIC PURPOSE ONLY. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT
 COMPREHENSIVE FRAMING DRAWINGS, DETAILS, AND CALCULATIONS SEALED BY AN ENGINEER REGISTERED IN
 THE STATE OF ARIZONA. FOR ALL STEEL STUD FRAMING INCLUDING WALLS, CEILINGS, SOFFITS, ETC. ANY
ADDITIONAL FRAMING MATERIALS REQUIRED FOR COMPLETE DESIGN (INCLUDING STRUCTURAL STEEL IF REQ'D)

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S132A-2 BINGO LEVEL REINFORCING PLAN - AREA C
S133-2 ROOF FRAMING PLAN - AREA D
ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE STRUCTURAL STEEL FRAMING
WORK. DO NOT NOTCH FLANGES OF JOISTS OR STUDS. DOUBLE UP FLOOR JOISTS AND BLOCKING UNDER
                                                                                                                                                                <u> S141—3 TOWER FOUNDATION PLAN — AREA N</u>
                                                                                                                                                                                                                                                                                     PARTITIONS. PROVIDE BLOCKING AT SUPPORTS OF ALL JOISTS. DOUBLE UP STUDS AT JAMBS AND AS
                                                                                                                                                                3143-3 TOWER THIRD FLOOR PLAN - AREA N
3144-3 TOWER FOURTH FLOOR PLAN - AREA N
REQUIRED UNDER BEAMS IN BEARING WALLS.
STEEL STAIRS (DEFERRED SUBMITTAL):
                                                                                                                                                                  <u> 146–3 TOWER ROOF PLAN – AREA N</u>
REFER TO PROJECT SPECIFICATIONS, ACHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS TO DETERMINE
                                                                                                                                                                  147—3 HIGH ROOF FRAMING PLAN — AREA N
EXTENT OF STAIRS AND WHAT SHALL BE PROVIDED BY THE STAIR MANUFACTURER. STAIRS ARE TO FRAME

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S152-2 ROOF FRAMING PLAN - AREA C
S154-2 ROOF FRAMING PLAN - AREA E
INTO FLOOR BEAMS, BUILDING COLUMNS, OR STRUCTURAL CONCRETE/CMU WALLS ONLY. DO NOT CONNECT
 STAIRS TO SHAFT WALLS, ELEVATOR GUIDE RAIL SUPPORTS OR DIAGONAL BRACING. VERIFY ALL OTHER
 CONDITIONS WITH ACHITECT PRIOR TO PROCEEDING. IF STAIR FRMING RESULTS IN ECCENTRIC LOADING OF
                                                                                                                                                                   155-3 LOWER ROOF FRAMING PLAN AREA F
                                                                                                                                                                                                                                                                                    IHE STRUCTURAL MEMBERS, STAIR MANUFACTURER \, SHALL PROVIDE BRACING OF STRUCTURAL MEMBERS.
                                                                                                                                                                  156-3 ROOF FRAMING PLAN - AREA F
157-3 ROOF FRAMING PLAN - AREA M
158-3 PORTE COCHERE ROOF FRAMING PLAN

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CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS AND CALCULATIONS SEALED BY AN ENGINEER
REGISTERED IN THE STATE OF ARIZONA TO THE ACHITECT/ENGINEER FOR REVIEW PRIOR TO FABRICATION.
STAIRS SHALL BE DESIGNED FOR SELF WEIGHT PLUS A LIVE LOAD EQUAL TO 100 PSF. CONTRACTOR SHALL
                                                                                                                                                                  159-3 PORTE COCHERE ROOF FRAMING PLAN
SUBMIT SHOP DRAWINGS WITH DESIGNCALCULATIONS SEALED BY A REGISTERED ENGINEER FOR REVIEW PRIOR
                                                                                                                                                              S201 BRACE FRAME ELEVATIONS
S202 BRACE FRAME ELEVATION
 TO MFR. LANDING PANS SHALL BE 12 GAGE MINIMUM. TREAD PANS SHALL BE 12 GAGE MINIMUM.

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CONCRETE FILL SHALL BE 2" THICK AND REINFORCED WITH 6 X 6 - W2.1 X W2.1 W.W.F. MIN. FOR ACTUAL
LANDING AND STAIR PAN CONFIGURATIONS, SEE ARCHITECTURAL DRAWINGS.
                                                                                                                                                              S202 IBRACE FRAME ELEVATIONS
                                                                                                                                                                S204 BRACED FRAME ELEVATIONS AND DETAILS
                                                                                                                                                                                                                                                                                    S204 BRACED FRAME ELEVATIONS AND DETAILS
S205 SHEAR WALL ELEVATIONS AND DETAILS
S206 SHEAR WALL ELEVATIONS AND DETAILS
S301 GARAGE FOUNDATION DETAILS
S302 GARAGE FOUNDATION DETAILS
S401 BUILDING FOUNDATION DETAILS
S402 BUILDING FOUNDATION DETAILS
S403 BUILDING FOUNDATION DETAILS
S404 BUILDING FOUNDATION DETAILS

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 REINFORCING SHOWN IN DETAIL IS FOR IN-PLACE CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR
PICK UP POINT INSERTS AND LOCATIONS, SPECIAL PICK UP REINFORCING AND STRONG BACKS, AND ALL
PICK UP AND PLACING OPERATIONS.

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PRESTRESSED CONCRETE ELEMENTS:
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PRECAST, PRESTRESSED CONCRETE ELEMENTS SHALL BE DESIGNED TO SUPPORT SELF WEIGHT PLUS LIVE AND
SUPERIMPOSED DEAD LOADS STATED ABOVE OR ON PLANS.
                                                                                                                                                             S404 BUILDING FOUNDATION DETAILS
S405 BUILDING FOUNDATION DETAILS
S501 C.I.P CONCRETE DETAILS
S502 C.I.P. CONCRETE DETAILS
S503 C.I.P. CONCRETE DETAILS
S601 GARAGE FRAMING DETAILS
S602 GARAGE FRAMING DETAILS

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DESIGN, FABRICATION, TRANSPORTATION AND ERECTION PER LATEST PCI AND LATEST ACI CODE.
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SEALED BY A REGISTERED ENGINEER
FOR REVIEW PRIOR TO MANUFACTURE.

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PRECAST SUPPLIER SHALL DESIGN FOR ADDITIONAL LOADS NOT SHOWN ON STRUCTURAL DRAWINGS SUCH AS,
PLANTERS, LIGHT POLE BASES, BOLLARDS, SIGNS, AND CANOPIES, ETC.
                                                                                                                                                                   S701 STEEL FLOOR FRAMING DETAILS
MAXIMUM DIFFERENTIAL CAMBER BETWEEN ADJACENT ELEMENTS SHALL NOT EXCEED 1/4" PER 10'-0" OF

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LENGTH BUT NOT GREATER THAN 3/4". CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO CONFORM
                                                                                                                                                                  S702 STEEL FLOOR FRAING DETAILS
S703 STEEL FLOOR FRAMING DETAILS
WITH THESE TOLERANCES INCLUDING, BUT NOT LIMITED TO, THE ADJUSTMENT OF BEARING HEIGHTS.
                                                                                                                                                              S704 STEEL FLOOR FRAMING DETAILS
S801 STEEL ROOF FRAMING DETAILS
S802 STEEL ROOF FRAMING DETAILS
PLATES AND ANCHORS SHALL BE DESIGNED BY PRECASTER TO DEVELOP ENTIRE CONNECTION. ALL BEARING
PADS FOR PRECAST ELEMENTS SHALL BE DESIGNED BY PRECAST SUPPLIER.
                                                                                                                                                                                                                                                                                                S803 ISTEEL ROOF FRAMING DETAILS
                                                                                                                                                                                                                                                                                     S.S. | S.W. | S.S. | | | | | | | | | X | X | X | X
PRECAST CONCRETE SLABS AND TEES SHALL HAVE 3" MINIMUM BEARING ON SUPPORTING ELEMENTS.
                                                                                                                                                                S804 STEEL ROOF FRAMING DETAILS
                                                                                                                                                                                                                                                                                   DO NOT WELD BEARING PLATES IN PRECAST MEMBER TO ANY NON-PRECAST (BEARING) ELEMENTS UNLESS
SPECIFICATION CALL FOR ON (EOR) CONSTRUCTION DOCUMENTS.
```

BEARING PADS:

POST TENSIONING:

SHALL BE DESIGNED BY PRECAST SUPPLIER

AT TRANSFER OF POST-TENSIONING, CONCRETE STRENGTH SHALL BE 3,000 PSI MINIMUM.

Revisions: Description STRUCTURAL REVISIONS PLAN REVIEW COMMENTS MISC. FUTURE REVISION STRUCTURAL CLARIFICATIONS CONFORM SET CONFORM SET Project Number: 09/02/2016 Drawn By Checked By: Sheet Name: **GENERAL** STRUCTURAL Sheet Number:

GENERAL STRUCTURAL NOTES

POST—TENSIONING REINFORCING SHALL CONFORM TO THE FOLLOWING (CONTINUED):

DRAPES SHALL CONFORM TO CONTROLLING POINTS SHOWN ON DRAWINGS AND SHOULD BE IN AN APPROXIMATELY PARABOLIC DRAPE BETWEEN SUPPORTS. DIMENSIONS LOCATE THE CENTER OF GRAVITY OF THE TENDON OR GROUP OF TENDONS. LOW POINTS ARE AT MIDSPAN, UNLESS NOTED OTHERWISE.

TENDONS SHALL BE SECURED TO A SUFFICIENT NUMBER OF POSITIONING DEVICES TO ENSURE CORRECT LOCATION DURING PLACEMENT OF CONCRETE, AND SHALL BE SPACED AT NOT MORE THAN 4'-0" O.C. ALL CHAIRS TO BE STAPLED UNLESS NOTED OTHERWISE BY ARCHITECT.

ALL #4 SUPPORT BARS SHALL BE LAPPED 1'-6".

PLACE 2 #4 CONTINUOUS BARS EDGE OF SLAB ANCHORS.

ALL POCKETS REQUIRED FOR ANCHORAGE SHALL BE REINFORCED SO AS NOT TO DECREASE THE STRENGTH OF THE STRUCTURE. ALL POCKETS SHALL BE WATERPROOF SO AS TO ELIMINATE WATER LEAKAGE THRU THE POCKET. ALL DAMAGE TO MASTIC SHEATHING AROUND TENDONS SHALL BE REPAIRED.

TWISTING OR ENTWINING OF INDIVIDUAL WIRES OR STRANDS WITHIN A BUNDLE OR A BEAM SHALL NOT BE PERMITTED.

GROUT OR CONCRETE CONTAINING CHLORIDES SHALL NOT BE USED IN THE VICINITY OF THE TENDONS OR ANCHORS.

CONTINUOUS INSPECTION IS REQUIRED FOR ALL PRESTRESS WORK.

RECORDS OF ALL JACKING FORCES AND ELONGATIONS SHALL BE KEPT BY A CERTIFIED PRESTRESS INSPECTOR AND SHALL BE PROMPTLY SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER.

WHILE STRESSING, FIELD TESTS SHALL BE MADE WITH JACKS OR OTHER INSTRUMENTS ON TENDONS TO DETERMINE BEHAVIOR OF THE TENDONS. FIELD READINGS OF ELONGATIONS AND/OR STRESSING FORCES SHALL NOT VARY MORE THAN 7% FROM CALCULATED REQUIRED VALUES.

ALL INSERTS AND SLEEVES SHALL BE CAST—IN—PLACE WHENEVER FEASIBLE. DRILLED OR POWDER DRIVEN FASTENERS WILL BE PERMITTED WHEN IT CAN BE SHOWN THAT THE INSERTS WILL NOT SPALL THE CONCRETE AND LOCATED SO AS TO AVOID THE TENDONS AND ANCHORAGES.

SLAB OR BEAMS MAY BE DE-SHORED WHEN ALL TENDONS HAVE BEEN STRESSED EXCEPT WHEN SHORING IS REQUIRED TO CARRY FLOORS ABOVE OR WHERE NOTED ON PLANS THAT CONTINUOUS SHEARING IS REQUIRED. CONTINUOUS SHORING SHALL BE PROVIDED IN BAYS WITH CLOSURE STRIPS. RESHORING SHALL BE SPACED AT 7'-0" O.C. MAXIMUM AND SHALL EXTEND TO FOUNDATION SLAB UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER. LEAVE ALL CLOSURE STRIPS OPEN FOR 28 DAYS MINIMUM AFTER LAST SLAB ADJACENT TO CLOSURE HAS BEEN POURED AND STRESSED.

THE CONTRACTOR RESPONSIBLE FOR THE PLACEMENT OF ALL POST—TENSIONING SHALL HAVE A MINIMUM EXPERIENCE LEVEL OF 3 YEARS OR 5 PROJECTS FOR THIS TYPE OF CONSTRUCTION.

CALCULATIONS REQUIRED BY THIS SECTION SHALL BE SEALED BY A REGISTERED ENGINEER AND SUBMITTED TO THE PROJECT STRUCTURAL ENGINEER FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK.

CONSTRUCTION JOINTS:

ALL CONSTRUCTION JOINTS IN WALLS SHALL BE KEYED IN ACCORDANCE WITH THE TYPICAL CONSTRUCTION JOINT DETAILS SHOWN ON THE STRUCTURAL DRAWINGS OR, AT THE CONTRACTOR'S OPTION, SHALL BE INTENTIONALLY ROUGHENED IN ACCORDANCE WITH THE FOLLOWING: THE SURFACE OF ROUGHENED JOINTS SHALL BE SAND BLASTED OR ROUGHENED WITH A CHIPPING HAMMER TO EXPOSE THE AGGREGATE EMBEDDED IN THE PREVIOUS POUR. THE EXPOSED AGGREGATE SHALL PROTRUDE A MINIMUM OF 1/4 INCH. ALL SURFACES OF CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED. VERTICAL CONSTRUCTION JOINTS IN WALLS SHALL BE HELD TO A MAXIMUM SPACING OF 30'-0". ALL CONSTRUCTION JOINTS IN SLABS, JOISTS, BEAMS, AND GIRDERS SHALL BE OFFSET A DISTANCE EQUAL TO TWICE THE WIDTH OF THE BEAM.

ACCORDANCE WITH THE TYPICAL SLAB ON DECK CONSTRUCTION JOINT DETAIL SHOWN ON THE STRUCTURAL DRAWINGS. BEAMS AND GIRDERS HAVE BEEN DESIGNED ASSUMING THE CONSTRUCTION JOINTS TO BE LOCATED IN THE MIDDLE THIRD OF THE BEAM, GIRDER, OR SLAB SPAN. ALL CONSTRUCTION, CONTROL, AND ISOLATION JOINTS FOR SLABS ON GRADE SHALL BE IN ACCORDANCE WITH THE TYPICAL SLAB ON GRADE DETAILS. THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATIONS OF CONSTRUCTION JOINTS TO THE ENGINEER FOR ACCEPTANCE BEFORE STARTING CONSTRUCTION.

FORM CAMBER FOR CONCRETE SLABS:

CONCRETE FORMWORK SHALL HAVE BUILT—IN CAMBER TO COMPENSATE FOR FORM SAG UNDER WET CONCRETE LOAD, IN ADDITION TO STRUCTURAL CAMBER NOTED. ONE—WAY POST—TENSIONED SLABS SHALL BE CAMBERED 1/1000 OF THE SPAN DISTANCE, ONE—WAY MILD REINFORCED SLABS SHALL BE CAMBERED 1/1000 OF THE ACROSS DIAGONAL SPAN DISTANCE, TWO—WAY MILD REINFORCED SLABS SHALL BE CAMBERED 1/500 OF THE SCROSS DIAGONAL SPAN DISTANCE, UNLESS NOTED OTHERWISE ON THE DRAWINGS. BEAM AND JOIST STRUCTURAL CAMBERS ARE NOTED ON THE DRAWINGS. CAMBERS OF LESS THAN 1/4 INCH MAY BE NEGLECTED.

CONTRACTOR IS REQUIRED TO PROVIDE SLABS WITH FLATNESS PROPERTIES IN CONFORMANCE WITH SPECIFICATIONS AS PART OF THE BASE BID. WHERE SLAB FLATNESS DOES NOT MEET SPECIFICATIONS, CONTRACTOR SHALL LEVEL THE SLAB USING AN APPROVED LEVELING AGENT.

ELECTRICAL CONDUIT IN CONCRETE SLABS:

ELECTRICAL CONDUIT SHALL BE RIGID STEEL CONDUIT OR FLEXIBLE PLASTIC CONDUIT. ALUMINUM CONDUIT IS PROHIBITED. CONDUIT WITH A MAXIMUM OUTSIDE DIAMETER OF 1/6 TIMES THE SLAB THICKNESS MAY BE EMBEDDED IN ONE LAYER AT THE MID-DEPTH OF SLABS. MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 3 TIMES CONDUIT DIAMETER. CONDUIT SHALL BE FIRMLY CHAIRED AND TIED TO PREVENT DISPLACEMENT DURING POURING. PLACE #3 AT 12 INCHES ADDITIONAL REINFORCING ABOVE AND BELOW, PERPENDICULAR TO THE CONDUIT. THE ADDED REINFORCING SHALL EXTEND 1'-0" PAST THE CONDUIT ON BOTH SIDES. FOR CONDUIT PLACED IN SLABS ON METAL DECKING, CONDUIT SHALL RUN IN THE METAL DECK FLUTES PER THE TYPICAL CONDUIT IN SLAB ON METAL DECK DETAIL.

USE STUD TYPE EXPANSION ANCHOR WITH A SINGLE PIECE WEDGE ONLY WHERE NOTED ON PLANS. IF USE IS REQUESTED FOR OTHER THAN WHERE NOTED CONTACT STRUCTURAL ENGINEER THROUGH ARCHITECT FOR

CONTRACTOR SHALL SUBMIT MANUFACTURER'S SIZE AND STRENGTH DATA TO ENGINEER THROUGH ARCHITECT PRIOR TO CONSTRUCTION. INSTALL ALL BOLTS AS OUTLINED IN MANUFACTURER'S SPECIFICATIONS, UTILIZING PROPER SIZE AND TYPE OF DRILL, CLEANING HOLE, DRIVING AND TIGHTENING BOLT.

IN CONCRETE:

ANCHORS USED MUST HAVE ICC APPROVAL AND INCLUDE HILTI KWIK BOLT TZ (ESR-1917), AND SIMPSON STRONG BOLT (ESR-1771), AND SIMPSON TITEN HD (ESR-2713), HILTI KWIK HUS-EZ (ESR-3027), OR APPROVED EQUAL.

IN MASONRY:

ANCHORS USED MUST HAVE ICC APPROVAL AND INCLUDE HILTI KWIK BOLT 3 (ESR-1385), AND SIMPSON WEDGE-ALL (ESR-1396), HILTI KWIK HUS-EZ (ESR-3056) AND SIMPSON TITEN HD (ESR-1056), OR APPROVED EQUAL. ALL ANCHORS MUST BE INSTALLED IN SOLID GROUTED CELLS. IF CELL IS UNGROUTED, GROUT MINIMUM 12" ABOVE AND BELOW ANCHOR WITH 2,500 PSI GROUT TYPICAL.

EPOXY ANCHORS IN CONCRETE AND MASONRY:

EXPANSION AND SCREW ANCHORS:

INJECTABLE ADHESIVE SHALL BE USED FOR INSTALLATION OF REINFORCING STEEL DOWELS OR THREADED ANCHOR RODS AND INSERTS INTO NEW OR EXISTING CONCRETE OR SOLID GROUTED CONCRETE MASONRY UNITS ONLY WHERE SPECIFIED ON PLANS. IF USE IS REQUESTED FOR OTHER THAN WHERE NOTED CONTACT STRUCTURAL ENGINEER THROUGH ARCHITECT FOR APPROVAL. ADHESIVE SHALL BE FURNISHED IN SIDE BY SIDE PACKS WHICH KEEP COMPONENT A AND COMPONENT B SEPARATE. USE ONLY INJECTION TOOLS AND STATIC MIXING NOZZLES RECOMENDED BY MANUFACTURER. MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED.

IN CONCRETE:

ANCHORS USED MUST HAVE I.C.C. APPROVAL IN CRACKED CONCRETE AND INCLUDE SIMPSON SET—XP (ESR—2508), HILTI HIT—RE500—SD (ESR—2322), OR APPROVED EQUIVALENT. THE USE OF ANY EPOXY ANCHOR MUST BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO INSTALLATION.

IN MASONRY:

ANCHORS USED MUST HAVE ICC APPROVAL AND INCLUDE SIMPSON SET (ESR-1772) AND HILTI HIT-HY 70 MAX (ESR-2682) OR APPROVED EQUIVALENT. THE USE OF ANY EPOXY ANCHOR MUST BE APPROVED BY THE ENGINEER OR RECORD PRIOR TO INSTALLATION. ALL ANCHORS MUST BE INSTALLED IN SOLID GROUTED CELLS. IF CELL IS UNGROUTED, GROUT MINIMUM 12" ABOVE AND BELOW ANCHOR WITH 2,500 PSI GROUT TYPICAL.

STRUCTURAL FILL:

ALL FILL PLACED TO SUPPORT SLABS ON GRADE, BEHIND PERMANENT WALLS, AND AROUND ALL DRAINS SHALL CONSIST OF WELL GRADED, GRANULAR MATERIAL PER THE SPECIFICATIONS. SOILS FOR STRUCTURAL FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. STRUCTURAL FILL SHALL BE PLACED ON SOUND NATIVE MATERIAL. PROOF—ROLL CUT AREAS WHICH PROVIDE SUPPORT FOR PERMANENT STRUCTURES. AREAS WHICH ARE EXCESSIVELY YIELDING, AS DETERMINED BY THE CONTINUOUS OBSERVATION OF THE GEOTECHNICAL ENGINEER, SHALL BE OVEREXCAVATED AND REPLACED WITH STRUCTURAL FILL. STRUCTURAL FILL SHALL BE PLACED PER THE SPECIFICATION. USE LEAN CONCRETE FILL BELOW ALL PIPES EXISTING OUT OF BASEMENT WALL, FULL HEIGHT OF WALL. CONCRETE SHALL CONTAIN 2 SACKS OF CEMENT PER YARD.

LATERAL PRESSURE ON SUBGRADE WALLS:

THE DESIGN PRESSURES FOR SUBGRADE WALLS ARE BASED ON A "DRAINED" CONDITION. SEE CIVIL AND MECHANICAL DRAWINGS FOR SUBGRADE DRAINAGE SYSTEM. SEE GEOTECHNICAL REPORT FOR COMPACTION REQUIREMENTS AT SUBGRADE WALLS. SUBGRADE WALLS AND SUPPORTING SLABS SHALL HAVE ATTAINED THEIR FULL CONCRETE STRENGTH BEFORE PLACING ANY BACKFILL U.N.O. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACES FOR WALLS IF BACKFILL IS PLACED BEFORE WALLS AND SLABS ACHIEVE FULL CONCRETE

NOTES ON CRACKING OF CONCRETE STRUCTURES:

CRACKING IS INHERENT TO THE MATERIAL PROPERTIES OF CONCRETE CONSTRUCTION (INCLUDING POST—TENSIONED CONCRETE STRUCTURES). WHILE EVERY EFFORT HAS BEEN MADE TO MINIMIZE THE EFFECTS OF UNSIGHTLY CRACKING, THE PRESENCE OF CRACKS ARE NORMAL AND UNAVOIDABLE. THE DESIGN OF THE CONCRETE STRUCTURAL ITEMS HAVE BEEN ANALYZED USING A "CRACKING SECTION." THE PRESENCE OF THE CRACKING SHOULD NOT BE CONSIDERED DETRIMENTAL TO THE STRUCTURE. CRACKS LARGER THAN 10 MILS SHALL BE FILLED AND SEALED WITH AM APPROVED CRACK FILLER TO PREVENT FUTURE DETERIORATION. ALLOWANCE SHALL BE MADE IN THE CONSTRUCTION BUDGET FOR SEALING OF SUCH CRACKS. IN SOME CASE, CRACKS DO NOT APPEAR UNTIL WELL AFTER CONSTRUCTION HAS BEEN COMPLETED. IT IS THE RESPONSIBILTY OF THE OWNER TO MAINTAIN THE STRUCTURE PROPERLY OVER THE LIFE OF THE STRUCTURE. CONCRETE CRACKS, SHOULD THEY OCCUR, SHALL BE FILLED AND SEALED TO PREVENT PREMATURE DETERIORATION OF

THE STRUCTURE.

SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS.

THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE FLAGGED UPON HIS REVIEW.

VERIFY ALL DIMENSIONS WITH ARCHITECT AND ALL FINISHED GRADE WITH CIVIL DRAWINGS.

ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE CLOUDED BY MANUFACTURER OR FABRICATOR. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNLESS NOTED

THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANYTIME BEFORE OR AFTER SHOP DRAWING REVIEW.

AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT ARE NOT TO BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE ITEMS ARE CONSTRUCTED TO CONTRACT DOCUMENTS.

THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR

THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY

SUBMITTING AUTHORITY.

REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS.
RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR.

DEFERRED SUBMITTALS: (PER 2012 IBC 106.3.4.2)

FOR THE PURPOSES OF THIS SECTION, DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW. THE CONTRACTOR SHALL FORWARD THE REVIEWED DOCUMENTS TO BUILDING OFFICAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

DEFERRED SUBMITTAL ITEMS, TO BE DESIGNED BY OTHERS:

PREFAB OPEN-WEB STEEL JOISTS PRECAST CONCRETE BEAMS PRECAST CONCRETE COLUMNS PRECAST CONCRETE TEES PRECAST CONCRETE PLANK PRECAST CONCRETE WALLS PRECAST SPANDRELS PRECAST CONNECTIONS STEEL STAIRS EXTERIOR CLADDING AND LIGHT GAGE FRAMING INTERIOR LIGHT GAGE FRAMING (INCLUDING SOFFITS, CEILINGS, ETC.) EXCAVATION SHORING GLASS GUARDRAIL SYSTEM CABLE RAIL SYSTEM PREFABRICATED AWNINGS SHADE FABRIC AWNING SYSTEM

GENERAL:

OTHER PREFABRICATED ITEMS

ENTIRE CONTRACT DOCUMENTS SHALL BE USED TO BUILD BUILDING. SOME CRITICAL ITEMS REQUIRED BY OTHER DISCIPLINES MAY NOT BE SHOWN ON STRUCTURAL DRAWING (i.e. WALL, FLOOR AND ROOF OPENING, ARCHITECTURAL, MECHANICAL AND PLUMBING LOADS, SUPPORT PLATES ETC.)

ITEMS SHOWN BY OTHER DISCIPLINES WITH REFERENCE TO STRUCTURAL DRAWING BUT NOT SHOWN ON THESE STRUCTURAL DOCUMENT SHALL BE CONSIDERED DESIGN BUILD ITEMS. CONTRACTOR SHALL SUBMIT DESIGN BY OTHERS FOR REVIEW.

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.

ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF HE CHOOSES AN OPTION, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES AND SHALL COORDINATE ALL DETAILS.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE

ALL DIMENSIONS SHOWN (INCLUDING ELEVATIONS) ON STRUCTURAL DRAWINGS ARE TO ASSIST CONTRACTOR IN VERIFICATION. SCALING DIMENSIONS FROM DRAWINGS IS NOT PERMITTED. LOCATION OF ALL ITEMS SHALL BE DETERMINED BY DIMENSIONS OR NOTES ONLY; DO NOT USE GRAPHIC APPEARANCE TO ASSUME SPECIFIC LOCATIONS.

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL AND FINISHED GRADE WITH CIVIL DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT.

TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED OTHERWISE.

WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF ARIZONA.

SUPPLIER OF ENGINEERED STRUCTURAL COMPONENTS (i.e. STEEL JOISTS, STAIRS, PRECAST ITEMS, LIGHT GAGE FRAMING) SHALL BE RESPONSIBLE FOR COMPLETE DESIGN AND SHALL USE ENTIRE CONTRACT DOCUMENTS TO INCLUDE ALL LOADS AND DETAIL REQUIREMENTS FROM ALL DISCIPLINES. SUPPLIER SHALL PROVIDE ADDITIONAL MATERIAL REQUIRED TO MEET ALL THEIR REQUIREMENTS FOR INSTALLATION (i.e. WIDER BEARING PLATES, SHIMS, ERECTION BOLTS ETC.).

STRUCTURAL STEEL SUPPLIER SHALL FURNISH BOLTS FOR OSHA CONNECTIONS (SEE DRAWINGS FOR DETAILS).

WALL SHORING SHALL BE INSTALLED PRIOR TO BACKFILLING BEHIND ALL BUILDING RETAINING WALLS, UNLESS ALL RESTRAINING SLABS ARE INSTALLED. USE HANDTAPPING ONLY WHEN WITHIN 8'-0", OR WITHIN HALF THE WALL HEIGHT OF BACKFILLED WALL.

CONTINUOUS FOUNDATION DRAIN PIPES (FRENCH DRAINS) OR WEEP HOLES SHALL BE PROVIDED BEHIND ALL

BASEMENT WALLS AND ALL EXTERIOR RETAINING WALLS THAT RETAIN MORE THAN 3'-0" OF SOIL WEEP HOLES WHERE USED SHALL BE 2" IN DIAMETER AT 6'-0" O.C. MAXIMUM.

BUILDING TOLERANCES:

STANDARD TOLERANCES SHALL BE BASED ON THE REQUIREMENTS OF THE AISC CODE OF STANDARD PRACTICE AND ACI 117, STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS.

EXISTING STRUCTURE:

EXISTING STRUCTURAL DIMENSIONS AND MEMBER SIZES ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION. THE CONTRACTOR SHALL VERIFY THE ACTUAL CONFIGURATION OF EXISTING CONSTRUCTION AND THE CONDITION OF THE STRUCTURE BEFORE BEGINNING WORK. ANY DISCREPANCIES OR UNSOUND CONDITIONS SHALL BE REPORTED TO THE ARCHITECT FOR RESOLUTION BEFORE BEGINNING WORK. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, EMBEDMENTS, AND OPENINGS NOT SHOWN. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR DUCTS, PIPING, EMBEDMENTS, AND OPENINGS NOT SHOWN.

TEMPORARY SHORING AND BRACING MAY BE NECESSARY IN ORDER TO PERFORM THE NECESSARY STRUCTURAL MODIFICATIONS TO THE EXISTING STRUCTURE SHOWN ON THE STRUCTURAL AND ARCHITECTURAL PLANS AND DETAILS. THE CONTRACTOR MUST RETAIN A LICENSED STRUCTURAL ENGINEER WHO SHALL INVESTIGATE WHERE THIS TEMPORARY SHORING/BRACING IS REQUIRED, AND SHALL DESIGN THIS TEMPORARY SHORING/BRACING.

SEQUENCING CONSTRUCTION AND LATERAL STABILITY:

THE STRUCTURAL COMPONENTS BY THEMSELVES ARE A NON-SELF-SUPPORTING STRUCTURE. LATERAL FORCES DUE TO WIND, EARTHQUAKE, OR SOIL ARE CARRIED BY THE ROOF AND FLOOR DIAPHRAGMS TO THE LATERAL SYSTEM. CERTAIN ELEMENTS SHOWN ON OR LOCAL STABILITY OF OTHER ELEMENTS (SUCH AS BEAMS, COLUMNS, AND WALLS). IF, DUE TO SEQUENCING OF CONSTRUCTION, THESE STABILITY ELEMENTS ARE NOT IN PLACE, THE CONTRACTOR SHALL RETAIN A LICENSED STRUCTURAL ENGINEER WHO SHALL INVESTIGATE WHERE TEMPORARY SHORING/BRACING IS REQUIRED, AND SHALL DESIGN THIS TEMPORARY SHORING/BRACING. THE CONTRACTOR SHALL PROVIDE THIS SHORING/BRACING UNTIL THE REQUIRED STRUCTURAL ELEMENTS AND THEIR CONNECTIONS HAVE BEEN INSTALLED AND REACH THEIR FINAL DESIGN STRENGTHS.

MISCELLANEOUS:

REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, ELEVATOR, OR OTHER SPECIALTY ENGINEERING DRAWINGS FOR DIMENSIONS NOT SHOWN, INCLUDING BUT NOT LIMITED TO: SIZE AND LOCATION OF CURBS, EQUIPMENT HOUSEKEEPING PADS, WALL AND FLOOR OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, SUMPS, DRAINS, ANCHOR BOLTS, EMBEDDED ITEMS, ARCHITECTURAL TREATMENT, ETC. CONTRACTOR SHALL VERIFY DIMENSIONS AND RESOLVE DISCREPANCIES OR CONFLICTS PRIOR TO CONSTRUCTION. WHERE SECTIONS ARE INDICATED ON THE PLAN BY A NUMBER AND A DRAWING NUMBER THUS, 1/S5.01, THE INDICATED SECTION (1) IS SHOWN ON STRUCTURAL DRAWING S5.01.

ALL WINDOW SYSTEMS SHALL BE DESIGNED TO ACCOMMODATE VERTICAL DEFLECTION OF THE STRUCTURE OF 1/2" MINIMUM LIVE LOAD DEFLECTION, UNLESS GREATER VALUE IS NOTED ON PLANS OR DETAILS.

FLOOR FLATNESS/LEVELNESS SHALL MEET ARCHITECTURAL SPECIFICATIONS (1/4" IN 10 FOOT MINIMUM LEVELNESS UNLESS TIGHTER REQUIREMENT IN SPECIFICATIONS) IN HEIGHT FOR ALL STRUCTURAL SYSTEMS. CONTRACTOR SHALL INCLUDE COST FOR LEVELING ALL FLOORS. FOR ESTIMATING PURPOSES ONLY, ASSUME 1/2" THICK LEVELING AGENT OVER 15% OF FLOOR AREA.

SPECIAL INSPECTION:

CARRIED IS NOT CLEAR.

SEE "SPECIAL INSPECTIONS TABLE" THIS SHEET FOR REQUIRED SPECIAL INSPECTION.

SPECIAL INSPECTION IS TO BE PROVIDED IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE

DEPARTMENT OF BUILDING SAFETY AND SHALL NOT BE CONSTRUED TO RELIEVE THE OWNER OR HIS

AUTHORIZED AGENT FROM REQUESTING THE PERIODIC AND CALLED INSPECTIONS REQUIRED BY CHAPTER 17 OR

THE INTERNATIONAL BUILDING CODE. SEE TABLE SPECIAL INSPECTION IS REQUIRED FOR THE ABOVE.

UPON COMPLETION OF THE SPECIFIED WORK, THE SPECIAL INSPECTOR SHALL COMPLETE THE SPECIAL INSPECTION FORM AND DELIVER A SIGNED COPY TO THE BUILDING SAFETY DEPARTMENT. SPECIAL INSPECTORS SHALL BE ARCHITECTS OR ENGINEERS REGISTERED IN THE STATE OF ARIZONA OR EMPLOYEES UNDER THEIR DIRECT SUPERVISION".

STRUCTURAL OBSERVATION:

ENGINEER OF RECORD SHALL PROVIDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, AT SIGNIFICANT CONSTRUCTION STAGES AND AT THE COMPLETION OF THE STRUCTURAL SYSTEM. CONTRACTOR IS REQUIRED FOR COORDINATION THE TIMING OF SITE VISITS AND SHALL INCLUDE A MINIMUM OF 3 VISITS. THESE VISITS ARE TO BE PAID BY THE CONTRACTOR. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY THE BUILDING CODE (NOTED ABOVE).

NOTE TO CONTRACTOR REGARDING PRICING/BIDDING OF CORE AND SHELL PERMIT

THESE DRAWINGS HAVE BEEN PREPARED FOR CORE AND SHELL PERMIT REVIEW AND ARE NOT 100% CONSTRUCTION DOCUMENTS. IF THESE DOCUMENTS ARE TO BE USED FOR PRICING, BID, OR STEEL MILL ORDER, THE CONTRACTOR SHALL PROVIDE IN THE PROJECT BUDGET AN ALLOWANCE FOR THE COMPLETION OF THE STRUCTURAL DESIGN. THIS ALLOWANCE SHALL BE CARRIED UNTIL ALL SHELL BUILDING PERMITS ARE OBTAINED, AND FINAL CONSTRUCTION DOCUMENTS ARE ISSUED. AS THESE DRAWINGS ARE NOT ISSUED FOR CONSTRUCTION, CHANGES TO STRUCTURAL COMPONENTS SHOWN ARE POSSIBLE. ADDITIONALLY, MISCELLANEOUS ITEMS MAY NOT BE SHOWN ON THESE DRAWINGS. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO, ARCHITECTURAL ACCENTS AND CANOPIES, EDGE ANGLES, BRACING, CLADDING SUPPORT STEEL, EQUIPMENT SUPPORTS, BLOCKOUTS, ETC. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND OTHER SPECIALTY DRAWINGS FOR ADDITIONAL INFORMATION. THE BUDGET ALLOWANCE SHALL INCLUDE THESE ITEMS. THE STRUCTURAL ENGINEER WILL NOT BE RESPONSIBLE FOR ANY CHANGE ORDER COSTS INCURRED (INCLUDING DISCARDED MATERIAL COSTS) DUE TO BIDDING OR STEEL MILL ORDER FROM THESE DRAWINGS. CONTACT STRUCTURAL ENGINEER FOR CLARIFICATION IF THE SCOPE AND QUANTITY OF ALLOWANCE TO BE

| SPECIAL INSPECTION: | | | | |
|--|--------------|-------------|--|---------------------------|
| PER IBC CHAPTER 17, SPECIAL INSPECTION IS REQUIRED | FOR THE FOLL | OWING ITEMS | : | |
| CONCRETE: VERIFICATION AND INSPECTION | CONTINUOUS | PERIODIC | REFERRENCED STANDARD (NOTE 1) | IBC REFERENCE |
| Inspection of reinforcing steel, including prestressing tendons, and placement. | _ | X | ACI 318: 3.5, 7.1–7.7 | 1910.4 |
| 2. Inspection of reinforcing steel welding in accordance with Table 1705.2.2, Item 2b. | _ | _ | AWS D1.4 ACI 318: 3.5.2 | |
| 3. Inspect anchors to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used. | - | X | ACI 318: 8.1.3, 21.2.8 | 1908.5, 1909.1 |
| 4. Inspection of anchors post—installed in hardened concrete members. | _ | Х | ACI 318: 3.8.6, 8.1.3, 21.2.8 | 1909.1 |
| 5. Verifying use of required design mix. | _ | Х | ACI 318: CH. 4, 5.2-5.4 | 1904.2, 1910.2, 1910.3 |
| 6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete. | X | _ | ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8 | 1910.10 |
| 7. Inspection of concrete and shotcrete placement for proper application techniques. | X | _ | ACI 318: 5.9, 5.10 | 1910.6, 1910.7, 1910.8 |
| 8. Inspection for maintenance of specified curing temperature and techniques. | - | х | ACI 318: 5.11-5.13 | 1910.9 |
| 9. Inspection of prestressed concrete: a. Application of prestressing forces. b. Grouting of bonded prestressing tendons | X | _ | ACI 318: 18.20 | |
| in the seismic force—resisting system. | X | _ | ACI 318: 18.18.4 | |
| 10. Erection of precast concrete members. | - | Х | ACI 318: CH. 16 | |
| 11. Verification of in—situ concrete strength, prior to stressing of tendons in post—tensioend concrete and prior to removal of shores and forms from beams and structural slab. | _ | X | ACI 318: 6.2 | |
| 12. Inspect formwork for shape, location and dimensions of the concrete member being formed. | _ | х | ACI 318: 6.1.1 | |

NOTES: . WHERE APPLICABLE, SEE ALSO SECTION 1707.1, SPECIAL INSPECTION FOR SEISMIC RESISTANCE.

1. THE SPECIFIC STANDARDS ARE THOSE LISTED IN CHAPTER 35

| MASONRY LEVEL B INSPECTION TASK | CONTINUOUS DURING TASK LISTED | PERIODICALLY DURING TASK LISTED | ACI 530/ASCE 5/TMS 402 (NOTE 1) | ACI 530.1/ASCE 6/TMS 602 (NOTE 1) | IBC REFERENCE |
|---|----------------------------------|------------------------------------|---|---|-----------------------|
| As masonry construction begins, the following Shall be verified to ensure compliance: a. Proportions of site—prepared mortar. b. Construction of mortar joints. c. Location of reinforcement, connectors, | - | X X | | ART. 2.6A ART. 3.3B ART. 3.4,3.6A | |
| 2. The inspection program shall verify: a. Size and location of structural elements. b. Type, size and location of anchors, including other details of anchorage | - | X | | ART. 3.3G | |
| of masonry to structural members, frames or other construction. c. Specified size, grade and type of | - | x | SEC.1.2.2(e), 2.1.4,3.1.6 | | |
| reinforcement. d. Welding of reinforcing bars. | _ x | <u>x</u> – | SEC. 1.13 SEC. 2.1.10.7.2, 3.3.3.4(b) | ART. 2.4,3.4 | |
| e. Protection of masonry during cold weather | _ | X | | ART. 1.8C, ART. 1.8D | SEC. 2104.3 2104.4 |
| 3. Prior to grouting, the following shall be verified to ensure compliance: a. Grout space is clean. b. Placement of reinforcement and connectors c. Proportions of site—prepared grout and d. Construction of mortar joints. | - | x x | SEC. 1.13 | ART. 3.2D ART. 3.4 ART. 2.6B | |
| 4. Grout placement shall be verified to ensure Compliance with code and construction document provisions. a. Grouting of prestressing bonded tendons. | X X | | | ART. 3.5 | |
| 5. Preparation of any required grout specimens, Mortar specimens and/or prisms shall be observed. | x | - | SEC. 2105.2.2, 2105.3 | ART. 1.4 | |
| 6. Compliance with required inspection provisions of the construction documents and the approved submittal shall be verified. | - | х | | ART. 1.5 | |

| STEEL: | | | REFERENCED STANDARD | IBC |
|---|------------|----------|------------------------------------|-----------|
| VERIFICATION AND INSPECTION | CONTINUOUS | PERIODIC | (NOTE1) | REFERENCE |
| I. Material verification of high-strength | | | | |
| bolts, nuts and washers: | | | | |
| a. Identification markings to conform to ASTM | | | APPLICABLE ASTM | |
| standards specified in the approved construction documents. | _ | X | MATERIAL SPECS AISC 360, SEC. A3.3 | |
| b. Manufacturer's certificate of compliance | | ^ | AISC 300, SEC. A3.3 | |
| required. | _ | X | | |
| 2. Inspection of high-strength bolting: | | | | |
| a. Bearing—type connections. | | | | |
| AISC 360, Section M2.5 1704.3.3 | - | X | | |
| 3. Material verification of structural steel: | | | | |
| a. Identification markings to conform to ASTM | | | | |
| standards specified in the approved | | | AISC 360, SEC. M2.5 | |
| construction documents. b. Manufacturers' certified mill test reports. | _ | _ | ASTM A 6 OR ASTM A 568 | |
| 4. Material verification of weld filler materials: | | | | |
| a. Identification markings to conform to AWS | | | | |
| specification in the approved construction | | | | |
| documents. | _ | _ | AISC 360, SEC. A3.5 | |
| b. Manufacturer's certificate of compliance | | | | |
| required. | - | _ | | |
| 5. Inspection of welding: | | | | |
| a. Structural steel: | - | - | | |
| Complete and partial penetration groove welds. | | | AWS D1.1 | |
| weids. 2) Multipass fillet welds. | X X | _ | AWS D1.1 | |
| 3) Single-pass fillet welds > 5/16" | l | _ | AWS D1.1 | |
| 4) Single—pass fillet welds = 5/16" | | X | AWS D1.1 | |
| 5) Floor and roof deck welds. | _ | X | AWS D1.3 | |
| b. Reinforcing steel: | _ | - | | |
| 1) Verification of weld ability of reinforcing | | | AMC 54.4 | |
| steel other than ASTM A 706. | - | X | AWS D1.4 ACI 318: 3.5.2 | |
| 2) Reinforcing steel—resisting flexural and | | | 701 010. 0.0.2 | |
| Axial forces in intermediate and special Moment frames, and boundary elements of | | | | |
| Special reinforced concrete shear walls | | | | |
| and shear reinforcement. | x | _ | | |
| 3) Shear reinforcement. | l | _ | | |
| 4) Other reinforcing steel. | 1 | X | 1 | |

a. Details such as bracing and stiffening.

b. Member locations.

c. Application of joint details at each connection.

OTES:

WHERE APPLICABLE SEE ALSO SECTION 1701.1, SPECIAL INSPECTION FOR SEISMIC RESISTANCE.

TABLES TAKEN DIRECTLY FROM IBC FOR REFERENCE.

compliance with approved construction documents:

| 2. TABLES TAKEN DIRECTLY FROM IBC FOR REFERENCE. STEEL CONSTRUCTION OTHER THAN STRUCTURE. | RAL STEEL: | | REFERENCED | IBC |
|--|-------------|-------------|---------------------------------------|----------|
| VERIFICATION AND INSPECTION | CONTINUOUS | PERIODIC | STANDARD (NOTE1) | REFERENC |
| 1. Material verification of cold—formed steel deck: a. Identification markings to conform to ASTM standards specified in the approved construction documents. b. Manufacturer's certified test reports. | - - | X X | APPLICABLE ASTM MATERIAL STANDARDS | |
| 2. Inspection of welding: a. Cold formed steel deck: 1) Floor and roof deck welds. b. Reinforcing steel: 1) Verification of weldability of reinforcing steel other than ASTM A 706. 2) Reinforcing steel resisting flexural and | - - | x x | AWS D1.3 | |
| axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement. 3) Shear reinforcement. 4) Other reinforcing steel. | х х - | - - X | AWS D1.4 ACI 318: 3.5.2 | |
| SOILS: Not the responsibility of the structural engineer. Special inspection certificate to be completed by geotechnical engineer. 1. Verify materials below shallow foundations are adequate to achieve the design bearing apacity. 2. Verify excavations are extended to proper depth | _ | X | | |
| and have reached proper material.3. Perform classification and testing of compacted fill materials.4. Verify use of proper materials, densities and lift | - | X X | | |
| thicknesses during placement and compaction of compacted fill. 5. Prior to placement of compacted fill, observe subgrade and verify that site has been properly prepared. | x | - x | | |

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

- A) THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATION.
- B) THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE ENGINEER.

EXPANSION AND EPOXY BOLTS:

and placement of bolt and/or epoxy.

. During placemet of all expansion and epoxy bolts,

for visual verification of hole diameter and depth

C) UPON COMPLETION OF THE ASSIGNED WORK THE ENGINEER OR ARCHITECT SHALL COMPLETE AND SIGN THE APPROPRIATE FORMS CERTIFYING THAT TO THE BEST OF HIS KNOWLEDGE THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

| | LOCATION OF INFORMATION | | | | | | | |
|--------------------|---|--|--|--|--|--|--|--|
| ITEM | INFORMATION | LOCATION | SHEET | | | | | |
| FOOTINGS | SIZE, REINFORCING CAISSON SIZE, REINFORCING DEPTH OF FOOTING DEPTH OF FOOTING | SCHEDULE (F) (WF) SCHEDULE (CF) FOUNDATION PLANS GENERAL STRUCTURAL NOTES (G.S.N.) | S007 S103-2, S141-3 S103-2, S111-2 -S122-3, AND S141-3 | | | | | |
| FRAMING MEMBERS | TYPE, SIZE, CONNECTION CAMBER, BEARING PLATES | SCHEDULE (L) | S300 | | | | | |
| COLUMNS | TYPE, SIZE, BASE PLATES, REINFORCING | SCHEDULE (SC) (CC) | S007 | | | | | |
| MASONRY WALLS | TYPICAL REINFORCING SPECIAL REINFORCING | GENERAL STRUCTURAL NOTES (G.S.N.) SEE PLAN(S) AND/OR DETAILS | S001 S007 | | | | | |
| CONCRETE WALLS | REINFORCING | DETAILS AND SCHEDULE (W) | S007 AND S205 - S206 | | | | | |

| PLAN LEGEND | | | | | | | |
|---------------|------------------------------|---|--|--|--|--|--|
| SYMBOL | DESCRIPTION | REMARKS | | | | | |
| 101 PLAN VIEW | DETAIL CUTS SHOWN ON PLANS | TYPICAL DETAILS ARE TWO DIGIT SERIES NUMBERS FOUNDATION DETAILS ARE 100 AND 200 SERIES NUMBERS FRAMING DETAILS ARE 300 — 600 SERIES NUMBERS | | | | | |
| 11111111 | 8" MASONRY WALL U.N.O. | OTHER SIZES ARE DIMENSIONED ON PLANS | | | | | |
| 16:00.00.00 | PRECAST CONCRETE WALL U.N.O. | SEE PLANS & SCHEDULES FOR REINFORCING | | | | | |
| | MECHANICAL EQUIPMENT | SEE PLANS FOR UNIT WEIGHTS | | | | | |
| \boxtimes | OPENING IN FRAMING | SEE NOTE #4 | | | | | |

NOTES

1. FOR MATERIAL STRENGTHS, SEE GENERAL STRUCTURAL NOTES

2. VERIFY ALL DIMENSION WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION — RESOLVE ANY DISCREPANCIES WITH ARCHITECT.

FOR CLARITY, ALL EXTERIOR SLABS AND SIDEWALKS MAY NOT BE SHOWN. FOR EXACT DIMENSIONS, LOCATIONS, JOINT AND SCORE LINES, SEE ARCHITECTURAL DRAWINGS
 FOR CLARITY, ALL OPENINGS MAY NOT BE SHOWN ON FRAMING PLANS. FOR EXACT SIZE, NUMBER, AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. FOR FRAMING AT OPENINGS, SEE TYPICAL STRUCTURAL DETAILS. VERIFY ALL SIZES. WEIGHTS AND LOCATIONS OF MECHANICAL EQUIPMENT WITH

MECHANICAL ENGINEER AND MECHANICAL CONTRACTOR THROUGH ARCHITECT

DETAILS MARKED "TYPICAL" MAY NOT BE CUT ON PLANS.
 CONC C.J. — AS SHOWN ON PLAN INDICATES LOCATION OF EITHER KEYED OR SAW CUT CONTROL JOINT IN SLAB ON GRADE AT CONTRACTOR'S OPTION, SEE GENERAL STRUCTURAL NOTES AND PLANS.

- MAS C.J. AS SHOWN ON PLAN INDICATES MASONRY CONTROL JOINT IN MASONRY WALL, SEE G.S.N. AND TYPICAL DETAIL.
 FOR CLARITY, DETAILS MAY SHOW ONLY ONE SIDE OF FRAMING CONDITION.
 CONTRACTOR TO VERIFY. AND BE RESPONSIBLE FOR VARIATIONS IN CONCRETE QUANTITY
- 10. ALL SCHEDULE MARK DESIGNATIONS MAY NOT NECESSARILY BE FOUND ON THE PLANS WHERE THE SCHEDULES OCCUR. SCHEDULES ARE TYPICAL TO THE PROJECT.

DUE TO CAMBER, CONSTRUCTION DEAD LOAD DEFLECTIONS AND/OR TOLERANCES OF

STRUCTURAL STEEL ELEMENTS (i.e. BEAMS, STEEL DECK, ETC.) AND PRECAST CONCRETE

| | ABBRE | VIA TIONS | |
|-------------------|--|----------------|---|
| A.B.C. ———— | - — AGGREGATE BASE COURSE | HORIZ | — — — HORIZONTAL |
| A/C | - — AIR CONDITIONER | K(KIP) | |
| A.F.F. — — — — | - — ABOVE FINISHED FLOOR | L.L. ' | · — — – LIVE LOAD |
| ALT. ———— | – — ALTERNATE | LBS (#) | ———POUNDS |
| A.B. ———— | - — ANCHOR BOLT | | — — — LONG LEG HORIZONTAL |
| | - — AT (MEASUREMENT) | | - — — LONG LEG VERTICAL |
| BM | | | — — — MANUFACTURER('S) |
| B.F.F ———— | - — BELOW FINISHED FLOOR | | — — — MASONRY CONTROL JOIN ⁻ |
| | - — BOTTOM OF BEAM | | — — MECHANICAL |
| | - — BOTTOM OF DECK | | — — — NOT APPLICABLE |
| | - — BOTTOM OF FOOTING | | NOT TO SCALE |
| BRG ———— | - — BEARING | | — — — ON CENTER |
| | - — CAST IN PLACE | | OUTSIDE FACE OF WALL |
| | - — CENTERLINE | OPP | |
| | - — CENTERLINE OF BEAM | | - — — PRECAST CONCRETE |
| | - — CENTERLINE OF COLUMN | | - — — PANEL JOINT |
| | - CENTERLINE OF COLOMIN | | - — — POUNDS PER LINEAR FOO |
| | - — CENTERLINE OF FOOTING - — CENTERLINE OF WALL | PLYWD — — — | |
| | | | |
| CLR ———— | - | | — — PREFABRICATED |
| CONC ———— | | | POUNDS PER SQUARE FO |
| | CONCRETE CONTROL JOINT | | |
| | CONCRETE SAWCUT JOINT | | ———ROOF DRAIN |
| | - — CONCRETE MASONRY UNIT | | ——— REINFORCING |
| CONN | | SLH | |
| CONT ———— | | SLV | ——— SHORT LEG VERTICAL |
| D.L | | | · — — – SIMILAR |
| ø OR DIA. — — - | | | - — — – SQUARE |
| DN | | | — — — STANDARD |
| DWG(S) | | | — — — TOTAL LOAD |
| E.O.S. — — — — | - — EDGE OF SLAB | T.O.B. — — — — | · — — TOP OF BEAM |
| EQ | – – EQUAL | T.O.D. — — — — | · — — TOP OF DECK |
| EQUIP — — — - | | T.O.F. — — — — | - — — TOP OF FOOTING |
| EXP. BOLT — — – | - — EXPANSION BOLT | T.O.L. — — — — | · — — — TOP OF LEDGER |
| EXP. JT (E.J.)- — | — - EXPANSION JOINT | T.O.M | TOP OF MASONRY |
| E.W. $-\dot{-}$ | - — EACH WAY | T.O.P. — — — — | - — — TOP OF PLATE |
| | FINISHED FLOOR | | TOP OF STEEL |
| | - — FACE OF MEMBER | | TOP OF WALL |
| F.O.S. — — — — | - — FACE OF STEEL | TYP | |
| F.O.W. — — — — | - — FACE OF WALL | | |
| GA — — — — | - — GAGF | VERT | |
| GALV — — — — | - — GAL VANIZED | | - — — WELDED WIRE FABRIC |
| G S N — — — — | - — GENERAL STRUCTURAL NOTES | W/ | · — — — WITH |
| | - — GENERAL STRUCTURAL NOTES - — GLUED-LAMINATED BEAM | | - — — WITH |
| GLD (GLOLANI) — - | - GLUED-LAMINATED BEAM | W/U === | WITHOUT |

SUMMARY OF COVER REQ'D. FOR FIRE RATINGS:

I.F.W. — — — — INSIDE FACE OF WALL

| | T | | | T |
|---------------------|---|-----------------------------|-----------------------------|-------------------|
| FIRE RATING | STRUCT. ELEMENT | MIN. BOTTOM BAR | MIN. TOP BAR | RESTRAINT |
| | | COVERAGE | COVERAGE | CONDITION (1) |
| 1HR. | ROOF MILD OR PT SLAB | 3/4" TO PT | 3/4" TO PT 3/4" TO REBAR | UNRESTRAINED |
| | | 3/4" TO REBAR | · · | 01111201117111120 |
| 1HR. | ROOF MILD OR PT SLAB | 3/4" TO PT 3/4" TO REBAR | 3/4" TO PT 3/4" TO REBAR | RESTRAINED |
| | | • | | |
| 2HR. | FLOOR MILD OR PT SLAB | 1,3/4" TO PT | 3/4" TO PT 3/4" TO REBAR | UNRESTRAINED |
| 21111. | V 20 000 111122 000 0 0 0 0 0 0 0 0 0 0 0 | 1" TO REBAR | - | ONINESTINATIVE |
| 2HR. | FLOOR MILD OR PT SLAB | 3/4" TO PT | 3/4" TO PT | RESTRAINED |
| | TEGOR MILES OR THE SERVE | 3/4" TO REBAR | 3/4" TO REBAR | 11201117111125 |
| 2HR. | CONCRETE WALLS | 1 1/2" COVERAGE | | |
| | | 1 1/2 00 1210102 | | |
| 2HR. | CONCRETE COLUMNS | 2" COVER TO MAIN VE | RTICAL BARS | |
| | | | | |
| 3HR. | FLOOR MILD OR PT SLAB | 2 3/8" TO PT | 3/4" TO PT | UNRESTRAINED |
| 3 7 3 | TEGOR MILES ON THE SEAR | 1 1/4" TO REBAR | 3/4" TO REBAR | OTTILOTIONIALD |
| 3HR. | FLOOR MILD OR PT SLAB | 3/4" TO PT | 3/4" TO PT | RESTRAINED |
| J \ | | 3/4" TO REBAR | 3/4" TO REBAR | NEO INAMED |

FOOT NOTES:
(1) INTERIOR RAYS ARE

- (1) INTERIOR BAYS ARE CONSIDERED RESTRAINED BY SLAB TO COLUMN CONNECTIONS.

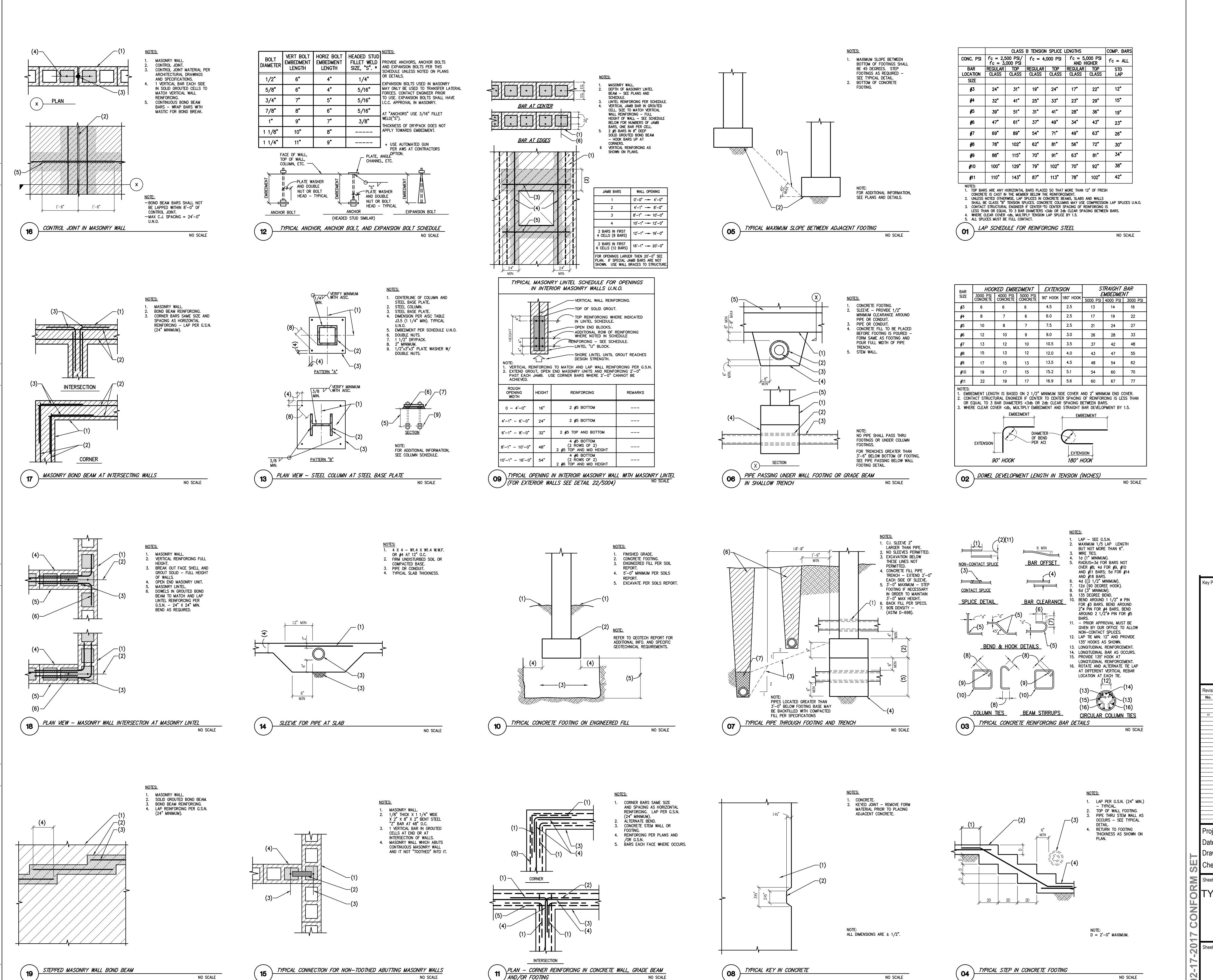
 END BAYS ARE CONSIDERED UNRESTRAINED FOR BOTTOM REINFORCING ONLY.

 FIRST COLUMN ALONG EDGE IS CONSIDERED UNRESTRAINED FOR THE TOP REINFORCING ONLY.
- (2) MINIMUM THICKNESS OF CONCRETE COVER FOR BOTH PRESTRESSING TENDONS AND MILD
- REINFORCEMENT U.N.O.

 ALL OTHER PER LATEST EDITION OF ACI 318
- (3) THE ABOVE INFORMATION IS FROM 2012 INTERNATIONAL BUILDING CODE FROM TABLE 722.2.3 (1) AND TABLE 722.2.3 (2).

Key Plan:

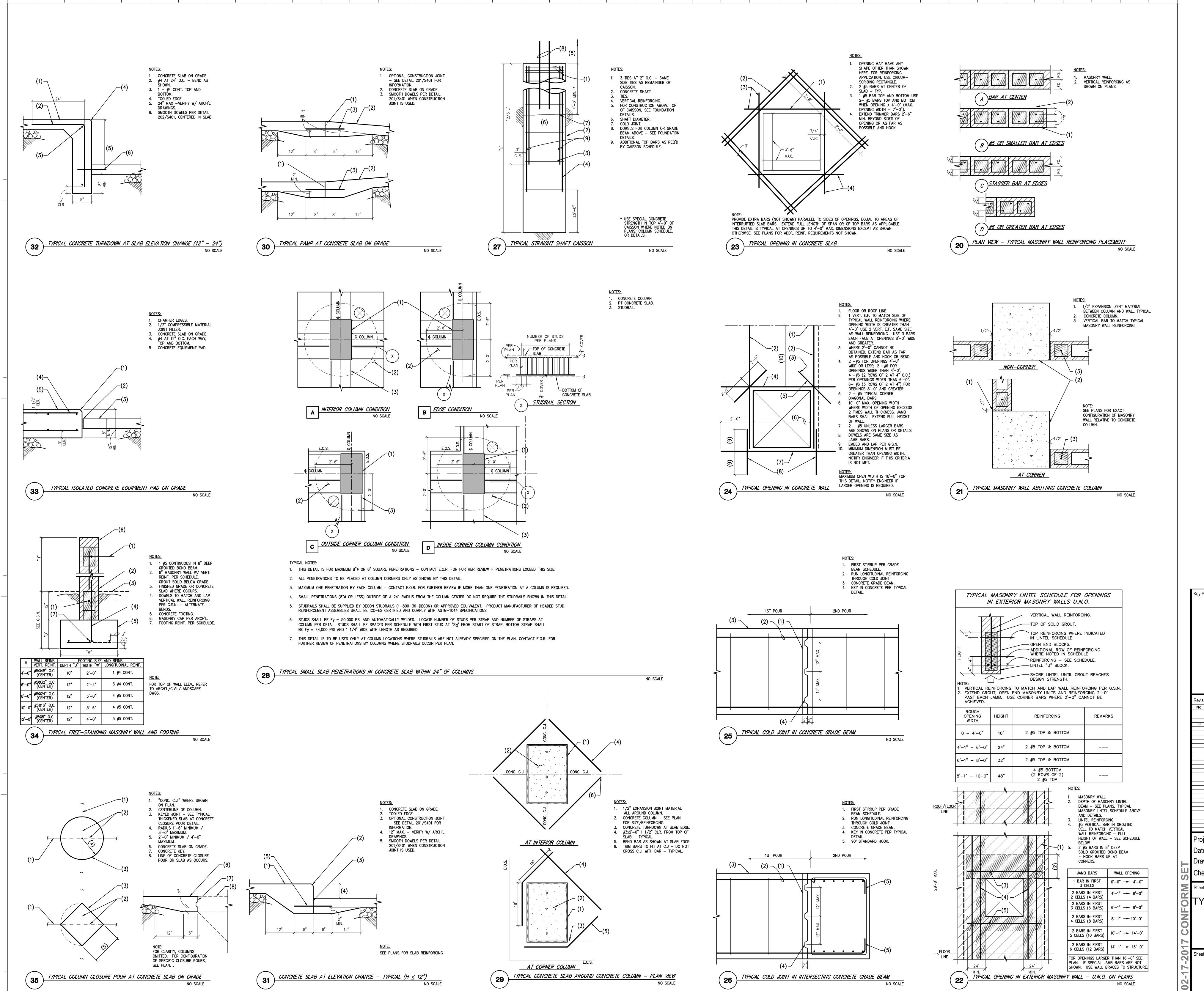
Sheet Number: S002

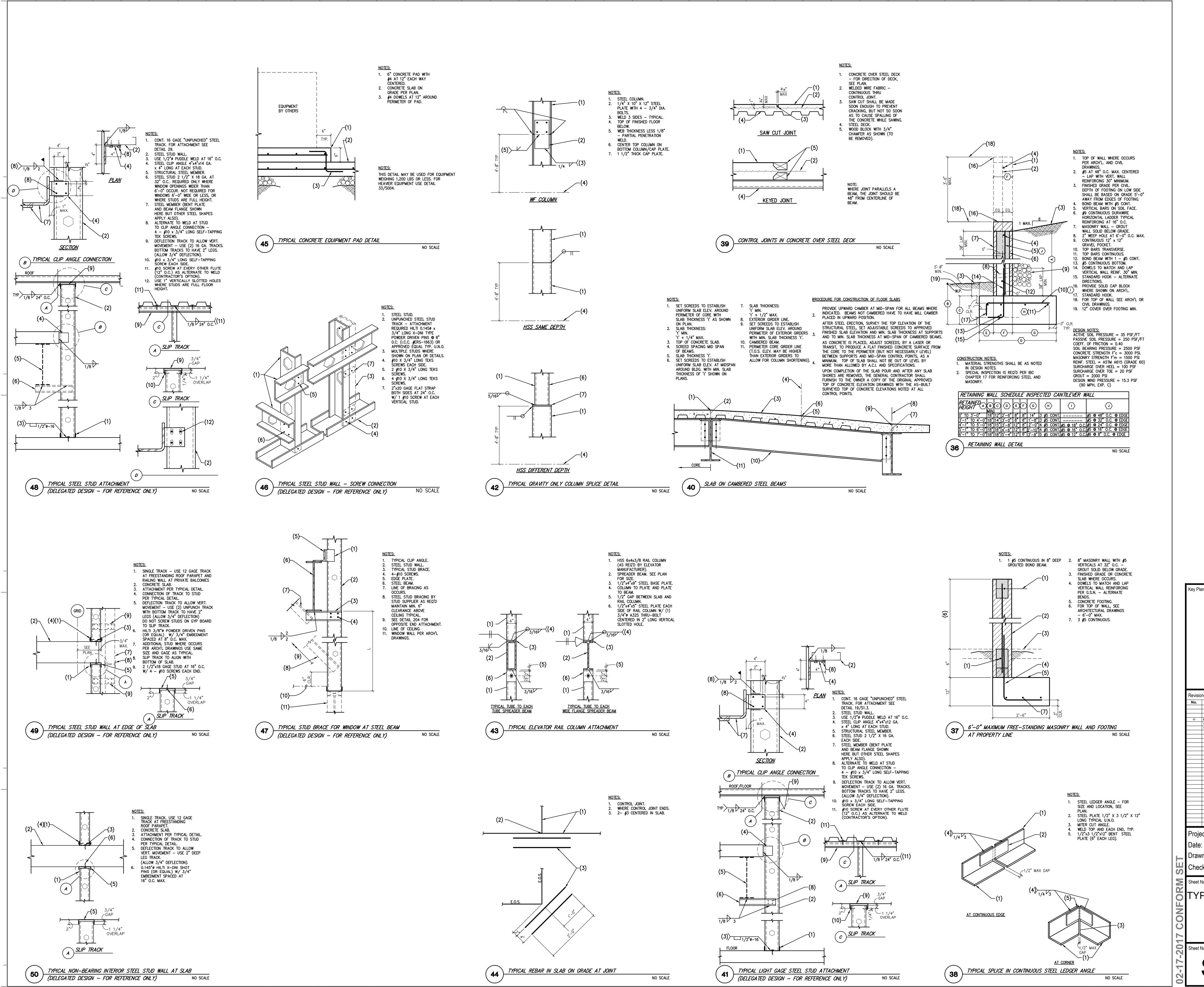


Revisions:

No. Description Date

17 STRUCTURAL CLARIFICATIONS 10/18/2016
CONFORM SET 02/17/2017
CONFORM SET 02/17

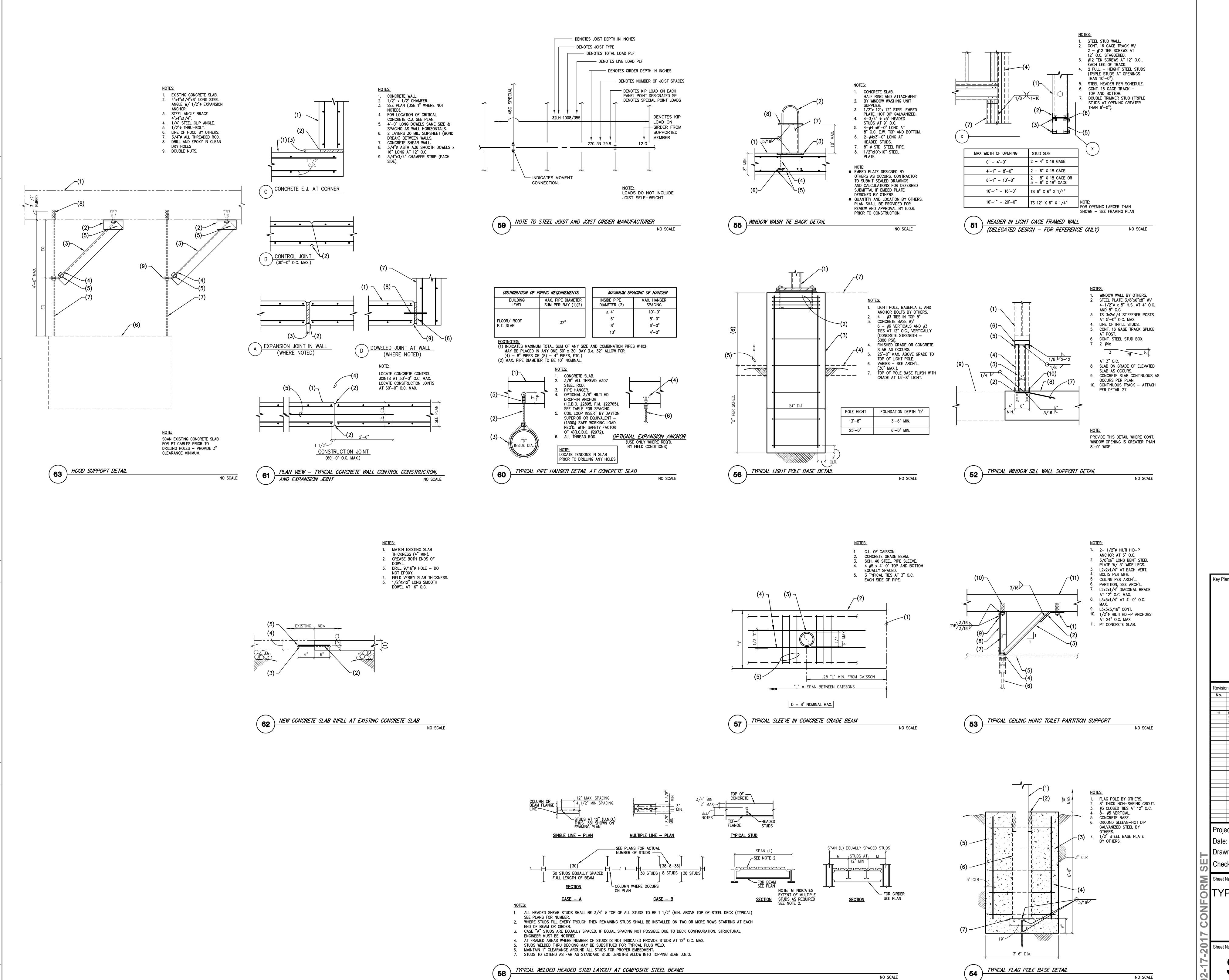




Revisions:

No. Description Date

17 STRUCTURAL CLARRICATIONS COMPORM SET COMP



Revisions:

No. Description Date

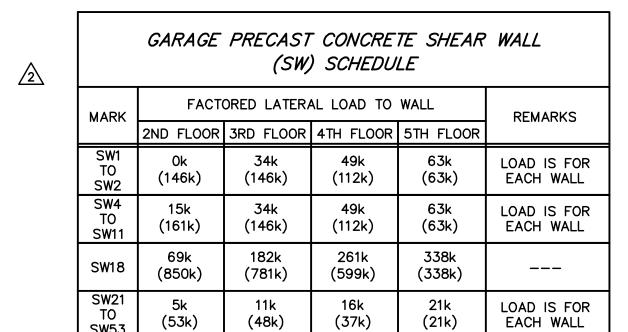
17 STRUCTURAL CLARIFICATIONS 10182016
COMFORM SET 00202017
COMFORM SET 002172017

Date: 09/02/2016
Drawn By: L.E.
Checked By: S.S.
Sheet Name:
TYPICAL DETAILS

Sheet Number:

SO06

ACTUAL SHEET SIZE: 36" X 48"



SHEARWALL DESIGN NOTES:

1. PRECASTER SHALL DESIGN SHEARWALLS TO RESIST THE LATERAL FORCES IN THIS SCHEDULE. FORCES SHOWN ARE FACTORED (STRENGTH) LOADS DUE TO WIND OR SEISMIC, BASED ON THE 2012 IBC. FORCES SHOWN IN SCHEDULE ARE LATERAL FORCES AT EACH INDIVIDUAL LEVEL. FORCES IN () REPRESENT STORY SHEAR OR FORCE ACCUMULATED BY EACH LEVEL DOWN THE BUILDING.

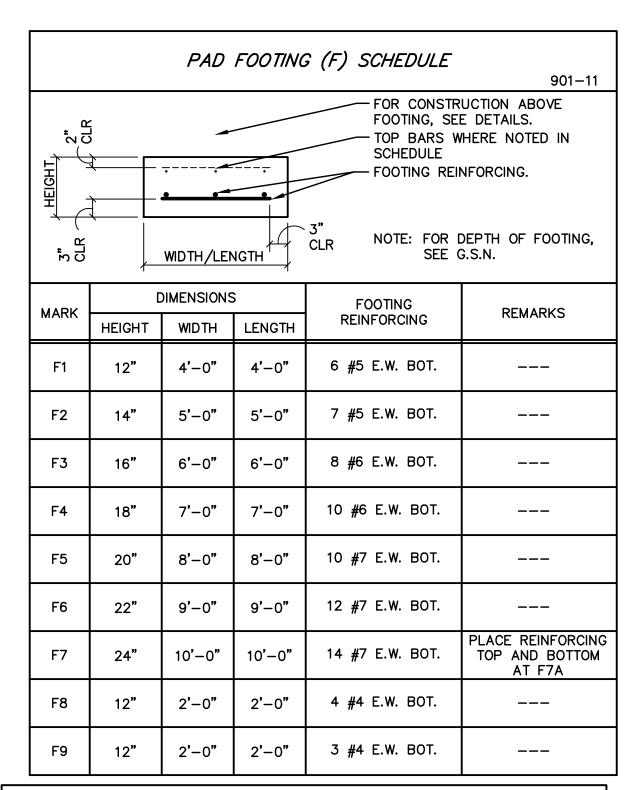
2. PRECAST SHEARWALL SHALL BE DESIGNED TO MEET THE 2012 IBC REQUIREMENTS FOR INTERMEDIATE REINFORCED PRECAST CONCRETE SHEARWALLS. (R=4)

3. PRECAST SHEARWALLS SHALL BE DESIGNED FOR OUT-OF-PLANE WIND AND SEISMIC FORCES PER SECTIONS 1609 AND 1613 OF THE

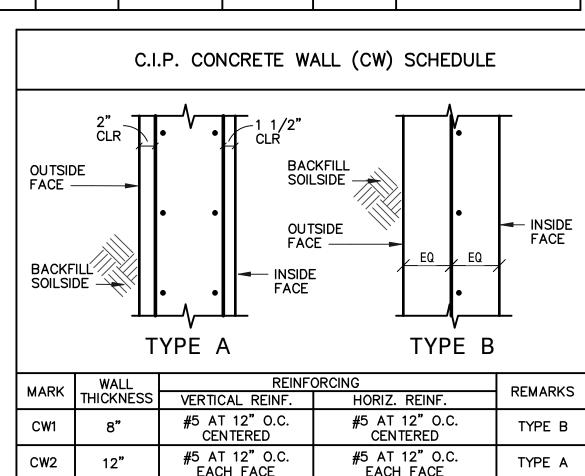
4. THE BUILDING STORY DRIFT SHALL NOT EXCEED THE CRITERIA OF SECTIONS 1613 OF THE 2012 IBC.

PRECASTER SHALL DESIGN ALL CONNECTIONS BETWEEN THE CONCRETE TOPPING DIAPHRAGM AND THE SHEARWALLS TO TRANSFER THE LATERAL FORCES NOTED IN THIS SCHEDULE. DIAPHRAGM CONNECTIONS SHALL MEET ALL REQUIREMENTS OF THE SECTIONS 1609 AND 1613 OF THE 2012 IBC.
 PRECASTER SHALL SUBMIT DESIGN DRAWINGS, DETAILS, AND STRUCTURAL CALCULATIONS SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF ARIZONA. SUBMITTALS SHALL MEET THE DEFERRED SUBMITTAL REQUIREMENTS OF SECTION 107.3.4.1 OF THE 2012 IBC.

7. SW3, SW12-SW17, SW19, AND SW20 ARE NOT USED.



| | MASONRY WALL (MW) SCHEDULE | | | | | | | | |
|------------|----------------------------|------------------------------|---------------------------------|---|----------------|---------|--|--|--|
| | MARK | NOMINAL WALL THICKNESS | VERT. REINF. | HORIZ. REINF. | SOLID GROUT | REMARKS | | | |
| ^ | MW1 | 12" | 2#6 @ 8"0.C. (1 E.F.) | 2#5 @ 48"O.C. | YES | | | | |
| <u>/1\</u> | MW2 (MW2A) | 8 " | 1#5 © 16"O.C. | PER GSN AT MW2 (2 #5 AT 48" AT MW2A) | YES | | | | |
| | MW3 | 8" | 1#5 @ 48"O.C. | PER GSN | YES | | | | |
| \wedge | MW4 | 12" | 1#5 @ 16 " O.C. | PER GSN | YES | | | | |
| | MW5 | 12" | 2#5 @ 16"O.C. | PER GSN | YES | | | | |



#4 AT 12" O.C. #4 AT 12" O.C. EACH FACE EACH FACE

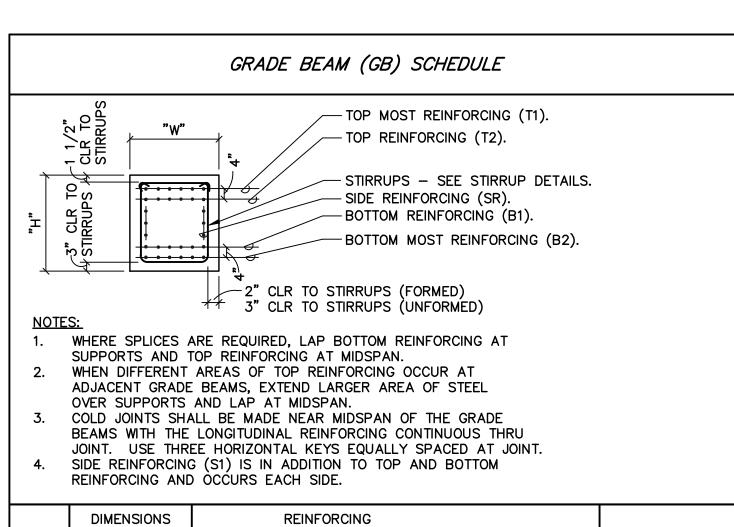
#5 AT 12" O.C. #5 AT 12" O.C. EACH FACE

| / | PIPING DESIGN L | OADS |
|--|--|--|
| ROOF JOISTS, HANG THE FOLLOWING PIF WHERE HANGING LO | GERS, FITTINGS, CONN PE LOADS TYPICAL (DI | ELEGATED DESIGN). AT A PANEL POINT IN |
| PIPE DIA. (IN.) | PIPE LOAD FILLED (LBS/FT.) | MAXIMUM PIPE HANGER SPACING |
| 2" | 6 PLF. | 10'-0" |
| 2 1/2" | 8 PLF. | 10'-0" |
| 3" | 11 PLF. | 10'-0" |
| 4" | 18 PLF. | 10'-0" |
| 5 " | 25 PLF. | 10'-0" |
| 6 " | 32 PLF. | 8'-0" |
| 8" | 50 PLF. | 8'-0" |
| 10" | 75 PLF. | 6'-0" |
| | | |

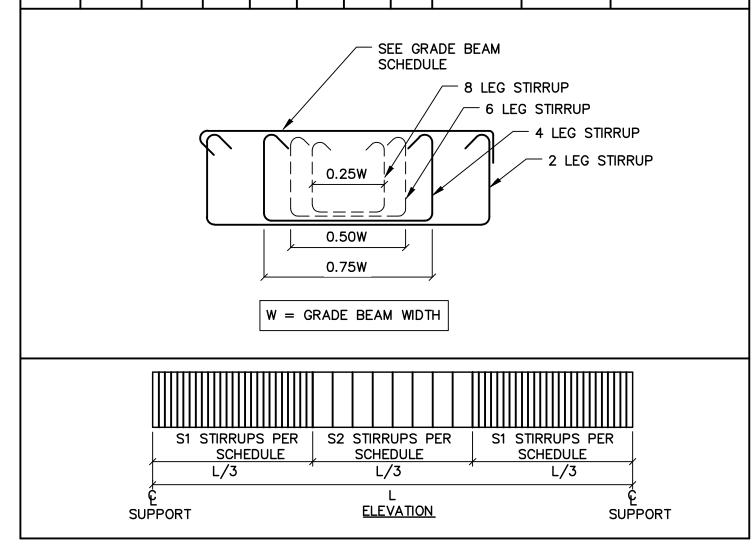
105 PLF.

6'**-**0"

6'-0"

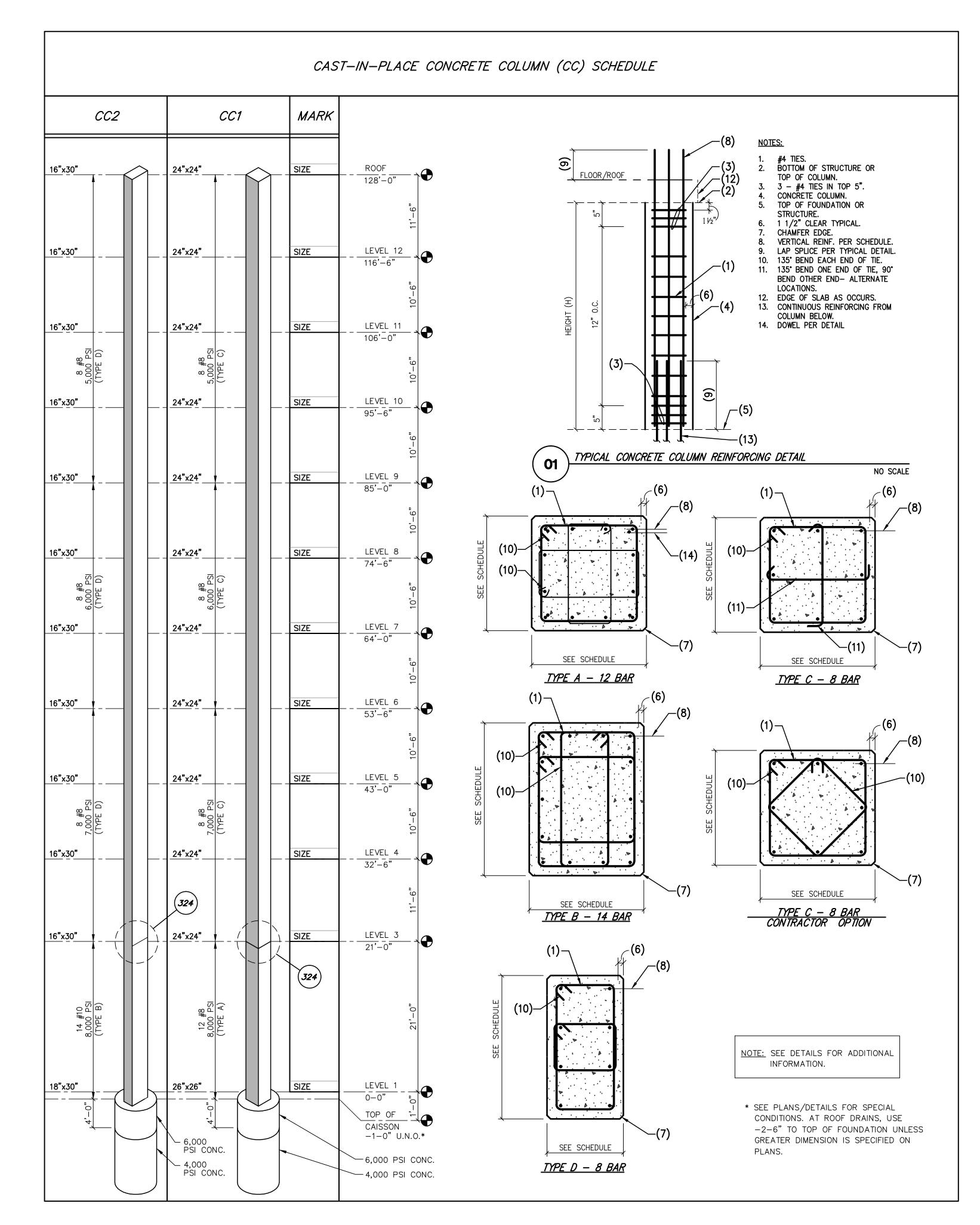


| | DIMEN | 310113 | | , | INCIINI O | I CII V | | | | |
|------|-------------|--------|-------|-------|-----------|---------|----------------|-------------------------------|------------------------------|---------|
| MARK | "W" | "H" | TC |)P | ВОТ | ТОМ | SR | STIRRI | JPS * | REMARKS |
| | W | Н | T1 | T2 | B1 | B2 | (EACH SIDE) | S1 | S2 | |
| GB1 | 48" | 30" | 10#9 | | | 10#9 | | #4 @ 8"O.C. 6 LEGS | #4 @ 8"O.C. 6 LEGS | |
| GB2 | 48" | 24" | 10#9 | | | 10#9 | | #4 @8 "O.C. 6 LEGS | #4@12"O.C. 6 LEGS | |
| GB3 | 36 " | 48" | 8#9 | 8#9 | 8#9 | 8#9 | 4#7 | #4@5"O.C. 6 LEGS | #4@5"O.C. 6 LEGS | |
| GB3A | 36 " | 48" | 8#9 | 8#9 | 8#9 | 8#9 | 4#7 | #4@5"O.C. 6 LEGS | #4@12"0.C. 4 LEGS | |
| GB4 | 48" | 60" | 13#10 | 13#10 | 13#10 | 13#10 | 5#7 | #4@4"O.C. 4 LEGS | #4@4"0.C. 4 LEGS | |
| GB5 | 48" | 60" | 12#10 | 12#10 | 12#10 | 12#10 | 5#7 | #4@5"O.C. 4 LEGS | #4@5"O.C. 4 LEGS | |
| GB6 | 60" | 84" | 6#10 | 6#10 | 6#10 | 6#10 | 6#7 | #4 @ 8"O.C. 6 LEGS | #4 @ 8"O.C. 6 LEGS | |
| GB7 | 48" | 30" | 8#7 | | | 8#7 | 4#7 | #4 @ 12"0.C. 2 LEGS | #4@12"0.C. 2 LEGS | |
| GB8 | 60" | 72" | 12#10 | 12#10 | 12#10 | 12#10 | 6 # 7 | #4@4"O.C. 8 LEGS | #4@4"O.C. 8 LEGS | |
| GB8A | 60" | 72" | 12#10 | 12#10 | 12#10 | 12#10 | 6#7 | #4@12"0.C. 6 LEGS | #4@12"0.C. 6 LEGS | |
| GB9 | 48" | 48" | 10#11 | 10#11 | 10#11 | 10#11 | 6 # 7 | #4 @ 8"O.C. 6 LEGS | #4 @ 8"O.C. 6 LEGS | |



| | STE | EL COLUMN (SC) SCHEDULE | . |
|-------|----------------|---|----------------|
| NOTE: | FOR ANCHOR BOL | T PATTERN, SEE TYPICAL DETAIL 60 |) |
| MARK | SIZE | BASE CONNECTION (TYP U.N.O. ON PLANS) | REMARKS |
| SC1 | HSS8x8x3/8" | 3/4"x14"x14" STEEL BASE PLATE W/ (4) 3/4"ø A.B. | |
| SC2 | HSS8x8x1/2" | 3/4"x14"x14" STEEL BASE PLATE W/ (4) 3/4"ø A.B. | |
| SC3 | W12×72 | REF. PLANS | |
| SC4 | W12x96 | REF. PLANS | |
| SC5 | HSS10x10x1/2" | 1"x16"x16" STEEL BASE PLATE W/ (4) 3/4"ø A.B. | |
| SC6 | HSS6x6x3/8" | 3/4"x12"x12" STEEL BASE PLATE W/ (4) 3/4"ø A.B. | |
| SC7 | HSS5x5x3/8" | 3/4"x12"x12" STEEL BASE PLATE W/ (4) 3/4"ø A.B. | |
| SC8 | HSS6x6x1/2" | REF. PLANS | |
| SC9 | HSS12x6x3/8" | REF. PLANS | |
| SC10 | HSS12x12x5/8" | 1 1/4"x18"x18" 50KSI PLATE W/ (8) 1"ø F1554 GR.105 A.B. | |
| SC11 | HSS6x6x1/4" | 1/2"x12"x12" STEEL BASE PLATE W/ (4) 3/4"ø A.B. | |
| SC12 | HSS3x3x1/4" | 1/2"x4"x12" STEEL BASE PLATE W/ (2) 1/2"ø POST-INSTALLED ANCHORS (3 1/4" EMBED) | |
| SC13 | W14x211 | REF. PLANS | |
| SC14 | W12x120 | REF. PLANS | |
| SC15 | W12x96 | BASE PLATE BP2 | SEE BP SCHEDUL |
| SC16 | W14x211 | BASE PLATE BP1 | SEE BP SCHEDUL |
| SC17 | HSS8x8x1/2" | REF. PLANS | |

| MOMENT FRAME BASEPLATE (BP) SCHEDULE | | | | | | | |
|--------------------------------------|----------------------------|--------------------------------|---------|--|--|--|--|
| MARK | PLATE SIZE | ANCHORS | REMARKS | | | | |
| BP1 | 24"×24"×2" (50 KSI) | (12)- 1 1/4"ø F1554 ANCHORS | | | | | |
| BP2 | 20"x16"x1 3/4" (50 KSI) | (12)- 1 1/4"ø F1554 ANCHORS | | | | | |



| CONTINUOUS FOOTING (WF) SCHEDULE | | | | | | | | |
|----------------------------------|---|---------------------------|-----------------------------|--|-------------------------|--|--|--|
| | | | | FOR CONSTRUCTION ABOVE FOOTING, SEE DETAILS. | | | | |
| | | | TOP REINFORCING. | | | | | |
| HEIGHT | | LONGITUDINAL REINFORCING. | | | | | | |
| | | • | | TRANSVERSE REINFORCING. | | REINFORCING. | | |
| MIDTH WIDTH | | | ı | 3" CLR NOTE: FOR DEPTH OF FOOTING SEE G.S.N. | | | | |
| | DIMENSIONS FO | | OOTING REINFORCING | | | | | |
| MARK | HEIGHT | WIDTH | LONGITUDINAL | | TRANSVERSE | REMARKS | | |
| WFI | 12" | 2'-0" | 3 #5 CONT. BOT. | | | | | |
| WF2 (WF2A) | 12" | 3'-0" | | CONT. | #5 AT 12" BOT. | REINFORCING TO AND BOTTOM A WF2A | | |
| WF3 | 16" | 4'-0" | 6 #5 E.W. TOP & BOT. | | #5 AT 12" TOP & BOT. | | | |
| WF4 | 18" | 4'-0" | | 5 E.W. & BOT. | #5 AT 12" TOP & BOT. | | | |
| OTES: | LEDGER (L) SCHEDULE STEEL: 1. ALL LEDGERS SHALL HAVE MINIMUM OF 2 WELD PLATES OR | | | | | | | |
| STEEL | AN 2. WEI LES | CHOR BOLT D PLATES | TS AS N OR AN " NOR I | OTED BE | | OCATED NOT | | |
| MARK | SIZE / TYPE | | | CONNECTION | | | | |

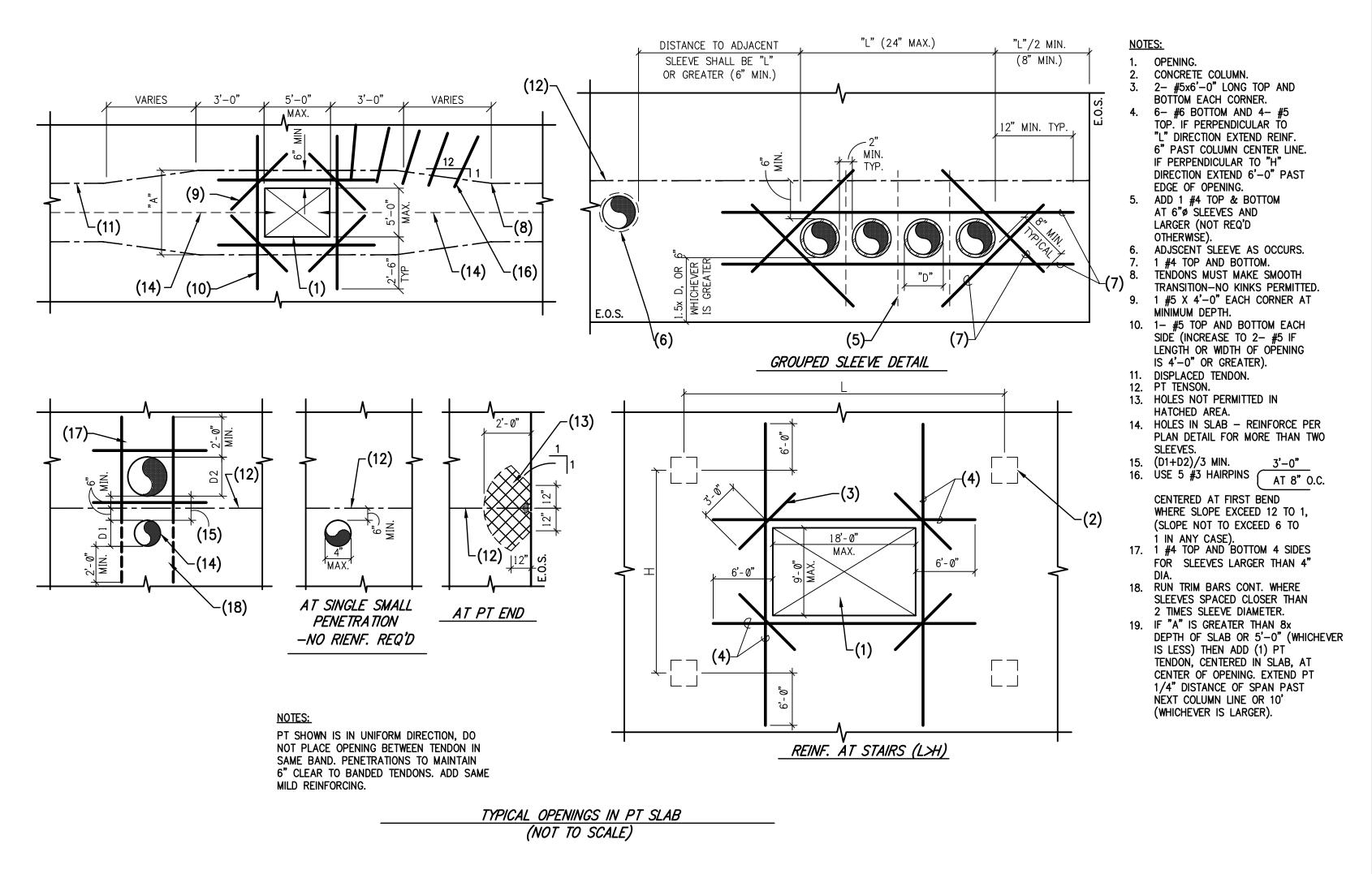
BENT STEEL PLATE 6 1/2"x4"x5/16" (LLV)

> STEEL ANGLE 4"x4"x1/4"

WELD PLATE EVERY 24" O.C. MAX.

ATTACH PER DETAIL 543

WELD PLATE EVERY 2'-8" O.C. MAX.

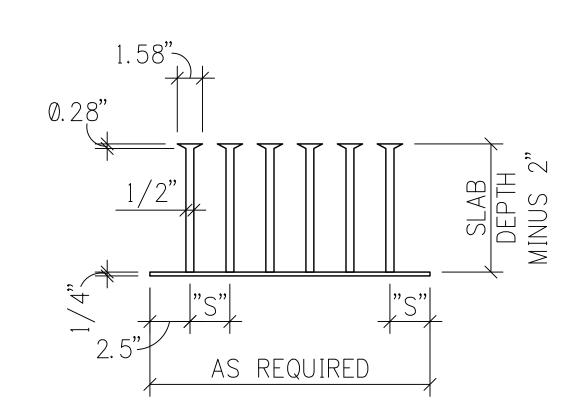


TYPICAL STUD RAIL REINFORCEMENT

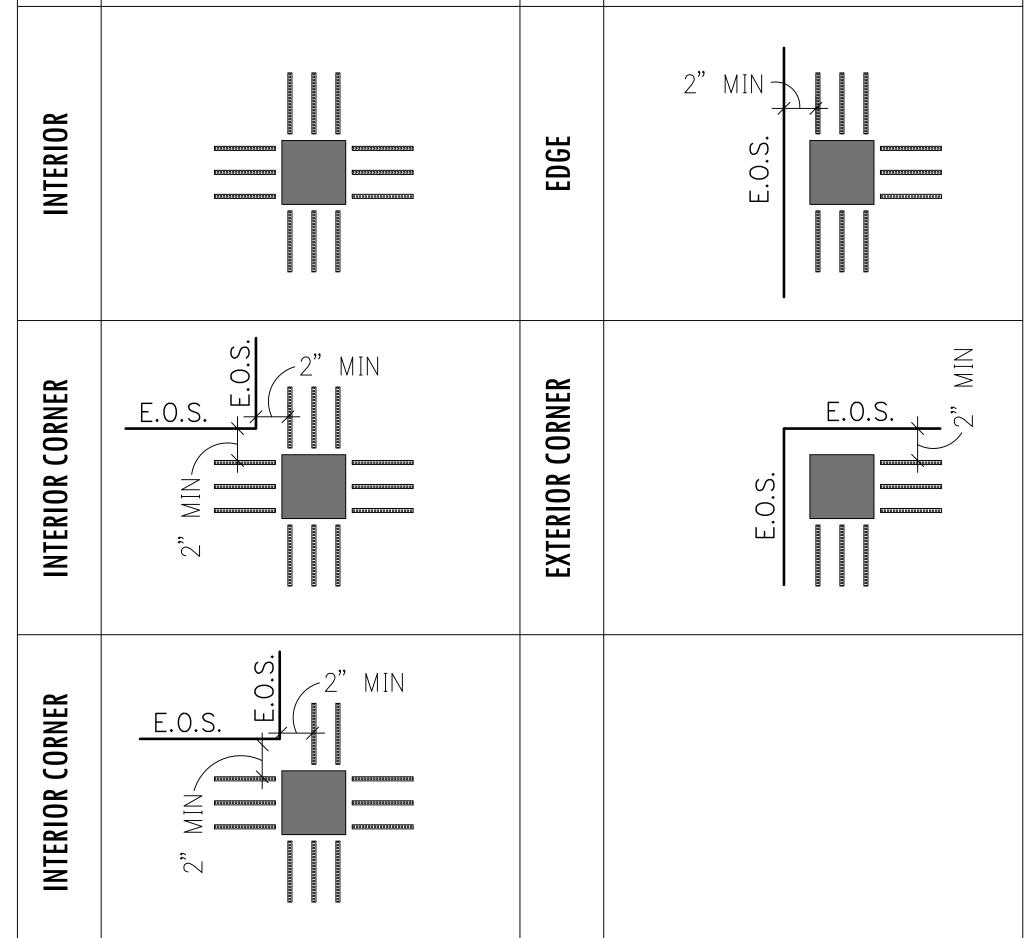
I. PLACE STUD RAILS AT ALL COLUMNS U.N.O. ON PLANS.

DIAGRAM

- 2. EACH SIDE OF COLUMN TO HAVE 1 STUD RAIL FOR 12" WIDTH (2 MIN)
- 3. EACH RAIL TO HAVE 8 STUDS (10 STUDS AT 10" OR THICKER SLABS) U.N.O.
- 4. STUD RAILS MUST BE INSTALLED WITH THES STUD VERTICAL (NOT LEANING OVER DUE TO REBAR, P.T. STRANDS, ETC.)
- 5. STUD RAIL REINF. SHALL BE SUPPLIED BY DECON STUDRAILS (1-800-36-DECON) STUDS SHALL BE $f_y=50,000$ PSI. AND AUTOMATICALLY WELDED. STUD SIZE SHALL BE 1/2" ø x SLAB DEPTH MINUS 2" WITH 0.28" THICK x 1.58" ø HEAD. (TOTAL DEPTH = SLAB DEPTH MINUS 1 3/4"). STUDS SHALL BE SPACED WITH FIRST STUD AT 2.5" FROM START OF STRAP. SPACE FROM FACE OF COLUMN TO FIRST STUD SHALL BE "S" BOTTOM STRAP SHALL BE $f_y=44,000$ PSI 1 1/4"x1/4" BY LENGTH AS REQUIRED.



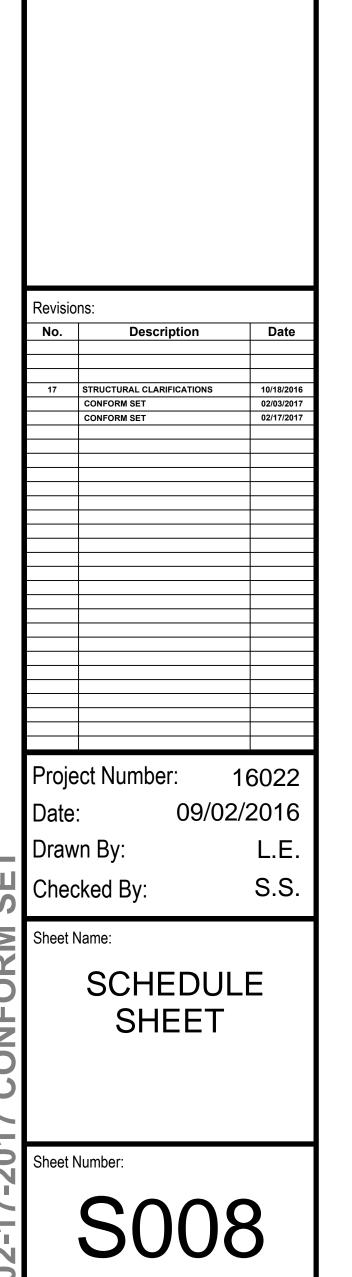
DIAGRAM

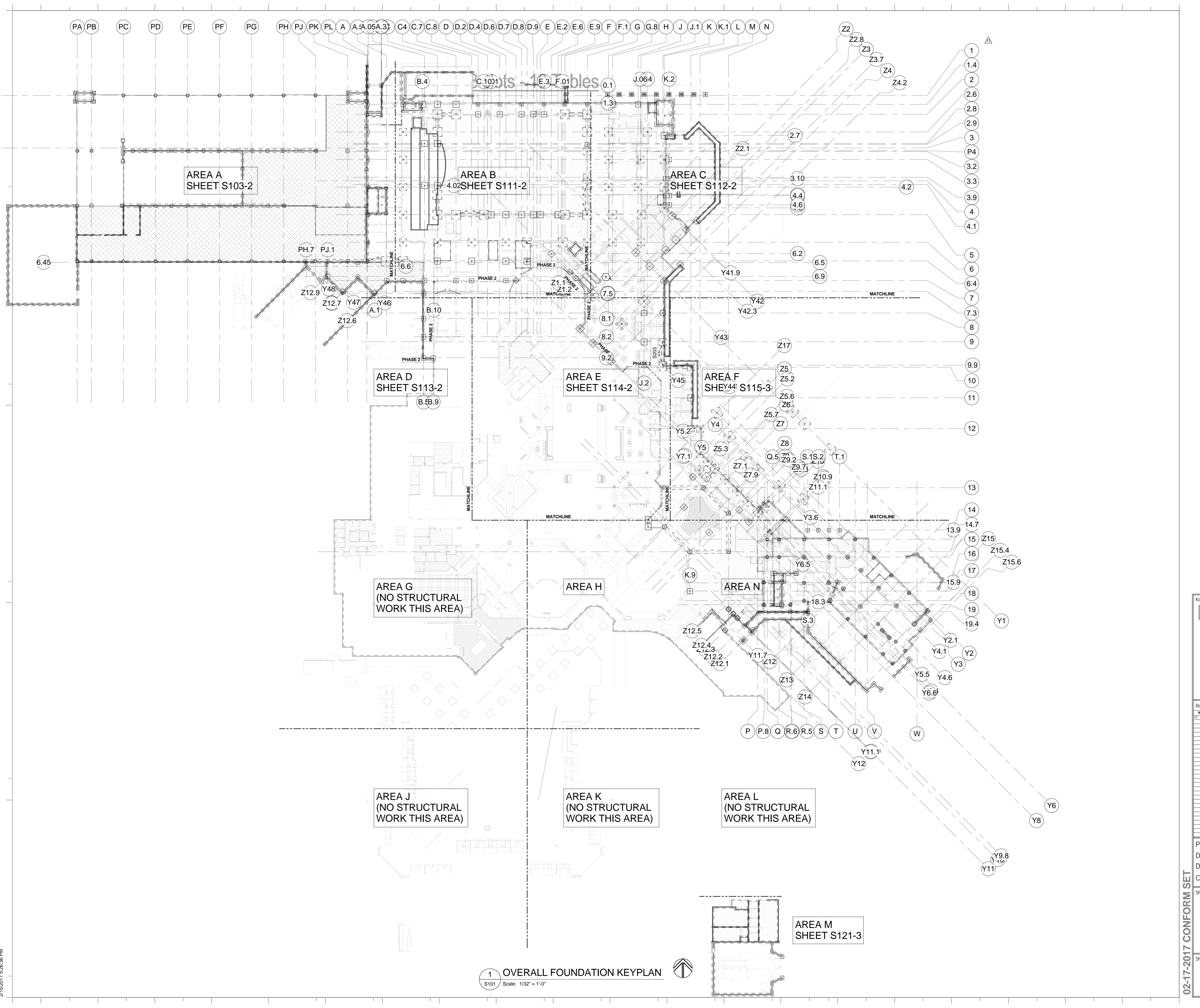


TYPICAL COLUMN HEAD REINFORCING AND LENGTHS FOR P.T. CONCRETE SLABS

- . 10 #5 TOP BARS EACH WAY SHALL BE USED AS TYPICAL.
- 2. COLUMN HEAD STEEL TO BE ADDED TO TYPICAL UNIFORM BARS SHOWN ON PLAN —TYPICAL.
- 3. BARS TO BE CENTERED OVER COLUMN —U.N.O. IF SHOWN OFFSET IN SCHEDULE LONGER DIMENSION SHALL BE INSTALLED IN LONGER SPAN.
- 4. UNIFORMLY SPACED BARS SHOWN ACROSS SPECIAL COLUMN HEAD REINFORCING SHALL BE IN ADDITION TO.
- 5. BAR LENGTHS MEASURED USING THE CLEAR SPAN FROM COLUMN FACE TO COLUMN FACE, OR WALL FACE.
- 6. BAR LENGTHS LISTED SHOULD BE THE GREATER SPECIFIED LENGTH.
- 7. BAR SPACING AT 5" O.C. UNLESS NOTED OTHERWISE.

| /. | BAR SPACING AT 3 U.C. UNLESS | NOTED | OTHERWISE. |
|----------|--|---------------|--|
| MARK | DIAGRAM | MARK | DIAGRAM |
| INTERIOR | 1. 25 L4 0.25 L4 0.2 L3 0.2 L4 0.2 L4 0.2 L4 | EDGE | E.O.S. L4 L4 0.25 L4 0.25 L3 0.2 L4 0.2 L4 0.2 L4 |
| CORNER | E.O.S. 1.0 1. | WALL CORNER | 1 |
| WALL END | 0.25 L3 0.25 L3 0.2 L4 0.2 L4 0.2 L4 | INSIDE CORNER | 0.25 L4 0.25 L4 0.2 L4 0.2 L4 0.2 L4 0.2 L4 |

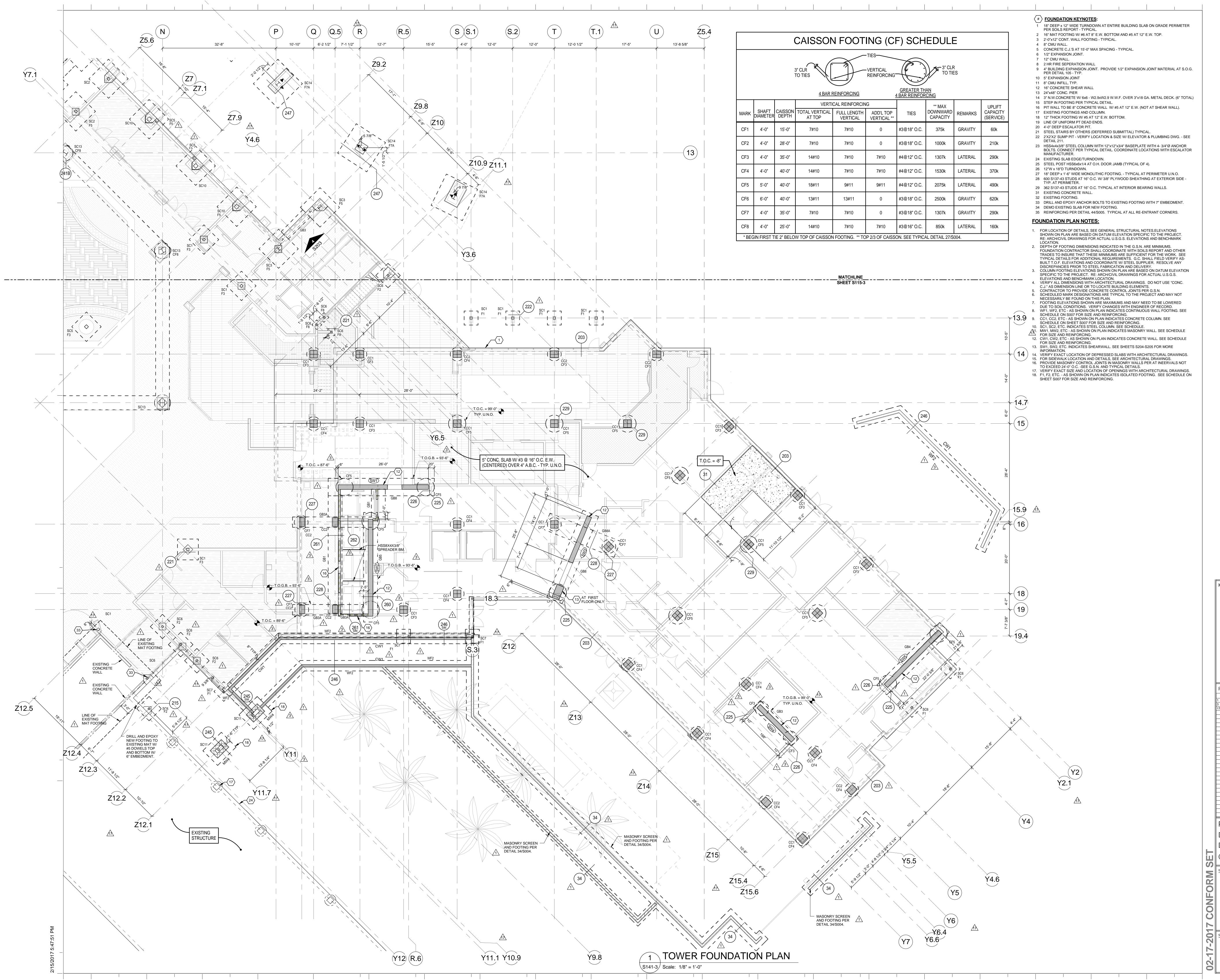




PLAN
neet Number:

OVERALL

FOUNDATION



Revisions:

No. Description Date

STRUCTURAL REVISIONS 08/05/2016

MISC. FUTURE REVISIONS 10/07/2016

TO STRUCTURAL CLARIFICATIONS 10/21/2016

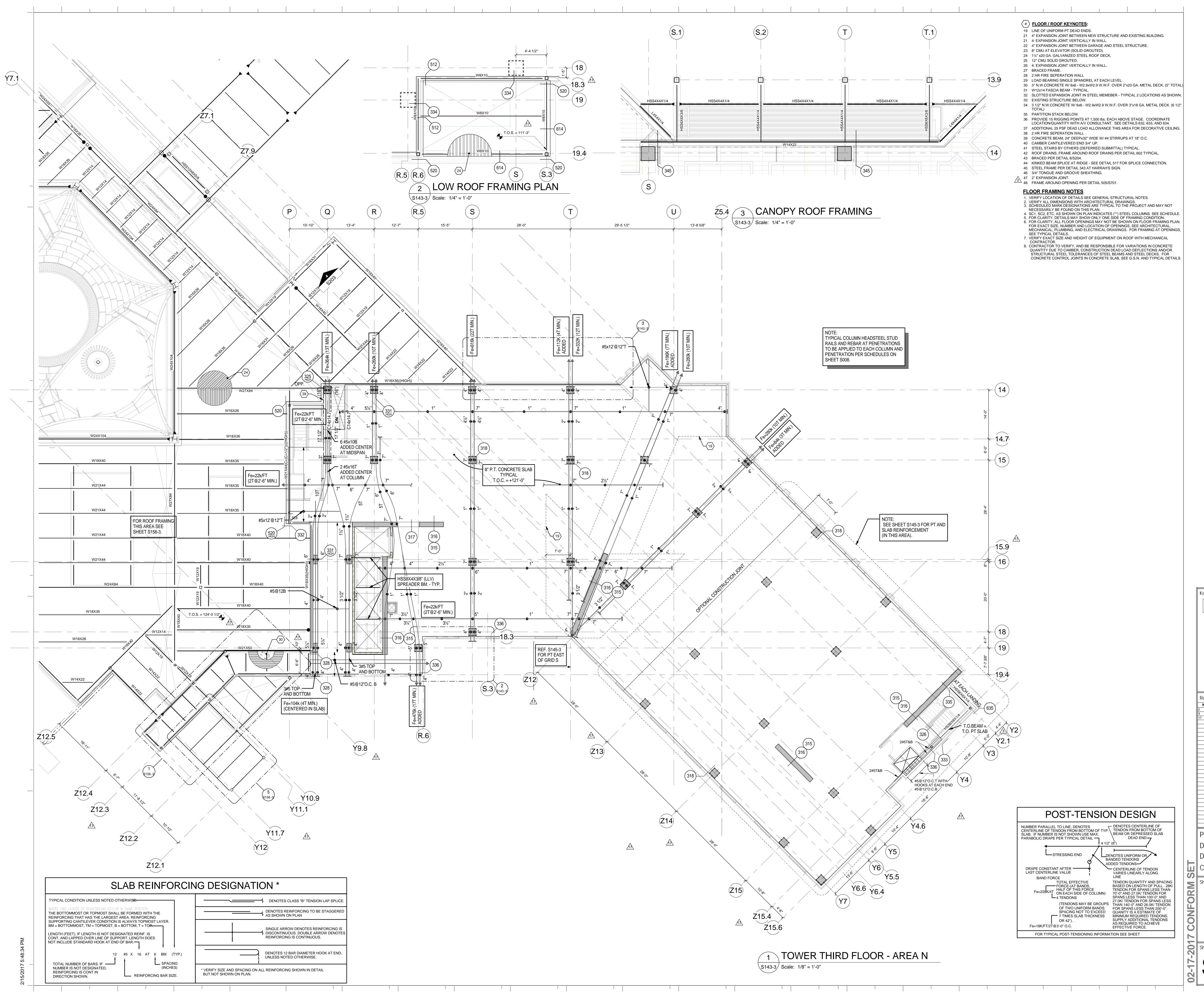
CONFORM SET 02/03/2017

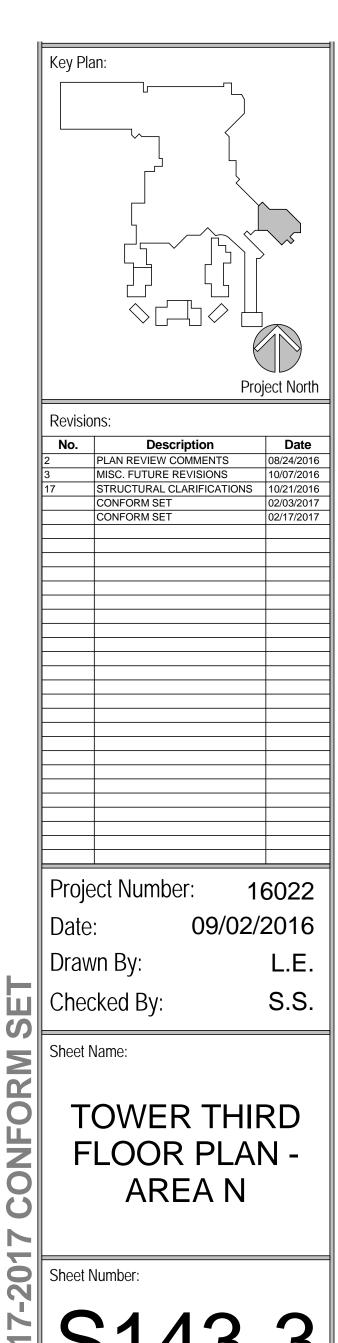
Project Number: 160
Date: 09/02/20
Drawn By: L
Checked By: S

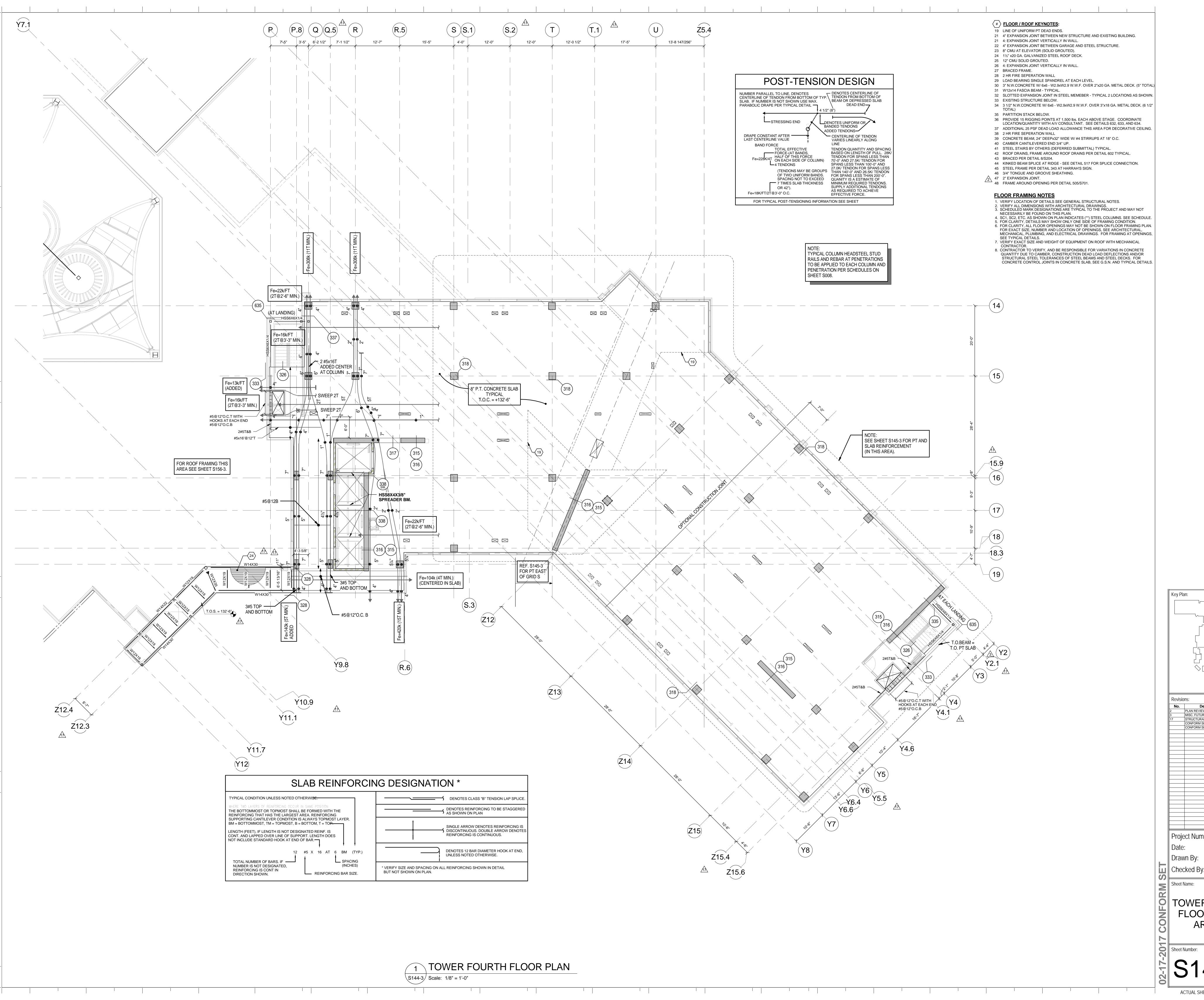
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TOWER FOUNDATION PLAN - AREA N

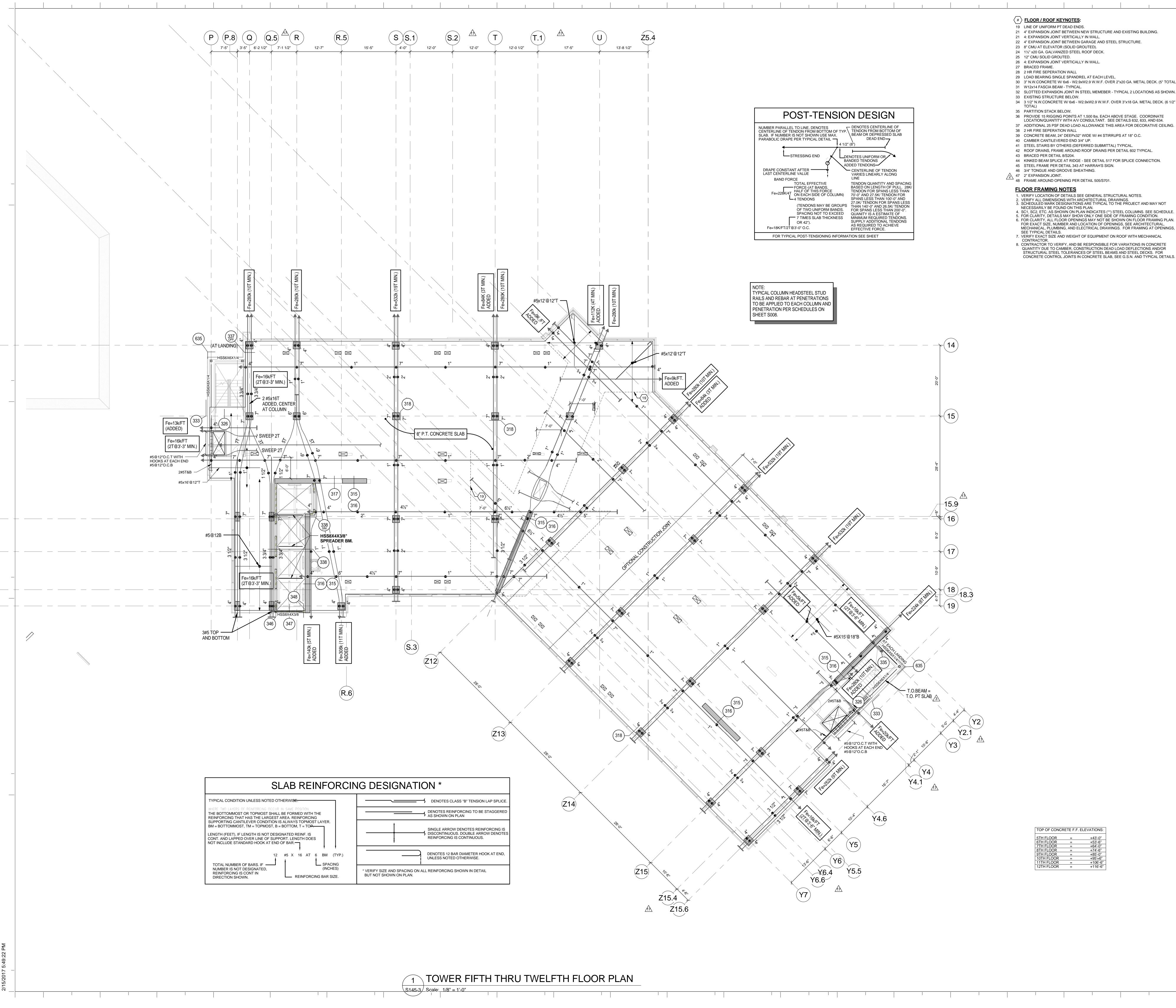
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Sheet Number: S144-3



30 3" N.W.CONCRETE W/ 6x6 - W2.9xW2.9 W.W.F. OVER 2"x20 GA. METAL DECK. (5" TOTAL)

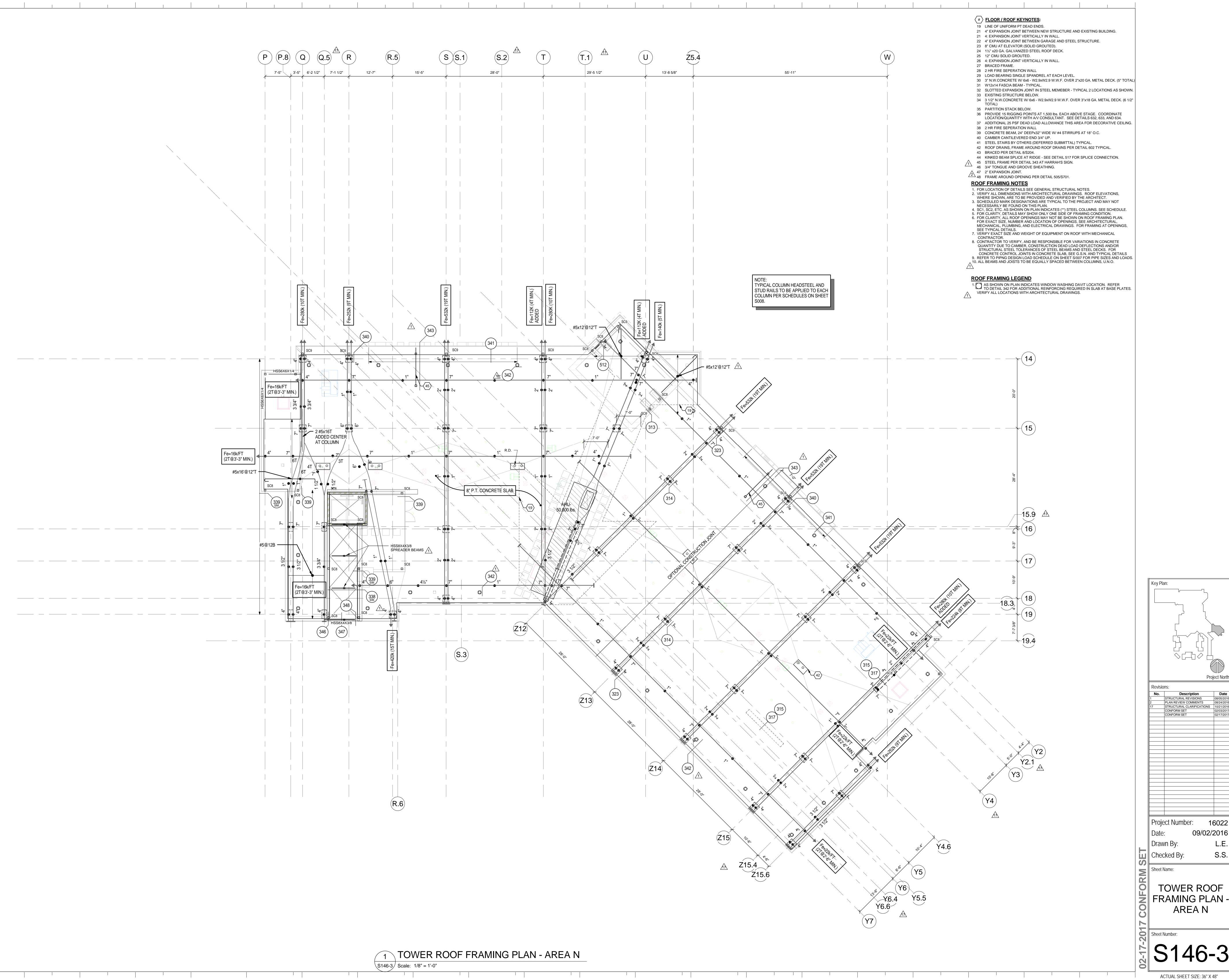
32 SLOTTED EXPANSION JOINT IN STEEL MEMEBER - TYPICAL 2 LOCATIONS AS SHOWN.

CONCRETE CONTROL JOINTS IN CONCRETE SLAB, SEE G.S.N. AND TYPICAL DETAILS.

MISC. FUTURE REVISIONS STRUCTURAL CLARIFICATIONS
CONFORM SET Project Number:

TOWER FIFTH THRU TWELFTH FLOOR PLAN -AREA N

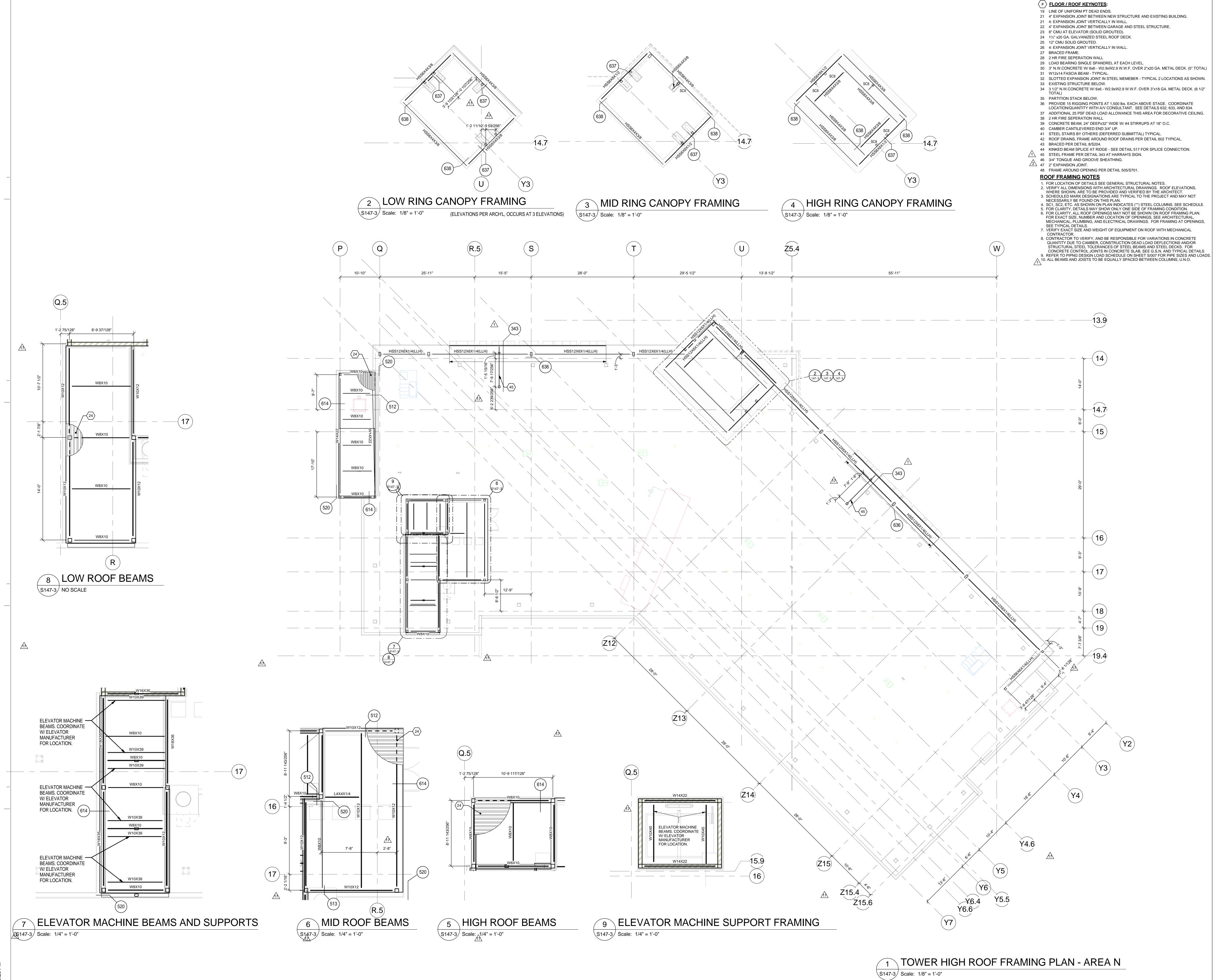
」∥ Checked By:



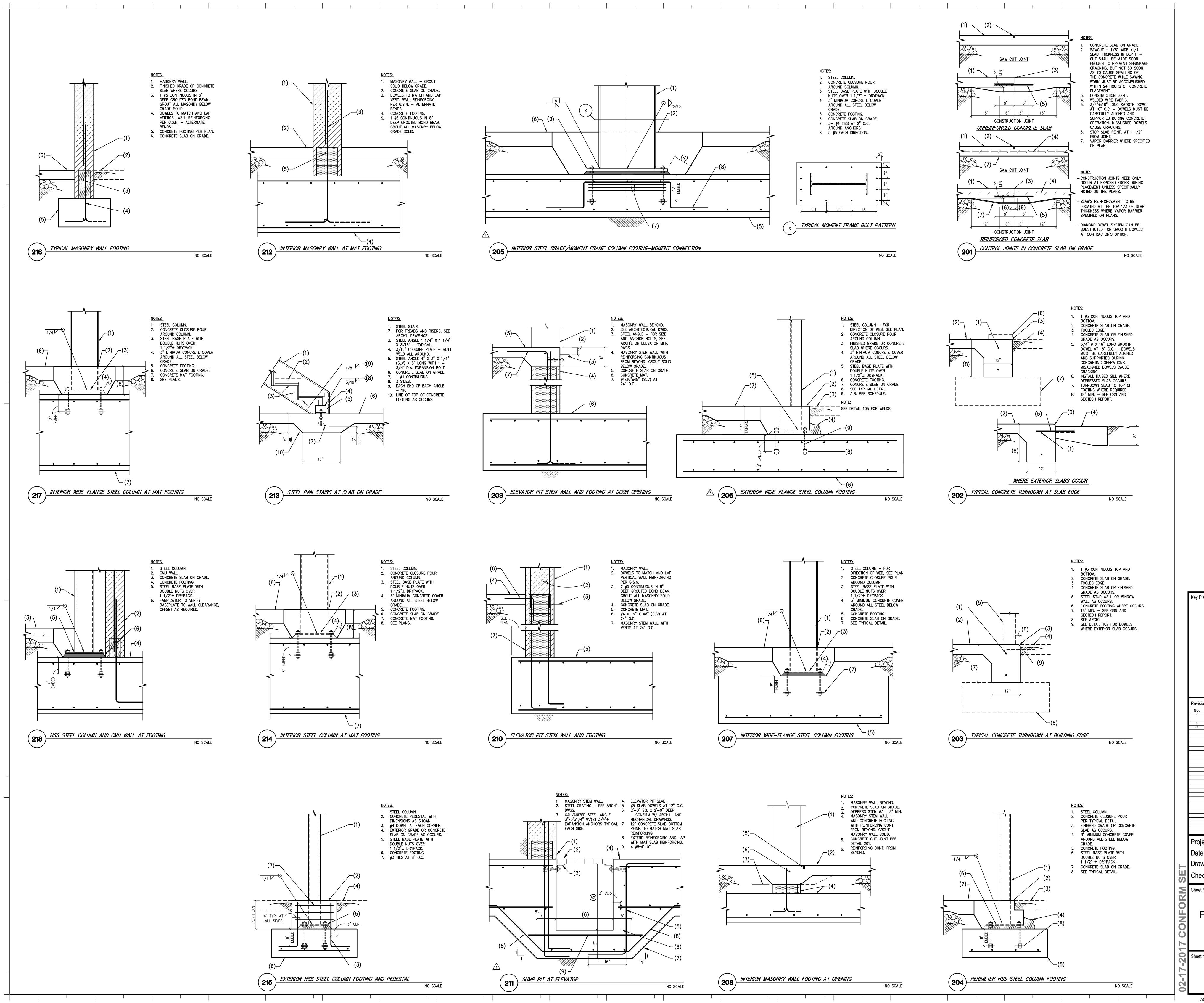
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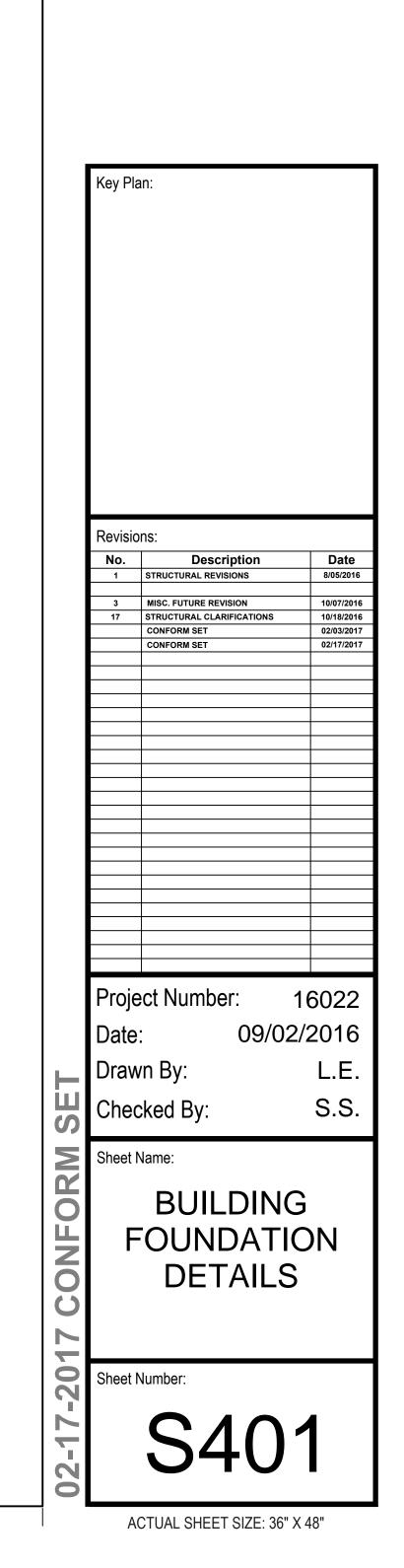
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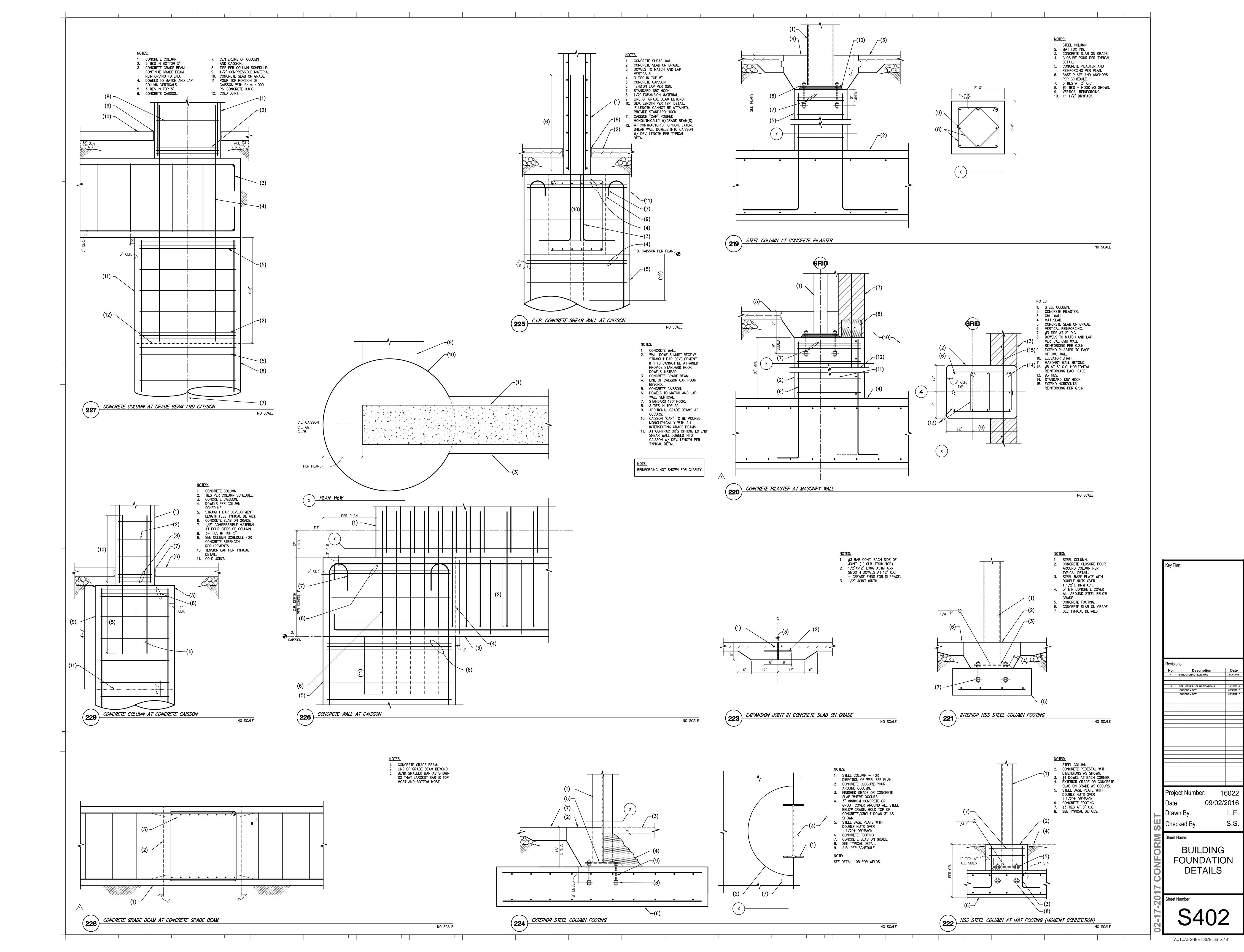
AREA N

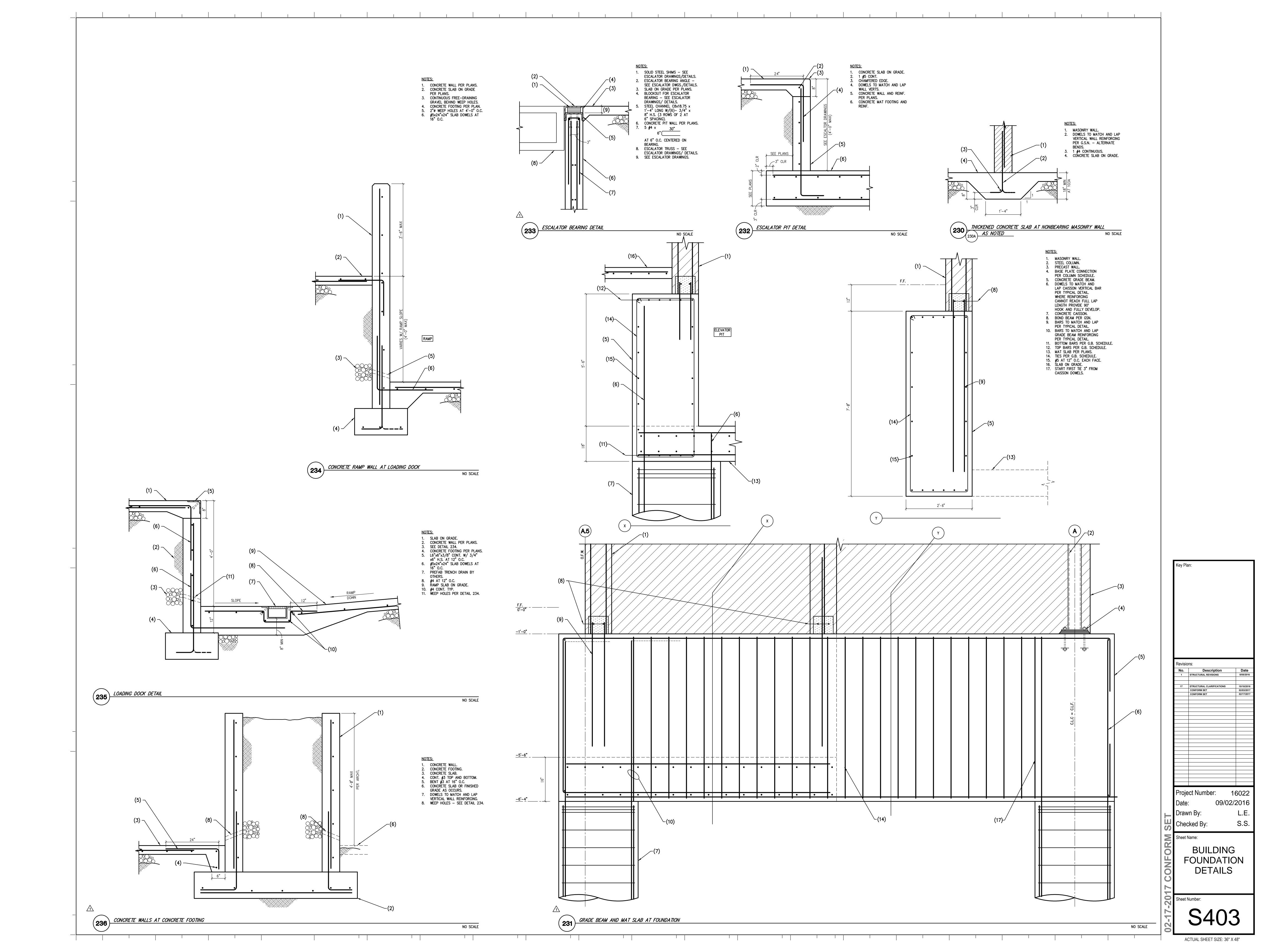


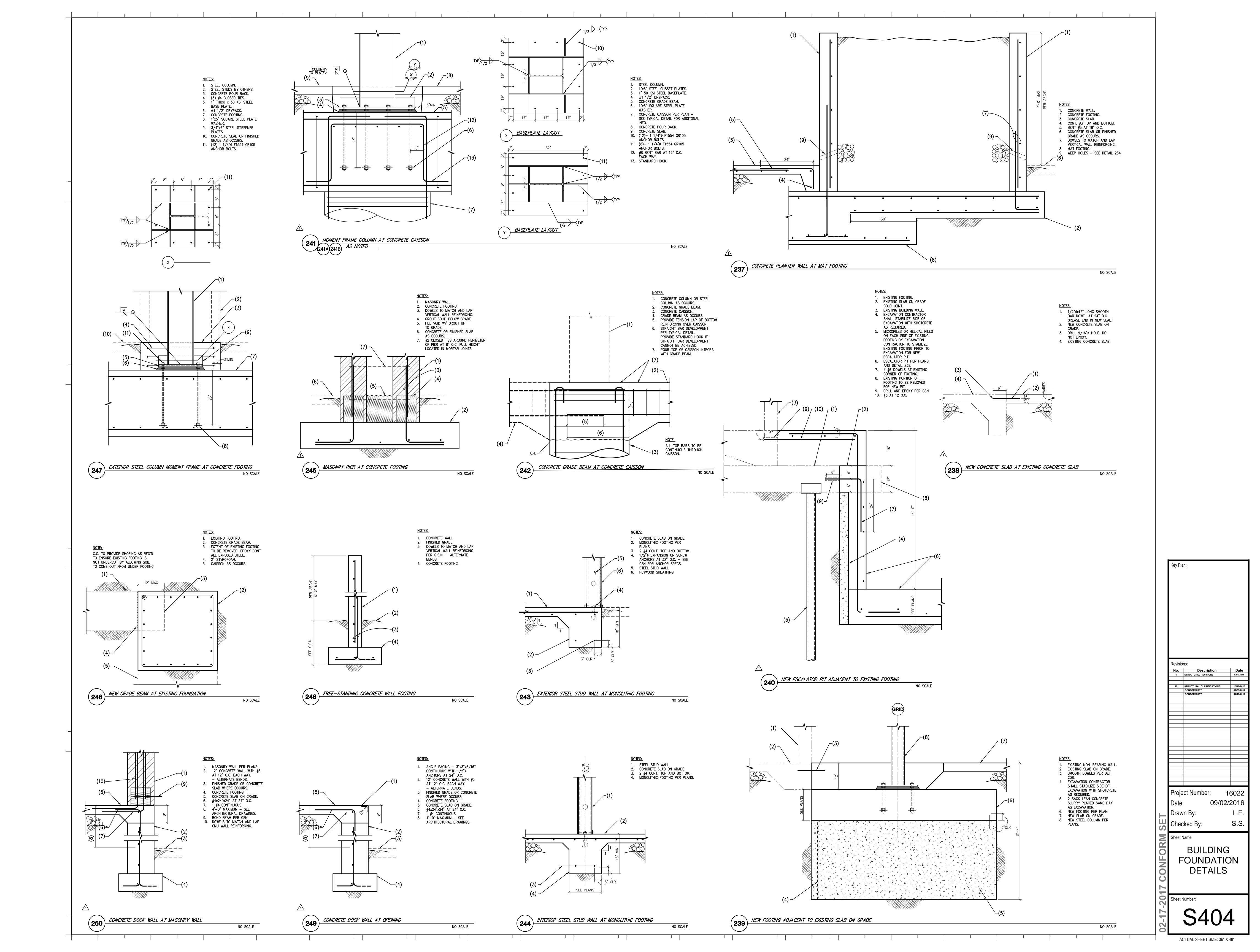
S147-3

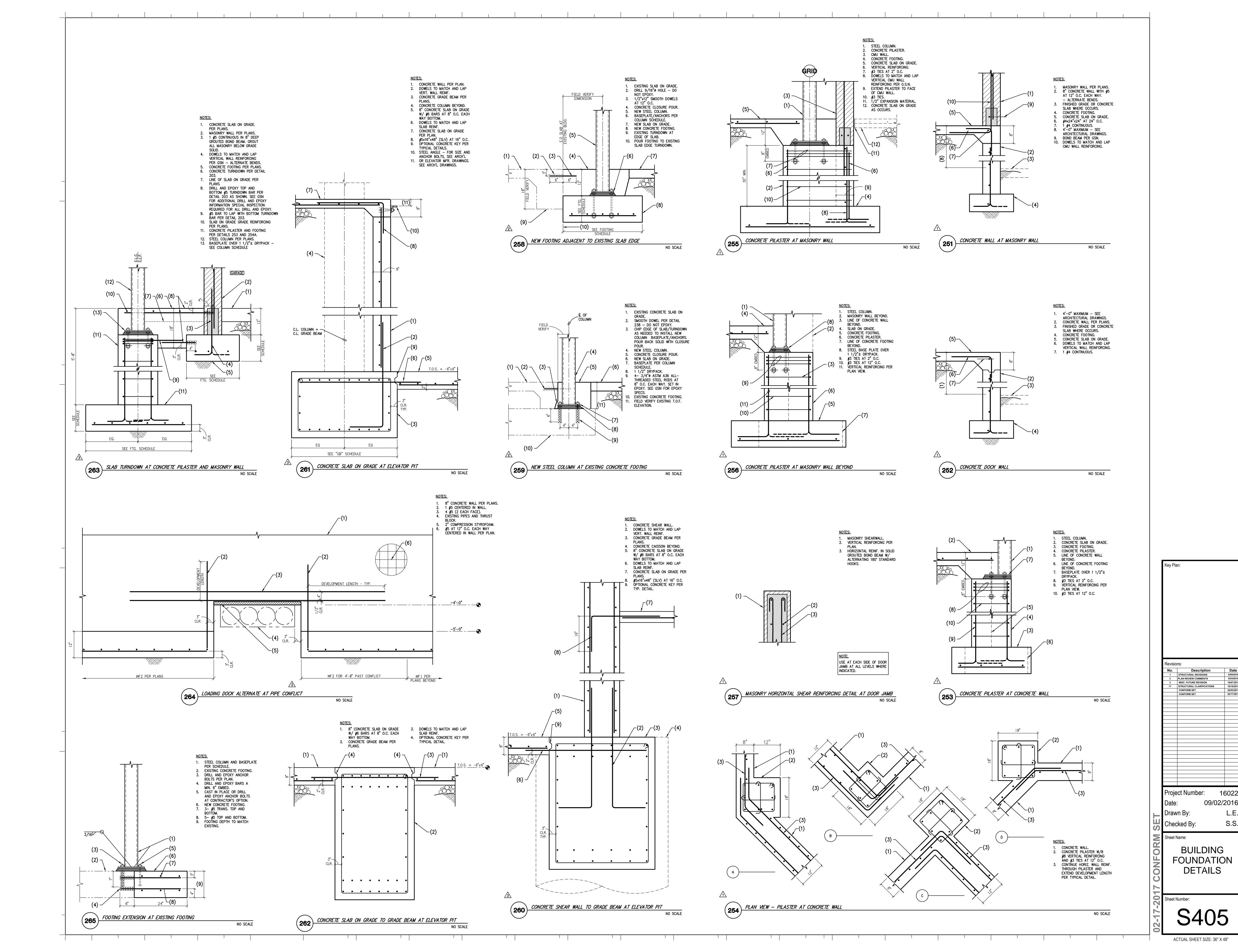


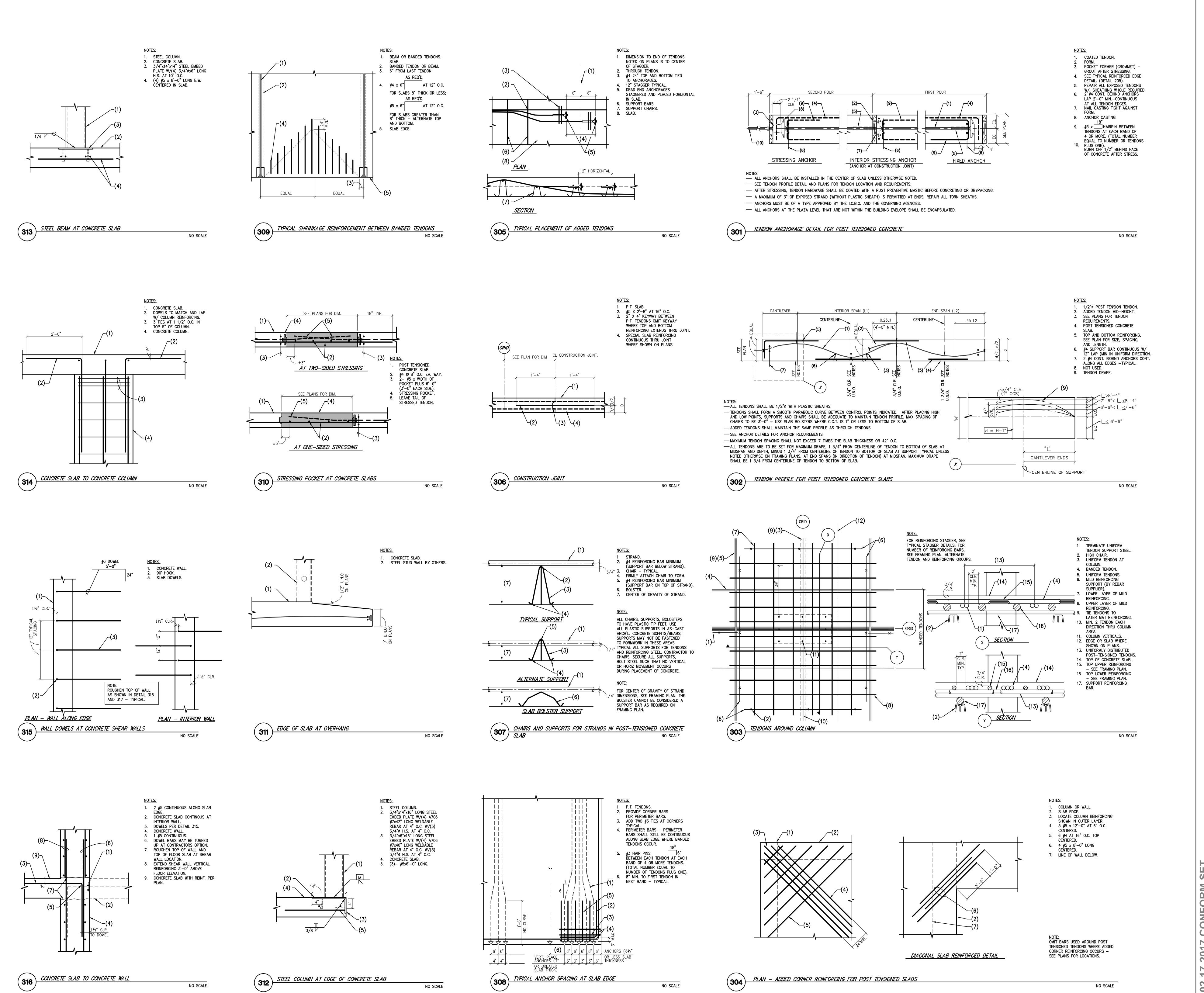


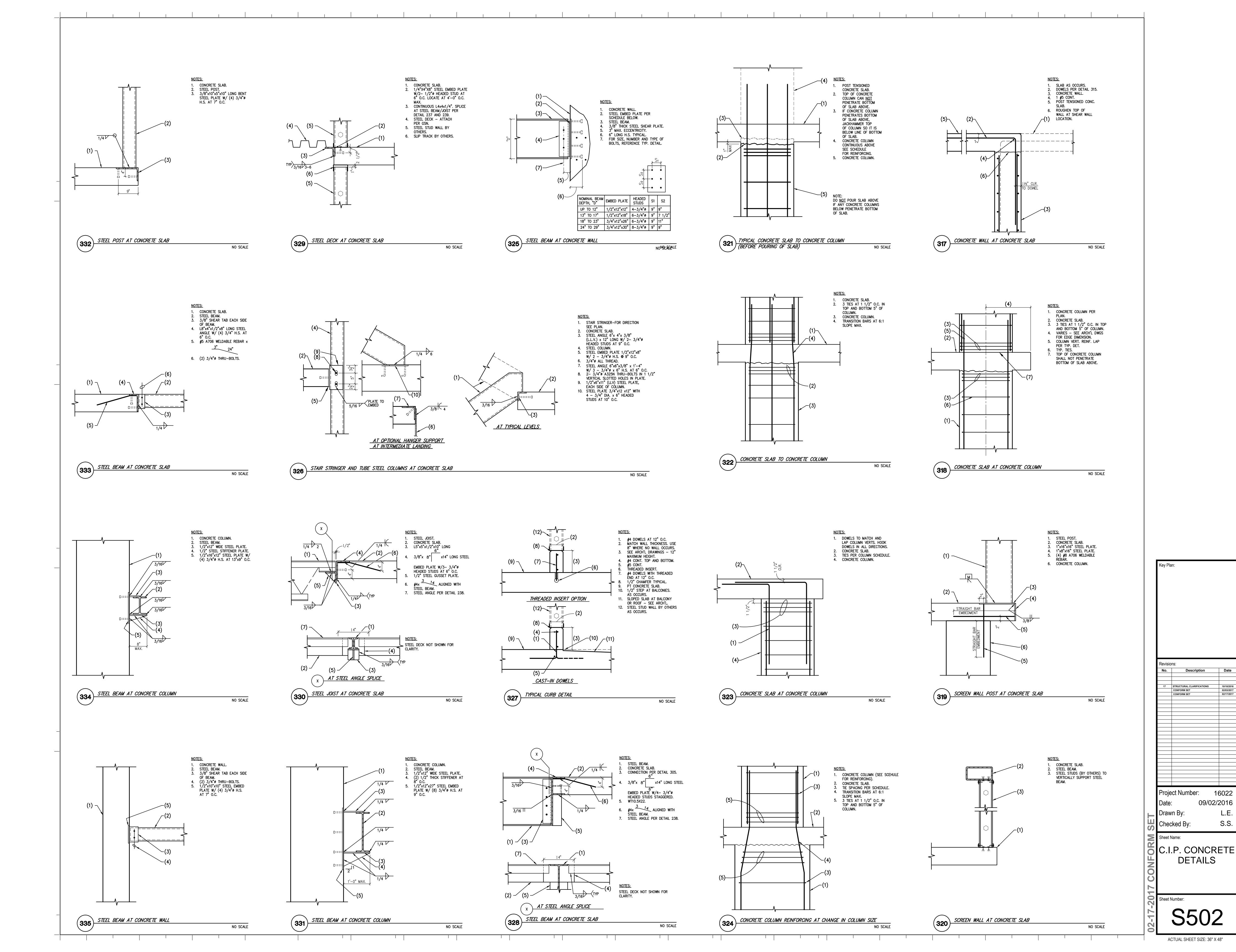


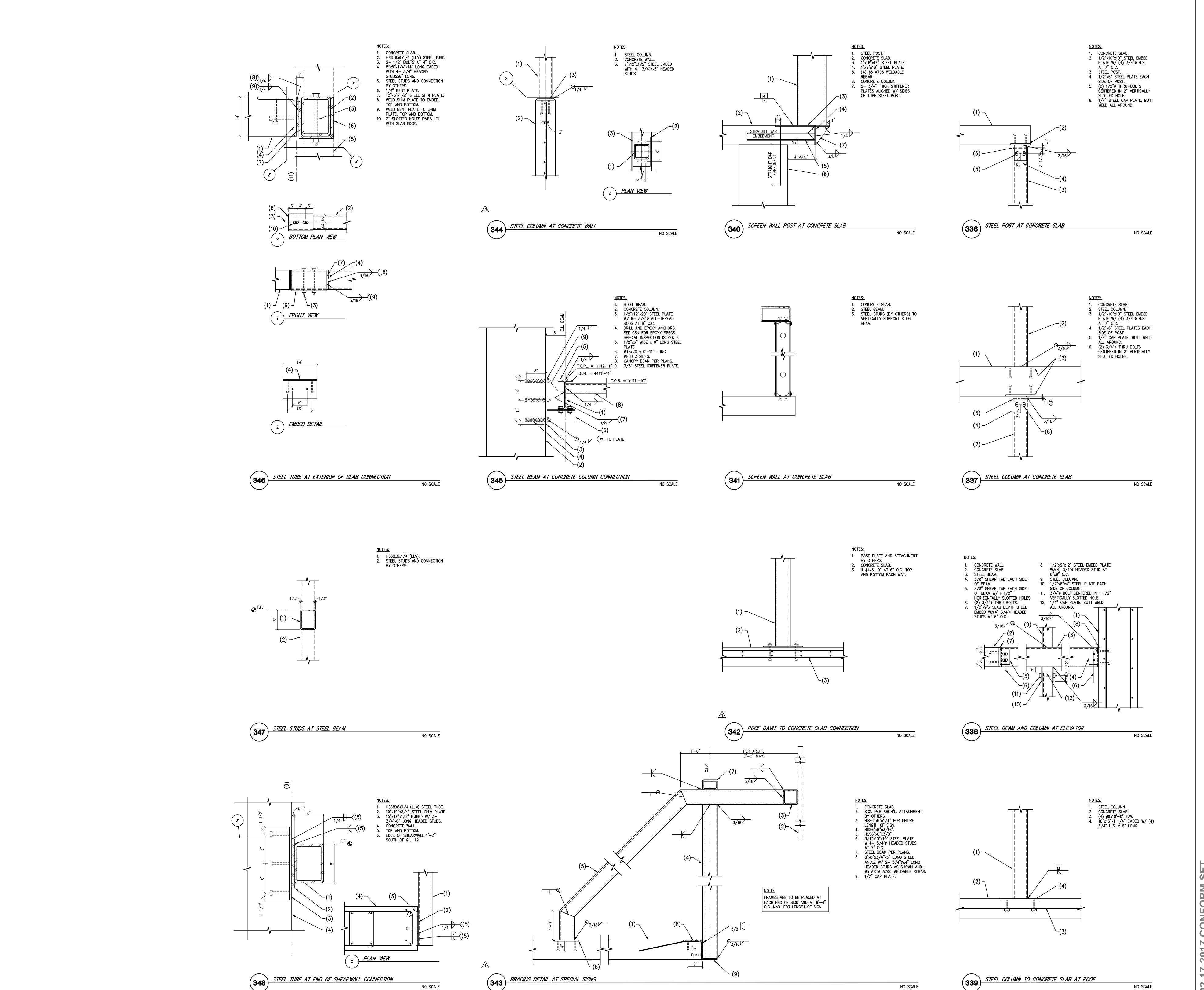


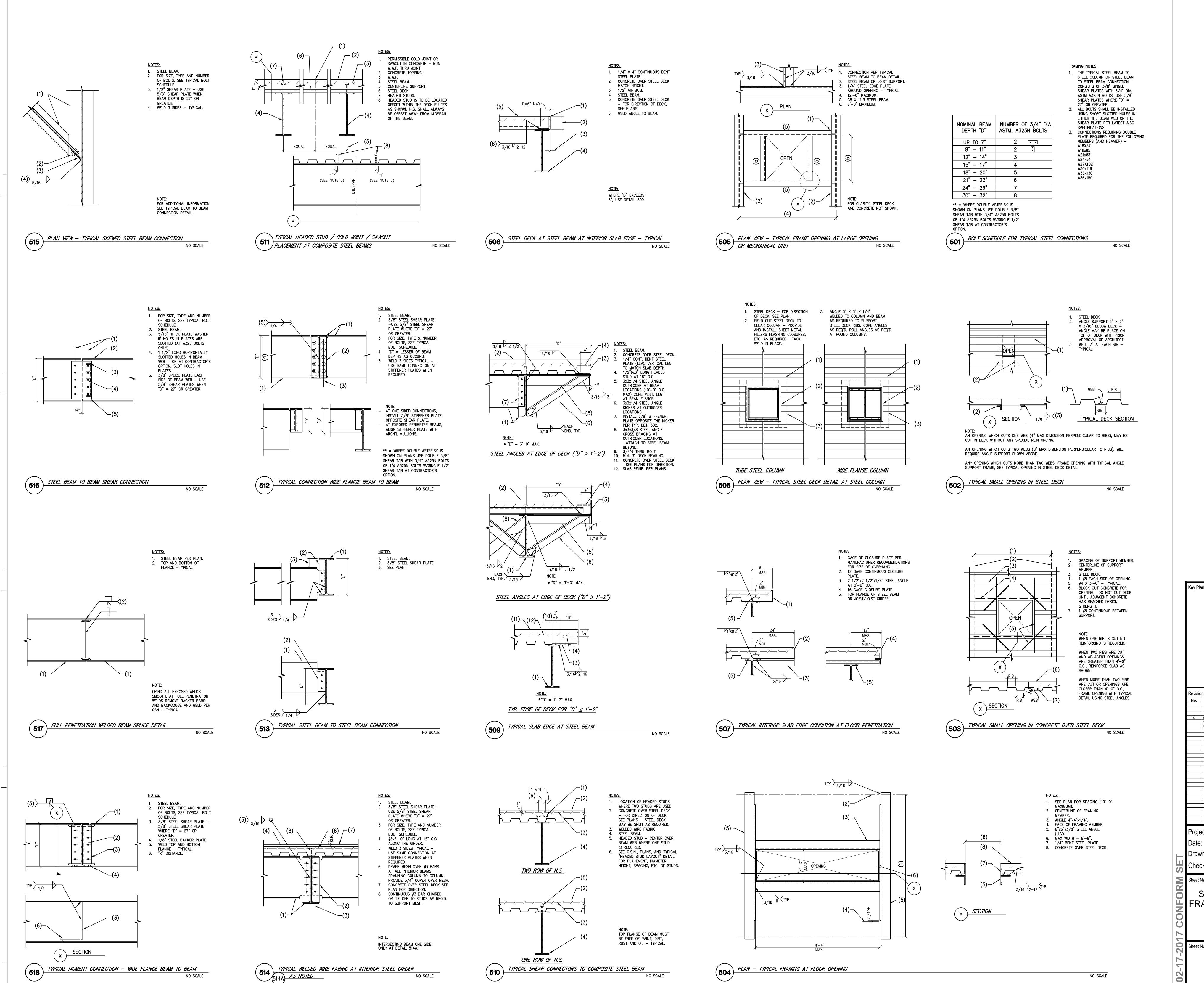


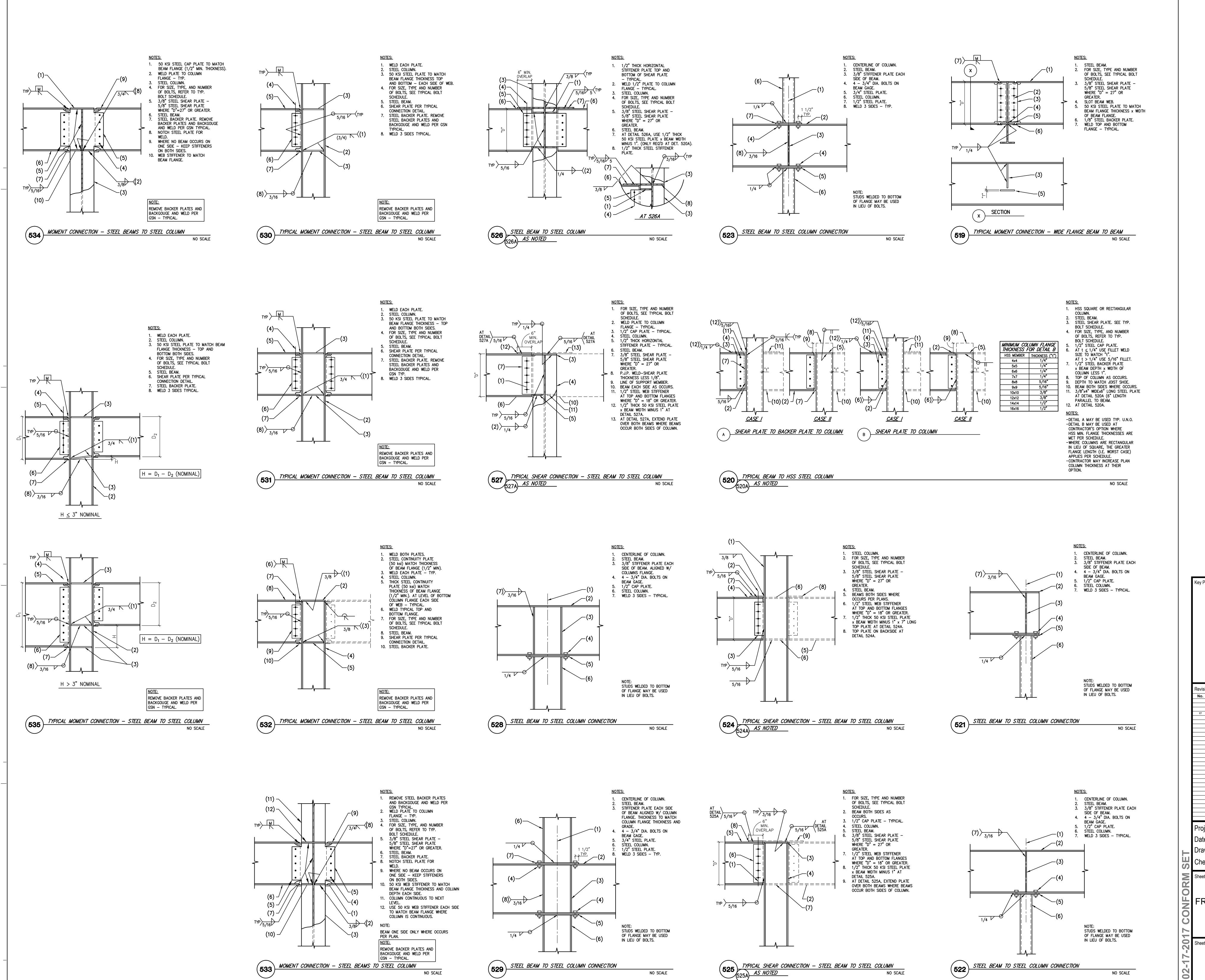


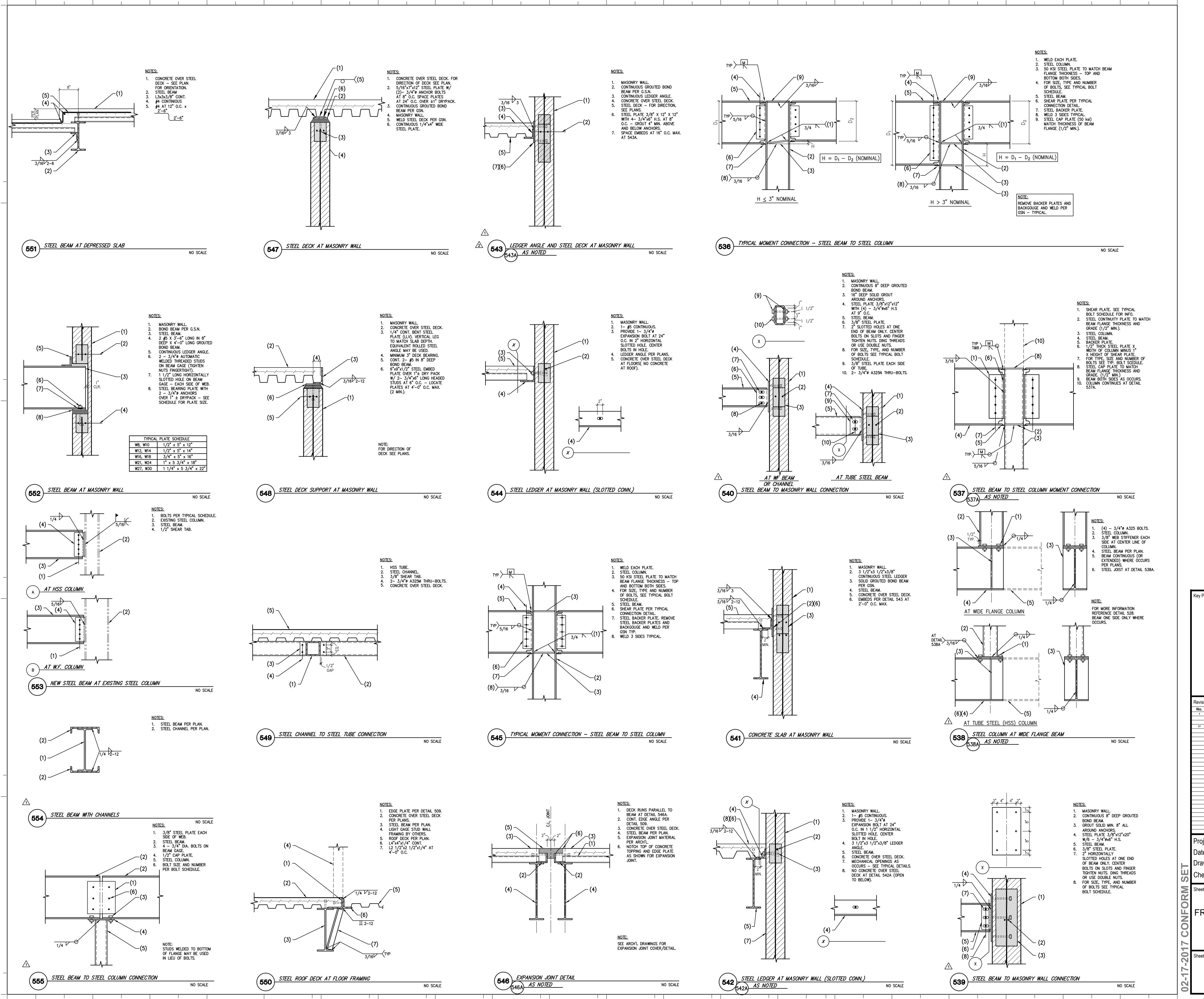


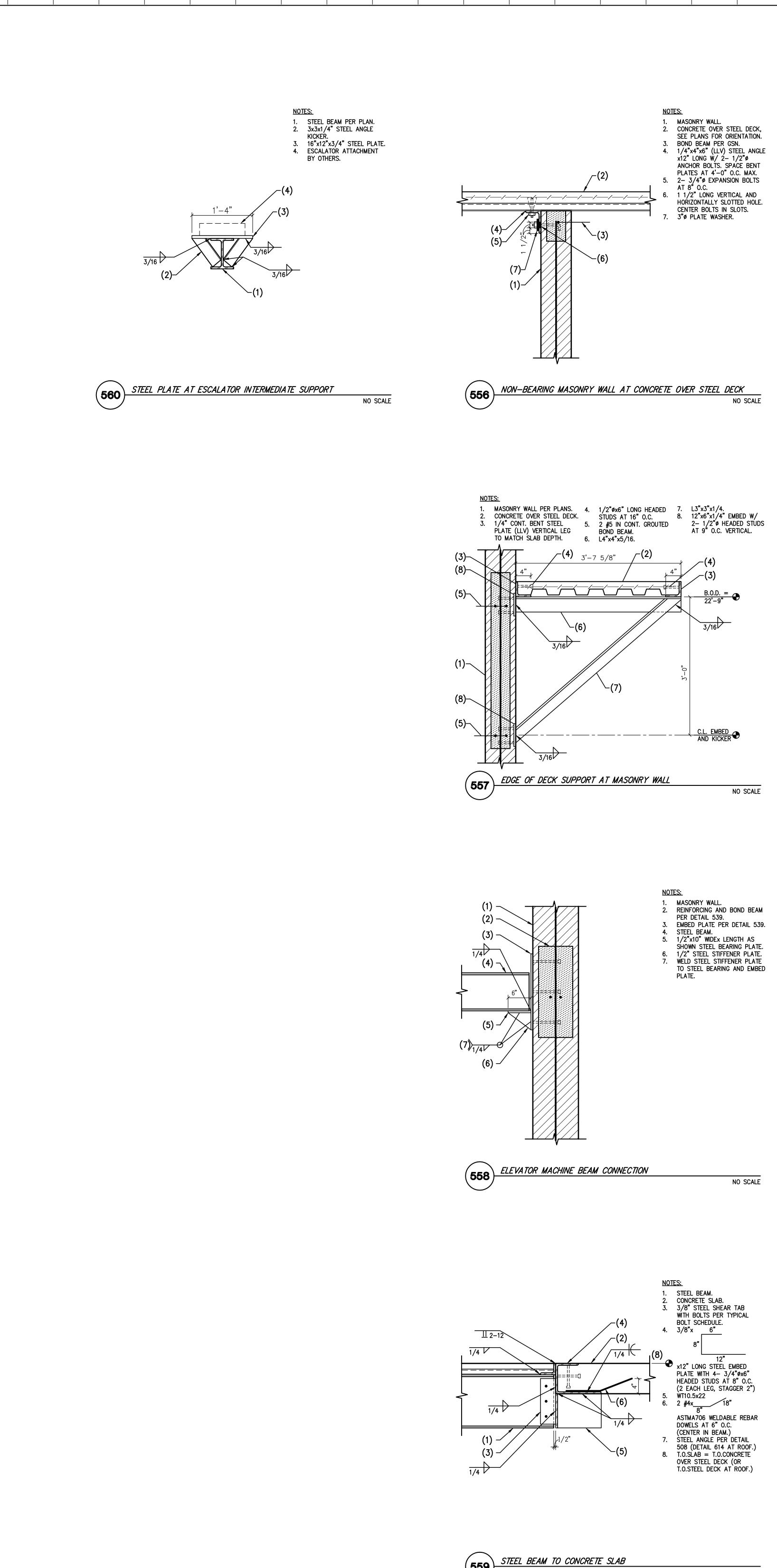












Revisions: Description Project Number: 09/02/2016 Drawn By: Checked By: Sheet Name: STEEL FLOOR FRAMING DETAILS

NO SCALE