

GENERAL

ALL TYPICAL DETAILS AND NOTES SHOWN ON DRAWINGS SHALL APPLY UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE DRAWINGS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

3D VIEWS (INCLUDING AXONOMETRICS, ISOMETRICS, PERSPECTIVES, ETC.) ARE PROVIDED FOR REFERENCE PURPOSES ONLY. IN THE EVENT OF ANY DISCREPANCIES BETWEEN INFORMATION REPRESENTED BY BOTH A 3D VIEW AND BY A NON-3D VIEW WITHIN THE CONSTRUCTION DOCUMENTS, THE NON-3D VIEW SHALL GOVERN IN ALL CASES. INFORMATION REPRESENTED BY 3D VIEWS BUT NOT REPRESENTED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS IS NOT INTENDED TO BE PART OF THE CONSTRUCTION DOCUMENTS.

BUILDING CODE

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE BUILDING CODE. THE PUBLICATIONS LISTED BELOW ARE THE GOVERNING CODES AND STANDARDS AND ARE REFERENCED BY THEIR BASIC DESIGNATION. IN THE CASE OF CONFLICTING REQUIREMENTS, THE BUILDING CODE SHALL GOVERN.

APPLICABLE CODES AND STANDARDS

BUILDING CODE	INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION
RCSC	RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS, "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS," 2014 EDITION
AISC 360	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," 2016 EDITION
ASCE 7	AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES," 2016 EDITION, INCLUDING SUPPLEMENT NO. 1
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM INTERNATIONAL)
AWS A2.4	AMERICAN WELDING SOCIETY, "STANDARD SYMBOLS FOR WELDING, BRAZING, AND NONDESTRUCTIVE EVALUATION," 2020 EDITION
AWS D1.1	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE - STEEL," 2015 EDITION
ICC	INTERNATIONAL CODE COUNCIL, INTERNATIONAL CODE COUNCIL - EVALUATION SERVICES (ICC-ES)

STRUCTURAL DESIGN DATA

LOAD COMBINATIONS: LOAD COMBINATIONS ARE IN ACCORDANCE WITH SECTION 1605 OF THE BUILDING CODE.

LIVE LOADS: 100PSF, UNREDUCED

STRUCTURAL STEEL

ALL STEEL SHALL CONFORM TO THE FOLLOWING:

ALL ANGLES AND CHANNELS UNLESS NOTED OTHERWISE	ASTM A36, Fy=36 KSI
SQUARE OR RECTANGULAR STRUCTURAL TUBE (HSS)	ASTM A500, GRADE C, Fy=50 KSI
ROUND STRUCTURAL TUBE (HSS)	ASTM A500, GRADE C, Fy=46 KSI
MATERIAL CALLED OUT ON PLANS AS (Fy=36 KSI)	ASTM A36, Fy=36 KSI
MATERIAL CALLED OUT ON PLANS AS (Fy=65 KSI)	ASTM A572, Fy=65 KSI
ADDITIVE MANUFACTURED COMPONENTS	LINCOLN ELECTRIC ER 70S-6 WELDING WIRE (Fy=45 KSI MIN), OR APPROVED EQUAL
ALL OTHER STEEL UNLESS NOTED OTHERWISE	ASTM A572, Fy=50 KSI ASTM A588, Fy=50 KSI

GENERAL NOTES FOR STEEL CONNECTIONS SHALL APPLY TO ALL STEEL CONNECTIONS UNLESS NOTED OTHERWISE.

ALL WORK SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATION. SHOP DRAWINGS SHALL BE SUBMITTED AND REVIEWED BY THE ARCHITECT/ENGINEER BEFORE COMMENCING FABRICATION. DIMENSIONAL TOLERANCE FOR BUILT-UP MEMBERS SHALL BE PER AWS D1.1.

STEEL BEAMS ARE EQUALLY SPACED BETWEEN DIMENSION POINTS AT THE MAXIMUM DECK SPAN LOCATION, UNLESS NOTED OTHERWISE. STEEL BEAMS ARE ORIENTED WITH THE BEAM WEB VERTICAL, UNLESS NOTED OTHERWISE. HSS ARE ORIENTED WITH THE WIDE FACE VERTICAL, UNLESS NOTED OTHERWISE. MINIMUM CONNECTIONS SHALL BE A TWO-BOLT CONNECTION USING HIGH-STRENGTH BOLTS IN SINGLE SHEAR.

STRUCTURAL STEEL BOLTING

ALL BOLTS 7/8-INCH DIAMETER AND SMALLER SHALL BE GROUP A HIGH-STRENGTH BOLTS AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.

EITHER HEAVY HEX OR TENSION-CONTROL BOLTS MAY BE USED AT THE CONTRACTOR'S OPTION. ALL HIGH-STRENGTH BOLTS SHALL BE INSTALLED, TIGHTENED, AND INSPECTED IN ACCORDANCE WITH THE RCSC.

BOLTS DESIGNATED "A307" IN THE DRAWINGS REFER TO ASTM A307 BOLTS. INSTALL A307 BOLTS TO SNUG-TIGHT CONDITION UNLESS NOTED OTHERWISE AND PROVIDE LOCK WASHERS UNDER NUTS OR SELF-LOCKING NUTS. WHERE A307 BOLTS OCCUR IN SLOTTED HOLES, PROVIDE WASHERS TO COMPLETELY COVER THE HOLES.

BOLTS DESIGNATED "THRU" IN THE DRAWINGS REFER TO ASTM A307 BOLTS, UNLESS NOTED OTHERWISE. ALL "THRU" BOLTS ARE INSTALLED TO FINGER-TIGHT REQUIREMENTS UNLESS NOTED OTHERWISE.

HIGH-STRENGTH BOLT THREADS ARE ALLOWED IN THE SHEAR PLANE EXCEPT WHERE DESIGNATED "X" IN THE DRAWINGS.

ALL HIGH-STRENGTH BOLTED CONNECTIONS SHALL BE PRETENSIONED, UNLESS NOTED OTHERWISE. PRETENSIONED AND SLIP-CRITICAL CONNECTIONS MAY USE TURN-OF-NUT PRETENSIONING, TWIST-OFF TYPE TENSION-CONTROL BOLT PRETENSIONING, OR DIRECT-TENSION-INDICATOR PRETENSIONING.

BOLTS IN CONNECTIONS OF BEAM-TO-BEAM/GIRDER MAY BE SNUG-TIGHT, UNLESS SPECIFICALLY CALLED OUT PRETENSIONED, SLIP-CRITICAL, OR FINGER-TIGHT. SNUG-TIGHT CONNECTIONS SHALL BE INSTALLED PER THE CRITERIA FOR SNUG-TIGHT BOLTS PER THE RCSC.

CONNECTIONS (OR JOINTS) DESIGNATED "SC" IN THE DRAWINGS SHALL HAVE BOLTS INSTALLED TO SLIP-CRITICAL REQUIREMENTS WITH CLASS A FAYING SURFACES. CONNECTIONS DESIGNATED "SCB" IN THE DRAWINGS SHALL HAVE BOLTS INSTALLED TO SLIP-CRITICAL REQUIREMENTS WITH CLASS B FAYING SURFACES. WHERE SHIMS OR FILLERS ARE REQUIRED TO MAKE A SLIP-CRITICAL CONNECTION, A SINGLE PLY FILLER SHALL BE USED BETWEEN CONNECTING PARTS, UNLESS NOTED OTHERWISE. ALL SURFACES OF FILLERS IN SLIP-CRITICAL JOINTS SHALL HAVE FAYING SURFACES MATCHING THE DESIGNATED FAYING SURFACE CLASS.

CONNECTIONS DESIGNATED "FT" IN THE DRAWINGS SHALL HAVE BOLTS INSTALLED TO FINGER-TIGHT REQUIREMENTS. WHERE FINGER-TIGHT CONNECTIONS ARE NOTED, NUTS SHALL BE HAND-TIGHTENED AND THEN BACKED OFF ONE-QUARTER TURN. DEFORM THE BOLT THREADS, PROVIDE A LOCKING NUT, OR PROVIDE A JAMB NUT TO ENSURE THE NUT IS UNABLE TO BACK OFF FURTHER.

ALL HIGH-STRENGTH BOLTS SHALL HAVE WASHERS INSTALLED PER THE RCSC, UNLESS NOTED OTHERWISE.

ALL BOLT HOLES SHALL BE STANDARD SIZE, UNLESS NOTED OTHERWISE. CENTER FINGER-TIGHT BOLTS IN SLOTS AT LONG SLOTS, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL WELDING

STRUCTURAL STEEL SHOP DRAWINGS SHALL SHOW ALL WELDING WITH AWS A2.4 SYMBOLS. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH AWS D1.1. WELDS SHOWN ON THE DRAWINGS ARE THE MINIMUM SIZES. INCREASE WELD SIZE TO AWS MINIMUM SIZES, BASED ON PLATE THICKNESS. THE MINIMUM WELD SIZE SHALL BE 3/16 INCH. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS. ALL PARTIAL JOINT PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO EFFECTIVE THROAT THICKNESS. FLARE-GROOVE WELDS SHALL BE FILLED FULL TO MAXIMUM EFFECTIVE THROAT USING ANY OF THE PREQUALIFIED WELDING PROCESSES PER AISC 360-16 TABLE J2.2. UNLESS NOTED OTHERWISE. FOR BASE METALS WITH MAXIMUM YIELD STRENGTH EQUAL TO 50 KSI, ALL WELDS SHALL BE MADE USING LOW HYDROGEN ELECTRODES WITH MINIMUM TENSILE STRENGTH PER AWS D1.1 (MINIMUM 70 KSI). FOR BASE METALS WITH YIELD STRENGTH HIGHER THAN 50 KSI, ALL WELDS SHALL BE MADE USING LOW HYDROGEN ELECTRODES FROM WITHIN THE SAME GROUP PER AWS D1.1 TABLE 3.1. LOW HYDROGEN SMAW ELECTRODES SHALL BE STORED IN AN OVEN OR USED WITHIN THE ATMOSPHERIC TIME PERIODS SPECIFIED IN AWS D1.1 TABLE 5.1, OR SHALL BE REBAKED PER AWS D1.1 CLAUSE 5.3. ELECTRODES SHALL BE REBAKED NO MORE THAN ONE TIME, AND ELECTRODES THAT HAVE BEEN WET SHALL NOT BE USED.

FILLER METALS FOR ALL COMPLETE JOINT PENETRATION GROOVE WELDED T- AND CORNER JOINTS WITH BACKING LEFT IN PLACE AND COMPLETE JOINT PENETRATION GROOVE WELDED SPLICES IN HEAVY SECTIONS AS DEFINED IN AISC 360 A3.1c SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FOOT-POUNDS AT 40 DEGREES FAHRENHEIT.

ALL WELDING SHALL BE PERFORMED IN STRICT ADHERENCE TO A WRITTEN WELDING PROCEDURE SPECIFICATION (WPS) PER AWS D1.1. ALL WELDING PARAMETERS SHALL BE WITHIN THE ELECTRODE MANUFACTURER'S RECOMMENDATIONS. WELDING PROCEDURES SHALL BE SUBMITTED TO THE OWNER'S TESTING AGENCY FOR REVIEW PRIOR TO STARTING FABRICATION OR ERECTION. COPIES OF THE WPS SHALL BE ON SITE AND AVAILABLE TO ALL WELDERS AND THE SPECIAL INSPECTOR.

ALL COMPLETE JOINT PENETRATION WELDS SHALL BE ULTRASONICALLY TESTED UPON COMPLETION OF THE CONNECTION, EXCEPT PLATE LESS THAN OR EQUAL TO 1/4 INCH THICK, WHICH SHALL BE MAGNETIC PARTICLE TESTED. REDUCTION IN TESTING MAY BE MADE IN ACCORDANCE WITH THE BUILDING CODE WITH APPROVAL OF THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATIONS AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO: REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPIES, SURFACE ROUGHNESS VALUES, AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

BUILDING TOLERANCES

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

STRENGTH AND STABILITY DURING CONSTRUCTION

DURING CONSTRUCTION, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE.

A COMPLETED STRUCTURE IS REQUIRED TO PROVIDE GLOBAL STABILITY, TO PROVIDE LOCAL STABILITY OF INDIVIDUAL STRUCTURAL COMPONENTS (SLABS, DECKS, BEAMS, COLUMNS, ETC.), AND TO RESIST IMPOSED LOADS.

THE STRUCTURE WAS ANALYZED AND DESIGNED BY MKA CONSIDERING ITS COMPLETED STATE ONLY. THE DESIGN DID NOT EVALUATE PARTIALLY COMPLETED CONSTRUCTION STAGES.

THE CONTRACTOR SHALL CONSIDER ALL ASPECTS OF CONSTRUCTION SEQUENCING. CONSIDERATIONS SHALL INCLUDE BUT NOT BE LIMITED TO STEEL ERECTION, CRANE REQUIREMENTS, TEMPORARY SHORING, BRACING/STRENGTHENING, TEMPORARY CONSTRUCTION LOADS, SAFETY PROCEDURES, TEMPERATURE CHANGE, AND MOISTURE EFFECTS.

THE CONTRACTOR SHALL EVALUATE THE NEED FOR AND RETAIN AS NECESSARY AN ENGINEER LICENSED TO PERFORM THE WORK IN THE JURISDICTION WHERE THE PROJECT IS LOCATED TO REVIEW ALL STAGES OF CONSTRUCTION SEQUENCING, VALIDATE ALL TEMPORARY CONSTRUCTION LOADS, AND PREPARE A COMPREHENSIVE CONSTRUCTION/ERECTION PLAN TO ADDRESS BOTH STABILITY AND RESISTANCE TO IMPOSED LOADS UNTIL THE STRUCTURE IS COMPLETE.

TEMPORARY SUPPORTS, TEMPORARY CONNECTIONS, AND/OR CONSTRUCTION/ERECTION AIDS SHALL BE REMOVED BY THE CONTRACTOR AFTER THEY ARE NO LONGER REQUIRED.

SHOP DRAWINGS

SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER; THEREFORE, THEY SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY THE ENGINEER. THE CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.

SUBMITTALS SHALL BE PROVIDED ELECTRONICALLY WHENEVER POSSIBLE AND WILL BE MARKED AND RETURNED ELECTRONICALLY. WHEN HARD COPY SUBMITTALS ARE REQUIRED, ONE ORIGINAL AND ONE COPY SHALL BE PROVIDED; THE REPRODUCIBLE COPY WILL BE MARKED AND RETURNED.

SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED, AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWINGS SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

SHOP DRAWINGS FOR DEFERRED SUBMITTALS THAT ARE DEFINED AS DESIGN-BUILD COMPONENTS IN THE CONSTRUCTION DOCUMENTS SHALL BE SEALED AND SIGNED BY AN ENGINEER LICENSED TO PERFORM WORK IN THE JURISDICTION WHERE THE PROJECT IS LOCATED AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO CURSORY REVIEW BY THE ENGINEER FOR LOADS IMPOSED ON THE PRIMARY STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON THE PRIMARY STRUCTURE. DESIGN CALCULATIONS SHALL BE INCLUDED IN THE SUBMITTAL.

& @ ° # # #	AND AT DEGREE DIAMETER NUMBER, POUND	L LAB LB, # LF LIN LL LLBB LH LLV LOC LONGIT LP LSL LSW LWT LVL LWC	ANGLE LABORATORY POUND LINEAL FOOT LINEAL, LINEAR LIVE LOAD LONG LEGS BACK-TO-BACK LONG LEG HORIZONTAL LONG LEG VERTICAL LOCATION, LOCATE LONGITUDINAL LOW POINT LONG SLOTTED (HOLES) LIGHT GAGE SHEAR WALL LIGHTWEIGHT LEVEL LIGHTWEIGHT CONCRETE
AB ACI ADDL ADJ AESS AGGR AISC ALC ALUM ANSI APA APPD APPROX AR ARCH ASSY ASTM AWS	ANCHOR BOLT AMERICAN CONCRETE INSTITUTE ADDITIONAL ADJACENT ARCHITECTURAL, EXPOSED STRUCTURAL STEEL AGGREGATE AMERICAN INSTITUTE OF STEEL CONSTRUCTION ALTERNATE ALUMINUM AMERICAN NATIONAL STANDARDS INSTITUTE AMERICAN PLYWOOD ASSOCIATION APPROVED APPROXIMATE ANCHOR RODS ARCHITECTURAL; ARCHITECT ASSEMBLY AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICAN WELDING SOCIETY	MAS MATL MAX MB MC MECH MEMB MEP MEZZ MF MFB MFC MFR MFG MIN MISC ML MO MS N N-S NF NIC NL NLT NS NTS NWC	MASONRY MATERIAL MAXIMUM MACHINE BOLT MISCELLANEOUS CHANNEL MECHANICAL MEMBRANE MECHANICAL / ELECTRICAL / PLUMBING MEZZANINE MOMENT FRAME MOMENT FRAME BEAM MOMENT FRAME COLUMN MANUFACTURE, MANUFACTURER MANUFACTURING MINIMUM, MINUTE MISCELLANEOUS MATCH LINE MASONRY OPENING MECHANICAL SPLICE NORTH NORTH-SOUTH NEAR FACE NOT IN CONTRACT NAIL LAMINATED TIMBER NEAR SIDE NOT TO SCALE NORMALWEIGHT CONCRETE
BAL BO BF BLD BLK BM BOL BOS BOT BRG BRKT BSMT BTWN BU	BALANCE BOARD BRACED FRAME BUILDING BLOCK; BLOCKING BEAM BRICK MASONRY UNIT BOTTOM OF STEEL, BOSOM (WELD) BOTTOM BRACING BEARING BRACKET BASEMENT BETWEEN BUILT-UP	OC OD OPNG OPP OPT OVS OWJ P PC PCF PCP PEN PERP PH PJP PL PLC PLF PLYWD PREFAB PS PSF PSI PT PVC	ON CENTER OUTSIDE DIAMETER OPENING OPPOSITE (HAND) OPTION; OPTIONAL OVERSIZED (HOLES) OPEN WEB JOIST PIPE PRECAST POUNDS PER CUBIC FOOT PRECAST CONCRETE PANEL PENETRATION PERPENDICULAR PENTHOUSE PARTIAL JOINT PENETRATION WELD PLATE PLACE POUNDS PER LINEAL FOOT PLYWOOD PREFABRICATED PRESTRESSED POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POST-TENSIONED PHOTOVOLTAICS POLYVINYL CHLORIDE
c C CC CG CJ CJ CL CLR CLT CMU COL COMP CONC CONFG CONN CONST CONT CONTR COORD CORR CTSK CU	CAMBER STANDARD CHANNEL CANTILEVER CENTER TO CENTER CENTER OF GRAVITY CAST-IN-PLACE CONSTRUCTION JOINT COMPLETE JOINT PENETRATION WELD CENTERLINE CLEARANCE, CLEAR CROSS LAMINATED TIMBER CONCRETE MASONRY UNIT COLUMN COMPRESSION CONCRETE CONFIGURATION CONNECTION; CONNECT CONSTRUCTION CONTINUE; CONTINUOUS CONTRACTOR COORDINATE; COORDINATION CORRUGATED COUNTERSINK; COUNTERSUNK CUBIC	R RB RC RCMD REF REINF REINFORC REINFORCEMENT REQUIRED REQUIREMENT S1S S2S S4S S SC SCC SCHED SDQ SECT SECT SEISMIC SFRS SHT SHTG SIM SLBB SOG SOSD SP SPC SPG SPEC SQ SQUARE SHTF STD STIFFENER STIRRUP STEEL STRAIGHT STRUCTURAL SUPP SHEAR WALL SYMM	RADIUS RISER BAR REINFORCED CONCRETE RECOMMEND REFERENCE REINFORCE; REINFORCING REINFORCEMENT REQUIRED REQUIREMENT SURFACED ONE SIDE SURFACED TWO SIDES SURFACED FOUR SIDES AMERICAN STANDARD SHAPE; SOUTH SPACER BAR; SUPPORT BAR SLIP CRITICAL STRUCTURAL CONSULTANT TO THE CONTRACTOR SCHEDULE, SCHEDULED SPECIAL DUCTILE QUALITY SECTION STRUCTURAL ENGINEER OF RECORD SEISMIC FORCE RESISTING SYSTEM SHEET SHEATHING SIMILAR SHORT LEGS BACK-TO-BACK SLAB ON GRADE SLAB ON STEEL DECK SPIRAL SPACE SPACING SPECIFICATION SQUARE SHORT SLOTTED (HOLES) STANDARD STIFFENER STIRRUP STEEL STRAIGHT STRUCTURAL SUPPORT SHEAR WALL SYMMETRICAL TOP AND BOTTOM TONGUE AND GROOVE TREAD AND RISER TO BE DETERMINED TEMPERATURE; TEMPORARY THK THICK; THICKNESS THRU THROUGH TOP OF CURB; TOP OF CONCRETE TOP OF FOOTING TOP OF STEEL TOP OF WALL TRANS TRANSVERSE TYPICAL
d db DBA DBL DC DEG, ° DEMO DEPT DET DIA, ø DIAG DIAPHR DICA DIM DIT DN DO DWG DWL	PENNY (NAIL) NOMINAL BAR DIAMETER (INCHES) DEMAND CRITICAL WELD DEGREE DEMOLISH; DEMOLITION DEPARTMENT DETAIL DIAMETER DIAGONAL DIAPHRAGM DRILLED-IN CONCRETE ANCHOR DIMENSION DISCONTINUED; DISCONTINUOUS DEAD LOAD DOWEL LAMINATED TIMBER DOWN DO OVER, DITTO DRAWING DOWEL	R RB RC RCMD REF REINF REINFORC REINFORCEMENT REQUIRED REQUIREMENT SURFACED ONE SIDE SURFACED TWO SIDES SURFACED FOUR SIDES AMERICAN STANDARD SHAPE; SOUTH SPACER BAR; SUPPORT BAR SLIP CRITICAL STRUCTURAL CONSULTANT TO THE CONTRACTOR SCHEDULE, SCHEDULED SPECIAL DUCTILE QUALITY SECTION STRUCTURAL ENGINEER OF RECORD SEISMIC FORCE RESISTING SYSTEM SHEET SHEATHING SIMILAR SHORT LEGS BACK-TO-BACK SLAB ON GRADE SLAB ON STEEL DECK SPIRAL SPACE SPACING SPECIFICATION SQUARE SHORT SLOTTED (HOLES) STANDARD STIFFENER STIRRUP STEEL STRAIGHT STRUCTURAL SUPPORT SHEAR WALL SYMMETRICAL TOP AND BOTTOM TONGUE AND GROOVE TREAD AND RISER TO BE DETERMINED TEMPERATURE; TEMPORARY THK THICK; THICKNESS THRU THROUGH TOP OF CURB; TOP OF CONCRETE TOP OF FOOTING TOP OF STEEL TOP OF WALL TRANS TRANSVERSE TYPICAL	AXIAL FORCE DIMENSION FROM REFERENCE TOP OF STEEL. DIMENSIONS AT BOTH ENDS INDICATE SLOPING MEMBER
(E) E E-W EA EF EJ EL ELEC ELEV EMBED ENGR EQ EQUIP ES ETC EW EXIST EXP EXT EXTD	EXISTING EAST EAST-WEST EACH EAST FACE EXPANSION JOINT ELEVATION ELECTRICAL ELEVATOR EMBEDDED ENGINEER EQUAL; EARTHQUAKE EQUIPMENT EACH SIDE ET CETERA EAST WAY EXISTING EXPANSION EXTERIOR EXTEND; EXTENDED	SCHED SDQ SECT SECT SEISMIC SFRS SHT SHTG SIM SLBB SOG SOSD SP SPC SPG SPEC SQ SQUARE SHTF STD STIFFENER STIRRUP STEEL STRAIGHT STRUCTURAL SUPP SHEAR WALL SYMMETRICAL TOP AND BOTTOM TONGUE AND GROOVE TREAD AND RISER TO BE DETERMINED TEMPERATURE; TEMPORARY THK THICK; THICKNESS THRU THROUGH TOP OF CURB; TOP OF CONCRETE TOP OF FOOTING TOP OF STEEL TOP OF WALL TRANS TRANSVERSE TYPICAL	AXIAL FORCE DIMENSION FROM REFERENCE TOP OF STEEL. DIMENSIONS AT BOTH ENDS INDICATE SLOPING MEMBER
F FD FDN FF FG FIN FL FLG FOS FP FRMG FS FT FTG FV	DEGREES FAHRENHEIT FLOOR DRAIN FOUNDATION FAR FACE FRICTION GRIP BOLT FINISH FLOOR; FLOOR LINE FLANGE FACE OF STUD FIREPROOF; FULL PENETRATION FRAMING FULL SIZE; FAR SIDE FOOT; FEET; FINGER TIGHT FOOTING FIELD VERIFY	T&B T&S T&R TBD TMP THK THRU TOC TOP TOS TOW TRANS TYP W WI W/O WOOD WF WHP WL WP WPJ WTR WWR YD	WIDE FLANGE; WIDE, WEST WITH WITHOUT WOOD WIDE FLANGE WEEP HOLE WORK LINE WORK POINT WEAKENED PLANE JOINT WEIGHT; STRUCTURAL TEE CUT FROM V-SHAP WELDED WIRE REINFORCING YARD
GA GALV GB GFRG GL GR GRND	GAGE, GAUGE GALVANIZED GLASS BEAM GLASS FIBER REINFORCED CONCRETE GRADED LAMINATED (BEAM) GRADE GROUND	UB UBC UC UL UNO UT V, VERT VEF VG VIF VOF W WI W/O WOOD WF WHP WL WP WPJ WTR WWR YD	UNIVERSAL BEAM UNIFORM BUILDING CODE UNIVERSAL COLUMN UNDERWRITERS' LABORATORY, INC. UNLESS NOTED OTHERWISE ULTRASONIC TEST VERTICAL VERTICAL EACH FACE VERTICAL GRAIN VERTICAL INSIDE FACE VERTICAL OUTSIDE FACE WIDE FLANGE; WIDE, WEST WITH WITHOUT WOOD WIDE FLANGE WEEP HOLE WORK LINE WORK POINT WEAKENED PLANE JOINT WEIGHT; STRUCTURAL TEE CUT FROM V-SHAP WELDED WIRE REINFORCING YARD
H HEF HGR HIF HOF HORIZ HP HS HSS HT	HORIZONTAL HORIZONTAL EACH FACE HANGER HORIZONTAL INSIDE FACE HORIZONTAL OUTSIDE FACE HORIZONTAL HP SHAPES; HIGH POINT HIGH STRENGTH HOLLOW STRUCTURAL SECTION HEIGHT	W WI W/O WOOD WF WHP WL WP WPJ WTR WWR YD	WIDE FLANGE; WIDE, WEST WITH WITHOUT WOOD WIDE FLANGE WEEP HOLE WORK LINE WORK POINT WEAKENED PLANE JOINT WEIGHT; STRUCTURAL TEE CUT FROM V-SHAP WELDED WIRE REINFORCING YARD
ICC ID IN INCL INFO INSUL INT JST JT K KO KSI	INTERNATIONAL CODE COUNCIL INSIDE DIAMETER INCH INCLUDE INFORMATION INSULATION INTERIOR JOIST JOINT KIP (1,000 POUNDS) KNOCK-OUT KIPS PER SQUARE INCH	W WI W/O WOOD WF WHP WL WP WPJ WTR WWR YD	WIDE FLANGE; WIDE, WEST WITH WITHOUT WOOD WIDE FLANGE WEEP HOLE WORK LINE WORK POINT WEAKENED PLANE JOINT WEIGHT; STRUCTURAL TEE CUT FROM V-SHAP WELDED WIRE REINFORCING YARD

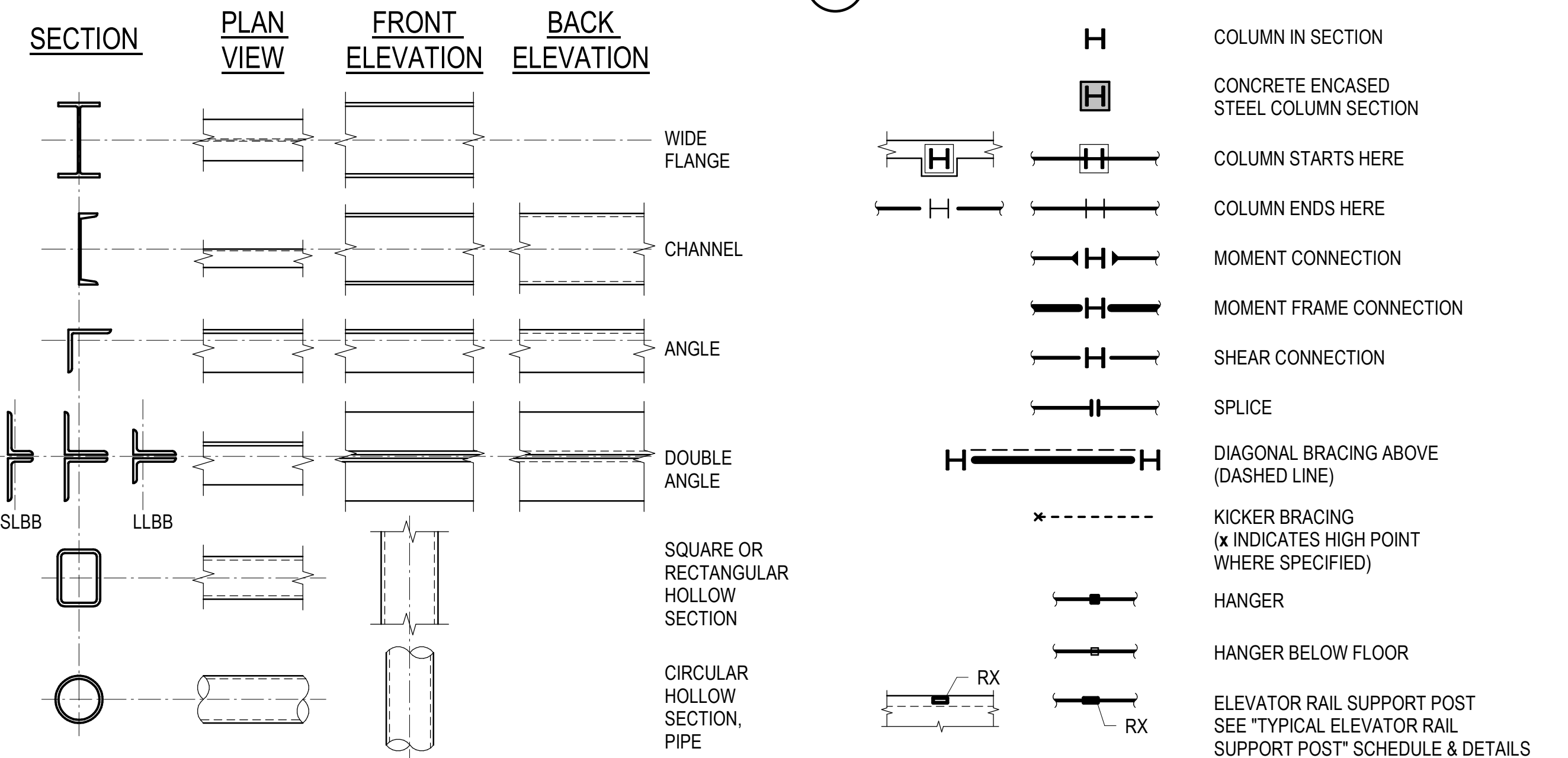
ABBREVIATIONS

BEAM CALLOUT KEY

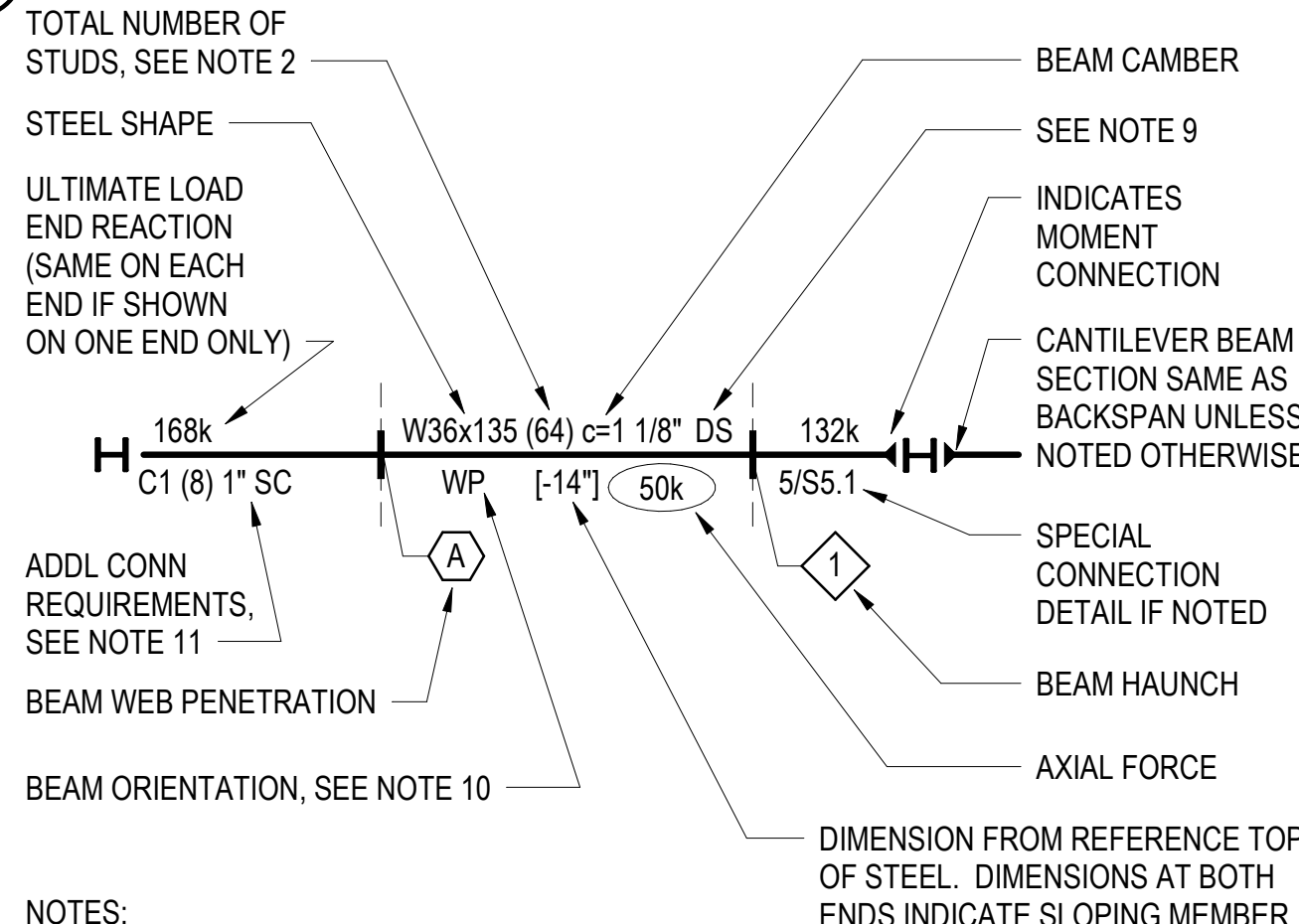
MISCELLANEOUS SYMBOLS

DRAWING LIST	
Sheet Number	Sheet Name
S1.1	ABBREVIATIONS, LENGENDS, GENERAL NOTES AND DRAWING LIST
S2.1	PLAN, ELEVATIONS AND DETAILS

DRAWING LIST



STEEL MEMBERS



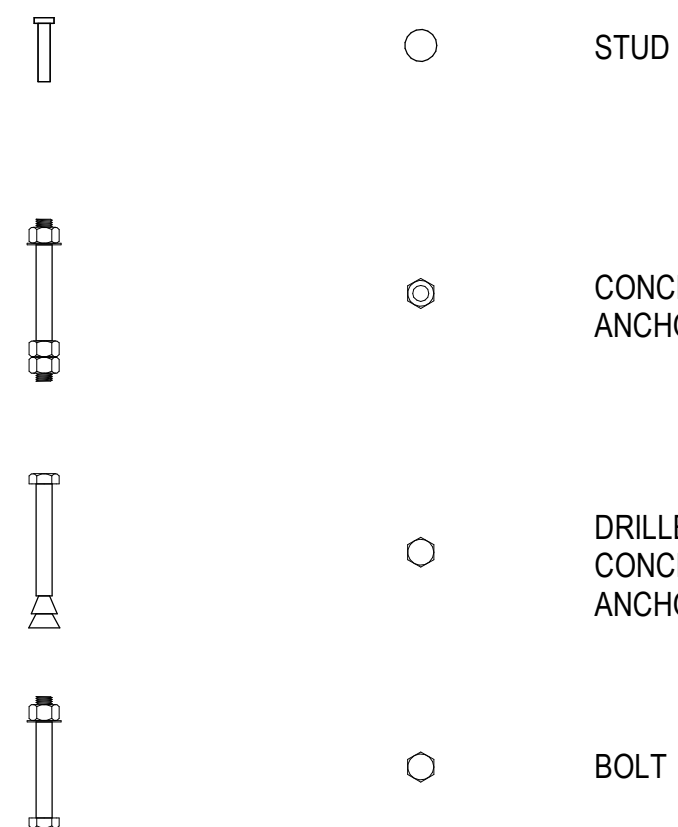
NOTES:

- NO REACTION AT EITHER END INDICATES MINIMUM CONNECTION FOR BEAM DEPTH WITH A MINIMUM CAPACITY OF 10 KIPS. SEE "GENERAL NOTES FOR STEEL CONNECTIONS".
- SPACE STUDS PER "TYPICAL SHEAR STUD PLACEMENT" DETAIL. WHERE NO STUD COUNT IS SHOWN, PROVIDE MINIMUM NUMBER OF STUDS AS REQUIRED BY THE "GENERAL NOTES".
- "M" IN PLACE OF STEEL SHAPE INDICATES W10x12 WITH MINIMUM CONNECTION.
- "E" IN PLACE OF STEEL SHAPE INDICATES FRAMING PER "TYPICAL EXTENDED DECK EDGE" DETAILS.
- WHERE NO BEAM SIZE IS CALLED OUT ADJACENT TO FLOOR OR ROOF OPENING, REFER TO TYPICAL STEEL DETAILS FOR SIZES AND CONNECTIONS.
- INDICATES BEAM WEB PENETRATION PER "TYPICAL BEAM WEB PENETRATION DETAILS".
- INDICATES BEAM HAUNCH PER "TYPICAL HAUNCHED BEAM DETAILS".
- 50K INDICATES ULTIMATE AXIAL FORCE AT EACH END CONNECTION. "+" DENOTES A COMPRESSIVE FORCE, AND "-" DENOTES A TENSILE FORCE. WHERE NO SIGN IS SHOWN THE AXIAL FORCE SHALL BE CONSIDERED TO ACT IN BOTH TENSION AND COMPRESSION, UNLESS OTHERWISE NOTED. THE AXIAL FORCE ACTS CONCURRENTLY WITH OTHER CONNECTION LOADS SHOWN.
- "DS" INDICATES DIAPHRAGM BOUNDARY MEMBER SUCH AS DRAG STRUT, COLLECTOR, DIAPHRAGM CHORD, ETC. FOR THE SEISMIC FORCE RESISTING SYSTEM.
- THE FOLLOWING DESIGNATIONS INDICATE MEMBER ORIENTATION WHERE NOTED:
WP - BEAM IS ORIENTED WITH WEB PERPENDICULAR TO SLAB OR DECK.
WV - BEAM IS ORIENTED WITH WEB VERTICAL.
(FLAT) - MEMBER IS ORIENTED WITH WEB HORIZONTAL. FOR HSS, THIS INDICATES THE MEMBER IS ORIENTED WITH THE WIDE FACE HORIZONTAL.

- THE FOLLOWING DESIGNATIONS INDICATE ADDITIONAL CONNECTION REQUIREMENTS APPLIED TO THE END OF THE BEAM WHERE NOTED:
CF - TYPICAL STEEL BEAM CONNECTION DETAIL
(#) - NUMBER OF BOLTS REQUIRED, WHERE DIFFERENT FROM MINIMUM REQUIRED BY NOTED DETAIL.
X" - BOLT DIAMETER REQUIRED, WHERE DIFFERENT FROM MINIMUM REQUIRED BY NOTED DETAIL. WHERE A DIAMETER IS NOT NOTED, IT SHALL BE PER THE REQUIREMENTS OF THE NOTED DETAIL.
A307, GR A, GR B - BOLT GRADE REQUIRED, WHERE DIFFERENT THAN NOTED DETAIL. ADDITIONAL BOLT DESIGNATIONS ARE PER THE GENERAL NOTES.

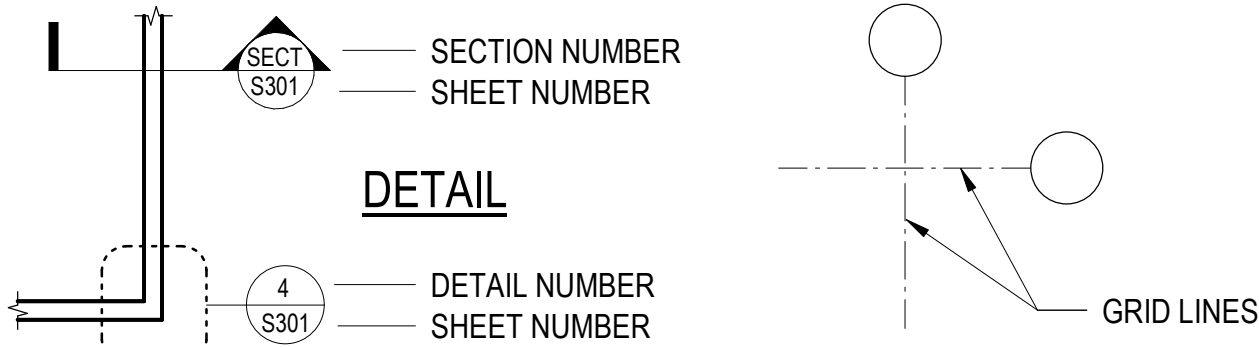
STEEL SYMBOLS

ELEVATION VIEW PLAN VIEW



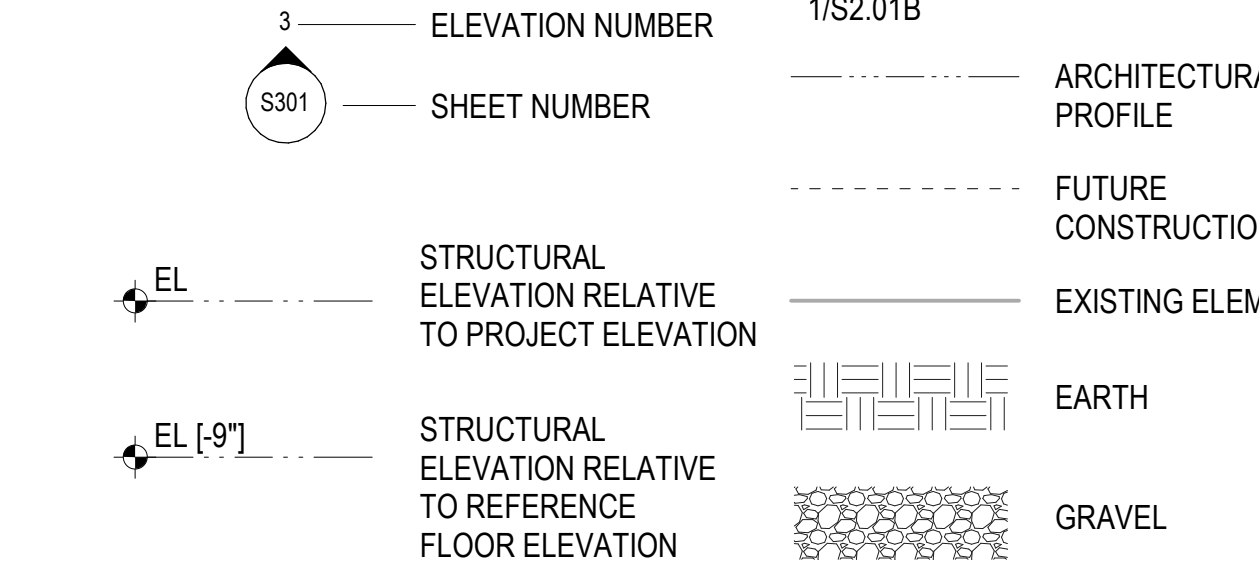
CONNECTORS

SECTION



DETAIL

ELEVATION



NASCC
AM
Bridge



MAGNUSSON
KLEMENCIC
ASSOCIATES

Job Number: 01654.00

NO. Date Description

Designed By: RPB

Drawn By: BFT

Checked By: DEE

Date: SEPT 5, 2024

ABBREVIATIONS,
LENGENDS,
GENERAL
NOTES AND
DRAWING LIST

S1.1