

STRUCTURAL STEEL CONNECTION NOTES:

- ALL CONNECTIONS, SPLICES AND ERECTION PIECES SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR'S STRUCTURAL ENGINEER LICENSED IN THE JURISDICTION OF THE PROJECT UNLESS INDICATED AS BEING FULLY DESIGNED ON THE STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE ENGINEER'S SEAL AND SIGNATURE. CALCULATIONS BEARING THE ENGINEER'S SEAL AND SIGNATURE SHALL BE AVAILABLE UPON REQUEST OF THE STRUCTURAL ENGINEER. DESIGN, DETAIL, FURNISH AND INSTALL STIFFENERS, CONTINUITY PLATES, DOUBLER PLATES, OR OTHER NECESSARY ADDITIONAL PARTS AS REQUIRED FOR LOCAL STRENGTHENING AS REQUIRED.
- UNLESS NOTED OTHERWISE, DETAILS INDICATED ON DRAWINGS INDICATE GENERAL CRITERIA FOR DESIGN AND DETAILING OF CONNECTIONS. DETAILS INDICATED ON DRAWINGS ARE NOT INTENDED TO CONVEY COMPLETE CONNECTOR SIZES, PLATE SIZES, WELD SIZES, NUMBER OF BOLTS, OR ANY OTHER SPECIFIC INFORMATION THAT IS OBTAINED THROUGH DESIGNING OF A CONNECTION FOR A GIVEN SET OF LOADS. DETAILS SHOWN ON THE DRAWINGS DO NOT SHOW ERECTION AIDS. PROVIDE ERECTION AIDS AS REQUIRED AND REMOVE THEM AFTER WORK IS COMPLETE.
- ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS OR WELDS. ALL HIGH STRENGTH BOLTS AND NUTS SHALL BE CLEARLY MARKED AS REQUIRED BY AISC SPECIFICATIONS.
- DESIGN ALL CONNECTIONS FOR FORCES INDICATED ON THE DRAWINGS. CONNECTION DESIGN FORCES INDICATED ON THE DRAWINGS ARE UNFACTORED UNO. WHERE THE REACTION IS OMITTED FROM THE DRAWINGS, DESIGN THE CONNECTION FOR ONE HALF OF THE MAXIMUM TOTAL UNIFORM LOAD AS DEFINED IN THE AISC STEEL CONSTRUCTION MANUAL 13TH EDITION, TABLE 3-6. MOMENT CONNECTIONS SHALL BE DESIGNED FOR THE FULL PLASTIC MOMENT OF THE BEAM IF THE MOMENT IS OMITTED FROM THE DRAWINGS. BRACING CONNECTIONS SHALL DEVELOP FULL FORCES SHOWN ON DRAWINGS AT EACH END OF MEMBER.
- NO CONNECTION SHALL CONSIST OF LESS THAN (2) 3/4" DIA. A325-N BOLTS OR WELDS DEVELOPING LESS THAN 10 KIPS. MINIMUM WELD SIZE SHALL BE A 3/16" FILLET WELD.
- FOR CONNECTION DESIGN AND DETAILING, SET CONNECTION WORK POINT AT INTERSECTION OF MEMBER CENTERLINES, UNO.
- DO NOT USE OVERSIZED OR SLOTTED HOLES FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
- ALL A325 BOLTS SHALL BE TIGHTENED TO THE "SNUG-TIGHT" CONDITION DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. THE "SNUG-TIGHT" CONDITION MUST ENSURE THAT THE PLIES OF THE CONNECTED MATERIAL HAVE BEEN BROUGHT INTO SNUG CONTACT.
- ALL A325 BOLTS SUBJECT TO DIRECT TENSION OR DESIGNATED "SC" (SLIP-CRITICAL) SHALL BE PRE-TENSIONED IN ACCORANCE WITH ONE OF THE FOLLOWING METHODS AS DESCRIBED IN THE AISC "MANUAL OF STEEL CONSTRUCTION": TURN OF NUT TIGHTENING, CALIBRATED WRENCH TIGHTENING OR DIRECT TENSION INDICATOR TIGHTENING.
- EXPANSION JOINT CONNECTIONS AND SLIP CONNECTION INDICATED SHALL PROVIDE FREE MOVEMENT. BOLTS SHALL HAVE NUTS FINGER TIGHTENED AND THREADS CRIMPED.
- PROVIDE ACCESS FOR INSPECTION OF ALL SHOP AND FIELD CONNECTIONS FOR PROPER MATERIALS AND WORKMANSHIP. ALL FIELD CONNECTIONS SHALL BE INSPECTED BY AN INDEPENDENT TESTING LABORATORY
- ALL WELDING INCLUDING WELDING ELECTRODES, WELDING PROCESS, MINIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE IN ACCORDANCE WITH THE AISC AND AWS SPECIFICATIONS. ANY STRUCTURAL STEEL DAMAGED IN WELDING IS TO BE REPLACED OR REINFORCED AS ACCEPTABLE TO THE STRUCTURAL ENGINEER. WELDERS SHALL HAVE CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS QUALIFICATION TESTS. THE ENGINEER MAY REQUEST SUCH EVIDENCE AT ANY TIME DURING THE PROJECT.

STRUCTURAL STEEL FRAMING NOTES:

- ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH "THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", AISC 360 AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", AISC 303.
- ALL STRUCTURAL STEEL SHALL BE FABRICATED IN ACCORDANCE WITH THE LATEST OSHA SAFETY STANDARDS FOR STEEL ERECTION. STRUCTURAL DOCUMENTS INDICATE TYPICAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL OSHA REQUIREMENTS ARE MET.
- STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS:

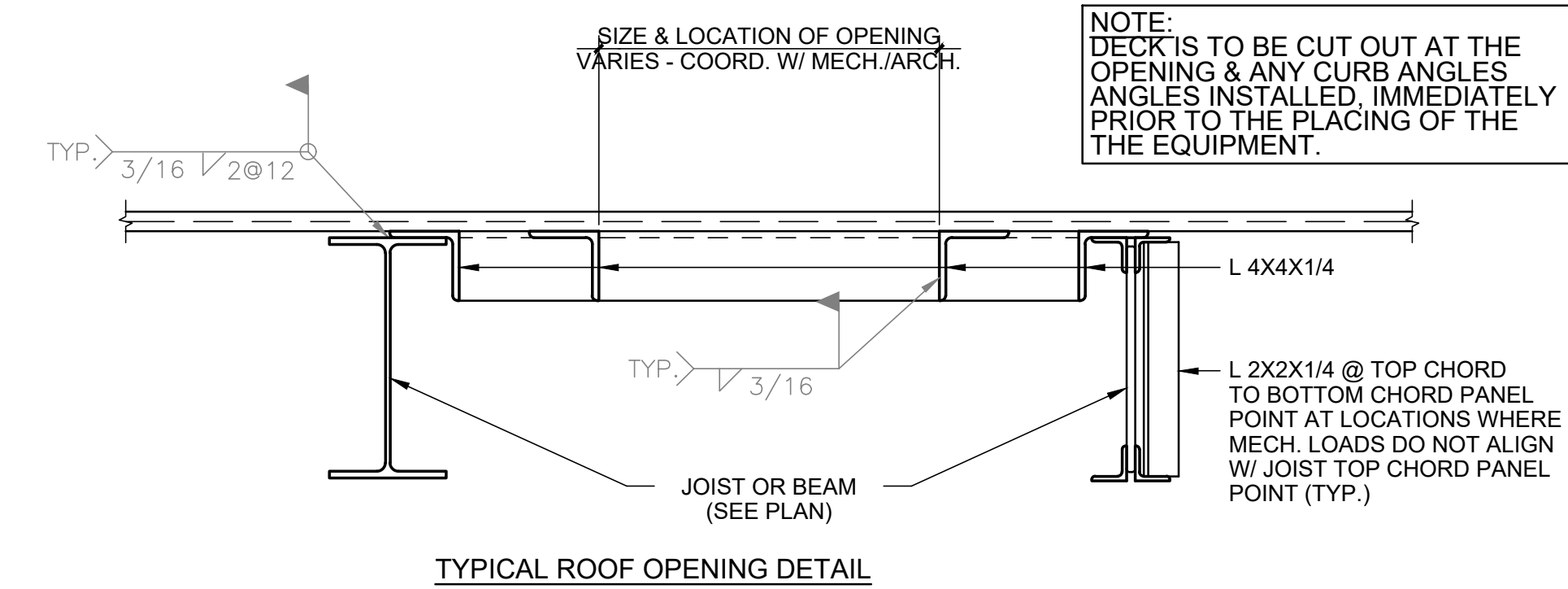
A. WIDE FLANGE SHAPES	ASTM A992 (50 KSI)
B. CHANNELS	ASTM A36 (36 KSI)
C. ANGLES	ASTM A36 (36 KSI)
D. SQUARE AND RECTANGULAR TUBES (HSS)	ASTM A500, GRADE B (46 KSI)
E. ROUND TUBES (HSS)	ASTM 500, GRADE B (42 KSI)
F. STEEL PIPE	ASTM A53, GRADE B (35 KSI)
G. PLATES AND BARS	ASTM A36 (36 KSI)
H. BOLTS	ASTM A325 OR A490
J. NUTS	ASTM A563
K. WASHERS	ASTM F436
L. ANCHOR RODS	ASTM F1554 (36 KSI)
M. HEADED STUDS	ASTM A108
N. WELDED ELECTRODES	E70XX
- ALL NON-SHRINK GROUTS FOR LEVELING OF BASE PLATES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 P.S.I. AT 28 DAYS. GROUT SHALL COMPLY WITH CORPS OF ENGINEERS SPECIFICATION CRD-C 621.
- SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE.
- CAMBER INDICATED ON THESE DRAWINGS IS THE REQUIRED CAMBER AT TIME OF ERECTION. CAMBERED BEAMS SHALL BE ERECTED SUCH THAT THE PROFILE OF THE BEAMS ARE CROWNED UPWARD.
- ALL STEEL AT OR BELOW FINISHED GRADE OR BELOW FLOOR SLAB SHALL RECEIVE 2 COATS OF BITUMINOUS PAINT OR 3" MINIMUM CONCRETE COVER.
- ALL STRUCTURAL STEEL THAT IS EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED.
- MC INDICATES MOMENT CONNECTION
- ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER. DRAWINGS TO HAVE CONTRACTORS STAMP AFFIXED PRIOR TO REVIEW. CERTIFIED COPIES OF MILL TEST REPORTS SHALL BE AVAILABLE UPON REQUEST.
- THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE. GAS CUTTING TORCHES SHALL NOT BE USED TO CORRECT FABRICATION ERRORS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.

COLD-FORMED STRUCTURAL STEEL FRAMING:

- ALL LIGHT GAGE STEEL FRAMING SHALL BE FABRICATED, ERECTED AND DESIGNED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF "NORTH AMERICAN SPECIFICATION FOR COLD-FORMED STEEL STRUCTURAL MEMBERS" BY THE AMERICAN IRON AND STEEL INSTITUTE.
- STEEL FOR 12, 14 AND 16 GAGE STUDS, JOISTS, TRACK AND FOR ALL DIAGONAL TENSION STRAPS SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI. STEEL FOR ALL 18 GAGE STUDS AND JOISTS, 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 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. PROVIDE JACK STUDS OR CRIPPLES, ABOVE WINDOW AND DOOR HEADERS, AND WHERE NEEDED TO PROVIDE SUPPORT AND SHALL BE ATTACHED TO CONNECTING MEMBERS.
- DOUBLE UP FLOOR JOISTS AND BLOCKING UNDER PARTITIONS. PROVIDE BLOCKING AT SUPPORTS OF ALL JOISTS.
- BRIDGING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION WITH THE FOLLOWING MINIMUM REQUIREMENTS:
 NON-LOAD-BEARING WALLS UP TO 10'-0" HIGH.....BRIDGING AT MID-HEIGHT
 NON-LOAD-BEARING WALLS GREATER THAN 10'-0" HIGH.....BRIDGING AT 1/3 HEIGHT AND 2/3 HEIGHT
 LOAD-BEARING WALLS.....BRIDGING AT 1/3 HEIGHT AND 2/3 HEIGHT
 IN ADDITION, BRIDGING SHALL BE PROVIDED AT ROOF LINES AND ELSEWHERE NOTED ON THE DRAWINGS. SOLID BLOCKING SHALL BE INSTALLED IN LIEU OF BRIDGING WHERE NOTED ON DRAWINGS.
- ATTACH LIGHT-GAGE STEEL SHAPES, CLIPS, ETC TO CONCRETE WITH HILTI X-GN FASTENERS. FOR THE ATTACHMENT OF TRACK TO CONCRETE SPACE FASTENERS AT 32" O.C. U.N.O.
- WELDERS EXPERIENCED IN LIGHT-GAGE STRUCTURAL STEEL FRAMING WORK SHALL PERFORM ALL WELDING. DO NOT NOTCH FLANGES OF JOISTS OR STUDS. DOUPLE UP FLOOR JOISTS AND BLOCKING UNDER PARTITIONS.
- ALL STUDS AND/OR JOISTS AND ACCESSORIES SHALL BE OF THE TYPE, SIZE, GAGE AND SPACING SHOWN ON THE DRAWINGS. ATTACH STUD TO STUD CONNECTIONS WITH A MINIMUM OF (3) #12 TEK SCREWS.
- FOR NON-BEARING PARTITIONS AND SOFFITS, SEE ARCHITECTURAL DRAWINGS.
- SHEAR PANELS SHALL BE SERIES 200 STRUCTURAL PANELS BY "SUREBOARD" OR APPROVED EQUIVALENT. PANELS SHALL CONSIST OF 5/8" GYPSUM BOARD LAMINATED TO 22 GAGE SHEET STEEL. GYPSUM BOARD SHALL BE TYPE-X OR WATER-RESISTANT WHERE REQUIRED BY THE ARCHITECTURAL DRAWINGS. FASTENER SPACING SHALL BE 4" AT PANEL EDGES AND 12" AT INTERMEDIATE SUPPORTS. BLOCK PANEL EDGES BETWEEN STUDS. MATERIAL AND INSTALLATION SHALL CONFORM TO ICC LEGACY REPORT ER-5762
- PRIOR TO FABRICATION THE CONTRACTOR SHALL SUBMIT ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR APPROVAL.

ROOF NOTES:

- ROOF TO BE * RIGID BOARD INSULATION OVER GALVANIZED ROOF DECK. (SEE NOTE #2 FOR DECK SPECIFICATION.) *RE: ARCH. FOR THICKNESS
- ROOF DECK SPECIFICATION
 METAL DECK SHALL BE TEMPERED COLD ROLLED STEEL, SHEET SHALL BE FORMED TO A CORRUGATED RIB PATTERN OF VULCRAFT TYPE 1.5B22 OR EQUAL. THE STEEL SHALL CONFORM TO ASTM A653, GRADE E ZINC COATING CONFORMING TO ASTM A924, G60 COATING CLASS FOR GALVANIZED MATERIAL.
- PROVIDE METAL DECK SUPPORT AT ALL BUILDING CORNERS, SKEWED BUILDING LINES WHERE SUPPORTING STRUCTURE BEARS PERPENDICULAR AND AROUND ALL FRAMED OPENINGS WITH L 4X4X1/4 UNLESS NOTED OTHERWISE. INSTALL 6" WIDE X 12 GA. SHEET METAL COVER PLATES IN VALLEYS, RIDGES OR WHERE DECK CHANGES DIRECTION. SPOT WELD IN PLACE AT 12" O.C. MAXIMUM. CONTRACTOR TO COORDINATE WITH STEEL DECK SUPPLIER TO PROVIDE ALL NECESSARY DECK SUPPORTS TO ADEQUATELY SUPPORT THE METAL DECK.



- REFERENCE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION ON OPENINGS, MECHANICAL AND PLUMBING EQUIPMENT AND ROOF SLOPES.
- +XX'-YY"** INDICATES TOP OF STEEL ELEVATION GIVEN ABOVE FINISHED FIRST FLOOR.
- WELD DECK TO STEEL SUPPORTS USING A PATTERN AND SPACING OF 3/8" WITH 1 SIDELAP. SUPPORT FASTENERS SHALL BE 5/8" DIA PUDDLE WELDS. SIDELAP FASTENERS SHALL BE #10 TEK SCREWS AND SPACING OR FMRC CLASS 1-90 SPECIFICATIONS.

STEEL JOIST NOTES

- ALL STEEL JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH SJI STANDARD SPECIFICATIONS.
- JOIST BRIDGING SHOWN IS SCHEMATICALLY INDICATED. PROVIDE ALL BRIDGING NECESSARY TO CONFORM TO SJI SPECIFICATIONS.
- THE ENDS OF ALL BRIDGING LINES TERMINATING AT WALLS OR BEAMS SHALL BE ANCHORED TO THE WALL OR BEAM.
- JOIST BRIDGING AND CONNECTIONS SHALL BE COMPLETELY INSTALLED PRIOR TO PLACING ANY CONSTRUCTION LOADS ON THE JOISTS. CONSTRUCTION LOADING SHALL NOT EXCEED THE JOIST DESIGN LOAD.
- ALL ROOF JOISTS SHALL BE CAPABLE OF RESISTING THE NET UPLIFT AS NOTED ON THE STRUCTURAL DRAWINGS (MIN. 15 PSF NET). PROVIDE AN ADDITIONAL ROW OF CONTINUOUS HORIZONTAL BOTTOM CHORD BRIDGING AT THE FIRST PANEL POINT LOCATION AT EACH END OF ALL ROOF JOISTS.
- JOISTS ON COLUMN CENTERLINES SHALL HAVE EXTENDED BOTTOM CHORD CONNECTIONS FOR ERECTION STABILITY, UNLESS OTHERWISE NOTED. DO NOT CONNECT BOTTOM CHORD EXTENSIONS, UNLESS OTHERWISE NOTED OR SHOWN.
- JOISTS ON, OR NEAR COLUMN CENTERLINES SHALL HAVE FIELD-BOLTED CONNECTIONS FOR ERECTION STABILITY, UNLESS OTHERWISE NOTED.
- THE JOIST MANUFACTURER SHALL COORDINATE WITH THE STRUCTURAL STEEL FABRICATOR FOR THE DESIGN OF ALL CONNECTIONS TO SUPPORTING COLUMNS, BEAMS, BEARING SEATS, ETC. PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
- ALL STEEL JOISTS SHALL BE FURNISHED WITH STANDARD SJI CAMBER, UNLESS NOTED OTHERWISE.
- ALL ITEMS SUSPENDED FROM JOISTS SUCH AS CATWALKS, BASKETBALL GOALS, OPERABLE PARTITIONS, ETC. SHOULD BE INSTALLED AFTER ALL DEAD LOADS OF ROOFING, FLOORING, CEILINGS, ETC. ARE INSTALLED.
- ALL JOISTS SHALL BE SHOP PRIMED IN ACCORDANCE WITH SJI REQUIREMENTS. COLOR TO MATCH STRUCTURAL STEEL PRIMER, UNLESS APPROVED IN WRITING.
- PROVIDE SLOPED BEARING ENDS WHERE JOIST SLOPE EXCEEDS 1/4" PER FOOT.
- DO NOT FIELD CUT OR ALTER JOISTS WITHOUT THE WRITTEN APPROVAL OF THE JOIST MANUFACTURER.
- STEEL JOIST AND METAL DECK CONNECTIONS SHALL BE CAPABLE OF RESISTING THE FOLLOWING NET WIND UPLIFT PRESSURES:

WIND UPLIFT PRESSURE TABLE		
HEIGHT	FIELD PRESSURE	PERIMETER PRESSURE
0-15'	12 PSF	24 PSF
15-30'	15 PSF	30 PSF
ABOVE 30'	18 PSF	36 PSF

NOTE: PERIMETER PRESSURE APPLIES BETWEEN ALL EXTERIOR WALLS AND 15'-0" IN FROM THE EXTERIOR WALLS.

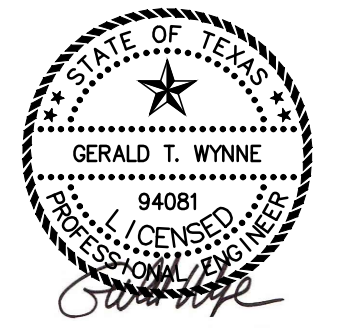
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 17211 PAD SITE
 17211 145 SOUTH - Houston, TX 77090

SHEET TITLE:
 General Notes & Specifications

S002

SCALE: NO SCALE