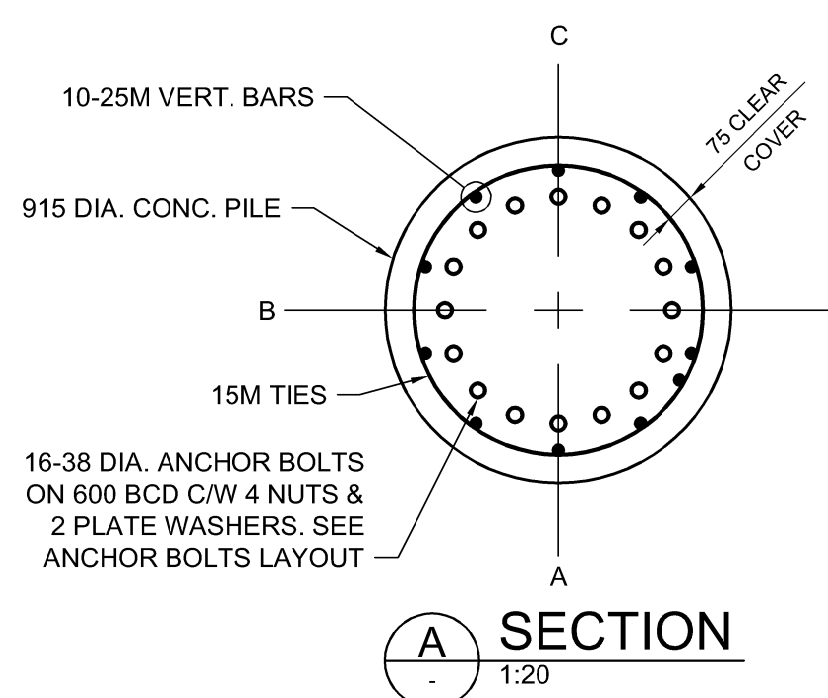
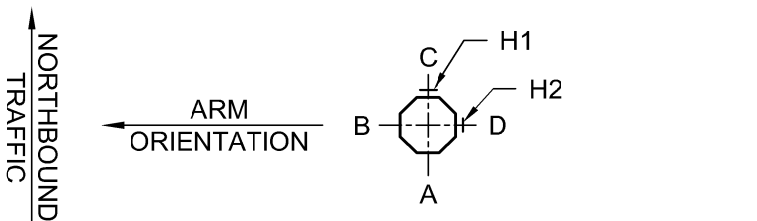
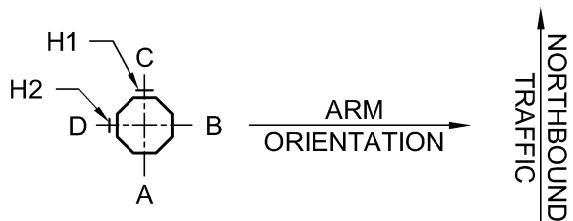
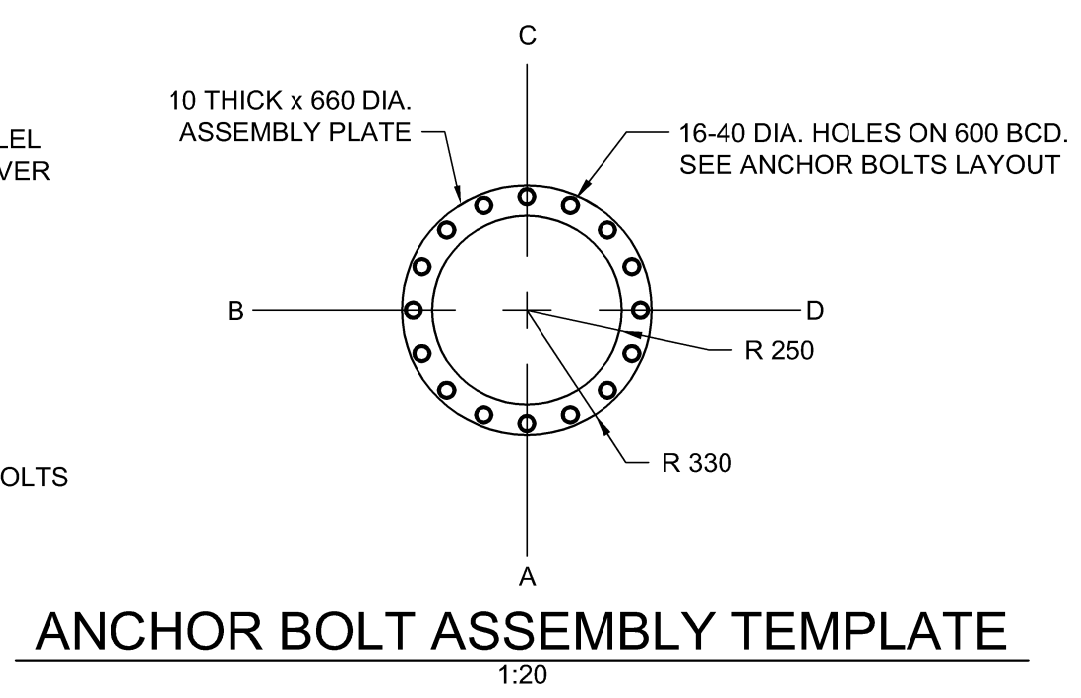


S787 ELEVATION

DIMENSIONS ARE SHOWN FOR LOADED CONDITION. FABRICATOR TO VERIFY UNLOADED DIMENSIONS PROVIDE DESIRED LOADED CAMBER AND ROADWAY CLEARANCE.



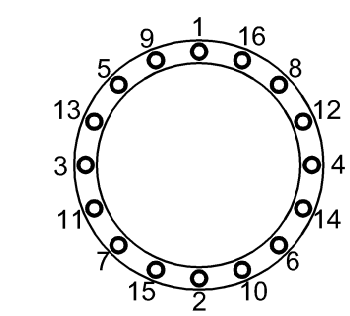
ANCHOR BOLTS LAYOUT



ANCHOR BOLT ASSEMBLY TEMPLATE

PILE CONSTRUCTION NOTES

- REINFORCING STEEL**
 - CSA G30.18 GR. 400W
 - VERTICAL BARS FULL LENGTH OF PILE
 - HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A767
- ANCHOR BOLTS**
 - ASTM F1554 GR.55 (380 MPa)
 - 16-38 DIA. ANCHOR BOLTS 2.0m LONG
 - EACH BOLT C/W 4 NUTS & 2 PLATE WASHERS (SEE PLATE WASHER DETAIL FOR MK. 20)
 - TOP 300 THREADED UNC CLASS 2A
 - BOTTOM 100 THREADED UNC CLASS 2A
 - HOT DIP GALVANIZED FULL LENGTH, IN ACCORDANCE WITH ASTM A153 CLASS C
 - B.C.D. = BOLT CIRCLE DIAMETER TO CENTRE OF BOLT GROUP
 - ANCHOR BOLTS SHALL BE ALIGNED WITH TEMPORARY STEEL TEMPLATES. PLACEMENT OF ANCHOR BOLTS AND CONCRETE WITHOUT THE TEMPLATES WILL NOT BE PERMITTED.
 - CONTRACTOR SHALL REMOVE THE TOP ANCHOR BOLT SETTING TEMPLATE, NUTS AND FORM, FOLLOWING A MINIMUM 24 HOUR CONCRETE CURING PERIOD.
 - FOLLOWING INSTALLATION OF THE STEEL STRUCTURE, TIGHTEN THE LOWER LEVELING NUTS AND UPPER ANCHOR NUTS TO A SNUG-TIGHT CONDITION, FOLLOWED BY 1/3 NUT ROTATION (+20°/-0°) OF THE UPPER ANCHOR NUTS.
 - ANCHOR BOLTS SHALL BE TIGHTENED USING A STAR PATTERN TIGHTENING SEQUENCE.

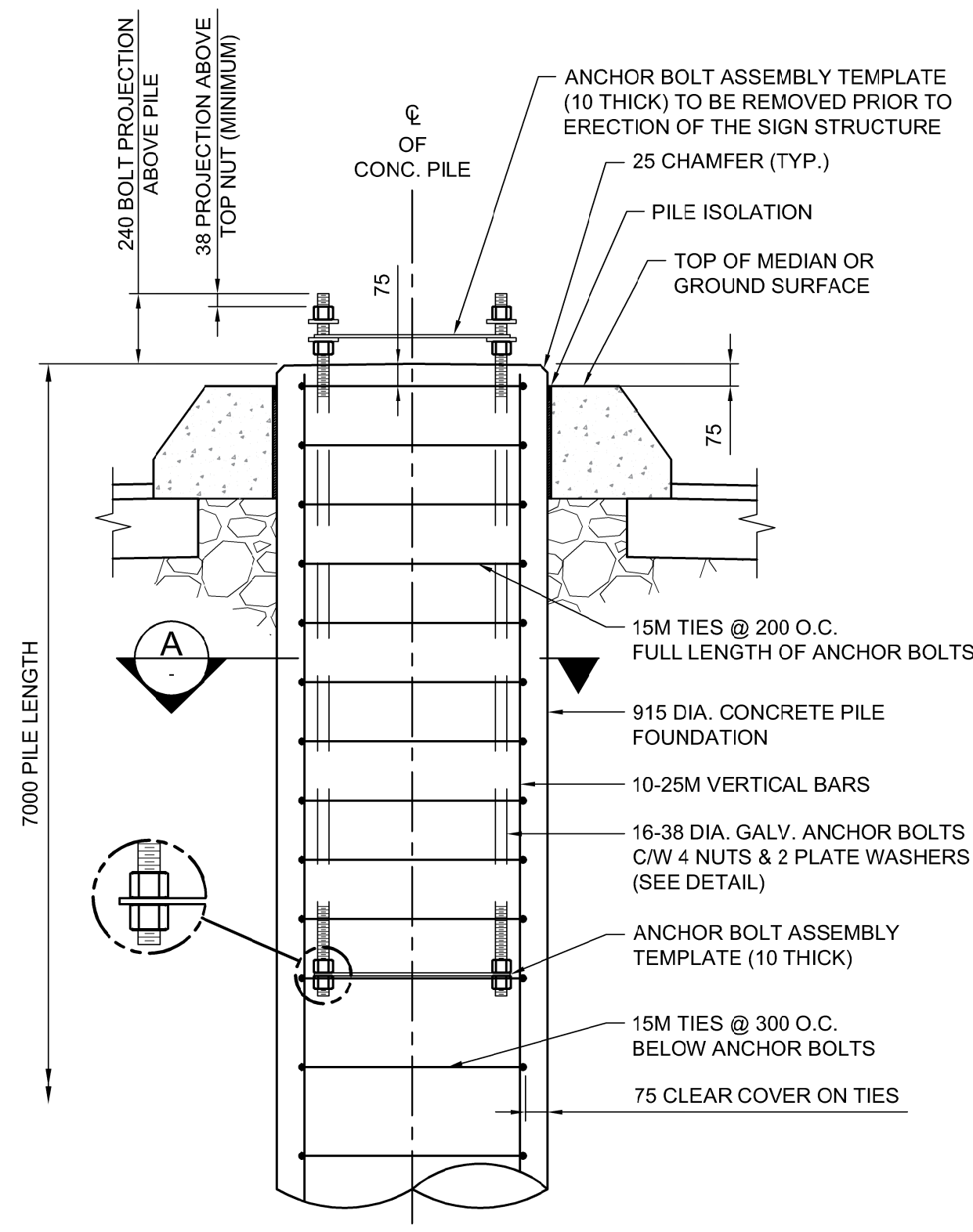


- FORM TOP OF PILE WITH A TUBULAR FORM (SONOTUBE):**
 - 1m FOR DRILLED SHAFTS
 - 1.5m FOR HYDRO-EXCAVATED SHAFTS
- CONCRETE MIX DESIGN**

PROPORTIONING OF FINE AGGREGATE, COARSE AGGREGATE, CEMENT, WATER, AND AIR ENTRAINING AGENT SHALL BE SUCH AS YIELD CONCRETE HAVING THE REQUIRED STRENGTH AND WORKABILITY AS FOLLOWS:

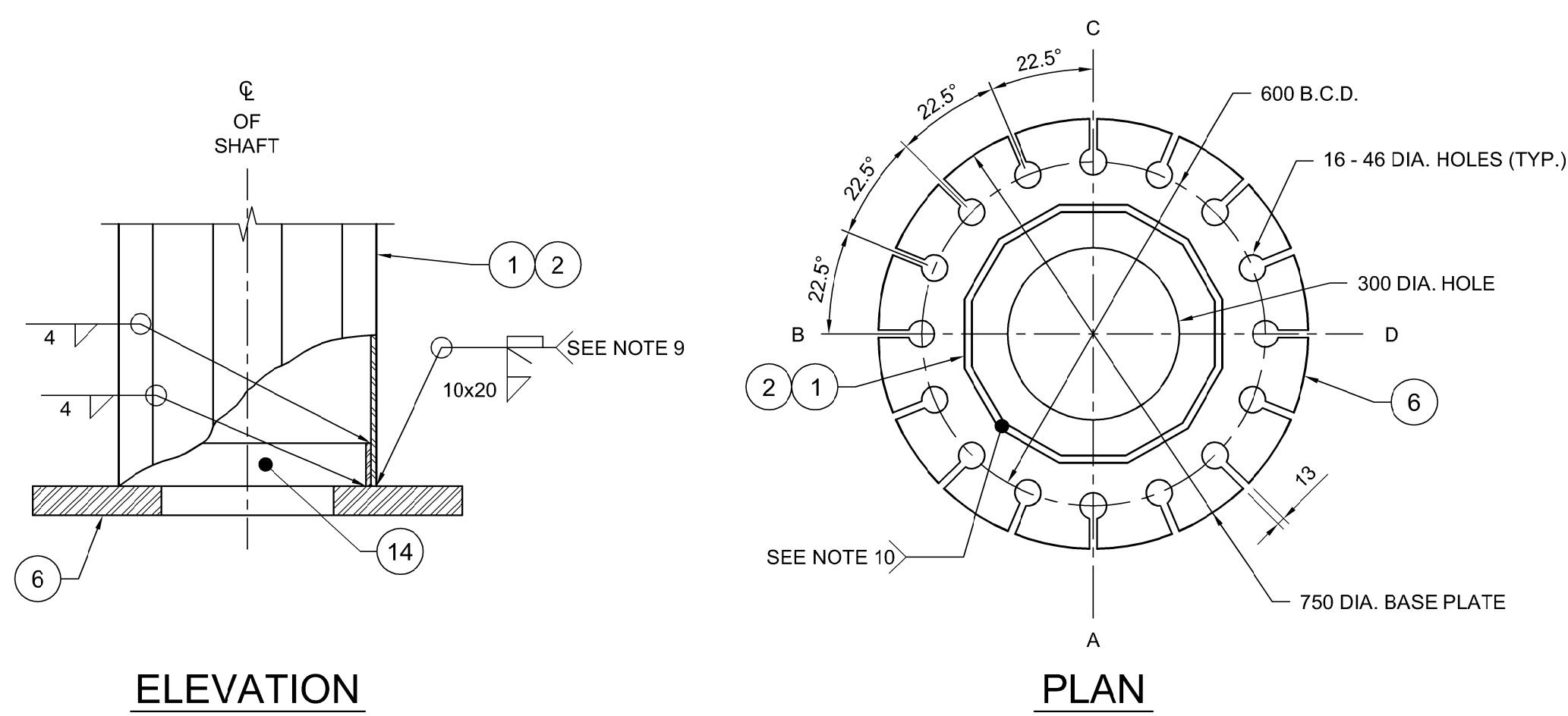
 - CLASS OF EXPOSURE: S-1
 - MINIMUM COMPRESSIVE STRENGTH AT 56 DAYS = 35 MPa
 - MAXIMUM WATER/CEMENT RATIO = 0.40
 - AIR CONTENT: CATEGORY 2 PER TABLE 4 OF CSA A23.1-14 (4-7%)
 - CEMENT IN ACCORDANCE WITH CSA A23.1-14

- P1 PILE INSTALLATION NOTES:**
- PRIOR TO INSTALLATION OF THE PILE, THE CONTRACTOR SHALL CCTV THE 750 CS AND REVIEW THE RESULTS WITH THE CONTRACT ADMINISTRATOR.
 - THE 750 CS SHALL BE EXPOSED BY HYDRO-EXCAVATION AT THE EDGE OF THE PIPE CLOSEST TO THE PROPOSED PILE.
 - AFTER CONFIRMING THE LOCATION AND ELEVATION OF THE 750 CS, THE HYDRO-EXCAVATION SHALL BE BACKFILLED PRIOR TO THE START OF PILE FOUNDATION CONSTRUCTION.
 - THE PILE SHALL BE SLEEVED TO PREVENT SLOUGHING DURING EXCAVATION. THE SLEEVE SHALL BE ADVANCED BEFORE THE AUGER FOR THE FULL DEPTH OF THE PILE. NO VIBRATORY METHODS OF SLEEVE INSTALLATION WILL BE PERMITTED.
 - THE SLEEVING SHALL BE REMOVED AS THE CONCRETE IS PLACED INTO THE EXCAVATION. THE BOTTOM OF THE SLEEVE SHALL REMAIN AT LEAST 300 mm BELOW THE TOP OF CONCRETE AT ALL TIMES DURING THE POUR.
 - UPON COMPLETION, THE CONDITION OF THE 750 CS SHALL BE CONFIRMED BY A SUBSEQUENT CCTV INSPECTION.



CONCRETE PILE FOUNDATION DETAIL FOR S787

P1 SHOWN, P2 SIMILAR EXCEPT FOR MEDIAN AND ISOLATION REQUIREMENTS



BASE PLATE DETAIL

1:10 TYP. BOTH LEGS



STRUCTURE IDENTIFICATION NUMBER SIZE

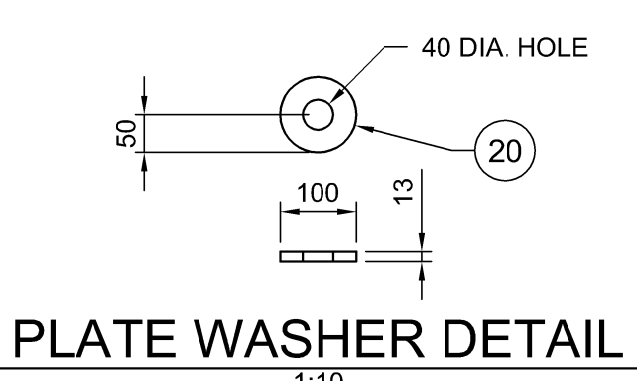
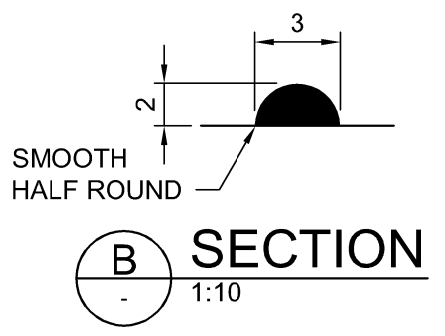


PLATE WASHER DETAIL

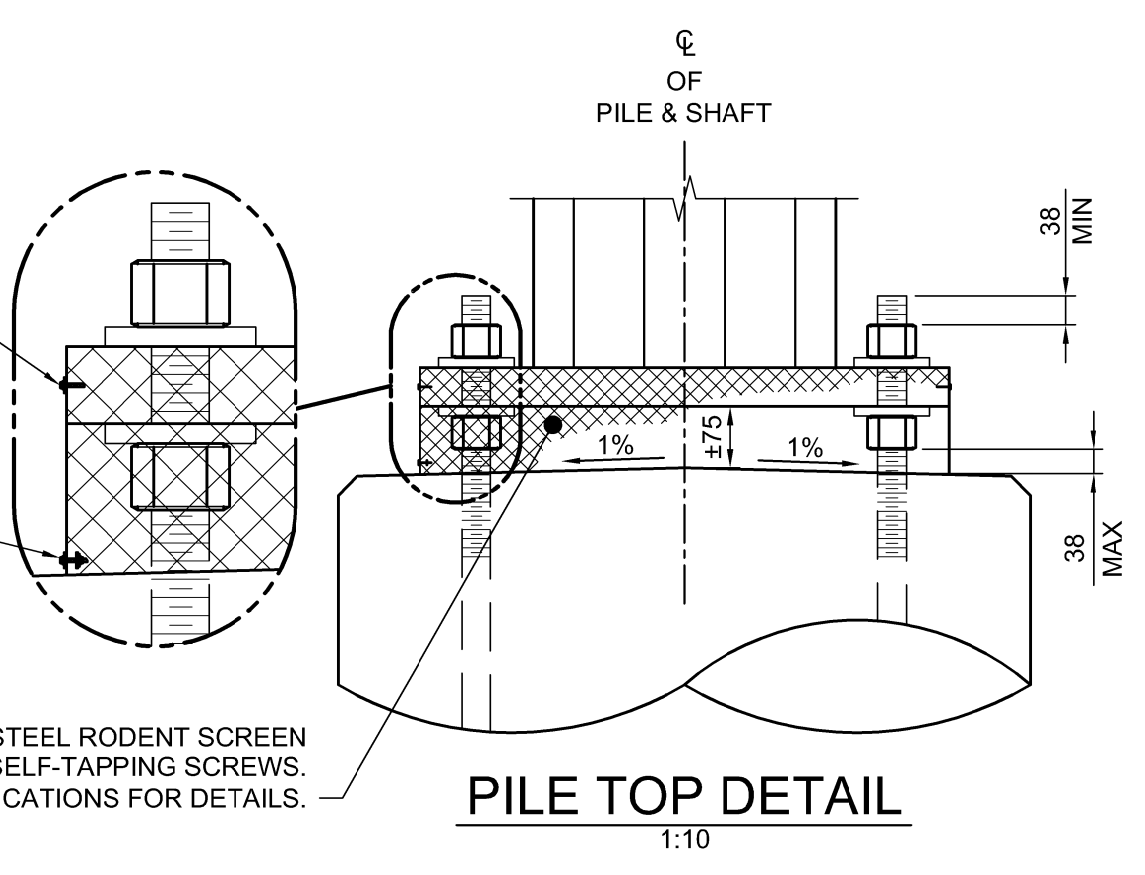


SECTION B

#8 - 1/2" LONG SS SELF-TAPPING SCREW C/W SS WASHER AT 200 O/C, FULL CIRCUMFERENCE OF BASE PLATE

#8 - 3/8" LONG SS SELF-TAPPING SCREW C/W SS NUT, 2 FLAT SS WASHERS, AND SS LOCK WASHER AT BOTTOM OF RODENT SCREEN SPLICE LAP

1/2" - 18F STAINLESS STEEL RODENT SCREEN FASTENED WITH SELF-TAPPING SCREWS. SEE SPECIFICATIONS FOR DETAILS.



PILE TOP DETAIL

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

WARNING

- IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:
- NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
 - TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.
 - OBTAIN EXCAVATION PERMITS PRIOR TO CONSTRUCTION.

G:\CAD\175932\Drawings\Structural\Contract\OHSS\175932-OHSS-CON-CS-S787-FABRICATION DETAILS 1.dwg



DESIGNED BY: DRA		CHECKED BY: SSR	
DRAWN BY: MDG		APPROVED BY: MBL	
HOR. SCALE: AS SHOWN		RELEASED FOR CONSTRUCTION	
VERTICAL: AS SHOWN		DATE: 2018/02/09	
NO.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	18/02/09	DRA

ENGINEER'S SEAL
PROVINCE OF MANITOBA
D.R.C. AMORIM
Member 33215
REGISTERED PROFESSIONAL ENGINEER
CONSULTANT PROJECT NUMBER: 17-5932

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
Winnipeg
FERMOR AVENUE BRIDGE OVER SEINE RIVER
BRIDGE RE-ABILITATION, PEDESTRIAN-CYCLIST UNDERPASS STRUCTURE AND ROADWORKS FROM ST. ANNE'S ROAD TO ARCHIBALD STREET
CITY DRAWING NUMBER: P-3489-2017-CS-090
SHEET 090 OF 100
CONSULTANT DRAWING NUMBER: CS-090
S787 - FABRICATION DETAILS 1