

FOUNDATION DETAIL
N.T.S.

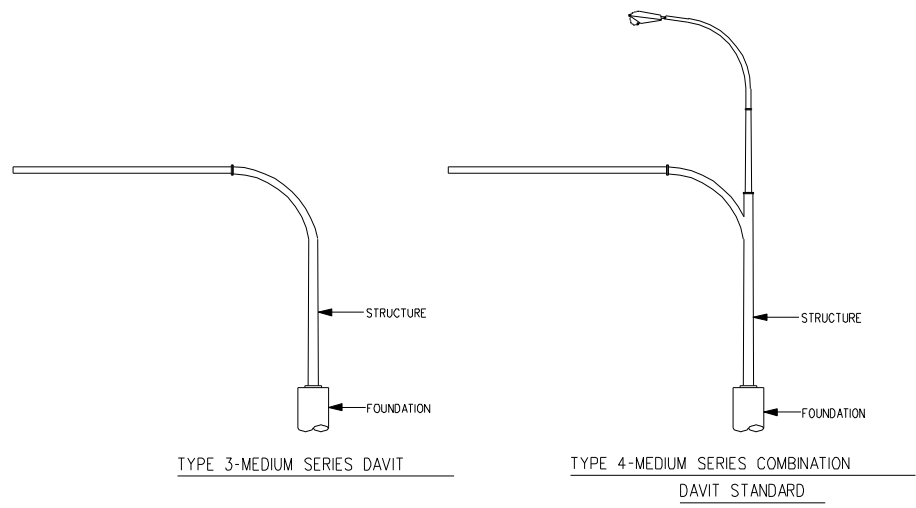
GENERAL NOTES:

CONCRETE FOUNDATION PILES

- PRIOR TO DRILLING PILES, CONTRACTOR SHALL ENSURE THERE ARE NO CONFLICTING SURFACE OR SUBSURFACE UTILITIES.
- DRILL PILES TO INDICATED DEPTHS ENSURING THAT SHAFTS ARE DRY AND FREE OF DEBRIS UNTIL CONCRETE IS PLACED.
- CONCRETE
 PROPORTIONING OF FINE AGGREGATE, COARSE AGGREGATE, CEMENT, WATER, AND AIR ENTRAINING AGENT SHALL BE SUCH AS TO YIELD CONC. HAVING THE REQUIRED STRENGTH AND WORKABILITY AS FOLLOWS:
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS = 35 MPa
 - MAXIMUM WATER/CEMENT RATIO = 0.45
 - MINIMUM CEMENT CONTENT = 340 kg/m³
 - SLUMP = 80 ± 20 mm
 - AGGREGATE: 40 mm NOMINAL
 - AIR CONTENT: 4.0 TO 7.0 PERCENT
 - CEMENT - TYPE 50 SULPHATE RESISTANT CEMENT
 SHOULD COMPATIBLE SUPERPLASTIZING ADMIXTURES BE APPROVED BY THE ENGINEER, THE SLUMP AFTER ADDITION OF THE SUPERPLASTICIZER SHALL BE 170 ± 40 mm.
- NOTIFY THE OWNER AND TESTING FIRM A MINIMUM OF TWENTY FOUR HOURS PRIOR TO COMMENCEMENT OF CONCRETE OPERATIONS.
- CAST FOUR CONCRETE TEST CYLINDERS FOR EVERY 50 CUBIC METRES OR LESS. ONE CYLINDER TO BE CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
- REINFORCING STEEL TO BE GRADE 400W, DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO CSA G30.18.
- ANCHOR BOLTS, NUTS AND WASHERS WILL BE SUPPLIED BY THE DEPARTMENT AND SET BY CONTRACTOR.
- THE ANCHOR BOLTS SHALL BE ALIGNED WITH A TOP SETTING TEMPLATE MATCHING THE BOLT HOLE LAYOUT. THE SETTING TEMPLATE SHALL BE HELD IN PLACE BY THE NUTS SUPPLIED WITH THE ANCHOR BOLTS. PLACEMENT OF ANCHOR BOLTS WITHOUT THE SETTING TEMPLATE WILL NOT BE PERMITTED.

TOP SETTING TEMPLATE

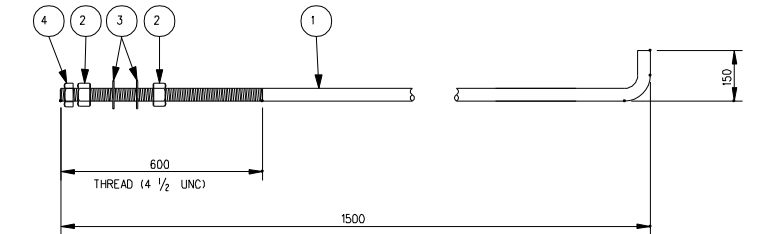
 - TEMPORARY STEEL TEMPLATE LOANED TO THE CONTRACTOR BY THE DEPARTMENT.
 - AFTER COMPLETION OF CONCRETE PILE FOUNDATION WORKS, THE CONTRACTOR SHALL CLEAN THE TEMPLATE BY SANDBLASTING AND RETURN IT TO THE DEPARTMENT.
 - IF THE TEMPLATE IS DAMAGED DURING CONSTRUCTION DUE TO NEGLIGENCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING A NEW 10 mm THICK STEEL TEMPLATE TO THE DEPARTMENT AT HIS OWN EXPENSE.
- SOILS INFORMATION AT SITE IS AVAILABLE FROM THE OWNER.



STRUCTURES FOR FOUNDATION TYPE F3

BILL OF MISCELLANEOUS METAL

MK. NO.	QTY. REQ'D.	DESCRIPTION	SIZE	MATERIAL	REMARKS	LINE NO.
1	4	ANCHOR BOLT	32 (1 1/4") DIA. x 1650	G40.21-M-300W GALV. FULL LENGTH	SEE DETAIL BELOW	1
2	8	HEAVY HEX NUT	32 (1 1/4") DIA.	ASTM A194 GRADE 2H		2
3	8	HEAVY WASHER	32 (1 1/4") DIA.	G40.21-M-300W		3
4	4	LOCK HEX NUT	32 (1 1/4") DIA.	ASTM A194 GRADE 2H		4
						5
						6



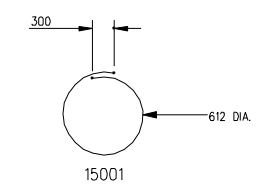
NOTES:

- ANCHOR BOLTS SHALL BE SOLID ROUNDS G40.21-M-300W.
- ALL PARTS OF ANCHOR BOLT ASSEMBLY SHALL BE HOT DIP GALVANIZED (FULL LENGTH) IN ACCORDANCE WITH C.S.A. STANDARD G164 WITH NET RETENTION OF 600 g/m.
- ALL NUTS SHALL BE TAPPED OVERSIZE.
- ALL NUTS AND WASHERS SHALL BE ASSEMBLED BY THE SUPPLIER PRIOR TO DELIVERY.

BILL OF REINFORCING STEEL

MK. NO.	SIZE	QTY. REQ'D.	LENGTH (mm)	MASS (kg)	LINE NO.
20001	20M	8	4850	91.37	1
15001	15M	18	2223	62.82	2
					3
					4
					5
					6
					7
					8
TOTAL MASS OF REINFORCING STEEL				=154.19 kg	9
TOTAL VOLUME OF CONC. C.I.P. PILES				= 2.27 m ³	10

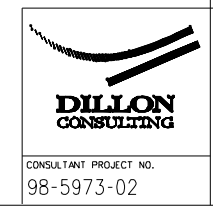
BENDING DIAGRAM



DATE	BY	DESCRIPTION

TRAFFIC SIGNAL AND PEDESTRIAN CORRIDOR STRUCTURES

FOUNDATION TYPE F3
ANCHOR BOLTS, CONC. PILE, & PILE REINFORCEMENT



Manitoba Highways and Transportation
Traffic Engineering Branch

PROJECT ENGINEER

DESIGN BY: S.S.R.
CHECKED: S.S.R.

DETAILS BY: N.B.G.
TRACED: N.B.G.
CHECKED: S.S.R.

ACCEPTED BY:

TRAFFIC OPERATIONS ENGINEER DATE

APPROVED BY:

DIRECTOR OF TRAFFIC ENGINEERING DATE

SCALE: AS SHOWN

COMPONENT NO. F3

SHEET No. F3