



CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

STANDARD DRAWINGS FOR TRAFFIC SIGNAL STRUCTURES



DRAWING LIST		
SHEET NO.	DESCRIPTION	STRUCTURE TYPE CODE
1	COVER SHEET	-
2	BASE LOAD TABLES AND ATTACHMENT DATA	-
3	ATTACHMENT CONFIGURATIONS FOR STRAIGHT POLES - 10', 15' & 18'	-
4	ATTACHMENT CONFIGURATIONS FOR LIGHT DUTY STRUCTURES - 8', 12' & 16' ARMS	-
5	ATTACHMENT CONFIGURATIONS FOR MEDIUM DUTY STRUCTURES - 8', 12' & 16' ARMS	-
6	ATTACHMENT CONFIGURATIONS FOR MEDIUM DUTY STRUCTURES - 8', 12' & 16' ARMS WITH EXTENSION	-
7	ATTACHMENT CONFIGURATIONS FOR MEDIUM DUTY STRUCTURES - 21' & 26' ARMS	-
8	2.438 m (8') SIGNAL ARM	8
8	3.658 m (12') SIGNAL ARM	12
8	4.887 m (16') SIGNAL ARM	16
9	6.401 m (21') SIGNAL ARM	21
9	7.925 m (26') SIGNAL ARM	26
10	LIGHT DUTY SHAFT	L
11	MEDIUM DUTY SHAFT	M
12	DOUBLE MEDIUM DUTY SHAFT	DM
13	VERTICAL EXTENSION TO 10.7 m (35')	E
14	3.048 m (10') STRAIGHT POLE	S10
15	4.572 m (15') STRAIGHT POLE	S15
16	5.486 m (18') STRAIGHT POLE	S18
17	ACCESS PANEL DETAILS	-

DESIGN NOTES:

- AASHTO STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS, 2009 (5TH EDITION) PLUS INTERIMS.
- FATIGUE STRESS RANGE CALCULATED AT CRITICAL SECTIONS FOR TRAFFIC SIGNAL FATIGUE CATEGORY III PER AASHTO TABLE 11-1, CONSIDERING NATURAL WIND GUSTS, GALLOPING, AND TRUCK INDUCED GUSTS.
- DESIGN WIND PRESSURE CALCULATED AS $P_z = 0.613 K_z G V^2 I_R C_d$
WHERE:
 K_z AS PER AASHTO TABLE 3-5 EXCEPT NOT LESS THAN 1.0
 $G = 1.14$
 $V = 40 \text{ m/s}$
 I_R AS PER AASHTO TABLE 3-2 FOR 50 YEAR DESIGN LIFE
 C_d AS PER AASHTO TABLE 3-6
- FIELD ASSEMBLY:

- ALL ARM FLANGE BOLTS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION, EACH FOLLOWED BY AN ADDITIONAL 1/2 TURN.
- ALL VERTICAL EXTENSION FLANGE BOLTS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION, EACH FOLLOWED BY AN ADDITIONAL 1/3 TURN.
- JAM NUTS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
- ALL BOLTS SECURING CAP PLATES SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
- SNUG-TIGHT IS DEFINED AS THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH, OR AFTER A FEW IMPACTS OF AN IMPACT WRENCH.
- INSTALLATION OF STRUCTURE ON BREAKAWAY BASE ASSEMBLY SHALL BE PERFORMED AS PER BREAKAWAY BASE MANUFACTURER'S INSTRUCTIONS.



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REDUCED DRAWING
N.T.S.

CONSULTANT PROJECT NO.12-5954
DRAWING NO.1
COVER SHEET

NO.	REVISIONS	DATE	BY
3	REVISED BY DILLON CONSULTING	1/10/14	CDW
2	REVISED BY DILLON CONSULTING	7/25/13	CDW
1	ISSUED BY DILLON CONSULTING	1/14/13	CDW