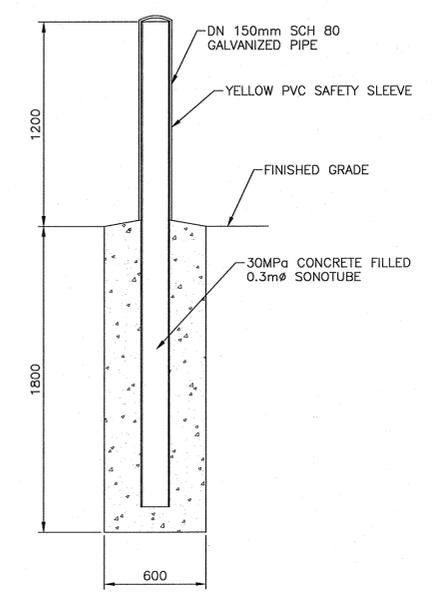
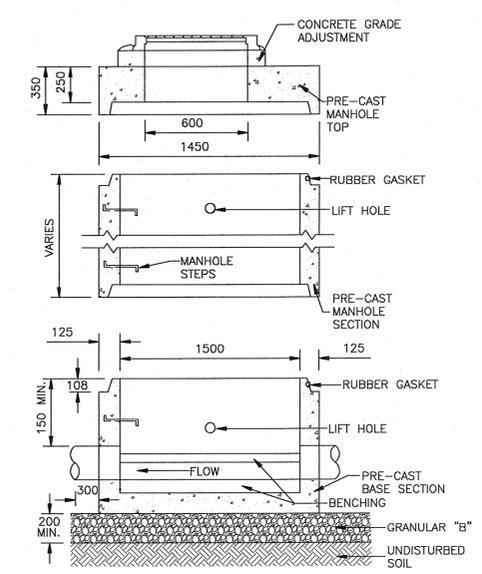


- NOTES:
1. ALL DIMENSIONS ARE IN METRIC.
 2. COMPACT SELECTED NATIVE BACKFILL TO 95% STANDARD PROCTOR. COMPACT TOP 0.3m TO 98% STANDARD PROCTOR.
 3. COMPACT BEDDING AND COVER MATERIAL TO 95% STANDARD PROCTOR.

TYPICAL SECTION SINGLE TRENCH DETAIL (A) (C2)
SCALE : 1:20



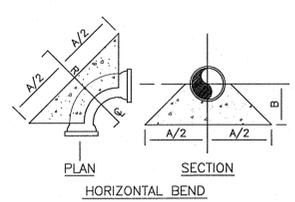
TYPICAL BOLLARD DETAIL (B) (C2)
SCALE : 1:20



- NOTES:
1. ALL CONCRETE TO BE 35 MPa TO MEET CSA A23.1, CLASS C-2 EXPOSURE.
 2. GASKETS ARE TO BE USED FOR ALL PIPE ENTRANCES AND PLACED IN BASE SECTION AT FACTORY.
 3. ALL BENCHING TO BE PERFORMED AT FACTORY. BENCHING TO CONFORM TO CAST IN PLACE BENCHING REQUIREMENTS.
 4. MSU DAYMOND ALUMINIUM CLIMBING STEP (OR APPROVED EQUAL) TO BE PLACED AT 300mm CENTERS. STEP HOLES ARE TO BE ONLY PARTIALLY THROUGH MANHOLE WALL.
 5. LIFT HOLES ARE TO BE ONLY PARTIALLY THROUGH MANHOLE FROM OUTSIDE. HOLES TO BE FILLED WITH GROUT BEFORE BACKFILLING.
 6. NO PRE-CAST MANHOLE TO BE PLACED IN THE EXCAVATION PRIOR TO INSPECTION BY PROJECT ENGINEER OR SITE REPRESENTATIVE.
 7. MINIMUM DROP ACROSS MANHOLE TO BE 50mm FOR STRAIGHT THROUGH TO 45° DEFLECTION.
 8. MINIMUM DROP ACROSS MANHOLE TO BE 150mm FOR DEFLECTION GREATER THAN 45° AND UP TO 90°.
 9. REINFORCING STEEL FOR PRECAST MANHOLE WALLS SHALL BE A MINIMUM OF 0.2% OF THE GROSS CONCRETE AREA.

TYPICAL PRECAST MANHOLE (C) (C2)
SCALE : N.T.S.

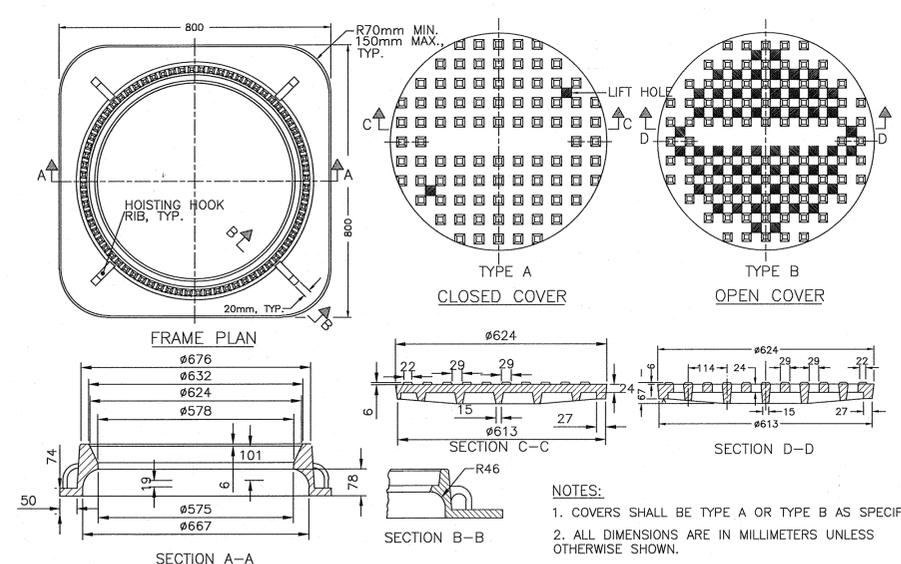
NOMINAL DIA. (mm)	EFFECTIVE AREA (m ²)	BENDS HORIZONTAL & VERTICAL UP									
		90°				45°					
		R	A	B	CONC	R	A	B	CONC		
200	.042	6.21	.51	7.50	4.50	1.19	3.36	.27	5.25	4.50	.04



- ABBREVIATIONS
- R - REACTION IN 1000 Kg.
 - A_b AREA - MINIMUM BEARING AREA AT SOIL TO CONCRETE FACE IN m².
 - CONC - VOLUME OF CONCRETE IN m³.
 - A & B - DIMENSION OF CONCRETE IN mm UNLESS OTHERWISE NOTED.

- NOTES:
1. CONCRETE - 25 MPa 28 DAY STRENGTH
 2. BLOCKS SHALL BE POURED DIRECTLY AGAINST UNDISTURBED SOIL AS INDICATED.
 3. DESIGN DATA - STATIC PRESSURE 1000 KPa. MINIMUM BEARING CAPACITY OF SOIL 120 KPa.

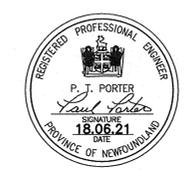
THRUST BLOCK DETAILS (D) (C2)
SCALE : N.T.S.



- NOTES:
1. COVERS SHALL BE TYPE A OR TYPE B AS SPECIFIED.
 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

MANHOLE FRAME AND COVER (E) (C2)
SCALE : 1:10

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT J0291
STANTEC CONSULTING LTD.
05371
Signature or Member Number (Member-in-Responsible Charge)



0	ISSUED FOR TENDER	JUN 21 2018
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CP1-MARINE PHASE DFO FACILITY SAR STATION
TWILLINGATE, NL

CIVIL DETAILS

designed	pp	conçu
date	JUN 2018	
drawn	SA	dessiné
date	JUN 2018	
approved		approuvé
date		
Tender	Submission	
PWGSC Project Manager	Administrateur de projets TPSGC	
project number	R.089926.001	no. du projet
drawing no.	C4 OF 4	no. du dessin