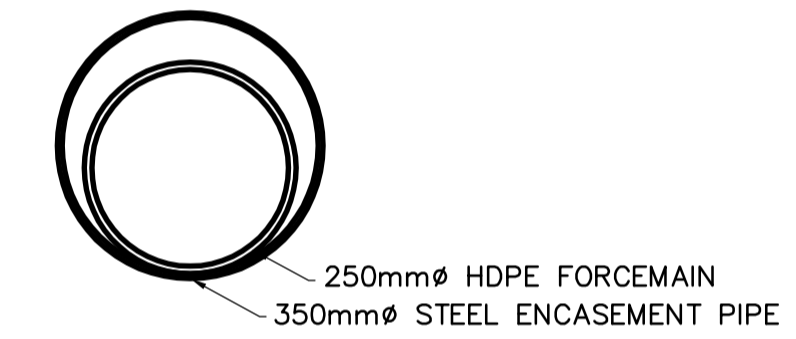
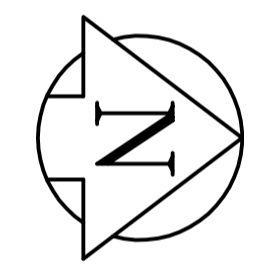
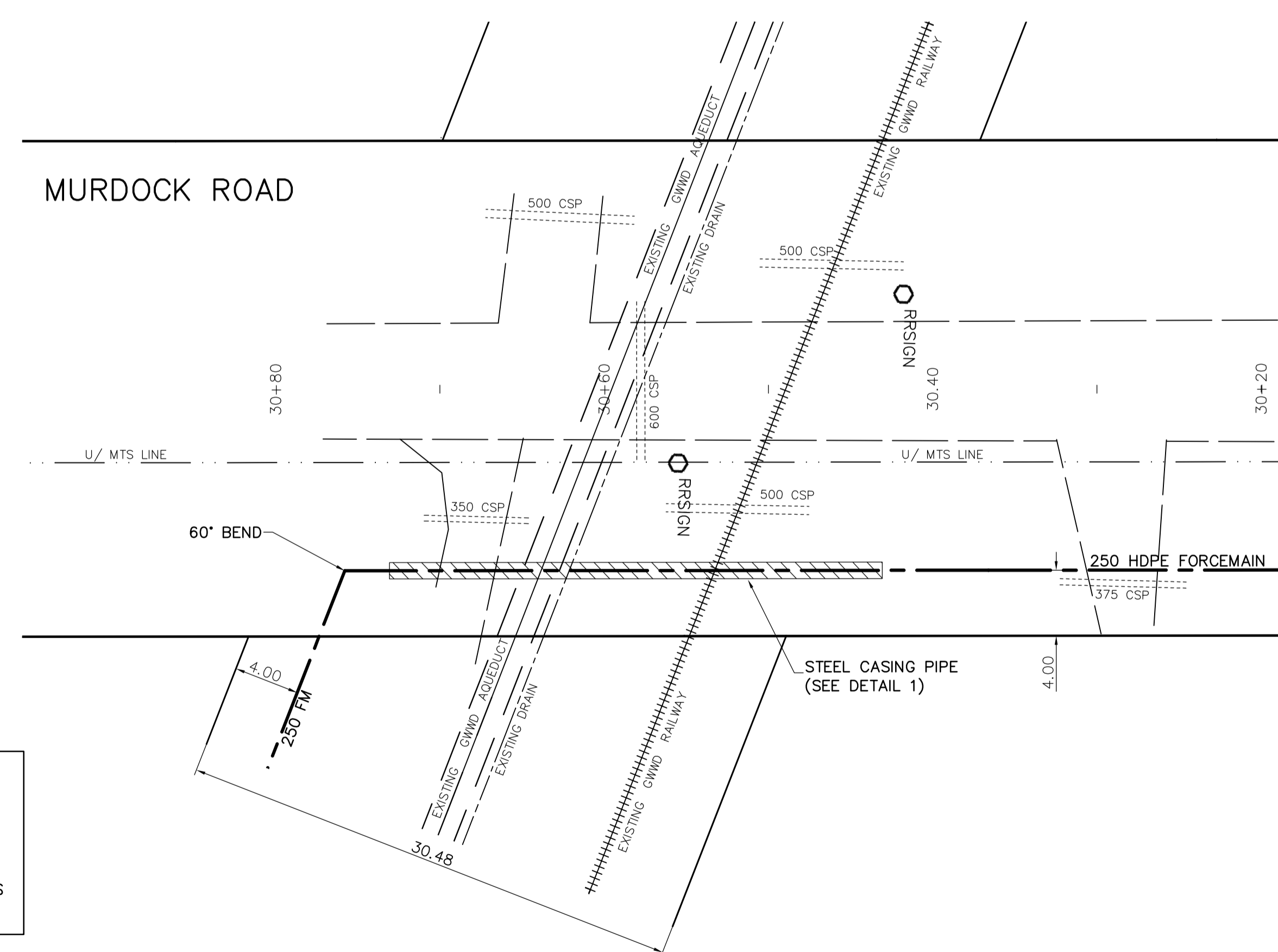


**RAIL CROSSING NOTES:**

RAILWAY MILEAGE AND SUBDIVISION:	MILE 11.1
MUNICIPAL DESCRIPTION OF ADJACENT PROPERTIES:	MURDOCK ROAD
NAME OF PIPELINE OWNER:	CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT
CONTENTS TO BE HANDLED:	EFFLUENT
MAXIMUM OPERATING PRESSURE:	450 KPa (65 psi)
MAXIMUM SURGE AND TEST PRESSURE:	1000 KPa (145 psi)
MAXIMUM OPERATING TEMPERATURE:	20°C
MINIMUM OPERATING TEMPERATURE:	4°C
PIPING MATERIALS:	CARRIER: 250 mm CASING: 350 mm
NOMINAL DIAMETER:	275 mm
OUTSIDE DIAMETER:	HDPE
MATERIAL SPECIFICATION AND GRADE:	30.3 mm BUTT FUSION WELDED MIN. YIELD STRENGTH 241 MPa
WALL THICKNESS:	30.3 mm
TYPE OF JOINT:	NA
COATING:	NA
LOCATION OF SHUT OFF VALVES:	1. 42.0m NORTH OF N. LIMIT OF GWWD ROW. 2. 69.0m EAST OF E. LIMIT OF MURDOCK RD.
METHOD OF INSTALLATION:	TRENCHLESS - CASING TO BE JACKED WITH NO SOIL REMOVAL AHEAD OF PIPE
VENTS:	NA
SEALS:	NUMBER: NA HEIGHT ABOVE GROUND: NA BOTH ENDS: YES TYPE: PERMEABLE GEOTEXTILE FABRIC
BURY:	BASE OF RAIL TO TOP OF CASING: NOT BENEATH TRACKS BASE OF RAIL TO BOTTOM OF JACKING/RECEIVING PITS: NA 6.6 m
EXTENT OF CASING MEASURED PERPENDICULAR TO CENTERLINE OF TRACK:	25.19m
CENTERLINE OF TRACK TO FACE OF JACKING/RECEIVING PITS:	9.5m min.
TYPE, SIZE, AND SPACING OF INSULATORS OR SUPPORTS:	NA
CATHODIC PROTECTION:	NO
GEOTECHNICAL BOREHOLES:	NO
SOIL TYPE:	NA
BASE OF RAIL TO GROUND WATER:	NA
TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH TC-E10	



1 CASING PIPE DETAIL  
NTS

**BENCHMARK NOTES:**

DRAWING COORDINATES ARE UTM NAD83 - SCALE FACTOR 0.99983

B.M. No.	NORTHING	EASTING	ELEVATION
PILE 136	5523873.734	647764.406	236.242
PILE 133	5523256.606	647782.387	236.056

- GENERAL NOTES:**
- BASE LINE IS CENTERLINE OF RIGHT OF WAY.
  - EXPOSE ALL COMMUNICATION AND POWER DUCTS/LINES BY HYDROVAC EXCAVATION.
  - EXPOSE AQUEDUCT AND CONFIRM ELEVATION BY VACUUM EXCAVATION PRIOR TO FORCEMAIN CONSTRUCTION. FORCEMAIN TO BE INSTALLED BY TRENCHLESS METHODS. EXCAVATION SHALL BE MIN. 5m FROM EITHER SIDE OF AQUEDUCT AND SHORED TO PREVENT MOVEMENT OF GROUND UNDER AND AROUND AQUEDUCT.

**NOTE:**  
A. LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.



150 mm W.M.	WATERMAIN	150 mm W.M.	HYDRO M.T.S.	LIGHT STANDARD	LOCATION APPROVED UNDERGROUND STRUCTURES	B.M. ELEV.	CH2MHILL Frederickson Cooper ARCHITECTS	EarthTech A Tyco International Ltd. Company	ENGINEER'S SEAL PROVINCE OF MANITOBA ORIGINAL SIGNED BY K.W. FITCHETT 30/07/2007 REGISTERED PROFESSIONAL ENGINEER	THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION		
300mm L.D.S.	LAND DRAINAGE SEWER	300mm L.D.S.	CONCRETE ASPHALT	ANCHOR POLE	SUPV. U/G STRUCTURES COMMITTEE		DESIGNED BY: KWF	CHECKED BY: GK	WATER TREATMENT PLANT SUPPLY AND INSTALLATION OF FORCEMAIN	CITY FILE NUMBER		
250mm W.W.S.	WASTEWATER SEWER	250mm W.W.S.	PROPERTY LINE	RAIL X-ING SIGNAL	DATE		DRAWN BY: MAF	APPROVED BY: AHL		SHEET 20 OF 23		
	MANHOLE		SURVEY BAR	CONTOURS	NOTE:		SCALE: HORZ. 1:250 VERT. 1:50	RELEASED FOR CONSTRUCTION BY: R. SOROKOWSKI	CIVIL MURDOCK ROAD CROSSING DETAILS	CITY DRAWING NUMBER		
	CATCH BASIN		ELEVATION	DITCH	LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		NO. REVISIONS	DATE		1-0601Z-C-C0119-001-000		
	CURB INLET		TREE				00 ISSUED FOR TENDER	07/07/30	DATE	2005/12/09	DATE	2007/7/30
	JUNCTIONS		ANODE									
	CULVERT		CONCRETE SIDEWALK									
	GAS		FENCE									
EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PLAN	PROPOSED				