

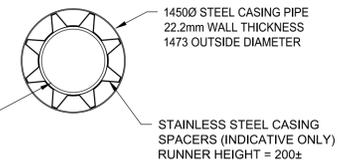
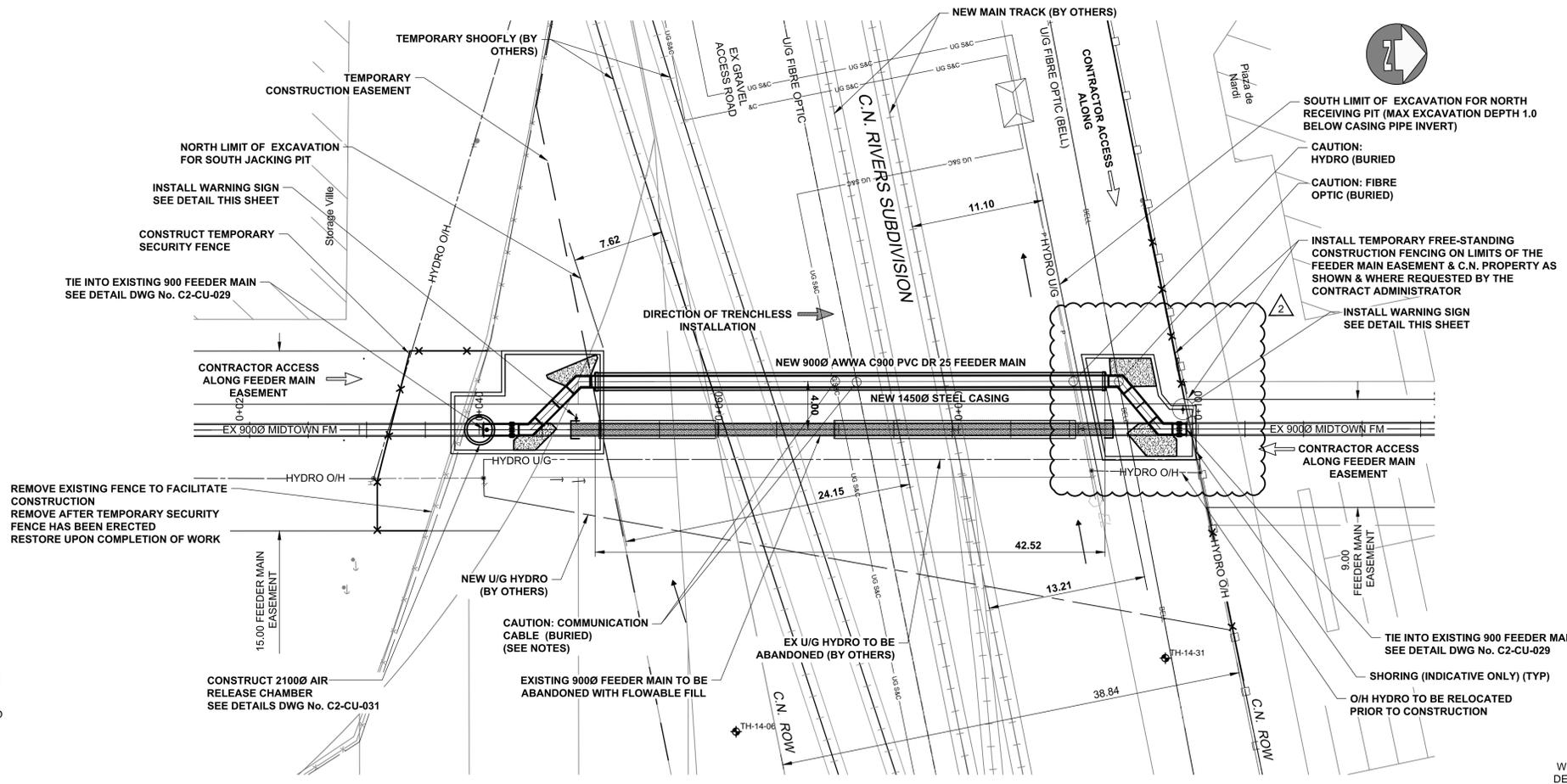
900 FM CROSSING

RAIL CROSSING NOTES

RAILWAY MILEAGE AND SUBDIVISION NAME OF PIPELINE OWNER	MAIN LINE - RIVERS SUBDIVISION - MILE 3.79 CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT	
CONTENTS TO BE HANDLED MAXIMUM OPERATING PRESSURE MAXIMUM SURGE AND TEST PRESSURE MAXIMUM OPERATING TEMPERATURE MINIMUM OPERATING TEMPERATURE	POTABLE WATER 551 kPa 827 kPa 20° C 4° C	
PIPING MATERIALS NOMINAL DIAMETER OUTSIDE DIAMETER MATERIAL SPECIFICATION AND GRADE	CARRIER 895 973 PVC AWWA C900 DR25	CASING 1450 1473 WELDED STEEL MIN. YIELD STRENGTH 241 MPA
WALL THICKNESS TYPE OF JOINT COATING	38.9 mm GASKETED BELL & SPIGOT N/A	22.2 mm PERMALOK EPOXY OR POLYURETHANE
METHOD OF INSTALLATION	TRENCHLESS	
VENTS NUMBER HEIGHT ABOVE GROUND	N/A N/A N/A	
SEALS N/A	PSI MODEL W-EPDM	
BURY BASE OF RAIL TO TOP OF CARRIER NOT BENEATH TRACKS	3.172 (PROPOSED MAIN LINE) 1.18 (PROPOSED DITCH)	
TOTAL EXTENT OF NEW CASING MEASURED PERPENDICULAR TO CENTRELINE OF TRACK	41.685	
ANGLE OF PIPE / TRACK CROSSING	72°	
DIRECTION OF FLOW	BI-DIRECTIONAL	
TYPE, SIZE AND SPACING OF INSULATORS OR SUPPORTS	PSI MODEL S METALLIC SPACERS 200 RUNNER HEIGHT 3.05 O.C. (MAX)	
CATHODIC PROTECTION GEOTECHNICAL BOREHOLES SOIL TYPE BASE OF RAIL TO GROUND WATER	8 (TOTAL) - 11.5kg ZINC ANODES SEE PROFILE CLAY N/A	
NOTE: INSTALLATION AND MAINTENANCE TO BE IN ACCORDANCE WITH TC E10		

NOTES:

- ALL PVC FEEDER MAIN JOINTS TO BE RESTRAINED EXCEPT WHERE NOTED
- ALL WORK ON CN PROPERTY SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE BID OPPORTUNITY AND CN REQUIREMENTS.
- SCHEDULE:
 - SHAFTS SHALL BE BACKFILLED PRIOR TO OCTOBER 6th, 2017
 - SHUTDOWN AND DRAINING OF THE MIDTOWN FEEDER MAIN IS REQUIRED TO COMPLETE WORK. COORDINATE WITH THE CONTACT ADMINISTRATOR AS SPECIFIED IN THE BID OPPORTUNITY.
- THE CONTRACTOR SHALL EXPOSE THE FEEDER MAIN TO CONFIRM JOINT LOCATIONS AT EACH TIE-IN PRIOR TO COMMENCING WITH SHORING INSTALLATION.
- EXCAVATIONS AND SHORING TO CONFORM TO CN REQUIREMENTS AS SPECIFIED.
- BED PIPE OUTSIDE OF CASING EXTENTS AS PER DETAIL DRAWING No. C2-CU-030
- THE CONTRACTOR SHALL EXPOSE ALL BURIED COMMUNICATIONS CABLING AT COMMENCEMENT OF THE WORK AND COORDINATE WITH CN & UTILITY OWNERS TO ENSURE CABLES ARE NOT DAMAGED DURING CONSTRUCTION. CABLES CROSSING THE EXCAVATION SHALL BE SUPPORTED ACROSS THE EXCAVATION.
- ISOLATION VALVES LOCATED AT:
 - HURST WAY
 - GRANT AVENUE
- SITE ACCESS THROUGH CN RIGHT-OF-WAY AND FEEDER MAIN EASEMENTS AS SHOWN ON THIS DRAWING.
- KEEP CONSTRUCTION FOOTPRINT WITHIN CN PROPERTY AND FEEDER MAIN EASEMENTS SHOWN ON DRAWINGS.
- INSULATION TO BE INSTALLED DURING RAIL EMBANKMENT CONSTRUCTION. SEE DETAIL DWG No. C2-CU-030
- ANODES TO BE INSTALLED WITHIN SHAFTS, EMBEDDED WITHIN UNDERLYING NATIVE SOILS WITH A 1.5 MINIMUM SEPARATION



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.

PA:60321148;900-Work\9100-DD CAD;200-SHEETS\Municipal\63353-C2-CU-Midtown FM Offline Replacement.dwg

| 150 WM |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| HYDRANT |
| VALVE |
| LAND DRAINAGE SEWER |
| WASTE WATER SEWER |
| SEWER SERVICE PIPE |
| DRAINAGE CONNECTION PIPE |
| MANHOLE |
| CATCH BASIN |
| CURB INLET |
| CULVERT |
| EXISTING | NEW | EXISTING | NEW | EXISTING | NEW | EXISTING | NEW |

UNDERGROUND STRUCTURES	B.M. ELEV.
SUPV. U/G STRUCTURES	DATE
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	BY	DATE
2	ISSUED FOR ADDENDUM 6	17/03/09	WJd	
1	ISSUED FOR ADDENDUM 5	17/03/02	WJd	
0	ISSUED FOR TENDER	17/01/09	WJd	

AECOM

DESIGNED BY: ADB
CHECKED BY:
DRAWN BY: WJd
APPROVED BY:
HOR. SCALE: 1:250
VERTICAL: 1:50
RELEASED FOR CONSTRUCTION

ENGINEER'S SEAL
PROVINCE OF MANITOBA
A. D. BRAUN
Member
24453
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT NUMBER
60321148

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

WAVERLEY STREET UNDERPASS AT CN MILE 3.89 RIVERS SUB
CONTRACT 2: UNDERPASS STRUCTURE, RAILWORKS,
ROADWORKS, LAND DRAINAGE SEWER, PUMPING STATION
AND LANDSCAPING WORKS

CITY DRAWING NUMBER
U239-2016-C2-CU-028
SHEET 28 OF 41

EXISTING MIDTOWN FEEDER MAIN
PLAN/PROFILE
FEEDER MAIN OFF-LINE REPLACEMENT

CONSULTANT DRAWING NUMBER
C2-CU-028

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

APEGM
Certificate of Authorization
AECOM Canada Ltd.
No. 4671 Date: _____
BID OPPORTUNITY NO. 473-2016