



PURCHASING SECTION
13450 – 104 Avenue, Surrey, B.C. V3T 1V8
Tel: 604-590-7274
E-mail: purchasing@surrey.ca

ADDENDUM No. 2

REQUEST FOR QUOTATIONS (RFQ) No.: 1220-040-2018-066

TITLE: CATHODIC PROTECTION SURVEY AND
MAINTENANCE

ADDENDUM ISSUE DATE: JULY 26, 2018

REVISED DATE: PREFER TO RECEIVE SUBMISSION ON OR
BEFORE AUGUST 02, 2018

INFORMATION FOR CONTRACTORS

This Addendum is issued to provide additional information and clarifications to the RFQ for the above named project, to the extent referenced and shall become a part thereof. No consideration will be allowed for extras due to the Contractor not being familiar with this Addendum. This Addendum No. 2 contains nine (9) pages.

QUESTIONS AND ANSWERS:

- Q1. We would like to ask whether these test stations are typically mounted flush in the middle of the street. I was originally anticipating test stations above grade and/or on the boulevard, away from traffic. But it is unclear on the drawings that are available on COSMOS. If these are busy streets this may complicate things. For instance the one along Scott road – this is a 37000 vehicles per day arterial. If it is on the boulevard, then we just have to worry about parking safely, which is not a huge deal. In the street would definitely require a second worker to assist.
- A1. At this point, we do not know the exact location of test station other than based on the as built drawings available. There will be a line item added in the Schedule as a Provisional item to include Traffic related costs (See Item #3 of Clarifications/Addition/Deletions below).
- Q2. Regarding the first addendum question, one of the ways we'd evaluate continuity is to interrupt the anodes at one end and check for shifts down the line at the rest of the stations. In this case it appears there are anodes at each test station. Another one of the ways we would check for continuity between test stations would be to string out an "ager" reel from one to the other (continuous wire) and ensure that potentials are identical via a half cell at a constant location. Are you concerned with the continuity between ductile iron joints even if all sections are protected? One can measure adequate protection based on adequate potentials, but this test actually confirms whether the joints are continuous. Unfortunately it would also add to the time and might even require an extra man if it crosses streets, intersections etc. (or if the answer to the first question above is that the stations are in the street).

- A2. The City prefers to conduct the test(s) to confirm the continuity of the pipeline in between the Test Stations as part of this project.**
- Q3. For traffic control, do we have to notify the city in advance for lane closures and file for permits? Or can we install cones and trucks with traffic signs on as need basis (reasonably while minimizing impact on city traffic)?**
- A3. Traffic control permit may be required depending on the location of test stations. The City will add one more line for traffic control permit for each test station (See Item #3 of Clarifications/Addition/Deletions below).**
- Q4. Page 24 of 52, section 2.2, it is stated that one objective is to attach pictures before any excavation and after restoration; further down, it is stated that the repair of discontinuous wires outside/between the test stations is outside the scope of this project. This comes off as ambiguous and contradicting information. Section 2.1 on the previous page also says, "activate spare anode if available", and then answer #6 of Addendum#1 says excavations are required for changing anodes but that the project does not require any construction works. Can you please clarify if it safe to assume that no excavations or construction works of any kind will be required within the scope of this project?**
- A4. There are no major construction works or excavations required under this project. However it is expected that the Contractor would make effort to gain access to each test station without using any heavy equipment.**

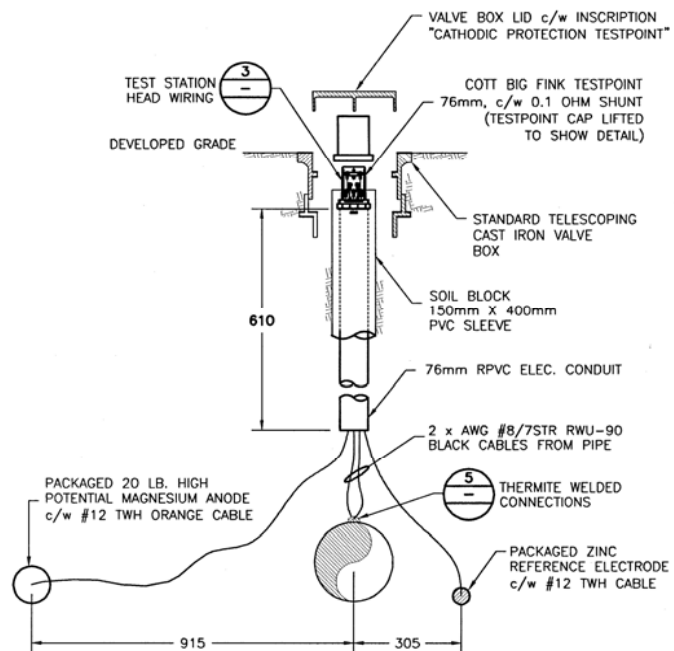
CLARIFICATIONS/ ADDITIONS/ DELETIONS:

- 1.) Delete second bullet of Section 2.2 on Page 24 of 52, "Attach pictures before any excavation and after restoration"**
- 2.) Change fourth bullet of Section 2.2 on Page 24 of 52 to, "Attach pictures of each test station **before and** after cleaning showing its general location including adjacent landmark(s) of the station and the internal layout/condition. Label and provide a short description of each picture taken"**
- 3.) In Schedule B – Form of Quotation, Section B-2 Fees and Payments, Page 43 of 52; add one more line item as Provisional item, "Section 4.0, Project ID, "Traffic control at test station if the access to test station is located within the driving lane and hard shoulder." Estimated quantities of test stations that may require traffic control are; 35 Test Stations.**
- 4.) Addition of Schedule A-4 AS-BUILT DRAWINGS NOT IN COSMOS. See Appendix 1 to Addendum No.2**

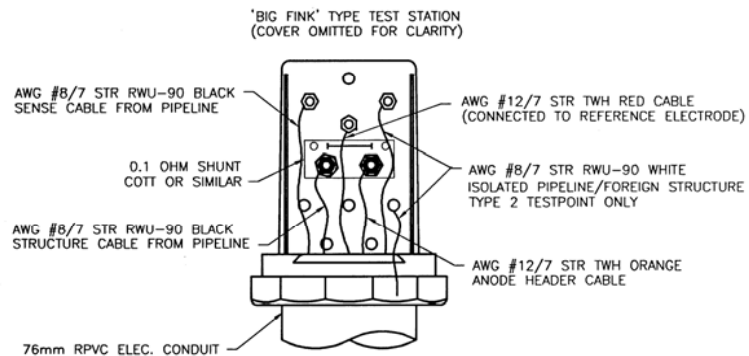
APPENDIX 1

SCHEDULE A-4 – AS-BUILT DRAWINGS NOT IN COSMOS

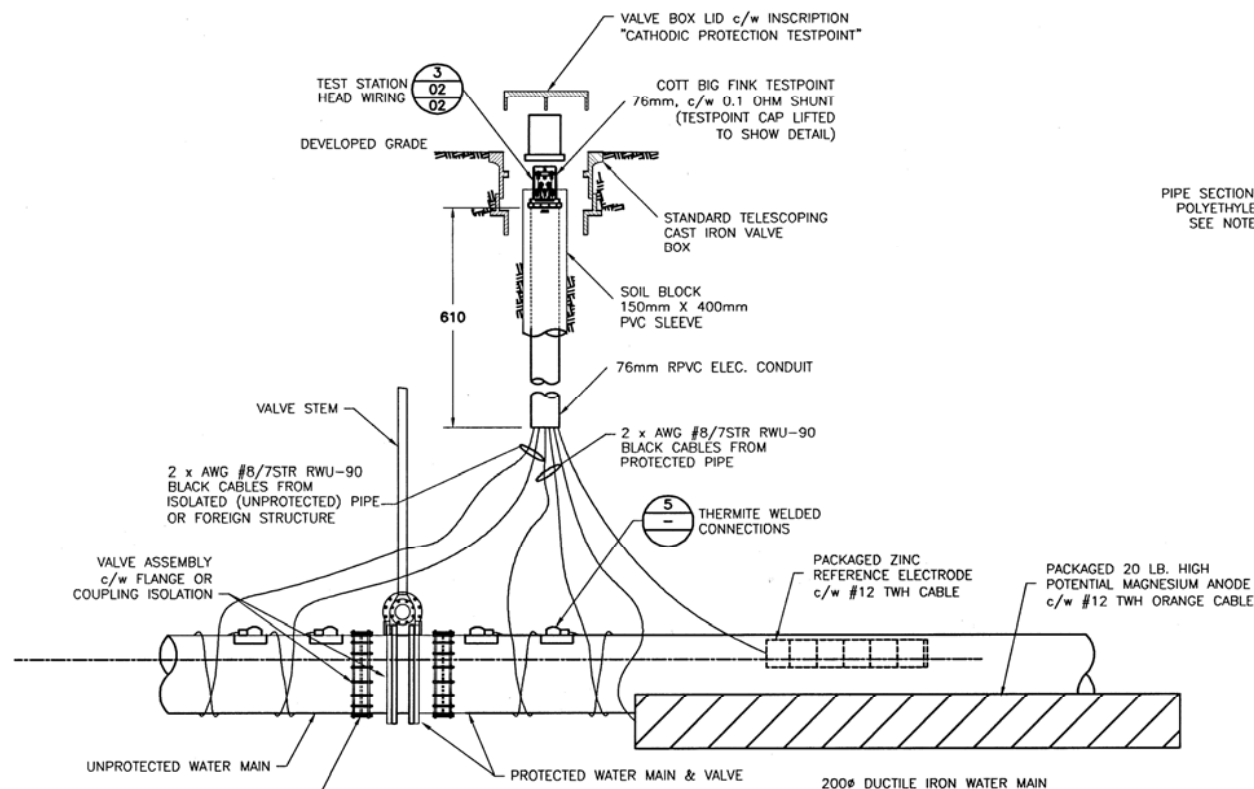
All Addenda will become part of the Contract Documents.



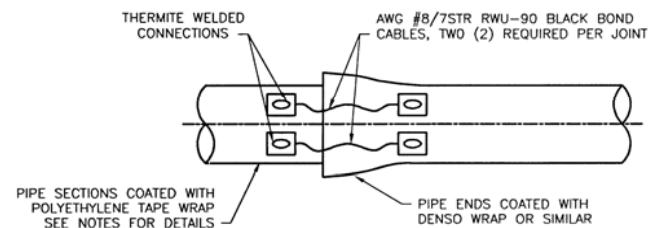
DETAIL 1 TYPE 1 TEST STATION INSTALLATION
SCALE: 1/10



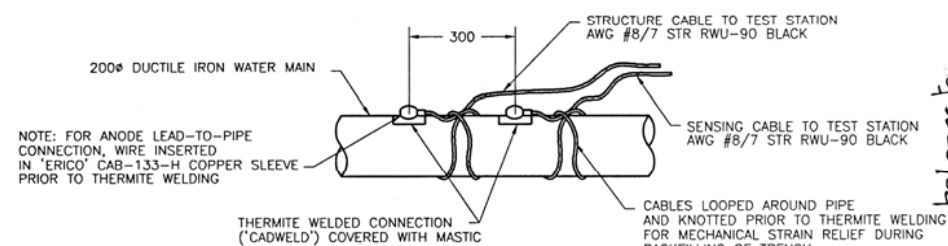
DETAIL 3 TEST STATION HEAD WIRING, TYPE 1 & 2
SCALE: 1/2



DETAIL 2 TYPE 2 TEST STATION INSTALLATION
SCALE: 1/10



DETAIL 4 TYPICAL JOINT BONDING
SCALE: 1/10



DETAIL 5 THERMITE WELDED CONNECTIONS AT TEST STATIONS
SCALE: NTS

CATHODIC PROTECTION NOTES

1. THE CATHODIC PROTECTION INSTALLATION WAS IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS. ALL MATERIALS ARE AS INDICATED IN THE DRAWINGS OR APPROVED ALTERNATE INCLUDING COATINGS, ANODES, TESTPOINTS, REFERENCE ELECTRODES, CABLES AND OTHER SPECIFIED MATERIALS.

2. THE EXTERNAL SURFACE OF THE WATER MAIN IS COATED WITH POLYKEN OR TEK-RAP POLYETHYLENE PIPELINE TAPE OR APPROVED ALTERNATE. COATING OF THE WATER MAIN IS IN ACCORDANCE WITH THE PROJECT DRAWINGS AS WELL AS APPLICABLE COATING STANDARDS INCLUDING:

ANSI/AWWA C214 (FACTORY APPLIED)
ANSI/AWWA C209 (COLD APPLICATION)
ANSI AWWA C217 (PETROLATUM TAPE/WAX)

IN ADDITION TO PIPE SURFACE PREPARATION REQUIREMENTS AS DETAILED IN THE ABOVE NOTED STANDARDS, ALL SLIVER, SCALE AND SCABS WERE GROUND OFF THE DUCTILE IRON PIPE.

ALL BELL & SPIGOT CONNECTIONS AS WELL AS VALVES AND OTHER FITTINGS ARE FIELD COATED WITH DENSO WRAP/WAX OR APPROVED ALTERNATE.

3. THE PIPE BEDDING MATERIAL FOR THE WRAPPED PIPE IS CLEAN, WASHED FILL SAND OR EQUIVALENT, WITH LESS THAN 10 ppm OF CHLORIDE AND SULPHATE IONS.

4. ALL METALLIC SERVICES ARE ELECTRICALLY ISOLATED AT THE PROPERTY LINE. A MUELLER CO. MODEL N-35172-3F INSULATED CURB VALVE OR EQUIVALENT AND MUELLER CO MODEL N-35008 INSULATED CORPORATION BALL VALVE OR EQUIVALENT.

5. PETROLATUM TAPE WRAP 300mm PAST ALL ELECTRICALLY ISOLATED FITTINGS INCLUDING THE CORPORATION VALVE BUT EXCLUDING THE CURB VALVES.

6. PROTECTED PIPING SECTIONS ARE ELECTRICALLY ISOLATED AT ENDPOINT TIE-INS SUCH AS VALVES WITH ONE OF THE FOLLOWING:

FULL FACE FLANGE ISOLATION KIT INCLUDING GASKET, SLEEVES & WASHERS,
1 METER OF RPVC PIPE,
ISOLATING BOOT SUITABLE FOR A DRESSER STYLE COUPLING,
OR APPROVED ALTERNATE.

7. INDIVIDUAL PIPE SECTIONS ARE PROVIDED ELECTRICAL CONTINUITY WITH TWO BOND WIRES INSTALLED AT EACH PIPE JOINT. SEE DETAIL FOUR.

8. EXCEPT FOR FLANGE CONNECTIONS, PROTECTED VALVES & FITTINGS ARE PROVIDED ELECTRICAL CONTINUITY ACROSS CONNECTIONS AS DETAILED IN ITEM 7.

9. ANODES & REFERENCE ELECTRODES WERE INSTALLED AT THE LOCATIONS, ELEVATIONS & PIPE SPACINGS AS NOTED ON THE DRAWINGS AND IN THIS SHEET. TEST STATIONS INSTALLED BEHIND THE CURB FACE.

10. ALL CABLE BONDS WERE COMPLETED WITH APPROPRIATELY SIZED THERMOWELD OR CADWELD MOLDS & CHARGES. BOND SURFACES PREPARED AS RECOMMENDED BY THE MANUFACTURER.

TRANS MOUNTAIN PIPELINE NOTES:

1. FOR TRANS MOUNTAIN PIPELINE NOTES & PIPELINE DATA, SEE DWG #1201-3020-00, SHEET 06 OF 19.

W-001-037
W-012-091
WD-001-026
WD-002-035
15 - W-001-035
9 - W-012-090
16 - WD-001-025
See Sheet 6 -
WD-002-033

A&M Project 20179
19 of 19

E			J		
D	CITY DWG. No.'s ADDED	03/03/14	TVR	I	
C	RECORD DRAWING	03/02/21	MEC	H	
B	ISSUED FOR CONSTRUCTION	01/06/03	MEC	G	
A	ISSUED FOR REVIEW	01/12/05	RJA	F	
REVISIONS		Y/M/D	BY	REVISIONS	
		Y/M/D	BY		

APLIN & MARTIN
CONSULTANTS LTD
201-12448 82 Avenue, Surrey, B.C. Canada V3W 3E9
Tel: (604) 597-9050, Fax: (604) 597-9061, E-mail: general@aplinmartin.com

WEST COAST
CORROSION
PREVENTION LTD.
1103 - Cliveden Avenue
Delta, British Columbia
V3M 6G9
Phone (604) 521-1234
Fax (604) 521-0910

SCALE: 1:10 ONO
DATE: 12/05/01
DRAWN BY: BS
DESIGNED BY: RJA
CHECKED BY: WS
APPROVED FOR
USE IN CONSTRUCTION
DSK No. FILE No.

CITY OF SURREY
CONTRACT NO. 1335-A
APLIN & MARTIN CONSULTANTS LTD.
CATHODIC PROTECTION
DRAWING No. SHEET 1 D
CANCEL PRINTS BEARING EARLIER REVISION

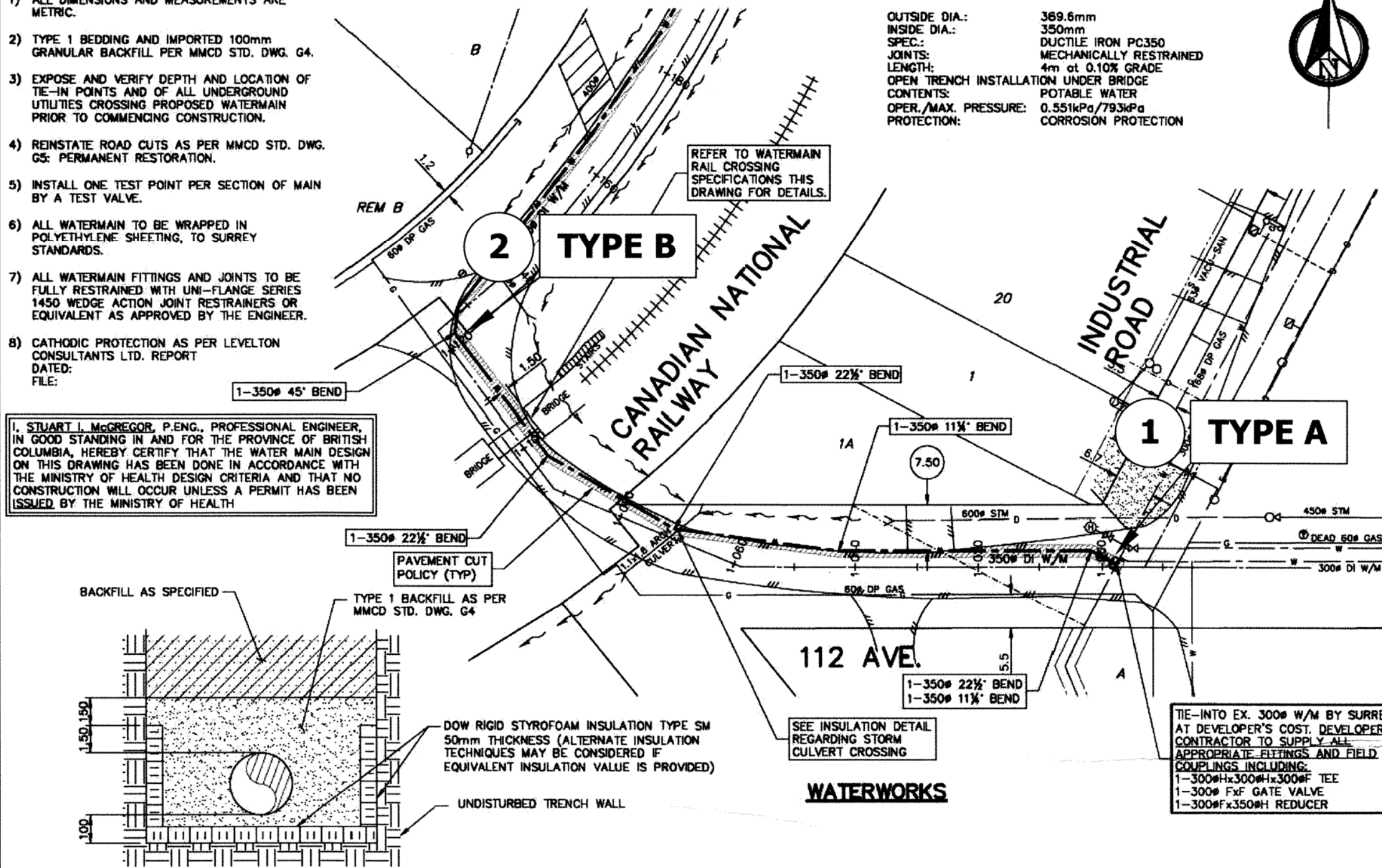
WATER NOTES:

- 1) ALL DIMENSIONS AND MEASUREMENTS ARE METRIC.
- 2) TYPE 1 BEDDING AND IMPORTED 100mm GRANULAR BACKFILL PER MMCD STD. DWG. G4.
- 3) EXPOSE AND VERIFY DEPTH AND LOCATION OF TIE-IN POINTS AND OF ALL UNDERGROUND UTILITIES CROSSING PROPOSED WATERMAIN PRIOR TO COMMENCING CONSTRUCTION.
- 4) REINSTATE ROAD CUTS AS PER MMCD STD. DWG. G5: PERMANENT RESTORATION.
- 5) INSTALL ONE TEST POINT PER SECTION OF MAIN BY A TEST VALVE.
- 6) ALL WATERMAIN TO BE WRAPPED IN POLYETHYLENE SHEETING, TO SURREY STANDARDS.
- 7) ALL WATERMAIN FITTINGS AND JOINTS TO BE FULLY RESTRAINED WITH UNI-FLANGE SERIES 1450 WEDGE ACTION JOINT RESTRAINERS OR EQUIVALENT AS APPROVED BY THE ENGINEER.
- 8) CATHODIC PROTECTION AS PER LEVELTON CONSULTANTS LTD. REPORT DATED: FILE:

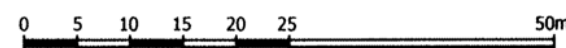
I, **STUART I. MCGREGOR, P.ENG.**, PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WATER MAIN DESIGN ON THIS DRAWING HAS BEEN DONE IN ACCORDANCE WITH THE MINISTRY OF HEALTH DESIGN CRITERIA AND THAT NO CONSTRUCTION WILL OCCUR UNLESS A PERMIT HAS BEEN ISSUED BY THE MINISTRY OF HEALTH

WATERMAIN RAIL CROSSING SPECIFICATIONS

OUTSIDE DIA.: 369.6mm
 INSIDE DIA.: 350mm
 SPEC.: DUCTILE IRON PC350
 JOINTS: MECHANICALLY RESTRAINED
 LENGTH: 4m at 0.10% GRADE
 OPEN TRENCH INSTALLATION UNDER BRIDGE
 CONTENTS: POTABLE WATER
 OPER./MAX. PRESSURE: 0.551kPa/793kPa
 PROTECTION: CORROSION PROTECTION



SCALE:



Surrey Drawing Number: WD-000-037 Surrey Project Number: 1211-9050-00

Note: Design based on drawings provided by KM Civil Consultants Ltd.

		LEVELTON LEVELTON CONSULTANTS LTD. 301-19292 60th Avenue Tel: 604 533-2992 Surrey, B.C. Fax: 604 533-0788	
		TITLE: Site Plan and Test Point Locations PROJECT: Corrosion Protection Design Services Amix Re-Development - Musqueam Drive Surrey, British Columbia CLIENT: KM Civil Consultants Ltd.	
		DES. ECM CH. MJM APP. MJM DATE July 11, 2011 FILE NO. FV11-1329-00 DWG. NO. FV11-1329-01	
		1 Issued for Review July 11, 2011	

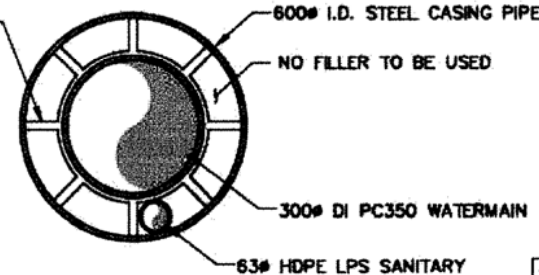
SHARED CASING PIPE SPECIFICATIONS

INSIDE DIA: 601mm
OUTSIDE DIA: 630mm
WALL THICKNESS: 14.3mm
PIPE SPECIFICATION: 241MPa MIN. YIELD STRENGTH
LENGTH: 11.5m

CARRIER PIPE SPECIFICATIONS: DUCTILE IRON
CONTENTS: POTABLE WATER
INSIDE DIA: 319mm
WALL THICKNESS: 19mm
SPEC.: PC350
OPER./MAX. PRES.: 551kPa
PROTECTION: RESTRAINED JOINT

RACI HDPE SPACERS TYPE M/N SPACED AT 1.8m (MAX) INTERVALS WITH DOUBLE SPACER AT EACH END (TYP)

NOTE: CASING PIPE TO BE 10.50mm THICK WALL STEEL CASING. CASING PIPE TO BE A-252 GRADE 2 OR BETTER WITH A MIN. YIELD STRENGTH OF 241MPa IN ACCORDANCE WITH SPEC. 4 & 5 OF CSA STD. SPECIFICATION TC E-10



SHARED WATERMAIN/LPS SANITARY CASING PIPE/CARRIER PIPE DETAIL N.T.S.

I, STUART L. MCGREGOR, P.ENG., PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WATER MAIN DESIGN ON THIS DRAWING HAS BEEN DONE IN ACCORDANCE WITH THE MINISTRY OF HEALTH DESIGN CRITERIA AND THAT NO CONSTRUCTION WILL OCCUR UNLESS A PERMIT HAS BEEN ISSUED BY THE MINISTRY OF HEALTH

6 TYPE A1

SEE WATER CONNECTION DETAIL 2 THIS DRAWING.

INSTALL 11.5m-600# SHARED CASING PIPE USING TRENCHLESS METHOD. SEE DETAIL THIS DRAWING.

2-300#xH 22 1/2' VERT. BENDS

5 TYPE A

TIE-INTO EX. 200# W/M BY SURREY AT DEVELOPER'S COST. DEVELOPER'S CONTRACTOR TO SUPPLY ALL APPROPRIATE FITTINGS AND FIELD COUPLINGS INCLUDING:
1-300#x300#x200# TEE
1-200#xH GATE VALVE
1-200# ROBAR COUPLING
(SEE WATER TIE IN DETAIL THIS DRAWING)

1-350#x300# REDUCER
1-300#xH GATE VALVE at R

4 TYPE A2

1-350#x350#x250# TEE

1-350#-45' BEND

MUSQUEAM DRIVE

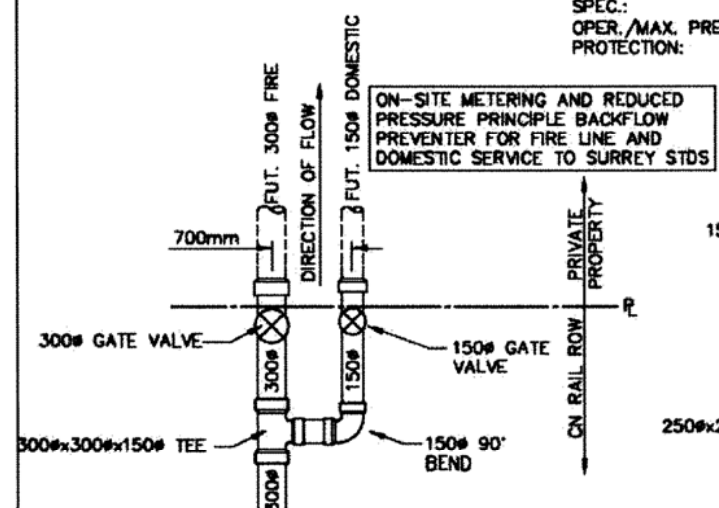
1-350#-11 1/4' BEND
1-350#-22 1/2' BEND

CANADIAN NATIONAL RAILWAY

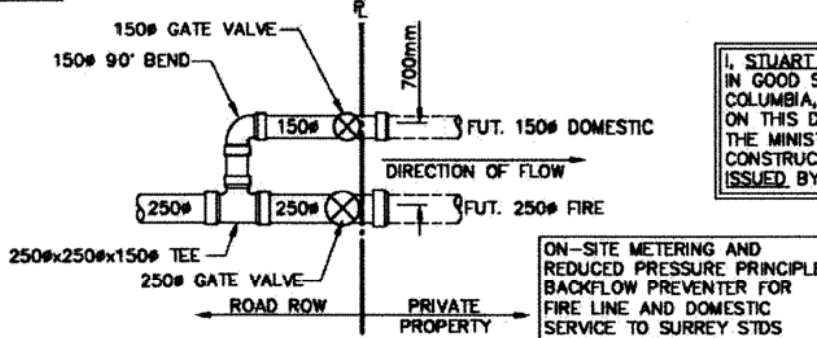
SITE

SEE WATER CONNECTION DETAIL 1 THIS DRAWING.

WATER CONNECTION DETAIL 2 N.T.S.

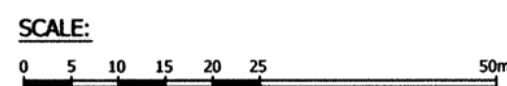
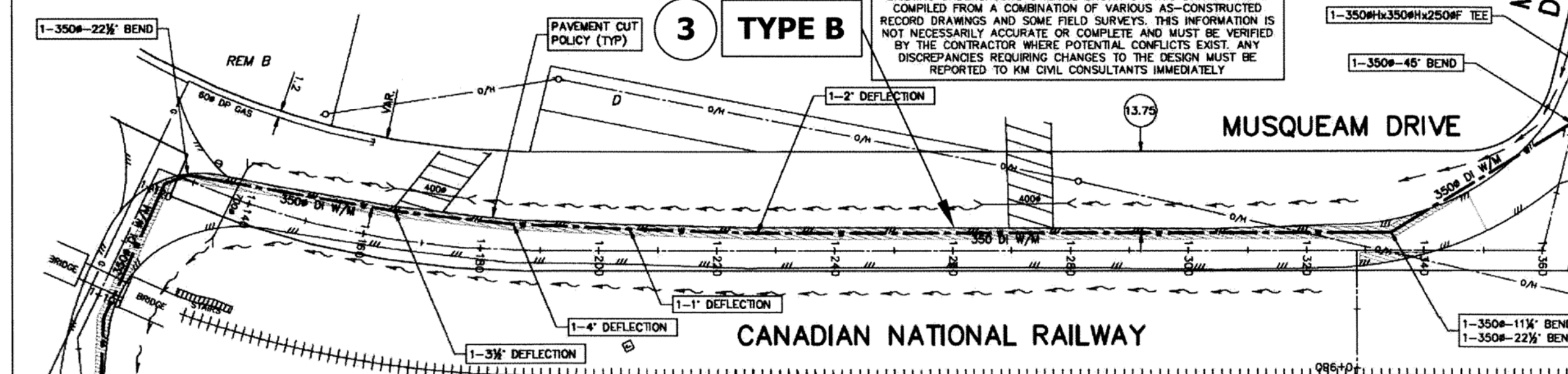


WATER CONNECTION DETAIL 1 N.T.S.




3 TYPE B

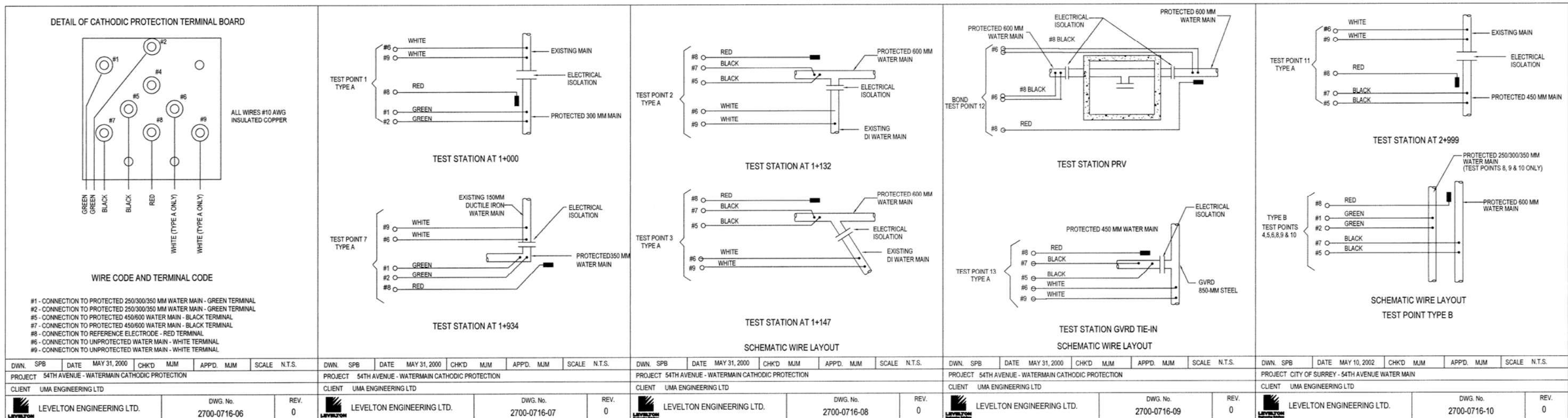
BEFORE YOU DIG
EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING WERE COMPILED FROM A COMBINATION OF VARIOUS AS-CONSTRUCTED RECORD DRAWINGS AND SOME FIELD SURVEYS. THIS INFORMATION IS NOT NECESSARILY ACCURATE OR COMPLETE AND MUST BE VERIFIED BY THE CONTRACTOR WHERE POTENTIAL CONFLICTS EXIST. ANY DISCREPANCIES REQUIRING CHANGES TO THE DESIGN MUST BE REPORTED TO KM CIVIL CONSULTANTS IMMEDIATELY




Surrey Drawing Number: WD-000-038 Surrey Project Number: 1211-9050-00


Note: Design based on drawings provided by KM Civil Consultants Ltd.

			 LEVELTON	TITLE:	Site Plan and Test Point Locations	DES. ECM	DR. ECM
				PROJECT:	Corrosion Protection Design Services Amix Re-Development - Musqueam Drive Surrey, British Columbia	CH. MJM	SCALE NTS
						APP. MJM	DATE July 11, 2011
				LEVELTON CONSULTANTS LTD.		FILE NO.	FV11-1329-00
1	Issued for Review	July 11, 2011		301-19292 80th Avenue Surrey, B.C.	Tel: 604 533-2992 Fax: 604 533-0768	CLIENT:	KM Civil Consultants Ltd.
No.	Description	Date					








EXISTING





PROPOSED





12



13

14

15





SANITARY SEWER
STORM SEWER
CATCH BASIN
DITCH
WATERMAIN
GATE VALVE
AIR VALVE
STANDPIPE OR HYDRANT

—G— GAS MAIN
—T— TEL. & HYDRO U/G
—X— FENCE
—O— CULVERT
—△— SURVEY MONUMENT
—*— TREE


ALL DIMENSIONS ARE IN METRES
ALL PIPE SIZES ARE IN MILLIMETRES

REVISIONS	DESCRIPTION	BY	DATE	APPROVED
4				
3				
2	AS-CONSTRUCTED		AUG. 2004	



ENGINEERING
DEPARTMENT

CITY OF SURREY




BENCH MARK - S.M. #5722, ON 54 AVE. WEST OF 188 ST. ELEV. 33.766
T.B.M. - S.I.P. ELEV.

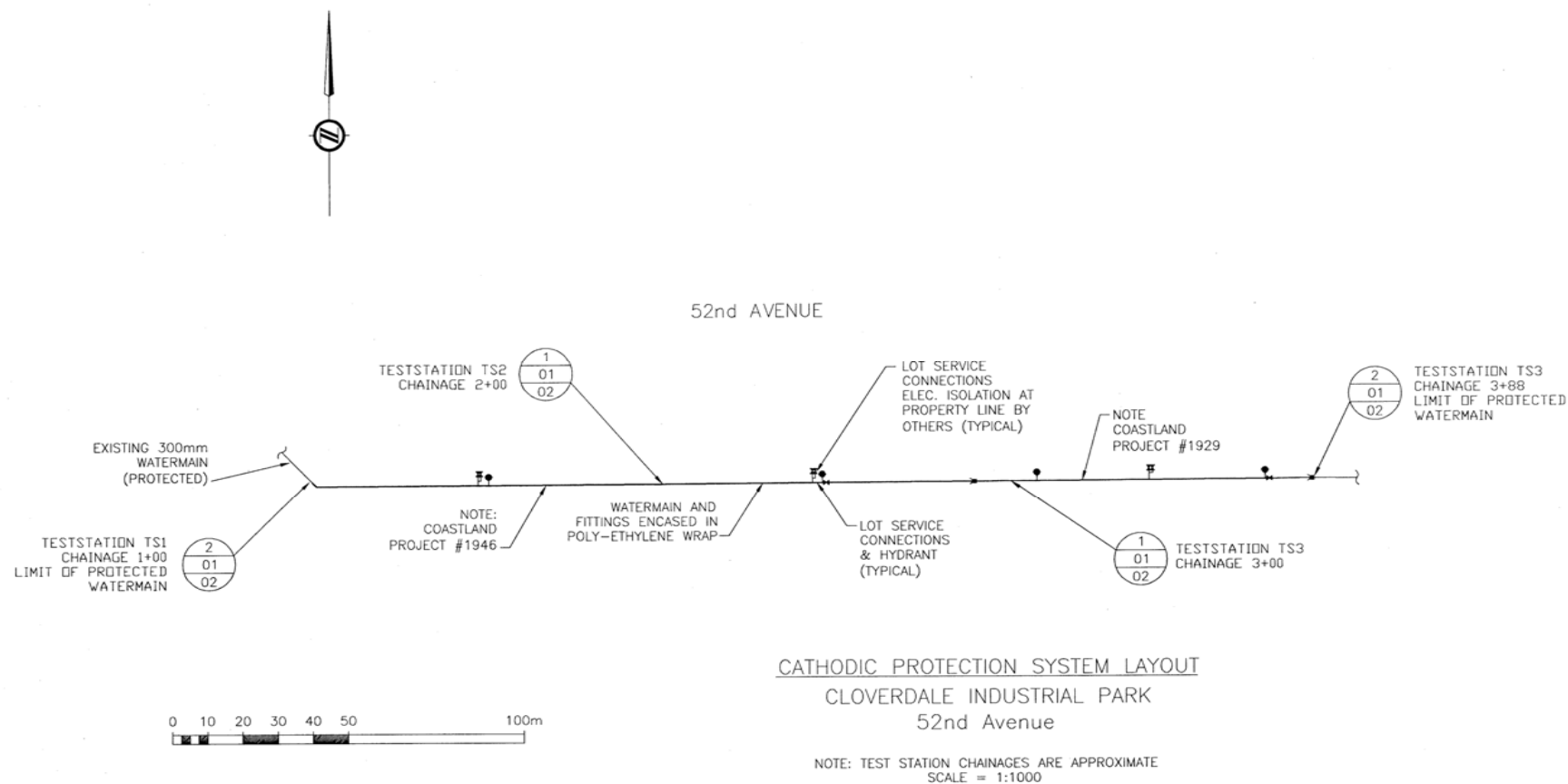
TITLE

54th AVENUE - WATERMAIN
DETAILS

SEAL



SCALE: AS SHOWN	DATE: JULY 18, 2003	PROJECT NUMBER: SURREY 1200-5120-0-UMA 1398-063-01-1
DRAWN: J.B.C. CHECKED:	L.B. CONTRACT	SURVEY DRAWING NUMBER: WD-088-014
DESIGNED: J.C. CHECKED:	AS BUILT	7

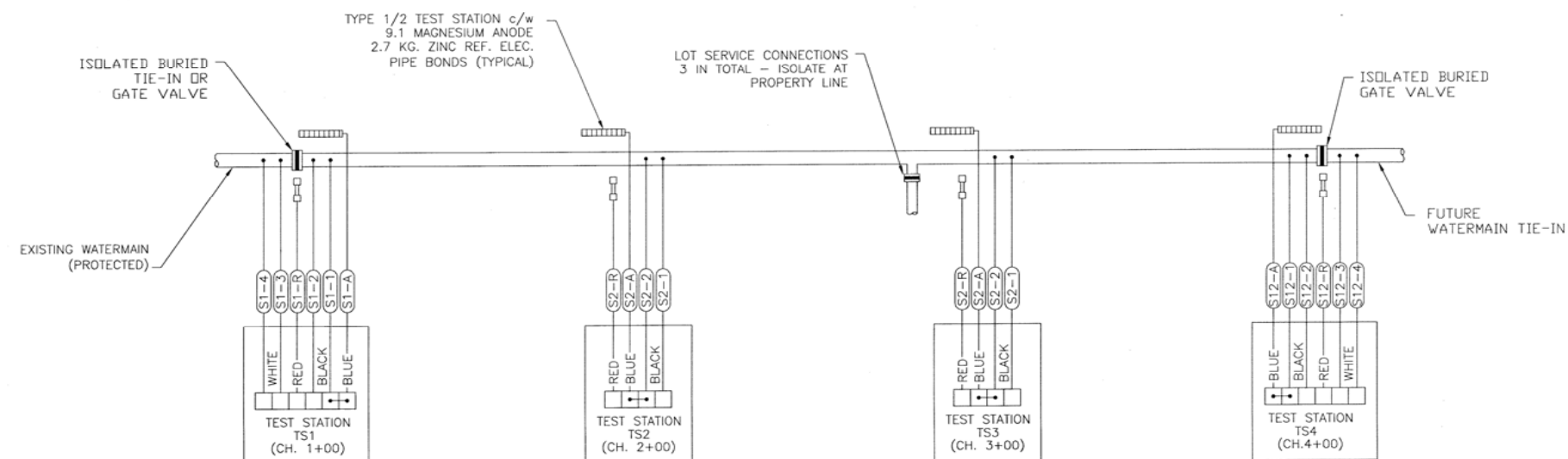


CABLE DESIGNATION TABLE**						
TAG	ORIGIN	DESTINATION	CABLE TYPE, COLOUR, AND LENGTH* (m)			
			AWG #10/7 STR RWU-90 BLACK	AWG #10/7 STR RWU-90 WHITE	AWG #10/7 STR TWH BLUE	AWG #10/7 STR TWH RED
S1-1	WATERMAIN (NEW) S.C.*	TEST STATION TS1	10			
S1-2	WATERMAIN (NEW) S.C.	"	10			
S1-3	WATERMAIN (EXISTING) S.C.	"		10		
S1-4	WATERMAIN (EXISTING) S.C.	"		10		
S1-A	9.1 KG. MAGNESIUM ANODE	"			10	
S1-R	ZINC REFERENCE	"				10
S2-1	WATERMAIN (NEW) S.C.*	TEST STATION TS2	10			
S2-2	WATERMAIN (NEW) S.C.	"	10			
S2-A	9.1 KG. MAGNESIUM ANODE	"			10	
S2-R	ZINC REFERENCE	"				10
S3-1	WATERMAIN (NEW) S.C.*	TEST STATION TS3	10			
S3-2	WATERMAIN (NEW) S.C.	"	10			
S3-A	9.1 KG. MAGNESIUM ANODE	"			10	
S3-R	ZINC REFERENCE	"				10
S4-1	WATERMAIN (NEW) S.C.*	TEST STATION TS4	10			
S4-2	WATERMAIN (NEW) S.C.	"	10			
S4-3	WATERMAIN (EXISTING) S.C.	"		10		
S4-4	WATERMAIN (EXISTING) S.C.	"		10		
S4-A	9.1 KG. MAGNESIUM ANODE	"			10	
S4-R	ZINC REFERENCE	"				10
B/S/R CABLE* AWG #6/7 RWU-90 BL			65			
TOTAL CABLE LENGTHS			65m	80m	40m	40m

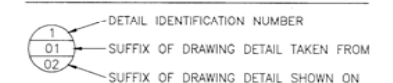
* S.C. - STRUCTURE OR SENSE CABLE
** CABLE LENGTHS FOR ESTIMATION PURPOSES ONLY. CONTRACTOR RESPONSIBLE FOR ACCURACY OF MEASUREMENTS
B/S/R/ CABLE: BELL, SPIGOT & RESTRAINT COUPLING BOND CABLE

BILL OF MATERIALS*			
ITEM	CODE	DESCRIPTION	QUANTITY
1	TS# (1-4)	FINK TEST STATION c/w 75mm x 762mm RPVC RISER	4 EA.
2	TS# (1-4)	0.01 COTT OHM SHUNT	4 EA.
3	TS# (1-4)	VALVE BOX c/w PRE CAST CONCRETE BASE	4 EA.
4	TS# (1-4)	13.6 Kg. PACKAGED ZINC ANODE	35 EA.
5	TS# (1-4)	9.1 KG. PACKAGED MAGNESIUM ANODE	4 EA.
6	TS# (3 & 5)	2.1 ZINC REFERENCE ELECTRODE	4 EA.
7	-	THERMITE WELD CHARGES, 15/25 GRAM	250 EA.
8	-	ROYSTON A51 COLD APPLICATION MASTIC	3 GALLONS
9	-	MAIN LINE TIE-INS: ISOLATION, 300mm, #150	3 EA.
10	-	LOT SERVICE LINE TIE-INS: ISOLATION DETAILS TO BE CONFIRMED	6 EA.
11	TS# (1-4)	AWG #10/7 STR RWU-90 BLACK CABLE	80m
12	TS# (1-4)	AWG #10/7 STR RWU-90 WHITE CABLE	40m
13	TS# (1-4)	AWG #10/7 STR RWU-90 RED CABLE	40m
14	TS# (1-4)	AWG #10/7 STR RWU-90 BLUE CABLE	40m
15	-	AWG #6/7 STR RWU-90 BLACK CABLE (BONDING)	65m
16	-	MISCELLANEOUS MATERIALS & EQUIPMENT	AS REQ'D

* DESCRIPTIONS & QUANTITIES FOR ESTIMATION PURPOSES ONLY
CONTRACTOR RESPONSIBLE FOR CONFIRMING ACTUAL REQUIREMENTS
APPROVED ALTERNATE MATERIALS MAY BE USED



DETAIL SYMBOL EXPLANATION



WD-088-030

E			J		
D			I		
C			H		
B			G		

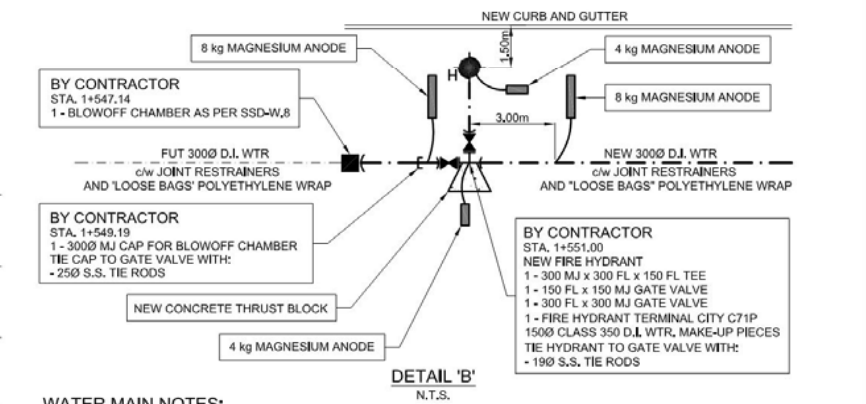
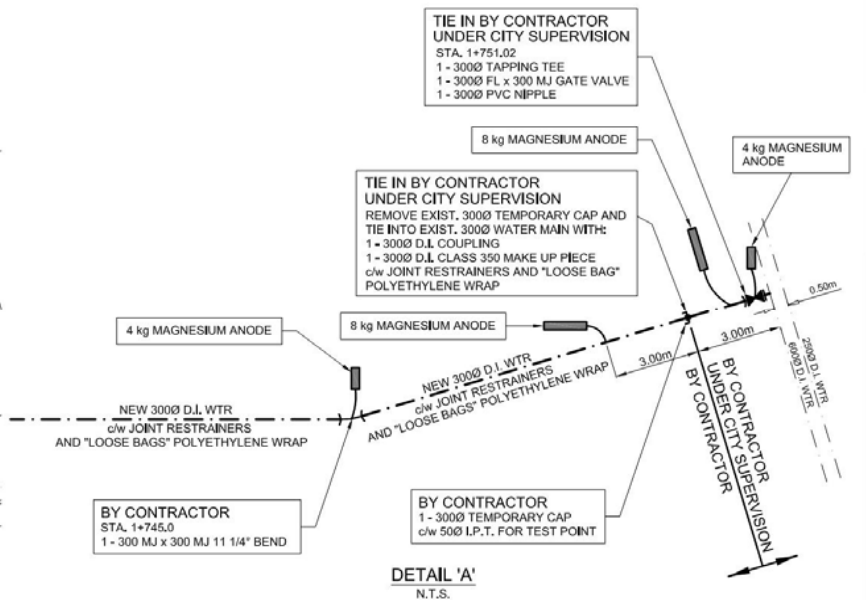
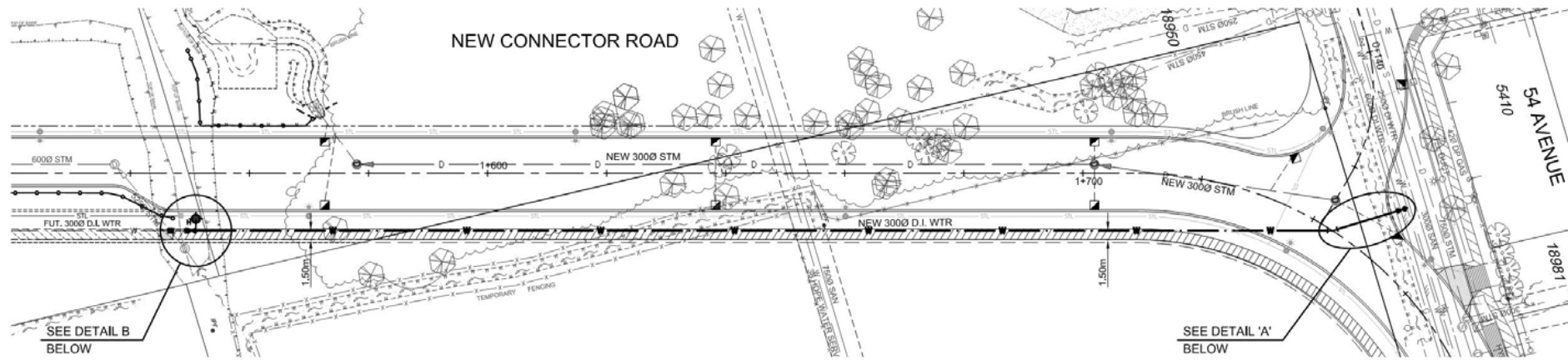
CORROSION SERVICE
COMPANY LIMITED
Professional Engineers : Corrosion Specialists
Toronto : Sarnia : Montreal : Halifax : Calgary
Edmonton : Vancouver : Dubai (U.A.E.)
This print and the design herein are the property of
CORROSION SERVICE COMPANY LIMITED

SCALE: AS NOTED
DATE: 07/04/14
DRAWN BY: BS
DESIGNED BY: RJA
CHECKED BY: WS
APPROVED FOR
USE IN CONSTRUCTION

CITY OF SURREY

SACRIFICIAL
CATHODIC PROTECTION

CLOVERDALE INDUSTRIAL PARK WATERMAIN
COASTLAND ENGINEERING, PROJECT #1929 & #1946



WATER MAIN NOTES:

- ALL WORKS SHALL BE IN ACCORDANCE WITH THE CITY OF SURREY SUPPLEMENTARY MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS UNLESS SPECIFIED OTHERWISE.
- ALL RESIDENTS TO BE NOTIFIED 24 HOURS IN ADVANCE OF ANY DISRUPTION TO WATER SERVICE.
- MINIMUM COVER OVER THE NEW WATER MAINS AND SERVICE CONNECTIONS SHALL BE 1.0 METRE, UNLESS STATED OTHERWISE ON DRAWING.
- ALL WATER MAINS SHALL BE DUCTILE IRON PRESSURE CLASS 350 CONFORMING TO AWWA C151, (CEMENT MORTAR LINED TO AWWA C104)
- ALL WATER MAIN JOINTS AND WATER MAIN FITTINGS JOINTS SHALL BE RESTRAINED USING UN-FLANGED SERIES 1400/1450 JOINT RESTRAINERS. ADDITIONAL, SOME WATER MAIN FITTINGS AS INDICATED ON THE DRAWINGS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS IN ACCORDANCE WITH SURREY SSD-W.3 AND MMCD W1 SPECIFICATIONS.
- ALL WATER VALVE BOXES TO BE ADJUSTED TO SUIT FINISHED SURFACE ELEVATIONS.
- ASSURANCE OF PROTECTION OF THE WATER MAIN: AS PER MINISTRY OF HEALTH (M.O.H.) REQUIREMENTS
MINISTRY OF HEALTH (M.O.H.) REQUIREMENTS:
A) HORIZONTAL SEPARATION
WHEN 3.0m HORIZONTAL SEPARATION BETWEEN WATER MAIN AND SEWERS IS UNATTAINABLE ALL WATER MAIN JOINTS ARE TO BE WRAPPED. (BELOW STANDARDS)
B) VERTICAL SEPARATION
i) WHEN THE WATER MAIN IS CLOSER THAN 0.50m TO A SEWER BUT ABOVE THE SEWER THE WATER MAIN MUST BE LAID IN SUCH A MANNER THAT CROSSING IS MADE MIDWAY BETWEEN JOINTS ON A FULL LENGTH OF WATER MAIN. IF THIS IS NOT ATTAINABLE THE JOINTS ARE TO BE WRAPPED (BELOW STANDARDS)
ii) WHEN THE WATER MAIN IS BENEATH THE SEWER THERE SHALL BE A MINIMUM 300mm SEPARATION. THE CROSSING SHALL BE MIDWAY ON A FULL LENGTH OF THE WATER MAIN PIPE. THE WATER MAIN JOINTS ARE TO BE HEAT SHRINK WRAPPED OR TAPE WRAPPED. (BELOW STANDARDS)
HEAT SHRINK WRAP OR TAPE WRAP
ANSI/AWWA C214 (FACTORY APPLIED)
ANSI/AWWA C209 (FIELD APPLIED)
ANSI/AWWA C217-80 (PETROLATUM TAPE)
ALL MATERIALS USED ARE TO HAVE ZERO HEALTH HAZARD
iii) ALL CROSSINGS SHALL BE MADE MIDWAY ON FULL LENGTH OF PIPE.
- LOCATION OF STRUCTURES
THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING SURFACE AND UNDERGROUND STRUCTURE THAT MAY AFFECT THE WORK OR MAY BE DAMAGED DURING CONSTRUCTION ON REQUEST FROM THE ENGINEER, THE CONTRACTOR, AT HIS EXPENSE, SHALL EXCAVATE AND UNCOVER UNDERGROUND STRUCTURES FOR THE PURPOSE OF ESTABLISHING LINE OR GRADE FOR NEW INSTALLATION OF PIPING OR OTHER WORKS
- ALL WATER MAIN TIE INS TO BE DONE BY CITY OF SURREY CREWS UNLESS NOTED OTHERWISE ON THE DRAWINGS. CONTRACTOR TO SUPPLY ALL MATERIALS AND FITTINGS REQUIRED FOR TIE-INS. OPTIONALLY THE CITY MAY REQUEST TO HAVE THE TIE-INS DONE BY THE CONTRACTOR.
- FINAL TESTING AND CHLORINATION OF NEW WATER MAINS TO BE PERFORMED BY CITY CREWS.
- MAXIMUM PIPE DEFLECTION AT JOINT SHALL BE HALF OF MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY AND INSTALL MR 6 VALVE BOXES ON ANY NEW VALVE INSTALLATIONS. NELSON BOXES ARE NOT TO BE USED.

CONTRACTOR:
TAG CONSTRUCTION LTD.
21869 - 56 AVENUE UNIT B
LANGLEY, B.C. V2Y 2M9

THE CITY OF SURREY

WATER MAIN WORKS

SCALE: HOR. 1:500
VER. 1:50

CHECKED: P.J.W.
P.J.W.

REV. 3

DESTROY ALL PRINTS BEARING PREVIOUS REVISION NUMBER

18	NEW 205.85m - 3000 CLASS 350 D.I. WATER MAIN c/w IMPORTED BACKFILL RESTRAIN ALL JOINTS FOR SEISMIC CONDITION WITH UN-FLANGE SERIES 1400/1450 JOINT RESTRAINERS c/w "LOOSE BAGS" POLYETHYLENE WRAP THERMITE WELD BONDED WIRE AT ALL JOINTS FOR CATHODIC PROTECTION	18
17	CONTRACTOR TO PROVIDE ASSURANCE OF PROTECTION OF WATER MAIN. SEE WATER MAIN NOTE 7	17
16	COVER: - 1.00m (MIN.) COVER @ ROADS - 1.30m (MIN.) COVER @ BLVD.	16
15		15
14		14
13	NEW FINISHED GROUND ALONG NEW WATERMAIN EXIST. GROUND PROFILE ALONG NEW WATER MAIN	13
12		12
11	FUT. FINISHED GROUND ALONG FUT. WATERMAIN	11
10	COVER: - 1.00m (MIN.) COVER @ ROADS - 1.30m (MIN.) COVER @ BLVD.	10
9		9
8		8
NEW WATER MAIN INVERT ELEVATIONS		
EXIST. WATER MAIN INVERT ELEVATIONS		
CHAINAGE		
	1+547.1	1+745.0
	1+549.2	1+751.0
	1+551.0	

NO.	REVISIONS	BY	DATE
3	AS CONSTRUCTED	R.R.	01/23/15
2	ISSUED FOR CONSTRUCTION	R.R.	08/13/14
1	REVISED AS PER CITY COMMENTS	R.R.	07/09/14

THE LOCATIONS OF EXIST. UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXIST. UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTES:
MONUMENT No. 5722
LOCATION: INTERSECTION OF 188 ST. AND 54 AVE.
COORDINATES: N. 5,438,673.84
E. 521,738.27
ELEVATION: 33,766 (C.O.S. CVD 28)
COORD. SYSTEM: NAD 83 FULL GRID

WEB ENGINEERING LTD.
consulting civil engineers
4173 DAWSON STREET, BURNABY, B.C. tel. 604-294-8588



SHEET TITLE:
DESIGN PACKAGE R57/10
NEW CONNECTOR ROAD
STA. 1+549.19 TO 54 AVENUE

WEB DWG. No.
1714-W-201
WEB PROJECT No.
1714
SHEET:
01 of 01

DRWN.: R.R. DSIGN.: W.C. CHECKED: B.S. DATE: JUNE 24/2014

ATTACHED TO:

WEB FILE NAME:



B:\1714 - Connector Road and CTR and 124 SMT\1714-201.dwg 27/02/2015 9:05:26 AM Author: P.J.W. Landscape\p.j.w.