CLIENT

ADDRESS / CONTACT INFO.

PROJECT NAME

DESCRIPTION

McELHANNEY PROJECT

STATUS

CITY OF COURTENAY

830 CLIFFE AVENUE, COURTENAY, BC

INSTALLATION OF WATER MAIN ON MILLARD ROAD AND SANDPIPER DRIVE

2211-47416-29

ISSUED FOR TENDER

McElhanney

1211 Ryan Road Courtenay BC Canada V9N 3R6 Tel 250 338 5495

MILLARD / SANDPIPER WATER MAIN UPGRADE



DRAWING LIST										
	SHEET TITLE	REVISIONS								
SHEET #		0	1	2	3	4	5	6		
C-001	OVERALL PLAN									
C-101	MILLARD ROAD - PLAN & PROFILE									
C-102	SANDPIPER DRIVE - PLAN & PROFILE									
C-103	SANDPIPER NW & NE - PLANS & PROFILES									
C-201	PRE-EXCAVATION PLAN									
C-301	MISCELLANEOUS DETAILS									

PROJEC T LOCATION PLAN

GENERAL

- ALL MATERIALS & CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF COURTENAY (CoC) ENGINEERING DESIGN STANDARDS & SPECIFICATIONS, INCLUDING AMENDMENTS AND APPENDICES, OR THE CURRENT EDITION OF THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), UNLESS OTHERWISE NOTED ON THESE DRAWINGS.
- THE CONTRACTOR SHALL MAINTAIN AND UP TO DATE SET OF "AS-CONSTRUCTED" REDLINE DRAWINGS FOR THE PROJECT. THESE SHALL BE MADE AVAILABLE TO THE ENGINEER PRIOR TO ISSUING OF SUBSTANTIAL PERFORMANCE FOR THE PROJECT.
- ANY EXISTING CITY INFRASTRUCTURE NOT REQUIRED AS A RESULT OF THIS PROJECT IS TO BE RETURNED TO THE PUBLIC WORKS YARD. TWO WEEKS NOTICE OF DELIVERY IS REQUIRED. THE CONTRACTOR SHALL INFORM THE CONTRACT ADMINISTRATOR OF ANY DISCREPANCIES WITHIN THESE PLANS
- PRIOR TO CONSTRUCTION. ALL DISTURBED AREAS, STRUCTURES (RETAINING WALLS, FENCES), VEGETATION, HABITAT, ETC. ON PUBLIC OR
- PRIVATE PROPERTY ARE TO BE RESTORED TO EQUAL OR BETTER CONDITION THAN EXISTING, AND TO THE SATISFACTION OF THE CITY OF COURTENAY AND THE PROPERTY OWNER.
- THE CONTRACTOR IS TO ARRANGE WORKS IN OR ABOUT EXISTING UTILITY POLES AND GUY WIRES. UPON AWARD OF THE CONTRACT, THE CONTRACTOR MUST CONTACT BC HYDRO, TELUS, FORTIS BC & SHAW CABLE WITH A CONSTRUCTION SCHEDULE. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY RELOCATIONS AND TEMPORARY MEASURES REQUIRED TO INSTALL WORKS. BOULEVARDS MUST BE GRADED IN ACCORDANCE WITH THE CITY OF COURTENAY SUBDIVISION SERVICING BYLAW OR
- MATCH TO EXISTING CONDITIONS. THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE BASED ON FIELD SURVEYS AND VARIOUS AS-CONSTRUCTED DRAWINGS. NO LIABILITY IS ASSUMED BY THE ENGINEER OR OWNER FOR THE ACCURACY AND
- COMPLETENESS OF THE INFORMATION PRESENTED. THE CONTRACTOR IS REQUIRED TO SUBMIT ALL NECESSARY PERMITS TO THE PROJECT ENGINEER 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 10. ALL TRENCH BACKFILL TO BE IMPORT PIT-RUN OR AS APPROVED BY A GEOTECHNICAL ENGINEER 11. THE CONTRACTOR SHALL BE AWARE OF ALL ASBESTOS (CEMENT) CONCRETE SAFE WORK PROCEDURES AS ESTABLISHED BY WORK SAFE BC. THE CONTRACTOR SHALL PROVIDE, PRIOR TO CONSTRUCTION, A WRITTEN WORK PLAN DETAILING PROPOSED WORK PROCEDURES FOR OFFSITE DISPOSAL OR LEFT IN PLACE OF ASBESTOS CONCRETE PIPE, AS DIRECTED ON THESE DRAWINGS AND/OR SPECIFICATIONS.

TRAFFIC CONTROL / SITE SAFETY

- THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN FOR REVIEW BY THE CITY OF COURTENAY & THE CONTRACT ADMINISTRATOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL DELIVER WRITTEN NOTICE OF CONSTRUCTION TO ALL RESIDENTS & BUSINESSES WITHIN 1 **BLOCK OF THE PROJECT**
- THE CONTRACTOR SHALL NOTIFY ALL EMERGENCY SERVICE AGENCIES, MoTI, SCHOOL BUS, GARBAGE CONTRACTORS & BC TRANSIT OF THE SUBSEQUENT WORK ZONE AREA, SPEED REDUCTIONS, OR DETOURS WHICH MAY AFFECT TRAFFIC FLOW
- THE CONTRACTOR SHALL MAINTAIN VEHICLE & PEDESTRIAN ACCESS TO ALL RESIDENCES & BUSINESSES AT ALL TIMES
- THE CONTRACTOR SHALL VERIFY THAT SITE SAFETY FOR VEHICLE OPERATORS & PEDESTRIANS IS MAINTAINED FROM THE END OF EACH WORK DAY, THROUGH THE NIGHT, & UNTIL THE START OF THE NEXT WORK DAY BY USING FLASHING BEACONS, BARRICADES, SIGNS, DELINEATORS ETC., IN ACCORDANCE WITH CURRENT MoTI CONSTRUCTION ZONE SIGNAGE STANDARDS
- THE CONTRACTOR IS TO ERECT ALL APPROPRIATE CONSTRUCTION ZONE SIGNS AND USE CERTIFIED FLAG
- PERSONNEL TO MAINTAIN SAFE AND EFFICIENT TRAFFIC FLOW THROUGH & AROUND THE WORK SITE ALL TRAFFIC SIGNS ARE TO BE AS PER THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA (CURRENT EDITION).

PERMITS

- A PERMIT IS REQUIRED FROM FORTIS BC GAS WHEN THE SITE WORK OR ACTIVITY INVOLVES WORKING WITHIN TWO (2) METRES OR CROSSING OVER/UNDER AN INTERMEDIATE PRESSURE (IP) GAS PIPELINE 1.1.
- (701-2070 kPa / 101.6 300 psi) CROSSING A TRANSMISSION PRESSURE (TP) GAS PIPELINE (ABOVE 2070 kPa / 300 psi) OR WORKING WITHIN A 1.2. RIGHT-OF-WAY.
- CONTRACTOR TO OBTAIN A ROAD PERMIT TO CONSTRUCT WITHIN THE PUBLIC ROW.

EXCAVATING, TRENCHING AND BACKFILLING

- INFORMATION ON EXISTING UTILITIES MAY NOT BE COMPLETE NOR ACCURATE. PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING UTILITIES AND ADVISE THE ENGINEER OF ANY POTENTIAL CONFLICTS.
- THE CONTRACTOR IS TO ARRANGE FOR OBSERVATION OF ALL KEY UNDERGROUND ASPECTS OF THE WORK BY TH PROJECT ENGINEER PRIOR TO BACKFILL. ALL REQUESTS FOR FIELD CHANGES ARE TO BE MADE TO THE ENGINEER & CITY FOR REVIEW AND APPROVAL, PRIOR TO IMPLEMENTING THE CHANGE.
- THE CONTRACTOR IS TO CALL "BC ONE CALL" TO LOCATE EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ALL TRENCH BACKFILL IS TO BE IMPORT PIT-RUN OR AS APPROVED BY A GEOTECHNICAL ENGINEER. ALL WATER, SANITARY SEWER AND STORM DRAINAGE TRENCHING IS TO BE AS PER MMCD DWG. G4 UNLESS
- OTHERWISE NOTED.
- ALL GRANULAR AGGREGATE MATERIALS ARE TO BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY (ASTM D1557) 6. IN ANY AREAS THAT WHERE STRUCTURAL SUPPORT IS REQUIRED.

RESTORATION

- RESTORE DISTURBED SOFTSCAPE AREAS WITH 100mm OF TOPSOIL & HYDROSEED WITH NATIVE GRASS MIX.
- EXISTING ASPHALT EDGE (AT TIE-IN) IS TO BE SAW CUT IN LONG STRAIGHT LINES PRIOR TO PAVING. ALL ROLLOVER CURB & BARRIER CURB SHALL BE AS PER MMCD DWG. C4.
- ALL PAINT LINES AND SIGNS ARE TO BE IN ACCORDANCE WITH BC MOTI MANUAL OF STANDARD TRAFFIC SIGNS & PAVEMENT MARKINGS.

PAVEMENT AREAS:

- LONGITUDINAL ROAD RESTORATION PAVEMENT JOINTS SHALL NOT BE LOCATED WITHIN THE LANE WHEEL PATH. RESTORATION SHALL BE TO EITHER THE WHITE FOG LINE, CENTRE OF LANE OR 1.5m EITHER SIDE FROM CENTRE OF TRENCH PER LIMITS AS DEFINED IN THESE DRAWINGS.
- GRIND EDGE OF TRENCH MIN. 500mm BACK OF TRENCH WALL AND 300mm FROM ANY BROKEN OR DAMAGED EDGES.
- CONTRACTOR SHALL TEMPORARILY RESTORE EXCAVATIONS AND MAINTAIN A SMOOTH AND RUT-FREE SURFACE
- (COLD MIX) UNTIL PLACING PERMANENT PAVEMENT.
- RESTORE ROAD AS PER TYPICAL ROAD SECTION DETAILS ON THESE PLANS.

BC CALL 1-800-474-6886

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-	-	-	-	-	-	THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN.	1
-	-	-	-	-	-	THIS DRAWING AND DESIGN HAS BEEN PREPARED FOR THE CLIENT IDENTIFIED, TO MEET THE STANDARDS AND	1
-	-	-	-	-	-	REQUIREMENTS OF THE APPLICABLE PUBLIC AGENCIES AT THE TIME OF PREPARATION. MCELHANNEY, ITS EMPLOYEES, SUBCONSULTANTS AND AGENTS WILL NOT BE LIABLE FOR ANY LOSSES OR OTHER	1
-	-	-	-	-	-	CONSEQUENCES RESULTING FROM THE USE OR RELIANCE UPON, OR ANY CHANGES MADE TO, THIS DRAWING, BY ANY THIRD PARTY, INCLUDING CONTRACTORS, SUPPLIERS, CONSULTANTS AND STAKEHOLDERS, OR THEIR	1
-	-	-	-	-	-	EMPLOYEES OR AGENTS, WITHOUT McELHANNEY'S PRIOR WRITTEN CONSENT.	1
-	-	-	-	-	-	INFORMATION ON EXISTING UNDERGROUND FACILITIES MAY NOT BE COMPLETE OR ACCURATE. MCELHANNEY,	1
0	2021-02-24	ISSUED FOR TENDER	CDE	CDE	CR	UNDERGROUND CONDUITS, PIPES, CABLES OR OTHER FACILITIES WHETHER SHOWN OR OMITTED FROM THIS	1
Rev	Date	Description	Drawn	Design	App'd	PLAN. PRIOR TO CONSTRUCTION CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING FACILITIES BY HAND DIGGING OR HYDROVAC AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.	ORIGINAL DWG SIZE: A1 (

WATER WORKS

- ALL WATER PIPES ARE TO BE INSTALLED WITH MINIMUM 1.3m COVER ALL WATER FITTINGS ARE TO BE RESTRAINED AS PER MMCD GUIDELINES (STD DWG W1) & AS NOTED ON THESE DRAWINGS. ALL HORIZONTAL & VERTICAL BENDS ARE TO BE MECHANICALLY RESTRAINED AS PER THE
- MANUFACTURER'S INSTRUCTIONS & SPECIFICATIONS. ALL FIRE HYDRANTS ARE TO BE AVK SERIES 2780 (NOSTALGIC STYLE) COMPLETE WITH 100Ø STORTZ ADAPTERS & FITTINGS. PUMPER PORTS OF ALL PROPOSED FIRE HYDRANTS ARE TO BE AIMED AT 90° TO THE ROAD.
- THE CONTRACTOR SHALL MAINTAIN 0.50m MINIMUM VERTICAL CLEARANCE BETWEEN THE WATER MAIN & SEWERS AT ALL CROSSINGS. IN THE EVENT THAT THIS CANNOT BE ACHIEVED, ALL WATER PIPE JOINTS WITHIN 3.0m OF THE CROSSING ARE TO BE SECURED WITH SHRINK WRAP, PETROLATUM TAPE & GEL OR EQUIVALENT.
- MUNICIPAL WATER MAIN CONNECTION SHALL BE COMPLETED BY THE CONTRACTOR (UNDER CITY PUBLIC WORKS' SUPERVISION) AS APPROVED BY THE CITY. THE CONTRACTOR IS TO PREPARE & SUBMIT A WATER TIE-IN SEQUENCE / METHODOLOGY PLAN TO THE PROJECT ENGINEER FOR SUBMISSION TO THE CITY FOR APPROVAL, PRIOR TO
- THE PLAN SHALL INCLUDE THE FOLLOWING INFORMATION:
- TIMING OF WATER SHUT DOWNS NOTICE OF DISRUPTION OF SERVICE (CITY TO APPROVE NOTIFICATION CORRESPONDENCE) CONTRACTOR'S WORK PLAN
- ROLE OF CITY OF COURTENAY FORCES
- ANY OTHER RELEVANT ITEMS
- CITY PUBLIC WORKS STAFF SHALL OPERATE ALL EXISTING WATER VALVES AND FLUSH NEW SYSTEM FOLLOWING TIE-IN COMPLETION. THE CONTRACTOR SHALL MAKE HIMSELF AWARE OF ALL ASBESTOS CONCRETE SAFE WORK PROCEDURES AS
- ESTABLISHED BY THE WORSAFE BC. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A WRITTEN WORK PLAN DETAILING PROPOSED WORK PROCEDURES FOR OFFSITE DISPOSAL OF ASBESTOS CONCRETE PIPE, AS DIRECTED ON THESE DRAWINGS AND/OR SPECIFICATIONS.

ENVIRONMENTAL PROTECTION

- THE CONTRACTOR SHALL ENSURE THAT ALL ENVIRONMENTAL PROTECTIONS TO ELIMINATE DOWNSTREAM SILT ARE IN PLACE PRIOR TO THE START OF CONSTRUCTION & REMAIN FOR THE DURATION OF THE CONTRACT. THE CONTRACTOR SHALL OBTAIN A COPY OF, AND FOLLOW THE PROCEDURES CONTAINED IN THE "LAND DEVELOPMENT GUIDELINES FOR THE PROTECTION OF AQUATIC HABITAT". THE CONTRACTOR IS TO PROVIDE AN "EROSION & SEDIMENT CONTROL PLAN", FOR REVIEW BY THE ENGINEER.
- ALL WORKS ARE TO BE INSTALLED UNDER THE DIRECTION OF AN ENVIRONMENTAL MONITOR & ARE TO MITIGATE MIGRATION OF SILTS/SANDS BY AIR, WATER, OR VEHICLES / EQUIPMENT.

ARCHAEOLOGY

1. THE CONTRACTOR TO REVIEW THE ARCHAEOLOGICAL ASSESSMENT AND ADHERE TO THE SITE ALTERATION PERMIT.

DATUM

ELEVATIONS ARE GEODETIC AND DERIVED ON GPS OBSERVATIONS GEODETIC BENCHMARKS:

- 90H6255 (GCM No. 496919): ELEV. 156.012
- SEPTEMBER 27, 2019 90H6253 (GCM No. 370163): ELEV. 134.139
- **BENCHMARKS USED:** ELEVATIONS ARE GEODETIC AND DERIVED FROM DUAL FREQUENCY DIFFERENTIAL GNSS BASELINE TIES TO GEODETIC CONTROL MARKS:

496919 (90h6255) GPS OBSERVATION

LATITUDE 49° 39' 14.56635" N LONGITUDE 125° 03' 59.42571" W

VILLAGE OF CUMBERLAND - 40m NORTH OF BEVAN ROAD, 4.6km NW FROM CUMBERLAND ROAD AND 860m SE FROM THE COMOX LOGGING ROAD.)

370163 (90h6253) GPS OBSERVATION LATITUDE 49° 37' 51.05617" N

LONGITUDE 125° 00' 54.56370" W VILLAGE OF CUMBERLAND - 18m SOUTH OF CUMBERLAND ROAD, ACROSS FROM SW CORNER OF HYLAND PRECAST PROPERTY.)

CAD DRAWINGS HAVE BEEN PREPARED IN THE FOLLOWING PROJECTION SYSTEM: LOCAL SYSTEM BASED ON GCS NAD83 CSRS, UTM ZONE 10

SCHEDULING TIE-IN WORKS. SURFACE RESTORATION WILL BE COMPLETED BY THE CONTRACTOR AS REQUIRED.

EXISTING CONTOURS SHOWN ARE BASED ON TOPOGRAPHIC SURVEY BY McELHANNEY: - AUGUST 2011 - MAY 2012 (2211-46958-00)











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00	H1:250 10 V1:50 2	McElhanney	1211 Ryan Road Courtenay BC Canada V9N 3R6 Tel 250 338 5495	PROVINCE PRO	
94 x 841mm)				Approved Sealed	

	STATIONS			
EXISTING GROUND ELEVATION				
WATER	PROPOSED MAIN INVERTS			
CITY OF COURTENAY 830 CLIFFE AVENUE, COURTENAY, BC MILLARD / SANDPIPER WATER MAIN UPGRADE SANDPIPER DRIVE - PLAN & PROFILE STA. 1+75 TO 2+50 MILLARD ROAD / SANDPIPER DRIVE COURTENAY BC	Drawing No. C-102 Project Number 2211-47416-29	Rev. 0		





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