Operation & Maintenance Plan for Chesterfield Inlet Municipal Water Licence:
Water Supply Facilities
2022

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1.0 Site Description

Date this plan was prepared: December 7, 2022

1.1 Location of the Water Supply Facility (WSF)

Municipality:	Chesterfield Inlet
Latitude:	63°20’20” N
Longitude:	90°43’08” W
Proximity to Town:	2.6km southwest

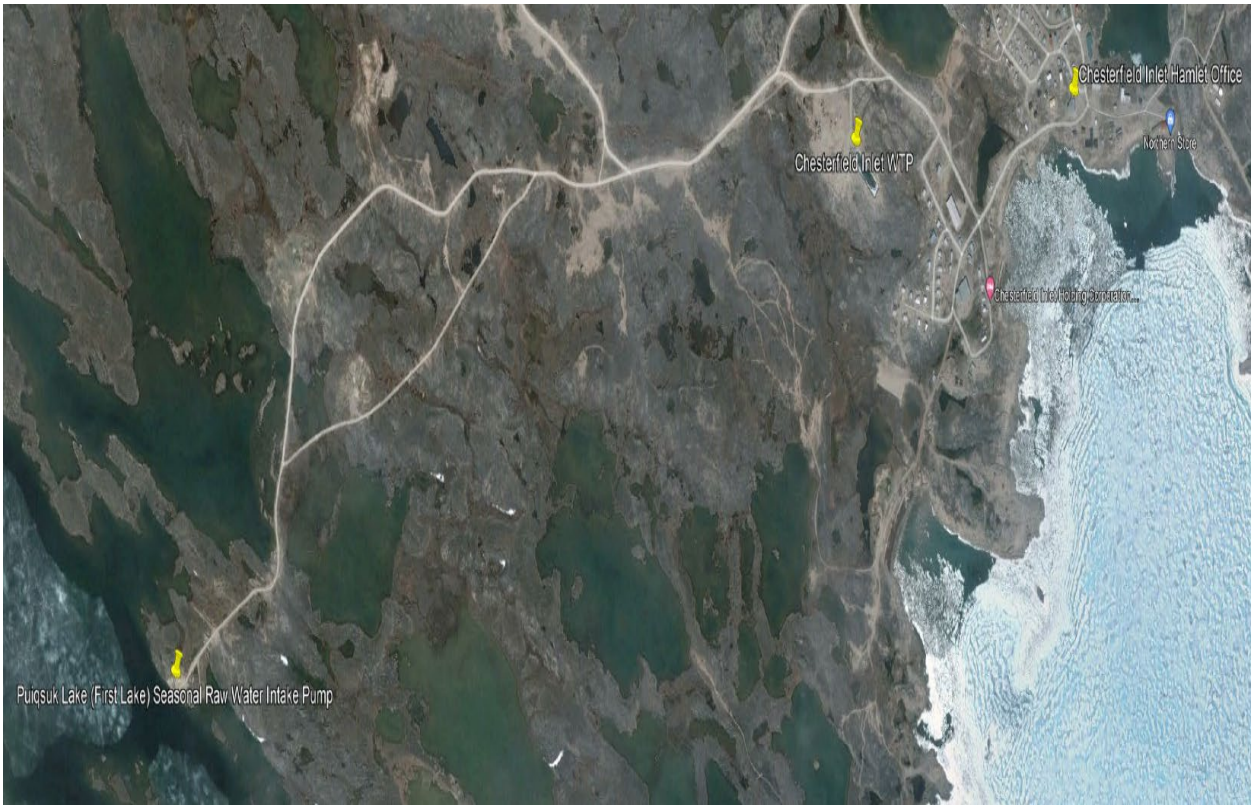


Figure 1 Chesterfield Inlet Water Supply Facility Infrastructure

1.2 WSF Site Summary

Year of commissioning the WSF: 2011
Design life of the WSF: N/A

Site History:

The Chesterfield Inlet water distribution system consists of a water intake, pump shelter, overland pipeline, reservoir, and pumphouse with truck fill. Potable water is obtained from First Lake (Puiqsuk Lake), approximately 2.6 km southwest of the community. A pump shelter is located near the shore of First Lake and houses the water pump, a 100 L diesel fuel tank, and intake and discharge hoses. Water is piped via a 3.2 km overland pipeline from First Lake into a reservoir. Prior to 1991, when it appears the overland pipeline, reservoir and pumphouse were constructed, potable water was trucked directly from First Lake.

The reservoir is located approximately 150 m west of the community and was constructed by blasting bedrock to an average depth of 7 m (23 feet). The reservoir was constructed in the early 1990s and is fenced though unlined. Reservoir capacity is estimated at approximately 23,000 cubic metres (m^3).

The Hamlet uses trucked services for scheduled water delivery to all houses and other buildings. Water trucks obtain water from the reservoir via a submersible intake pump, which pumps water through the pumphouse. The pumphouse accommodates the water intake system, truck fill system, chlorination system, standby generator, and associated heating, electrical, and alarm systems.

2.0 Staff

2.1 Staff

Role:	Senior Administrative Officer	**Name:**	John Ivey
Phone:	867-898-9951	**Email:**	SAO@chesterfield-inlet.ca

Responsibilities: The SAO manages the municipal staff to ensure that:

- proper operation of the water supply system is carried out
- sampling and inspections are completed
- annual reporting to the Nunavut Water Board (NWB) is prepared by the Government of Nunavut Department of Community and Government Services (GN-CGS)

Role:	Foreman	**Name:**	Don Tanuyak
Phone:	867-898-9939	**Email:**	chester_foreman@qiniq.com

Responsibilities: The foreman is responsible for:

- daily operations and maintenance of the WSF
- the sampling program at the monitoring stations
- maintaining signage at the WSF and monitoring stations
- annual decanting of the lagoon effluent into the adjacent wetland treatment area

Role:	Water Truck Drivers	**Name:**	Various
Phone:	N/A	**Email:**	N/A

Responsibilities: The water truck drivers fill truck for distribution of drinking water to the municipality. They also record quantities of water delivered.

2.2 Training

Training records were last updated: 2020

Table 1 List of trainings obtained by staff

Staff member	GN Small Systems Course	GN Class I Systems Course	Other:
Joseph Alogut	☐	☒	☐
Cyril Nanaout	☐	☒	☐

3.0 Health and Safety

All personnel working within the WSF must follow the *Nunavut Safety Act* and be made aware of potential health hazards. This is imperative so individuals make a conscious effort to perform all necessary safety procedures to protect themselves, their co-workers and family members at home.

4.0 Security and Control

Access Control of to the facility:

- Perimeter fencing around the lagoon
- Signage
- 450 m restricted land use development setback surrounding the WSF

5.0 Raw Water Sources

5.1 Raw Water Source

Raw water source fill system type: Reservoir

Alterations to the natural water source have occurred due to the WTP:

None, water is drawn from a blasted rock reservoir.

5.1.1 Primary Source

Name of primary raw water source: Puiqsuk Lake
Type of raw water source: Lake
Average annual quantity of water drawn: 20,000 m^3/year
Maximum allowable withdrawal: 23,000 m^3/year
Ice formation on the water source: September
Ice breakup on the water source: June or July

Equipment:

- 150 mm diameter suction hose (approximately 30 m long) with 150 mm (6 inch) floating intake strainer
- Gorman-Rupp® centrifugal diesel-powered pump (Model No. 84B2-TS2) with an 1,800 L/min capacity, connected to a 150 mm discharge hose to the water supply pipeline
- BRYTEX® prefabricated skid-mounted portable pump shelter, has 38 mm exhaust hose from exhaust of water pump motor to exterior of shelter
- 200 mm diameter high-density polyethylene (HDPE) overland water supply pipeline to reservoir, approximately 3.2 km long
- From water supply pipeline to reservoir, 150 mm discharge hose with 150 mm discharge strainer.

5.1.2 Reservoir

Total volume of the reservoir: 23,000 m^3
Number of reservoir cells: 1
Volume Cell 1: 23,000 m^3
Year Constructed: 1991
Number of times per year the reservoir is filled: Once
Number of days it takes to fill the reservoir: Approximately 14

Months the reservoir is filled: August

5.2 Operations

Overview of the operations process:

Water is obtained from Puiqsuk Lake once per year, typically in August. The intake pump at Puiqsuk Lake runs 24 hours per day for approximately one to two weeks to fill the reservoir. Potable water from Puiqsuk Lake is pumped through the intake hose and strainer, via the intake pump, into discharge hoses and the overland pipeline which empties into the reservoir; the overland pipeline has a discharge hose and strainer at its terminus.

The pump shelter is mobile (on skids) though is typically left near the shore of Puiqsuk Lake throughout the year (approximately 63° 19‟ 49” N, 90° 46‟ 19” W). Prior to reservoir re-filling and operation of the pump and hoses, the operator should test and check each component of the system to ensure all components are functioning and are present; this includes inspecting the entire length of the overland water supply pipeline to ensure it is in good condition. The following set-up operational procedures should be carried out to ensure proper operation of the Puiqsuk Lake pump station.

The reservoir contains the end of the overland water supply pipeline from Puiqsuk Lake (discharge) and one submersible pump within the intake line from the Pump Room of the pumphouse. Water is typically pumped into the reservoir from Puiqsuk Lake once per year while water is removed from the reservoir daily through the Pump Room of the pumphouse. The capacity of the reservoir is estimated at approximately 23,000 m3 however the entire capacity is generally not utilized. A crack in the bedrock, present near the top of the reservoir, prevents filling to capacity every year. The reservoir is typically filled to just below the bedrock crack.

5.3 Maintenance

Overview of the maintenance process:

1. The roadway and truck pad shall be maintained by snow clearing in the winter and grading in the summer and repaired as necessary.

2. Ditches and drainage channels at the Water Supply Facility shall be inspected during the summer for erosion and repaired as necessary.

3. The truckfill station, signage, and berms shall be inspected regularly and repaired or replaced as necessary.

4. This facility is owned and operated by the Hamlet, and any issues should be reported to the SAO immediately.

5. The water delivery program is managed by the Municipality and issues identified by truck drivers should be reported to the SAO immediately.

6.0 Water Treatment Process

A brief overview of the water treatment process:

Water is drawn in from the raw water reservoir adjacent to the WTP where it undergoes:

- Chlorine Disinfection – Chlorine injection at truck fill, 20-minute contact time achieved in truck

Total annual water usage: 16,128 m^3
Water distribution method: Trucked
Treated water storage: None
Rate of truck fill: 1350 L/min

7.0 Monitoring

Regulatory Inspection: The annual Crown Indigenous Relations and Affairs Canada (CIRNAC) inspection will take place accompanied by the licensee and/or with a licensee representative from GN-CGS. The inspection will be reviewed by a GN-CGS municipal engineer and submitted with the annual report.

Table 2 Licence requirements related to O&M of the water supply facilities

Requirements	**Reported**
Monthly and annual quantities of fresh water obtained from all sources	Annual report submitted to NWB
A summary of modifications and/or major maintenance work carried out on the WSF	Annual report submitted to NWB
A list of spills and unauthorized discharges related to the WSF.	Annual report submitted to NWB

Volume of Potable Water Supply at Post River Monitoring Program Station CHE-1	Annual report submitted to NWB
A summary of any studies requested for the WTP and future planned studies planned	Annual report submitted to NWB

8.0 Modifications and Upgrades

Modifications or upgrades needed for the WSF:

New WTP to meet GCDWQ

Planned modifications or upgrades:

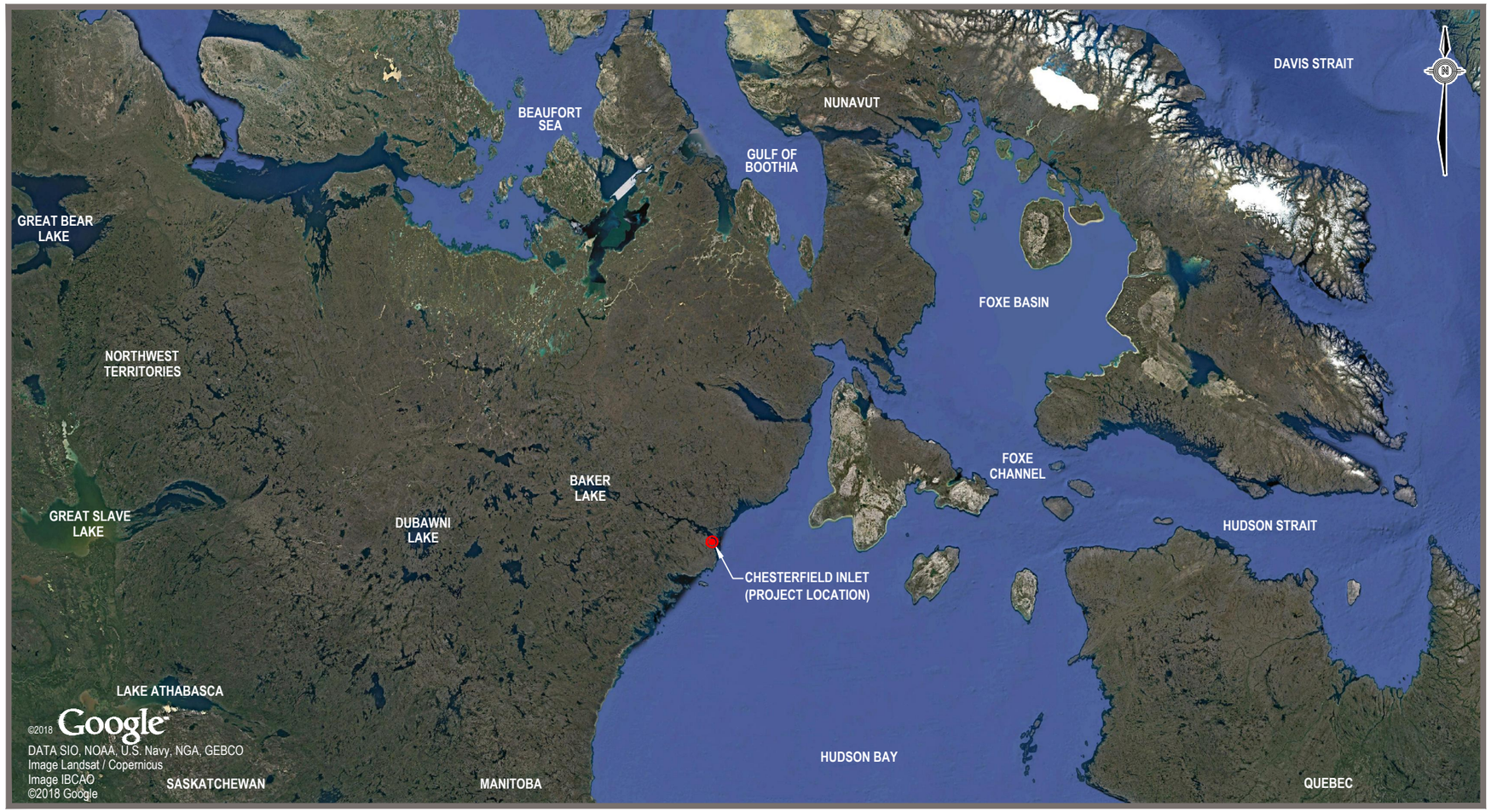
Chesterfield Inlet has been identified to receive a new Water Treatment Facility. Construction will not begin until at least 2025.

Additional Comments or Notes

None

Appendix A: As-Built Drawings

WATER TRANSMISSION LINE DESIGN
CHESTERFIELD INLET, NUNAVUT



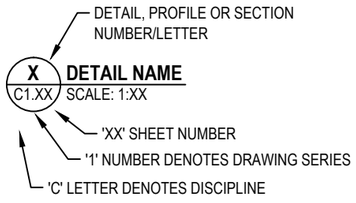
SITE LOCATION
SCALE: NTS

CLIENT		PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
Nunavut	TETRA TECH	WTRM03121-01	VANC	DNM	DNM	A	G1.00
		DATE	SHEET No.	DWN	APP	STATUS	
		March 5, 2019	of	JDM	DNM	IFR	

DRAWING INDEX	
DWG No.	**DESCRIPTION**
G1.00	COVER SHEET
G1.01	DRAWING INDEX AND GENERAL NOTES
G1.02	GENERAL NOTES AND QUANTITIES
G1.03	GRAVEL SOURCE AND QUARRY LOCATIONS
C1.00	KEY PLAN
C1.01	PLAN AND PROFILE
C1.02	PLAN AND PROFILE
C1.03	PLAN AND PROFILE
C1.04	PLAN AND PROFILE
C1.05	PLAN AND PROFILE
C1.06	PLAN AND PROFILE
C1.07	PLAN AND PROFILE
C1.08	PLAN AND PROFILE
C1.09	PLAN AND PROFILE
C1.10	PLAN AND PROFILE
C2.00	PUMPING PAD - PLAN
C2.01	PUMPING PAD - SECTIONS
C3.00	TYPICAL SECTION AND DETAILS
C3.01	DETAILS

LEGEND

- PROPERTY LINE
- WATERBODY
- STREAM
- EXISTING FENCE
- EXISTING PIPELINE
- EXISTING ROAD
- EXISTING TRAIL
- EXISTING CULVERT



GENERAL NOTES:

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT PLANS, SPECIFICATIONS AND ANY RULES, REGULATIONS, STANDARDS OR SPECIFICATIONS REFERENCED THEREIN. THE PROJECT IS ALSO SUBJECT TO INSPECTION BY THE GOVERNMENT OF NUNAVUT (GON) OR ITS REPRESENTATIVE.
2. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, PROVINCIAL AND FEDERAL LAWS THAT ARE PERTINENT TO THIS WORK.
3. ALL CONSTRUCTION ACTIVITIES SHALL BE COMPLETED IN A MANNER SUITABLE FOR PUBLIC USE AND IN A CONDITION MEETING THE APPROVAL OF THE GON OR ITS REPRESENTATIVE.
4. ALL CONSTRUCTION ACTIVITIES AFFECTING THE HAMLETS OPERATIONS SHALL BE DISCUSSED IN ADVANCE WITH THE HAMLETS AUTHORITIES AND ITS REPRESENTATIVE.
5. ALL REGULATORY APPROVALS MUST BE IN PLACE BEFORE THE CONTRACTOR IS ALLOWED TO COMMENCE CONSTRUCTION ACTIVITIES.
6. ALL MATERIALS OR EQUIPMENT SHIPPED TO CHESTERFIELD INLET SHALL BE DELIVERED TO AN APPROVED SITE ESTABLISHED AT THE PRE-CONSTRUCTION MEETING.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE SHIPMENT, LOADING AND UNLOADING OF ALL MATERIALS TRANSPORTED TO CHESTERFIELD INLET.
8. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE SITE FOLLOWING THE COMPLETION OF THE PROJECT. IT IS THE CONTRACTORS RESPONSIBILITY TO DOCUMENT THE EXISTING CONDITIONS AND REINSTATE ALL DISTURBED AREAS INCLUDING STAGING AND STORAGE AREAS TO EXISTING CONDITIONS OR BETTER.
9. DEVELOPMENT AND IMPLEMENTATION OF A HEALTH AND SAFETY PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO FOLLOW ALL APPLICABLE REGULATIONS PRESCRIBED BY LOCAL, TERRITORIAL AND FEDERAL AGENCIES.

TRAFFIC MANAGEMENT:

1. THIS PROJECT INCLUDES CONSTRUCTION ACTIVITIES ON AN ACTIVE ROAD. ALL CONSTRUCTION ACTIVITIES SHALL BE UNDERTAKEN IN A MANNER APPROVED BY THE GON OR ITS REPRESENTATIVE.
2. THE CONTRACTOR SHALL SUBMIT A TRAFFIC MANAGEMENT PLAN PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
3. CONSTRUCTION MACHINERY AND VEHICLES SHALL COMPLY WITH ALL TRAFFIC REGULATIONS.
4. FULL TIME PUBLIC ACCESS (SINGLE LANE) TO CHESTERFIELD HAMLET AND ITS FACILITIES SHALL BE MAINTAINED AT ALL TIMES.
5. CONTRACTOR SHALL POST A MAXIMUM SPEED LIMIT OF 30 km/h ON ALL TEMPORARY BYPASS ROADS.
6. CONTRACTOR IS TO USE APPROVED BARRICADES OR PYLONS TO DELINEATE OR DIRECT LOCAL TRAFFIC.
7. ALL CONTRACTOR VEHICLES AND TRAFFIC (UNLESS NOTED OTHERWISE) SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS OR HAUL ROUTES.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE & OFF-SITE ROUTES AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE MAINTAINED IN WORKING ORDER AND MEET THE REQUIREMENTS OF THE GON OR ITS REPRESENTATIVE. ALL COSTS ASSOCIATED TO THE MAINTENANCE OF THE HAUL ROADS SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICES.

EROSION AND SEDIMENT CONTROL (ESC)

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO DEVELOP AND SUBMIT AN ESC PLAN TO THE GON OR ITS REPRESENTATIVE FOR APPROVAL DETAILING THE EROSION CONTROL MEASURES FOR EACH PHASE OF THE PROJECT.
2. THE IMPLEMENTATION OF ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE ESC FACILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETE.
3. THE ESC FACILITIES MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS AND ADJACENT PROPERTIES IS MINIMIZED.
4. DURING THE CONSTRUCTION PERIOD, ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS. (E.G., ADDITIONAL PUMPS, RELOCATION OF SWALES AND SILT FENCES, ETC.)
5. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE SITE SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.
6. ANY AREAS OF EXPOSED SOILS AND EMBANKMENTS THAT WILL NOT BE DISTURBED FOR TWO DAYS SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS. (E.G. SEEDING, MULCHING, PLASTIC COVERING, ETC.)
7. ANY AREA NEEDING ESC MEASURES NOT REQUIRING IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
8. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN FORTY-EIGHT (48) HOURS FOLLOWING A STORM EVENT.
9. CONTRACTOR SHALL ERECT SILT BARRIER FENCES AS REQUIRED OR AS DIRECTED BY THE GON OR ITS REPRESENTATIVE.
10. SILT FENCES/BARRIERS SHALL BE MANUFACTURED FROM A NON-WOVEN, SLIT FILM GEOTEXTILE MATERIAL WITH A SHINY TO SMOOTH SURFACE TEXTURE DESIGNED TO REDUCE VELOCITY OF RUNOFF TO POINT THAT SUSPENDED PARTICLES SETTLE OUT DUE TO REDUCTION OF HYDRAULIC ENERGY.
11. SILT BARRIERS SHALL BE PLACED IN A MANNER THAT WILL INTERCEPT RUNOFF AT OR CLOSE TO RIGHT ANGLES TO THE FLOW. IN AREAS WHERE PROBLEM IS SEVERE, ERECT TWO OR MORE SILT BARRIERS PARALLEL TO EACH OTHER UNTIL DEGREE OF CONTROL IS ACHIEVED.
12. SILT FENCES SHALL BE LIMITED TO HANDLE AN AREA EQUIVALENT TO A MAXIMUM OF 100 m² PER 3 m OF FENCE.
13. SILT BARRIERS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:

PROPERTY	VALUE
Grab Tensile	500N
Mullen Burst	1900 kPa
Elongation at Break	25% Maximum
Opening	600µm Maximum
U.V. Rating @ 500 hrs	90% Retained
Efficiency	>75% Minimum
Construction	Woven (tape)
Texture	Smooth, Shiny
Posts	4 cm x 4 cm Treated
Post Spacing	2 m Maximum
Permittivity	10 l/s/m²

ENVIRONMENTAL PROTECTION

1. CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE AND PUMPING AS NECESSARY TO KEEP EXCAVATIONS AND SITE FREE FROM WATER.
2. CONTRACTOR SHALL NOT DISCHARGE WATER CONTAINING SUSPENDED MATERIALS INTO WATERCOURSES.
3. CONTRACTOR SHALL CONTROL DISPOSAL OR RUNOFF WATER CONTAINING SUSPENDED MATERIALS OR OTHER HARMFUL SUBSTANCES IN ACCORDANCE WITH FEDERAL, PROVINCIAL AND MUNICIPAL REQUIREMENTS.
4. CONTRACTOR SHALL NOT USE WATERCOURSE BEDS FOR BORROW MATERIAL.
5. CONTRACTOR SHALL NOT DUMP EXCAVATED FILL, WASTE MATERIAL OR DEBRIS IN OR ADJACENT TO WATERCOURSES.
6. CONTRACTOR IS NOT PERMITTED TO PERFORM WORK WITHIN THE HIGHWATER LINE OF WATERWAYS WITHOUT WRITTEN APPROVAL FROM THE GON.
7. CONTRACTOR IS TO COORDINATE WITH THE GON TO DETERMINE THE PERMITTING REQUIREMENTS FOR WORK ADJACENT TO WATERWAYS INCLUDING LAYING OF RIPRAP AND NECESSARY REQUIREMENTS.
8. IN THE EVENT THAT SPILLAGE, DEBRIS OR DUST BUILDS UP AS A RESULT OF HAULING, THE CONTRACTOR SHALL BE REQUIRED TO CLEAN AND REMOVE THE MATERIAL IMMEDIATELY.

UTILITIES AND INFRASTRUCTURE:

1. AVAILABLE DOCUMENTATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE PROVIDED FOR REFERENCE ONLY. TETRA TECH CANADA AND THE GON ASSUME NO LIABILITY FOR THE ACCURACY OF THIS INFORMATION.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND FOR THEIR PROTECTION DURING THE CONSTRUCTION PERIOD.
3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE ACTIVE LOCAL COMMUNITY WATER SUPPLY THROUGHOUT THE CONSTRUCTION OF THE PROPOSED SYSTEM.

SURVEY CONTROL & CONSTRUCTION LAYOUT:

1. CONTRACTOR TO DEVELOP A LAYOUT PLAN AND STAKE THE SITE PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR SHALL PROVIDE SUFFICIENT SURVEY CONTROL TO ALLOW FOR THE CONFIRMATION OF GRADES, ELEVATIONS AND QUANTITIES.
3. THE VERTICAL CONTROL ON THIS PROJECT IS TIED TO BENCH MARKS LOCATED AT THE SITE. ALL EXISTING SURVEY MONUMENTS SHALL BE PROTECTED BY THE CONTRACTOR DURING CONSTRUCTION. ALL MONUMENTS DISTURBED BY THE CONTRACTORS OPERATIONS SHALL BE RESET BY A REGISTERED SURVEYOR AT THE CONTRACTORS EXPENSE.

DEMOLITION AND CLEARING:

1. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING PIPE AND ASSOCIATED INFRASTRUCTURE. PRIOR TO OFFSITE DISPOSAL, THE CONTRACTOR SHALL PROVIDE AN OPPORTUNITY FOR THE GON OR ITS REPRESENTATIVE TO INSPECT AND SELECT ITEMS TO RETAIN FOR FUTURE USE.
2. THE CONTRACTOR SHALL CLEAR ALL BRUSH AND VEGETATION FROM THE WORK AREA AND DISPOSE OFFSITE OR IN A LOCATION APPROVED BY THE GON OR ITS REPRESENTATIVE.
3. PRIOR TO CLEARING, CONTRACTOR TO VERIFY LIMITS OF CLEARING WITH THE GON OR ITS REPRESENTATIVE TO DETERMINE RESTRICTIONS REGARDING PRESERVATION OF EXISTING ITEMS.

NOTES:

1. *These drawings were prepared for the exclusive use of the Government of Nunavut (GON) and are issued pursuant to the services agreement between the client and Tetra Tech Canada, unless otherwise agreed in writing with the client or specified on these drawings. Tetra Tech Canada does not accept and disclaims any and all liability or responsibility arising from any use or reliance on these drawings by any third party or any modification or misuse of these drawings by the client. These drawings remain the intellectual property of Tetra Tech Canada.*

NUM	DATE	DWN	CKD	APR	DESCRIPTION
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

REVISIONS

PROFESSIONAL SEAL

CLIENT

Nunavut

TETRA TECH

WATER TRANSMISSION LINE DESIGN
CHESTERFIELD INLET, NUNAVUT

DRAWING INDEX AND GENERAL NOTES

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	C	G1.01
DATE	SHEET No.	DWN	APP	STATUS	
March 5, 2019	of	JDM	DNM	IFR	

MECHANICAL AND PIPING:

1. THE MECHANICAL/PIPING CONTRACTOR MUST BE APPROVED BY THE GON OR ITS REPRESENTATIVE PRIOR TO THE AWARD OF THE CONTRACT. A PRE-CONTRACT INSPECTION OF THE CONTRACTORS FACILITY MAY BE CARRIED OUT AT THE DISCRETION OF THE GON OR ITS REPRESENTATIVE.
2. THE CONTRACT WORK WILL BE SUBJECT TO PRE-DELIVERY INSPECTIONS AND FINAL INSPECTIONS AT THE DISCRETION OF THE GON OR ITS REPRESENTATIVE.
3. PE PIPE SHALL BE MANUFACTURED TO ASTM F714 OR AWWA C906.
4. PIPE MATERIAL SHALL BE PE 4710.
5. DIMENSIONS AND WORKMANSHIP SHALL BE AS SPECIFIED BY ASTM F714.
6. HDPE FITTINGS AND TRANSITIONS SHALL MEET ASTM D3261.
7. HDPE PIPE SHALL HAVE A MINIMUM DENSITY OF 0.955 g/cm³.
8. HDPE PIPE AND ACCESSORIES 4-INCH DIAMETER AND LARGER, SHALL BE 125 PSI AT 73.4°F MEETING THE REQUIREMENTS OF STANDARD DIMENSION RATIO (SDR) 17 MINIMUM STRENGTH.
9. FABRICATED HDPE MITRED FITTINGS SHALL BE TO AWWA C906, SUITABLE FOR THE PRESSURE RATING AND SIZE SPECIFIED.
10. MOULDED HDPE FITTING SHALL BE TO ASTM 3261, SUITABLE FOR PRESSURE RATING SPECIFIED AND FUSION TO MAIN PIPE.
11. ALL JOINTS SHALL BE HEAT BUTT FUSED TO DEVELOP FULL STRENGTH OF THE PIPE. FUSION SHALL BE TO ASTM D2657 AND SHALL BE FULLY IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS WHERE AVAILABLE.
12. CONTRACTOR SHALL HANDLE PIPE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. DO NOT USE CHAINS OR CABLES PASSED THROUGH PIPE BORE SO THAT WEIGHT OF PIPE BEARS ON PIPE ENDS.
13. CONTRACTOR TO LAY AND JOIN PIPES TO MANUFACTURERS INSTRUCTIONS AND SPECIFICATIONS EXCEPT IF OTHERWISE NOTED IN THE CONTRACT DOCUMENTS.
14. CONTRACTOR TO MAINTAIN VERTICAL TOLERANCE: +/- 25 mm FROM SPECIFIED GRADE.
15. CONTRACTOR TO LAY PIPES ON PREPARED BED, TRUE TO LINE AND GRADE. CONTRACTOR TO ENSURE BARREL OF EACH PIPE IS IN CONTACT WITH SHAPED BED THROUGHOUT ITS FULL LENGTH. PIPE TO BE LAID AS PER DETAIL 1/C3.00.
16. CONTRACTOR TO KEEP JOINTING MATERIALS AND INSTALLED PIPE FREE OF DIRT, WATER AND OTHER FOREIGN MATERIALS. WHENEVER WORK IS STOPPED, CONTRACTOR SHALL INSTALL A REMOVABLE WATERTIGHT BULKHEAD AT OPEN END OF LAST PIPE LAID TO PREVENT ENTRY OF WATER AND FOREIGN MATERIALS.
17. CONTRACTOR TO CUT PIPES AS REQUIRED TO MANUFACTURERS RECOMMENDATIONS. LEAVE SMOOTH END AT RIGHT ANGLES TO AXIS OF PIPE.
18. CONTRACTOR TO BUTT FUSE PIPE IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
19. WHERE BUTT FUSION IS TO OCCUR IN A LOCATION OTHER THAN IN THE INSTALLED LOCATION (E.G. AT TOP OF TRENCH AND DROPPED IN, OR AT END OF TRENCH AND DRAGGED/PUSHED INTO PLACE), THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN TO THE GON OR ITS REPRESENTATIVE PROVIDING SAFE WORK PROCEDURES AND QUALITY PROVISIONS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTRAINING THE PIPE AS NECESSARY DURING CONSTRUCTION.
21. TRENCH BEDDING AND BACKFILL SHALL BE AS PER THE SUPPLIED DRAWINGS AND CONTRACT DOCUMENTS.
22. THE CONTRACTOR SHALL ENSURE THAT THE PRECAST HYDRAULIC STRUCTURES ARE IN PLACE AND PIPES ARE PROPERLY INSERTED IN THE COUPLERS PRIOR TO FUSING THE FIRST AND LAST PIPE SEGMENTS.

EXCAVATION & FILL PLACEMENT:

1. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL CLEAR AND GRADE THE BACKFILL AREA, REMOVING TOPSOIL, BRUSH, SOD AND OTHER ORGANIC DELETERIOUS MATERIALS. ANY UNSUITABLE SOILS SHALL BE OVER EXCAVATED AND REPLACED WITH COMPACTED BACKFILL MATERIAL TO PROJECT SPECIFICATIONS OR AS OTHERWISE DIRECTED BY THE GON OR ITS REPRESENTATIVE.
2. BEFORE PLACEMENT OF ANY MATERIALS, EXPOSED SUBGRADES SHALL BE INSPECTED AND APPROVED BY THE GON OR ITS REPRESENTATIVE.
3. PRIOR TO PLACEMENT ALL SELECT FILL MATERIAL SHALL BE APPROVED BY THE GON OR ITS REPRESENTATIVE.
4. SELECT FILL MATERIAL SHALL BE PLACED IN 300 mm LIFTS AND COMPACTED TO 95% SPMDD.
5. ALL EXCESS OR UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF SITE AT AN APPROVED FACILITY.

SELECT FILL MATERIAL GRADATION TABLE

SIEVE SIZE (mm)	PERCENT PASSING (%)
25	70 - 100
5	25 - 63
0.63	7 - 30
0.08	2 - 8

RIPRAP:

RIPRAP SHALL COMPLY WITH THE FOLLOWING:

1. RIPRAP SHALL BE FREE OF POTENTIALLY ACID GENERATING ROCK. CONTRACTOR TO SUBMIT ROCK OR GRAVEL FOR MATERIALS TESTING PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. TESTING COSTS SHALL BE INCIDENTAL TO THE SUPPLY AND PLACEMENT OF FILL MATERIAL.
2. RIPRAP SHALL BE FREE OF DELETERIOUS MATERIALS INCLUDING ORGANIC IMPURITIES, CLAY LUMPS, OR FRIABLE PARTICLES.
3. RIPRAP SHALL BE MADE OF SOUND ROCK PRODUCED BY A QUARRY.
4. MIN. SPECIFIC GRAVITY: 2.6.

PUMP:

1. REFER TO SECTION 33 21 20 PUMP STATION FOR PUMP SPECIFICATIONS.
2. CONTRACTOR TO SUPPLY AND INSTALL PAINTED AND TESTED DIESEL PUMP WITH TRAILER PACKAGE c/w LIFTING RAIL, FUEL TANK AND AUTO CONTROL PANEL.
3. PUMP SYSTEM SHALL ALSO INCLUDE FLOW METER, PIPE HOSES AND A SCREEN.
4. CONTRACTOR TO SUPPLY PUMP CURVES AND SPECIFICATIONS TO THE GON OR ITS REPRESENTATIVE FOR APPROVAL PRIOR TO ORDERING THE PUMP SYSTEM.

Community and Government Services - Government of Nunavut

Quantity Estimate

Tetra Tech Project WTRM03121-01 - Chesterfield Inlet Water Transmission Line

NMS Specs				
Preliminaries			**Unit**	**Est Quantity**
01 25 01	0-1	Mob / Demob, Temporary Facilities, Security, Quality Control, etc.	lump sum	1
01 35 14	0-2	Traffic Control, Barricades, and Temporary Signage	lump sum	1
01 71 00	0-3	Construction Surveys	lump sum	1
Site Services			**Unit**	**Est Quantity**
31 14 11	1-1	Gravel Removal	cu.m	500
31 14 11	1-2	Supply and Place Select Fill Material	cu.m	2,000
33 11 16	1-3	Supply and Install 200 mm DR11 HDPE Pipe	m	3,548
33 11 16	1-4	Supply and Install Air Release Valve	each	10
33 11 16	1-5	Supply and Install Drain Valve	each	15
31 14 11	1-6	Supply and Place Sand for Pumping Pad (Fuel Containment)	cu. m	15
33 42 13	1-7	Supply and Install 600 mm CSP Culvert	m	123
31 37 10	1-8	Supply and Place 50 kg Class Riprap	cu. m	105
31 32 21	1-9	Supply and Place Non-Woven Geotextile	sq. m	1,000
31 32 21	1-10	Supply and Install HDPE Liner	sq. m	75
33 11 16	1-11	Supply and Install Pipe Anchor	each	55
33 11 16	1-12	Supply and Install Pipe Casing	m	55
02 41 13	1-13	Culvert Removal and Off-Site Disposal	each	2
02 41 13	1-14	Shed Removal and Off-Site Disposal	lump sum	1
Mechanical			**Unit**	**Est Quantity**
33 21 20	2-1	Supply and Install Pump System c/s Trailer, Controls, and Flow Meter	lump sum	1
33 11 16	2-2	Supply 200 mm Diameter Flexible Hose	m	75
Miscellaneous			**Unit**	**Est Quantity**
01 35 43	3-1	Dewatering	lump sum	1
01 35 43	3-2	Sediments and Erosion Control Measures	lump sum	1
02 41 13	3-3	Demolition and Off-Site Disposal of Existing Pipeline	m	3,200
33 11 16	3-4	Supply and Install Valve Box Marker with High U12 Pennant	each	25

Notes:

1 Quantities shown on this table are estimates and provided for reference only.

LEGEND

NOTES

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/10/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
A	2/26/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN
CHESTERFIELD INLET, NUNAVUT

GENERAL NOTES AND QUANTITIES

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	G1.02
DATE	SHEET No.	DWN	APP	STATUS	
April 10, 2019	of	JDM	DNM	IFR	

LEGEND

NOTES

NUM	DATE	DWN	CKD	APR	DESCRIPTION
B	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
A	2/26/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN
CHESTERFIELD INLET, NUNAVUT

GRAVEL SOURCE AND QUARRY LOCATIONS

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	B	G1.03
DATE	SHEET No.	DWN	APP	STATUS	
March 5, 2019	of	JDM	DNM	IFR	

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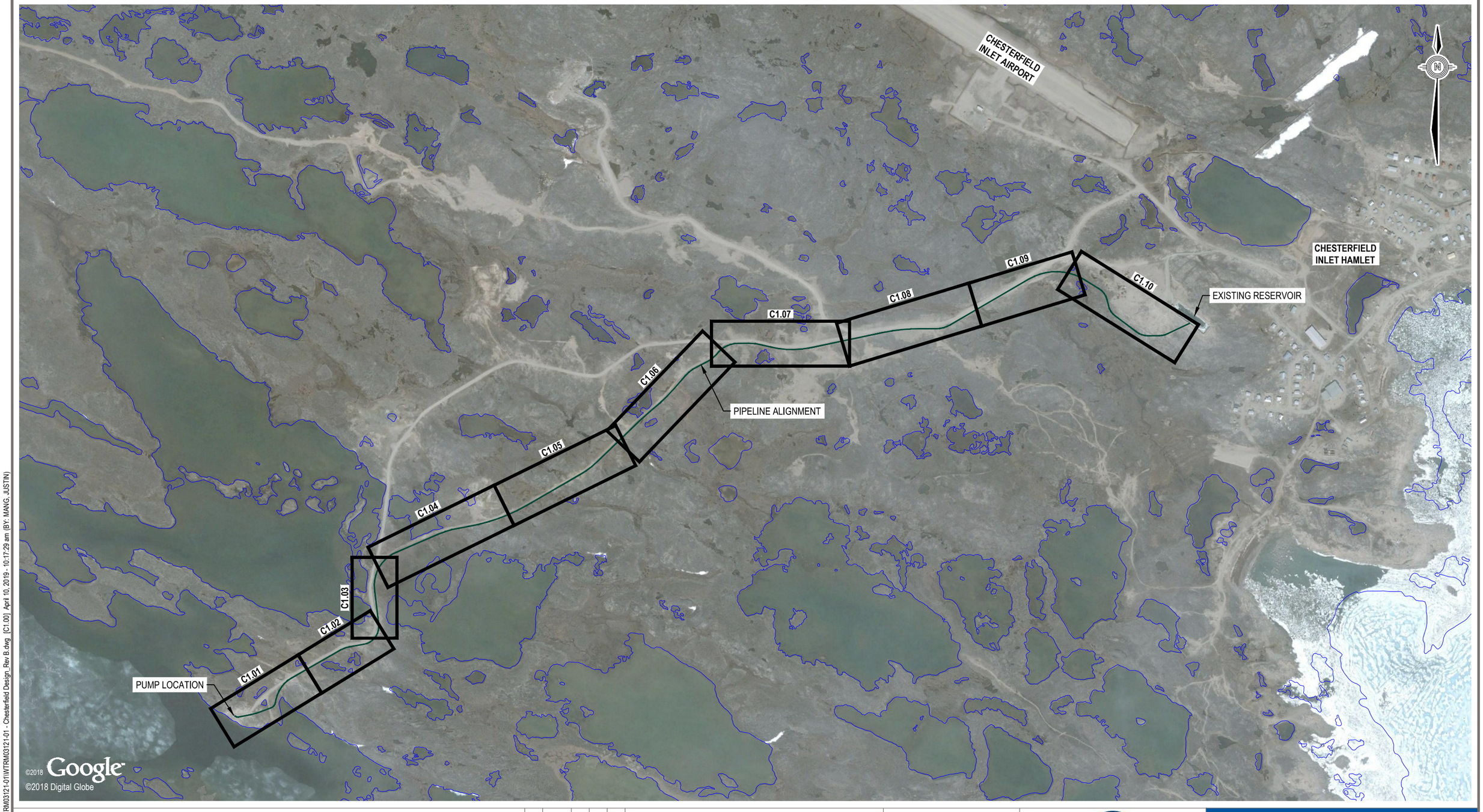

LEGEND

NOTES

1. Survey completed by Apex Survey Solutions Ltd. on November 22, 2018.

SCALE 1:10,000

100 0 100 200 400m

NUM	DATE	DWN	CKD	APR	DESCRIPTION
D	4/10/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

KEY PLAN

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	D	C1.00
DATE	SHEET No.	DWN	APP	STATUS	
April 10, 2019	of	JDM	DNM	IFR	

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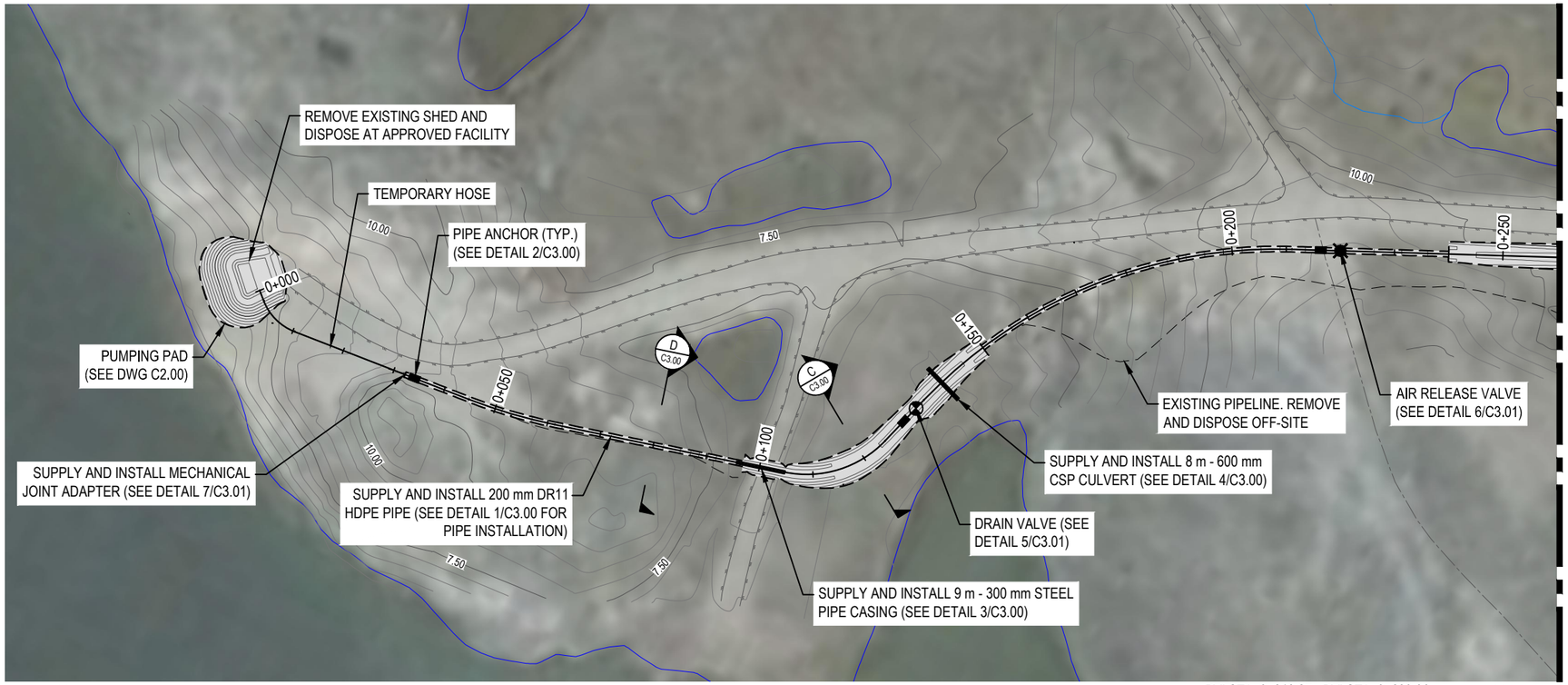

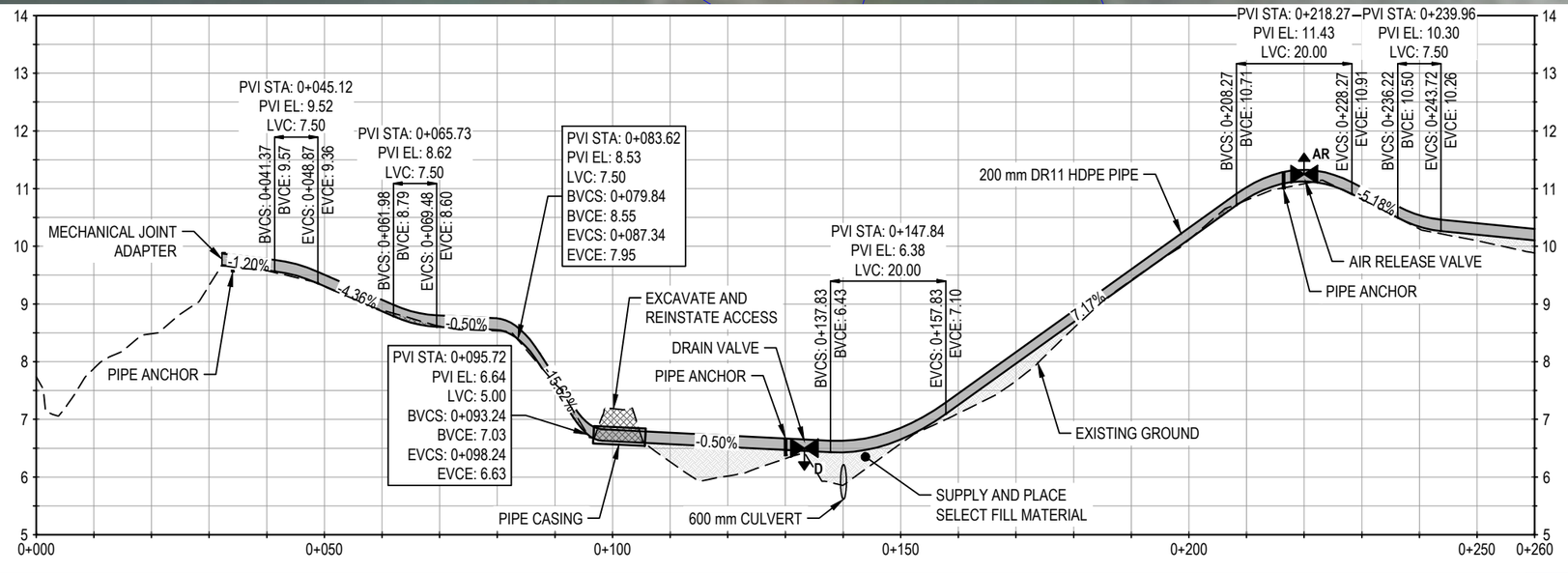

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
F	4/10/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	2/26/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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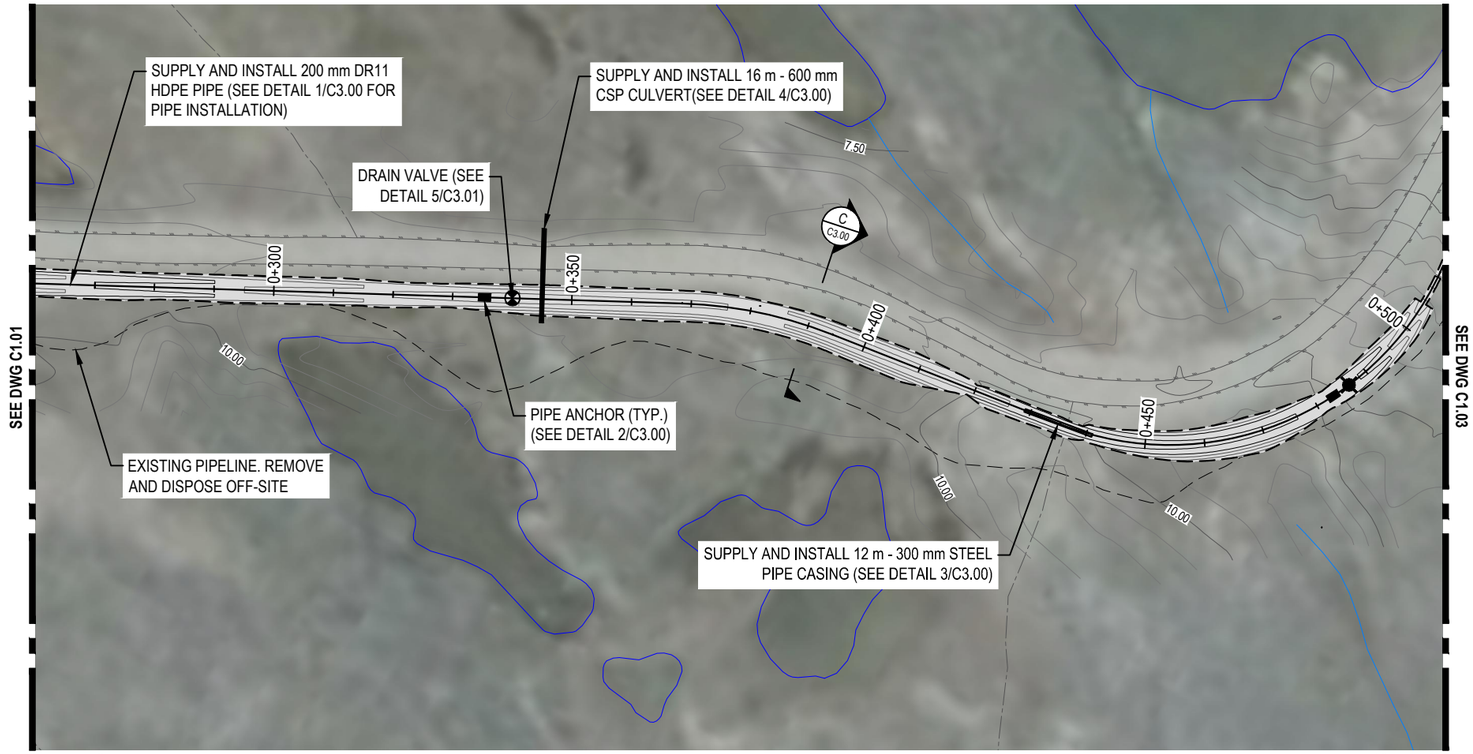
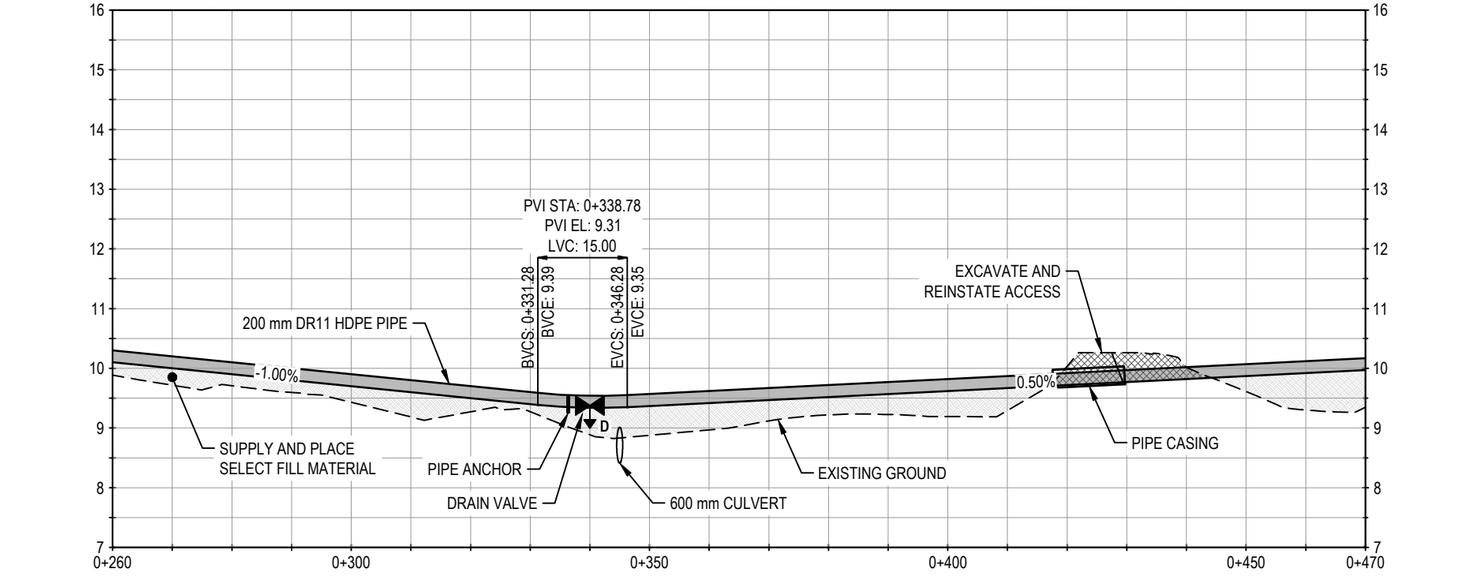
WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

PLAN AND PROFILE

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	F	C1.01
DATE	SHEET No.	DWN	APP	STATUS	
April 10, 2019	of	JDM	DNM	IFR	





LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

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2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.02
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	

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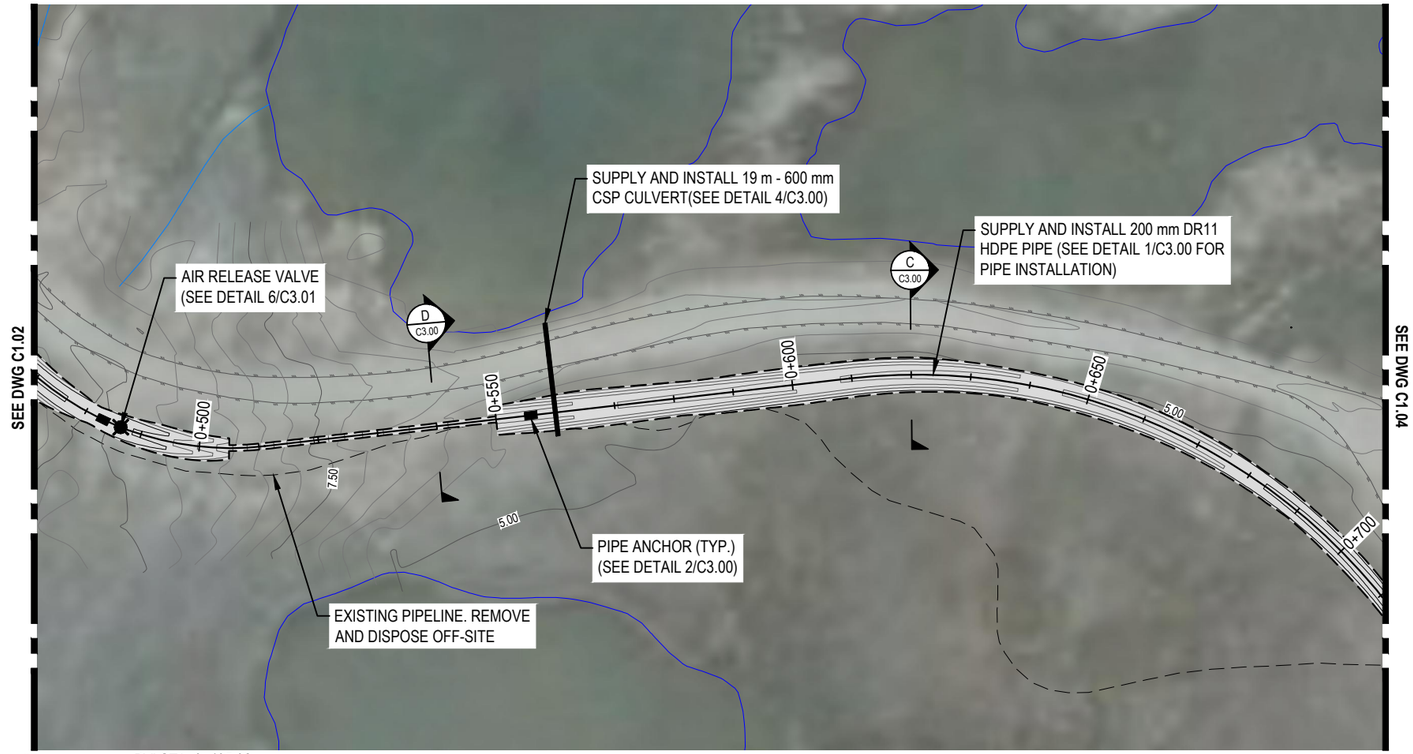

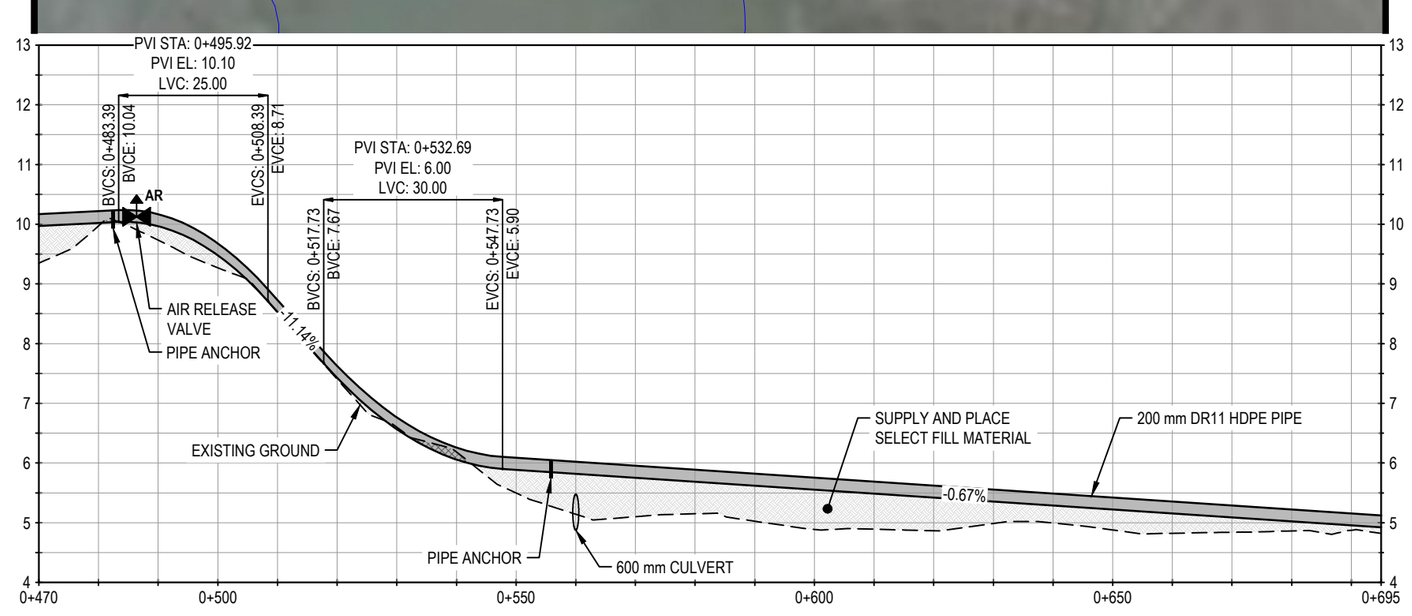

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

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PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.03
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	

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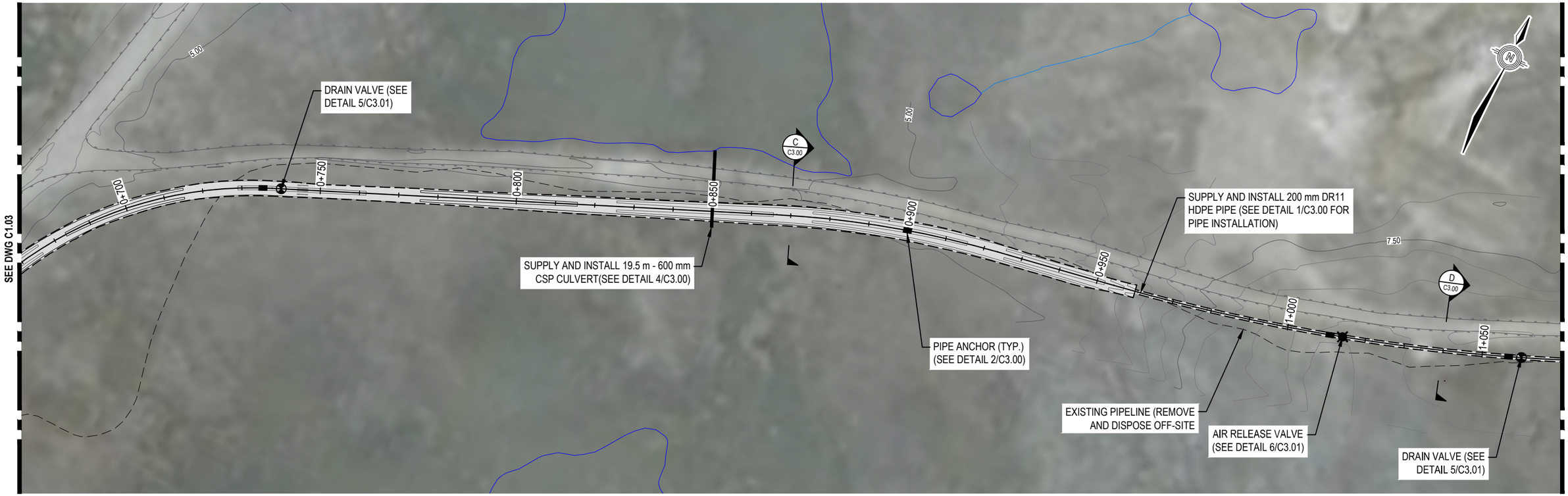

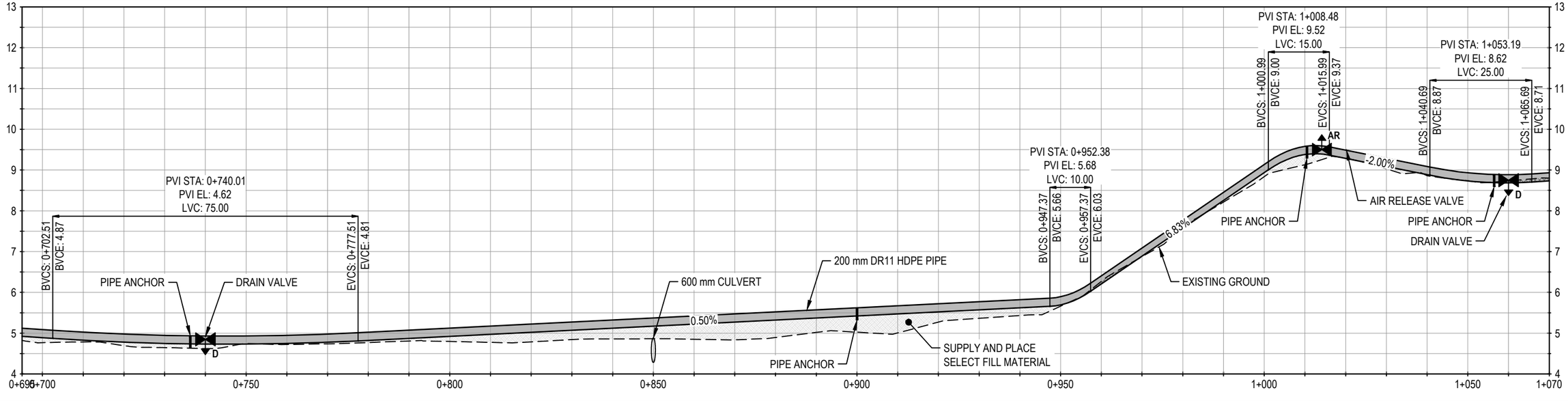

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.04
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	

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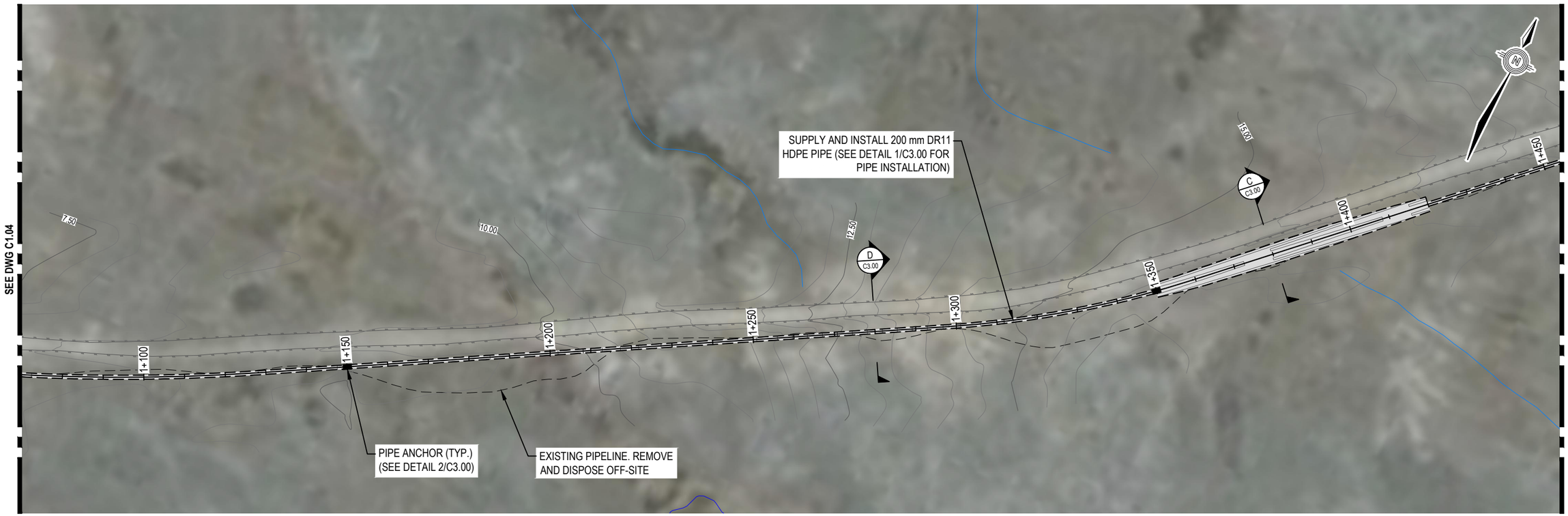

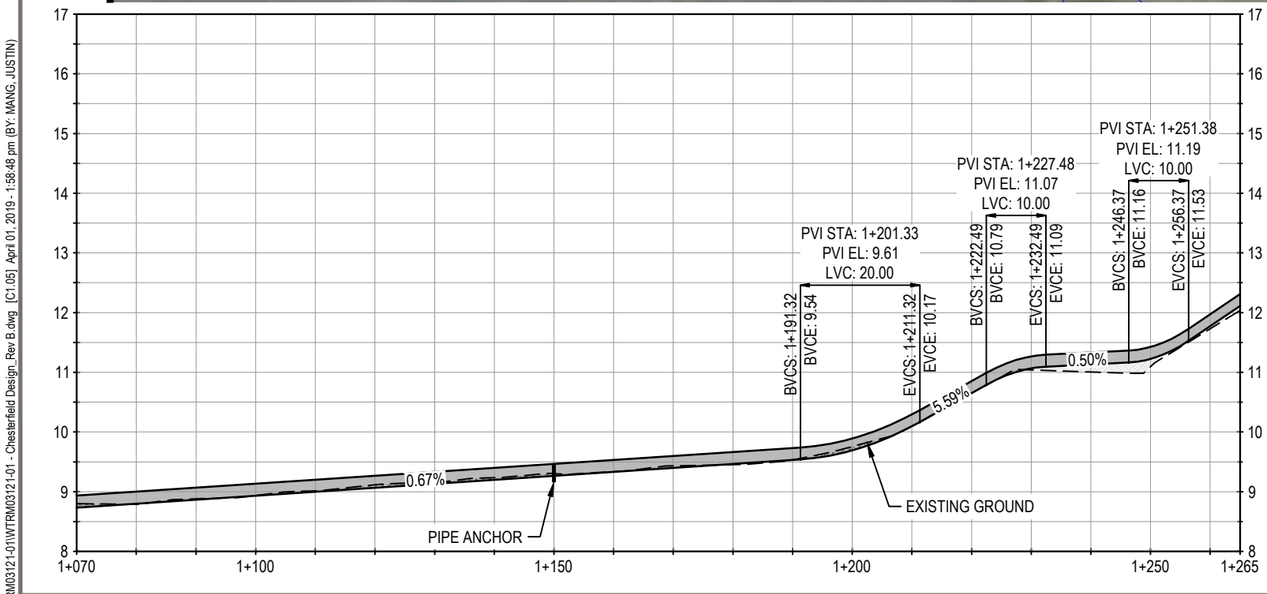

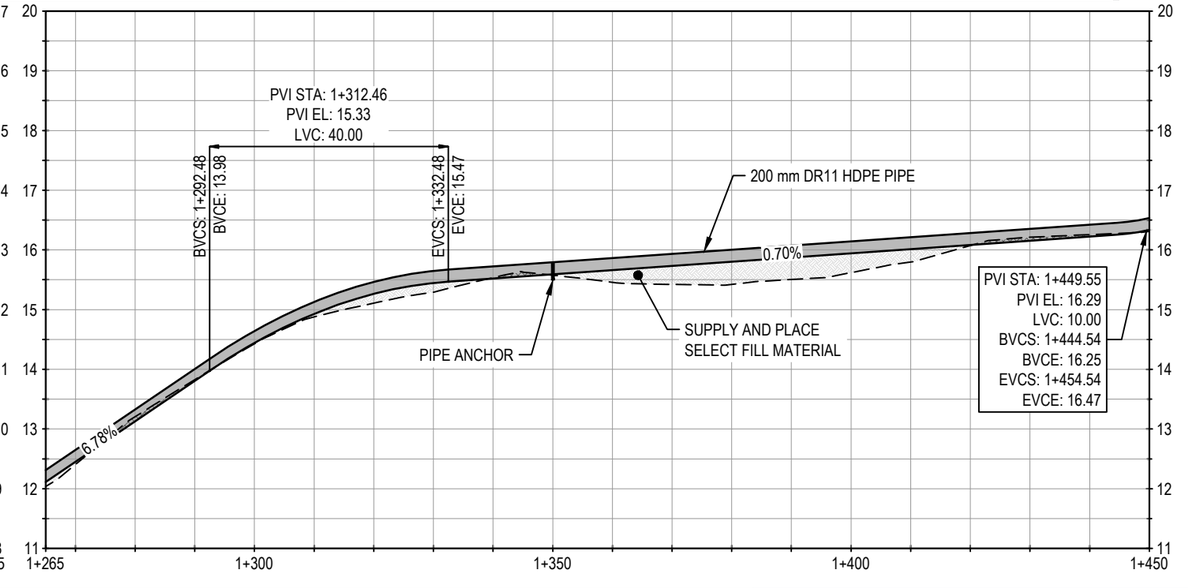

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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PLAN AND PROFILE

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.05
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	

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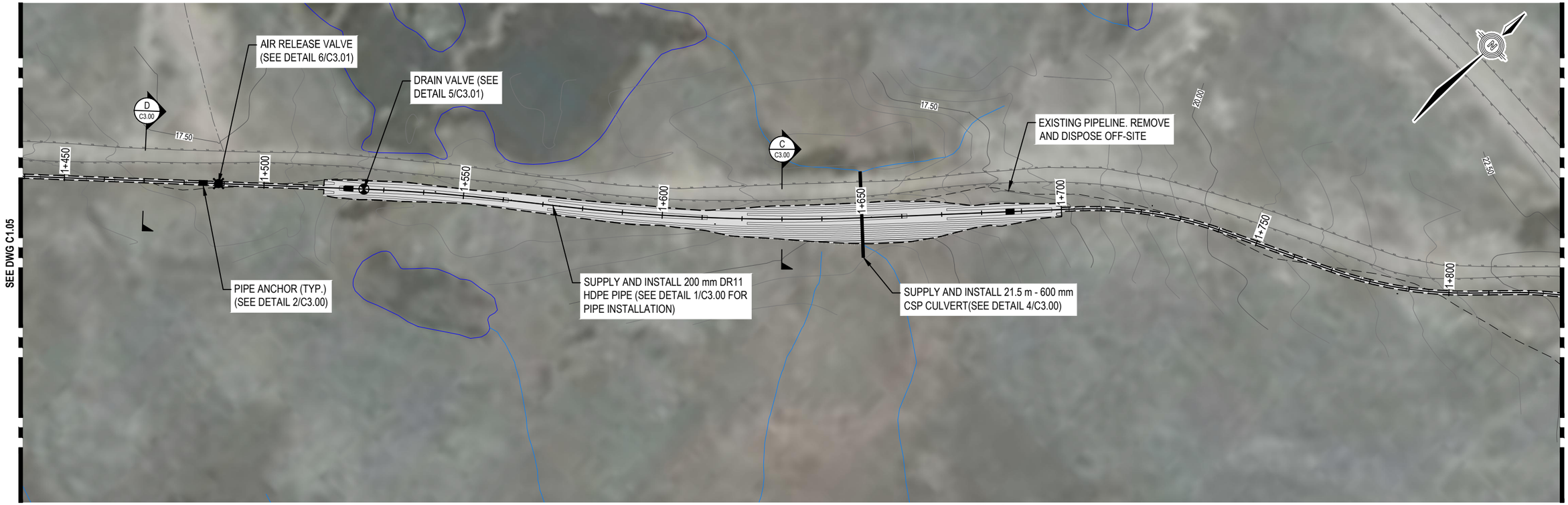

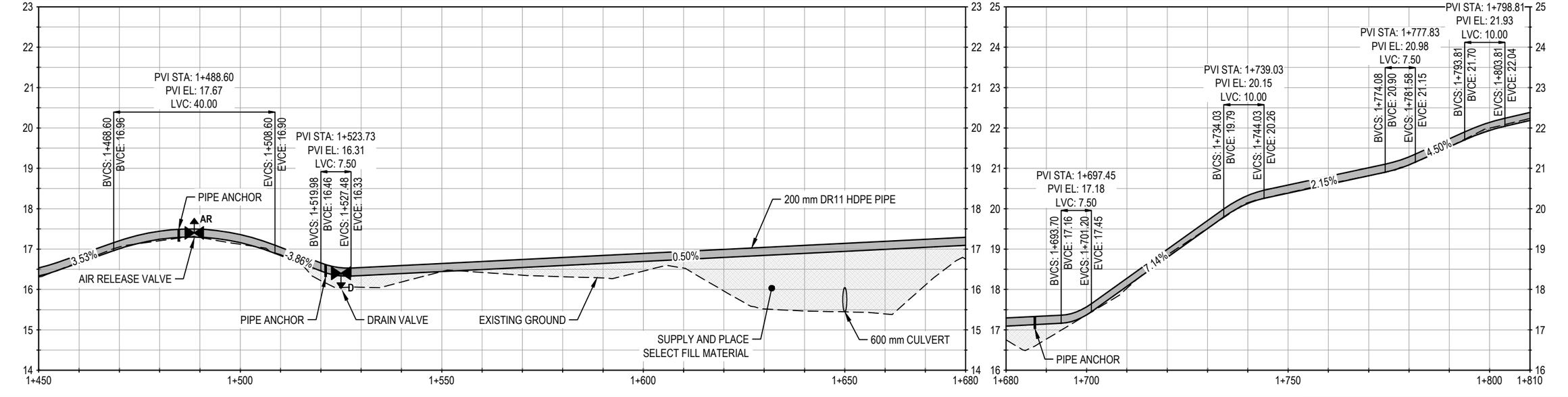

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

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PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	D	C1.06
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	

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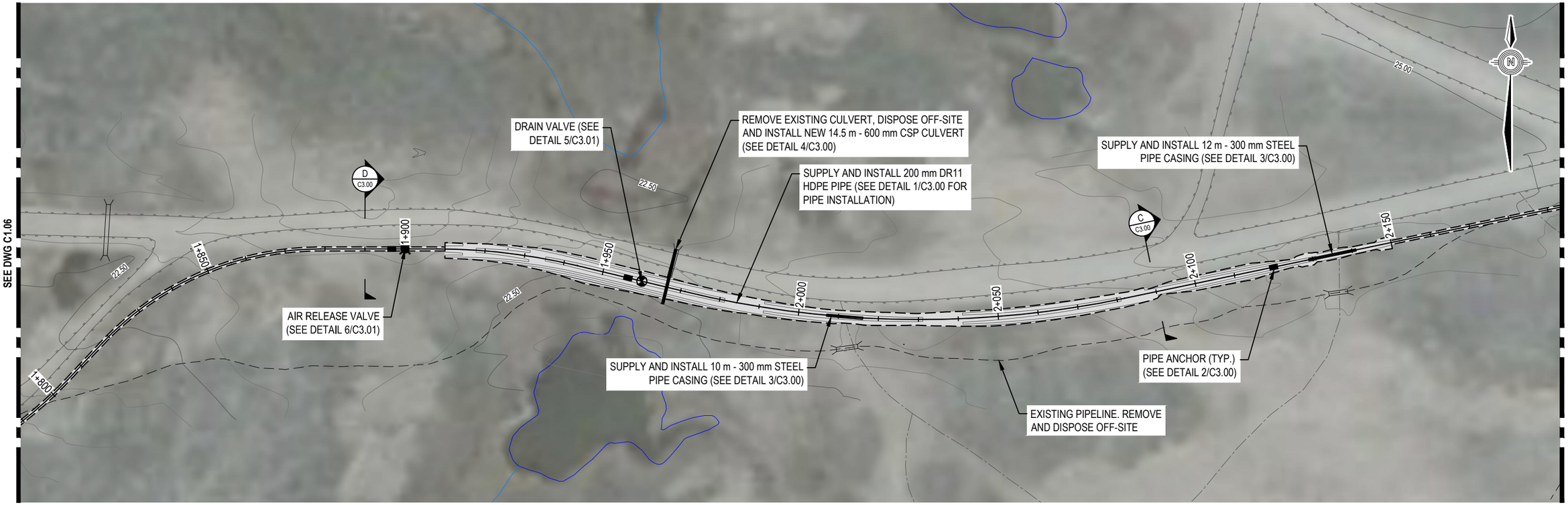

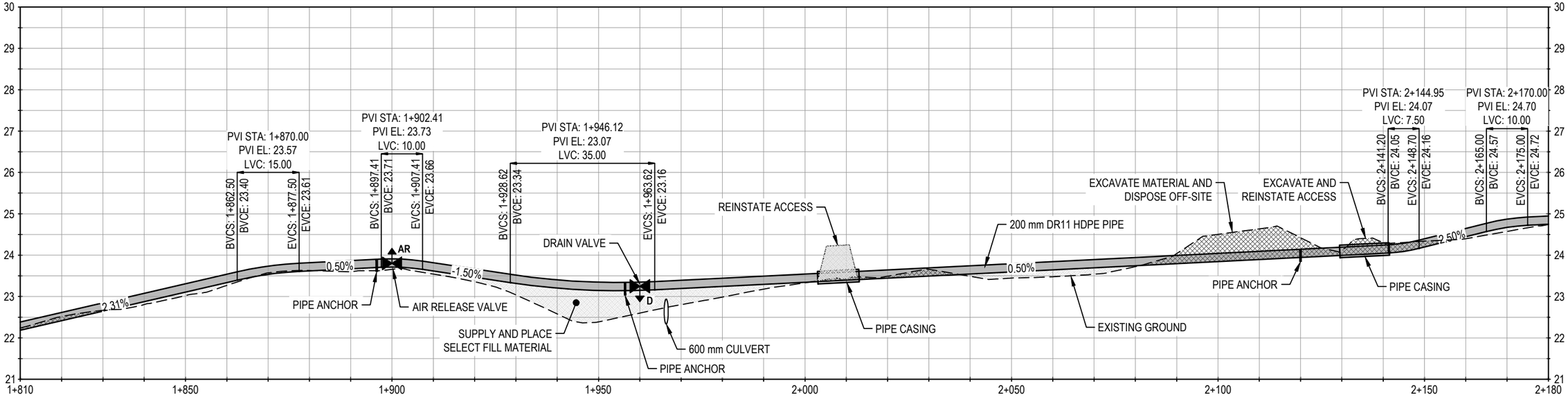

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

PLAN AND PROFILE

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.07
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	

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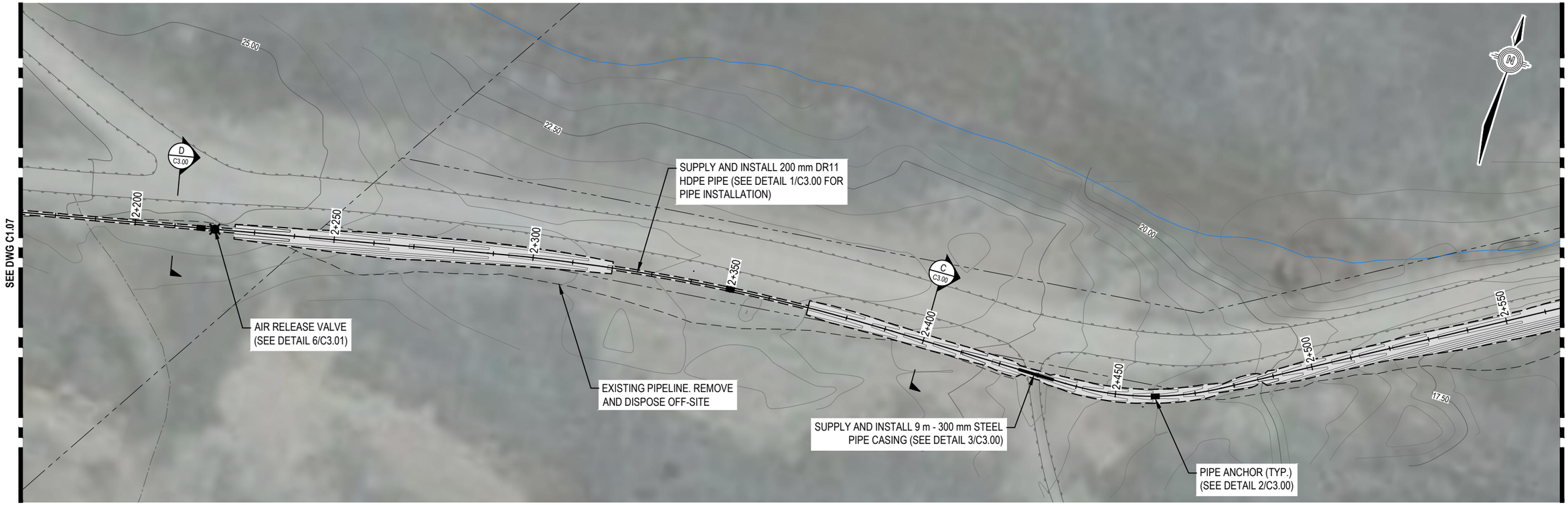

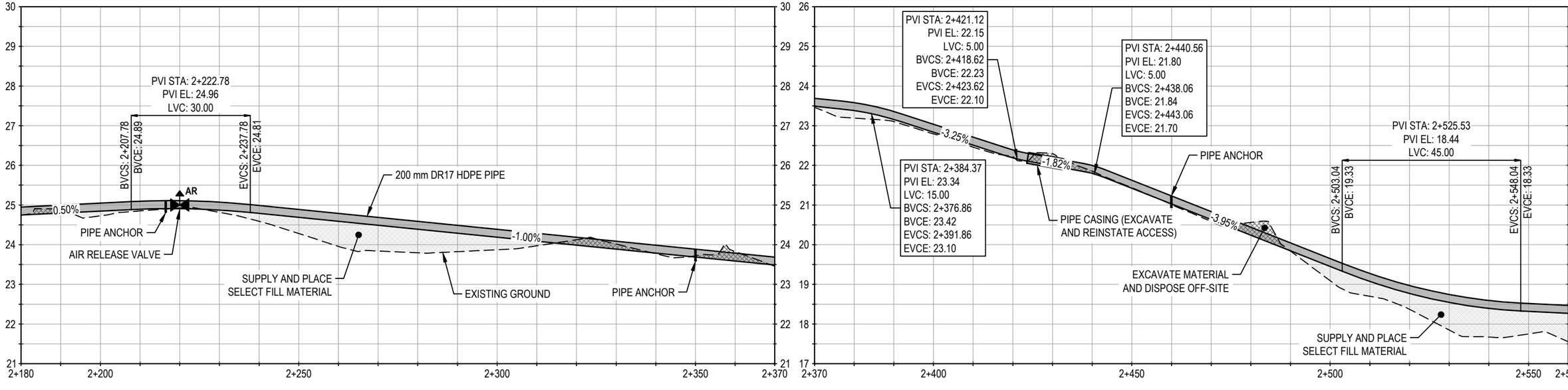

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

PLAN AND PROFILE

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.08
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	

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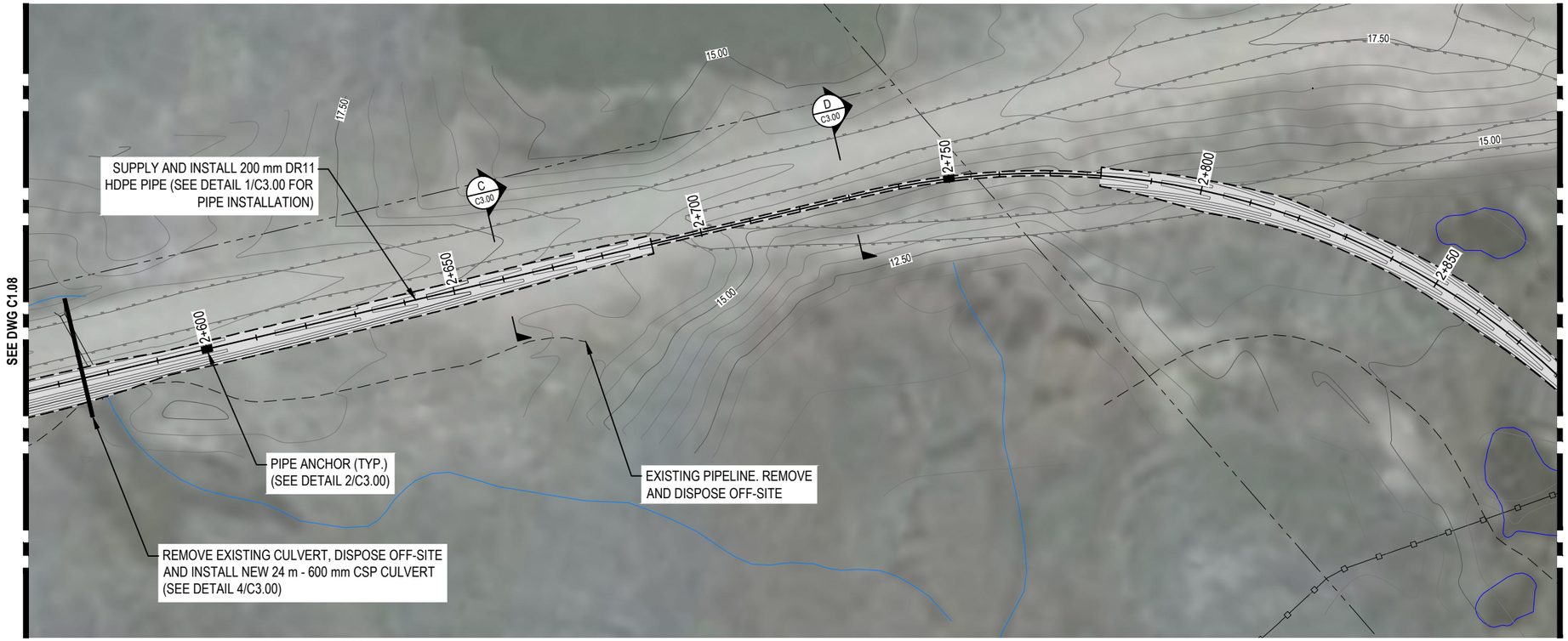

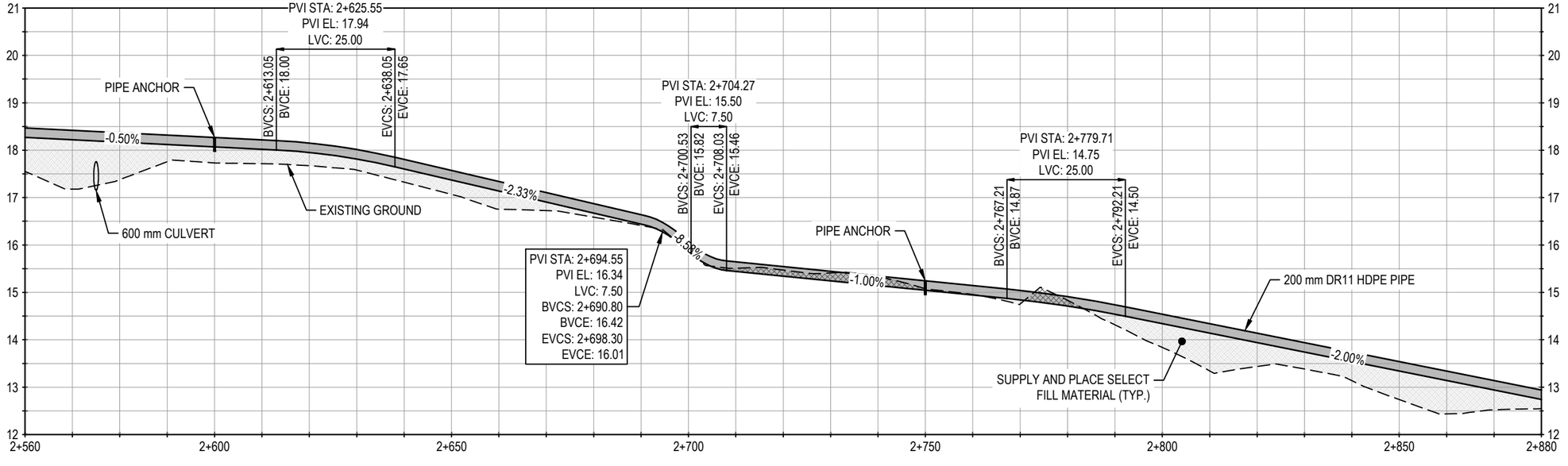

LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise
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NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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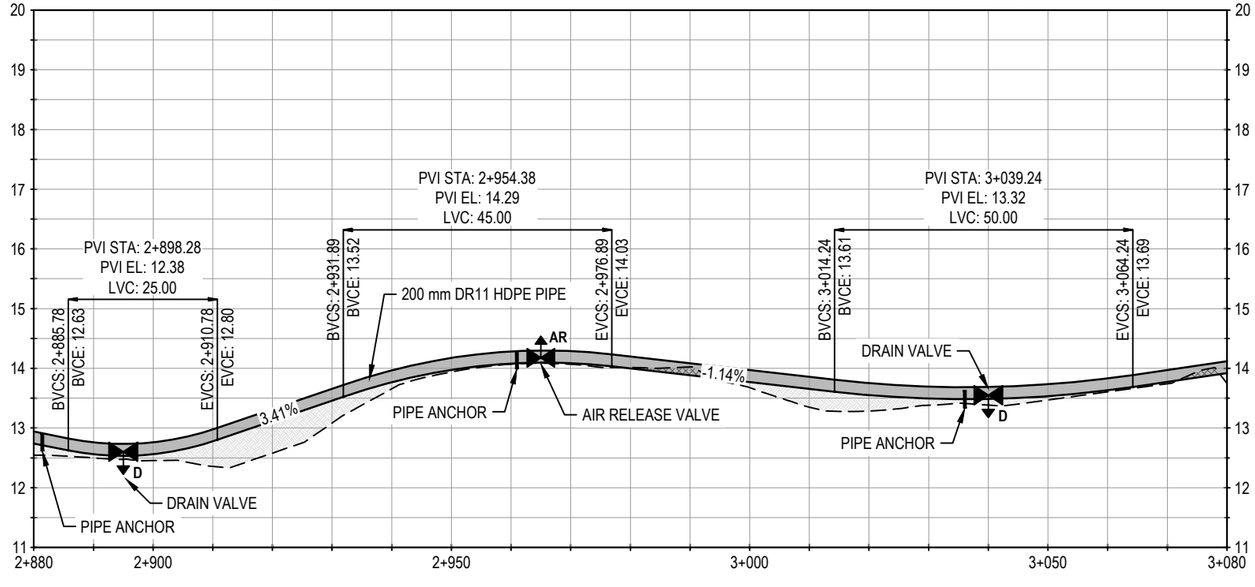
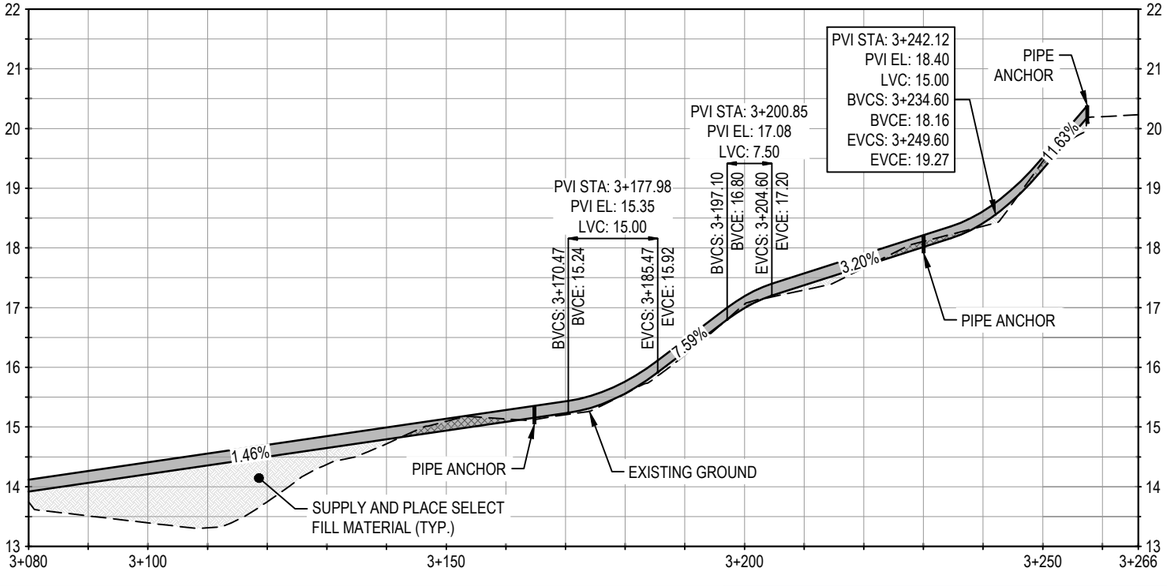
WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

PLAN AND PROFILE

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.09
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	





LEGEND

SCALE 1:100 (VERT.)

1 0 1 2 4m

SCALE 1:1000 (HORIZ.)

10 0 10 20 40m

NOTES

1. All dimensions are in meters unless noted otherwise.
2. Profile view is exaggerated by 10 times vertically.

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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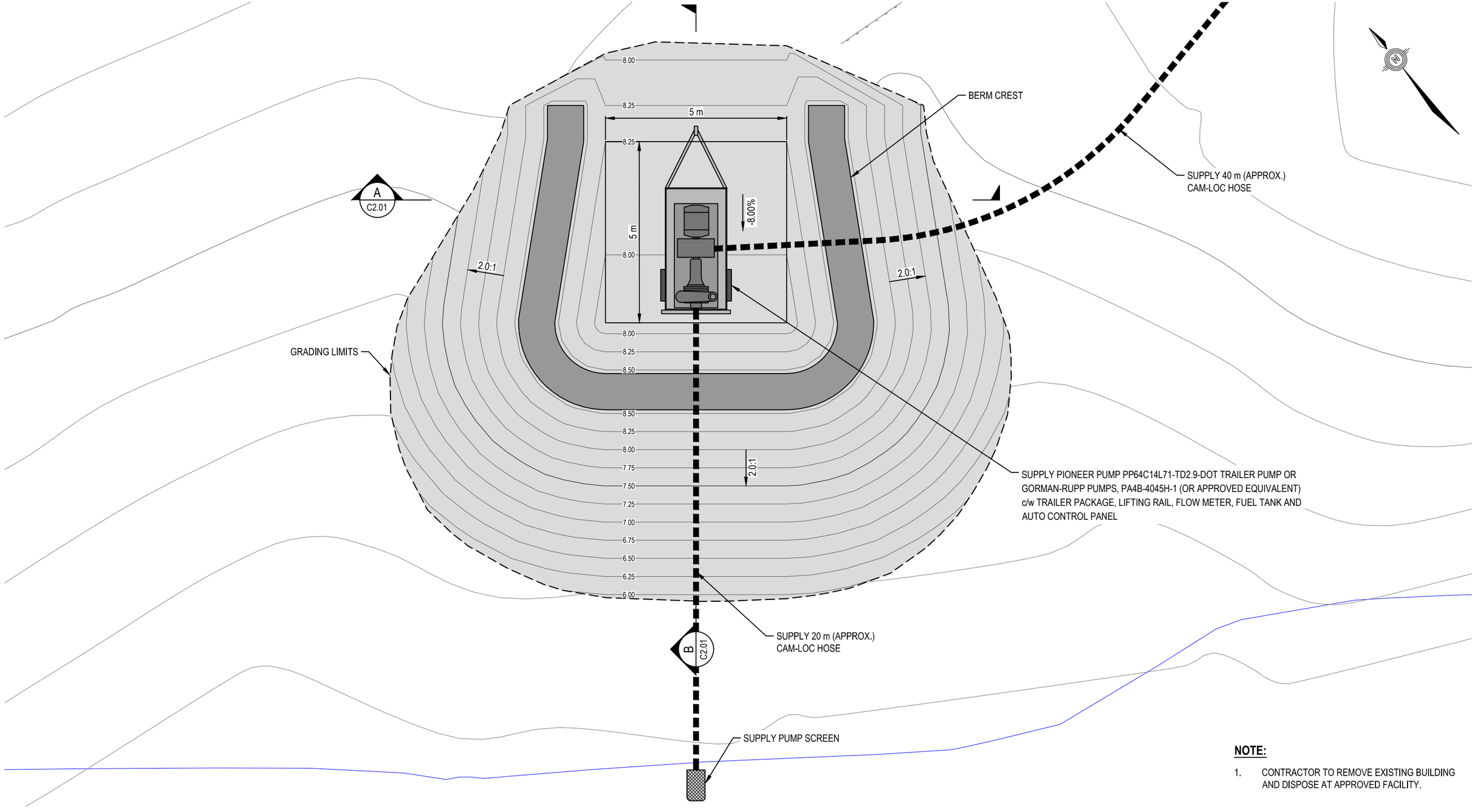
WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

PLAN AND PROFILE

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C1.10
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	



NOTE:

1. CONTRACTOR TO REMOVE EXISTING BUILDING AND DISPOSE AT APPROVED FACILITY.

LEGEND

NOTES

SCALE 1:100

1 0 1 2 4m

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/10/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
A	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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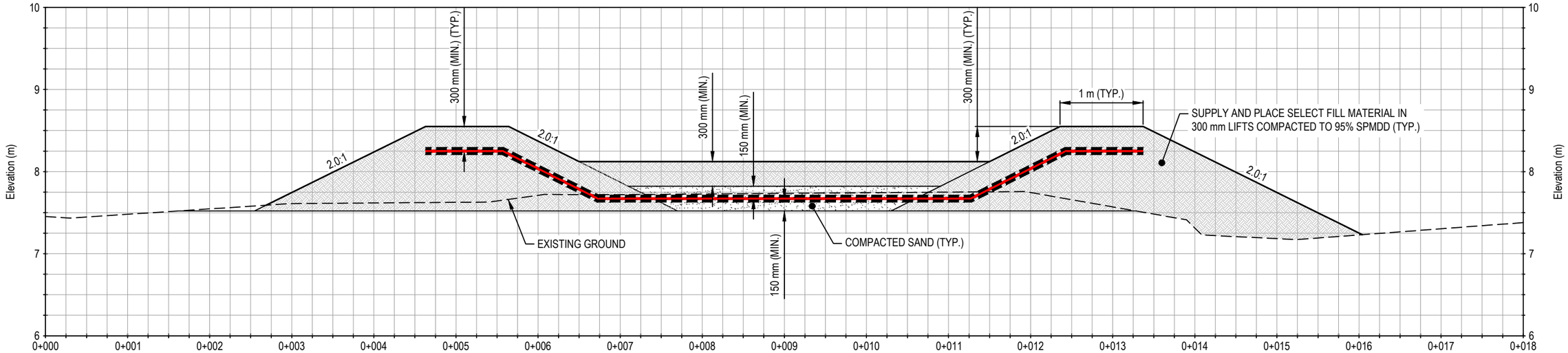
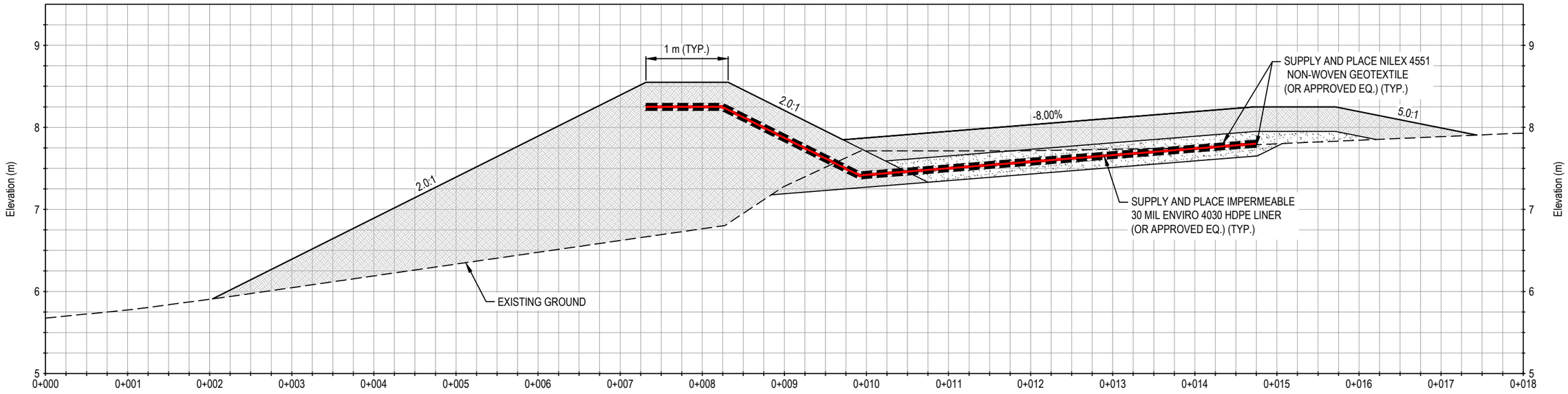
WATER TRANSMISSION LINE DESIGN CHESTERFIELD INLET, NUNAVUT

PUMPING PAD PLAN

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C2.00
DATE	SHEET No.	DWN	APP	STATUS	
April 10, 2019	of	JDM	DNM	IFR	



A C2.01 **SECTION**
SCALE: 1:50



B C2.01 **SECTION**
SCALE: 1:50

LEGEND

NOTES

SCALE 1:50
500 0 500 1000 2000mm

NUM	DATE	DWN	CKD	APR	DESCRIPTION
D	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/14/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	3/5/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
A	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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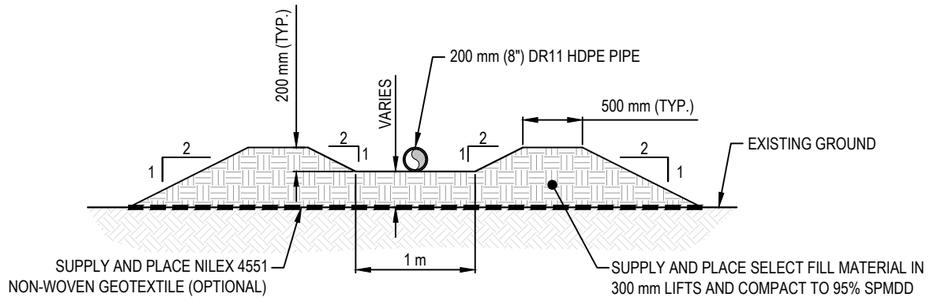
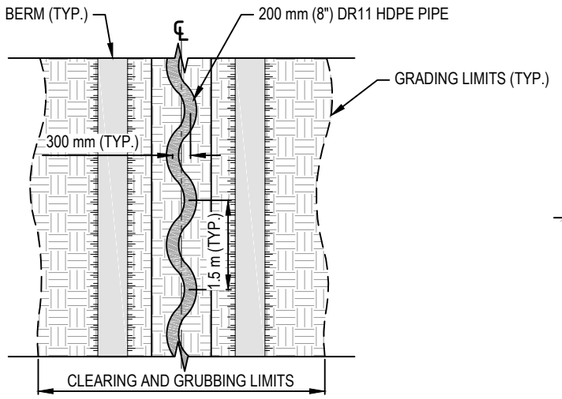
WATER TRANSMISSION LINE DESIGN
CHESTERFIELD INLET, NUNAVUT

PUMPING PAD
SECTIONS

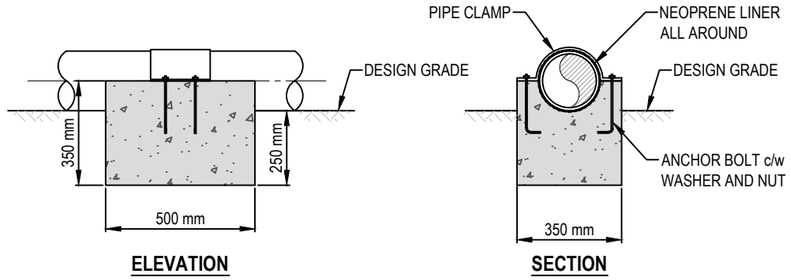
PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	D	C2.01
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	JDM	DNM	IFR	



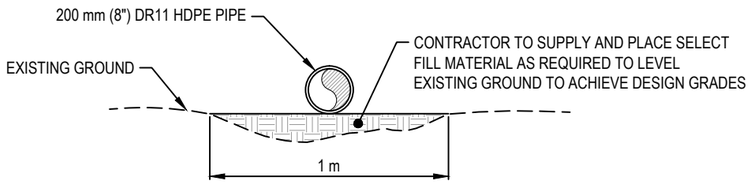
C C3.00 **TYPICAL SECTION**
SCALE: 1:50



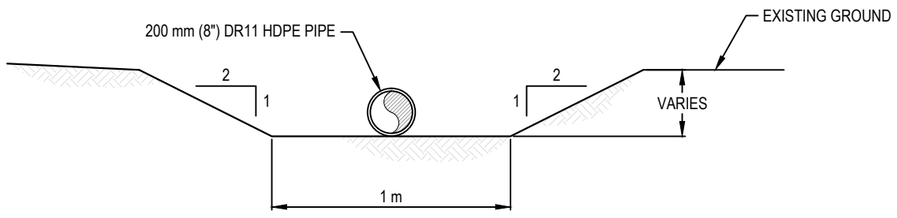
1 C3.00 **PIPE INSTALLATION DETAIL**
SCALE: 1:100



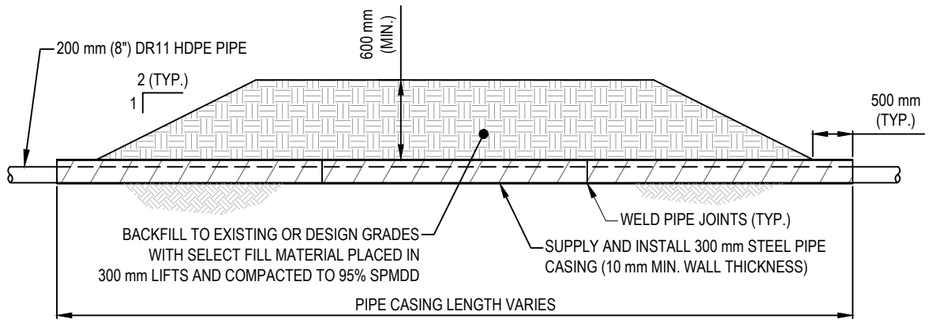
2 C3.00 **ANCHOR DETAIL**
SCALE: 1:20



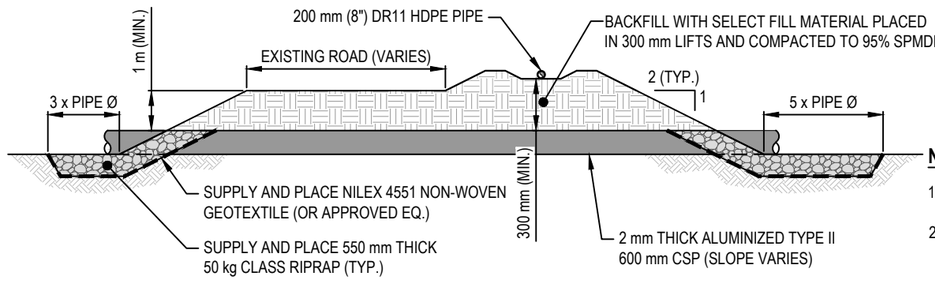
D C3.00 **TYPICAL SECTION**
SCALE: 1:25



E C3.00 **TYPICAL EXCAVATED SECTION**
SCALE: 1:25



3 C3.00 **PIPE CASING DETAIL**
SCALE: NTS



4 C3.00 **CULVERT DETAIL**
SCALE: NTS

NOTE:

1. CONTRACTOR TO PROTECT CSP CULVERTS DURING CONSTRUCTION.
2. PROPOSED CULVERTS LOCATIONS ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENTS TO MATCH HORIZONTAL AND VERTICAL GEOMETRY OF PIPE CORRIDOR AND EXISTING STREAM ALIGNMENTS.
3. CULVERT SHALL BE INSTALLED WITH A 1.00% MIN. SLOPE IN THE DIRECTION OF FLOW.

LEGEND

NOTES

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/1/19	MJK	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	3/14/19	MJK	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	2/26/19	MJK	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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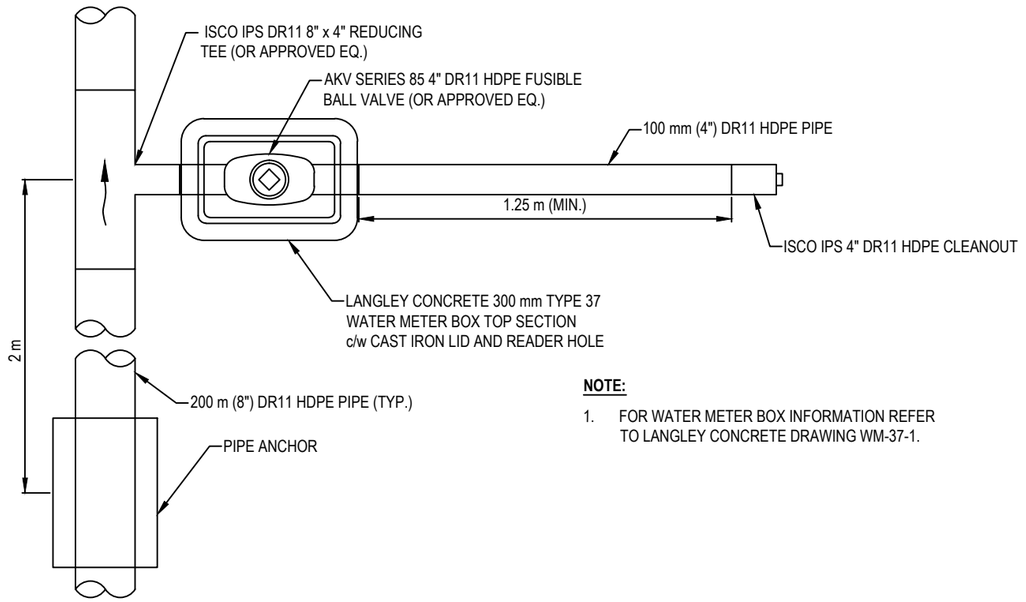
TETRA TECH

WATER TRANSMISSION LINE DESIGN
CHESTERFIELD INLET, NUNAVUT

TYPICAL SECTION AND DETAILS

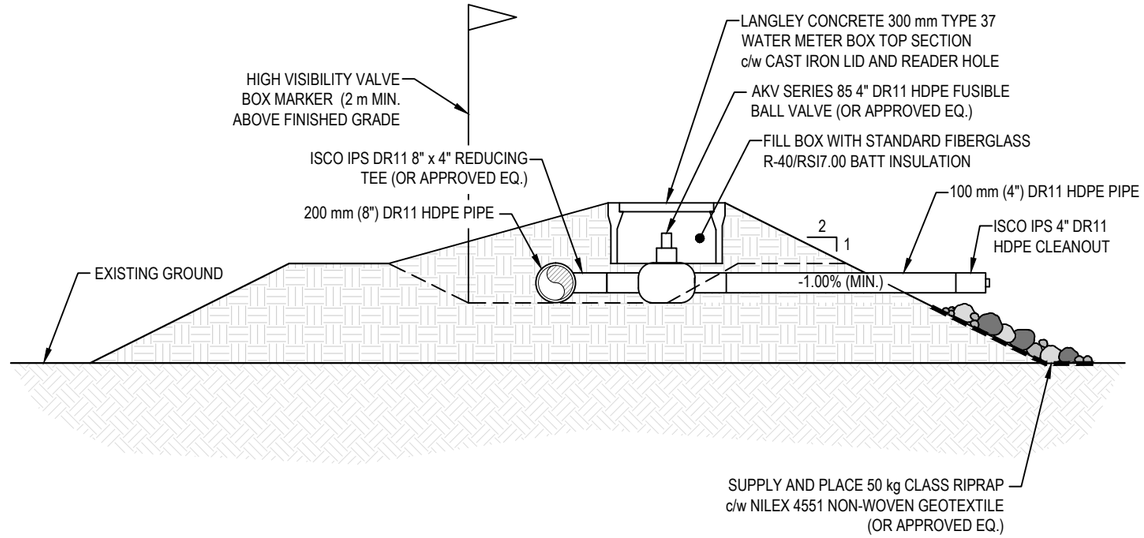
PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C3.00
DATE	SHEET No.	DWN	APP	STATUS	
April 1, 2019	of	MJK	DNM	IFR	



NOTE:

1. FOR WATER METER BOX INFORMATION REFER TO LANGLEY CONCRETE DRAWING WM-37-1.

PLAN

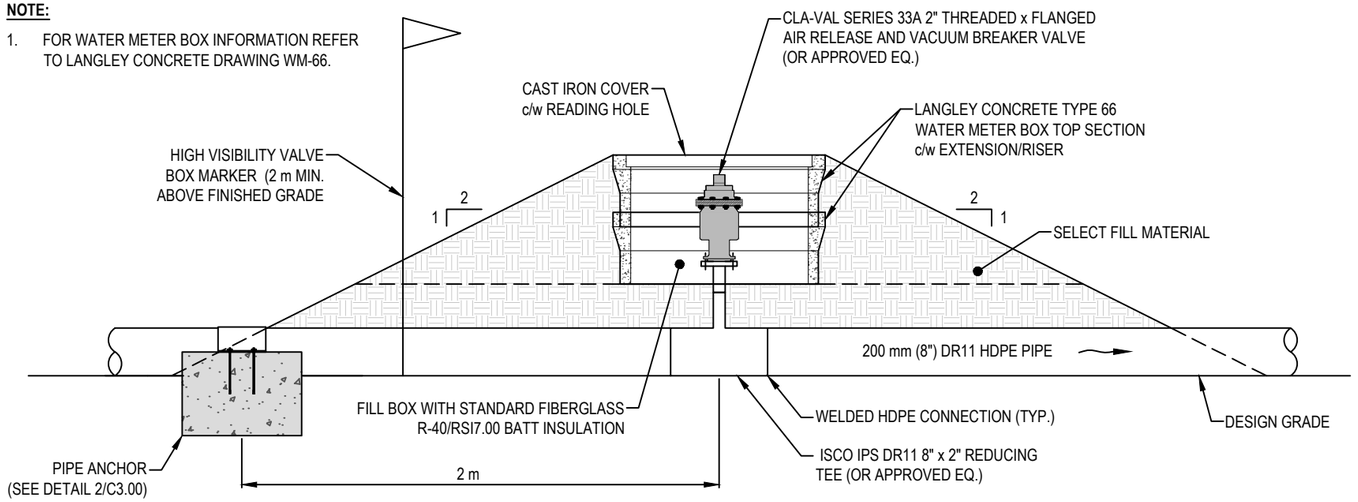


SECTION

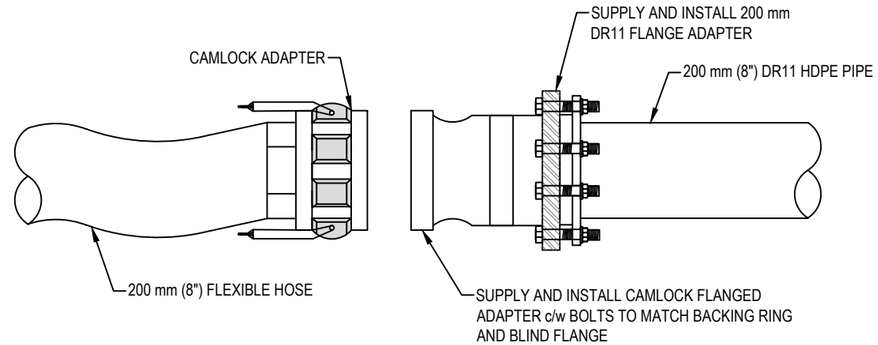
5 DRAIN VALVE DETAIL
C3.01 SCALE: NTS

NOTE:

1. FOR WATER METER BOX INFORMATION REFER TO LANGLEY CONCRETE DRAWING WM-66.



6 AIR RELEASE VALVE DETAIL
C3.01 SCALE: NTS



7 MECHANICAL JOINT ADAPTER DETAIL
C3.01 SCALE: NTS

LEGEND

NOTES

NUM	DATE	DWN	CKD	APR	DESCRIPTION
E	4/10/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
D	4/1/19	JDM	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
C	3/5/19	MJK	DNM	DNM	100% DESIGN - ISSUED FOR REVIEW
B	1/31/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW
A	1/17/19	JDM	DNM	DNM	50% DESIGN - ISSUED FOR REVIEW

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WATER TRANSMISSION LINE DESIGN
CHESTERFIELD INLET, NUNAVUT

DETAILS

PROJECT NO.	OFFICE	DES	CKD	REV	DRAWING
WTRM03121-01	VANC	DNM	DNM	E	C3.01
DATE	SHEET No.	DWN	APP	STATUS	
April 10, 2019	of	MJK	DNM	IFR	