MUNICIPALITY OF CLYDE RIVER

Operation & Maintenance Plan for Municipal Water Licence: Sewage Disposal Facilities

March 2025

Document Control

Date	Document Title	Author	Details
July 2012	Clyde River Waste Water Facility Clyde River, Nunavut Operations and Maintenance Manual Volumes 1 and 2	exp Services Inc.	Previous manual
November 2024	Clyde River Operation & Maintenance Plan for Municipal Water Licence: Sewage Disposal Facilities	GN-CGS and Dillon Consulting Limited	Consolidation of information from previous manual into standardized template. Sections 1 and 6 information consolidated from Chapter 3. Section 2 was updated to the latest contacts. Section 3 information consolidated from Chapter 4.5. Section 4 was updated based on existing conditions. Section 5 information consolidated from Chapter 3 and new information added. Section 7 information consolidated from Chapter 4. Section 8 information consolidated from Chapter 5.
March 2025	Clyde River Operation & Maintenance Plan for Municipal Water Licence: Sewage Disposal Facilities	GN-CGS	Added details of decanting process with regards to timeline and release into the wetlands Removed Appendix B Photographs

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1.0 Site Description

Date this plan was prepared: 2024-Nov-13

1.1 Location of the Sewage Disposal Facility (SDF)

Municipality: Clyde River
Latitude: 70°28'59 N
Longitude: 68°36'48 W
Proximity to Town: 1.2 km West

Figure 1: Clyde River Sewage Disposal Facility from Clyde River Waste Water Facility Clyde River, Nunavut Operations and Maintenance Manual Volumes 1 and 2, exp Services Inc

1.2 SWDF Site Summary

Year of commissioning the SDF: 2012

Design life of the SDF: 2028

1.2.1 Site History

The sewage treatment facility is located approximately 1.2 km west of the community. The facility was commissioned in 2012 and is comprised of a discharge area, two sewage detention cells, and a wetland area. Effluent flows 720 metres through the wetlands from the sewage detention cells to the marine environment of Patricia Bay. The site location was based on the scope of work presented in the "Clyde River Sewage Management – Planning Study (2003)" – completed by Dillon Consulting Limited. The report indicated that the previous site was suited for sewage treatment and the feedback from community officials and regulators approved the location. The site complied with the separation requirements of the Public Health Act (450m buffer), Transport Canada (3000m airport buffer), and the community water supply (400m buffer). The road servicing the lagoon is cleared and maintained year-round to access the community solid waste site, metal dump as well as the current lagoon system.

1.2.2 Ground Conditions

Permafrost is present in the soil; it recedes to approximately 1m below the surface in the summertime.

1.2.3 Treatment System

The wastewater treatment system utilizes sewage detention cells, which receive trucked wastewater, as the main method of treatment. The filter strip wetland provides additional treatment prior to the release to the environment. The treated sewage effluent is pumped from the sewage disposal facility to the wetland area beginning mid-August and continuing until mid to late September. The end of the Vegetated Filter Strip Wetland Area is located approximately 720 metres from the discharge point of the sewage disposal facility, at Patricia Bay.

2.0 Staff

2.1 Chief Administrative Officer

Name: Rajesh Kumar

Phone: 867-924-6220

Email: cao@clyderiver.ca

Responsibilities:

The CAO manages the municipal staff to ensure that:

- Proper operation of the SDF is carried out
- Sampling and inspections are completed
- Information under the water licence monitoring program is provided to the Government of Nunavut Department of Community and Government Services (GN-CGS) for Annual Report preparation
- Submission of the Annual Report for the Nunavut Water Board (NWB)

2.2 Foreman

Name: Ian Tigullaraq

Phone: 867-924-6301

Email: pworks@clyderiver.ca

Responsibilities:

- Daily operations and maintenance of the SDF.
- The sampling program at the monitoring stations
- Maintaining signage at the SDF and monitoring stations
- Annual decanting of the lagoon effluent into the adjacent wetland treatment area

2.3 Solid Waste Truck Drivers

Name: Various

Phone: N/A

Email: N/A

Responsibilities: The sewage vacuum truck drivers collect sewage from holding tanks within the municipality. Sewage is transported to the lagoon where it is deposited.

3.0 Health and Safety

All personnel working within the SDF must follow the Nunavut Safety Act and be made aware of potential health hazards associated with working around sewage and wastewater. 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. Safety precautions include:

- Ensure all equipment is kept as clean as possible;
- Assume anything touched by sewage is contaminated;
- Protective clothing such as coveralls, gloves, boots, and safety glasses are to be provided to personnel and always worn when working around sewage;
- Workers must always wear protective gloves
- Work clothing is not worn home
- Workers must wash their hands with soap and water on a regular basis, especially before delivering drinking water, eating and before going home;
- Workers are prohibited from eating or drinking in and around the sewage vacuum trunks; and
- Workers must keep their vaccinations up to date.

4.0 Security and Control

Access Control of to the facility:

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

5.0 Wastewater Conveyance

Wastewater transportation: Vacuum Truck
Annual volume of sewage collected: Reported in Annual Report
Number of days per week sewage is collected: 5

5.1 Operations

- Sewage is collected Monday through Friday from holding tanks in residences and other buildings in the community. Sewage is collected using sewage vacuum trucks.
- The vacuum trucks pump out sewage from the building holding tanks and transport it to the detention cell.
- Sewage is deposited into the lagoon from the vacuum trucks using one of three offload chutes and concrete splash pads, located on the east side of the offload truck pad. The sewage truck backs up to one of the offload chutes and the release valve of the truck is opened. Bollards with railings have been placed in front of each offload chute for safety precautions. Sewage should be disposed in the south cell first until filled, then the smaller north cell.
- The volume of sewage discharged into the lagoon is estimated from the municipal water delivery records

5.2 Influent Volume

Table 1 Wastewater Generation Estimates

Year	Estimated Wastewater Volume (m^3)	Difference (%)
2015	35,806	0
2016	35,576	-1.2%
2017	37,383	5.3%
2018	37,843	1.4%
2019	39,289	3.2%
2020	41,194	5.4%
2021	42,147	2.3%
2022	42,245	0.2%
2023	41,982	-1.7%

6.0 SDF Design

Lagoon Capacity:	58,500 m3
Lagoon Dimensions:	Unknown
Wetland Treatment Area:	Unknown
Wetland Hydraulic Retention Time:	Unknown
Effluent Path Length:	720 m
Discharge Method:	Decant
Final Receiving Body:	Patricia Bay
Type of Receiving Environment:	Marine

An overview of the wastewater treatment process:

Sewage is discharged into the detention cell year-round. The detention cell provides primary treatment of sewage as effluent is held in the impervious cell for a period of time. In August, the filter strip wetlands are ice-free and considered active. The lagoon is decanted during this stage to provide a continuous release of effluent over the wetland during the optimal period for treatment. Sewage trucks will continue discharging to the lagoon throughout the decanting process. The outlet infrastructure is complete with a distribution trough along the toe of the berm used to disperse the pumped effluent across the head of the wetland. The natural wetland provides the post-lagoon final treatment prior to the release into Patricia Bay.

Table 2 Seasonal Effluent Flow Through the Wetland Treatment Area

Description of the Final Receiving Environment:

Patricia Bay is part of the larger Clyde Inlet, which opens into Davis Strait. Patricia Bay is home to diverse wildlife, including whales, seals, polar bears, and caribou. The bay provides access to the Ninginganiq National Wildlife Area, also known as the Igaliqtuuq National Wildlife Area, which is a protected bowhead whale sanctuary located in nearby Isabella Bay

7.0 Effluent Discharge

Discharge Method:	Decant
Time of Decant:	August - September
Duration of Decant:	1 month
Average Discharge Flowrate:	1400 m3/d

Description of Effluent Sampling Procedures:

Per water licence 3BM-CLY1924, the Municipality is required to measure and record in cubic metres the daily, monthly, and annual quantities of effluent pumped or discharged from Monitoring Program Stations CLY-4 and CLY-5. Sampling at Monitoring Program Stations CLY-4, CLY-5, and CLY-6b is required a minimum of three (3) times annually, to include once upon commencement, once approximately mid-way through discharge, and once prior to discharge ending. If the discharge at Station CLY-4 or CLY-5 has been suspended and subsequently restarted with more than a 48-hour lapse, the sampling should be repeated.

Description of Operations:

Daily operations involve the collection of municipal wastewaters from holding tanks and delivery to the sewage lagoon system, minimizing spills, and immediately clean up when they occur, repairing equipment when breakdowns occur, maintaining roads, discharge point, and truck turning pads as required free of snow, and recording O&M information as required. Weekly operational duties involve removing non-sewage materials from the lagoon (floating materials such as plastic bags should be removed and solid items disposed at the solid waste site adjacent to the lagoon), assessing truck discharge location and containment berms for erosion, and recording O&M information as required. Monthly duties include preventative measures and maintenance on sewage trucks, assessing inventory of parts for truck maintenance, grading and maintaining the access road, berms, and offloading chutes as required, conducting the monitoring program as required, and recording O&M information as required. Yearly duties include carrying out the decanting process, decanting pump maintenance, conducting the annual monitoring program, and reviewing the operation and maintenance records to evaluate the effectiveness of the sewage treatment system and plan for the upcoming year. During the decanting process, sewage should not be disposed into the cell being decanted and rather sewage should be disposed into the cell that is not being decanted in order to optimize the treatment of the sewage by maximizing the sewage holding time in the lagoon.

8.0 Maintenance

Overview of Maintenance Activities:

- Annual inspections will be undertaken by Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) accompanied by a licensee from the Municipality of Clyde River and/or a licensee representative from GN-CGS. The inspection report and recommendations will be reviewed by a GN-CGS municipal engineer and submitted in the Annual Report submitted to the Nunavut Water Board (NWB).

- Regular visual inspections by municipal staff of the:
  - Offload chutes
  - Lagoon berms
  - Signage

Any issues identified by municipal staff must be reported to the regional municipal engineer. Follow-up actions will be undertaken by the municipality with support from the GN-CGS.

Sludge Management:

It is anticipated that the sewage lagoon will not require desludging during its 20-year design life, the available storage for sludge is greater than the quantity estimated to be generated. Effluent quality will guide when a sludge management program is implemented. Monitoring of the effluent from the lagoon will indicate when the performance of the lagoon starts to degrade. Degradation of the performance of a lagoon is normally caused by sludge accumulation and will be the indicator to desludge the lagoon. Prior to disposal, the sludge must be tested to ensure the disposal method chosen is safe and environmentally responsible.

Evaluating the analytical results obtained by sludge sampling, the Government of Nunavut defaults to criteria established by the Canadian Council of Ministers of the Environment (CCME). For soil, the CCME Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health (updated September 2007) is used to compare the metals and VOC analytical results. The CCME has also established the Canada-Wide Standards (CWS) for Petroleum Hydrocarbons (PHC) in Soil (April 2001), which is the federal remedial standard for petroleum impacted soils. The CCME and CWS criteria are based on four land use categories: i) agricultural; ii) residential/parkland; iii) commercial; and iv) industrial. As the sludge is to be disposed of at the landfill site, the industrial land use category is utilized for assessing the sledge management.

Surface Water Management:

Runoff from the Sewage Disposal Facility is monitored on an annual basis so that grading directs surface water away from the lagoon berms.

At some point, for a variety of reasons, impacted surface water may accumulate SDF. The water may or may not be impacted contaminants from sewage. In the event this occurs, the following procedures will be followed:

1. Collect samples from the water licence monitoring program at stations as outlined in the Environmental Monitoring Program and QA/QC Plan. It is recognized that it may take some time for results to be received from the accredited laboratory.
2. Analyze samples for parameters of concern and compare the results to the relevant Canadian Water Quality Guidelines.
3. Water should be inspected for odours, stain, or signs of visible impact (sheens, floating scum).
4. Consult with the GN-CGS municipal engineer and CIRNAC on discharge options.

9.0 Monitoring

Regulatory Inspection: The annual CIRNAC inspection will take place accompanied by the licensee from the Municipality and/or with a licensee representative from GN-CGS. The inspection report will be reviewed by a GN-CGS municipal engineer and submitted with the annual report.

Table 2 License Requirements Related to O&M of the SDF

Requirements	Reported
Monthly and annual quantities of wastewater disposal	Annual report submitted to NWB
Notice of commencement of monitoring program and observed flow	Notice given to the CIRNAC inspector
A summary of modifications and/or major maintenance work carried out on the SDF	Proposal submitted to NWB 60 days prior
A list of spills and unauthorized discharges.	Annual report submitted to NWB
A summary of any studies requested for the SDF and future planned studies planned	Annual report submitted to NWB
Monitoring Program Station CLY-4 and CLY-5 shall not exceed the effluent quality limits: 100 mg/L BOD_5 120 mg/L TSS $1x10^6$ CFU/dl Fecal Coliform No visible sheen of Oil and grease 6-9 pH	Annual report submitted to NWB
A freeboard of 1.0 m in the lagoon must be maintained	Annual report submitted to NWB

Table 3 Monitoring Program Station Location and Description

Station	Description	Latitude	Longitude
CLY-4	Effluent Discharge from Existing Sewage Disposal Facility	70°28'4.70"N	68°38'5.39"W
CLY-5	Effluent discharge from Enhanced Sewage Disposal Facility (Lagoon decanting point)	70°28'6.79"N	68°37'49.57"W
CLY-6a (inactive)	Sampling well at the end of Vegetated Filter Strip Wetlands	70°27'48.06"N	68°37'25.40"W
CLY-6b	Surface water at the end of the Vegetated Filter Strip Wetland in vicinity of CLY-6a	70°27'46.20"N	68°37'31.49"W
CLY-8	Sewage Sludge	70°28'12.15"N	68°37'51.59"W

10.0 Modifications and Upgrades

Planned modifications or upgrades:

N/A

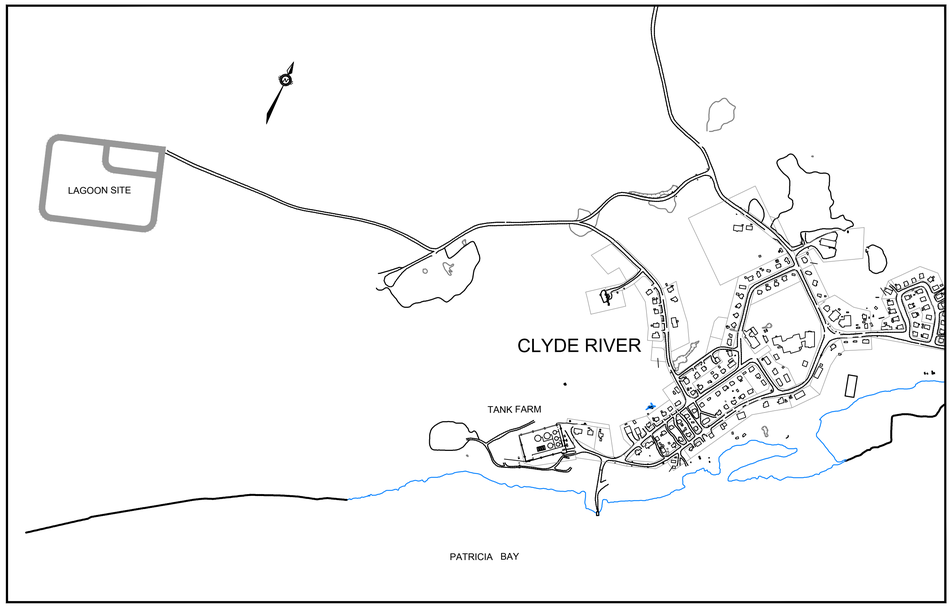
11.0 Previous Reports

- Clyde River Waste Water Facility Clyde River, Nunavut Operations and Maintenance Manual Volumes 1 and 2, exp Services Inc, 2012

Appendix A

As-Built Drawings

GOVERNMENT OF NUNAVUT



INDEX OF INCLUDED DRAWINGS

DRAWING NO.	REVISION	DESCRIPTION
		COVER
OTCD00019055A-SP1	REV 6	OVERALL SITE PLAN
OTCD00019055A-SP2	REV 6	SITE PLAN
OTCD00019055A-TD1	REV 7	TRUCK DISCHARGE SITE PLANS
OTCD00019055A-DE1	REV 6	DETAILS
OTCD00019055A-DE2	REV 6	DETAILS
OTCD00019055A-T1	REV 3	MUNICIPAL LOCATION PLAN

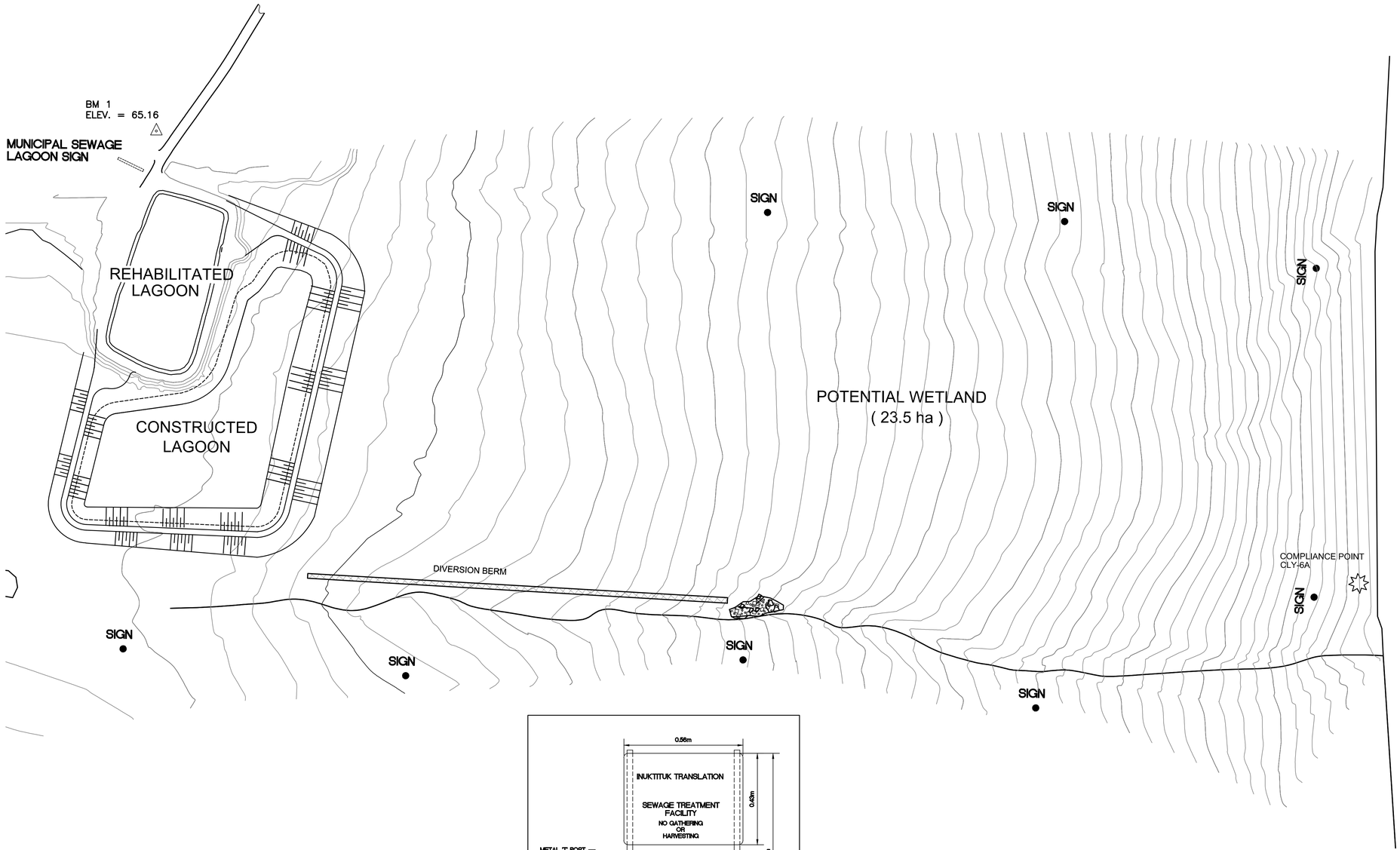
CLYDE RIVER
WASTEWATER LAGOON
(NEW SEWAGE LAGOON AND REHABILITATE EXISTING LAGOON)

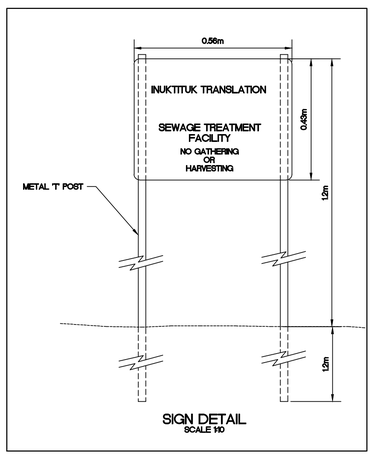
Trow Associates Inc.
100-2650 Queensview Drive
Ottawa, Ont. K2B 8H6
PHONE: (613) 688-1899
FAX: (613) 225-7337

AS-BUILT INFORMATION PROVIDED BY KUDLIK CONSTRUCTION LTD. OCTOBER 25 2011

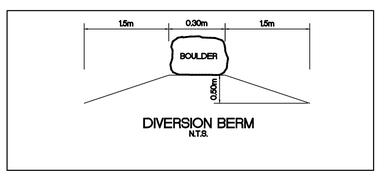
AS-BUILT

DATE: DECEMBER 31st, 2011





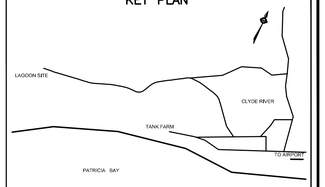
SIGN DETAIL
SCALE 1\10



DIVERSION BERM
N.T.S.

NOTES
CONTOUR INFORMATION WAS DERIVED BY TROW ASSOCIATES INC. SURVEY DATED AUGUST 23, 2007.
CONTOUR INTERVALS ARE SET AT 1.00m

KEY PLAN



AS-BUILT

DATE: DECEMBER 31st, 2011

BENCH MARK

BM 1 ELEV. = 65.16

RE-BAR SET NEAR THE INTERSECTION OF THE LAGOON ACCESS ROAD AND METAL DUMP ACCESS ROAD. NORTH-EAST OF THE LAGOON SITE.

No.	DESCRIPTION	DATE	BY	APP'D
6	AS-BUILT	31/12/11	MEB	SLB
5	AS-CONSTRUCTED 2011	18/11/11	MEB	SLB
4	AS-CONSTRUCTED	02/12/10	MEB	SLB
3	ISSUED FOR CONSTRUCTION	15/06/09	MMR	SLB
2	REVISED FOR TENDER	28/05/08	MMR	SLB
1	ISSUED FOR TENDER	28/04/08	MMR	SLB

REVISIONS

DRAWINGS ORIGINALLY SEALED BY S.L.BURDEN, P.eng. OF exp. SERVICES Inc. MAY 28TH, 2008

Trow Associates Inc.
154 Colonnade Road South
Ottawa, Ont. K2E 7J5
Tel:(613)225-9940
Fax:(613)225-7337

CLIENT
GOVERNMENT OF NUNAVUT

PROJECT
CLYDE RIVER
WASTEWATER LAGOON

TITLE
OVERALL
SITE PLAN

design by	SAD
drawn by	MEB
checked by	SLB
date	30/08/2007
scale	HORIZ 1:1500
project no.	OTCD00019055A
drawing no.	SP-1

RIP-RAP ARMOUR

MONITORING SITE

BOLLARDS

TRUCK DISCHARGE LOCATION

BOLLARDS

TRUCK DISCHARGE LOCATION

BOLLARDS

EXISTING LAGOON CELL
(REHABILITATED)
TOP OF BERM ELEV. 64.80m
TOP OF FREEBOARD ELEV. 63.60m
TOTAL OPERATIONAL VOLUME 5,000cu.m.

A

BM 1

4.55

3.5:1

2.75:1

9.28

BENTOFIX LINER

LAGOON DECANTING INLET

GABION MAT

MONITORING SITE

EMERGENCY SPILLWAY

TRUCK DISCHARGE LOCATION

BOLLARDS

BOLLARDS

10.52

BENTOFIX LINER

CONSTRUCTED LAGOON CELL
TOP OF BERM ELEV. 63.75m
TOP OF FREEBOARD ELEV. 62.75m
TOTAL OPERATIONAL VOLUME 46,300cu.m.

LAGOON DECANTING OUTLET

22.0m-150ø HDPE PIPE

A

B

LAGOON DECANTING INLET

4.72

300mmø HDPE PIPE

MONITORING SITE

MONITORING SITE

BENTOFIX LINER

THERMISTOR BELOW LINER

EMERGENCY SPILLWAY

MONITORING SITE

16.68

4.40

19.05

600mmø NESTED PIPE

DIVERSION BERM

B

LEGEND

- MONITORING WELL (SAMPLING POINT)
- THERMISTOR
- THERMISTOR BELOW LINER
- 10 / ×65.53 / AB — SPOT ELEVATION
- BOULDER
- GABION MAT
- BENTOFIX LINER
- TRUCK ROUTE

AS-BUILT

DATE: DECEMBER 31st, 2011

BENCH MARK

BM 1 ELEV. = 65.16

RE-BAR SET NEAR THE INTERSECTION OF THE LAGOON ACCESS ROAD AND METAL DUMP ACCESS ROAD. NORTH-EAST OF THE LAGOON SITE.

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CLIENT

GOVERNMENT OF NUNAVUT

PROJECT

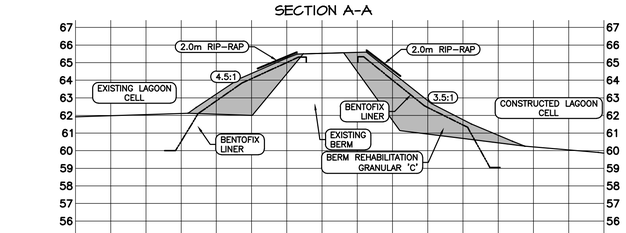
CLYDE RIVER
WASTEWATER LAGOON

TITLE

SITE PLAN

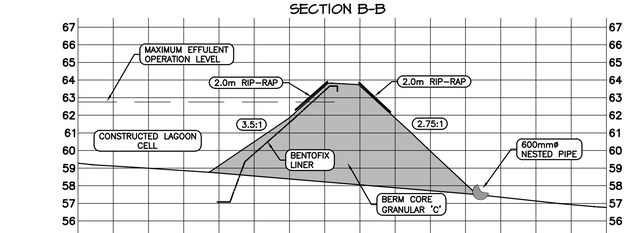
design by	SAD	project no.	OTCD00019055A
drawn by	MEB	drawing no.	SP-2
checked by	SLB		
date	30/08/2007		
scale	HORIZ 1:500		

SECTION A-A

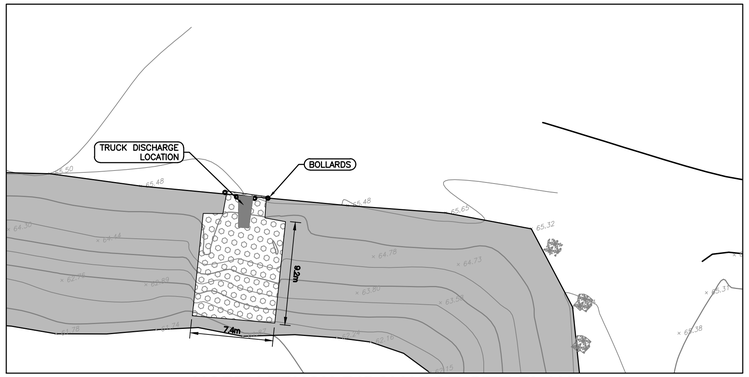


CHAINAGE	0+005	0+010	0+015	0+020	0+025	0+030	0+035	0+040	0+045	0+050	0+055	0+060	0+065	0+070
AS-BUILT ELEVATION	61.99	62.05	62.11	63.22	64.39	65.26	65.53	65.58	64.42	62.84	61.76	60.87	60.21	60.04

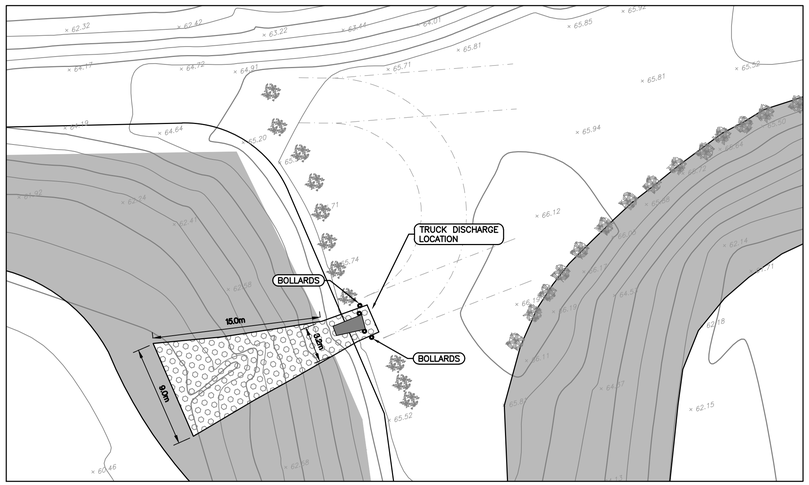
SECTION B-B



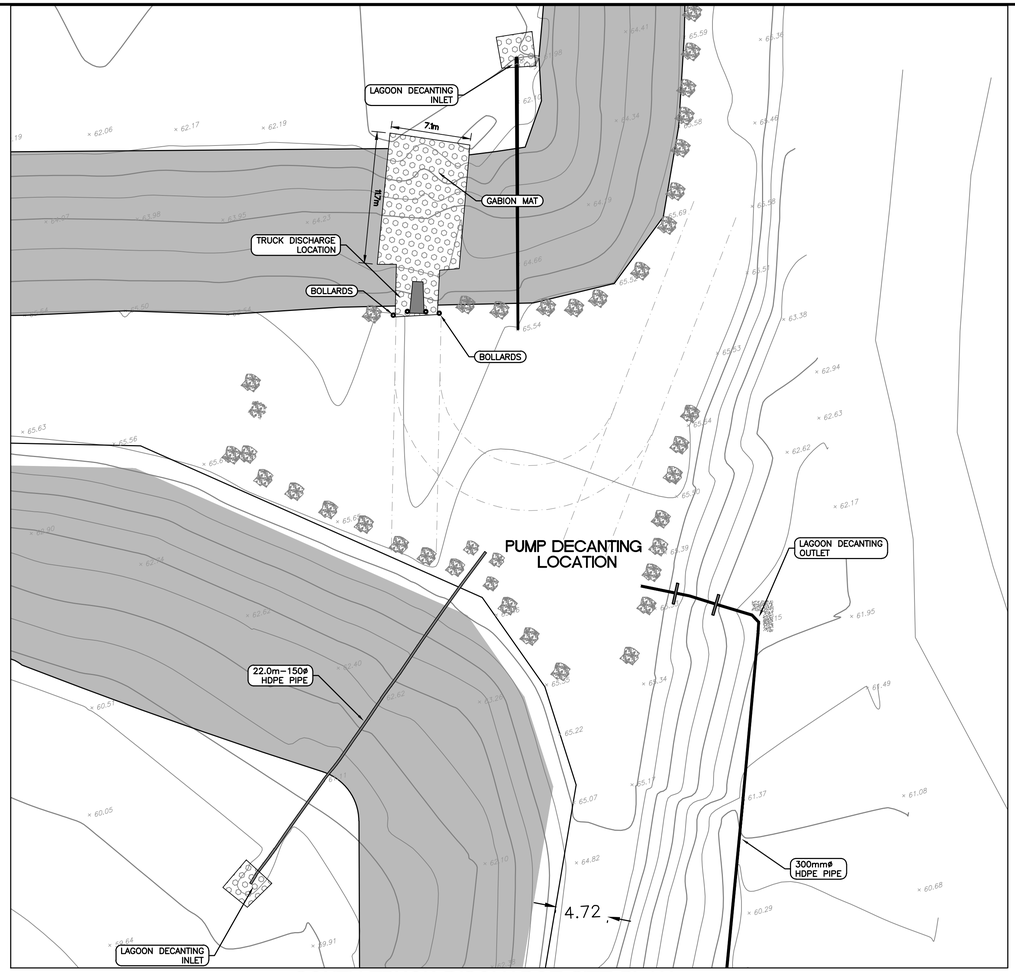
CHAINAGE	0+005	0+010	0+015	0+020	0+025	0+030	0+035	0+040	0+045	0+050	0+055	0+060	0+065	0+070
AS-BUILT ELEVATION	59.12	58.99	58.86	59.15	60.50	61.86	63.65	63.68	61.85	59.97	58.10	57.35	57.14	56.93



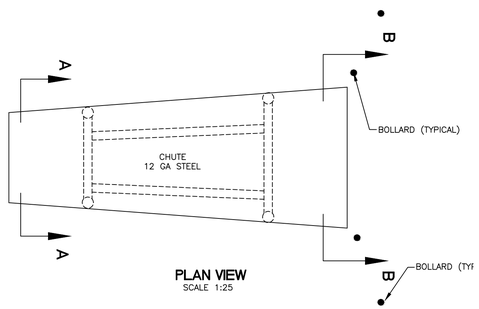
NORTH TRUCK DISCHARGE SITE PLAN



WEST TRUCK DISCHARGE SITE PLAN



SOUTH TRUCK DISCHARGE SITE PLAN



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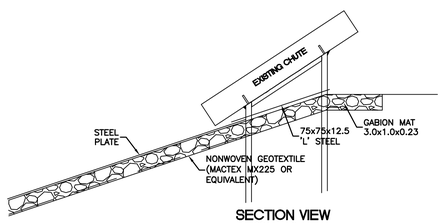

SECTION VIEW
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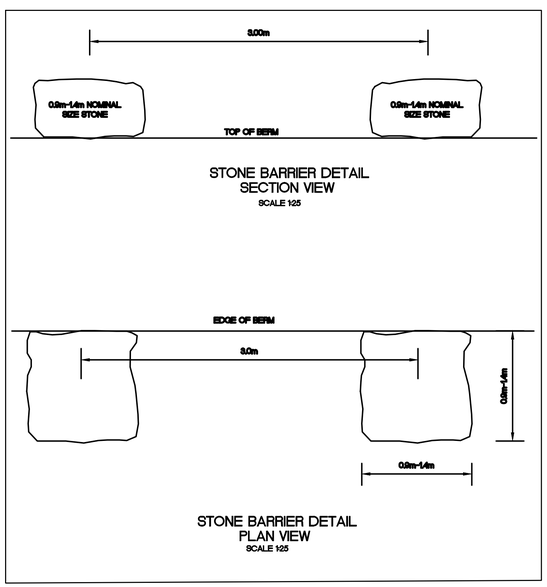
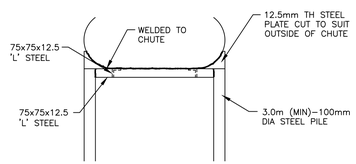
INSET



STONE BARRIER DETAIL
SECTION VIEW
SCALE 1:25

STONE BARRIER DETAIL
PLAN VIEW
SCALE 1:25

TRUCK DISCHARGE CHUTE DETAIL



END VIEW
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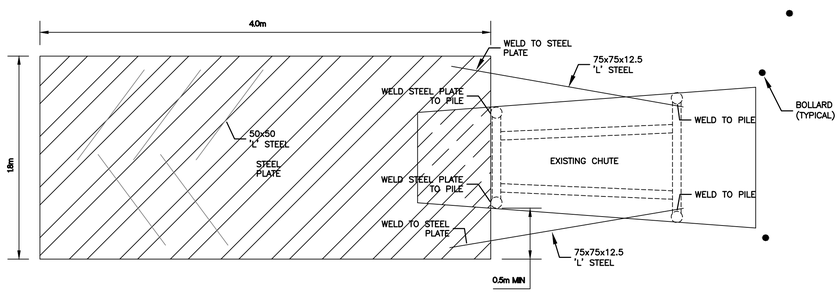
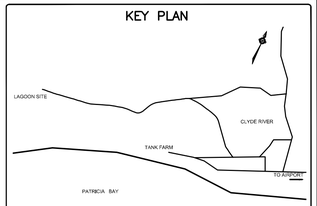


PLAN VIEW
SCALE 1:25

KEY PLAN



AS-BUILT

DATE: DECEMBER 31st, 2011

BENCH MARK

BM 1 ELEV. = 65.16

RE-BAR SET NEAR THE INTERSECTION OF THE LAGOON ACCESS ROAD AND METAL DUMP ACCESS ROAD. NORTH-EAST OF THE LAGOON SITE.

No.	DESCRIPTION	DATE	BY	APP'D
7	AS-BUILT	31/12/11	MEB	SLB
6	AS-CONSTRUCTED 2011	18/11/11	MEB	SLB
5	AS-CONSTRUCTED	02/12/10	MEB	SLB
4	REV DEWATERING INLET	10/08/09	MMR	SLB
3	ISSUED FOR CONSTRUCTION	15/06/09	MMR	SLB
2	REVISED FOR TENDER	28/05/08	MMR	SLB
1	ISSUED FOR TENDER	28/04/08	MMR	SLB

REVISIONS

DRAWINGS ORIGINALLY SEALED BY S.L.BURDEN, P.eng. OF exp. SERVICES Inc. MAY 28TH, 2008

Trow Associates Inc.
100–2650 Queensview Drive
Ottawa, Ont. K2B 8H6
PHONE: (613) 688–1899
FAX: (613) 225–7337

CLIENT

GOVERNMENT OF NUNAVUT

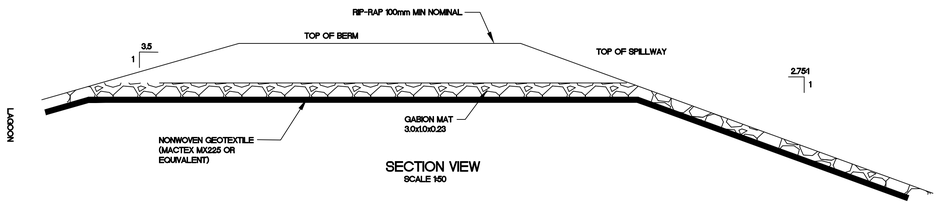
PROJECT

CLYDE RIVER WASTEWATER LAGOON

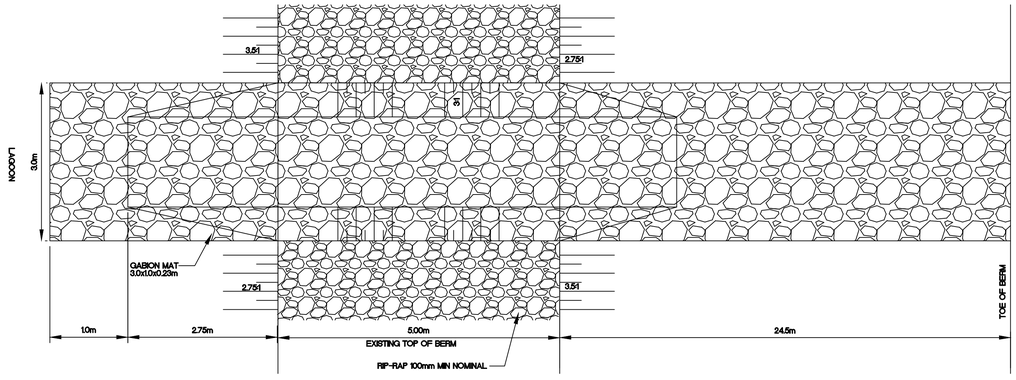
TITLE

TRUCK DISCHARGE SITE PLANS

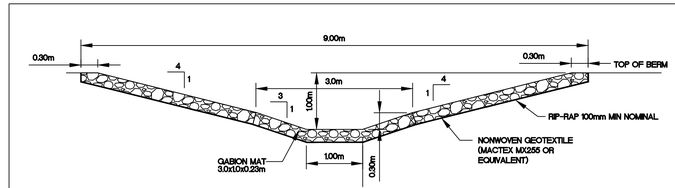
design by	SAD	project no.	OTCD000190554
drawn by	MEB	drawing no.	TD1
checked by	S.L.B.		
date	30/08/2007		
scale	1:250		



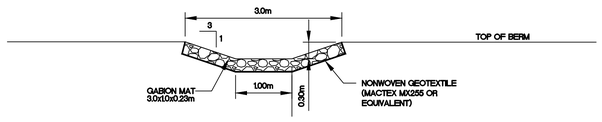
SECTION VIEW
SCALE 150



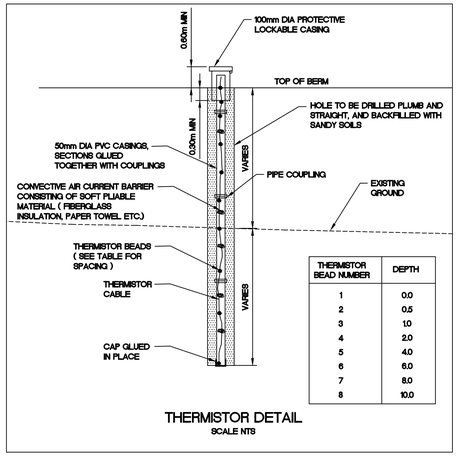
SPILLWAY BERM DETAIL
PLAN VIEW
SCALE 150



SPILLWAY DETAIL
SECTION VIEW
SCALE 150

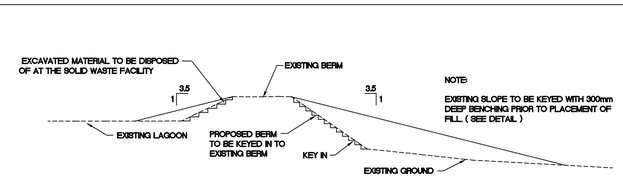


EMERGENCY
SPILLWAY DETAIL
SECTION VIEW
SCALE 150

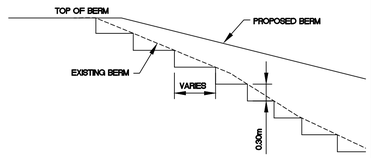


THERMISTOR BEAD NUMBER	DEPTH
1	0.0
2	0.5
3	1.0
4	2.0
5	4.0
6	6.0
7	8.0
8	10.0

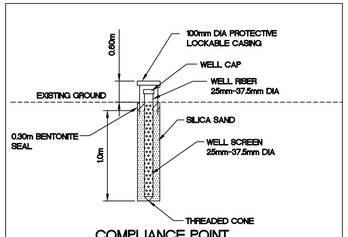
THERMISTOR DETAIL
SCALE NTS



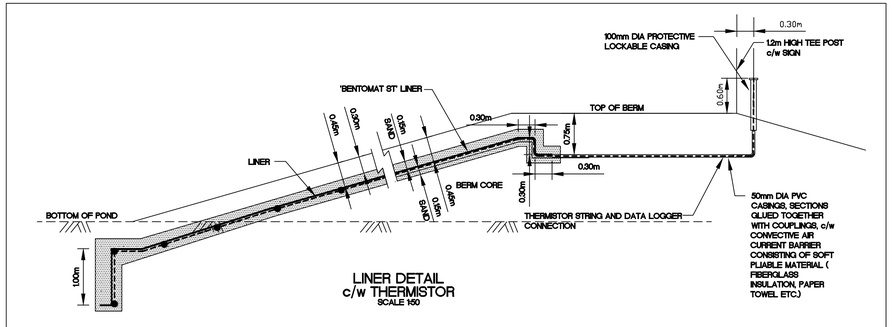
EXISTING BERM
REHABILITATION
SCALE 1200



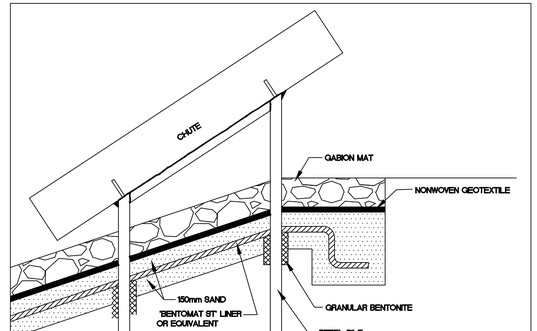
KEY IN DETAIL
SCALE 150



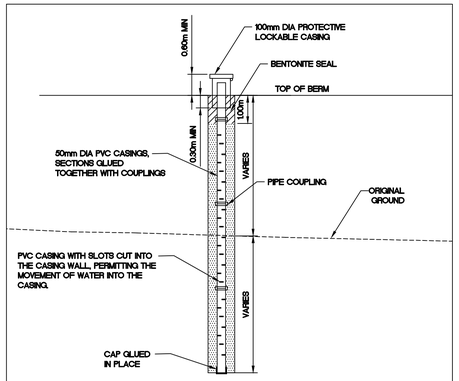
COMPLIANCE POINT
SAMPLING WELL DETAIL
SCALE NTS



LINER DETAIL
c/w THERMISTOR
SCALE 150



PILE PENETRATION
OF LAGOON LINER
SCALE 125



SEEPAGE MONITORING CASING
SCALE NTS

AS-BUILT

DATE: DECEMBER 31st, 2011

No.	DESCRIPTION	DATE	BY	APP'D
6	AS-BUILT	31/12/11	MEB	SLB
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4	AS-CONSTRUCTED	02/12/10	MEB	SLB
3	ISSUED FOR CONSTRUCTION	15/06/09	MMR	SLB
2	REVISED FOR TENDER	28/05/08	MMR	SLB
1	ISSUED FOR TENDER	28/04/08	MMR	SLB

R E V I S I O N S

DRAWINGS ORIGINALLY
SEALED BY
S.L.BURDEN, P.eng. OF
exp. SERVICES Inc.
MAY 28TH, 2008

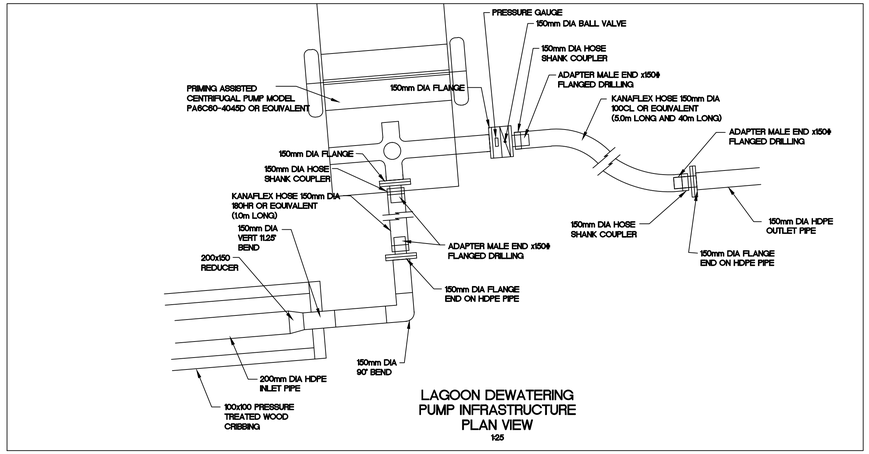
Trow Associates Inc.
100-2650 Queensview Drive
Ottawa, Ont. K2B 8H6
PHONE: (613) 688-1899
FAX: (613) 225-7337

CLIENT
GOVERNMENT OF NUNAVUT

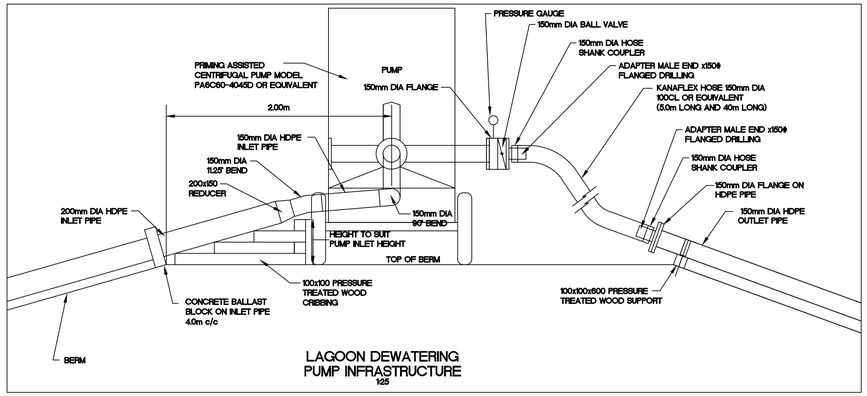
PROJECT
CLYDE RIVER
WASTE WATER
LAGOON

TITLE
DETAILS

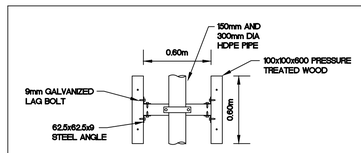
design by	S.A.D.
drawn by	M.M.R.
checked by	S.L.B.
date	14/12/07
scale	AS SHOWN
project no.	OTCD19055A
drawing no.	DE-1



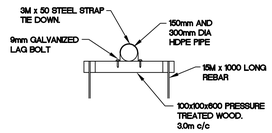
LAGOON DEWATERING
PUMP INFRASTRUCTURE
PLAN VIEW
1:25



LAGOON DEWATERING
PUMP INFRASTRUCTURE
1:25

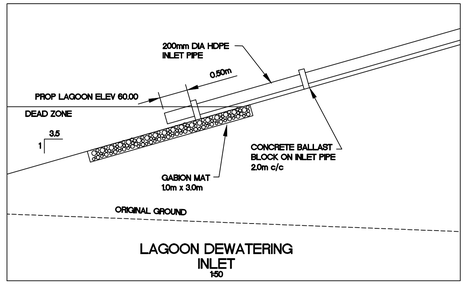


PLAN VIEW
1:25

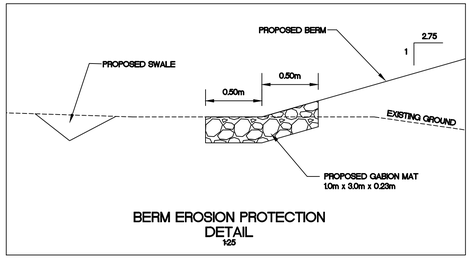


SECTION VIEW
1:25

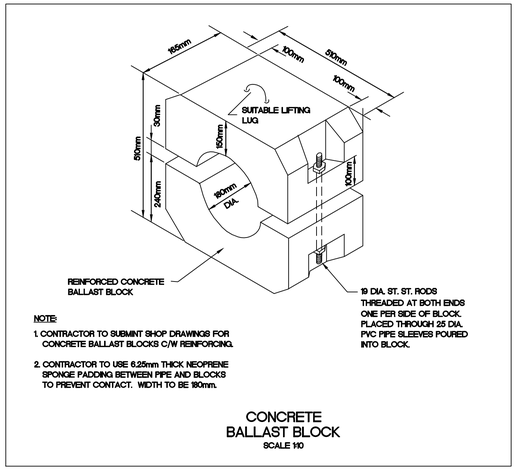
OUTLET PIPE SUPPORT



LAGOON DEWATERING
INLET
1:50



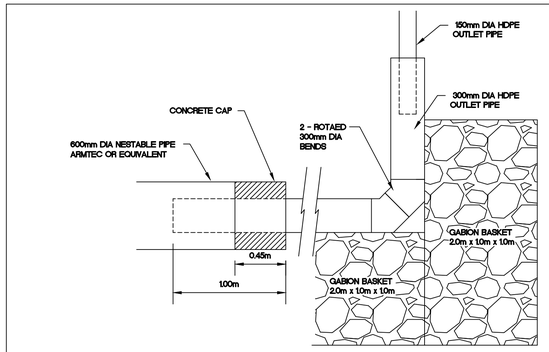
BERM EROSION PROTECTION
DETAIL
1:25



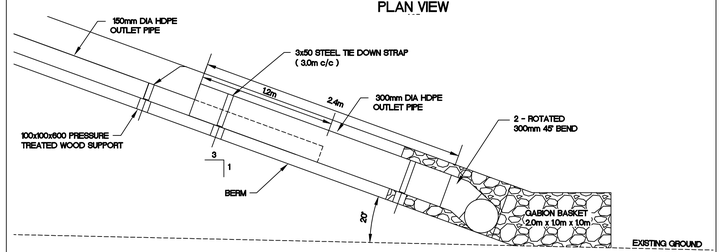
NOTE:

1. CONTRACTOR TO SUBMINT SHOP DRAWINGS FOR CONCRETE BALLAST BLOCKS C/W REINFORCING.
2. CONTRACTOR TO USE 6.25mm THICK NEOPRENE SPONGE PADDING BETWEEN PIPE AND BLOCKS TO PREVENT CONTACT. WIDTH TO BE 180mm.

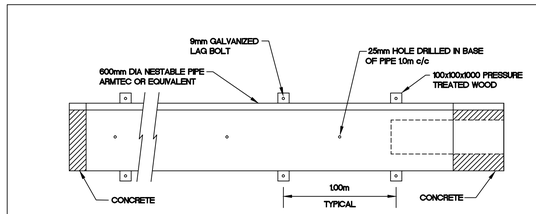
CONCRETE
BALLAST BLOCK
SCALE 1:10



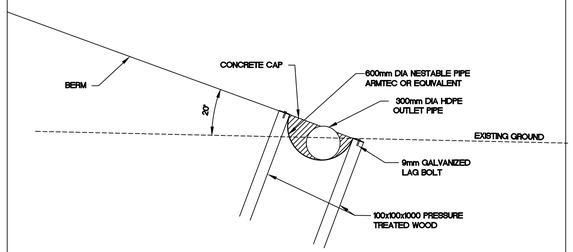
PLAN VIEW



LAGOON DEWATERING
OUTLET INFRASTRUCTURE
SECTION VIEW
1:25



PLAN VIEW
1:25



NESTABLE PIPE DETAIL
END VIEW
1:25

AS-BUILT

DATE: DECEMBER 31st, 2011

No.	DESCRIPTION	DATE	BY	APP'D
6	AS-BUILT	31/12/11	MEB	SLB
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REVISIONS

DRAWINGS ORIGINALLY SEALED BY S.L.BURDEN, P.eng. OF exp. SERVICES Inc. MAY 28TH, 2008

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FAX: (613) 225-7337

CLIENT

GOVERNMENT OF NUNAVUT

PROJECT

CLYDE RIVER
WASTE WATER
LAGOON

TITLE

DETAILS

design by	S.A.D.	project no.	OTCD19055A
drawn by	M.M.R.	drawing no.	DE-2
checked by	S.L.B.		
date	14/12/07		
scale	AS SHOWN		

AS-BUILT

DATE: DECEMBER 31st, 2011

No.	DESCRIPTION	DATE	BY	APP'D
3	AS-BUILT	31/12/11	MEB	SLB
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1	AS-CONSTRUCTED	02/12/10	MEB	SLB

REVISIONS

DRAWINGS ORIGINALLY SEALED BY S.L.BURDEN, P.eng. OF exp. SERVICES Inc. MAY 28TH, 2008

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FAX: (613) 225-7337

CLIENT

GOVERNMENT OF NUNAVUT

PROJECT

CLYDE RIVER
WASTEWATER LAGOON

TITLE

CLYDE RIVER
MUNICIPAL LOCATION PLAN

design by	SAD
drawn by	MEB
checked by	SLB
date	11/02/2008
scale	HORIZ 1:5000
project no.	OTCD000190554
drawing no.	T-1