MUNICIPALITY OF GRISE FIORD

Operation & Maintenance Plan for Municipal Water Licence: Water Supply Facilities

December 2025

Updated by:
Government of Nunavut
Transportation and Infrastructure Nunavut and Dillon Consulting Limited

Document Control

Date	Document Title	Author	Details
March 1988	Operations and Maintenance Manual for Water Storage and Pumping System at Grise Fiord, N.W.T.	Dillon Consulting Limited	Original Plant O&M Manual
December 2025	Municipality of Grise Fiord Operation & Maintenance Plan for Municipal Water Licence: Water Supply Facilities	Government of Nunavut – Transportation and Infrastructure (GN-TIN) and Dillon Consulting Limited	Consolidation of previous information into a standardized template, population updates, updates to facility operations and repairs / upgrades for the existing water supply facility, and community contact information updates

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1.0 Site Description

Date this plan was prepared: December 2025

1.1 Location of the Water Supply Facility (WSF)

Municipality:	Grise Fiord
Latitude:	76°25'N
Longitude:	82°53'23"W
Proximity to Town:	Within town

Figure 1: Grise Fiord Water Supply Facility and Surrounding Infrastructure (Google Earth, 2025).

1.2 WSF Site Summary

Year of commissioning of the existing WSF: 2003

Anticipated year of decommissioning of the existing WSF: 2027

1.2.1 Site History

The Municipality of Grise Fiord is located on the Southern side of Ellesmere Island by the Baffin Bay. Located approximately 1,160 km North of the Arctic Circle. Grise Fiord has a population of 144 (Statistics Canada, 2021) and is in the Qikiqtaaluk Region of Nunavut.

Grise Fiord has a climate which consists of short cool summers and long cold winters. Annual snowfall and rainfall are approximately 118 cm and 15 cm, respectively. The typical temperature range for January is between a low of about -29°C and a high of about -23°C whereas in July, the temperatures range between a low of 3°C to a high of about 7°C. Usually, freeze up occurs during the month of November but it may happen as early as October or even September. In some years, early freeze up may thaw again before final freeze up occurs. Spring thaw typically takes place during the month of July, but the time frame can vary as much as freeze up. During spring runoff, the community experiences mild flooding.

The community uses trucked services for water delivery. The new water treatment facility is anticipated to be commissioned in 2027 and will replace the existing facility. Its design includes raw water intake, water process tank, water treatment plant (filtration, UV disinfection, chlorination) and treated water tanks. The new facility will be located beside the existing power plant (roughly 150 m due east).

2.0 Staff

2.1 Senior Administrative Officer (SAO)

Name: David General

Phone: 867-980-9959

Email: gfsao@qiniq.com

Responsibilities:

- Submission of the Annual Report for the Nunavut Water Board (NWB)
- The SAO manages the municipal staff to ensure that:
  - proper operation of the WSF is carried out
  - sampling and inspections are completed
  - information under the water licence monitoring program is provided to the Government of Nunavut Department of Transportation and Infrastructure (GN-TIN) for Annual Report preparation

2.2 Foreman

Name: Chris Dederick

Phone: 867-980-9060

Email: gfforeman@qiniq.com

Responsibilities:

- Daily operations and maintenance of the WSF
- Maintaining signage at the WSF and recording readings at the monitoring station for water withdrawal

2.3 Water Truck Drivers

Name: Various

Phone: N/A

Email: N/A

Responsibilities: The water truck drivers deliver treated water to household and commercial tanks within the municipality.

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:

- Signage
- 450 m restricted land use development setback surrounding the WSF

5.0 Raw Water Sources

Raw water source fill system type: Direct to WTP

Alterations to the natural water source have occurred due to the WSF: Erosion and sediment control at Airport River

5.1 Primary Source

Name of primary raw water source:	Airport River
Type of raw water source:	River
Average annual quantity of water drawn:	Reported yearly in annual report
Maximum allowable withdrawal:	13,200 m3/year and 299 m3/day
Ice formation on the water source:	September - October
Ice breakup on the water source:	June

5.2 Reservoirs (Raw Water Storage Tanks)

Total volume of the reservoir:	9,500 m^3
Number of reservoir tanks:	3
Volume of Tank 1:	1,500 m^3
Year of Construction of Tank 1:	2022
Volume of Tank 2:	4,000 m^3
Year of Construction of Tank 2:	1986
Volume of Tank 3:	4,000 m3
Year of Construction of Tank 3:	2002
Number of times per year the reservoir is filled:	Once
Number of days it takes to fill the reservoirs:	Approximately 27 days from empty
Months the reservoirs is filled:	June – August

5.3 Operations

Overview of the operations process:

The following procedure is followed:

- Annually, refill water storage tanks via the overland pipeline that connects to the seasonally deployed pump at Airport River
- Daily, ensure sodium hypochlorite supply in day tank for chlorine pump feed and injection into the truck fill line
- Daily: Test and ensure chlorine residual of water in treated water prior to delivery
- Daily: Ensure water in tanks is maintained above freezing (4 to 8 degrees Celsius) through the boiler and recirculation system

5.4 Maintenance

The roadway and truck pad shall be maintained by snow clearing in the winter and grading in the summer and repaired as necessary. Ditches and drainage channels at the Water Supply Facility shall be inspected during the summer for erosion and repaired as necessary. The truckfill station and signage shall be inspected regularly and repaired or replaced as necessary. This facility is owned and operated by the Municipality, and any issues should be reported to the Foreman immediately. The water delivery program is managed by the Municipality and issues identified by truck drivers should be reported to the Foreman immediately.

6.0 Water Treatment Process

Overview of Water Treatment:

The facility contains two welded steel tanks for annual raw water storage, and disinfection / treated is provided by chlorine that is injected into the raw water while filling water delivery trucks. After a hold time for chlorine mixing and contact time with the water, these trucks then deliver the treated water to water tanks at all buildings within the municipality.

7.0 Monitoring

Regulatory Inspection:

The annual Crown Indigenous Relations and Northern 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 1: 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 (GRI-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

Planned Modifications or Upgrades:

No modifications or upgrades are planned. The current WSF will be decommissioned in 2027.

Additional Comments or Notes:

As-builts of the water storage tanks are provided in **Appendix A**. Note that the Tank 1 was decommissioned in 2001 and recommissioned in 2022 to provide water storage redundancy, and Tank 3 was repaired in 2022.

Appendix A

Water Supply Facility Drawings

GRISE FIORD TANK #1 REPAIRS
GRISE FIORD
NUNAVUT

LOCATION PLAN
SCALE: NTS

PROJECT NO.: 20220-00658

ISSUED FOR CONSTRUCTION

LIST OF DRAWINGS

YGZ04-M010	LOCATION PLAN AND DRAWINGS LIST		
MECHANICAL:			
ISSUED FOR CONSTRUCTION			
YGZ04-M100	LEGEND AND SYMBOLS	REV.1	JUNE/22
YGZ04-M150	MECHANICAL DEMOLITION P.&I.D.	REV.1	JUNE/22
YGZ04-M200	MECHANICAL P.&I.D.	REV.1	JUNE/22
YGZ04-M300	MECHANICAL EQUIPMENT LIST	REV.1	JUNE/22

AS-BUILT
DATE: August 12th 2022
SIFEC NORTH

SIFEC NORTH
P.O. Box 556
Rankin Inlet, Nunavut
X0C 0G0
Tel: 855-437-4001
E-Mail: info@sifec.ca

LIST OF REFERENCE DRAWINGS

MECHANICAL

ELECTRICAL

COVER NO.	REV.	REV. DATE
YGZ04-M010	1	JUNE 2022

STANDARD LINE ACCESSORIES

- UNION
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- Y-STRAINER
- BASKET STRAINER
- ORIFICE PLATE
- LIQUID SEPERATOR
- PIPELINE FILTER
- CAM LOCK
- THREADED PIPE CAP OR PLUG
- COUPLING-QUICK DISCONNECT
- AAV — AUTOMATIC AIR VENT C/W BALL VALVE
- PIPE CAP
- REDUCING TEE
- FLEXIBLE HOSE
- BLIND FLANGE
- FLOW DIRECTION
- GRAVITY FLOW
- SPRAY NOZZLE
- SILENCER
- DRAIN
- FLOOR DRAIN
- GENSET ELECTRIC BLOCK HEATER
- VENT
- FLOW METER
- BELLOWS FLEXIBLE CONNECTOR
- FLEXIBLE CONNECTOR
- TIE-IN TO EXISTING

STANDARD VALVE ACTUATOR SYMBOLS

- 2-WAY ACTUATED VALVE
- 3-WAY ACTUATED VALVE
- FS — FLOW SWITCH

STANDARD VALVE BODY

OPEN		CLOSED
	GATE VALVE	
	BALL VALVE	
	NEEDLE VALVE	
	3 WAY VALVE	
	4 WAY VALVE	
	ANGLE VALVE	
	GLOBE VALVE	
	CHECK VALVE	
	BUTTERFLY VALVE	
	PINCH VALVE	
	KNIFE GATE VALVE	
	BALANCING VALVE	
	PLUG VALVE	
	FUSIBLE FIRE VALVE	
	FLOAT VALVE	
	CONTROL VALVE	
	4 WAY REVERSING VALVE	
	WEIGHT CONTROL VALVE	
	DIAPHRAGM VALVE	

VALVE NUMBERING CONVENTION

V-001

- 001 — SEQUENCE NUMBER (2 DIGITS)
- 0 — HEATING
- 1 — WATER
- 2 — FUEL
- V — VALVE

MISC. LINES AND SYMBOLS

- POINT OF CHANGE IN LINE CLASS OR INSULATION REQUIREMENTS
- XXXX / XXXX — TO/FROM DESIGNATED P&ID

GAUGE & INSTRUMENTATION

- PSV XXX — PRESSURE SAFETY VALVE
- PI XXX — PRESSURE INDICATOR
- PT XXX — PRESSURE TRANSMITTER
- PCV XXX — PRESSURE CONTROL VALVE
- PS XXX — PRESSURE SENSOR
- CV XXX — CONTROL VALVE
- TT XXX — TEMPERATURE TRANSMITTER
- TI XXX — TEMPERATURE INDICATOR
- EV XXX — ULC LISTED EMERGENCY VENT
- VT XXX — ULC LISTED NORMAL VENT

PLUMBING AND DRAINAGE SYMBOLS

- HWT — HOT WATER TANK
- ET — EXPANSION TANK
- PUMP
- P-TRAP
- FLOOR DRAIN
- IHWT — INDIRECT HOT WATER TANK

HVAC SYMBOLS

- FILTER
- H / C — HEATING COIL
- CENTRIFUGAL FAN
- T — THERMOSTAT
- M — ELECTRICAL MOTOR
- C / H — UNIT HEATER
- AIR FLOW
- CEILING EXHAUST FAN
- VFD — VARIABLE FREQUENCY DRIVE
- SUPPLY/EXHAUST PROPELLER FAN
- PLATE HEAT EXCHANGER
- AIR SEPARATOR
- FILTER
- SA — UPWARD OR DOWNWARD SUPPLY DUCT
- SA — DOWNWARD SUPPLY DUCT
- SA — UPWARD SUPPLY DUCT
- SA — DOWNWARD SUPPLY DUCT

- HRV-2 — HEAT RECOVERY UNIT
- FF — FORCE FLOW
- WF — WALL FIN
- RA/EA — RETURN OR EXHAUST DUCT UPWARD
- RA/EA — RETURN OR EXHAUST DUCT DOWNWARD
- MANUAL DAMPER w/ACCESS DOOR
- MOTORIZED DAMPER w/ACCESS DOOR
- FD — FIRE DAMPER
- MANUAL BALANCING DAMPER
- MD XXX — MOTORIZED DAMPER
- BDD XXX — BACKDRAFT DAMPER
- PUMP
- GLYCOL FEEDER TANK
- BOILER

AS-BUILT
DATE: August 12th 2022
SIFEC NORTH

REVISION LETTER	REVISION	PROJECT NUMBER	NAME	DATE	CHECKED BY	DESIGNED BY
1	NEW SYMBOL ADDITION	20220 00558	MH	MAY/22	RF	MH/DF
0	30% DESIGN REVIEW	20220-00930	MH	MAY/22	RF	MH/DF

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PROFESSIONAL STAMP — REGISTERED PROFESSIONAL ENGINEER — R. FAUTEUX — LICENSEE — NWT/NU

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SIFEC NORTH INC.
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Date
PERMIT NUMBER: P 1034
NT/NU Association of Professional Engineers and Geoscientists

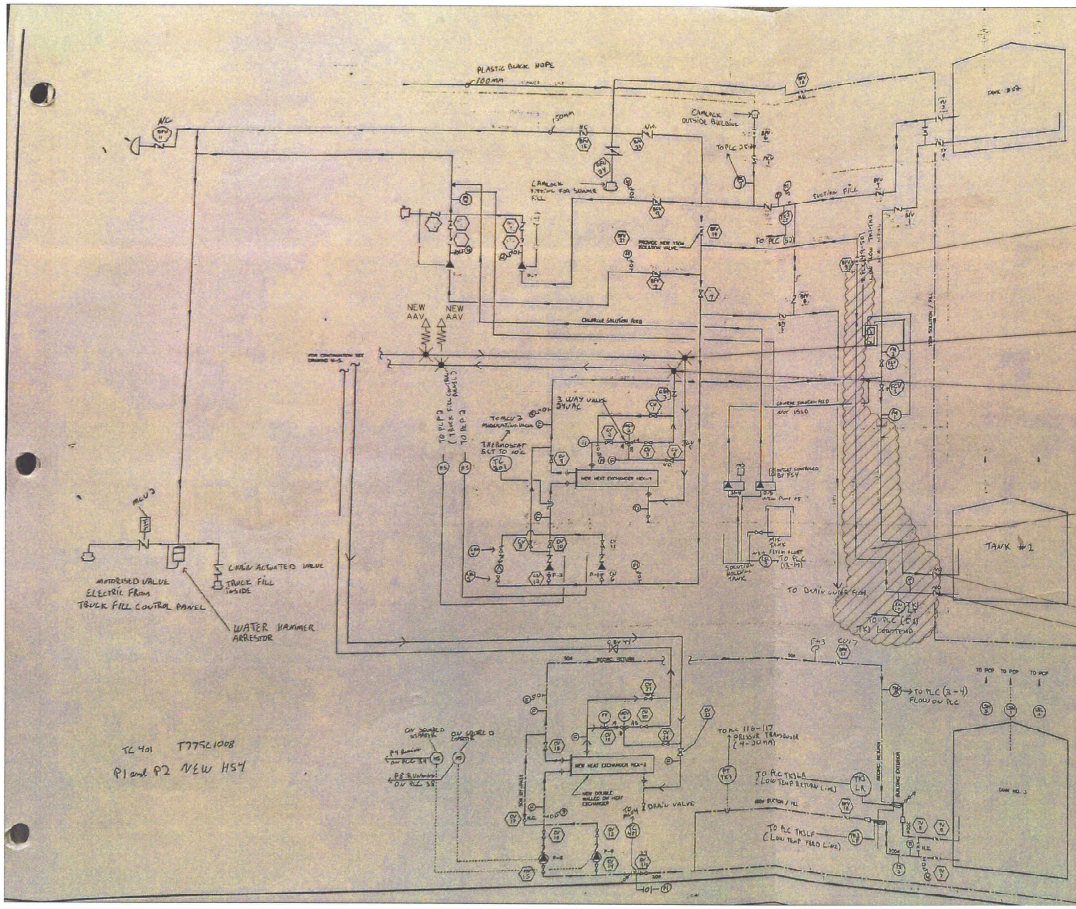
SIFEC NORTH
P.O. Box 336
Rankin Inlet, Nunavut
X0C 0G0
Tel: 867-327-1001
E-Mail: info@sifec.ca

LOCATION
GRISE FIORD
NUNAVUT

TITLE
GRISE FIORD
WATER TANK #1 RFPAIRS
LEGEND AND SYMBOLS

SCALE	SHEET	DRAWING NO.	REV.	REV. DATE
N.T.S.	1 OF 1	YG201 M100	1	JUNE/22

SAVE DATE: Jun/7/2022 5:12:31



TIE-IN TO EXISTING

EXISTING 4" BUTTERFLY VALVE TO REMAIN

NEW TEE HOT SIDE HYDRONIC TIE-IN REFER TO PLAN M200

NEW TEE HOT SIDE HYDRONIC TIE-IN REFER TO PLAN M200

OLD CARBON STEEL PIPE SECTION TO BE REMOVE AND REPLACED AS PER PLAN M200

NEW 2" BUTTERFLY VALVE

NEW 4" BUTTERFLY VALVE

AS-BUILT

DATE: August 12th 2022

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REVISION LETTER	REVISION	PROJECT NUMBER	DRAWN BY NAME	DRAWN BY DATE	CHECKED BY	DESIGNED BY
1	DEMOLITION PLAN	20220-00658	MH	JUNE/22	RF	MH/CF
0	50% DESIGN REVIEW	20220-00658	MH	MAY/22	RF	MH/CF

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SIFEC NORTH INC.
Signature
Date June 6 2022
PERMIT NUMBER: P 1034
NT/NU Association of Professional Engineers and Geoscientists

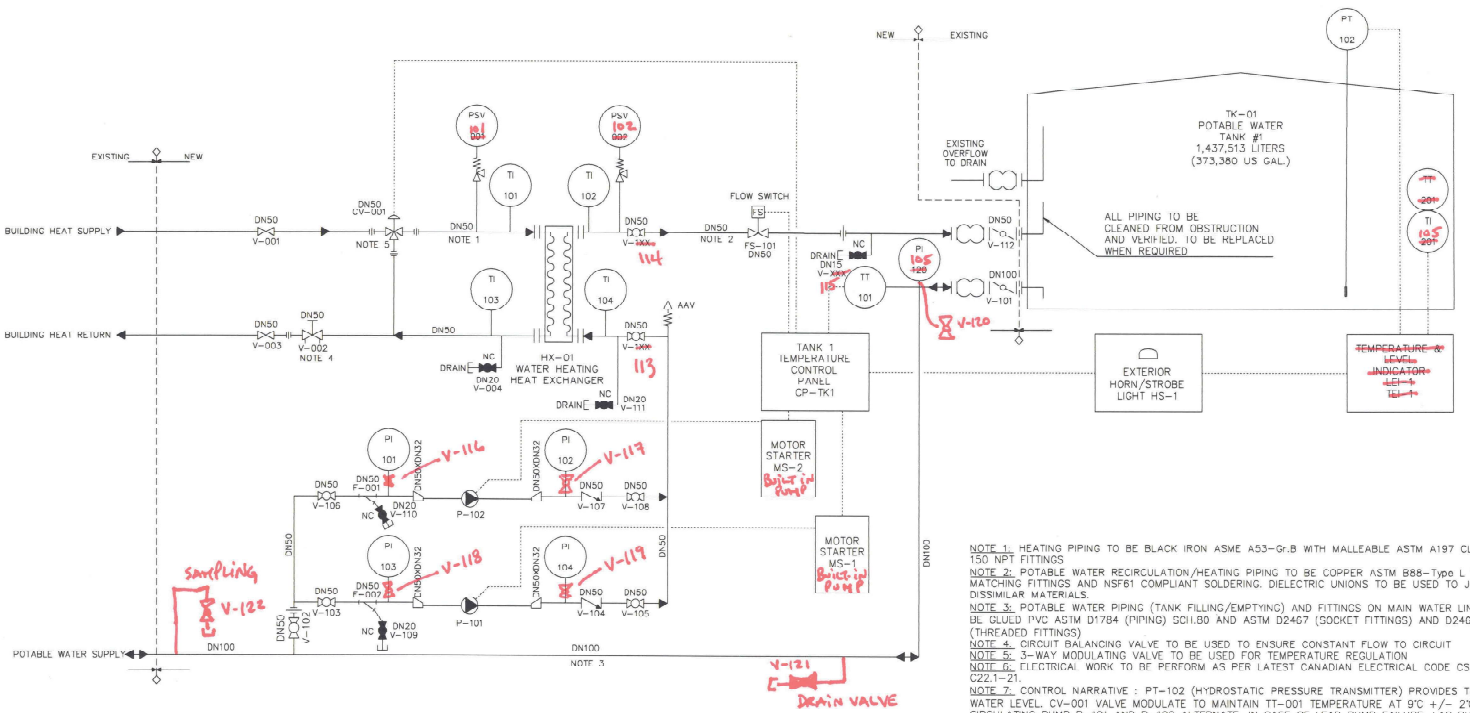
SIFEC NORTH
P.O. Box 556
Rankin Inlet,
Nunavut
X0C 0G0
Tel: 855-437-4001
E-Mail: info@sifec.ca

LOCATION: GRISE FIORD, NUNAVUT

TITLE: GRISE FIORD WATER TANK #1 REPAIRS DEMOLITION MECHANICAL P.&I.D.

SCALE	SHEET	DRAWING NO.	REV.	REV. DATE
N.T.S.	1 OF 1	YGZ04-M150	1	JUNE/22

FILENAME: \\172.20.0.14\PROJET\&SIFEC\YGZ04 - GRISE FJORD TANK NO.1\DWG\IFC\YGZ04-M150_IFC_RF_07-06-2022.DWG



NOTE 1: HEATING PIPING TO BE BLACK IRON ASME A53-Gr.B WITH MALLEABLE ASTM A197 CLASS 150 NPT FITTINGS

NOTE 2: POTABLE WATER RECIRCULATION/HEATING PIPING TO BE COPPER ASTM B88-Type L WITH MATCHING FITTINGS AND NSF61 COMPLIANT SOLDERING. DIELECTRIC UNIONS TO BE USED TO JOIN DISSIMILAR MATERIALS.

NOTE 3: POTABLE WATER PIPING (TANK FILLING/EMPTYING) AND FITTINGS ON MAIN WATER LINE TO BE GLUED PVC ASTM D1784 (PIPING) SCH.80 AND ASTM D2467 (SOCKET FITTINGS) AND D2469 (THREADED FITTINGS)

NOTE 4: CIRCUIT BALANCING VALVE TO BE USED TO ENSURE CONSTANT FLOW TO CIRCUIT

NOTE 5: 3-WAY MODULATING VALVE TO BE USED FOR TEMPERATURE REGULATION

NOTE 6: ELECTRICAL WORK TO BE PERFORM AS PER LATEST CANADIAN ELECTRICAL CODE CSA C22.1-21

NOTE 7: CONTROL NARRATIVE : PT-102 (HYDROSTATIC PRESSURE TRANSMITTER) PROVIDES TANK WATER LEVEL. CV-001 VALVE MODULATE TO MAINTAIN TT-001 TEMPERATURE AT 9°C +/- 2°C. CIRCULATING PUMP P-101 AND P-102 ALTERNATE. IN CASE OF LEAD PUMP FAILURE, LAG PUMP START. FOR ALARM PURPOSE, A STROBE/HORN IS TO BE PROVIDED ON THE BUILDING EXTERIOR WALL. ALARM CONDITIONS ARE THE FOLLOWING :

- IF TEMPERATURE IS BELOW 5°C OR ABOVE 20°C.
- FLOW SWITCH INDICATE NO FLOW.

4°c 16°c

AS-BUILT
DATE: August 12th 2022
SIFEC NORTH

REVISION LETTER	REVISION	PROJECT NUMBER	NAME	DATE	CHECKED BY	DESIGNED BY
1	PWD ADDITION (TEMP. TRANSMITTER AND NOTES)	20220-00658	MH	JUNE/22	RF	MH/DT
0	50% DESIGN REVIEW	20220 00658	MH	MAY/22	RF	MH/DT

PROFESSIONAL STAMP — P. PROTEAUX, LICENSEE, NT/NU

PROFESSIONAL STAMP — R. FAUTEUX, LICENSEE, NT/NU

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Signature
Date June 16, 2022
PERMIT NUMBER: P 1034
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SIFEC NORTH
P.O. BOX 709
Rankin Inlet,
Nunavut
X0C 0G0
Tel: 855-437-4001
E-Mail: info@sifec.ca

LOCATION
GRISE FIORD
NUNAVUT

TITLE
GRISE FIORD
WATER TANK #1 REPAIRS
MECHANICAL P.&I.D.

SCALE	SHEET	DRAWING NO.	REV.	REV. DATE
N.T.S.	1 OF 1	TGZ04-M200	1	JUNE/22

SAVE DATE: Jun/7/2022 5:12:29

FILENAME: \\172.20.0.14\PROJETS\SIFEC\YGZ04 - GRISE FIORD TANK NO1\DWG\SIFEC\YGZ04-M200_IFC_RF_02-05-2021.DWG

SAVE DATE: Jun/7/2022 5:12:26

Project : Grise Fiord Tank #1 Repair 20220-00658
Description : Potable Water System / Heating System Valve list

Tag Number	Make	Model	Description	Supplier	Rev.
V-001	Toyo Red-White	Fig.206A	Gate Valve 2"	Wolseley	1
V-003	Toyo Red-White	Fig.206A	Gate Valve 2"	Wolseley	1
V-004	Jenkins	201CJ	Brass Ball Valve 3/4" Cap & Chain	Flocor	1
F-001	Zurn Wilkins	SXL2	Y-Pattern Strainer, 2" NPT, NSF61	Wolseley	1
F-002	Zurn Wilkins	SXL2	Y-Pattern Strainer, 2" NPT, NSF61	Wolseley	1
V-101	MA Stewart	4LD4SELH	Butterfly 4" Lug EPDM, NSF	Wolseley	1
V-102	Jenkins	LF202J	Lead Free 2" Forged Brass Ball Valve Soldered	Flocor	1
V-103	Jenkins	LF202J	Lead Free 2" Forged Brass Ball Valve Soldered	Flocor	1
V-104	Kitz	Fig. 823	Swing Check Valve 2" Soldered, Lead Free	Wolseley	1
V-105	Jenkins	LF202J	Lead Free 2" Forged Brass Ball Valve Soldered	Flocor	1
V-106	Jenkins	LF202J	Lead Free 2" Forged Brass Ball Valve Soldered	Flocor	1
V-107	Kitz	Fig. 823	Swing Check Valve 2" Soldered, Lead Free	Wolseley	1
V-108	Jenkins	LF202J	Lead Free 2" Forged Brass Ball Valve Soldered	Flocor	1
V-109	Jenkins	LF202CJ	Lead Free 3/4" Brass Ball Valve 3/4" Cap & Chain	Flocor	1
V-110	Jenkins	LF202CJ	Lead Free 3/4" Brass Ball Valve 3/4" Cap & Chain	Flocor	1
V-111	Jenkins	LF202CJ	Lead Free 3/4" Brass Ball Valve 3/4" Cap & Chain	Flocor	1
V-112	MA Stewart	2LD4SELH	Butterfly 2" Lug EPDM, NSF	Wolseley	1
V-116	FNW	X410C	Lead Free 1/2" NPT Ball Valve	Wolseley	2
V-117	FNW	X410C	" "	"	2
V-118	FNW	X410C	" "	"	2
V-119	FNW	X410C	" "	"	2
V-120	FNW	X410C	" "	"	2
HX-01	API Heat Transfer	SX13D-350-11	Plate and Frame Heat exchanger, double wall, potable water safe, 29 kW, ASME Sect. VIII, Div. 1	API Heat Transfer	1
P-101	WILO	Stratos MAXO Z 1.25x3-35	Auto-Adapt Pump, 1/2hp, 120/230 VAC, 60Hz, Stainless Body 1-1/4" (DN32) Connections	Wolseley	1
P-102	WILO	Stratos MAXO Z 1.25x3-35	Auto-Adapt Pump, 1/2hp, 120/230 VAC, 60Hz, Stainless Body 1-1/4" (DN32) Connections	Wolseley	1
CV-001	Belimo	B349+AFRB24-SR	3-Way Valve Stainless modulating, 4-20mA	PCC	1
FS-101	McDonnell Miller	FS251	Flow Switch 1" NPT Connection	Wolseley	1
PSV-101 & PSV-001	Watts	LF530C	Pressure Safety Valve	Wolseley	1
V-002	Oventrop	1061016	2" FNPT Balancing Valve	Flocor	1
CP-TK1	Honeywell	T775R2027	Programmable Thermostat with LCD Display, Analog output, relay output, 24-230 VAC, 60Hz	Wolseley	1
TT-101	Honeywell	T775-SENS-WT	Temperature probe, included with thermostat above	Wolseley	1
~~MS-1~~	~~Allen Bradley~~	~~109-C09AD-OLR+198-2SS+198-R240PL+198-SA11~~	~~Contactor 1/2HP at 120Volt c/w enclosure, On-Off Selector, Pilot LED Red Light, Auxiliary Contact~~	~~Lumen~~	~~1~~
~~MS-2~~	~~Allen Bradley~~	~~109-C09AD-OLR+198-2SS+198-R240PL+198-SA11~~	~~Contactor 1/2HP at 120Volt c/w enclosure, On-Off Selector, Pilot LED Red Light, Auxiliary Contact~~	~~Lumen~~	~~1~~
DS-1	Schneider	MD3304X	Disconnect Switch 30Amp NEMA 4X	CDE	1
DS-2	Schneider	MD3304X	Disconnect Switch 30Amp NEMA 4X	CDE	1
HS-1	AB ~~Edwards~~ FED SIGNAL	855H BA10AD ~~868STRB-N5~~ FED LP3M120B	Exterior Strobe Horn 120V Bleu 100dB at 1 meter	Anixter	1
PT-102	E+H	FMX21-CD211KGJ25H+LRPOPS	4-20mA Level/Pressure Transmitter NSF61	E+H	1
PI-120	Winters	PFQ709LF-C1-R14-DRY	Pressure Gauge 4"X1/4" NPT BTM 0/21 mH2O	Flocor	1
~~TT-201 & TI-201~~	~~ProSens~~	~~ETS50N-100-1001 + TW04-01 + 7700-14541-S4U1500~~	~~Temperature Transmitter Pt100 RTD & Display Loop Powered 24VDC + Thermowell~~	~~Automation Direct~~	~~1~~
~~LEI-1~~	~~Precision Digital~~	~~PD765-6X5-10~~	~~Process & Temperature Digital Display 2 Relays + 4-20mA + 24VDC Supply~~	~~Precision Digitale~~	~~1~~
~~TEI-1~~	~~Precision Digital~~	~~PD765-6X5-10~~	~~Process & Temperature Digital Display 2 Relays + 4-20mA + 24VDC Supply~~	~~Precision Digitale~~	~~1~~
	~~Precision Digital~~	~~PDA2302~~	~~NEMA 4X Enclosure 2 Cut-Out, 11.8" x 7.9" x 7.0"~~	~~Precision Digitale~~	~~1~~
TI-101	Dwyer	STC451	Pipe Mount BiMetal Surface Thermometer -50F to 250F	Dwyer	1
TI-102	Dwyer	STC451	Pipe Mount BiMetal Surface Thermometer -50F to 250F	Dwyer	1
TI-103	Dwyer	STC451	Pipe Mount BiMetal Surface Thermometer -50F to 250F	Dwyer	1
TI-104	Dwyer	STC451	Pipe Mount BiMetal Surface Thermometer -50F to 250F	Dwyer	1
V-121	Jenkins	LF202CJ	LEAD FREE 3/4" CAP and Chain	Wolseley	2
V-122	Jenkins	LF202CJ	" "	Wolseley	2

AS-BUILT
DATE: August 12th 2022

SIFEC NORTH

P.O. Box 556
Rankin Inlet,
Nunavut
X0C 0G0
Tel: 855-437-4001
E-Mail: info@sifec.ca

REVISION LETTER	REVISION	PROJECT NUMBER	NAME	DATE	CHECKED BY	DESIGNED BY
1	COMPLETE VALVE & EQUIPMENT LIST	20220-00658	MH	JUNE/22	RF	MH/CF
0	50% DESIGN REVIEW	20220-00658	MH	MAY/22	RF	MH/CF

DRAWN BY

PROFESSIONAL STAMP: REGISTERED PROFESSIONAL ENGINEER — G. FAUTEUX — LICENSEE — NWT/NU

PROFESSIONAL STAMP: REGISTERED PROFESSIONAL ENGINEER — R. FAUTEUX — LICENSEE — NT/NU

PERMIT STAMP:
PERMIT TO PRACTICE
SIFEC NORTH INC.
Signature
Date June 6 2022
PERMIT NUMBER: P 1034
NT/NU Association of Professional Engineers and Geoscientists

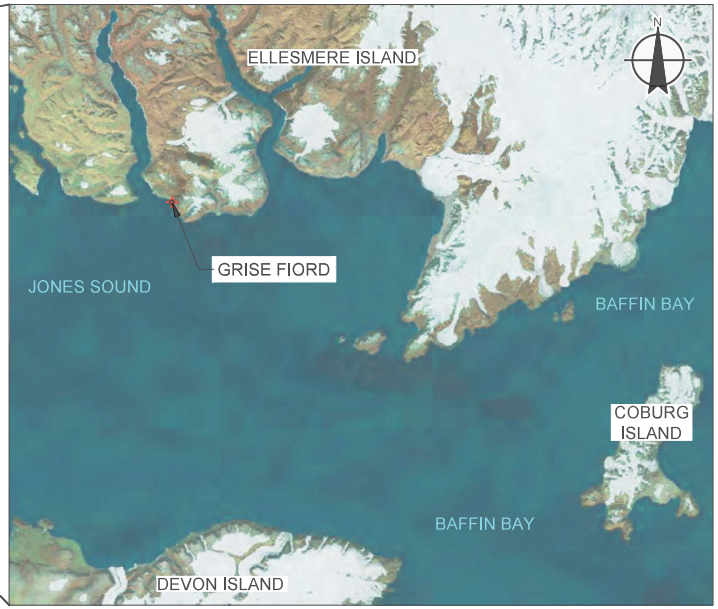
LOCATION: GRISE FIORD NUNAVUT

TITLE: GRISE FIORD WATER TANK #1 REPAIRS MECHANICAL EQUIPMENT LIST

SCALE	SHEET	DRAWING NO.	REV.	REV. DATE
N.T.S.	1 OF 1	YGZ04-M300	1	JUNE/22

FILENAME: \\172.20.0.14\PROJET\&SIFEC\YGZ04 - GRISE FIORD TANK NO.1\DWG\IFC\YGZ04-M300_IFC_RF_06-06-2022.DWG

Source: www.Freeworldmaps.net.



Sources: Bing Imagery; © 2022 Microsoft Corporation , Earthstar Geographics SIO, 2022.

DRAWING No.	DRAWING TITLE
G-100	COVER SHEET
G-110	GENERAL SITE PLAN
G-120	TANK #3 REPAIR - GENERAL CONSTRUCTION NOTES
C-001	TANK #3 REPAIR - GEOTECHNICAL NOTES
C-110	TANK #3 FLOOR SURVEY AND EXISTING CONDITIONS, PLAN AND CROSS-SECTION
C-120	TANK #3 FLOOR CROSS-SECTION - PROPOSED REPAIRS
S-001	TANK #3 REPAIR - STRUCTURAL NOTES
S-100	EXISTING LAYOUT PLAN AND SECTION
S-101	PROPOSED LAYOUT PLAN AND SECTION
S-200	PARTIAL INTERIOR ELEVATION
S-300	PVC LINER DETAILS
S-400	MANWAY DETAILS
S-500	ACCESS PLATFORM AND LADDERS
S-600	TEMPORARY CONSTRUCTION OPENING DETAILS
S-601	TEMPORARY CONSTRUCTION OPENING DETAILS
S-700	COLUMN AND BASE FRAME DETAILS
S-800	200Ø PIPE SPOOL DETAILS
S-801	75Ø PIPE SPOOL DETAILS

LEGEND:

REGISTERED PROFESSIONAL ENGINEER
J.A.G DOUCETTE
LICENSEE
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-09

CLIENT:
GOVERNMENT OF NUNAVUT

wood.

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3 REPAIRS

TITLE:
COVER SHEET

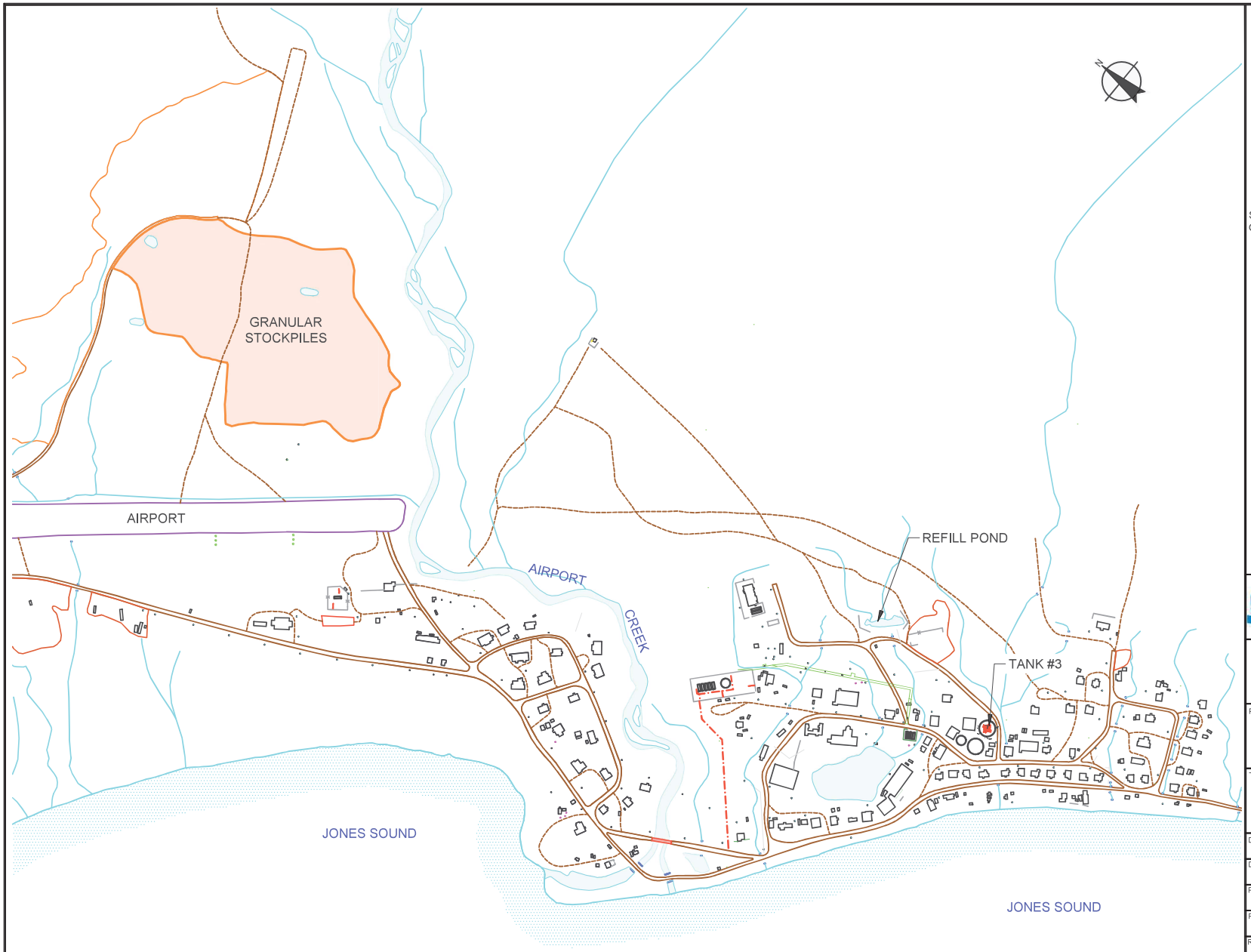
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
DM	-	-	JD

DATUM:	SCALE:
NAD83 (CSRS)	-

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
TE213032	0

REV. DATE:	FIGURE NO:
2022/06/14	G-100



LEGEND:

- ROAD
- BRIDGE
- TRAIL
- STRUCTURE/ BUILDING
- CULVERT
- STREAM
- WATERBODY
- PIPELINE
- EASEMENT
- POWERPOLE

SOURCE: Government of Nunavut (Community and Government Services).

REGISTERED PROFESSIONAL ENGINEER
J.A.G. DOUCETTE
LICENSEE
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-09

0m 50 100 150 200
1 : 5000

CLIENT:
GOVERNMENT OF NUNAVUT

wood.

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3 REPAIRS

TITLE:
GENERAL SITE PLAN

DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
DM	-	-	JD

DATUM:	SCALE:
NAD83 (CSRS)	1:3000

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
TE213032	0

REV. DATE:	FIGURE NO:
2022/06/14	G-110

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TANK #3 - GENERAL CONSTRUCTION NOTES

GENERAL WORK REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE ALL SUPERVISION, LABOUR AND EQUIPMENT NECESSARY FOR THE PROPER EXECUTION OF THE WORKS IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS AND TECHNICAL SPECIFICATIONS DETAILED BELOW, UNLESS SPECIFICALLY NOTED OTHERWISE.
2. THE CONSTRUCTION SHALL NOT INTERFERE WITH AIRPORT OPERATIONS. THE CONTRACTOR WILL COORDINATE WITH THE AIRPORT AUTHORITY WITH RESPECT TO WORK LIMITATIONS DUE TO INCOMING/OUTGOING FLIGHTS AS NECESSARY.
3. THE CONTRACTOR SHALL WORK WITH THE MUNICIPALITY TO MAINTAIN ACCESS THROUGH THE CONSTRUCTION AREA AT TANK #3 AND WILL BE RESPONSIBLE FOR MAINTAINING EXISTING ROADS AFFECTED BY THE CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR WILL TAKE PRECAUTIONARY MEASURES TO SAFEGUARD EXISTING FACILITIES FROM BEING DAMAGED AS A RESULT OF HIS CONSTRUCTION CONDITIONS AND ACTIVITIES.
5. THE CONTRACTOR WILL PROTECT EXISTING EXTERIOR PIPING , PIPE BERMS AND THERMISTOR INSTALLATIONS FROM DAMAGE FOR THE DURATION OF THE CONSTRUCTION ACTIVITIES. ANY DAMAGE MUST BE REPORTED TO THE MUNICIPALITY IMMEDIATELY.
6. THE CONTRACTOR WILL PREPARE LAYDOWN AREA AS REQUIRED, IN CONSULTATION WITH THE MUNICIPALITY.
7. THE CONTRACTOR WILL PREPARE AND SUBMIT A WORK PLAN FOR REVIEW AND APPROVAL BY THE OWNER. THE WORK PLAN WILL OUTLINE THE TASKS AND SEQUENCE IN WHICH THE TASKS WILL BE EXECUTED.

HEALTH AND SAFETY

1. THE CONTRACTOR SHALL MEET WITH THE HAMLET FIRE AUTHORITY TO KEEP THEM INFORMED OF ALL ACTIVITIES. THE CONTRACTOR WILL CARRY NECESSARY FIRE PROTECTION EQUIPMENT AND COMPLY WITH APPLICABLE FIRE PREVENTION REGULATIONS.
2. THE CONTRACTOR SHALL SUBMIT FOR OWNER'S REVIEW AND APPROVAL A CONSTRUCTION HEALTH AND SAFETY PLAN.
3. THE CONTRACTOR SHALL PREPARE AND EXECUTE CONFINED SPACE ENTRY AND RESCUE PLANS FOR WHENEVER WORK IS REQUIRED TO BE CARRIED OUT INSIDE TANK #3 FOR ALL PERSONNEL WORKING ON THE PROJECT.
4. ALL PERSONS WORKING INSIDE THE TANK (INCLUDING ALL CONSULTANTS AND SUB-CONSULTANTS WILL HAVE CONFINED SPACE ENTRY TRAINING, AND WORKING AT HEIGHTS TRAINING AS NECESSARY.

ENVIRONMENTAL CONTROL

1. IN THE EVENT OF A SPILL THE CONTRACTOR WILL RECOVER THE CONTAMINATED SOIL AND DISPOSE OF AS DIRECTED BY THE OWNER.

SURVEYING

1. THE CONTRACTOR SHALL PROVIDE ALL THE SURVEYING REQUIRED TO DEVELOP RECORD DRAWINGS AT THE END OF THE PROJECT, INCLUDING:
   a. TOP OF EXPOSED GRANULAR PAD AFTER REMOVAL OF THE STEEL FLOOR PLATES/INJECTED FOAM.
   b. TOP OF GRANULAR PAD AFTER PLACING AND COMPACTING NEW GRANULAR TO ORIGINAL FLOOR ELEVATION.
   c. TOP OF RIGID STYROFOAM INSULATION.
   d. FINAL ELEVATION OF BACKFILL INSIDE
   e. SURVEY OF COMPLETED INSIDE TANK WITH LOCATIONS OF NEW SERVICE CONNECTIONS AND MANWAYS .
2. SURVEY BENCHMARK TO BE DETERMINED
3. ALL SURVEYS SHALL BE PROVIDED IN AN ELECTRONIC FORMAT ACCEPTABLE TO THE OWNER.

CLEAN UP

1. THE CONTRACTOR SHALL CLEAN UP ALL OF THE WORK AREAS, TO THE OWNER'S SATISFACTION, UPON COMPLETION OF THE WORKS.

REFERENCES

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. BASE MAPPING OBTAINED FROM GOVERNMENT OF NUNAVUT (COMMUNITY AND GOVERNMENT SERVICES) WEBSITE.
3. MAP DATUM IS UTM NAD83 (CSRS), ZONE 17N.
4. ELEVATION DATA FROM FSC GROUP, IFT DESIGN DRAWINGS, MAY 2000.
5. IMAGERY OBTAINED FROM BING IMAGERY; © 2022 MICROSOFT CORPORATION , EARTHSTAR GEOGRAPHICS SIO, 2022 AND WWW.FREEWORLDMAPS.NET.
6. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE OWNER'S REPRESENTATIVE SHOULD UNCERTAINTIES ARISE WITH CONSTRUCTION DRAWINGS.

OTHER

1. UNLOAD FROM PLANE AND TRANSPORT FIVE AQUA-FLEX TANKS (WOODEN PALLET SIZE 76"X 50" X 43", WEIGHT APPROXIMATELY 1,600 LBS) FROM AIRPORT TO PROPOSED DEPLOYMENT LOCATION.
2. PROVIDE SUPPORT TO UNFOLD AND POSITION TANK (ESTIMATED 8 TO 10 PERSONS).
3. ASSEMBLE HOSES AND PUMPS TO FILL AQUA-FLEX TANKS FROM THE AIRPORT CREEK. FILL TANKS WITH WATER.

LEGEND:

ISSUED FOR CONSTRUCTION
2022-06-09

CLIENT:
GOVERNMENT OF NUNAVUT

wood.

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3 REPAIRS

TITLE:
TANK #3 REPAIR
GENERAL CONSTRUCTION NOTES

DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
DM	-	-	JD

DATUM:	SCALE:
NAD83 (CSRS)	-

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
TE213032	0

REV. DATE:	FIGURE NO:
2022/06/14	G-120

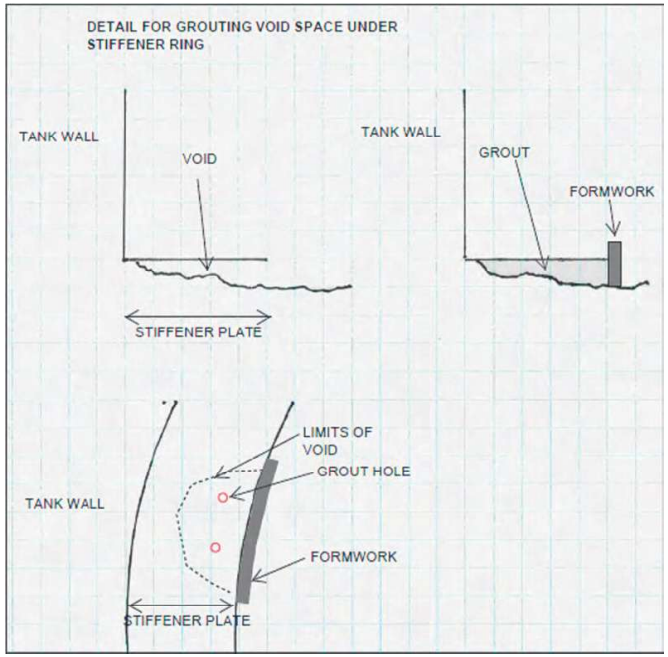
TANK #3 REPAIR - GEOTECHNICAL NOTES

PREPARATION OF GRANULAR FILL MATERIAL

1. GRANULAR MATERIAL FOR THE FOUNDATION PAD REPAIR AT TANK #3 WILL BE SOURCED FROM EXISTING STOCKPILES OR PIT AREA LOCATED NEAR THE AIRPORT. THE CONTRACTOR WILL PROCESS THE EXISITNG GRANULAR STOCKPILES FOR USE IN TANK #3.
2. THE STOCKPILES ARE ANTICIPATED TO BE FROZEN UNTIL MID-JUNE. THE CONTRACTOR WILL FACILITATE THAWING OF THE STOCKPILE. ONE SUCH METHOD MAY BE TO PROCURE AND PLACE BLACK/INSULATED TARPS ON THE FROZEN STOCKPILE WITH APPROPRIATE ANCHORS. THE TARPS WILL BE PEELED BACK WEEKLY, THAWED MATERIAL SCRAPED OFF AND STOCKPILED/TARPED SEPARATELY. THE TARPS WILL BE PLACED BACK ON THE EXPOSED FROZEN GRANULAR MATERIAL. OTHER METHODS MAY BE PROPOSED FOR CONSIDERATION.

TANK #3 GRANULAR FOUNDATION PAD REPAIR

1. THE CONTRACTOR WILL CUT AN OPENING IN TANK #3 TO FACILITATE CONSTRUCTION ACTIVITIES (SEE TANK STRUCTURAL NOTES).
2. THE CONTRACTOR WILL CUT THE EXISTING STEEL PLATE FLOOR/INJECTED FOAM INTO MANAGEABLE PIECES ABLE TO BE REMOVED FROM THE TANK THROUGH THE OPENING. A 30 CM WIDTH OF FLOOR PLATE WILL BE LEFT IN PLACE AROUND THE PERIMETER OF THE TANK.
   THE CONTRACTOR WILL TRANSPORT/STOCKPILE STEEL PLATE/FOAM TO LOCATION TO BE DETERMINED WITH MUNICIPALITY.
3. THE CONTRACTOR WILL REMOVE FROST AND ANY PIECES OF ICE FROM THE GRANULAR PAD SURFACE. SMOOTH AND COMPACT EXISTING GRANULAR PAD SURFACE USING A REVERSIBLE VIBRATORY PLATE COMPACTOR (MINIMUM 8,000 LBF) TO SATISFACTION OF THE OWNER.
4. ANY AREAS WHERE VOIS SPACE IS NOTED UNDER THE STIFFENER RING MUST BE GROUTED BEFORE GRANULAR IS PLACED AROUND THE PERIMETER.



5. THE CONTRACTOR WILL LOAD AND HAUL NEW GRANULAR MATERIAL FROM THE AIRPORT TO TANK #3 OR INTERIM STOCKPILE LOCATION (LAYDOWN AREA). NEW GRANULAR WILL BE FREE FROM ORGANIC MATERIAL, ICE OR SNOW. NEW GRANULAR SOURCED FROM THE PIT AREA WILL HAVE NO PARTICLES LARGER THAN 100 MM IN SIZE. THE CONTRACTOR WILL PLACE AND COMPACT NEW GRANULAR INSIDE TANK #3 IN MAXIMUM 150 mm (6 INCH) THICK LIFTS UP TO THE LEVEL OF THE ORIGINAL FLOOR PLATE. A MINIMUM OF FIVE PASSES WITH A REVERSIBLE VIBRATORY PLATE COMPACTOR (MINIMUM 8,000 LBF) SHALL BE CARRIED OUT ON EACH FILL LIFT OR TO SATISFACTION OF THE OWNER.
6. PLACE 2 x 50MM THICK RIGID STYROFOAM INSULATION (HI-60 RIGID STRYROFOAM) ON TOP OF THE GRANULAR PAD AT THE ORIGINAL FLOOR ELEVATION. THE EDGES OF THE STYROFOAM SHEETS MUST BE STAGGERED BETWEEN LAYERS.
7. ADDITIONAL GRANULAR TO BE PLACED ON TOP OF THE RIGID STYROFOAM INSULATION TO A FINISHED LEVEL AT 660MM ABOVE THE ORIGINAL FLOOR LEVEL. THE GRANULAR INSIDE WILL BE PLACED IN MAXIMUM 150 mm (6 INCH) THICK LIFTS. A MINIMUM OF FIVE PASSES WITH A REVERSIBLE VIBRATORY PLATE COMPACTOR (MINIMUM 8,000 LBF) SHALL BE CARRIED OUT ON EACH FILL LIFT OR TO SATISFACTION OF THE OWNER.

LEGEND:

REGISTERED PROFESSIONAL ENGINEER
J.A.G. DOUCETTE
LICENSEE
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-09

CLIENT:
GOVERNMENT OF NUNAVUT

wood.

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3 REPAIRS

TITLE:
TANK #3 REPAIR
GEOTECHNICAL NOTES

DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
DM	-	-	JD

DATUM:	SCALE:
NAD83 (CSRS)	-

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
TE213032	0

REV. DATE:	FIGURE NO:
2022/06/14	C-001

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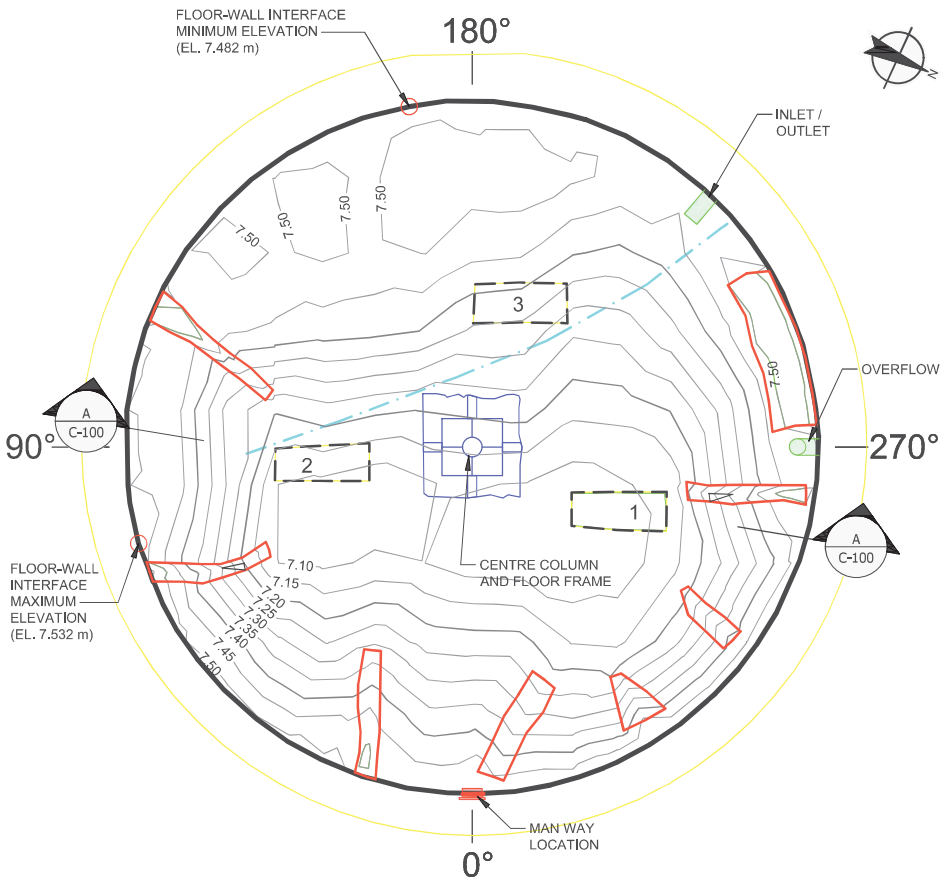
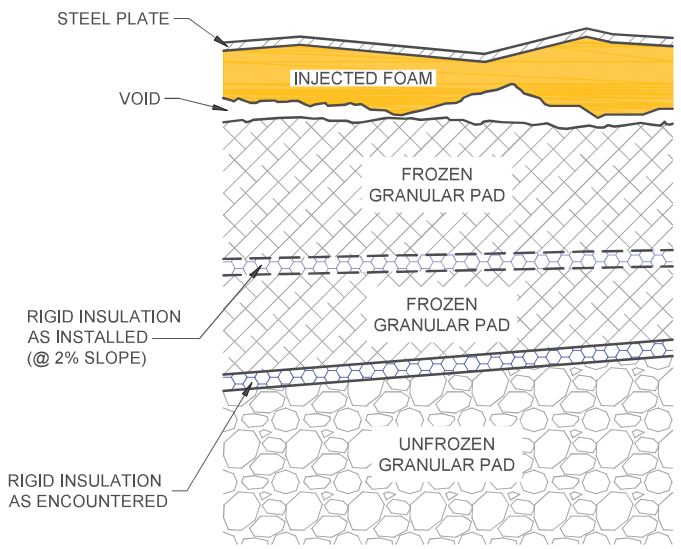
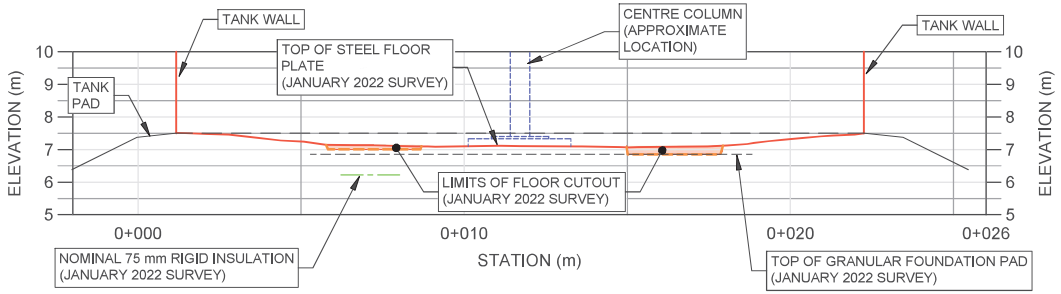


PLAN VIEW



TYPICAL CONDITIONS ENCOUNTERED IN FLOOR CUT-OUT #2

NTS



SECTION A-A

LEGEND:

- FLOOR CUT-OUT
- FLOOR BUCKLING
- TOP OF STEEL PLATE CONTOURS (0.05 m INTERVALS)
- RECIRCULATION LINE

NOTES:

ELEVATIONS DERIVED FROM JANUARY 2022 FIELD SURVEY.

REGISTERED PROFESSIONAL ENGINEER
J.A.G. DOUCETTE
LICENSEE
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-09

0m 1 2 3 4 5 6
1 : 150

CLIENT:
GOVERNMENT OF NUNAVUT

wood.

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3 REPAIRS

TITLE:
TANK #3 FLOOR SURVEY AND EXISTING CONDITIONS, PLAN AND CROSS-SECTION

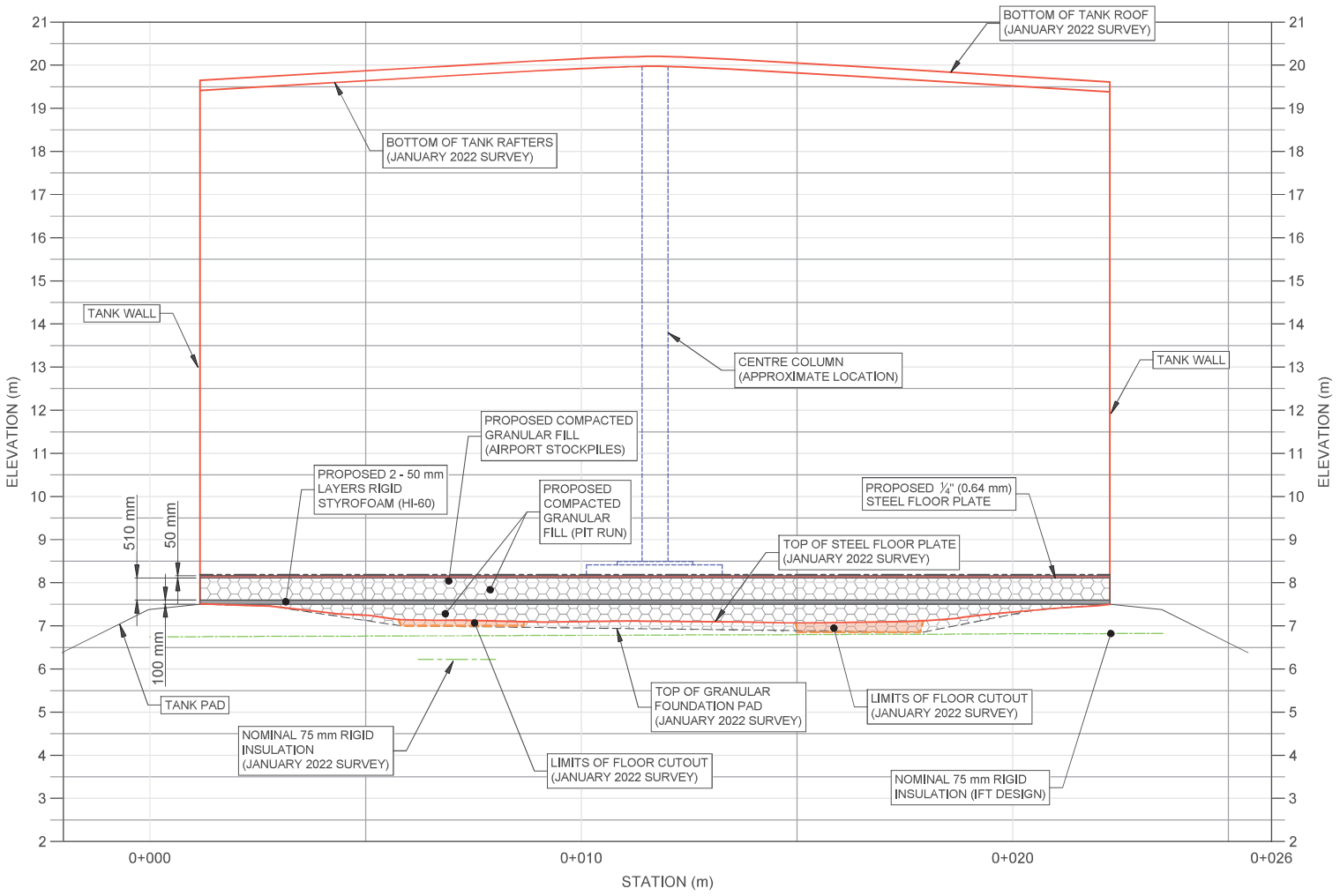
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
DM	-	-	JD

DATUM:	SCALE:
NAD83 (CSRS)	1:150

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
TE213032	0

REV. DATE:	FIGURE NO:
2022/06/14	C-110



SECTION A-A

NOTES:

ELEVATIONS DERIVED FROM JANUARY 2022 FIELD SURVEY AND TIED TO ELEVATION DATA SHOWN ON IFT DESIGN DRAWINGS.

REGISTERED PROFESSIONAL ENGINEER
J.A.G. DOUCETTE
LICENSEE
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-09

CLIENT:
GOVERNMENT OF NUNAVUT

wood.

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3 REPAIRS

TITLE:
TANK #3 FLOOR
CROSS-SECTION
PROPOSED REPAIRS

DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
DM	-	-	JD

DATUM:	SCALE:
NAD83 (CSRS)	1:100

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
TE213032	0

REV. DATE:	FIGURE NO:
2022/06/14	C-120

STRUCTURAL NOTES

1.0 GENERAL

1.1 All work shall conform to the National Building Code of Canada 2015 (NBCC), API 650 AND API 653.
1.2 Contractors and trades shall be experienced in the work required. Work shall be completed in accordance with accepted construction practice.
1.3 Inform engineer of proposed construction schedule and of any changes to construction schedule to facilitate construction reviews.
1.4 The structural drawings are to be read in conjunction with the civil and other specialty drawings.
1.5 This set of drawings supersedes and replaces all previously released structural drawings.
1.6 Do not scale the drawings.
1.7 The contractor shall be responsible to verify all site conditions and measurements and immediately report to the engineer any discrepancies or unsatisfactory conditions which may adversely affect the proper completion of the job before proceeding with the work.
1.8 All work is to be performed in accordance with all applicable health and safety regulations.
1.9 Shop drawings shall be submitted to the engineer for review on the following:

1.9.1 Structural steel fabrications.

1.10 Load Conditions:

1.10.1 Dead Loads
D = Self-weight of existing tank structure
D = 18.8 kN/m3 (Density of placed granular material)

1.10.2 Live Loads
L = 10.0 kN/m3 (Density of stored water)

1.10.3 Snow
I_s = 1.25 (ULS), 0.9 (SLS) S_s = 2.0 kPa S_r = 0.1 kPa
C_b = 0.8 C_w = 1.0 C_s = 1.0 C_a = 1.0
S = 2.13 kPa (ULS), 1.53 kPa (SLS)

1.10.4 Wind
I_w = 1.25 (ULS), 0.75 (SLS) q_{50} = 0.69 kPa
C_e = 1.05 C_t = 1.0 C_g = 2.0 C_i(wall) = 0.5 C_pC_g(roof) = -1.3
W(wall) = 0.45 kPa (ULS), 0.27 kPa (SLS)
W(roof) = -1.17 kPa (ULS), -0.70 kPa (SLS)

2.0 DEMOLITION

2.1 Prevent movement, settlement or damage of adjacent parts of the existing structure to remain. Provide bracing, shoring where required. Make good of damage and be liable for injury caused by demolition.
2.2 Take precautions to support structures and, if safety of structure being demolished appears to be endangered, cease operations and notify engineer immediately before commencing any further.
2.3 Design and construct falsework in accordance with CSA S269.1-1975.
2.4 Design and construct scaffolding in accordance with CSA S269.2-M1987.
2.5 Phase demolition in stages as required, to safely remove components requiring removal.

3.0 STRUCTURAL STEEL

3.1 All structural steel design to conform to CSA S16.
3.2 Structural steel to conform to CSA G40.21, structural Quality Steel 350W (rolled wide flange sections) and 300W (plate, angles and channels).
3.3 Hollow structural steel (HSS) to conform to ASTM A500 Grade C steel with a minimum yield strength of 345 MPa (square and rectangular sections) and 317 MPa (round sections).
3.4 Sheet steel to conform to ASTM A570 Hot Rolled Carbon Steel Sheet and Strip, Structural Quality.
3.5 Bolts, washers and nuts to ASTM A325, High-Strength Bolts for Structural Steel Joints.
3.6 Welding electrodes to CSA W48, W59 and certified by Canadian Welding Bureau. All welding to be completed by welders certified by Canadian Welding Bureau.
3.7 All structural steel to be painted in accordance with AWWA D102 with Sherwin-Williams Macropoxy 646 PW or equivalent applied in accordance with manufacturer's specifications.
3.8 Field cutting or altering structural members to be verified and reviewed by the engineer.

4.0 STEEL CLADDING

4.1 Wall cladding to be prefinished metal cladding in profile and thickness to match existing.

5.0 QUALITY CONTROL AND LEAK TESTING

5.1 All welds are to be tested by vacuum box or equivalent in accordance with API 650. Fuel oils are not to be applied to interior tank surfaces.

5.2 A static leak test shall be completed with the tank filled to full operating level.

LEGEND:

PERMIT TO PRACTICE
NEEGAN BURNSIDE LTD.
Signature
Date June 24, 2022
PERMIT NUMBER: P 535
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
M.R. HOFER
LICENSEE
24 Jun 2022
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-24

CLIENT:
GOVERNMENT OF NUNAVUT

NEEGAN BURNSIDE

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3
REPAIRS

TITLE:
STRUCTURAL NOTES

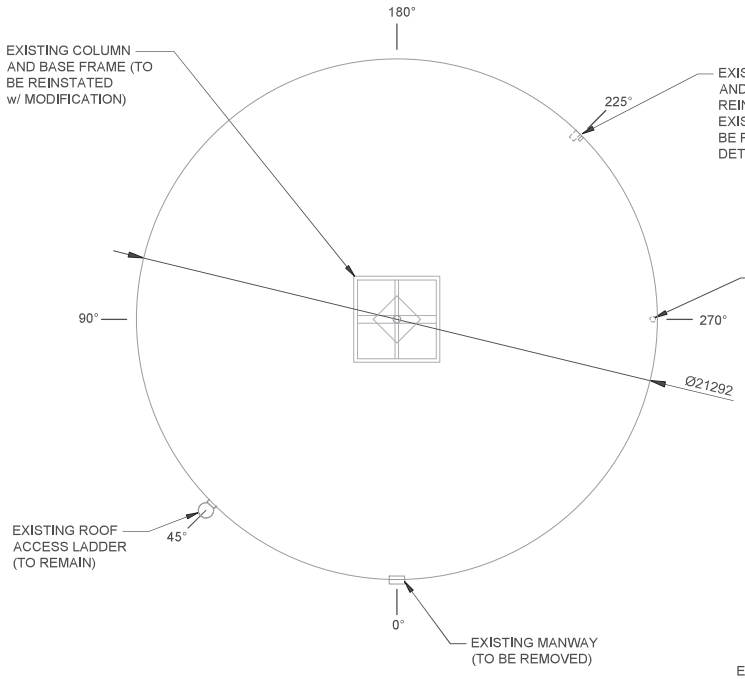
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
AA	MH	MH	

DATUM:	SCALE:
NAD83 (CSRS)	AS NOTED

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
300054452.0000	0

REV. DATE:	FIGURE NO:
2022/06/23	S-001



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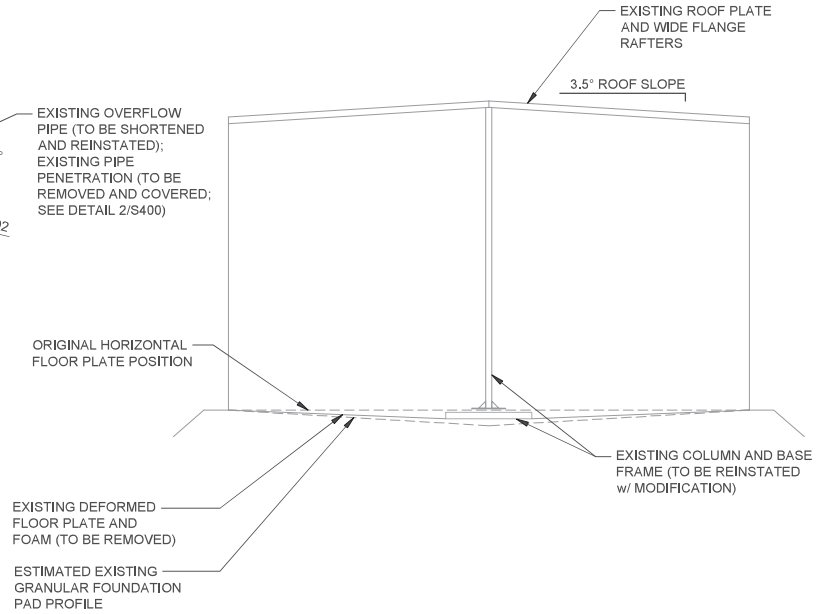
SCALE 1:200



2 / S100 EXISTING SECTION
SCALE 1:200

LEGEND:

PERMIT TO PRACTICE
NEEGAN BURNSIDE LTD.
Signature
Date June 24, 2022
PERMIT NUMBER: P 535
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
M.R. HOFER
LICENSEE
24 Jun 2022
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-24

CLIENT:
GOVERNMENT OF NUNAVUT

NEEGAN BURNSIDE

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3
REPAIRS

TITLE:
EXISTING LAYOUT PLAN AND SECTION

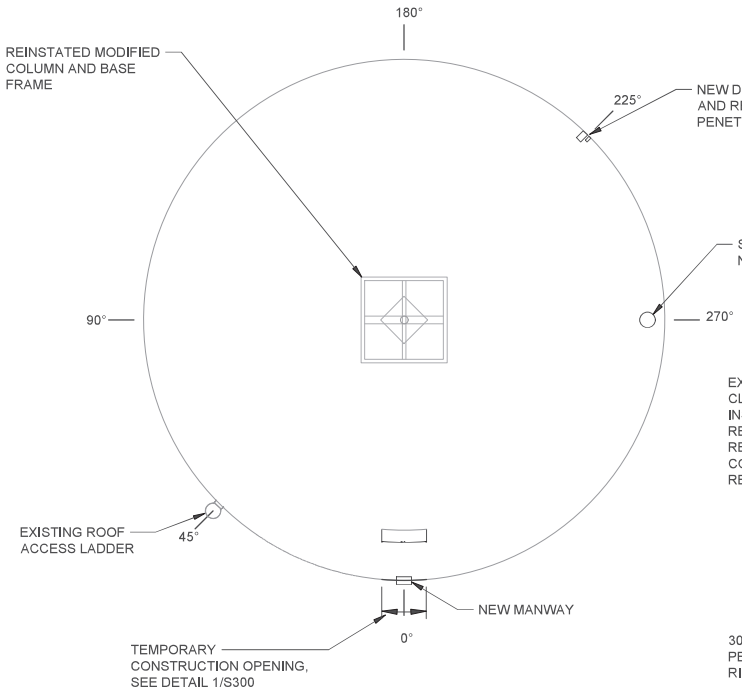
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
AA	MH	MH	

DATUM:	SCALE:
NAD83 (CSRS)	AS NOTED

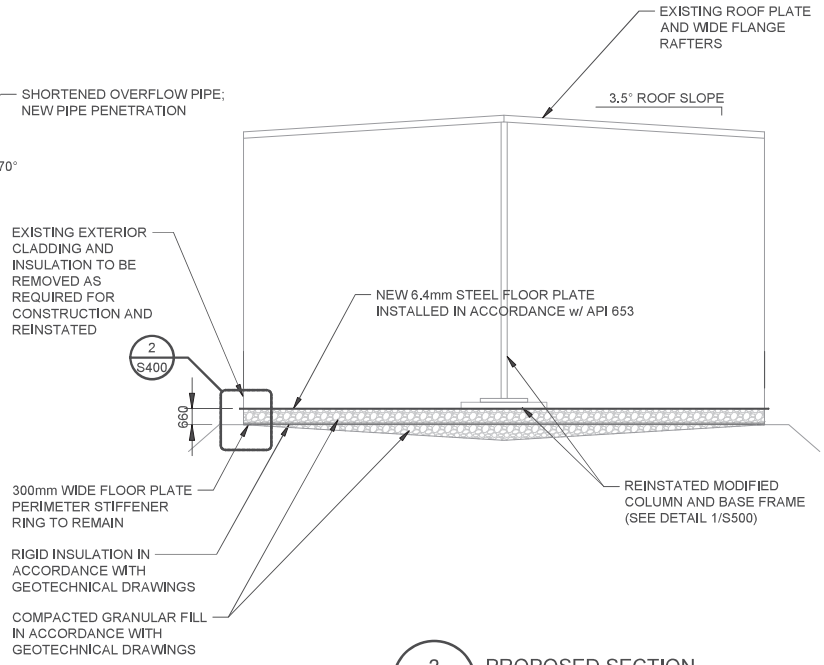
PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
300054452.0000	0

REV. DATE:	FIGURE NO:
2022/06/23	S-100



1 / S101 PROPOSED LAYOUT
SCALE 1:200



2 / S101 PROPOSED SECTION
SCALE 1:200

LEGEND:

PERMIT TO PRACTICE
NEEGAN BURNSIDE LTD.
Signature
Date June 24, 2022
PERMIT NUMBER: P 535
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
M.R. HOFER
LICENSEE
24 Jun 2022
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-24

CLIENT:
GOVERNMENT OF NUNAVUT

NEEGAN BURNSIDE

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3
REPAIRS

TITLE:
PROPOSED LAYOUT PLAN AND SECTION

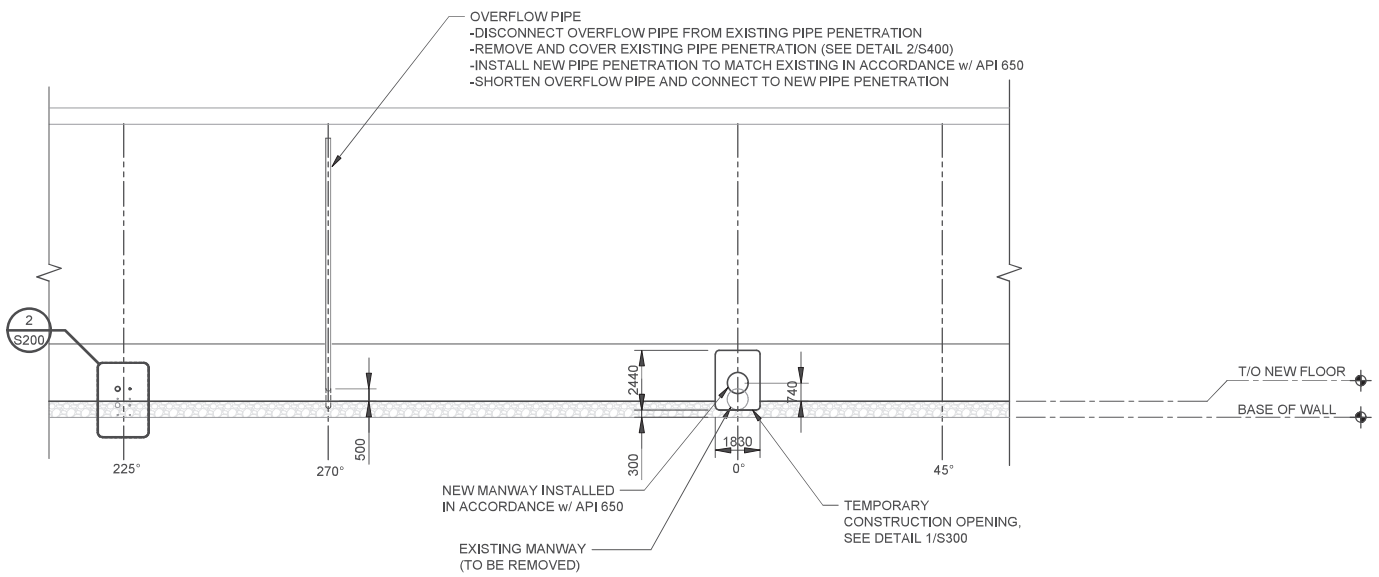
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
AA	MH	MH	

DATUM:	SCALE:
NAD83 (CSRS)	AS NOTED

PROJECTION: UTM ZONE 17 NORTH

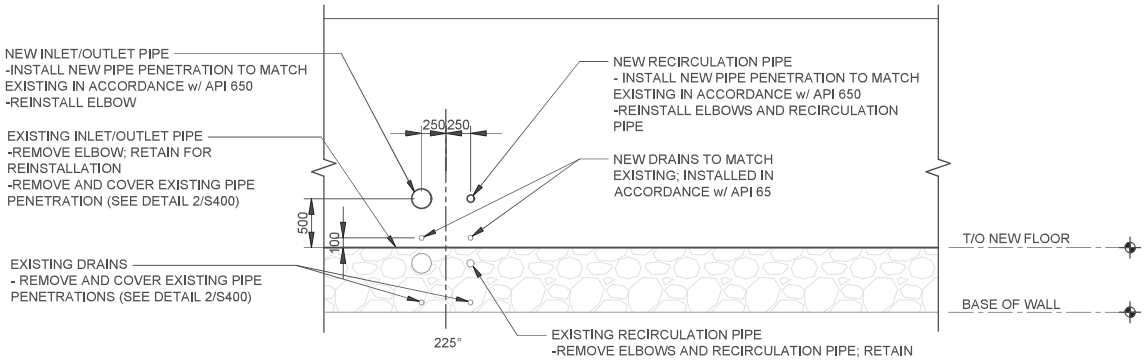
PROJECT NO:	REV. NO:
300054452.0000	0

REV. DATE:	FIGURE NO:
2022/06/23	S-101



1 / S200 PARTIAL INTERIOR ELEVATION

SCALE 1:200



2 / S200 INLET/OUTLET, RECIRCULATION AND DRAIN PIPE PENETRATIONS ELEVATION

SCALE 1:50

LEGEND:

PERMIT TO PRACTICE
NEEGAN BURNSIDE LTD.
Signature
Date June 24, 2022
PERMIT NUMBER: P 535
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
M.R. HOFER
LICENSEE
24 Jun 2022
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-24

CLIENT:
GOVERNMENT OF NUNAVUT

NEEGAN BURNSIDE

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3
REPAIRS

TITLE:
PARTIAL INTERIOR ELEVATION

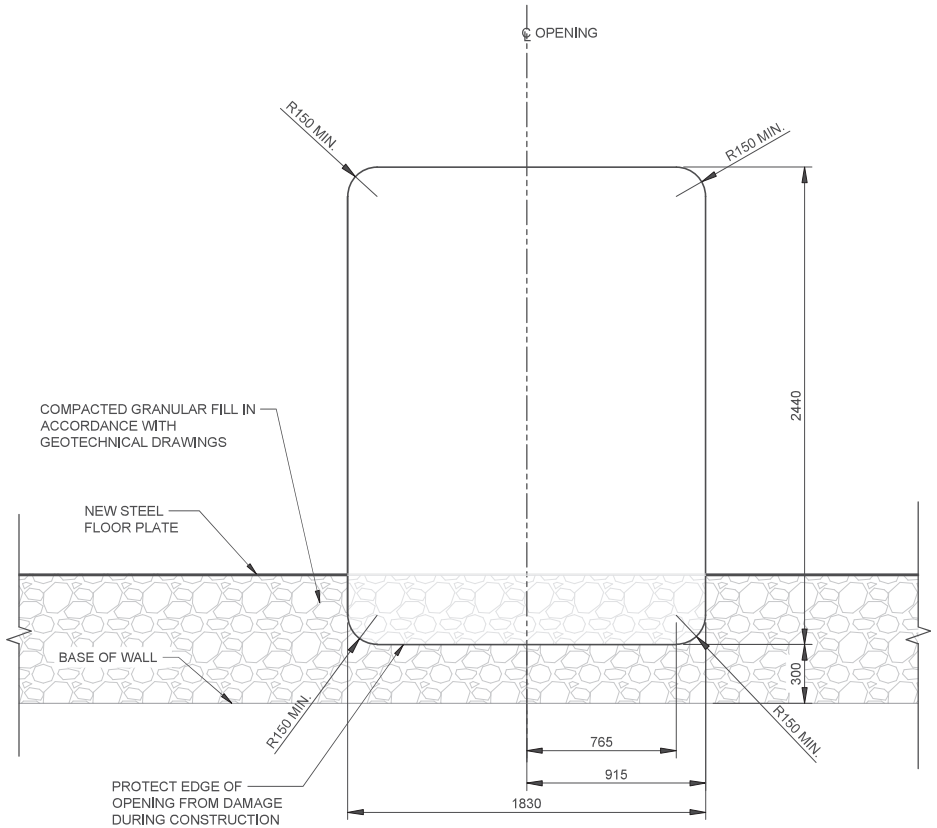
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
AA	MH	MH	

DATUM:	SCALE:
NAD83 (CSRS)	AS NOTED

PROJECTION: UTM ZONE 17 NORTH

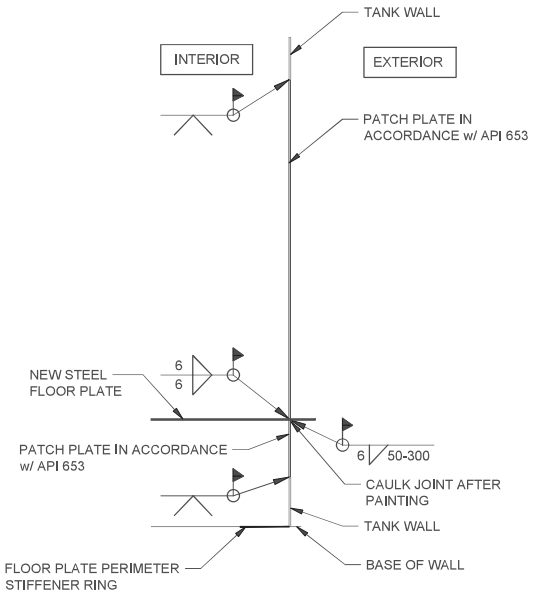
PROJECT NO:	REV. NO:
300054452.0000	0

REV. DATE:	FIGURE NO:
2022/06/23	S-200



1 / S300 TEMPORARY CONSTRUCTION OPENING ELEVATION

SCALE 1:25



2 / S300 CONSTRUCTION OPENING CLOSURE VERTICAL SECTION

SCALE 1:30

LEGEND:

PERMIT TO PRACTICE
NEEGAN BURNSIDE LTD.
Signature
Date June 29, 2022
PERMIT NUMBER: P 535
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
M.R. HOFER
LICENSEE
24 Jun 2022
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-24

CLIENT:
GOVERNMENT OF NUNAVUT

NEEGAN BURNSIDE

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3
REPAIRS

TITLE:
TEMPORARY CONSTRUCTION OPENING DETAILS

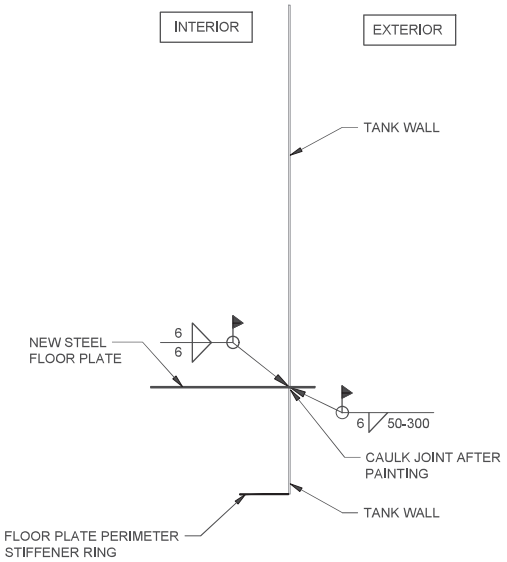
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
AA	MH	MH	

DATUM:	SCALE:
NAD83 (CSRS)	AS NOTED

PROJECTION: UTM ZONE 17 NORTH

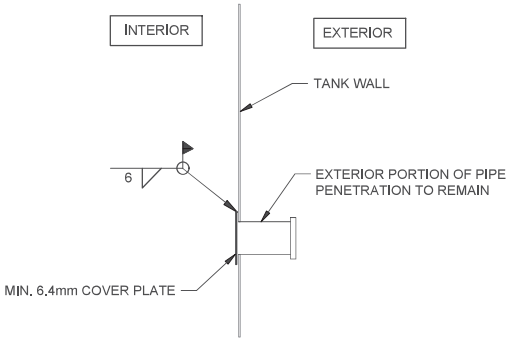
PROJECT NO:	REV. NO:
300054452.0000	0

REV. DATE:	FIGURE NO:
2022/06/23	S-300



1 / S400 NEW STEEL FLOOR PLATE TO TANK WALL CONNECTION DETAIL

SCALE 1:30



2 / S400 COVER DETAIL FOR REMOVED PIPE PENTRATION

SCALE 1:30

LEGEND:

PERMIT TO PRACTICE
NEEGAN BURNSIDE LTD.
Signature
Date June 24, 2022
PERMIT NUMBER: P 535
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
M.R. HOFER
LICENSEE
24 Jun 2022
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-24

CLIENT:
GOVERNMENT OF NUNAVUT

NEEGAN BURNSIDE

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3
REPAIRS

TITLE:
CONNECTION DETAILS

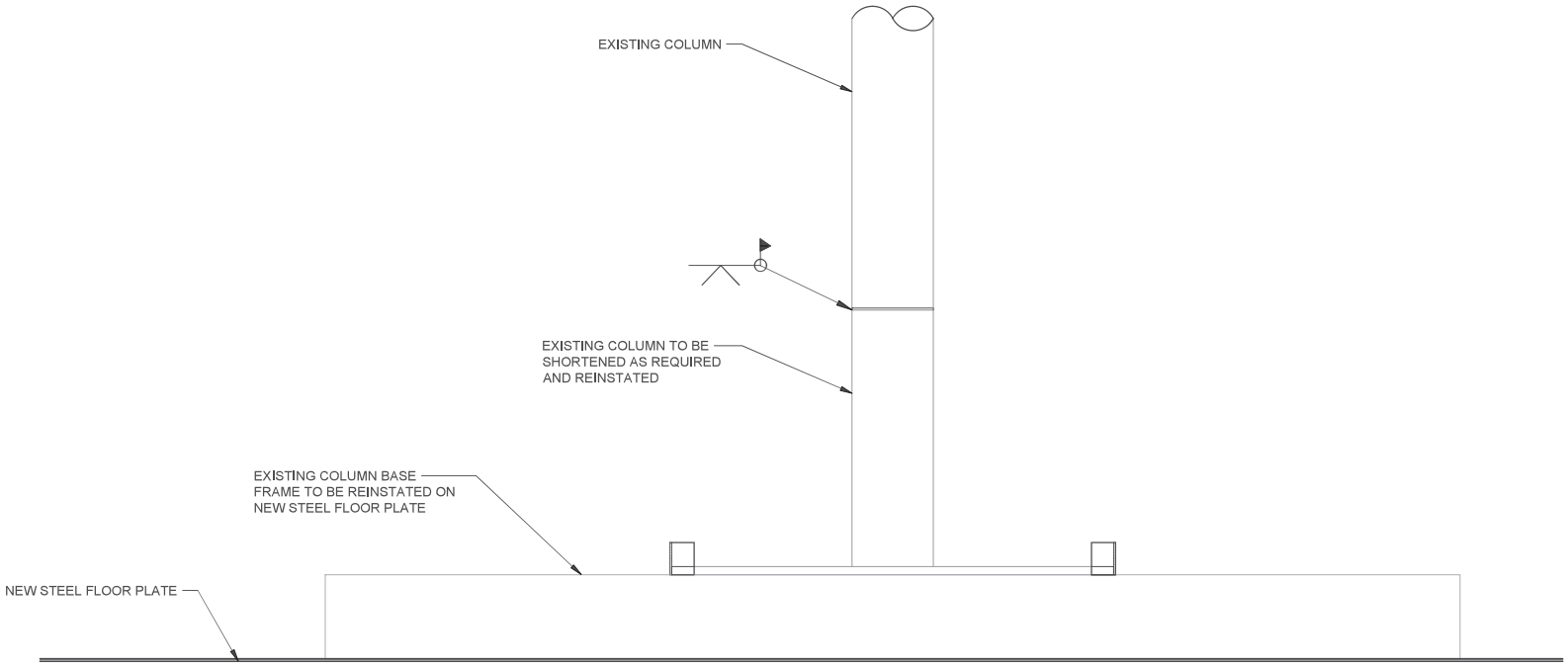
DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
AA	MH	MH	

DATUM:	SCALE:
NAD83 (CSRS)	AS NOTED

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
300054452.0000	0

REV. DATE:	FIGURE NO:
2022/06/23	S-400



1 / S500 COLUMN ELEVATION

SCALE 1:15

REINSTATEMENT OF COLUMN TO BE COMPLETED AS LATE AS POSSIBLE IN CONSTRUCTION SCHEDULE TO MITIGATE POTENTIAL FROST HEAVE IMPACTS

LEGEND:

PERMIT TO PRACTICE
NEEGAN BURNSIDE LTD.
Signature
Date June 24, 2022
PERMIT NUMBER: P 535
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
M.R. HOFER
LICENSEE
24 Jun 2022
NT/NU

ISSUED FOR CONSTRUCTION
2022-06-24

CLIENT:
GOVERNMENT OF NUNAVUT

NEEGAN BURNSIDE

PROJECT:
GRISE FIORD
WATER STORAGE TANK #3
REPAIRS

TITLE:
COLUMN AND BASE FRAME DETAILS

DWN BY:	DSGN'D BY:	CHK'D BY:	CHK'D (LEAD):
AA	MH	MH	

DATUM:	SCALE:
NAD83 (CSRS)	AS NOTED

PROJECTION: UTM ZONE 17 NORTH

PROJECT NO:	REV. NO:
300054452.0000	0

REV. DATE:	FIGURE NO:
2022/06/23	S-500