MUNICIPALITY OF ARCTIC BAY

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

September 2026

Document Control

Date	Document Title	Author	Details
March 2025	Operation & Maintenance Plan for Municipal Water Licence: Water Supply Facilities at Arctic Bay	Dillon Consulting Limited	Original Document
September 2026	Operation & Maintenance Plan for Municipal Water Licence: Water Supply Facilities at Arctic Bay	Dillon Consulting Limited	Amendments to Appendix A to include correct drawings, Section 4 to include additional site security information, Section 5.4 to include additional maintenance items, and Section 6 to include monitoring and maintenance information for the treatment waste tank.

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1.0 Site Description

Date this plan was prepared: 2025-March-28

1.1 Location of the Water Supply Facility (WSF)

Municipality:	Arctic Bay
Latitude:	72°59'34.86 N
Longitude:	85°00'45.17 W
Proximity to Town:	7.9 km East



Figure 1: **Arctic Bay** Water Supply Facility and Surrounding Infrastructure. (Google Earth, 2025)

1.2 WSF Site Summary

Year of commissioning the WSF: 2027

Design life of the WSF: 20 years

1.2.1 Site History

The Municipality of Arctic Bay is located on the northern part of the Borden Peninsula on Baffin Island in the Qikiqtani Region of Nunavut. Arctic Bay has a population of 994 (Statistics Canada, 2021).

Arctic Bay has a climate which consists of short cool summers and long cold winters. Annual snowfall and rainfall are approximately 191 cm and 77.3 cm, respectively. The typical temperature range for January is between a low of about -32.4°C and a high of about -26.8°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. Spring thaw typically takes place during the month of July.

The community uses trucked services for water delivery sourced from Marcil Lake. 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 120m South of the existing Water Supply Facility.

2.0 Staff

2.1 Senior **Administrative Officer**

Name: Roberto Moretti

Phone: 867-439-9917

Email: cao@arcticbay.ca

Responsibilities:

- Submission of the Annual Report for the Nunavut Water Board (NWB)
- The CAO 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 Transportation and Infrastructure (GN-TIN) for Annual Report preparation

2.2 Foreman

Name: Sam Willie

Phone: 867-439-9917

Email: foreman@arcticbay.ca

Responsibilities:

- 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

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
- The WTP will only be accessible by key

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: N/A

5.1 Primary Source

Name of primary raw water source:	Marcil Lake
Type of raw water source:	Lake
Average annual quantity of water drawn:	Reported yearly in annual report
Maximum allowable withdrawal:	59,900 m^3/year
Ice formation on the water source:	November
Ice breakup on the water source:	July

5.2 **Operations**

Overview of the operations process:

The new WSF will operate as follows:

- Raw water is pumped from Marcil Lake to the Water Supply Facility where it will be treated by Ultrafiltration, UV Irradiation, and Chlorination, then stored in a new external above ground storage tank, which will be used to fill water delivery trucks.
- An emergency treatment bypass will provide rapid, high flow raw water supply, with chlorination, to receiving trucks when required in the case of fires or other emergencies.

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

Standard maintenance procedures for the facility include the following:

- Execution of vendor-specified maintenance procedures and servicing schedules for key treatment trains, including raw water basket strainers, Dissolved Air Flotation (DAF) systems, Ultrafiltration (UF) membrane skids (including Clean-In-Place chemical wash cycles), Ultraviolet (UV) disinfection reactors, and chemical dosing systems.
- Scheduled servicing of building mechanical infrastructure, including dual oil-fired hydronic heating boilers, hot glycol heating loops, fuel oil storage and transfer pumps, HVAC ventilation systems, domestic/process water piping, and the emergency backup generator.
- Execution of daily housekeeping activities, visual equipment inspections, chemical inventory ordering, and maintenance of Personal Protective Equipment (PPE).
- Maintenance of spare parts inventories, tracking of operating supplies, and timely execution of equipment repairs to minimize operational downtime.
- Maintenance of operator daily logsheets, execution of daily, weekly, monthly, quarterly, and annual water quality sampling programs, and preparation of documentation for annual regulatory compliance reporting.

6.0 Water Treatment Process

A brief overview of the water treatment process:

- The water is pre-screened before entering the treatment plant;
- The water undergoes Coagulation, Flocculation and Dissolved Air Floatation;
- Then it experiences Ultrafiltration using hollow-fiber submerged membrane systems;
- Followed by UV Disinfection for primary disinfection; and
- Chlorine for secondary disinfection.

From treatment it is stored in an aboveground storage tank and pumped to the water delivery trucks.

Operational parameters and monitoring requirements for the process waste storage system include the following:

- Collected Waste Streams: The tank receives liquid waste generated from DAF sludge feed pumps, UF membrane backwash cycles, online analyzer sample cell drains (540 L/day), and building floor sumps.
- Storage Capacity & Buffer Margin: The tank provides an average storage volume of 207.6 m^3. This provides 7 full days of emergency storage capacity to ensure uninterrupted water treatment operation if severe Arctic winter storms disrupt truck haulage.
- Aeration Mixing & Odour Control: Continuous mixing is maintained by a 1.5 HP rotary lobe blower system feeding submerged air diffusers to prevent solids deposition, septic conditions, and odour release.
- Freeze Protection: In-tank fluid temperature is maintained at approximately 10°C using an integrated submerged hydronic glycol bayonet-style heat exchanger to prevent freezing during extreme cold conditions.
- Level Monitoring & Pump-Out Operations: Liquid level is continuously tracked via level transmitter, with backup float switches triggering high and low SCADA alarms. An exterior visual amber alarm light alerts vacuum truck drivers during waste removal to ensure drawdown does not fall below minimum safe opera ng levels.

Operations and Maintenance:

The following documents are on site at the WTP:

- OM Manuals and SOPs.

The O&M Manual shall contain but not be limited to the following items as they specifically apply to the WTP and supporting infrastructure:

- Part 1: Overview and Contact Information: Includes cover sheets, revision history, tables of contents, process functional descriptions, design criteria, equipment and supplier lists, and approvals/certificates.
- Part 2: System Information: Contains system functional descriptions, SCADA/PLC/HMI configurations, schematics, record survey drawings, manufacturer product data, tag lists, spare parts lists, and warranties.
- Part 3: Construction Information: Covers final reviewed shop drawings, completion and testing performance reports, and required permits.
- Part 4: Maintenance: Details overhaul schedules and specific preventative maintenance frequencies (e.g., lubrication, cleaning, consumables replacement, oil changes) for all equipment.
- Part 5: Operations: Includes operating objectives, step-by-step instructions, control loop descriptions, operational modes (normal, alternate, emergency, shutdown/restart), safety hazards, troubleshooting, diagrams/photos, and daily through annual maintenance procedures.
- Part 6: Appendixes and Forms: Features log forms for scheduled inspections (daily to annual), chain of custody (COC) sampling forms/procedures, and a comprehensive Maintenance Summary Sheet listing all equipment preventative schedules.

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 F**acilities**

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 Monitoring Program Station ARC-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

Planned Modifications or Upgrades:

Construction completion of new WSF is anticipated in 2027.

Additional Comments or Notes:

- SOPs and any other relevant information regarding monitoring at the WSF to be added here upon construction completion.

8.0 Previous Reports

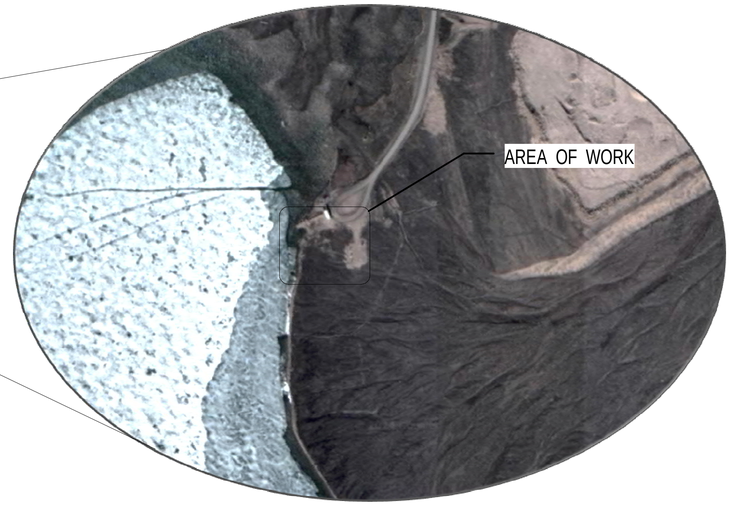
- N/A

Appendix A

Facility *Drawings*



KEY PLAN



Canada

Nunavut

NEW WATER TREATMENT PLANT

GOVERNMENT OF NUNAVUT
PROJECT NO. 21200-00701-03

ARCTIC BAY, NUNAVUT, CANADA

PROJECT NO. 24-7464

ISSUED FOR CONSTRUCTION REV1

REVISION 2 ISSUED FOR CONSTRUCTION REV1 2025-AUG-01

DILLON CONSULTING
GOVERNMENT OF NUNAVUT
PROJECT NO. 21200-00701-03
NEW WATER TREATMENT PLANT
AUGUST 2025
Project No. 24-7464

PLOT DATE: 2025-09-02 3:13:09 PM FILE NAME: C:\Users\10smz\DC\ACCDocs\Dillon Consulting\Arctic Bay WTP\Project Files\2. Work\Drawings\00_General\247464-COVER SHEET.rvt

NEW WATER TREATMENT PLANT

GOVERNMENT OF NUNAVUT PROJECT NO. 21200-00701-03

ARCTIC BAY, NUNAVUT, CANADA

PROJECT NO. 24-7464

CIVIL	
C-1	EXISTING AND REMOVALS PLAN
C-2	SITE PLAN
C-3	GRADING PLAN
C-4	DUAL INTAKE PLAN AND PROFILE
C-4B	ROAD PLAN AND PROFILE
C-5	DETAILS
C-6	DETAILS
C-7	EMERGENCY FIRE WATER TANK - EXISTING CONDITIONS
C-8	EMERGENCY FIRE WATER TANK - SITE PLAN
C-9	EMERGENCY FIRE WATER TANK - GRADING PLAN
C-10	EMERGENCY FIRE WATER TANK - SITE SECTIONS
C-11	EMERGENCY FIRE WATER TANK - SITE SECTIONS

STRUCTURAL	
DWG.	DESCRIPTION
S-1	GENERAL NOTES & TYPICAL DETAILS
S-2	PILE PLAN
S-3	PILE CAPS
S-4	BRACING ELEVATIONS & CONNECTIONS
S-5	PIPE SUPPORT PLAN
S-6	CONCRETE SLAB PLAN
S-7	FLOOR FRAMING PLAN
S-8	ROOF FRAMING PLAN
S-9	ELEVATIONS
S-10	ELEVATIONS
S-11	STRUCTURAL FRAMING DETAILS
S-12	STAIRS - NORTH
S-13	EMERGENCY FIRE WATER TANK - CONCRETE SLAB PLAN
S-14	EMERGENCY FIRE WATER TANK - TRUCK FILL PLATFORM
S-15	FIRE WATER EMERGENCY TANK - STAIRS - DETAILS

ARCHITECTURAL	
DWG.	DESCRIPTION
A-1	SCHEDULES & CODE MATRIX
A-2	FLOOR PLAN
A-3	ROOF PLAN
A-4	BUILDING SECTIONS
A-5	WEST & NORTH ELEVATIONS
A-6	EAST & SOUTH ELEVATIONS
A-7	ARCHITECTURAL DETAILS
A-8	INTERIOR DETAILS & ELEVATIONS
A-9	EMERGENCY FIRE WATER TANK - FLOOR PLAN

PROCESS	
PD0	PROCESS AND INSTRUMENTATION LEGEND
PFD1	PROCESS FLOW DIAGRAM
PD1	RAW WATER INAKE
PD2	RAW WATER SCREENING
PD3	DAF (DISSOLVED AIR FLOTATION) SYSTEM
PD4	DAF (DISSOLVED AIR FLOTATION) BUFFER TANK AND MEMBRANE FEED PUMPS
PD5	MEMBRANE TRAIN No.1
PD6	MEMBRANE TRAIN No.2
PD7	MEMBRANE WASTE PUMPS
PD8	UV DISINFECTION
PD9	PROCESS WASTE TANK
PD10	TREATED WATER TANK
PD11	DISTRIBUTION PUMPS
PD12	COAGULANT SYSTEM
PD13	CHLORINE SYSTEM
PD14	SODA ASH SYSTEM
PD15	FLUORIDE SYSTEM (PROVISIONAL)
PD16	POLYMER SYSTEM (PROVISIONAL)
PD17	FIRE WATER TANK AND PUMPS
P-1	PROCESS LAYOUT
P-2	ENLARGED PLAN I AND SECTIONS
P-3	ENLARGED PLAN II AND NOTES
P-4	SECTIONS
P-5	SECTIONS
P-6	SECTIONS
P-7	SECTIONS
P-8	3D VIEW
P-9	EXISTING TREATMENT PLANT - DEMOLITION
P-10	EMERGENCY FIRE WATER TANK -DEMOLITION
P-11	EMERGENCY FIRE WATER TANK - RECIRUCLATION AND TRUCK FILL PUMP PLAN
P-12	EMERGENCY FIRE WATER TANK - RECIRCULATION AND TRUCK FILL PUMP SECTIONS
P-13	PROCESS WASTE TANK DETAILS
P-14	TREATED WATER TANK DETAILS
P-15	FIRE WATER TANK DETAILS - PLANS
P-16	FIRE WATER TANK DETAILS - SECTIONS
P-17	MISCELLANEOUS DETAILS I
P-18	MISCELLANEOUS DETAILS II

MECHANICAL	
M-1	PLUMBING LAYOUT
M-2	HEATING LAYOUT
M-3	VENTILATION LAYOUT
M-4	FUEL OIL PIPING LAYOUT & SCHEMATIC
M-5	PLUMBING DETAILS
M-6	PLUMBING SCHEMATIC
M-7	HEATING DETAILS & SCHEMATIC
M-8	VENTILATION DETAILS
M-9	MECHANICAL SCHEDULES I
M-10	MECHANICAL SCHEDULES II
M-11	MECHANICAL SCHEDULES III
M-12	EMERGENCY FIRE WATER TANK - MECHANICAL EQUIPMENT DEMO LAYOUT
M-13	EMERGENCY FIRE WATER TANK - MECHANICAL RENOVATION PLAN
M-14	EMERGENCY FIRE WATER TANK - MECHANICAL DETAILS I
M-15	EMERGENCY FIRE WATER TANK - MECHANICAL DETAILS II

ELECTRICAL	
DWG.	DESCRIPTION
E-1	ELECTRICAL SITE PLAN
E-2	SINGLE LINE DIAGRAM
E-3	LIGHTING PLAN
E-4	POWER PLAN
E-5	INSTRUMENTATION PLAN
E-6	CABLE TRAY AND MARSHALING PANEL PLAN
E-7	EQUIPMENT SCHEDULE
E-8	PANEL SCHEDULE & LOAD CALCULATIONS
E-9	NETWORK ARCHITECTURE DIAGRAM
E-10	GENERATOR BUILDING FLOOR PLAN
E-11	EMERGENCY FIRE WATER TANK - ELECTRICAL SITE PLAN
E-12	EMERGENCY FIRE WATER TANK - SINGLE LINE DIAGRAM
E-13	EMERGENCY FIRE WATER TANK - POWER PLAN
E-14	EMERGENCY FIRE WATER TANK - INSTRUMENTATION PLAN
E-15	EMERGENCY FIRE WATER TANK - PANEL SCHEDULE & EQUIPMENT LIST

ELECTRICAL	
DWG.	DESCRIPTION
EL-1	120VAC CONTROL PANEL POWER (TYPICAL)
EL-2	120VAC UPS CONTROL PANEL POWER (TYPICAL)
EL-3	24 VDC CONTROL PANEL POWER (TYPICAL)
EL-4	TEMPERATURE TRANSMITTER TIT-510 (TYPICAL)
EL-5	PRESSURE INDICATOR TRANSMITTER PIT-120 (TYPICAL)
EL-6	LEVEL INDICATOR TRANSMITTER LIT-210 (TYPICAL)
EL-7	FLOW INDICATOR TRANSMITTER FIT-130 (TYPICAL)
EL-8	LSLL-240 (TYPICAL)
EL-9	AIT-230 (TYPICAL)
EL-10	AIT-560 (TYPICAL)
EL-11	AIT-240 (TYPICAL)
EL-12	SVGA-531 (TYPICAL)
EL-13	TRUCK FILL BYPASS VALVE FVC-585 (TYPICAL)
EL-14	TRUCK FILL VALVE FCV-530 (TYPICAL)
EL-15	MEMBRANE TRAIN 310 BLOWER B-310 (TYPICAL)
EL-16	RAW WATER PUMP P-110 (TYPICAL)
EL-17	AUTO TRANSFER SWITCH ATS-9990
EL-18	GENERATOR CONTROL PANEL
EL-19	TRUCK FILL 1 CONTROL PANEL (TYPICAL FOR TRUCK 2)

2025-AUG-01

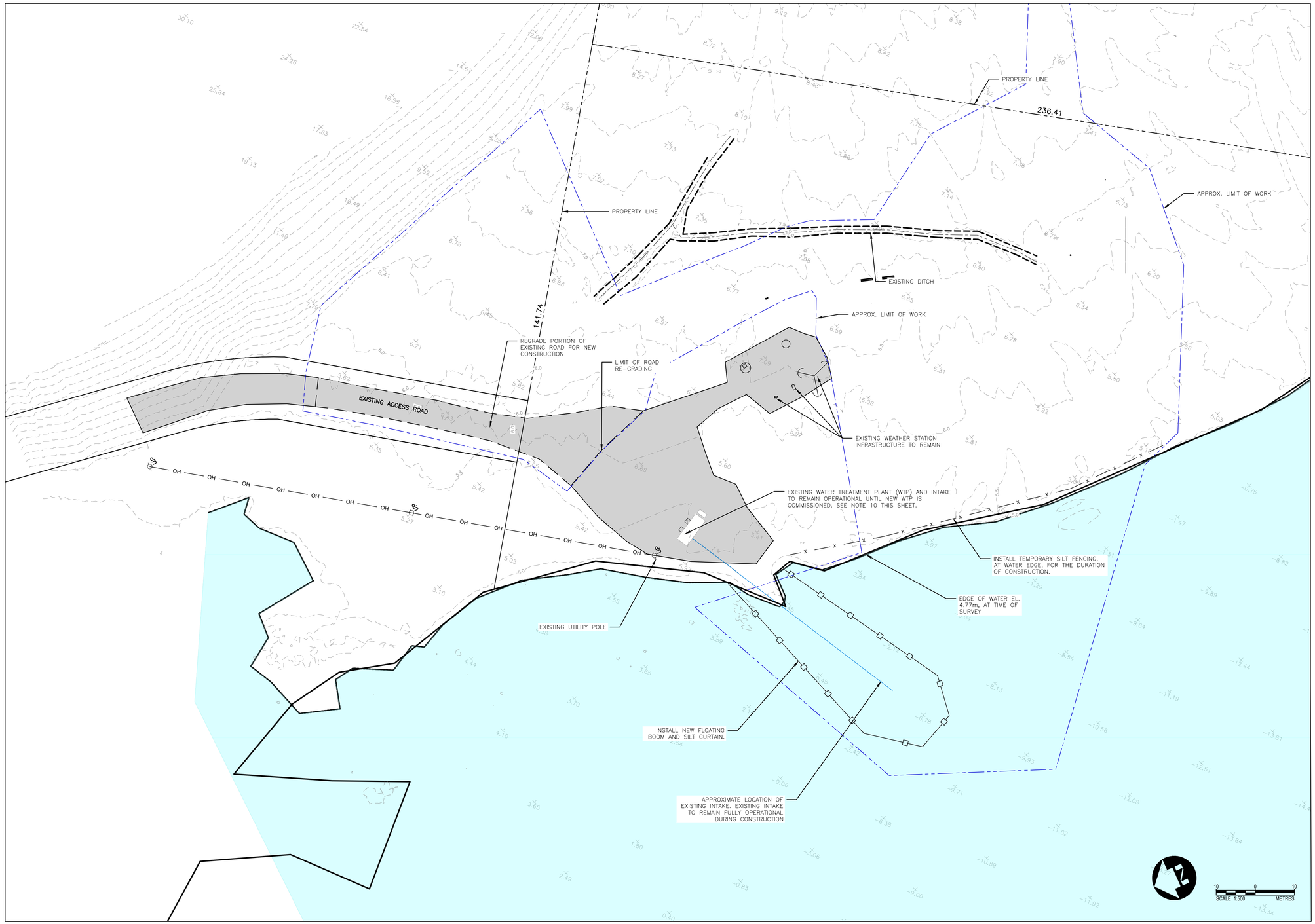
ISSUED FOR CONSTRUCTION REV1

REVISION 2

ISSUED FOR CONSTRUCTION REV1

DILLON CONSULTING

GOVERNMENT OF NUNAVUT
PROJECT NO. 21200-00701-03
NEW WATER TREATMENT PLANT
AUGUST 2025
Project No. 24-7464



GENERAL NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. ALL SURVEY MONUMENTS DISTURBED BY CONSTRUCTION SHALL BE REINSTATED.
3. CONTRACTOR SHALL PROVIDE ALL TEMPORARY SIGNAGE FOR PEDESTRIAN AND TRAFFIC REROUTING AS REQUIRED.
4. LOCATION OF EXISTING FEATURES, UNDERGROUND INFRASTRUCTURE, STRUCTURES, AND BUILDINGS ARE APPROXIMATE ONLY AND ARE TO BE CONFIRMED IN THE FIELD BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS.
5. CONTRACTOR TO CONTACT UTILITY COMPANIES REGARDING ANY UNDERGROUND UTILITIES IN THE AREA OF WORKS. CONTRACTOR SHALL USE CAUTION TO LOCATE EXISTING UNDERGROUND POWER AND TELECOMMUNICATIONS LINES. LINES SHALL BE KEPT IN SERVICE WHERE TRENCHING CROSSES UNDERGROUND LINES. CONTRACTOR SHALL SUBMIT SUPPORT AND BRACING DETAILS TO ENGINEER FOR APPROVAL PRIOR TO UNDERMINING POWER AND TELECOMMUNICATION LINES.
6. ALL DEMOLISHED CONCRETE, PIPE, CONTAMINATED SOILS, AND OTHER UNSUITABLE MATERIALS MUST BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT AN APPROVED DISPOSAL SITE. CONTRACTOR TO NOTIFY OWNERS ENGINEER OF ANY CONTAMINATED MATERIAL BEFORE EXCAVATING UNSUITABLE MATERIAL OFFSITE.
7. ROCK REMOVAL, IF REQUIRED, SHALL BE CARRIED OUT BY MECHANICAL MEANS ONLY. THE USE OF EXPLOSIVES IS NOT PERMITTED ON SITE.
8. ALL EXISTING AREAS AND INFRASTRUCTURE DISTURBED BY CONTRACTOR'S OPERATIONS WHICH ARE NOT DESIGNATED TO BE RELOCATED OR RECONSTRUCTED SHALL BE REINSTATED TO PRE-CONSTRUCTION CONDITION OR BETTER. THERE SHALL BE NO ADDITIONAL PAYMENT FOR REINSTATEMENT OF SUCH.
9. THE CONTRACTOR SHALL SUBMIT A COMPREHENSIVE CONSTRUCTION AND COMMISSIONING PLAN. AT A MINIMUM, THE PLAN SHALL INCLUDE:
   - CONSTRUCTION PHASING PLANS
   - COMMISSIONING PHASING PLANS
   - TRAFFIC CONTROL PLANS
10. EXISTING WATER TREATMENT PLANT (WTP) SHALL REMAIN FULLY OPERATIONAL DURING CONSTRUCTION. EXISTING WTP AND INTAKE TO REMAIN OPERATIONAL UNTIL NEW WTP IS COMMISSIONED. ALL PROCESS CONTENTS WITHIN THE EXISTING BUILDING TO BE REMOVED AND IT WILL BE FOR REUSED FOR COLD STORAGE. THE CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING FUEL TANK AND GENERATOR TO AN APPROVED DISPOSAL FACILITY. EXISTING BUILDING TO REMAIN.

LEGEND

- EXISTING CONTOUR
- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING ELEVATION
- EXISTING UTILITY POLE
- EXISTING OVERHEAD WIRE
- EXISTING WATER INTAKE
- EXISTING DITCH
- EXISTING WEATHER STATION
- FLOATING BOOM FENCE
- SILT FENCING

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

PERMIT TO PRACTICE
DILLON CONSULTING LIMITED
Signature
Date 2025-09-16
PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER — LICENSEE — 1-Aug-25 — NT/NU — L5088

ISSUED FOR CONSTRUCTION

Canada — Nunavut

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION REV1	2025-AUG-01	SJG
1	ISSUED FOR CONSTRUCTION	2025-APR-10	SJG
0	ISSUED FOR TENDER	2024-NOV-29	SJG

DESIGN LEW | REVIEWED BY SJG
DRAWN LEW | CHECKED BY SJG
DATE AUGUST 2025
SCALE 1:500

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

EXISTING AND REMOVALS PLAN

SHEET NO. C-1

LEGEND

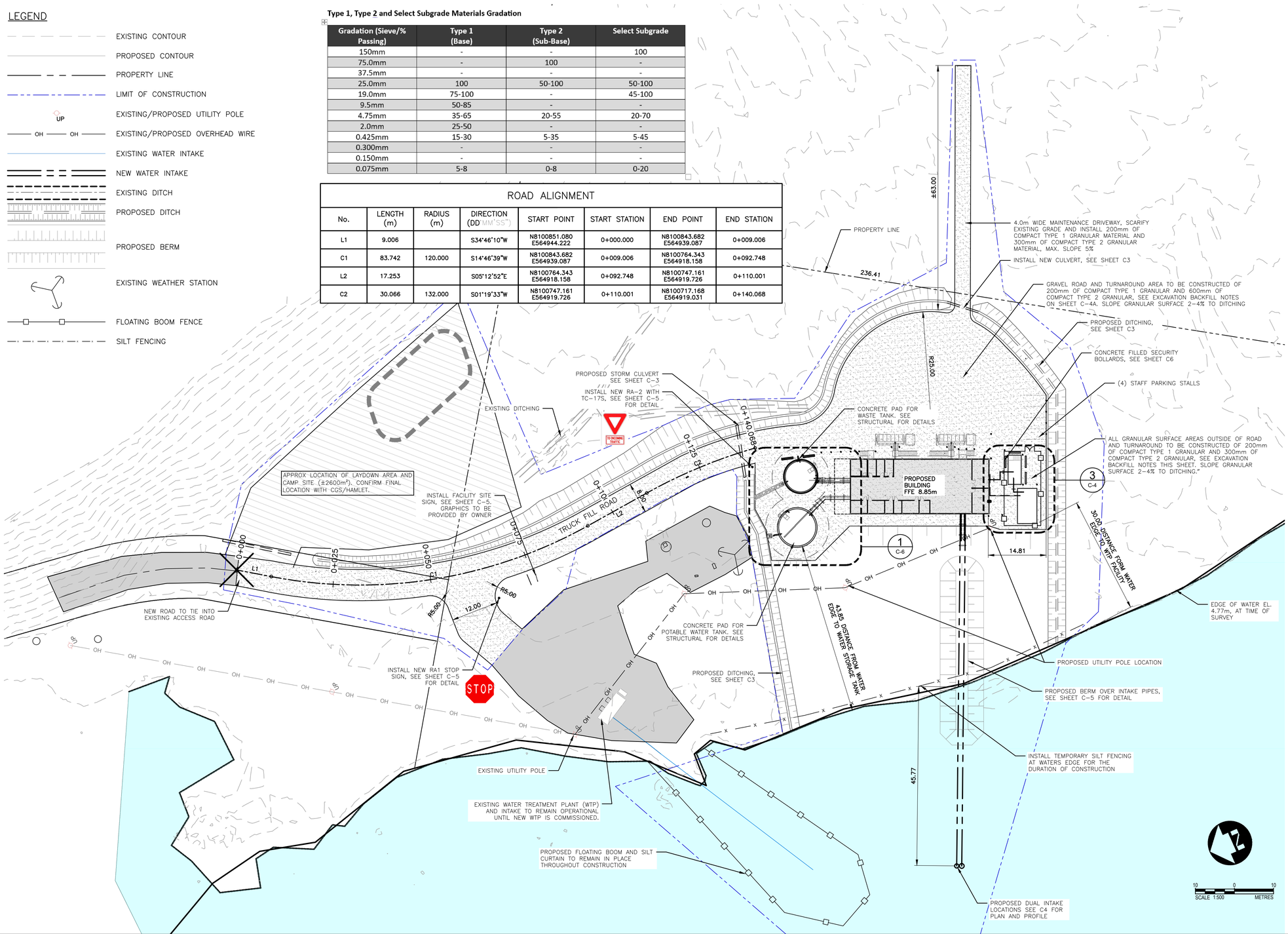
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING/PROPOSED UTILITY POLE
- EXISTING/PROPOSED OVERHEAD WIRE
- EXISTING WATER INTAKE
- NEW WATER INTAKE
- EXISTING DITCH
- PROPOSED DITCH
- PROPOSED BERM
- EXISTING WEATHER STATION
- FLOATING BOOM FENCE
- SILT FENCING

Type 1, Type 2 and Select Subgrade Materials Gradation

Gradation (Sieve/% Passing)	Type 1 (Base)	Type 2 (Sub-Base)	Select Subgrade
150mm	-	-	100
75.0mm	-	100	-
37.5mm	-	-	-
25.0mm	100	50-100	50-100
19.0mm	75-100	-	45-100
9.5mm	50-85	-	-
4.75mm	35-65	20-55	20-70
2.0mm	25-50	-	-
0.425mm	15-30	5-35	5-45
0.300mm	-	-	-
0.150mm	-	-	-
0.075mm	5-8	0-8	0-20

ROAD ALIGNMENT

No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD MM'SS")	START POINT	START STATION	END POINT	END STATION
L1	9.006		S34°46'10"W	N8100851.080 E564944.222	0+000.000	N8100843.682 E564939.087	0+009.006
C1	83.742	120.000	S14°46'39"W	N8100843.682 E564939.087	0+009.006	N8100764.343 E564918.158	0+092.748
L2	17.253		S05°12'52"E	N8100764.343 E564918.158	0+092.748	N8100747.161 E564919.726	0+110.001
C2	30.066	132.000	S01°19'33"W	N8100747.161 E564919.726	0+110.001	N8100717.168 E564919.031	0+140.068



NOTES:

1. ALL MEASUREMENTS PROVIDED IN METERS (m) UNLESS OTHERWISE NOTED.
2. ALL SURVEY MONUMENTS DISTURBED BY CONSTRUCTION SHALL BE REINSTATED.
3. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
4. CONTRACTOR IS RESPONSIBLE FOR QC TESTING. THE CONTRACTOR SHALL PROCURE THE SERVICES OF AN INDEPENDENT MATERIALS TESTING FIRM. TEST RESULTS SHALL BE SUPPLIED TO THE ENGINEER WITHIN 7 DAYS.
5. BACKFILL AND EMBANKMENT FILL SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY (SPD) DIRECTLY UNDER OR WITHIN 3M OF ANY STRUCTURE OR ROADWAY. OTHERWISE ALL BACKFILL AND EMBANKMENT FILL SHALL BE COMPACTED TO 95% SPD. REFERENCE ASTM D698 FOR STANDARD TEST METHODS FOR LABORATORY COMPACTION.
6. ALL WORK TO COMPLY WITH LATEST RELEASED EDITION OF THE STANDARD D698 STANDARD TEST METHODS FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT (12,400 FT-LBF/FT3 (600 KN-M/M3).
7. EXPOSED PERMAFROST SHALL BE COVERED AND PROTECTED EACH WORK DAY TO MINIMIZE PERMAFROST DEGRADATION.
8. 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 OR ITS REPRESENTATIVE.
9. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND FEDERAL LAWS THAT ARE PERTINENT TO THIS WORK.
10. ALL CONSTRUCTION ACTIVITIES SHALL BE COMPLETED IN A MANNER SUITABLE FOR PUBLIC USE AND IN A CONDITION MEETING THE APPROVAL OF THE GN OR ITS REPRESENTATIVE.
11. ALL CONSTRUCTION ACTIVITIES AFFECTING THE MUNICIPALITY'S OPERATIONS SHALL BE APPROVED IN ADVANCE WITH MUNICIPALITY AUTHORITIES.
12. ALL REGULATORY APPROVALS MUST BE IN PLACE BEFORE THE CONTRACTOR IS ALLOWED TO COMMENCE CONSTRUCTION ACTIVITIES.
13. ALL MATERIALS OR EQUIPMENT SHIPPED TO THE SITE SHALL BE DELIVERED TO AN APPROVED SITE ESTABLISHED AT THE PRE-CONSTRUCTION MEETING.
14. THE CONTRACTOR IS RESPONSIBLE FOR THE SHIPMENT, LOADING AND UNLOADING OF ALL MATERIALS TRANSPORTED TO THE SITE.
15. THE CONTRACTOR IS RESPONSIBLE FOR REINSTATING THE SITE FOLLOWING THE COMPLETION OF THE PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DOCUMENT THE EXISTING CONDITIONS AND REINSTATE ALL DISTURBED AREAS INCLUDING STAGING AND STORAGE AREAS TO EXISTING CONDITIONS OR BETTER.
16. 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.
17. ALL SITE SIGNAGE TO BE TRANSLATED TO ALL OFFICIAL LANGUAGES OF NU. SIGNAGE TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

TRAFFIC MANAGEMENT:

18. THIS PROJECT INCLUDES CONSTRUCTION ACTIVITIES ON AN ACTIVE ROAD. ALL CONSTRUCTION ACTIVITIES SHALL BE UNDERTAKEN IN A MANNER APPROVED BY THE ENGINEER.
19. THE CONTRACTOR SHALL SUBMIT A TRAFFIC MANAGEMENT PLAN PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
20. CONSTRUCTION MACHINERY AND VEHICLES SHALL COMPLY WITH ALL TRAFFIC REGULATIONS.
21. FULL TIME PUBLIC ACCESS (SINGLE LANE) TO THE MUNICIPALITY AND ITS FACILITIES SHALL BE MAINTAINED AT ALL TIMES.
22. CONTRACTOR SHALL POST A MAXIMUM SPEED LIMIT OF 30 km/h ON ALL TEMPORARY BYPASS ROADS.
23. CONTRACTOR IS TO USE APPROVED BARRICADES OR PYLONS TO DELINEATE OR DIRECT LOCAL TRAFFIC.
24. ALL CONTRACTOR VEHICLES AND TRAFFIC (UNLESS NOTED OTHERWISE) SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS OR HAUL ROUTES.
25. IT IS THE CONTRACTOR'S 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 GN 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):

26. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO DEVELOP AND SUBMIT AN ESC PLAN TO THE GN OR ITS REPRESENTATIVE FOR APPROVAL DETAILING THE EROSION CONTROL MEASURES FOR EACH PHASE OF THE PROJECT.
27. 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.
28. 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.
29. 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.)
30. 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.
31. 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.
32. CONTRACTOR SHALL ERECT SILT BARRIER FENCES AS REQUIRED OR AS DIRECTED BY THE ENGINEER.
33. SILT FENCES/BARRIERS SHALL BE MANUFACTURED FROM A NON-WOVEN, SLIT FILM GEOTEXTILE MATERIAL, DESIGNED TO REDUCE VELOCITY OF RUNOFF TO POINT THAT SUSPENDED PARTICLES SETTLE OUT DUE TO REDUCTION OF HYDRAULIC ENERGY.
34. 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.
35. SILT BARRIERS SHALL HAVE: A MINIMUM GRAB TENSILE STRENGTH OF 500N, PERMITTIVITY OF 0.05 s^{-1} PER ASTM D4491. ALL SILT BARRIERS TO COMPLY WITH LATEST RELEASED EDITION OF THE STANDARD D4491(STANDARD TEST METHODS FOR WATER PERMEABILITY OF GEOTEXTILES BY PERMITTIVITY)

ENVIRONMENTAL PROTECTION:

36. CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE AND PUMPING AS NECESSARY TO KEEP EXCAVATIONS AND SITE FREE FROM WATER.
37. CONTRACTOR SHALL NOT DISCHARGE WATER CONTAINING SUSPENDED MATERIALS INTO WATERCOURSES.
38. CONTRACTOR SHALL CONTROL DISPOSAL OR RUNOFF WATER CONTAINING SUSPENDED MATERIALS OR OTHER HARMFUL SUBSTANCES IN ACCORDANCE WITH FEDERAL, PROVINCIAL AND MUNICIPAL REQUIREMENTS.
39. CONTRACTOR SHALL NOT USE WATERCOURSE BEDS FOR BORROW MATERIAL.
40. CONTRACTOR SHALL NOT DUMP EXCAVATED FILL, WASTE MATERIAL OR DEBRIS IN OR ADJACENT TO WATERCOURSES.
41. CONTRACTOR IS TO COORDINATE WITH THE GOVERNMENT OF NUNAVUT TO DETERMINE THE PERMITTING REQUIREMENTS FOR WORK ADJACENT TO WATERWAYS, INCLUDING LAYING OF RIPRAP AND NECESSARY REQUIREMENTS.
42. 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.

EXCAVATION BACKFILL NOTES:

43. EXCAVATIONS SHOULD BE LIMITED TO ONLY THOSE AREAS DEEMED NECESSARY AND CARRIED OUT IN STAGES SUCH THAT EXCAVATION AND REPLACEMENT BACK TO CURRENT GRADE OR HIGHER OCCURS WITHIN 24 HOURS OF EXCAVATION.
44. EXCAVATION SHOULD CONFORM TO THE REQUIREMENTS OF THE OSHA AND CONSIDER THE POTENTIAL FOR UNDERLYING PERMAFROST SOILS TO THAW/SOFTEN DURING EXCAVATION CREATING AN INCREASINGLY WORSE SITUATION.
45. PRIOR TO ANY MATERIAL PLACEMENT, THE NATIVE SUBGRADE SHOULD BE INSPECTED BY QUALIFIED GEOTECHNICAL PERSONNEL TO DETERMINE IF ANY AREAS OF CONCERN EXIST (I.E., AREAS OF EXTENSIVE SOFT SOILS) AND IF SO, THE EXTENT AND NATURE OF THE CONCERN SHOULD BE DISCUSSED WITH THE DESIGN TEAM TO DETERMINE THE BEST AREA-SPECIFIC TREATMENT. IF IT IS DETERMINED THAT EXCAVATION AND REPLACEMENT IS WARRANTED BELOW THE DESIGN SUBGRADE ELEVATION, THE EXCAVATION/REPLACEMENT SHOULD BE CARRIED OUT TO THE EXTENT AND BACKFILL WITH MATERIALS TO THE SATISFACTION OF THE QUALIFIED PERSONNEL ONSITE.
46. ALL DRIVEWAY/PARKING AREA FILL MATERIAL SHOULD BE PLACED IN MAXIMUM 300MM THICK LIFTS AND COMPACTED TO 98% OF THE SPMDD WITHIN 300MM OF THE SUBGRADE SURFACE AND 95% OF THE SPMDD BELOW THIS DEPTH.
47. TYPE 1 OR TYPE 2 GRANULAR MATERIALS TO BE COMPACTED TO 100% OF THE SPMDD. CONDUCT DENSITY TESTING TO CONFIRM EACH LIFT RECEIVES AN ADEQUATE LEVEL OF COMPACTION PRIOR TO SUBSEQUENT MATERIAL PLACEMENT.

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Nunavut

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2	ISSUED FOR CONSTRUCTION REV1	2025-AUG-08	SLG
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0	ISSUED FOR TENDER	2024-NOV-29	SJG

DESIGN LEW	REVIEWED BY SJG
DRAWN LEW	CHECKED BY SJG
DATE AUGUST 2025	
SCALE 1:500	

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

SHEET NO. C-2

SITE PLAN

FILENAME: C:\USERS\SLEW\DC\ACCDOCS\DILLON CONSULTING (KEEP)\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\02_CIVIL\CONTRACT\247464-02-C2 & C4.DWG PLOTTED BY: WOODFORD, SHAWN
PLOT DATE: 2025-08-15 @ 10:21:51 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- UP — EXISTING/PROPOSED UTILITY POLE
- OH — OH — EXISTING/PROPOSED OVERHEAD WIRE
- EXISTING WATER INTAKE
- NEW WATER INTAKE
- EXISTING DITCH
- PROPOSED DITCH
- PROPOSED BERM
- EXISTING WEATHER STATION
- FLOATING BOOM FENCE
- SILT FENCING

NOTE:
ELEVATIONS FOR TOP OF PIPE SUPPORT RACKS ARE AS FOLLOWS:
TO TREATED WATER TANK: 8.08m; SEE SHEET C-6
TO WASTE TANK: 8.07m; SEE SHEET C-6
INTAKE PIPES: PSR1: 9.18m; SEE SHEET C-4
PSR2: 8.65m; SEE SHEET C-4
PSR3: 7.38m; SEE SHEET C-4
TO FUEL TANK: 10.0m; SEE SHEET C-4
TO GENERATOR: 10.0m; SEE SHEET C-4

NEW 450mmø CSP CULVERT @ 2.0%
SLOPE DITCH MIN. 2.0%
14m-450mmø CSP CULVERT @ 2.5%
PROPERTY LINE
EXISTING LAYDOWN AREA TO BE RE-GRADED FOR CONTRACTORS USE
SLOPE DITCH MIN. 2.0%
450mmø CSP CULVERT MIN SLOPE 2.5%, LENGTH OF CULVERT DEPENDANT ON CONTRACTORS NEEDS FOR LAYDOWN AREA DRIVEWAY.
PROPOSED DITCH
2:1 SLOPE TO EXISTING GRADE
PROPOSED BERM OVER INTAKE PIPES, SEE SHEET C-5
SLOPE DITCH MIN 2.0%
PROPOSED DITCH
RA1
BLEND NEW ROAD WITH EXISTING GRADES
PROPERTY LINE
EXISTING SHORE LINE
EDGE OF WATER EL. 4.77m, AS OF DATE OF SURVEY
45.77

SCALE 1:500
10 0 10 METRES

Conditions of Use

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DESIGN LEW | REVIEWED BY SJG
DRAWN LEW | CHECKED BY SJG
DATE AUGUST 2025
SCALE 1:500

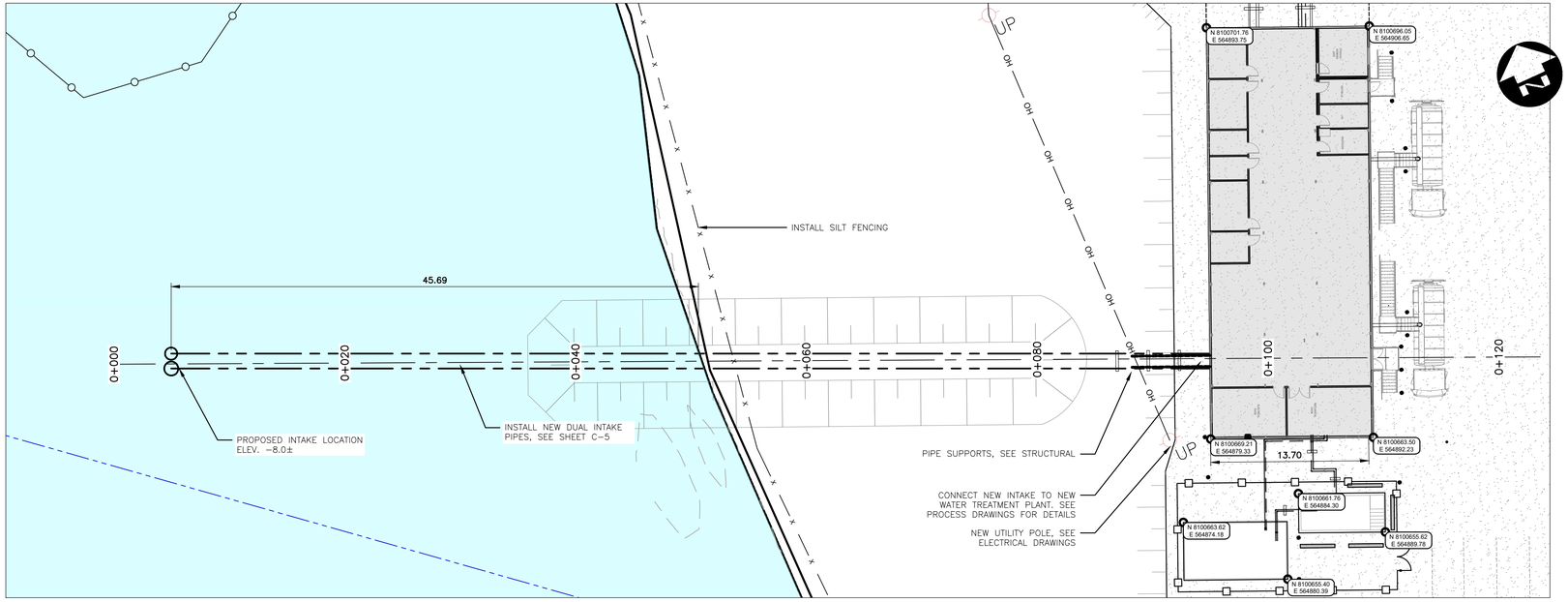
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

GRADING PLAN

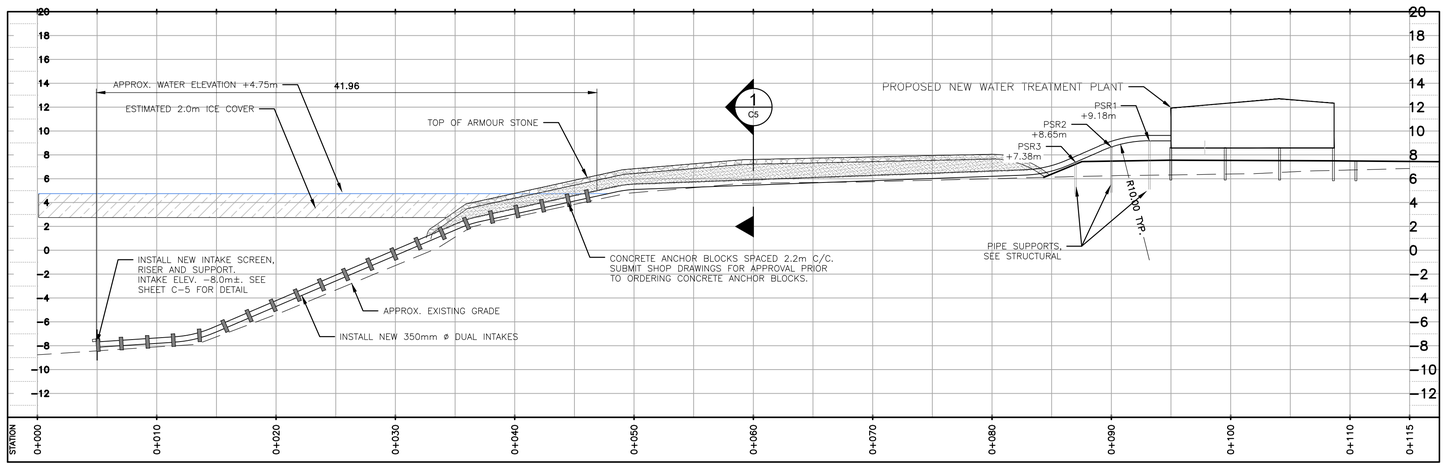
SHEET NO. C-3

FILENAME: C:\USERS\SLEW\OC\ACCDOCS\DILLON CONSULTING (KEEP)\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\02_CIVIL\CONTRACT\247464-02-C3.DWG PLOTTED BY: WOODFORD, LYDIA ST. JOHN'S
PLOT DATE: 2025-08-15 @ 10:34:58 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



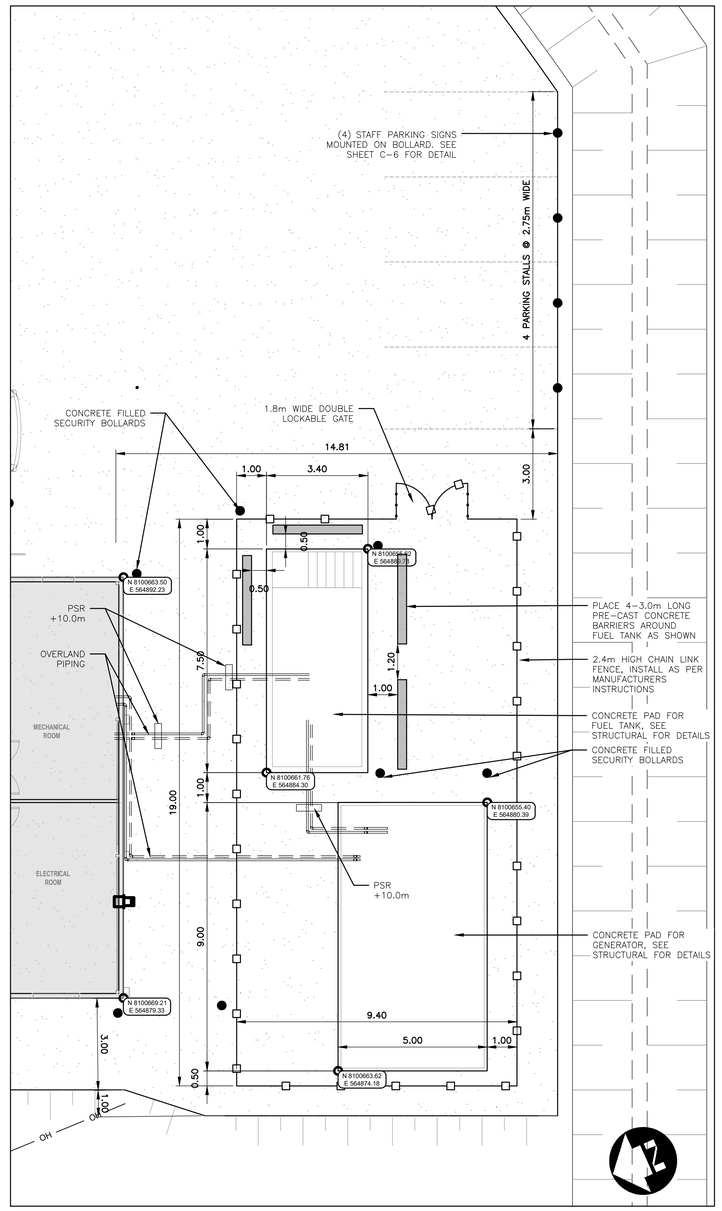
1 C-4 **INTAKE PLAN**
1:250

SCALE 1:250 5 0 5 METRES



2 C-4 **INTAKE PROFILE**
1:250

SCALE 1:250 5 0 5 METRES



3 C-4 **ENCLOSURE PLAN**
1:100

SCALE 1:100 2 0 2 METRES

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DRAWN LEW	CHECKED BY SJG
DATE AUGUST 2025	
SCALE AS NOTED	

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

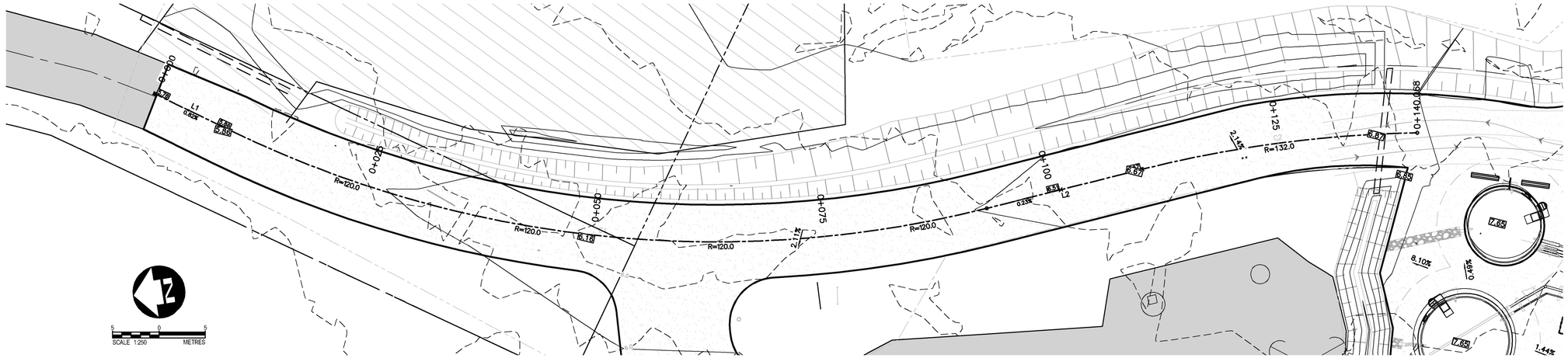
PROJECT NO. 24-7464

DUAL INTAKE PLAN & PROFILE

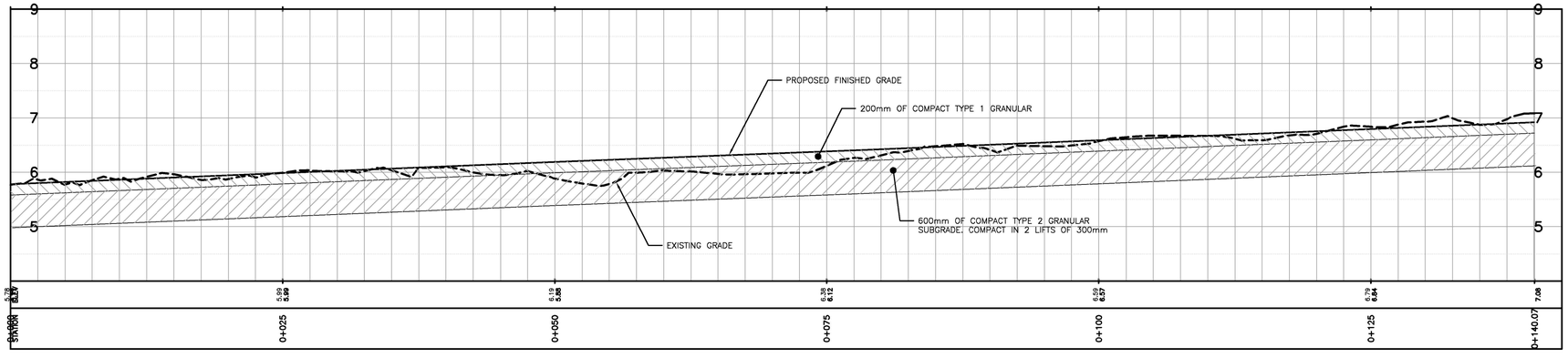
SHEET NO. C-4

FILENAME: C:\USERS\LSLEW\DC\ACCDOCS\DILLON CONSULTING (KEEP)\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\02_CIVIL\CONTRACT\247464-02-C2 & C4.DWG PLOTTED BY: WOODFORD, LEWIN'S
PLOT DATE: 2025-08-15 @ 11:24:13 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

ROAD ALIGNMENT							
No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD°MM'SS")	START POINT	START STATION	END POINT	END STATION
L1	9.006		S34°46'10"W	N8100851.080 E564944.222	0+000.000	N8100843.682 E564939.087	0+009.006
C1	83.742	120.000	S14°46'39"W	N8100843.682 E564939.087	0+009.006	N8100764.343 E564918.158	0+092.748
L2	17.253		S05°12'52"E	N8100764.343 E564918.158	0+092.748	N8100747.161 E564919.726	0+110.001
C2	30.066	132.000	S01°19'33"W	N8100747.161 E564919.726	0+110.001	N8100717.168 E564919.031	0+140.068



1 C-4B PLAN
1:250



2 C-4A SECTION
HOR. 1:250
VERT. 1:1250

EXCAVATION BACKFILL NOTES:

1. EXCAVATIONS SHOULD BE LIMITED TO ONLY THOSE AREAS DEEMED NECESSARY AND CARRIED OUT IN STAGES SUCH THAT EXCAVATION AND REPLACEMENT BACK TO CURRENT GRADE OR HIGHER OCCURS WITHIN 24 HOURS OF EXCAVATION.
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4. ALL DRIVEWAY/PARKING AREA FILL MATERIAL SHOULD BE PLACED IN MAXIMUM 300mm THICK LIFTS AND COMPACTED TO 98% OF THE SPMDD WITHIN 300mm OF THE SUBGRADE SURFACE AND 95% OF THE SPMDD BELOW THIS DEPTH.
5. TYPE 1 OR TYPE 2 GRANULAR MATERIALS TO BE COMPACTED TO 100% OF THE SPMDD. CONDUCT DENSITY TESTING TO CONFIRM EACH LIFT RECEIVES AN ADEQUATE LEVEL OF COMPACTION PRIOR TO SUBSEQUENT MATERIAL PLACEMENT.

Type 1, Type 2 and Select Subgrade Materials Gradation

Gradation (Sieve/% Passing)	Type 1 (Base)	Type 2 (Sub-Base)	Select Subgrade
150mm	-	-	100
75.0mm	-	100	-
37.5mm	-	-	-
25.0mm	100	50-100	50-100
19.0mm	75-100	-	45-100
9.5mm	50-85	-	-
4.75mm	35-65	20-55	20-70
2.0mm	25-50	-	-
0.425mm	15-30	5-35	5-45
0.300mm	-	-	-
0.150mm	-	-	-
0.075mm	5-8	0-8	0-20

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DESIGN LEW | REVIEWED BY SJG
DRAWN LEW | CHECKED BY SJG
DATE AUGUST 2025
SCALE AS SHOWN

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

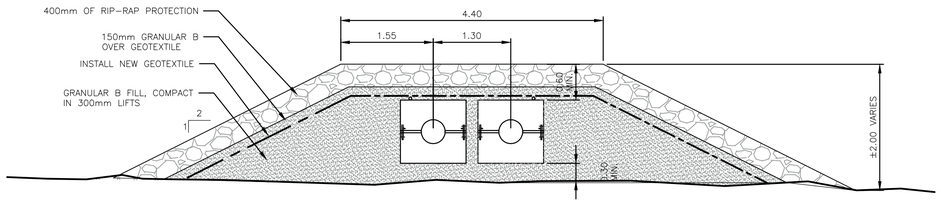
ROAD PLAN AND PROFILE

PROJECT NO. 24-7464
SHEET NO. C-4B

FILENAME: C:\USERS\SLEW.DC\ACCDOCS\DILLON CONSULTING (KEEP)\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\02_CIVIL\CONTRACT\247464-02-C3.DWG PLOTTED BY: WOODFORD, LYDIA
PLOT DATE: 2025-08-15 @ 11:30:41 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

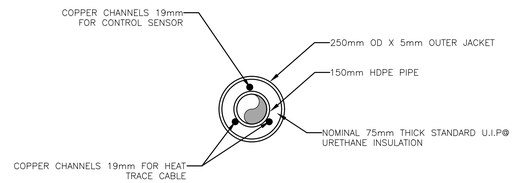
NOTES:

1. INSTALL NEW CLASS B, GOETEXTILE, AND RIP RAP AS REQUIRED.
2. CARRIER FOR AIR BURST LINES TO BE ATTACHED WITH UNISTRUT TO TOP OF BALLAST BLOCKS ON NEW INTAKE
3. OVERLAP NEW GEOTEXTILE JOINTS A MINIMUM OF 1m

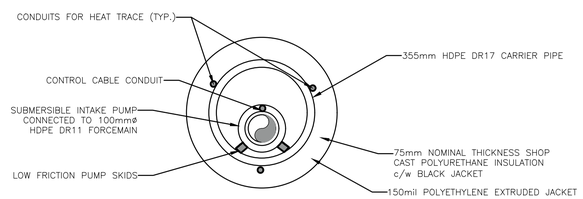


1 C-5 **INTAKE SECTION** 1:50

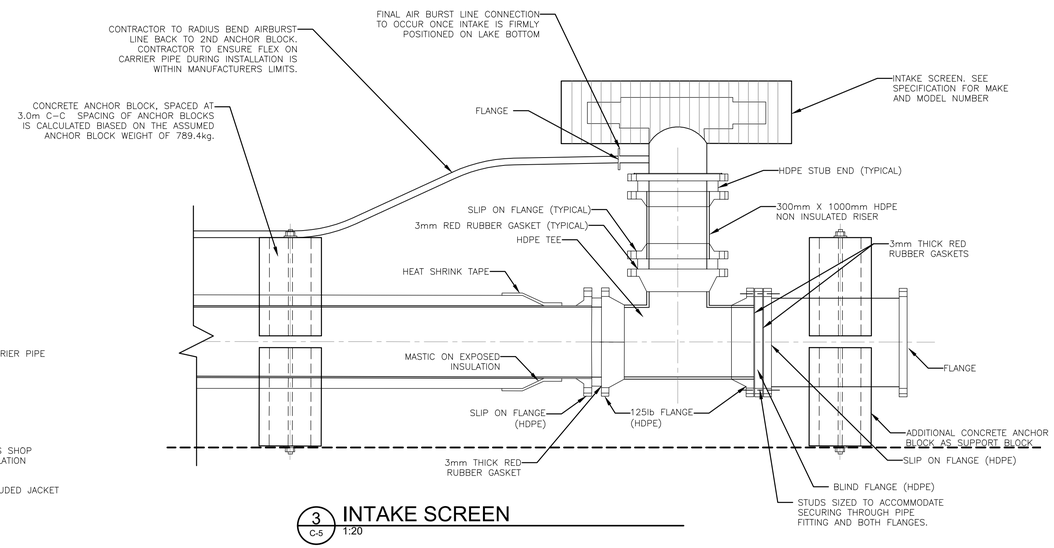
SCALE 1:50 METRES



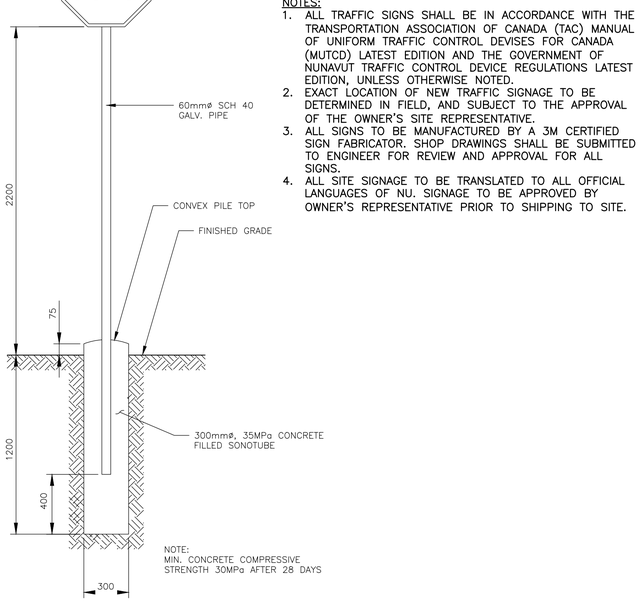
2 C-5 **HDPE TREATED WATER PIPE TO TRUCKFILL** N.T.S.



4 C-5 **INTAKE PIPE** 1:10



3 C-5 **INTAKE SCREEN** 1:20

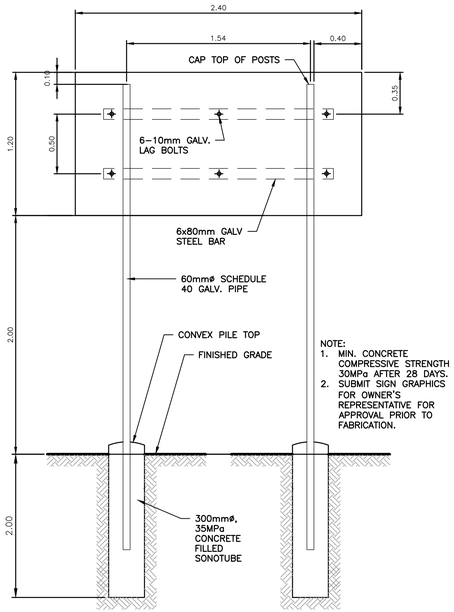


NOTE:
MIN. CONCRETE COMPRESSIVE STRENGTH 30MPa AFTER 28 DAYS

NOTES:

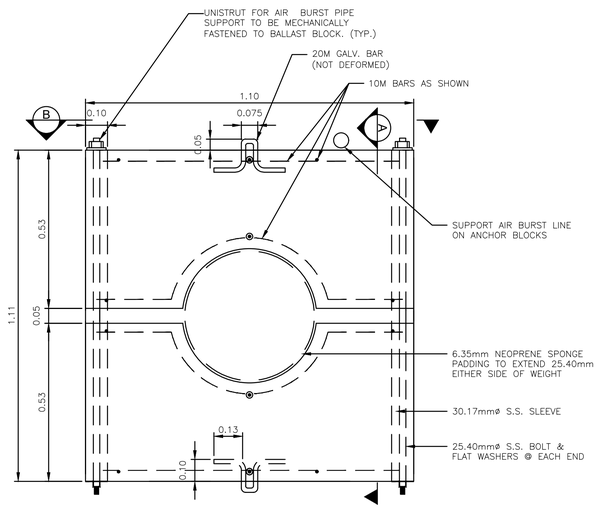
1. ALL TRAFFIC SIGNS SHALL BE IN ACCORDANCE WITH THE TRANSPORTATION ASSOCIATION OF CANADA (TAC) MANUAL OF UNIFORM TRAFFIC CONTROL DEVISES FOR CANADA (MUTCD) LATEST EDITION AND THE GOVERNMENT OF NUNAVUT TRAFFIC CONTROL DEVICE REGULATIONS LATEST EDITION, UNLESS OTHERWISE NOTED.
2. EXACT LOCATION OF NEW TRAFFIC SIGNAGE TO BE DETERMINED IN FIELD, AND SUBJECT TO THE APPROVAL OF THE OWNER'S SITE REPRESENTATIVE.
3. ALL SIGNS TO BE MANUFACTURED BY A 3M CERTIFIED SIGN FABRICATOR. SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL FOR ALL SIGNS.
4. ALL SITE SIGNAGE TO BE TRANSLATED TO ALL OFFICIAL LANGUAGES OF NU. SIGNAGE TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO SHIPPING TO SITE.

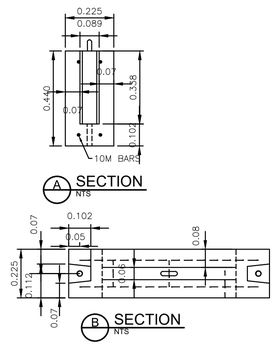
6A C-5 **SIGN POST INSTALLATION** 1:20



NOTE:
1. MIN. CONCRETE COMPRESSIVE STRENGTH 30MPa AFTER 28 DAYS.
2. SUBMIT SIGN GRAPHICS FOR OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO FABRICATION.

6B C-5 **SIGN POST INSTALLATION** 1:25





NOTES:
1. THIS DETAIL IS TYPICAL ONLY. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL.
2. ALL FASTENERS ETC. TO BE 304 STAINLESS STEEL
3. ANCHOR BLOCKS TO BE SPACED 3.0m BELOW THE HIGH WATER LEVEL. CALCULATIONS FOR BLOCK SPACING ASSUMES TOTAL WEIGHT OF ANCHOR BLOCK TO BE 789.4kg
4. ADDITIONAL ANCHOR BLOCKS TO BE PLACED AT THE HIGH WATER LEVEL AND END OF INTAKE LINE.

5 C-5 **ANCHOR BLOCK DETAIL** 1:10

ST. JOHN'S

Conditions of Use

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PROFESSIONAL ENGINEER LICENSEE 1-Aug-25 NT/NU L5088

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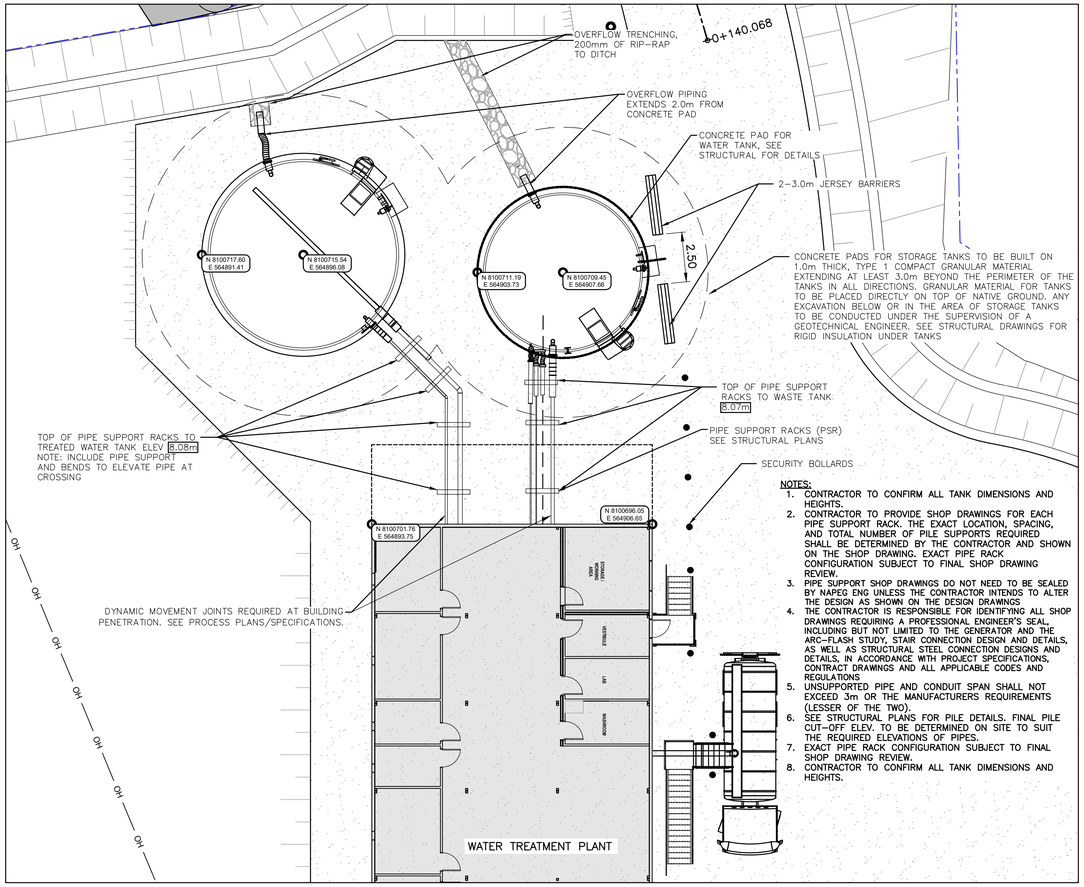
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REVIEWED BY	SJG
DRAWN	LEW
CHECKED BY	SJG
DATE	AUGUST 2025
SCALE	AS SHOWN

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

DETAILS

PROJECT NO. 24-7464

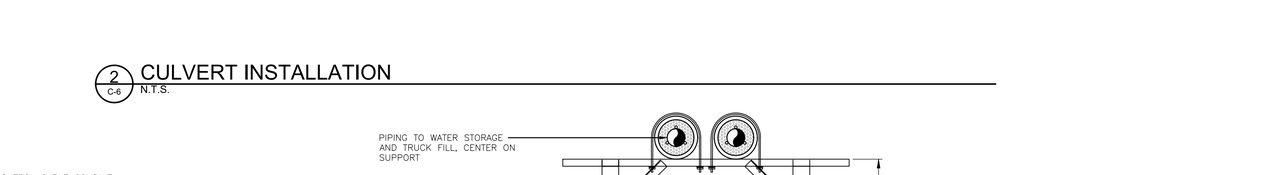
SHEET NO. **C-5**



NOTES:
1. CONTRACTOR TO CONFIRM ALL TANK DIMENSIONS AND HEIGHTS.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR EACH PIPE SUPPORT RACK. THE EXACT LOCATION, SPACING, AND TOTAL NUMBER OF PILE SUPPORTS REQUIRED SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP DRAWING. EXACT PIPE RACK CONFIGURATION SUBJECT TO FINAL SHOP DRAWING REVIEW.
3. PIPE SUPPORT SHOP DRAWINGS DO NOT NEED TO BE SEALED BY NAPEG ENG UNLESS THE CONTRACTOR INTENDS TO ALTER THE DESIGN AS SHOWN ON THE DESIGN DRAWINGS
4. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL SHOP DRAWINGS REQUIRING A PROFESSIONAL ENGINEER'S SEAL, INCLUDING BUT NOT LIMITED TO THE GENERATOR AND THE ARC-FLASH STUDY, STAIR CONNECTION DESIGN AND DETAILS, AS WELL AS STRUCTURAL STEEL CONNECTION DESIGNS AND DETAILS, IN ACCORDANCE WITH PROJECT SPECIFICATIONS, CONTRACT DRAWINGS AND ALL APPLICABLE CODES AND REGULATIONS
5. UNSUPPORTED PIPE AND CONDUIT SPAN SHALL NOT EXCEED 3m OR THE MANUFACTURERS REQUIREMENTS (LESSER OF THE TWO).
6. SEE STRUCTURAL PLANS FOR PILE DETAILS. FINAL PILE CUT-OFF ELEV. TO BE DETERMINED ON SITE TO SUIT THE REQUIRED ELEVATIONS OF PIPES.
7. EXACT PIPE RACK CONFIGURATION SUBJECT TO FINAL SHOP DRAWING REVIEW.
8. CONTRACTOR TO CONFIRM ALL TANK DIMENSIONS AND HEIGHTS.

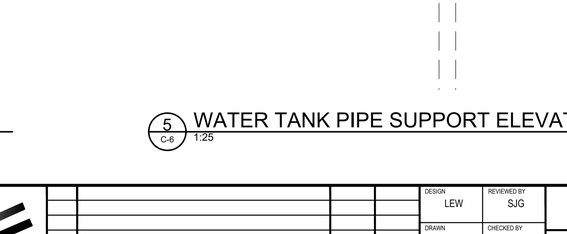
1 C-6 PLAN
1:150

SCALE 1:150 METRES 3 0 3

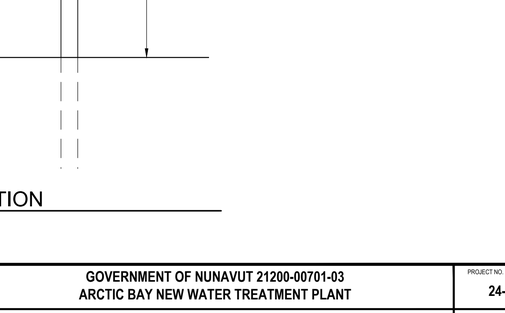


NOTES:
1. PRIOR TO ANY MATERIAL PLACEMENT, THE NATIVE SUBGRADE SHOULD BE INSPECTED BY QUALIFIED GEOTECHNICAL PERSONNEL TO DETERMINE IF ANY AREAS OF CONCERN EXIST (I.E., AREAS OF EXTENSIVE SOFT SOILS) AND IF SO, THE EXTENT AND NATURE OF THE CONCERN SHOULD BE DISCUSSED WITH THE DESIGN TEAM TO DETERMINE THE BEST AREA-SPECIFIC TREATMENT.
2. PROOF ROLL ALL NATIVE SUBGRADE WITHIN 5.0m OF THE EDGE OF CONCRETE PADS, AS PER GEOTECHNICAL RECOMMENDATIONS

6 C-6 TANK PAD INSTALLATION
1:100

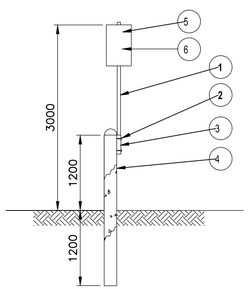


NOTES:
1. MINIMUM COVER TO BE 450mm IN ROADS AND 300mm IN DRIVEWAYS.
2. INVERT OF CULVERT TO BE 0.1D BELOW EXISTING GROUND.



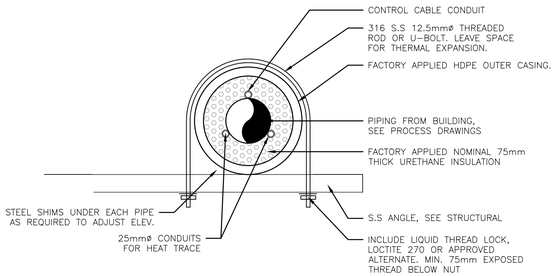
NOTES:
1. RIP-RAP THICKNESS TO BE 300mm FOR DIA. LESS THAN 1400mm, AND 600mm FOR DIA. GREATER THAN 1400mm.
2. RIP-RAP TO BE HAND PLACED.
3. MINIMUM CULVERT DIA. TO BE 400mm.
4. NOMINAL SIZE OR RIP-RAP TO BE 0.5 THICKNESS
5. FILTER CLOTH TO BE INSTALL UNDER ENTIRE RIP-RAP APRON.

2 C-6 CULVERT INSTALLATION
N.T.S.

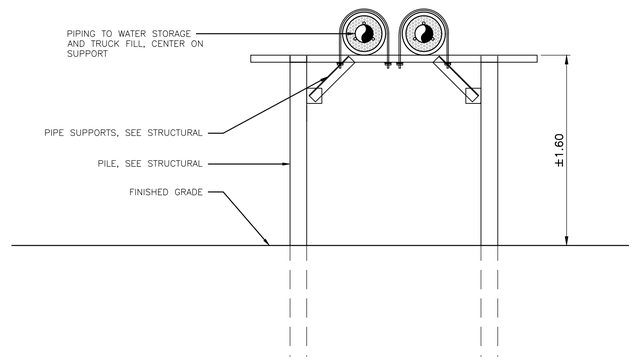


KEY TO NUMBERED PARTS:
1. 50mmø GALV. STEEL PIPE MAST. 4-11mmø BOLT HOLES
2. 2-9mmø x 89mm LONG GALV. BOLTS THROUGH SLEEVE AND MAST.
3. 65mmø STEEL SLEEVE WELDED TO POST, c/w 2-11mmø DRILLED HOLES
4. 200mmø STEEL PIPE POST EPOXY COATED AND FILLED WITH 30MPa CONCRETE
5. 3mm THICK STEEL PLATE SIGN PAINTED RED c/w 2-11mmø DRILLED BOLT HOLES. SIGN SECURED TO MAST WITH 2-9mmøx76 LG. GALV. BOLTS
6. WHITE LETTERING, 100mm HIGH. LETTERING 'STAFF PARKING'

3 C-6 SECURITY BOLLARD AND SIGN DETAIL
N.T.S.



4 C-6 HDPE PIPE FROM PLANT TO TANKS
1:10



5 C-6 WATER TANK PIPE SUPPORT ELEVATION
1:25

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DATE AUGUST 2025
SCALE AS SHOWN

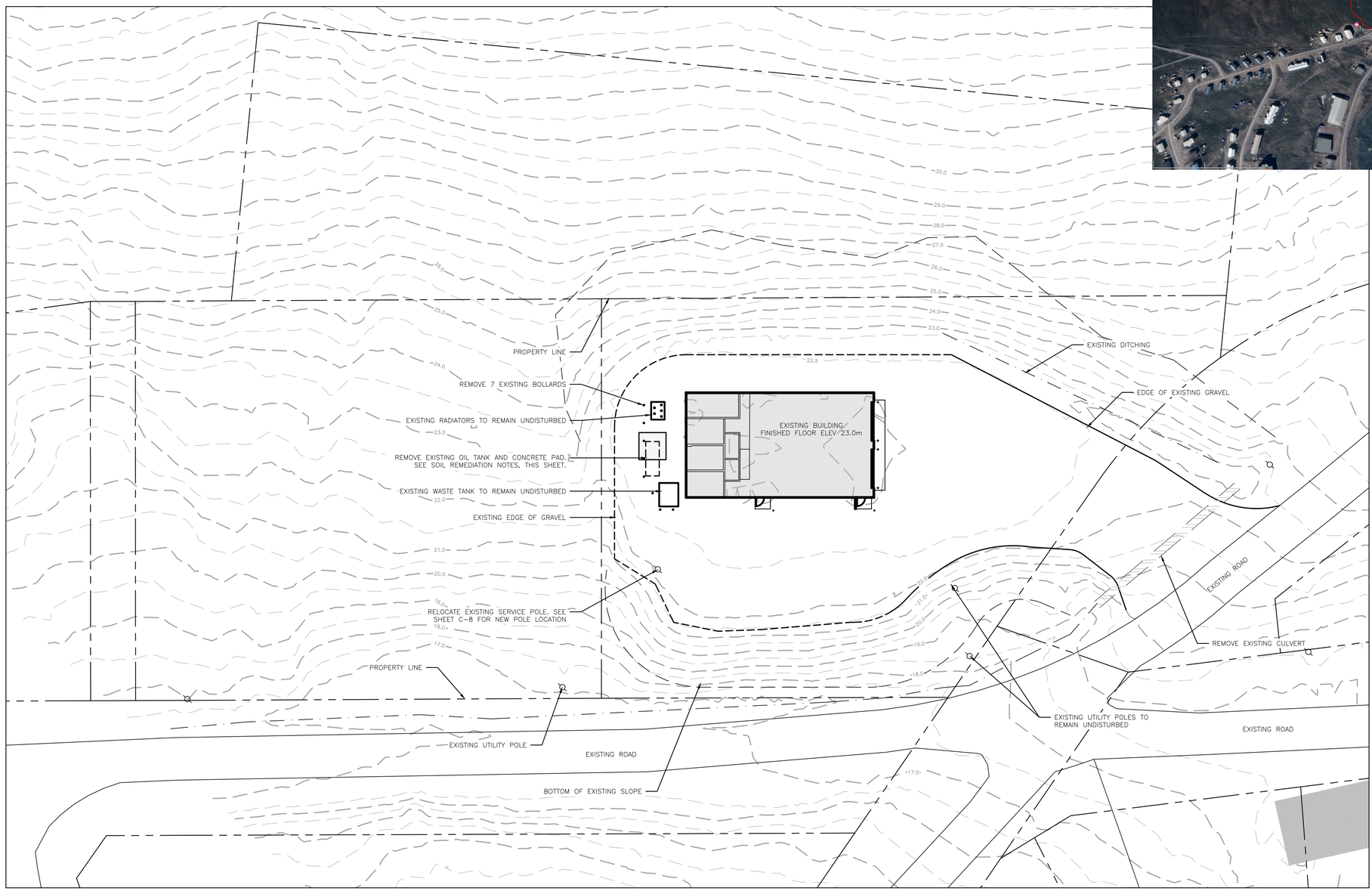
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

DETAILS

PROJECT NO. 24-7464
SHEET NO. C-6

FILENAME: C:\USERS\SALEN.DC\ACCDOCS\DILLON CONSULTING (KEEP)\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\02_CIVIL\CONTRACT\247464-02-06.DWG PLOTTED BY: WOODFORD, LYDIA ST. JOHN'S
PLOT DATE: 2025-09-15 @ 12:50:15 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB





SOIL REMEDIATION NOTES:
UNDER SUPERVISION OF AN ENVIRONMENTAL ENGINEER/QUALIFIED PERSON COMPLETE THE FOLLOWING:

1. ENSURE THE CONTENTS OF THE AST ARE REMOVED. REMOVE THE ABOVE GROUND STORAGE TANK FOR OFF-SITE DISPOSAL.
2. REMOVE THE CONCRETE PAD FOR DISPOSAL OF AN APPROVED FACILITY FOR PETROLEUM HYDROCARBON (PHC) IMPACTED MATERIALS.
3. EXCAVATE THE STAINED SOIL SURROUNDING AND BENEATH THE CONCRETE PAD AND EXTEND THE REMEDIATION IN ALL DIRECTIONS UNTIL THERE IS NO FIELD EVIDENCE OF PHC IMPACTS (I.E., NO STAINING OR PHC ODOURS, AND LOW/UNDETECTABLE GAS DETECTOR READINGS). THE AREA OF REMEDIATION IS CURRENTLY ESTIMATED TO BE 3.0mx3.0m, AND IT IS EXPECTED TO EXTEND TO A DEPTH OF 2 MBGS, OR THE DEPTH OF PERMAFROST; TO BE CONFIRMED BY ENVIRONMENTAL ENGINEER'S FIELD OBSERVATIONS.
4. THE EXCAVATED SOIL IS TO BE REMOVED FROM THE SITE AND TRANSPORTED, IN ACCORDANCE WITH THE TERRITORIAL TRANSPORTATION OF DANGEROUS GOODS ACT AND REGULATIONS, TO AN APPROVED SOIL TREATMENT FACILITY.
5. COLLECT CONFIRMATORY SOIL SAMPLES FROM THE SIDES AND THE BASE OF REMEDIATION EXCAVATION FOR RUSH ANALYSIS OF BENZENE, TOLUENE, ETHYLBENZENE, XYLENES (BTEX) AND PHC FRACTIONS F1-F4, TO CONFIRM THAT THE REMEDIATION HAS BEEN SUCCESSFULLY COMPLETED.
6. ANALYTICAL DATA WILL BE COMPARED TO THE SCREENING LEVELS OUTLINED IN THE ENVIRONMENTAL GUIDELINE FOR CONTAMINATED SITE REMEDIATION (DEPARTMENT OF ENVIRONMENT, GOVERNMENT OF NUNAVUT ,1999, REVISED MARCH 2009). IF EXCEEDANCES OF APPLICABLE GUIDELINES REMAIN, FURTHER REMEDIATION AND/OR A RISK BASED APPROACH MAY BE REQUIRED, AS DIRECTED BY ENVIRONMENTAL ENGINEER.
7. BACKFILL THE EXCAVATION WITH CLEAN FILL UPON COMPLETION OF REMEDIATION.
8. PREPARE A REMEDIATION REPORT FOR SUBMISSION TO THE DEPARTMENT OF ENVIRONMENT, GOVERNMENT OF NUNAVUT)

5 0 5
SCALE 1:250 METRES

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LICENSEE
1-Aug-25
NT/NU

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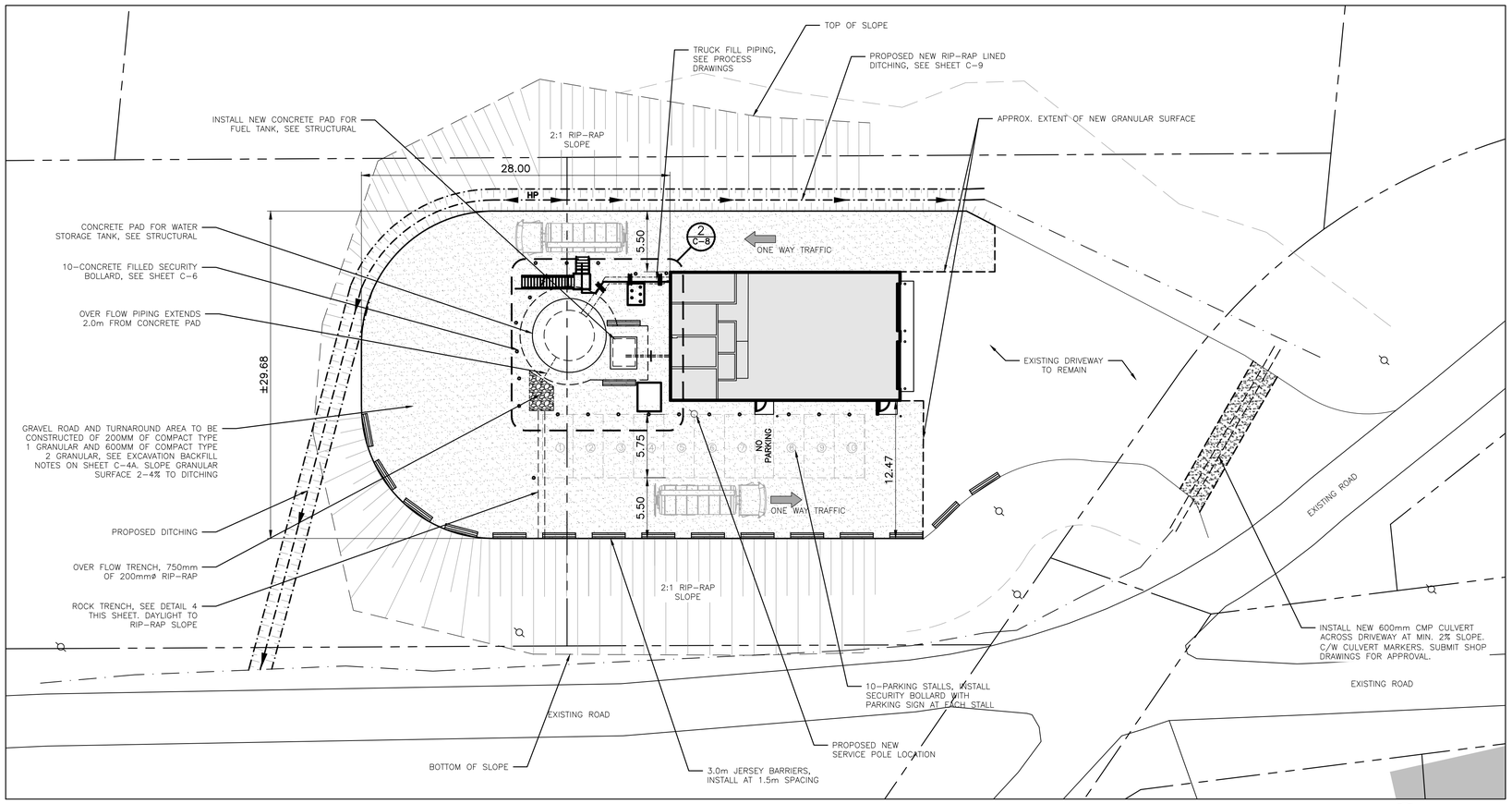
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DRAWN LW	CHECKED BY SJG
DATE AUGUST 2025	
SCALE 1:250	

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL EXISTING CONDITIONS

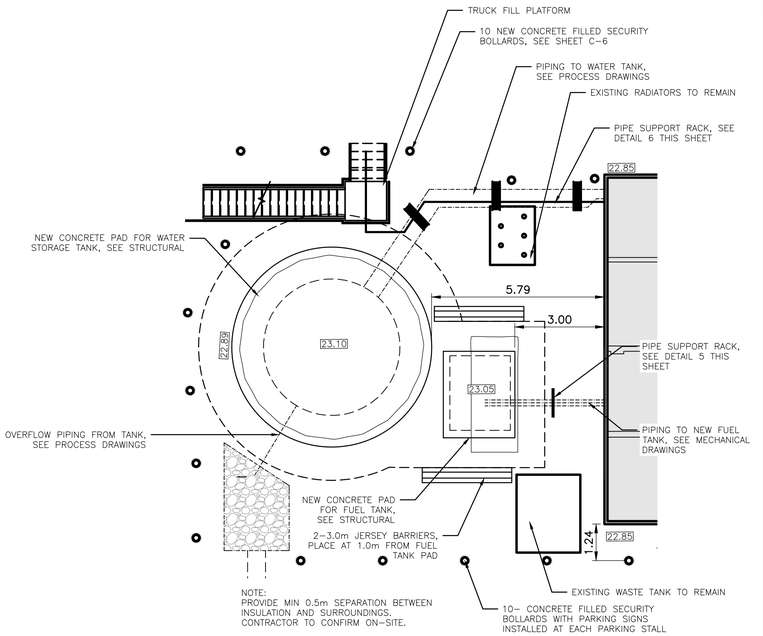
PROJECT NO. 24-7464

SHEET NO. C-7



1 C-8 SITE PLAN
1:250

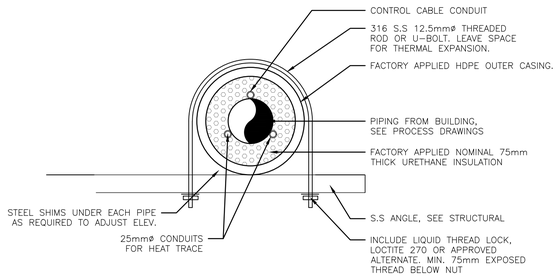
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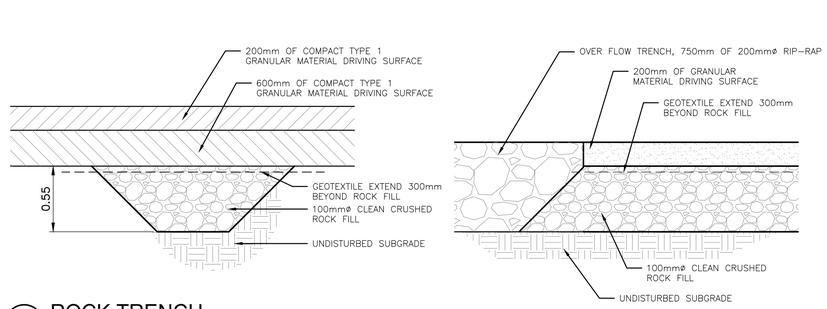
2 C-8 PLAN DETAIL
1:100

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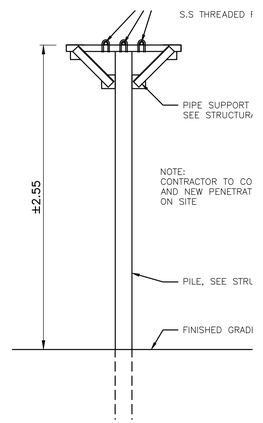
PIPE SUPPORT NOTES:
1. CONTRACTOR TO CONFIRM ALL TANK DIMENSIONS AND HEIGHTS.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR EACH PIPE SUPPORT RACK. THE EXACT LOCATION, HEIGHT, SPACING AND TOTAL NUMBER OF PILE SUPPORTS REQUIRED SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP DRAWING. THE SHOP DRAWING SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED WITH NAPEG.
3. UNSUPPORTED PIPE AND CONDUIT SPAN SHALL NOT EXCEED 3M OR THE MANUFACTURERS REQUIREMENTS (LESSER OF THE TWO).
4. SEE STRUCTURAL PLANS FOR PILE DETAILS. FINAL PILE CUT-OFF ELEV. TO BE DETERMINED ON SITE TO SUIT THE REQUIRED ELEVATIONS OF PIPES.



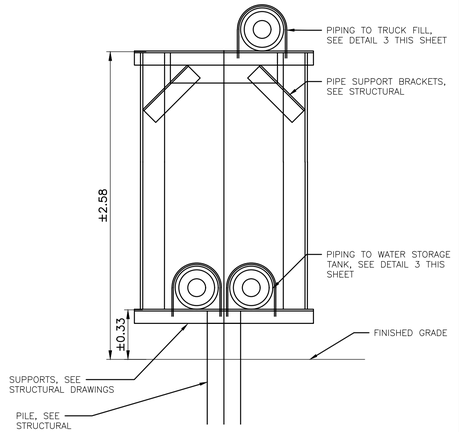
3 C-8 HDPE PIPE FROM PLANT TO TANKS
1:10



4 C-8 ROCK TRENCH
1:25



5 C-8 MECH PIPE SUPPORT ELEVATION
1:25



6 C-8 WATER TANK PIPE SUPPORT ELEVATION
1:25

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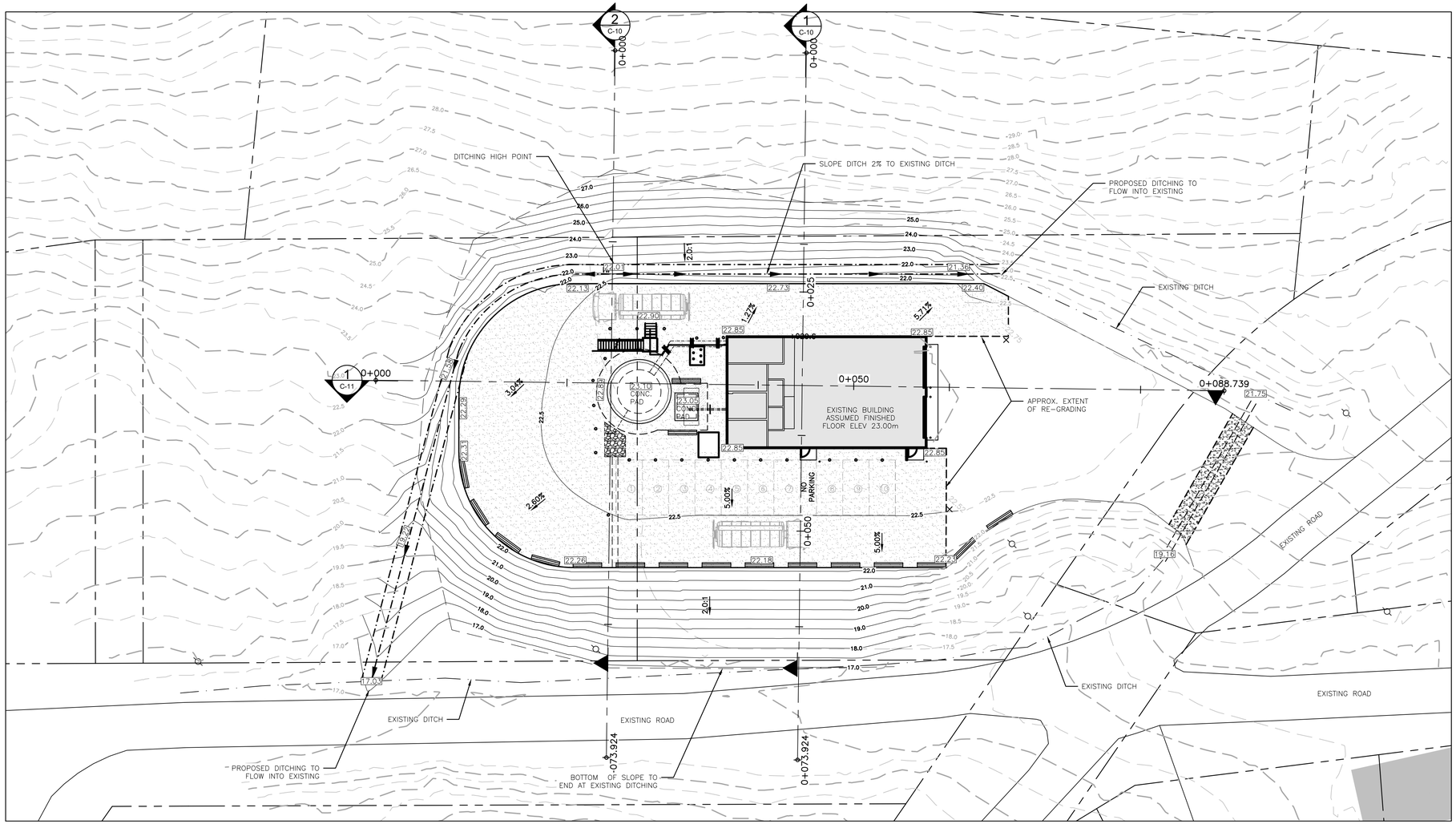
DESIGN LW — REVIEWED BY SJG
DRAWN LW — CHECKED BY SJG
DATE AUGUST 2025
SCALE AS SHOWN

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL SITE PLAN

PROJECT NO. 24-7464

SHEET NO. C-8



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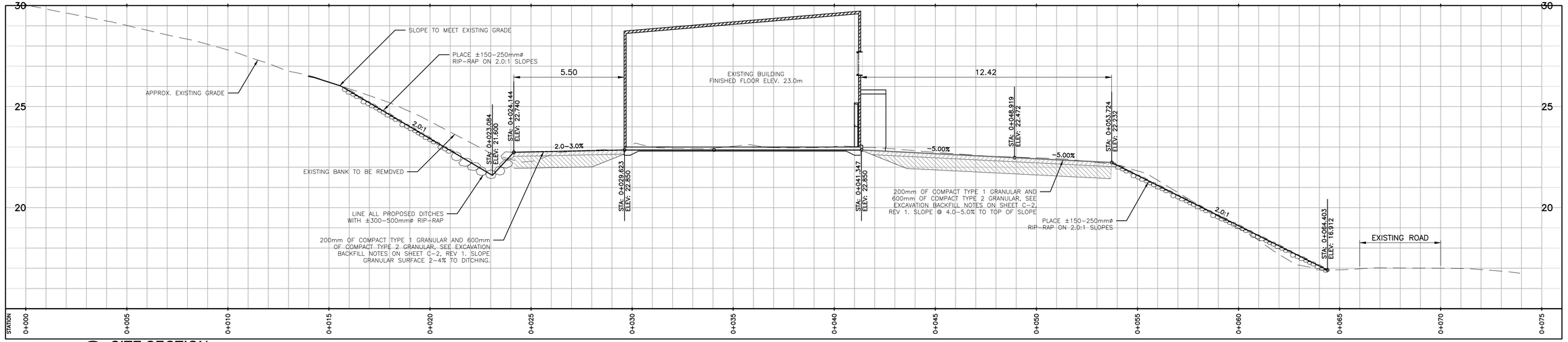
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REVIEWED BY	SJG
DRAWN	LW
CHECKED BY	SJG
DATE	AUGUST 2025
SCALE	1:250

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

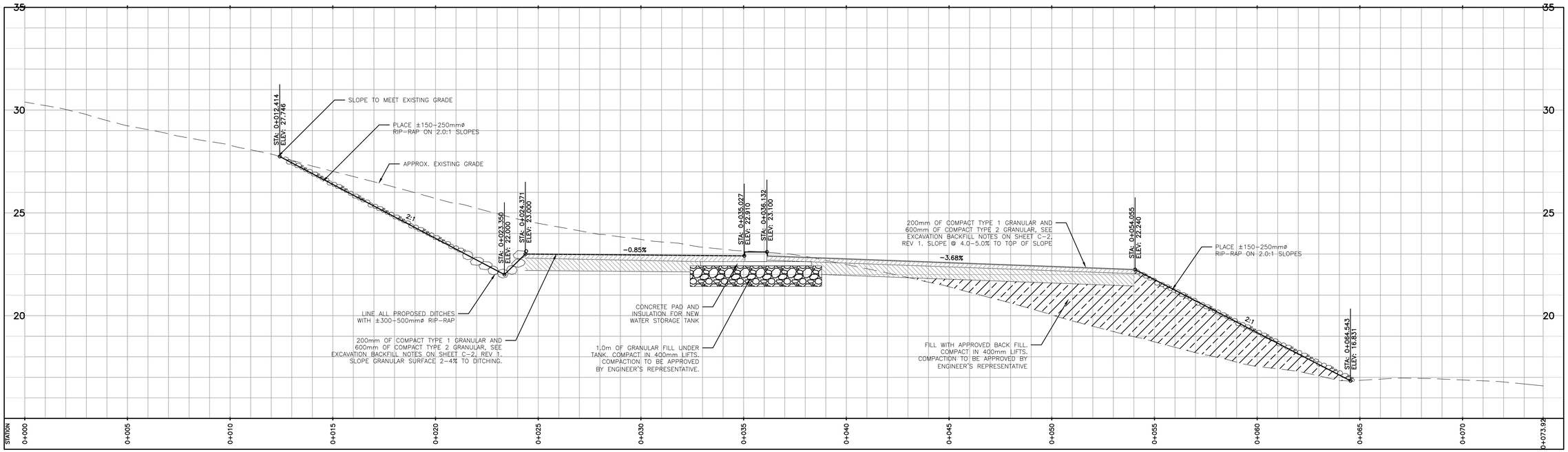
EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL GRADING PLAN

PROJECT NO. 24-7464

SHEET NO. C-9



1 C-10 SITE SECTION
1:100



2 C-10 SITE SECTION
1:100

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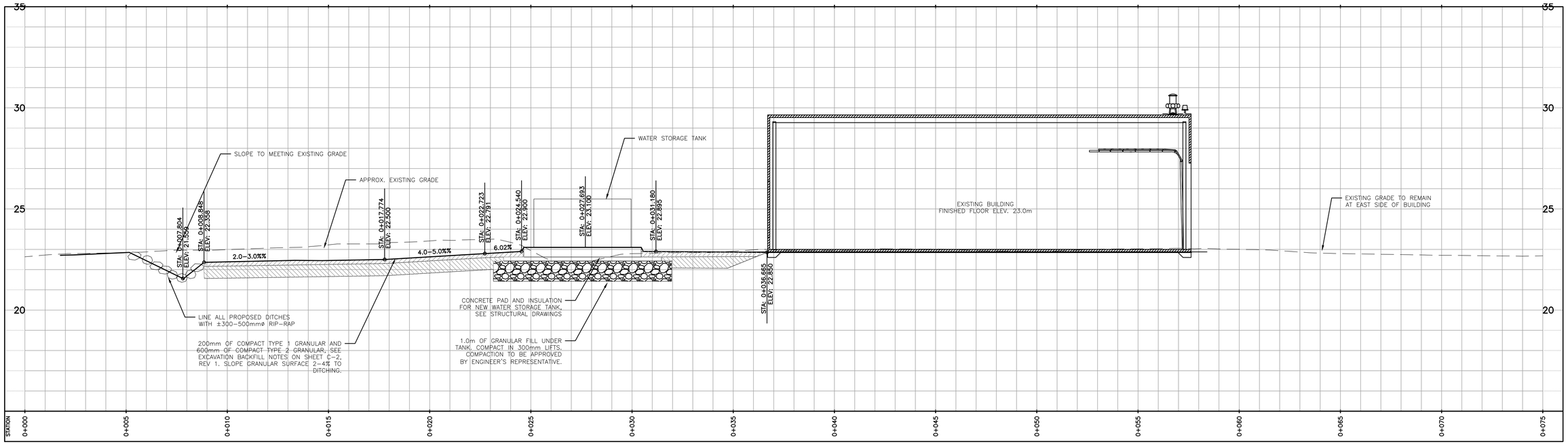
DESIGN	LW
REVIEWED BY	SJG
DRAWN	LW
CHECKED BY	SJG
DATE	AUGUST 2025
SCALE	1:100

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL SITE SECTIONS

PROJECT NO. 24-7464

SHEET NO. C-10



1 C-11 SITE SECTION
1:100

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DRAWN LW | CHECKED BY SJG
DATE AUGUST 2025
SCALE 1:100

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL SITE SECTIONS

PROJECT NO. 24-7464

SHEET NO. C-11

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (INCLUDING LATEST AMENDMENTS) AND OTHER LOCAL AUTHORITIES HAVING JURISDICTION.
2. WHERE DOCUMENTS AND STANDARDS ARE REFERENCED IN THE NOTES, THEY SHALL BE THE LATEST EDITIONS, UNLESS OTHERWISE NOTED OR SHOWN.
3. BEFORE PROCEEDING WITH WORK, CHECK ALL THE DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS AGAINST THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS (WHERE APPLICABLE) AND REPORT DISCREPANCIES TO THE CONSULTANT.
4. SAFEGUARD AND PROTECT ALL EXISTING STRUCTURES, SERVICES AND UTILITIES WHICH MAY BE AFFECTED BY THE WORK OF THIS CONTRACT.
5. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS, SPECIFICATIONS AND PERTINENT DOCUMENTS.
6. DRAWINGS ARE NOT TO BE SCALED.

DESIGN CRITERIA - (POST DISASTER IMPORTANCE):

1. ALL DESIGN AND WORKMANSHIP ON THIS PROJECT SHALL MEET THE REQUIREMENTS OF THE 2015 NATIONAL BUILDING CODE, FIRST PRINTING.
2. CLIMATIC DATA: ARCTIC BAY, NUNAVUT.
3. SNOW LOAD: Ss = 2.40 KPa Sr = 0.1 KPa
   Is = 1.25 (ULS), 0.9 (SLS)
   WIND: q50 = 0.55 KPa
   Iw = 1.25 (ULS), 0.75 (SLS)
4. SEISMIC: Sa (0.2, X_C) = 0.224
   Sa (0.5, X_C) = 0.169
   Sa (1.0, X_C) = 0.101
   Sa (2.0, X_C) = 0.0512
   PGA (X_C) = 0.0986
   Ie = 1.5 (ULS)
   SITE CLASS - "C"
   SEISMIC CATEGORY = SC2
5. LOADS:
   ROOF LOAD:
   DEAD LOAD - 0.75 KPa
   SNOW LOAD - 2.53 KPa
   FLOOR LOAD:
   DEAD LOAD - 1.0 KPa
   LIVE LOAD - 4.8 KPa
   EQUIPMENT LOADS
   STAIR LOAD:
   DEAD LOAD - 0.8 KPa
   LIVE LOAD - 4.8 KPa

MATERIALS AND EXECUTION:

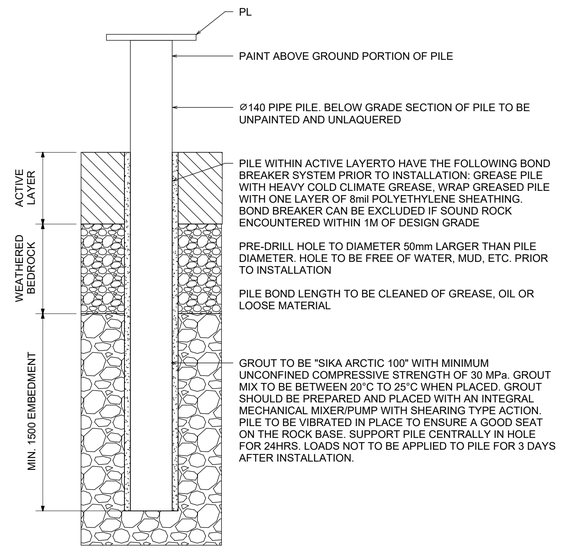
CONCRETE SLABS:
1. CONCRETE SLABS DESIGN BASED ON A SERVICE LIMIT STATE (SLS) BEARING CAPACITY OF 150kPa AND A FACTORED ULTIMATE LIMIT STATE BEARING CAPACITY (ULS) OF 225 KPa BEARING ON ENGINEERED FILL.
2. ALL EXCAVATIONS SHALL BE COMPLETELY DEWATERED DURING CONSTRUCTION. KEEP EXCAVATIONS DEWATERED TO AT LEAST 300mm BELOW LOWEST ELEVATION OF EXCAVATION.
3. CONTINUOUSLY PROTECT THE BOTTOM OF THE EXCAVATION FROM DAMAGE DUE TO FROST AND GROUDWATER PRESSURE.
4. PROOF ROLL EXPOSED SUBGRADE WITH HIGHWAY TYPE ROLLER. SOFT POCKETS ARE TO BE EXCAVATED AND BACKFILLED WITH ENGINEERED FILL COMPACTED TO 100% SPDD.
5. LIFTS OF ENGINEERED FILL SHALL NOT EXCEED 300mm COMPACTED THICKNESS.
6. THE ENGINEERED FILL SHALL PROJECT MINIMUM 3000mm BEYOND THE PERIMETER OF THE SLAB AND SLOPE AT 2.5H:1V TO EXISTING GRADE.
7. INSPECTION AND TESTING FOR COMPACTION SHALL BE COMPLETED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

ENGINEERED FILL:
1. PIT RUN GRAVEL SHALL HAVE PLASTICITY INDEX LESS THAN 10% BE FREE OF DELETERIOUS MATERIALS SUCH AS ROOTS, LUMPS, AND BE OF THE FOLLOWING GRADATION:

SIEVE SIZE (mm)	PERCENT PASSING (%)
25.0	100
19.0	75-100
9.5	50-85
4.75	35-65
2.0	25-50
0.42	15-30
0.075	5-10

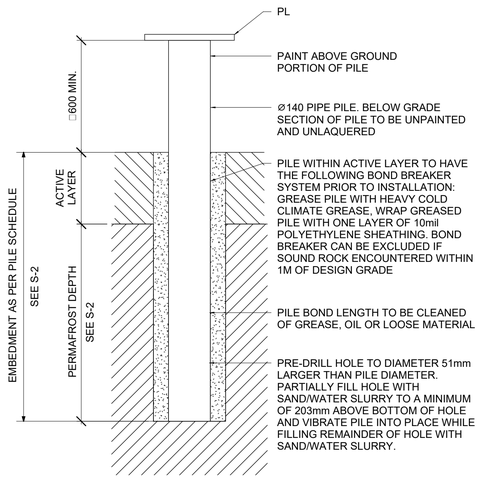
2. ENGINEERED FILL SHALL BE COMPACTED TO 100% OF STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). AS DETERMINED BY ASTM STANDARD D698.

STEEL PIPE PILES:
1. STEEL FOR PIPE PILES SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD A252 GRADE 3 WITH 7.1mm WALL THICKNESS AND MINIMUM STEEL GRADE 310 MPa. USED OR RECLAIMED PIPE WILL NOT BE ACCEPTED.
2. FULL-LENGTH PILES SHALL BE PROVIDED TO ELIMINATE SPLICING DURING INSTALLATION.
3. STEEL FOR CAP PLATES AND TIP REINFORCEMENT SHALL CONFORM TO CAN/CSA STANDARD G40.21 GRADE 300W.
4. PILES ARE TO BE MINIMUM 140mm (O.D.).
5. ALL PILE CAP PLATES TO BE LEVEL WITHIN 3mm WITHIN THE FOOTPRINT OF THE BUILDING.
6. PILE HOLES TO BE DRILLED TO A DIAMETER AT LEAST 51mm LARGER THAN THE OUTSIDE DIAMETER OF THE PILE.
7. THE FINAL POSITION OF ALL PILES SHALL DEVIATE NO MORE THAN 76mm FROM THE POSITION SHOWN ON THE DRAWINGS AND NOT MORE THAN 2 DEGREES FROM THE ANGLE SHOWN ON THE DRAWINGS.
8. REFER TO TYPICAL PILE DETAIL(S) FOR ADDITIONAL PILE INSTALLATION REQUIREMENTS.
9. ADFREEZE PILES:
   1. WTP PILES HAVE BEEN DESIGNED AS ADFREEZE PILES. PILES ARE DESIGNED ON THE BASIS OF AN ULTIMATE UNFACTORED BOND CAPACITY OF 225 kPa AND ALLOWABLE BOND CAPACITY OF 50kPa.
   2. MINIMUM PILE EMBEDMENT SHALL BE 12.0m INTO PERMAFROST.
   3. FACTORED COMPRESSIVE RESISTANCE OF EACH PILE IS 333 kN (75 KIPS) GOVERNED BY BOND CAPACITY.
   4. PILE DESIGN BASED ON GEOTECHNICAL INVESTIGATION PREPARED BY ADAPTIVE BASELINE GEOTECHNICAL. NO. ARC-G2401, DECEMBER 3, 2024.
10. ROCK SOCKET PILES:
   1. FIRE HALL PILES HAVE BEEN DESIGNED AS ROCK SOCKET PILES. PILES ARE DESIGNED ON THE BASIS OF AN UNFACTORED BOND CAPACITY BETWEEN GROUT AND BEDROCK OF 600 kPa.
   2. MINIMUM PILE EMBEDMENT SHALL BE 1.5m INTO SOUND BEDROCK.
   3. FACTORED COMPRESSIVE RESISTANCE OF EACH PILE IS 216 kN (48 KIPS) GOVERNED BY BOND CAPACITY
   4. PILE DESIGN BASED ON GEOTECHNICAL INVESTIGATION PREPARED BY ADAPTIVE BASELINE GEOTECHNICAL No. ARC-G2401, NOVEMBER 1, 2024.



TYPICAL ROCK SOCKET PILE DETAIL

N.T.S.



TYPICAL ADFREEZE PILE DETAIL

N.T.S.

STRUCTURAL STEEL:
1. STRUCTURAL STEEL SHALL BE DESIGNED IN ACCORDANCE WITH CSA STANDARD S16.
2. FABRICATION, CONSTRUCTION, ERECTION, TOLERANCES, WELDING, ETC SHALL CONFORM TO THE REQUIREMENTS OF CSA S16.
3. ROLLED STEEL SHAPES SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS OF CSA STANDARD G40.21, GRADE 350W OR ASTM STANDARD A572/A992, GRADE 50.
4. HOLLOW STRUCTURAL SECTIONS (HSS) SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS OF CSA STANDARD G40.21, GRADE 350W, CLASS C.
5. PLATES, CHANNELS, AND ANGLES SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS OF CSA STANDARD G40.21, GRADE 300W.
6. STRUCTURAL STEEL CONNECTIONS TO BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN NUNAVUT. SUBMIT SEALED SHOP DRAWINGS TO CONSULTANT FOR REVIEW PRIOR TO FABRICATION.

7. WELDING:
   7.1 WELDING OF CARBON STEEL SHALL BE PERFORMED IN ACCORDANCE WITH CSA STANDARD W59 BY A FIRM AND INDIVIDUALS CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA STANDARD W47.1.
   7.2 WELDING ELECTRODES FOR CARBON STEEL SHALL BE E49XX, OR EQUIVALENT, CONFORMING TO THE REQUIREMENTS OF CSA STANDARD W48.

8. GALVANIZING:
   8.1 WHERE NOTED, STRUCTURAL STEEL TO BE HOT-DIP GALVANIZED AND FIELD TOUCHED UP WITH ZINC-RICH PAINT.
   8.2 NUT, BOLT, AND WASHER ASSEMBLIES TO MEET STATED REQUIREMENTS FOR STRENGTH AND HAVE A GALVANIZED FINISH.
   8.3 PROVIDE DRAIN/WEEP HOLES IN ALL CLOSED-SECTION MEMBERS.
   8.4 BRACING, COLUMN SPLICE, MOMENT CONNECTION AND SLIP-CRITICAL CONNECTION MATING SURFACES TO BE WIRE-BRUSHED.
   8.5 IF REQUIRED, BOLT HOLE DIAMETERS SHOWN ON DRAWINGS MAY BE INCREASED BY 2mm FOR THE PURPOSES OF GALVANIZING.

9. GRATING:
   9.1 GRATING SHALL BE NEW TYPE 19-4 25x4.8 SERRATED BAR GRATING. SPAN BEARING BARS IN DIRECTION SHOWN, 1370mm MAXIMUM UNSUPPORTED SPAN. GRATE ALL AREAS BOUND BY GUARD RAILS.
   9.2 FASTEN BAR GRATING WITH SADDLE CLIPS @ 900mm O/C OR WELD THE GRATING TO THE SUPPORT EVERY 900mm O/C TO HAVE CORROSION RESISTANT FINISH.
   9.3 BARRIER-FREE GRATING TO BE ADA COMPLIANT. SPACING OF BARS TO BE MAXIMUM 13mm WIDE IN THE PARALLEL DIRECTION OF TRAVEL.

10. GUARD RAILS AND HANDRAILS:
   10.1 DESIGN LOADS SHALL CONFORM TO THE REQUIREMENTS OF THE 2015 NATIONAL BUILDING CODE.

11. CHECKER PLATE:
   11.1 FORM FLOORING FROM 10mm THICK STEEL CHECKER PLATE TO THE PROFILE INDICATED.

MODULE PLACEMENT:

1. DO NOT PLACE ANY MODULES UNTIL THE FULL FOUNDATION, INCLUDING ALL BRACING, PILE CAPS, ETC. HAS BEEN CONSTRUCTED.
2. DO NOT PLACE ANY EQUIPMENT IN MODULE DURING MODULE PLACEMENT. FOUNDATIONS HAS BEEN DESIGNED TO SUPPORT DEAD LOADS ONLY DURING PLACEMENT OF MODULES.
3. ENSURE EACH MODULE IS FULLY WELDED TO THE SUPPORTING PILE CAPS PRIOR TO PLACING THE NEXT MODULE. WELDED CONNECTION BY OTHERS.

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REGISTERED PROFESSIONAL ENGINEER
08/08/2025
S.F. VERSTEEGEN
LICENSEE
NWT/NU

PERMIT TO PRACTICE
Concentric Associates International Inc.
Signature
Date 08/08/2025
PERMIT NUMBER: P 492
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2	CONSTRUCTION	2025-APR-10	VCV
1	ADDENDUM #1	2025-JAN-8	ECP
0	TENDER	2024-NOV-29	ECP

DESIGN LJJ | REVIEWED BY SFV
DRAWN ECP | CHECKED BY SFV
DATE AUGUST 2025
SCALE N.T.S.

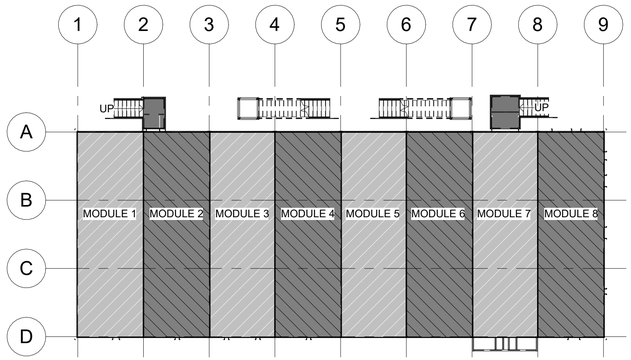
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 23-10175

GENERAL NOTES & TYPICAL DETAILS

SHEET NO. S-1

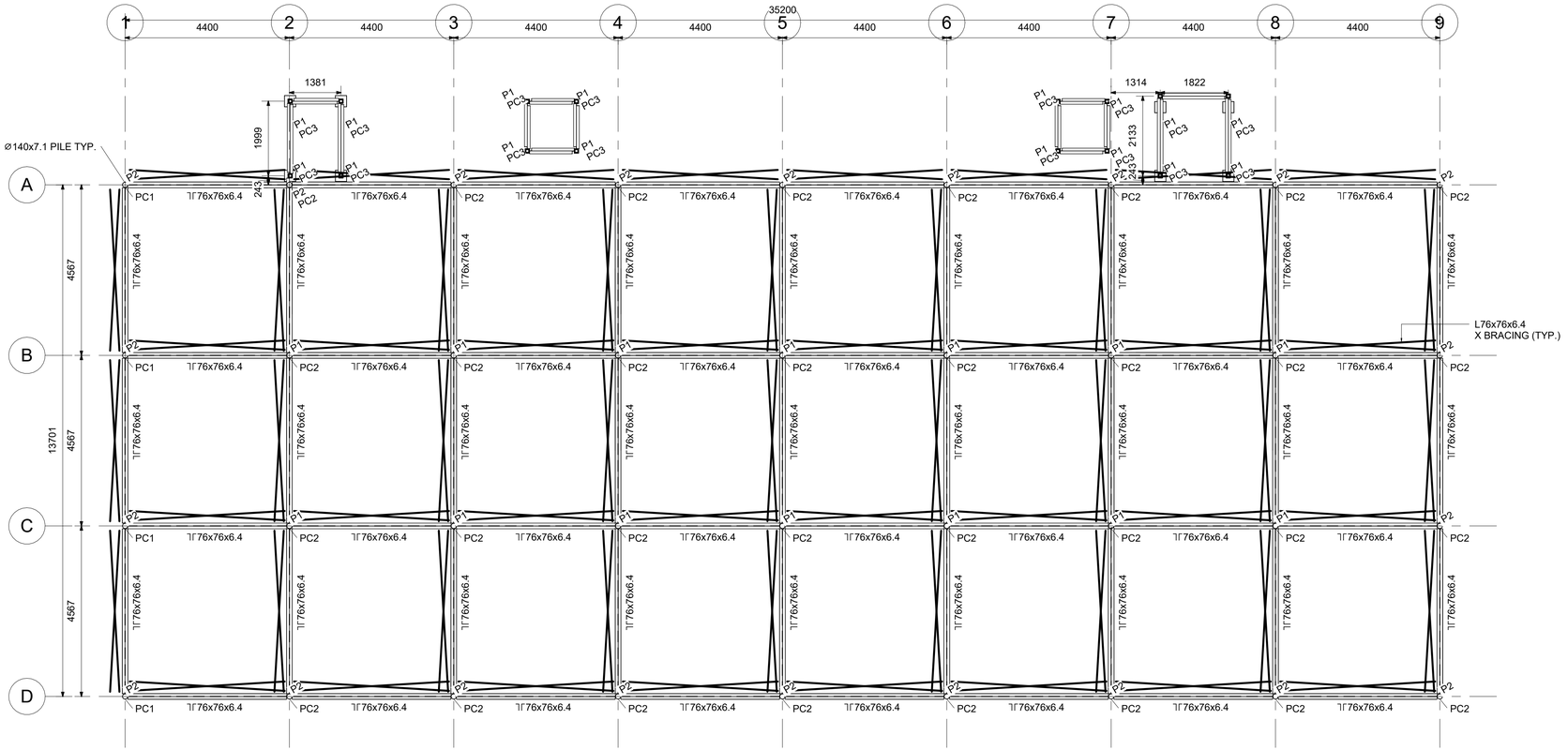
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KEY PLAN

1 : 200

PILE SCHEDULE	
TYPE MARK	MINIMUM EMBEDMENT
P1	12000
P2	13000



PILE PLAN

1 : 75

LEGEND:
P# PILE MARK, SEE PILE SCHEDULE
PC# PILE CAP, SEE S-3 FOR DETAILS

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DESIGN	IJJ
REVIEWED BY	SFV
DRAWN	ECP
CHECKED BY	SFV
DATE	AUGUST 2025
SCALE	As indicated

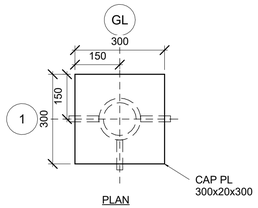
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

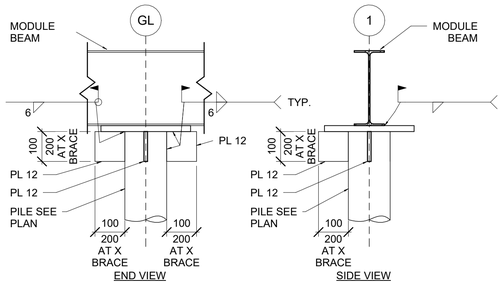
PILE PLAN

PROJECT NO. 23-10175

SHEET NO. S-2

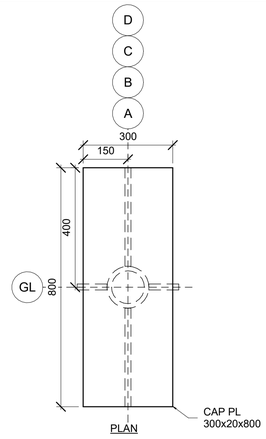
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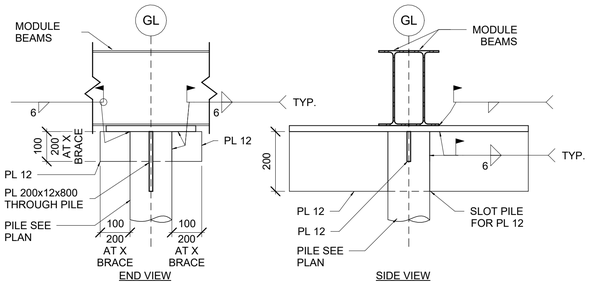




PILE CAP - PC1

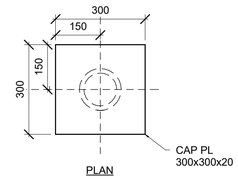
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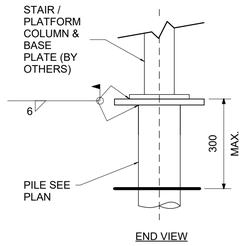




PILE CAP - PC2

1 : 10





PILE CAP - PC3

1 : 10

NOTE:
IF REQUIRED, CUT PILE CAPS FLUSH WITH THE OUTSIDE EDGE OF THE BUILDING AFTER MODULES HAVE BEEN SLID INTO FINAL POSITION. ROUND OVER ALL SHARP EDGES AFTER CUTTING AND FIELD TOUCH-UP PAINT.

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08/08/2025
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LICENSEE
NWT/NU

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0	TENDER	2024-NOV-29	ECP

DESIGN: LJJ | REVIEWED BY: SFV
DRAWN: ECP | CHECKED BY: SFV
DATE: AUGUST 2025
SCALE: 1 : 10

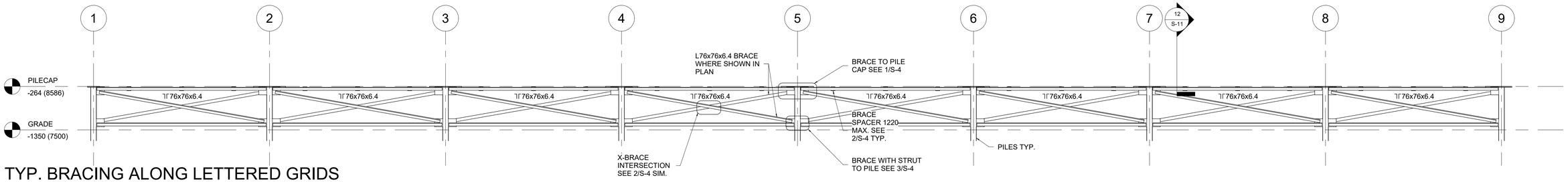
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PILE CAPS

PROJECT NO. 23-10175

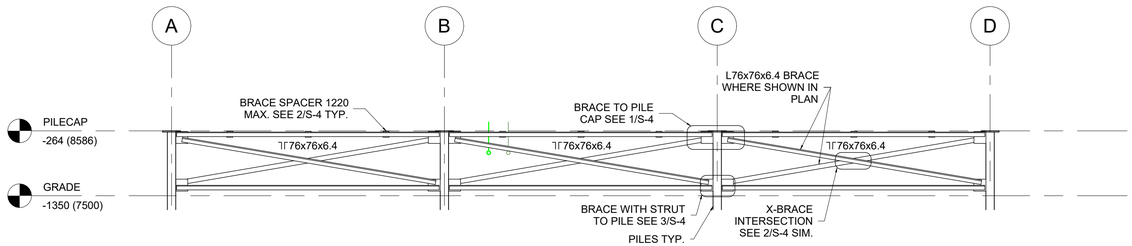
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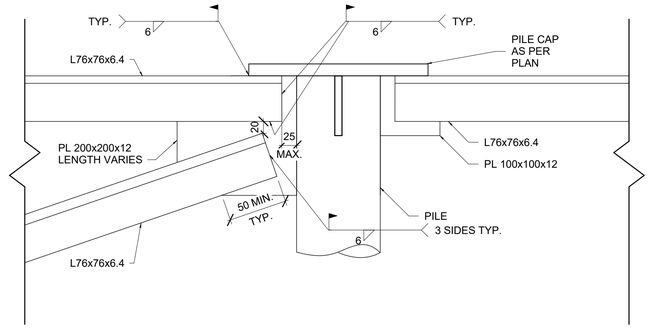
TYP. BRACING ALONG LETTERED GRIDS

1 : 50



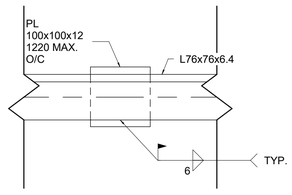
TYP. BRACING ALONG NUMBERED GRIDS

1 : 50



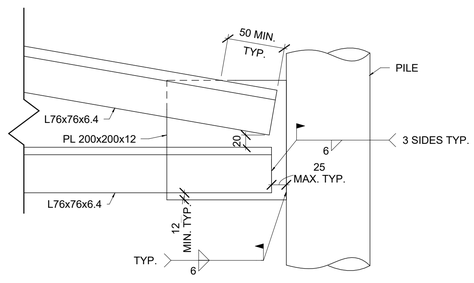
1 BRACE TO PILE CAP

1 : 5



2 BRACE SPACER

1 : 5



3 BRACE WITH STRUT TO PILE

1 : 5

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DESIGN	LJJ
REVIEWED BY	SFV
DRAWN	ECP
CHECKED BY	SFV
DATE	AUGUST 2025
SCALE	As indicated

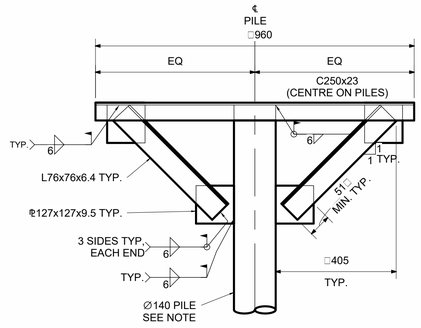
GOVERNMENT OF NUNAVUT 21200-00701-03
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BRACING ELEVATIONS & CONNECTIONS

PROJECT NO. 23-10175

SHEET NO. **S-4**

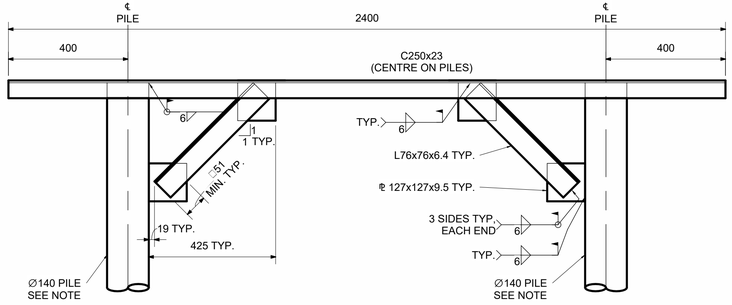
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PIPE SUPPORT - PS1

1 : 10

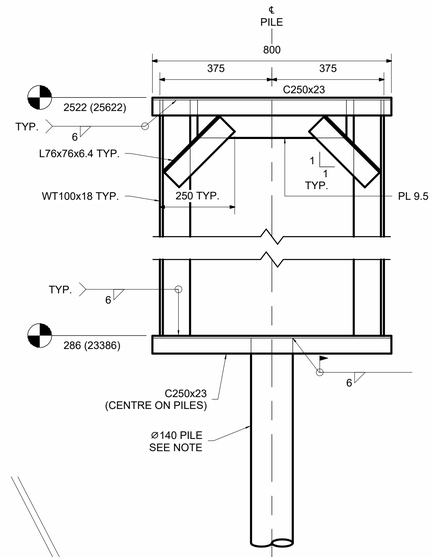
NOTE:
- ALL PILES TO BE TYPE P1, SEE SCHEDULE ON S-2



PIPE SUPPORT - PS2

1 : 10

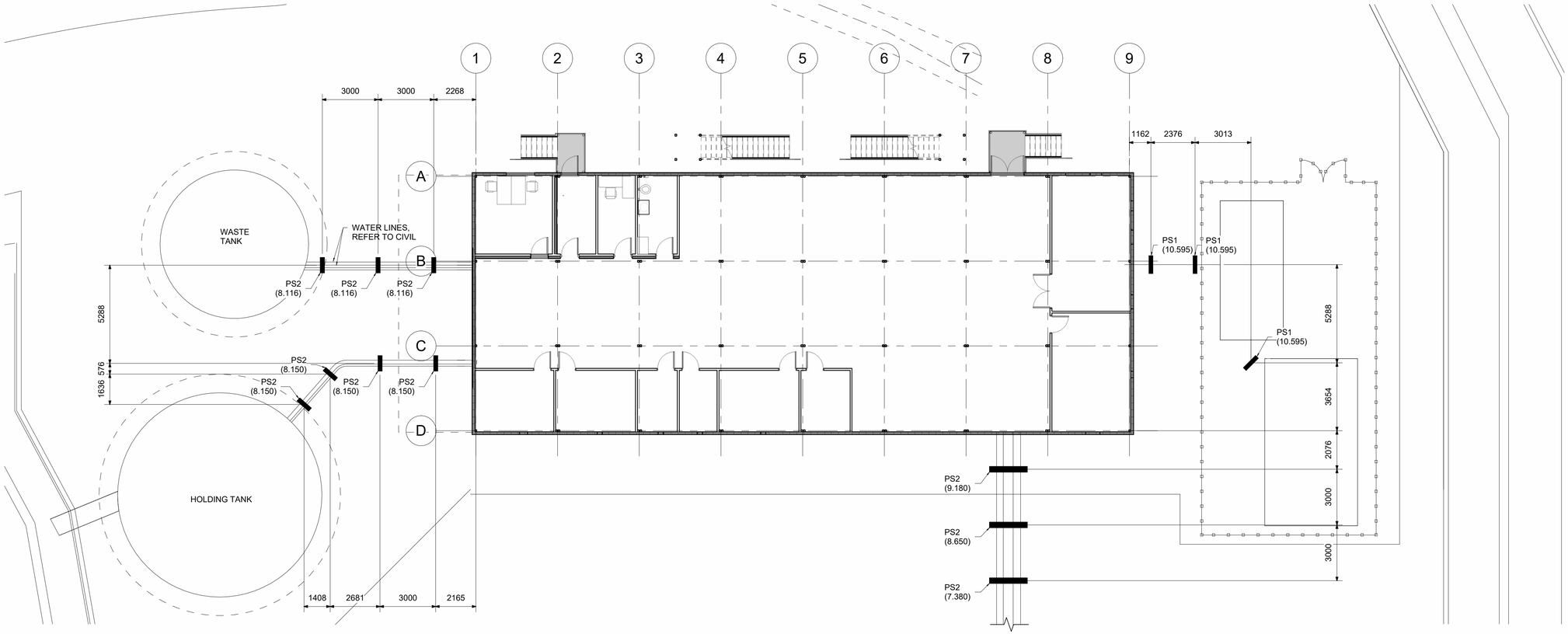
NOTE:
- ALL PILES TO BE TYPE P1, SEE SCHEDULE ON S-2



PIPE SUPPORT - PS3

1 : 10

NOTE:
- ALL PILES TO BE TYPE ROCK SOCKET SEE DETAILS ON S-1



PILE PLAN - PIPE SUPPORTS

1 : 125

NOTE:
- P1 PILES FOR PIPE SUPPORT POSTS.
- TOP OF PIPE SUPPORT SHOWN (XX.XXX).

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2	CONSTRUCTION REV 1	2025-AUG-8	VCV
1	CONSTRUCTION	2025-APR-10	VCV
0	TENDER	2024-NOV-29	ECP

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REVIEWED BY	SFV
DRAWN	ECP
CHECKED BY	SFV
DATE	AUGUST 2025
SCALE	As indicated

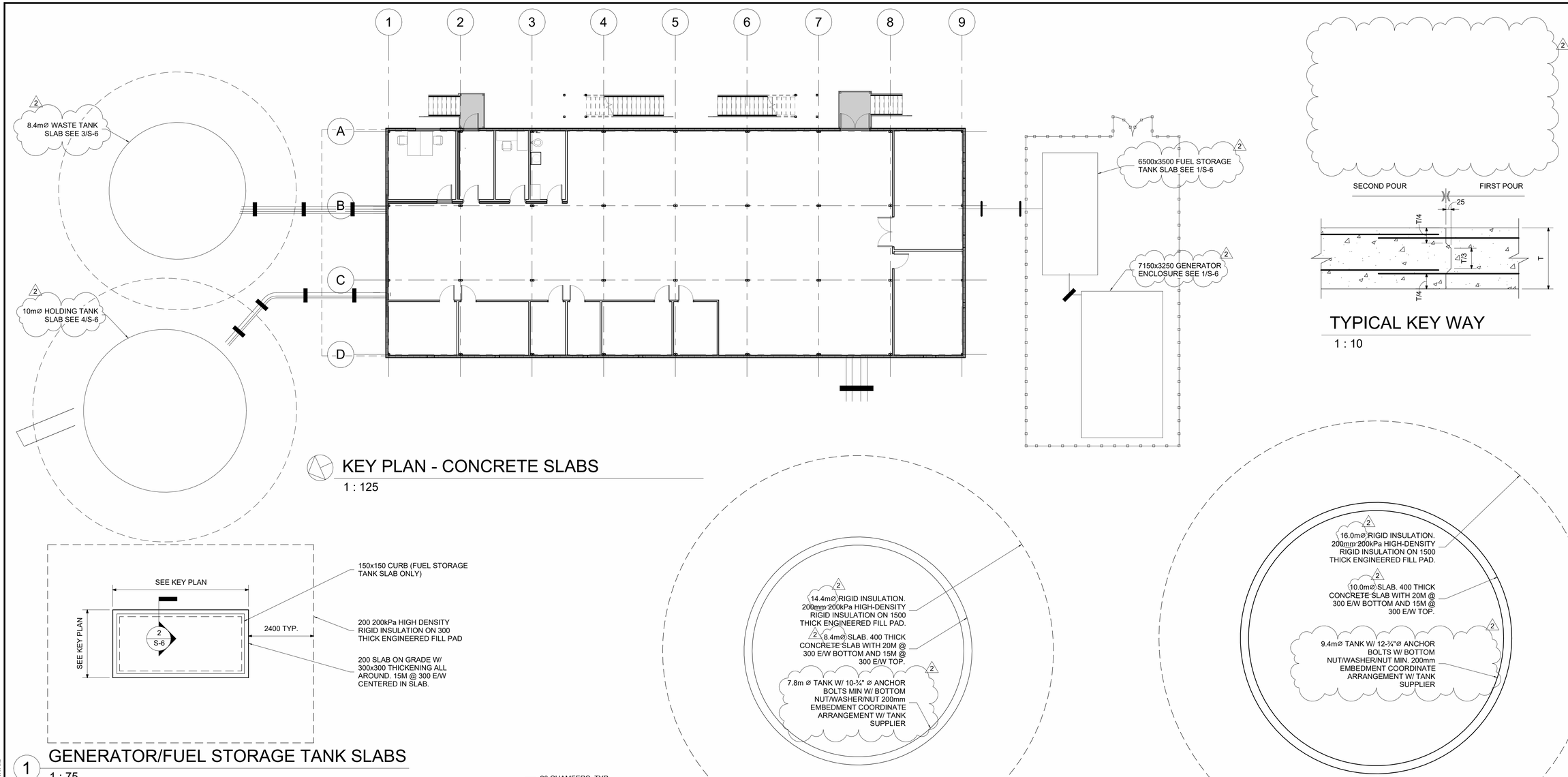
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PIPE SUPPORT PLAN

PROJECT NO. 23-10175

SHEET NO. S-5

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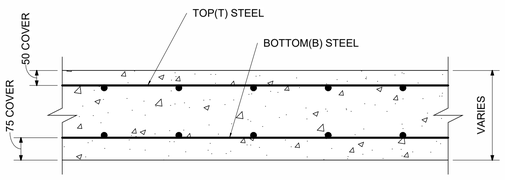
KEY PLAN - CONCRETE SLABS

1 : 125

1 GENERATOR/FUEL STORAGE TANK SLABS

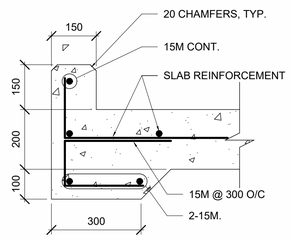
1 : 75

NOTE:
- T/O SLAB ELEVATION 7.50m.
- COORDINATE LOCATIONS OF SLABS WITH CIVIL, ELECTRICAL, AND MECHANICAL DRAWINGS.



TYPICAL REINFORCED CONCRETE SLAB

1 : 10



2 STORAGE TANK SLAB SECTION

1 : 10

3 WASTE TANK REINFORCED CONCRETE SLAB

1 : 75

NOTE:
- T/O SLAB ELEVATION 7.65m.
- COORDINATE LOCATIONS OF SLABS WITH CIVIL, ELECTRICAL, AND MECHANICAL DRAWINGS.

TYPICAL KEY WAY

1 : 10

4 HOLDING TANK REINFORCED CONCRETE SLAB

1 : 75

NOTE:
- T/O SLAB ELEVATION 7.65m.
- COORDINATE LOCATIONS OF SLABS WITH CIVIL, ELECTRICAL, AND MECHANICAL DRAWINGS.

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DRAWN	ECP
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DATE	AUGUST 2025
SCALE	As indicated

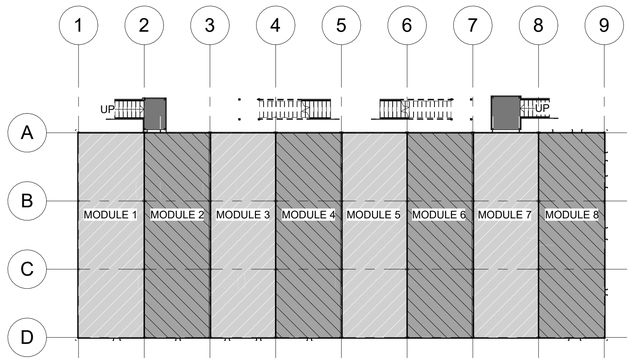
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

CONCRETE SLAB PLAN

PROJECT NO. 23-10175

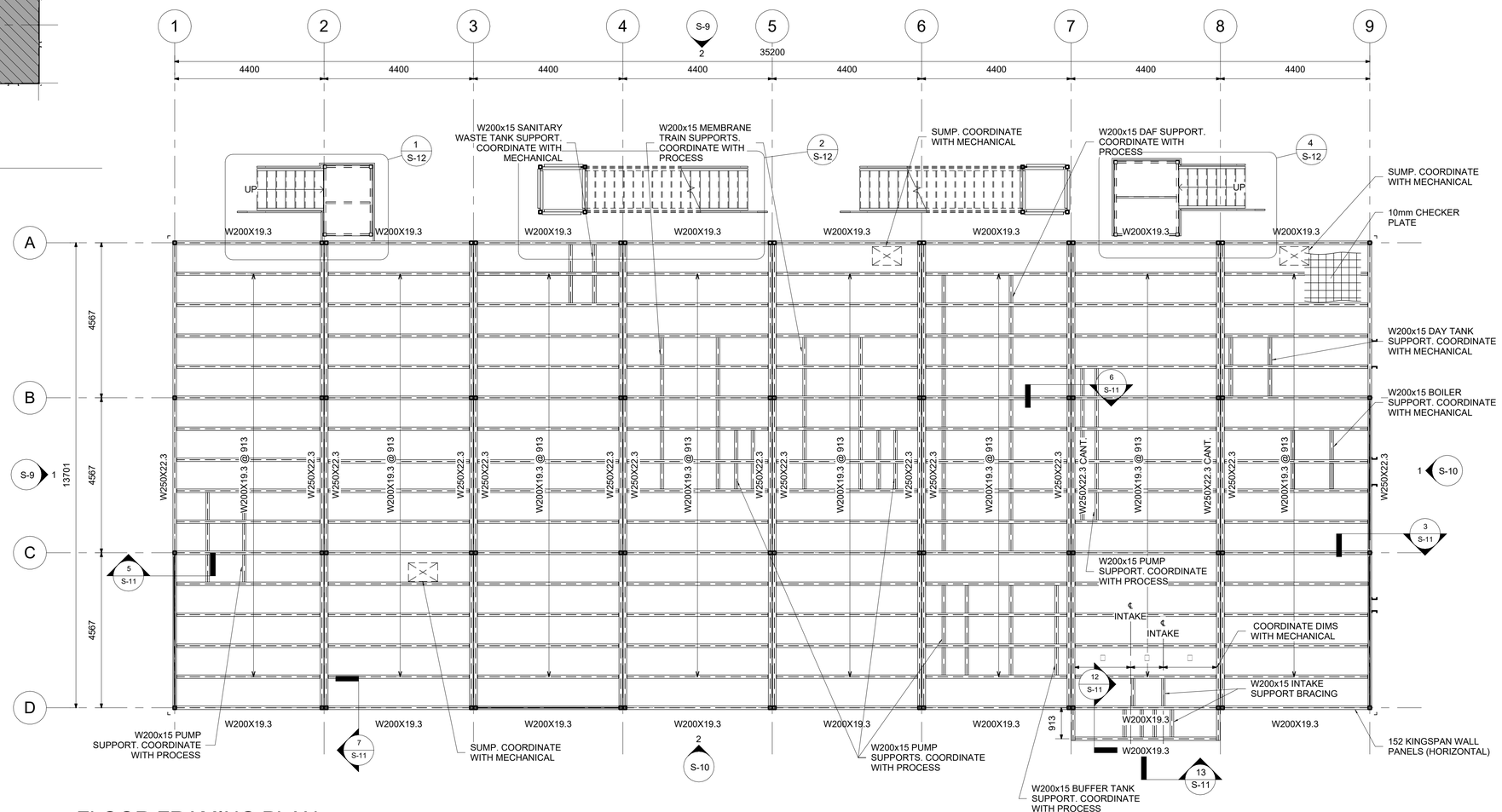
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KEY PLAN

1 : 200



FLOOR FRAMING PLAN

1 : 75

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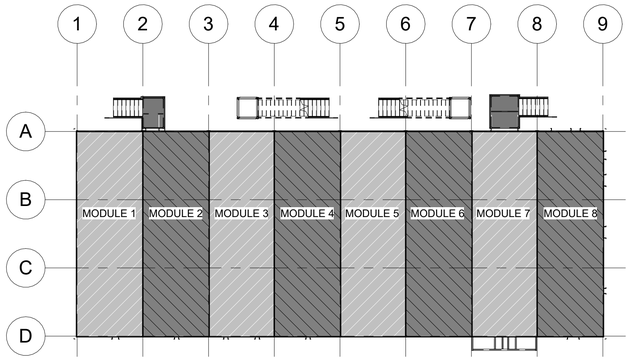
GOVERNMENT OF NUNAVUT 21200-00701-03
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FLOOR FRAMING PLAN

PROJECT NO. 23-10175

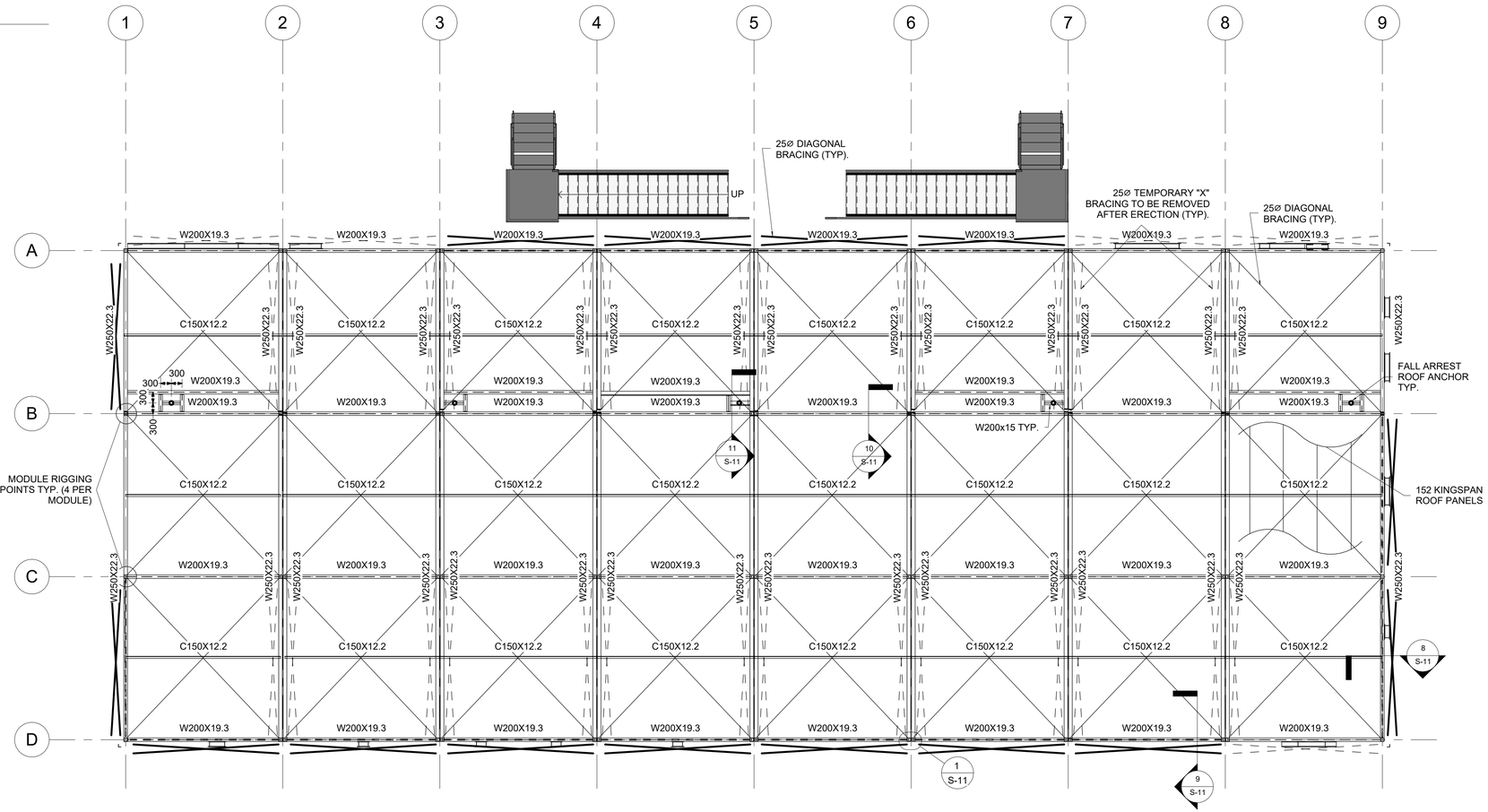
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KEY PLAN

1 : 200



ROOF FRAMING PLAN

1 : 75

PLOT DATE: 2025-08-26 - 12:02:46 PM
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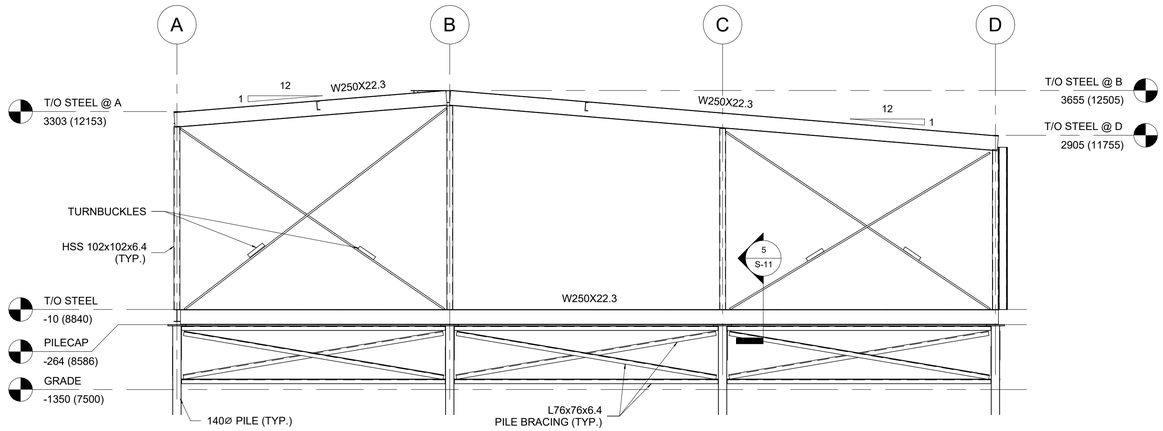
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DRAWN: ECP	CHECKED BY: SFV
DATE: AUGUST 2025	
SCALE: As indicated	

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ROOF FRAMING PLAN

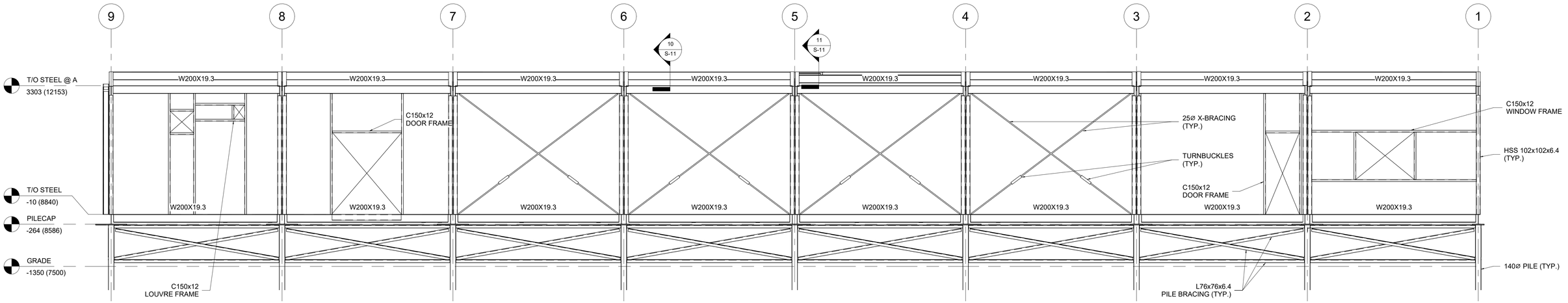
PROJECT NO. 23-10175

SHEET NO. **S-8**



1 ELEVATION @ GRID 1

1 : 50



2 ELEVATION @ GRID A

1 : 50

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DRAWN	ECP
CHECKED BY	SFV
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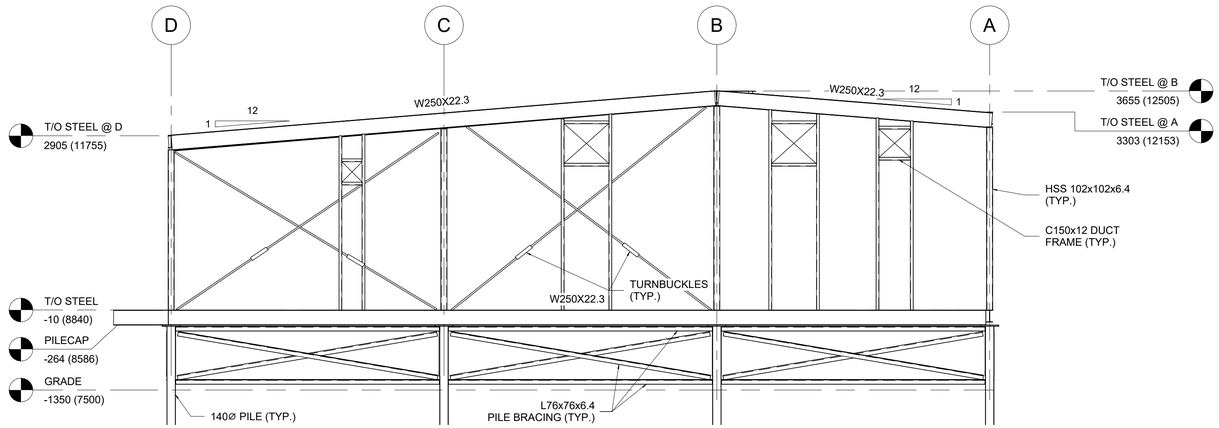
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ELEVATIONS

PROJECT NO. 23-10175

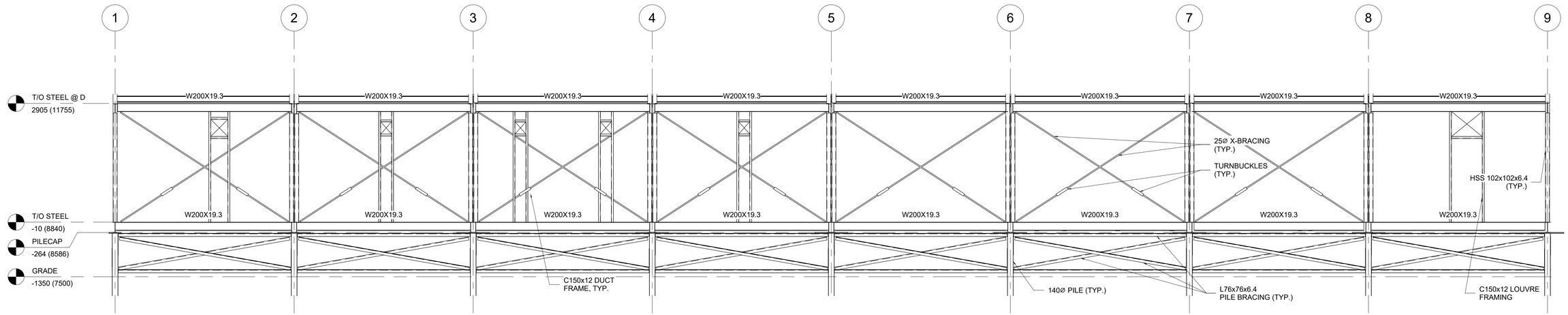
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1 ELEVATION @ GRID 9

1 : 50



2 ELEVATION @ GRID D

1 : 50

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DESIGN	LJJ
REVIEWED BY	SFV
DRAWN	ECP
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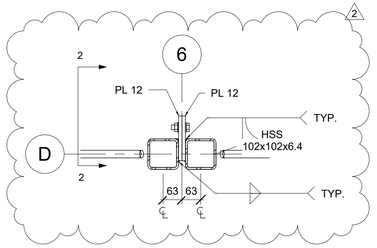
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ELEVATIONS

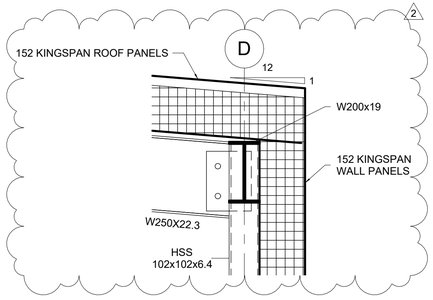
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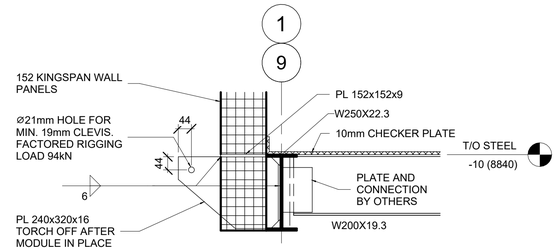
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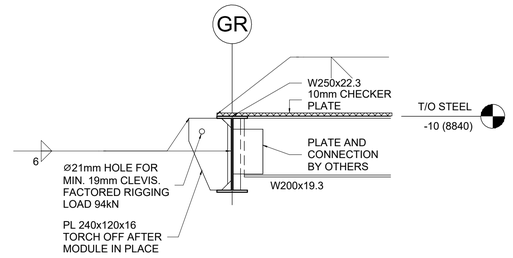
1 TWO-COLUMN CONNECTION
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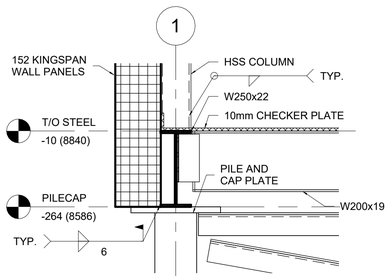
2 COLUMN CONNECTION ELEVATION
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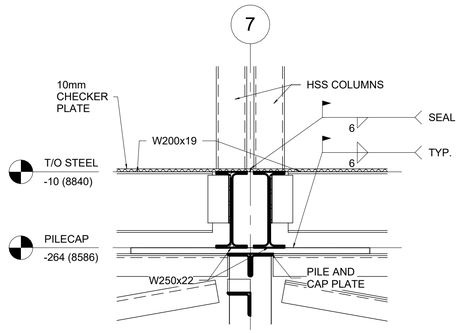
3 MODULAR UNIT RIGGING POINT @ EXTERIOR
1 : 10



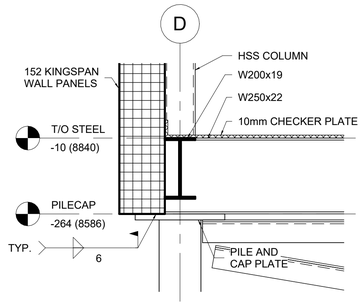
4 MODULAR UNIT RIGGING POINT @ INTERIOR
1 : 10



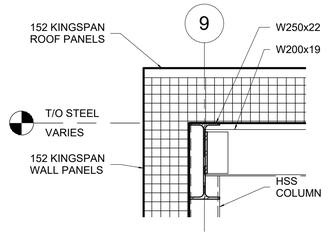
5 EXTERIOR SIDE FLOOR BEAM
1 : 10



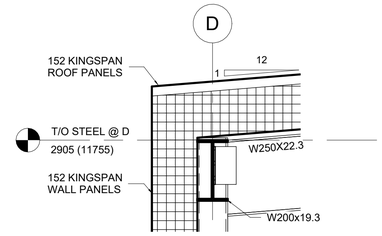
6 INTERIOR SIDE FLOOR BEAMS
1 : 10



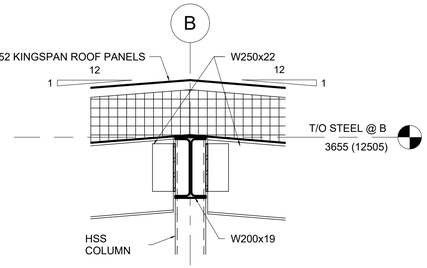
7 EXTERIOR END FLOOR BEAMS
1 : 10



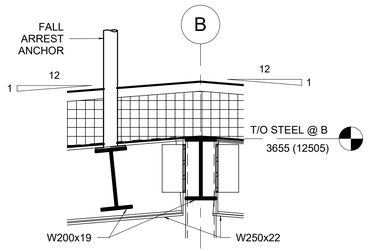
8 EXTERIOR SIDE ROOF BEAM
1 : 10



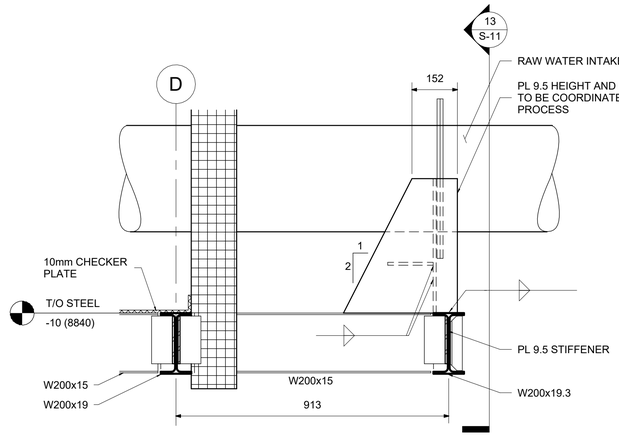
9 EXTERIOR END ROOF BEAM
1 : 10



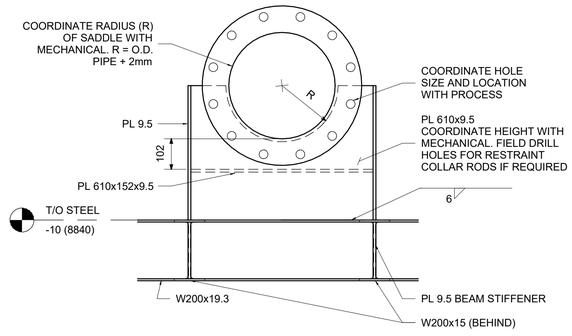
10 PEAK ROOF BEAMS
1 : 10



11 FALL ARREST ANCHORS
1 : 10



12 RAW WATER INTAKE BRACKET PROFILE
1 : 10



13 RAW WATER INTAKE BRACKET SECTION
1 : 10

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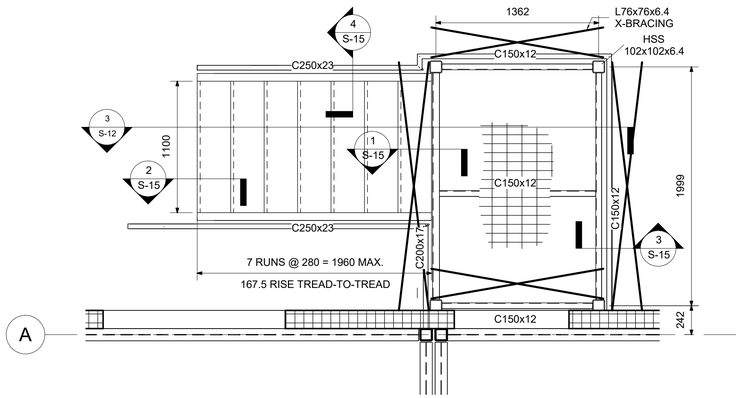
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DRAWN: ECP | CHECKED BY: SFV
DATE: AUGUST 2025
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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 23-10175

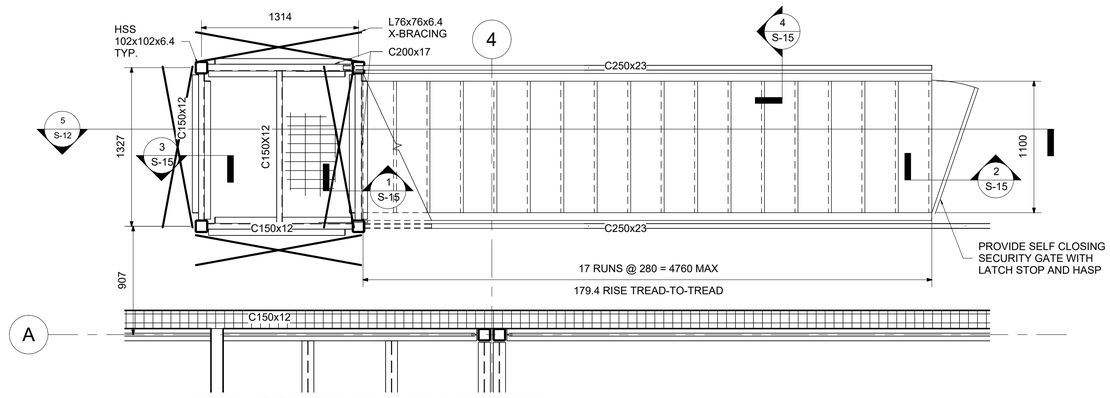
STRUCTURAL FRAMING DETAILS

SHEET NO. S-11



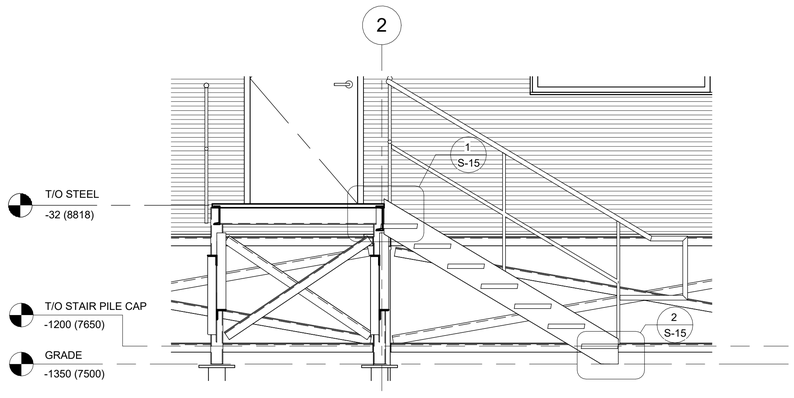
1 WEST ENTRY STAIR

1 : 25



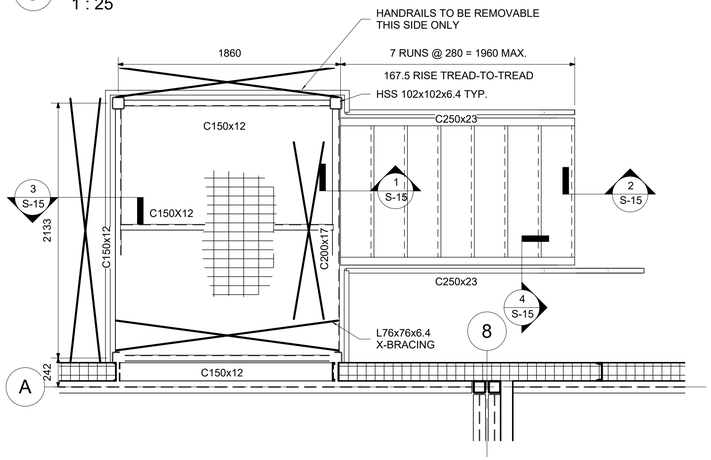
2 TYP. TRUCK FILL PLATFORM

1 : 25



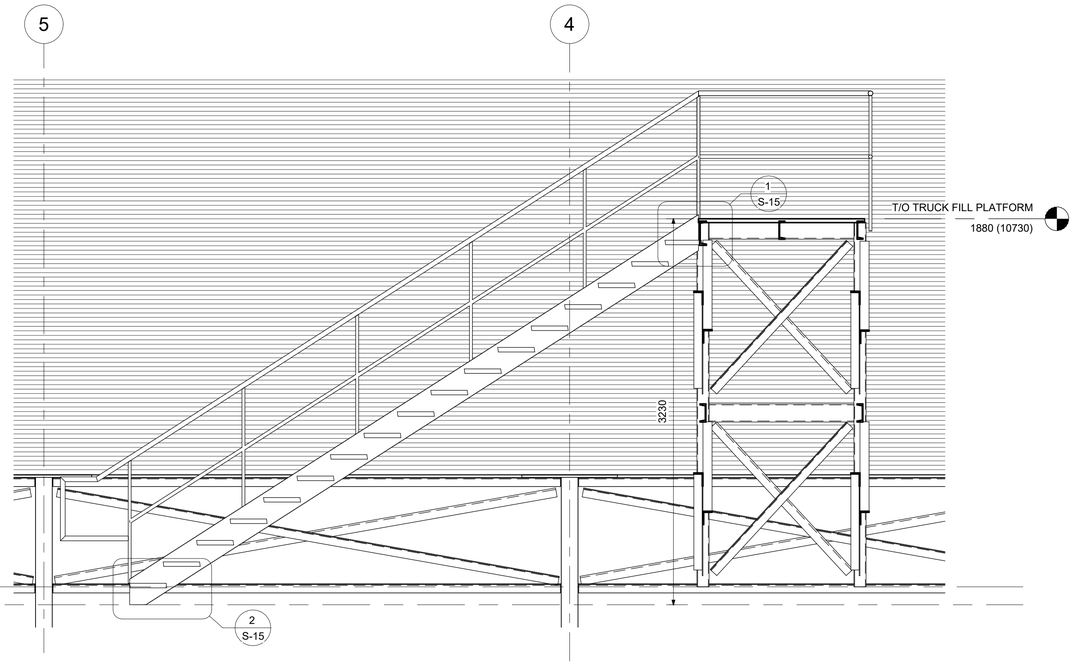
3 WEST STAIR SECTION

1 : 25



4 EAST ENTRY STAIR

1 : 25



5 TRUCK FILL PLATFORM SECTION

1 : 25

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0	TENDER	2024-NOV-29	ECP

DESIGN	LJJ
REVIEWED BY	SFV
DRAWN	ECP
CHECKED BY	SFV
DATE	AUGUST 2025
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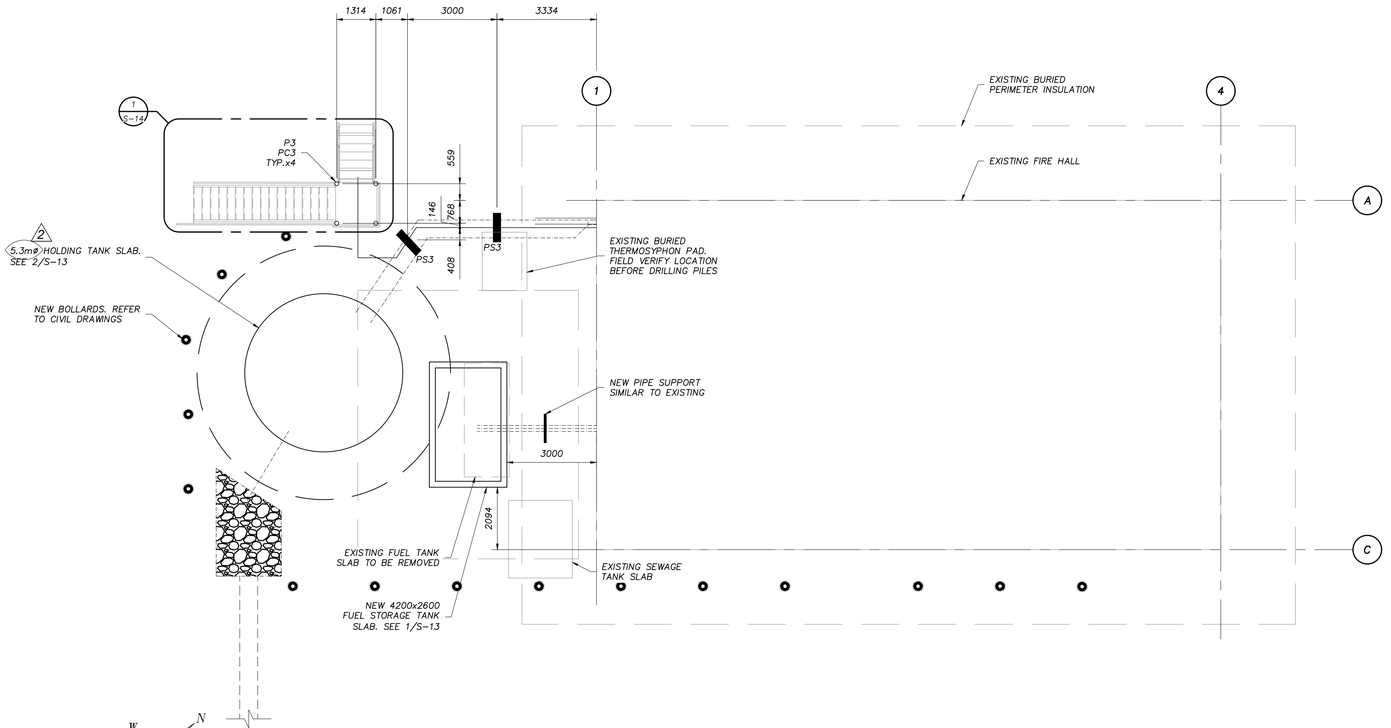
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 23-10175

SHEET NO. S-12

STAIRS - NORTH

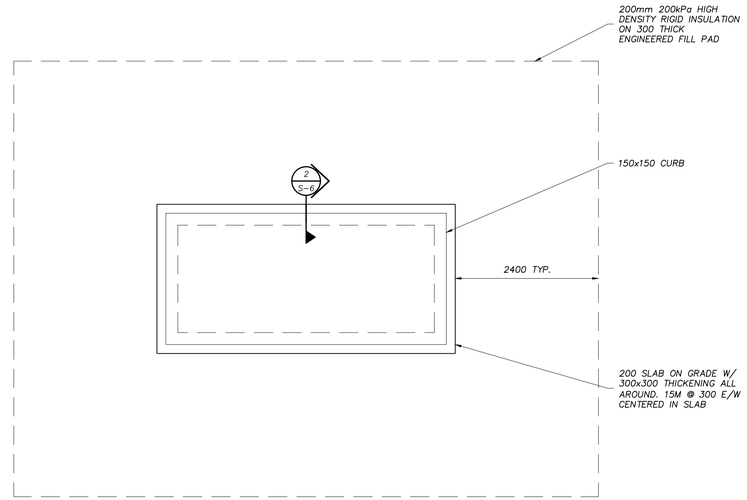
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PIPE SUPPORT/ CONCRETE SLAB PLAN

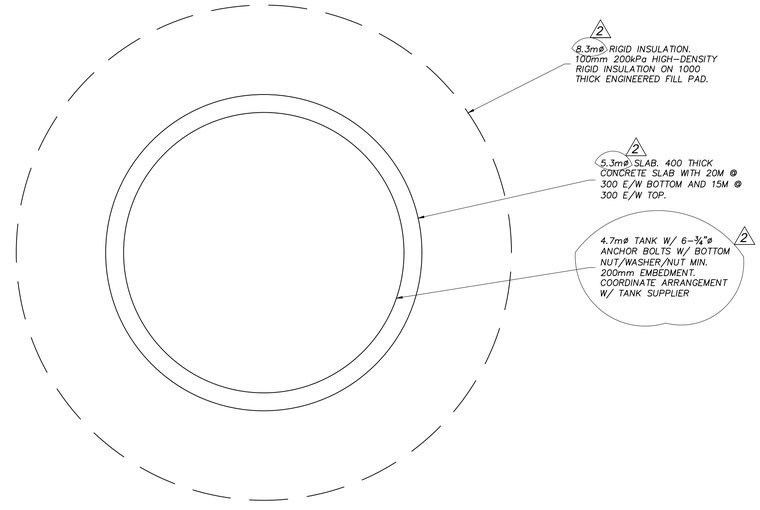
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SEE DRAWING S-5 FOR TYPICAL PIPE SUPPORT DETAILS.
SEE DRAWING S-6 FOR TYPICAL SLAB DETAILS.
ROCK SOCKET PILES FOR PIPE SUPPORT POSTS AND STAIRS. TOP OF PIPE SUPPORT AS SHOWN ON S-5.



1 S-13 FUEL TANK SLAB

SCALE: 1:50
T/O SLAB ELEVATION = 23.100
COORDINATE LOCATION OF SLAB W/ CIVIL, ELECTRICAL, & MECHANICAL DRAWINGS.



2 S-13 HOLDING TANK SLAB

SCALE: 1:50
T/O SLAB ELEVATION = 23.100
COORDINATE LOCATION OF SLAB W/ CIVIL, ELECTRICAL, & MECHANICAL DRAWINGS.

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S.F. VERSTEEGEN
LICENSEE
NWT/NU

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CLIENT-CENTRIC. CHALLENGE DRIVEN.
626 QUEEN ELIZABETH WAY
SUIT 201, IQALUIT, NU X0A 3H0
(519) 979-4180

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DESIGN: LJJ | REVIEWED BY: SFV
DRAWN: ECP | CHECKED BY: SFV
DATE: AUGUST 2025
SCALE: AS SHOWN

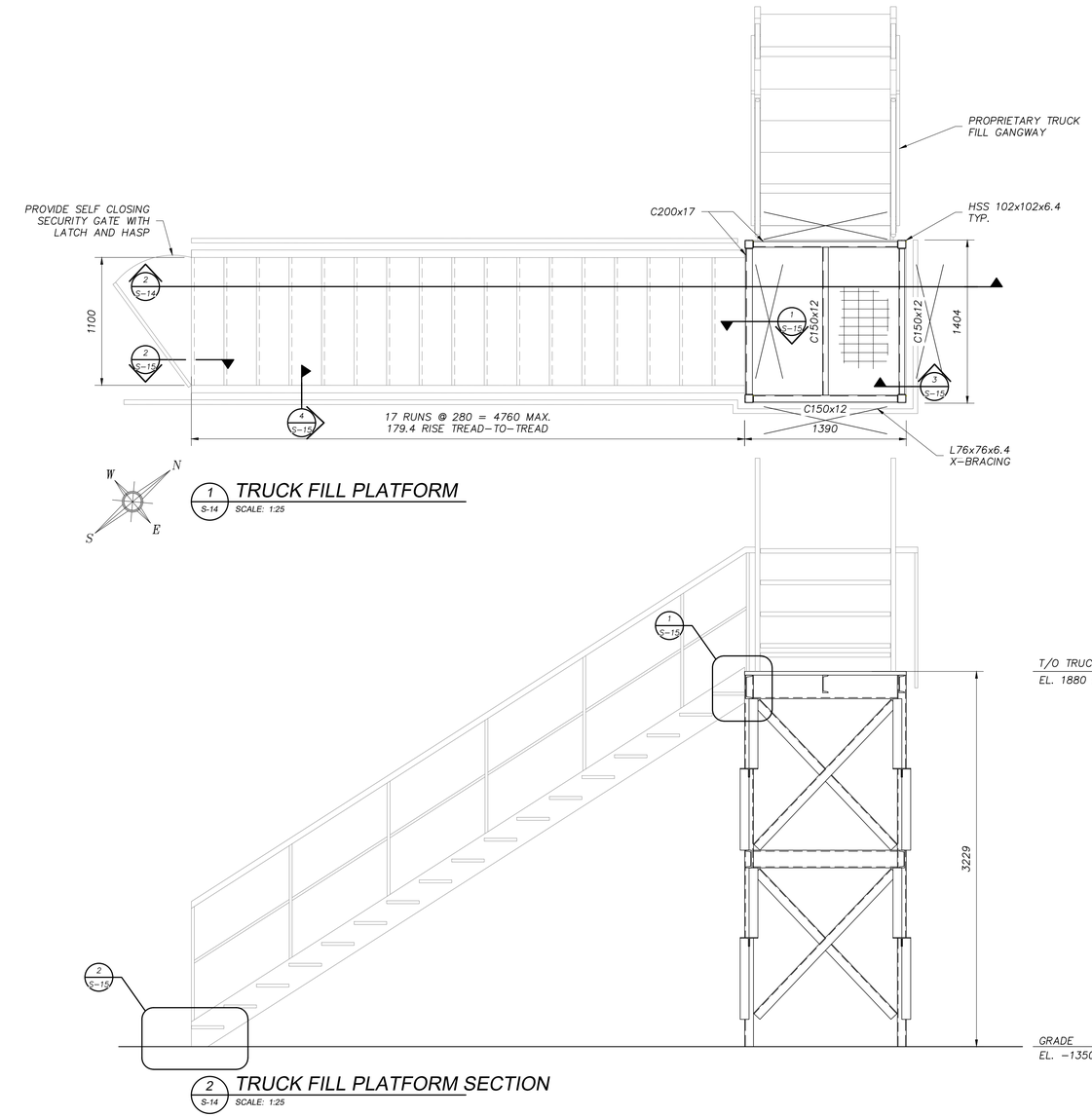
GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 23-10175

ARCTIC BAY FIRE HALL
EMERGENCY FIRE WATER TANK

CONCRETE SLAB PLAN

SHEET NO. S-13



1 S-14 **TRUCK FILL PLATFORM**
SCALE: 1:25

2 S-15 **TRUCK FILL PLATFORM SECTION**
SCALE: 1:25

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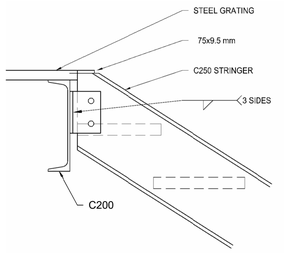
GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY FIRE HALL
EMERGENCY FIRE WATER TANK

TRUCK FILL PLATFORM

PROJECT NO. 23-10175

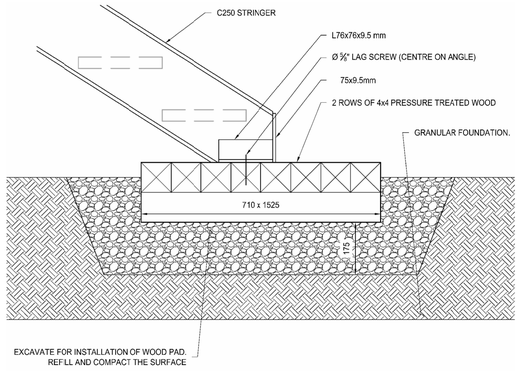
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C SECTION

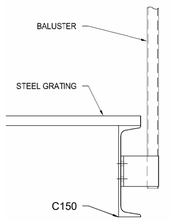
1 STAIR STRINGERS @ LANDINGS

1 : 10



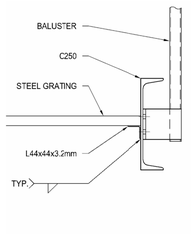
2 STAIR STRINGERS @ GRADE

1 : 10



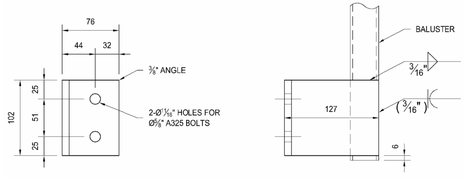
3 GUARD @ LANDINGS

1 : 10



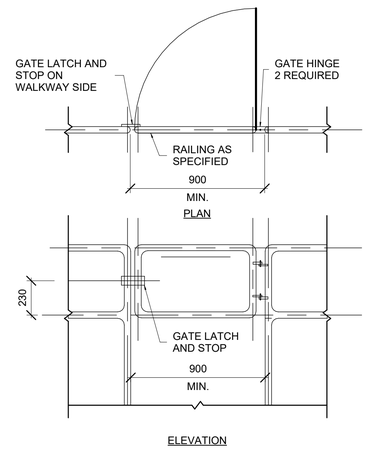
4 GUARD @ STRINGERS

1 : 10



TYPICAL BOLTED GUARDRAIL CLIP

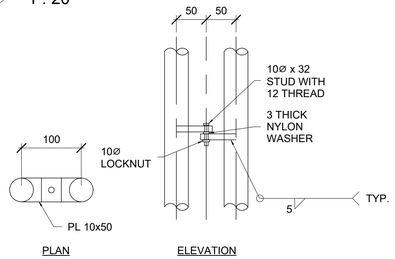
1 : 5



ELEVATION

6 GATE DETAILS

1 : 20



PLAN ELEVATION

HINGE

NOTE:
AT CONTRACTOR'S OPTION FABRICATE HINGES
OR PROVIDE OTHER HINGES AS SPECIFIED.
FINISH AFTER WELDING AS SPECIFIED.

7 HINGE DETAILS

1 : 5

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

STAIRS - DETAILS

PROJECT NO. 23-10175

SHEET NO. S-15

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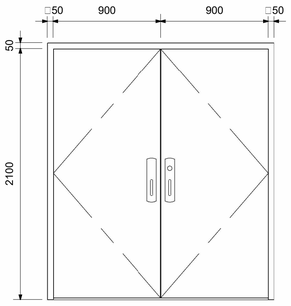
CONSTRUCTION ASSEMBLIES

ROOF SCHEDULE	
R1	152mm KINGSPAN PANEL ROOF (KINGRIB5) OR EQUIVALENT (R48.6 @ 35°F)

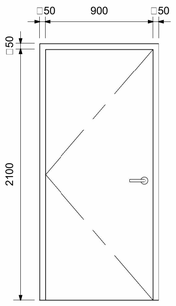
FLOOR SCHEDULE	
F1	10mm CHECKER PLATE STEEL FRAMING POLYURETHANE FOAM R45 26Ga LINER PANEL

WALL SCHEDULE				
	WALL ASSEMBLY	ACOUSTICAL STC (ASTM E90)	WALL FIRE RESISTIVE RATING (HOUR)	RSI VALUE (35 °F MEAN)
EW1	152 KINGSPAN EXTERIOR WALL PANELS (HORIZONTAL)	32	N/A	8.55
W1	100 INSULATED METAL PANEL (VERTICAL)	28	N/A	N/A
W2	100 INSULATED METAL PANEL 1HR RATED (VERTICAL)	28	1	N/A
W3	100 INSULATED METAL PANEL (VERTICAL), 25 AIR SPACE, 92 STEEL STUDS, 76 SOUND INSUL, METAL FURRING @ 610, 16 TYPE X DRYWALL	60	N/A	N/A

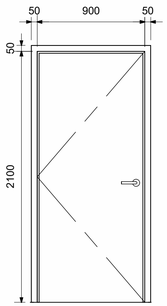
DOORS, FRAMES, AND WINDOW TYPES



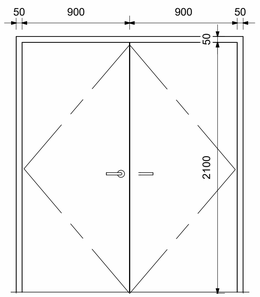
D101



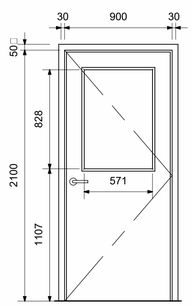
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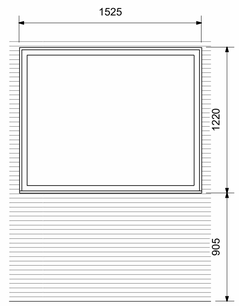
TYP. INTERIOR



D102



D104
D112
D113



W01

DOOR SCHEDULE						
MARK	WIDTH	HEAD HEIGHT	FIRE RATING	FRAME/PANEL MATERIAL	COMMENTS	HARDWARE GROUP
D101	1800	2100	N/A	INSULATED HOLLOW METAL		SEE SPECIFICATIONS
D102	1800	2100	45min	HOLLOW METAL		SEE SPECIFICATIONS
D103	900	2100	45min	HOLLOW METAL		SEE SPECIFICATIONS
D104	900	2110	N/A	HOLLOW METAL	BORROW LIGHT	SEE SPECIFICATIONS
D105	900	2100	N/A	HOLLOW METAL		SEE SPECIFICATIONS
D106	900	2100	N/A	INSULATED HOLLOW METAL		SEE SPECIFICATIONS
D107	900	2100	N/A	HOLLOW METAL		SEE SPECIFICATIONS
D108	900	2100	N/A	HOLLOW METAL		SEE SPECIFICATIONS
D109	900	2100	N/A	HOLLOW METAL		SEE SPECIFICATIONS
D110	900	2100	N/A	HOLLOW METAL		SEE SPECIFICATIONS
D111	900	2100	N/A	HOLLOW METAL		SEE SPECIFICATIONS
D112	900	2100	N/A	HOLLOW METAL	BORROW LIGHT	SEE SPECIFICATIONS
D113	900	2100	N/A	HOLLOW METAL	BORROW LIGHT	SEE SPECIFICATIONS
D114	900	2100	N/A	HOLLOW METAL		SEE SPECIFICATIONS

BUILDING CODE SUMMARY

FIRM NAME:
CONCENTRIC ASSOCIATES INTERNATIONAL INC.
626 QUEEN ELIZABETH WAY, SUITE 201
IQALUIT, NUNAVUT
X0A 0H0

NAME OF PROJECT:
AB - WATER TREATMENT PLANT
-
ARCTIC BAY, NUNAVUT

SEAL

ITEM	NATIONAL BUILDING CODE DATA MATRIX PART 3	NBC REFERENCE (DIVISION B UNLESS NOTED OTHERWISE)
1.	PROJECT DESCRIPTION: ■ NEW ☐ ADDITION ☐ ALTERATION	■ PART 3 [A] 1.3.3.2
2.	MAJOR OCCUPANCY(S): F3 INDUSTRIAL	3.1.2.1
3.	BUILDING AREA (m²) EXISTING_____ NEW ~482m² TOTAL ~482m²	[A] 1.4.1.2
4.	GROSS FLOOR AREA (m²) EXISTING_____ NEW ~482m² TOTAL ~482m²	---
5.	NUMBER OF STOREYS ABOVE GRADE: 1	[A]1.4.1.2 &3.2.1.1
6.	NUMBER OF STREETS/FIRE FIGHTER ACCESS: 1 STREET	3.2.2.10 &3.2.5
7.	BUILDING CLASSIFICATION: GROUP F, DIVISION 3, ONE STOREY	3.2.2.89
8.	SPRINKLER SYSTEM ENTIRE BUILDING REQUIRED: ☐ YES ■ NO PROPOSED: ☐ BASEMENT ONLY ☐ IN LIEU OF ROOF RATING	3.2.2.20-.92 3.2.1.5 3.2.2.17
9.	STANDPIPE REQUIRED ☐ YES ■ NO	3.2.5.8
10.	FIRE ALARM REQUIRED ☐ YES ■ NO	3.2.4
11.	WATER SERVICE/SUPPLY IS ADEQUATE ■ YES ☐ NO	3.2.5.7
12.	HIGH BUILDING ☐ YES ■ NO	3.2.6
13.	CONSTRUCTION: ■ NON-COMBUSTIBLE REQUIRED ☐ COMBUSTIBLE PERMITTED ACTUAL CONSTRUCTION: ■ NON-COMBUSTIBLE ☐ COMBUSTIBLE ☐ BOTH	3.2.2.89
14.	MEZZANINE(S) AREA (m²) N/A	3.2.1.1.(3)-(7)
15.	OCCUPANT LOAD BASED ON ☐ m²/PERSON ■ DESIGN OF BUILDING OFFICE AREA: 2 PERSONS PLANT AREA: 7 PERSONS	3.1.17
16.	OCCUPANT LOAD PER SEX: LESS THAN 10 PERSONS WATER CLOSETS: REQUIRED / PROVIDED FIRST FLOOR 1 / 1 TOTAL 1 / 1 UNIVERSAL TOILET ROOMS INCLUDED IN COUNT: 0	3.7.2.2
17.	BARRIER FREE DESIGN ☐ YES ■ NO (EXPLAIN)_BASED ON 3.8.2.1.(1).(c)	3.8
18.	HAZARDOUS SUBSTANCES ☐ YES ■ NO	3.3.1.2
19.	REQUIRED FIRE RESISTANCE RATING (F.R.R.) HORIZONTAL ASSEMBLIES — LISTED DESIGN NO. OR DESCRIPTION (SB-2) FLOORS N/A HOURS — NON-COMBUSTIBLE ROOF N/A MIN — NON-COMBUSTIBLE MEZZANINE N/A HOURS — NON-COMBUSTIBLE SUPPORTING MEMBERS — LISTED DESIGN NO. OR DESCRIPTION (SB-2) N/A	3.2.2.20-92. 3.2.1.4
20.	SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS	3.2.3

WALL	AREA OF EBF (m²)	L.D. (m)	L/H OR H/L	PERMITTED MAX. % OF OPENINGS	PROPOSED % OF OPENINGS	F.R.R. (HOURS)	REQUIRED WALL CONSTRUCTION	REQUIRED CLADDING 3.2.3.7
NORTH	112.72	>14	11.25:1	100	0	45min	N/A	N/A
EAST	50.95	>9	3.8:1	100	0	45min	N/A	N/A
SOUTH	126.74	>14	10:1	100	6.38	45min	N/A	N/A
WEST	50.95	>9	3.6:1	100	0	45min	N/A	N/A

NOTE:
- BUILDING DESIGNED AS POST-DISASTER
- MAXIMUM ALLOWABLE TRAVEL DISTANCE = 30m

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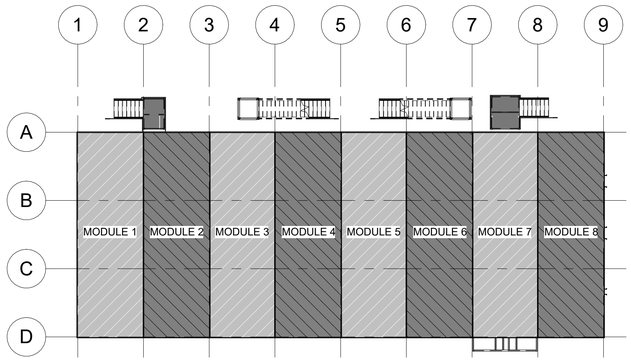
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 23-10175

SHEET NO. A-1

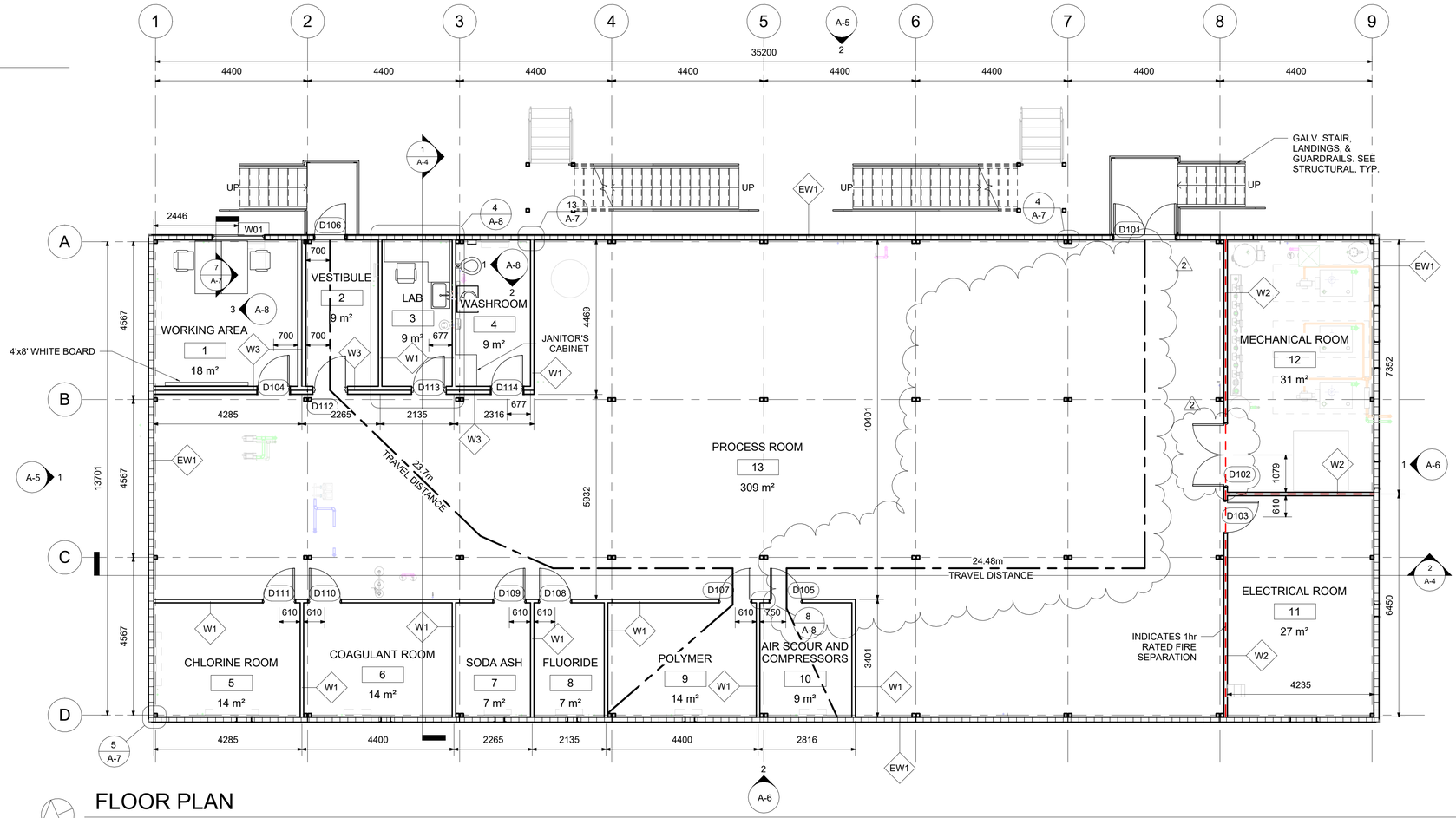
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KEY PLAN

1 : 200



FLOOR PLAN

1 : 75

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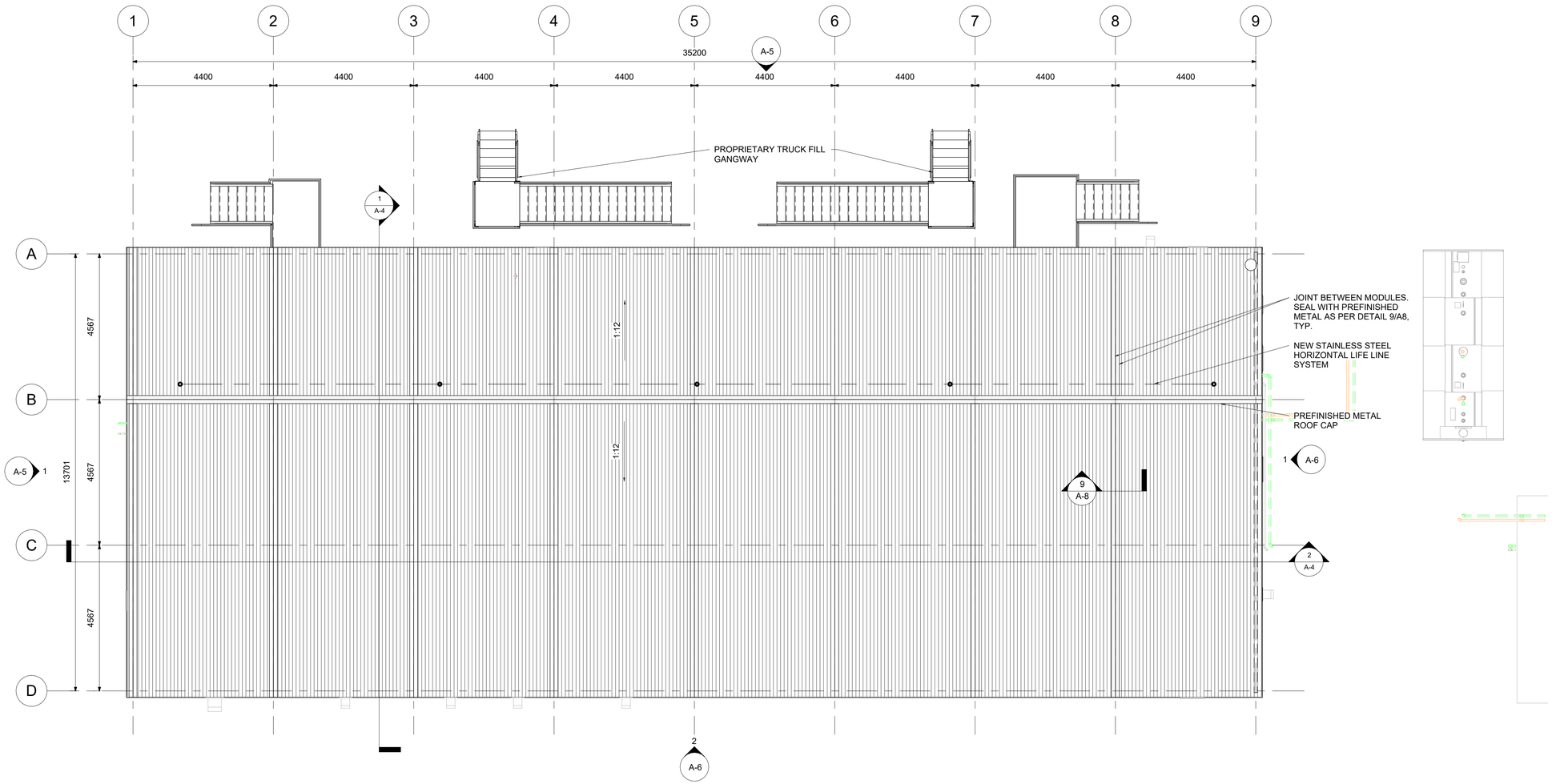
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DRAWN	ECP
CHECKED BY	SFV
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SCALE	As indicated

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FLOOR PLAN

PROJECT NO. 23-10175

SHEET NO. **A-2**



ROOF PLAN

1 : 75

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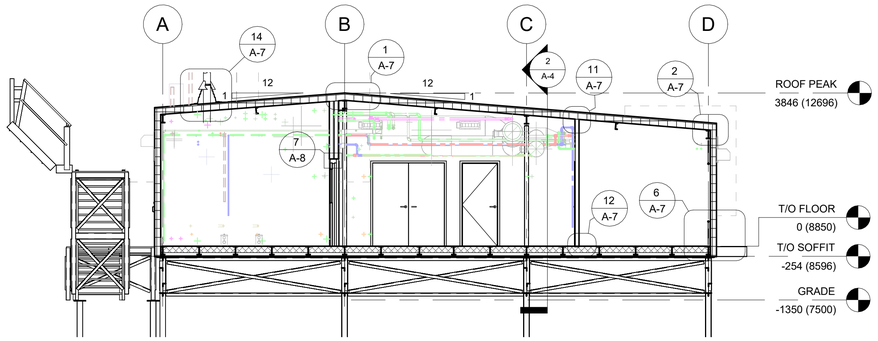
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REVIEWED BY	SFV
DRAWN	ECP
CHECKED BY	SFV
DATE	AUGUST 2025
SCALE	1 : 75

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ROOF PLAN

PROJECT NO. 23-10175

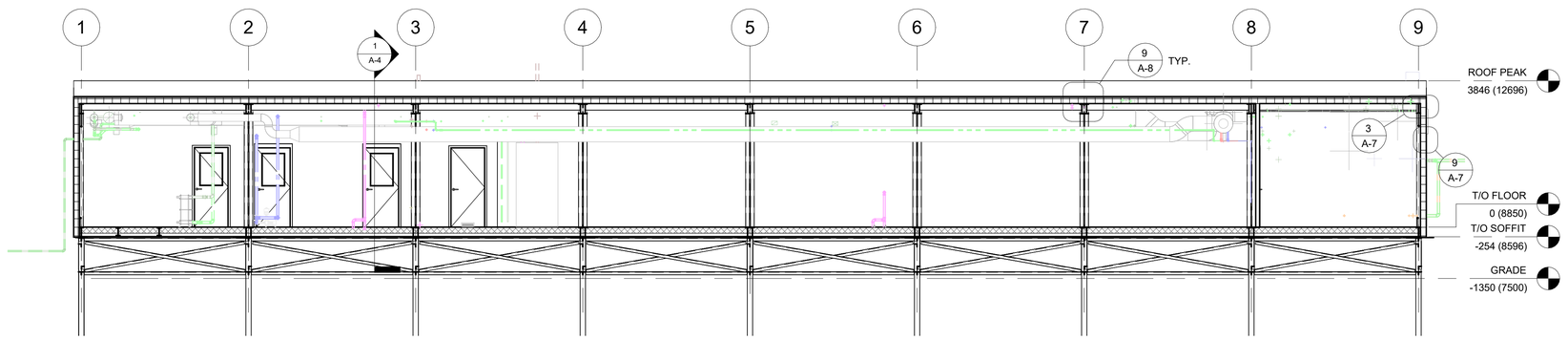
SHEET NO. A-3



1 SECTION

1 : 75

NOTE: ELEVATION IN BRACKETS IS THE GEODETIC ELEVATION.



2 SECTION

1 : 75

NOTE: ELEVATION IN BRACKETS IS THE GEODETIC ELEVATION.

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08/08/2025
S.F. VERSTEEGEN
LICENSEE
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Date 08/08/2025
PERMIT NUMBER: P 492
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(867) 979-4180

No.	ISSUED FOR	DATE	BY
2	CONSTRUCTION REV 1	2025-AUG-8	VCV
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REVIEWED BY	SFV
DRAWN	ECP
CHECKED BY	SFV
DATE	AUGUST 2025
SCALE	1 : 75

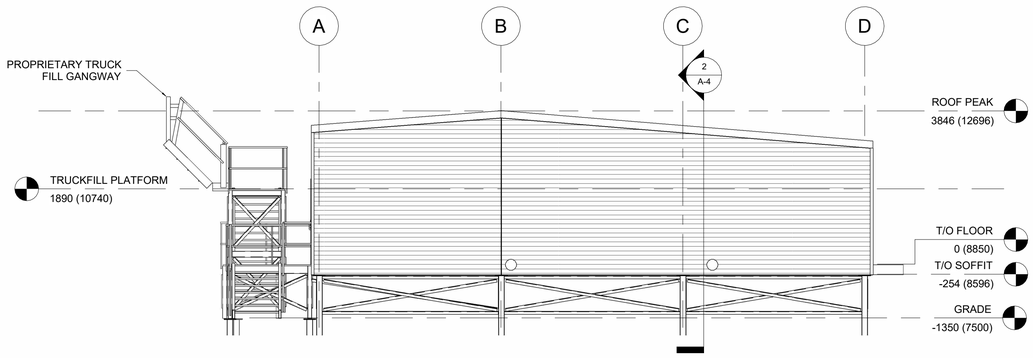
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

BUILDING SECTIONS

PROJECT NO. 23-10175

SHEET NO. A-4

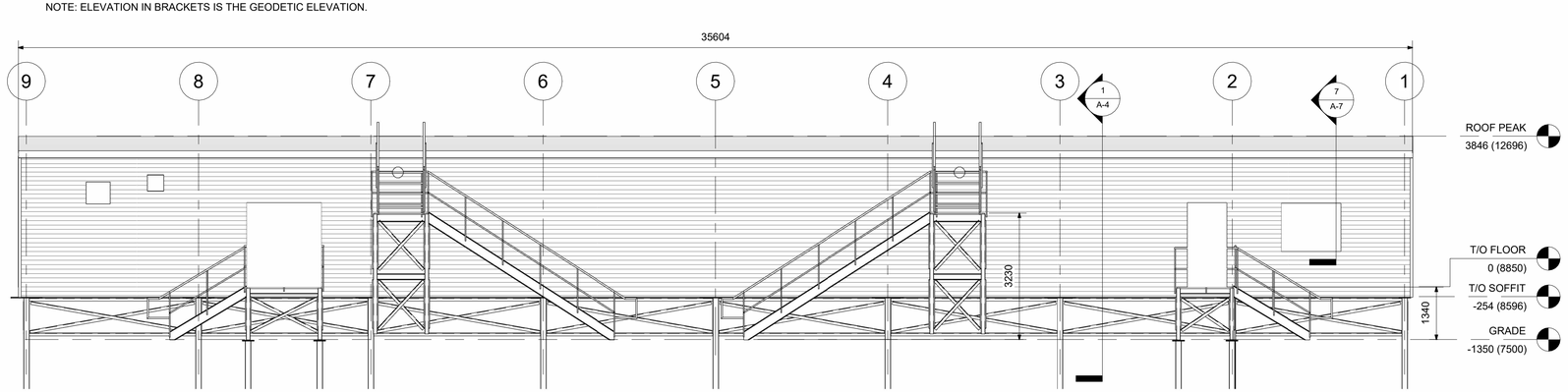
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1 WEST ELEVATION

1 : 75

NOTE: ELEVATION IN BRACKETS IS THE GEODETIC ELEVATION.



2 NORTH ELEVATION

1 : 75

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DESIGN	LJJ
REVIEWED BY	SFV
DRAWN	ECP
CHECKED BY	SFV
DATE	AUGUST 2025
SCALE	1 : 75

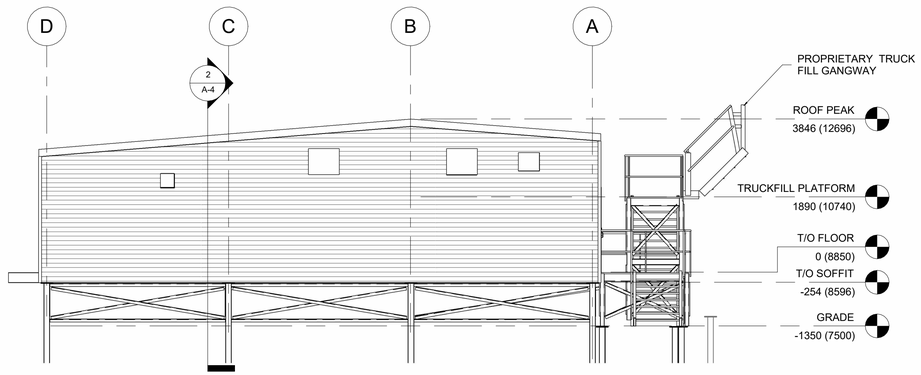
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 23-10175

WEST & NORTH ELEVATIONS

SHEET NO. A-5

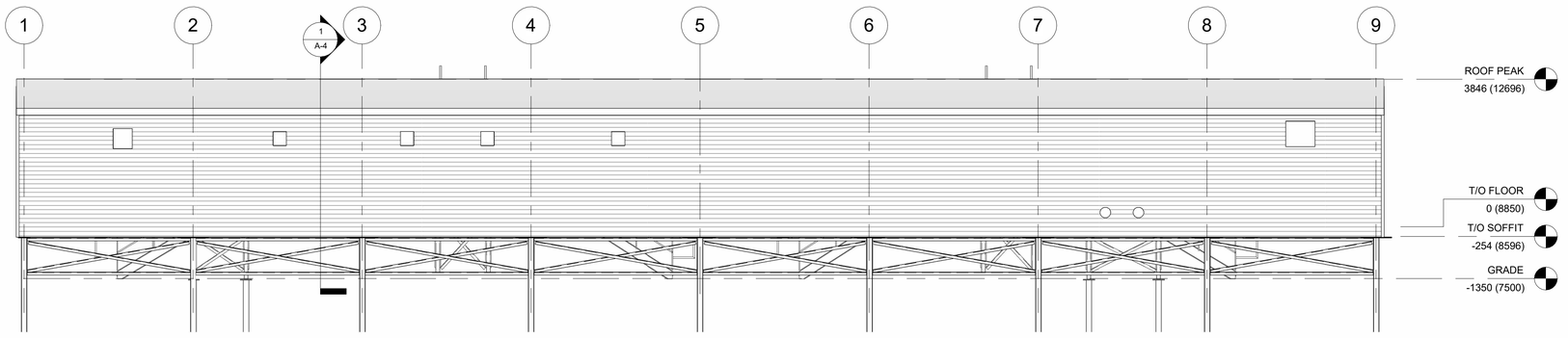
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1 EAST ELEVATION

1 : 75

NOTE: ELEVATION IN BRACKETS IS THE GEODETIC ELEVATION.



2 SOUTH ELEVATION

1 : 75

NOTE: ELEVATION IN BRACKETS IS THE GEODETIC ELEVATION.

PLOT DATE: 2025-08-26 12:00:29 PM
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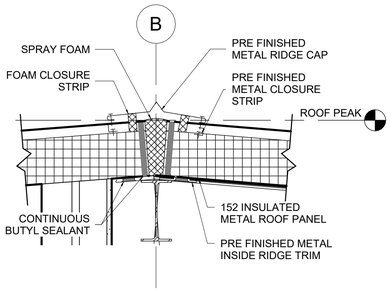
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DRAWN: ECP | CHECKED BY: SFV
DATE: AUGUST 2025
SCALE: 1 : 75

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

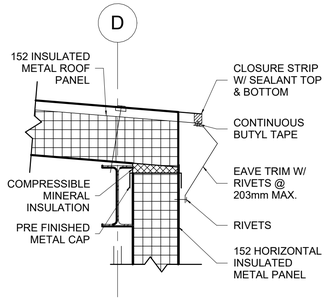
PROJECT NO. 23-10175

EAST & SOUTH ELEVATIONS

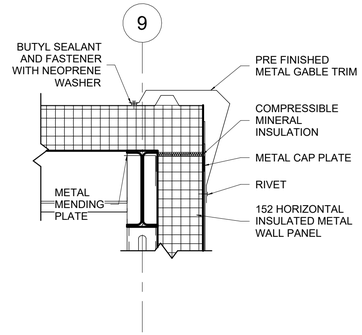
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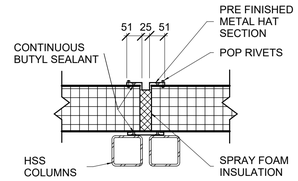
1 ROOF PEAK
1 : 10



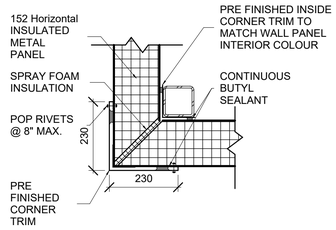
2 ROOF EAVE
1 : 10



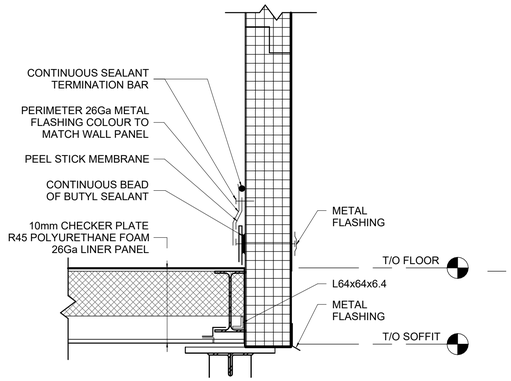
3 ROOF END FLASHING
1 : 10



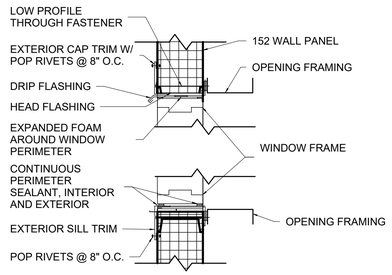
4 TYP. EXT. WALL PANEL JOINT
1 : 10



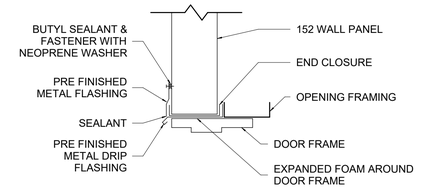
5 TYP. EXTERIOR CORNER
1 : 10



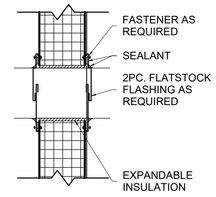
6 TYP. BASE OF EXT. WALL
1 : 10



7 WINDOW HEAD/SILL
1 : 10

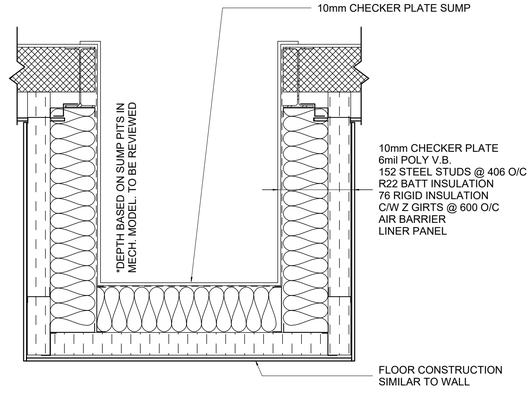


8 TYP. EXT. DOOR HEADER
1 : 10

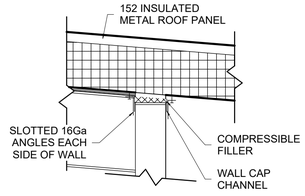


NOTE:
DO NOT ALIGN PENETRATIONS AT PANEL JOINT LOCATIONS

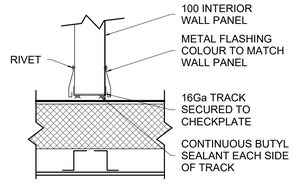
9 TYP. WALL PENETRATION
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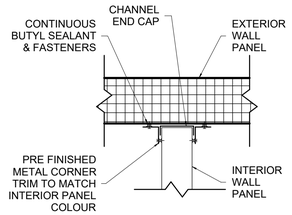
10 SUMP PIT SECTION
1 : 10



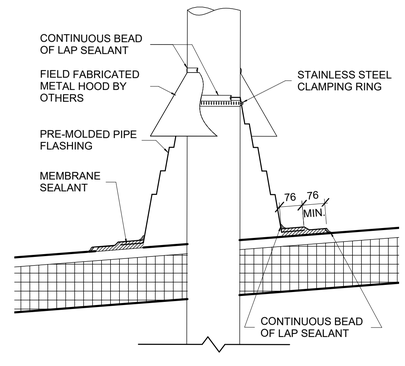
11 INTERIOR WALL @ ROOF
1 : 10



12 INTERIOR WALL @ FLOOR
1 : 10



13 INT. WALL TO EXT. WALL
1 : 10



14 TYP. ROOF PENETRATION
1 : 10

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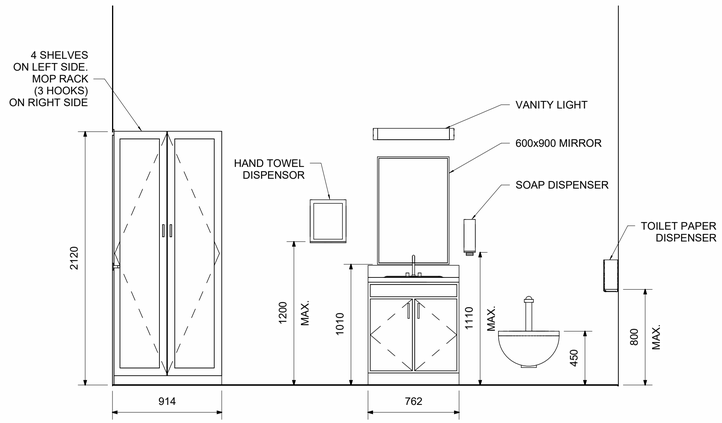
DESIGN: LJJ | REVIEWED BY: SFV
DRAWN: ECP | CHECKED BY: SFV
DATE: AUGUST 2025
SCALE: 1 : 10

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

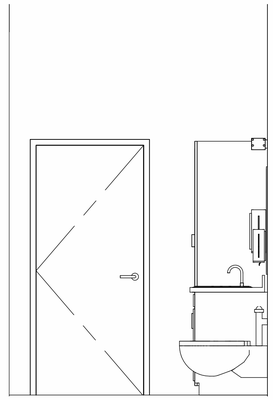
ARCHITECTURAL DETAILS

PROJECT NO. 23-10175
SHEET NO. A-7

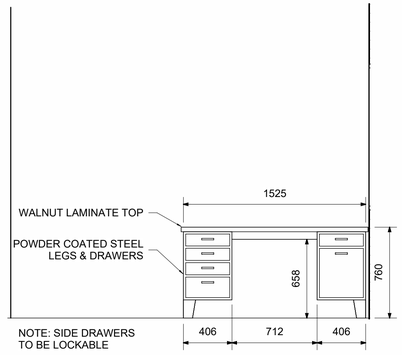
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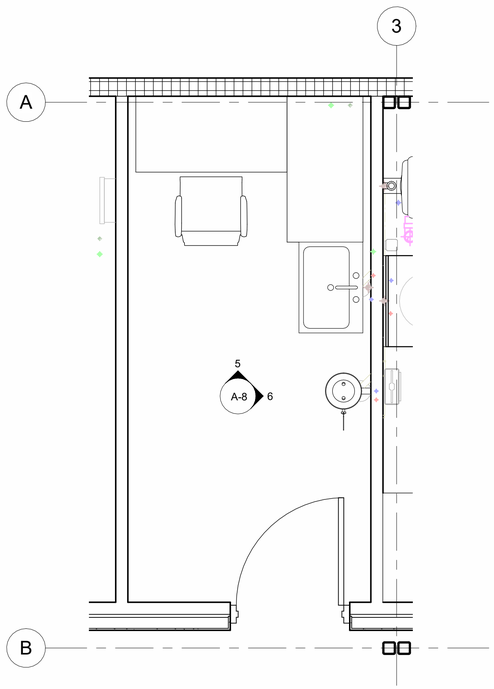
1 W/C INTERIOR ELEVATION - A
1 : 25



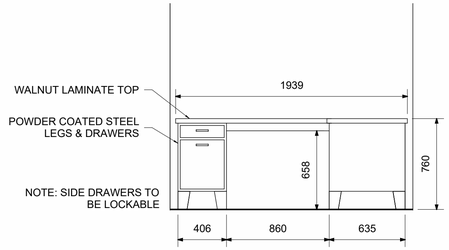
2 W/C INTERIOR ELEVATION - B
1 : 25



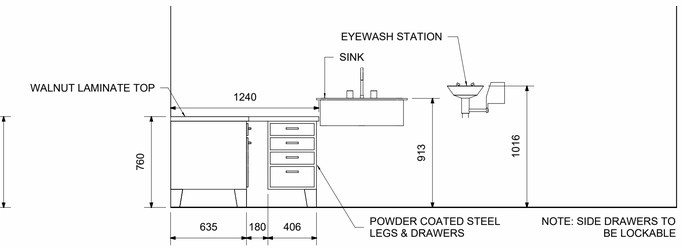
3 WORK AREA ELEVATION
1 : 25



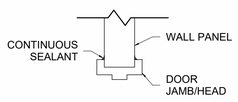
4 LAB FLOORPLAN
1 : 25



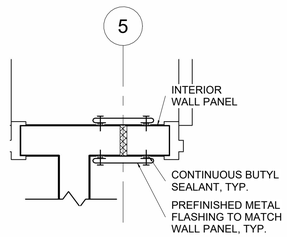
5 LAB INTERIOR ELEVATION - A
1 : 25



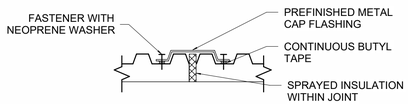
6 LAB INTERIOR ELEVATION - B
1 : 25



7 INT. DOOR HEAD/JAMB
1 : 10



8 TYP. INT. WALL PANEL JOINT
1 : 10



9 ROOF PANEL JOINT
1 : 10

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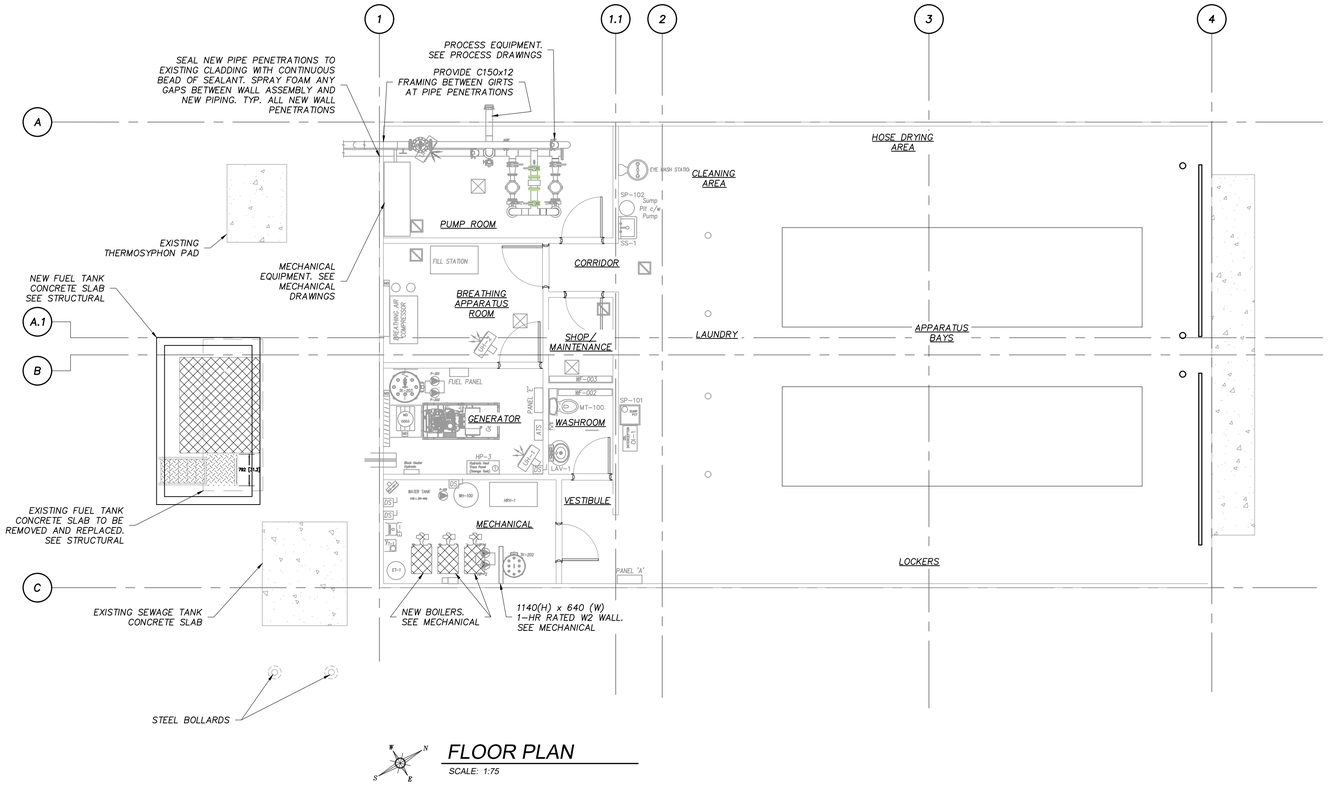
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DRAWN: ECP | CHECKED BY: SFV
DATE: AUGUST 2025
SCALE: As indicated

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

INTERIOR DETAILS & ELEVATIONS

PROJECT NO. 23-10175
SHEET NO. A-8

PLOT DATE: 2025-08-26 12:02:33 PM
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FLOOR PLAN

SCALE: 1:75

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DRAWN	ECP
CHECKED BY	SFV
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SCALE	AS SHOWN

GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY FIRE HALL EMERGENCY FIRE WATER TANK

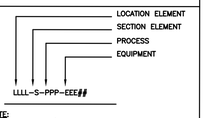
FLOOR PLAN

PROJECT NO. 23-10175

SHEET NO. A-9

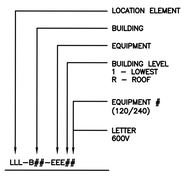
PROCESS LEGEND – MISCELLANEOUS

EQUIPMENT FRAGMENT No. DESIGNATION

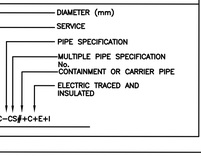


NOTE:
– EQUIPMENT No.'s RESTART AT 1 FOR EACH SECTION.

NON PROCESS RELATED EQUIPMENT
(ie. PANEL, SUMP PUMP, ELT.)



PIPING LINE DESIGNATION



PIPE SIZE CONVERSION

IMPERIAL(in)	METRIC(mm)	IMPERIAL(in)	METRIC(mm)
1/8	3	14	350
1/4	6	15	380
3/8	10	16	16"
1/2	12	18	450
3/4	20	20	500
1	25	24	600
1–1/4	32	30	750
1–1/2	40	36	900
2	50	42	1050
2–1/2	65	48	1200
3	75	54	1350
4	100	60	1500
5	125	66	1650
6	150	72	1800
8	200	78	2000
10	10"	84	2100
12	300		

NOTE:
– PIPE SIZES ARE NOMINAL
– PIPE SIZES FROM 2" TO 60" CONVERSION BASED ON CSA STANDARD Z245.1
– PIPE SIZES FROM 2" AND SMALLER CONVERSION BASED ON EUROPEAN ISO STANDARD
– OTHER PIPE SIZES ARE CONVERSIONS ROUNDED TO THE NEAREST ARBITRARILY ASSIGNED WHOLE NUMBER

PIPE MATERIAL ABBREVIATIONS

SYMBOL	MATERIAL
ABS	ACRYLONITRILE BUTADIENE STYRENE
AL	ALUMINUM
AC	ASBESTOS CEMENT
CONC	CONCRETE GRAVITY
CPP	CONCRETE PRESSURE
CS#	CARBON STEEL
CU#	COPPER
DI	DUCTILE IRON
FRP	FIBREGLASS REINFORCED PLASTIC
GALV	GALVANIZED STEEL
RR	REINFORCED RUBBER
PE	POLYETHYLENE
PPL	POLYPROPYLENE LINED CARBON STL.
PVC#	POLYVINYL CHLORIDE
SS#	STAINLESS STEEL
TUB#	TUBING

FOLLOWING SYMBOL INDICATES PIPING WITH MULTIPLE MATERIAL SPECIFICATIONS
EXAMPLE : SS1 (SCH. 40 316SS) SS2 (SCH. 80 316SS)

PROCESS LEGEND – SERVICE ABBREVIATIONS

SYMBOL	COMMODITY	SYMBOL	COMMODITY
AA	AQUEOUS AMMONIA	NaSI	SODIUM SILICATE
AAS	AERATION AIR SUPPLY	NG	NATURAL GAS
ACTSI	ACTIVATED SILICA	OCL	HYPOCHLORITE
AMG	AMMONIA GAS (ANHYDROUS)	OF	OVERFLOW
AML	AMMONIA LIQUID (ANHYDROUS)	OZNE	OZONE TANK EFFLUENT
AMS	AMMONIA SOLUTION	OZNI	OZONE TANK INFLUENT
ALUM	ALUMINUM SULPHATE	OZ	OZONE
AS	AERATED SEWAGE	PA	PROCESS AIR
CBD	CLARIFIER BLOWDOWN	PACL	POLYALUMINUM CHLORIDE
CEN	CENTRIFUGE CENTRATE WATER	PLY	POLYELECTROLYTE
CHW	CHEMICAL WASTE	PLYPH	POLYPHOSPHATE
CLD	CHLORINE DIOXIDE	PS	PRIMARY SLUDGE
CLG	CHLORINE GAS	PSW	PLANT SERVICE WATER
CLS	CHLORINE SOLUTION	PW	POTABLE WATER
CO2	CARBON DIOXIDE	PWW	PROCESS WASTE WATER
CUS	COPPER SULPHATE	RAS	RETURN ACTIVATED SLUDGE
CW	COLD WATER	RSD	RECIRCULATED SLUDGE DISCHARGE
CWR	COOLING WATER RETURN	RSS	RECIRCULATED SLUDGE SUCTION
CWS	COOLING WATER SUPPLY	RSW	RAW SEWAGE
CWW	COOLING WASTE WATER	RW	RAW WATER
DHW	DOMESTIC HOT WATER	RWW	RAW WASTE WATER
DIS	DIGESTED SLUDGE	RWAS	RAW WASTE ACTIVATED SLUDGE
DR	DRAIN	RWL	RAINWATER LEADER
EE	ENGINE EXHAUST	SA	SCOURING AIR
EW	EFFLUENT WATER	SAM	SAMPLE
F	FLUORIDE	SAN	SANITARY
FA	FLUOSILICIC ACID	SCE	SECONDARY CLARIFIER EFFLUENT
FBW	FILTER BACKWASH SUPPLY	SCS	SCRUBBING SOLUTION
FEC	FERRIC CHLORIDE	SCUM	SCUM
FEFF	FILTER EFFLUENT	SDG	SULPHUR DIOXIDE GAS
FESU	FERRIC SULPHATE	SDS	SULPHUR DIOXIDE SOLUTION
FHS	HYDROFLUOSILICIC ACID	SETW	SETTLED WATER
FILW	FILTER TO WASTE	SG	SLUDGE GAS (DIGESTER)
FINF	FILTER INFLUENT	SGC	SLUDGE GAS CIRCULATED (DIGESTER)
FLW	FLOCCULATED WATER	SGF	SLUDGE GAS FUEL (DIGESTER)
FLS	FLUORIDE SOLUTION	SGH	SLUDGE GAS (HIGH PRESSURE)
FO	FUEL OIL	SLD	SETTLED SLUDGE
FOF	FUEL OIL FILL	SLG	MIXED SLUDGE
FOR	FUEL OIL RETURN	SLU	SLUDGE UNLOADING
FOS	FUEL OIL SUPPLY	SQW	SQUEEZE WATER (FILTER PRESS)
FOV	FUEL OIL VENT	STM	STORM
FSW	FILTER SURFACE WASH	SUP	SUPERNATANT
FW	FILTERED WATER	SW	SCREENED WATER
GT	GRIT	SWW	SCREENED WASTE WATER
HCL	HYDROCHLORIC ACID	TRW	TREATED WATER
HSO	SULPHURIC ACID	TS	THICKENED SLUDGE
HWR	HOT WATER RETURN (HEATING)	TURB	TURBIDITY
HWS	HOT WATER SUPPLY (HEATING)	TWAS	TREATED WASTE ACTIVATED SLUDGE
IA	INSTRUMENT AIR	TWW	TREATED WASTE WATER
KMnO	POTASSIUM PERMANGANATE	V	VENT
LPG	LIQUID PROPANE GAS	VA	VENT (AIR)
ML	MIXED LIQUOR	VP	VENT (PUMPING)
NaCO	SODIUM CARBONATE	VT	VENT (TANK)
NaHCO	SODIUM BICARBONATE	WAS	WASTE ACTIVATED SLUDGE
NaOCl	SODIUM HYPOCHLORITE	WD	WASTE DRAIN
NaOH	SODIUM HYDROXIDE	WBW	WASTE BACKWASH WATER

PROCESS LEGEND – VALVE SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
VGA	GATE	VGL	GLOBE
VTW	THREE–WAY	VAN	ANGLE
VBA	BALL	VPL	PLUG
VBU	BUTTERFLY	VSQ	STOP COCK
VKG	KNIFE GATE	VNE	NEEDLE
VKRM	DIAPHRAGM	VPN	PINCH
VMU	MUD	SQC	SQUARE HEAD COCK
VSC	SWING CHECK	VSC	SPRING CHECK
VSC	WEIGHTED CHECK	VED	ELECTRIC CHECK
VDC	DOUBLE DOOR CHECK	VBC	BALL CHECK
KRMP	FLAP	KRMS	FOOT VALVE/ STRAINER
VAC	AIR VACUUM	VAV	AIR & VACUUM
VAR	AIR RELEASE	VSR	SAFETY RELIEF
PRV	PRESSURE REDUCING (SELF CONTAINED)	ASV	ANGLE SEAT VALVE
BPV	BACK PRESSURE (SELF CONTAINED)	PRV	PRESSURE REDUCING
SG	STOP GATE	BPV	BACK PRESSURE
SLG	SLIDE GATE	AWG	ADJUSTABLE WEIR GATE
VRO	ROTARY	STL	STOP LOGS
KRMP	DAMPER	SCG	SLUICE GATE
INJQ	INJECTION QUILL WITH CORPORATION STOP	VDB	DUCKBILL CHECK
VHYD	YARD HYDRANT	SHG	SHEAR GATE
	BLOCK AND BLEED VALVE	EDV	ENERGY DISSIPATING VALVE

1. DIRECTION OF FLOW FOR THE ABOVE SYMBOLS IS FROM LEFT TO RIGHT.
2. STATUS MAY BE SHOWN– N.O.=NORMALLY OPEN, N.C.=NORMALLY CLOSED.
3. (VKG*) VKG INDICATES VALVE TYPE AND * INDICATES SPECIFICATION No..
4. ADD ACTUATORS TO VALVES FROM VALVE ACTUATOR TABLE.

PROCESS LEGEND – P & ID SYMBOL DESIGNATIONS

SYMBOL	DESCRIPTION
	PRIMARY FLOW LINE
	SECONDARY FLOW LINE
	TERTIARY LINE
	EXISTING PRIMARY FLOW LINE
	EXISTING SECONDARY FLOW LINE
	EXISTING TERTIARY LINE
	FUTURE PRIMARY FLOW LINE
	FUTURE SECONDARY FLOW LINE
	FUTURE TERTIARY FLOW LINE
	DIRECTION OF FLOW
SLOPE 2%	DIRECTION OF SLOPE (ARROW DOWN GRADE)
	CONNECTION LINE
	LINES CROSSING OVER (BREAK LESSER LINE)
	CHANNEL
INJECTION POINT #1 TO–01	LINE CONTINUATION– TO ANOTHER DRAWING
OUTlet	LINE CONTINUATION– FROM ANOTHER DRAWING
	LINE SPECIFICATION CHANGE
	PNEUMATIC LINE
	ELECTRICAL SIGNAL
	HYDRAULIC LINE
	DATA LINK/FIELDBUS
	INSULATED LINE WITH ELECTRIC TRACING
	INSULATED LINE
	FLEXIBLE LINE

PROCESS LEGEND – EQUIPMENT

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CENTRIFUGAL PUMP		ROTARY PUMP
	METERING PUMP		DUPLEX METERING PUMP
	VERTICAL TURBINE PUMP		CIRCULATING PUMP/INLINE PUMP
	SUBMERSIBLE PUMP		VACUUM PUMP
	SUMP PUMP		PROGRESSIVE CAVITY PUMP
	RECIPROCATING COMPRESSOR		RECIPROCATING PUMP
ENG	COMBUSTION ENGINE		BLOWER (LOBE TYPE)
	CENTRIFUGAL COMPRESSOR	GEN	GENERATOR
VAC	VACUUM PUMP		BLOWER (CENTRIFUGAL)
	INLINE MIXER		CENTRIFUGE
	MIXER		TRAVELING WATER SCREEN
	TANK (OPEN)		HEAT EXCHANGER
OR	TANK (CLOSED)		PRESSURE TANK OR ACCUMULATOR
	SWAB LAUNCHER		GAS CYLINDER (INDICATE CONTENTS)
	ULTRAVIOLET MODULE		SWAB CATCHER
	INLINE GRINDER		PROPELLER PUMP
			ROTARY ROTARY SCREEN

– DENOTES CONSTANT SPEED DRIVE
* – DENOTES VARIABLE SPEED DRIVE (* M FOR MECHANICAL, E FOR ELECTRICAL)
CONSTANT SPEED DRIVES ARE USED FOR ILLUSTRATION PURPOSES ONLY.

PROCESS LEGEND – VALVE ACTUATORS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOAT		DIAPHRAGM
	GEAR		SOLENOID
	LEVER	CW	CHAIN WHEEL
	MOTORIZED VALVE		VALVE BOX (C/W EXTENSION STEM)
	NON RISING STEM (HANDWHEEL)		QUICK OPENING
	RISING STEM (HANDWHEEL)		DOUBLE ACTION PISTON (FAIL CLOSE)
	SINGLE ACTION PISTON (FAIL OPEN)		THERMAL CONTROL VALVE
	PEDESTAL OPERATOR		

NOTE: GATE VALVES ARE USED FOR ILLUSTRATION PURPOSES ONLY

PROCESS LEGEND – INSTRUMENTATION
INSTRUMENTATION DESIGNATION – (ISA–S5.4 1991)

LETTER	FIRST LETTER: INITIATING OR MEASURED VARIABLE	FIRST LETTER: MODIFIER	SUCCEEDING LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING LETTERS: OUTPUT FUNCTION	SUCCEEDING LETTERS:
*** A	ANALYSIS (2)		ALARM		
B	BURNER, COMBUSTION			CLOSE/STOP/DECREASE (1)	
C				CONTROL	
D		DIFFERENTIAL		OPEN/START/INCREASE (1)	
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			FAIL (1)
G			GLASS/VIEWING DEVICE		
****H	HAND				HIGH (OPENED)
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW (CLOSED)
M	MOTOR, MOTION (1)	MOMENTARY		MOTOR (1)	MIDDLE OR INTERMEDIATE
N					ON OR OPERATE (1)
O			ORRIFICE/RESTRILTION		OVERLOAD (1)
P	PRESSURE/VACUUM		POINT (TEST) CONNECTION	PUMP (1)	
Q	QUANTITY	INTEGRATE/TOTALIZE			
R	RADIATION		RECORD		
S	SPEED/FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (2)		MULTIFUNCTION	MULTIFUNCTION (2)	MULTIFUNCTION (2)
V	VIBRATION, MECHANICAL ANALYSIS			VALVE/DAMPER/LOUVRE	
W	WEIGHT/FORCE		WELL		
X	UNCLASSIFIED		UNCLASSIFIED (2)	UNCLASSIFIED (2)	UNCLASSIFIED (2)
Y	EVENT/STATE/PRESSENCE			RELAY/COMPUTER/CONVERT	
Z	POSITION/DIMENSION			DRIVER/ACTUATOR/FINAL UNCLASSIFIED/CONTROL ELEMENT	

WATER TREATMENT / WASTEWATER

***	DESCRIPTION	***	DESCRIPTION
ALU	ALUMINUM	ALU	ALUMINUM
F	FLUORIDE	CB	COMBUSTION GAS
CLC	CHLORINE LEAK	CH4	METHANE
CLR	CHLORINE RESIDUAL	CLC	CHLORINE LEAK
COL	COLOUR	CLR	CHLORINE RESIDUAL
CON	CONDUCTIVITY	CO	CARBON MONOXIDE
OZL	OZONE LEAK	DO	DISSOLVED OXYGEN
OZR	OZONE RESIDUAL	H2S	HYDROGEN SULPHIDE
pH	pH	pH	pH
SCD	STREAMING CURRENT DETECTOR	SS	SUSPENDED SOLIDS
Tu	TURBIDITY	Tu	TURBIDITY
SBI	SLUDGE BLANKET INTERFACE		
****	HAND SWILTH ANNOTATIONS		
FR	FORWARD/REVERSE	RLT	REMOTE–LOCAL–TEST/JOG
LOA	LOCAL–OFF–AUTO (VENDOR	RST	RESET
LOR	LOCAL–OFF–REMOTE (FACILITY PLC/SCADA)	SS	START/STOP
LOS	LOCKOUT/STOP		

NOTE: THIS TABLE IS NOT ALL–INCLUSIVE.
*A, ALARM, THE ANNUNCIATING DEVICE, MAY BE USED IN THE SAME FASHION AS S, SWILTH, THE ACTUATING DEVICE.
**THE LETTERS H AND L MAY BE OMITTED IN THE UNDEFINED CASE.
1) USER'S CHOICE
2) WHEN USED, SYMBOL OR SIGNAL LINE IS ANNOTATED

GENERAL INSTRUMENTATION

SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION	
HMI LOW	MOUNTED LOCALLY	INSTRUMENT SYMBOLS		LOGIC GATE – AND (INTERLOCK IS EFFECTIVE ONLY IF ALL INPUTS ARE ACTIVE)	INTERLOCK SYMBOLS
HMI LOW	MOUNTED ON FACE OF PANEL			LOGIC GATE – OR (INTERLOCK IS EFFECTIVE IF ONE OR MORE INPUTS ARE ACTIVE)	
HMI LOW	MOUNTED BEHIND PANEL DOOR			LOGIC GATE – OR (INTERLOCK IS EFFECTIVE IF ONE OR MORE INPUTS ARE ACTIVE)	
	SCADA INPUT/OUTPUT	SCADA SYMBOL		COMPLEX OR UNDEFINED INTERLOCK	
SP	NOT ACCESSIBLE TO OPERATOR	DISTRIBUTED CONTROL SYSTEM (DCS) INSTRUMENTATION SYMBOLS		PANEL NUMBER n	AUTOMATION SYMBOLS
SP	ACCESSIBLE TO OPERATOR			MOTOR CONTROL CENTRE NUMBER n	
SP	AUXILIARY LOCATION			PROGRAMASWILE CONTROLLER I/O RACK NUMBER n	
SP	NOT ACCESSIBLE TO OPERATOR	PROGRAMMABLE CONTROLLER INSTRUMENTATION		SUPPLIED AND INSTALLED BY OTHER DIVISIONS. CONNECTED BY THIS DIVISION.	
SP	ACCESSIBLE TO OPERATOR			RESET FOR LALTH TYPE ACTUATOR	
HMI	PILOT LIGHT			PURGE OR FLUSHING DEVICE	MISCELLANEOUS SYMBOLS

PROCESS LEGEND – PRIMARY FLOW ELEMENTS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	WEIR	F	SNAP–ON FLOW METER		THERMAL WELL
	INSERT VENTURI		SONIC FLOW METER		GAUGE INDICATOR
	PITOT TUBE (SINGLE)	M	MAGNETIC FLOW METER		ULTRASONIC LEVEL METER
	PILOT TUBE (AVERAGING)		ORIFICE PLATE		
	FLUME		FLOW SIGHT GLASS		
	TURBINE / PROPELLER		ROTAMETER		
	POSITIVE DISPLACEMENT		STATIC INLINE MIXER		

PROCESS LEGEND – MISCELLANEOUS SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
S.P.	SAMPLE POINT (12mm)		TRENCH DRAIN		STRAINER
D.P.	DRAIN POINT (MIN. 12mm)		UNION	VC	VICTAULIC COUPLING
D.T.	DRIP TAP		HOSE CONNECTION		BLIND FLANGE
	IN LINE STRAINER		EYEWASH		WASH BASIN
	DRAIN / OVERFLOW		AERATION SYSTEM FINE OR COARSE BUBBLE		CLEANOUT
DIA	PIPE MATERIAL CHANGE		DIAPHRAGM SEAL	FA	FLAME ARRESTOR
FA	THERMAL TRAP ASSEMBLY (FLAME ARRESTER + THERMAL CONTROL VALVE)		CAMLOCK CONNECTION		

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PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
A.S. WILLIAMS
LICENSEE
2025-09-16
NT/NU

ISSUED FOR CONSTRUCTION

Canada
Nunavut

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No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION REV1	2025-AUG-01	ASW
1	ISSUED FOR CONSTRUCTION	2025-APR-10	ASW
0	ISSUED FOR TENDER	2024-NOV-29	ASW

DESIGN: JLD | REVIEWED BY: DWM
DRAWN: CG | CHECKED BY: ASW
DATE: AUGUST 2025
SCALE: NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
PROCESS LEGEND

PROJECT NO. 24-7464

SHEET NO. PD-0

FILENAME: C:\USERS\10SMZ\DC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\10_WATER–WASTEWATER\247464–10–PID–CONLDWG PLOTTED BY: ZORGDRAGER, SHANNON
PLOT DATE: 2025–08–27 @ 10:07:14 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON–STANDARD.CTB

RAW WATER FILTER STRAINERS (1 DUTY, 1 STANDBY)

STRAINER No.1

STRAINER No.2

SODA ASH CHEMICAL SKID

COAGULANT CHEMICAL SKID

POLYMER CHEMICAL SKID

COAGULANT

SODA ASH

POLYMER (FUTURE)

AIR BURST COMPRESSOR

FLOCCULATION TANK/ DISSOLVED AIR FLOATATION (DAF) UNIT

DAF BUFFER TANK

MEMBRANE FEED PUMPS (2 DUTY, 1 STANDBY)

WASTE TANK

TRUCK HAULAGE

EXISTING RAW WATER LAKE

No.1

No.2

BYPASS

AIR SATURATOR

DAF RECIRCULATION PUMPS

SLUDGE FEED PUMPS (1 DUTY, 1 STANDBY)

DAF AIR COMPRESSOR

FLUORIDE CHEMICAL SKID

CHLORINE CHEMICAL SKID

FLUORIDE (PROVISIONAL)

SODIUM HYPOCHLORITE

BYPASS

PERMEATE TANK No.1 (BACKWASH)

MEMBRANE TRAIN No.1

ULTRAFILTRATION MEMBRANE TREATMENT TRAINS

INTAKES TO SUBMERSIBLE RAW WATER PUMPS (1 DUTY, 1 STANDBY)

TO FUTURE RO

FROM FUTURE RO

EXTERNAL EMERGENCY INTAKE

UV No.1

PERMEATE VACUUM PUMP No.1

MEMBRANE TRAIN No.2

MEMBRANE WASTE PUMPS (1 DUTY, 1 STANDBY)

PERMEATE TANK No.2 (BACKWASH)

PERMEATE VACUUM PUMP No.2

MEMBRANE BLOWER No.1

MEMBRANE BLOWER No.2

EMERGENCY FIRE BYPASS

TREATED WATER STORAGE

RECIRCULATION PUMPS (1 DUTY, 1 STANDBY)

UV No.2

ULTRAVIOLET DISINFECTION REACTORS (1 DUTY, 1 STANDBY)

TO PLANT WATER SYSTEM

BACKFLOW PREVENTOR

TRUCK FILL No.1

TRUCK FILL No.2

TRUCK FILL PUMPS (2 DUTY, 1 STANDY)

EMERGENCY FIRE BYPASS

FILENAME: C:\USERS\10SMZ\DC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2 WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CONLDWG PLOTTED BY: ZORGDRAGER, SHANNON
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JLD	DWM
DRAWN	CHECKED BY
CG	ASW
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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
PROCESS FLOW DIAGRAM

PROJECT NO. 24-7464

SHEET NO. PFD1

NOTE:
I/O SHOWN ON PLC PANEL SHALL BE INCLUDED IN SCADA EXCEPT WHERE NOTED OR SHOWN SYMBOLICALLY.

SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL

HOA HS 110 DI | START MD 110 DO | FAULT MA 110 DI | RUNNING MN 110 DI | SPD SC 110 AO | SPD FDBK SI 110 AI

HOA HS 120 DI | START MD 120 DO | FAULT MA 120 DI | RUNNING MN 120 DI | SPD SC 120 DI | SPD FDBK SI 120 AI

HS 110 — HOA — I — VFD 110

HS 120 — HOA — I — VFD 120

FAULT MA 110 DI | RUN MN 110 DI | START MD 110 DI

CONTROLLER
AB–CP01

OPEN ZD 110 DO | CLOSE ZC 110 DO

OPEN ZD 111 DO | CLOSE ZC 111 DO

NOTES:

1. CHECK VALVES TO BE REMOVED FROM INTAKE PUMPS.
2. 2x AIR BURST LINES ARE TO BE INSULATED AND HEAT TRACED AND ARE TO BE FIELD ROUTED TO THE INTAKE SCREENS. AIR LINES TO BE SUPPORTED ON UNISTRUT MOUNTS ANCHORED TO THE INTAKE SUPPORT BLOCKS. REFER TO CIVIL DRAWINGS FOR DETAILS.

NOTE:
1. AIR BURST SYSTEM PACKAGE, INCLUDING COMPRESSOR. ALL PIPING AND WIRING TO AND FROM THE COMPRESSOR SYSTEM.

M 130 — AMBIENT ROOM AIR — M FIT 110 — COMPRESSOR C–110 — 50–PA–304SS — VSR 110

COMPRESSOR RECEIVER CR–110

VBA 111 — M FIT 120 — PSL 110 — PRV 110 — PSL 120 — VBA 112 — PRV 111 — PG 110 — VSR 111 — VSC 110

50–PA–SS — VBU 110 — VBA 113 — VBU 111 — VBA 114

FACTORY SET TO 200PSI

VBA 110 — S — SVGA 110

TO FLOOR

AIR BURST SYSTEM
AB–110

OUTSIDE BUILDING | INSIDE BUILDING

FISH SCREEN — M 110 — 50–PA–HDPE+E+I DR 9 — 100–RW–HDPE — RAW WATER INTAKE PUMP No.1 P–110

FISH SCREEN — M 120 — 50–PA–HDPE+E+I DR 9 — 100–RW–HDPE — RAW WATER INTAKE PUMP No.2 P–120

INTAKE CARRIER 355mm HDPE DR 17 INSULATED & HEAT TRACED

100–RW–HDPE — HDPE SS — 50–PA–HDPE — 100–RW–SS — RAW WATER FEED TO SCREENING PD–2

100–RW–HDPE — HDPE SS — 50–PA–HDPE — 100–RW–SS — RAW WATER FEED TO SCREENING PD–2

INTAKE

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NT/NU Association of Professional Engineers and Geoscientists

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SCALE NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
RAW WATER INTAKE

PROJECT NO. 24-7464

SHEET NO. PD-1

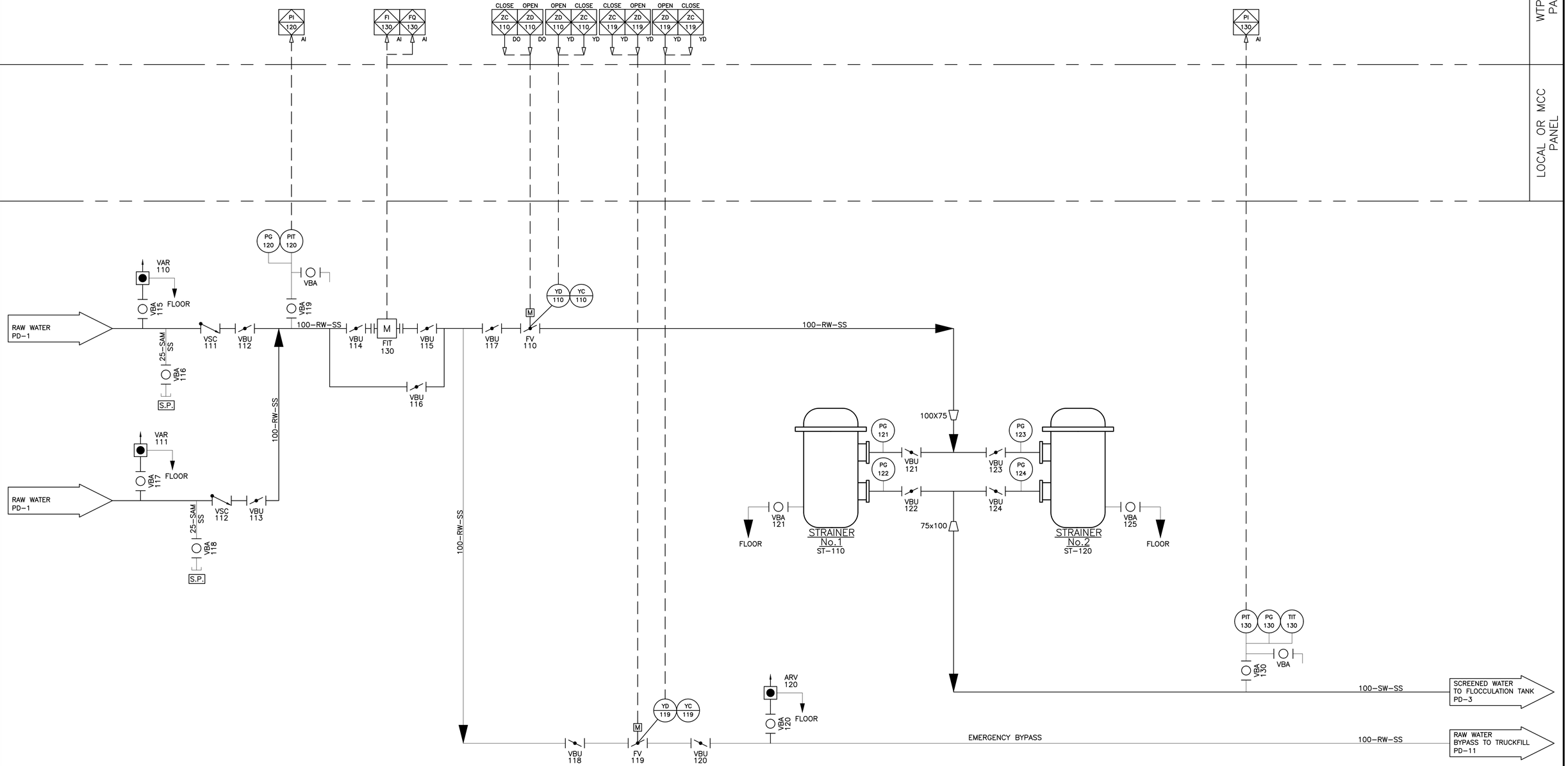
FILENAME: C:\USERS\105MZVJC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGBRAGER, SHANNON
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SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL



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NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
A.S. WILLIAMS
LICENSEE
2025-09-16
NT/NU

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2	ISSUED FOR CONSTRUCTION REV1	2025-AUG-01	ASW
1	ISSUED FOR CONSTRUCTION	2025-APR-10	ASW
0	ISSUED FOR TENDER	2024-NOV-29	ASW

DESIGN JLD | REVIEWED BY DWM
DRAWN CG | CHECKED BY ASW
DATE AUGUST 2025
SCALE NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
RAW WATER SCREENING

PROJECT NO. 24-7464

SHEET NO. PD-2

FILENAME: C:\USERS\105MZ\OCACDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2 WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGRAGER, SHANNON
PLOT DATE: 2025-08-27 @ 10:07:16 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

NOTE:
I/O SHOWN ON PLC PANEL SHALL BE INCLUDED IN SCADA EXCEPT WHERE NOTED OR SHOWN SYMBOLICALLY.

SCADA

WTP PLC PANEL

DAF CONTROL PANEL

DAF CONTROL PANEL
DAF-CP01

HOA START FAULT RUNNING SPD SPD FDBK
HS MD MA MN SC SI
210 210 210 210 210 210
DI DO DI DI AO AI

RUN RW PUMP RUNNING RW FLOW
YC YC FT
210 210 210
DO DO AI

START RW PUMP ACTIVE FAULT
YI YI YA
210 210 210
DO DO DO

HS 210 — HOA — I — VFD 210

HOA START FAULT RUNNING SPD SPD FDBK
HS MD MA MN SC SI
220 220 220 220 220 220
DI DO DI DI AO AI

HS 220 — HOA — I — VFD 220

FAULT RUN START REMOTE OPEN
MA MN MD HS ZD PI
270 270 270 270 210 210
DI DI DI DI DO AI

HS 270 — I — LOA

HOA START FAULT RUNNING SPD SPD FDBK
HS MD MA MN SC SI
240A 240 240 240 240 240
DI DO DI DI AO AI

HS 240 — HOA — I — VFD 240

LI 210 AI

HOA START FAULT RUNNING
HS MD MA MN
250 250 250 250
DI DO DI DI

HS 250 — HOA — I — VFD 250

RUN RW PUMP RUNNING RW FLOW START RW PUMP ACTIVE FAULT
YC YC FT YI YI YA
210 210 210 210 210 210
DO DO AO DI DI DI

RUN RW PUMP RUNNING RW FLOW START RW PUMP ACTIVE FAULT
YI YI FI YC YC YA
210A 210B 210 210 210B 210
DI DI AI DO DO DO

HOA START FAULT RUNNING CLOSE OPEN CLOSE OPEN
HS MD MA MN ZC ZD ZC ZD
260 260 260 260 214 214 212 212
DI DO DI DI DO DO DO DO

HS 260 — HOA — I — VFD 260

HOA START FAULT RUNNING SPD SPD FDBK
HS MD MA MN SC SI
280 280 280 280 280 280
DI DO DI DI AO AI

HS 280 — HOA — I — VFD 280

PS 220 DI

HOA START FAULT RUNNING SPD SPD FDBK
HS MD MA MN SC SI
290 290 290 290 290 290
DI DO DI DI AO AI

HS 290 — HOA — I — VFD 290

① ②

POLYMER (FUTURE)
PD-16

COAGULANT
PD-12

SODA ASH
PD-14

SCREENED WATER
PD-2

TUBING TO BE RUN WITH NO HIGH POINT GAS TRAPS INSIDE 50mmØ PVC SCH80 CARRIER PIPE (TYP.)

VBA 830
VBA 810
VBA 820
VBA 811

ARV 210
VBA 210
SUMP
VBU 211A
100-SW-SS
PG 210
25-SAM-SS
VBA 212
S.P.
VBU 211
INJ 810
SM-810

NOTE: COAGULANT LINES TO BE LOCATED SUCH THAT THERE IS MINIMAL DISTANCE BETWEEN THE COAGULANT TEE (WHERE IT SPLITS TO BE INJECTED AT THE DAF) AND THIS INJECTION POINT.

NOTE 1

M 210 FLASH MIXER

M 220 FLOC MIXER

M 240 FLOAT SKIMMER

LIT 210

FLOCCULATION TANK/DISSOLVED AIR FLOTATION (DAF) UNIT
TK-210

BPV 210

PIT 210
VBA 213

AIR SATURATOR
AS-210

VGA 210

DAF AIR COMPRESSOR
M 270
DAC-210

VBU 218
VBU 215
VSC 210
50x25
M 250
VBU 214
32x50

DAF RECIRCULATION PUMP No.1
P-210

VBU 217
VSC 211
50x25
M 260
VBU 216
32x50

DAF RECIRCULATION PUMP No.2
P-220

150x100
VBU 219
FLOAT OUTLET
VPL 211
VPL 212
75-SLG-SS
100-SW-SS

SEDIMENT OUTLET
VPL 213
VPL 214
50-SLG-SS

50x100
VPL 220
M 280
SLUDGE FEED PUMP No.1
P-230
VSC 220
VPL 221
100x150
150-SLG-SS

100-SLG-SS
VPL 230
M 290
SLUDGE FEED PUMP No.2
P-240
VSC 230
VPL 231

PG 220
PSH 220
VBA 220
VBA

100-SW-SS
DAF BUFFER TANK
PD-4

WASTE LINE
WASTE TO OUTDOOR TANK
PD-7

BYPASS
100-SW-SS
DAF BYPASS
TO BUFFER TANK
PD-4

NOTES:

1. VENDOR SUPPLIED DISSOLVED AIR FLOATATION UNIT. NOT ALL PIPING AND WIRING SHOWN. NOTE SUPPLIER TO PROVIDE THE COMPLETE SYSTEM.
2. VENDOR SUPPLIED DISSOLVED AIR FLOATATION ANCILLARY EQUIPMENT LOOSE SHIPPED.

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

PROCESS AND INSTRUMENTATION
DAF (DISSOLVED AIR FLOATATION) SYSTEM

SHEET NO. PD-3

FILENAME: C:\USERS\105MZ\OC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2 WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGDRAGER, SHANNON
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NOTE:
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SCADA

WTP PLC PANEL

DAF CONTROL PANEL

pH AI 230 — AI
TURB AI 240 — AI
LI 220 — AI
LSHH 230 — DI
LSLL 240 — DI
HOA HS 330 — DI
START MD 330 — DO
FAULT MA 330 — DI
RUNNING MN 330 — DI
SPD SC 330 — AO
SPD FDBK SI 330 — AI
HOA HS 320 — DI
START MD 320 — DO
FAULT MA 320 — DI
RUNNING MN 320 — DI
SPD SC 320 — AO
SPD FDBK SI 320 — AI
HOA HS 310 — DI
START MD 310 — DO
FAULT MA 310 — DI
RUNNING MN 310 — DI
SPD SC 310 — AO
SPD FDBK SI 310 — AI
PI 330 — AI

HS 330 HOA — I — VFD 330
HS 320 HOA — I — VFD 320
HS 310 HOA — I — VFD 310

pH AIT 230
TURB AIT 240
VNE 212
VBA 217
FI 230
VBA 216
SUMP

DAF EFFLUENT PD-3 — 100-SW-SS
DAF BYPASS PD-3 — 100-SW-SS — VBU 231

100-VT-SS
REMOVABLE COVER
100-OF-SS
LIT 220
LE 220
LSHH 230
LSLL 240
VBA 230
FLOOR
DAF BUFFER TANK TK-220

LEVEL	CORRESPOND TO TAKE LEVEL (m)	DESCRIPTION
OVERFLOW	2.0	DESCRIPTION
HHWL ALARM	2.0	FLOAT
HWL ALARM	1.9	SENSOR
LWL ALARM	0.8	SENSOR
LWLL ALARM	0.7	FLOAT
LLWL ALARM	0.7	SENSOR

VBU 230 — 100-SW-SS — 25-SAM SS — VBA 231 — S.P.

M 310 — VSC 310 — VBU 311 — VBU 310 — MEMBRANE FEED PUMP No.1 P-310
M 320 — FLEX COUPLING — VSC 320 — VBU 321 — VBU 320 — MEMBRANE FEED PUMP No.2 P-320
M 330 — FLEX COUPLING — VSC 330 — VBU 331 — VBU 330 — MEMBRANE FEED PUMP No.3 P-330

VBU 322
VBU 323
ARV 310 — VBA 310 — SUMP
PG 330 — PIT 330 — VBA 330

100-SW-SS — MEMBRANE TRAIN No.1 PD-5
100-SW-SS — MEMBRANE TRAIN No.2 PD-6
100-SW-SS — BYPASS TO UV SYSTEM PD-8

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
DAF (DISSOLVED AIR FLOATATION) BUFFER TANK AND MEMBRANE FEED PUMPS

PROJECT NO. 24-7464

SHEET NO. PD-4

NOTE:
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SCADA

WTP PLC PANEL

MEMBRANE TRAIN 1 CONTROL PANEL

UF CONTROL PANEL
UF-CP01

AIR COMPRESSOR No.1
AC-310

VACUUM EJECTOR

MEMBRANE TRAIN No.1
TK-310

PERMEATE VACUUM PUMP No.1
P-340

PERMEATE TANK No.1
TK-320

BLOWER No.1
B-310

ACOUSTIC ENCLOSURE

SILENCER
SIL-311

SILENCER
SIL-310

FILTER
F-310

ROOM AIR

100-AAS-PVC

100-OF-PVC

150-OF-PVC

150-FW-PVC

100-FW-PVC

50-DR-PVC

150x50

150x100

50x100

100-FW-SS

100-SLG-SS

MEMBRANE FEED PUMP
PD-4

UV DISINFECTION
PD-8

MEMBRANE WASTE PUMPS
PD-7

TO SUMP

FLOOR

OWNER SUPPLIED VALVE

NOTES:

MEMBRANE SYSTEM IS A REPRESENTATION. SUPPLIER TO SUPPLY P&ID REFLECTING THEIR SYSTEM AND CONFIGURATION.

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ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
MEMBRANE TRAIN No.1

PROJECT NO. 24-7464

SHEET NO. PD-5

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NOTE:
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SCADA

WTP PLC PANEL

MEMBRANE TRAIN 2 CONTROL PANEL

UF CONTROL PANEL
UF-CP02

AIR COMPRESSOR No.2
AC-320

VACUUM EJECTOR

MEMBRANE TRAIN No.2
TK-330

PERMEATE VACUUM PUMP No.2
P-350

PERMEATE TANK No.2
TK-340

ACOUSTIC ENCLOSURE

BLOWER No.2
B-320

SILENCER
SIL-321

SILENCER
SIL-320

FILTER
F-320

ROOM AIR

MEMBRANE FEED PUMP
PD-4

OWNER SUPPLIED VALVE

UV DISINFECTION
PD-8

MEMBRANE WASTE PUMPS
PD-7

TO SUMP

FLOOR

FLOOR

NOTES:

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SCALE	NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
MEMBRANE TRAIN No.2

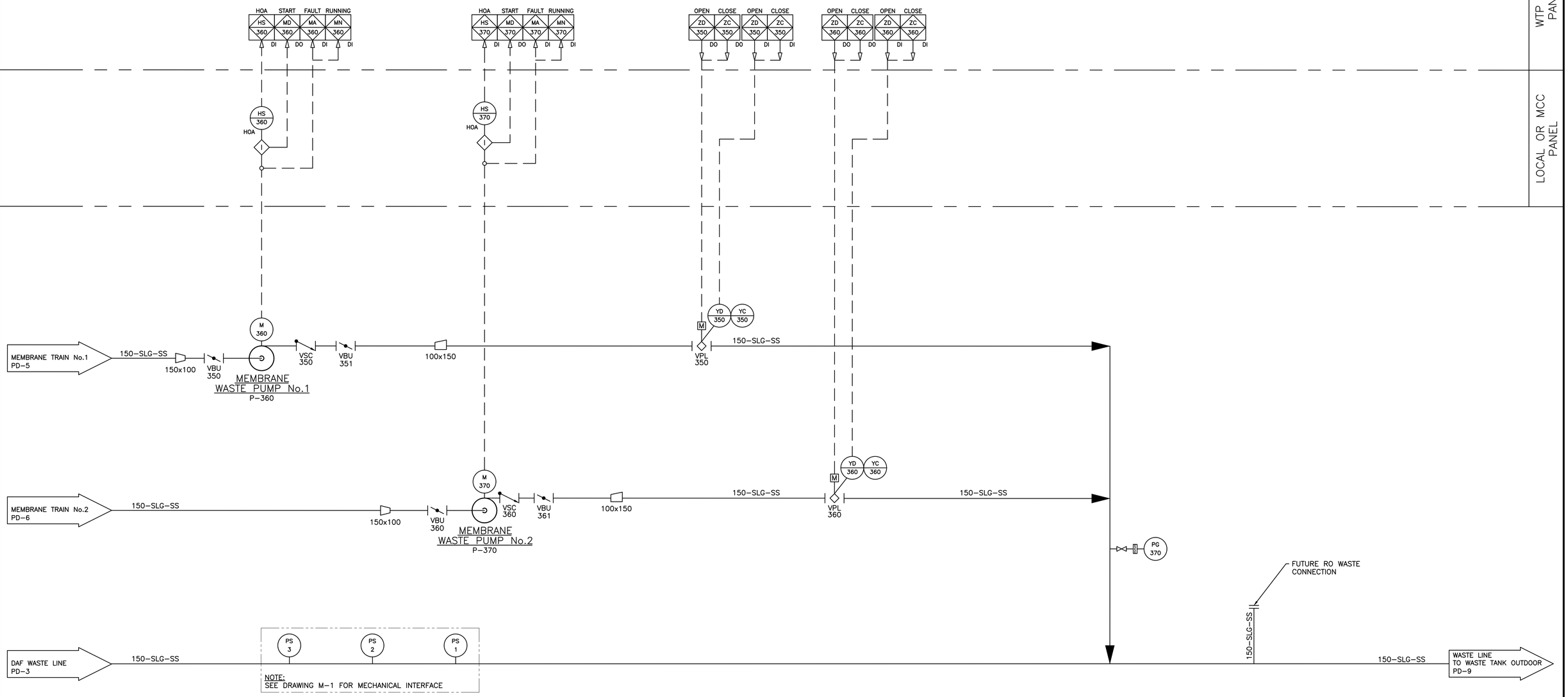
PROJECT NO. 24-7464

SHEET NO. PD-6

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NOTE:
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SCADA | WTP PLC PANEL | LOCAL OR MCC PANEL



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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

PROCESS AND INSTRUMENTATION MEMBRANE WASTE PUMPS

SHEET NO. PD-7

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SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL

WARM-UP RUNNING COMPLETE FAULT START UVT
YI 410 YI 410 YA 410 YC 410 YI 410
DI DI DI DO AI

WARM-UP RUNNING COMPLETE FAULT START UVT
YI 420 YI 420 YA 420 YC 420 YI 420
DI DI DI DO AI

FI 410 FQ 410
AI DI

CLOSE OPEN
ZC 760 ZD 760
DO DO

CL2
AI 420
AI

UV CONTROL PANEL
UV-CP01

UV CONTROL PANEL
UV-CP-02

MEMBRANE TRAIN No.1
PD-5

MEMBRANE TRAIN No.2
PD-6

100-FW-SS

100-SW-SS

VAR 410
VBA 412 SUMP

VBU 410
100x150

AE 410
UVT

UV TRAIN No.1
UV-410

M 410

150x100

VBU 412

100-TRW-SS

VBU 411

VBU 423

VAR 420
VBA 420 SUMP

VBU 422

100-TRW-SS

AE 420
UVT

150x100

VBU 421

VBU 424

M
FIT 410

VBU 425

VSC 410

VBU 427

VBU 420
100x150

UV TRAIN No.2
UV-420

M 420

VBU 426

FUTURE RO CONNECTION

100-PW-SS

100-PW-SS

SM-760

VBA 421 VNE 421

FI 420

CL2
AIT 420

100-TRW-SS

TREATED WATER TANK
PD-10

PROCESS SUMP

50-PW-SS

VBA 760 SVGA 760

VBA 760

UF BYPASS FROM MEMBRANE FEED PUMPS
PD-4

RECIRCULATION
PD-11

50-PW-SS

VBU 430

CHLORINE
PD-13

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ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
UV DISINFECTION

PROJECT NO. 24-7464

SHEET NO. PD-8

NOTE:
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SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL

START FAULT RUNNING
MD 500 DO
MA 500 DI
MN 500 DI

CLOSE OPEN
ZC DO
ZD DO

LA 510 DI
LI 510 AI
LSLL 530 DI
LSHH 520 DI
TI 510 AI

LOCAL CONTROLLER
AC-CP01

PROVIDE GREEN AND RED INDICATOR LIGHT INSIDE TRUCK CONNECTION ENCLOSURE: NORMALLY ENERGIZED GREEN. ENERGIZED RED WHEN LOW TANK LEVEL IS REACHED TO INDICATE TRUCK PUMPING STOP FOR PROPER TANK HEATER OPERATION.

LSL RED
LSH GREEN

VENDOR SUPPLIED PACKAGE

M 500A
AIR COMPRESSOR No.1
AC-500A
VSC 500A
VBU 500A

M 500B
AIR COMPRESSOR No.2
AC-500B
VSC 500B
VBU 500B

INSIDE BUILDING | OUTSIDE BUILDING

PG 500
VBA 500
50-PA-SS
SS HDPE
50-PA-HDPE DR9

LIT 510
LSHH 520
LSLL 530
610-V-316SS+E+I
N16 (SPARE)
VBA 502
VBA 503
VBA 504
VBA 505
VBA 506
VBA 507
N7 N8 N9 N10 N11 N12 N13 N14
N4
LE 510
2
FLEXIBLE TUBING BY AERATION MIXING SUPPLIER
N15 (SPARE)
150-OF SS316
EXTENTS OF TANK INSULATION
N3 150-OF HDPE

NOTE: REFER TO MECHANICAL SCHEMATICS FOR DETAILS

GLYCOL HEATING RETURN TO BOILERS
32-GLYCOL-CS
TI
VBA
M
FCV
VBA
32-GLYCOL-CS+E+I
FLEX HOSE
VBU
N17
HEAT EXCHANGER HX-510

GLYCOL HEATING SUPPLY TO WASTE TANK
32-GLYCOL-CS
VBA
32-GLYCOL-CS+E+I
FLEX HOSE
VBA

PROCESS WASTE FROM BUILDING PD-7
150-SLG-SS
VPL 510
100-SLG-HDPE+E+I
FLEX HOSE
VPL 511
N1

N5 100-INST SS316
TIT 510
TE 510
N18 400-V-SS316+E+I
NOTE 1 (TYP)
MANWAY
M1
N2 75-PWW SS316
VPL 513
TI 510
N6
EXTENT OF FROST BOX ENCLOSURE
100-INST-SS316

150-OF-HDPE+E+I
2
REMOVE DUCKBILL CHECK VALVE SI001
OVERFLOW TO GROUND REFER TO CIVIL

INSIDE BUILDING | OUTSIDE BUILDING

PROCESS WASTE TANK
TK-510

NOTES:

1. TIT TANK NOZZLE FLANGE CONNECTION SIZE TO MATCH REQUIREMENTS OF TIT INSTRUMENT.
1.1. ALL TIT'S TO BE INSTALLED MIN. 0.6m ABOVE TANK BOTTOM ELEVATION.
1.2. ALL TIT'S TO BE COMPLETE WITH THERMOWELLS.
2. FLEX HOSES TO BE STAINLESS STEEL BRAIDED FLEX HOSE WITH FLANGED ENDS RATED FOR USE WITH GLYCOL HEATING SYSTEMS.
3. ALL VENTS ON TANK TO BE INSULATED & HEAT TRACED.
4. ALL DISSIMILAR METALS CONNECTIONS SHALL HAVE FLANGE ISOLATION KITS.
5. ALL PIPING INSIDE THE TANKS TO BE MADE OF 316LSS PIPING UNLESS OTHERWISE NOTED.
6. ALL PIPE SUPPORTS FOR PIPING INTERNAL TO THE TANK TO BE DESIGNED, INSTALLED, AND SUPPLIED BY TANK SUPPLIER.
7. OVERFLOW PIPES TO BE ROUTED TO GROUND AND TERMINATE WITH SS BLOW OFF SCREEN 2m OUTSIDE OF TANK FOUNDATION. PROVIDE RIP RAP AT DISCHARGE POINT. REFER TO PROCESS DETAILS AND CIVIL DRAWINGS FOR INFORMATION.
8. ALL VALVE, PIPES AND FITTINGS CONNECTING OUTSIDE THE TANK TO BE HEAT TRACED AND INSULATED.
9. BIRD SCREEN ON VENT PIPE AND OVERFLOW. OVERFLOW BIRD SCREEN SHALL BE BLOW OUT CAPABLE.
10. BACK SIDE OF FLANGES SHALL CLEAR INSULATION AND CLADDING BY 300mm.

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

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Signature
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PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
A.S. WILLIAMS
LICENSEE
2025-09-16
NT/NU

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Nunavut

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0	ISSUED FOR TENDER	2024-NOV-29	ASW

DESIGN JLD | REVIEWED BY DWM
DRAWN CG | CHECKED BY ASW
DATE AUGUST 2025
SCALE NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
PROCESS WASTE TANK

PROJECT NO. 24-7464

SHEET NO. PD-9

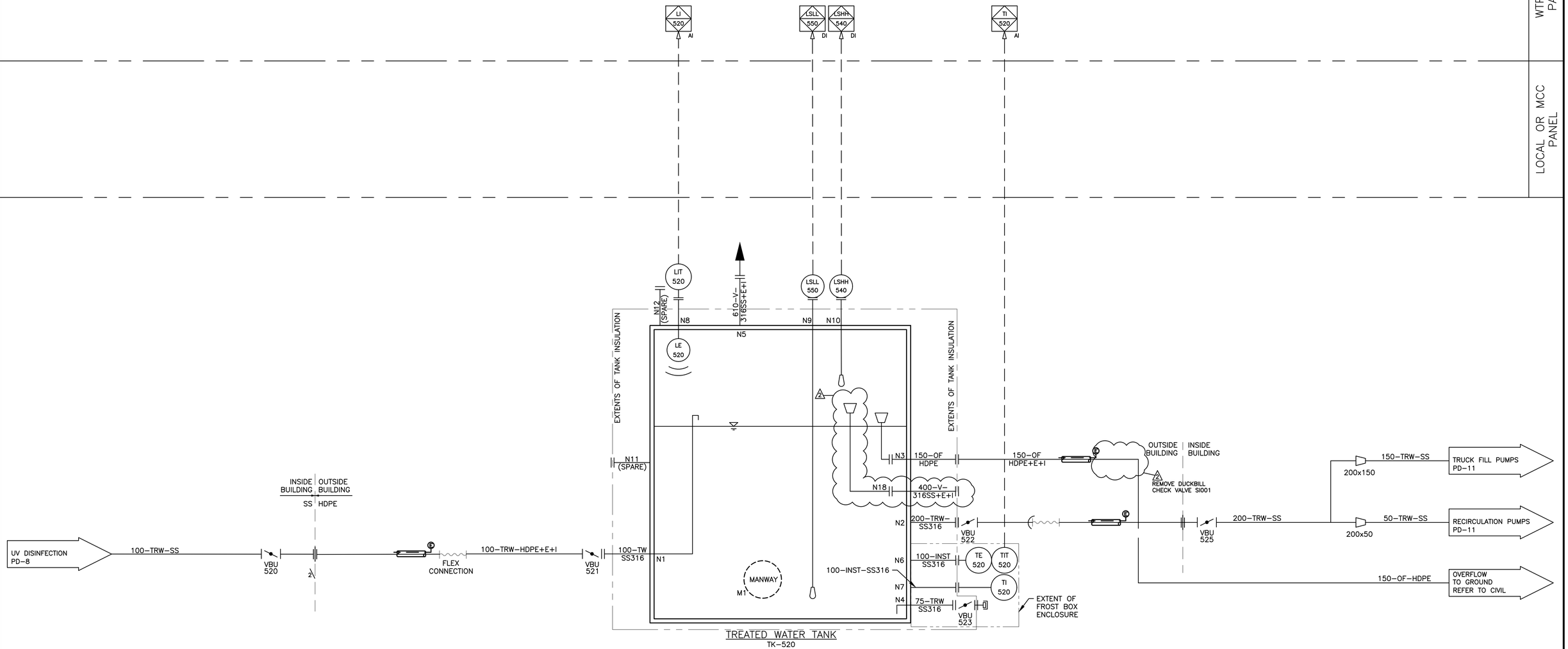
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FILENAME: C:\USERS\JOSMC\DC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGDRAGER, SHANNON

NOTE:
I/O SHOWN ON PLC PANEL SHALL BE INCLUDED IN SCADA EXCEPT WHERE NOTED OR SHOWN SYMBOLICALLY.

SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL



NOTES:

1. TIT TANK NOZZLE FLANGE CONNECTION SIZE TO MATCH REQUIREMENTS OF TIT INSTRUMENT.
1.1. ALL TIT'S TO BE INSTALLED MIN. 1m ABOVE TANK BOTTOM ELEVATION.
1.2. ALL TIT'S TO BE COMPLETE WITH THERMOWELLS.
2. FLEXIBLE RESTRAINED COUPLING TO BE ROMAC ALPHA MODEL FLEXIBLE RESTRAINED COUPLING (SPACED APART BY 1.5M CENTRE TO CENTRE) AS NOTED ON PROCESS LAYOUT DRAWINGS UNLESS SPECIFIED OTHERWISE.
3. FLEX HOSES TO BE STAINLESS STEEL 316 BRAIDED FLEX HOSE WITH FLANGED ENDS RATED FOR USE WITH GLYCOL HEATING SYSTEMS.
4. ALL VENTS ON TANK TO BE INSULATED & HEAT TRACED.
5. ALL DISSIMILAR METALS CONNECTIONS SHALL HAVE FLANGE ISOLATION KITS.
6. ALL PIPING INSIDE THE TANKS TO BE MADE OF 316LSS PIPING UNLESS OTHERWISE NOTED.
7. ALL PIPE SUPPORTS FOR PIPING INTERNAL TO THE TANK TO BE DESIGNED, INSTALLED, AND SUPPLIED BY TANK SUPPLIER.
8. OVERFLOW PIPES TO BE ROUTED TO GROUND AND TERMINATE WITH SS BLOW OFF SCREEN 2m OUTSIDE OF THE TANK FOUNDATION. PROVIDE RIP RAP AT DISCHARGE POINT. REFER TO PROCESS DETAILS AND CIVIL DRAWINGS FOR INFORMATION. (2)
9. BIRD SCREEN ON VENT PIPE AND OVERFLOW. OVERFLOW BIRD SCREEN SHALL BE BLOW OUT CAPABLE.
10. BACK SIDE OF FLANGES SHALL CLEAR INSULATION AND CLADDING BY 300mm.

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DESIGN	REVIEWED BY
JLD	DWM
DRAWN	CHECKED BY
CG	ASW
DATE	AUGUST 2025
SCALE	NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
TREATED WATER TANK

PROJECT NO. 24-7464

SHEET NO. PD-10

FILENAME: C:\USERS\ZGRAGER\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZGRAGER, SHANNON
PLOT DATE: 2025-08-27 @ 10:07:21 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

NOTE:
I/O SHOWN ON PLC PANEL SHALL BE INCLUDED IN SCADA EXCEPT WHERE NOTED OR SHOWN SYMBOLICALLY.

SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL

TRUCK FILL LOCAL CONTROL PANEL

TRUCK FILL #1 LOCAL CONTROL PANEL

TRUCK FILL #2 LOCAL CONTROL PANEL

TREATED WATER TANK PD-10

SM-750

INJ 750

VBA 750

150-PW-SS

TRUCK FILL PUMP No.1 P-510

TRUCK FILL PUMP No.2 P-520

TRUCK FILL PUMP No.3 P-530

BACKFLOW PREVENTOR

FIT 530

FIT 540

FIT 560

FCV 530

FCV 540

PROCESS SUMP

NOTE:
50ø PIPE DRAIN TO PROCESS SUMP. DRAIN LINE INSTALLED AT LOW POINT

150-PW SS

150-PW SS+E+I

INSIDE BUILDING

OUTSIDE BUILDING

TRUCK FILL No.1

TRUCK FILL No.2

100-RW-SS

TE 530

TIT 530

TE 540

TIT 540

RECIRCULATION PUMP No.1 P-540

RECIRCULATION PUMP No.2 P-550

50-PW-SS

150x50

RECIR. TO TREATED WATER TANK INLET PIPE PD-8

CHLORINE PD-13

VBA 770

SVGA 770

INJ 770

RAW WATER BYPASS PD-2

STAT-870

100-SW-SS

FLUORIDE (FUTURE) PD-15

VBA 580

S.P.

HX-001

HX-002

DRAIN TO FLOOR

VBU(NC) 567

VBU(NC) 574

VAR 510

VAR 520

PG 510

PG 520

PG 530

VBA 530

VBA 531

VBA 532

VBA 550

VBA 551

VBA 552

VBA 560

VBA 581

VBA 582

VBA 583

VBA 584

VBA 585

VBA 586

SVGA 531

SVGA 541

VNE 580

AIT 580

FI 580

CL2

TO POTABLE WATER SEE DETAILS ON MECH. DRAWINGS

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION DISTRIBUTION PUMPS

PROJECT NO. 24-7464

SHEET NO. PD-11

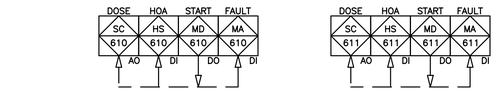
FILENAME: C:\USERS\10SM2\DC\ACCDC5\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2_WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGDRAGER, SHANNON
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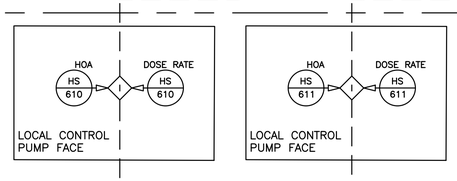
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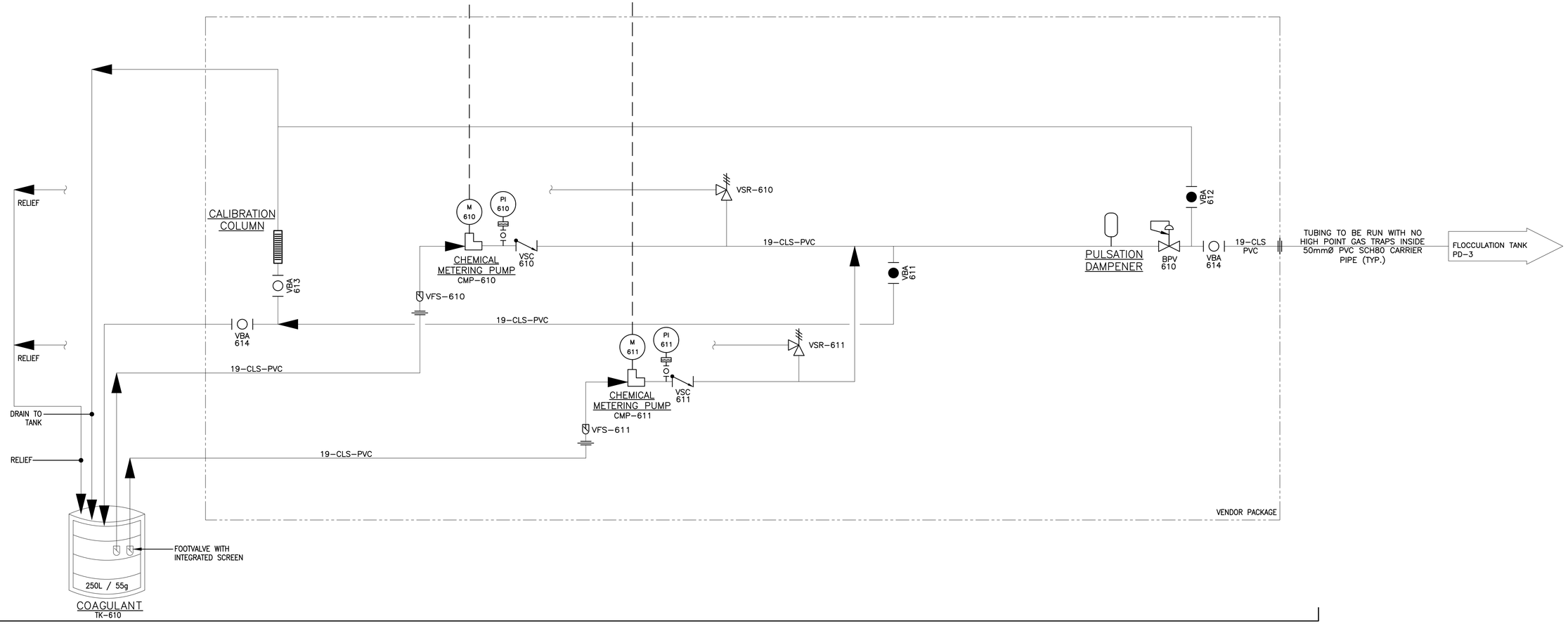
SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL







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DRAWN CG | CHECKED BY ASW
DATE AUGUST 2025
SCALE NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
COAGULANT SYSTEM

PROJECT NO. 24-7464

SHEET NO. PD-12

FILENAME: C:\USERS\10SMO\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP PROJECT FILES\2. WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGDRAGER, SHANNON
PLOT DATE: 2025-08-27 @ 10:07:23 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

NOTE:
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SCADA

WTP PLC PANEL

DOSE	HOA	START	FAULT
SC 620	HS 620	MD 620	MA 620
AO	DI	DO	DI

DOSE	HOA	START	FAULT
SC 621	HS 621	MD 621	MA 621
AO	DI	DO	DI

LOCAL OR MCC PANEL

LOCAL CONTROL PUMP FACE
HOA HS 620 — I — DOSE RATE HS 620

LOCAL CONTROL PUMP FACE
HOA HS 621 — I — DOSE RATE HS 621

VENDOR PACKAGE

19-CLS-PVC

RELIEF

RELIEF

RELIEF

DRAIN TO TANK

CALIBRATION COLUMN

VBA 623

VBA 624

M 620 — PI 620 — VSC 620

CHEMICAL METERING PUMP CMP-620

VSR-620

VFS-620

VBA 621

M 621 — PI 621 — VSC 621

CHEMICAL METERING PUMP CMP-621

VSR-621

VFS-621

PULSATION DAMPENER

BPV 620

VBA 622

VBA 624

19-CLS-PVC

TUBING TO BE RUN WITH NO HIGH POINT GAS TRAPS INSIDE 50mmØ PVC SCH80 CARRIER PIPE (TYP.)

RAW WATER BYPASS PD-11

19-CLS-PVC

TUBING TO BE RUN WITH NO HIGH POINT GAS TRAPS INSIDE 50mmØ PVC SCH80 CARRIER PIPE (TYP.)

POST UV PD-8

FOOTVALVE WITH INTEGRATED SCREEN

250L / 55g

SODIUM HYPOCHLORITE
TK-620

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NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
A.S. WILLIAMS
LICENSEE
2025-09-16
NT/NU

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DESIGN JLD | REVIEWED BY DWM
DRAWN CG | CHECKED BY ASW
DATE AUGUST 2025
SCALE NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION CHLORINE SYSTEM

PROJECT NO. 24-7464

SHEET NO. PD-13

FILENAME: C:\USERS\10SMO\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP PROJECT FILES\2. WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGRAGER, SHANNON
PLOT DATE: 2025-08-27 @ 10:07:23 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

NOTE:
I/O SHOWN ON PLC PANEL SHALL BE INCLUDED IN SCADA EXCEPT WHERE NOTED OR SHOWN SYMBOLICALLY.

SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL

LA 630 DI

DOSE SC 630 AO
HOA HS 630 DI
START MD 630 DO
FAULT MA 630 DI

DOSE SC 631 AO
HOA HS 631 DI
START MD 631 DO
FAULT MA 631 DI

HOA HS 630 — I — DOSE RATE HS 630
LOCAL CONTROL PUMP FACE

HOA HS 631 — I — DOSE RATE HS 631
LOCAL CONTROL PUMP FACE

BUILDING SERVICE WATER
VBA 630
M 630
MIXING TANK TK-630
VBA 631
VBA 632
LSL 630
CONTAINMENT
VBA 633
250L
DAY TANK TK-631
VBA 634
STR 630
VBA 638
CALIBRATION COLUMN
VBA 637
19-NaCO-PVC
VENT BACK TO TANK
RELIEF TO TANK
VSR-630
M 630
PI 630
CHEMICAL METERING PUMP CMP-630
VSC 630
VFS-630
VBA 635
PULSATION DAMPENER
BPV 630
VBA 636
VBA 638
19-NaCO-PVC
TUBING TO BE RUN WITH NO HIGH POINT CAS TRAPS INSIDE 50mmØ PVC SCH80 CARRIER PIPE (TYP.)
FLOCCULATION TANK PD-3
RELIEF
VSR-631
VFS-631
M 631
PI 631
CHEMICAL METERING PUMP CMP-631
VSC 631
VENDOR PACKAGE

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SCALE NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION SODA ASH SYSTEM

PROJECT NO. 24-7464

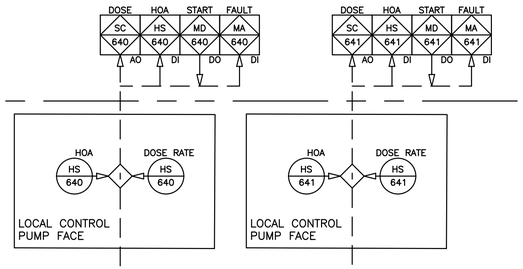
SHEET NO. PD-14

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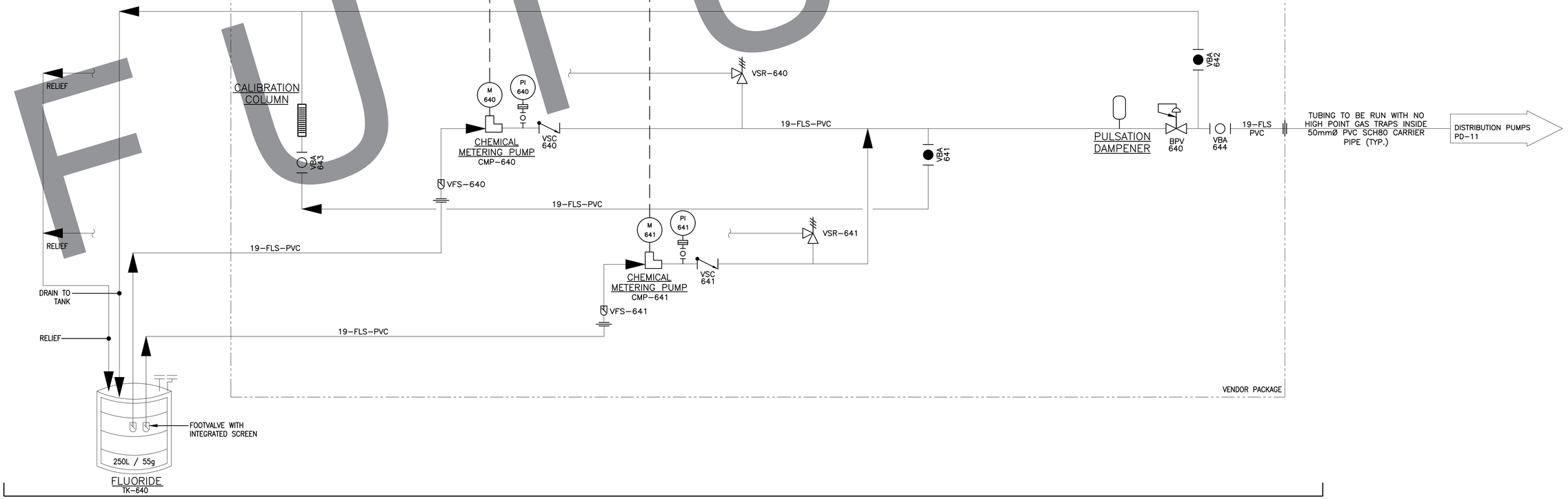
SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL



FUTURE



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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION FLUORIDE SYSTEM (PROVISIONAL)

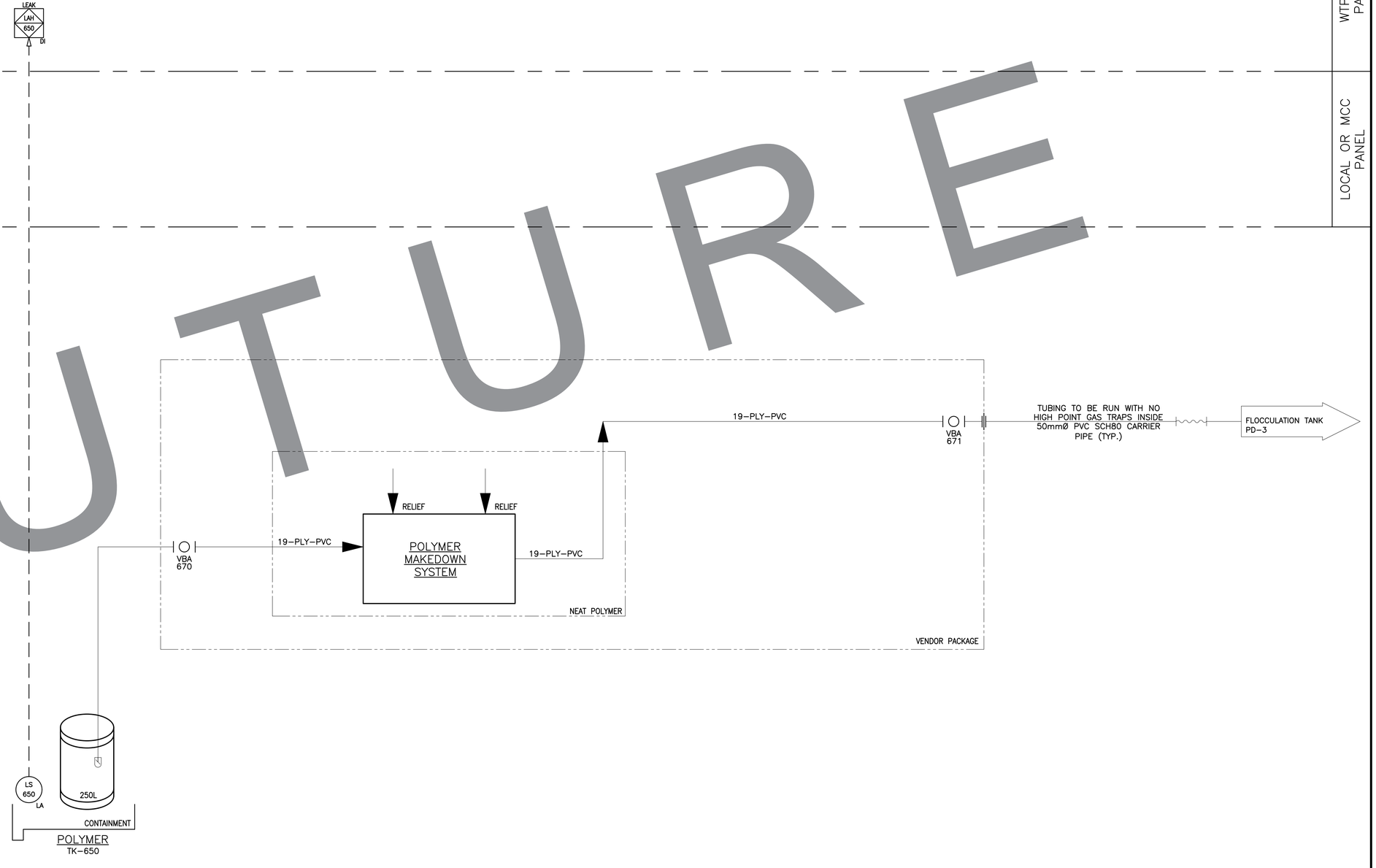
PROJECT NO. 24-7464

SHEET NO. PD-15

FILENAME: C:\USERS\10SMZ\DOCUMENTS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2 WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGRAGER, SHANNON
PLOT DATE: 2025-08-27 @ 10:07:25 AM PLOT STYLE: DILLON-STANDARD.CTB PLOT SCALE: 1:25.4

SCADA | WTP PLC PANEL | LOCAL OR MCC PANEL

FUTURE



FILENAME: C:\USERS\105MZ\OC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2 WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGDRAGER, SHANNON
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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION POLYMER SYSTEM (PROVISIONAL)

PROJECT NO. 24-7464

SHEET NO. PD-16

NOTE:
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SCADA

WTP PLC PANEL

LOCAL OR MCC PANEL

TRUCK FILL LOCAL CONTROL PANEL

TRUCK FILL LOCAL CONTROL PANEL

NOTE: SEE M-14 FOR MECHANICAL INTERFACE

NOTE: SEE M-14 FOR MECHANICAL INTERFACE

TO EXISTING SUMP/DRAIN

TRUCK FILL

150x100 TANK/TRUCK FILL PUMP No.1 P-1010

150x100 TANK/TRUCK FILL PUMP No.2 P-1020

RECIRCULATION PUMP No.1 P-1030

RECIRCULATION PUMP No.2 P-1040

DRAIN TO FLOOR

DRAIN TO FLOOR

OUTSIDE BUILDING | INSIDE BUILDING

INSIDE BUILDING | OUTSIDE BUILDING

EXTENTS OF TANK INSULATION

OVERFLOW TO GROUND REFER TO CIVIL

REMOVE DUCKBILL CHECK VALVE SI001

EXTENT OF FROST BOX ENCLOSURE

FIRE WATER TANK TK-1010

MANWAY

MANWAY

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2025-09-16
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DESIGN	JLD
REVIEWED BY	DWM
DRAWN	CG
CHECKED BY	ASW
DATE	AUGUST 2025
SCALE	NTS

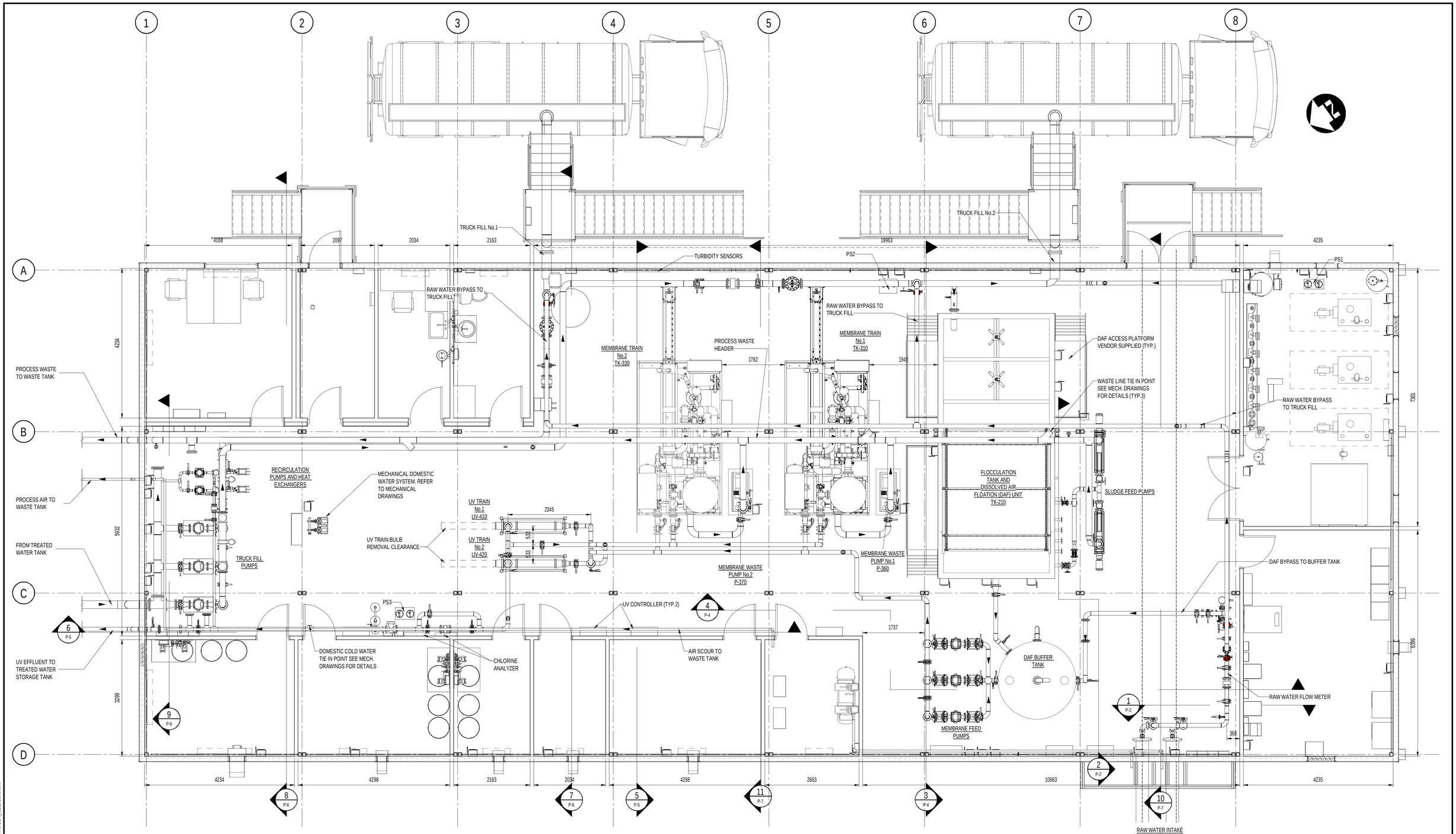
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION
FIRE WATER TANK AND PUMPS

PROJECT NO. 24-7464

SHEET NO. PD-17

FILENAME: C:\USERS\VSHAC\VC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\10_WATER-WASTEWATER\247464-10-PID-CON.DWG PLOTTED BY: ZORGRAGER, SHANNON
PLOT DATE: 2025-09-27 @ 10:07:26 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



ARCTIC BAY

SCALE: 1 : 50

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PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
A.S. WILLIAMS
LICENSEE
2025-09-16
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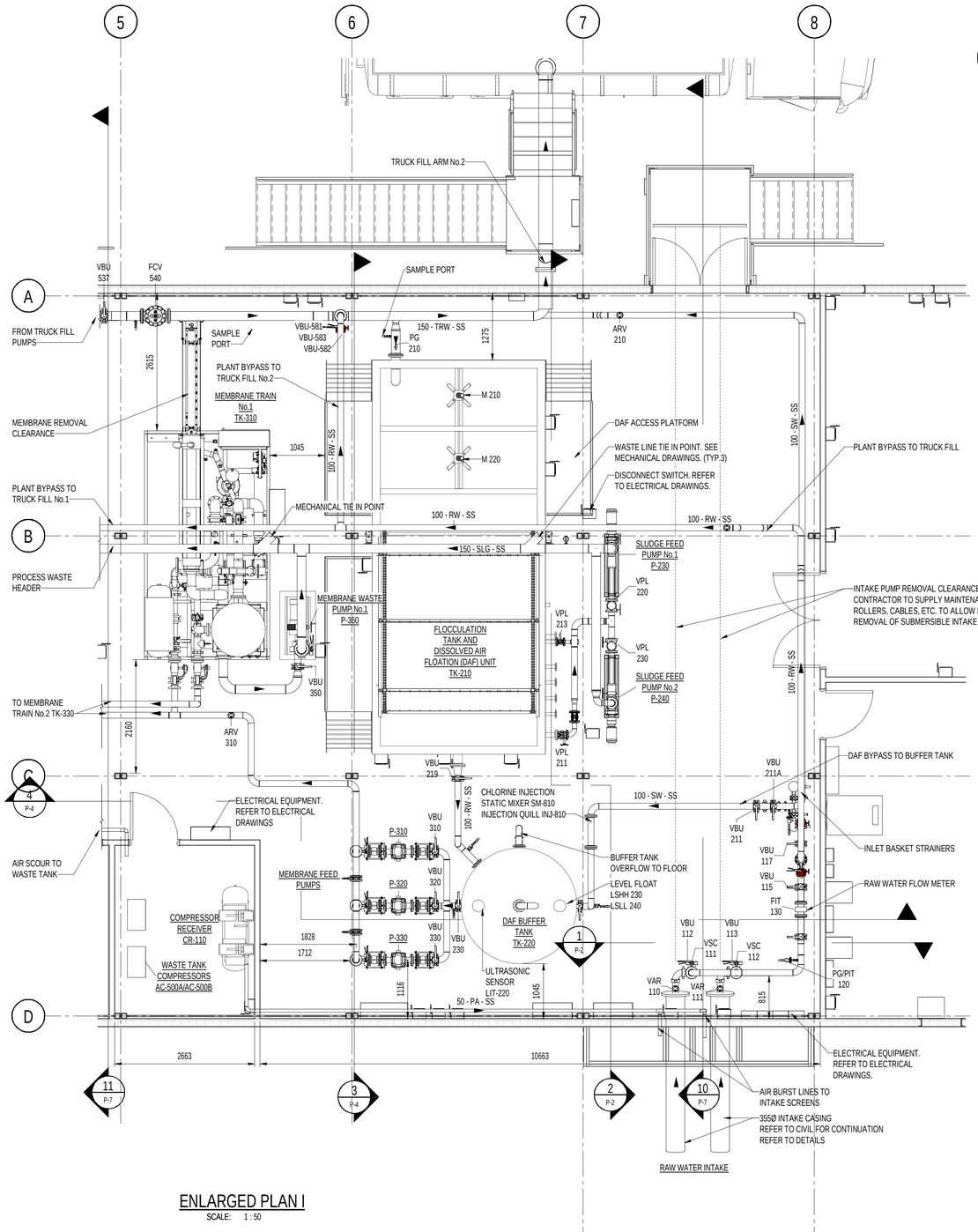
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DRAWN: CG/SMZ | CHECKED BY: ASW
DATE: AUGUST 2025
SCALE: 1 : 50

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
PROCESS LAYOUT

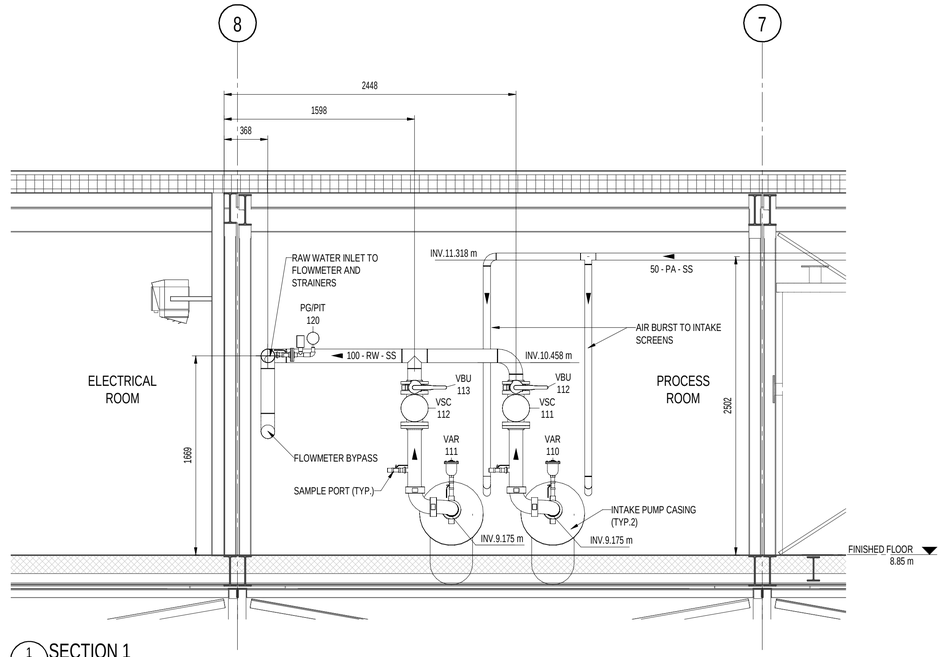
PROJECT NO. 24-7464
SHEET NO. P-1

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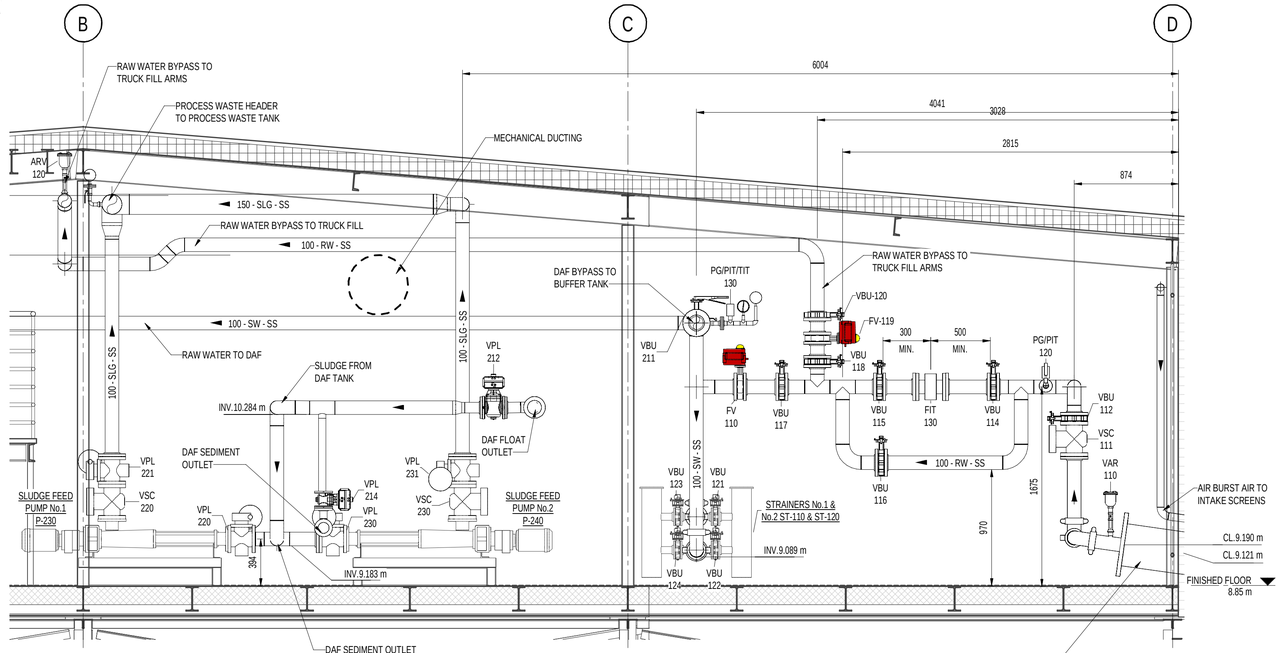
ENLARGED PLAN I

SCALE: 1 : 50



1 P-1 SECTION 1

SCALE: 1 : 25



2 P-1 SECTION 2

SCALE: 1 : 25

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DATE	AUGUST 2025
SCALE	As indicated

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

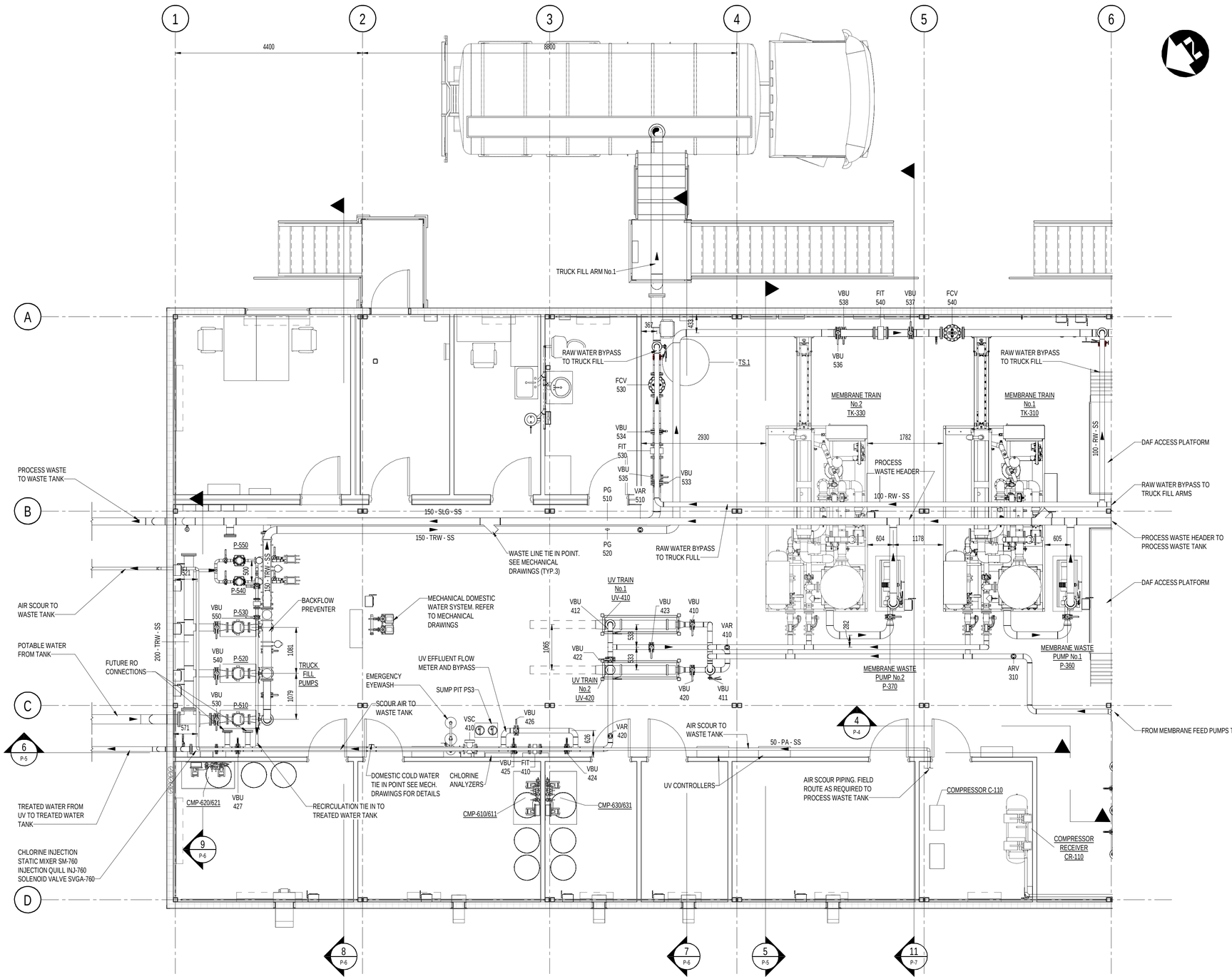
ARCTIC BAY

ENLARGED PLAN I AND SECTIONS

PROJECT NO. 24-7464

SHEET NO. P-2

PLOT DATE: 2025-08-21 1:25:24 PM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-10-TRPL-CON_A2022 Current.rvt



ENLARGED PLAN II

SCALE: 1 : 50

GENERAL NOTES:

1. AFTER INSTALLATION BUT BEFORE STARTUP, TESTING AND COMMISSIONING, FULLY FLUSH (OR SWAB) DISINFECT AND TEST (BACTERIOLOGICAL) ALL PIPES AND FITTINGS CARRYING RAW OR POTABLE WATER.
2. ALL MATERIALS, COMPONENTS, PIPING, FITTINGS AND APPURTENANCES IN CONTACT WITH RAW OR POTABLE WATER SHALL BE NSF61 CERTIFIED.
3. PRESSURE GAUGES SHALL BE LIQUID FILLED, 316 STAINLESS STEEL BOURDON TUBE TYPE WITH 3 1/2 INCH DIAMETER DIAL AND CAST ALUMINUM CASE. PRESSURE RANGE FROM 0 TO 200PSI AND BY AMETEK, ASHCROFT, OR MARSH. PROVIDE ISOLATION VALVE FOR EACH GAUGE.
4. PRESSURE TEST DOMESTIC COLD WATER PIPING, AND PROCESS PIPING TO 150% SYSTEM OPERATING PRESSURE OR MINIMUM 125PSI, WHICHEVER IS GREATER. PRIOR TO TESTS, ISOLATE ALL EQUIPMENT OR OTHER PARTS WHICH ARE NOT DESIGNED TO WITHSTAND TEST PRESSURES.
5. ALL NEW PROCESS PIPING SHALL BE STAINLESS STEEL AS SHOWN ON THE DRAWING AND SPECIFICATION UNLESS OTHERWISE NOTED.

GENERAL PIPE INSTALLATION AND LAYOUT

1. INSTALL ALL PIPING AND APPURTENANCES TO THE DIMENSIONS INDICATED ON THE DRAWINGS, SQUARE, STRAIGHT, PLUMB AND LEVEL.
2. CAREFULLY POSITION PIPE AND FITTINGS WITHOUT STRAIN OR DEFLECTION AND USING PROPER APPLIANCES.
3. THE DETAILED LAYOUT OF THE PIPING IS THE RESPONSIBILITY OF THE CONTRACTOR, SUBJECT TO THE ENGINEER'S APPROVAL BASED ON THE TENDER DOCUMENTS.
4. CLEAR ALL FOREIGN MATTER FROM INSIDE PIPING.
5. WHERE PIPING IS NOT SHOWN OR IS SHOWN DIAGRAMMATICALLY, INSTALL THE PIPES NEATLY TO SUIT THE STRUCTURE, SUBJECT TO THE ENGINEER'S PRIOR APPROVAL.
6. PIPING UP AND DOWNSTREAM OF ALL ORIFICES AND OTHER FLOW MEASURING DEVICES WITHIN THE REQUIRED STRAIGHT RUN OF PIPE SHALL BE SMOOTH.
7. THE CONTRACTOR SHALL FULLY INFORM THEMSELVES OF THE INSTALLATION REQUIREMENTS AND DIMENSIONS OF EQUIPMENT REQUIRED TO BE CONNECTED TO PIPING. WHERE PIPING IS TO TIE INTO EQUIPMENT, PRELIMINARY DIMENSIONS HAVE BEEN SHOWN AND ARE NOT GUARANTEED.
8. ANY CHANGE IN SUCH DIMENSIONS SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO MAKE THE PIPING FIT THE EQUIPMENT.
9. ANY FITTING SHOWN ON THE DRAWINGS BY A CONSISTENT SYMBOL, BUT NOT DESCRIBED OR SCHEDULED, SHALL BE INCORPORATED INTO THE WORK BY THE CONTRACTOR, WHO SHALL FIRST DETERMINE FROM THE ENGINEER THE REQUIREMENTS FOR SUCH FITTING.
10. ALL CONNECTION FITTINGS TO PUMPS AND OTHER EQUIPMENT SHALL BE SUCH THAT THE FITTINGS MAY BE EASILY REMOVED FROM AND REPLACED IN THE LINES, OR LINES EASILY DISCONNECTED FROM EQUIPMENT FOR MAINTENANCE PURPOSES.
11. ADEQUATELY SUPPORT ALL PIPING, FITTINGS AND VALVES FROM THE FLOOR. ANY ITEMS REQUIRING SECURING TO THE SUPERSTRUCTURE SHALL BE APPROVED BY AND FOLLOW RECOMMENDATIONS OF BUILDING MANUFACTURERS.
12. ALL PIPING AND TUBING SMALLER THAN 50mmØ TO BE FIELD ROUTED BY THE CONTRACTOR.
13. ALL PIPE CONNECTIONS AT BUILDING AND TANKS SHALL BE PROVIDED WITH FLEXIBLE CONNECTIONS TO ALLOW FOR DIFFERENTIAL SETTLEMENT.
14. ALL FERROUS METAL SURFACES INSIDE THE BUILDING MUST HAVE AT LEAST ONE COAT OF CORROSION RESISTANT PRIMER AND PAINT. PIPING AND SUPPORTS ARE TO BE PAINTED GREY. ALL OTHER COLORS TO BE PROVIDED BY OWNER UPON REQUEST.
15. CONTRACTOR TO INSTALL STAINLESS STEEL SKIDDED PUMP FRAMES SUPPLIED BY PUMP SUPPLIER. PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.

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REGISTERED PROFESSIONAL ENGINEER
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2025-09-16
NT/NU

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DESIGN	BAT
REVIEWED BY	DWM
DRAWN	CG/SMZ
CHECKED BY	ASW
DATE	AUGUST 2025
SCALE	1 : 50

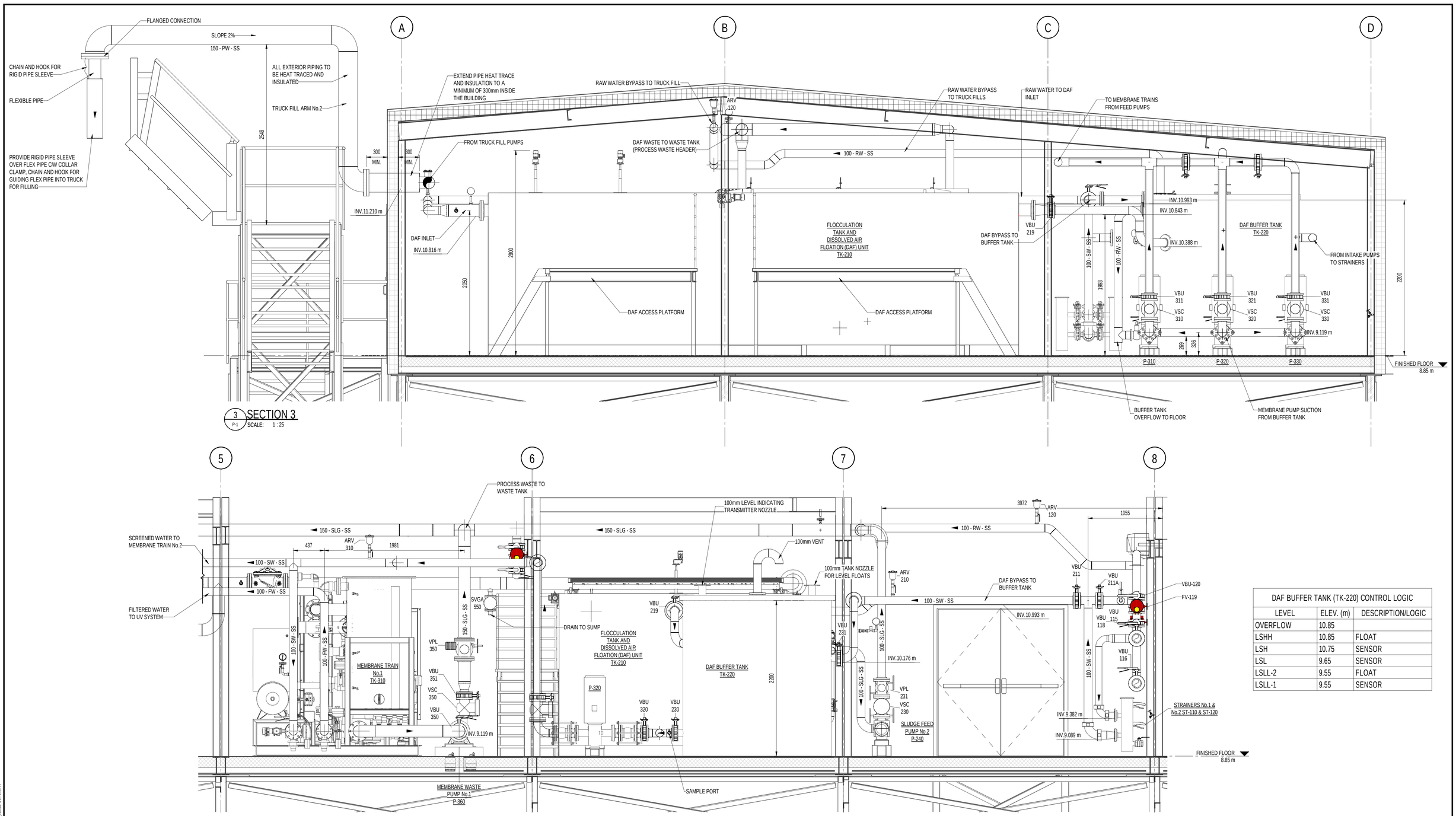
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
ENLARGED PLAN II AND NOTES

PROJECT NO. 24-7464

SHEET NO. P-3

PLOT DATE: 2025-08-21 1:25:28 PM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24-7464-10-TRPL-CON_v2022.Current.rvt



DAF BUFFER TANK (TK-220) CONTROL LOGIC		
LEVEL	ELEV. (m)	DESCRIPTION/LOGIC
OVERFLOW	10.85	
LSHH	10.85	FLOAT
LSH	10.75	SENSOR
LSL	9.65	SENSOR
LSLL-2	9.55	FLOAT
LSLL-1	9.55	SENSOR

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DESIGN	REVIEWED BY
BAT	DWM
DRAWN	CHECKED BY
CG/SMZ	ASW
DATE	AUGUST 2025
SCALE	1 : 25

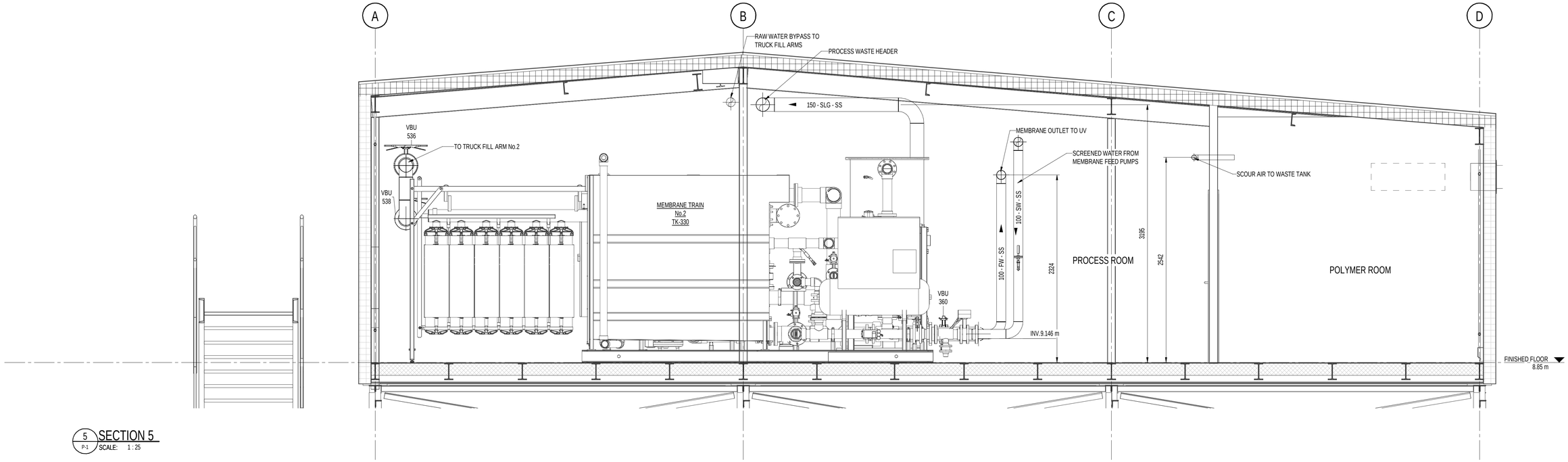
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
SECTIONS

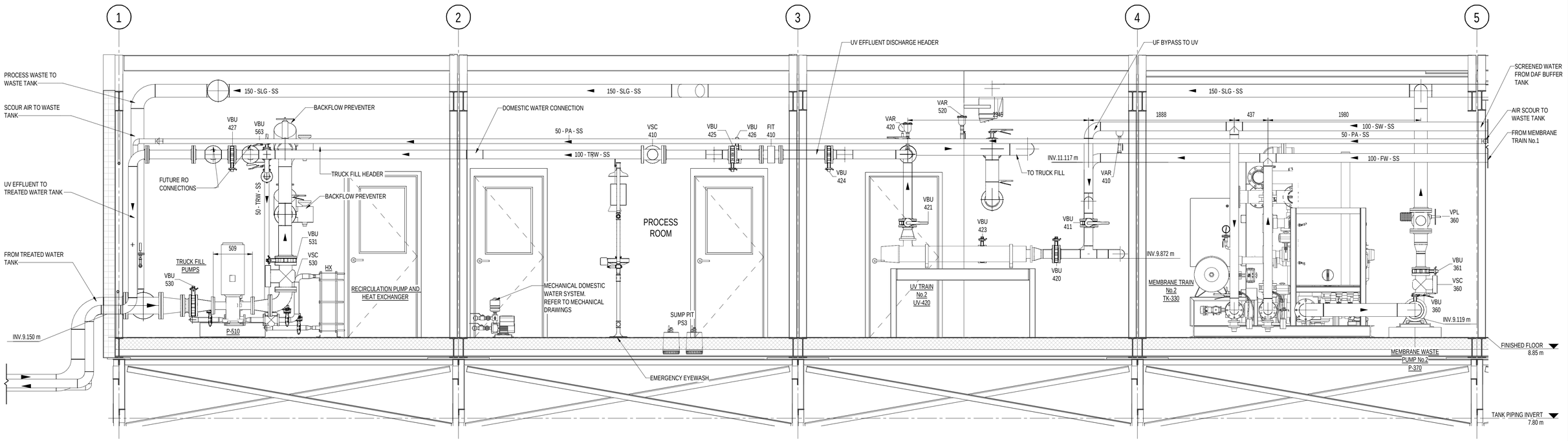
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5 P-1 SECTION 5
SCALE: 1 : 25



6 P-1 SECTION 6
SCALE: 1 : 25

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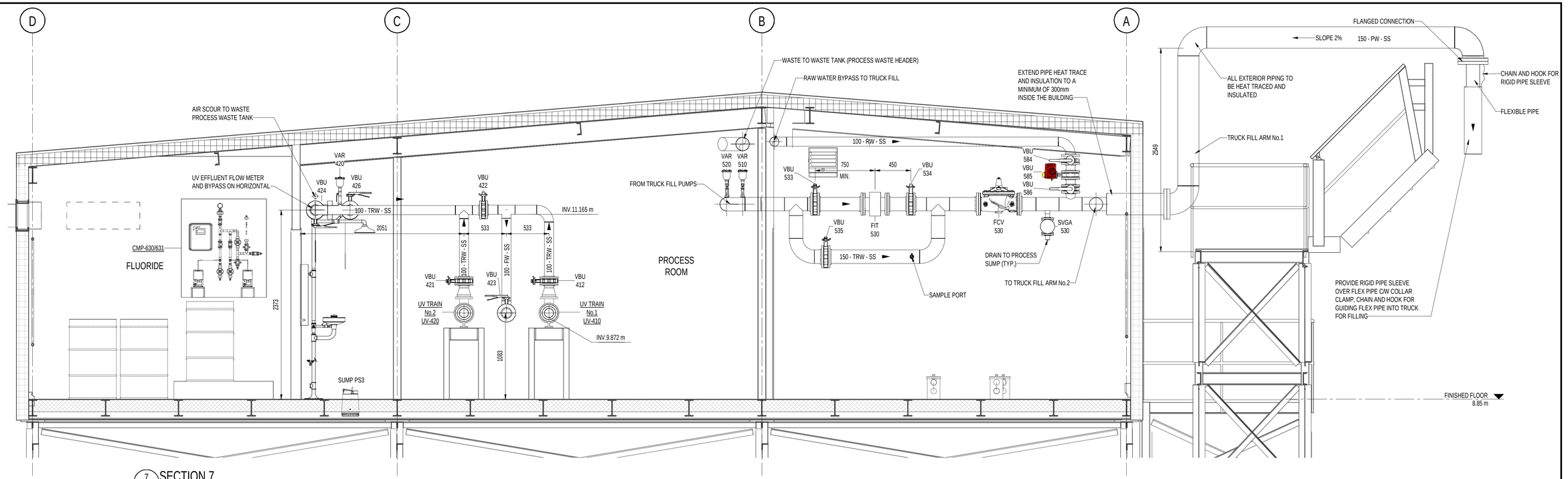
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DRAWN: CG/SMZ
CHECKED BY: ASW
DATE: AUGUST 2025
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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

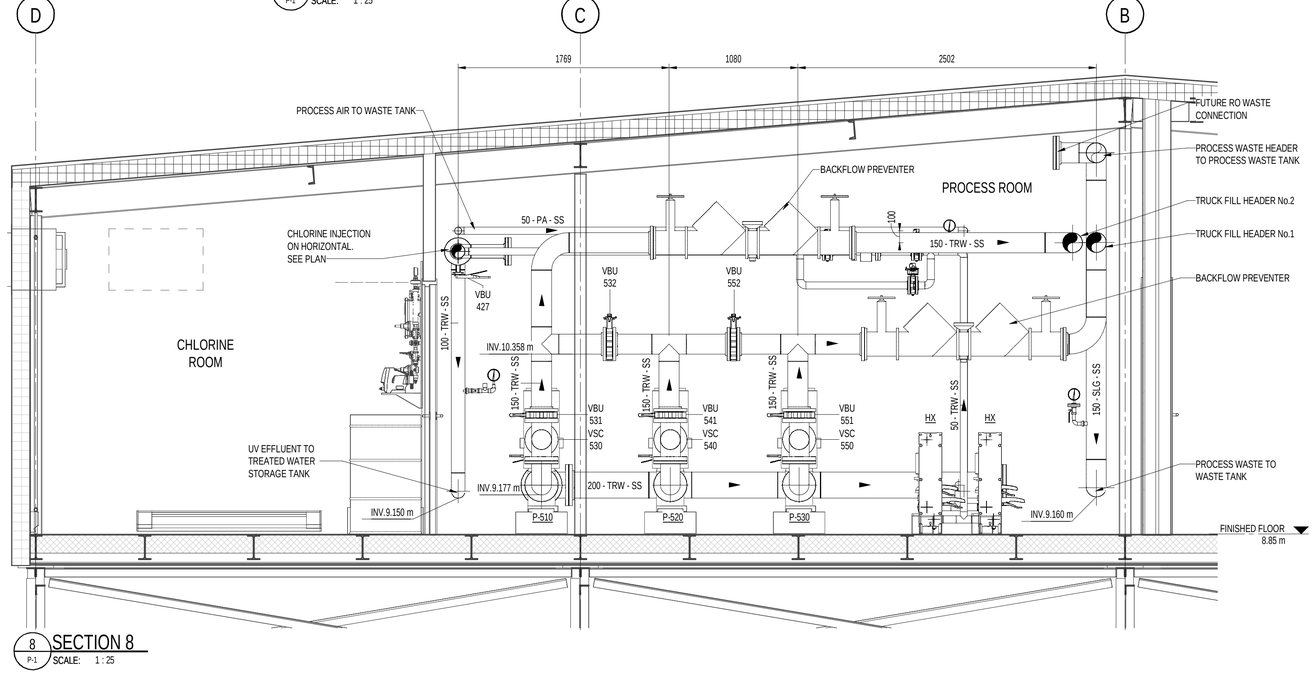
ARCTIC BAY
SECTIONS

PROJECT NO. 24-7464
SHEET NO. P-5

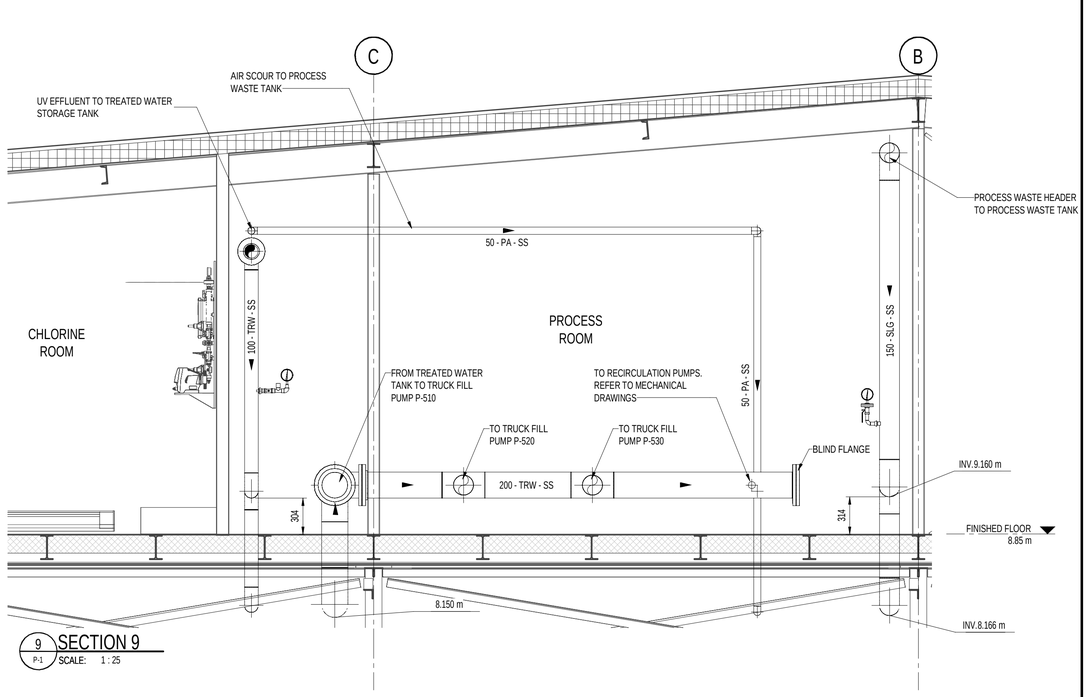
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7 P-1 SECTION 7
SCALE: 1 : 25



8 P-1 SECTION 8
SCALE: 1 : 25



9 P-1 SECTION 9
SCALE: 1 : 25

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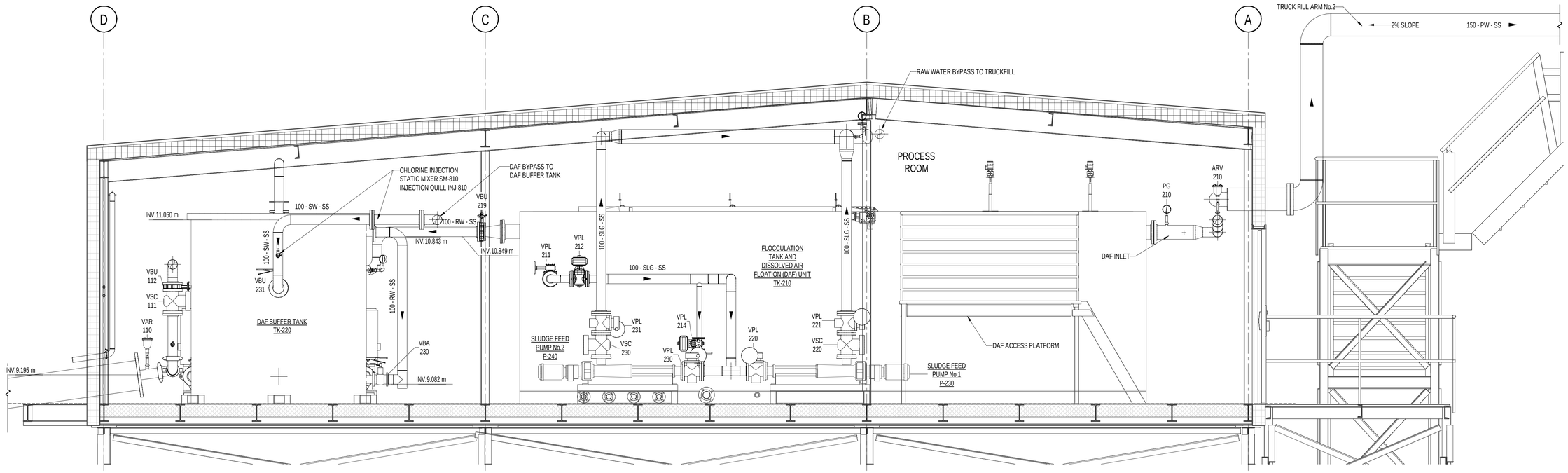
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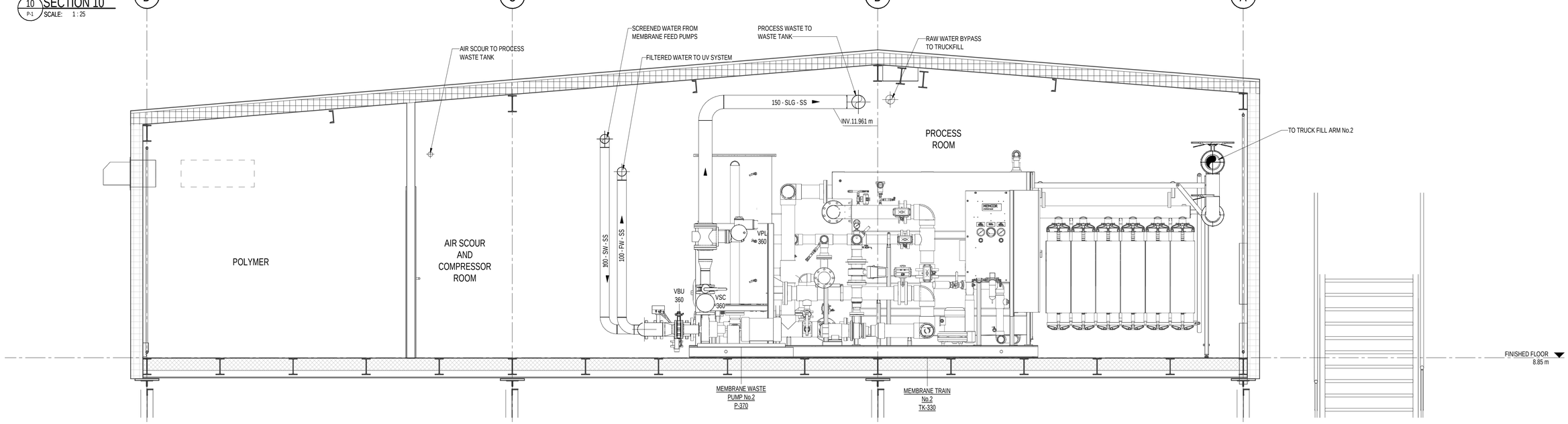
ARCTIC BAY
SECTIONS

PROJECT NO. 24-7464
SHEET NO. P-6

PLOT DATE: 2025-08-21 1:26:26 PM
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10 P-1 SECTION 10
SCALE: 1 : 25



11 P-1 SECTION 11
SCALE: 1 : 25

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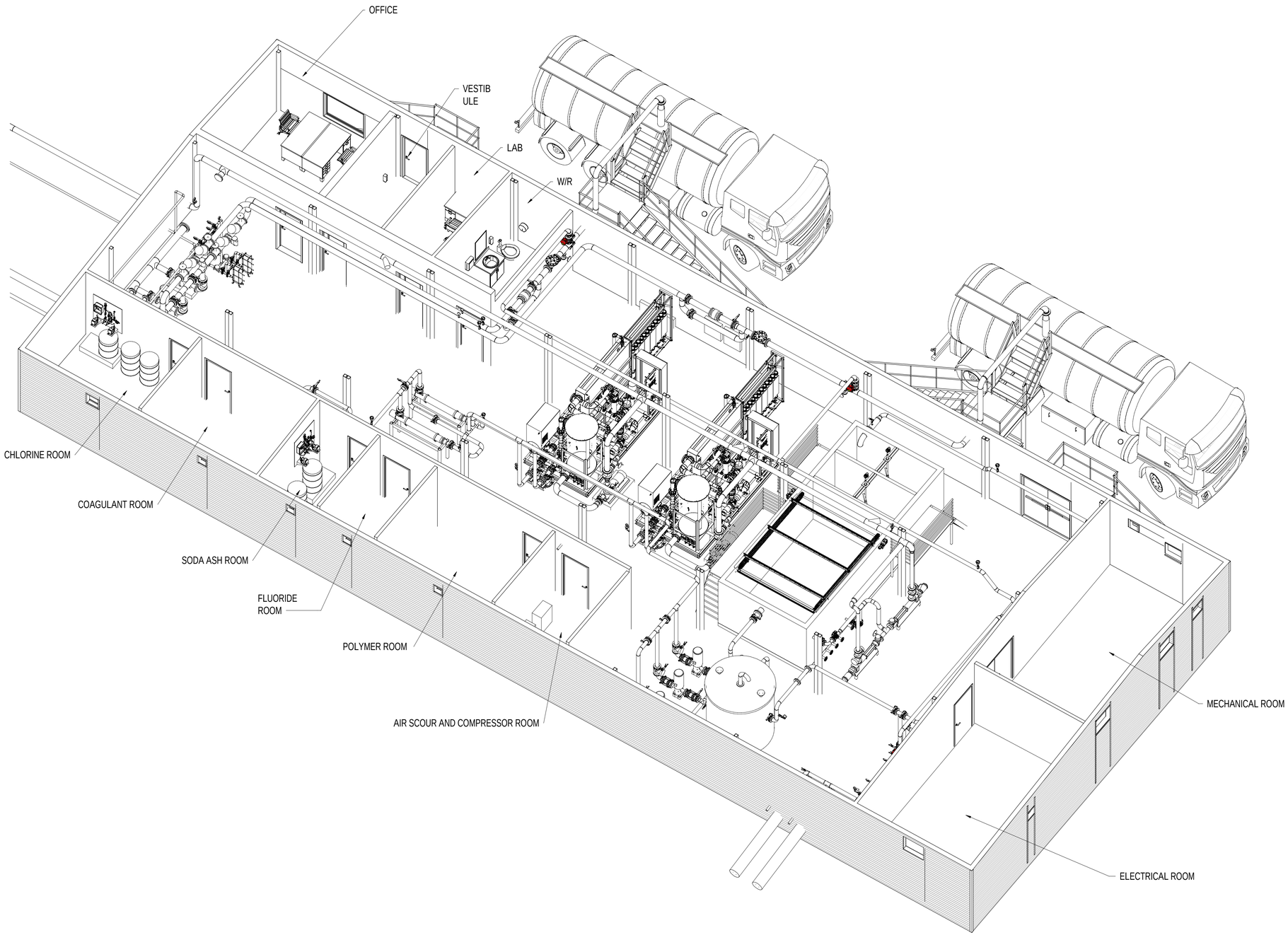
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CHECKED BY: ASW
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ARCTIC BAY
SECTIONS

PROJECT NO. 24-7464
SHEET NO. P-7



3D VIEW

SCALE: NOT TO SCALE

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DATE: AUGUST 2025
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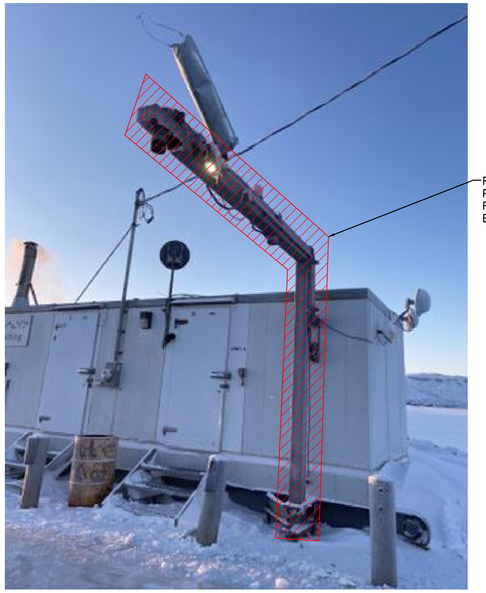
GOVERNMENT OF NUNAVUT 21200-00701-03
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ARCTIC BAY
3D VIEW

PROJECT NO. 24-7464

SHEET NO. P-8

PLOT DATE: 9/2/2025 12:56:24 PM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-10-TRPL-CON_v2022.Current.rvt



REMOVE ALL EXTERIOR PROCESS PIPING, TRUCK FILL ARM AND RELATED ELECTRICAL COMPONENTS.

EXISTING WATER TREATMENT PLANT TRUCK FILL PIPE REMOVALS



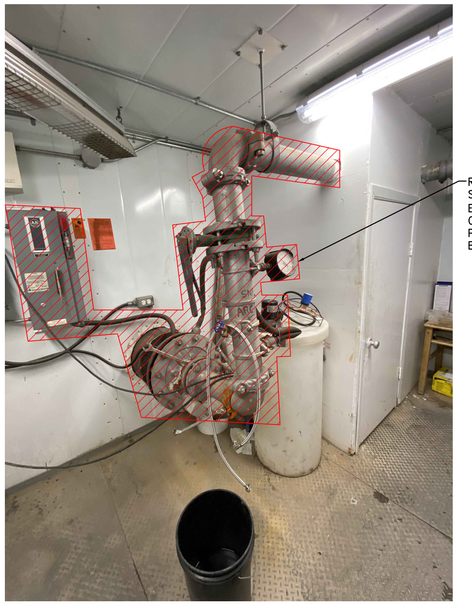
REMOVE ALL EXTERIOR PIPING, FUEL TANK WITH STRUCTURAL.

EXISTING WATER TREATMENT FUEL TANK REMOVALS



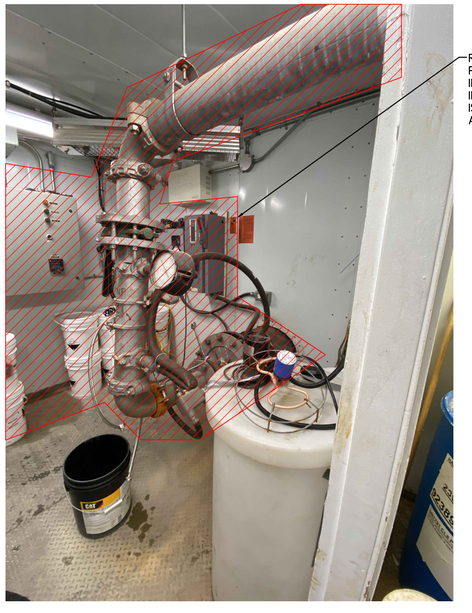
REMOVE ALL INTERIOR ELECTRICAL EQUIPMENT INSTRUMENTATION, AND ASSOCIATED PROCESS PIPING RELATED TO THE EXISTING WATER TREATMENT PLANT. THIS ROOM IS TO BE CONVERTED FOR USE AS COLD STORAGE.

EXISTING WATER TREATMENT PLANT ELECTRICAL PANELS REMOVALS



REMOVE INTAKE CARRIER PIPE, FORCEMAIN, SUBMERSIBLE PUMPS AND ASSOCIATED EQUIPMENT/INSTRUMENTATION AFTER COMMISSIONING THE NEW WATER TREATMENT PLANT IN PROCESS ROOM. THIS ROOM IS TO BE CONVERTED FOR USE AS COLD STORAGE.

EXISTING WATER TREATMENT PLANT INTAKE PIPE AND ELECTRICAL PANEL REMOVALS



REMOVE ALL INTERIOR PROCESS PIPING, VALVES, EQUIPMENT, INSTRUMENTATION AND CHEMICALS IN PROCESS ROOM. THIS ROOM IS TO BE CONVERTED FOR USE AS COLD STORAGE.

EXISTING WATER TREATMENT PLANT INTAKE PIPE AND ELECTRICAL PANEL REMOVALS



REMOVE EXISTING GENERATOR AND ELECTRICAL PANELS IN GENERATOR ROOM. THIS ROOM IS TO BE CONVERTED FOR USE AS COLD STORAGE.

EXISTING WATER TREATMENT PLANT GENERATOR REMOVALS

NOTE:
1. DEMOLITION OF EXISTING WTP AND CONVERSION TO COLD STORAGE TO TAKE PLACE AFTER COMMISSIONING OF THE NEW WTP.
2. FINAL LOCATION OF RELOCATED WTP TO BE DETERMINED BY OWNER.

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Signature _____
Date 2025-09-16
PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
A.S. WILLIAMS
LICENSEE
2025-09-16
NT/NU

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0	ISSUED FOR TENDER	2024-NOV-29	ASW

DESIGN BAT | REVIEWED BY DWM
DRAWN CG | CHECKED BY ASW
DATE AUGUST 2025
SCALE AS SHOWN

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

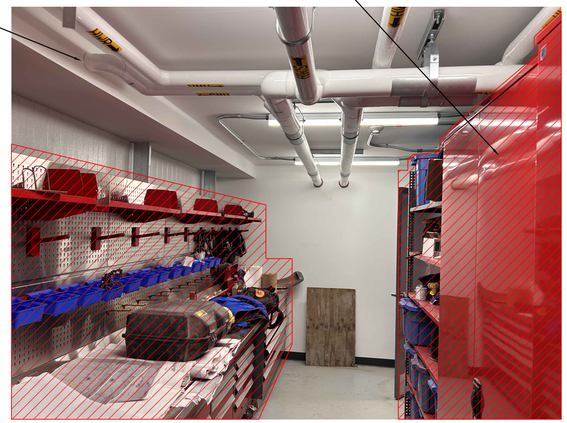
PROJECT NO. 24-7464

ARCTIC BAY
EXISTING TREATMENT PLANT
DEMOLITION

SHEET NO. P-9

CONTRACTOR TO RELOCATE WITHIN THE FIRE HALL, TO THE UPPER FLOOR/BAY/WASHROOM AREAS OF THE FIRE HALL.

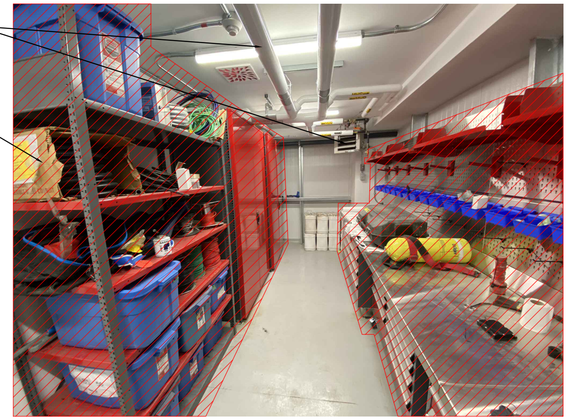
EXISTING PIPING TO REMAIN AND TO BE RECONNECTED TO NEW BOILERS. REFER TO MECHANICAL DRAWINGS FOR DETAILS.



EXISTING STORAGE ROOM REMOVALS

PIPING AND BUILDING MECHANICAL COMPONENTS TO REMAIN.

CONTRACTOR TO RELOCATE WITHIN THE FIRE HALL, TO THE UPPER FLOOR/BAY/WASHROOM AREAS OF THE FIRE HALL.



EXISTING STORAGE ROOM REMOVALS

EXISTING MAIN FUEL TANK WITH CONCRETE PAD TO BE REMOVED AND REPLACED WITH NEW.



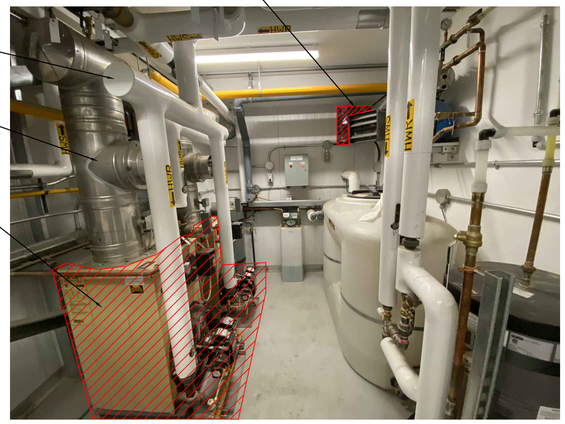
EXISTING FUEL TANK REMOVALS

EXISTING EXHAUST FAN TO BE REMOVED AND REPLACED WITH NEW SUPPLY FAN IN THE SAME LOCATION. REFER TO MECHANICAL DRAWING FOR DEMOLITION DETAILS.

EXISTING PIPING TO REMAIN AND TO BE RECONNECTED TO NEW BOILERS. REFER TO MECHANICAL DRAWINGS FOR DETAILS.

CONTRACTOR TO SIZE AND EVALUATE CONDITION OF EXISTING FLUE SYSTEM. IF REQUIRED, REMOVE AND REPLACE.

EXISTING BOILERS TO BE REMOVED. RECONNECT PIPING AS REQUIRED. REFER TO MECHANICAL DRAWINGS FOR DEMOLITION DETAILS.

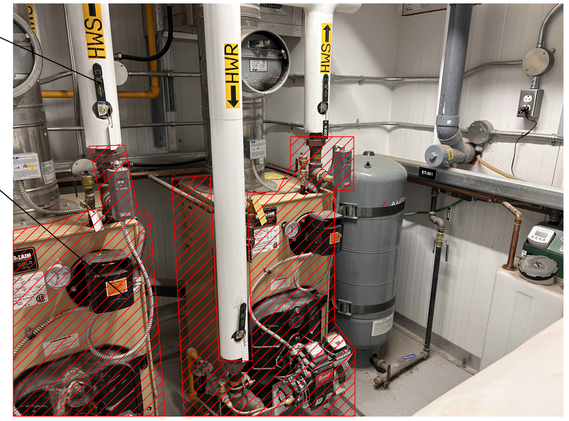


EXISTING MECHANICAL ROOM REMOVALS

EXISTING PIPING TO REMAIN AND TO BE RECONNECTED TO NEW BOILERS. REFER TO MECHANICAL DRAWINGS FOR DETAILS.

EXISTING BOILERS TO BE REMOVED. RECONNECT PIPING AS REQUIRED. REFER TO MECHANICAL DRAWINGS FOR DEMOLITION DETAILS.

NOTE: BOILERS TO BE PROPERLY DECOMMISSIONED FOR STORAGE AND FUTURE RE-USE. STORAGE LOCATION TO BE PROVIDED BY OWNER.



EXISTING MECHANICAL ROOM REMOVALS

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ARCTIC BAY NEW WATER TREATMENT PLANT

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL

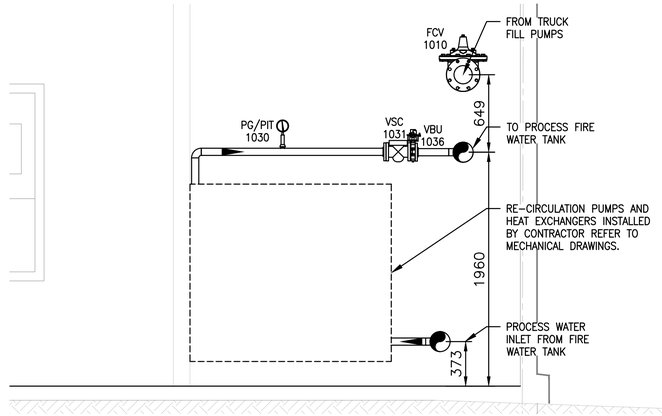
DEMOLITION

PROJECT NO. 24-7464

SHEET NO. P-10



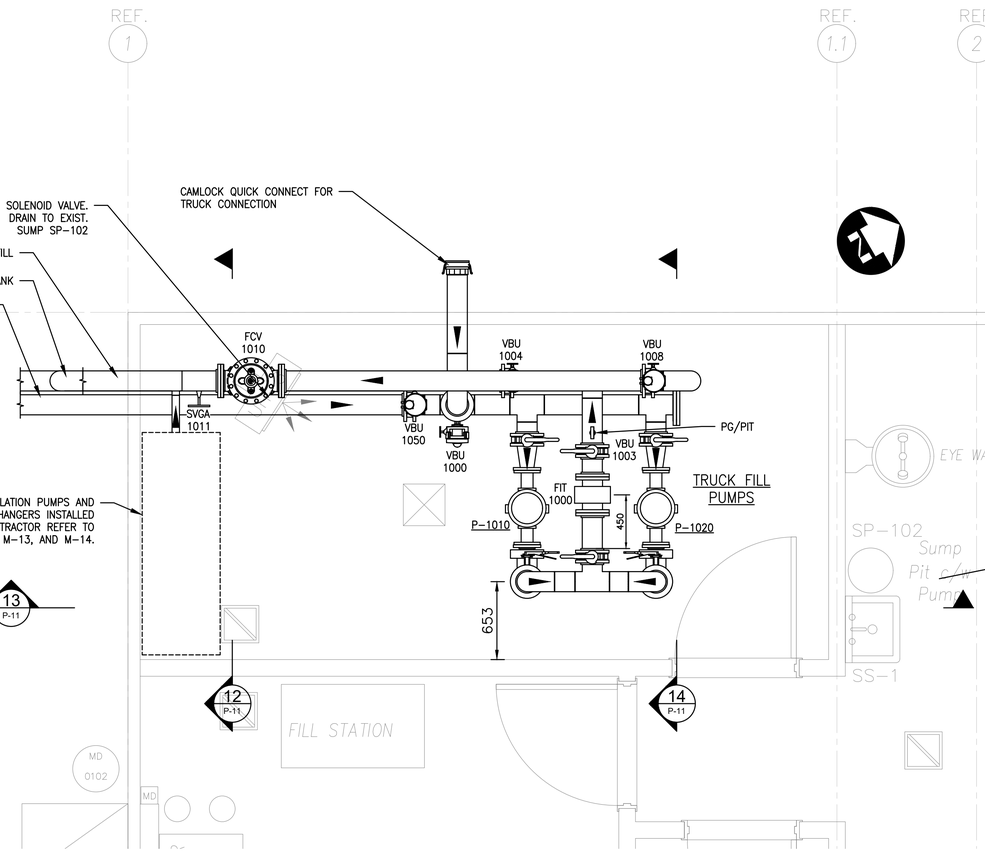
APPROXIMATE LOCATION OF NEW PIPE PENETRATIONS



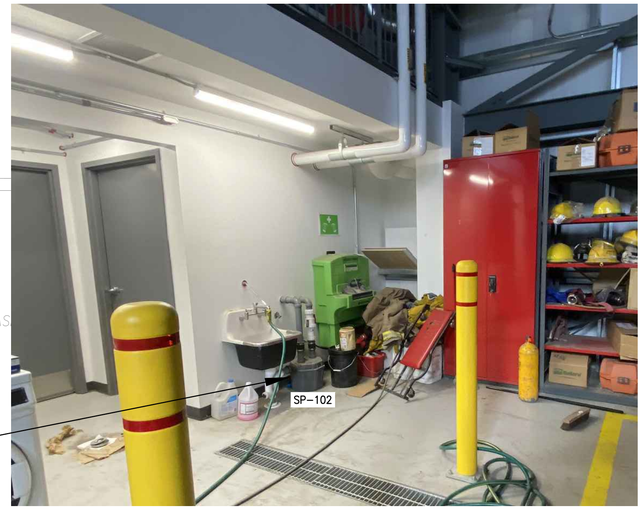
12 P-11 SECTION
1:25

GENERAL NOTES:

1. CONTRACTOR IS REQUIRED TO ADEQUATELY SUPPORT ALL PIPING, FITTINGS AND VALVES FROM THE FLOOR. ANY ITEMS REQUIRING SECURING TO THE SUPERSTRUCTURE SHALL BE APPROVED BY AND FOLLOW RECOMMENDATIONS OF THE BUILDING MANUFACTURER.
2. ALL FITTINGS AND APPURTENANCES SHALL BE STAINLESS STEEL.
3. REFER TO ARCHITECTURAL DRAWINGS FOR WALL PIPE PENETRATION DETAILS.
4. INSTALL ALL PIPING AND APPURTENANCES TO THE DIMENSIONS ON THE DRAWINGS, SQUARE, STRAIGHT, PLUMB AND LEVEL.
5. CAREFULLY POSITION PIPE AND FITTINGS WITHOUT STRAIN OR DEFLECTION AND USING PROPER APPLIANCES.
6. THE DETAILED LAYOUT OF THE PIPING IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. CLEAR ALL FOREIGN MATTER FROM INSIDE THE PIPING.
8. ALL PIPE CONNECTIONS AT BUILDING AND TANKS SHALL BE PROVIDED WITH FLEXIBLE CONNECTIONS TO ALLOW FOR DIFFERENTIAL SETTLEMENT.
9. WHERE PIPING IS NOT SHOWN OR IS SHOWN DIAGRAMMATICALLY, INSTALL THE PIPES NEATLY TO SUIT THE STRUCTURE, SUBJECT TO THE ENGINEERS APPROVAL.
10. PIPING UPSTREAM AND DOWNSTREAM OF ALL ORIFICES AND OTHER FLOW MEASURING DEVICES WITHIN THE REQUIRED STRAIGHT RUN OF PIPE SHALL BE SMOOTH.
11. THE CONTRACTOR SHALL FULLY INFORM THEMSELVES OF THE INSTALLATION REQUIREMENTS AND DIMENSIONS OF EQUIPMENT REQUIRED TO BE CONNECTED TO PIPING. WHERE PIPING IS TO TIE INTO EQUIPMENT, PRELIMINARY DIMENSIONS HAVE BEEN SHOWN AND ARE NOT GUARANTEED.
12. ANY CHANGE IN SUCH DIMENSIONS SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO MAKE THE PIPING FIT THE EQUIPMENT.
13. PROVIDE SPOOL PIECE OF PIPE TO REPLACE FLOW METER WHEN REMOVED FOR MAINTENANCE.
14. PUMP SUPPORTS TO BE DESIGN AND INSTALLED BY THE CONTRACTOR AS PER MANUFACTURER'S REQUIREMENTS. SHOP DRAWINGS SEALED BY AN ENGINEER LICENSED IN THE AREA OF WORK TO BE PROVIDED.
15. PROVIDE PIPE SUPPORTS AS REQUIRED. PIPES TO BE SUPPORTED FROM THE FLOOR OR ROOF – SHOP DRAWINGS SEALED BY AN ENGINEER LICENSED IN THE AREA OF WORK TO BE PROVIDED.



FLOOR PLAN
1:25



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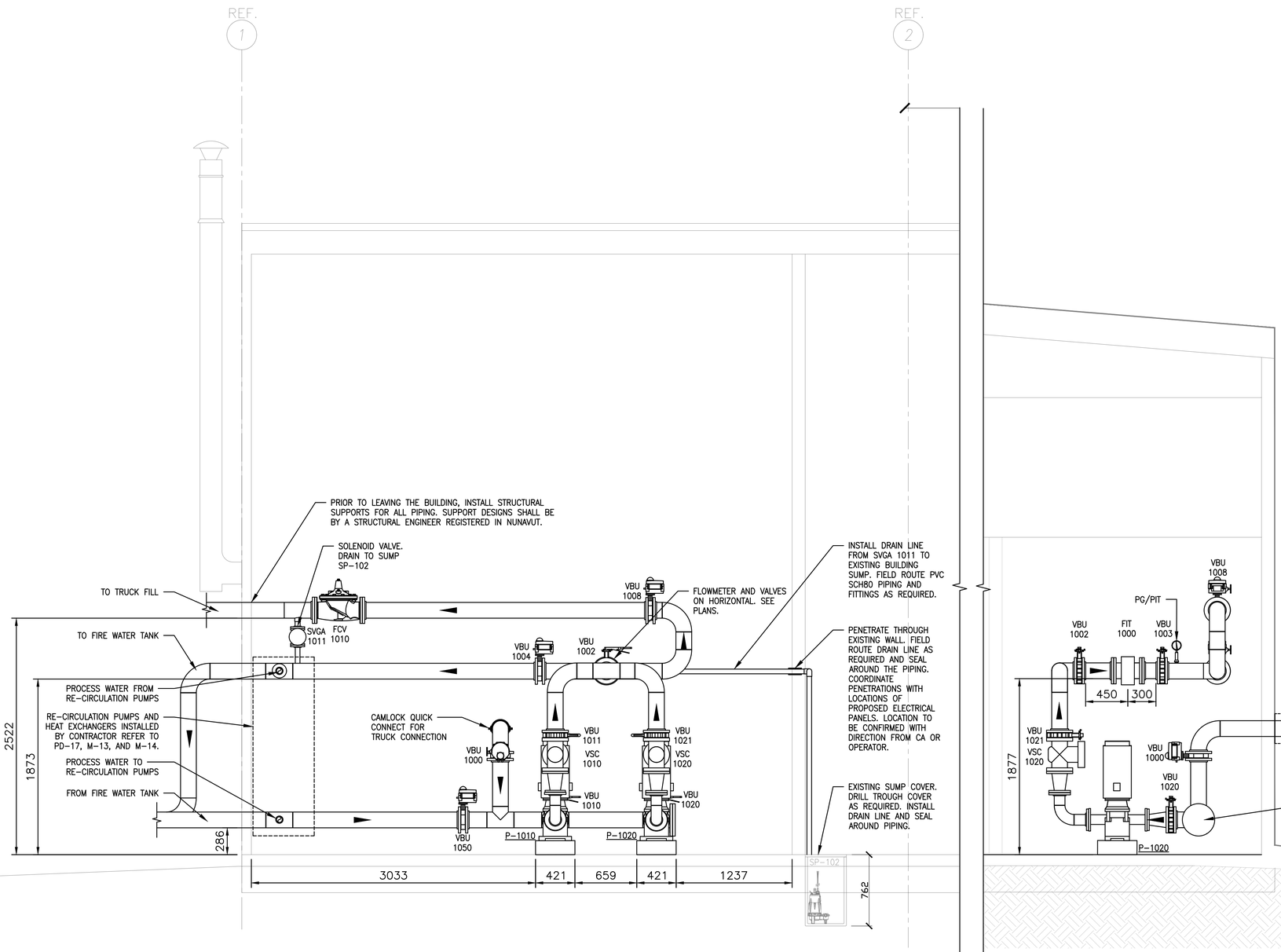
DESIGN BAT | REVIEWED BY DWM
DRAWN CG | CHECKED BY ASW
DATE AUGUST 2025
SCALE AS SHOWN

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

EMERGENCY FIRE WATER TANK
ARCTIC BAY FIRE HALL

RECIRCULATION AND TRUCK FILL PUMP PLAN

PROJECT NO. 24-7464
SHEET NO. P-11



13 P-11 SECTION 1:25

14 P-11 SECTION 1:25

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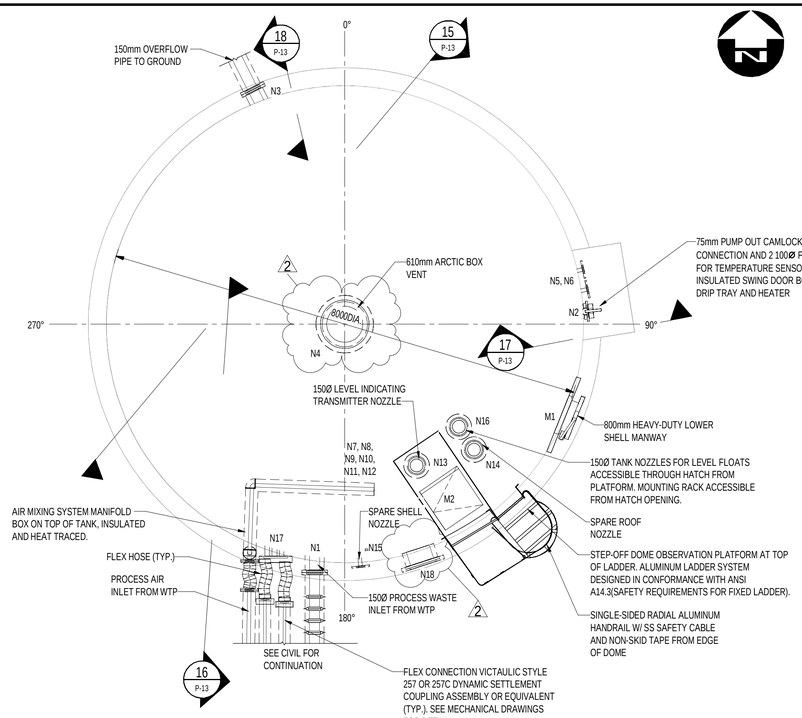
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL

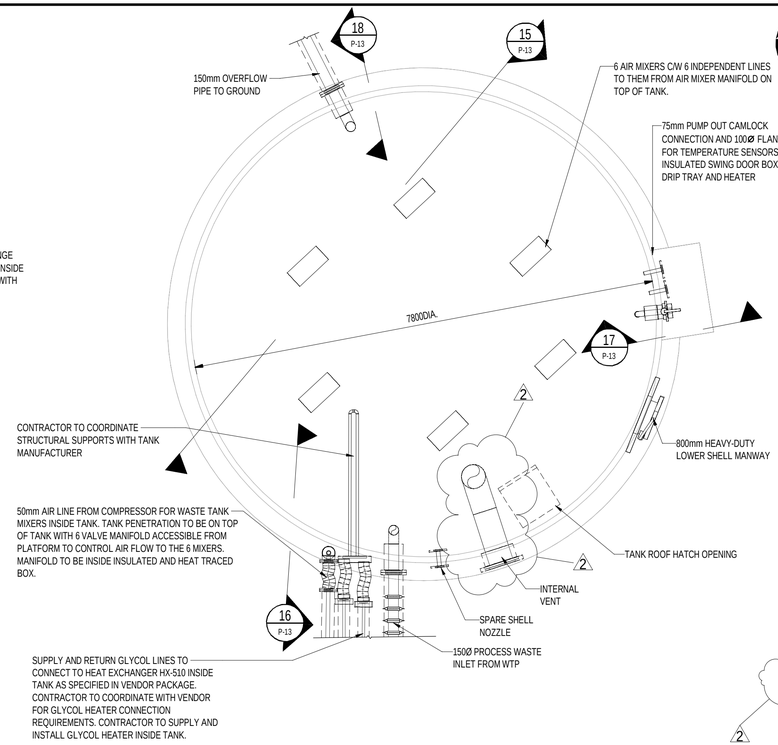
RECIRCULATION AND TRUCK FILL PUMP SECTIONS

SHEET NO. P-12



PLAN - TOP PLAN WASTE TANK

SCALE: 1 : 50



PLAN - BOTTOM PLAN WASTE TANK

SCALE: 1 : 50

NOTES:

1. ALL ITEMS AND ASPECTS OF TANK SHOWN ARE DESIGNED AND DETAILED BY THE TANK MANUFACTURER. REFER TO THE TANK MANUFACTURER SUBMITTALS. ONLY THOSE ITEMS MARKED WITH *, ARE DETAILED IN THE CONTRACT DOCUMENTS AND PROVIDED BY THE CONTRACTOR.
2. ELECTRICAL NOT SHOWN FOR CLARITY.
3. TANK AND PIPING INSULATION AND HEAT TRACING NOT SHOWN FOR CLARITY.
4. PROVIDE LOCKABLE TOP ACCESS MANWAY FOR LEVEL SENSOR, FLOATS, AND AIRLINE TO MIXERS.
5. LOCATE ALL TOP CONNECTIONS AND PORTS ACCESSIBLE FROM WALKWAY.
6. PROVIDE FALL ARREST ANCHOR POINTS AT ACCESS MANWAY ON TOP OF TANK.
7. DESIGN EXTERIOR INSULATION TO DESIGN TEMPERATURE.
8. TANK INSTRUMENTS, CONNECTIONS, AND FLANGES TO BE HEAT TRACED.
9. REFER TO DRAWING M-11 FOR HEAT EXCHANGER DETAILS.
10. VICTAULIC STYLE W257 DYNAMIC SETTLEMENT ASSEMBLIES TO BE PROVIDED FOR ALL TANK PIPING CONNECTIONS FROM THE PIPE RACK. SETTLEMENT SECTION TO BE INSTALLED BETWEEN PIPE RACK AND TANK TO ACCOMMODATE FOR SEASONAL AND LONG TERM SETTLEMENT OF TANKS. SETTLEMENT AMOUNT ASSUMPTIONS ARE TO BE CHOSEN BASED ON COORDINATION WITH TANK FOUNDATION DESIGNER (TANK VENDOR) & VICTAULIC. REFER TO THE GEOTECHNICAL REPORT FOR DETAILS. CONTRACTOR TO COORDINATE INSTALLATION OF THIS ASSEMBLY AND SUBMIT SHOP DRAWINGS FOR LAYOUT.
    A. MATERIAL: COUPLINGS TO BE AS PER THE REQUIREMENTS OF THE SS PIPING SPECIFICATION & PIPE SPOOLS TO BE MADE OF 304LSS MATERIAL.
11. ALL PIPING INSIDE THE TANKS TO BE MADE OF 316LSS PIPING UNLESS OTHERWISE NOTED.
12. ALL PIPE SUPPORTS FOR PIPING INTERNAL TO THE TANK TO BE DESIGNED, INSTALLED, AND SUPPLIED BY TANK SUPPLIER.

TANK TK-510 NOZZLE SCHEDULE

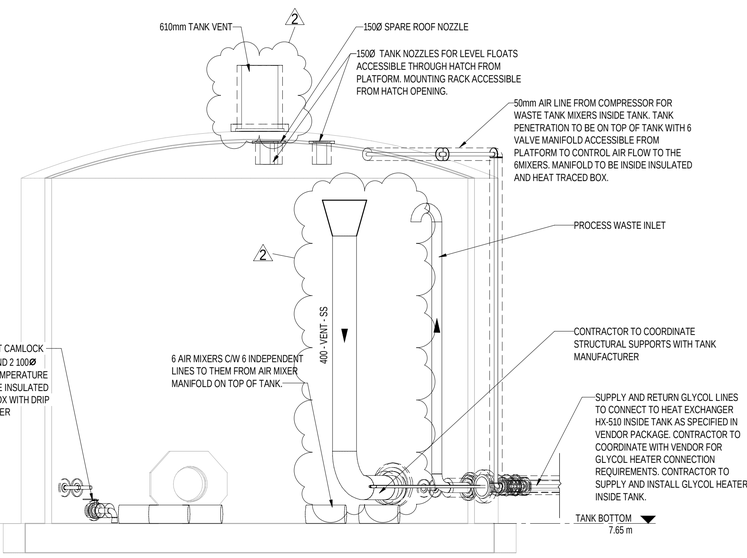
MARK	SIZE (mm)	SHELL/ROOF	TYPE	ORIENTATION	CLASS / SCH	MATERIAL	ELEVATION FROM SLAB (C/L) / RADIUS FROM TANK CENTRE	DESCRIPTION
N1	150	SHELL	DBL	187°	150 / SCH 40	316 SS	600 mm	PROCESS WASTE INLET
N2	75	SHELL	SGL	87°	150 / SCH 40	316 SS	215 mm	WASTE OUTLET / PUMP OUT
N3	150	SHELL	DBL	347°	150 / SCH 40	316 SS	584 mm	OVERFLOW
N4	610	ROOF	SGL	0°	150 / SCH 40	316 SS	@ 1830 mm RADIUS	EXTERNAL VENT
N5	100	SHELL	SGL	77°	150 / SCH 40	316 SS	600 mm	TEMPERATURE SENSOR (TG) - WITH B.F.
N6	100	SHELL	SGL	82°	150 / SCH 40	316 SS	600 mm	TEMPERATURE SENSOR (TI) - WITH B.F.
N7	50	ROOF	SGL	203°	150 / SCH 40	316 SS	6160 mm	COMPRESSOR AIR INLET
N8	50	ROOF	SGL	203°	150 / SCH 40	316 SS	6160 mm	COMPRESSOR AIR INLET
N9	50	ROOF	SGL	203°	150 / SCH 40	316 SS	6160 mm	COMPRESSOR AIR INLET
N10	50	ROOF	SGL	203°	150 / SCH 40	316 SS	6160 mm	COMPRESSOR AIR INLET
N11	50	ROOF	SGL	203°	150 / SCH 40	316 SS	6160 mm	COMPRESSOR AIR INLET
N12	50	ROOF	SGL	203°	150 / SCH 40	316 SS	6160 mm	COMPRESSOR AIR INLET
N13	150	ROOF	SGL	153°	150 / SCH 40	316 SS	@ 2655 mm RADIUS	LEVEL SENSOR - WITH B.F.
N14	150	ROOF	SGL	134°	150 / SCH 40	316 SS	@ 3020 mm RADIUS	LEVEL BULBS - WITH B.F. & SEALS
N15	100	SHELL	SGL	176°	150 / SCH 40	316 SS	600 mm	SPARE SHELL NOZZLE
N16	150	ROOF	SGL	132°	150 / SCH 40	316 SS	@ 2570 mm RADIUS	SPARE ROOF NOZZLE
N17	250	SHELL	SGL	197°	150 / SCH 40	316 SS	620 mm	HEAT EXCHANGER GLYCOL INLET/OUTLET
N18	400	SHELL	DBL	162°	150 / SCH 40	316 SS	600 mm	INTERNAL VENT
M1	800	SHELL	SGL	113°	150 / SCH 40	316 SS	660 mm	SIDE ACCESS MANWAY
M2	750	ROOF	SGL	149°	150 / SCH 40	316 SS	@ 3485 mm RADIUS	ROOF ACCESS HATCH
				138°				TANK LADDER ACCESS

NOZZLE SCHEDULE NOTES:

1. NOZZLE TYPES:
   A. DBL: DOUBLE NOZZLE TYPE WITH CONNECTIONS TO INTERNAL TANK PIPING.
   B. SGL: SINGLE NOZZLE TYPE THAT BOLTS TO THE SHELL OF THE TANK AND OPEN ON THE INSIDE OF THE TANK.
2. ALL NOZZLES THAT INDICATE B.F. ARE TO INCLUDE A BLIND FLANGE AND SEAL. REFER TO THE ASSOCIATED MECHANICAL SEAL REQUIRED TO INSTALL ELECTRICAL OR INSTRUMENTATION CABLE THROUGH A TAP IN THE BLIND FLANGE.
3. ALL PIPES THAT CONNECT FROM THE PIPE RACK TO THE TANKS MAY BE REQUIRED TO TURN FROM THE PIPE RACK ALIGNMENT TO THEIR RESPECTIVE NOZZLE ALIGNMENT.
4. ALL NOZZLE ELEVATIONS ARE MEASURED TO PIPE CENTRELINE ABOVE TANK BOTTOM.
5. ENSURE ALL CAMLOCK CONNECTIONS INSTALLED ON THE OUTSIDE OF THE TANKS ARE WITHIN THE SPECIFIED ENCLOSURE BOXES COMPLETE WITH ACCESS HATCHES FOR PIPE CONNECTIONS THROUGH THE FROST BOX WALL.

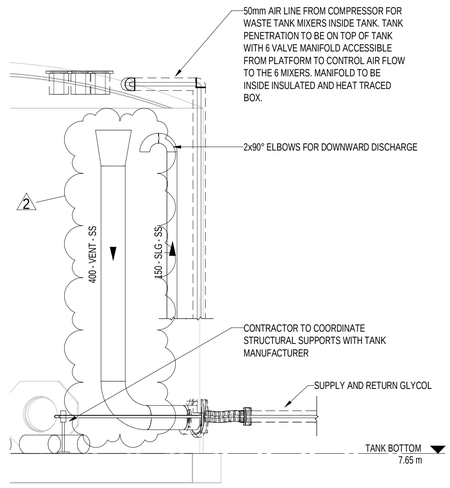
PROCESS WASTE TANK (TK-510) CONTROL LOGIC

LEVEL	CORRESPOND TO TANK BOTTOM. (m)	DESCRIPTION/LOGIC
OVERFLOW (TK-510)	5.00	
LSHH 520 (TK-510)	4.70	FLOAT
LSHH 510 (TK-510)	4.60	SENSOR
LSH 510 (TK-510)	3.90	SENSOR
LSL 510 (TK-510)	0.60	SENSOR
LSLL 510 (TK-510)	0.50	SENSOR
LSLL 530 (TK-510)	0.40	FLOAT



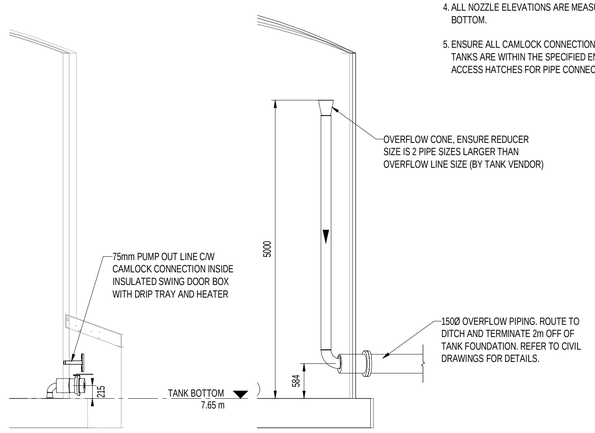
15 P-13 SECTION 15

SCALE: 1 : 50



16 P-13 SECTION 16

SCALE: 1 : 50

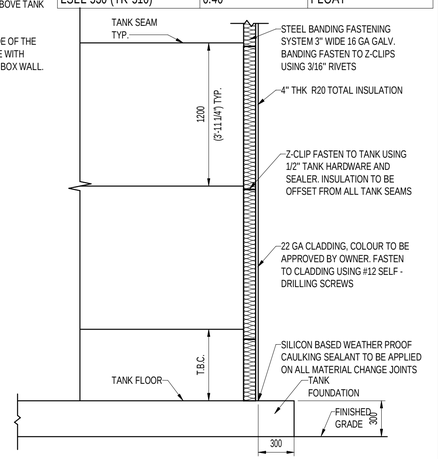


17 P-13 SECTION 17

SCALE: 1 : 50

18 P-13 SECTION 18

SCALE: 1 : 50



INSULATION AND FINISH DETAILS

SCALE: 1 : 25

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DRAWN	CG/SMZ
CHECKED BY	ASW
DATE	AUGUST 2025
SCALE	As indicated

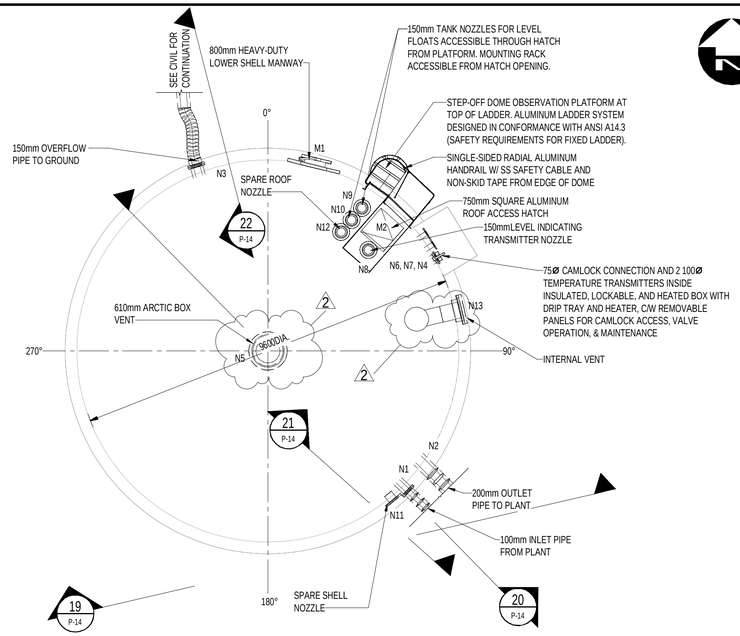
GOVERNMENT OF NUNAVUT 21200-00701-03
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PROJECT NO. 24-7464

PROCESS WASTE TANK DETAILS

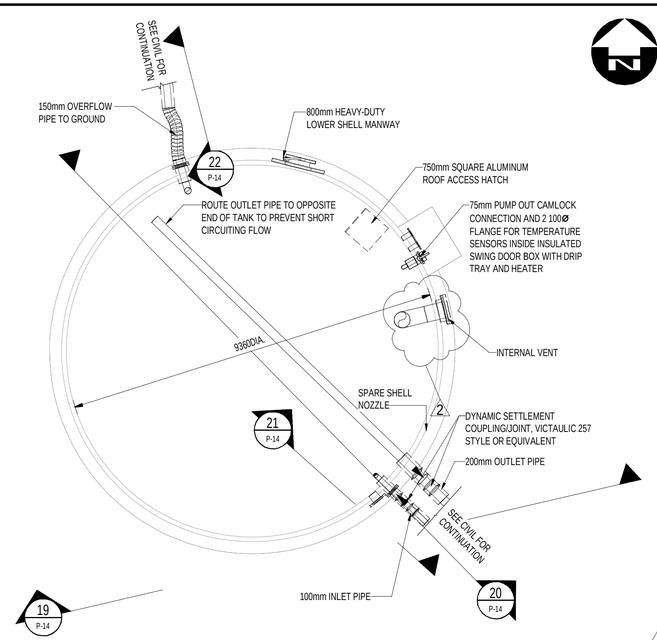
SHEET NO. P-13

PLOT DATE: 2025-08-27 11:45:12 AM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-10 TANK-CON.rvt



PLAN - TOP PLAN WATER TANK

SCALE: 1 : 75



PLAN - BOTTOM PLAN WATER TANK

SCALE: 1 : 75

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3. TANK AND PIPING INSULATION AND HEAT TRACING NOT SHOWN FOR CLARITY.
4. PROVIDE TOP ACCESS MANWAY FOR LEVEL SENSOR, AND FLOATS.
5. LOCATE ALL TOP CONNECTIONS AND PORTS ACCESSIBLE FROM WALKWAY.
6. PROVIDE FALL ARREST ANCHOR POINTS AT ACCESS MANWAY ON TOP OF TANK.
7. DESIGN EXTERIOR INSULATION TO DESIGN TEMPERATURE.
8. TANK INSTRUMENTS, CONNECTIONS, AND FLANGES TO BE HEAT TRACED.
9. SEE VENDOR DRAWINGS FOR HEATER DETAILS.
10. VICTAULIC STYLE W257 DYNAMIC SETTLEMENT ASSEMBLIES TO BE PROVIDED FOR ALL TANK PIPING CONNECTIONS FROM THE PIPE RACK. SETTLEMENT SECTION TO BE INSTALLED BETWEEN PIPE RACK AND TANK TO ACCOMMODATE FOR SEASONAL AND LONG TERM SETTLEMENT OF TANKS. SETTLEMENT AMOUNT ASSUMPTIONS ARE TO BE CHOSEN BASED ON COORDINATION WITH TANK FOUNDATION DESIGNER (TANK VENDOR) & VICTAULIC. REFER TO THE GEOTECHNICAL REPORT FOR DETAILS. CONTRACTOR TO COORDINATE INSTALLATION OF THIS ASSEMBLY AND SUBMIT SHOP DRAWINGS FOR LAYOUT.
    A. MATERIAL: COUPLINGS TO BE AS PER THE REQUIREMENTS OF THE SS PIPING SPECIFICATION & PIPE SPOOLS TO BE MADE OF 304LSS MATERIAL.
11. ALL PIPING INSIDE THE TANKS TO BE MADE OF 304LSS PIPING UNLESS OTHERWISE NOTED.
12. ALL PIPE SUPPORTS FOR PIPING INTERNAL TO THE TANK TO BE DESIGNED, INSTALLED, AND SUPPLIED BY TANK SUPPLIER.

TANK TK-520 NOZZLE SCHEDULE

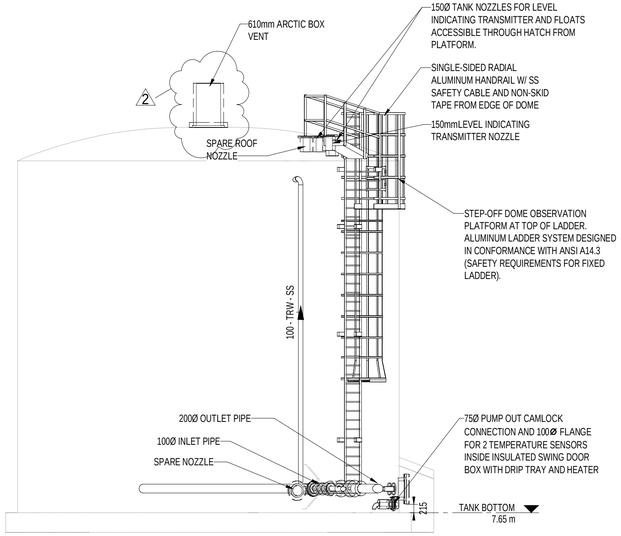
MARK	SIZE (mm)	SHELL/ROOF	TYPE	ORIENTATION	CLASS / SCH	MATERIAL	ELEVATION FROM SLAB (C/L) / RADIUS FROM TANK CENTRE	DESCRIPTION
N1	100	SHELL	DBL	135°	150 / SCH 40	316 SS	600 mm	TREATED WATER INLET
N2	200	SHELL	SGL	126°	150 / SCH 40	316 SS	610 mm	RECIRCULATION OUTLET / DRAW
N3	150	SHELL	DBL	339°	150 / SCH 40	316 SS	584 mm	OVERFLOW
N4	75	SHELL	DBL	61°	150 / SCH 40	316 SS	215 mm	PUMP OUT
N5	610	ROOF	SGL	0°	150 / SCH 40	316 SS	@ 1830mm RADIUS	VENT
N6	100	SHELL	SGL	53°	150 / SCH 40	316 SS	600 mm	TEMPERATURE SENSOR (TE) - WITH B.F.
N7	100	SHELL	SGL	57°	150 / SCH 40	316 SS	600 mm	TEMPERATURE SENSOR (TI) - WITH B.F.
N8	150	ROOF	SGL	45°	150 / SCH 40	316 SS	@ 3580mm RADIUS	LEVEL SENSOR - WITH B.F.
N9	150	ROOF	SGL	33°	150 / SCH 40	316 SS	@ 4305mm RADIUS	LEVEL BULBS - WITH B.F. & SEALS
N10	150	ROOF	SGL	33°	150 / SCH 40	316 SS	@ 3910mm RADIUS	LEVEL BULBS - WITH B.F. & SEALS
N11	200	SHELL	SGL	140°	150 / SCH 40	316 SS	600 mm	SPARE SHELL NOZZLE
N12	150	ROOF	SGL	32°	150 / SCH 40	316 SS	@ 3515mm RADIUS	SPARE ROOF NOZZLE
N13	400	SHELL	DBL	73°	150 / SCH 40	316 SS	600 mm	INTERNAL VENT
M1	800	SHELL	SGL	14°	150 / SCH 40	316 SS	660 mm	SIDE ACCESS MANWAY
M2	750	ROOF	SGL	43°	150 / SCH 40	316 SS	@ 4195mm RADIUS	ROOF ACCESS HATCH
				34°				TANK LADDER ACCESS

TREATED WATER TANK (TK-520) CONTROL LOGIC

LEVEL	CORRESPOND TO TANK BOTTOM(m)	DESCRIPTION/LOGIC
OVERFLOW (TK-520)	8.20	
LSHH 540 (TK-520)	8.20	FLOAT
LSHH 520 (TK-520)	8.10	SENSOR
LSH 520 (TK-520)	8.00	SENSOR
LSL 520 (TK-520)	1.80	SENSOR
LSLL 520 (TK-520)	1.60	SENSOR
LSLL 550 (TK-520)	1.50	FLOAT

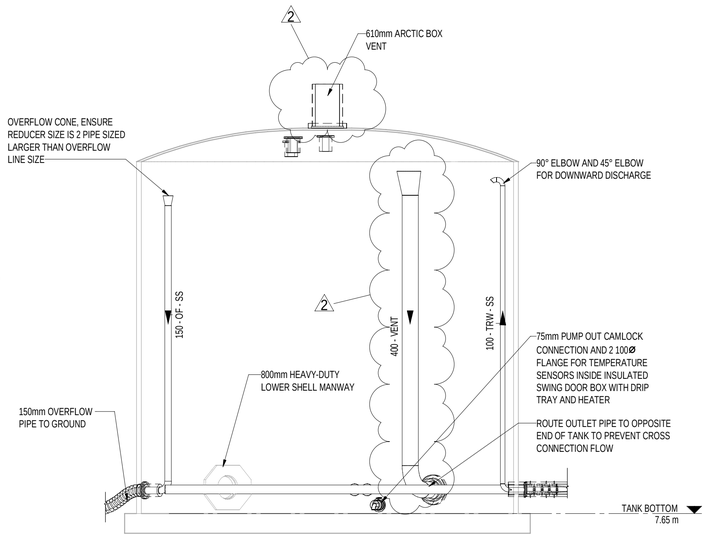
NOZZLE SCHEDULE NOTES:

1. NOZZLE TYPES:
   A. DBL: DOUBLE NOZZLE TYPE WITH CONNECTIONS TO INTERNAL TANK PIPING.
   B. SGL: SINGLE NOZZLE TYPE THAT BOLTS TO THE SHELL OF THE TANK AND OPEN ON THE INSIDE OF THE TANK.
2. ALL NOZZLES THAT INDICATE B.F. ARE TO INCLUDE A BLIND FLANGE AND SEAL. REFER TO THE ASSOCIATED MECHANICAL SEAL REQUIRED TO INSTALL ELECTRICAL OR INSTRUMENTATION CABLE THROUGH A TAP IN THE BLIND FLANGE.
3. ALL PIPES THAT CONNECT FROM THE PIPE RACK TO THE TANKS MAY BE REQUIRED TO TURN FROM THE PIPE RACK ALIGNMENT TO THEIR RESPECTIVE NOZZLE ALIGNMENT.
4. ALL NOZZLE ELEVATIONS ARE MEASURED TO PIPE CENTRELINE ABOVE TANK BOTTOM.
5. ENSURE ALL CAMLOCK CONNECTIONS INSTALLED ON THE OUTSIDE OF THE TANKS ARE WITHIN THE SPECIFIED ENCLOSURE BOXES COMPLETE WITH ACCESS HATCHES FOR PIPE CONNECTIONS THROUGH THE FROST BOX WALL.



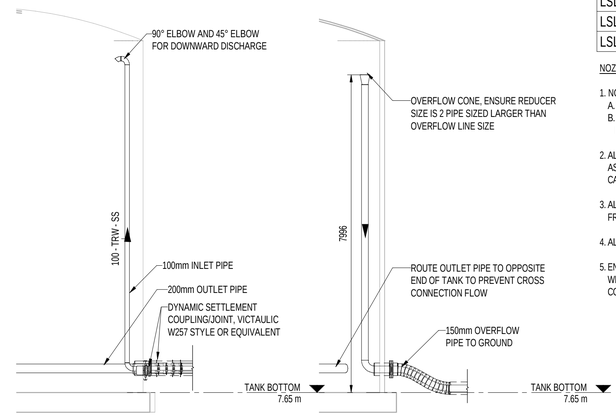
19 P-14 SECTION 19

SCALE: 1 : 75



20 P-14 SECTION 20

SCALE: 1 : 75



21 P-14 SECTION 21

SCALE: 1 : 75

22 P-14 SECTION 22

SCALE: 1 : 75

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REGISTERED PROFESSIONAL ENGINEER
A.S. WILLIAMS
LICENSEE
2025-09-16
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DESIGN: BAT | REVIEWED BY: DWM
DRAWN: CG/SMZ | CHECKED BY: ASW
DATE: AUGUST 2025
SCALE: As indicated

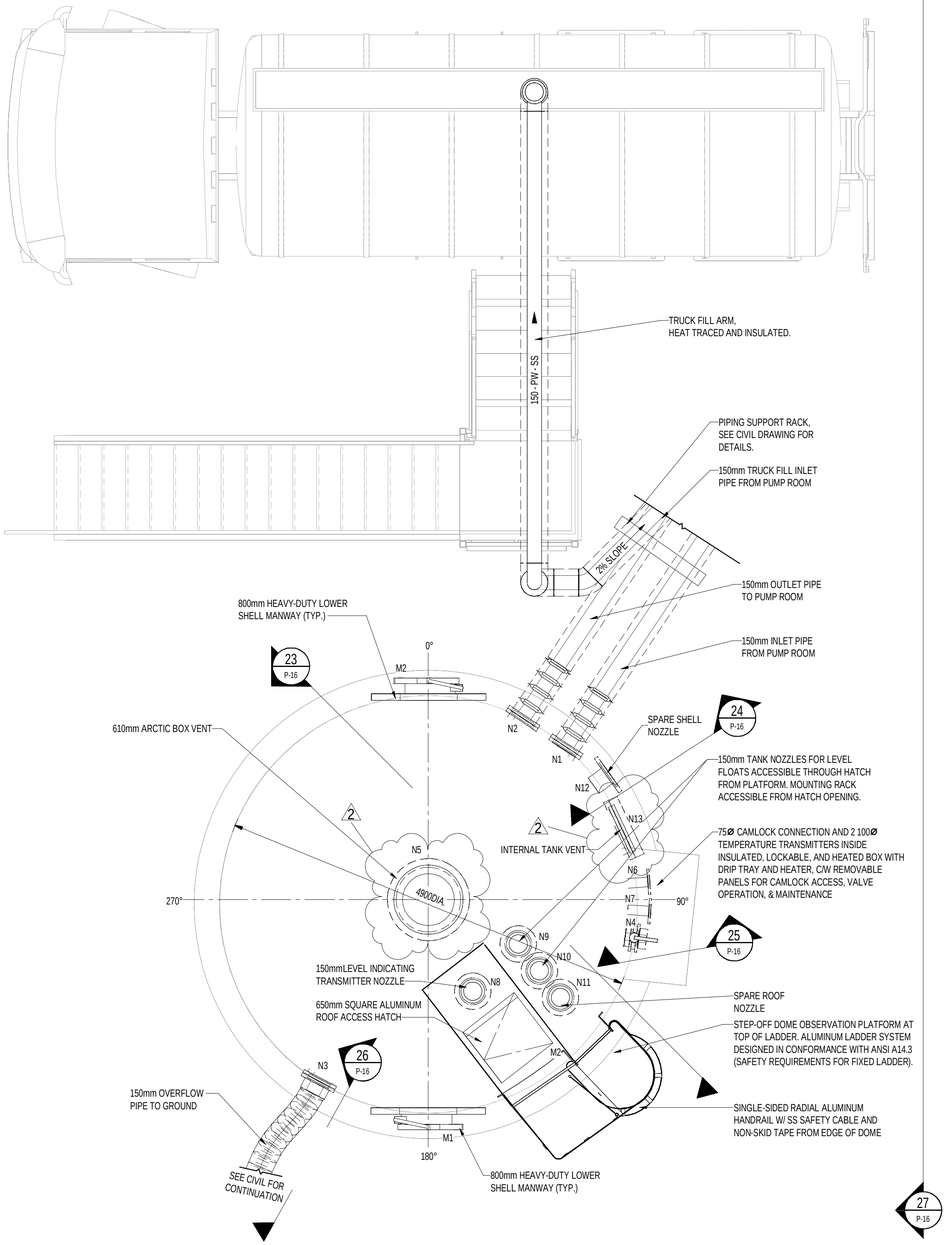
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

TREATED WATER TANK DETAILS

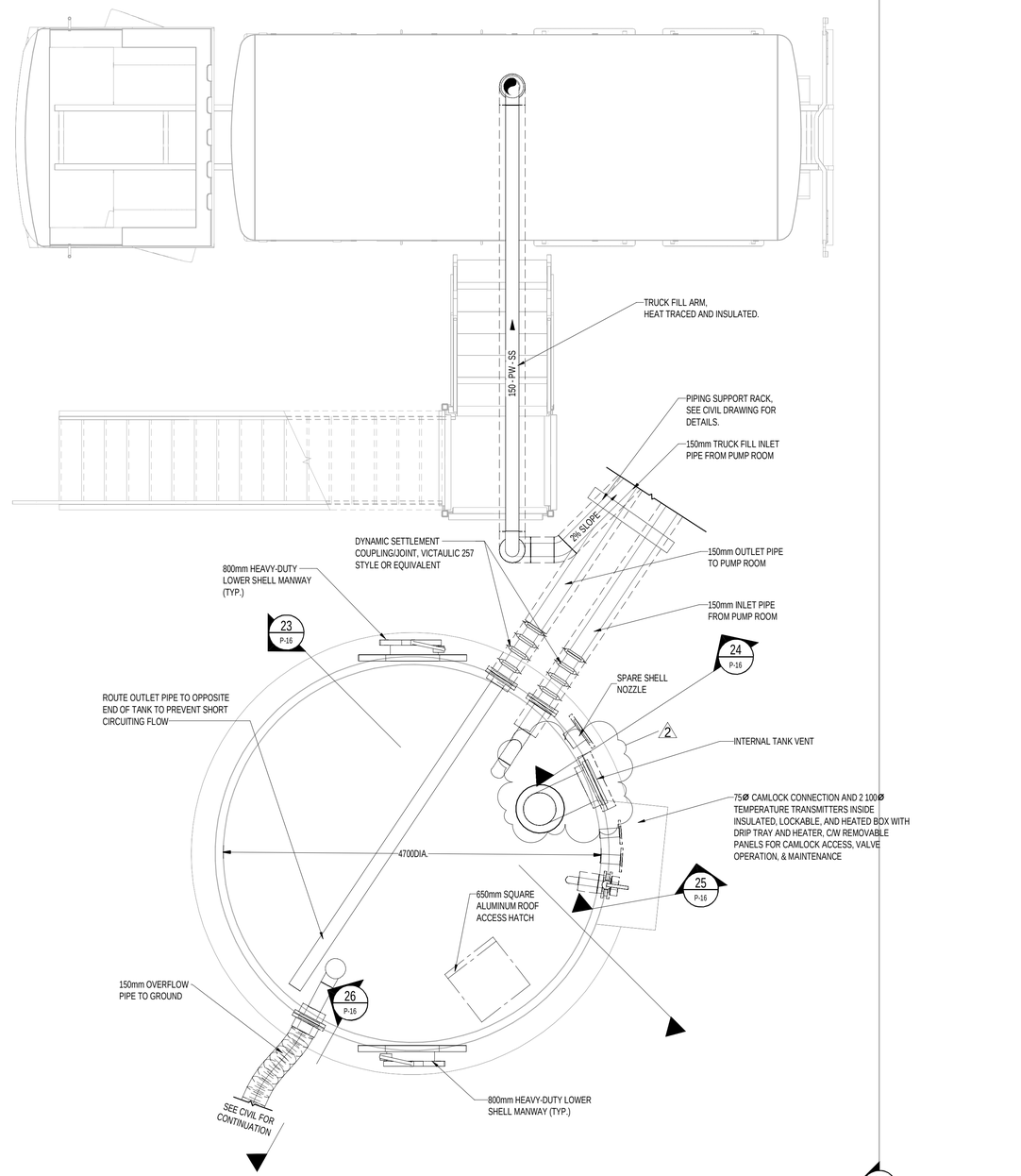
SHEET NO. P-14

PLOT DATE: 2025-08-27 11:48:13 AM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24746410 TANK-CON.rvt



PLAN - TOP PLAN FIRE WATER TANK

SCALE: 1 : 35



PLAN - BOTTOM PLAN FIRE WATER TANK

SCALE: 1 : 35

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DESIGN	BAT
REVIEWED BY	DWM
DRAWN	CG/SMZ
CHECKED BY	ASW
DATE	AUGUST 2025
SCALE	1 : 35

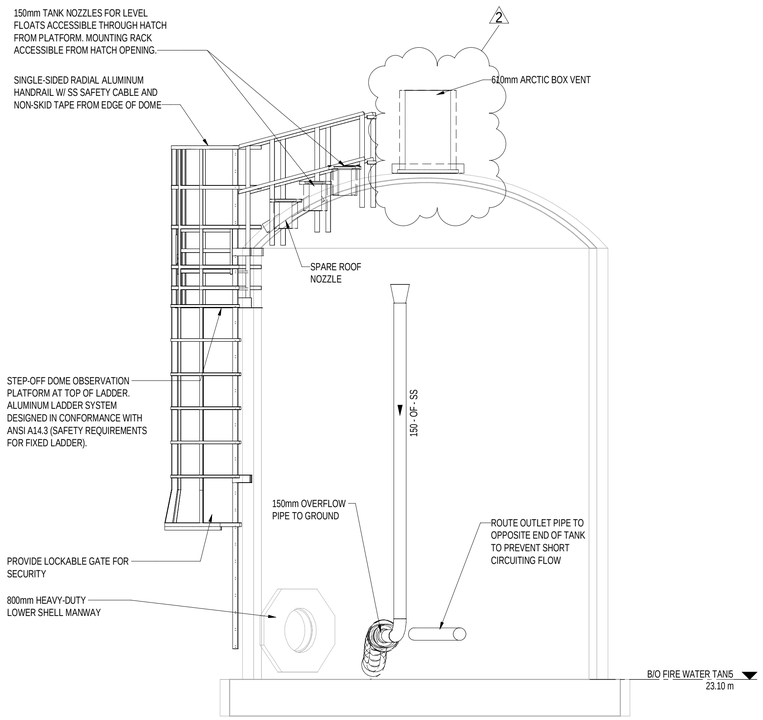
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

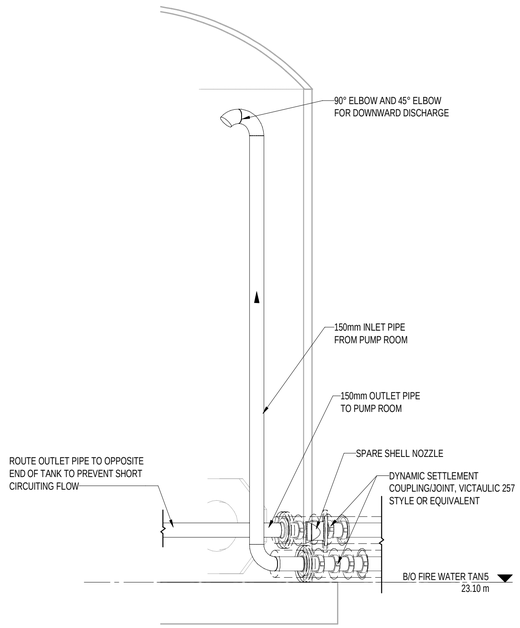
FIRE WATER TANK DETAILS - PLANS

SHEET NO. P-15

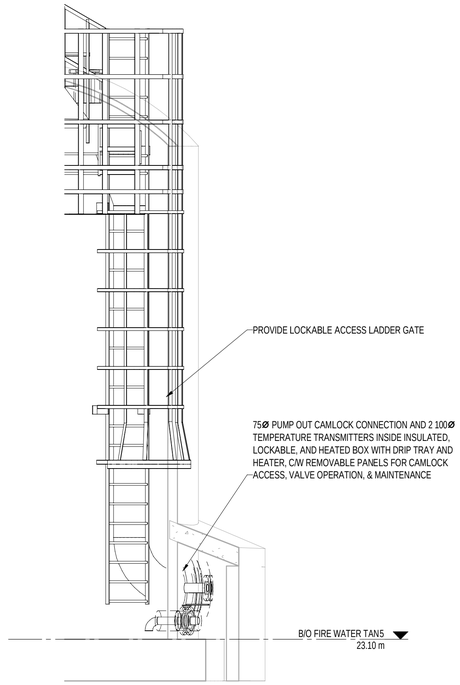
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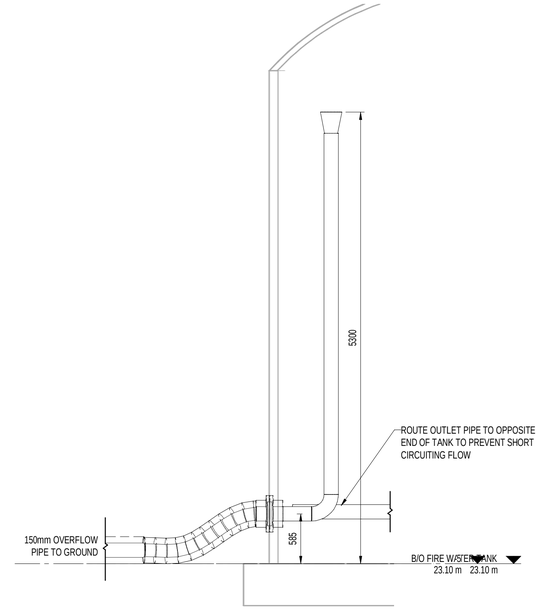
23 P-15 SECTION 23
SCALE: 1 : 40



24 P-15 SECTION 24
SCALE: 1 : 35



25 P-15 SECTION 25
SCALE: 1 : 35



26 P-15 SECTION 26
SCALE: 1 : 35

NOTES:

1. ALL ITEMS AND ASPECTS OF TANK SHOWN ARE DESIGNED AND DETAILED BY THE TANK MANUFACTURER. REFER TO THE TANK MANUFACTURER SUBMITTALS. ONLY THOSE ITEMS MARKED WITH *, ARE DETAILED IN THE CONTRACT DOCUMENTS AND PROVIDED BY THE CONTRACTOR.
2. ELECTRICAL NOT SHOWN FOR CLARITY.
3. TANK AND PIPING INSULATION AND HEAT TRACING NOT SHOWN FOR CLARITY.
4. PROVIDE TOP ACCESS MANWAY FOR LEVEL SENSOR, AND FLOATS.
5. LOCATE ALL TOP CONNECTIONS AND PORTS ACCESSIBLE FROM PLATFORM.
6. PROVIDE FALL ARREST ANCHOR POINTS AT ACCESS MANWAY ON TOP OF THE TANK.
7. DESIGN EXTERIOR INSULATION TO THE DESIGN TEMPERATURE.
8. TANK INSTRUMENTS, CONNECTIONS, AND FLANGES TO BE INSULATED AND HEAT TRACED.
9. VICTAULIC STYLE W257 DYNAMIC SETTLEMENT ASSEMBLIES TO BE PROVIDED FOR ALL TANK PIPING CONNECTIONS FROM THE PIPE RACK. SETTLEMENT SECTION TO BE INSTALLED BETWEEN PIPE RACK AND TANK TO ACCOMMODATE FOR SEASONAL AND LONG TERM SETTLEMENT OF TANKS. SETTLEMENT AMOUNT ASSUMPTIONS ARE TO BE CHOSEN BASED ON COORDINATION WITH TANK FOUNDATION DESIGNER (TANK VENDOR) & VICTAULIC. REFER TO THE GEOTECHNICAL REPORT FOR DETAILS. CONTRACTOR TO COORDINATE INSTALLATION OF THIS ASSEMBLY AND SUBMIT SHOP DRAWINGS FOR LAYOUT.
   A. MATERIAL: COUPLINGS TO BE AS PER THE REQUIREMENTS OF THE SS PIPING SPECIFICATION & PIPE SPOOLS TO BE MADE OF 304LSS MATERIAL.
11. ALL PIPING INSIDE THE TANKS TO BE MADE OF 304LSS PIPING UNLESS OTHERWISE NOTED.
12. ALL PIPE SUPPORTS FOR PIPING INTERNAL TO THE TANK TO BE DESIGNED, INSTALLED, AND SUPPLIED BY TANK SUPPLIER.

TANK TK-1010 NOZZLE SCHEDULE

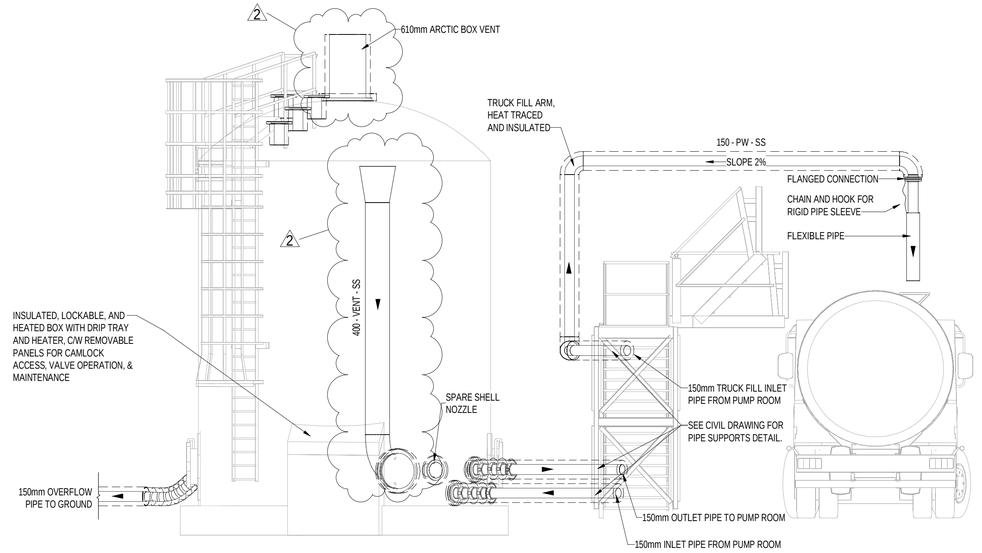
MARK	SIZE (mm)	SHELL/ROOF	TYPE	ORIENTATION	CLASS / SCH	MATERIAL	ELEVATION FROM SLAB (C/L) / RADIUS FROM TANK CENTRE	DESCRIPTION
N1	150	SHELL	DBL	42°	150 / SCH 40	316 SS	215 mm	POTABLE WATER INLET/ RECIRCULATION INLET
N2	150	SHELL	SGL	28°	150 / SCH 40	316 SS	610 mm	RECIRCULATION OUTLET / DRAW
N3	150	SHELL	DBL	211°	150 / SCH 40	316 SS	585 mm	OVERFLOW
N4	150	SHELL	DBL	100°	150 / SCH 40	316 SS	215 mm	PUMP OUT
N5	610	ROOF	SGL	0°	150 / SCH 40	316 SS	@ 1830 mm RADIUS	VENT
N6	100	SHELL	SGL	85°	150 / SCH 40	316 SS	600 mm	TEMPERATURE SENSOR (TE) - WITH B.F.
N7	100	ROOF	SGL	93°	150 / SCH 40	316 SS	600 mm	TEMPERATURE SENSOR (TI) - WITH B.F.
N8	150	ROOF	SGL	154°	150 / SCH 40	316 SS	@ 1196 mm RADIUS	LEVEL SENSOR - WITH B.F.
N9	150	ROOF	SGL	116°	150 / SCH 40	316 SS	@ 1178 mm RADIUS	LEVEL BULBS - WITH B.F. & SEALS
N10	150	ROOF	SGL	123°	150 / SCH 40	316 SS	@ 1584 mm RADIUS	LEVEL BULBS - WITH B.F. & SEALS
N11	150	ROOF	SGL	127°	150 / SCH 40	316 SS	@ 1930 mm RADIUS	SPARE ROOF NOZZLE
N12	200	SHELL	SGL	55°	150 / SCH 40	316 SS	600 mm	SPARE SHELL NOZZLE
N13	100	SHELL	DBL	70°	150 / SCH 40	316 SS	600 mm	INTERNAL VENT
M1	800	SHELL	SGL	180°	150 / SCH 40	316 SS	660 mm	SIDE ACCESS MANWAY
M2	800	SHELL	SGL	0°	150 / SCH 40	316 SS	660 mm	SIDE ACCESS MANWAY
M3	650	ROOF	SGL	149°	150 / SCH 40	316 SS	@ 1992 mm RADIUS	ROOF ACCESS HATCH
				132°				TANK LADDER ACCESS

NOZZLE SCHEDULE NOTES:

1. NOZZLE TYPES:
   A. DBL: DOUBLE NOZZLE TYPE WITH CONNECTIONS TO INTERNAL TANK PIPING.
   B. SGL: SINGLE NOZZLE TYPE THAT BOLTS TO THE SHELL OF THE TANK AND OPEN ON THE INSIDE OF THE TANK.
2. ALL NOZZLES THAT INDICATE B.F. ARE TO INCLUDE A BLIND FLANGE AND SEAL. REFER TO THE ASSOCIATED MECHANICAL SEAL REQUIRED TO INSTALL ELECTRICAL OR INSTRUMENTATION CABLE THROUGH A TAP IN THE BLIND FLANGE.
3. ALL PIPES THAT CONNECT FROM THE PIPE RACK TO THE TANKS MAY BE REQUIRED TO TURN FROM THE PIPE RACK ALIGNMENT TO THEIR RESPECTIVE NOZZLE ALIGNMENT.
4. ALL NOZZLE ELEVATIONS ARE MEASURED TO PIPE CENTRELINE ABOVE TANK BOTTOM.
5. ENSURE ALL CAMLOCK CONNECTIONS INSTALLED ON THE OUTSIDE OF THE TANKS ARE WITHIN THE SPECIFIED ENCLOSURE BOXES COMPLETE WITH ACCESS HATCHES FOR PIPE CONNECTIONS THROUGH THE FROST BOX WALL.

FIRE WATER TANK (TK-1010) CONTROL LOGIC

LEVEL	CORRESPOND TO TANK BOTTOM(m)	DESCRIPTION/LOGIC
OVERFLOW (TK-1010)	5.30	
LSHH -1020 (TK-1010)	5.30	FLOAT
LSHH - 1010 (TK-1010)	5.20	SENSOR
LSH - 1010 (TK-1010)	5.10	SENSOR
LSL - 1010 (TK-1010)	0.65	SENSOR
LSLL - 1010 (TK-1010)	0.55	SENSOR
LSLL -1030 (TK-1010)	0.45	FLOAT



27 P-15 SECTION 27
SCALE: 1 : 50

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LICENSEE
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DESIGN: BAT
REVIEWED BY: DWM
DRAWN: CG/SMZ
CHECKED BY: ASW
DATE: AUGUST 2025
SCALE: As indicated

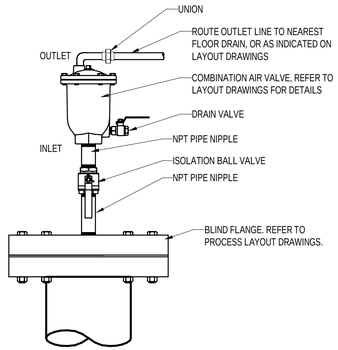
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

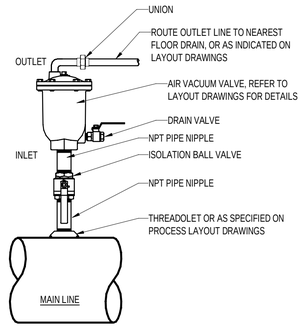
FIRE WATER TANK DETAILS - SECTIONS

SHEET NO. P-16

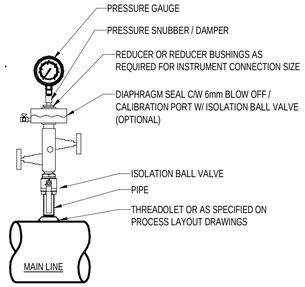
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COMBINATION AIR VALVE ASSEMBLY



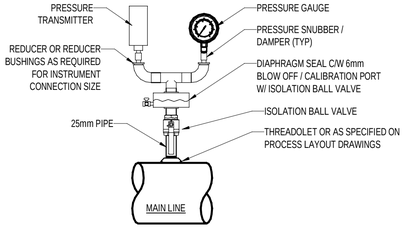
AIR VACUUM VALVE ASSEMBLY



NOTES:

1. PRESSURE GAUGE BRANCH ASSEMBLY PIPING TO HAVE SAME LINE CODE & MATERIAL AS MAIN PROCESS PIPE UNLESS OTHERWISE SPECIFIED.
2. DIAPHRAGM SEAL TO BE FLANGED TYPE.
3. ALL PIPING AND BRANCH ASSEMBLY TO BE SUFFICIENTLY SUPPORTED FOR THE WEIGHT & APPLICATION OF USE.
4. ALL PRESSURE GAUGE, SNUBBERS, AND DIAPHRAGM SEALS TO BE ASSEMBLED & LIQUID FILLED AT FACTORY.
5. ENSURE PRESSURE GAUGE IS VERTICALLY ORIENTED REGARDLESS OF MAIN LINE ORIENTATION.
6. ALL ISOLATION VALVES TO BE STAINLESS STEEL FULL PORT BALL VALVES WITH LOCKING LEVER TYPE.

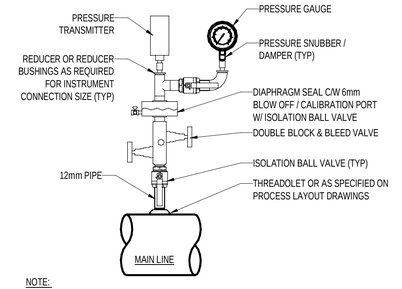
PUMP DISCHARGE PI ASSEMBLY WITH DIAPHRAGM SEAL



NOTES:

1. PRESSURE TRANSMITTER & GAUGE BRANCH ASSEMBLY PIPING TO HAVE SAME LINE CODE & MATERIAL AS MAIN PROCESS PIPE UNLESS OTHERWISE SPECIFIED.
2. DIAPHRAGM SEAL TO BE FLANGED TYPE.
3. ALL PIPING AND BRANCH ASSEMBLY TO BE SUFFICIENTLY SUPPORTED FOR THE WEIGHT & APPLICATION OF USE.
4. ALL PRESSURE GAUGE, TRANSMITTER, SNUBBERS, AND DIAPHRAGM SEALS TO BE ASSEMBLED & LIQUID FILLED AT FACTORY.
5. ENSURE ASSEMBLY INCLUDING GAUGES & TRANSMITTERS ARE VERTICALLY ORIENTED REGARDLESS OF MAIN LINE ORIENTATION.
6. ALL ISOLATION VALVES TO BE STAINLESS STEEL FULL PORT BALL VALVES WITH LOCKING LEVER TYPE.

PI & PIT ASSEMBLY WITH DIAPHRAGM SEAL

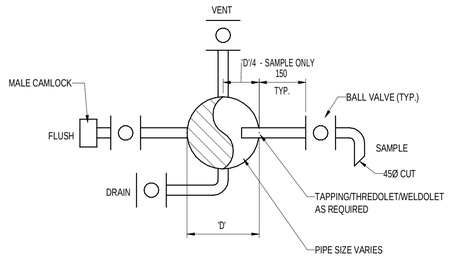


NOTE:

1. PRESSURE TRANSMITTTER & GAUGE BRANCH ASSEMBLY PIPING TO HAVE SAME LINE CODE & MATERIAL AS MAIN PROCESS PIPE UNLESS OTHERWISE SPECIFIED.
2. ALL PIPING AND BRANCH ASSEMBLY TO BE SUFFICIENTLY SUPPORTED FOR THE WEIGHT & APPLICATION OF USE.
3. ALL PRESSURE GAUGE, TRANSMITTER, DIAPHRAGM SEAL, & SNUBBERS TO BE ASSEMBLED & LIQUID FILLED AT FACTORY.
4. ENSURE ASSEMBLY INCLUDING GAUGES & TRANSMITTERS ARE VERTICALLY ORIENTED REGARDLESS OF MAIN LINE ORIENTATION.
5. ALL ISLOLATION VALVES TO BE STAINLESS STEEL FULL PORT BALL VALVES WITH LOCKING LEVER TYPE.
6. DOUBLE BLOCK & BLEED VALVE TO BE WIKA MODEL IV 202 OR EQUIVALENT.

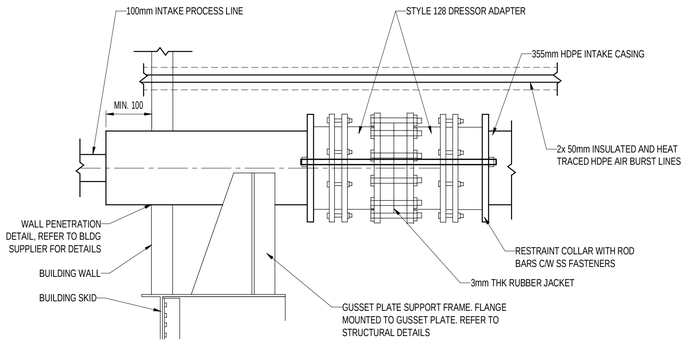
PI & PIT ASSEMBLY WITH DOUBLE BLOCK & BLEED

INTAKE PUMP CONNECTION DETAIL

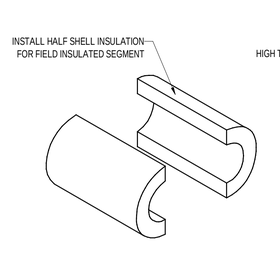


SEE P&ID'S FOR CONNECTION SIZE MATERIAL

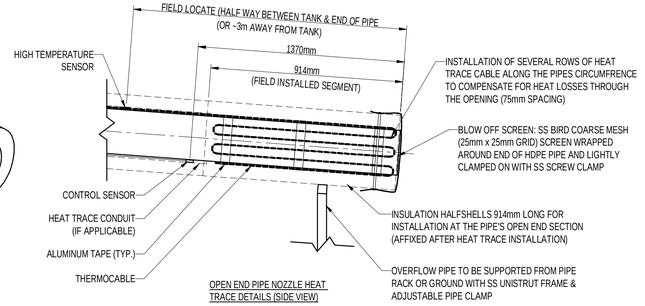
SAMPLE/VENT/DRAIN/FLUSH DETAIL



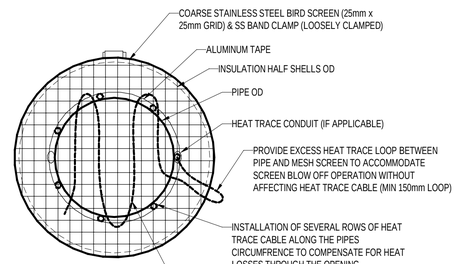
INTAKE CASING GUSSET SUPPORT PLATE



INSULATION HALF SHELLS



OPEN END PIPE NOZZLE HEAT TRACE DETAILS (SIDE VIEW)



END VIEW

2 OVERFLOW BLOW OFF SCREEN

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0	ISSUED FOR TENDER	2024-NOV-29	ASW

DESIGN	BAT
REVIEWED BY	DWM
DRAWN	CG/SMZ
CHECKED BY	ASW
DATE	AUGUST 2025
SCALE	As indicated

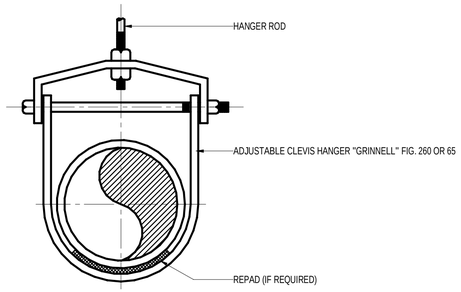
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

MISCELLANEOUS DETAILS I

PROJECT NO. 24-7464

SHEET NO. P-17

PLOT DATE: 2025-08-21 1:27:32 PM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-10-TRPL-CON_(2022 Current).rvt

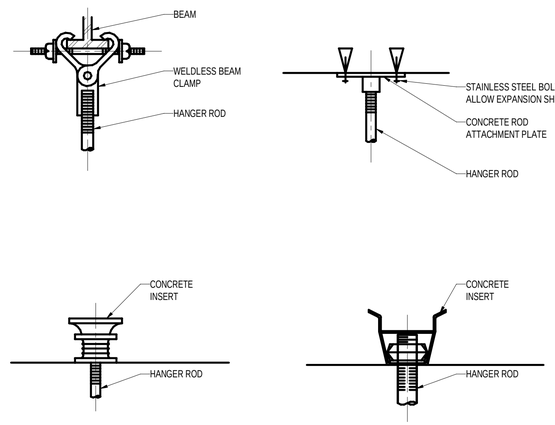


PIPE HANGER SCHEDULE			
PIPE SIZE (Ø)	ROD SIZE (Ø)	MAXIMUM SPACING	MAXIMUM LOAD (kg)
THRU 25	9	2440	180
32 THRU 50	9	3050	180
63 THRU 89	13	3660	475
100 & 125	16	4875	650
150	19	4875	880
200 THRU 300	22	6100	1360
350 & 400	25	6100	1475
450 & 500	32	6100	2180
600 & 900	38	7620	2180

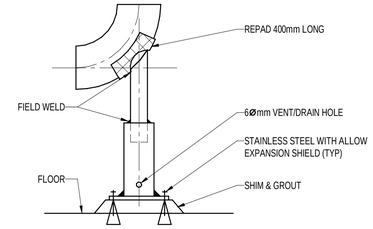
NOTE:

1. CONTRACTOR SHALL DETERMINE APPROPRIATE METHOD OF ATTACHMENT TO CEILING.
2. SCHEDULED DATA MAY ALSO BE USED FOR TRAPEZE HANGER SELECTION WITH EACH ROD NOT TO EXCEED MAXIMUM LOAD.
3. CONTRACTOR SHALL ENSURE THAT EACH LINE IS ADEQUATELY SUPPORTED BEFORE COMMENCING TRIAL OPERATION.

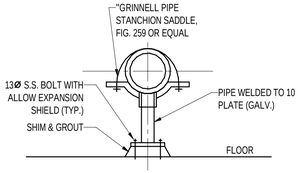
PIPE HANGER - CLEVIS



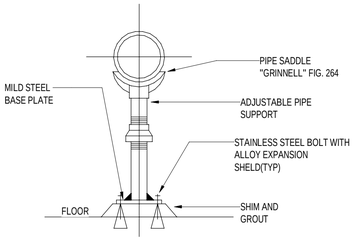
PIPE HANGER - CEILING ATTACHMENTS



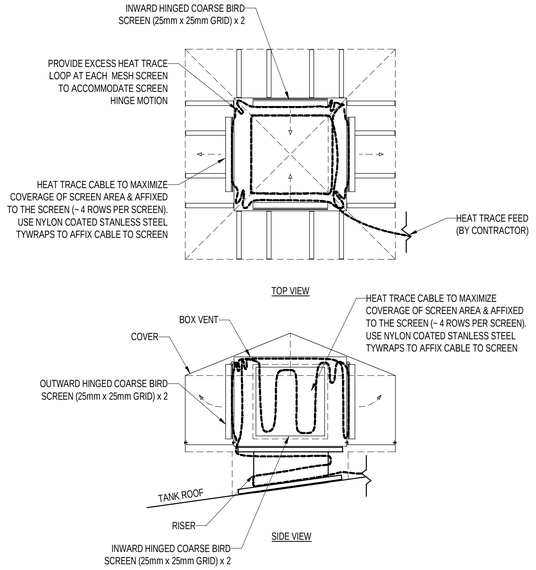
PIPE SUPPORT - ELBOW STANCHION



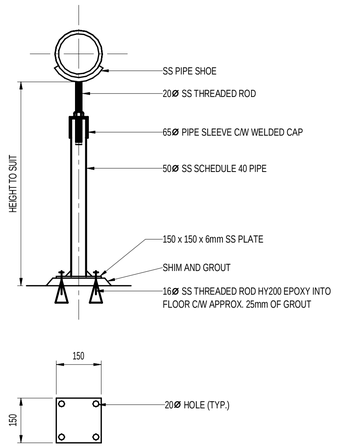
PIPE SUPPORT - STANCHION W/ CLAMP



PIPE SUPPORT - ADJUSTABLE STANCHION II



TANK BOX VENT



PIPE SUPPORT - ADJUSTABLE STANCHION I

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A.S. WILLIAMS
LICENSEE
2025-09-16
NT/NU

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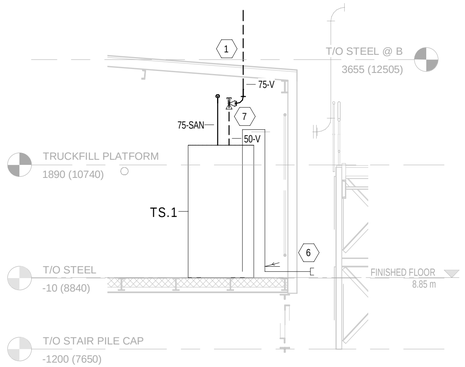
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DRAWN: CG | CHECKED BY: ASW
DATE: AUGUST 2025
SCALE: As indicated

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

MISCELLANEOUS DETAILS II

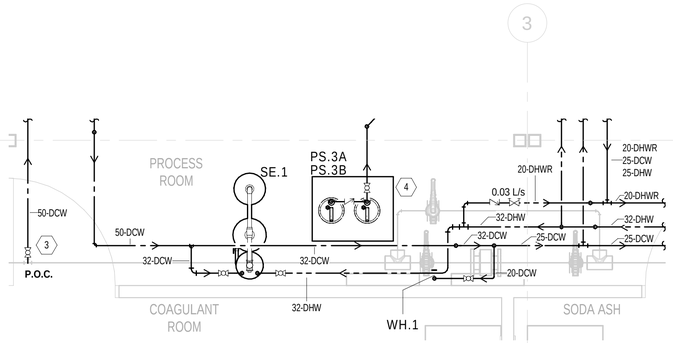
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SHEET NO. P-18

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1 M-1 ELEVATION VIEW - WASTE STORAGE TANK (TS.1)

SCALE: 1 : 50



2 M-1 ENLARGED PLAN - EMERGENCY SHOWER AND SUMP

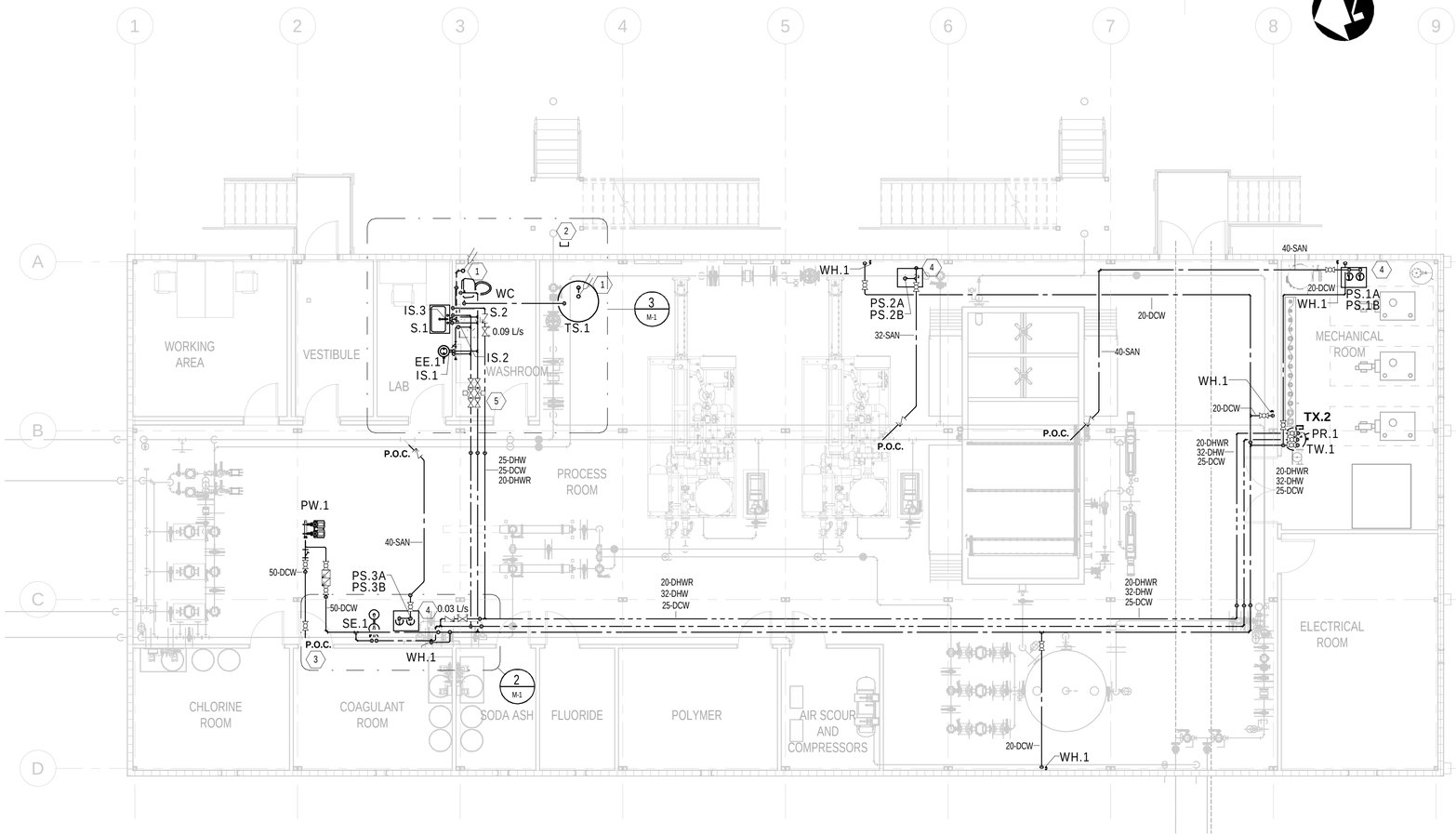
SCALE: 1 : 25

PLUMBING NOTES

1. PROVIDE ARCTICVENT-HT MODEL ATV-30-24-01 c/w INSUL-3.00. VENT TO INCREASE FROM 50mm TO 75mm (PROVIDE 660mm MIN. OF VERTICAL RISE). SEE DETAIL 5/M-5 AND 14/A-7.
2. CENTERLINE OF SANITARY WASTE TANK (TS.1) DISCHARGE CONNECTION SHALL BE APPROXIMATELY 100mm ABOVE TANK BOTTOM. INTERIOR PUMP-OUT DISCHARGE LINE TO BE HEAT-TRACED AND INSULATED FROM TOP OF WASTE STORAGE TANK TO WALL PENETRATION. EXTERIOR PUMP-OUT DISCHARGE LINE TO BE HEAT-TRACED AND INSULATED FROM WALL PENETRATION TO COUPLING.
3. SEE PROCESS DRAWING P-1 FOR DOMESTIC WATER POINT OF CONNECTION FROM TREATED WATER SYSTEM.
4. SUMP BRANCHES TO BE c/w CHECK VALVE. SEE DETAIL 1/M-5 AND DRAWING M-6.
5. ELECTRONICALLY ACTUATED SOLENOID VALVES TIED TO HIGH LEVEL SWITCH OF TS.1. SOLENOID VALVES TO BE CLOSED WHEN HIGH LIMIT IS REACHED AND TO REMAIN OFF UNTIL TS.1 HAS BEEN EMPTIED.
6. CAM-LOK TYPE CONNECTION c/w CAP AND CHAIN. PIPING TO BE SLOPED 2% TOWARDS TANK. ALL PIPING TO BE INSULATED AND HEAT TRACED. SUCTION PIPING TO BE SCHEDULE 40 ASTM A53 BLACK CARBON STEEL.
7. TS.1 TO BE c/w ENARDO 861-2X3-4211-MBAR140/MBAR140-S-R OR EQUIVALENT.

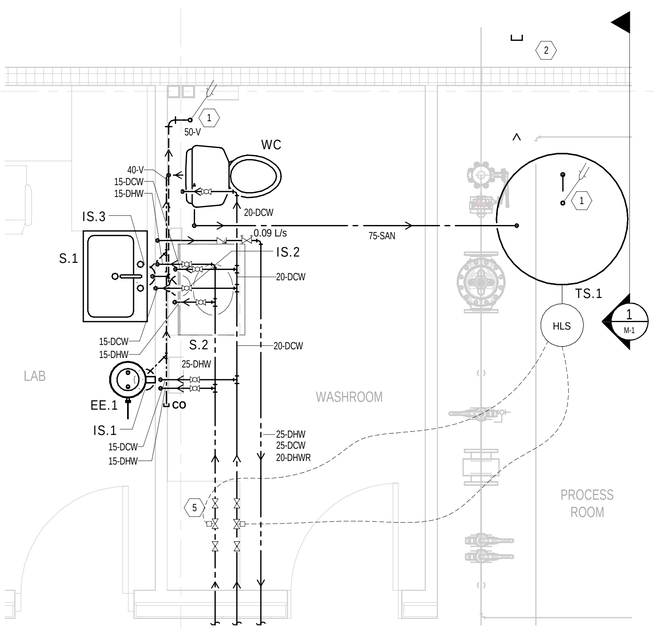
PLUMBING LEGEND

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	DOMESTIC HW RECIRCULATION (DHWR)
	SANITARY WASTE LINE (SAN)
	SANITARY VENT (VENT)
	CAMLOCK TRUCK PUMPING CONNECTION
	PIPE DOWN (DN)
	PIPE UP (UP)
	CLEAN OUT (CO)
	SANITARY VENT THRU ROOF (MIN. 75mm)
WC	PLUMBING FIXTURE DESIGNATION
	INCREASER/ REDUCER
P.O.C.	POINT OF CONNECTION
	STRAINER
	SHUT OFF VALVE
	BALL VALVE
	GLOBE VALVE
	T&P RELIEF VALVE
	CHECK VALVE
	BALANCING VALVE
	CONTROL VALVE/ SOLENOID VALVE (ELECT.)
	BACKFLOW PREVENTER (R.P TYPE)
	PIPE UNION
	PRESSURE GAUGE c/w PETCOCK
	THERMOMETER
	HOSE END DRAIN VALVE
	VACUUM BREAKER
	INLINE CIRC PUMP



PLUMBING PLAN

SCALE: 1 : 75



3 M-1 PLUMBING PLAN - WASHROOM

SCALE: 1 : 25

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REGISTERED PROFESSIONAL ENGINEER
A.D. COMBS
LICENSEE
2025/0001
L5706 NT/NU

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

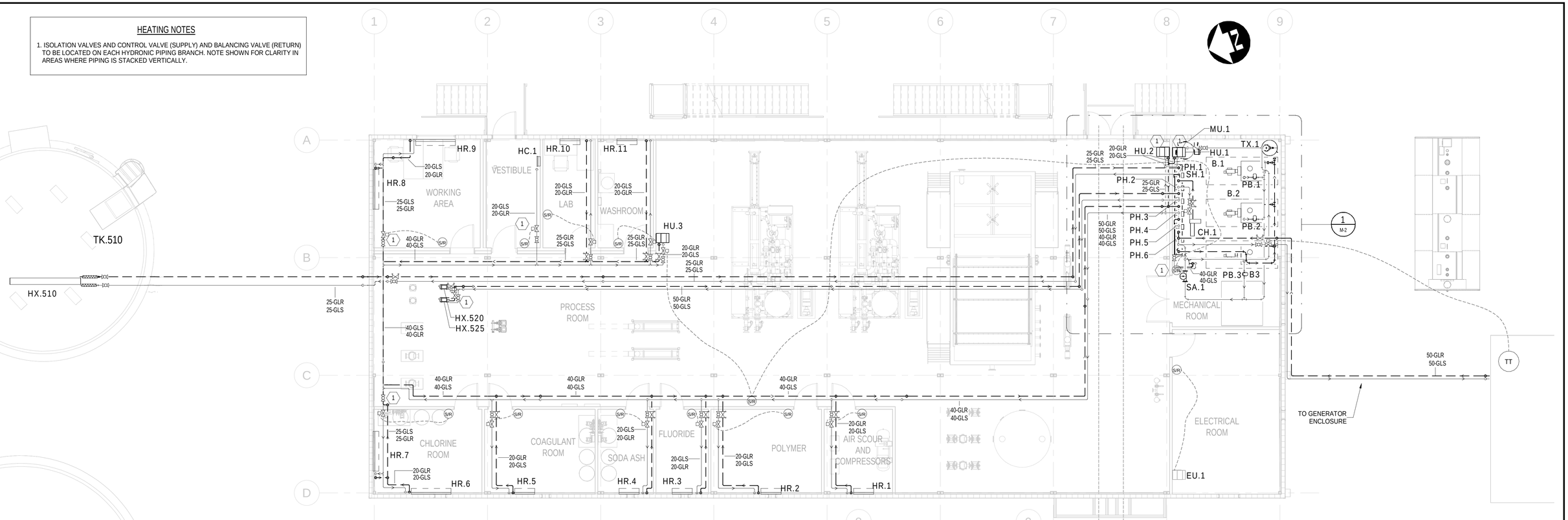
ARCTIC BAY
PLUMBING LAYOUT

PROJECT NO. 24-7464
SHEET NO. M-1

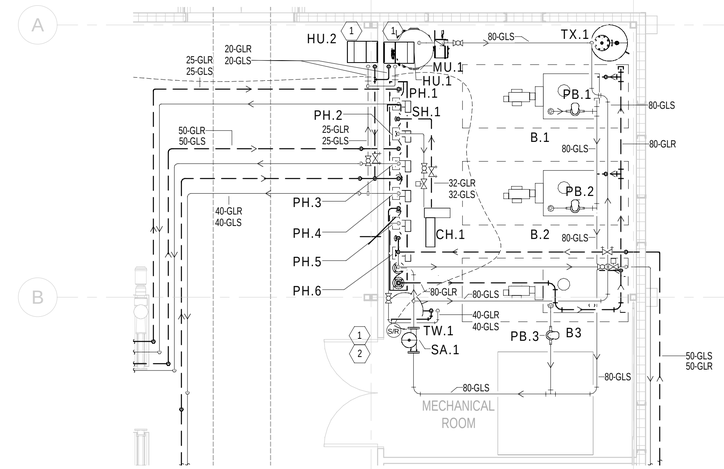
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FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-07-MECH-CON_v2022.rvt

HEATING NOTES

1. ISOLATION VALVES AND CONTROL VALVE (SUPPLY) AND BALANCING VALVE (RETURN) TO BE LOCATED ON EACH HYDRONIC PIPING BRANCH. NOTE SHOWN FOR CLARITY IN AREAS WHERE PIPING IS STACKED VERTICALLY.



HEATING PLAN
SCALE: 1 : 75



1 / M-2 ENLARGED PLAN - MECHANICAL ROOM
SCALE: 1 : 50

HEATING LEGEND

SYMBOL	DESCRIPTION
GLS	GLYCOL WATER SUPPLY
GLR	GLYCOL WATER RETURN
	PIPE DOWN (DN)
	PIPE UP (UP)
	SHUT OFF VALVE
	BALL VALVE
	GLOBE VALVE
	CHECK VALVE
	BALANCING VALVE
	CONTROL VALVE (ELEC)
	THREE WAY MIXING VALVE (ELEC)
	PRESSURE REDUCING VALVE
	STRAINER
	T&P RELIEF VALVE
	BLOW DOWN VALVE
	MANUAL AIR VENT (M.A.V.)
	AUTOMATIC AIR VENT (A.A.V.)
	PRESSURE GAUGE
	PRESSURE GAUGE c/w PETCOCK
	THERMOMETER
	HOSE END DRAIN VALVES
	VACUUM BREAKER
	UNION
	INLINE CIRC PUMP
	FLANGE

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REGISTERED PROFESSIONAL ENGINEER
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LICENSEE
2025080D
L5764 NT/NU

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SCALE As indicated	

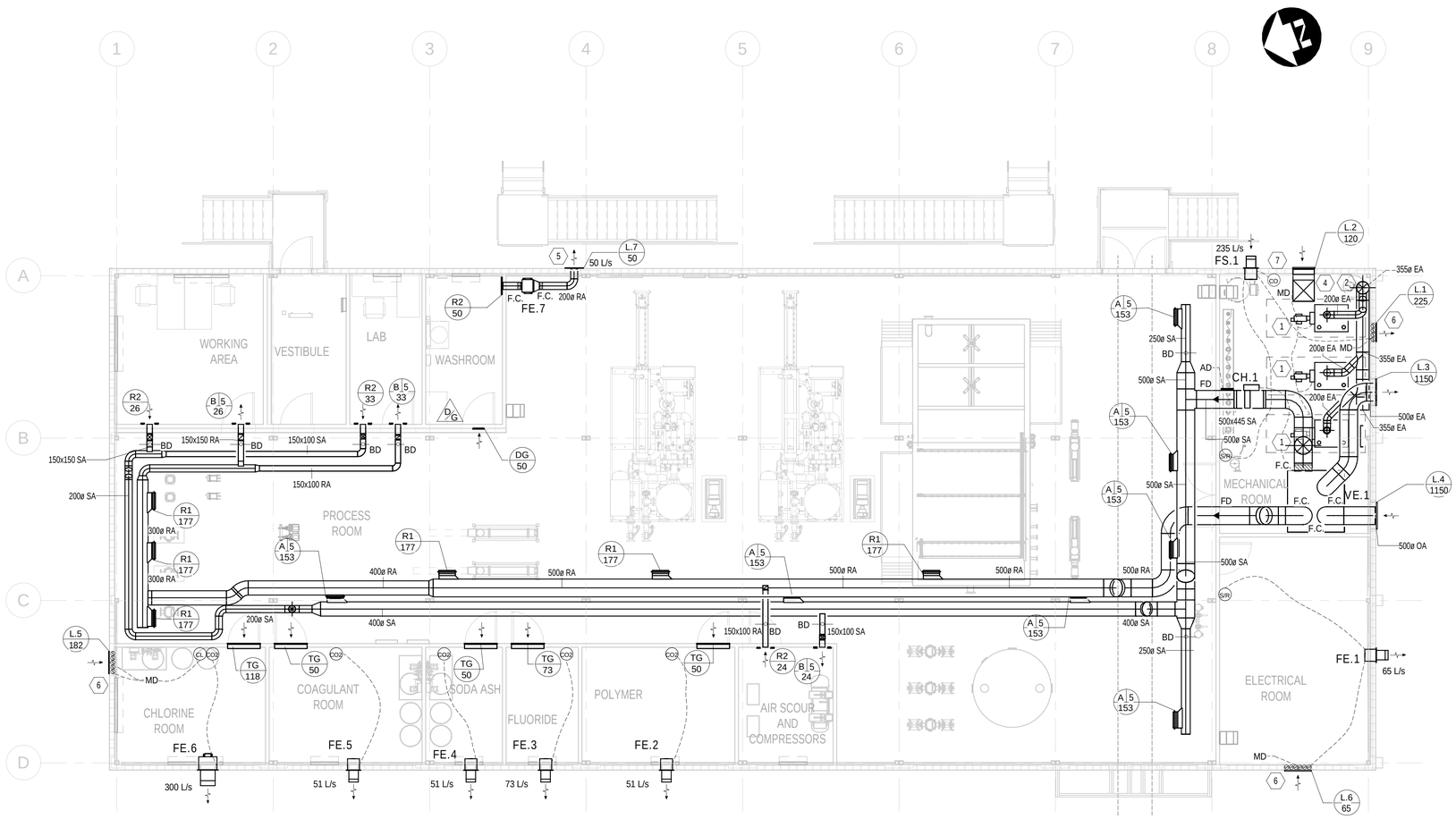
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
HEATING LAYOUT

PROJECT NO. 24-7464

SHEET NO. M-2

PLOT DATE: 2025-09-21 1:54:57 PM
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VENTILATION PLAN

SCALE: 1 : 75

VENTILATION NOTES

1. BOILER FLUE VENT SELKIRK CHIMNEY VENT KIT. 3x200mm VENTS c/w BAROMETRIC DAMPERS, DAMPERS TO BE INSTALLED PER CSA B139 AND MANUFACTURERS INSTRUCTIONS. ENSURE CLEANOUTS ON VERTICAL AND HORIZONTAL SECTIONS ARE SERVICEABLE.
2. 355mm BOILER FLUE COMMON VENT THROUGH ROOF PER CSA B139.
3. CONTRACTOR TO PROVIDE ALL REQUIRED RELAYS TO ENSURE HVAC SYSTEM CONTROL VIA SENSORS.
4. 610x305 mm COMBUSTION AIR LOUVER (L-2) TURNED DOWN TO 305mm AFF c/w MOTORIZED DAMPER. DAMPER TO BE OPEN WHEN BOILERS IN OPERATION. DUCT c/w MIN. 50mm THICK INSULATION DN TO 305mm AFF c/w VAPOUR BARRIER.
5. LOUVER L-7 TO BE INSTALLED APPROXIMATELY, 2590mm AFF TO SERVE FE-7.
6. SEE DETAIL 4/M-8 FOR MORE INFORMATION REGARDING WEATHERHOOD CONSTRUCTION.
7. CO SENSOR c/w OUTDOOR BEACON. SENSOR TO BE INTERCONNECTED WITH ALARM.

VENTILATION LEGEND

SYMBOL	DESCRIPTION
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
OA	OUTSIDE AIR
	BALANCING DAMPER (BD)
	DUCT UP (SA)
	DUCT UP (RA OR EA)
	DUCT DOWN (SA)
	DUCT DOWN (RA OR EA)
	DUCT WORK
	SIDEWALL GRILLE/DIFFUSER
	VERTICAL FIRE DAMPER (FD)
	HORIZONTAL FIRE DAMPER (FD)
	VERTICAL FIRE/SMOKE DAMPER (FSD)
	HORIZONTAL FIRE/SMOKE DAMPER (FSD)
DG	DOOR GRILLE
	MOTORIZED DAMPER
S	TEMPERATURE SENSOR
CO	CARBON MONOXIDE SENSOR
CO2	CARBON DIOXIDE SENSOR
S/R	TEMPERATURE/HUMIDITY SENSOR
CL	CHLORINE GAS SENSOR
AD	ACCESS DOOR (DUCT)

S/A AIRFLOW PATTERNS

DIFFUSER DESIGNATION: A 4 / 100 — L/s CAP. — AIRFLOW PATTERN INDICATOR

1	2	3	4	5
ONE WAY	TWO WAY CORNER	THREE WAY	FOUR WAY	TWO WAY

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
VENTILATION LAYOUT

PROJECT NO. 24-7464
SHEET NO. M-3

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FUEL OIL SPILL MITIGATION COMPONENTS

THE SYSTEM IS DESIGNED WITH THE FOLLOWING MITIGATION COMPONENTS:

- POSITIVE CLOSING OVERFILL PREVENTION DEVICE
- ENVIRONMENTAL CONCRETE TANK PAD WITH PERIMETER CURB.
- SPILL CONTAINMENT BOX AT FILL PIPE CONNECTION
- PRODUCT TRANSFER AREA INSTRUCTIONAL SIGNAGE POSTED WILL BE POSTED AT FILL PIPE AREA
- EMERGENCY CONTACT SIGNAGE WILL BE POSTED
- A FULLY STOCKED SPILL KIT IS TO BE PROVIDED
- AN EMERGENCY RESPONSE PLAN, SPECIFIC TO THE STORAGE SYSTEM IS TO BE DEVELOPED AND POSTED

FUEL OIL MITIGATION

SCALE: NOT TO SCALE

MECHANICAL NOTES

1. PROVIDE 150mm x 600mm WARMING PIPE.
2. CONTRACTOR TO PROVIDE BRAIDED LISTED/CERTIFIED STAINLESS STEEL FLEXIBLE CONNECTIONS FOR ALL PIPE CONNECTIONS TO THE GENERATOR.
3. CONTRACTOR SHALL PROVIDE GENERATOR FUEL OIL SUPPLY PIPING, GENERATOR SHALL BE PROVIDED WITH SUB-BASE FUEL TANK, ISOLATION VALVE, FUSIBLE LINK VALVE AND FUEL FILTER PIPING SPECIALTIES, AND ALL NECESSARY ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM INSIDE THE GENERATOR BUILDING BY GENERATOR MANUFACTURER AS PART OF THE GENERATOR PACKAGED EQUIPMENT. SEE ELECTRICAL FOR FURTHER DETAILS.
4. FUEL OIL STORAGE TANK TO BE PROVIDED WITH 50ø VENT WHISTLE AND CAPPED PRIMING PORT PER SUPPLY LINE. PRIMING PORT(S) c/w PADLOCK CLOSED ISOLATION VALVE.
5. REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR FUEL OIL STORAGE TANK FOUNDATION DETAILS.
6. FLEXIBLE CONNECTIONS INTENDED TO BE INSTALLED ON HORIZONTAL PLANE, NOT VERTICAL.
7. CONTRACTOR TO VERIFY AND CONFIRM GENERATOR ENCLOSURE FUEL OIL PIPING CONNECTION TYPE, SIZES, AND ELEVATIONS PER THE GENERATOR ENCLOSURE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION REQUIREMENTS.

FUEL OIL LEGEND

SYMBOL	DESCRIPTION
	FUEL OIL SUPPLY (FOS)
	FUEL OIL RETURN (FOR)
	PIPE DOWN (DN)
	PIPE UP (UP)
	SHUT OFF VALVE
	BALL VALVE
	GLOBE VALVE
	CHECK VALVE
	ANTI-SIPHON VALVE
	FUSIBLE LINK VALVE
	FLEXIBLE CONNECTION
	BALANCING VALVE
	CONTROL VALVE (ELEC)
	PRESSURE REDUCING VALVE
	T&P RELIEF VALVE
	MANUAL AIR VENT (M.A.V.)
	AUTOMATIC AIR VENT (A.A.V.)
	PRESSURE GAUGE
	PRESSURE GAUGE c/w PETCOCK
	THERMOMETER
	HOSE END DRAIN
	VACUUM BREAKER
	UNION
	FLANGE
	INLINE CIRC PUMP
	VENT CAP

WIDTH 450mm

HEIGHT 490mm

FUEL DELIVERY STANDARD OPERATING PROCEDURES:

1. PRIOR TO PRODUCT TRANSFER:
   - ENSURE A SPILL KIT WITH SPILL RESPONSE MATERIAL IS PRESENT
   - SPILL RESPONSE MATERIALS TO INCLUDE:
     - ABSORBENT PADS
     - ABSORBENT/ CONTAINMENT SOCKS
   - ENSURE THAT THE ENVIRONMENTAL PTA CONTAINMENT CURB AREA IS FREE OF SNOW/WATER ACCUMULATION
   - CLOSE BALL VALVE
   - INSPECT DELIVERY HOSE AND FITTINGS
   - CONFIRM AVAILABLE TANK VOLUME (DIP TANK)
2. DURING PRODUCT TRANSFER:
   - ENSURE THE TANK LEVEL GAUGE AT THE FILL POINT IS IN WORKING ORDER AND THE VENT WHISTLE OPERATES IMMEDIATELY AFTER FILLING BEGINS.
   - REMAIN IN ATTENDANCE AT FILL CONNECTION AT ALL TIMES
   - POSITIVELY CLOSING SHUT-OFF VALVE IS SET TO STOP FLOW AT 95% TANK CAPACITY
3. AFTER PRODUCT TRANSFER:
   - VERIFY NO SPILLS/RESIDUAL PRODUCT ARE PRESENT
   - IF SPILL OR RESIDUAL PRODUCT, CLEAN WITH APPROPRIATE MATERIALS
   - OPEN BALL VALVE
   - COMPLETE NECESSARY DOCUMENTATION

IN CASE OF SPILL
- CALL (PHONE #)

WIDTH 450mm

HEIGHT 290mm

IN THE EVENT OF A SPILL OR EMERGENCY:

- ENSURE PERSONAL AND PUBLIC SAFETY, NOTIFY PEOPLE IN THE IMMEDIATE AREA OF POTENTIAL DANGER AS REQUIRED.
- CONTAIN SPILL USING APPROPRIATE SPILL KITS AND SAFETY EQUIPMENT.
- ISOLATE AND STOP LEAK, IF POSSIBLE PREVENT SPILLED PRODUCT FROM ENTERING INTO THE ENVIRONMENT.
- COMPLETE CLEAN UP OF SPILLED PRODUCT USING APPROPRIATE SPILL KITS AND SAFETY EQUIPMENT.
- CONTACT (EMERGENCY RESPONDER) AT (PHONE #).
- REFER TO SITE EMERGENCY RESPONSE PLAN FOR ADDITIONAL REQUIREMENTS.

ALUMINUM SIGNBOARD ON WEATHERPROOF BACKER
BLACK TEXT ON WHITE BACKGROUND BOLD TEXT 8mm HEIGHT
(COLOUR - RED)
REGULAR TEXT 6mm HEIGHT
(COLOUR - BLACK)

WIDTH 450mm

HEIGHT 150mm

BUILDING HEATING/ FUEL OIL
MAXIMUM VOLUME (24,332L)
CONFIRM AVAILABLE STORAGE
VOLUME PRIOR TO FILLING

ALUMINUM SIGNBOARD ON WEATHERPROOF BACKER

WIDTH 390mm

HEIGHT 330mm

WARNING

NO SMOKING
DEFENSE DE FUMER

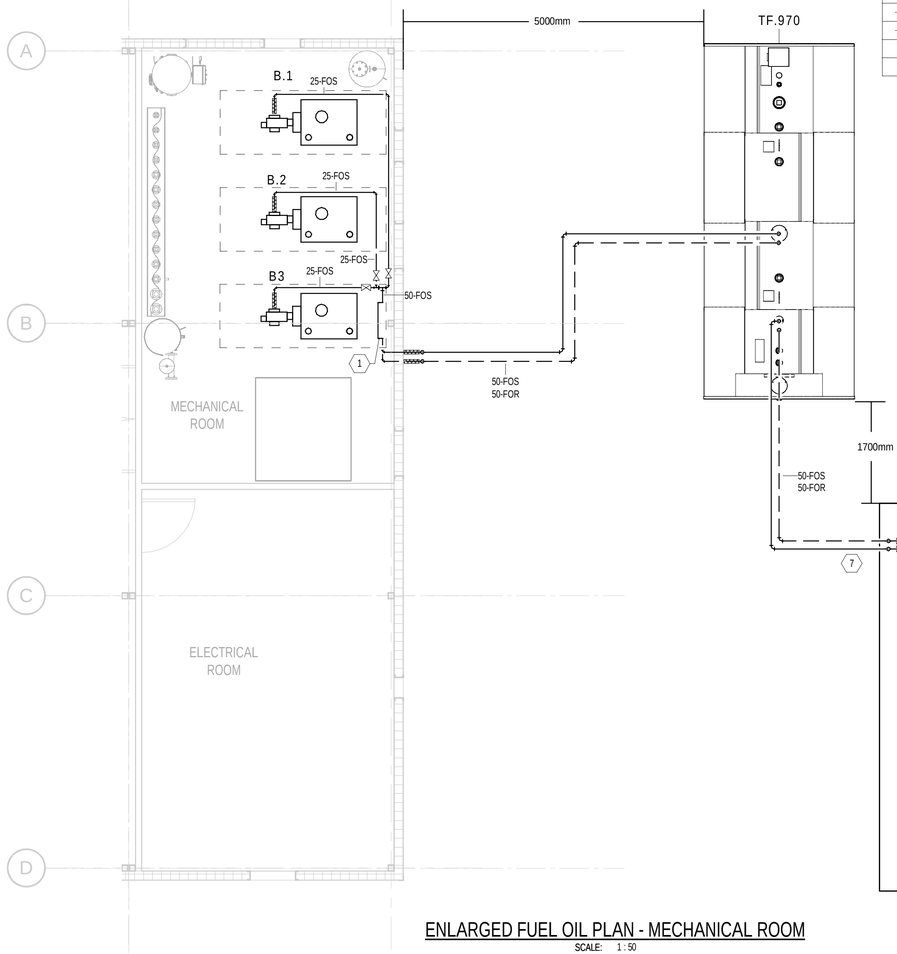
IGNITION OFF
ARRETE LE MOTEUR

CELL PHONE OFF
DESACTIVER TELEPHONE CELLULAIRE

IN CASE OF SPILL
CALL (PHONE #)

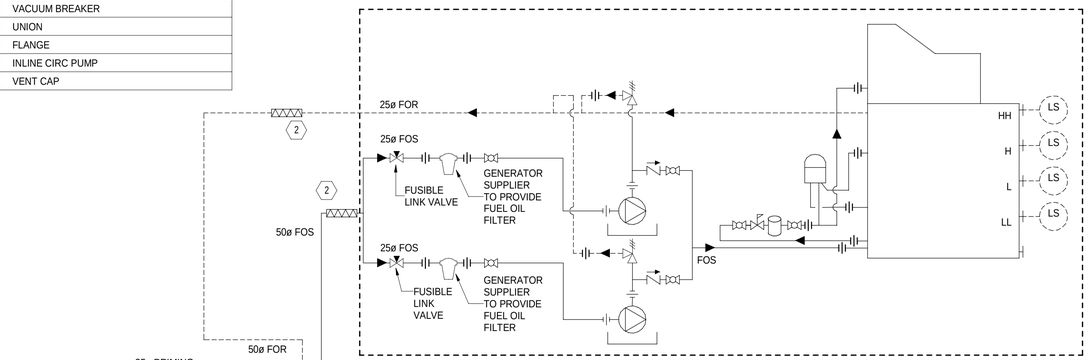
FUEL SAFETY SIGNAGE DETAIL

SCALE: NOT TO SCALE



ENLARGED FUEL OIL PLAN - MECHANICAL ROOM

SCALE: 1 : 50



FUEL OIL SCHEMATIC

SCALE: NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER NUNAVUT
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LICENSEE 20250001
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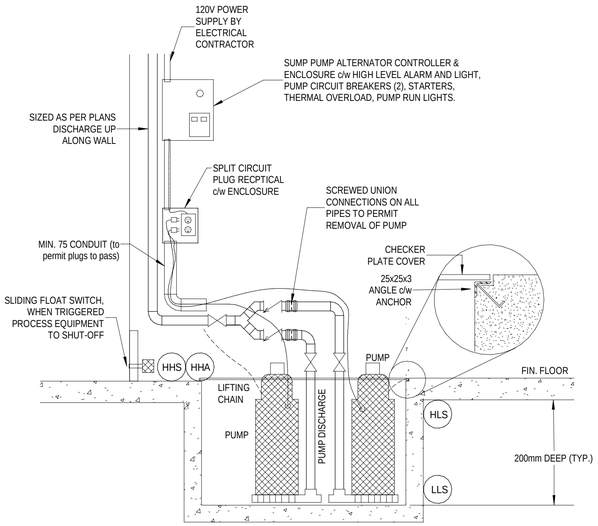
DESIGN AKM | REVIEWED BY ADC
DRAWN AKM | CHECKED BY ADC
DATE AUGUST 2025
SCALE As indicated

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
FUEL OIL PIPING LAYOUT & SCHEMATIC

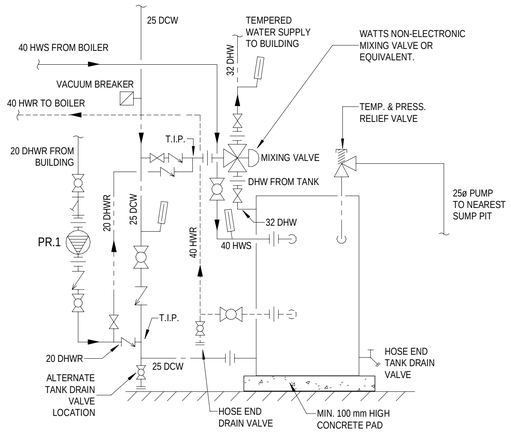
PROJECT NO. 24-7464
SHEET NO. M-4

PLOT DATE: 2025-08-21 1:55:12 PM
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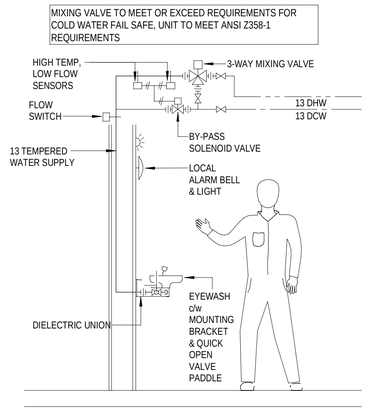
1 M-5 SCALE: NOT TO SCALE

SUMP PIT DETAIL (PS.#A/PS.#B)



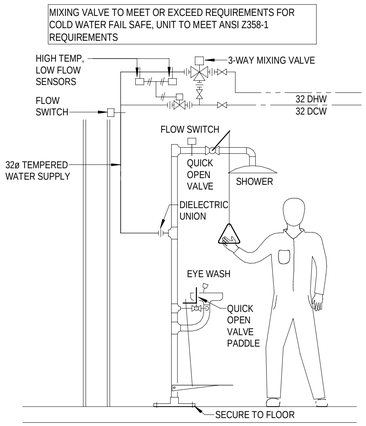
2 M-5 SCALE: NOT TO SCALE

INDIRECT HOT WATER TANK DETAIL (TW.1)



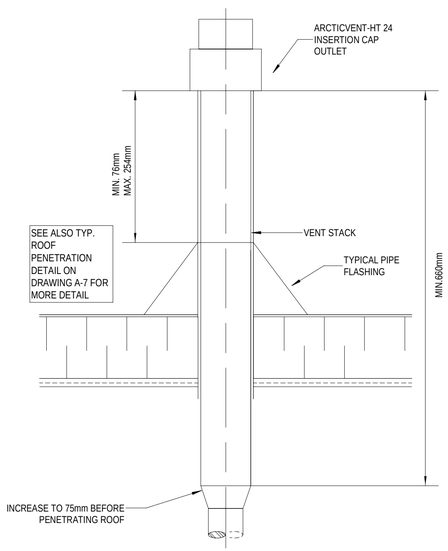
3 M-5 SCALE: NOT TO SCALE

EMERGENCY EYEWASH (EE.1) DETAIL



4 M-5 SCALE: NOT TO SCALE

EMERGENCY EYEWASH & SHOWER (SE.1) DETAIL



5 M-5 SCALE: NOT TO SCALE

ARCTICVENT VENTING DETAIL

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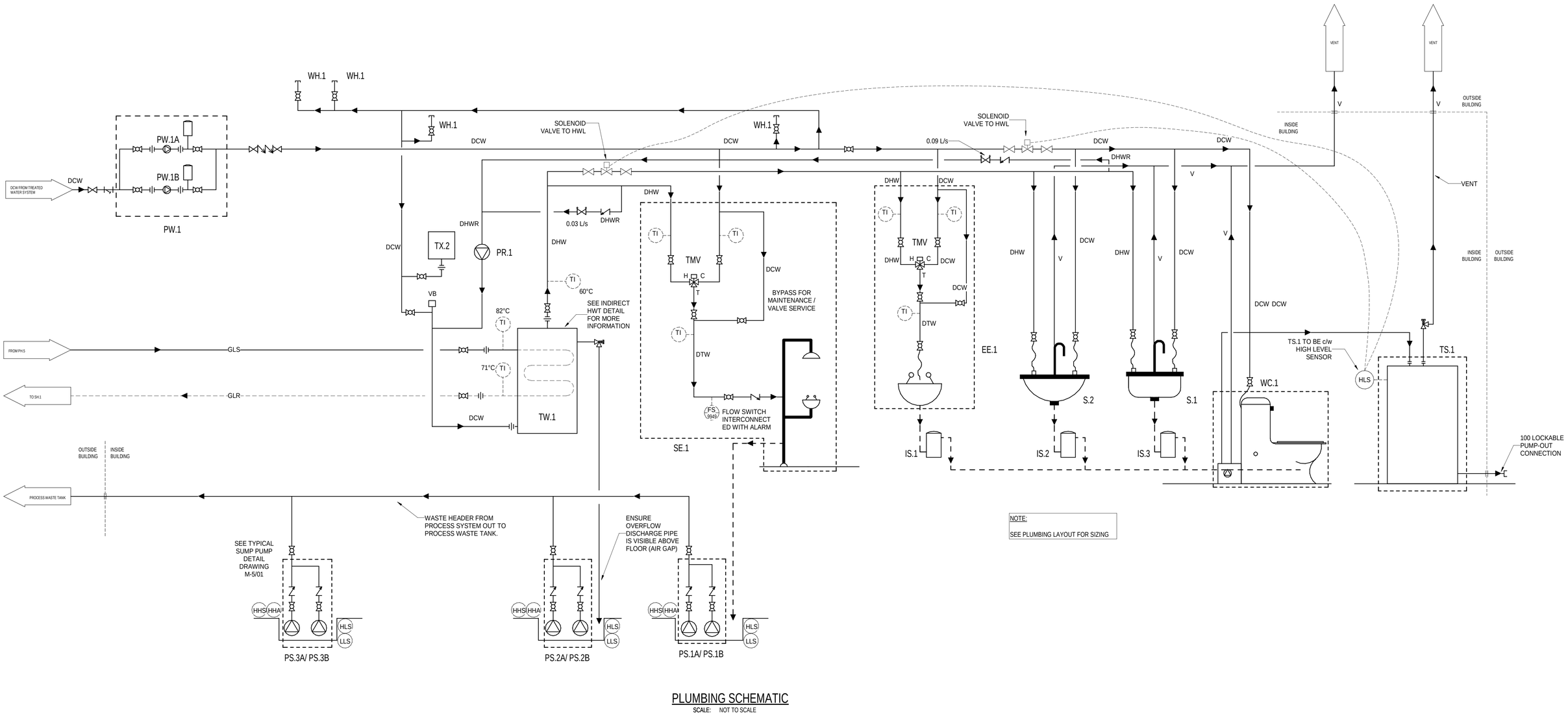
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DRAWN AKM | CHECKED BY ADC
DATE AUGUST 2025
SCALE As indicated

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ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
PLUMBING DETAILS

PROJECT NO. 24-7464
SHEET NO. M-5

PLOT DATE: 2025-09-21 1:55:12 PM
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NOTE:

SEE PLUMBING LAYOUT FOR SIZING

PLUMBING SCHEMATIC

SCALE: NOT TO SCALE

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SCALE 1 : 100

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ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
PLUMBING SCHEMATIC

PROJECT NO. 24-7464
SHEET NO. M-6

PLOT DATE: 2025-09-21 1:55:13 PM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-07-MECH-CON_r2022.rvt

REFER TO MECHANICAL DRAWING M6 AND DETAIL 2 ON DRAWING M-5 FOR DOMESTIC COLD WATER IN AND DOMESTIC HOT WATER OUT

TW.1

GLS

GLR

AAV

GLR

GLS

GENERATOR BULIDING UNIT HEATER

TIT 9733

TIT 9734

GLR

GLS

N.C. BYPASS

N.C. BYPASS

50-PW

50-PW

REFER TO PROCESS DRAWING PD1 FOR TREATED WATER RECIRCULATION DETAILS

FRONT END

PLATE

S.S. PLATES

TIE ROD'S

FRAME SUPPORT

HX.525

FRONT END

PLATE

S.S. PLATES

TIE ROD'S

FRAME SUPPORT

HX.520

FOOT SUPPORTS

STRUCTURAL STEEL BASE

STRUCTURAL STEEL BASE

FLOOR

HR.1

HR.2

HR.3

HR.4

HR.5

HR.6

HR.7

HR.8

HR.9

HR.10

HR.11

AAV

TIT 9737

CH.1

PROVIDE INSULATION AND HEAT TRACE. SEE ELECTRICAL FOR HEAT TRACING.

TIT 9736

TIT 9735

PH.6

PH.5

PH.4

PH.3

PH.2

PH.1

PROVIDE FLEX COUPLINGS AT SUPPLY AND RETURN CONNECTIONS. MAXIMUM VERTICAL DEFLECTION 0F 100 mm.

HX.510

AAV

GLR

MOTOR

GLS

HU.1

AAV

GLR

MOTOR

GLS

HU.2

80-GLR

SH.1

AAV

80-GLS

SA.1

STRAINER ACCESS

HB

SITE GLASS

SIDE STREAM FILTER

TIT 9731

80-GLS

80-GLS

80-GLS

TIT 9732

80-GLR

80-GLR

80-GLR

AAV

VACUUM BREAKER

25-DCW

13mm HOSE BIBB

NOM. 50 mm

AAV

AAV

PB.3

PB.2

PB.1

PRV

PRV

PRV

NOM. 50 mm GLS

25-DCW

TX.1

MU.1

120V AC PLUG

MIXING TANK

LOW WATER CUT OFF SWITCH c/w DRAIN

B.3

HB

BURNER

NOTE: LEAVE CLEAR ACCESS IN FRONT OF BOILERS FOR SERVICE

LOW WATER CUT OFF SWITCH c/w DRAIN

B.2

HB

BURNER

LOW WATER CUT OFF SWITCH c/w DRAIN

B.1

HB

BURNER

LEAVE TANK 3/4 FILLED WITH PREMIXED SOLUTION OF DOWFROST HD 50% PROPYLENE GLYCOL

HC.1

AAV

GLR

MOTOR

GLS

HU.3

HEATING SCHEMATIC

SCALE: NOT TO SCALE

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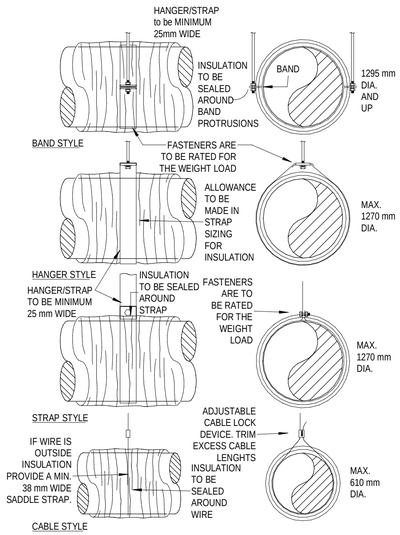
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

ARCTIC BAY
HEATING DETAILS & SCHEMATIC

SHEET NO. M-7

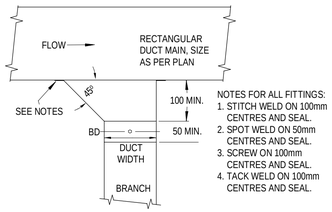
PLOT DATE: 2025-08-21 1:55:14 PM
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HANGER STRAPS or RODS or GRIPPLE			
MAX. DUCT Ø (mm)	QUANTITY/SIZE (mm)	MAX.LOAD (kg)	MAX. SPACING (mm)
100-650	(1) 25 x 22ga STRAP	118	3000
675-900	(1) 25 x 18ga STRAP	190	3000
925-1250	(1) 25 x 16ga STRAP	317	3000
1500	(2) 10ø RODS, 18ga BAND	598	2400
2100+	(2) 12ø RODS, 16ga BAND	1133	2400

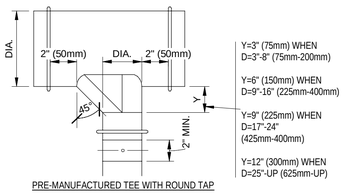
NOTE:
HORIZONTAL DUCTS SHALL HAVE A SUPPORT WITHIN 610 mm of EACH ELBOW and 1219 mm WITHIN EACH BRANCH INTERSECTION

1 M-8 DUCT HANGER DETAIL (ROUND)
SCALE: NOT TO SCALE



NOTES FOR ALL FITTINGS:
1. STITCH WELD ON 100mm CENTRES AND SEAL.
2. SPOT WELD ON 50mm CENTRES AND SEAL.
3. SCREW ON 100mm CENTRES AND SEAL.
4. TACK WELD ON 100mm CENTRES AND SEAL.

2 M-8 DUCT BRANCH TAKEOFF DETAIL
SCALE: NOT TO SCALE



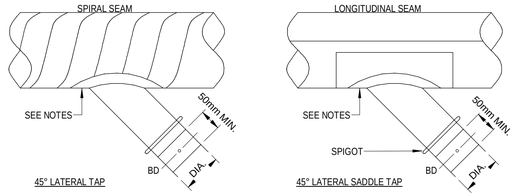
PRE-MANUFACTURED TEE WITH ROUND TAP

Y=3" (75mm) WHEN D=3"-8" (75mm-200mm)

Y=6" (150mm) WHEN D=9"-16" (225mm-400mm)

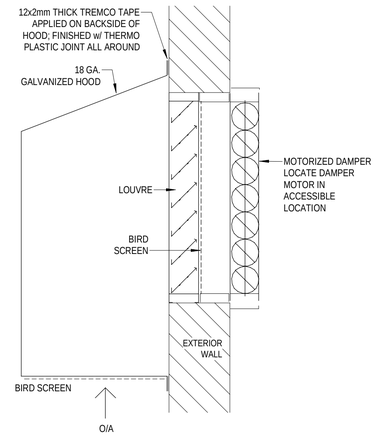
Y=9" (225mm) WHEN D=17"-24" (425mm-400mm)

Y=12" (300mm) WHEN D=25"-UP (625mm-UP)

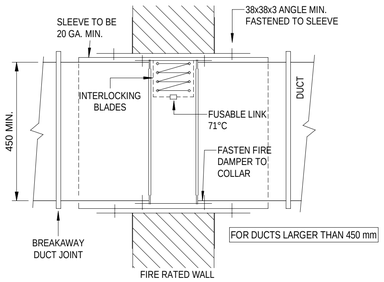


NOTES FOR ALL FITTINGS:
1. STITCH WELD ON 4" (100mm) CENTRES.
2. SPOT WELD ON 2" (50mm) ENTRES.
3. SCREW ON 4" (100mm) CENTRES.
4. TACK WELD ON 4" (100mm) CENTRES AND SEAL

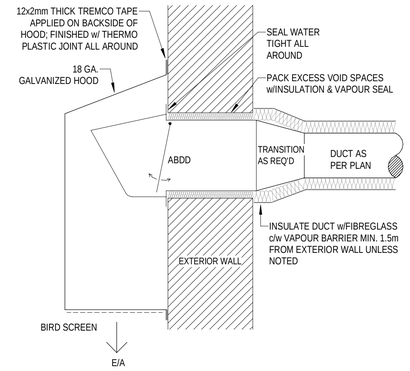
3 M-8 DUCT BRANCH TAKEOFF DETAIL (ROUND)
SCALE: NOT TO SCALE



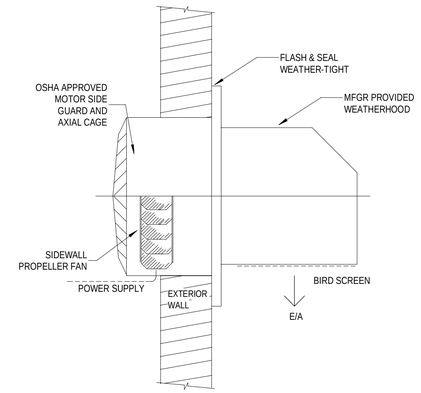
4 M-8 INTAKE LOUVRE HOOD DETAIL
SCALE: NOT TO SCALE



7 M-8 VERTICAL FIRE DAMPER DETAIL
SCALE: NOT TO SCALE



5 M-8 EA WALL CAP DETAIL
SCALE: NOT TO SCALE



6 M-8 SIDEWALL EXHAUST FAN DETAIL
SCALE: NOT TO SCALE

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
VENTILATION DETAILS

PROJECT NO. 24-7464
SHEET NO. M-8

PLOT DATE: 2025-08-21 1:55:14 PM
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PLUMBING PUMP SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	TYPE	FLUID	FLOW RATE	HEAD	SPEED	SUCTION		DISCHARGE		ELECTRICAL				NOTES
-	-	-				-	L/s	m	RPM	mm	-	mm	-	kW	V	PH	Hz	
PW.1	PROCESS ROOM	DOMESTIC WATER BOOSTER PACKAGE	GRUNDFOS	CMBE TWIN 3-51 I-X-C-B-D-G	BOOSTER	DCW	1.26	25.0	3780	40	-	40	-	0.914	115	1	60	1, 2, 3
PR.1	MECHANICAL ROOM	DHW RECIRCULATION	GRUNDFOS	ALPHA HWR 15-29 SF/T	IN-LINE	DHW	0.15	2.5	-	GF 15/26	-	GF 15/26	-	0.021	115	1	60	1
PS.1A	MECHANICAL ROOM	SINGLE-STAGE SUMP PUMP	GRUNDFOS	UNILIFT KP.350.A.1	SUBMERSIBLE	WATER	1.34	7.86	3316	-	BASE	32	NPT	0.558	115	1	60	2
PS.1B	MECHANICAL ROOM	SINGLE-STAGE SUMP PUMP	GRUNDFOS	UNILIFT KP.350.A.1	SUBMERSIBLE	WATER	1.34	7.86	3316	-	BASE	32	NPT	0.558	115	1	60	2
PS.2A	PROCESS ROOM	SINGLE-STAGE SUMP PUMP	GRUNDFOS	UNILIFT KP.350.A.1	SUBMERSIBLE	WATER	1.34	7.86	3316	-	BASE	32	NPT	0.558	115	1	60	2
PS.2B	PROCESS ROOM	SINGLE-STAGE SUMP PUMP	GRUNDFOS	UNILIFT KP.350.A.1	SUBMERSIBLE	WATER	1.34	7.86	3316	-	BASE	32	NPT	0.558	115	1	60	2
PS.3A	PROCESS ROOM	SINGLE-STAGE SUMP PUMP	GRUNDFOS	UNILIFT KP.350.A.1	SUBMERSIBLE	WATER	1.34	7.86	3350	-	BASE	32	NPT	0.558	115	1	60	2
PS.3B	PROCESS ROOM	SINGLE-STAGE SUMP PUMP	GRUNDFOS	UNILIFT KP.350.A.1	SUBMERSIBLE	WATER	1.34	7.86	3350	-	BASE	32	NPT	0.558	115	1	60	2

NOTES

1 PACKAGE SHALL BE NSF 61 COMPLIANT.

2 PUMPS SHALL OPERATE IN DUTY-STANDBY CONFIGURATION.

3 DUPLEX PUMP MOTOR CONTROL PANEL c/w ALTERNATOR, STARTERS, RUN LIGHTS, H-O-A SELECTOR SWITCH, PRESSURE SWITCH

DOMESTIC WATER HEATER SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	TYPE	DIAMETER	HEIGHT	WEIGHT	CAPACITY	FLUID	FLUID	INPUT	FLOW RATE	HEAD LOSS	HGS			HGR			DCW		DHW		NOTES
-	-	-	-	-	-	mm	mm	kg	L	TYPE	%	kW	L/s	m	C	mm	TYPE	C	mm	TYPE	mm	TYPE	mm	TYPE	
TW.1	MECHANICAL ROOM	INDIRECT WATER HEATER	BRADFORD WHITE	SS-75-L	SINGLE-WALL	610	1,667	65	276	PROPYLENE GLYCOL	50%	56.6	0.88	6.5	82.2	25	NPT	71.1	25	NPT	19	NPT	19	NPT	-

NOTES

WATER CLOSET SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	PIPE SIZES (mm)				NOTES
-	-	-	-	-	DCW	DHW	SAN	VENT	
WC	WASHROOM	WATER CLOSET	SANIFLO	087 ELONGATED TOILET...	25	-	100	38	1, 2

NOTES

1 COMPLETE UPFLUSH SYSTEM, INCLUDING SANIPLUS MACERATOR/GRINDER PUMP (002) AND TOILET TANK (005).

2 INCLUDES 115V, 1PH, 60 HZ, 0.37 kW GRINDER SYSTEM, ELONGATED TOILET BOWL, AND TANK.

LAVATORY/ SINK SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	TRIM	PIPE SIZES (mm)				NOTES
-	-	-	-	-	-	DCW	DHW	SAN	VENT	
S.1	LAB	LAB SINK	FRANKE/ KINDRED	LBS4610-316P-1	EOS-PD-316	13	13	38	38	-
S.2	WASHROOM	LAVATORY	AMERICAN STANDARD	AQUALYN 0476.028	COLONY PRO...	13	13	38	38	-

NOTES

EMERGENCY FIXTURE SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	PIPE SIZES (mm)				NOTES
-	-	-	-	-	DCW	DHW	SAN	VENT	
EE.1	PROCESS ROOM	EMERGENCY EYEWASH	BRADLEY	S19214BC2GHE...	13	13	38	38	1
SE.1	PROCESS ROOM	COMBINATION EMERGENCY EYEWASH...	BRADLEY	S193140C2CJHE 0P	32	32	-	-	1

NOTES

1 UL CERTIFIED TO ANSI/ISEA Z358.1

SANITARY WASTE TANK SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	DIMENSIONS	NOTES
-	-	-	-	-	H x DIA. mm	
TS.1	PROCESS ROOM	WASTE HOLDING TANK	NORWESCO	41061	2159 x 1219	-

NOTES

PLUMBING SPECIALTIES AND ACCESSORIES SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	END 1		END 2		NOTES
-	-	-	-	-	-	mm	-	mm	
IS.1	LAB	SOLIDS INTERCEPTOR	WATTS	SI-742	IPS...	50	IPS THREADED	50	-
IS.2	WASHROOM	SOLIDS INTERCEPTOR	WATTS	SI-742	IPS...	50	IPS THREADED	50	-
IS3	LAB	SOLIDS INTERCEPTOR	WATTS	SI-742	IPS...	50	IPS THREADED	50	-
WH.1	PROCESS ROOM	WALL HYDRANT	WATTS	LFFBVS-3C-CC	SOLDER	19	HOSE THREAD	19	1, 2

NOTES

1 INSTALL VALVES VERTICALLY ALONG WALL. ENSURE ADEQUATE STANDOFF FOR SOLDER CONNECTION.

2 INSTALL VALVE HANDLE PARALLEL TO WALL.

HYDRONIC PUMP SCHEDULE

TAG	SERVING	MANUFACTURER	MODEL	TYPE	PROYLENE GLYCOL	FLOW RATE	HEAD	SPEED	SUCTION		DISCHARGE		ELECTRICAL				NOTES
-	-	-	-	-	%	L/s	m	RPM	mm	-	mm	-	kW	V	PH	Hz	
PH.1	HX-510	GRUNDFOS	MAGNA3 32-120 GF	INLINE	50	0.35	6.8	3610	25	NPT	25	NPT	0.19	115	1	60	-
PH.2	CH.1	GRUNDFOS	MAGNA3 32-120 GF	INLINE	50	0.57	6.4	3485	32	NPT	32	NPT	0.19	115	1	60	-
PH.3	HX-520A/HX-520B	GRUNDFOS	MAGNA3 40-120 GF	INLINE	50	2.57	7.6	3528	50	NPT	50	NPT	0.38	115	1	60	-
PH.4	EMITTERS	GRUNDFOS	MAGNA3 32-120 GF	INLINE	50	0.89	5.6	3294	40	NPT	40	NPT	0.19	115	1	60	-
PH.5	TW.1	GRUNDFOS	MAGNA3 32-120 GF	INLINE	50	0.84	4.6	2984	40	NPT	40	NPT	0.19	115	1	60	-
PH.6	GENERATOR ENCLOSURE	GRUNDFOS	MAGNA3 40-120 GF	INLINE	50	2.25	7.4	3185	50	NPT	50	NPT	0.38	115	1	60	-
PB.1	BOILER #1 PRIMARY LOOP	GRUNDFOS	MAGNA3 40-120 GF	INLINE	50	3.74	2.0	2244	50	NPT	50	NPT	0.38	115	1	60	-
PB.2	BOILER #2 PRIMARY LOOP	GRUNDFOS	MAGNA3 40-120 GF	INLINE	50	3.74	2.0	2244	50	NPT	50	NPT	0.38	115	1	60	-
PB.3	BOILER #3 PRIMARY LOOP	GRUNDFOS	MAGNA3 40-120 GF	INLINE	50	3.74	2.0	2244	50	NPT	50	NPT	0.38	115	1	60	-

NOTES

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DESIGN AKM | REVIEWED BY ADC
DRAWN AKM | CHECKED BY ADC
DATE AUGUST 2025
SCALE

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY

MECHANICAL SCHEDULES I

PROJECT NO. 24-7464

SHEET NO. M-9

PLOT DATE: 2025-09-21 1:55:16 PM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764.07-MECH-CON_v2022.rvt

HEAT EXCHANGER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	NUMBER OF PLATES	HEAT TRANSFER AREA	NUMBER OF PASSES	DIMENSIONS (LxWxH)	WEIGHT	VOLUME	PRIMARY SIDE - HOT (50% PROPYLENE GLYCOL)						NOTES
										CONNECTIONS IN	CONNECTIONS OUT	INLET TEMP	OUTLET TEMP	PD	FLOW RATE	
-	-	-	-	-	SQ m	-	mm	KG	L	mm NPT	mm NPT	C	C	kPa	L/S	
HX.510	OUTDOOR WASTE HOLDING TANK	ARMSTRONG	AHTG FHS-4-5-8	5 FPI	9.98	1	2781 x 254	83	-	32	32	82.2	71.1	14.9	1.34	1
										SECONDARY SIDE - COLD (WATER)						
										CONNECTIONS IN	CONNECTIONS OUT	INLET TEMP	OUTLET TEMP	PD	FLOW RATE	
										mm NPT	mm NPT	C	C	kPa	L/S	
										-	-	4	10	-	-	
HX.520	PROCESS ROOM	AIC ALLIANCE	AT70X-IG1-48/20-DW	20	1.49	1	447 x 300 x 694	123.74	3.8	50	50	82.2	71.1	9.51	2.59	2, 3
										50	50	4.0	10.0	20.81	4.29	
HX.525	PROCESS ROOM	AIC ALLIANCE	AT70X-IG1-48/20-DW	20	1.49	1	447 x 300 x 694	123.74	3.8	50	50	82.2	71.1	9.51	2.59	2, 3
										50	50	4.0	10.0	20.81	4.29	

NOTES

1 FLANGE MOUNTED HAIRPIN TANK HEATER, FINS AND TUBES 316L STAINLESS STEEL CONSTRUCTION
2 PLATE MATERIAL 2x0.4 mm AISI316L
3 GASKET MATERIAL EPDMH FDA

HEATING BOILER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	WIDTH	LENGTH	HEIGHT	SHIPPING WEIGHT	TYPE	CAPACITY	50% PROPYLENE GLYCOL				VENTILATION		BURNER			ELECTRICAL				NOTES
										EWT	LWT	FLOW RATE	HEAD	COMBUSTION AIR...	VENT CONNECTION	MANUFACTURER	MODEL	FUEL TYPE	VOLTAGE	PHASE	FREQUENCY	DISCONNECT	
-	-	-	-	mm	mm	mm	KG	-	kW	C	C	L/s	m	mm	mm	-	-	-	V	-	Hz	-	
B.1	MECHANICAL ROOM	WEIL-McLAIN	580 SERIES 80	873	905	699	795	HYDRONIC	151	82.2	71.1	3.74	1.98	-	200	RIELLO	F15	#2 FUEL OIL	120	1	60	INCLUDED	1, 2
B.2	MECHANICAL ROOM	WEIL-McLAIN	580 SERIES 80	873	905	699	795	HYDRONIC	151	82.2	71.1	3.74	1.98	-	200	RIELLO	F15	#2 FUEL OIL	120	1	60	INCLUDED	1, 2
B.3	MECHANICAL ROOM	WEIL-McLAIN	580 SERIES 80	873	905	699	795	HYDRONIC	151	82.2	71.1	3.74	1.98	-	200	RIELLO	F15	#2 FUEL OIL	120	1	60	INCLUDED	1, 2

NOTES

1 3x 50% REDUNDANT ARRANGEMENT.

2 RIELLO BURNER COMBUSTION AIR TO BE PULLED FROM ROOM.

UNIT HEATER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	TYPE	CAPACITY	EWT	LWT	PROPYLENE GLYCOL	FLOW RATE	FPD	ELECTRICAL				NOTES
											kW	V	PH	Hz	
-	-	-	-	-	kW	C	C	%	L/s	kPa	kW	V	PH	Hz	
HU.1	MECHANICAL ROOM	VULCAN RADIATOR	HVB02411	HYDRONIC	4.6	82.2	71.1	50	0.13	0.04	0.016	115	1	60	1, 2, 3
HU.2	PROCESS ROOM EAST	VULCAN RADIATOR	HVB02411	HYDRONIC	4.6	82.2	71.1	50	0.13	0.04	0.016	115	1	60	1, 2, 3
HU.3	PROCESS ROOM WEST	VULCAN RADIATOR	HVB02411	HYDRONIC	4.6	82.2	71.1	50	0.13	0.04	0.016	115	1	60	1, 2, 3
CH.1	DUCT HEATING COIL	PRICE INDUSTRIES	WC-3R	HYDRONIC	15	82.2	44.4	50	0.11	1.20	-	-	-	-	4
EU.1	ELECTRICAL ROOM	OUELLET	OAE5000AM-EO-TB6	ELECTRIC	3.75	-	-	-	-	-	3.75	208	1	60	5

NOTES

1 VARIABLE SPEED...
2 MAX MOUNTING...
3 MAX THROW OF 7.3m.
4 DUCT-MOUNTED...
5 PROVIDE AUBE TH401...

FUEL OIL TANK SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	DIMENSIONS	FUEL	CAPACITY	WEIGHT	NOTES
-	-	-	-	L x DIA. mm	-	L	KG	
TF-970	FUEL OIL STORAGE...	DESJARDINS INDUSTRIES	6428	5944 x 1740	#2 FUEL OIL	29220	3914	1, 2, 3, 4, 5, 6, 7, 8

NOTES

1 ABOVEGROUND STEEL DOUBLE-WALL TANK, INTEGRAL 110% SECONDARY CONTAINMENT, CAN/ULC-S601-14.
2 50 mm OVERFILL PROTECTION VALVE OPW 61FSTOP-1000 FOR PRESSURE FILLING PRESET TO 95% WITH DUST CAP AND DROP...
3 ATMOSPHERIC 75 mm V-VENT CAP MORRISON BROS 354-0300 AV FOR MIN. 1000 mm VENT PIPE.
4 MECHANICAL LEVEL INDICATOR OPW 200TG-MET, METRIC GRADUATION, UL LISTED FOR PETROLUEM PRODUCTS.
5 ALUMINUM VAPOUR- AND LIQUID-TIGHT CAP R7336-A, INTEGRAL FIBREGLASS DIP STICK R661W ON DIP PORT
6 GUIDING INTERNAL PIPE FOR LEVEL INDICATOR FLOAT 50 mm EXTENDED TO 5% OF TANK DIAMETER ABOVE BOTTOM OF TANK.
7 GALVANIZED ACCESS STAIRWELL AND FILLING PLATFORM AT TANK END.
8 SEAWORTHY PACKAGING INSIDE SKRINK-WRAP PLASTIC FILM AND WOOD PROTECTION.

CABINET UNIT HEATERS SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	DEPTH	LENGTH	HEIGHT	TYPE	CAPACITY	EWT	LWT	PROPYLENE GLYCOL	FLOW RATE	WPD	NOTES
-	-	-	-	mm	mm	mm	-	kW	C	C	%	L/s	kPa	
HC.1	VESTIBULE	VULCAN RADIATOR	FS-1005-02	240	890	725	HYDRONIC	3.7	82.2	71.1	50	0.08	1.14	-

NOTES

BREECHING, CHIMNEYS, AND STACKS SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	INNER...	COMMON VENT...	NOTES
-	-	-	-	mm	mm	
BVS.1	MECHANICAL ROOM	SELKIRK	IPS-C1	3x200	355	1, 2

NOTES

1 MATERIAL: 316SS INNER WALL, LISTED TO ULC-5636
2 BOILERS TO BE COMMON VENTED c/w BAROMETRIC DAMPERS AS PER...

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
MECHANICAL SCHEDULES II

PROJECT NO. 24-7464
SHEET NO. M-10

PLOT DATE: 2025-08-21 1:55:17 PM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24-7464-07-MECH-CON_r2022.rvt

AIR-TO-AIR ENERGY RECOVERY EQUIPMENT SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	TYPE	WINTER PERFORMANCE						SUPPLY FAN						SUPPLY FILTER			ELECTRICAL						NOTES
					OAT	SAT	RAT	SENSIBLE	SENSIBLE...	TOTAL HEAT	TYPE	CONTROL	AIR FLOW	ESP	MOTOR		RATING	TYPE	SIZE	VOLTAGE	PHASE	FREQUENCY	FLA	MOP	DISCONNECT	
-	-	-	-	-	C	C	C	%	kW	kW	-	-	L/s	Pa	TYPE	kW	MERV	-	mm	V	-	Hz	A	A	-	
VE.1	MECHANICAL ROOM	SOLUTIONAIR	PRCLC2000	REGENCORE	-40.1	12.9	22.2	86.9	66.5	78.0	PLENUM	VAV	1,150	200	ECM	2.1	8	FLAT	50	575	3	60	5.7	15	INCLUDED	1, 2, 3, 4, 5, 6
					SUMMER PERFORMANCE						RETURN FAN						RETURN FILTER									
					OAT DB	OAT WB	SAT DB	SAT WB	RAT DB	RAT WB	SENSIBLE	SENSIBLE...	TOTAL HEAT	TYPE	CONTROL	AIR FLOW	ESP	MOTOR		RATING	TYPE	SIZE					
					C	C	C	C	C	C	%	kW	kW	-	-	L/s	Pa	TYPE	kW	MERV	-	mm					
					12.6	8.9	24.2	13.8	23.9	17.1	102.9	12.9	12.9	PLENUM	-	1,150	200	ECM	2.1	8	FLAT	50				

NOTES

1 SENSIBLE EFFECTIVENESS VALUES INCLUDE FAN HEAT.
2 PROVIDE FILTER PRESSURE SWITCHES.
3 PROVIDE AIRFLOW MONITORING TRANSDUCERS.
4 PROVIDE INTEGRATED CONTROLLER.
5 PROVIDE DRY CONTACT FOR HYDRONIC HEATING COIL (CH.1). HYDRONIC HEATING COIL BY OTHERS.
6 PROVIDE OUTDOOR AIR SENSOR.

WALL FAN SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	ENCLOSURE	MOTOR	FLOW RATE	ESP	FAN SPEED	NOISE LEVEL	ELECTRICAL				NOTES
-	-	-	-	-	-	L/s	Pa	RPM	dBA	kW	V	PH	Hz	
FS.1	MECHANICAL ROOM	GREENHECK	SS1-12-432-C	ODP	ECM	235	27	860	-	0.21	115	1	60	1, 2
FE.1	ELECTRICAL ROOM	GREENHECK	SE1-8-440-VG	ODP	ECM	65	50	1359	43	0.07	115	1	60	1, 2
FE.2	POLYMER ROOM	GREENHECK	SE1-8-440-VG	ODP	ECM	51	0	365	9	0.07	115	1	60	1, 2
FE.3	FLUORIDE ROOM	GREENHECK	SE1-8-440-VG	ODP	ECM	73	0	522	15	0.07	115	1	60	1, 2
FE.4	SODA ASH ROOM	GREENHECK	SE1-8-440-VG	ODP	ECM	51	0	365	9	0.07	115	1	60	1, 2
FE.5	COAGULANT ROOM	GREENHECK	SE1-8-440-VG	ODP	ECM	51	0	365	9	0.07	115	1	60	1, 2
FE.6	CHLORINE ROOM	GREENHECK	SE1-12-426-VG	ODP	ECM	300	25	1194	46	0.37	115	1	60	1, 2
FE.7	WASHROOM	GREENHECK	CSP-A390-VG	TENV	ECM	50	250	1698	41	0.07	115	1	60	1, 2

NOTES

1 BIRD SCREEN AND FACTORY MOUNTED DISCONNECT SWITCH
2 OSHA APPROVED MOTOR-SIDE GUARD

LOUVERS, INTAKES, AND VENTS SCHEDULE

TAG	LOCATION	SERVING	MANUFACTURER	MODEL	AIRFLOW	FACE SIZE	NOTES
-	-	-	-	-	L/s	W x H mm	
L.1	MECHANICAL ROOM	EXHAUST	PRICE INDUSTRIES	ESD-635	225	510 x 510	1, 2, 3
L.2	MECHANICAL ROOM	BOILER COMBUSTION AIR	PRICE INDUSTRIES	DE439	120	610 x 305	1
L.3	MECHANICAL ROOM	VENTILATION R/A EXHAUST	PRICE INDUSTRIES	DE439	1060	750 x 750	1
L.4	MECHANICAL ROOM	VENTILATION O/A INTAKE	PRICE INDUSTRIES	DE439	1060	750 x 1200	1
L.5	CHLORINE ROOM	MAKE UP AIR	PRICE INDUSTRIES	DE635	182	610 x 450	1, 2
L.6	ELECTRICAL ROOM	MAKE UP AIR	PRICE INDUSTRIES	DE635	365	900 x 450	1, 2
L.7	PROCESS ROOM	WASROOM EXHAUST FAN	PRICE INDUSTRIES	DE439	50	305 x 305	1

NO...

1 FLANGED FRAME FRONT c/w BIRD SCREEN.COLOUR TO BE COORDINATED WITH ARCHITECTURAL
2 GREENHECK ICD-45 OR TAMCO 9000 SERIES DAMPER
3 ACTUATOR, 2 POSITION SPRING RETURN, 120V, AUX, END SWITCH

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	AIRFLOW	NECK SIZE	FACE SIZE	NOTES
-	-	-	-	L/s	mm	W x H mm	
DG	SEE PLANS	PRICE INDUSTRIES	STG1/BF	50	-	300 x 250	1, 2
TG	SEE PLANS	PRICE INDUSTRIES	STG1/B	75-120	-	915 x 305	1, 2
R1	SEE PLANS	PRICE INDUSTRIES	SDG	144	-	500 x 200	1, 3
R2	SEE PLANS	PRICE INDUSTRIES	LBP	36.3	150 x 150	500 x 100	1, 3
A	SEE PLANS	PRICE INDUSTRIES	SDG	144	-	500 x 200	1, 3
B	SEE PLANS	PRICE INDUSTRIES	LBP	35.3	150 x 150	500 x 100	1, 3

NOTES

1 COLOUR TO BE COORDINATED WITH ARCHITECTURAL
2 SIGHT PROOF
3 PROVIDE BALANCING DAMPER AT EACH BRANCH

RADIATOR HEATER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	LENGTH	TYPE	CAPACITY	EWT	LWT	PROPYLENE GLYCOL	FLOW...	NOTES
-	-	-	-	mm	-	kW	C	C	%	L/s	
HR.1	AIR SCOUR ROOM	VULCAN RADIATOR	PR 6	2032	HYDRONIC	1.5	82.2	71.1	50	0.036	-
HR.2	POLYMER ROOM	VULCAN RADIATOR	PR 4	3556	HYDRONIC	1.7	82.2	71.1	50	0.041	-
HR.3	FLUORIDE ROOM	VULCAN RADIATOR	PR 4	1524	HYDRONIC	0.7	82.2	71.1	50	0.018	-
HR.4	SODA ASH ROOM	VULCAN RADIATOR	PR 4	1524	HYDRONIC	0.7	82.2	71.1	50	0.018	-
HR.5	COAGULANT ROOM	VULCAN RADIATOR	PR 4	1524	HYDRONIC	0.7	82.2	71.1	50	0.018	-
HR.6	CHLORINE ROOM	VULCAN RADIATOR	PR 6	3556	HYDRONIC	2.6	82.2	71.1	50	0.062	-
HR.7	CHLORINE ROOM	VULCAN RADIATOR	PR 6	3048	HYDRONIC	2.2	82.2	71.1	50	0.053	-
HR.8	WORKING AREA	VULCAN RADIATOR	PR 4	3810	HYDRONIC	1.9	82.2	71.1	50	0.044	-
HR.9	WORKING AREA	VULCAN RADIATOR	PR 4	3556	HYDRONIC	1.7	82.2	71.1	50	0.041	-
HR.10	LAB	VULCAN RADIATOR	PR 4	1524	HYDRONIC	0.7	82.2	71.1	50	0.018	-
HR.11	WASHROOM	VULCAN RADIATOR	PR 4	1524	HYDRONIC	0.7	82.2	71.1	50	0.018	-

NOTES

HYDRONIC SPECIALTIES

TAG	DESCRIPTION	MANUFACTURER	MODEL	DIAMETER	LENGTH	PROPYLENE...	FLOW RATE	WEIGHT	# OF INLETS	# OF OUTLETS	NOTES
-	-	-	-	mm	mm	%	L/s	KG	-	-	
MU.1	MAKE UP GLYCOL TANK	AXIOM	SF100	610	1245	50	0.09	23	-	-	1
SA.1	AIR SEPARATOR	AMTROL	3-AS	254	585	50	7.48	29	1	1	-
SH.1	HYDRONIC HEADER	PROSINUSX	HYDROFIXX	720 W x 360 H	3500	50	7.48	310	7	7	2
TX.1	EXPANSION TANK	AMTROL	200-L	610	956	50	-	93	1		3

NOTES

1 208L STORAGE,115/1/60, 0.7 AMPS
2 PROJECT REFERENCE PART LIST - 374819
3 EXPANSION TANK DESIGN PARAMETERS. SYSTEM VOLUME: 150 GALLONS, MIN TEMP: 40F, MAX TEMP: 200F, MIN PRESSURE: 12 PSIG, AND MAX PRESSURE: 25 PSIG.

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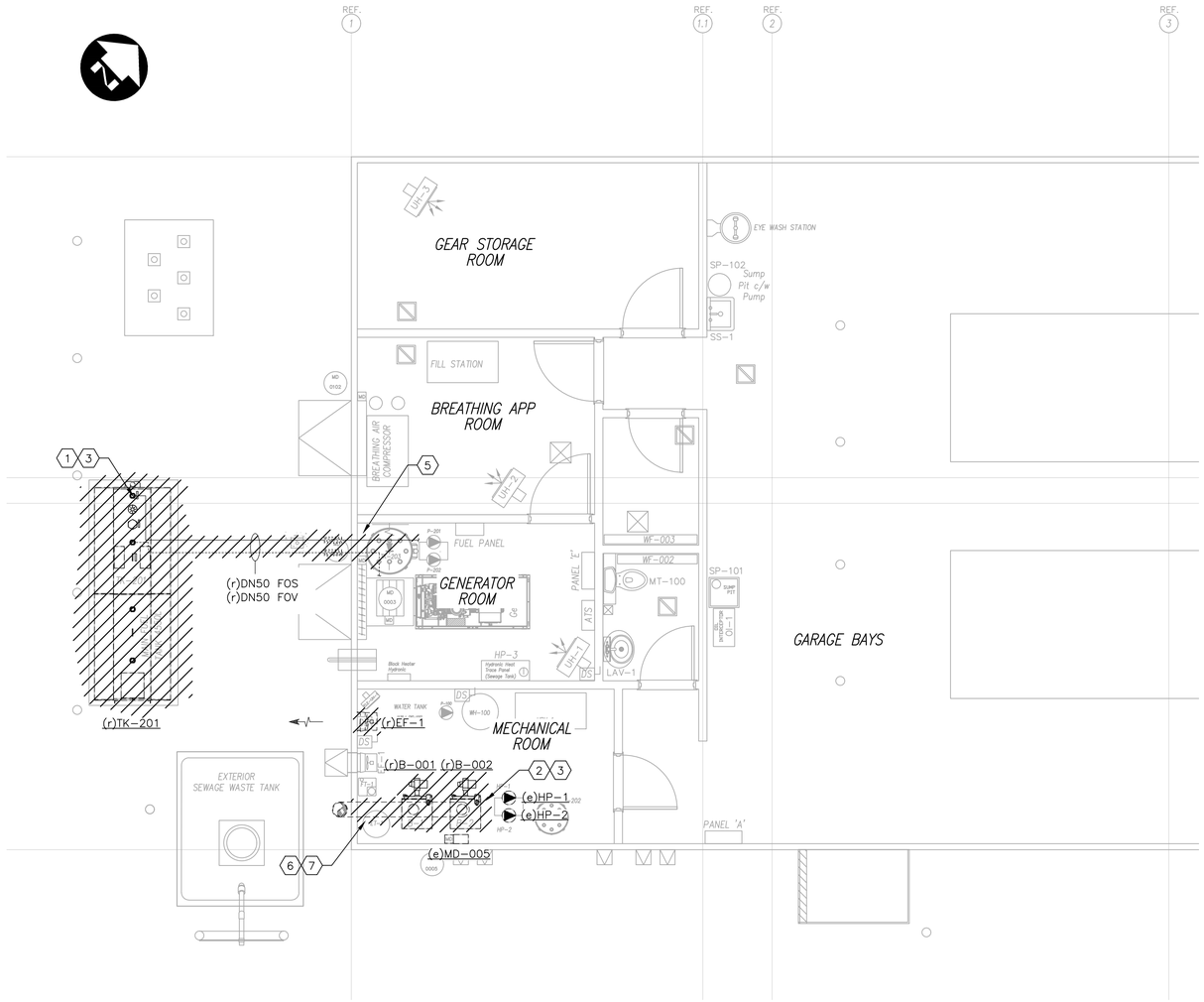
DESIGN AKM | REVIEWED BY ADC
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DATE AUGUST 2025
SCALE

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
MECHANICAL SCHEDULES III

PROJECT NO. 24-7464
SHEET NO. M-11

PLOT DATE 2025-09-21, 1:55:18 PM
FILE NAME Autodesk Docs://Arctic Bay WTP/24764-01-MECH-CON_r2022.rvt



LEVEL 1 – DEMOLITION PLAN
1:50

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HEATING EQUIPMENT

TAG	DESCRIPTION
(r)B-001 (r)B-002	FUEL OIL–FIRED HIGH EFFICIENCY CAST IRON BOILER WEIL–MCLAIN WGO–5 SERIES (QTY. 2) EWT: 71.1°C LWT: 82.2°C GLYCOL SUPPLY CONNECTION: NOMINAL 40 mm GLYCOL RETURN CONNECTION: NOMINAL 40 mm DRAIN VALVE: 19mm FUEL OIL CONNECTION: 15 mm RELIEF VALVE: 19mm FLUE SIZE: MIN. NOMINAL 175 mm FLUE LOCATION: TOP DIMENSIONS: 864 mm x 514 mm x 905 mm (L x W x H) WEIGHT: 345 Kg LOCATION: MECHANICAL ROOM

MAIN FUEL TANK

TAG	DESCRIPTION
(r)TK–201	FUEL OIL STORAGE TANK, GRANBY INDUSTRIES. CERTIFICATION: ULC–S601 NOMINAL CAPACITY: 4,550L TYPE: CYLINDRICAL/HORIZONTAL CONSTRUCTION MATERIAL: STEEL OVERALL DIM.: 3,594 mm (L) x 1,282 mm (D) x 1,803 mm (H) EMPTY WEIGHT: 660 Kg LOCATION: OUTDOORS

INTAKE DAMPER

TAG	DESCRIPTION
(e)DM–005	THERMALLY BROKEN FRAME CONTROL DAMPER. MFR/MODEL: TAMCO/9000 ECT CONSTRUCTION: EXTRUDED ALUMINIUM MOUNT: WALL SIZE: 495x495 mm LOCATION: MECHANICAL ROOM

HEATING LEGEND

SYMBOL	DESCRIPTION	EXISTING
(n) (N)	TEXT ABBREVIATIONS NEW	–
–	TEXT ABBREVIATIONS EXISTING	(e) (E)
–	TEXT ABBREVIATIONS DEMO/REMOVE	(r) (R)
———	FUEL OIL SUPPLY (FOS)	———
– – – – – – –	FUEL OIL VENT (FOV)	– – – – – – –
WWW	FLEXIBLE CONNECTION	WWW
(n)COIL.1	EQUIPMENT TAG	(e)COIL.1
MECH. R.	ROOM NAME	–
	INLINE CIRC. PUMP	
–	DEMOLITION/REMOVE (r)(REMOVE)	

DEMOLITION NOTES

1. REMOVE EXISTING FUEL OIL STORAGE TANK (e)TK–201 AND ASSOCIATED EXISTING CONCRETE PAD. CONTRACTOR TO VERIFY EXTENT OF REQUIRED DEMOLITION GENERALLY DEPICTED BY THE HATCHED AREA IN THE DEMO LAYOUT FOR THE EXISTING EQUIPMENT BEFORE THE START OF WORK.
2. REMOVE EXISTING BOILERS (e) B–001/B–002. EXISTING PIPING, INSULATION, VALVES, AND PIPING ACCESSORIES AND SPECIALTIES SHALL BE DEMO'D AS REQUIRED TO ALLOW THE SAFE REMOVAL OF THE EXISTING EQUIPMENT.
3. REMOVED TANK AND BOILERS ARE TO BE TURNED OVER TO THE OWNER. THE CONTRACTOR SHALL VERIFY PROPER STORAGE AND HANDLING REQUIREMENTS WITH THE EQUIPMENT MANUFACTURERS TO AVOID DAMAGE. THE CONTRACTOR SHALL ARRANGE, PROVIDE, OR OTHERWISE COORDINATE STORAGE REQUIREMENTS WITH THE OWNER TO ENSURE THAT ANY EQUIPMENT TURNED OVER IS STORED IN COMPLIANCE WITH MANUFACTURER REQUIREMENTS. ANY LOOSE ITEMS RESULTING FROM THE REMOVAL OF THE TANK AND BOILERS WILL BE PROPERLY PACKED/BAGGED AND LABELED TO FACILITATE LATER REASSEMBLY.
4. EXISTING EQUIPMENT IS DEPICTED BASED ON PLANS BY OTHERS. CONTRACTOR TO VERIFY REQUIRED CLEARANCES FOR SAFE REMOVAL OF THE SPECIFIED EQUIPMENT. EXISTING PIPING, DUCTING, AND ACCESSORIES ARE GENERALLY NOT SHOWN FOR CLARITY.
5. REMOVE ALL EXISTING FUEL OIL SUPPLY, RETURN, AND VENT PIPING, PIPE SUPPORTS, AND ACCESSORIES BETWEEN EXISTING FUEL OIL FUEL OIL STORAGE TANK (e)TK–201 AND EXISTING BOILERS (e)B–001, (e)B–002.
6. REMOVE BOILER EXHAUST FLUE FROM EXISTING BOILERS B–001 AND B–002 TO THE VERTICAL CHIMNEY CONNECTION OUTSIDE THE MECHANICAL ROOM.
7. CONTRACTOR TO ENSURE WALL PENETRATION IS TEMPORARILY SEALED WEATHER AND WATER–TIGHT UNTIL NEW EXHAUST FLUE IS PROVIDED. CONTRACTOR SHALL INSPECT AND DETERMINE SUITABILITY OF EXISTING CHIMNEY STACK TO ENSURE NEW EXHAUST FLUE CAN BE ADEQUATELY CONNECTED.

CIRCULATOR SCHEDULE

TAG	LOCATION	SERVING	TYPE	MANUF.	MODEL	CAP. L/s	m HEAD	FLUID	RPM	ELECTRICAL kW	ELECTRICAL VOLTS/PH	COMMENTS
(e)HP–1	MECHANICAL ROOM	FIRE HALL BUILDING	CIRC INLN	GRUNDFOS	MAGNA 3 40–120F, DN40	2.3	5.18	GLY	3600	0.44	208–230/1	IRON
(e)HP–2	MECHANICAL ROOM	FIRE HALL BUILDING	CIRC INLN	GRUNDFOS	MAGNA 3 40–120F, DN40	2.3	5.18	GLY	3600	0.44	208–230/1	IRON STAND BY TO HP–1

ABBREVIATIONS : BRN – BRONZE BODY BASE – BASE MOUNTED IRON – IRON BODY GLY – 50% PROPYLENE GLYCOL
INLN – INLINE PUMP VERT – VERTICAL L/s – LITRES PER SEC. CIRC. – CIRCULATOR

FAN SCHEDULE

TAG	LOCATION	SERVING	TYPE	MANUF.	MODEL	DAMPER SIZE mm	AIR CAP. L/s	S.P. Pa	RPM	ELECTRICAL kW	ELECTRICAL VOLTS/PH	COMMENTS
(r)EF–1	MECHANICAL ROOM	FIRE HALL BUILDING	EXHAUST FAN	CANARM	S12–E2	375x375	656	62.3	1,725	0.186	115/1	BDD, PROP, WALL MOUNTED.

ABBREVIATIONS :
ABDD – AUTO. BACKDRAFT DAMPER
BDD – BACKDRAFT DAMPER
BI – BACKWARD INCLINED
BS – BIRD SCREEN
CAB – CABINET FAN
CEIL – CEILING MOUNTED FAN
CENT – CENTRIFUGAL FAN
CURB – ROOF CURB
DS – DISCONNECT SWITCH
DS/F – DESTRATIFICATION FAN
FC – FORWARD CURVE WHEEL
GF – GREASE FAN
IS – INSECT SCREEN
MD – MOTORIZED DAMPER
PROP – PROPELLER BLADE FAN
RF – ROOF MOUNTED FAN
VSC – VARIABLE SPEED CONTROL

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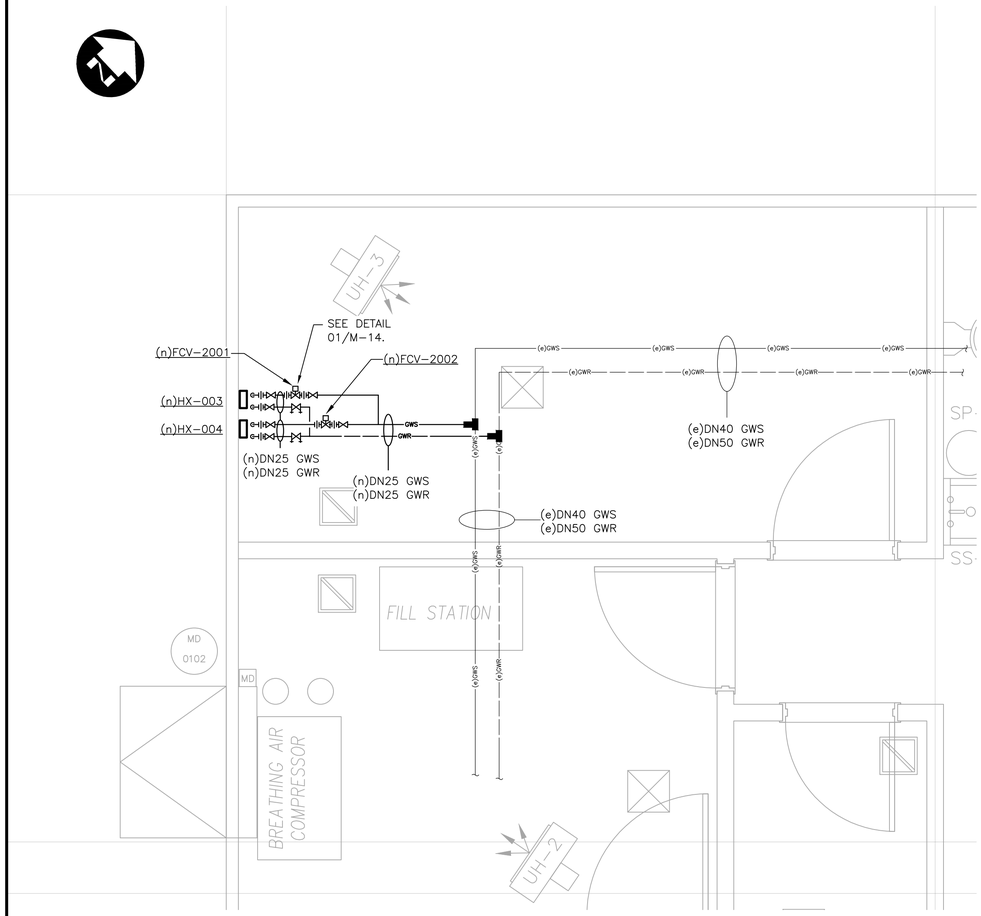
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EMERGENCY FIRE WATER TANK
ARCTIC BAY FIRE HALL

MECHANICAL EQUIPMENT DEMO LAYOUT

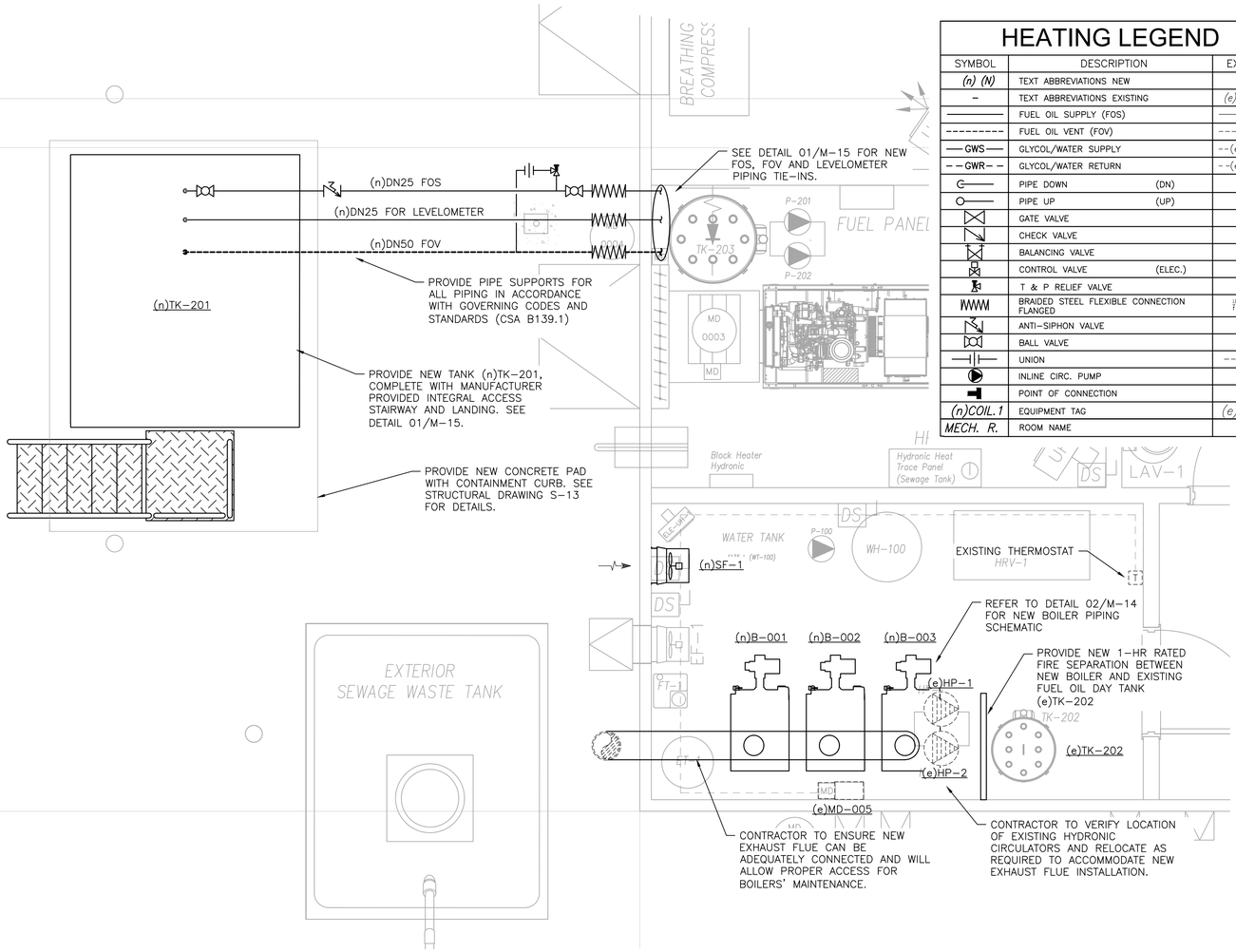
PROJECT NO. 24-7464

SHEET NO. M-12



PUMP ROOM – RENOVATION PLAN

1:25



MECHANICAL ROOM / FUEL TANK – RENOVATION PLAN

1:25

HEATING LEGEND

SYMBOL	DESCRIPTION	EXISTING
(n) (N)	TEXT ABBREVIATIONS NEW	–
–	TEXT ABBREVIATIONS EXISTING	(e) (E)
	FUEL OIL SUPPLY (FOS)	
	FUEL OIL VENT (FOV)	
GWS	GLYCOL/WATER SUPPLY	--(e)GWS--
GWR	GLYCOL/WATER RETURN	--(e)GWR--
	PIPE DOWN (DN)	
	PIPE UP (UP)	
	GATE VALVE	
	CHECK VALVE	
	BALANCING VALVE	
	CONTROL VALVE (ELEC.)	
	T & P RELIEF VALVE	
	BRAIDED STEEL FLEXIBLE CONNECTION FLANGED	
	ANTI-SIPHON VALVE	
	BALL VALVE	
	UNION	
	INLINE CIRC. PUMP	
	POINT OF CONNECTION	–
(n)COIL.1	EQUIPMENT TAG	(e)COIL.1
MECH. R.	ROOM NAME	–

HEAT EXCHANGER

DES.	LOCATION	MANUF.	MODEL	TYPE	No. OF PLATES	CAPACITY	SIDE#1 FLUID	SIDE#1 TEMP. IN	SIDE#1 TEMP. OUT	SIDE#1 FLOW	SIDE#1 PD	SIDE#2 FLUID	SIDE#2 TEMP. IN	SIDE#2 TEMP. OUT	SIDE#2 FLOW	SIDE#2 PD
HX-003	PUMP ROOM	TACO	TB10T	BRAZED PLATE	12	16	GLYCOL	82.2	71.1	0.38	23.9	WATER	4	10	0.53	42.4
HX-004	PUMP ROOM	TACO	TB10T	BRAZED PLATE	12	16	GLYCOL	82.2	71.1	0.38	23.9	WATER	4	10	0.53	42.4

NOTE : FLOW – MEASURED IN L/s; TEMP – MEASURED IN DEGREES CELSIUS; GLY – 50% PROPYLENE GYLCOL; PRESSURE DROP – MEASURED IN kPa; CAPACITY – MEASURED IN kW

FAN SCHEDULE

TAG	LOCATION	SERVING	TYPE	MANUF.	MODEL	DAMPER SIZE mm	AIR CAP. L/s	S.P. Pa	RPM	ELECTRICAL kW	ELECTRICAL VOLTS/PH	COMMENTS
(n)SF-1	MECHANICAL ROOM	FIRE HALL BUILDING	SUPPLY FAN	GREENHECK	SS1-12-432A	356x356	568	75	1,750	0.186	115/1	BDD, PROP, WALL MOUNTED.

ABBREVIATIONS :
ABDD – AUTO. BACKDRAFT DAMPER; BDD – BACKDRAFT DAMPER; BI – BACKWARD INCLINED; BS – BIRD SCREEN; CAB – CABINET FAN; CEIL – CEILING MOUNTED FAN; CENT – CENTRIFUGAL FAN; CURB – ROOF CURB; DS – DISCONNECT SWITCH; DS/F – DESTRATIFICATION FAN; FC – FORWARD CURVE WHEEL; GF – GREASE FAN; IS – INSECT SCREEN; MD – MOTORIZED DAMPER; PROP – PROPELLER BLADE FAN; RF – ROOF MOUNTED FAN; VSC – VARIABLE SPEED CONTROL

HEATING EQUIPMENT

TAG	DESCRIPTION
(n)B-001 (n)B-002 (n)B-003	OIL-FIRED HIGH EFFICIENCY CAST IRON SECTIONAL BOILER WEIL-MCLAIN MODEL WGO-7D OR APPROVED EQUAL. BECKETT WL-7507 BURNER OR APPROVED EQUAL. GROSS OUTPUT: 72 kW NET RATING (WATER): 62 kW EWT: 71.1°C LWT: 82.2°C GLYCOL SUPPLY CONNECTION: NOMINAL 100mm QTY. 2 GLYCOL RETURN CONNECTION: NOMINAL 75mm QTY. 2 FLUE SIZE: MIN. NOMINAL 200 mm FLUE LOCATION: TOP APPROX. DIM. (INCL. BURNER): 1,020 mm L x 515 mm W X 898 mm H LOCATION: MECHANICAL ROOM PROVIDE ALL NECESSARY VALVES, FITTINGS, ACCESSORIES, CONTROLS, AND SPECIALTIES AS SHOWN ON THE DRAWINGS AND AS STATED IN THE SPECIFICATIONS AND AS NECESSARY TO PROVIDE A FULLY OPERATIONAL AND CODE-COMPLIANT SYSTEM.

TANK SCHEDULE

TAG	DESCRIPTION
(n)TK-201	FUEL OIL STORAGE TANK, DESJARDINS INDUSTRIES OR APPROVED EQUAL. CERTIFICATION: ULC-S601 NOMINAL CAPACITY: 7,550L TYPE: CYLINDRICAL/HORIZONTAL c/w INTEGRAL SECONDARY CONTAINMENT CONSTRUCTION MATERIAL: STEEL PROVIDED WITH ACCESS STAIRWAY AND PLATFORM, MECHANICAL TANK LEVEL GAUGE, NORMAL/EMERGENCY VENT CAPS, VISUAL MONITORING DEVICE FOR INTERSTITIAL SPACE. OVERALL DIM.: 2,387 mm L x 2,006 mm ID x 2,438 mm H EMPTY WEIGHT: 1,452 Kg LOCATION: OUTDOOR

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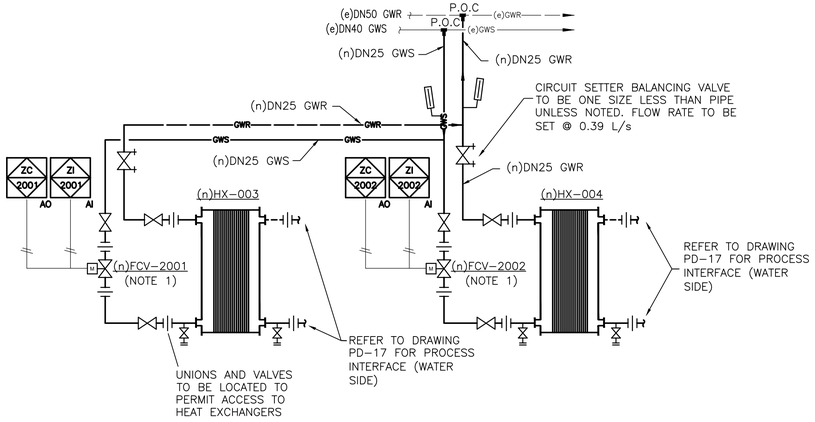
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EMERGENCY FIRE WATER TANK
ARCTIC BAY FIRE HALL

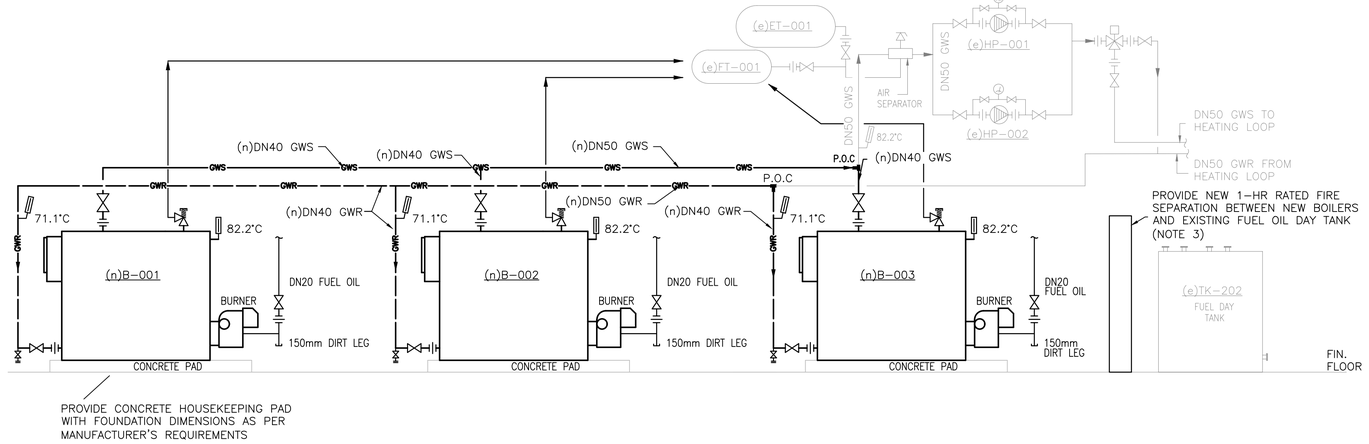
MECHANICAL RENOVATION PLAN

PROJECT NO. 24-7464

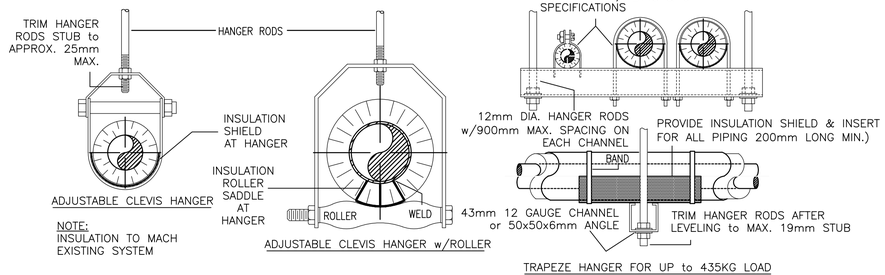
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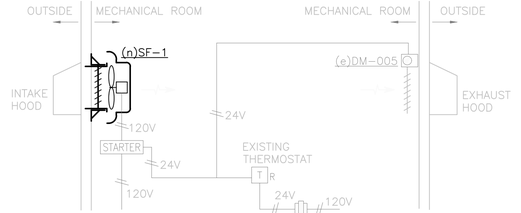
01 M-14 BRAZED PLATE HEAT EXCHANGERS SCHEMATIC
NTS



02 M-14 BOILER PIPING SCHEMATIC
NTS



03 M-14 TYPICAL PIPE SUPPORT
NTS



LEGEND				
SYMBOL	CONTROL POINT	PNEU.(P) ELEC.(E)	POWER	DESCRIPTION
--//---	–	E	–	ELECTRICAL WIRING (2 WIRE), ELEC
STARTER	–	E	–	ELECTRICAL MOTOR STARTER
	–	E	–	ELECTRICAL TRANSFORMER 120V–24V
	–	E	24V	ELECTRIC DAMPER MOTOR
	–	–	–	LOW LEAKAGE DAMPER PARALLEL
TR	–	E	24V	WALL–MOUNTED THERMOSTAT "R" INDICATES REVERSE ACTING

REFER TO NOTE 4 FOR SEQUENCE OF OPERATION

05 M-14 SUPPLY FAN – MECHANICAL ROOM
NTS

GENERAL NOTES

1. BELIMO GRCX120-SR-T N4 MODULATING 4–20 MA ACTUATOR, OR APPROVED EQUAL.
2. ALL NEW EQUIPMENT TO BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS.
3. FIRE BARRIER TO BE PERMANENT. DIMENSIONS 1,100 mm (H) X 640 mm (W). FINAL BARRIER LOCATION/DIMENSIONS TO BE CONFIRMED BY CONTRACTOR TO HIDE THE TANK COMPLETELY FROM BOILERS. DISTANCE BETWEEN TANK AND BARRIER TO MEET CSA B139.1.
4. ON A RISE IN SPACE TEMPERATURE ABOVE THE THERMOSTAT COOLING SET POINT TEMPERATURE (INITIALLY SET TO 29C – USER ADJUSTABLE), THE NEW MECHANICAL ROOM SUPPLY FAN (SF-1) SHALL BE COMMANDED ON, AND EXISTING DAMPER (DM-005) SHALL BE COMMANDED OPEN.

   THE NEW MECHANICAL ROOM SUPPLY FAN (SF-1) SHALL BE COMMANDED OFF, AND THE EXISTING DAMPER (DM-005) SHALL BE COMMANDED CLOSE ON A DROP IN SPACE TEMPERATURE BELOW THE SPACE TEMPERATURE SET POINT (INITIALLY SET TO 24C).

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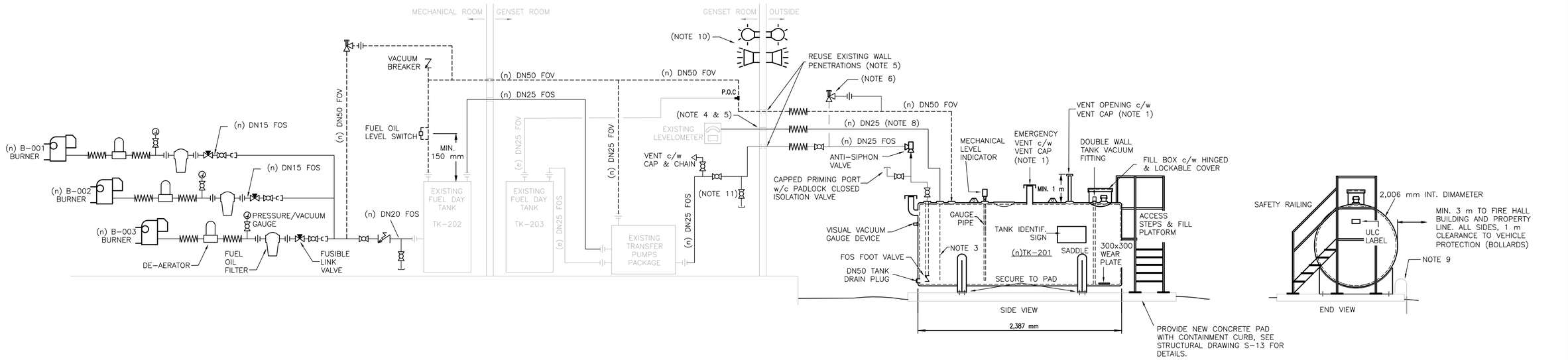
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EMERGENCY FIRE WATER TANK
ARCTIC BAY FIRE HALL

MECHANICAL DETAILS I

PROJECT NO. 24-7464

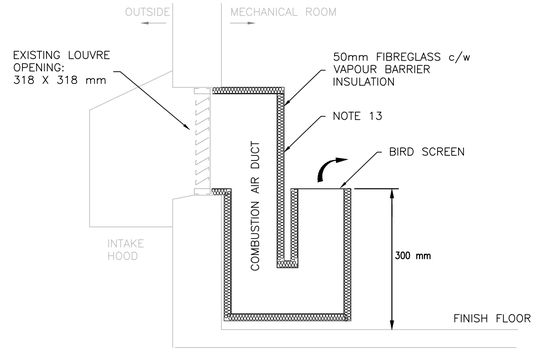
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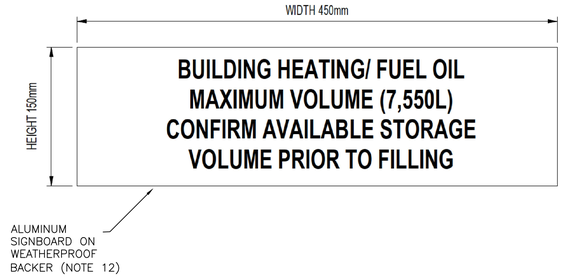
01 M-15 FUEL OIL SYSTEM
NTS

GENERAL NOTES

1. TO BE MIN. 150mm ABOVE THE ENTRY TO THE FILL PIPE.
2. FUEL OIL STORAGE TANK TO BE INSTALLED TO COMPLY WITH THE NS PETROLEUM STORAGE REGULATIONS AND CSA B139.1–19.
3. ADJUST EXISTING LEVELOMETER'S TUBING INSIDE THE NEW TANK SO IT REACHES THE TANK BOTTOM AS PER INSTALLATION MANUAL.
4. PROVIDE NEW WALL PENETRATION. SEAL AND MAKE–GOOD.
5. PIPING TO BE SLEEVED, DOUBLE PIPE WRAPPED AND SEALED AT BUILDING PENETRATION. PROVIDE ESCUTCHEON PLATE TO PROTECT SEALANT.
6. PRV TO BE INSTALLED AT TOP OF PIPING. CONNECT TO FOR/FOV DOWN STREAM OF HIGHPOINT. CONNECTION TO GO INTO TOP OF FOR/FOV. USE WELDOLET FOR BRANCH CONNECTIONS AND TIE–INS.
7. PROVIDE PIPE SUPPORTS FOR ALL PIPING AND IN ACCORDANCE WITH GOVERNING CODES AND STANDARDS (CSA B139.1–19)
8. NEW SCH 40 PIPE TO CHANNEL EXISTING LEVELOMETER'S TUBING
9. VERIFY EXISTING GROUNDING ROD LOCATION AND CONDITION. IF NOT SUITABLE PROVIDE NEW GROUNDING ROD FOR FUEL OIL STORAGE TANK AND ATTACH TO TANK GROUNDING PLATES.
10. ALARM HORN AND MULTICOLOUR STROBE INSIDE MECHANICAL ROOM AND OUTSIDE BUILDING NEAR BULK TANK, PROVIDE VANDAL PROOF LIGHT TEST BUTTON. LOCATE EXTERIOR AIARM HORN AND STROBE AT A MIN. HEIGHT OF 4000mm. ADD SIGNAGE IN ALL OFFICIAL LANGUAGES FOR:
    1. NO SMOKING.
    2. FLAMMABLE LIQUID SIGNAGE.
    3. BULK TANK CAPACITY (IN LITRES).
    4. ALARM LIGHT LEGEND
11. 600mm DRIP LEG COMPLETE WITH LOCKABLE VALVE AND CAP.
12. FOR COMPLETE APPLICABLE SIGNALING SEE MECHANICAL DRAWING M–04.
13. CONFIRM THE EXISTENCE OF A TRAP CONFIGURATION IN THE EXISTING COMBUSTION AIR INTAKE, OTHERWISE INSTALL IT AS SHOWN IN THIS DETAIL



02 M-15 COMBUSTION AIR INTAKE DETAIL
NTS



03 M-15 FUEL OIL TANK SIGNAGE
NTS

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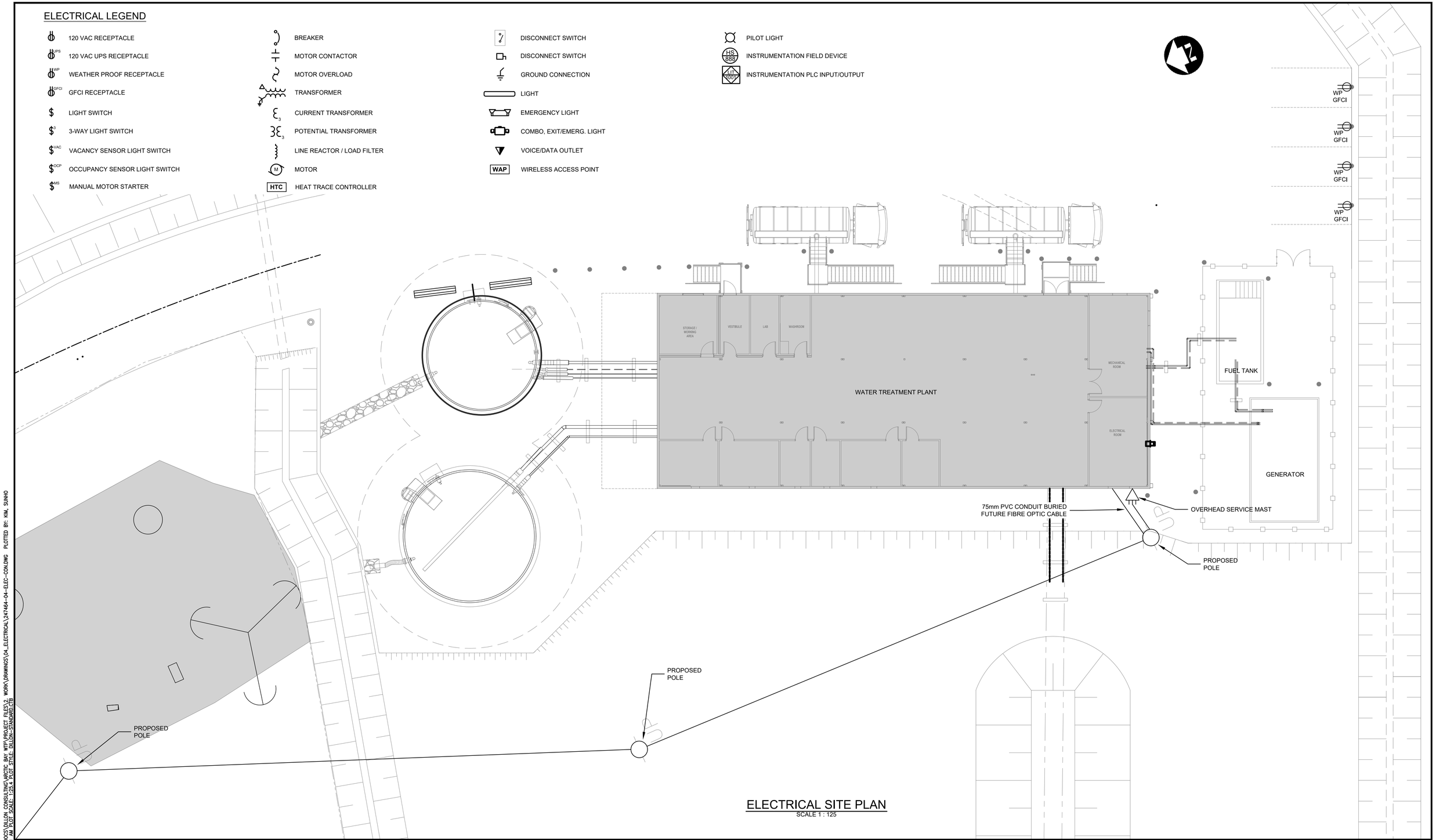
MECHANICAL DETAILS II

PROJECT NO. 24-7464

SHEET NO. M-15

ELECTRICAL LEGEND

- 120 VAC RECEPTACLE
- 120 VAC UPS RECEPTACLE
- WEATHER PROOF RECEPTACLE
- GFCI RECEPTACLE
- LIGHT SWITCH
- 3-WAY LIGHT SWITCH
- VACANCY SENSOR LIGHT SWITCH
- OCCUPANCY SENSOR LIGHT SWITCH
- MANUAL MOTOR STARTER
- BREAKER
- MOTOR CONTACTOR
- MOTOR OVERLOAD
- TRANSFORMER
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- LINE REACTOR / LOAD FILTER
- MOTOR
- HEAT TRACE CONTROLLER
- DISCONNECT SWITCH
- DISCONNECT SWITCH
- GROUND CONNECTION
- LIGHT
- EMERGENCY LIGHT
- COMBO, EXIT/EMERG. LIGHT
- VOICE/DATA OUTLET
- WIRELESS ACCESS POINT
- PILOT LIGHT
- INSTRUMENTATION FIELD DEVICE
- INSTRUMENTATION PLC INPUT/OUTPUT



ELECTRICAL SITE PLAN
SCALE 1 : 125

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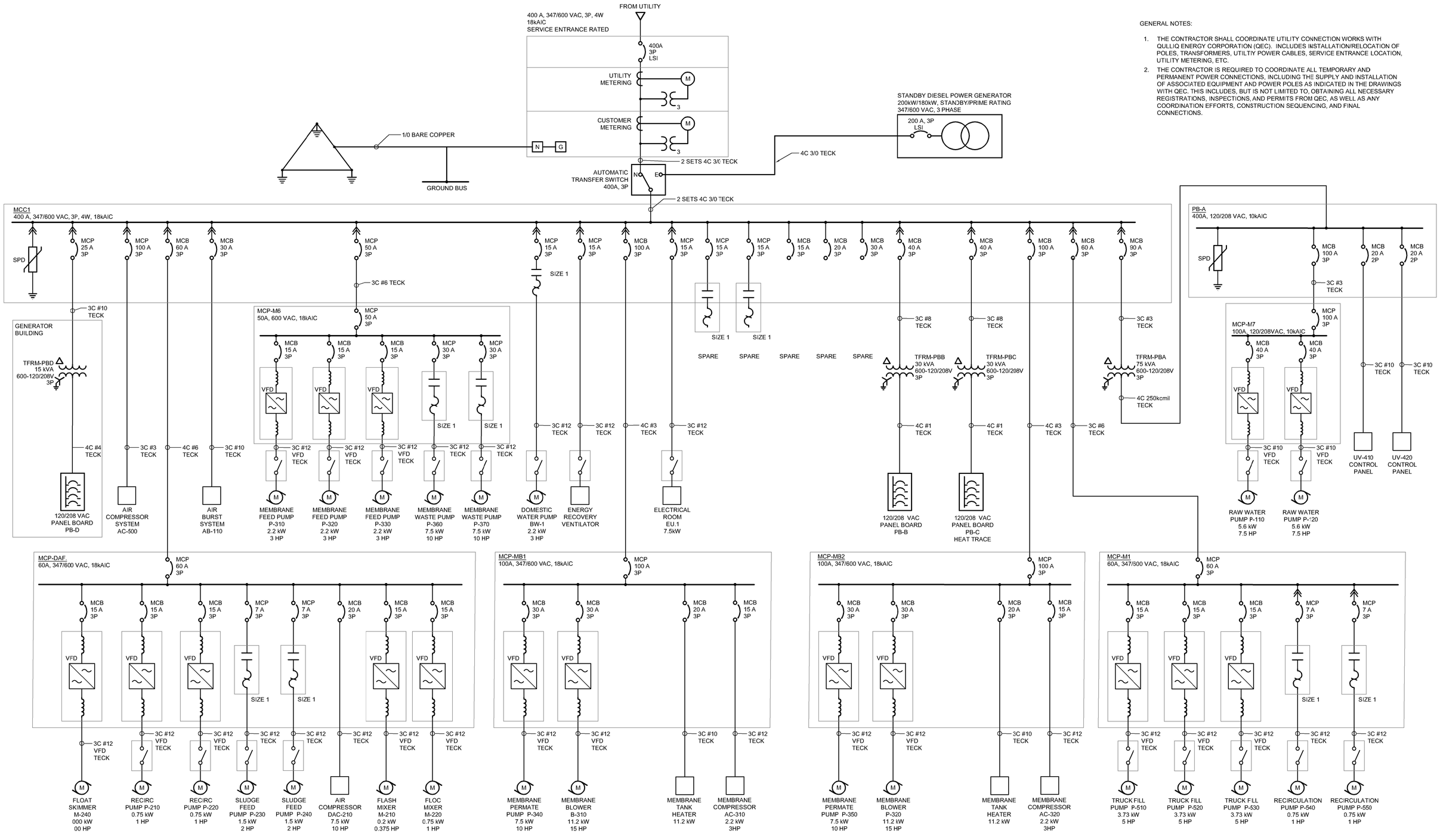
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PROJECT NO. 24-7464

ARCTIC BAY
ELECTRICAL SITE PLAN

SHEET NO. E-1

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PLOT DATE: 2025-08-06 @ 11:35:01 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



GENERAL NOTES:

1. THE CONTRACTOR SHALL COORDINATE UTILITY CONNECTION WORKS WITH QULLIQ ENERGY CORPORATION (QEC). INCLUDES INSTALLATION/RELOCATION OF POLES, TRANSFORMERS, UTILITY POWER CABLES, SERVICE ENTRANCE LOCATION, UTILITY METERING, ETC.
2. THE CONTRACTOR IS REQUIRED TO COORDINATE ALL TEMPORARY AND PERMANENT POWER CONNECTIONS, INCLUDING THE SUPPLY AND INSTALLATION OF ASSOCIATED EQUIPMENT AND POWER POLES AS INDICATED IN THE DRAWINGS WITH QEC. THIS INCLUDES, BUT IS NOT LIMITED TO, OBTAINING ALL NECESSARY REGISTRATIONS, INSPECTIONS, AND PERMITS FROM QEC, AS WELL AS ANY COORDINATION EFFORTS, CONSTRUCTION SEQUENCING, AND FINAL CONNECTIONS.

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Date 2025-09-16
PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

ISSUED FOR CONSTRUCTION

Canada — Nunavut

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION REV1	2025-AUG-01	BLM
1	ISSUED FOR CONSTRUCTION	2025-APR-10	BLM
0	ISSUED FOR TENDER	2024-NOV-29	BLM

DESIGN: BLM | REVIEWED BY: BLM
DRAWN: SK | CHECKED BY: BLM
DATE: AUGUST 2025
SCALE: NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY

SINGLE LINE DIAGRAM

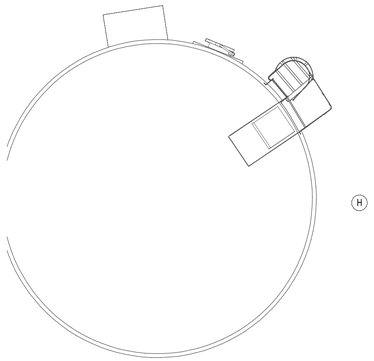
PROJECT NO. 24-7464

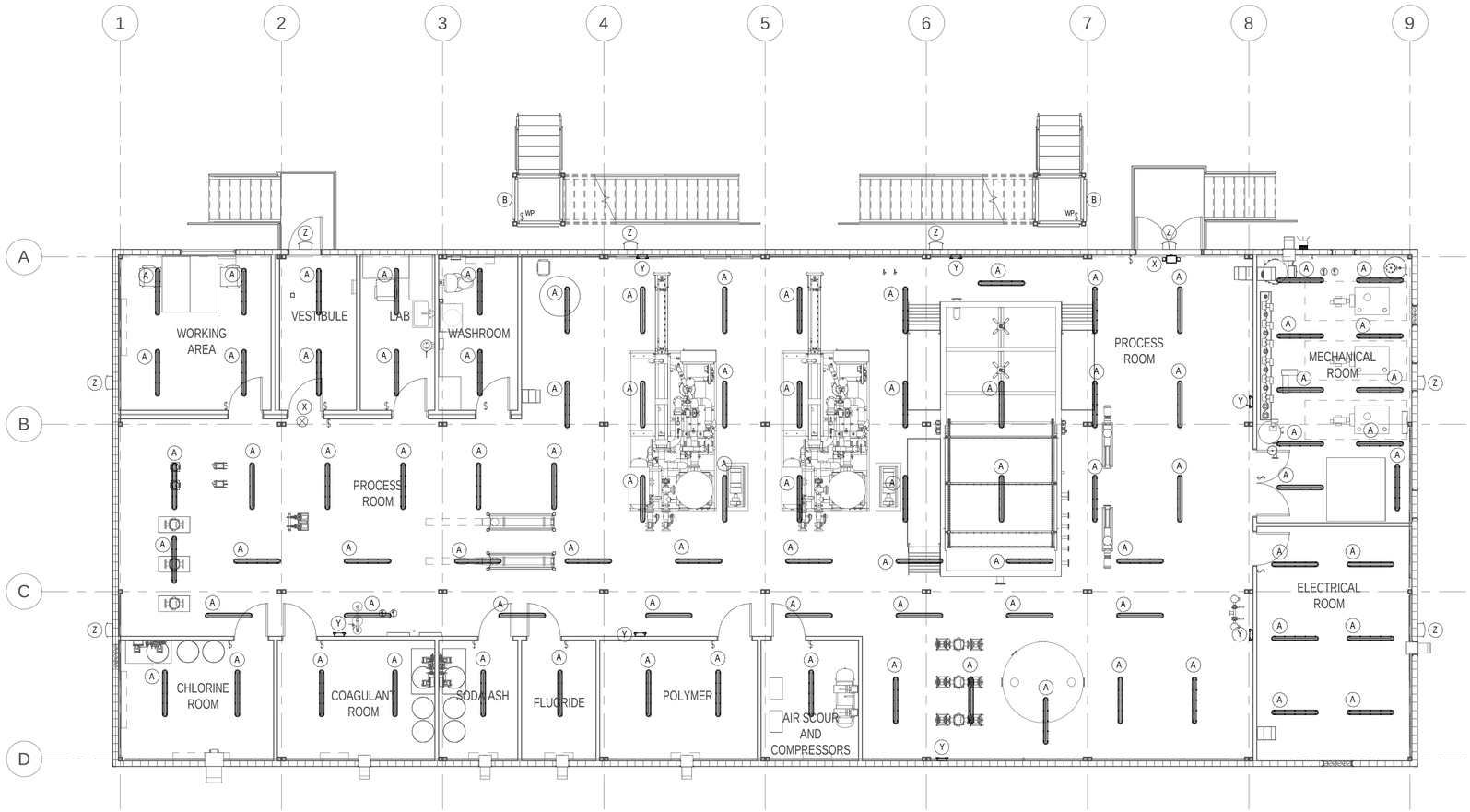
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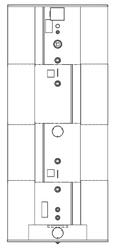
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PLOT DATE: 2025-08-28 @ 1:12:50 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

NOTES:

1. FIXTURE B TO BE MOUNTED 2500mm ABOVE PLATFORM ELEVATION ON STEEL POST.







LIGHTING PLAN

SCALE: 1 : 75

LUMINAIRE SCHEDULE					
TYPE	MANUFACTURER	CAT.NO	LAMP	VOLTAGE	REMARKS
A	AIMLITE	VWP4-LA1A-4-40K-SS	LED	120V	CORROSION RESISTANT
B	AIMLITE	MLFPS60B323CBKP	LED	120V	60W, 3000K
H	LITHONIA LIGHTING	DSX1 LED P9 30K T2M 120 SPA KMA8 DDBXD U PER DDBXD	LED	120V	241W, ROADWAY LUMINAIRE TYPE 2 LIGHT DISTRIBUTION 3000K C/W PHOTOCELL CONTROLLER: DLL-127F-1.5-JU 2 Ft. MAST ARM: PRAIRIE POLE PP-2ft-ARM-SSS-MA-2-3/8"-DDBXD 30 Ft. POLE: PRAIRIE POLE: SSS-30-HW-2-BR
X	AIMLITE	CRPN-12-036-2-WHT-2-ATD	LED	120V	NEMA 4X, COMB, EXIT/EMERG. LIGHT W/BATTERY BANK
Y	AIMLITE	RMN2-12-24V-6W-LA-WHT	LED	12-24V	DUEL HEAD REMOTE EMERGENCY LIGHT
Z	COPPER LIGHTING	ENV-B01-LED-E1-BL2-BZ-PC-WG	LED	120V	CORROSION RESISTANT, PROVIDE PHOTOCELL, WIRE GUARD

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

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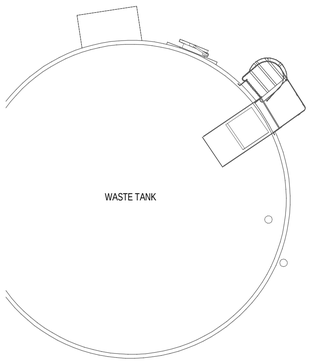
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DRAWN: SK | CHECKED BY: BLM
DATE: AUGUST 2025
SCALE: 1 : 75

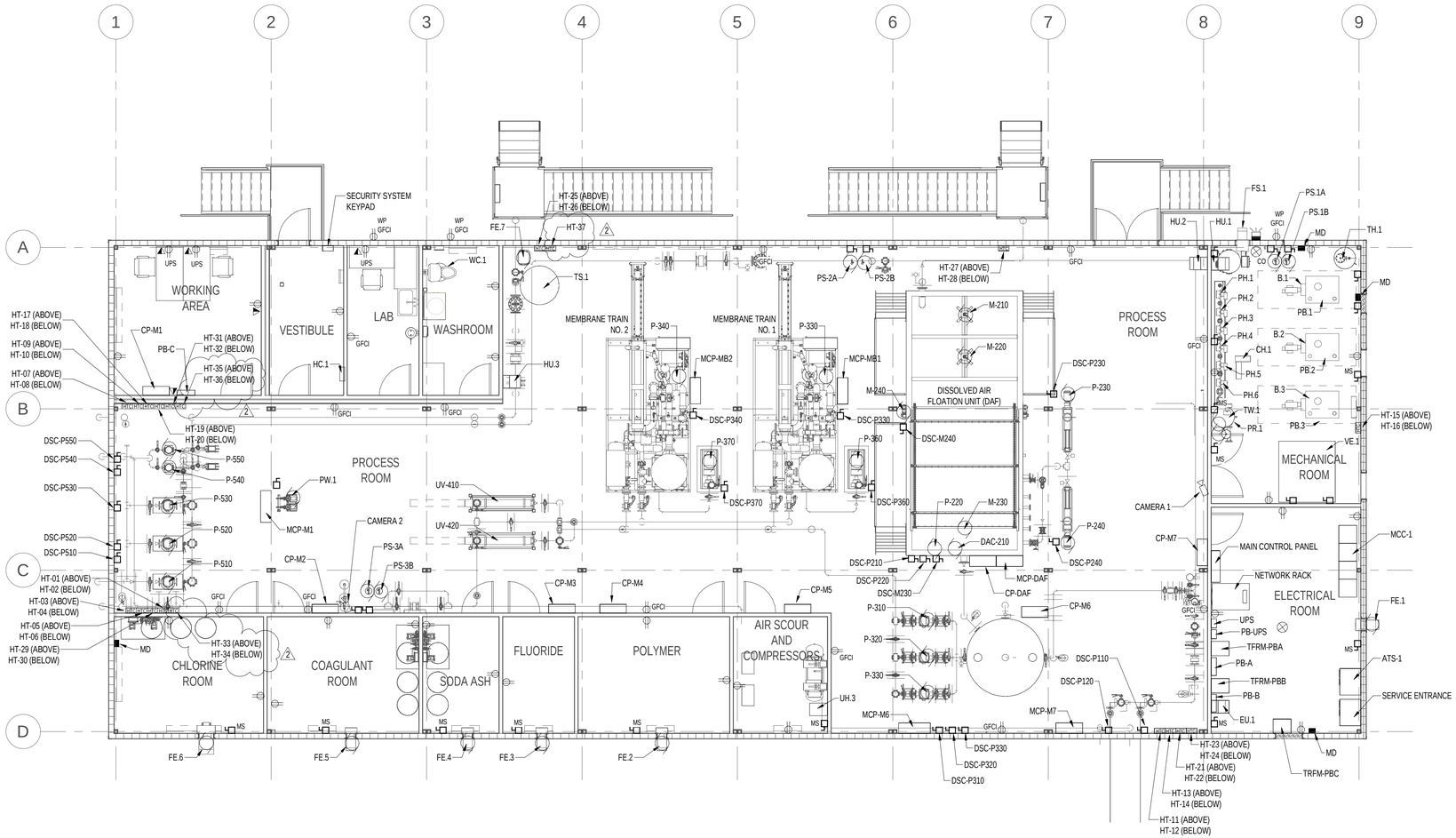
GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
LIGHTING PLAN

PROJECT NO. 24-7464
SHEET NO. E-3

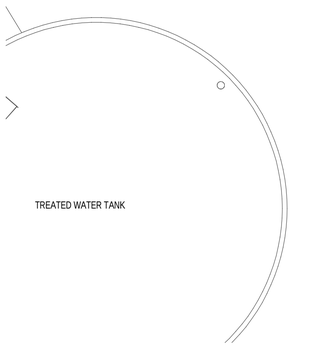
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FILE NAME: Autodesk Docs://Arctic Bay WTP/24746-04-ELEC-CON_v2022.CURRENT.rvt





POWER PLAN

SCALE: 1 : 75



LEGEND

- RECEPTACLE
- GFCI RECEPTACLE (WP DENOTES WEATHERPROOF)
- MOTOR
- DISCONNECT SWITCH
- MS MANUAL MOTOR STARTER
- SECURITY CAMERA
- BEACON
- SMOKE DETECTOR
- CO CARBON MONOXIDE DETECTOR

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DESIGN	BLM
REVIEWED BY	BLM
DRAWN	SK
CHECKED BY	BLM
DATE	AUGUST 2025
SCALE	1 : 75

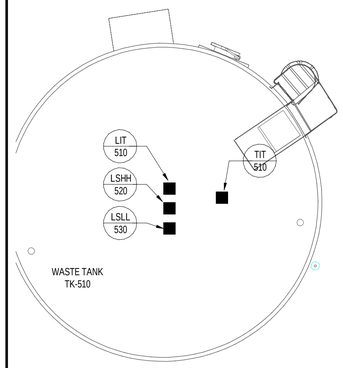
GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

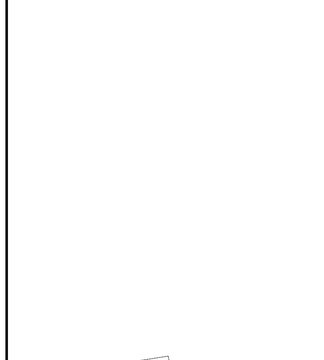
ARCTIC BAY
POWER PLAN

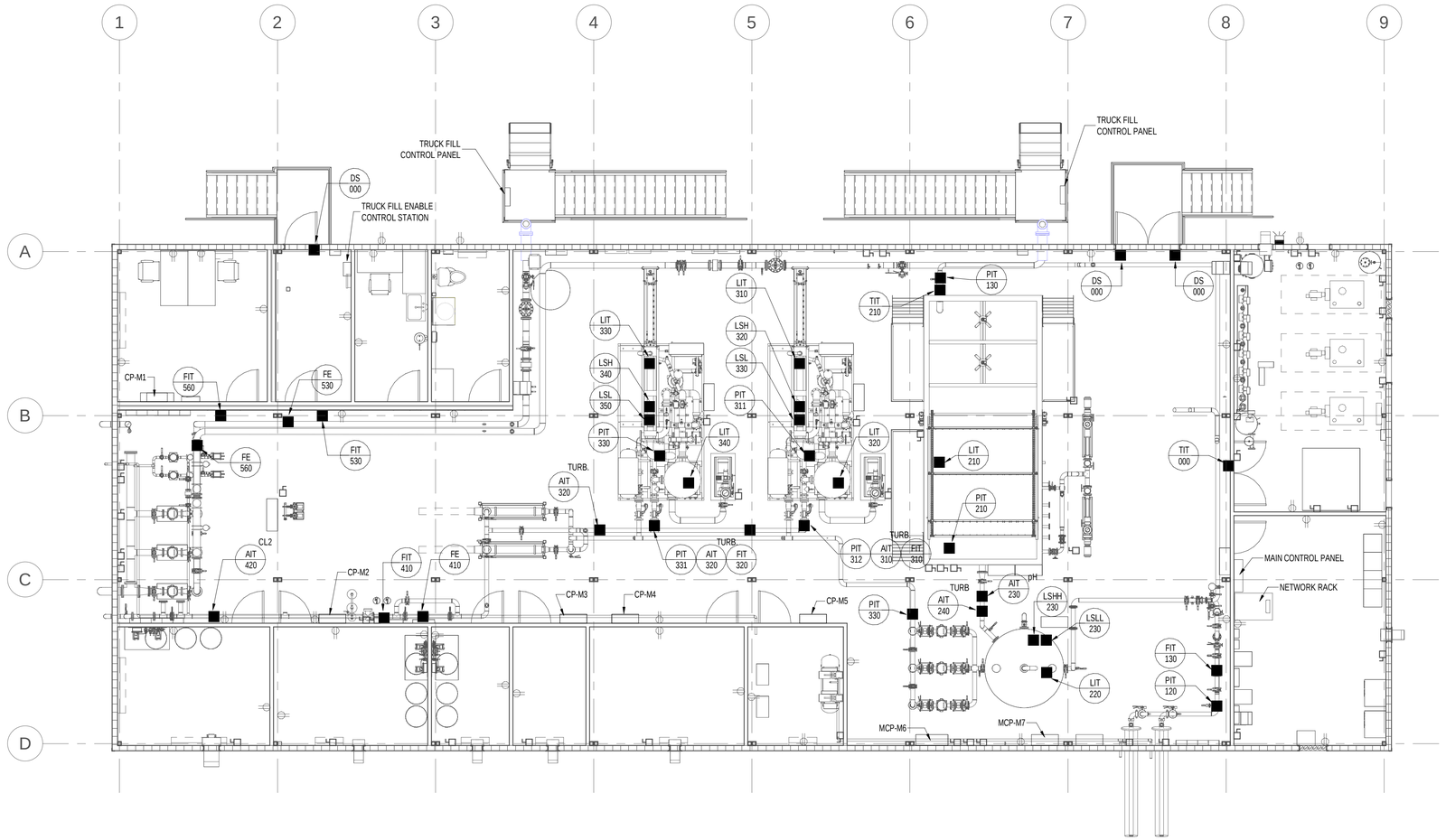
PROJECT NO. 24-7464

SHEET NO. E-4

PLOT DATE: 8/8/2025 10:52:59 AM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-04-ELEC-CON_2022_CURRENT.rvt







INSTRUMENTATION PLAN

SCALE: 1 : 75

LEGEND

■ INSTRUMENTATION DEVICE

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B.L. MOORE
LICENSEE
August 1, 2025
NWT/NU

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SCALE	1 : 75

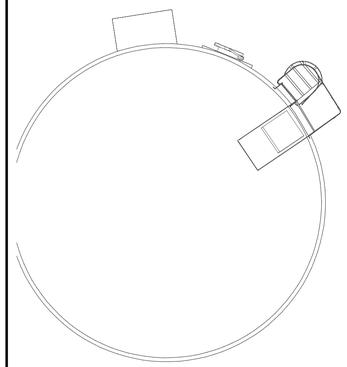
GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

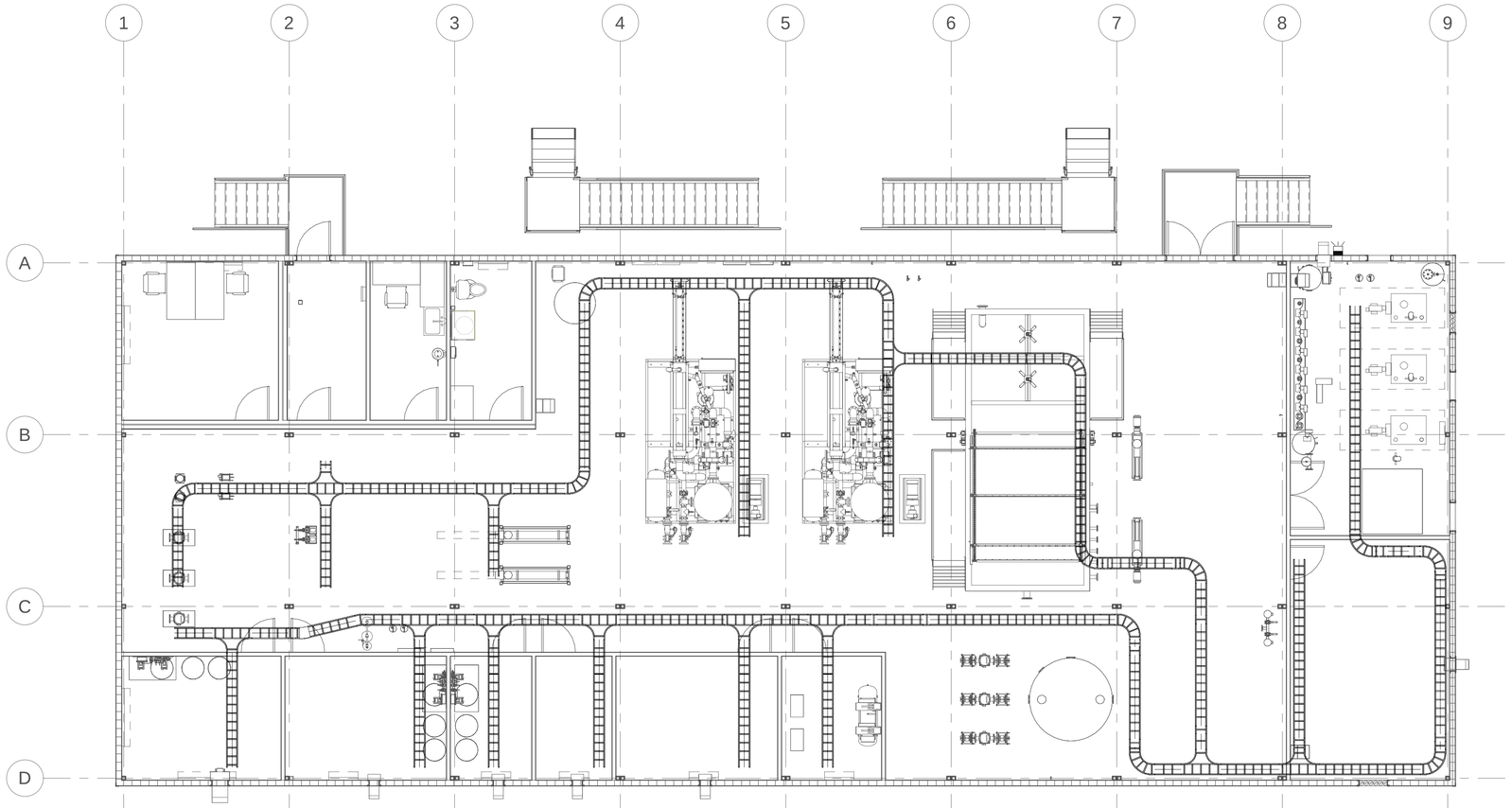
ARCTIC BAY
INSTRUMENTATION PLAN

PROJECT NO. 24-7464

SHEET NO. E-5

PLOT DATE: 8/8/2025 10:53:31 AM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24-7464-04-ELEC-CON_2022 CURRENT.rvt





CABLE TRAY AND MARSHALING PANEL PLAN

SCALE: 1 : 75

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SCALE	1 : 75

GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

CABLE TRAY AND MARSHALING PANEL PLAN

PROJECT NO. 24-7464

SHEET NO. E-6

PLOT DATE: 8/8/2025 10:53:50 AM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24746[4-04-ELEC-CON_r2022 CURRENT.rvt

WTP EQUIPMENT LIST

TAG	DESCRIPTION	EQUIPMENT TYPE	LOAD TYPE	MOTOR SIZE	POWER	VOLTAGE	PHASE	BREAKER SIZE	MCP	STARTER TYPE	STARTER SIZE	CABLE	FIELD DISCONNECT	LOCAL START/STOP	REMARKS	Diversity Factor	Demand Load
P-110	RAW WATER PUMP	PUMP	HP	7.5	5.595	208	3	30	-	VFD	-		YES	-	-	0.5	2.7975
P-120	RAW WATER PUMP	PUMP	HP	7.5	5.595	208	3	30	-	VFD	-		YES	-	-	0.5	2.7975
AB-110	AIR BURST COMPRESSOR	AIR COMPRESSOR	HP	10.0	7.46	600	3	30	-	-	-		YES	-	-	0	0
M-240	DAF TANK FLOAT SKIMMER	MOTOR	HP	1.0	0.746	600	3	-	-	VFD	-		YES	-	MOTOR STARTER IN DAF CONTROL PANEL	1	0.746
M-230	DAF TANK AUGER	MOTOR	HP	2.0	1.492	600	3	-	-	FVNR	1		YES	-	MOTOR STARTER IN DAF CONTROL PANEL	1	1.492
P-210	DAF RECIRCULATION PUMP	PUMP	HP	5.9	4.4	600	3	15	-	VFD	-		YES	-	MOTOR STARTER IN DAF CONTROL PANEL	0.5	2.2
P-220	DAF RECIRCULATION PUMP	PUMP	HP	5.9	4.4	600	3	15	-	VFD	-		YES	-	MOTOR STARTER IN DAF CONTROL PANEL	0.5	2.2
P-230	DAF SLUDGE FEED PUMP	PUMP	HP	2.0	1.5	600	3	-	7	FVNR	1		YES	-	MOTOR STARTER IN DAF CONTROL PANEL	0.5	0.75
P-240	DAF SLUDGE FEED PUMP	PUMP	HP	2.0	1.5	600	3	-	7	FVNR	1		YES	-	MOTOR STARTER IN DAF CONTROL PANEL	0.5	0.75
DAC-210	DAF AIR COMPRESSOR	AIR COMPRESSOR	HP	10.0	7.46	600	3	15	-	-	-		YES	-	FEEDER BREAKER IN DAF CONTROL PANEL	1	7.46
P-310	MEMBRANE FEED PUMP	PUMP	HP	3.0	2.2	600	3	15	-	VFD	-		YES	-		0.33	0.726
P-320	MEMBRANE FEED PUMP	PUMP	HP	3.0	2.2	600	3	15	-	VFD	-		YES	-		0.33	0.726
P-330	MEMBRANE FEED PUMP	PUMP	HP	3.0	2.2	600	3	15	-	VFD	-		YES	-		0.33	0.726
P-340	MEMBRANE TRAIN 1 PERMEATE PUMP	PUMP	HP	10.0	7.46	600	3	15	-	VFD	-		YES	-		0	0
B-310	MEMBRANE TRAIN 1 BLOWER	BLOWER	HP	15.0	11.2	600	3	25	-	VFD	-		YES	-		1	11.2
P-360	MEMBRANE TRAIN 1 WASTE PUMP	PUMP	HP	10.0	3.75	600	3	-	20	FVNR	1		YES	-		1	3.75
HTR-310	MEMBRANE TRAIN 1 TANK HEATER	HEATER	KW	-	11.2	600	3	20	-				YES	-		0	0
AC-310	MEMBRANE TRAIN 1 AIR COMPRESSOR	AIR COMPRESSOR	HP	3.0	2.2	600	3	15	-				YES	-		1	2.2
P-350	MEMBRANE TRAIN 2 PERMEATE PUMP	PUMP	HP	10.0	7.46	600	3	15	-	VFD	-		YES	-		0	0
B-320	MEMBRANE TRAIN 2 BLOWER	BLOWER	HP	15.0	11.2	600	3	25	-	VFD	-		YES	-		1	11.2
P-370	MEMBRANE TRAIN 2 WASTE PUMP	PUMP	HP	10.0	3.75	600	3	-	20	FVNR	1		YES	-		1	3.75
HTR-320	MEMBRANE TRAIN 2 TANK HEATER	HEATER	KW	-	11.2	600	3	20	-				YES	-		0	0
AC-320	MEMBRANE TRAIN 2 AIR COMPRESSOR	AIR COMPRESSOR	HP	3.0	2.2	600	3	15	-				YES	-		1	2.2
P-510	TRUCK FILL PUMP 1	PUMP	HP	5.0	3.75	600	3	15	-	VFD	-		YES	-		0.66	2.475
P-520	TRUCK FILL PUMP 2	PUMP	HP	5.0	3.75	600	3	15	-	VFD	-		YES	-		0.66	2.475
P-530	TRUCK FILL PUMP 3	PUMP	HP	5.0	3.75	600	3	15	-	VFD	-		YES	-		0.66	2.475
P-540	RECIRCULATION PUMP 1	PUMP	HP	1.0	0.75	600	3		7	FVNR	1		YES	-		0.5	0.375
P-550	RECIRCULATION PUMP 2	PUMP	HP	1.0	0.75	600	3		7	FVNR	1		YES	-		0.5	0.375
UV-410	UV 1 CONTROL PANEL	UV	kW	0.1	0.093	208	1	20	-	-	-		-	-	-	0.5	0.046625
UV-420	UV 2 CONTROL PANEL	UV	kW	0.1	0.093	208	1	20	-	-	-		-	-	-	0.5	0.046625
CMP-610	COAGULANT METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-611	COAGULANT METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-620	SODIUM HYPOCHLORITE METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-621	SODIUM HYPOCHLORITE METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
M-630	SODA ASH CHEMICAL MIXER	MIXER	HP	FRAC.	0.1	120	1	15	-	-	-		YES	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-630	SODA ASH METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-631	SODA ASH METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-640	FLUORIDE METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-641	FLUORIDE METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-650	POLYMER METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
CMP-651	POLYMER METERING PUMP	METERING PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		-	-	PROVIDE 120 VAC RECEPTACLE	0.5	0.05
FTP-1	GENERATOR FUEL TRANSFER PUMP	PUMP	HP	0.3	0.25	120	1	15	-	-	-		YES	-	MOTOR STARTER IN FUEL TRANSFER CONTROL PANEL	0.1	0.025
FTP-2	GENERATOR FUEL TRANSFER PUMP	PUMP	HP	0.3	0.25	120	1	15	-	-	-		YES	-	MOTOR STARTER IN FUEL TRANSFER CONTROL PANEL	0.1	0.025
PF-2	FUEL OIL RETURN PUMP	PUMP	HP	0.3	0.25	120	1	15	-	-	-		YES	-	MOTOR STARTER IN FUEL TRANSFER CONTROL PANEL	0.1	0.025
B.1	HYDRONIC BOILER	BOILER	kW		0.46	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0.5	0.23
B.2	HYDRONIC BOILER	BOILER	kW		0.46	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0.5	0.23
B.3	HYDRONIC BOILER	BOILER	kW		0.46	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0.5	0.23
PB.1	PRIMARY BOILER PUMP 1	PUMP	HP	0.5	0.373	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0.5	0.1865
PB.2	PRIMARY BOILER PUMP 2	PUMP	HP	0.5	0.373	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0.5	0.1865
PB.2	PRIMARY BOILER PUMP 3	PUMP	HP	0.5	0.373	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0.5	0.1865
PH.1	HYDRONIC CIRCULATOR	PUMP	HP	0.25	0.1865	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1865
PH.2	HYDRONIC CIRCULATOR	PUMP	HP	0.25	0.1865	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1865
PH.3	HYDRONIC CIRCULATOR	PUMP	HP	0.5	0.373	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.373
PH.4	HYDRONIC CIRCULATOR	PUMP	HP	0.25	0.1865	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1865
PH.5	HYDRONIC CIRCULATOR	PUMP	HP	0.25	0.1865	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1865
PH.6	GENERATOR BUILDING HYDRONIC CIRCULATOR	PUMP	HP	0.5	0.373	120	1	15	-	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.373
PR.1	HOT WATER RECYCLE PUMP	PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1
EU.1	ELECTRICAL ROOM UNIT HEATER	HEATER	KW		7.5	600	3	15	-	-	-		YES	-	INTEGRAL THERMOSTAT AND CONTACTOR	0.25	1.875
HU.1	MECHANICAL ROOM UNIT HEATER	HYDRONIC HEATER	HP	FRAC.	0.1	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1
HU.2	PROCESS ROOM UNIT HEATER	HYDRONIC HEATER	HP	FRAC.	0.1	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1
HU.3	PROCESS ROOM UNIT HEATER	HYDRONIC HEATER	HP	FRAC.	0.1	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1
HC.1	VESTIBLE CABINET HEATER	HYDRONIC HEATER	HP	FRAC.	0.1	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.1
VE.1	ENERGY RECOVERY VENTILATOR	MOTOR	KW		6	600	3	15	-	VFD	-		YES	-	VFD SUPPLIED WITH UNIT	1	6
FE.1	MECHANICAL ROOM EXHAUST FAN	FAN	HP	FRAC.	0.08	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.08
FE.2	ELECTRICAL ROOM EXHAUST FAN	FAN	HP	FRAC.	0.08	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.08
FE.3	POLYMER ROOM EXHAUST FAN	FAN	HP	FRAC.	0.08	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.08
FE.4	FLUORIDE ROOM EXHAUST FAN	FAN	HP	FRAC.	0.08	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.08
FE.5	SODA ASH ROOM EXHAUST FAN	FAN	HP	FRAC.	0.08	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.08
FE.6	COAGULANT ROOM EXHAUST FAN	FAN	HP	FRAC.	0.08	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.08
FE.7	CHLORINE ROOM EXHAUST FAN	FAN	HP	0.5	0.373	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.373
FE.8	WASHROOM EXHAUST FAN	FAN	HP	FRAC.	0.08	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.08
MU-1	HYDRONIC SYSTEM FEEDER	PUMP	HP	FRAC.	0.1	120	1	15	-	-	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0.1	0.01
WC.1	TOILET SYSTEM	PUMP	HP	0.5	0.373	120	1	15	-	-	-		-	-		0.1	0.0373
PW.1	DOMESTIC WATER PUMP	PUMP	HP	1.5	0.914	120	1		3	FVNR	1		YES	YES	PROVIDE DUPLEX PUMP CONTROLLER FOR PW.1A AND PW.1B	0.25	0.2285
PW.2	DOMESTIC WATER PUMP	PUMP	HP	1.5	0.914	120	1		3	FVNR	1		YES	YES	PROVIDE DUPLEX PUMP CONTROLLER FOR PW.1A AND PW.1B	0.25	0.2285
PS.1A	MECHANICAL ROOM SUMP PUMP	PUMP	HP	0.75	0.558	120	1	15	-	FVNR	-		YES	-	MANUAL MOTOR STARTER DISCONNECT/PROVIDE DUPLEX PUMP CONTROLLER	0.1	0.0558
PS.1B	MECHANICAL ROOM SUMP PUMP	PUMP	HP	0.75	0.558	120	1	15	-	FVNR	-		YES	-	MANUAL MOTOR STARTER DISCONNECT/PROVIDE DUPLEX PUMP CONTROLLER	0.1	0.0558
PS.2A	PROCESS ROOM SUMP PUMP	PUMP	HP	0.75	0.558	120	1	15	-	FVNR	-		YES	-	MANUAL MOTOR STARTER DISCONNECT/PROVIDE DUPLEX PUMP CONTROLLER	0.1	0.0558
PS.2B	PROCESS ROOM SUMP PUMP	PUMP	HP	0.75	0.558	120	1	15	-	FVNR	-		YES	-	MANUAL MOTOR STARTER DISCONNECT/PROVIDE DUPLEX PUMP CONTROLLER	0.1	0.0558
PS.3A	PROCESS ROOM SUMP PUMP	PUMP	HP	0.75	0.558	208	1	15	-	FVNR	-		YES	-	MANUAL MOTOR STARTER DISCONNECT/PROVIDE DUPLEX PUMP CONTROLLER	0.1	0.0558
PS.3B	PROCESS ROOM SUMP PUMP	PUMP	HP	0.75	0.558	208	1	15	-	FVNR	-		YES	-	MANUAL MOTOR STARTER DISCONNECT/PROVIDE DUPLEX PUMP CONTROLLER	0.1	0.0558
	TK-510 FROST BOX HEATER	HEATER	kW		1	120	1	15	-	-	-		-	-	COMPLETE WITH INTEGRAL THERMOSTAT	0.5	0.5
	TK-520 FROST BOX HEATER	HEATER	kW		1	120	1	15	-	-	-		-	-	COMPLETE WITH INTEGRAL THERMOSTAT	0.5	0.5
HT-01	TREATED WATER TANK SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.215	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.1075
HT-02	TREATED WATER TANK SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.215	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.1075
HT-03	TREATED WATER TANK RETURN PIPE HEAT TRACE	HEAT TRACE	kW		0.43	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.215
HT-04	TREATED WATER TANK RETURN PIPE HEAT TRACE	HEAT TRACE	kW		0.43	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.215
HT-05	TREATED WATER TANK OVERFLOW PIPE HEAT TRACE	HEAT TRACE	kW		0.08	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.04
HT-06	TREATED WATER TANK OVERFLOW PIPE HEAT TRACE	HEAT TRACE	kW		0.08	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.04
HT-07	PROCESS WASTE TANK SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-08	PROCESS WASTE TANK SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-09	PROCESS WASTE TANK GLYCOL SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.077	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0385
HT-10	PROCESS WASTE TANK GLYCOL RETURN PIPE HEAT TRACE	HEAT TRACE	kW		0.077	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0385
HT-11	RAW WATER INTAKE NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		2.717	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	1.3585
HT-12	RAW WATER INTAKE NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		2.717	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	1.3585
HT-13	RAW WATER INTAKE NO.2 PIPE HEAT TRACE	HEAT TRACE	kW		2.717	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	1.3585
HT-14	RAW WATER INTAKE NO.2 PIPE HEAT TRACE	HEAT TRACE	kW		2.717	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	1.3585
HT-15	GENERATOR BUILDING GLYCOL SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.077	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0385
HT-16	GENERATOR BUILDING GLYCOL SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.077	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0385
HT-17	PROCESS WASTE TANK C/A PIPE HEAT TRACE	HEAT TRACE	kW		0.154	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.077
HT-18	PROCESS WASTE TANK C/A PIPE HEAT TRACE	HEAT TRACE	kW		0.154	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.077
HT-19	PROCESS WASTE TANK OVERFLOW PIPE HEAT TRACE	HEAT TRACE	kW		0.072	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.036
HT-20	PROCESS WASTE TANK OVERFLOW PIPE HEAT TRACE	HEAT TRACE	kW		0.072	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.036
HT-21	RAW WATER INTAKE NO.1 AIR BURST PIPE HEAT TRACE	HEAT TRACE	kW		0.731	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.3655
HT-22	RAW WATER INTAKE NO.1 AIR BURST PIPE HEAT TRACE	HEAT TRACE	kW		0.731	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.3655
HT-23	RAW WATER INTAKE NO.2 AIR BURST PIPE HEAT TRACE	HEAT TRACE	kW		0.731	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.3655
HT-24	RAW WATER INTAKE NO.2 AIR BURST PIPE HEAT TRACE	HEAT TRACE	kW		0.731	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.3655
HT-25	TRUCK FILL NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-26	TRUCK FILL NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-27	TRUCK FILL NO.2 PIPE HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-28	TRUCK FILL NO.2 PIPE HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-29	TRUCK FILL NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-30	TRUCK FILL NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-31	TRUCK FILL NO.2 PIPE HEAT TRACE	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-32	TRUCK FILL NO.2 PIPE HEAT TRACE	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-33	TREATED WATER TANK VENT PRIMARY	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-34	TREATED WATER TANK VENT BACKUP	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-35	PROCESS WATER TANK VENT PRIMARY	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-36	PROCESS WATER TANK VENT BACKUP	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-37	DOMESTIC WASTE TANK TS.1 PUMPOUT CONNECTION	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
VBU-110	AIR BURST VAVLE FOR INTAKE NO 1	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
VBU-111	AIR BURST VAVLE FOR INTAKE NO 2	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
VBU-582	TRUCK FILL NO. 1 RAW WATER BYPASS	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
VBU-585	TRUCK FILL NO. 2 RAW WATER BYPASS	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
FV-110	RAW WATER VALVE	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
FV-119	RAW WATER BYPASS VALVE	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
VPL-350	MEMBRANE NO 1 WASTE VALVE	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
VPL-360	MEMBRANE NO 2 WASTE VALVE	VALVE	HP	0.75	0.558	120	1	15	-	-	-		-	-		0.2	0.1116
	TOTAL EQUIPMENT LOAD				**185.1945**												91.84715

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PLOT DATE: 8/8/2025 10:53:50 AM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-04-ELEC-CON_J2022 CURRENT.rvt

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REGISTERED PROFESSIONAL ENGINEER — B.L. MOORE — LICENSEE — August 1, 2025 — NWT/NU

PERMIT TO PRACTICE
DILLON CONSULTING LIMITED
Signature
Date 2025-09-16
PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

ISSUED FOR CONSTRUCTION

Canada — Nunavut

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION REV1	2025-AUG-01	BLM
1	ISSUED FOR CONSTRUCTION	2025-APR-10	BLM
0	ISSUED FOR TENDER	2024-NOV-29	BLM

DESIGN	REVIEWED BY
BLM	BLM
DRAWN	CHECKED BY
SK	BLM
DATE	AUGUST 2025
SCALE	

GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

ARCTIC BAY
EQUIPMENT SCHEDULE

SHEET NO. E-7

PANEL DESIGNATION **PB-A**

120/208V, 3PH, 4W, 10kA.I.C. LOCATION: **ELECTRICAL ROOM** POWER **NORMAL/EMER**
225A MAINS MOUNTING: **SURFACE** MAIN BREAKER

DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
CMP-610 COAGULANT	100	15	1				2	15	550	VBU-110 AIR BURST VALVE
CMP-611 COAGULANT	100	15	3				4	15	550	VBU-111 AIR BURST VALVE
CMP-620 SODIUM HYPOCHLORITE	100	15	5				6	15	550	FV-110 RAW WATER
CMP-621 SODIUM HYPOCHLORITE	100	15	7				8	15	550	FV-119 RAW WATER BYPASS
M-630 SODA ASH MIXER	100	15	9				10	15	550	VPL-350 MEMBRANE WASTE
CMP-630 SODA ASH	100	15	11				12	15	550	VPL-360 MEMBRANE WASTE
CMP-631 SODA ASH	100	15	13				14	15	1200	PLC MAIN CONTROL PANEL
CMP-640 FLUORIDE	100	15	15				16	15	200	CP-M1 CONTROL PANEL
CMP-641 FLUORIDE	100	15	17				18	15	200	CP-M2 CONTROL PANEL
CMP-650 POLYMER	100	15	19				20	15	200	CP-M3 CONTROL PANEL
CMP-651 POLYMER	100	15	21				22	15	200	CP-M4 CONTROL PANEL
DAF CONTROL PANEL	500	15	23				24	15	200	CP-M5 CONTROL PANEL
MEMBRANE NO 1 CONTROL PANEL	500	15	25				26	15	200	CP-M6 CONTROL PANEL
MEMBRANE NO 2 CONTROL PANEL	500	15	27				28	15	200	CP-M7 CONTROL PANEL
MCP-M7 MOTOR CONTROL PANEL	11200	100	29				30	20	1000	UV-410
HT-11 RAW WATER INTAKE NO.1 PIPE HEAT TRACE	2717	30	31				32			
HT-12 RAW WATER INTAKE NO.1 PIPE HEAT TRACE	2717	30	33				34	20	1000	UV-420
HT-13 RAW WATER INTAKE NO.2 PIPE HEAT TRACE	2717	30	35				36			
HT-14 RAW WATER INTAKE NO.2 PIPE HEAT TRACE	2717	30	37				38	15	241	EXTERIOR POLE LIGHT
HT-15 GENERATOR BUILDING GLYCOL SUPPLY PIPE HEAT TRACE	77	15	39				40	15	1200	EXTERIOR RECEPTACLE
HT-16 GENERATOR BUILDING GLYCOL SUPPLY PIPE HEAT TRACE	77	15	41				42	15	1200	SOUTH PARKING LOT RECEPTACLE
HT-21 RAW WATER INTAKE NO.1 AIR BURST PIPE HEAT TRACE	731	15	43				44	15	1200	SOUTH PARKING LOT RECEPTACLE
HT-22 RAW WATER INTAKE NO.1 AIR BURST PIPE HEAT TRACE	731	15	45				46	15	1200	SOUTH PARKING LOT RECEPTACLE
HT-23 RAW WATER INTAKE NO.2 AIR BURST PIPE HEAT TRACE	731	15	47				48	15	1200	SOUTH PARKING LOT RECEPTACLE
HT-24 RAW WATER INTAKE NO.2 AIR BURST PIPE HEAT TRACE	731	15	49				50	15		SPARE
SPARE		15	51				52	15		SPARE
SPARE		15	53				54			
TVSS			55				56			
			57				58			
			59				60			
			LOAD	41887						

NOTES:
1. PANEL TO BE 120/208V, 3PH, 4W, NEMA 1, SPRINKLER PROOF
2. PANELBOARD BREAKER TO BE FULL SIZE C/W LOCKABLE DOOR
3. INTEGRAL SURGE PROTECTIVE DEVICE (SPD)

PANEL DESIGNATION **PB-B**

120/208V, 3PH, 4W, 10kA.I.C. LOCATION: **ELECTRICAL ROOM** POWER **NORMAL/EMER**
100A MAINS MOUNTING: **SURFACE** MAIN BREAKER

DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
MODULE 1 LIGHTING	300	15	1				2	15	180	PH.1 HYDRONIC CIRCULATOR
MODULE 2 LIGHTING	300	15	3				4	15	180	PH.2 HYDRONIC CIRCULATOR
MODULE 3 LIGHTING	300	15	5				6	15	180	PH.3 HYDRONIC CIRCULATOR
MODULE 4 LIGHTING	300	15	7				8	15	180	PH.4 HYDRONIC CIRCULATOR
MODULE 5 LIGHTING	300	15	9				10	15	180	PH.5 HYDRONIC CIRCULATOR
MODULE 6 LIGHTING	300	15	11				12	15	100	HU.1 MECHANICAL ROOM UH
MODULE 7 LIGHTING	300	15	13				14	15	100	HU.2 PROCESS ROOM UH
MODULE 8 LIGHTING	300	15	15				16	15	100	HU.3 PROCESS ROOM UH
EXTERIOR LIGHTING	300	15	17				18	15	100	HC.1 VESTIBULE CH
EXTERIOR LIGHTING	300	15	19				20	15	80	FE.1 MECHANICAL ROOM EF
MODULE 1 RECEPTACLES	100	15	21				22	15	80	FE.2 ELECTRICAL ROOM EF
MODULE 2 RECEPTACLES	100	15	23				24	15	80	FE.3 POLYMER ROOM EF
MODULE 3 RECEPTACLES	100	15	25				26	15	80	FE.4 FLUORIDE ROOM EF
MODULE 4 RECEPTACLES	100	15	27				28	15	80	FE.5 SODA ASH ROOM EF
MODULE 5 RECEPTACLES	100	15	29				30	15	80	FE.6 COAGULANT ROOM EF
MODULE 6 RECEPTACLES	100	15	31				32	15	373	FE.7 CHLORINE ROOM EF
MODULE 7 RECEPTACLES	100	15	33				34	15	80	FE.8 WASHROOM ROOM EF
MODULE 8 RECEPTACLES	100	15	35				36	15	373	PB.1 BOILER #1 CIRCULATOR
PS.1A MECHANICAL ROOM SUMP	550	15	37				38	15	373	PB.2 BOILER #2 CIRCULATOR
PS.1B MECHANICAL ROOM SUMP	550	15	39				40	15	373	PB.3 BOILER #3 CIRCULATOR
PS.2A PROCESS ROOM SUMP	550	15	41				42	15	373	WC TOILET FLUSH SYSTEM
PS.2B PROCESS ROOM SUMP	550	15	43				44	15	1000	TK-510 FROST BOX HEATER
PS.3A PROCESS ROOM SUMP	550	15	45				46	15	1000	TK-520 FROST BOX HEATER
			47				48	30		UPS SYSTEM
PS.3B PROCESS ROOM SUMP	550	15	49				50	15		SPARE
			51				52	15		SPARE
SPARE		15	53				54			
TVSS			55				56			
			57				58			
			59				60			
			LOAD	12825						

NOTES:
1. PANEL TO BE 120/208V, 3PH, 4W, NEMA 1, SPRINKLER PROOF
2. PANELBOARD BREAKER TO BE FULL SIZE C/W LOCKABLE DOOR
3. INTEGRAL SURGE PROTECTIVE DEVICE (SPD)

PANEL DESIGNATION **PB-UPS**

120/208V, 3PH, 4W, 10kA.I.C. LOCATION: **ELECTRICAL ROOM** POWER **NORMAL/EMER**
60A MAINS MOUNTING: **SURFACE** MAIN BREAKER

DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
PLC MAIN CONTROL PANEL	500	15	1				2	15	100	DAF CONTROL PANEL
CP-M1 CONTROL PANEL	100	15	3				4	15	100	MEMBRANE NO 1 CONTROL PANEL
CP-M2 CONTROL PANEL	100	15	5				6	15	100	MEMBRANE NO 2 CONTROL PANEL
CP-M3 CONTROL PANEL	100	15	7				8	15	500	OFFICE RECEPTACLE
CP-M4 CONTROL PANEL	100	15	9				10	15	500	OFFICE RECEPTACLE
CP-M5 CONTROL PANEL	100	15	11				12	15	250	VIDEO SURVEILLANCE SYSTEM
CP-M6 CONTROL PANEL	100	15	13				14	15	250	SECURITY PANEL
CP-M7 CONTROL PANEL	100	15	15				16	15		SPARE
			17				18	15		SPARE
			19				20			
			21				22			
			23				24			
			25				26			
			27				28			
			29				30			
			31				32			
TVSS			33				34			
			35				36			
			LOAD	3000						

NOTES:
1. PANEL TO BE 120/208V, 3PH, 4W, NEMA 1, SPRINKLER PROOF
2. PANELBOARD BREAKER TO BE FULL SIZE C/W LOCKABLE DOOR
3. INTEGRAL SURGE PROTECTIVE DEVICE (SPD)

PANEL DESIGNATION **PB-C**

120/208V, 3PH, 4W, 10kA.I.C. LOCATION: **OFFICE** POWER **NORMAL/EMER**
100A MAINS MOUNTING: **SURFACE** MAIN BREAKER

DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
HT-01 TREATED WATER TANK SUPPLY PIPE HEAT TRACE	215	15	1				2	15	154	HT-17 PROCESS WASTE TANK C/A PIPE HEAT TRACE
HT-02 TREATED WATER TANK SUPPLY PIPE HEAT TRACE	215	15	3				4	15	154	HT-18 PROCESS WASTE TANK C/A PIPE HEAT TRACE
HT-03 TREATED WATER TANK RETURN PIPE HEAT TRACE	430	15	5				6	15	72	HT-19 PROCESS WASTE TANK OVERFLOW PIPE HEAT TRACE
HT-04 TREATED WATER TANK RETURN PIPE HEAT TRACE	430	15	7				8	15	72	HT-20 PROCESS WASTE TANK OVERFLOW PIPE HEAT TRACE
HT-05 TREATED WATER TANK OVERFLOW PIPE HEAT TRACE	80	15	9				10	15	143	HT-25 TRUCK FILL NO.1 PIPE HEAT TRACE
HT-06 TREATED WATER TANK OVERFLOW PIPE HEAT TRACE	80	15	11				12	15	143	HT-26 TRUCK FILL NO.1 PIPE HEAT TRACE
HT-07 PROCESS WASTE TANK SUPPLY PIPE HEAT TRACE	143	15	13				14	15	143	HT-27 TRUCK FILL NO.2 PIPE HEAT TRACE
HT-08 PROCESS WASTE TANK SUPPLY PIPE HEAT TRACE	143	15	15				16	15	143	HT-28 TRUCK FILL NO.2 PIPE HEAT TRACE
HT-09 PROCESS WASTE TANK GLYCOL SUPPLY PIPE HEAT TRACE	77	15	17				18	15	500	HT-29 TREATED WATER TANK VENT
HT-10 PROCESS WASTE TANK GLYCOL RETURN PIPE HEAT TRACE	77	15	19				20	15	500	HT-30 TREATED WATER TANK VENT
EXTERIOR POLE LIGHTS	482	15	21				22	15	500	HT-31 PROCESS WASTE TANK VENT
EXTERIOR TRUCK FILL LIGHTS	120	15	23				24	15	500	HT-32 PROCESS WASTE TANK VENT
EXTERIOR RECEPTACLE	1200	15	25				26	15	500	HT-35 PROCESS WATER TANK VENT PRIMARY
EXTERIOR RECEPTACLE	1200	15	27				28	15	500	HT-36 PROCESS WATER TANK VENT BACKUP
HT-33 TREATED WATER TANK VENT PRIMARY	500	15	29				30	15	154	HT-37 DOMESTIC WASTE TANK TS.1 PUMP OUT CONNECTION
HT-34 TREATED WATER TANK VENT BACKUP	500	15	31				32	15		SPARE
SPARE		15	33				34	15		SPARE
			35				36			
TVSS			37				38			
			39				40			
			41				42			
			LOAD	10070						

NOTES:
1. PANEL TO BE 120/208V, 3PH, 4W, NEMA 1, SPRINKLER PROOF
2. PANELBOARD BREAKER TO BE FULL SIZE C/W LOCKABLE DOOR
3. INTEGRAL SURGE PROTECTIVE DEVICE (SPD)

PANEL DESIGNATION **PB-D**

120/208V, 3PH, 4W, 10kA.I.C. LOCATION: **GENERATOR BUILDING** POWER **NORMAL/EMER**
60A MAINS MOUNTING: **SURFACE** MAIN BREAKER

DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
LIGHTING	150	15	1				2	15	250	FTP-3 FUEL TRANSFER PUMP
EXTERIOR LIGHTING	100	15	3				4	15	250	FTP-4 FUEL TRANSFER PUMP
RECEPTACLES	100	15	5				6	15	180	PH.6 HYDRONIC CIRCULATOR
BATTERY CHARGER	1200	15	7				8	15	1200	BLOCK HEATER
PLC CONTROL PANEL	200	15	9				10			
			11				12	25	5000	ELECTRIC UNIT HEATER
			13				14			
			15				16	15	80	HYDRONIC UNIT HEATER
			17				18	15	80	HYDRONIC BLOCK HEATER
			19				20	15		SPARE
			21				22	15		SPARE
			23				24			
			25				26	15		SPARE
			27				28			
			29				30			
			31				32			
			33				34			
			35				36			
TVSS			37				38			
			39				40			
			41				42			
			LOAD	8790						

NOTES:
1. PANEL TO BE 120/208V, 3PH, 4W, NEMA 1, SPRINKLER PROOF
2. PANELBOARD BREAKER TO BE FULL SIZE C/W LOCKABLE DOOR
3. INTEGRAL SURGE PROTECTIVE DEVICE (SPD)

LOAD CALCULATION

	LOAD (KW)	DEMAND FACTOR	DEMAND LOAD (KW)	
TOTAL LOAD FROM EQUIPMENT SCHEDULE	178	0.55	97.9	
LIGHTING	7.5	1	7.5	
MISCELANEOUS	5	1	5	
CONTROL PANELS	4.1	1	4.1	
UPS	3	1	3	
TOTAL	**197.6**		**117.5**	

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DRAWN SK | CHECKED BY BLM
DATE AUGUST 2025
SCALE

GOVERNMENT OF NUNAVUT 21200-00701-02
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY

PANEL SCHEDULE & LOAD CALCULATION

PROJECT NO. 24-7464
SHEET NO. E-8

PLOT DATE: 8/8/2025 10:53:31 AM
FILE NAME: Autodesk Docs://Arctic Bay WTP/24764-04-ELEC-CON_r2022 CURRENT.rvt

PRIMARY SERVER
WONDERWARE ARCHESTRA SYSTEM PLATFORM DEVELOPMENT
INTOUCH VIEW
HISTORIAN CLIENT TOOLS

IP: 192.168.1.3
GW: 192.168.1.253
SN: 255.255.255.0

PRINTER

IP: 192.168.1.4
GW: 192.168.1.253
SN: 255.255.255.0

POWER METER

IP: 192.168.1.22
GW: 192.168.1.253
SN: 255.255.255.0

INTERNET

STARLINK

EWON FLEXY 205

WAN IP: DHCP
LAN IP: 192.168.1.253
SN: 255.255.255.0

CAT 6 CABLE (TYP.)

OFFICE SPARES

LAB

IP: 192.168.1.2
GW: 192.168.1.253
SN: 255.255.255.0

WAP

WAP

DIGITAL VIDEO RECORDER

SECURITY CAMERA

SECURITY CAMERA

INTERNET

STARLINK

EWON FLEXY 205

IP: 192.168.1.31
GW: 192.168.1.253
SN: 255.255.255.0

FIRE WATER STORAGE TANK CONTROL PANEL

IP: 192.168.1.33
GW: 192.168.1.253
SN: 255.255.255.0

HMI

IP: 192.168.1.32
GW: 192.168.1.253
SN: 255.255.255.0

PLC

MAIN CONTROL PANEL

IP: 192.168.1.10
GW: 192.168.1.253
SN: 255.255.255.0

PLC

PANEL MOUNTED ZIP PORT

REMOTE I/O
IP: 192.168.2.10

IP: 192.168.2.31
GW: 192.168.1.253
SN: 255.255.255.0

6 STRAND FIBRE OPTIC

REMOTE I/O
IP: 192.168.2.11

GENERATOR BUILDING

IP: 192.168.2.12
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.32
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

CP-M1

IP: 192.168.2.13
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.33
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

CP-M2

IP: 192.168.2.14
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.34
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

CP-M3

IP: 192.168.2.15
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.35
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

CP-M4

IP: 192.168.2.16
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.36
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

CP-M5

IP: 192.168.2.17
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.37
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

CP-M6

IP: 192.168.2.18
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.38
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

CP-M7

IP: 192.168.2.19
GW: 0.0.0.0
SN: 255.255.255.0

IP: 192.168.2.39
GW: 0.0.0.0
SN: 255.255.255.0

REMOTE I/O

UV 2 CONTROL PANEL

IP: 192.168.1.29
GW: 192.168.1.253
SN: 255.255.255.0

HMI

IP: 192.168.1.28
GW: 192.168.1.253
SN: 255.255.255.0

PLC

ETHERNET SWITCH

DAF CONTROL PANEL

IP: 192.168.1.21
GW: 192.168.1.253
SN: 255.255.255.0

HMI

IP: 192.168.1.20
GW: 192.168.1.253
SN: 255.255.255.0

PLC

ETHERNET SWITCH

MEMBRANE TRAIN 1 CONTROL PANEL

IP: 192.168.1.23
GW: 192.168.1.253
SN: 255.255.255.0

HMI

IP: 192.168.1.22
GW: 192.168.1.253
SN: 255.255.255.0

PLC

ETHERNET SWITCH

MEMBRANE TRAIN 2 CONTROL PANEL

IP: 192.168.1.25
GW: 192.168.1.253
SN: 255.255.255.0

HMI

IP: 192.168.1.24
GW: 192.168.1.253
SN: 255.255.255.0

PLC

ETHERNET SWITCH

UV 1 CONTROL PANEL

IP: 192.168.1.27
GW: 192.168.1.253
SN: 255.255.255.0

HMI

IP: 192.168.1.26
GW: 192.168.1.253
SN: 255.255.255.0

PLC

ETHERNET SWITCH

FILENAME: C:\USERS\405KK\DC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\04-ELECTRICAL\247464-04-ELEC-CON.DWG PLOTTED BY: KIM, SUNHO
PLOT DATE: 2025-08-08 @ 11:35:01 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

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NWT/NU

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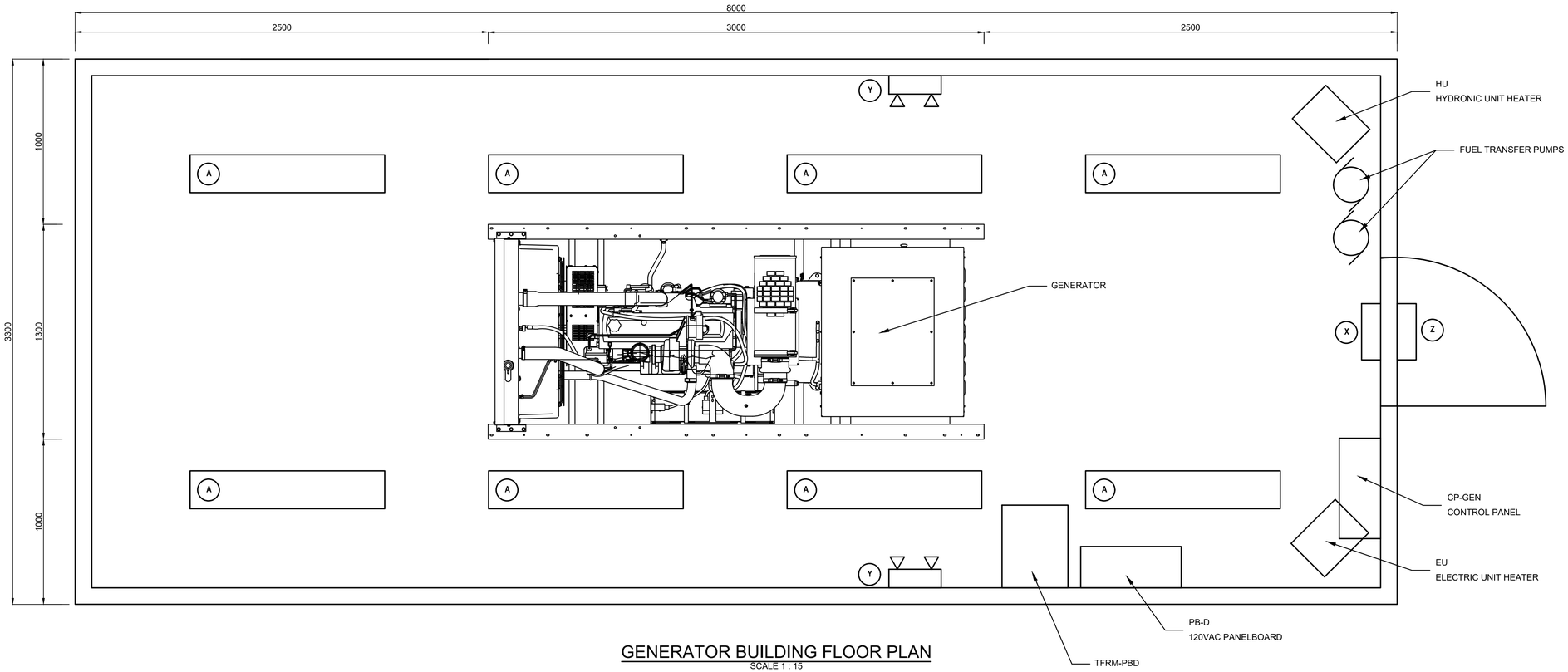
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DRAWN: SK | CHECKED BY: BLM
DATE: AUGUST 2025
SCALE: NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

ARCTIC BAY
NETWORK ARCHITECTURE DIAGRAM

PROJECT NO.: 24-7464
SHEET NO.: E-9



GENERATOR BUILDING FLOOR PLAN

SCALE 1 : 15

LUMINAIRE SCHEDULE					
TYPE	MANUFACTURER	CAT.NO	LAMP	VOLTAGE	REMARKS
A	AIMLITE	VWP4-LA1A-4-40K-SS	LED	120V	CORROSION RESISTANT
X	AIMLITE	CRPN-12-036-2-WHT-2-ATD	LED	120V	NEMA 4X, COMB, EXIT/EMERG. LIGHT W/BATTERY BANK
Y	AIMLITE	RMN2-12-24V-6W-LA-WHT	LED	12-24V	DUEL HEAD REMOTE EMERGENCY LIGHT
Z	COPPER LIGHTING	ENV-B01-LED-E1-BL2-BZ-PC-WG	LED	120V	CORROSION RESISTANT, PROVIDE PHOTOCELL, WIRE GUARD

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DRAWN: SK — CHECKED BY: BLM
DATE: AUGUST 2025
SCALE: 1:15

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ARCTIC BAY NEW WATER TREATMENT PLANT

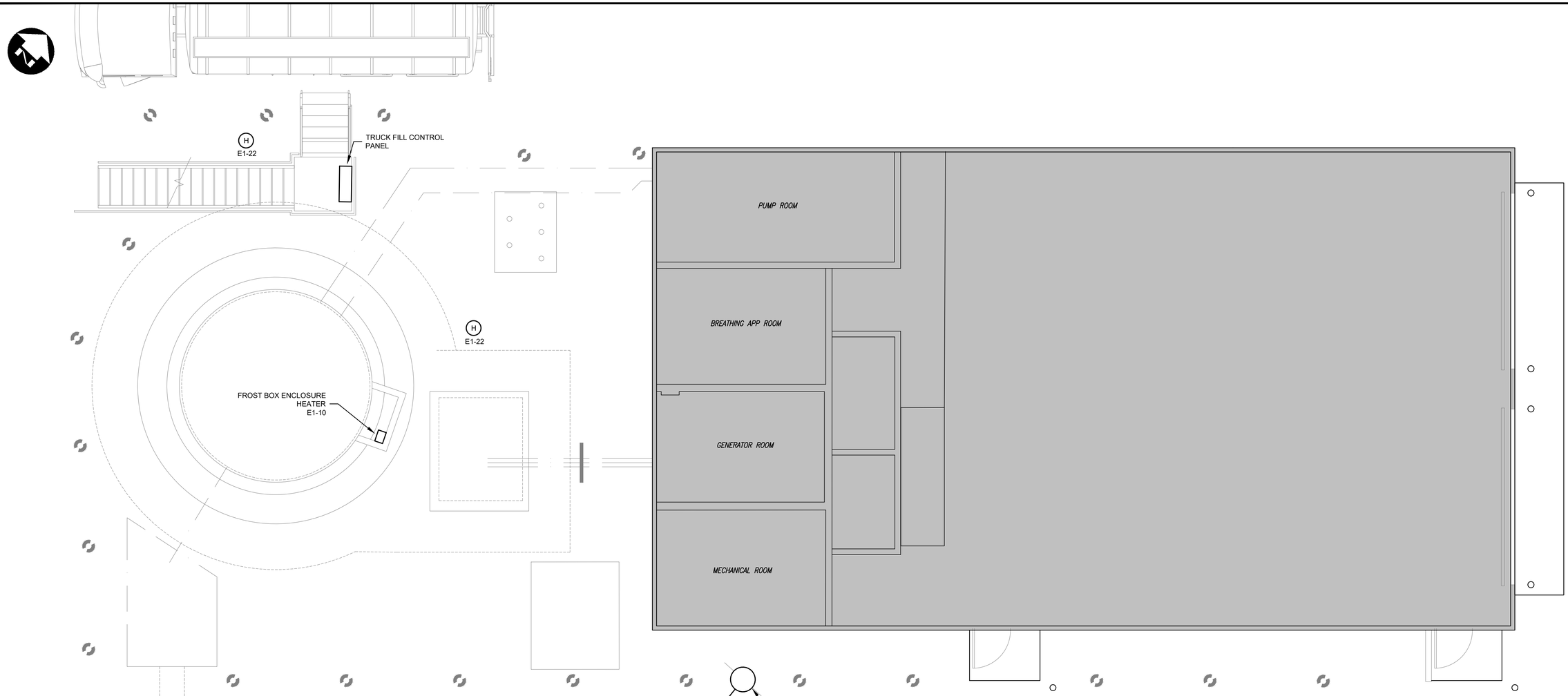
ARCTIC BAY

GENERATOR BUILDING FLOOR PLAN

PROJECT NO. 24-7464

SHEET NO. E-10

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PLOT DATE: 2025-09-08 @ 11:55:02 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



ELECTRICAL SITE PLAN
1:50

LUMINAIRE SCHEDULE					
TYPE	MANUFACTURER	CAT.NO	LAMP	VOLTAGE	REMARKS
H	LITHONIA LIGHTING	DSX1 LED P9 30K T2M 120 SPA KMA8 DDBXD U PER DDBXD	LED	120V	241W, ROADWAY LUMINAIRE TYPE 2 LIGHT DISTRIBUTION 3000K C/W PHOTOCELL CONTROLLER: DLL-127F-1.5-JU 2 Ft. MAST ARM: PRAIRIE POLE PP-2ft-ARM-5SS-MA-2-3/8"-DDBXD 30 Ft. POLE: PRAIRIE POLE: 5SS-30-HW-2-BR

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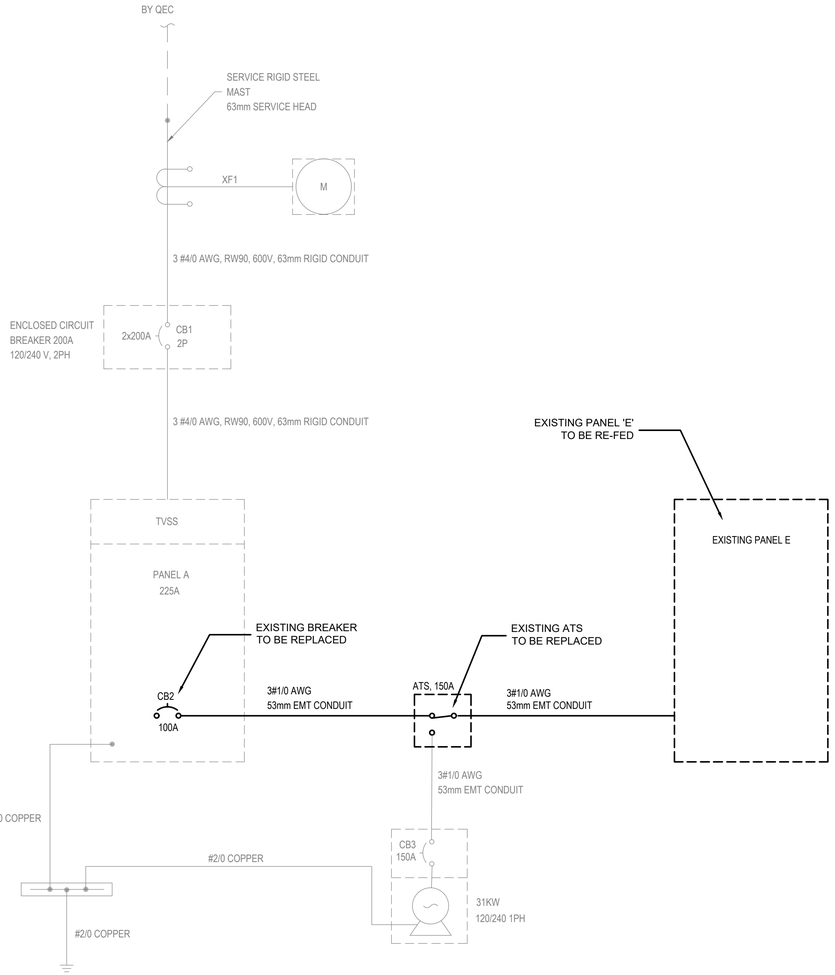
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ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

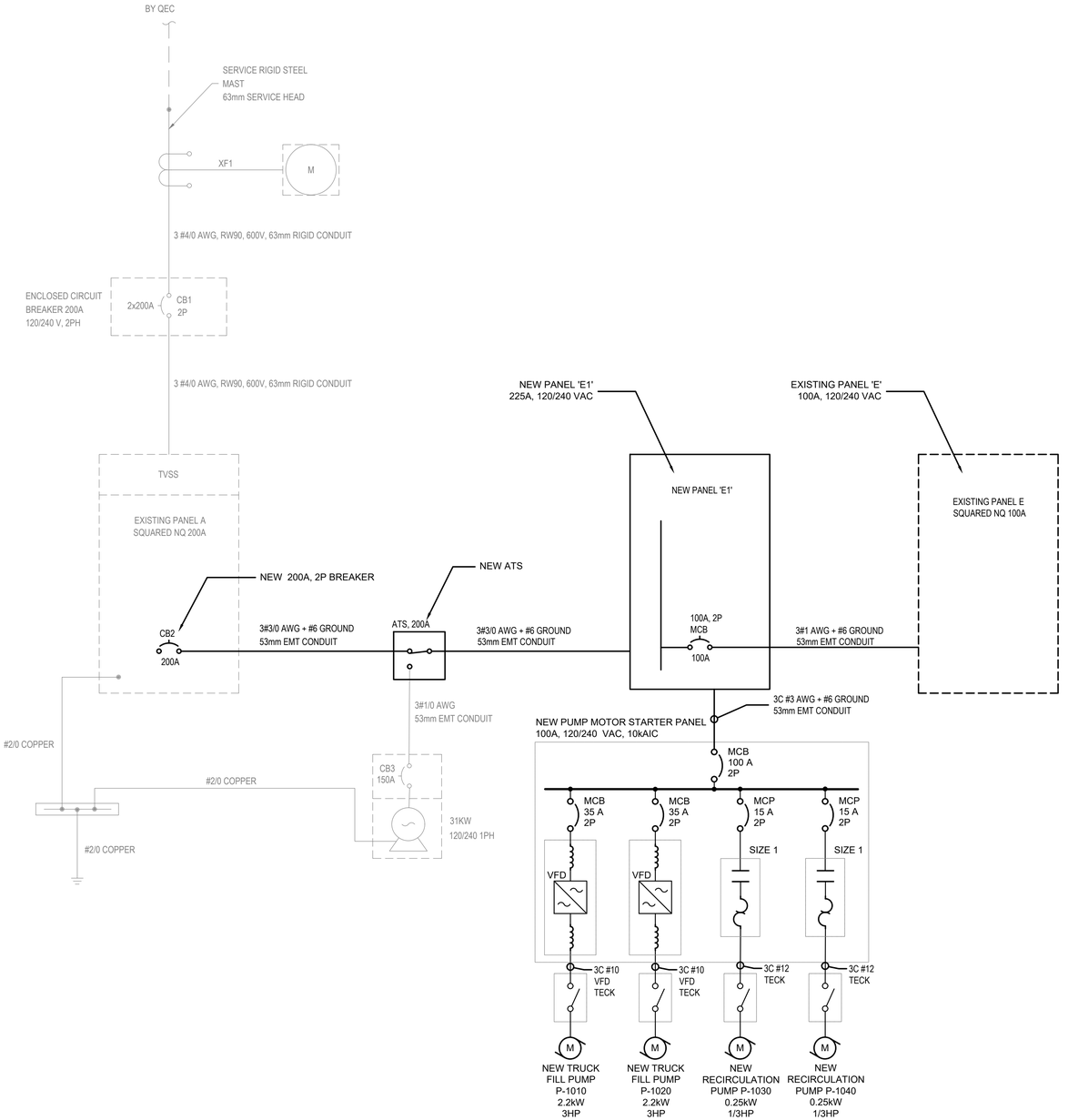
EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL

ELECTRICAL SITE PLAN

SHEET NO. E-11



SINGLE LINE DIAGRAM - DEMOLITION



SINGLE LINE DIAGRAM - NEW

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DRAWN	SK
CHECKED BY	BLM
DATE	AUGUST 2025
SCALE	NTS

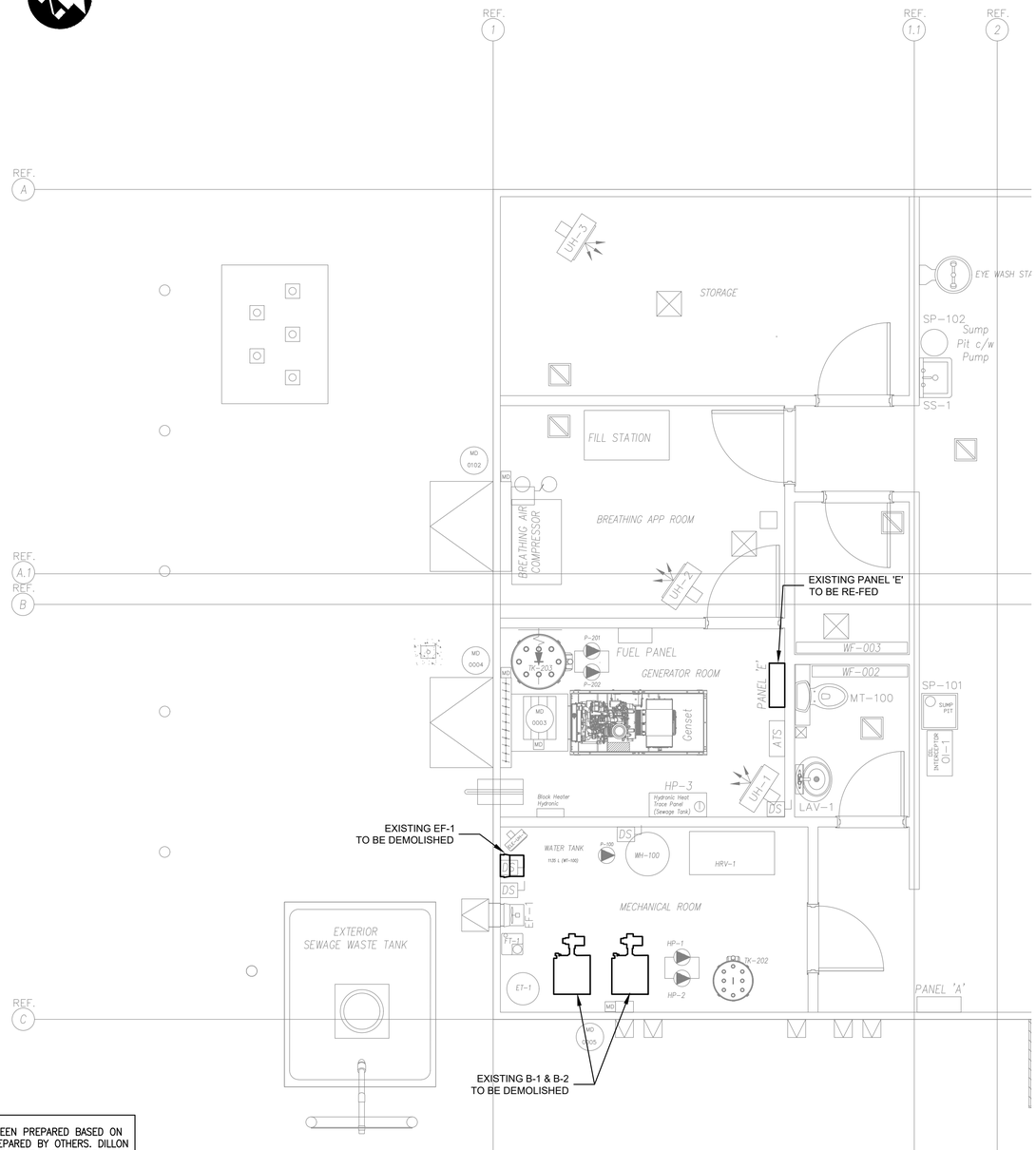
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EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL

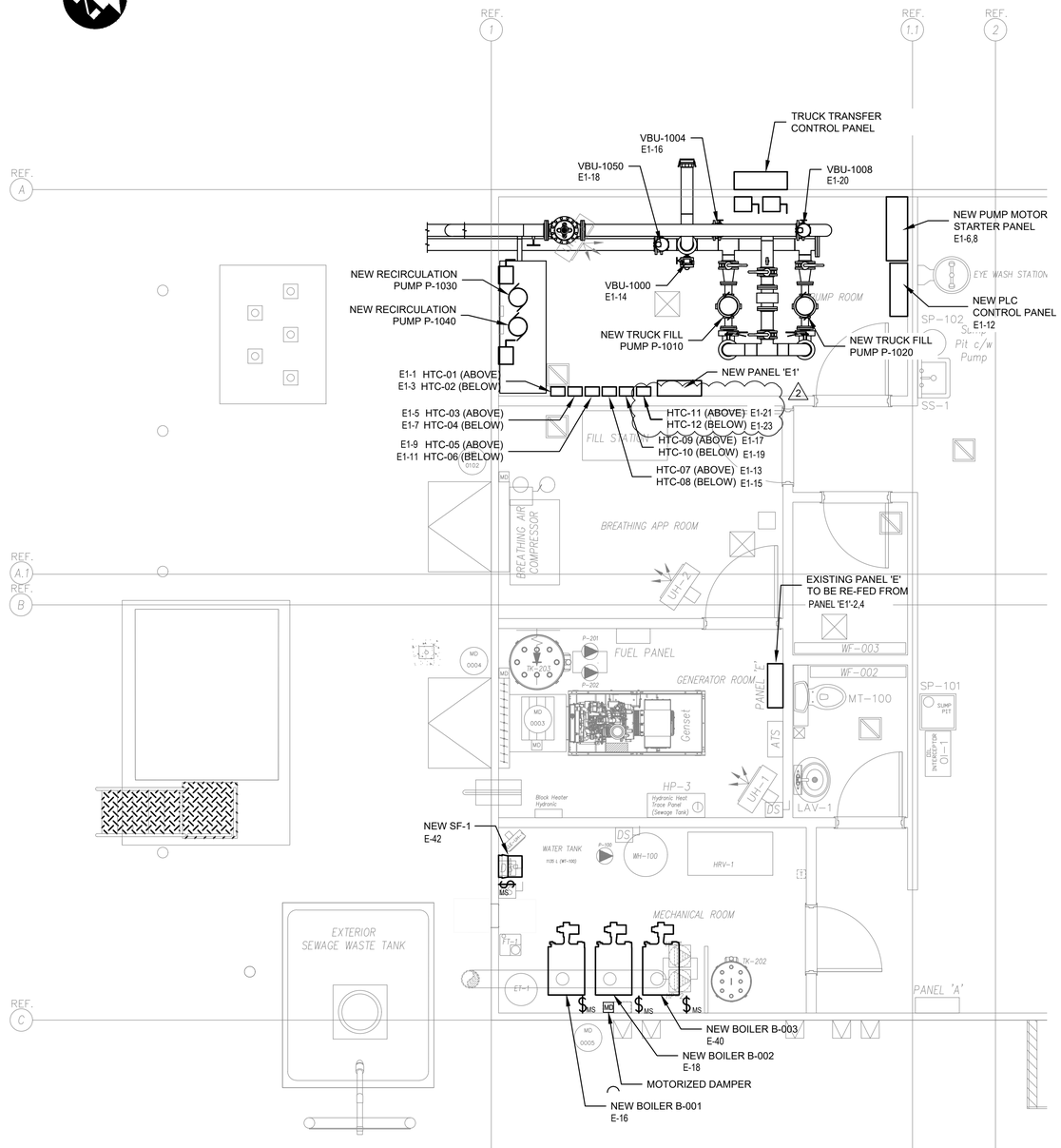
SINGLE LINE DIAGRAM

PROJECT NO. 24-7464

SHEET NO. E-12



LEVEL 1 POWER PLAN - DEMOLITION
SCALE 1 : 40



LEVEL 1 POWER PLAN - NEW
SCALE 1 : 40

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Date 2025-09-16
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0	ISSUED FOR TENDER	2024-NOV-29	BLM

DESIGN	BLM
REVIEWED BY	BLM
DRAWN	SK
CHECKED BY	BLM
DATE	AUGUST 2025
SCALE	1:40

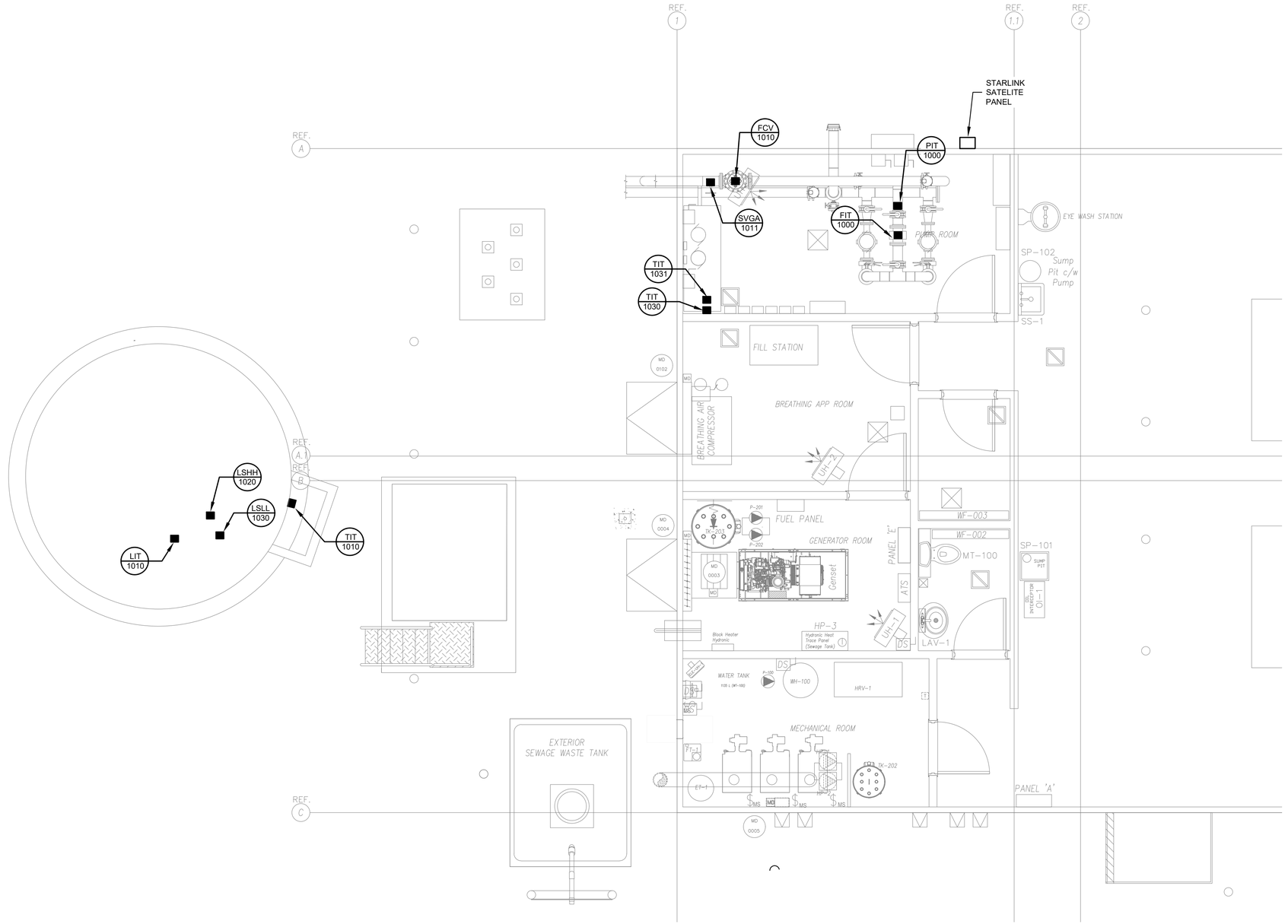
GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL

ELECTRICAL POWER PLAN

SHEET NO. E-13



LEVEL 1 INSTRUMENTATION PLAN - NEW

SCALE 1 : 40

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0	ISSUED FOR TENDER	2024-NOV-29	BLM

DESIGN	BLM
REVIEWED BY	BLM
DRAWN	SK
CHECKED BY	BLM
DATE	AUGUST 2025
SCALE	1:40

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

PROJECT NO. 24-7464

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL

INSTRUMENTATION PLAN

SHEET NO. E-14

EXISTING PANEL 'E'

PANEL DESIGNATION

120/240V, 1PH, 3W, 10kA.I.C.		LOCATION:	**GENERATOR ROOM**			POWER		**NORMAL/EMER**	
100A MAINS		MOUNTING:	**SURFACE**			MAIN BREAKER			
DESCRIPTION	**LOAD**	**BKR**	**CCT**	**A**	**B**	**CCT**	**BKR**	**LOAD**	**DESCRIPTION**
GARAGE DOOR OPENER 1	560	15	1			2	15	25	RH-18 HYDRONIC UNIT HEATER 3
			3			4	15	86	HEAT TRACE PANEL CIRCULATING PUMP 120V 15-55, CP-1
GARAGE DOOR OPENER 2	560	15	5			6	15	86	AXIOM GLYCOL FEEDER MF300 (120V)
			7			8	15	376	HYDRONIC PUMP GRUNDFOS MAGNA 3 MODEL #98126832 (208V) 1
RH-121 HYDRONIC UNIT HEATER 4	93	15	9			10			
RH-121 HYDRONIC UNIT HEATER 5	93	15	11			12	15	376	HYDRONIC PUMP GRUNDFOS MAGNA 3 MODEL #98126832 (208V) 2
RH-121 HYDRONIC UNIT HEATER 6	93	15	13			14			
SUMP PUMP 1	373	15	15			**16**	**15**	**107**	**BOILER B-001**
SUMP PUMP 2	373	15	17			**18**	**15**	**107**	**BOILER B-002**
SUMP PUMP 3	373	15	19			20	20	2000	ELECTRIC UNIT HEATER, 240V, EUH-1
FUEL PUMP 0.5HP 1	373	15	21			22			
FUEL PUMP 0.5HP 2	373	15	23			24	15	25	RH-18 HYDRONIC UNIT HEATER 2, 120V - COMP. ROOM
RH-18 HYDRONIC UNIT HEATER 1	25	15	25			26	40	3730	JORDAIR FIRE KAT FIRE-KAT5-100-1E, 5HP, 240V
E-PANEL BATTERY CHARGER & BLOCK HEATER, 240V	2000	20	27			28			
			29			30	15	86	CP-2
UPS	1500	20	31			32	20	1714	INTERIOR LIGHTING - APPARATUS BAY CT #3
LIGHTING CT - #1 EMERGENCY EXIT 500	500	15	33			34	15	466	INTERIOR LIGHTING - 1ST FLOOR
HORN - (ALARM SYSTEM)	1492	30	35			36	15	336	INTERIOR LIGHTING - 2ND FLOOR
			37			38	15	448	EXTERIOR LIGHTING
FUEL CONSTROL PANEL		15	39			**40**	**15**	**107**	**BOILER B-003**
SPACE		-	41			**42**	**15**	**186**	**SUPPLY FAN 1**
			LOAD	19042					

NOTES:

NEW PANEL 'E1'

PANEL DESIGNATION

120/240V, 1PH, 3W, 10kA.I.C.		**LOCATION:**	**GENERATOR ROOM**			**POWER**		**NORMAL/EMER**	
225A MAINS		**MOUNTING:**	**SURFACE**			**MAIN BREAKER**			
DESCRIPTION	**LOAD**	**BKR**	**CCT**	**A**	**B**	**CCT**	**BKR**	**LOAD**	**DESCRIPTION**
HEAT TRACE CONTROLLER HTC-01 (TK-1010 SUPPLY PRIMARY)	215	15	1			2	100	19042	PANEL 'E'
HEAT TRACE CONTROLLER HTC-02 (TK-1010 SUPPLY BACKUP)	215	15	3			4			
HEAT TRACE CONTROLLER HTC-03 (TK-1010 RETURN PRIMARY)	430	15	5			6	100	8952	PUMP MOTOR STARTER PANEL
HEAT TRACE CONTROLLER HTC-04 (TK-1010 RETURN BACKUP)	430	15	7			8			
HEAT TRACE CONTROLLER HTC-05 (TK-1010 OVERFLOW PRIMARY)	80	15	9			10	15	1000	FROST BOX ENCLOSURE HEATER
HEAT TRACE CONTROLLER HTC-06 (TK-1010 OVERFLOW BACKUP)	80	15	11			12	15		PLC CONTROL PANEL
HEAT TRACE CONTROLLER HTC-07 (TK-1010 VENT STACK PRIMARY)	143	15	13			14	15		VBU-1000
HEAT TRACE CONTROLLER HTC-08 (TK-1010 VENT STACK BACKUP)	143	15	15			16	15		VBU-1004
HEAT TRACE CONTROLLER HTC-09 (TRUCK FILL PRIMARY)	500	15	17			18	15		VBU-1050
HEAT TRACE CONTROLLER HTC-10 (TRUCK FILL BACKUP)	500	15	19			20	15		VBU-1008
HEAT TRACE CONTROLLER HTC-11 (WATER TANK VENT PRIMARY)	500	15	21			22	15	482	EXTERIOR POLE LIGHTS
HEAT TRACE CONTROLLER HTC-12 (WATER TANK VENT BACKUP)	500	15	23			24			
			25			26			
			27			28			
			29			30			
			31			32			
			33			34			
			35			36			
			37			38			
SPD		30	39			40			
			41			42			
			LOAD	**33212**					

NOTES:

1. PANEL TO BE 120/240V, 1PH, 3W, NEMA 1, SPRINKLER PROOF
2. PANELBOARD BREAKER TO BE FULL SIZE C/W LOCKABLE DOOR
3. INTEGRAL SURGE PROTECTIVE DEVICE (SPD)

WTP EQUIPMENT LIST

TAG	DESCRIPTION	EQUIPMENT TYPE	LOAD TYPE	MOTOR SIZE	POWER	VOLTAGE	PHASE	BREAKER SIZE	MCP	STARTER TYPE	STARTER SIZE	CABLE	FIELD DISCONNECT	LOCAL START/STOP	REMARKS	Diversity Factor	Demand Load
P-1010	TRUCK FILL PUMP 1	PUMP	HP	3.0	2.238	208	3	35	-	VFD	-		YES	-	SINGLE PHASE INPUT VFD IN MOTOR CONTROL PANEL	0.5	1.119
P-1020	TRUCK FILL PUMP 2	PUMP	HP	3.0	2.238	208	3	35	-	VFD	-		YES	-	SINGLE PHASE INPUT VFD IN MOTOR CONTROL PANEL	0.5	1.119
P-1030	RECURCULATION PUMP 1	PUMP	HP	0.3	0.249	120	1	15	3	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0	0
P-1040	RECURCULATION PUMP 2	PUMP	HP	0.3	0.249	120	1		3	Internal	-		YES	-	MANUAL MOTOR STARTER DISCONNECT	0	0
SF-1	SUPPLY FAN 1	FAN	HP	FRAC.	0.186	120	1	15		FVNR	-		YES	Yes	MOTOR CONTROL INTERLOCKED WITH DAMPER OPEN LIMIT SWITCH	1	0.186
B-001	BOILER 1	BOILER	KW		0.107	120	1	15					YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.107
B-002	BOILER 2	BOILER	KW		0.107	120	1	15					YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.107
B-003	BOILER 3	BOILER	KW		0.107	120	1	15					YES	-	MANUAL MOTOR STARTER DISCONNECT	1	0.107
	TK-1010 FROST BOX HEATER	HEATER	kW		1	120	1	15	-	-	-		-	-	COMPLETE WITH INTEGRAL THERMOSTAT	0.5	0.5
HT-01	FIRE WATER TANK SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.215	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.1075
HT-02	FIRE WATER TANK SUPPLY PIPE HEAT TRACE	HEAT TRACE	kW		0.215	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.1075
HT-03	FIRE WATER TANK RETURN PIPE HEAT TRACE	HEAT TRACE	kW		0.43	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.215
HT-04	FIRE WATER TANK RETURN PIPE HEAT TRACE	HEAT TRACE	kW		0.43	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.215
HT-05	FIRE WATER TANK OVERFLOW PIPE HEAT TRACE	HEAT TRACE	kW		0.08	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.04
HT-06	FIRE WATER TANK OVERFLOW PIPE HEAT TRACE	HEAT TRACE	kW		0.08	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.04
HT-07	TK-1010 VENT STACK HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-08	TK-1010 VENT STACK HEAT TRACE	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.0715
HT-09	TRUCK FILL NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-10	TRUCK FILL NO.1 PIPE HEAT TRACE	HEAT TRACE	kW		0.5	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-11	WATER TANK VENT PRIMARY	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
HT-12	WATER TANK VENT PRIMARY	HEAT TRACE	kW		0.143	120	1	15	-	-	-		-	-	HEAT TRACE CONTROLLER COMPLETE WITH GFI PROTECTION	0.5	0.25
	TOTAL EQUIPMENT LOAD				**9.503**												5.113

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GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

EMERGENCY FIRE WATER TANK - ARCTIC BAY FIRE HALL

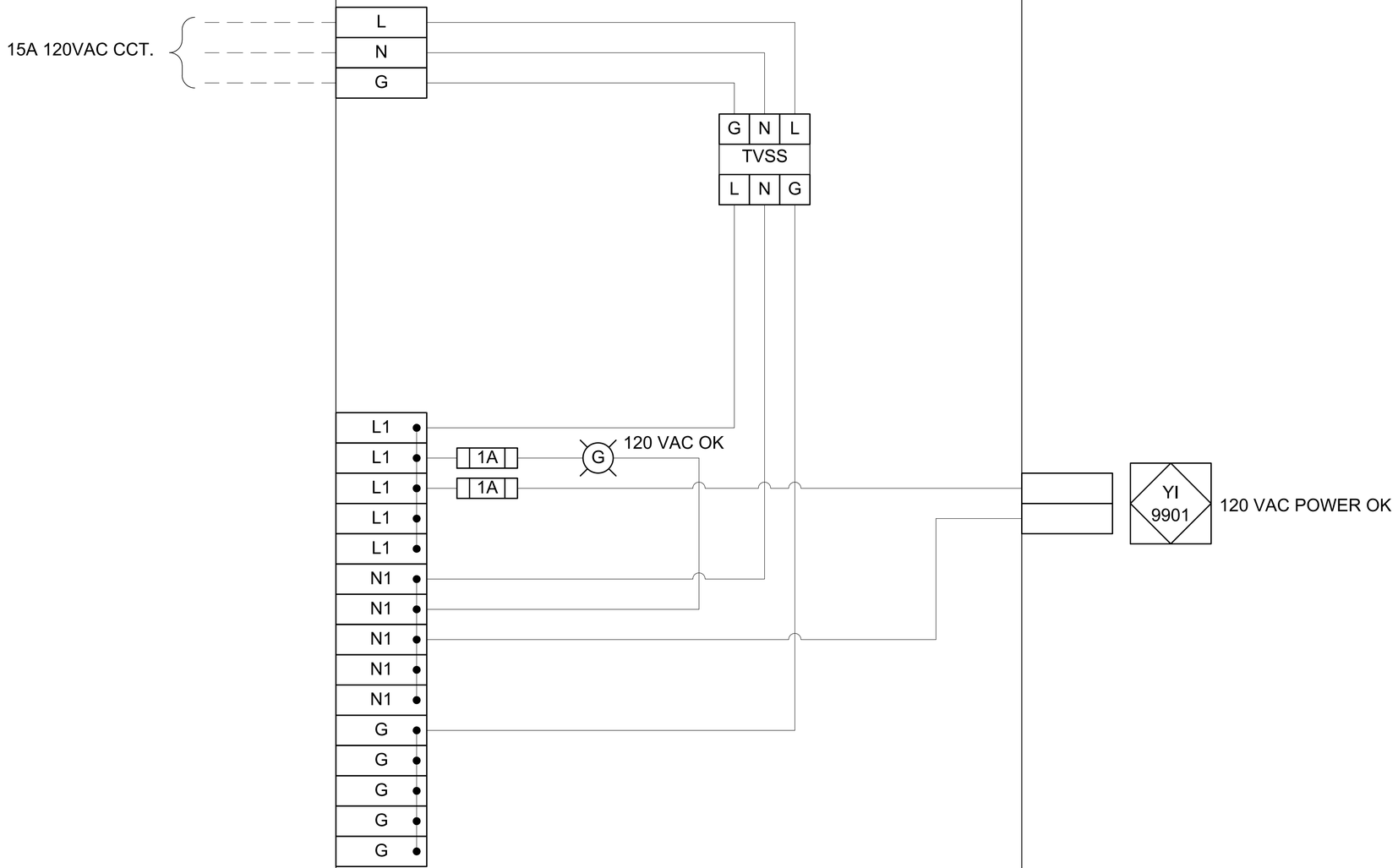
PANEL SCHEDULE & EQUIPMENT LIST

PROJECT NO. 24-7464

SHEET NO. E-15

INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-MAIN	PLC



LOOP DIAGRAM - 120VAC CONTROL PANEL POWER (TYPICAL)

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LOOP DIAGRAM
120VAC CONTROL PANEL POWER (TYPICAL)

PROJECT NO. 24-7464

SHEET NO. EL-1

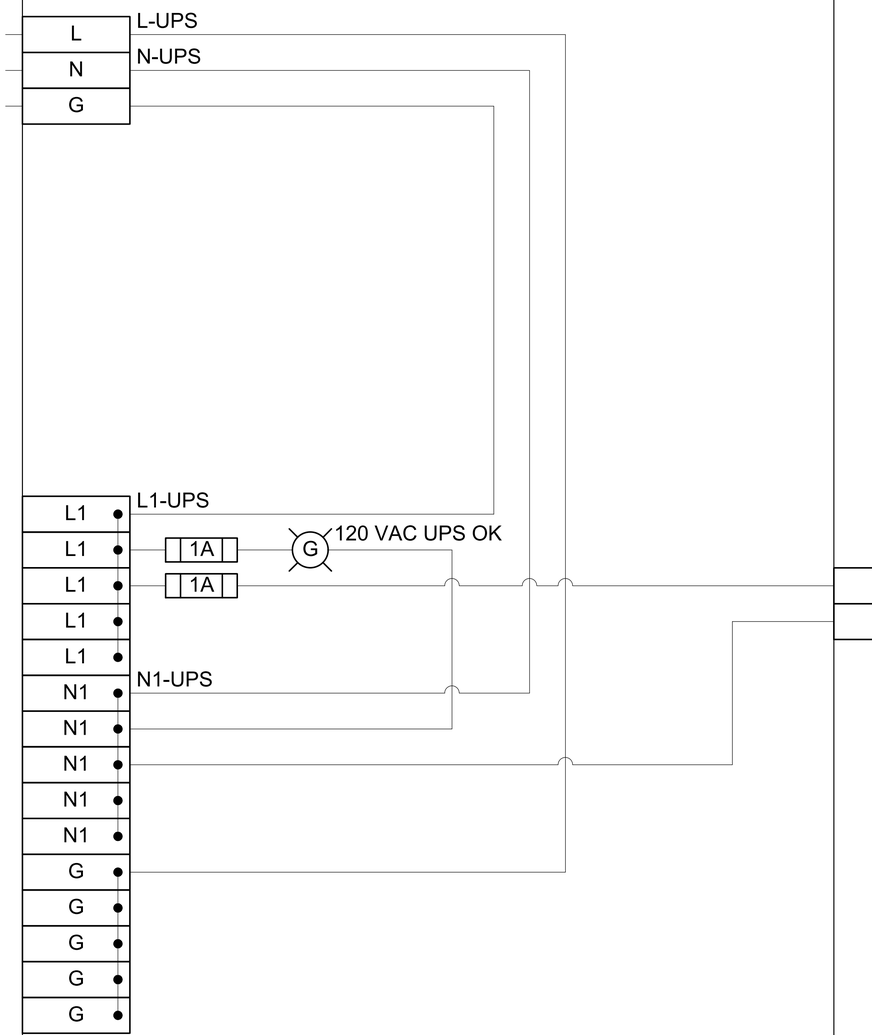
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INSTRUMENT LOOP DIAGRAM

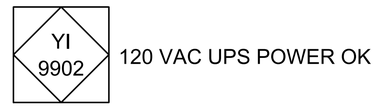
FIELD

15A 120VAC UPS CCT.

PLC CONTROL PANEL CP-MAIN



PLC



LOOP DIAGRAM - 120VAC UPS CONTROL PANEL POWER (TYPICAL)

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LOOP DIAGRAM
120VAC UPS CONTROL PANEL POWER (TYPICAL)

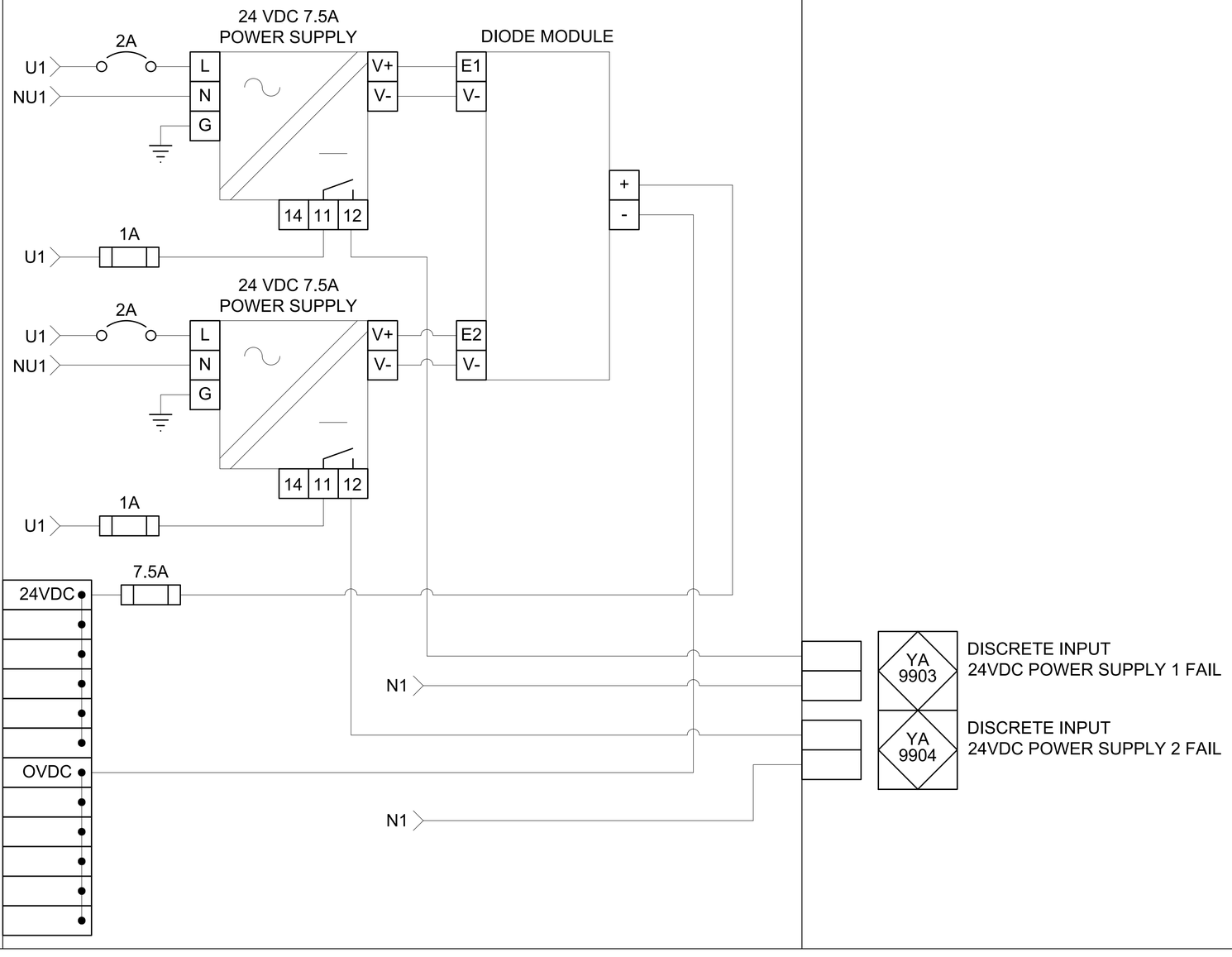
PROJECT NO. 24-7464

SHEET NO. **EL-2**

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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-MAIN	PLC



LOOP DIAGRAM - 24 VDC CONTROL PANEL POWER (TYPICAL)

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ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM

24 VDC CONTROL PANEL POWER (TYPICAL)

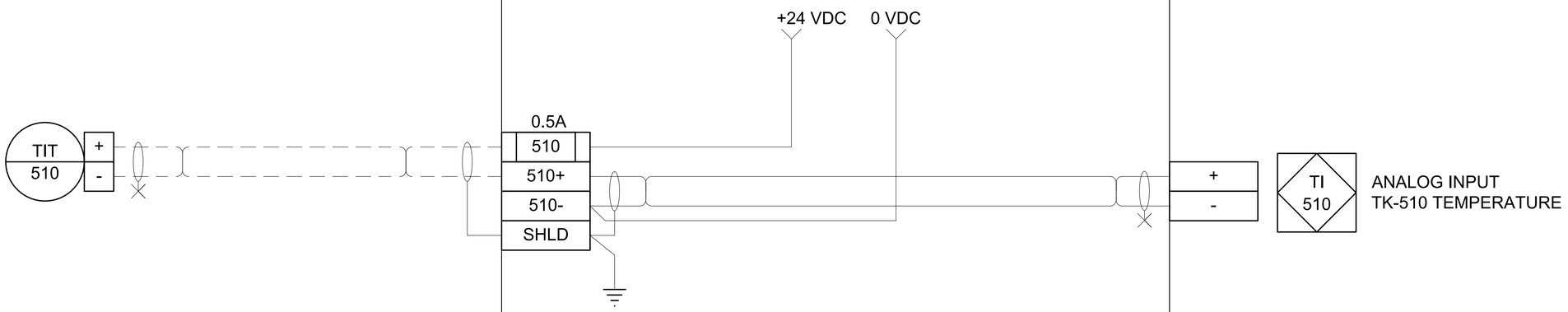
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SHEET NO. EL-3

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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-M1	PLC



LOOP DIAGRAM - TEMPERATURE TRANSMITTER TIT-510 (TYPICAL)

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ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM
TEMPERATURE TRANSMITTER TIT-510 (TYPICAL)

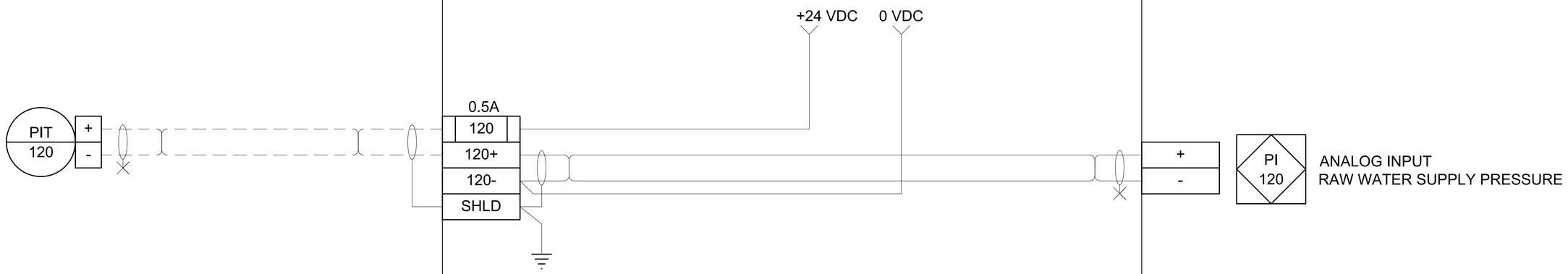
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SHEET NO. EL-4

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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-M7	PLC



LOOP DIAGRAM - PRESSURE INDICATOR TRANSMITTER PIT-120 (TYPICAL)

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ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM

PRESSURE INDICATOR TRANSMITTER PIT-120 (TYPICAL)

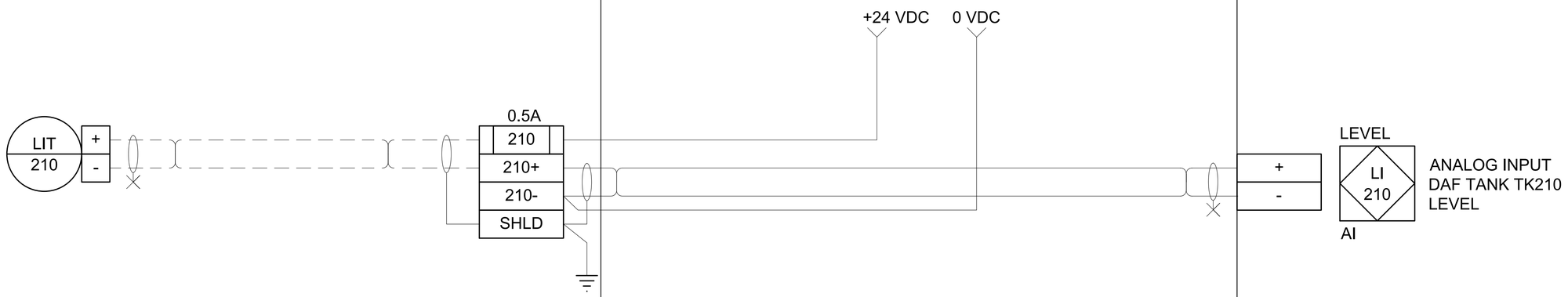
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SHEET NO. **EL-5**

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PLOT DATE: 2025-09-08 @ 11:35:03 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-DAF	PLC



LOOP DIAGRAM - LEVEL INDICATOR TRANSMITTER LIT-210 (TYPICAL)

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DRAWN: SK | CHECKED BY: BLM
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SCALE: NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM

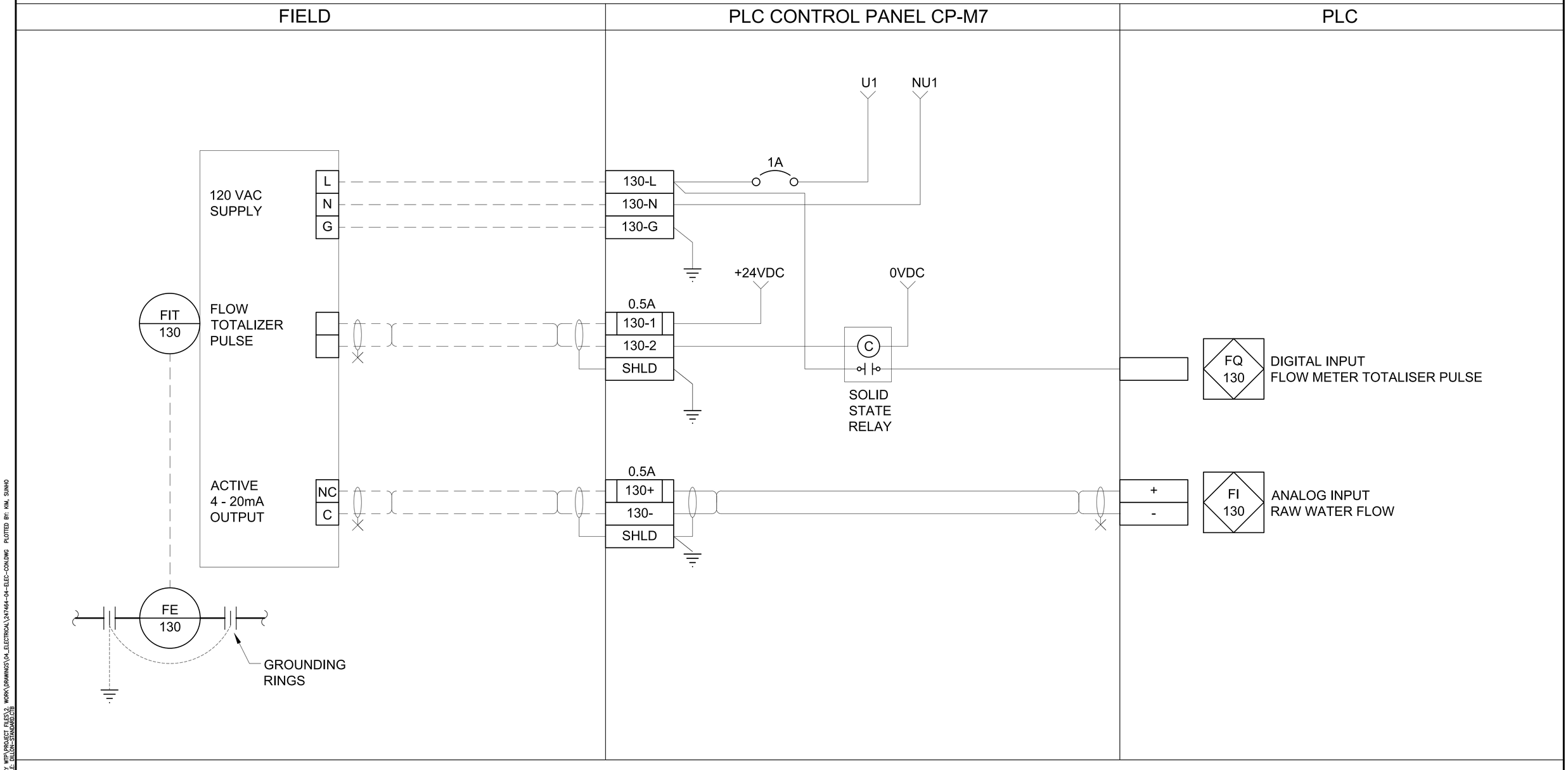
LEVEL INDICATOR TRANSMITTER LIT-210 (TYPICAL)

PROJECT NO. 24-7464

SHEET NO. **EL-6**

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PLOT DATE: 2025-09-08 @ 11:35:03 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

INSTRUMENT LOOP DIAGRAM



LOOP DIAGRAM - FLOW INDICATOR TRANSMITTER FIT-130 (TYPICAL)

Conditions of Use

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DRAWN: SK | CHECKED BY: BLM
DATE: AUGUST 2025
SCALE: NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM
FLOW INDICATOR TRANSMITTER FIT-130 (TYPICAL)

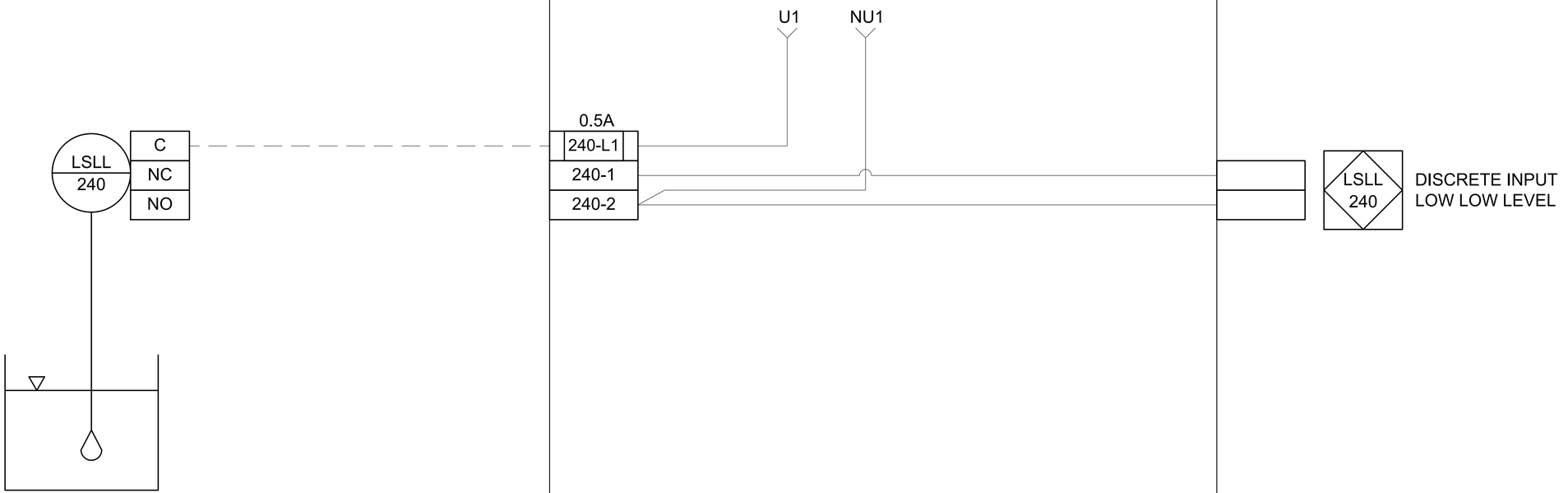
PROJECT NO. 24-7464

SHEET NO. EL-7

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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-M6	PLC



*CONTACTS OPEN ON LOW LEVEL

LOOP DIAGRAM - LSLL-240 (TYPICAL)

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DATE	AUGUST 2025
SCALE	NTS

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ARCTIC BAY NEW WATER TREATMENT PLANT

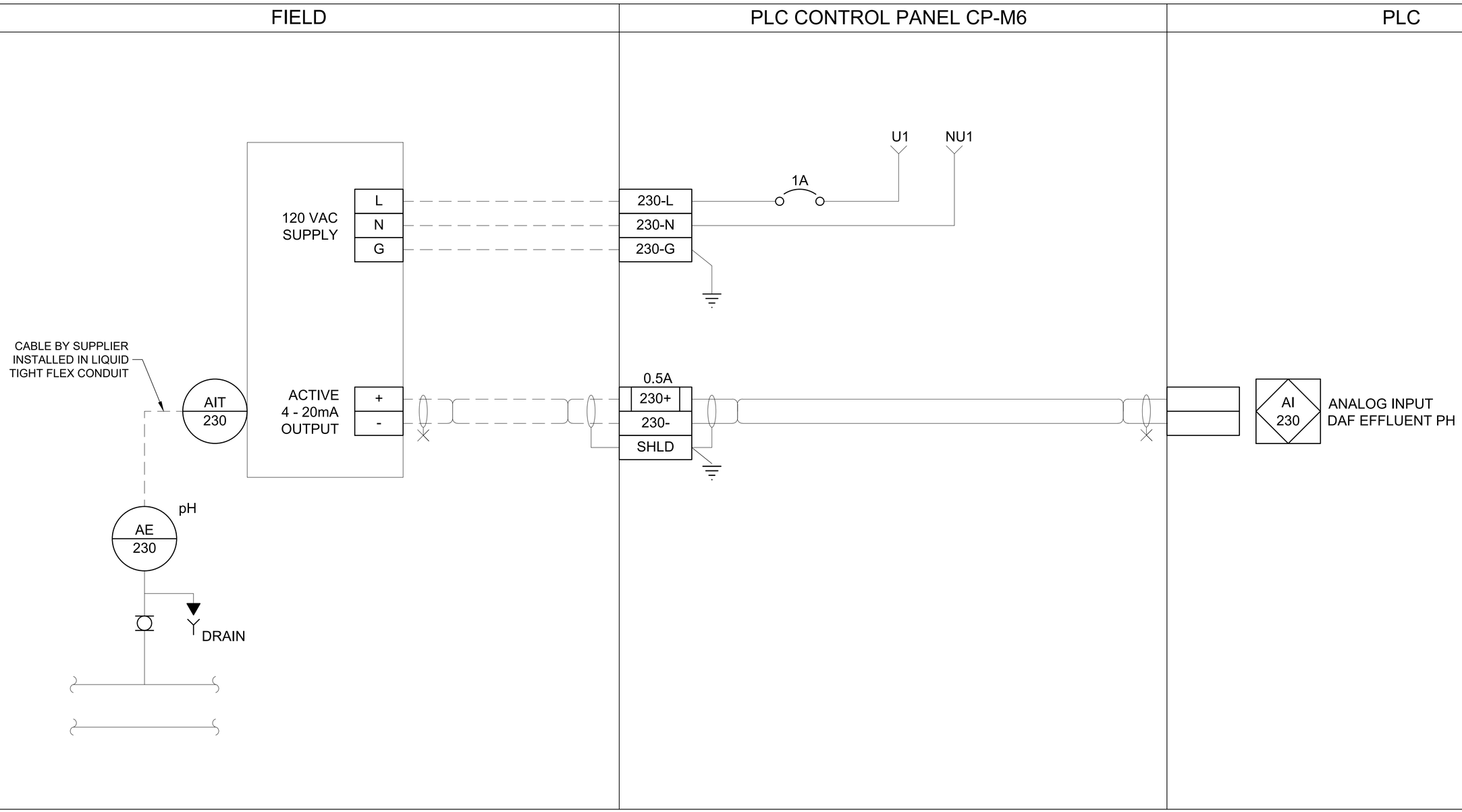
LOOP DIAGRAM
LSLL-240 (TYPICAL)

PROJECT NO. 24-7464

SHEET NO. **EL-8**

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PLOT DATE: 2025-09-08 @ 11:55:04 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

INSTRUMENT LOOP DIAGRAM



LOOP DIAGRAM - AIT-230 (TYPICAL)

Conditions of Use

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DATE	AUGUST 2025
SCALE	NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM

AIT-230 (TYPICAL)

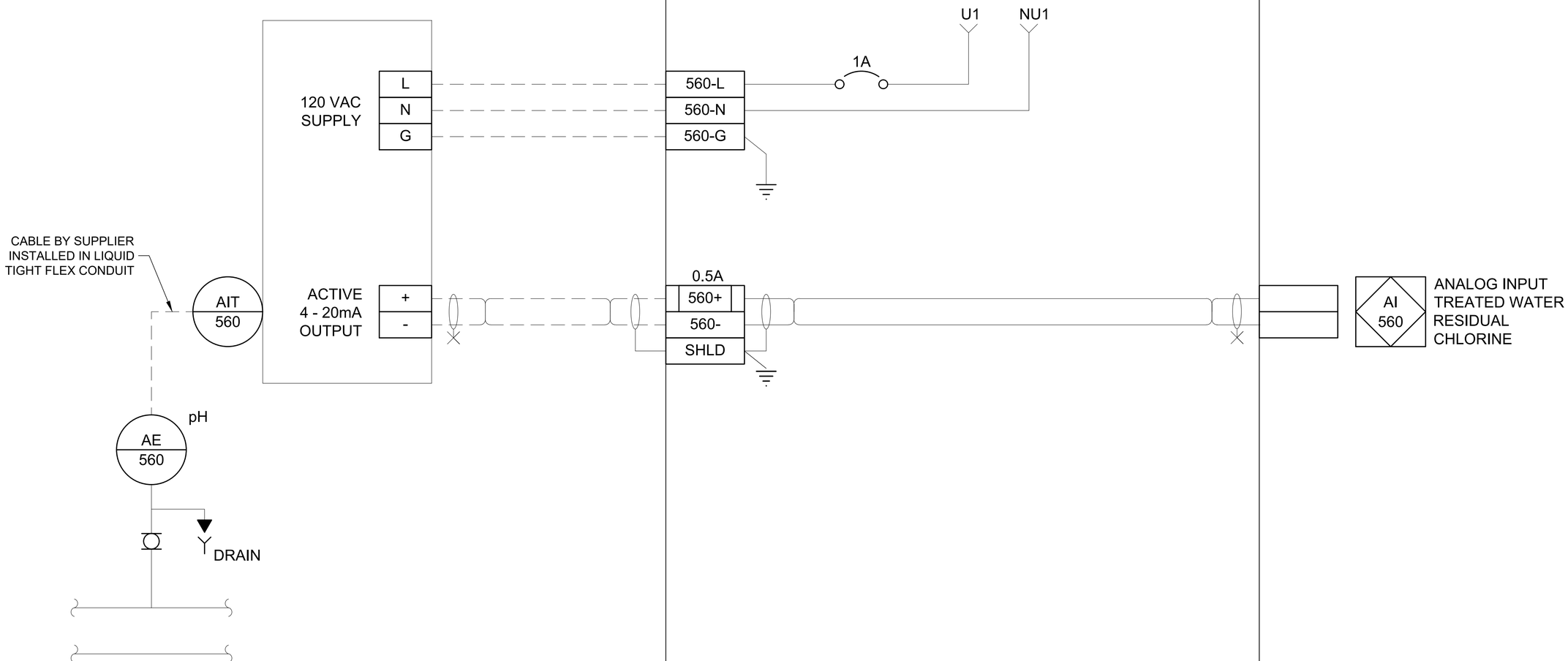
PROJECT NO. 24-7464

SHEET NO. **EL-9**

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PLOT DATE: 2025-09-08 @ 11:55:04 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-M1	PLC



LOOP DIAGRAM - AIT-560 (TYPICAL)

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SCALE	NTS

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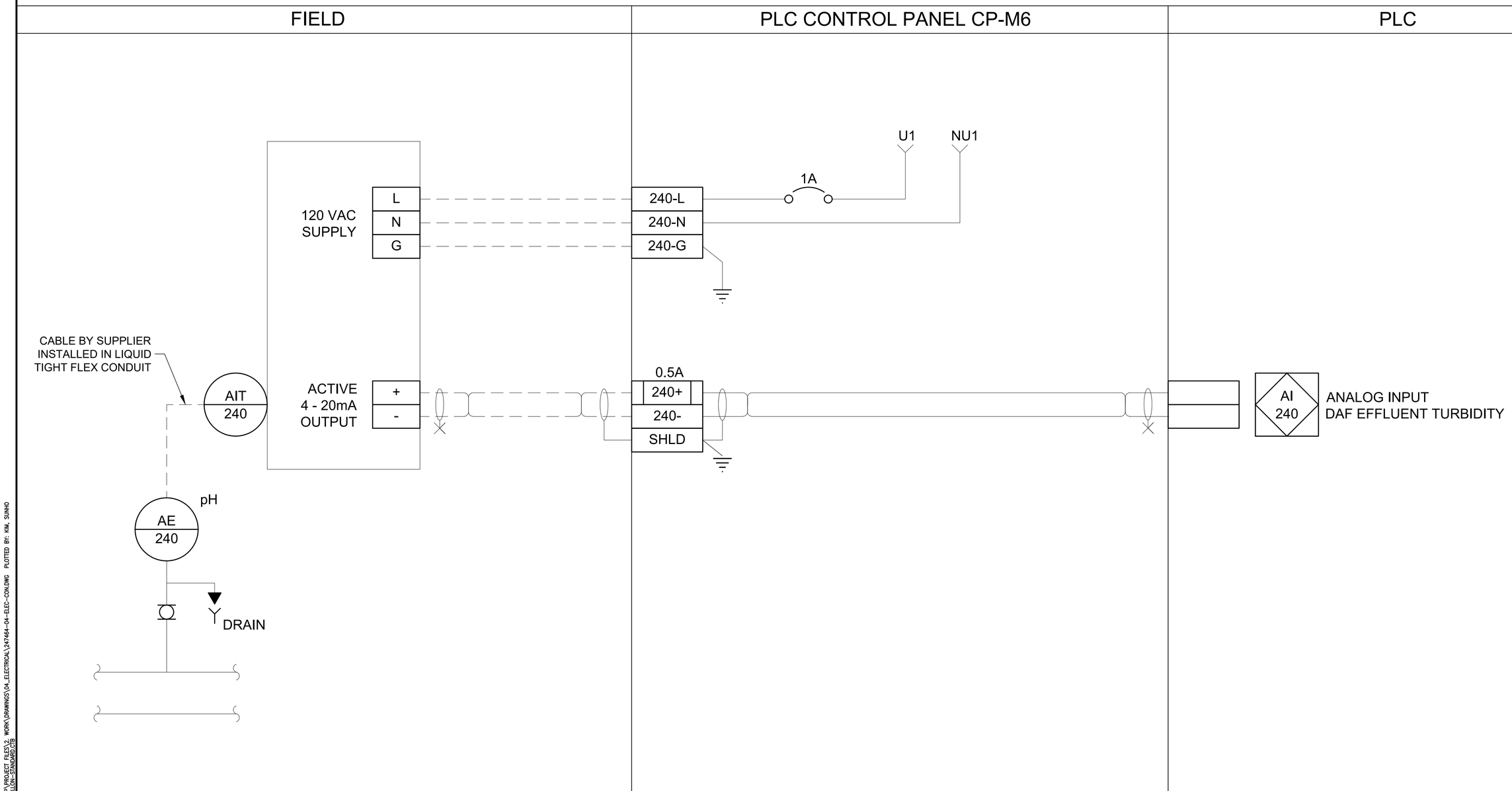
LOOP DIAGRAM
AIT-560 (TYPICAL)

PROJECT NO. 24-7464

SHEET NO. EL-10

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INSTRUMENT LOOP DIAGRAM



LOOP DIAGRAM - AIT-240 (TYPICAL)

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LOOP DIAGRAM
AIT-240 (TYPICAL)

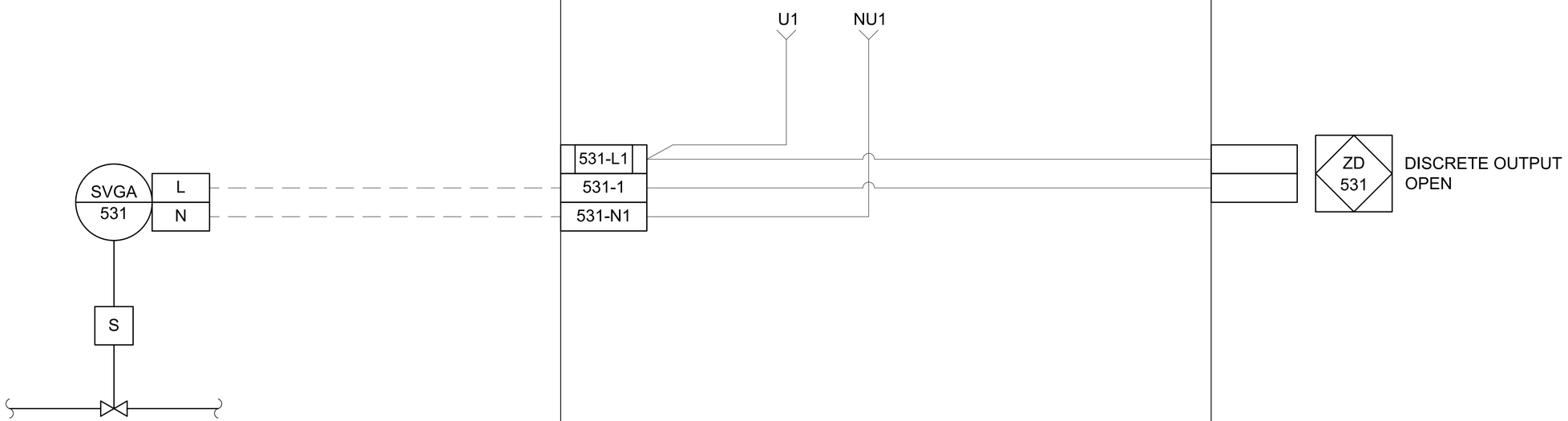
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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-M6	PLC



LOOP DIAGRAM - SVGA-531 (TYPICAL)

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LOOP DIAGRAM
SVGA-531 (TYPICAL)

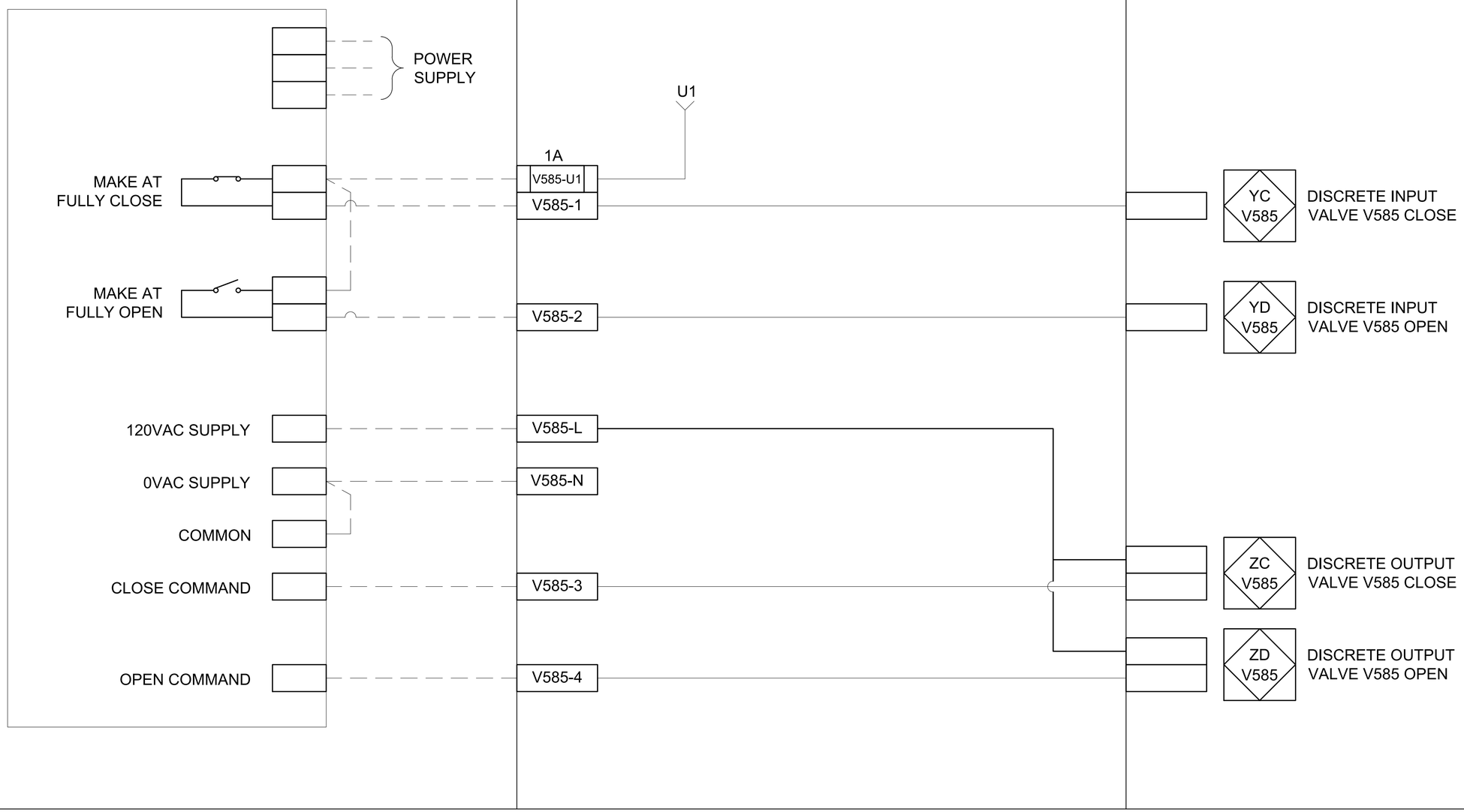
PROJECT NO. 24-7464

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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-M3	PLC



LOOP DIAGRAM - TRUCK FILL BYPASS VALVE FCV-585 (TYPICAL)

Conditions of Use

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LOOP DIAGRAM

TRUCK FILL BYPASS VALVE FCV-585 (TYPICAL)

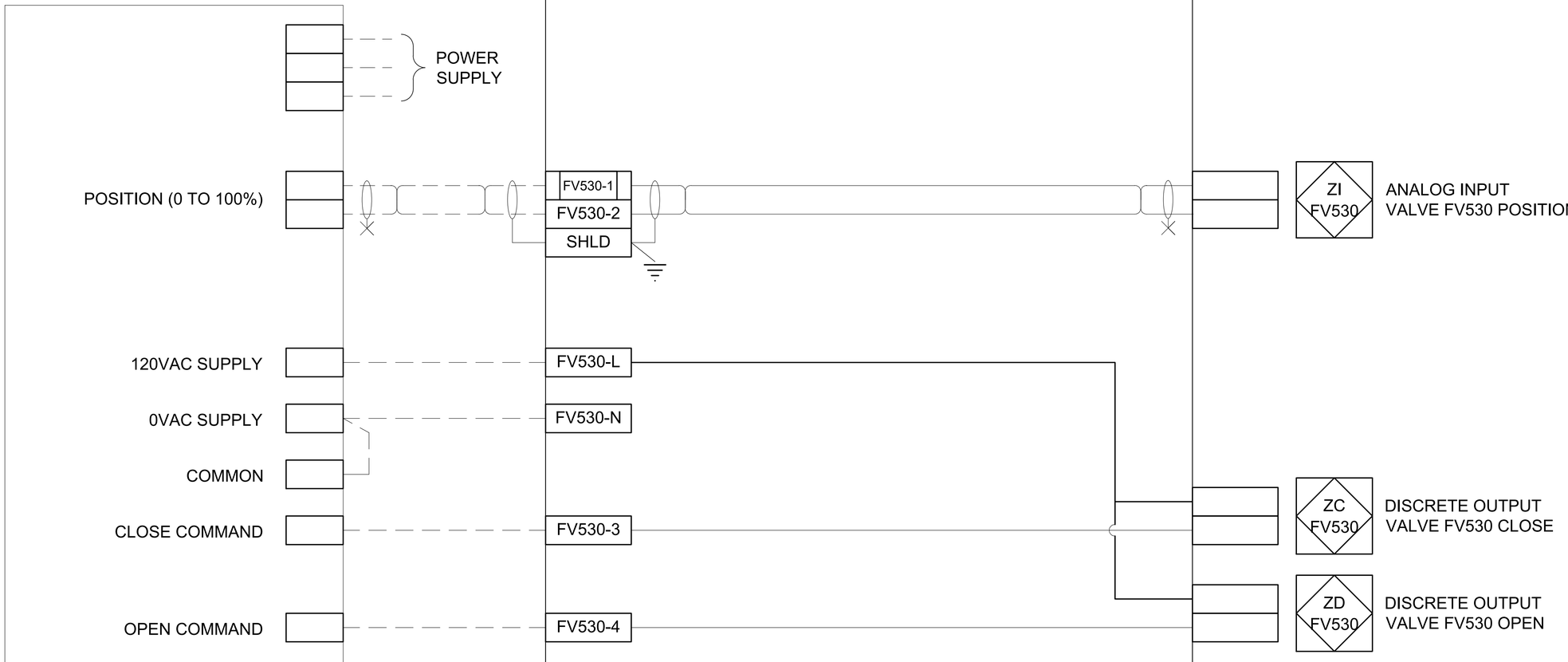
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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-M3	PLC



LOOP DIAGRAM - TRUCK FILL VALVE FCV-530 (TYPICAL)

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LOOP DIAGRAM
TRUCK FILL VALVE FCV-530 (TYPICAL)

PROJECT NO. 24-7464

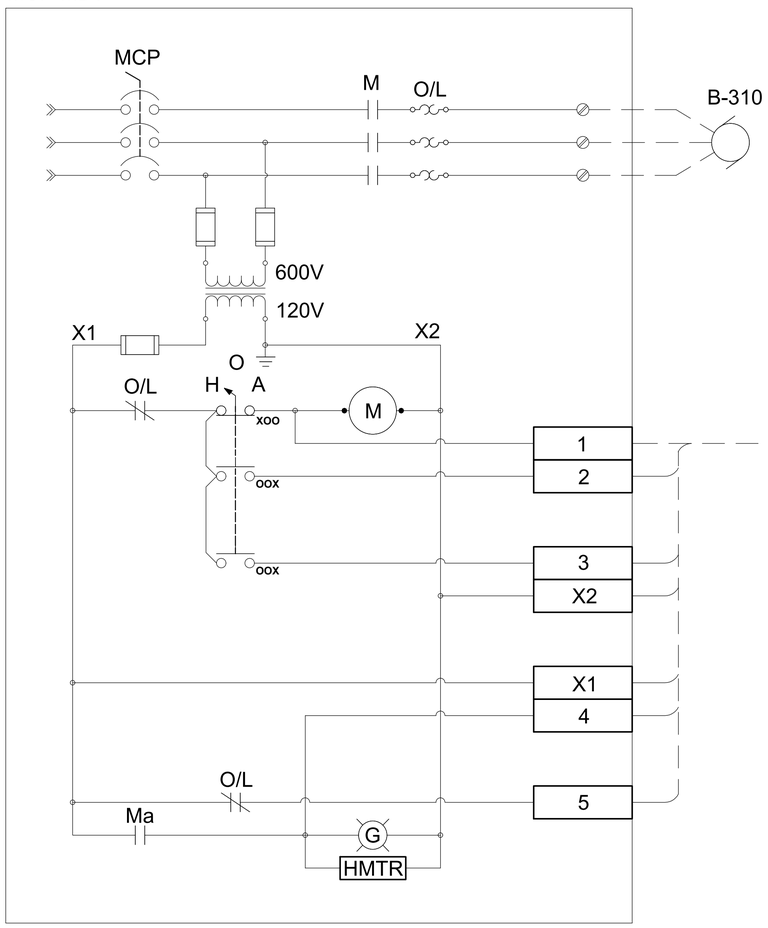
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INSTRUMENT LOOP DIAGRAM

FIELD

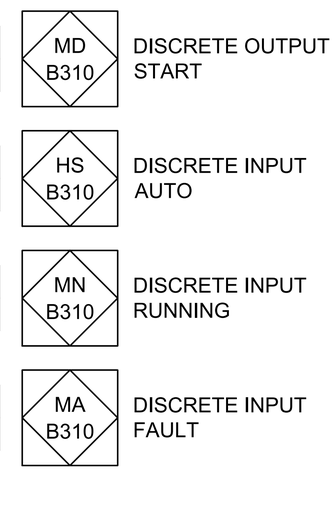
MCP-MB1



PLC CONTROL PANEL CP-M6



PLC



LOOP DIAGRAM - MEMBRANE TRAIN 310 BLOWER B-310 (TYPICAL)

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SCALE	NTS

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ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM

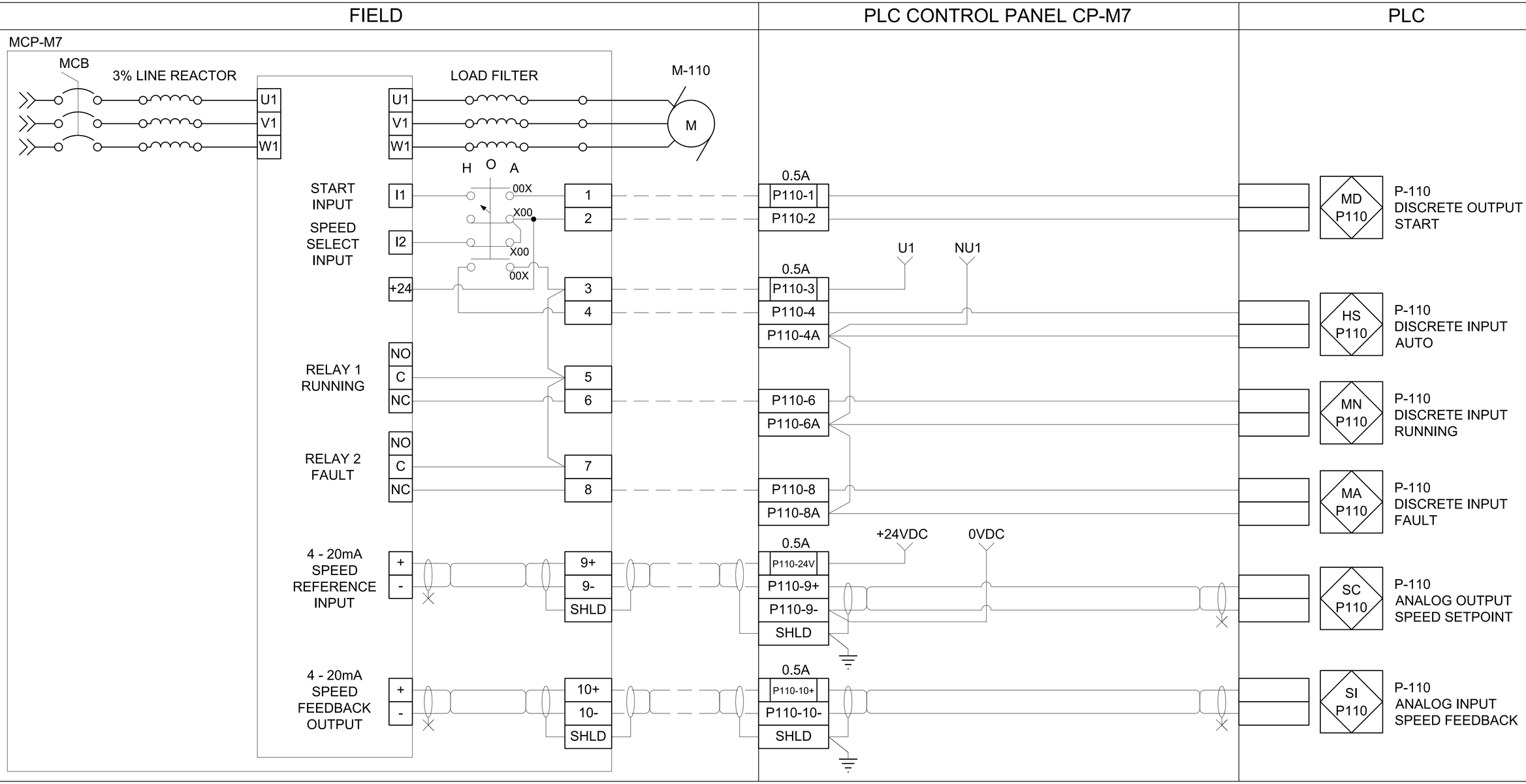
MEMBRANE TRAIN 310 BLOWER B-310 (TYPICAL)

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PLOT DATE: 2025-08-08 @ 11:55:06 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

INSTRUMENT LOOP DIAGRAM



LOOP DIAGRAM - RAW WATER PUMP P-110 (TYPICAL)

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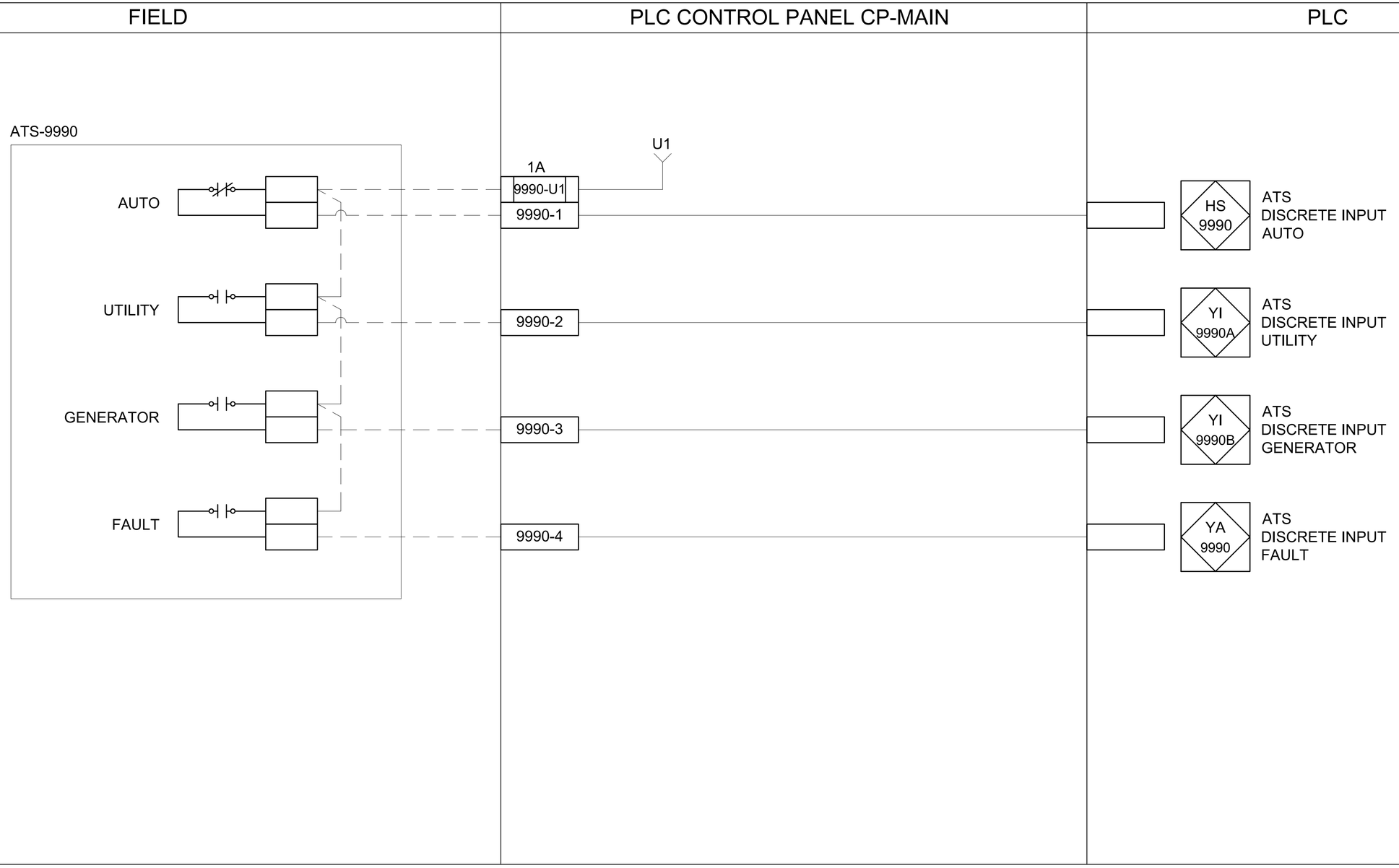
LOOP DIAGRAM
RAW WATER PUMP P-110 (TYPICAL)

PROJECT NO. 24-7464

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PLOT DATE: 2025-08-08 @ 12:12:55 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

INSTRUMENT LOOP DIAGRAM



LOOP DIAGRAM - AUTO TRANSFER SWITCH ATS-9990

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LOOP DIAGRAM
AUTO TRANSFER SWITCH ATS-9990

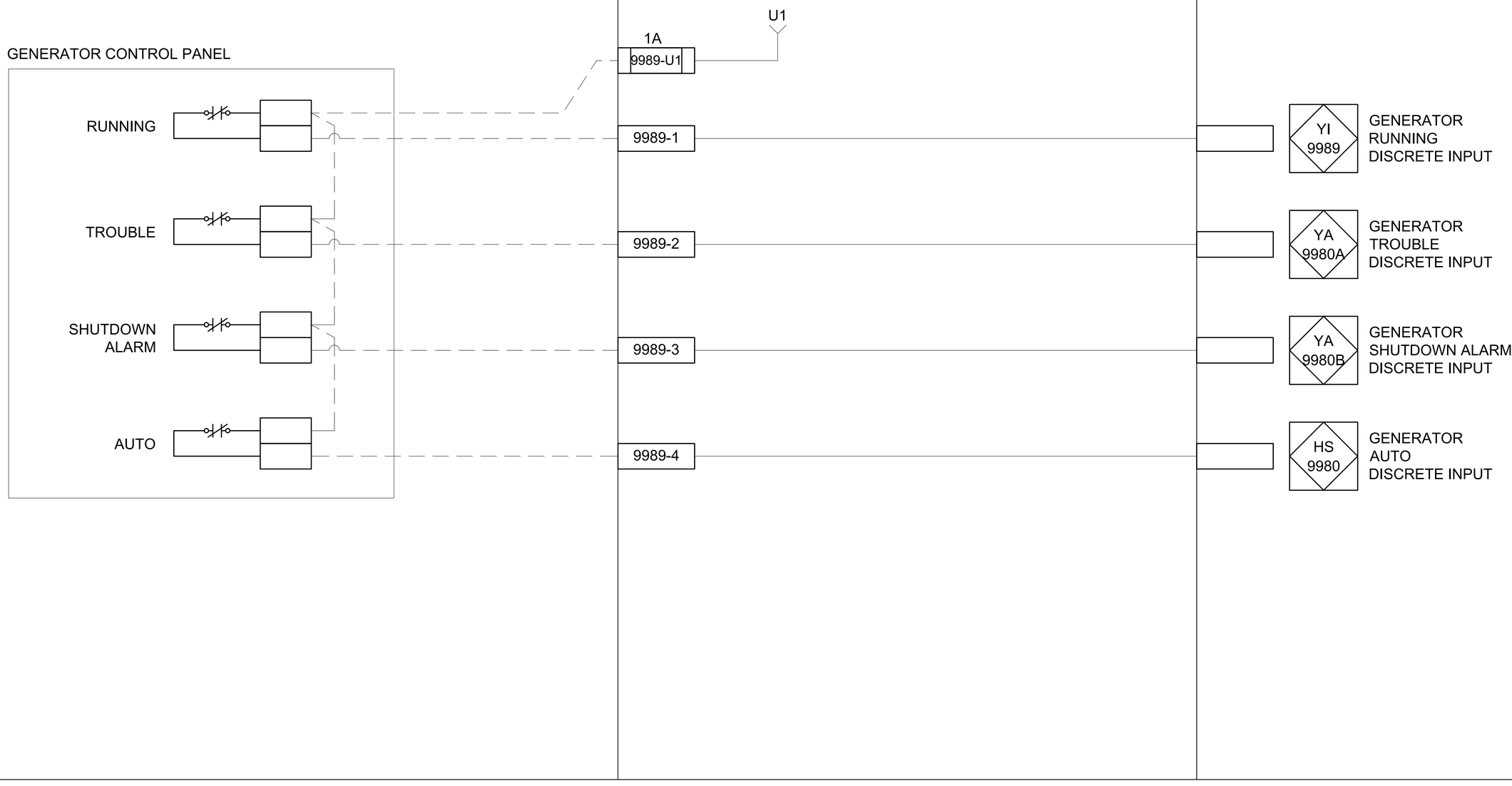
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INSTRUMENT LOOP DIAGRAM

FIELD	PLC CONTROL PANEL CP-GEN	PLC



LOOP DIAGRAM - GENERATOR CONTROL PANEL

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DESIGN: BLM | REVIEWED BY: BLM
DRAWN: SK | CHECKED BY: BLM
DATE: AUGUST 2025
SCALE: NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM
GENERATOR CONTROL PANEL

PROJECT NO. 24-7464

SHEET NO. EL-18

FILENAME: C:\USERS\KOSHKV\DC\ACCDOCS\DILLON CONSULTING\ARCTIC BAY WTP\PROJECT FILES\2. WORK\DRAWINGS\04_ELECTRICAL\247464-04-ELEC-CON.DWG PLOTTED BY: KIM, SUNHO
PLOT DATE: 2025-09-08 @ 12:12:56 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

INSTRUMENT LOOP DIAGRAM

FIELD

TRUCK FILL 1 CONTROL PANEL

G — YI 530A — N, 1

HS 530A — 2, 3

HS 530B — 4, 5

G — YI 530B — N, 6

HS 530C — 7, 8

HS 530D — 9, 10

TRUCK FILL 1 ENABLE STATION

HS 530E — O, A — 1, 2

PLC CONTROL PANEL CP-M3

UN1 U1

1A

530-U1

530-UN1

530-1

530-2

530-3

530-4

530-5

530-6

530-7

530-8

530-9

530-10

530-11

530-12

PLC

YI 530A — DISCRETE OUTPUT FILL ACTIVE

HS 530A — DISCRETE INPUT START FILL

HS 530B — DISCRETE INPUT STOP FILL

HS 530C — DISCRETE OUTPUT EMERGENCY BYPASS FILL ACTIVE

HS 530D — DISCRETE INPUT START EMERGENCY BYPASS FILL

HS 530E — DISCRETE INPUT STOP EMERGENCY BYPASS FILL

HS 530F — DISCRETE INPUT TRUCK FILL STATION ENABLE

LOOP DIAGRAM - TRUCK FILL 1 CONTROL PANEL (TYPICAL FOR TRUCK 2)

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

REGISTERED PROFESSIONAL ENGINEER — B.L. MOORE — LICENSEE — August 1, 2025 — NWT/NU

PERMIT TO PRACTICE
DILLON CONSULTING LIMITED
Signature
Date 2025-09-16
PERMIT NUMBER: P 010
NT/NU Association of Professional Engineers and Geoscientists

ISSUED FOR CONSTRUCTION

Canada — Nunavut

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION REV1	2025-AUG-01	BLM
1	ISSUED FOR CONSTRUCTION	2025-APR-10	BLM
0	ISSUED FOR TENDER	2024-NOV-29	BLM

DESIGN	BLM
REVIEWED BY	BLM
DRAWN	SK
CHECKED BY	BLM
DATE	AUGUST 2025
SCALE	NTS

GOVERNMENT OF NUNAVUT 21200-00701-03
ARCTIC BAY NEW WATER TREATMENT PLANT

LOOP DIAGRAM

TRUCK FILL 1 CONTROL PANEL (TYPICAL FOR TRUCK 2)

PROJECT NO. 24-7464

SHEET NO. **EL-19**

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PLOT DATE: 2025-08-06 @ 12:12:57 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB