TECHNICAL MEMORANDUM

Notice of Alteration Request

Tracy Braun
Director
Manitoba Conservation and Water Stewardship
Environmental Approvals
2nd Floor 123 Main Street (Box 80)
Winnipeg MB R3C 1A5

September 29, 2015

Dear Ms. Braun,

RE: Notice of Alteration Request – Diageo Gimli Plant

This notice of Request for Alteration is submitted to Manitoba Conservation on behalf of the Diageo Gimli Plant. This request is to incorporate an alteration to the process flow of the Diageo Gimli Wastewater Treatment Plant into the environment act licence currently under development. The alteration requested in this letter would allow the Diageo Plant to pump wastewater to the R.M. of Gimli's Wastewater Treatment Plant. The resultant process alterations will be located on land currently owned and operated by Diageo Canada Inc.

Background

Under the previously submitted notice of alteration (dated July 08, 2015), the process consisted of influent raw wastewater pumped from the Lift Station to the 1,275 m^3 equalization basin currently under construction. Wastewater then flowed by gravity to the Diageo Gimli Wastewater Treatment Plant (Diageo WWTP).

Diageo has entered into a three year agreement to send wastewater from the Diageo Gimli Plant to the R.M. of Gimli's Wastewater Treatment Plant (Gimli WWTP) via a newly constructed forcemain. The new equalization tank will equalize the flow while sending Diageo's wastewater to the Gimli WWTP, and several modifications to the previously described system would be required to allow consistent flows.

Description of Changes

The proposed alteration will send wastewater from Diageo's equalization tank to Gimli's wastewater collection forcemain, from where it flows to the Gimli WWTP.

The existing pipe between the equalization tank and the Diageo WWTP plant wastewater line will be reused, with the isolation valve on the 200 mm effluent line from the equalization tank closed to prevent flow to the Diageo WWTP and redirect flow to the new forcemain. A new 200 mm stainless steel pipe and isolation valve will be connected to the equalization tank effluent pipe, and this new 200 mm stainless steel pipe will extend from the effluent line north to the Gimli forcemain. A new 200 mm stainless steel equalization system bypass

pipe and isolation valve will also be installed to allow wastewater to be pumped directly from the Lift Station to the forcemain during an emergency.

The wastewater plant will be shut down but not decommissioned. Diageo is retaining the ability to redirect flow to and start up the Diageo WWTP at a later date if deemed necessary; however, the intent is to shut down the Diageo WWTP for the duration of the agreement with the R.M. of Gimli.

These proposed plans are illustrated on the site plan (Figure 1) and connection detail (Figure 2) diagrams.

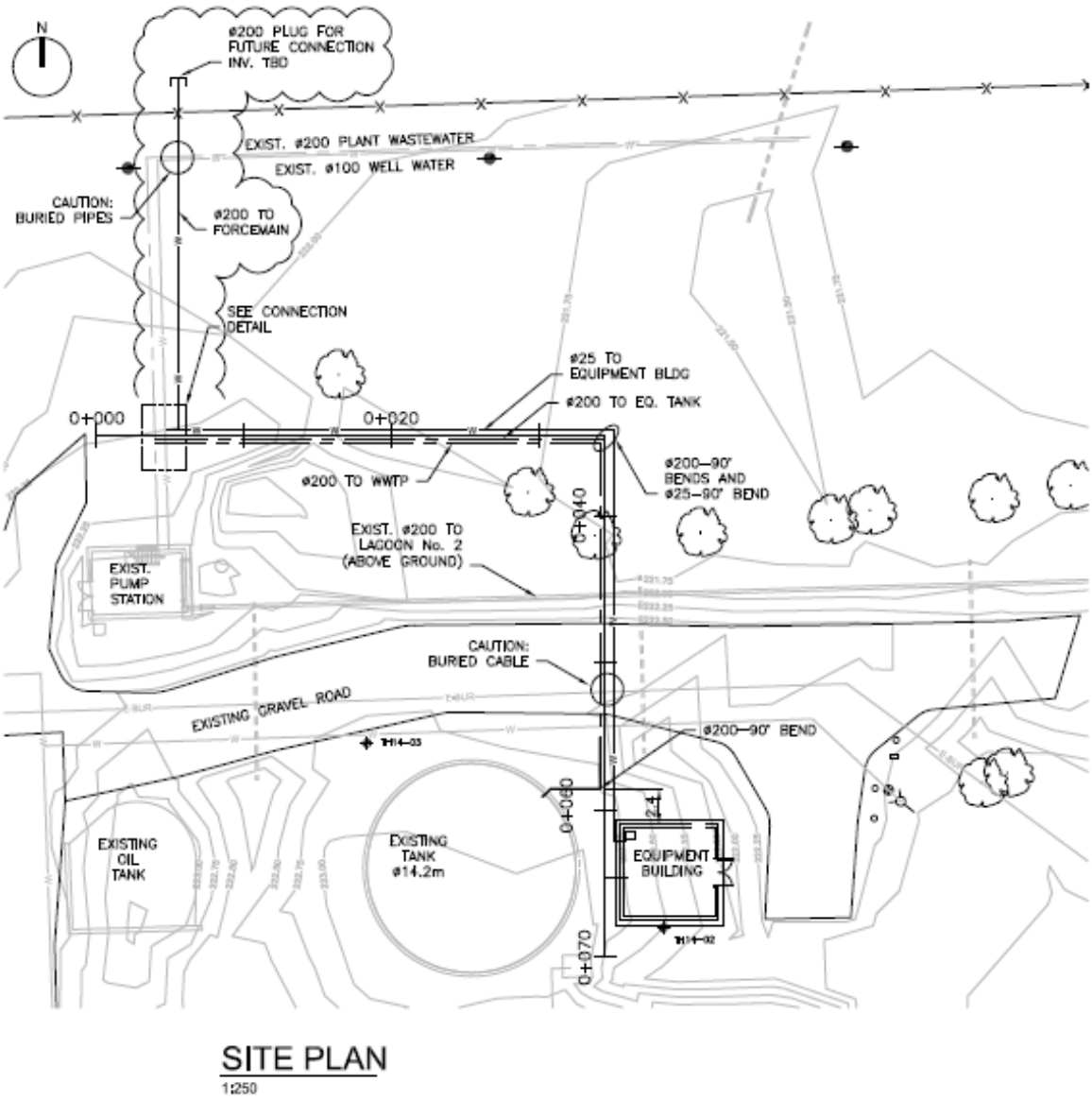


Figure 1: Site Plan

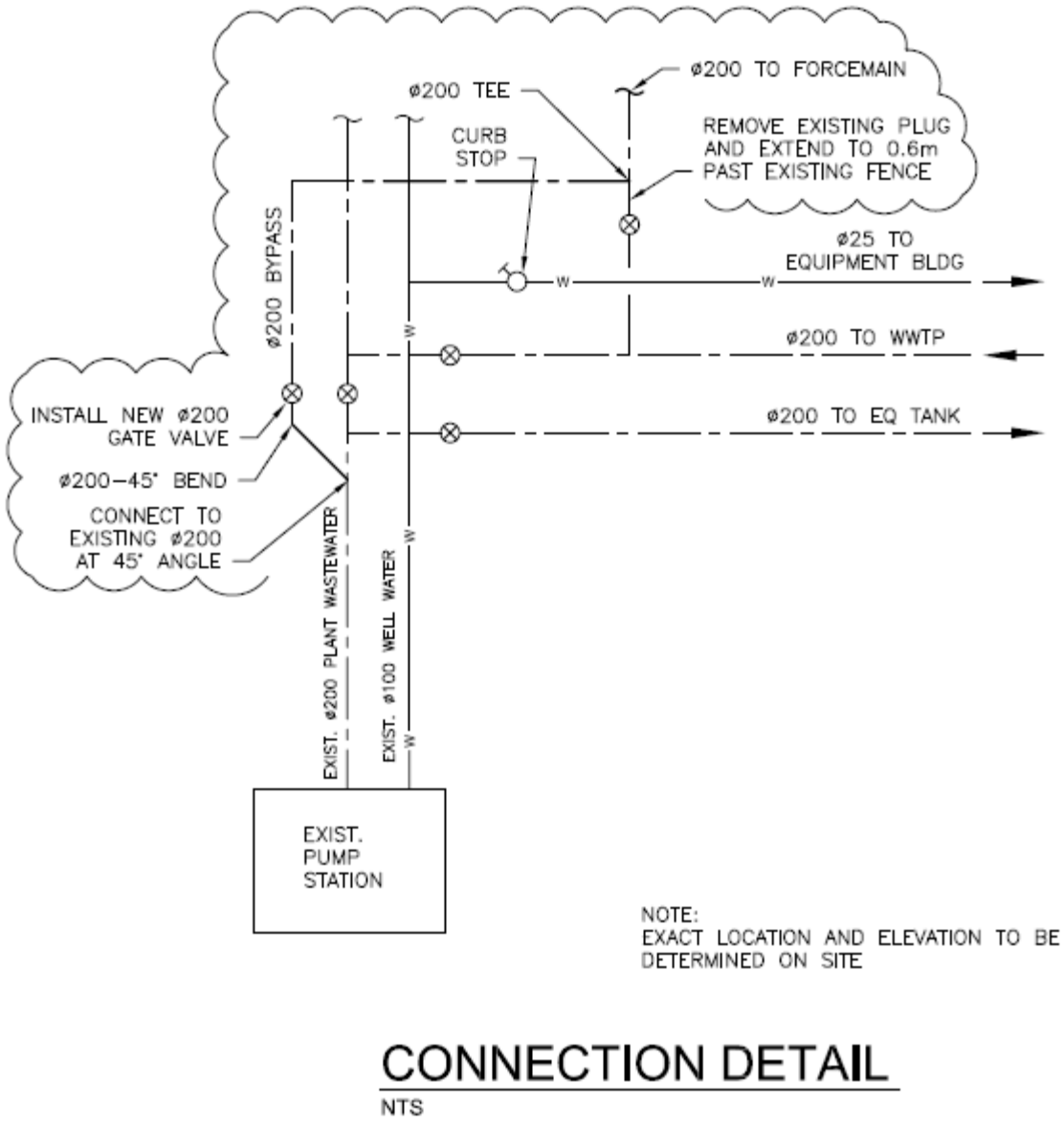


Figure 2: Connection Detail

As described earlier, wastewater currently flows by gravity to the Diageo WWTP. This would not be feasible when sending wastewater to the Gimli WWTP. As a result, two effluent pumps are proposed to pump wastewater to the Gimli WWTP. These two 20 hp horizontal end suction pumps will be installed in the equipment building to maintain flow rates between 600 m^3/d and 1600 m^3/d from the flow equalization basin. The pumps have been equipped with variable frequency drives and a throttling valve to obtain the desired flow rates based on the wastewater level in the tank. These pumps will normally operate in a duty/standby arrangement to pump the wastewater from the tank to the forcemain.

As the wastewater level in the tank determines the flow out of the tank, two level floats are included in the equalization tank in addition to the previously proposed level element. The floats will be used for flow control if the level element is out of service by maintaining a flow rate of 1,600 m^3/d when the pumps are in use. There is also a third float below the manway, which is tied to a strobe light to provide a visual indicator that the manway is safe to remove.

Additional alarms have been incorporated for wastewater level, level indicator failure, low flow rate, high flow rate, no available pumps and variable feed drive faults. pH levels will be monitored on the recirculation line to improve the existing pH control method. All instrumentation will be tied to Diageo's distributed control system (DCS) at the control room in the distillery. The pumps and additional electrical and controls panels are housed in the equipment building.

Drawings

A copy of the drawing package associated with these upgrades are included as Attachment A. These drawings will be issued to the existing contractor as a change to the existing contract for the previously submitted alterations. Sealed copies are available upon request.

Environmental Effects

Respecting Wastewater

The proposed upgrade will reduce the volume discharged to Lake Winnipeg by the Diageo Plant from approximately 2,850 m^3/d to approximately 1,570 m^3/d (18.2 L/s), as Diageo will continue to send clean water (boiler blowdown, cooling tower blowdown, etc.) to the North Lagoon and effluent wet well for discharge to Lake Winnipeg. Treated wastewater flows (average 1,275 m^3/d – 15 L/s) will no longer be discharged as wastewater from the Diageo Gimli Plant will be treated at the Gimli WWTP.

Respecting Sludge Management

The proposed upgrade is anticipated to reduce the volume of sludge produced as wastewater will be treated at the Gimli WWTP.

Respecting Waste Stillage and Liquid Wastes Disposal

The proposed upgrade will direct liquid production waste to the Gimli WWTP. Clean water from non-contact processes (boiler blowdown, cooling tower blowdown, etc.) will continue to be discharged to Lake Winnipeg.

Respecting Air Emissions

The proposed upgrade is anticipated to have a negligible effect on air emissions from the plant.

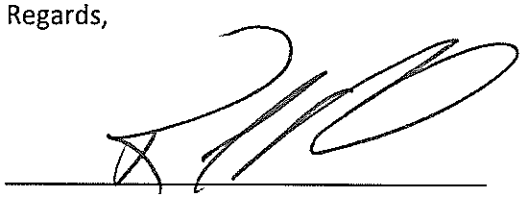
Respecting Decommissioning

Diageo will not decommission the Diageo WWTP at this time. Should the decision be made to decommission the plant, Diageo will submit a formal detailed Decommissioning Plan for the WWTP.

Closure

We trust that this submission meets your needs. Should you have any further questions regarding this request, please do not hesitate to contact the undersigned. Thank you.

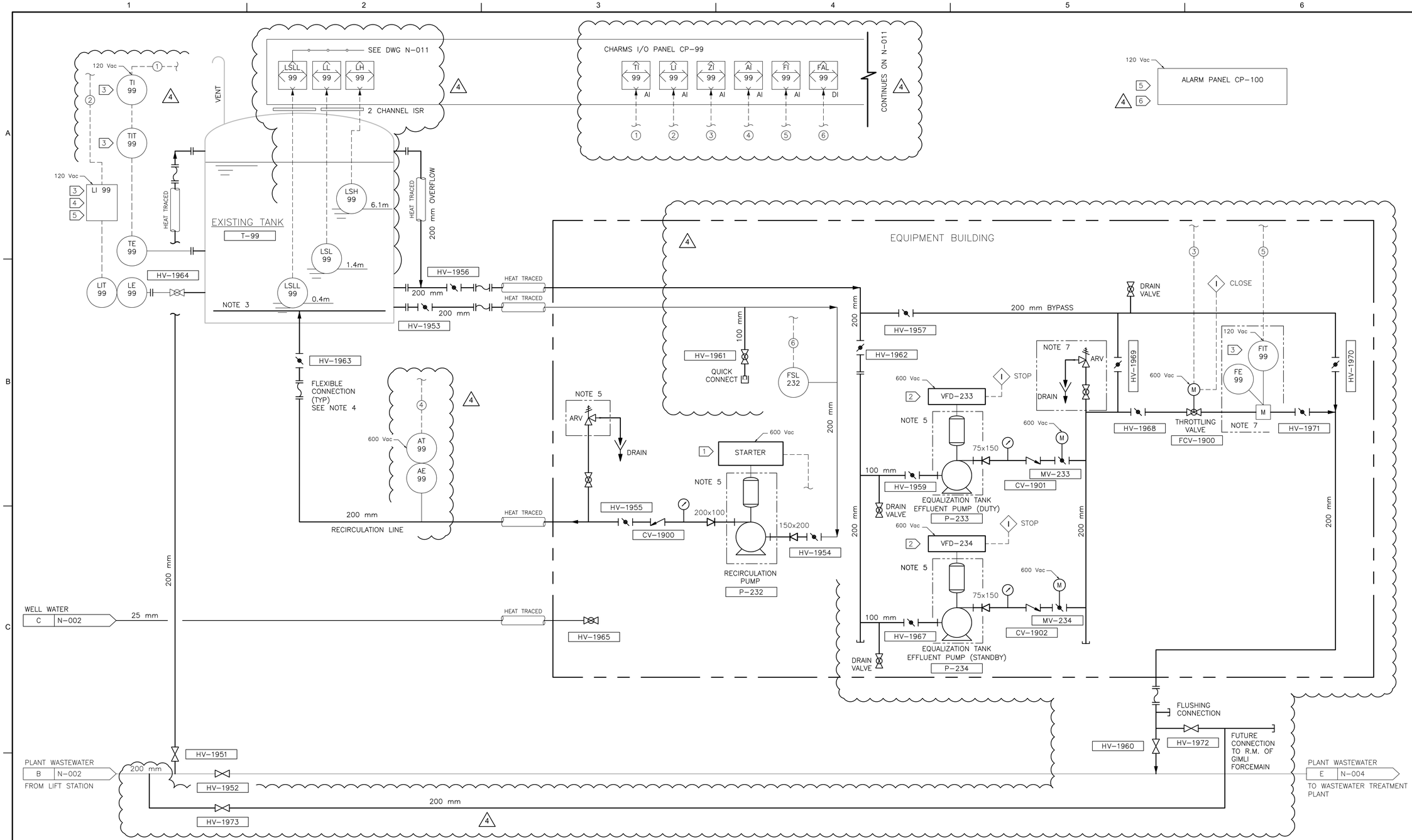
Regards,



Roman Pietrus, P. Eng.
Engineering & Maintenance Manager (Diageo Canada – Gimli)
Desk +1 204 642 1631
Cell +1 204 651 0019

cc: Jennifer Winsor, Environmental Engineer (Government of Manitoba)
Dylan Liu, Project Manager (Diageo Canada – Gimli)
Craig Dryburgh, Site Director (Diageo Canada – Gimli)

Attachment A
Detailed Drawing Package



NOTE:

1. ALL OUTSIDE/ EXPOSED PIPING TO BE HEAT TRACED AND INSULATED. REFER TO DWG D-020 FOR INFORMATION.
2. ALL PIPING TO BE STAINLESS STEEL UNLESS NOTED OTHERWISE.
3. MIXING NOZZLE NOT SHOWN FOR CLARITY. REFER TO DWG D-022 FOR INFORMATION.
4. ONE FLEXIBLE CONNECTION SHOWN FOR CLARITY. NUMBER OF FLEXIBLE CONNECTIONS AS SHOWN IN DWG D-020.
5. EQUIPMENT SUPPLIED BY OTHERS, INSTALLED BY CONTRACTOR.
6. REFER TO DWG N-011 FOR I/O DETAILS OF VALVES AND PUMPS.
7. EQUIPMENT RELOCATED.

KEY NOTES:

4 1 PROVIDE LOCAL CONTROLS FOR THE RECYCLE PUMP (P-232) IN THE STARTER PANEL. [LOCAL-OFF-REMOTE SELECTOR AND START/STOP PUSH BUTTONS]

4 2 PROVIDE LOCAL CONTROLS FOR EFFLUENT PUMPS IN VFD PANEL ON DOOR MOUNTED HMI PANEL

4 3 MOUNT ALL TRANSMITTER/ INDICATORS FIT-99, TIT-99 AND ZI-1900 ON A SUITABLE MOUNTING BRACKET ON THE WALL. REFER TO ELECTRICAL DRAWINGS.

4 THE ANALOG SIGNAL [4-20 mA] FROM LIT 99 IS WIRED TO AN INDICATOR LI 99 AND THIS INSTRUMENT WILL PROVIDE 4 ALARM CONTACTS FOR DIFFERENT LEVELS IN THE TANK.

5 THE INDICATOR LI 99 IS LOCATED IN ALARM PANEL CP-100. FOR DETAILS SEE DRAWING N-010

4 6 SEE DWG N-011 FOR I/O DETAILS FROM ALARM PANEL.

NO.	DATE	DSGN	DR	CHK	APVD	REVISION
4	2015-09-11	R.NATARAJAN	J. CORTEZ	K. GRIFFITHS	R. NATARAJAN	ISSUED FOR QUOTATION
3	2015-05-19					ISSUED FOR CONSTRUCTION
2	2015-04-27					ISSUED FOR ADDENDUM NO. 2
1	2015-04-13					ISSUED FOR ADDENDUM NO. 1
0	2015-03-23					ISSUED FOR TENDER

ISSUED FOR QUOTATION

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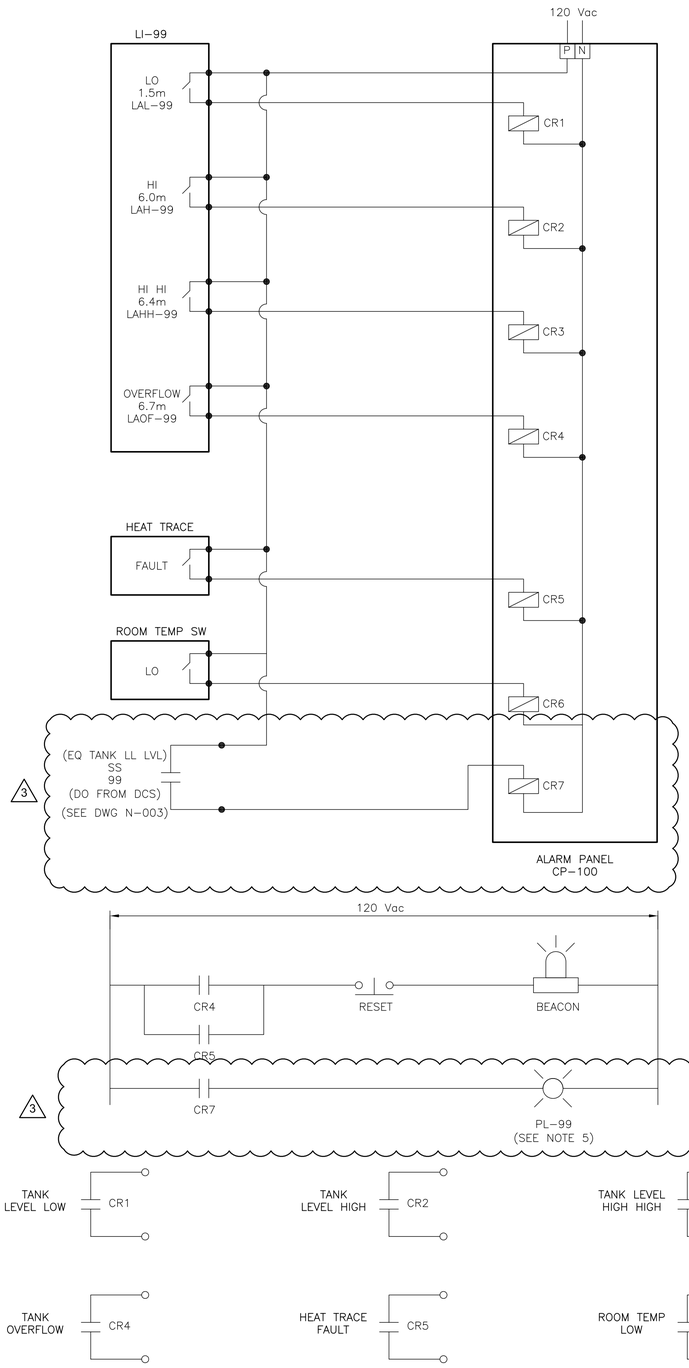
DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

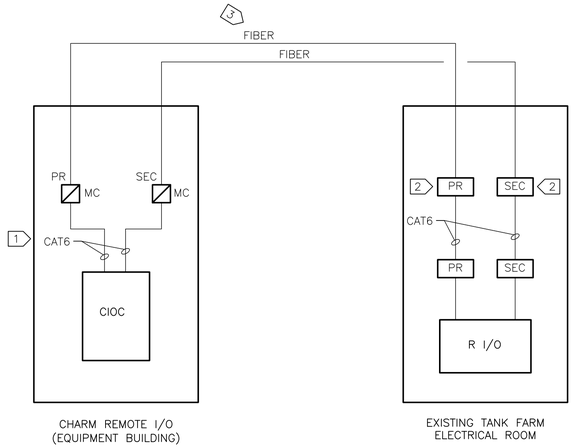
PROCESS MECHANICAL

NEW EQUALIZATION TANK

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"	
DATE	2014-08-07
PROJ	494546
DWG	N-003
SHEET	1 of -



ALARM PANEL SCHEMATIC



LEGEND

CIOC	CHARMS I/O CABINET
MC	MEDIA CONVERTOR
PR	PRIMARY
SEC	SECONDARY

KEY NOTES:

1. THE CIOC [CHARMS IO CABINET] WITH THE DELTA V HARDWARE AND MEDIA CONVERTOR WILL BE PROVIDED AND INSTALLED BY LAKESIDE CONTROLS. LAKESIDE CONTROLS SHALL ALSO PROVIDE AND INSTALL CABLES REQUIRED TO COMPLETE THE IO WIRING FROM THE FIELD DEVICES TO THE CIOC.
2. DEVICES IDENTIFIED ON THE EXISTING TANK FARM ELECTRICAL ROOM SHALL BE PROVIDED AND INSTALLED BY LAKESIDE CONTROLS.
3. THE OUTDOOR FIBER SHALL BE INSTALLED BY LAKESIDE CONTROLS ON A SYSTEM OF CABLE TRAYS THAT CONNECTS THE TWO BUILDINGS.
4. CABLE TRAYS TO BE PROVIDED BY LAKESIDE CONTROLS.

CONTROLS BLOCK DIAGRAM

NOTES:

1. PROVIDE ALARM PANEL CP–100 WITH 6 RELAYS 120 Vac COIL AS SHOWN.
2. MOUNT LEVEL INDICATOR LI 99 ON THE DOOR OF THE PANEL CP–100 WITH POWER/SIGNAL WIRING AND ALARM CONTACT WIRING AS SHOWN.
3. PROVIDE ALARM WIRING FROM HEAT TRACE CONTROLLER AND ROOM TEMPERATURE SWITCH AS SHOWN.
4. TERMINATE RELAY CONTACTS AS SHOWN TO MARKED TERMINAL BLOCKS FOR FIELD CONNECTION BY OTHERS.
5. MOUNT PL–99 STROBE ON TOP OF CP–100. CR7 CAN BE HOUSED IN CP–100.
6. INSTALL A "MANWAY LEVEL" SIGN IN THE VICINITY OF PL–99 STROBE. REFER TO DETAIL 5/D–050.

NO.	DATE	REVISION	CHK	APVD
3	2015-09-11	ISSUED FOR QUOTATION	J.C.	R.N.
2	2015-05-19	ISSUED FOR CONSTRUCTION	J.C.	R.N.
1	2015-04-27	ISSUED FOR ADDENDUM NO. 2	J.C.	R.N.
0	2015-03-23	ISSUED FOR TENDER	J.C.	R.N.

DSGN R. NATARAJAN | DR J. CORTEZ | CHK K. GRIFFITHS | APVD R. NATARAJAN

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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PROCESS & INSTRUMENTATION

CONTROL BLOCK DIAGRAM

3

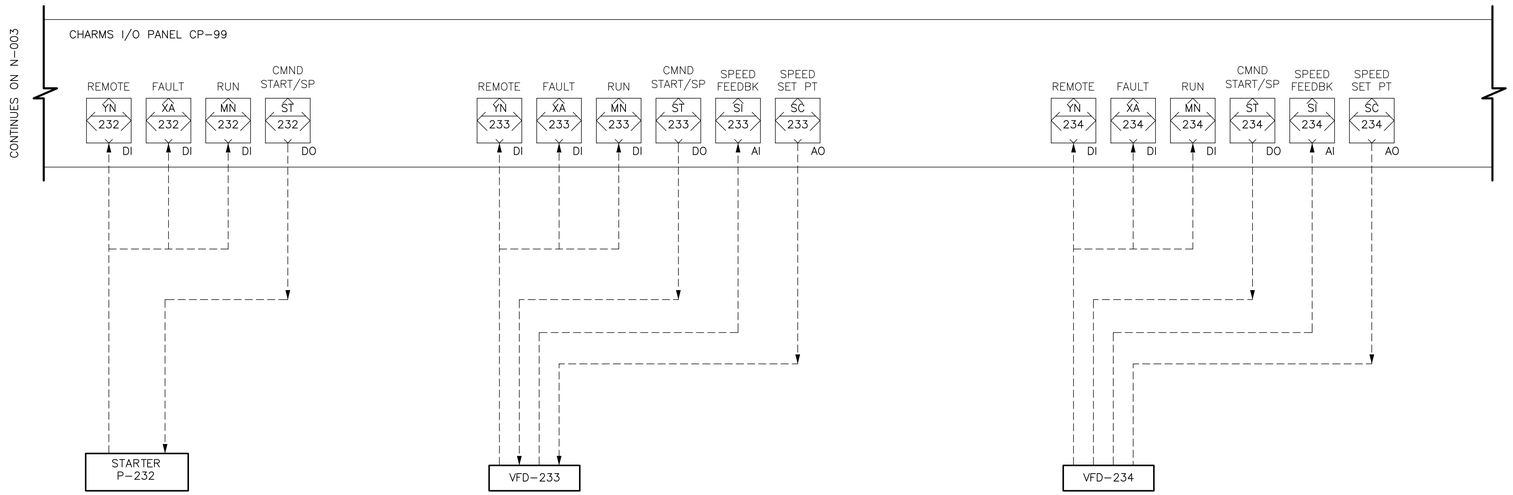
NTS

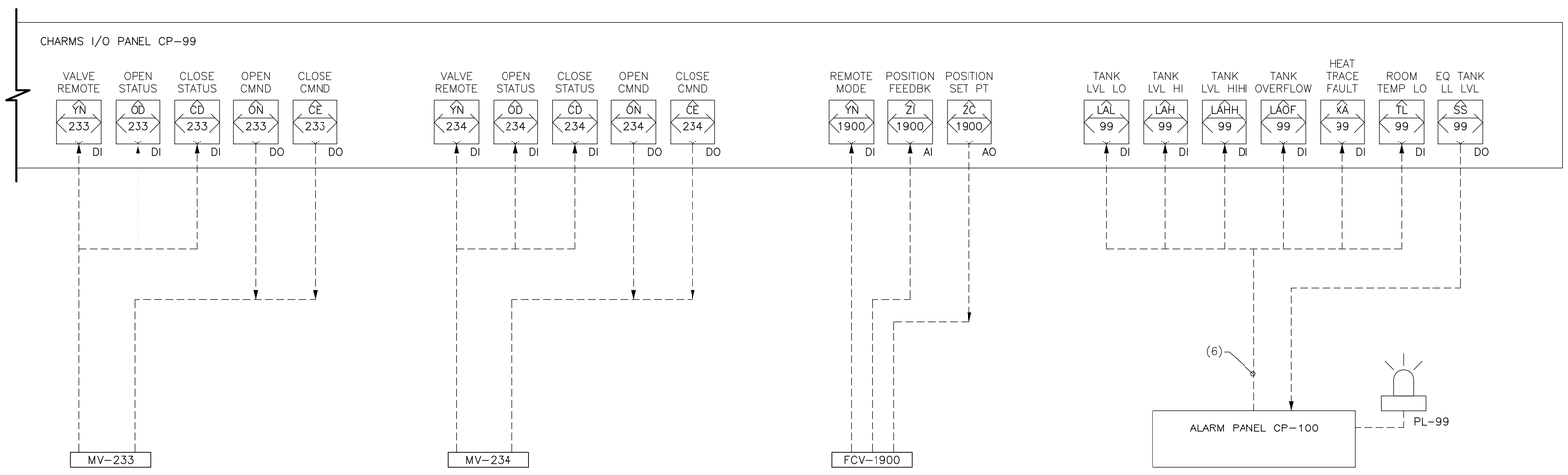
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	2014-08-07
PROJ	494546
DWG	N-010
SHEET	1 of

ISSUED FOR QUOTATION





Certificate of Authorization
CH2M HILL Canada Ltd.
No. 1441 Date: 2015 09 23

PROVINCE OF MANITOBA 23 CERTIFICATE OF AUTHORIZATION R. NATARAJAN Member 32563 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	ISSUED FOR QUOTATION	J.C.	R.N.
0	2015-09-11		BY	APVD
DSGN	R.NATARAJAN	DR	CHK	APVD
	J. CORTEZ	REVISION	K. GRIFFEITHS	R. NATARAJAN

ISSUED FOR QUOTATION

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DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

PROCESS MECHANICAL
I/O PANEL CP-99 DETAILS

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"	
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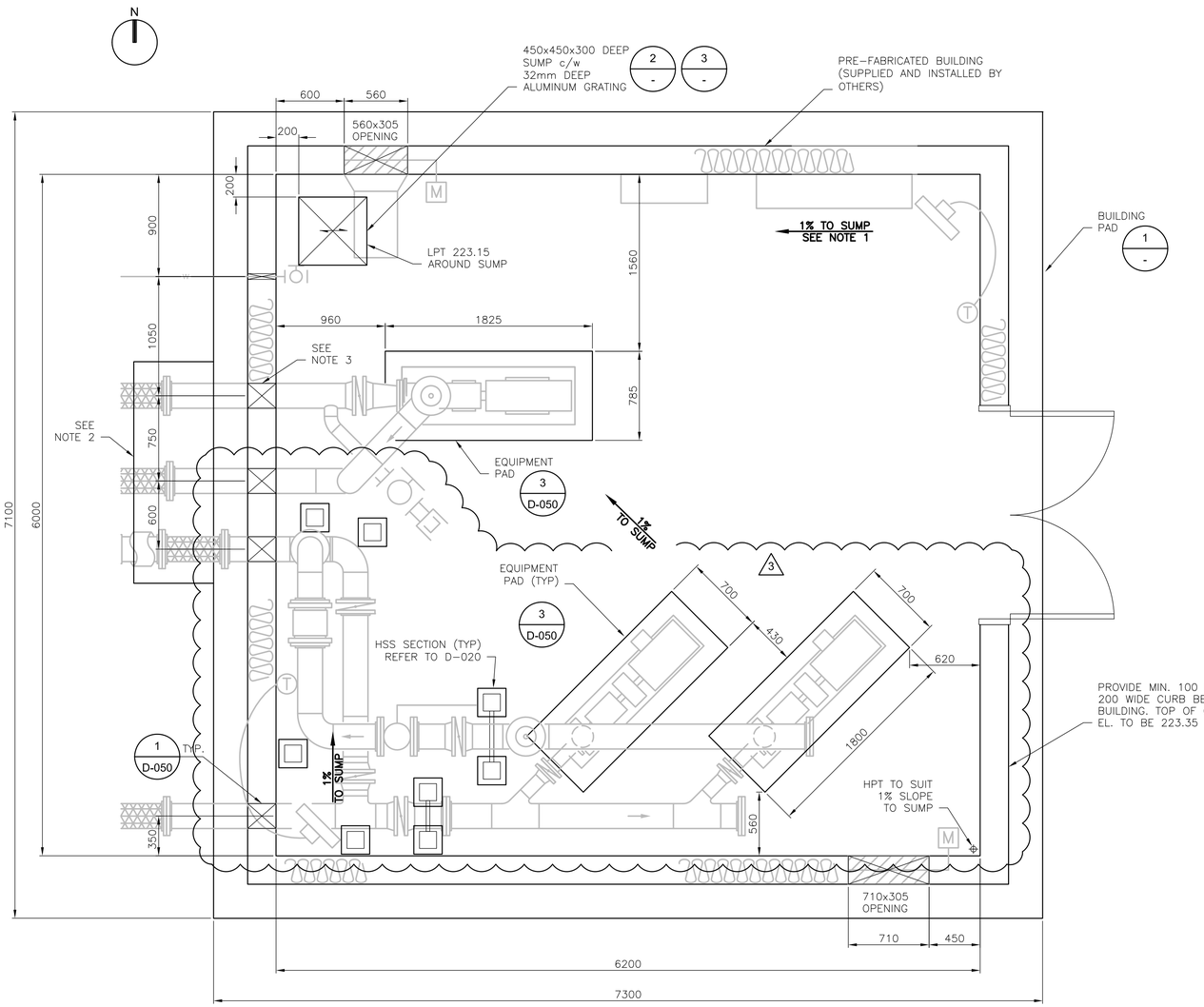
PROJ	494546
DWG	N-011
SHEET	1 of -

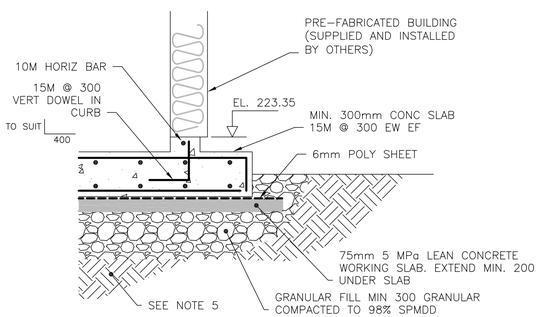


PROVIDE MIN. 100 HIGH X 200 WIDE CURB BENEATH BUILDING. TOP OF CURB EL. TO BE 223.35

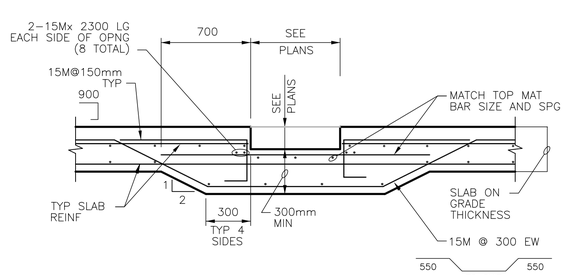
NOTES:

1. INCREASE SLAB THICKNESS AS REQUIRED TO PROVIDE MINIMUM 300 THICK SLAB.
2. EXTEND BUILDING PAD OUT AS REQUIRED FOR EXTERIOR PIPE SUPPORTS.
3. PIPE ARE NOT TO BE SUPPORTED BY BUILDING, SUPPORT PIPES OFF GROUND.
4. PROVIDE 50mm CONCRETE COVER TO REINFORCING, TYP.
5. SUBGRADE TO BE INSPECTED BY GEOTECH PRIOR TO BACKFILLING.

PLAN
1:25



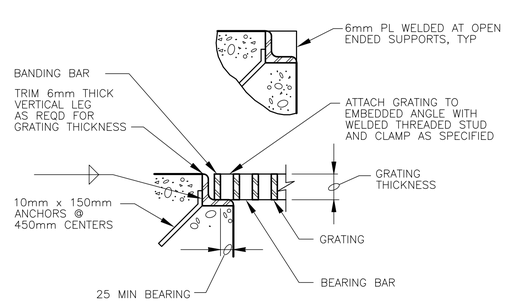
1 BUILDING PAD CONSTRUCTION
NTS



NOTES:

1. REBAR LOCATION SHALL ACCOMMODATE GRATING CONNECTIONS WHERE REQUIRED.

2 IN-SLAB SUMP REINFORCING
NTS



GENERAL NOTES:

1. GRATING SPAN ⟷ SEE PLAN.
2. SHOP DRAWINGS BASED ON FIELD DIMENSIONS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.
3. MATERIAL FOR SUPPORTS OF STEEL AND ALUMINUM GRATING TO BE SAME AS GRATING, EXCEPT METAL SUPPORTS THAT ARE TO BE EMBEDDED IN CONCRETE SHALL BE TYPE 316 STAINLESS STEEL.
4. BEARING BAR THICKNESS FOR GRATING TO BE 5mm MINIMUM. SEE SPECIFICATIONS FOR SPACING OF BEARING AND CROSS BARS.
5. BAND ALL EDGES. MATCH DEPTH OF BEARING BAR.
6. THE HORIZONTAL CLEARANCE BETWEEN THE GRATING AND GRATING SUPPORTS SHALL NOT BE LESS THAN 6mm NOR GREATER THAN 13mm AND AS SPECIFIED.

3 STANDARD GRATING
NTS

NO.	DATE	DSGN	DR	CHK	APVD
3	2015-09-11	J. THANNICKAL	J. CORTEZ	J. THANNICKAL	E. LUI
2	2015-05-19	ISSUED FOR QUOTATION		J.C.	E.L.
1	2015-04-27	ISSUED FOR CONSTRUCTION		J.C.	E.L.
0	2015-03-23	ISSUED FOR ADDENDUM NO. 2		J.C.	E.L.
		ISSUED FOR TENDER		J.C.	E.L.

REVISION

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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STRUCTURAL
EQUIPMENT BUILDING PLAN AND DETAILS

1:25
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2014-07-23
PROJ	494546
DWG	S-020
SHEET	1 of -

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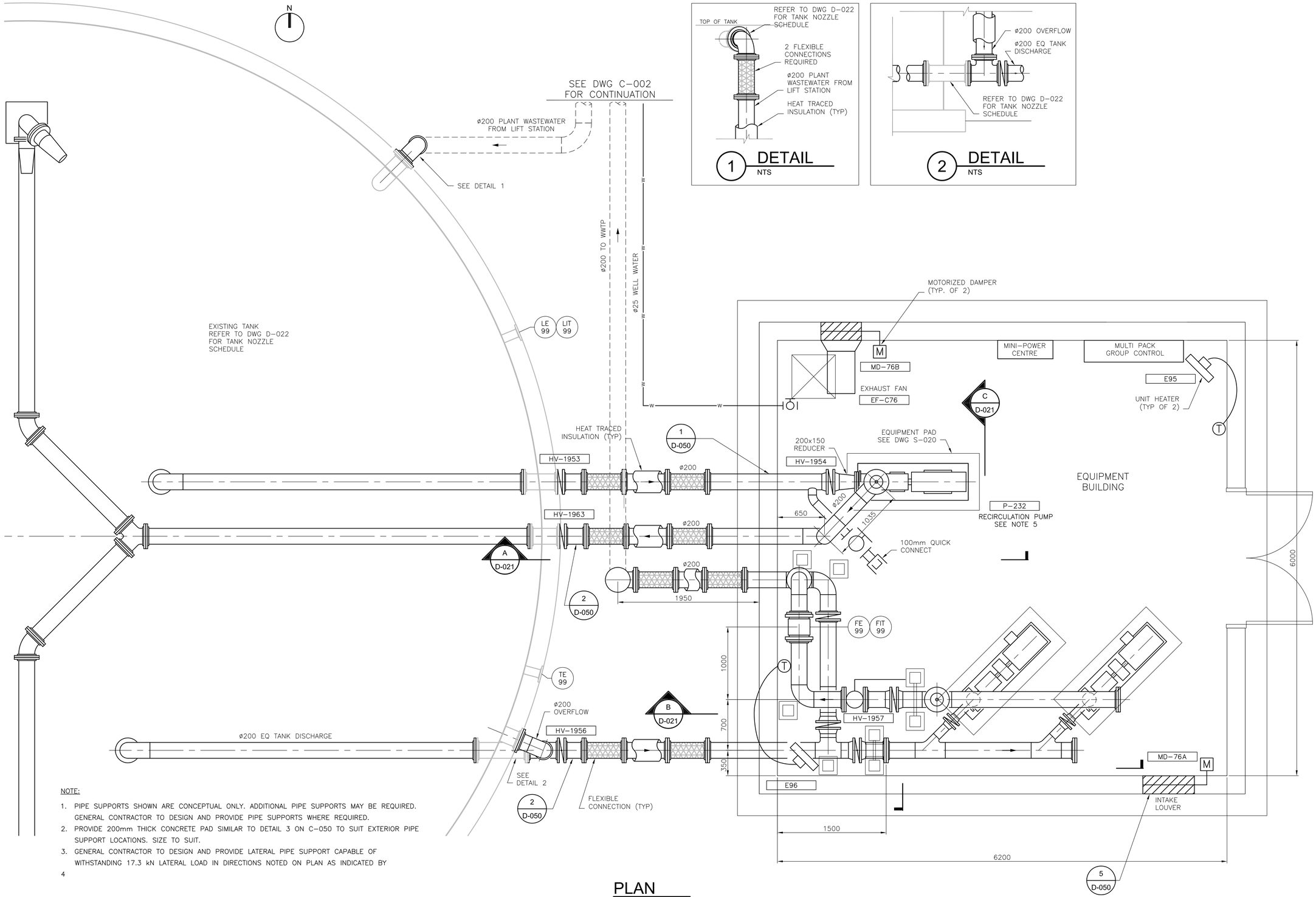

1 DETAIL
NTS

2 DETAIL
NTS

NOTE:

1. PIPE SUPPORTS SHOWN ARE CONCEPTUAL ONLY. ADDITIONAL PIPE SUPPORTS MAY BE REQUIRED. GENERAL CONTRACTOR TO DESIGN AND PROVIDE PIPE SUPPORTS WHERE REQUIRED.
2. PROVIDE 200mm THICK CONCRETE PAD SIMILAR TO DETAIL 3 ON C–050 TO SUIT EXTERIOR PIPE SUPPORT LOCATIONS. SIZE TO SUIT.
3. GENERAL CONTRACTOR TO DESIGN AND PROVIDE LATERAL PIPE SUPPORT CAPABLE OF WITHSTANDING 17.3 kN LATERAL LOAD IN DIRECTIONS NOTED ON PLAN AS INDICATED BY
4

PLAN
1:25

NO.	DATE	REVISION	DR	CHK	APVD
4	2015-09-11	ISSUED FOR QUOTATION	J.C.	K.K.	
3	2015-05-19	ISSUED FOR CONSTRUCTION	J.C.	K.K.	
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1	2015-04-13	ISSUED FOR ADDENDUM NO. 1	J.C.	K.K.	
0	2015-03-23	ISSUED FOR TENDER	J.C.	K.K.	

DSGN J. CORTEZ | DR J. CORTEZ | CHK K. GRIFFITHS | APVD K. KIRK

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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PROCESS MECHANICAL
EQUIPMENT BUILDING
PLAN

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS THE PROPERTY OF CH2M HILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CH2M HILL.

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VERIFY SCALE
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0 1"

DATE	2014-07-23
PROJ	494546
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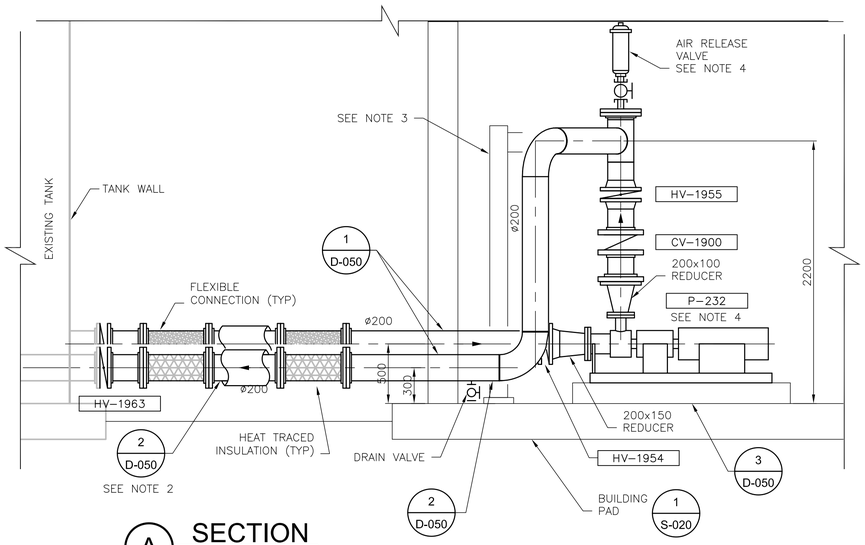

A SECTION
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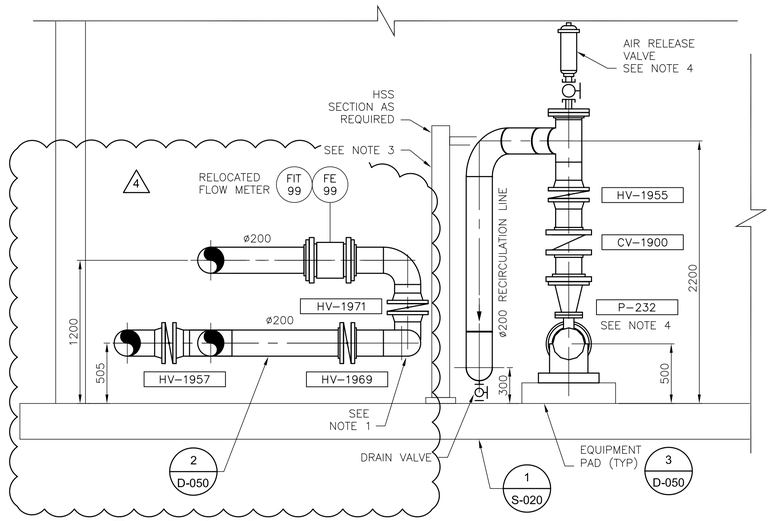
D-020



C SECTION
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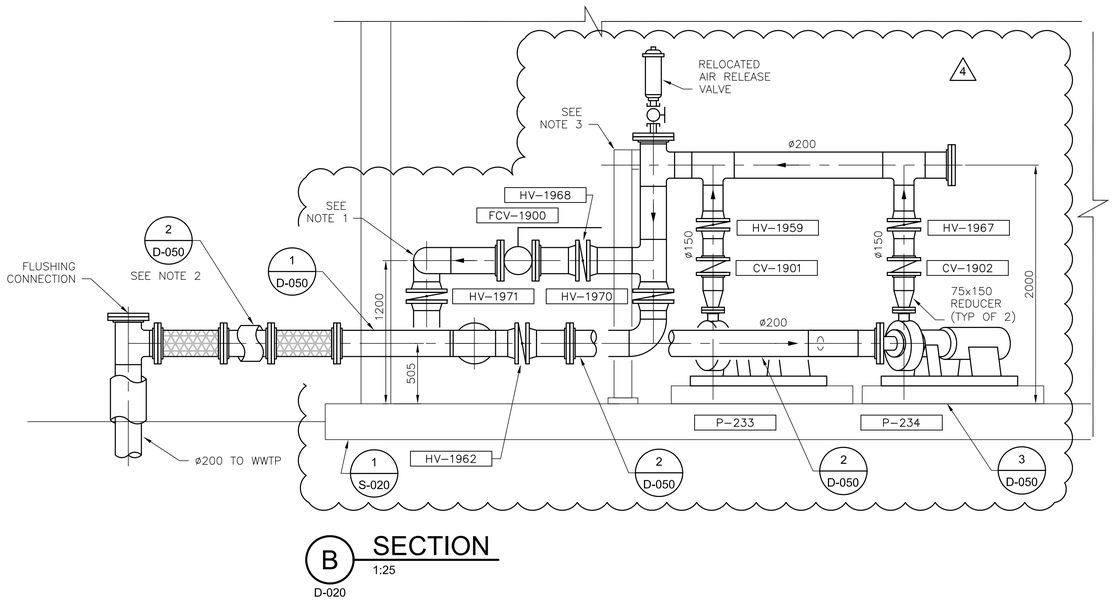
D-020



B SECTION
1:25
D-020

NOTE:

4 1. PIPE SUPPORTS SHOWN ARE CONCEPTUAL ONLY. ADDITIONAL PIPE SUPPORTS MAY BE REQUIRED. GENERAL CONTRACTOR TO DESIGN AND PROVIDE PIPE SUPPORTS WHERE REQUIRED.
2. PROVIDE 200mm THICK CONCRETE PAD SIMILAR TO DETAIL 3 ON C–050 TO SUIT EXTERIOR PIPE SUPPORT LOCATIONS. SIZE TO SUIT.
3. GENERAL CONTRACTOR TO DESIGN AND PROVIDE LATERAL PIPE SUPPORT CAPABLE OF WITHSTANDING 17.3 kN LATERAL LOAD IN DIRECTIONS NOTED ON PLAN AS INDICATED BY
4. EQUIPMENT SUPPLIED BY OTHERS, INSTALLED BY CONTRACTOR.

NO.	DATE	DSGN	DR	CHK	APVD	REVISION	BY	APVD
4	2015-09-11	J. CORTEZ	J. CORTEZ	K. GRIFFITHS	K. KIRK	ISSUED FOR QUOTATION	J.C.	K.K.
3	2015-05-19					ISSUED FOR CONSTRUCTION	J.C.	K.K.
2	2015-04-27					ISSUED FOR ADDENDUM NO. 2	J.C.	K.K.
1	2015-04-13					ISSUED FOR ADDENDUM NO. 1	J.C.	K.K.
0	2015-03-23					ISSUED FOR TENDER	J.C.	K.K.

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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PROCESS MECHANICAL
EQUIPMENT BUILDING SECTIONS

ISSUED FOR QUOTATION

1:25
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2014-07-23
PROJ	494546
DWG	D-021
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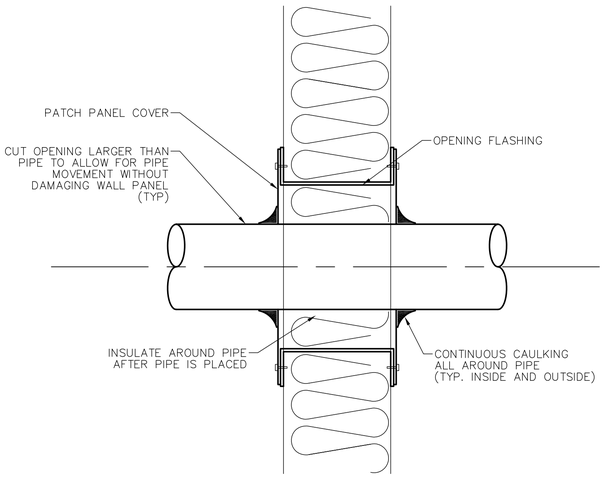
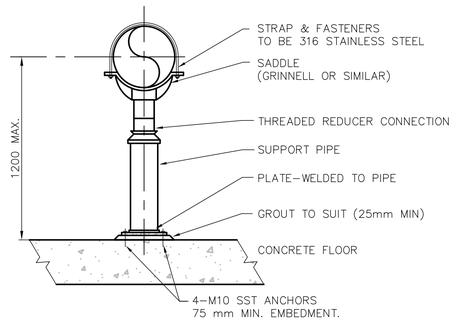


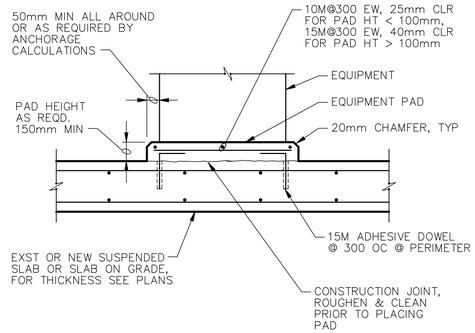
1 PIPE PENETRATION
NTS



PIPE SIZE (mm)	SUPPORT PIPE (mm)	PLATE SIZE (mm)
50	38	150 X 150 X 9.5
75	50	250 X 250 X 9.5
100	75	250 X 250 X 9.5
150	100	250 X 250 X 9.5
200	150	250 X 250 X 9.5
250	200	300 X 300 X 9.5

2 ADJUSTABLE PIPE SUPPORT
NTS

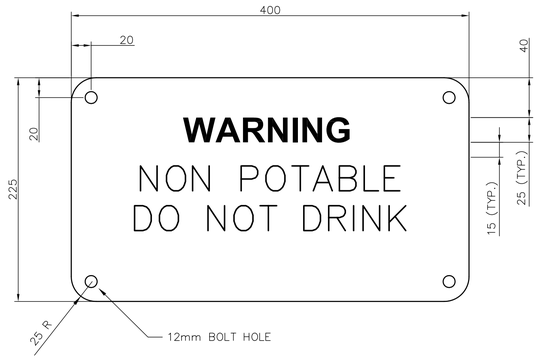
2 NOTE: ADDITIONAL PIPE SUPPORTS MAY BE REQUIRED. GENERAL CONTRACTOR TO DESIGN AND PROVIDE PIPE SUPPORTS WHERE REQUIRED



NOTES:

1. WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.
2. CONCRETE PADS FOR ELECTRICAL EQUIPMENT SHALL BE 90mm HIGH, UNLESS NOTED OTHERWISE.

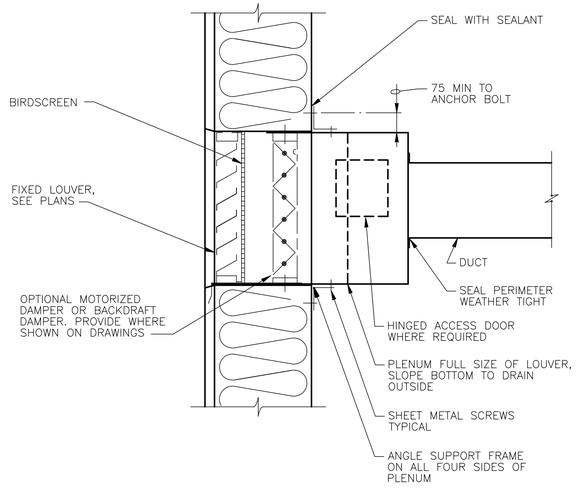
3 EQUIPMENT PAD
NTS



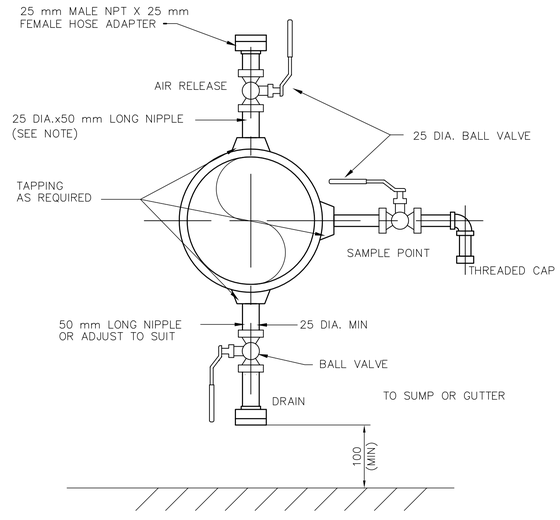
NOTES:

1. WARNING SIGN SHALL BE BAKED ENAMEL ON STEEL PLATE WITH WHITE LETTERING ON RED BACKGROUND.
2. ROUND ALL SHARP EDGES.
3. SIGN TO BE WALL MOUNTED ABOVE THE WELL WATER TAP.

5 WARNING SIGN DETAIL
NTS



5 LOUVER/ PLENUM CONNECTION
NTS



6 DRAIN CONNECTION DETAIL
NTS

NO.	DATE	REVISION	DR	CHK	APVD
2	2015-09-11	ISSUED FOR QUOTATION	J.C.	K.K.	
1	2015-05-19	ISSUED FOR CONSTRUCTION	J.C.	K.K.	
0	2015-03-23	ISSUED FOR TENDER	J.C.	K.K.	

DSGN J. CORTEZ | J. CORTEZ | K. GRIFFITHS | K. KIRK

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

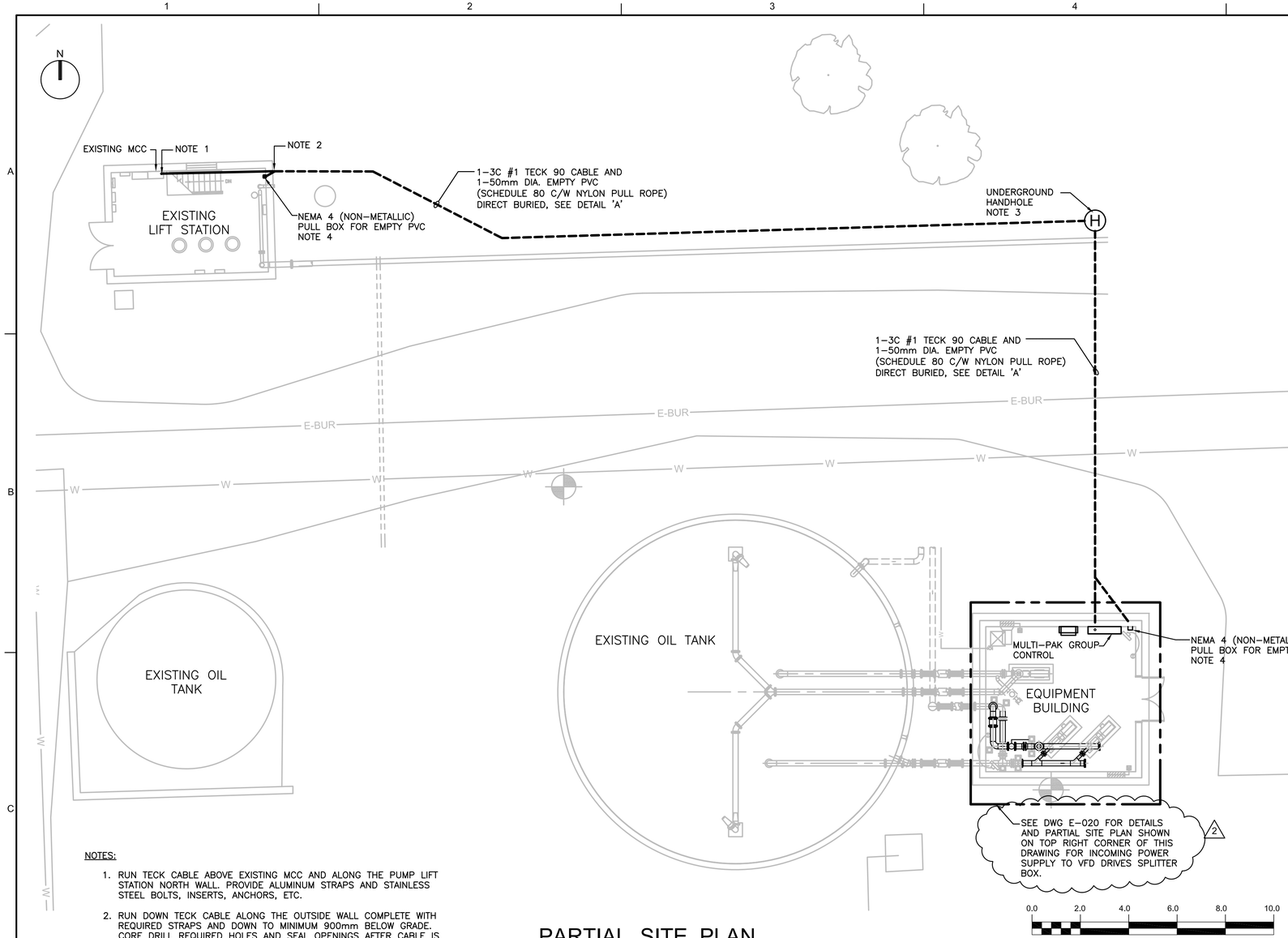
CH2MHILL®

PROCESS MECHANICAL
MISCELLANEOUS DETAILS

1:50
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	2014-07-23
PROJ	494546
DWG	D-050
SHEET	1 of -

ISSUED FOR QUOTATION

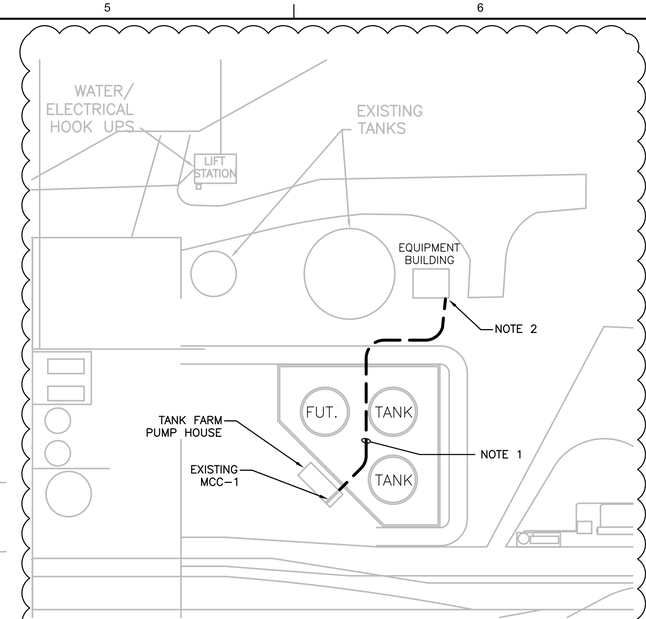


PARTIAL SITE PLAN

1:250

NOTES:

1. RUN TECK CABLE ABOVE EXISTING MCC AND ALONG THE PUMP LIFT STATION NORTH WALL. PROVIDE ALUMINUM STRAPS AND STAINLESS STEEL BOLTS, INSERTS, ANCHORS, ETC.
2. RUN DOWN TECK CABLE ALONG THE OUTSIDE WALL COMPLETE WITH REQUIRED STRAPS AND DOWN TO MINIMUM 900mm BELOW GRADE. CORE DRILL REQUIRED HOLES AND SEAL OPENINGS AFTER CABLE IS INSTALLED.
3. SUPPLY AND INSTALL A POLYETHYLENE HANDHOLE (600mm x 900mm x 600mm) COMPLETE WITH LID. HANDHOLE SHALL BE EQUAL TO PENCELL MODEL NO. 2436 SUPPLIED BY COMSTAR SUPPLY INC.
4. MOUNT PULL BOX AGAINST THE WALL APPROXIMATELY 2200mm ABOVE FINISHED FLOOR.

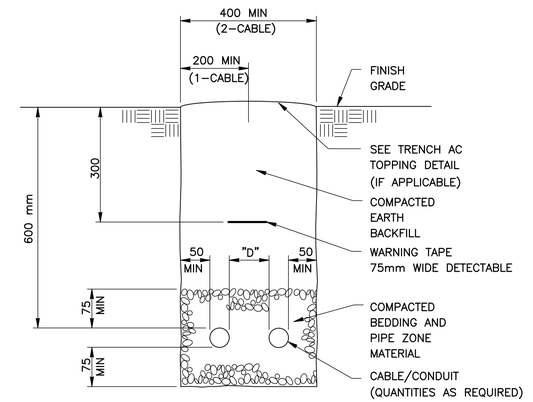


PARTIAL SITE PLAN

1:500

NOTES:

1. POWER CABLE (1-3C #4 TECK90) FROM EXISTING MCC-1 IN TANK FARM HOUSE ELECTRICAL ROOM TO NEW EQUIPMENT BUILDING VIA CABLE TRAYS. NEW FEEDER BREAKER IN MCC-1. POWER CABLE AND CABLE TRAYS IS SUPPLIED AND INSTALLED BY LAKESIDE CONTROLS. FOR REQUIRED BREAKER SIZE, SEE DWG E-002 SINGLE LINE DIAGRAM. ABCO CONTRACTOR TO TERMINATE POWER CABLE TO SPLITTER BOX LOCATED IN EQUIPMENT BUILDING. FINAL CABLE TRAY LOCATION TO BE DETERMINED BY LAKESIDE CONTROLS. 2
2. SEE DWG E-020, EQUIPMENT BUILDING LAYOUT FOR LOCATION OF SPLITTER BOX (WHERE POWER TECK90 CABLE WILL BE TERMINATED).



A - TYPICAL TRENCH AND CABLE PLACEMENT

NTS

NO.	DATE	DSGN	DR	REVISION	CHK	APVD
2	2015-09-11	R. BATAC	R. BATAC	ISSUED FOR QUOTATION	P. ZHANG	P. ZHANG
1	2015-05-19			ISSUED FOR CONSTRUCTION	RB	P.Z.
0	2015-03-23			ISSUED FOR TENDER	RB	P.Z.
					BY	APVD

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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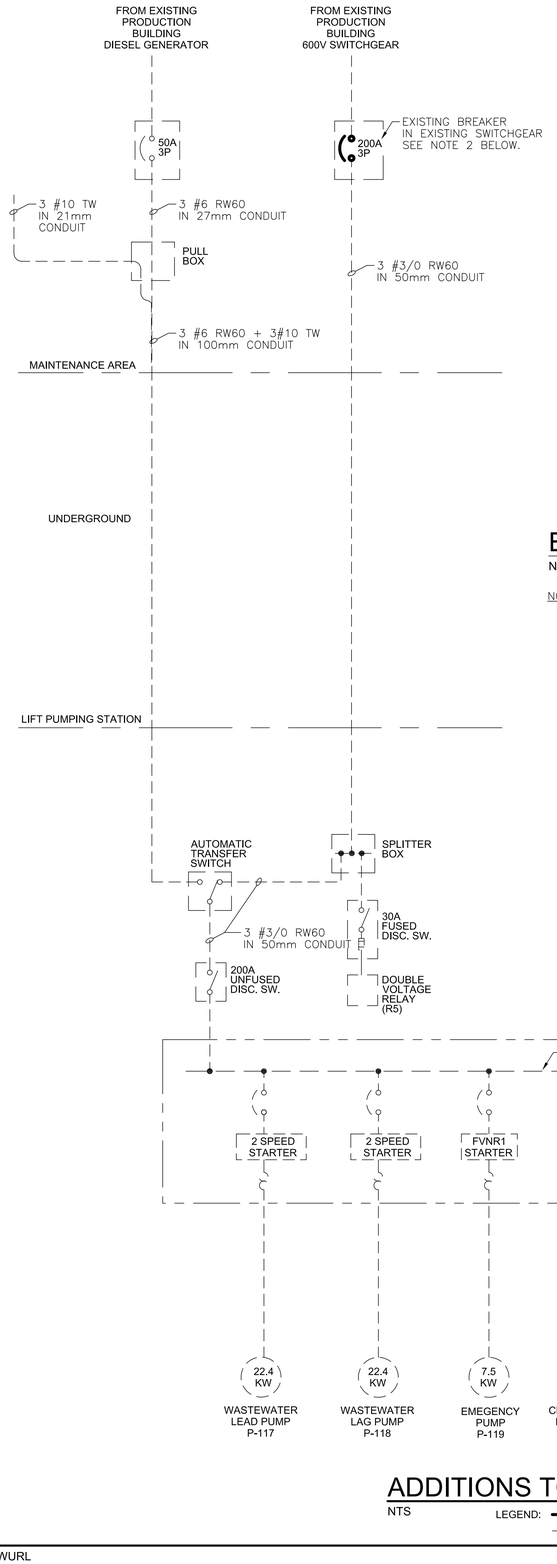
ELECTRICAL
PARTIAL SITE PLAN

1:250
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	
PROJ	494546
DWG	E-001
SHEET	1 of -

ISSUED FOR QUOTATION



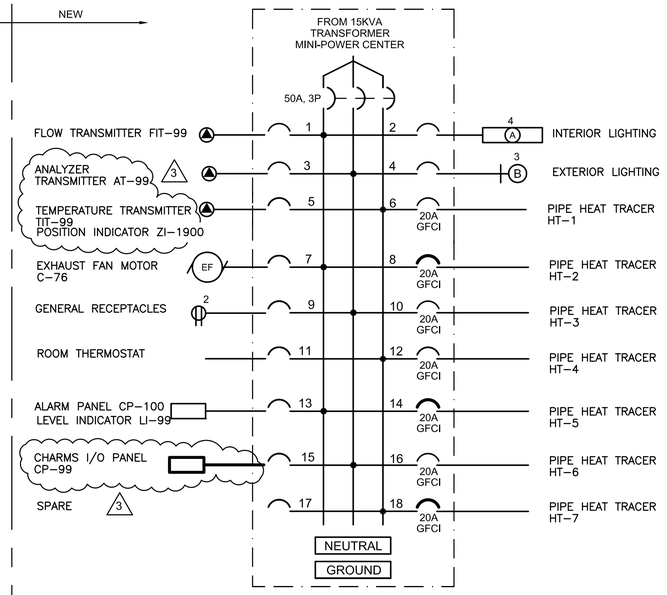
EXISTING MCC-FRONT ELEVATION

NTS REFERENCE: MCC BY SQUARE 'D' COMPANY

NOTES:
1. PROVIDE A 90A, 3P BREAKER IN EXISTING SPACE COMPLETE WITH REQUIRED DOOR, BREAKER HANDLE TO BE INTERLOCK WITH DOOR.
2. REPLACE EXISTING 150A FEEDER BREAKER WITH A 200A TRIP, 250A FRAME FEEDER BREAKER LOCATED IN EXISTING SWITCHGEAR/ MCC WITH THE SAME MAKE AS EXISTING.

EXISTING NEW

1	2
P-218 STARTER	AIR COMPRESSOR
	P-221 STARTER
P-217 BREAKER	45 KVA FEEDER BREAKER
	P-220 STARTER
P-219 EMERGENCY PUMP STARTER	NOTE 1
POWER RECEPTACLE	5 KW ELECTRIC UNIT HEATER



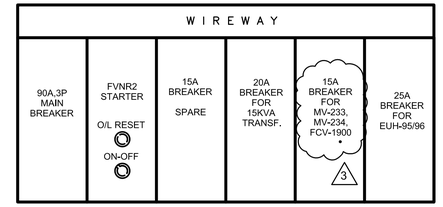
LIGHTING PANEL LP-A

100A, 208/120V, 3ø, 4W, 18 CIRCUITS, TIN PLATED COPPER BUS:
NOTE: ALL FEEDER BREAKERS ARE 15,1P UNLESS OTHERWISE NOTED.

EQUIPMENT SCHEDULE

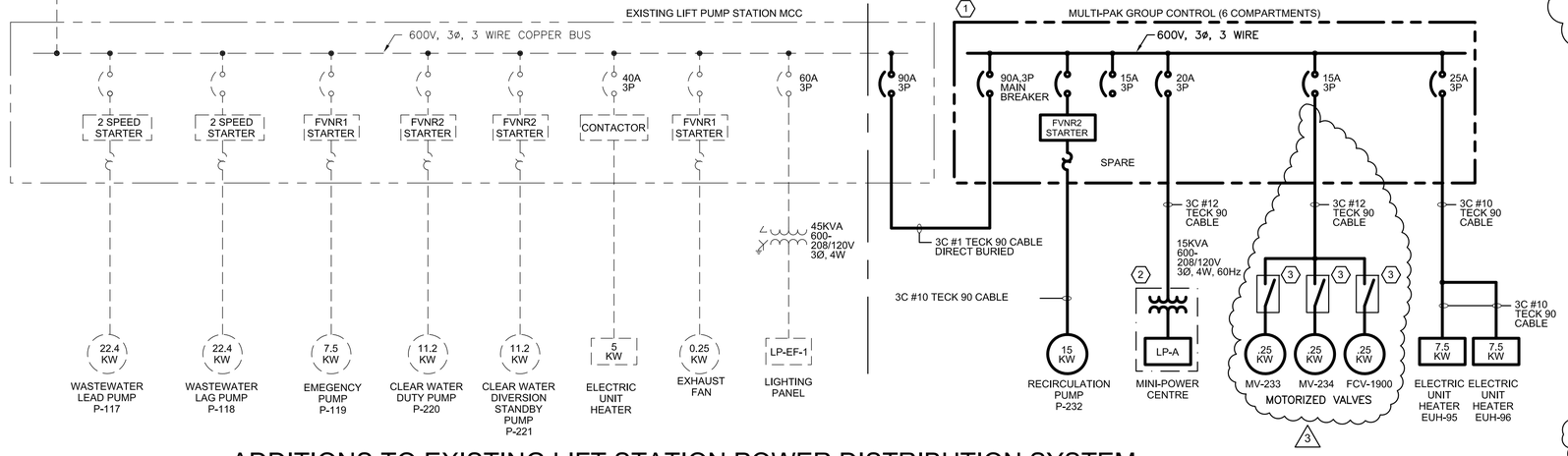
ITEM NO.	DESCRIPTION	MANUFACTURER	NOTE
1	MULTI-PAK GROUP CONTROL	EATON CUTLER-HAMMER OR EQUAL	NOTE 1
2	MINI-POWER CENTER	EATON CUTLER-HAMMER OR EQUAL	NOTE 2
3	30A, 3P, 600V UNFUSED DISCONNECT SWITCH	EATON CUTLER-HAMMER OR EQUAL	NOTE 3
4	VARIABLE FREQUENCY DRIVE (VFD)	ALLEN-BRADLEY OR EQUAL	NOTE 4

NOTES:
1. LOW VOLTAGE MULTI-PAK GROUP CONTROL SHALL BE COMPLETE WITH THE FOLLOWING:
   1 - 90A, 600V, 3P MAIN BREAKER
   1 - COMBINATION BREAKER, SIZE 2 FULL VOLTAGE NON-REVERSING STARTER COMPLETE WITH FUSED 120V CONTROL TRANSFORMER, SELECTOR SWITCH, OVERLOAD RESET AND RED INDICATING LIGHT FOR 'ON' INDICATION ON THE DOOR.
   2 - 15A, 3P FEEDER BREAKERS
   1 - 20A, 2P FEEDER BREAKER
   ENCLOSURE SHALL BE NEMA 4 (WEATHER - RESISTANT)
2. MINI-POWER CENTER, NEMA 3R COMPLETE WITH 15KVA TRANSFORMER, PRIMARY AND SECONDARY CIRCUIT BREAKERS, 18 CIRCUIT PANELBOARD (LP-A) AND FEEDER BREAKER'S SIZES AS SHOWN.
3. 30A, 3P, 600V UNFUSED DISCONNECT SWITCH ROTARY TYPE, IN NEMA 4X NON-METALLIC ENCLOSURE. PADLOCKABLE IN THE OFF POSITION EQUAL TO CUTLER-HAMMER CATALOG #DR361UXB.
4. PowerFlex 70 AC DRIVE, WALL MOUNT COMPLETE BUT NOT LIMITED WITH ADVANCED BUS REGULATION AND DRIVE OVERLOAD PROTECTION, CONFIGURATION AND PROGRAMMING VIA INTEGRAL LCD KEYPAD, DOOR-MOUNTED HUMAN INTERFACE MODULE HIM. SIZE DRIVE SUITABLE FOR A 15 KW (20HP) MOTOR. DRIVE ENCLOSURE SHALL BE NEMA/ULC TYPE 4X/12 SUITABLE FOR INDOOR USE.



MULTI-PAK GROUP CONTROL

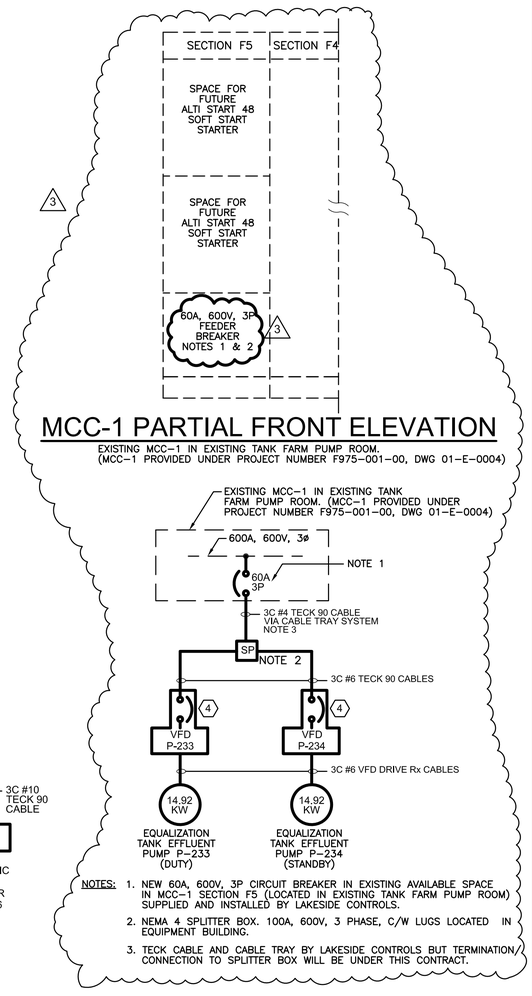
FRONT ELEVATION



ADDITIONS TO EXISTING LIFT STATION POWER DISTRIBUTION SYSTEM

NTS

LEGEND: ——— DENOTES NEW
- - - - - - DENOTES EXISTING TO REMAIN UNLESS OTHERWISE NOTED.



MCC-1 PARTIAL FRONT ELEVATION

EXISTING MCC-1 IN EXISTING TANK FARM PUMP ROOM.
(MCC-1 PROVIDED UNDER PROJECT NUMBER F975-001-00, DWG 01-E-0004)

NOTES:
1. NEW 60A, 600V, 3P CIRCUIT BREAKER IN EXISTING AVAILABLE SPACE IN MCC-1 SECTION F5 (LOCATED IN EXISTING TANK FARM PUMP ROOM) SUPPLIED AND INSTALLED BY LAKESIDE CONTROLS.
2. NEMA 4 SPLITTER BOX. 100A, 600V, 3 PHASE, C/W LUGS LOCATED IN EQUIPMENT BUILDING.
3. TECK CABLE AND CABLE TRAY BY LAKESIDE CONTROLS BUT TERMINATION/ CONNECTION TO SPLITTER BOX WILL BE UNDER THIS CONTRACT.

NO.	DATE	DSGN	DR	CHK	APVD
3	2015-09-11	ISSUED FOR QUOTATION	R. BATAC	R. BATAC	P. ZHANG
2	2015-05-19	ISSUED FOR CONSTRUCTION	RB	P.Z.	
1	2015-04-27	ISSUED FOR ADDENDUM NO. 2	J.C.	P.Z.	
0	2015-03-23	ISSUED FOR TENDER	J.C.	P.Z.	
		REVISION	R.B.	P.Z.	
			BY	APVD	P. ZHANG

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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ELECTRICAL

ADDITIONS TO EXISTING SINGLE LINE DIAGRAM

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	2014-07-23
PROJ	494546
DWG	E-002
SHEET	1 of -

ISSUED FOR QUOTATION

LEGEND:

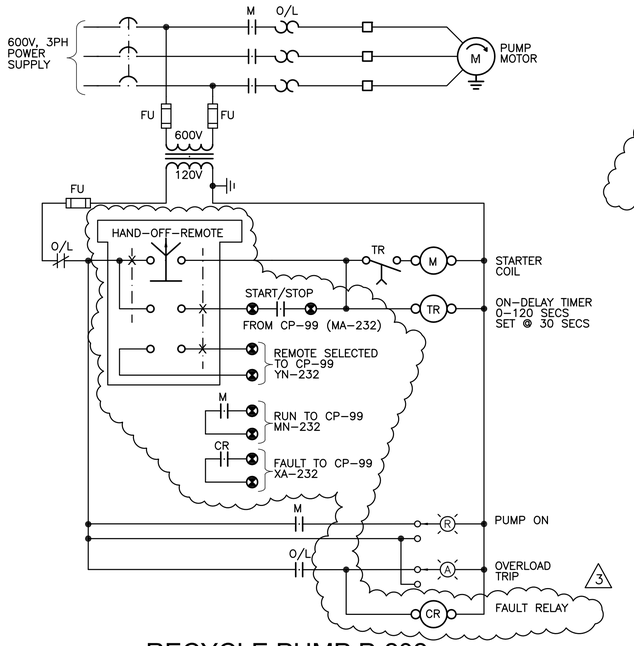
- CONNECTION POINT TO EQUIPMENT SPECIFIED BY OTHER DIVISION. CONDUCTOR, RACEWAY, TERMINATION AND CONNECTION IN THIS DIVISION.
- DUPLEX CONVENIENCE RECEPTACLE, CORROSION RESISTANT C/W COVER.
- SQUIREL CAGE INDUCTION MOTOR
- LOCAL CONTROL STATION, NEMA 4X ENCLOSURE
- OCCUPANCY SENSOR, WALL MOUNTED
- COMBINATION EXIT AND EMERGENCY BATTERY LIGHTING UNIT WALL MOUNTED, SEE SCHEDULE
- (A) LIGHTING FIXTURE, SEE SCHEDULE
- (B) WALL MOUNTED LIGHTING FIXTURE, SEE SCHEDULE
- 20A CIRCUIT BREAKER, MAGNETIC TRIP TYPE
- FVNR2 STARTER — COMBINATION MAGNETIC STARTER WITH OVERLOAD, FULL VOLTAGE NON–REERSING SIZE 2

GENERAL NOTES:

1. ALL ELECTRICAL WORKS/INSTALLATION SHALL COMPLY WITH THE LATEST EDITIONS OF CSA C22.1 CANADIAN ELECTRICAL CODE AND BULLETINS WHICH GOVERN THE INSTALLATION. WHERE THESE REGULATIONS CONFLICT, COMPLY WITH THE MOST STRINGENT CONDITION.
2. COMPLY WITH THE LATEST EDITIONS OF THE CSA CERTIFICATION STANDARDS AND BULLETINS.
3. VERIFY BEFORE ENERGIZATION THAT EQUIPMENT SUPPLIED UNDER THIS CONTRACT IS COMPATIBLE WITH RELATED ELECTRICAL POWER SUPPLY SYSTEM.
4. PAY ASSOCIATED FEES AND COST.
5. MATERIALS: ONLY CSA OR ULC APPROVED IS ACCEPTED.
6. TEST AND CHECK ELECTRICAL EQUIPMENT/INSTRUMENTATION DEVICES FOR CORRECT OPERATION.
7. SUBMIT SHOP DRAWINGS OF MULTI–PAK GROUP CONTROL, MINI–POWER CENTER, MISC. CIRCUIT BREAKERS AND LIGHTING FIXTURES FOR REVIEW.
8. PROVIDE SUPPORTS, HANGERS PLATES AND HARDWARES REQUIRED FOR ELECTRICAL AND INSTRUMENTATION EQUIPMENT.
9. PROVIDE NON–CORRODING, 6 mm MINIMUM, NYLON OR LEAD SPACERS FOR FASTENING ENCLOSURES TO MASONRY WALLS.
10. FINAL LOCATIONS OF ELECTRICAL, PROCESS, HVAC AND INSTRUMENTATION EQUIPMENT/DEVICES SHALL BE COORDINATED IN THE FIELD.
11. ALL WIRING SHALL BE TECK90 CABLES WITH VOLTAGE RATING TO SUITE THE APPLICATION, WITH ALUMINUM ARMOUR AND WITH PVC JACKET. PROVIDE WATERTIGHT CONNECTORS FOR CABLE TERMINATIONS EQUAL TO THOMAS & BETTS SPIN–ON WATERTIGHT METAL–CLAD CABLE CONNECTORS OR APPROVED EQUAL. PROVIDE SUPPORT AND FRAMING CHANNEL FOR SUPPORTING CABLES.

LIGHTING FIXTURE SCHEDULE

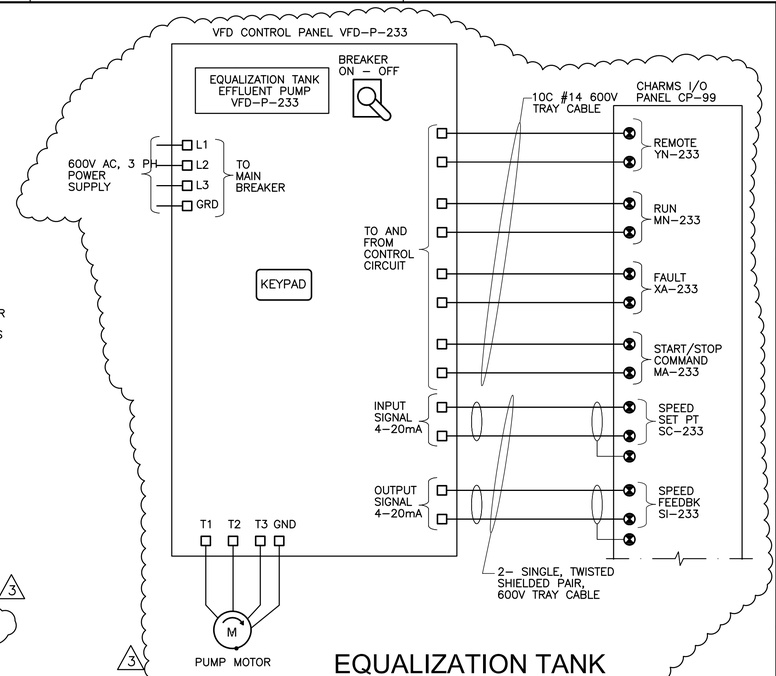
DESCRIPTION	MANUFACTURER	CAT. NO.	ALTERNATE
(A) ARCHWAY PASSAGE LED, INJECTION MOLDED AND IMPACT RESISTANT	LITHONIA LIGHTING	VAP 59LED SYJM SF STSL 120V, 40 WATTS	COOPER LIGHTING HOLOPHANE DAY–BRITE
(B) LED WALL PAK , RUGGED DIE–CAST ALUMINUM HOUSING TYPE 3 DISTRIBUTION COMPLETE WITH PHOTOCELL	COOPER LIGHTING	LDWP GL 2A ED LED 120V, 22 WATTS	LITHONIA HOLOPHANE DAY–BRITE
EMERGENCY BATTERY UNIT LEAD ACID SEALED BATTERY C/W 2 MR16 QUARTZ LAMPS	STANPRO	SPEXW1050 NEMA 4X 120VAC INPUT	LUMACELL EMERGI–LITE



RECYCLE PUMP P-232

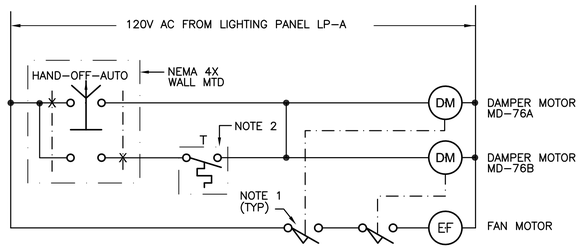
NOTE: ALL ELECTRICAL DEVICES ARE WITHIN THE STARTER LOCATED IN THE MULTI–PAK GROUP, UNLESS OTHERWISE NOTED.

3 REPLACE ON–OFF SWITCH A 3–POSITION SELECTOR SWITCH AND ADD A CONTROL RELAY SIGNAL TO NEW CHARMS I/O PANEL CP–99.



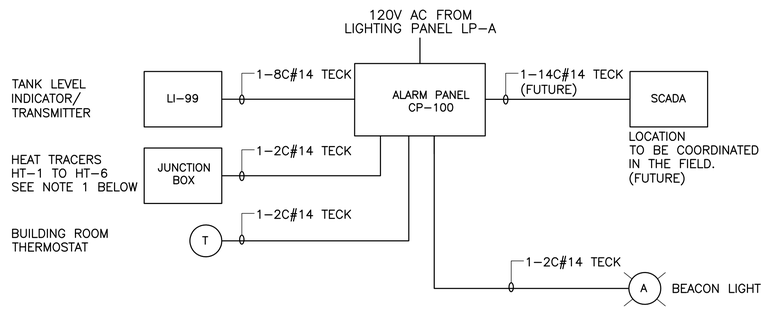
EQUALIZATION TANK EFFLUENT PUMP P-233

NOTE: TYPICAL FOR EFFLUENT PUMP P–234



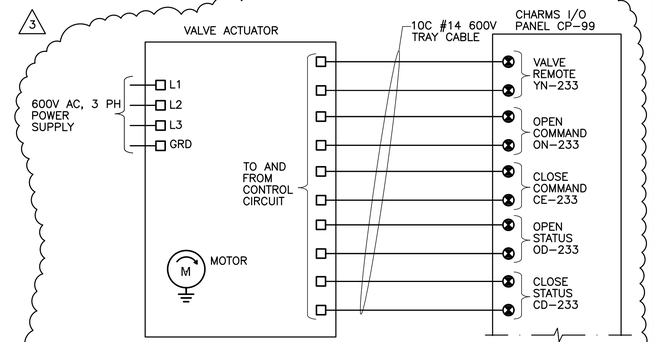
EXHAUST FAN C76

NOTES:
1. LIMIT SWITCH CLOSES WHEN MOTORIZED DAMPER IS FULLY OPEN.
2. ROOM THERMOSTAT CONTACT CLOSES WHEN ROOM TEMPERATURE RISES 32°C AND ABOVE.



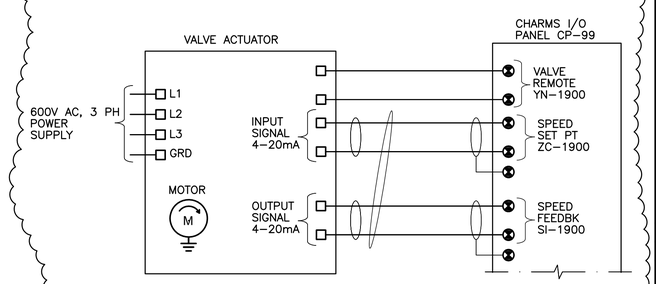
MISCELLANEOUS DEVICES INTERCONNECTION DIAGRAM

CONNECT ALL SIX (6) FAULT SIGNALS FROM EACH THERMOSTAT IN PARALLEL FROM HEAT TRACERS HT–1 TO HT–6 INCLUSIVE IN THIS NEMA 4 NON–METALLIC BOX. PROVIDE BOX COMPLETE NUMBERED TERMINAL BLOCKS.



OPEN-CLOSE VALVE ACTUATOR MV-233

NOTE: TYPICAL FOR OPEN–CLOSE VALVE ACTUATOR MV–234



MODULATING VALVE ACTUATOR FCV-1900

NO.	DATE	REVISION	CHK	DR	DSGN
3	2015-09-11	ISSUED FOR QUOTATION	RB	P.Z.	R BATAC
2	2015-05-19	ISSUED FOR CONSTRUCTION	J.C.	P.Z.	R BATAC
1	2015-04-27	ISSUED FOR ADDENDUM NO. 2	J.C.	P.Z.	P. ZHANG
0	2015-03-23	ISSUED FOR TENDER	R.B.	P.Z.	P. ZHANG

BY	APVD
	APVD
	P. ZHANG

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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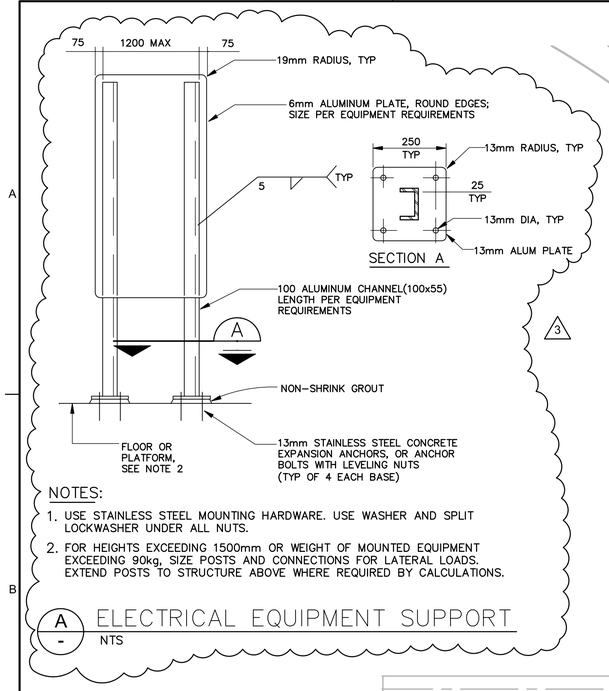
ELECTRICAL
LEGEND AND CONTROL SCHEMATICS

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2014-08-07
PROJ	494546
DWG	E-003
SHEET	1 of -

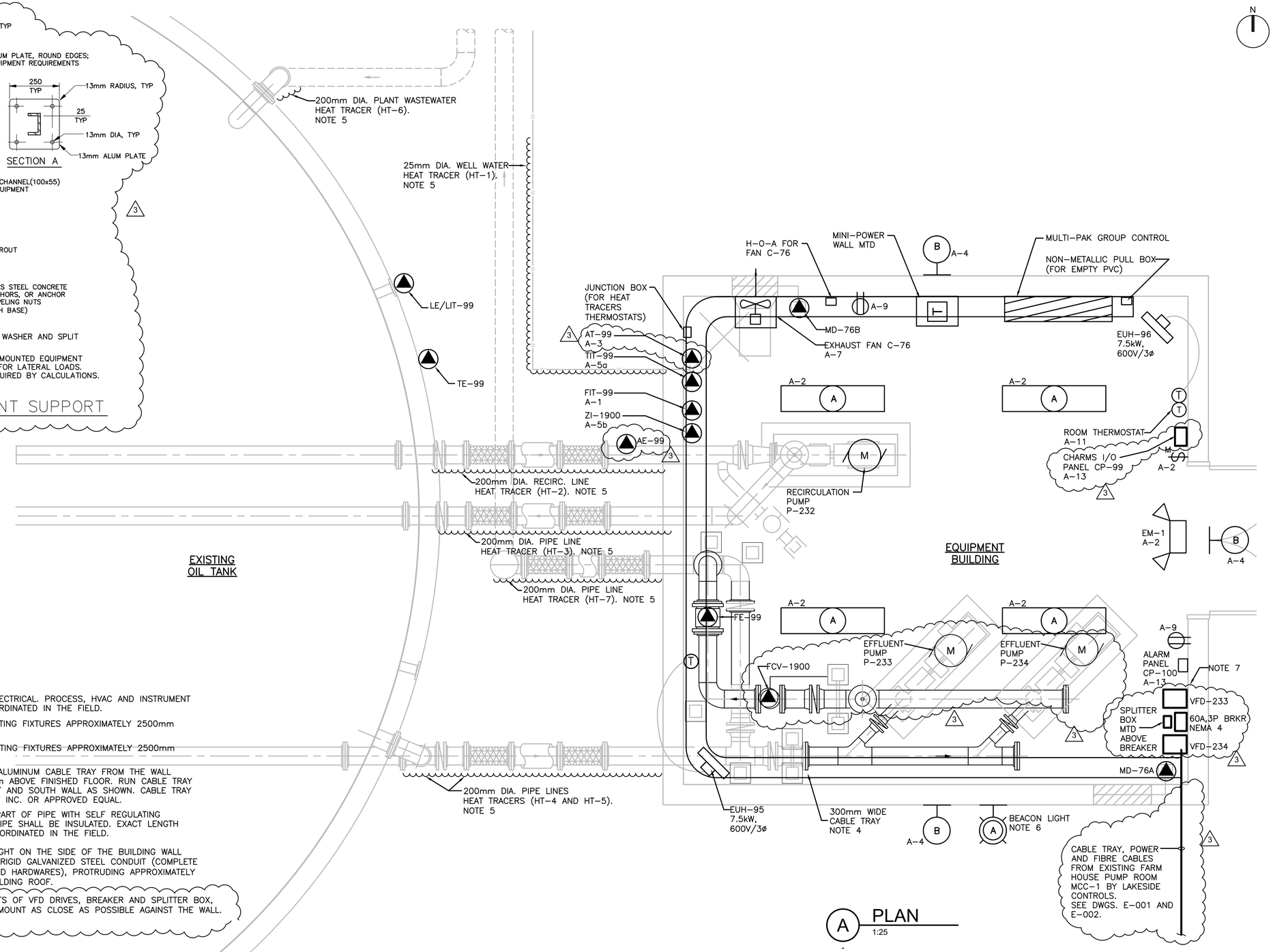
ISSUED FOR QUOTATION



NOTES:

1. USE STAINLESS STEEL MOUNTING HARDWARE. USE WASHER AND SPLIT LOCKWASHER UNDER ALL NUTS.
2. FOR HEIGHTS EXCEEDING 1500mm OR WEIGHT OF MOUNTED EQUIPMENT EXCEEDING 90kg, SIZE POSTS AND CONNECTIONS FOR LATERAL LOADS. EXTEND POSTS TO STRUCTURE ABOVE WHERE REQUIRED BY CALCULATIONS.

A - ELECTRICAL EQUIPMENT SUPPORT
NTS



A - PLAN
1:25

NOTES:

1. FINAL LOCATIONS OF ELECTRICAL. PROCESS, HVAC AND INSTRUMENT DEVICES SHALL BE COORDINATED IN THE FIELD.
2. SUSPEND TYPE 'A' LIGHTING FIXTURES APPROXIMATELY 2500mm ABOVE FINISHED FLOOR.
3. SUSPEND TYPE 'B' LIGHTING FIXTURES APPROXIMATELY 2500mm ABOVE FINISHED GRADE.
4. INSTALL AND SUPPORT ALUMINUM CABLE TRAY FROM THE WALL APPROXIMATELY 2500mm ABOVE FINISHED FLOOR. RUN CABLE TRAY FROM THE NORTH, WEST AND SOUTH WALL AS SHOWN. CABLE TRAY SHALL BE BY CANSTRUT INC. OR APPROVED EQUAL.
5. HEAT TRACE EXPOSED PART OF PIPE WITH SELF REGULATING HEAT TRACING CABLE. PIPE SHALL BE INSULATED. EXACT LENGTH OF PIPES SHALL BE COORDINATED IN THE FIELD.
6. INSTALL THE BEACON LIGHT ON THE SIDE OF THE BUILDING WALL ON A 21mm DIAMETER RIGID GALVANIZED STEEL CONDUIT (COMPLETE WITH WALL SUPPORT AND HARDWARES), PROTRUDING APPROXIMATELY 610mm ABOVE THE BUILDING ROOF.

3 7. FOR MOUNTING SUPPORTS OF VFD DRIVES, BREAKER AND SPLITTER BOX, SEE DETAIL 'A' ABOVE. MOUNT AS CLOSE AS POSSIBLE AGAINST THE WALL.

NO.	DATE	DSGN	REVISION	DR	CHK	APVD
3	2015-09-11	R. BATAC	ISSUED FOR QUOTATION	RB	P.Z.	P. ZHANG
2	2015-05-19	R. BATAC	ISSUED FOR CONSTRUCTION	J.C.	P.Z.	
1	2015-04-27		ISSUED FOR ADDENDUM NO. 2	J.C.	P.Z.	
0	2015-03-23		ISSUED FOR TENDER	R.B.	P.Z.	

DIAGEO CANADA INC.
Gimli Wastewater Treatment Plant
Phase I Engineering Services

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ELECTRICAL
EQUIPMENT BUILDING LAYOUT

1:50
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2014-07-23
PROJ	494546
DWG	E-020
SHEET	1 of -

ISSUED FOR ISSUED FOR QUOTATION