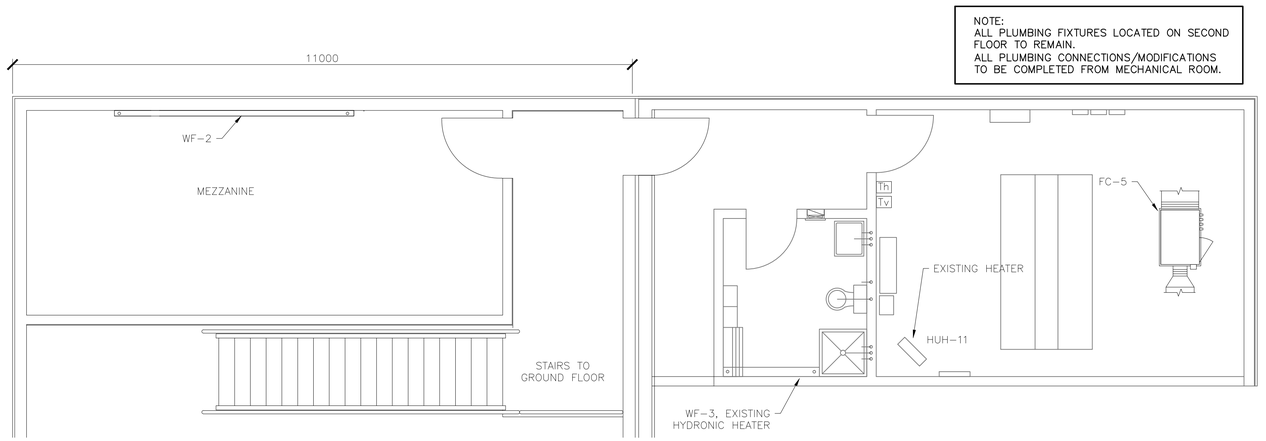
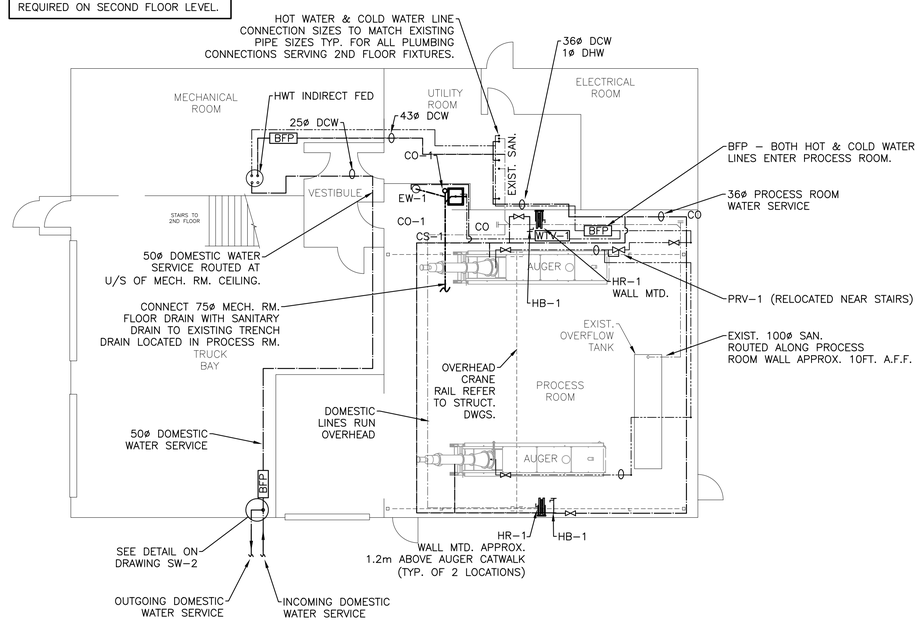


NOTE:
ALL PLUMBING FIXTURES LOCATED ON SECOND FLOOR TO REMAIN.
ALL PLUMBING CONNECTIONS/MODIFICATIONS TO BE COMPLETED FROM MECHANICAL ROOM.

MECHANICAL PLUMBING – MEZZANINE FLOOR PLAN

1:50

NOTE:
NO PLUMBING MODIFICATIONS REQUIRED ON SECOND FLOOR LEVEL.



PLUMBING SCHEMATIC

N.T.S.

MECHANICAL PLUMBING SCHEMATIC LEGEND

- ISOLATION VALVE
- HOSE BIBB
- HOSE REEL
- BFP — BACKFLOW PREVENTER
- WTV-1 — WATER TEMPERING VALVE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- PRV (SET @ 30PSI)

	Issue / Revision	Date
1	ISSUED FOR TENDER	FEBRUARY 2013
2	REVISED AS PER ADDENDUM 1 TO 4 AND ISSUED FOR CONSTRUCTION	APRIL 2013
3	AS-BUILT	AUGUST 2015

AS-BUILT DRAWING
AS-BUILT INFORMATION PROVIDED BY THE GENERAL CONTRACTOR:
KUDLIK CONSTRUCTION LTD.
IQALUIT, NUNAVUT

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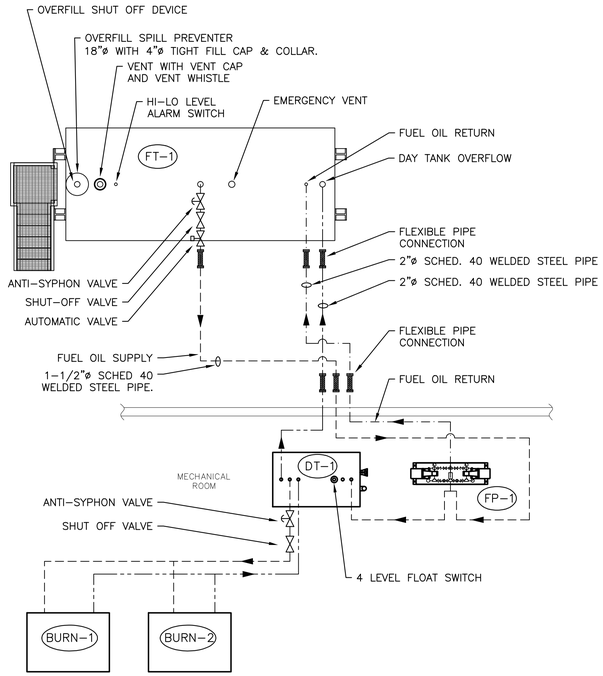
RANKIN INLET
SEWAGE TREATMENT PLANT

Drawing Title
SECOND FLOOR
MECHANICAL
PLUMBING LAYOUT AND
PLUMBING SCHEMATIC

Drawn By	Checked By	Drawing No.
A.H.	D.MacK.	M-12
Scale: AS NOTED	Project No.: 300031281	



NOTE:
FP–1 SUPPLIED FROM MANUFACTURER AS PRE–ASSEMBLED DUPLEX PUMP SYSTEM C/W PUMPS, ISOLATION VALVE, CHECK VALVES AND PRESSURE GAUGES.

FUEL OIL PIPING SCHEMATIC
N.T.S.

CONTROLS SCHEDULE

TAG	DESCRIPTION	CONTROL DESCRIPTION	WWSD
B–1, BRN–1	HYDRONIC BURNER–BOILER #1	CONTROLLED BY INTEGRAL BOILER / BURNER CONTROLS IN SERIES WITH TEKMAR 274 CONTROL. TEKMAR CONTROL TO PROVIDE LEAD – LAG ALTERNATING OPERATION OF BOILERS, BURNERS AND CIRC. PUMPS CP–1 & CP–2. TEKMAR 274 CONTROL TO PROVIDE WWSD FUNCTION AND BOILER CONTROL FOR DHW HEATING AND CIRC. PUMPS CP–4. BOILER TO BE OPERATED IN "ON – OFF" MODE.	NO
B–2, BRN–2	HYDRONIC BURNER–BOILER #2	CONTROLLED BY INTEGRAL BOILER / BURNER CONTROLS IN SERIES WITH TEKMAR 274 CONTROL. TEKMAR CONTROL TO PROVIDE LEAD – LAG ALTERNATING OPERATION OF BOILERS, BURNERS AND CIRC. PUMPS CP–1 & CP–2. TEKMAR 274 CONTROL TO PROVIDE WWSD FUNCTION AND BOILER CONTROL FOR DHW HEATING AND CIRC. PUMPS CP–4. BOILER TO BE OPERATED IN "ON – OFF" MODE.	NO
GF–1	GLYCOL FEEDER #1	UNIT HAS INTEGRAL CONTROL WHICH SENSES PRESSURE IN HYDRONIC PIPING AND WHEN PRESSURE DROPS BELOW SET POINT STARTS PUMP TO PUMP GLYCOL INTO HYDRONIC PIPING UNTIL PRESSURE IN SYSTEM REACHES SHUT OFF PRESSURE AT WHICH POINT PUMP SHUTS DOWN.	YES
CP–1, CP–2	MAIN BOILER CIRCULATING PUMPS #1 & #2	CONTROLLED BY INTEGRAL BOILER CONTROLS IN SERIES WITH TEKMAR 274 CONTROL. TEKMAR CONTROL TO PROVIDE LEAD – LAG ALTERNATING OPERATION OF BOILERS, BURNERS AND CIRC. PUMPS CP–1 & CP–2. TEKMAR 274 CONTROL TO PROVIDE WWSD FUNCTION AND BOILER CONTROL FOR DHW HEATING.	NO
CP–3	CIRC. PUMP #3 EXISTING DHW THRU HX TO TANK.	AQUASTAT IN TANK PROVIDES SIGNAL TO TEKMAR 274 BOILER CONTROL. TEKMAR 274 CONTROLS CIRCULATOR CP–3 THROUGH THE HIGH LIMIT AQUASTAT SO IF THE HIGH LIMIT IS TRIPPED, PUMP CP–3 DOES NOT START. WWSD FUNCTION PROVIDED BY TEKMAR 274 CONTROL	NO
CP–4	CIRC. PUMP #4 EXISTING GLYCOL THRU HX FROM BOILERS	AQUASTAT IN TANK PROVIDES SIGNAL TO TEKMAR 274 BOILER CONTROL. TEKMAR 274 CONTROLS CIRCULATOR CP–4 THROUGH THE HIGH LIMIT AQUASTAT SO IF THE HIGH LIMIT IS TRIPPED, PUMP CP–4 DOES NOT START. WWSD FUNCTION PROVIDED BY TEKMAR 274 CONTROL.	NO
CP–5	CIRC. PUMP #5 GLYCOL TO ALL UNIT HEATERS	WWSD FUNCTION PROVIDED BY TEKMAR 150 CONTROL, OTHERWISE RUNS CONTINUOUSLY.	YES
CP–6	CIRC. PUMP #6 GLYCOL TO FC–1	WWSD FUNCTION PROVIDED BY TEKMAR 150 CONTROL. EXIT AIR TEMPERATURE CONTROLLED BY SENSOR IN EXPLOSION PROOF HOUSING MOUNTED TO EXIT DUCTWORK OF FC–1. TEKMAR 361 CONTROL TO ACCEPT SENSOR INPUT AND PROVIDE VARIABLE SPEED OPERATION OF CIRCULATION PUMP.	YES
CP–7	CIRC. PUMP #7 GLYCOL TO FC–2	WWSD FUNCTION PROVIDED BY TEKMAR 150 CONTROL. EXIT AIR TEMPERATURE CONTROLLED BY SENSOR MOUNTED TO EXIT DUCTWORK OF FC–2. TEKMAR 361 CONTROL TO ACCEPT SENSOR INPUT AND PROVIDE VARIABLE SPEED OPERATION OF CIRCULATION PUMP.	YES
CP–8, CP–9	CIRC. PUMP #8 & #9 GLYCOL TO FC–3 & FC–4 RESPECTIVELY	CP–8 & CP–9 ARE REDUNDANT CIRCULATORS PROVIDING MAKE UP AIR TO VESTIBULE. UNITS NEED TO BE PROVIDED WITH AIR FLOW AND WATER FLOW SWITCHES AND CONTROLLED SO THAT A FAILURE OF EITHER AIR FLOW OR WATER FLOW OR BOTH IN THE LEAD FAN OR CIRCULATOR CAUSES THE LAG CIRCULATOR AND FAN TO BE ENERGISED. WWSD FUNCTION PROVIDED BY TEKMAR 150 CONTROL. EXIT AIR TEMPERATURE CONTROLLED THERMOSTAT MOUNTED IN ROOM. T'STAT SIGNAL TO TEKMAR 361 WHICH PROVIDES VARIABLE SPEED OPERATION OF CIRCULATOR PUMP.	YES
CP–10	CIRC. PUMP #10 GLYCOL TO FC–5	WWSD FUNCTION PROVIDED BY TEKMAR 150 CONTROL. EXIT AIR TEMPERATURE CONTROLLED BY SENSOR MOUNTED TO EXIT DUCTWORK OF FC–5. TEKMAR 361 CONTROL TO ACCEPT SENSOR INPUT AND TO PROVIDE VARIABLE SPEED OPERATION OF CIRCULATION PUMP.	YES
CP–11	CIRC. PUMP #11 GLYCOL TO ALL BASEBOARD FIN TUBE HEATERS.	WWSD FUNCTION PROVIDED BY TEKMAR 150 CONTROL, OTHERWISE RUNS CONTINUOUSLY. EXIT AIR TEMPERATURE CONTROLLED BY MECHANICAL THERMOSTATS ON EACH BASEBOARD UNIT.	YES
FC–1	FAN COIL #1 FOR PROCESS ROOM EXPLOSION PROOF	TWO SPEED OPERATION PROVIDED BY VFD INSTALLED OUTSIDE CLASSIFIED SPACE. WWSD SIGNAL PROVIDED BY TEKMAR 150 CONTROL AND USED TO CONTROL UNIT SO THAT WHEN WWSD ACTIVE (SUMMERTIME) FAN OPERATES AT HIGH SPEED. WHEN WWSD INACTIVE (WINTERTIME), FAN OPERATES AT LOW SPEED. VFD TO BE ONE OF THE UNITS SUBMITTED BY HTS	YES
FC–2	FAN COIL #2 FOR TRUCK BAY	FAN OPERATES CONTINUOUSLY EXCEPT WHEN BEING SERVICED.	NO
FC–3	FAN COIL #3 FOR VESTIBULE (REDUNDANT WITH FC #4). CONSISTS OF FAN FN–3 AND IN DUCT HYDRONIC HEATING COIL. SEE FAN FN–3 FOR CONTROL DESCRIPTION	SEE FN–3 FOR CONTROL DETAILS.	NO
FC–4	FAN COIL #4 FOR VESTIBULE (REDUNDANT WITH FC #3). CONSISTS OF FAN FN–4 AND IN DUCT HYDRONIC HEATING COIL. SEE FAN FN–4 FOR CONTROL DESCRIPTION	SEE FN–4 FOR CONTROL DETAILS.	NO
FC–5	FAN COIL #5 FOR MAKE UP AIR FOR VARIOUS SPACES.	FAN OPERATES CONTINUOUSLY EXCEPT WHEN BEING SERVICED.	NO
HUH–1	PROCESS ROOM HYDRONIC UNIT HEATER #1 EXPLOSION PROOF.	FAN CONTROLLED ALONG WITH FANS OF HUH–2, –3, –4 BY EXPLOSION PROOF THERMOSTAT INSTALLED IN PROCESS ROOM.	NO
HUH–2	PROCESS ROOM HYDRONIC UNIT HEATER #2 EXPLOSION PROOF.	FAN CONTROLLED ALONG WITH FANS OF HUH–1, –3, –4 BY EXPLOSION PROOF THERMOSTAT INSTALLED IN PROCESS ROOM.	NO
HUH–3	PROCESS ROOM HYDRONIC UNIT HEATER #3 EXPLOSION PROOF.	FAN CONTROLLED ALONG WITH FANS OF HUH–1, –2, –4 BY EXPLOSION PROOF THERMOSTAT INSTALLED IN PROCESS ROOM.	NO
HUH–4	PROCESS ROOM HYDRONIC UNIT HEATER #4 EXPLOSION PROOF.	FAN CONTROLLED ALONG WITH FANS OF HUH–1, –2, –3 BY EXPLOSION PROOF THERMOSTAT INSTALLED IN PROCESS ROOM.	NO
HUH–5	TRUCK BAY HYDRONIC UNIT HEATER #5.	FAN CONTROLLED ALONG WITH FANS OF HUH–6, –7, –8, –9 & –13 BY THERMOSTAT INSTALLED IN TRUCK BAY.	NO
HUH–6	TRUCK BAY HYDRONIC UNIT HEATER #6.	FAN CONTROLLED ALONG WITH FANS OF HUH–5, –7, –8, –9 & –13 BY THERMOSTAT INSTALLED IN TRUCK BAY.	NO
HUH–7	TRUCK BAY HYDRONIC UNIT HEATER #7.	FAN CONTROLLED ALONG WITH FANS OF HUH–5, –6, –8, –9 & –13 BY THERMOSTAT INSTALLED IN TRUCK BAY.	NO
HUH–8	TRUCK BAY HYDRONIC UNIT HEATER #8.	FAN CONTROLLED ALONG WITH FANS OF HUH–5, –6, –7, –9 & –13 BY THERMOSTAT INSTALLED IN TRUCK BAY.	NO
HUH–9	TRUCK BAY HYDRONIC UNIT HEATER #9.	FAN CONTROLLED ALONG WITH FANS OF HUH–5, –6, –7, –8 & –13 BY THERMOSTAT INSTALLED IN TRUCK BAY.	NO

CONTROLS SCHEDULE

TAG	DESCRIPTION	CONTROL DESCRIPTION	WWSD
HUH–10	1ST FLOOR ELECT. ROOM HYDRONIC UNIT HEATER #10. EXISTING.	NEED INFORMATION ON EXISTING CONTROLS. OTHERWISE FAN CONTROLLED BY THERMOSTAT INSTALLED IN ROOM.	NO
HUH–11	2ND FLOOR ELECT. ROOM HYDRONIC UNIT HEATER #11. EXISTING.	NEED INFORMATION ON EXISTING CONTROLS. OTHERWISE FAN CONTROLLED BY THERMOSTAT INSTALLED IN ROOM.	NO
HUH–12	1ST FLOOR MECH. ROOM HYDRONIC UNIT HEATER #12. EXISTING.	NEED INFORMATION ON EXISTING CONTROLS. OTHERWISE FAN CONTROLLED BY THERMOSTAT INSTALLED IN ROOM.	NO
HUH–13	TRUCK BAY HYDRONIC UNIT HEATER #9.	FAN CONTROLLED ALONG WITH FANS OF HUH–5, –6, –7, –8 & –9 BY THERMOSTAT INSTALLED IN TRUCK BAY.	NO
FN–1	HIGH RATE SUPPLY FAN – EXPLOSION PROOF – PROCESS ROOM.	FAN ENERGISED ON DETECTION OF FLAMMABLE / NOXIOUS GASSES BY GAS DETECTORS OR BY SWITCH AT ENTRANCE DOOR TO PROCESS ROOM. IF SPACE TEMPERATURE DROPS BELOW 40°F, FAN SHUT OFF BY EXPLOSION PROOF FREEZESTAT UNTIL SPACE TEMPERATURE IS ABOVE 60°F. IF FLAMMABLE / NOXIOUS GAS STILL DETECTED OR SWITCH AT DOOR STILL "ON", FAN SHOULD RE–ENERGIZE WHEN SPACE TEMPERATURE REACHES 60°F. CYCLE ABOVE TO REPEAT UNTIL FLAMMABLE / NOXIOUS GAS NO LONGER DETECTED, AND SWITCH AT DOOR IS "OFF" WHEN FAN SHOULD BE SWITCHED OFF.	NO
FN–2	WALL MOUNTED EXHAUST FAN – EXPLOSION PROOF. PROCESS ROOM.	FAN IS TO BE INTERLOCKED TO FAN FN–1 SO WHEN FAN FN–1 IS ENERGISED, FAN FN–2 IS ALSO ENERGISED.	NO
FN–3	CABINET CEILING FAN – VESTIBULE ROOM EXHAUST. REDUNDANT WITH FN–4.	FN–3 & FN–4 ARE REDUNDANT FANS EXHAUSTING MAKE UP AIR FROM THE VESTIBULE. UNITS NEED TO BE PROVIDED WITH AIR FLOW AND WATER FLOW SWITCHES AND CONTROLLED SO THAT A FAILURE OF EITHER AIR FLOW OR WATER FLOW OR BOTH IN THE LEAD FAN OR CIRCULATOR CAUSES THE LAG CIRCULATOR AND FAN TO BE ENERGISED AND VICE VERSA. SEE ALSO CP–8 & CP–9.	NO
FN–4	CABINET CEILING FAN – VESTIBULE ROOM EXHAUST. REDUNDANT WITH FN–3.	FN–3 & FN–4 ARE REDUNDANT FANS EXHAUSTING MAKE UP AIR FROM THE VESTIBULE. UNITS NEED TO BE PROVIDED WITH AIR FLOW AND WATER FLOW SWITCHES AND CONTROLLED SO THAT A FAILURE OF EITHER AIR FLOW OR WATER FLOW OR BOTH IN THE LEAD FAN OR CIRCULATOR CAUSES THE LAG CIRCULATOR AND FAN TO BE ENERGISED AND VICE VERSA. SEE ALSO CP–8 & CP–9.	NO
FN–5	CABINET CEILING FAN – 1ST. FLOOR ELECT. ROOM EXHAUST.	FAN TO BE INTERLOCKED TO FAN IN FC–5. WHEN FC–5 FAN IS ENERGISED, FN–5 TO BE ENERGISED.	NO
FN–6	CABINET CEILING FAN – MEZZANINE ROOM EXHAUST.	FAN TO BE INTERLOCKED TO FAN IN FC–5. WHEN FC–5 FAN IS ENERGISED, FN–6 TO BE ENERGISED.	NO
FN–7	CABINET CEILING FAN – MECH. ROOM EXHAUST.	FAN TO BE INTERLOCKED TO FAN IN FC–5. WHEN FC–5 FAN IS ENERGISED, FN–7 TO BE ENERGISED.	NO
FN–8	CABINET CEILING FAN – 2ND. FLOOR ELECT. ROOM EXHAUST.	FAN TO BE INTERLOCKED TO FAN IN FC–5. WHEN FC–5 FAN IS ENERGISED, FN–8 TO BE ENERGISED.	NO
FN–9	WALL MOUNTED EXHAUST FAN – TRUCK BAY.	FAN TO BE INTERLOCKED TO FAN IN FC–2. WHEN FC–2 FAN IS ENERGISED, FN–9 TO BE ENERGISED.	NO
FN–10	**DELETED**	**DELETED**	
FN–11	CABINET CEILING FAN – WASHROOM EXHAUST. EXISTING??	FAN TO BE INTERLOCKED TO FAN IN FC–5. WHEN FC–5 FAN IS ENERGISED, FN–11 TO BE ENERGISED.	NO
FN–12	PROCESS EXHAUST FAN, HIGH PRESSURE – EXPLOSION PROOF – PROCESS ROOM.	OPERATES CONTINUOUSLY EXCEPT WHEN BEING SERVICED.	NO
FN–13	TWO SPEED WALL FAN, VFD CONTROLLED – EXPLOSION PROOF – PROCESS ROOM.	TWO SPEED OPERATION PROVIDED BY VFD INSTALLED OUTSIDE CLASSIFIED SPACE. WWSD SIGNAL PROVIDED BY TEKMAR 150 CONTROL AND USED TO CONTROL UNIT SO THAT WHEN WWSD ACTIVE (SUMMERTIME) FAN OPERATES AT HIGH SPEED. WHEN WWSD INACTIVE (WINTERTIME), FAN OPERATES AT LOW SPEED. INTERLOCK TO FAN IN FC–1. WHEN FAN IN FC–1 IS AT LOW SPEED, FAN FN–13 SHOULD BE AT LOW SPEED AND WHEN FAN IN FC–1 IS AT HIGH SPEED, FN–13 SHOULD BE AT HIGH SPEED	YES
FP–1	DUPLEX HEATING OIL PUMPING SYSTEM #1.	DUPLEX OIL PUMPING SYSTEM IS PROVIDED WITH INTEGRAL CONTROL SYSTEM. SYSTEM STARTS AND STOPS PUMPING OF OIL BASED ON LEVEL SENSORS INSTALLED IN THE DAY TANK AND THE OUTDOOR STORAGE TANK. A CALL FOR OIL IS INITIATED BY THE PUMP ON LEVEL SENSOR IN THE DAY TANK. THE CONTROL CHECKS TO ENSURE THAT THE LOW OIL ALARM IS NOT ON IN THE STORAGE TANK AND IF IT IS OFF STARTS THE OIL PUMP USING A LEAD–LAG ROTATION TO DETERMINE WHICH PUMP IS USED. IF THE LOW OIL LEVEL ALARM IS SET, THE PUMP IS LOCKED OUT. IF THE PUMP RUNS, THE DAY TANK IS FILLED UNTIL THE PUMP STOP LEVEL SWITCH CLOSES WHICH STOPS THE PUMP. THE DAY TANK IS ALSO EQUIPPED WITH A LOW LEVEL ALARM AND A HIGH LEVEL ALARM WHICH PROVIDE DRY CONTACT CLOSURES FOR THE SCADA SYSTEM. THE OUTDOOR OIL STORAGE TANK IS ALSO PROVIDED WITH LOW OIL LEVEL AND HIGH OIL LEVEL SENSORS WHICH PROVIDE ALARM OUTPUTS TO THE CONTROL SYSTEM AND TO THE SCADA SYSTEM.	NO

	Issue / Revision	Date
1	ISSUED FOR TENDER	FEBRUARY 2013
2	REVISED AS PER ADDENDUM 1 TO 4 AND ISSUED FOR CONSTRUCTION	APRIL 2013
3	AS–BUILT	AUGUST 2015

AS-BUILT DRAWING
AS-BUILT INFORMATION PROVIDED BY THE GENERAL CONTRACTOR:
KUDLIK CONSTRUCTION LTD.
IQALUIT, NUNAVUT

ORIGINAL STAMPED BY
G. POPOWICH
05/27/13

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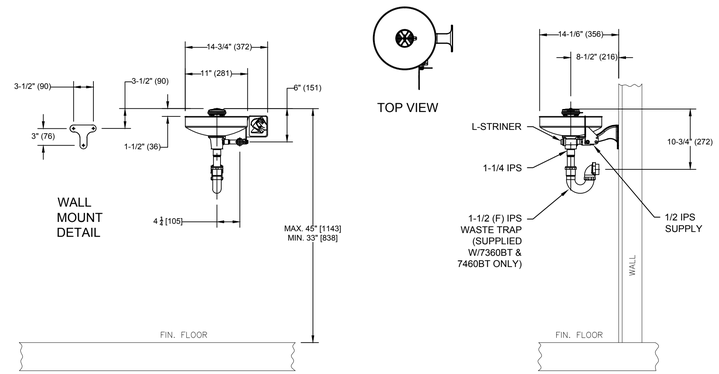
Client
GOVERNMENT OF NUNAVUT
COMMUNITY & GOVERNMENT SERVICES

RANKIN INLET
SEWAGE TREATMENT PLANT

Drawing Title
MECHANICAL
FUEL OIL SCHEMATIC & CONTROLS SCHEDULE

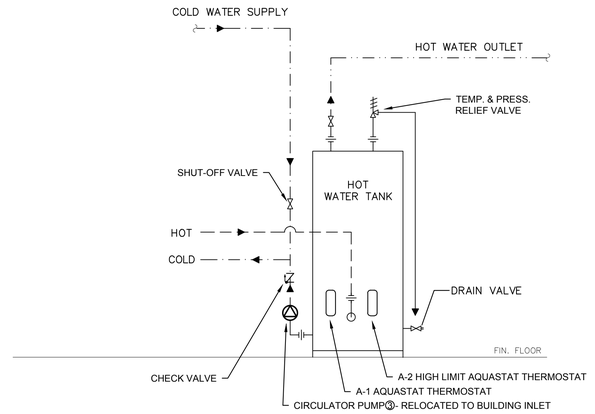
Drawn By	Checked By	Drawing No.
A.H.	D.MacK.	M-13
Scale: AS NOTED	Project No.: 300031281	



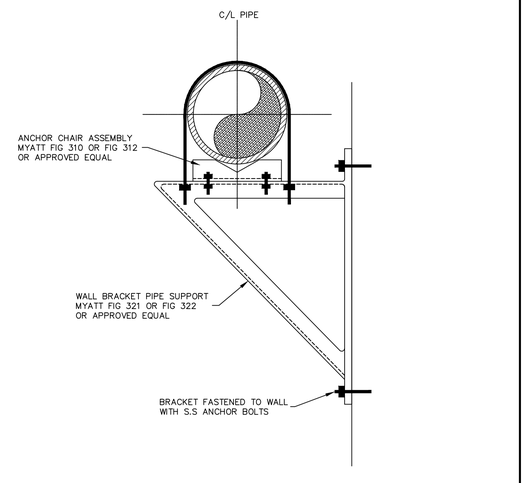
NOTES:

1. METRIC DIMENSIONS ARE IN BRACKETS [X].
2. TO COMPLY WITH ANSI Z358.1-2009 FOR EMERGENCY EYEWASH OR EYE/FACE WASH:
   - UNIT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND ACCEPTABLE PLUMBING PRACTICES.
   - EYEWASH OR EYE/FACE WASH SHALL BE POSITIONED WITH NOZZLES NOT LESS THEN 83.8 CM (33 IN.) AND NO GREATER THAN 114.3 CM (45 IN.) FROM SURFACE ON WHICH USER STANDS AND 15.3 CM (6 IN.) MINIMUM FROM WALL OR NEAREST OBSTRUCTION.
3. DIMENSIONS MAY VARY BY ± 1/2 [13].

FACE/EYE WASH DETAIL
SCALE: NTS



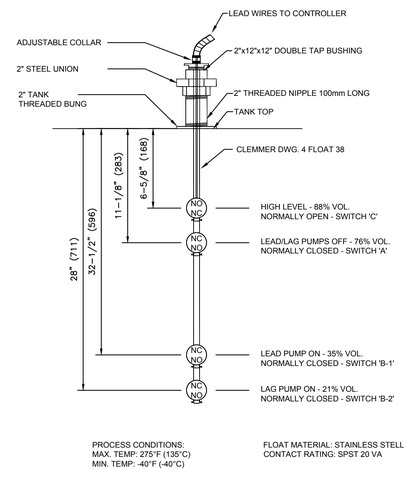
HOT WATER STORAGE TANK SCHEMATIC
SCALE: NTS



NOTE : ALL COMPONENTS TO BE STAINLESS OR GALVANIZED STEEL UNLESS NOTED OTHERWISE

WALL BRACKET PIPE SUPPORT
N.T.S.

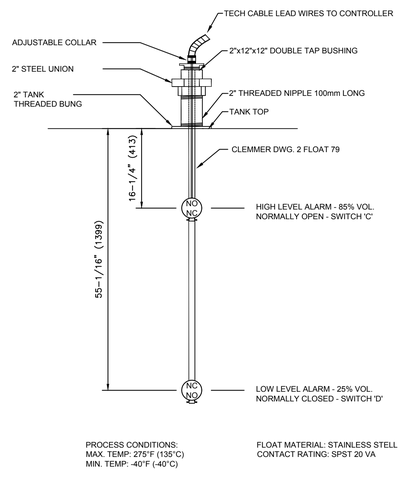
Mech-96.DWG



PROCESS CONDITIONS:
MAX. TEMP: 275°F (135°C)
MIN. TEMP: -40°F (-40°C)

FLOAT MATERIAL: STAINLESS STELL
CONTACT RATING: SPST 20 VA

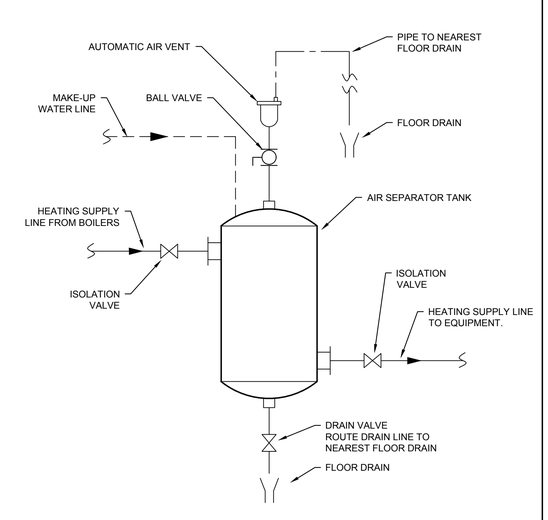
38" I.D. TANK 4 STATION LEVEL SWITCH DETAIL
SCALE: NTS



PROCESS CONDITIONS:
MAX. TEMP: 275°F (135°C)
MIN. TEMP: -40°F (-40°C)

FLOAT MATERIAL: STAINLESS STELL
CONTACT RATING: SPST 20 VA

78-3/4" I.D. TANK HIGH/LOW LEVEL ALARM SWITCH DETAIL
SCALE: NTS



AIR SEPARATOR DETAIL
SCALE: NTS

	Issue / Revision	Date
1	ISSUED FOR TENDER	FEBRUARY 2013
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3	AS-BUILT	AUGUST 2015

AS-BUILT DRAWING
AS-BUILT INFORMATION PROVIDED BY THE GENERAL CONTRACTOR:
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ORIGINAL STAMPED BY
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Client
GOVERNMENT OF NUNAVUT
COMMUNITY & GOVERNMENT SERVICES

RANKIN INLET
SEWAGE TREATMENT PLANT

Drawing Title
MECHANICAL
STANDARD DETAILS 2

Drawn By	Checked By	Drawing No.
A.H.	D.MacK.	M-14
Scale: NTS	Project No. 300031281	

SINGLE LINE SYMBOLS AND CONTROL DIAGRAMS

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER, MOULDED CASE WITH THERMAL & MAGNETIC TRIPS
	MOTOR CIRCUIT PROTECTOR (MCP) STYLE BREAKER, WITH MAGNETIC TRIPS ONLY
	NEMA SIZE 1 STARTER WITH THERMAL OVERLOAD TRIP
VFD, MS, BP	VARIABLE FREQUENCY DRIVE, C/W BYPASS MOTOR STARTER/CONTACTOR AND CONTROL TRANSFORMER
CT's, SOFT STARTER, BPC	SOLID STATE REDUCE VOLTAGE SOFT STARTER, C/W BYPASS CONTACTOR AND CONTROL TRANSFORMER
25, 18, 15	REDUCE VOLTAGE AUTOTRANSFORMER STARTER
	CURRENT TRANSFORMER
	CAPACITOR
	CONTROL POWER TRANSFORMER (CPT)
	FUSE
	FUSIBLE DISCONNECT SWITCH
	NON-FUSIBLE DISCONNECT SWITCH
	DRY-TYPE POWER TRANSFORMER (INDOOR)
	OIL-FILLED POWER TRANSFORMER (OUTDOOR)
	SEAL (EYS) FITTING C/W CHICO POWDER
MS1	MOTOR STARTER (MS) COIL, WITH COIL SUPPRESSOR
X	PILOT LIGHT, WHERE "X" INDICATES LENS COLOR: R=RED, W=WHITE, G=GREEN
X	PUSH TO TEST STYLE PILOT LIGHT
ETM	ELAPSE TIME METER, IN HOURS
CR#	CONTROL RELAY (# DENOTES RELAY NUMBER)
	TERMINAL BLOCK
	SOLENOID VALVE
	CONTACT, N.O. AND N.C.
	TEMPERATURE SWITCH, N.O AND N.C.
	LIMIT OR POSITION SWITCH, N.O AND N.C.
	PRESSURE SWITCH, N.O AND N.C.
	LEVEL OR FLOAT SWITCH, N.O AND N.C.
	TORQUE SWITCH, N.O AND N.C.
	PUSHBUTTON DEVICE, N.O AND N.C.
	SELECTOR SWITCH, 2-POSITION & 3-POSITION

LIGHTING AND POWER ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
X A-2a	1'x4' FLUORESCENT LUMINAIRE. "X" DENOTES LUMINAIRE TYPE (REFER TO LUMINAIRE SCHEDULE). DENOTES SWITCH LEG DENOTES BRANCH CIRCUIT NUMBER DENOTES PANEL DESIGNATION
X	2'x4' FLUORESCENT LUMINAIRE. "X" DENOTES LUMINAIRE TYPE (REFER TO LUMINAIRE SCHEDULE)
	CEILING MOUNTED LUMINAIRE - "x" DENOTES TYPE
	WALL MOUNTED LUMINAIRE - "x" DENOTES TYPE
	EXIT LIGHT - "x" DENOTES TYPE
S1	LIGHT SWITCH C/W BACK BOX: - "S" INDICATES 2-WIRE SWITCH - "S3" INDICATES 3-WIRE SWITCH - "S4" INDICATES 4-WIRE SWITCH - "D" INDICATES DIMMER (SIZE TO SUIT) - "T" INDICATES MANUAL TIMER
	EMERGENCY REMOTE HEADS
	EMERGENCY BATTERY UNIT WITH REMOTE HEADS AND CHARGER (BU#)
	ELECTRICAL PANEL/ENCLOSURE
	DUPLEX RECEPTACLE
	SINGLE RECEPTACLE
GFI	GFI TYPE DUPLEX RECEPTACLE
	SPLIT DUPLEX RECEPTACLE
D	DRYER RECEPTACLE
	WELDING RECEPTACLE
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	SINGLE PHASE MANUAL STARTER SWITCH WITH LOCK-OFF AND PILOT LIGHT
	MANUAL STARTER SWITCH C/W PILOT LIGHT AND HAND/OFF/AUTO SELECTOR SWITCH
	SINGLE PHASE MANUAL STARTER SWITCH WITH LOCK-OFF
#	DISCONNECT SWITCH, UN-FUSED, # DENOTES NUMBER OF POLES
K	UNAUTHORIZED ENTRY KEYPAD UNIT
DS	MAGNETIC REED DOOR SWITCH
MH	MOTION SENSOR
SD	SMOKE DETECTOR
	TELEPHONE OUTLET
JB	JUNCTION BOX
Tv	THERMOSTAT (VENTILATION)
TH	THERMOSTAT

GENERAL SYMBOLS

X / YZ	DETAIL SYMBOL: X = DETAIL NUMBER YZ = DRAWING NUMBER
#	SYMBOL INDICATES A DEVICE LOCATION, SEE BELOW (# DENOTES LOCATION NUMBER)
#	SYMBOL INDICATES MODIFICATION OR NEW WORK NOTE (# DENOTES NOTE NUMBER)
XX-XX	MECHANICAL EQUIPMENT TAG

DEVICE LOCATIONS

1	DEVICE LOCATED IN MAIN PLC PANEL IN 2nd FLOOR ELECTRICAL ROOM
2	DEVICE LOCATED IN THE FIELD
3	DEVICE LOCATED IN MECHANICAL ROOM
4	DEVICE LOCATED IN ELECTRICAL ROOM MAIN FLOOR
5	DEVICE LOCATED IN ELECTRICAL ROOM 2nd FLOOR

STANDARD ABBREVIATIONS - ELECTRICAL

ABBREVIATION	DESCRIPTION
A	AMPERES (CONTINUOUS)
AC	ALTERNATING CURRENT
ASYM	ASYMMETRICAL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BU	BATTERY UNIT (EMERGENCY)
°C	DEGREE CELSIUS
C	CONDUCTOR
CCT	CIRCUIT
CH	COUNTER TOP HEIGHT
CH_4	METHANE
CL_2	CHLORINE RESIDUAL
℄	CENTERLINE
C/W	COMPLETE WITH
CO_2	CARBON DIOXIDE
CPT	CONTROL POWER TRANSFORMER
CSA	CANADIAN STANDARDS ASSOCIATION
CT	CURRENT TRANSFORMER
Cu	COPPER
DC	DIRECT CURRENT
DISC	DISCONNECT
DOx	DISSOLVED OXYGEN
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EEMAC	ELECTRICAL AND ELECTRONIC MANUFACTURERS ASSOCIATION OF CANADA
EP	EXPLOSION PROOF (SUITABLE FOR CLASS I, ZONE 1)
ETM	ELAPSED TIME METER
ESA	ELECTRICAL SAFETY AUTHORITY
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
Hz	HERTZ
IEEE	INSTITUTE OF ELECTRICAL & ELECTRONIC ENGINEERS
INST	INSTANTANEOUS
I/O	INPUT/OUTPUT
ISB	INTRINSIC SAFETY BARRIER
JB	JUNCTION BOX
kAIC	KILO-AMP INTERRUPTING CAPACITY
kVA	KILOVOLTAMPERE
kW	KILOWATT
kWh	KILOWATT HOUR
LA	LIGHTNING ARRESTOR
LEL	LOWER EXPLOSIVE LIMIT
LOR	LOCAL-OFF-REMOTE
LUC	LOCAL UTILITY COMPANY
MAN	MANUAL
MCC	MOTOR CONTROL CENTRE
MH	MANHOLE
mm	MILLIMETER
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
MOT	MOTOR
N	NEUTRAL
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N/A	NON AUTOMATIC
N.O.	NORMALLY OPEN
N.C.	NORMALLY CLOSED
NP	NAMEPLATE
NTS	NOT TO SCALE
O_2	OXYGEN (PURITY)
OESC	ONTARIO ELECTRICAL SAFETY CODE
O/H	OVERHEAD
O/L	OVERLOAD
OO	ON-OFF
PB	PUSHBUTTON
PDC	POWER DISTRIBUTION CENTRE
pH	pH CELL
PH. OR ø	PHASE OR DIAMETER
PLC	PROGRAMMABLE LOGIC CONTROLLER
REM	REMOTE
RGS	RIGID GALVANIZED STEEL
SV	SOLENOID VALVE
SN	SOLID NEUTRAL
SPDT	SINGLE POLE DOUBLE THROW
SPMDD	STANDARD PROCTOR MAXIMUM DRY DENSITY
SPST	SINGLE POLE SINGLE THROW
SW	SWITCH
SYM	SYMMETRICAL
TC	THERMOCOUPLE
TDC	TIME DELAY ON CLOSING
TDDO	TIME DELAY ON DROP-OUT
TDO	TIME DELAY ON OPENING
TDPU	TIME DELAY ON PICK-UP
TURB	TURBIDITY
TYP.	TYPICAL
U/G	UNDERGROUND
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
VT	VOLTAGE TRANSFORMER (FORMER PT)
WP	WEATHERPROOF

INSTRUMENTATION IDENTIFICATION LETTERS (ISA)

	FIRST LETTER		SUCCEEDING LETTERS	
	MEASURED VARIABLE	MODIFIER	READOUT FUNCTION	OUTPUT/MODIFIER
A	ANALYSIS	-	ALARM	-
B	BURNER	-	-	-
C	CONDUCTIVITY	-	CONTROLLER	CONTROL
D	DENSITY	DIFFERENTIAL	DIFFERENTIAL	-
E	VOLTAGE - EMF	-	PRIMARY ELEMENT	-
F	FLOW RATE	RATIO	RATIO	-
G	STATUS	-	GLASS	-
H	HAND - MANUAL	HAND	-	HIGH
I	CURRENT	I	INDICATE	-
J	POWER	SCAN	-	-
K	TIME OR TIME SCH.	-	-	CONTROL STN
L	LEVEL	-	LIGHT - PILOT	LOW
M	MOISTURE	MOMENTARY	MOMENTARY	MIDDLE OR INTERM.
N	-	ANNUNCIATION	-	ANNUNCIATION
O	-	-	ORFICE	-
P	PRESSURE OR VAC.	-	POINT - TEST CONNECTION	-
Q	QUANTITY	INTEGRATE	INTEGRATE OR TOTALIZE	-
R	RADIATION	-	RECORD OR PRINT	-
S	SPEED OR FREQ.	SAFETY	-	SWITCH
T	TEMPERATURE	-	-	TRANSMIT
U	MULTIFUNCTION	-	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION	-	-	VALVE, DAMPER
W	WEIGHT OR FORCE	-	WELL	-
X	STATUS	-	-	-
Y	EVENT, STATE	-	-	RELAY, COMPUTE
Z	POSITION	-	-	DRIVE, ACTUATOR

DRAWING LIST - ELECTRICAL

MASTER ELECTRICAL LEGEND

ALL SYMBOLS/DEVICES/ABBREVIATIONS LISTED MAY NOT APPLY

	Issue / Revision	Date dd/mm/yyyy
1	ISSUED FOR 66% SUBMISSION	06/09/2012
2	ISSUED FOR 99% SUBMISSION	JANUARY 2013
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4	REVISED AS PER ADDENDUM 1 TO 4 AND ISSUED FOR CONSTRUCTION	APRIL 2013
5	AS BUILT	AUGUST 2015

AS-BUILT DRAWING

AS-BUILT INFORMATION PROVIDED BY THE GENERAL CONTRACTOR:

KUDLIK CONSTRUCTION LTD.
IQALUIT, NUNAVUT

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COMMUNITY & GOVERNMENT SERVICES
RANKIN INLET
SEWAGE TREATMENT PLANT

Drawing Title
ELECTRICAL LEGEND AND DRAWING LIST

Drawn By	Checked By	Drawing No.
T.T.	S.R.T.	E1
Scale: AS SHOWN	Project No.: 300031281	

Emergency Power Panel E1

#	Amps	Description	#	Amps	Description
1	60	Standby Generator Control Panel	2	15	CP2 Circulation Pump
3	60		4	15	
5	15	E1 Receptacle	6	15	
7	20	Heat Tracer	8	60	Monster Auger 1
9	20		10	60	
11	15	FP1 Fuel Pump Panel	12	60	
13	15		14	100	Feeder Emergency Power Panel E3
15	15		16	100	
17	15	CP1 Circulation Pump	18	100	
19	15		20	15	Hot Water Burner 1
21	15		22	15	
23	100	Feeder for Emergency Power Panel E2	24	15	
25	100		26	15	Standby Generator Alarm Panel
27	100		28	30	Surge Protection Device (SPD)
29	15	Hot Water Burner 2	30	30	
31	15		32	30	
33	15		34	60	Monster Auger 2
35	15	CP5 Circulation Pump	36	60	
37	15		38	60	
39	15		40		
41			42		

Emergency Power Panel E3

#	Amps	Description	#	Amps	Description
1	15	HCP4 - Heating Control Panel	31	100	Main Breaker
2	15	2nd Floor Lights	32	100	
3	15	Mech/Vestibule/Utility Room Lights	33	100	
4			34		
5	15	Spare	35	15	Spare
6	15	Spare	36	15	Sump Pump Process Room
7	15	GF-1 Glycol Feeder	37	20	FC5 Fan Coil Heater
8	15	CP7 Tekmar 361 Controller	38	20	
9	15	Truck Bay Lights	39	20	
10	30	HCP2 - Heating Control Panel	40	15	FC2 Fan Coil Heater
11	15	Truck Bay Receptacle	41	15	
12	15	Truck Bay Receptacle	42	15	
13	15	Truck Bay Receptacle	43	30	FC1 Fan Coil Heater
14	15	Truck Bay Receptacle	44	30	
15	15	HCP1 - Heating Control Panel	45	30	
16	15	Outdoor Lights	46	15	2nd Floor Mezzanine/Hallway Recep.
17	15	Process Room Lights	47	15	FN6 Cabinet Ceiling Fan
18	15	Spare	48	15	2nd Floor Electrical Room Recep.
19	15	Incoming Water Domestic Circ. Pump	49	15	FN8 Cabinet Ceiling Fan
20	15	Process Room Receptacle	50	15	Spare
21	15	Process Room Receptacle	51	15	Spare
22	15	Process Room Receptacle	52	15	Washroom Receptacle
23	15	FN12 Cabinet Ceiling Fan	53	15	Spare
24	15	E3 Receptacle	54	15	FN9 Cabinet Ceiling Fan
25	15	FN13 Cabinet Ceiling Fan	55	15	FN11 Cabinet Ceiling Fan
26	15		56	15	Spare
27	15		57	15	CP10 Tekmar 361 Controller
28	15	Vestibule Receptacle	58	30	Surge Protection Device (SPD)
29	15	Spare	59	30	
30			60	30	

LUMINAIRE SCHEDULE

FIXTURE LETTER	FIXTURE DESCRIPTION	CEILING MOUNTED: SURFACE	CEILING MOUNTED: RECESSED	CEILING MOUNTED: SUSPENDED	WALL MOUNTED: SURFACE	WALL MOUNTED: RECESSED	LAMP DATA: NUMBER	LAMP DATA: WATTAGE	LAMP DATA: LAMP TYPE	LAMP DATA: DRIVER CURRENT (mA)	LAMP DATA: DISTRIBUTION TYPE	LAMP DATA: COLOR TEMP. DEG. KELVIN	LAMP DATA: MINIMUM CRI	VOLTAGE: 24VDC	VOLTAGE: 12VDC	VOLTAGE: 120VAC	BASIC OPTIONS: PHOTOCELL	BASIC OPTIONS: WET/DAMP LOC'N	BASIC OPTIONS: BALLAST (B)	BASIC OPTIONS: COLOR (D)	ACCEPTABLE MANUFACTURER WITH CAT. SERIES AND OPTIONS
L1	RIG-A-LITE SXPJ LED SERIES	●					8	98	LED							●					SXPJ-10-L-U-CG-C-SC CEILING MOUNT, GLOBE & GUARD. CLASS 1 ZONE 1 GROUPS IIa & IIb
L2	CREE X-SE SERIES			●			6	37	LED	525	IV	4000	75			●	●				XS-SE-0-4-02-D-U-B-C-7-P-CL c/w WALL BRACKET, PHOTOCELL & MULTI-LEVEL SENSOR
L3	RIG-A-LITE MHDS LED SERIES			●			23	80	LED							●					MHDS-10-L-4-U-P CEILING MOUNT, GLOBE & GUARD. CLASS 1 ZONE 2 GROUPS IIa & IIb
L4	RIG-A-LITE XP LED SERIES	●					1	46	LED							●					XP-50L-4-2L-U-50
R1	R1 - LUMACELL RS10-XP SERIES			●			5	20	QH						●						RS10XP-24V-20W-W WALL MOUNT, CLASS 1 ZONE 1 GROUPS IIa & IIb
R2	R2 - LUMACELL MQM-NX SERIES			●			9	5	LED						●			●			MQM2NX-LD13-BK WALL MOUNT, NEMA4X CERTIFIED
X1	X1 - LUMACELL LX SERIES			●			2	4	LED						●						EXIT SIGN LX1S2W24 TRANSFER PANEL RSTP120-24-25XP WALL MOUNT, CLASS 1 ZONE 1 GROUPS IIa
X2	X2 - LUMACELL LN SERIES			●			5	<1.5	LED						●			●			EXIT SIGN LN1WU WALL MOUNT, NEMA 4X CERTIFIED
BU	BU - RGS-DT SERIES			●											●	●	●				BU#1 - RGS24S-288-DTFG-A-AT BU#2 - RGS24S-288-DTFG-A-AT BU#3 - RGS24S-288-DTFG-A-AT WALL MOUNT, NEMA 4X CERTIFIED

NOTES:

A. LAMP TYPE LEGEND: T8=T8 FLUORESCENT, HPS=HIGH PRESSURE SODIUM, MH=METAL HALIDE, CF=COMPACT FLUORESCENT, INC=INCANDESCENT QH=QUARTZ HALOGEN LED=LED TECHNOLOGY

B. BALLAST LEGEND: HPF=RAPID START, THERMALLY PROTECTED, HIGH POWER FACTOR BALLAST

C. LENS LEGEND: ST=STANDARD, VA=0.125" PRISMATIC LENS, CTG=CLEAR TEMPERED GLASS,

D. COLOR LEGEND: ST=STANDARD, W=WHITE, B=BLACK, G=GRAY, R=RED

E. WHEN MOUNTING IS INDICATED AS "RECESSED", DIVISION 16 CONTRACTOR IS TO DETERMINE CEILING TYPE FROM THE LATEST ARCHITECTURAL REFLECTED CEILING PLAN DRAWINGS AND PROVIDE THE APPROPRIATE CEILING INSTALLATION KIT.

F. EMERGENCY BATTERY UNITS: PROVIDE SEALED LONG LIFE BATTERIES, MINIMUM 10 YEAR DESIGN LIFE:

G. ALTERNATE MANUFACTURERS WILL BE ACCEPTED ONLY WITH PRIOR APPROVAL BY THE ENGINEER. PRODUCT MUST MEET ALL QUALITY, EFFICIENCY AND DESIGN ASPECTS OF BASE BID MANUFACTURER. CONTRACTOR MUST SUBMIT RECALCULATED PHOTOMETRIC DRAWINGS OF EXTERIOR AND INTERIOR ROOMS WITH SHOP DRAWING SUBMITTAL.

4 / E2 LIGHTING LUMINAIRE SCHEDULE

NOTES

1. CONTRACTOR TO RE-ARRANGE AND WHERE POSSIBLE, REUSE EXISTING BREAKERS AS INDICATED. CONTRACTOR TO PROVIDE NEW BREAKERS OF SIMILAR TYPE, SIZED AS INDICATED.
2. CONTRACTOR TO PROVIDE NEW POWER PANELAS INDICATED.
3. PERFORM COMPLETE INSTALLATION OF EQUIPMENT IN STRICT ACCORDANCE WITH THE MOST STRINGENT REQUIREMENTS OF:
   A) CSA C22.1-12 - 22ND EDITION OF THE CANADIAN ELECTRICAL CODE 2012
   OR
   B) GN/CGS- PROTECTION SERVICES DIVISION-ELECTRICAL / MECHANICAL SAFETY SECTION -ELECTRICAL BULLETINS

Emergency Power Panel E2

#	Amps	Description	#	Amps	Description
1	15	FC 3/4 Control Panel & CP8/CP9 - Tekmar 361 Controller	2	15	Boilers B1&B2 Emergency Shutdown Control Panel
3	15		4	15	Spare
5	15		6	15	Spare
7	15	Spare	8	15	Spare
9	15	FN 5 Cabinet Ceiling Fan	10	15	CP11 Circulation Pump
11	15	HCP5 - Heating Control Panel	12	15	CP6 - Tekmar 361 Controller
13	15	Spare	14	15	Outdoor Front Receptacle
15	15	Electrical Room 1st Floor Receptacle	16	15	Mechanical Room Receptacle
17	15	Electrical Room 1st Floor Receptacle	18	15	Spare
19	15	Outdoor Back Receptacle	20	15	Truck Bay Receptacle
21	15	Spare	22		
23	15	HCP3 - Heating Control Panel	24	15	Tekmar 150 Controller
25	15	Electrical Room 1st Floor Lights	26	15	CP4 - Tekmar 274 Controller & Hot Water Boiler B1
27	15	Utility Room Receptacle	28		
29	15	Spare	30	15	Hot Water Boiler B2
31	15	Spare	32	40	FN1 & FN2 Control Panel
33	15	Spare	34	40	
35	15	Spare	36	40	
37	15	Spare	38	30	Surge Protection Device (SPD)
39	15	Spare	40	30	
41	15	Spare	42	30	

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5	AS BUILT	AUGUST 2015

AS-BUILT DRAWING
AS-BUILT INFORMATION PROVIDED BY THE GENERAL CONTRACTOR:
KUDLIK CONSTRUCTION LTD.
IQALUIT, NUNAVUT

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Client
GOVERNMENT OF NUNAVUT
COMMUNITY & GOVERNMENT SERVICES
RANKIN INLET
SEWAGE TREATMENT PLANT

Drawing Title
PANEL AND LUMINAIRE SCHEDULES

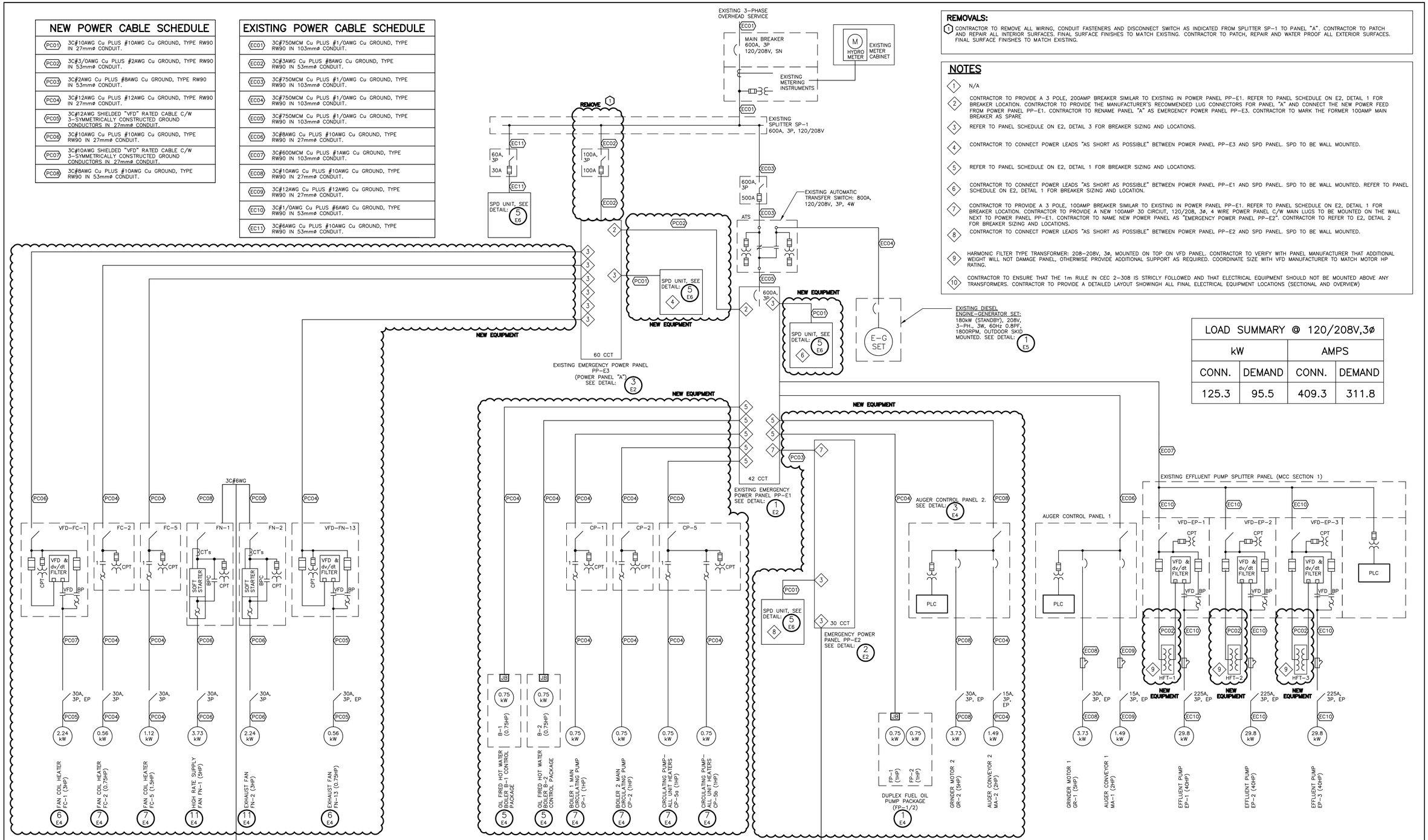
Drawn By	Checked By	Drawing No.
T.T.	S.R.T.	E2
Scale: AS SHOWN	Project No.: 300031281	

NEW POWER CABLE SCHEDULE

PC01	3C#10AWG Cu PLUS #10AWG Cu GROUND, TYPE RW90 IN 27mmø CONDUIT.
PC02	3C#3/0AWG Cu PLUS #2AWG Cu GROUND, TYPE RW90 IN 53mmø CONDUIT.
PC03	3C#2AWG Cu PLUS #8AWG Cu GROUND, TYPE RW90 IN 53mmø CONDUIT.
PC04	3C#12AWG Cu PLUS #12AWG Cu GROUND, TYPE RW90 IN 27mmø CONDUIT.
PC05	3C#12AWG SHIELDED "VFD" RATED CABLE C/W 3-SYMMETRICALLY CONSTRUCTED GROUND CONDUCTORS IN 27mmø CONDUIT.
PC06	3C#10AWG Cu PLUS #10AWG Cu GROUND, TYPE RW90 IN 27mmø CONDUIT.
PC07	3C#10AWG SHIELDED "VFD" RATED CABLE C/W 3-SYMMETRICALLY CONSTRUCTED GROUND CONDUCTORS IN 27mmø CONDUIT.
PC08	3C#8AWG Cu PLUS #10AWG Cu GROUND, TYPE RW90 IN 53mmø CONDUIT.

EXISTING POWER CABLE SCHEDULE

EC01	3C#750MCM Cu PLUS #1/0AWG Cu GROUND, TYPE RW90 IN 103mmø CONDUIT.
EC02	3C#3AWG Cu PLUS #8AWG Cu GROUND, TYPE RW90 IN 53mmø CONDUIT.
EC03	3C#750MCM Cu PLUS #1/0AWG Cu GROUND, TYPE RW90 IN 103mmø CONDUIT.
EC04	3C#750MCM Cu PLUS #1/0AWG Cu GROUND, TYPE RW90 IN 103mmø CONDUIT.
EC05	3C#750MCM Cu PLUS #1/0AWG Cu GROUND, TYPE RW90 IN 103mmø CONDUIT.
EC06	3C#8AWG Cu PLUS #10AWG Cu GROUND, TYPE RW90 IN 27mmø CONDUIT.
EC07	3C#600MCM Cu PLUS #1AWG Cu GROUND, TYPE RW90 IN 103mmø CONDUIT.
EC08	3C#10AWG Cu PLUS #10AWG Cu GROUND, TYPE RW90 IN 27mmø CONDUIT.
EC09	3C#12AWG Cu PLUS #12AWG Cu GROUND, TYPE RW90 IN 27mmø CONDUIT.
EC10	3C#1/0AWG Cu PLUS #6AWG Cu GROUND, TYPE RW90 IN 53mmø CONDUIT.
EC11	3C#6AWG Cu PLUS #10AWG Cu GROUND, TYPE RW90 IN 53mmø CONDUIT.



REMOVALS:

1. CONTRACTOR TO REMOVE ALL WIRING, CONDUIT FASTENERS AND DISCONNECT SWITCH AS INDICATED FROM SPLITTER SP-1 TO PANEL "A". CONTRACTOR TO PATCH AND REPAIR ALL INTERIOR SURFACES. FINAL SURFACE FINISHES TO MATCH EXISTING. CONTRACTOR TO PATCH, REPAIR AND WATER PROOF ALL EXTERIOR SURFACES. FINAL SURFACE FINISHES TO MATCH EXISTING.

NOTES

1. N/A
2. CONTRACTOR TO PROVIDE A 3 POLE, 200AMP BREAKER SIMILAR TO EXISTING IN POWER PANEL PP-E1. REFER TO PANEL SCHEDULE ON E2, DETAIL 1 FOR BREAKER LOCATION. CONTRACTOR TO PROVIDE THE MANUFACTURER'S RECOMMENDED LUG CONNECTORS FOR PANEL "A" AND CONNECT THE NEW POWER FEED FROM POWER PANEL PP-E1. CONTRACTOR TO RENAME PANEL "A" AS EMERGENCY POWER PANEL PP-E3. CONTRACTOR TO MARK THE FORMER 100AMP MAIN BREAKER AS SPARE
3. REFER TO PANEL SCHEDULE ON E2, DETAIL 3 FOR BREAKER SIZING AND LOCATIONS.
4. CONTRACTOR TO CONNECT POWER LEADS "AS SHORT AS POSSIBLE" BETWEEN POWER PANEL PP-E3 AND SPD PANEL. SPD TO BE WALL MOUNTED.
5. REFER TO PANEL SCHEDULE ON E2, DETAIL 1 FOR BREAKER SIZING AND LOCATIONS.
6. CONTRACTOR TO CONNECT POWER LEADS "AS SHORT AS POSSIBLE" BETWEEN POWER PANEL PP-E1 AND SPD PANEL. SPD TO BE WALL MOUNTED. REFER TO PANEL SCHEDULE ON E2, DETAIL 1 FOR BREAKER SIZING AND LOCATION.
7. CONTRACTOR TO PROVIDE A 3 POLE, 100AMP BREAKER SIMILAR TO EXISTING IN POWER PANEL PP-E1. REFER TO PANEL SCHEDULE ON E2, DETAIL 1 FOR BREAKER LOCATION. CONTRACTOR TO PROVIDE A NEW 100AMP 30 CIRCUIT, 120/208, 3ø, 4 WIRE POWER PANEL C/W MAIN LUGS TO BE MOUNTED ON THE WALL NEXT TO POWER PANEL PP-E1. CONTRACTOR TO NAME NEW POWER PANEL AS "EMERGENCY POWER PANEL PP-E2". CONTRACTOR TO REFER TO E2, DETAIL 2 FOR BREAKER SIZING AND LOCATIONS.
8. CONTRACTOR TO CONNECT POWER LEADS "AS SHORT AS POSSIBLE" BETWEEN POWER PANEL PP-E2 AND SPD PANEL. SPD TO BE WALL MOUNTED.
9. HARMONIC FILTER TYPE TRANSFORMER: 208-208V, 3ø, MOUNTED ON TOP ON VFD PANEL. CONTRACTOR TO VERIFY WITH PANEL MANUFACTURER THAT ADDITIONAL WEIGHT WILL NOT DAMAGE PANEL, OTHERWISE PROVIDE ADDITIONAL SUPPORT AS REQUIRED. COORDINATE SIZE WITH VFD MANUFACTURER TO MATCH MOTOR HP RATING.
10. CONTRACTOR TO ENSURE THAT THE 1m RULE IN CEC 2-308 IS STRICLY FOLLOWED AND THAT ELECTRICAL EQUIPMENT SHOULD NOT BE MOUNTED ABOVE ANY TRANSFORMERS. CONTRACTOR TO PROVIDE A DETAILED LAYOUT SHOWINGH ALL FINAL ELECTRICAL EQUIPMENT LOCATIONS (SECTIONAL AND OVERVIEW)

LOAD SUMMARY @ 120/208V,3ø			
kW		AMPS	
CONN.	DEMAND	CONN.	DEMAND
125.3	95.5	409.3	311.8

1 E3 ELECTRICAL SINGLE LINE DIAGRAM

NTS

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Client
GOVERNMENT OF NUNAVUT
COMMUNITY & GOVERNMENT SERVICES
RANKIN INLET
SEWAGE TREATMENT PLANT

Drawing Title
ELECTRICAL SINGLE LINE DIAGRAM

Drawn By	Checked By	Drawing No.
T.T.	S.R.T.	E3
Scale: AS SHOWN	Project No.: 300031281	