54 Audia Court, Unit 2
Concord, ON L4K 3N5
(905)-738-1400

Submittal 22-001-014

PROJECT NAME	PROJECT ADDRESS	DATE SUBMITTED
ENBRIDGE BLDG B 22-001	405 Eastern Ave, Toronto, ON, M4M 1B7	Sep 2, 2022

TO	FROM
Ananth Manigandan	MOHAMMED LODHI
COMPANY	COMPANY
ROCHON BUILDING CORPORATION	Consult Mechanical Inc.
EMAIL	EMAIL
AManigandan@rochonbuildingcorp.com	mohammed.l@consultmechanical.com
ADDRESS	ADDRESS
74 INDUSTY STREET TORONTO, ON M6M 4L7	54 Audia Court, Unit 2 Concord, ON L4K 3N5

Title

DRY COOLER : DC-1

Description

DC-1

Package Items

SPEC	SUBSECTION	ITEM	TYPE

Submittal
No. 23.000008.0

WALTERFEDY
Kitchener | Hamilton | Toronto | walterfedy.com

Final Status: Reviewed

Title:	Dry Cooler (Tag DC-1)	**Type:**	Shop Drawings
Project No.:	2019-0248-10	**Status:**	Returned
Project:	Enbridge - Station B	**Priority:**	Review Required
Division:	23. Heating, Ventilating, and Air Conditioning (HVAC)	**Reference:**	
Number:	23.000008.0	**Subcontract:**	Work Release to Master Construction Agreement
Revision:	0		
Required by Subcontractor On:		**Required from Consultant On:**	2022-Sep-08

Description

Dry Cooler Shop Drawings (Tag DC-1)

Attachment(s):

History:

Action Taken: Reviewed

From:	Daniel Arredondo WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150	**To:**	Daniel Librandi Rochon Building Corporation 74 Industry Street York, Ontario, M6M 4L7 Canada (416) 638-6666
Status:	Issued	**Date:**	2022-Sep-14
Carrier:		**Waybill:**	
CC:			
Comments:			

Submittal
No. 23.000008.0

WALTERFEDY
Kitchener | Hamilton | Toronto | walterfedy.com

Final Status: Reviewed

Attachment(s):

SD 23.000008 - Dry Cooler Tag DC-1

Action Taken: Reviewed

From:	Patrick Dormer WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150	**To:**	Cody Hewlin WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150
Status:	Issued	**Date:**	2022-Sep-13
Carrier:		**Waybill:**	
CC:			
Comments:			

Attachment(s):

Action Taken: Reviewed

From:	Dylan Elliott WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150	**To:**	Patrick Dormer WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150
Status:	Issued	**Date:**	2022-Sep-11
Carrier:		**Waybill:**	
CC:			
Comments:			

Electrical has reviewed - no comments.

Final Status: Reviewed

Attachment(s):

Action Taken: Reviewed

From:	Patrick Dormer WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150	**To:**	Cody Hewlin WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150
Status:	Issued	**Date:**	2022-Sep-08
Carrier:		**Waybill:**	
CC:			
Comments:			

Attachment(s):

Action Taken: Reviewed

From:	Nick Bertoia WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150	**To:**	Patrick Dormer WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150
Status:	Issued	**Date:**	2022-Sep-07
Carrier:		**Waybill:**	
CC:	Mike Snyder WalterFedy 675 Queen Street South Suite 111 Kitchener, ON, N2M1A1 Canada (519) 576-2150		
Comments:			

Final Status: Reviewed

Attachment(s):

Rochon BUILDING CORPORATION

SHOP DRAWING TRANSMITTAL

DRAWING REVIEW

This review is for the sole purpose of ascertaining conformance with the design concept and does not relieve the subcontractor of their responsibilities for errors and omissions or for meeting all requirements of the contract documents.

DATE: Sept 2, 2022

☒ Reviewed ☐ Reviewed As Modified

☐ Revise And Resubmit

REVIEWED BY: Rochon BUILDING CORPORATION

74 industry Street, Toronto, Ont. M6M 4L7

TRANSMITTED: ☐ FAX ☐ COURIER ☐ MAIL ☐ HAND ☑ EMAIL

PROJECT NAME: Enbridge Station B **DATE:** September 2, 2022

PROJECT NO.: B21070 **FROM:** Daniel Librandi

SUBJECT: 23-000.08 - REV0 Dry Cooler Shop Drawings

TO	CC	COMPANY	ATTENTION	PHONE	EMAIL
	X	WalterFedy Architects	Patrick Dormer	519.576.2150	pdormer@walterfedy.com
X		WalterFedy Architects	Cody Hewlin	519-576-2150 EXT:434	cody.hewlin@walterfedy.com
	X	WalterFedy Architects	Wade Brown	519-576-2150 Ext:472	wbrown@walterfedy.com
	X	Enbridge	Sal Simone	416-272-8162	Sal.Simone@enbridge.com
	X	Enbridge	Steve Dinopoulos		steve.dinopoulos@enbridge.com

REMARKS

ITEM #	PREPARED BY	DESCRIPTION
1	Consult Mechanical	Dry Cooler Shop Drawings (Tag DC-1)

If Items are not received as listed please notify us immediately.

☑ FOR APPROVAL ☐ APPROVED

☐ FOR FABRICATION ☐ APPROVED AS NOTED

☐ FOR YOUR USE ☐ REJECTED

☐ AS REQUESTED ☐ REVISION & RESUBMISSION

74 Industry Street, Toronto, Ontario M6M 4L7
Tel: (416) 638-6666 Fax: (416) 638-9044
Email: aanabalon@rochonbuildingcorp.com

CONSTRUCTION SUBMITTAL TRANSMITTAL FORM

CONSULT Mechanical

PROJECT NAME	DATE OF SUBMISSION
ENBRIDGE STATION B	Sept.2/22
PROJECT MANAGER	**TRANSMITTAL NUMBER**
STEVE RAVIELE	57700

TRANSMITTED TO: (NAME/ADDRESS)	

SUBJECT OF SUBMITTAL	**SPECIFICATIONS**
DRY COOLER	

CHECK ONE OF THE FOLLOWING:

X	We have verified that the material or equipment contained in this submittal meets all of the requirements specified or shown (no exceptions).
	We have verified that the material or equipment contained in this submittal meets all of the requirements specified or shown, except for the following deviations listed below.

CONTRACTOR NAME	SIGNATURE
Consult Mechanical INC.	Ross Pincente

Submittal # 57700	APPROVAL REQUIRED

Project 22000143-MECH-MAY 2022- Enbridge Station B - 405 Eastern Ave
Leader Nevin Wong
Job Site 405 Eastern Avenue, Toronto, ON, Canada
Submission Date 2022-09-01
Sold To CONSULT MECH
Submitted By Nevin Wong

Contacts

Role	Customer	Our Rep
Mechanical Contractor	Consult Mechanical *	Nevin Wong
Designer	WalterFedy	Peter Washer
Mechanical Contractor	Consult Mechanical *	Nevin Wong

Deliverables

Track #	189788		
Tag	DC-1		
Description	Dry Fluid Cooler		
Quantity	1		
Manufacturer	CANCOIL		
Model #	VFC-14-6C-6-05		
Specification	23 60 00 2.1		
Production Lead Time	24 - 30 Weeks		
Revision #	0		

Attention:

1) HTS will provide equipment in accordance with the attached shop drawings.
2) Upon approved submittal and customer release, HTS will release equipment to fabrication per the published lead times. Any storage fees associated with project schedule changes will be the responsibility of the purchaser.
3) HTS can provide freight and logistics to the purchaser as an added benefit of doing business with HTS. When freight is received by the purchaser, any noticeable damage must be recorded. Otherwise, HTS is not responsible for subsequent damage claims.

Approval Stamps

2019-0248-10 **23.000008**

SHOP DRAWING Sep 02, 2022

REVIEWED ( ) REVISE AND RE-SUBMIT ( )

REVIEWED AS MODIFIED ( ) NOT REVIEWED ( )

This review by WalterFedy is solely limited to ascertaining the general conformance with the design concept and does not represent an opinion on the adequacy, quality, or suitability of the design where such design was prepared by others. This review shall not mean that WalterFedy approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Construction and Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all sub-trades.

WALTERFEDY

BY_____

DATE_____

1.6 SOURCE QUALITY CONTROL

.1 Factory leak test air-cooled condenser and evaporator coils in accordance with above referenced agencies.

.2 Test water-cooled condensers in accordance with ASME Code for unfired pressure vessels and ARI Standards for water-cooled refrigerant condensers.

1.7 ENGINEERING DATA

.1 Provide manufacturer's diagrams of field installation, internal wiring and piping for complete assembly.

.2 Provide sound power levels referenced to dB weighted according to A scale.

1.8 MAINTENANCE DATA

.1 Provide maintenance data for incorporation in operation and maintenance manuals. Include exploded views of components.

1.9 DELIVERY AND STORAGE

.1 Ship equipment factory dehydrated and sealed with a full charge of refrigerant and lubricating oil.

.2 Store equipment in protected area.

1.10 GUARANTEE

.1 Replace all refrigerant lost from system(s) due to leaks for an additional one (1) year after normal one year warranty period.

.2 Provide refrigeration compressors and compressor motors with five (5) years non-pro-rated material and labour guarantee. Material shall be by equipment manufacturer and labour shall be by Mechanical Trade.

1.11 SHOP DRAWINGS

.1 Submit shop drawings for:
Dry cooler

.2 This Trade shall submit detailed system wiring diagrams and refrigerant piping drawings for approval before any work is carried out. Failure to submit these drawings will not release the Trade from the obligation of installing a proper operating system.

2 Products

2.1 DRY COOLER

Comply .1 Certification

.1 Acceptable coils are to have ARI Standard 410 certification and bear the ARI symbol. Coils exceeding the scope of the manufacturer’s certification and/or the range of ARI’s standard rating conditions will be considered provided the manufacturer is a current member of the ARI Air-Cooling and Air-Heating Coils certification program and the coils have been rated in accordance to ARI Standard 410. Manufacturer must be ISO 9001 certified.

Comply

.2 Fluid Coil Design Pressures and Temperatures

✓ .1 Coils shall be designed to withstand 360 psi maximum operating pressures and a maximum fluid temperature of 300ºF for standard duly copper tube coils. For cleanable coils with removable heads, coils shall be designed to withstand 100 psi maximum operating pressures and a maximum fluid temperature of 150ºF.

Comply

.3 Factory Testing Requirements

✓ .1 Coils shall be submerged in water and tested with a minimum of 450 psi air pressure for standard copper tube coils. A 500 psig hydrostatic and shock test is required for high pressure cupronickel construction. Coils must display a tag with the inspector's identification as proof of testing.

.4 Fins

Standrad fin thickness for fluid cooler is 0.006" Al

.1 Coils shall be of plate fin type construction providing uniform support for all coil tubes. Coils are to be manufactured with die-formed aluminum, copper, self-spacing collars which completely cover the entire tube surface. The fin thickness shall be 0.0075 +/- 5% unless otherwise specified. Manufacturer must be capable of providing self-spacing die-formedfins 4 through 14 fins/inch with tolerance of +/-3%.

.5 Tubing

Standard tube size and wall thickness for fluid cooler is 5/8"x0.018"

.1 Tubing and return bends shall be constructed from UNS 12200 seamless copper conforming to ASTM B75 and ASTM B251 for standard pressure applications. Copper tube temper shall be light annealed with a maximum grain size of 0.040 mm and a maximum hardness of Rockwell 65 on the 15T scale. Design permits in-tube water velocities up to 6 ft/s for the standard seamless copper tubing. Tubes are to be mechanically expanded to form an interference fit with the fin collars. Coil tube size and wall thickness′ are 5/8″x0.020 and ½″x0.017 for copper, with other options available.

.6 Headers

Type L Copper per ASTM B251

.1 Headers shall be constructed from UNS 12200 seamless copper conforming to ASTM B75 and ASTM B251 for standard pressure applications. High pressure construction is to incorporate seamless 90/10 Cupronickel alloy C70600 per ASTM B111.

✓ .2 Coil return headers are to be equipped with factory-installed 1/2″ fpt air vent connection placed at the highest point available on face of the header.

✓ .3 Tube-to-header holes are to be intruded inward such that the landed surface area is three times the core tube thickness to provide enhanced header to tube joint integrity. All core tubes shall evenly extend within the inside diameter of the header no more than 0.12 inch.

✓ .4 Header ends will be spun closed.

.7 Connections

✓ .1 Standard construction fluid connections are male pipe thread (MPT) and constructed from red brass conforming to ASTM B43 or Schedule 40 steel pipe as a minimum.

.8 Cleaning

Evaporative lubricant used so no external or internal cleaning is done

.1 All residual manufacturing oils and solid contaminants are removed internally and externally by completely submersing the coil in an environmentally and safety approved type degreasing solution, which is also chemically compatible with the coil material. This may vary for steel tube coils, depending on the application and/or customer specifications.

Comply

.9 Brazing

.1 Oxyfuel gas brazing, using fillet rod material of minimum 5% silver, is used for all non-ferroustube joints to headers and connections. Depending on the application, ferrous to non-ferrous brazing material may contain upwards of 35% silver or may be Tobin bronze.

.2 Welding

(1) Gas shielded arc welding is used for welded vessels constructed of stainless steel. Gas welding is used for welded vessels constructed of carbon steel. Design permits in-tube water velocities up to 6 ft/s for the standard seamless copper tubing.
(2) Tubes are to be mechanically expanded to form an interference fit with the fin collars. Coil tube size and wall thickness′ are 5/8″x0.020 and ½″x0.017 for copper, with other options available.

Comply

.10 Certification

.1 Performance certified coils that are ARI Standard 410 listed bear the ARI symbol. Coils exceeding the scope of the certification and/or the range of standard rating conditions are also rated to the extent possible by the ARI Std. 410 method. Cancoil continues as a current and active member of the ARI Air-Cooling and Air-Heating Coils certification program, with original coil line certification and computerized selections dating back to 2006.

Comply

.11 Agency Approval

.1 Cancoil Commercial Products was facility registered by SGS 2004 to ISO 9001 (ANSI/ASQC Q92). Applicable commercial coil models are UL Standard 207 registered as Refrigerant Containing Components and Accessories; non-electrical.

Not applicable

.2 Note: Cancoil can provide ASME code stamped vessels.

.12 Refer to schedules on drawings for equipment model and capacity.

3 Execution

3.1 INSPECTION

.1 Upon delivery, inspect components for damage or gas loss and report to Consultant in writing. Wait for written instruction.

3.2 START-UP OF EQUIPMENT

.1 The manufacturer of this equipment will forward to the Mechanical Trade a checklist of recommended procedures for piping and starting up the equipment. This procedure will be followed exactly by the Mechanical Trade. The manufacturer will issue his guarantee to the Mechanical Trade on receipt of a signed letter stating that all steps have been carried out. The manufacturer shall notify the Consultant of the issuing of the guarantee. The manufacturer shall provide all necessary wiring diagrams to the Refrigeration Trade showing the necessary interlocks between equipment.

.2 This system will be completely tested with all temperature controls in place and operational, to ensure absolute integrity of the heating and cooling system with all other building environmental controls.

.3 Provide one year of operations service at no cost to the Owner.

3.3 ISOLATION

.1 Requirements for vibration isolation as specified under Section 23 05 00 on drawings and as specified with equipment.

RADIATION SCHEDULE

UNIT HEATERS		
UH1-MAX 5.3	SIGMA	TYPE-MOUNTING HT. kW RATING
UH-1	SIGMA UHHL-160, HYDRONIC UNIT HEATER. 142 L/s, 37W MOTOR, 120V/1PHASE	
UH2-MAX 9.1	SIGMA	TYPE-MOUNTING HT. kW RATING
UH-2	SIGMA UHHL-200, HYDRONIC UNIT HEATER, 255 L/s, 37W MOTOR, 120V/1PHASE	
UH3-MAX 11.3	SIGMA	TYPE-MOUNTING HT. kW RATING
UH-3	SIGMA UHHL-220, HYDRONIC UNIT HEATER, 264 L/s, 37W MOTOR, 120V/1PHASE	
UH4-MAX 24.0	MODINE	TYPE-MOUNTING HT. kW RATING
UH-4	MODINE HDS100SS0111FBAN, NATURAL GAS FIRED UNIT HEATER, 703 L/s, 124W MOTOR, 120V/1 PHASE	
FORCE FLOW		
FFH-1-250 5.2	SIGMA	TYPE-RECESS(mm) kW RATING
FFH-1	SIGMA SFF-A-03, 142 L/s, 75W MOTOR, (1029mm x 241mm x 660mm HIGH)	
FFH-2-250 8.6	SIGMA	
FFH-2	SIGMA SFF-A-06, 283 L/s, 75W MOTOR, (1029mm x 241mm x 660mm HIGH)	
FFH-3-250 13.0	SIGMA	
FFH-3	SIGMA SFF-A-10, 472 L/s, 124W MOTOR, (1283mm x 241mm x 660mm HIGH)	

RADIATION BASED ON 60°C ENTERING WATER TEMPERATURE WITH 1°C TEMPERATURE DROP.

RAINWATER HARVESTER SCHEDULE

TAG #	LOCATION	SYSTEM	PUMPS							FILTERATION SKID			DAY TANK	RO SKID PACKAGE			REMARKS
			PUMP TAG	PUMP TYPE	FLOW (L/s)	HEAD (m)	MOTOR (HP)	ELEC.	MANUFACTURER & MODEL	FILTER	UV STERILIZER	DESIGN CAPACITY (l/s)	DIMENSTIONS (m)	SELF-CLEANING FILTER	RO FILTRATION UNIT	STORAGE TANK	
RWH-1	RM 015, CISTERN	NON-POTABLE WATER	RWP-1,2	SYSTEM BOOSTER PUMPS	4.4	58.8	10	575/3/60	PRODIGY 2 - DUPLEX	JUDO FILTER, 38mm PROFIMAT A/TP	WD040AGAA	2.5	1.63ø x 2.27H	--			PROVIDE COMPLETE RAINWATER HARVESTING SYSTEM INCLUDING COMPONENTS LISTED AND NOTED ON SCHEMATIC. PROVIDE CONTROL PANEL AND ALL SENSORS REQUIRED FOR COMPLETE SYSTEM. CONTROLLER SHALL BE COMPLETE WITH BACNET IP GATEWAY FOR INTEGRATION WITH BUILDING AUTOMATION SYSTEM. PROVIDE VFD'S ON SYSTEM PUMPS AS PART OF SKID PACKAGE. PROVIDE WATER LEVEL SENSORS IN CISTERN AND DAY TANK, AND CALMING INLET ON PIPES INTO CISTERN AND DAY TANK.
			RWP-3,4	SUBMERSIBLE PUMPS	2.5	42	2	575/3/60	45LD2S4-PE								
		RO SKID PACKAGE	RWP-5	END SUCTION SELF-PRIMING PUMP	0.38	19.7	1.2	120/1/60	GRUNDFOS MQ3	--				JUDO JDF-ATP	ES-RO-600-28-TN500	ES-500-48	PROVIDE COMPLETE RO WATER SKID PACKAGE INCLUDING COMPONENTS LISTED AND NOTED ON SCHEMATIC. PROVIDE C/W CONTROL PANEL, ES STILLING TREE C/W SHUT-OFF FLOAT.
			RWP-6	RETURN END SUCTION PUMP	2.5	21.1	1.5	120/1/60	GRUNDFOS CM-10-1								

DRY COOLER SCHEDULE

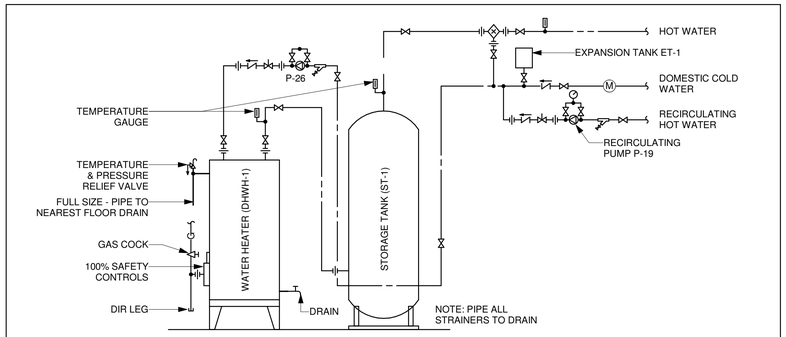
TAG #		DC-1
MANUFACTURER & MODEL		CANCOIL, VFC-14-6C-6-05
CAPACITY (kW)		405.2
ELECTRICAL	FLA	48.5A
	VOLTS/Ph/Hz	575/3/60
FLOW RATE (L/s)		19.0
F.P.D (kPa)		58.9
FLUID		40% PROPYLENE GLYCOL
EWT (°C)		41.8
LWT (°C)		36.2
ENTERING AIR TEMPERATURE (°C)		34
DRY WEIGHT (KG)		4670
UNIT DIMENSIONS (mm) L x W x H		8128x2286x2616
REMARKS		PROVIDE STARTERS/ CONTROL PANEL FOR BAS OPERATION OF FOURTEEN FANS

AIR CUSHION TANK PRESSURE TYPE SCHEDULE

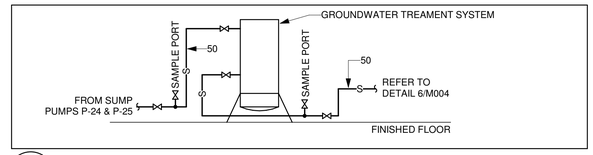
TAG #	MANUFACTURER & MODEL	LOCATION	SYSTEM	TYPE	CAPACITY (L)	MAX ACCEPTANCE VOLUME (L)	TANK SIZE (mm)	REMARKS
ET-1	AMTROL, ST-30VC-DD	MECHANICAL ROOM	DOMESTIC HOT WATER	VERTICAL	62.8	42.8	381ø x 635H	SUITABLE FOR USE IN POTABLE WATER SYSTEM
ET-2	AMTROL, AX-20V-DD	MECHANICAL PENTHOUSE	VRF SYSTEM	VERTICAL	62.5	42.8	381ø x 635H	
ET-3	AMTROL, AX-20V-DD	MECHANICAL PENTHOUSE	DRY COOLER LOOP	VERTICAL	62.5	42.8	381ø x 635H	SUITABLE FOR USE WITH GLYCOL SYSTEM
ET-4	AMTROL, AX-80V	MECHANICAL ROOM	HEATING WATER	VERTICAL	168.1	85.6	610ø x 737H	
ET-5	AMTROL, AX-80V	MECHANICAL ROOM	SNOW MELT	VERTICAL	168.1	85.6	610ø x 737H	SUITABLE FOR USE WITH GLYCOL SYSTEM
ET-6	AMTROL, WX-201	RAIN WATER PUMP ROOM	NP WATER	VERTICAL	53	42.9	381øx635H	

BUFFER TANK SCHEDULE

TAG #	MANUFACTURER & MODEL	LOCATION	SYSTEM	TYPE	CAPACITY (L)	TANK SIZE (MM)
BT-1	AMTROL, CWBT200-6	GROUND FLOOR MECH. ROOM	VRF SYSTEM	VERTICAL	757	762x1584H
BT-2	AMTROL, CWBT200-6	SECOND FLOOR MECH. ROOM	VRF SYSTEM	VERTICAL	757	762x1584H
BT-3	AMTROL, CWBT200-6	THIRD FLOOR MECH. ROOM	VRF SYSTEM	VERTICAL	757	762x1584H



1 / M004 DOMESTIC HOT WATER HEATER SCHEMATIC
N.T.S.



7 / M004 GROUNDWATER FILTER SCHEMATIC
N.T.S.

4 / M004 SNOW-MELT MANIFOLD SCHEMATIC
N.T.S.

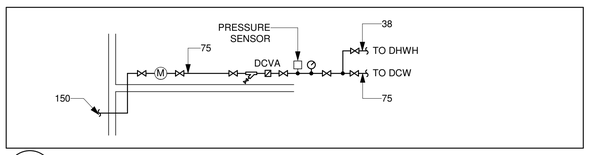
Notes:

1. The groundwater flow measuring device shall be digital and non-resettable as approved by the City.
2. All groundwater flow measuring devices shall be installed in the horizontal position between 600 mm and 1200 mm above the finished floor to the top of flow meter.
3. Groundwater flow measuring devices shall be installed with a minimum 1500 mm unobstructed clearance in front of the device to the nearest wall and 600 mm unobstructed clearance behind the device to the nearest wall.
4. Groundwater flow measuring devices shall be installed with a minimum 1200 mm unobstructed working space above the device.
5. All piping shall be fully supported from the floor, and such support shall be suitable for that purpose and shall be supplied and installed by the property owner of the time of the installation of the groundwater flow measuring device.
6. All valves and bends shall be flanged or solder type. Acid core type solder is not permitted.
7. All piping, including bends and valves, shall be the same diameter as the pumped groundwater line.
8. After the groundwater flow measuring device is installed, the drainage valve shall remain closed at all times.
9. All valves shall have a handle showing the open and close directions.
10. Only gate valves shall be permitted for inlet and outlet valves. No ball valves or butterfly valves shall be permitted. Valves shall be designed for a minimum cold water working pressure of 1035 kPa.
11. Drainage valve shall be a brass ball valve with a brass cap and chain.
12. An approved strainer shall be supplied by the property owner and shall be bolted to the upstream side of the groundwater flow measuring device.
13. With the exception of items 14 and 15 herein, all groundwater flow measuring device installations shall be according to the manufacturer's installation instructions, unless the manufacturer's installation instruction call for greater lengths.
14. The minimum distance between the flange on the outlet side of the inlet valve and the flange on the inlet side of the strainer shall be no less than a minimum of eight (8) diameters. No bends or other fittings shall be allow in this pipe section.
15. The minimum distance between the flange on the outlet side of the groundwater flow measuring device and the inlet side of the drainage valve shall be no less than a minimum of two (2) pipe diameters. No bends or other fittings shall be allow in this pipe section.
16. All valves shall be configured such that their handles shall not interfere with each other and all valves shall be readily accessible for operation, repair, or replacement.
17. Any insulation placed on or around any groudwater flow measuring device shall be easily removable and replaceable and shall not contain asbestos or any other toxic or hazardous materials. Such insulation shall not cover or obstruct the groundwater flow measuring device register(s). The City shall not be responsible for any damage to such installation during any removal or replacement of such insulation.
18. The pumped groundwater line shall be flushed prior to and after the installation of the groundwater flow measuring device.
19. For remote readout device wire and conduit installation, refer to City specifications.

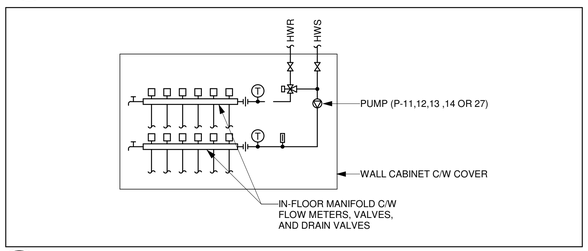
All dimensions are in millimetres unless otherwise shown.

TORONTO | ENGINEERING & CONSTRUCTION SERVICES STANDARD DRAWING | REV 0 | APR 2018 | GROUNDWATER FLOW MEASURING DEVICE PIPING LAYOUT | T-709.010 | NTS | SH 2 of 2

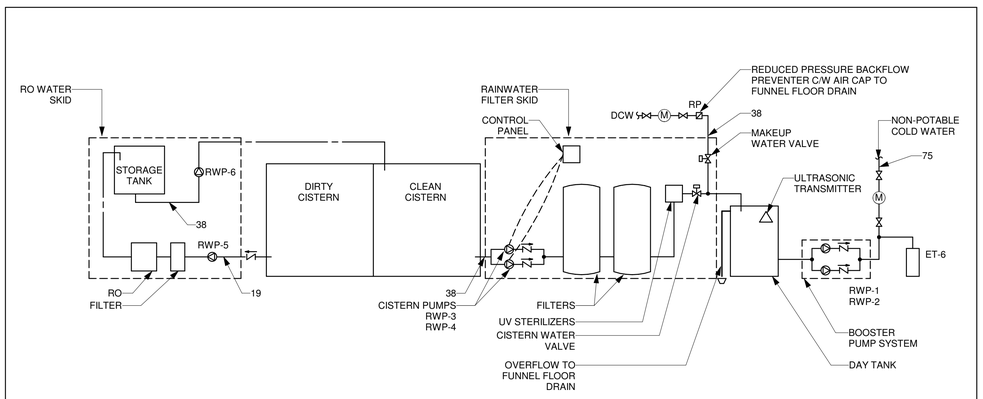
6 / M004 GROUNDWATER FLOW MEASURING DEVICE PIPING LAYOUT
N.T.S.



2 / M004 DOMESTIC WATER SCHEMATIC
N.T.S.



3 / M004 IN-FLOOR HEATING MANIFOLD SCHEMATIC
N.T.S.



5 / M004 RAINWATER HARVESTING SCHEMATIC
N.T.S.

no.	issuance	date
2	ISSUED FOR 90% OWNER'S REVIEW	2020.04.03
3	ISSUED FOR 100% OWNER'S REVIEW	2020.04.30
4	ISSUED FOR RFP	2020.07.31
6	ISSUED FOR 60% OWNER'S REVIEW	2021.03.01
7	ISSUED FOR 90% OWNER'S REVIEW	2021.03.22
8	ISSUED FOR BID	2021.04.15
10	ISSUED FOR PERMIT	2021.07.26
13	REISSUED FOR PERMIT	2022.03.25
14	REISSUED FOR PERMIT	2022.04.14
15	ISSUED FOR CR-M000001	2022.04.19
16	ISSUED FOR CONSTRUCTION	2022.05.02

ENBRIDGE
Life Takes Energy®

customer
ENBRIDGE

500 Consumers Road, North York, Ontario

project
STATION B

405 EASTERN AVENUE, TORONTO, ON.

title
MECHANICAL SCHEDULES & SCHEMATICS

WALTERFEDY
675 Queen Street South, Suite 111
Kitchener, Ontario, Canada, N2M 1A1
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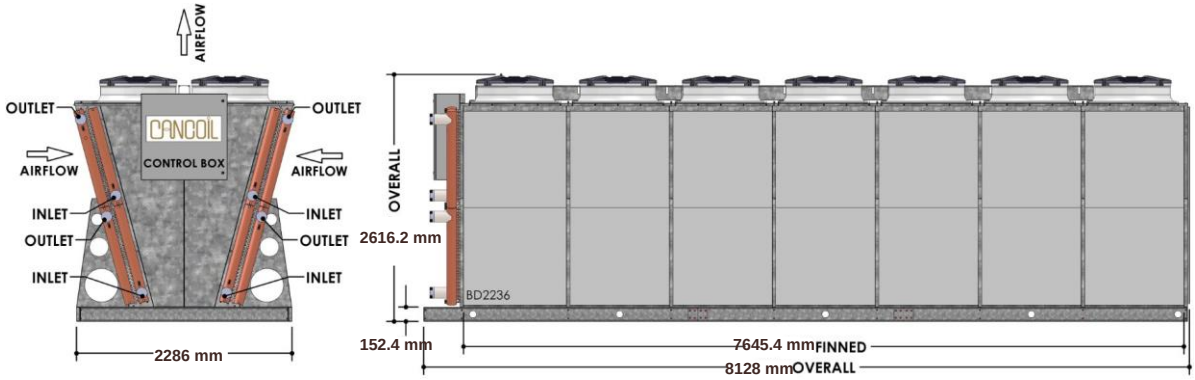
seal

scale :	As Indicated
date :	2022.05.02
project no :	2019-0248-10
file :	
drawn by :	DS
checked by :	MS

sheet no :
M004

Air Cooled Fluid Cooler

Customer Name:	HTS ENGINEERING LTD.	From:	Samuel Ezekiel
Project Name:	Enbridge Station B Equipment	Company:	Cancoil Thermal Corp.
Unit No:	1	Phone:	(613) 541-1235
Unit Tag:	DC-1	Email:	sezekiel@cancoil.com
IP/SI:	SI		



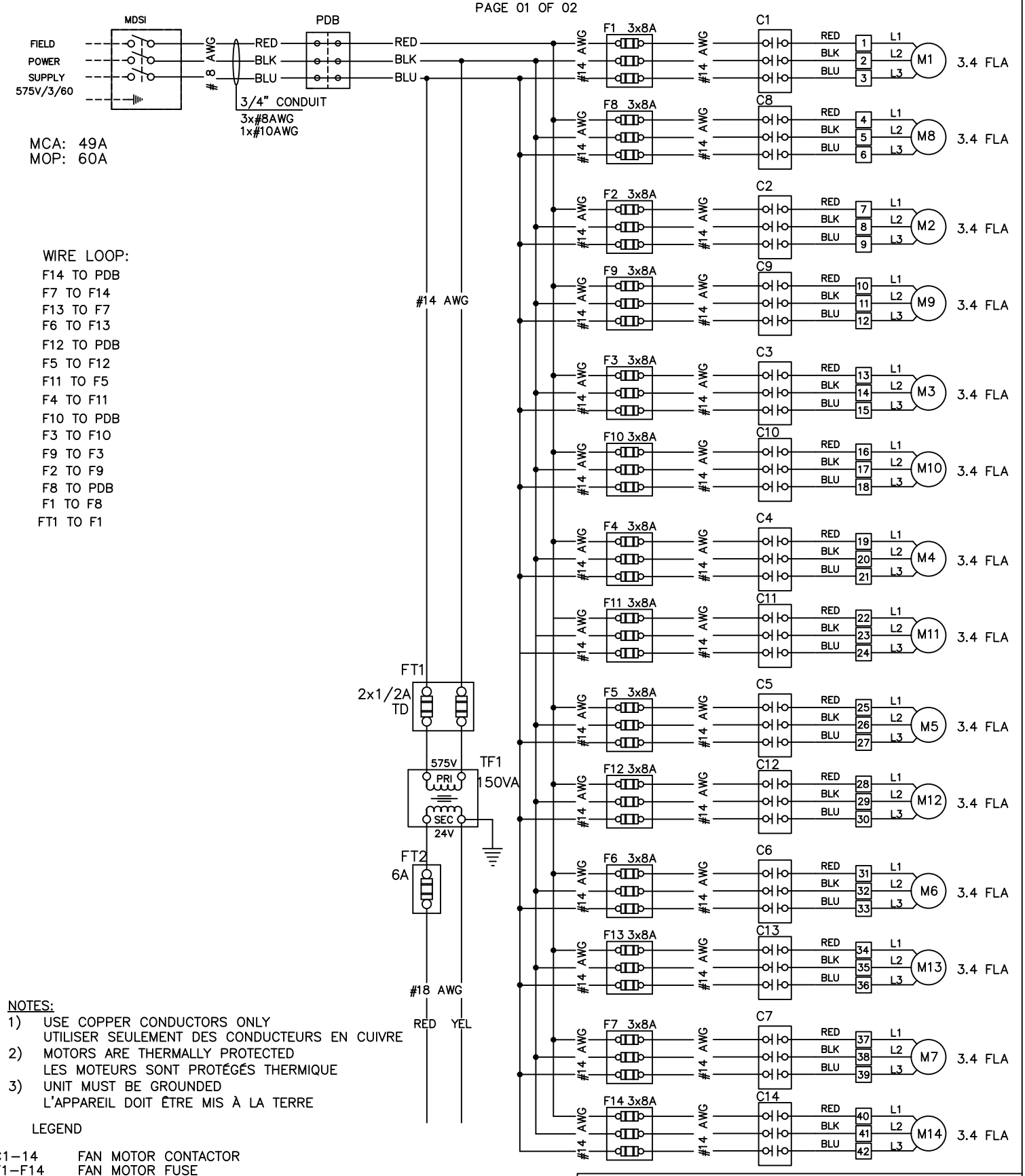
Design Parameters		Unit Selection and Performance		Electrical Data(Each Unit)	
Unit Quantity	1	Unit Quantity	1	Quantity of Fans/ Motors	14
Fluid Type	PG	Unit Model No.	VFCH8A-14D-6C6-05	Field Power Supply	575/3
Fluid Concentration %	40	Rated at motor speed % =	0	Field Control Voltage	24/1
Flow Rate-L/s	19	Total Capacity-kW	443.6	Motor HP Each	2.5
Max. P.D.-Kpa	59.7	Calculated Lvg Fluid Temp - Deg C	35.8	Motor Enclosure	IP54
Ent. Fluid Temp-Deg C	41.8	Fluid P.D- Kpa	58.9	Full Speed Motor RPM	990
Required Lvg Fluid Temp C	36.3	Connection Size-MPT	76.2 mm	Operating Motor RPM	990
Ent. Air Temp-Deg C	33.9	Shipping Wt.-Kgs	4671	Thermal Protection-Deg C	55
Required Capacity-kW	408.3	Installed Wt.-Kgs (with fluid)	5703	Unit FLA	48.5
Altitude-Feet	0	Sound Pressure (DBA at 10ft)	72	KW at Rated Motor Speed	35
		DB Version	VFC-031919		

Options	Options
	Individual Motor Contactors with dry contact for BAS Non-Fused Disconnect Individual Motor Fusing Control Transformer

THIS IS NOT A CANCOILSELECT DOCUMENT

DLL Version of the FluidCooler: 6.001 B-031822 Price Code of the FluidCooler: CDLP2021 DB Version of the FluidCooler: VFC-031919

CreatedBy: Samuel Ezekiel ModifiedBy: Samuel Ezekiel ModifiedOn: 6/15/2022 10:05:43 AM 6/15/2022-Enbridge Station B Equipment-HTS ENGINEERING LTD.-Certified Coil Data

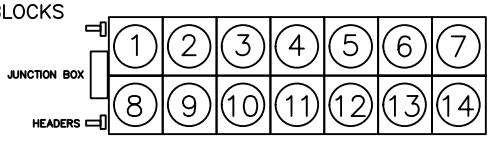


NOTES:

1) USE COPPER CONDUCTORS ONLY
   UTILISER SEULEMENT DES CONDUCTEURS EN CUIVRE
2) MOTORS ARE THERMALLY PROTECTED
   LES MOTEURS SONT PROTÉGÉS THERMIQUE
3) UNIT MUST BE GROUNDED
   L'APPAREIL DOIT ÊTRE MIS À LA TERRE

LEGEND

C1–14	FAN MOTOR CONTACTOR
F1–F14	FAN MOTOR FUSE
FT1,FT2	CONTROL CIRCUIT FUSES
M1–14	AXIAL FANS
MDS1	NONFUSIBLE MAIN DISCONNECT
PDB	POWER DISTRIBUTION BLOCK
TC...	THERMAL CONTACT ON MOTORS
TF1	CONTROL TRANSFORMER
□	IDENTIFIED TERMINAL BLOCKS
———	FACTORY WIRED
- - - -	FIELD WIRED



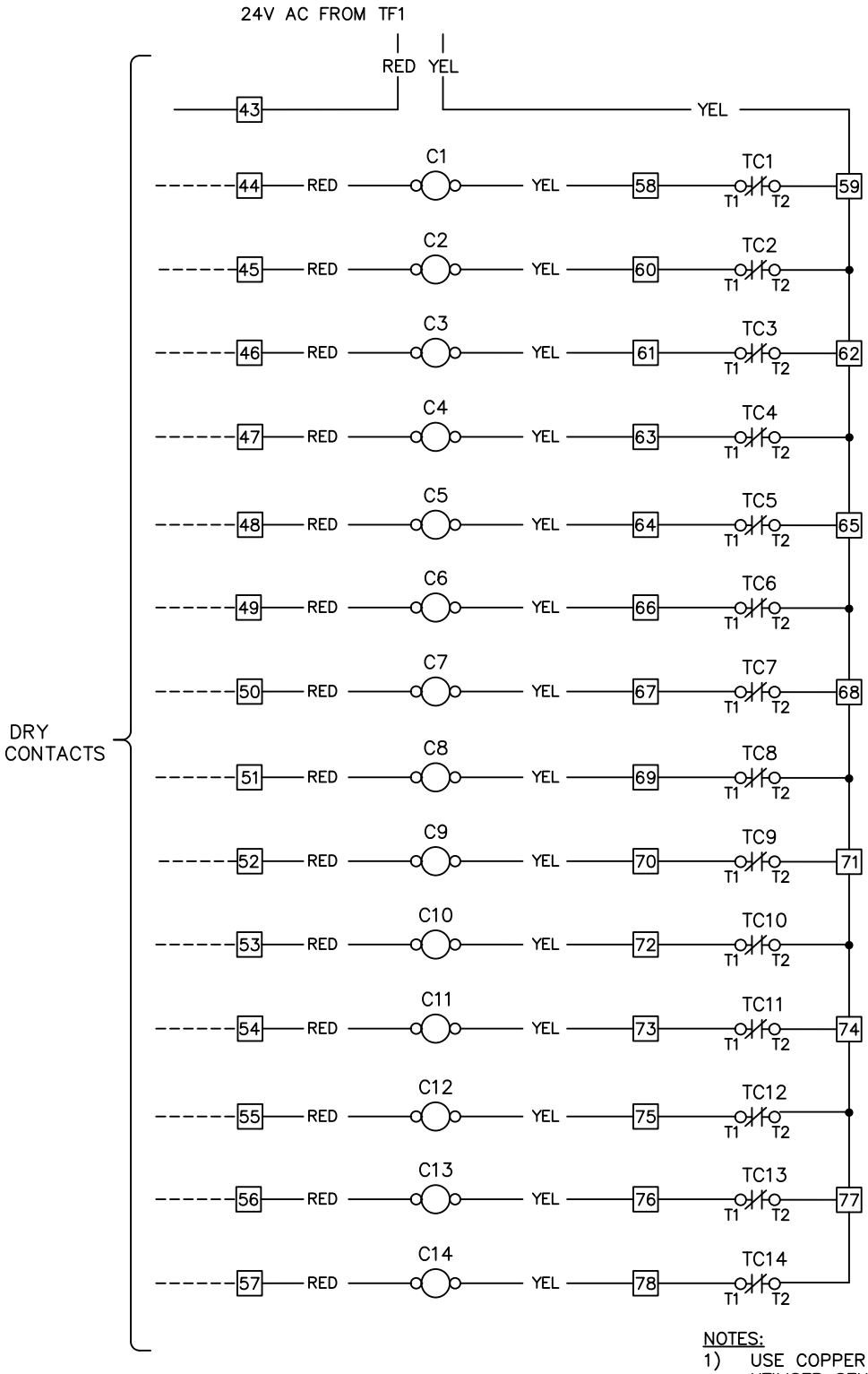
CANCOIL THERMAL CORPORATION
JOHN F. SCOTT ROAD
KINGSTON, ONTARIO K7L 4V3. (613)541–1235

WIRING SCHEMATIC

V14H050NE10X

575V POWER SUPPLY & 24V CONTROL VOLTAGE

DRAWN BY M.P.	DATE 08/23/2022	BE7411/1	REV X
CHECKED O.V.	DATE 08/24/2022		
APPROVED	DATE		



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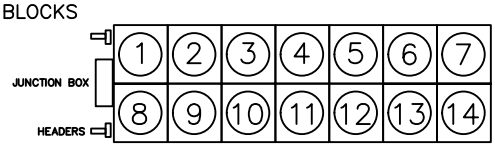

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