I-85 WATER RECLAMATION FACILITY
City of Jefferson, GA
Grit Removal System
Purchase Order: 0000000493

JOHN MEUNIER Products

MECTAN® GRIT REMOVAL MECHANISM WITH GRIT PUMP
SAM® TYPE GDS GRIT DEWATERING SCREW

Control System Drawings Submittal
Project No.5000222018

Submitted to:
City of Jefferson
Attn: Priscilla A.Murphy, City Manager

Revision: 2
Date: 2022-08-29

CIVIL ENGINEERING CONSULTANTS, INC.
MARIETTA, GEORGIA 30068

No Exceptions Taken	No Exceptions Taken With Comment	Make Corrections Noted	Rejected
	✓		

DATE *Aug 31, 2022*

BY

APPROVED FOR DESIGN ONLY.
CONTRACTOR SHALL VERIFY ALL
DIMENSIONS AND QUANTITIES.

See comments following page.

WATER TECHNOLOGIES

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Shop Drawing Review

REVIEW OF SUBMITTAL

REVIEWED ACCEPTED	X REVIEWED WITH COMMENT
REJECTED	RESUBMIT AS INDICATED

Review is for conformance with only the general concepts of design and information given, or noted and acknowledged as exceptions on the submittal. The contractor is responsible for compliance with all requirements of the specifications and drawings, including but not limited to, dimensions, ratings, features, methods of construction and fabrication and coordination and fit with the building and work of others as installed.

BY: David M. Zimmer, P.E.

Date: August 31, 2022

Project: Jefferson WRF

Submittal #

Submittal: Votex Grit Removal
Veolia

Comments:

1. Main Control Panel **– Reviewed with Comment**
    a. On the drawing legend, rename "CP-01" to "GRIT SYSTEM CONTROL PANEL"
    b. Provide label on front of panel "GRIT SYSTEM CONTROL PANEL"
    c. On sheet 2 of 11, delete the local disconnects on lines 010204, 209, and 214.
    d. Provide auxiliary sets of contacts for customer monitoring:
        i. Grit Paddle Run, Auto Mode, & Fault
        ii. Grit Pump Run, Auto Mode, & Fault
        iii. Grit Classifier Run, Auto Mode, & Fault
        iv. E-Stop Activated
        v. Control Power Fail
2. Local Station – Paddle Motor – Reviewed Accepted
3. Local Station – Grit Pump – Reviewed Accepted
4. Local Station – Grit Classifier – Reviewed Accepted

Notes to Electrician

1. Contractor shall note that the Vortex Grit Removal System has 3 local hand stations, not 2, and the bar screen has 1 local hand station, not 2. Provide interconnecting wiring per the shop drawings.

TABLE OF CONTENTS

1 GENERAL

1.1 Statement of Confidentiality

This document and all information contained herein are the property of **VEOLIA Water Technologies Canada Inc. (VWTCI)**. The design concepts and information contained herein are proprietary to VWTCI and are submitted in confidence. They are not transferable and must be used only for the purpose for which the document is expressly loaned. They must not be disclosed, reproduced, loaned or used in any other manner without the express written consent of VWTCI. In no event shall they be used in any manner detrimental to the interest of VWTCI. All patent rights are reserved. Upon the demand of VWTCI, this document, along with all copies and extracts, and all related notes and analyses, must be returned to VWTCI or destroyed, as instructed by VWTCI. Acceptance of the delivery of this document constitutes agreement to these terms and conditions.

1.2 Quality System

Since December 7, 1998, John Meunier Inc. (JMI) now VEOLIA Water Technologies Canada Inc. has been certified ISO 9001 by the Quality Management Institute (QMI), a division of CSA International, North America's leading Management Systems Registrar. QMI certificates are recognized and accepted worldwide.

Each year, QMI performs extensive audits to verify the compliance of our Quality System to the ISO 9001 Standard. In year 2008, our registration made JMI one of the first companies in Montreal to be certified in the new ISO 9001:2008 Standard.

1.2.1 Quality Manual

One of the basic tools of ISO 9001 is the company's Quality Manual, which defines company policies, procedures, working instructions and forms.

The topics covered in our Quality Manual are explained below:

Management Responsibility

The company's management is responsible for defining the Quality Policy (objectives and responsibilities) and implementing it through

- Quality Planning,
- Quality Control,
- Quality Assurance,
- Quality Improvement.

Quality System

The company's Quality System comprises procedures, processes and resources needed to implement the Quality Policy.

Contract Review

The contract review is a procedure where every aspect of a newly signed contract that may relate to our Quality Policy is examined.

Design Control

Design control is a procedure where a design is examined to ensure that it fulfills the requirements of our Quality Policy, identify problems (if any) and propose solutions.

Document and Data Control

Document and data control is a procedure by which the company identifies and manages all documents and data (for example, drawings).

Purchasing

Purchasing procedures are defined so that purchased products conform to specified requirements.

Control of Customer Supplied Product

This procedure consists of the verification, storage and maintenance of customer supplied products.

Product Identification and Traceability

This procedure defines the methods of identifying products (tags), from receipt and all stages of production, to delivery and installation.

Process Control

The production, installation and servicing processes that directly affect Quality are carried out under controlled conditions.

Inspection and Testing

Inspection and testing are procedures that are meant to verify that a product meets the specified requirements.

Control of Inspection, Measuring and Test Equipment

This procedure defines the calibration of measuring and testing equipment used by JMI during the inspection and testing processes.

Inspection and Test Status

The inspection and test status of a product (conformity or non-conformity) is indicated by suitable means (tags).

Control of Non-Conforming Product

This procedure is established to ensure that a non-conforming product is not used or installed unintentionally. The procedure describes the identification, documentation, and evaluation and disposition means of the non-conforming product.

Corrective and Preventative Action

Procedures are established for implementing corrective and preventative actions. Corrective or preventative actions are taken to eliminate the causes of actual or potential non conformities.

Handling, Storage, Packaging, Preservation and Delivery

Procedures define handling, storage, packaging, preservation and delivery methods to prevent damage or deterioration of the products.

Control of Quality Records

Quality Records are maintained,

- to keep track of a product's quality and
- to demonstrate the efficiency of the Quality System.

Subcontractors' Quality Records are important elements of this control procedure.

Internal Quality Audits

Internal Quality Audits are performed regularly to verify whether activities are conducted according to the Quality System's requirements.

Training

All personnel performing activities affecting Quality are trained and a record of training is maintained. Personnel performing specific assigned tasks are qualified on the basis of appropriate education, training and/or experience, as required.

Servicing

Where servicing is a specified requirement, VWTCI has documented procedures for performing, verifying and reporting that the servicing meets the specified requirements.

Quality Coordinator

JMI has appointed a Quality Coordinator to help management and employees implement the company's Quality System.

1.2.2 Welding Compliance

This statement is to confirm that VEOLIA Water Technologies Canada Inc. manufactures equipment in compliance with the following information:

- VWTCI uses an internal welding procedure, JMI-91 based on the Canadian Welding Bureau (CWB) ACNOR W59. This procedure is in the French language and is available on request.
- VWTCI has six (6) welders with a technical degree in welding & assembly and an average of nearly 10 years of experience.
- All equipment quoted is standard manufacturing products at VWTCI and we have more than 800 references in the market.
- VWTCI is certified ISO9001 including quality procedures.
- VWTCI will obtain the services of an independent welding inspector and submit is qualification to the owner or representative should this be specifically required per contract.
- VWTCI will obtain a report from the inspector to confirm that the welds performed on the equipment meet the equipment designer requirements should this be specifically required per contract.

The end user or its representative is also welcome to visit our manufacturing facilities to acknowledge the quality of our equipment.

1.2.3 Quality Management System Certificate

CERTIFICATE
OF REGISTRATION

This is to certify that

Veolia Water Technologies Canada Inc.
4105, rue Sartelon, Ville St-Laurent, Québec H4S 2B3 Canada

operates a

Quality Management System

which complies with the requirements of

ISO 9001:2015

for the following scope of certification

Design (engineering, research & development), manufacturing, sales and after sales service, installation supervision, distribution and customer service for water treatment equipment and processes.

Certificate No.:	CERT-0113383	Original Certification Date:	January 17, 2005
File No.:	007971	Certification Effective Date:	January 26, 2018
Issue Date:	February 21, 2018	Certificate Expiry Date:	January 25, 2021

Nicole Grantham
General Manager SAI Global Certification Services

Certified System
ISO 9001
ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY
MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Registered by:
QMI-SAI Canada Limited (SAI Global), 20 Carlson Court, Suite 200, Toronto, Ontario M9W 7K8 Canada. This registration is subject to the SAI Global Terms and Conditions for Certification. While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property of SAI Global and must be returned to them upon request.
To verify that this certificate is current, please refer to the SAI Global On-Line Certification Register: www.qmi-saiglobal.com/qmi_companies/

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2 CONTRACTUAL INFORMATION

2.1 Scope of Supply

Item	Quantity	Description	Model Number	Price (USD)
A.	One (1)	MECTAN® Vortex Grit Removal System	JMDV/4-35SXH	Included
B.	One (1)	Gorman-Rupp® Grit Pump	Super T-Series 4x4	Included
C.	One (1)	SAM® Type GDS Grit Dewatering Screw	GDSC/9-10-25XA	Included
D.	One (1)	PLC/HMI Control System w/ local stations	VEOLIA Standard	Included

2.2 Clarifications

Installation of the main equipment shall be performed on site by the Contractor.
Items underlines are included in our scope and will be supplied loose for field installation by the Contractor.
Sensible instruments are not assembled on the equipment to avoid potential damages during shipping.

- Veolia manufacturing facilities do not have the AWS welding certification, however our facilities have welding standards that meet the intent of the specifications.
-

Anything outside of what is described in our scope of supply or presented in this proposal are to be provided by the Contractor. Majors items listed hereafter are not included in this offer (non-included items are not necessarily limited to this list).

• equipment anchors • equipment offloading & installation • all mechanical and electrical interconnections; • all piping, wiring and valve supports, outside each unit; • costs for substitution, evaluation, redesign and expenses required to accommodate modifications necessary to fit the described equipment. • installation of foundation bolts, pits and concrete work; • control panel installation, support and filed wiring; • motor local disconnect switch(es), if stated in the contract documents, • cost for local agency inspections, permits & approval (if required)	• grit removal basin/tank • stairways/walkway/bridge; • grating and hand railing (other than previously stated); • gates and valves (other than previously stated); • special chute if requested (other than previously stated); • screenings and grit receptacle(s); • Vibration & Noise tests if required; • performance test, laboratory expenses, support facilities and equipment to properly conduct these tests (should they be required);

The following anchors shall be supplied and installed by the contractor:

- Mectan gear case: Ø5/8” Internally Threaded Expansion type, made of 303 stainless steel
- Mectan extraction tube support: Ø3/8" Wedge Expansion type, made of 304 stainless steel
- Mectan V conical baffle: Adhesive type with Ø1/2" threaded rod, made of 304 stainless steel
- SAM floor supports: Ø5/8” Internally Threaded Expansion type, made of 303 stainless steel

3 CONTROL SYSTEM

3.1 Functional Description

FUNCTIONAL DESCRIPTION

JOHN MEUNIER HEADWORKS
GRIT REMOVAL SYSTEM
MECTAN® GRIT REMOVAL MECHANISM WITH GRIT PUMP
SAM® TYPE GDS GRIT DEWATERING SCREW

				Document no	5000222018_FD_AU_VWT
Rev	**Written**	**Prepared**	**Verified**	**Revision Date**	**Description**
1	Watame Blanchette, CPI	Xavier Monette, P. Eng.		2022-06-10	For approval

WATER TECHNOLOGIES

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1. GENERAL DESCRIPTION

This document describes the control components as well as the equipment components in order to determine the overall typical operation of the system. Some of the described components may not be supplied by VEOLIA.

The **grit removal system** is composed of the following equipment:

- **One (1) MECTAN® Grit Removal Mechanism with Grit Pump**
- **One (1) SAM® Type GDS Grit Dewatering Screw**

The control system shall be supplied by the pre-treatment equipment manufacturer. It shall provide total automatic and manual operation with required protections to prevent damage of the equipment.

The control system shall be rated for the following classifications:

▪ Main control panel	NEMA 4X SS304 enclosure, outdoor installation in non-hazardous area
▪ Local control station(s)	NEMA 7 enclosure, Type 4 seal, outdoor installation in Class I, Division I, Group D area

1.1. Main Control Panel

The control system shall be automatically operated by an **Schneider M241 Programmable Logic Controller (PLC)**. A **Harmonis ST6 7" operator interface terminal (HMI)** shall also be provided mounted on the panel front door for operation display and remote manual operation. The PLC and HMI shall communicate with the plant SCADA system via Ethernet.

The following basic components shall be assembled in the system main control panel enclosure and pre-wired to identified terminal blocks. This enclosure shall provide upfront panel door operation.

- Main fusible type disconnect sized for the application shall be front panel mounted c/w NEMA-4X operating handle and interlock;
- Full voltage motor starters (IEC rated) sized for the application with manual starter, circuit and adequate magnetic overload and overcurrent protection (if applicable);
- Front door operator devices shall be 22 mm diameter, type NEMA-4X;

Control panel shall be rated to operate between 23°F (-5°C) and +107°F (+42°C). An air conditioning is included in the control panel to regulate the inside temperature.

All motors and instruments are controlled by the system's panel. Panel connections on site will be done by others and are not included in VEOLIA's scope of supply.

All required hardware and software programming shall be integrated in the control panel for providing cloud-based monitoring and support assistance. The control system shall include an access device for remote internet support capability and extraction of PLC data for Key Process Indicator (KPI) monitoring. Internet connection shall be available through local network (Ethernet or Wi-Fi) or cellular connection.

1.1.1. Front Door Operators

Caption	Type	Color	
"POWER ON"	Pilot light	White	
Switched ON when there is electrical power in the control panel.			
"EMERGENCY STOP"	Mushroom – Pushbutton	Red	
Stops all the system equipment when pushed.			
"GENERAL ALARM"	Light	Red	
Blinking: An unacknowledged system alarm is present or the "EMERGENCY STOP" push button is activated. Steady ON: An alarm is present or an "EMERGENCY STOP" push button is activated. Steady OFF: No alarm present.			
"RESET"	Pushbutton – Momentary	Black	
Resets of all alarms. Note: If an alarm condition is still active, the corresponding alarm will not be reset.			

Additional operator devices may also be present on the control panel front door for operations display and manual remote operations of the equipment. If applicable, these devices will be detailed in the equipment dedicated sections.

1.1.2. Power On

Upon reception of a 120V surveillance relay, the following event shall be initiated:

- Signal sent, through the Ethernet communication port, to the plant SCADA system.

1.1.3. Emergency Stop

1.1.3.1. General Emergency Stop Actions

When an emergency stop button or pull-cord switch is activated (on the main control panel or on any equipment within the system), a general alarm is triggered. The fault associated with this alarm will latch. The emergency stop shall stop all the system equipment controlled by the main control panel. It shall be active in both automatic and manual modes.

During an emergency stop, many stopping actions are initiated on the equipment (stop motors, close solenoid valves,…). The current automatic sequence is also cancelled.

The emergency stop push button shall NOT be used for maintenance purposes.

1.1.3.2. Recovery After General Emergency Stop

When all emergency stop buttons are back into normal position, a system reset is required by pushing the main control panel front door “RESET” button in order to have the system back in service. This reset will also re-initialize all automatic sequences and remove the hardwired latch of the alarm.

An automatic cleaning cycle sequence of all the equipment controlled by the control system (if applicable) will be launched.

1.1.3.3. General Emergency Stop Alarm

Alarm
Upon activation of an emergency stop push button, the following events shall be initiated:

- All system equipment components shall be stopped/deactivated.
- "GENERAL ALARM" warning light on the main control panel is activated.
- "GENERAL EMERGENCY STOP ALARM" message is displayed on the HMI.
- Signal sent, through the Ethernet communication port, to the plant SCADA system and trough dry contact.

Activation conditions for this alarm:

- Always active

1.1.4. Operator Interface Terminal

The operator interface displays the operating status of the equipment.

Operator mode: Allows manual operation of equipment from the HMI. The automatic sequence cannot start.

Program Mode: Allows equipment to operate in automatic sequence. The equipment selector must be in the automatic position.

Hand mode: Allows the equipment to be operated from its local station, only when its selector is in the “manual” position. A hand symbol appears next to the device on the HMI to indicate manual status.

1.1.5. Security Levels

Several security levels are set in the control system to manage the access to the PLC and HMI information. The following security levels should be pre-set in the system:

User	Password ME	Group	Letter assign to the Group
Veolia	****	SuperAdmin	ABCDEFGHIJK
JMI	****	SuperAdmin	
Eng1	1234	Engineering	E
Op1	1111	Operator	A
OpS	2222	Operator Supervisor	B
Maint1	3333	Maintenance	C
MaintS	4444	Maintenance Supervisor	D
Admin	admin	Admin	G
Manager	na	Manager	F
Guest	na		I
Default	Logged Off		I

1.1.6. Alarm and Warning Management

1.1.6.1. Alarm/Warning Priorities

Alarms and warnings are grouped in to two various attention requirements:

Alarms
- Needs immediate operator attention.
- An equipment component may be stopped.

Warnings
- Does not need immediate operator attention.
- May precede an alarm.

1.1.7. Typical Motor

1.1.7.1. Wired Logic Stop

Regardless of selector's position and selected mode, hardwired logic stop conditions protect the motor and force its stopping. These conditions, if relevant, are described in each of the motor sections.

1.1.7.2. Motor Alarm Delay

The motor alarm delay is common to all motors. If a motor's delay is different from common delay, it is specified in the motor's section.

1.1.7.3. Start Fault Alarm

Alarm
If the motor start command is activated, the running status is not and the alarm delay runs out, the start fault alarm is activated. Operator must address the situation and reset the fault to restart.

This alarm occurs with the presence of one of the following conditions:
- Local selector or override module in Off position;
- Local disconnect open.

1.1.7.4. Overload Alarm

Alarm
The detection of a motor overload is a transmitted signal from the overload relay of a DOL starter to the digital input of the automation system.
The overload alarm is activated as soon as the overload detection signal is detected. Operator must locally reset the overload relay and reset fault in order to restart.

1.1.7.5. Running Time

Runtime totalizer are available on the HMI for each motor.

1.1.7.6. Local Disconnect Switch

If a disconnect switch is installed, it shall be lockable and installed near the motor. It shall contain an auxiliary contact that open's the motor starter's control circuit.

Note: The disconnect switch must never be activated when the motor is running. The motor should be stopped before activating or deactivating the disconnect switch. The local switches are not provided by VEOLIA.

1.1.9. Detectors

1.1.9.1. General

Detectors give a digital signal. A change of state produces an alarm and/or an action. A common alarm delay, adjustable or not, is always programmed to avoid false alarms. Detectors may be high level switches, low level switches, etc.

1.1.9.2. Digital Alarm Delay

The digital alarm delay is common to all detectors. If a detector's delay is different from common delay, it is specified in the detector's section.

1.1.9.3. Security Logic

When a detector's dry contact is used to trigger an alarm, it is wired to trigger the alarm when the circuit opens (power loss).

1.1.9.4. Activation conditions for alarms

The activation conditions for detector's alarms are particular to each detector and depend on the process phase in which it is required. When an alarm requires an activation condition, these are noted with the detector's description.

1.2. Local Control Stations

Local control stations shall be supplied, as detailed in the equipment dedicated sections.

Operators shall be provided for local manual operation of the equipment for maintenance and tests operation. The local manual control of the equipment shall be reserved and performed to fully trained personnel, with clear understanding of the system.

When operated locally, the dedicated equipment will be controlled manually regardless of other conditions. Priority shall be given to the local control station and all operation signals from the main control panel (program or operator modes) are disabled. Hand mode will be displayed at the main control panel.

Manual operation is under the operator's responsibility and it requires the presence of an operator at close proximity of the equipment.

2. MECTAN® Grit Removal Mechanism with Grit Pump

Each MECTAN® Grit Removal Mechanism with Grit Pump includes the following electrical components:

Description	Electrical details
One (1) Paddles motor	1.0 HP (FLA 2.43 A), 460V/3Ph/60Hz
One (1) Water fluidization solenoid valve	120V/60Hz
One (1) Grit extraction pump	7.5 HP(FLA 9.95 A), 460V/3Ph/60Hz
One (1) Low vacuum switch	120V/60Hz

2.1. Main control panel

2.1.1. Front Door Operators

The following operators shall be provided on the system main control panel per unit:

Caption	Type	Color
"PADDLES" "OFF / AUTO"	Selector switch 2 positions	Black
"OFF": Prevents any operation of the paddles motor. "AUTO": Automatic sequences of operation of the equipment.		
"PADDLES MOTOR RUNNING"	Pilot light	Green
Switched ON when the motor is running.		
"PADDLES MOTOR FAULT"	Pilot light	Red
Switched ON when the motor is stopped because of an overload or an overcurrent.		
"GRIT EXTRACTION" "MANUAL / OFF / AUTO"	Selector switch 3 positions	Black
"MANUAL": Continuous operation - Starts pump motor in forward motion, opens fluidization solenoid valve. "OFF": Prevents any grit extraction (grit pump motor, fluidization solenoid valve). "AUTO": Automatic sequences of operation of the equipment.		
"FLUIDIZATION VALVE OPENED"	Pilot light	Green
Switched ON when the solenoid valve is opened.		
"PUMP MOTOR RUNNING"	Pilot light	Green
Switched ON when the motor is running.		
"PUMP MOTOR FAULT"	Pilot light	Red
Switched ON when the motor is stopped because of an overload or an overcurrent		

"PUMP LOW VACUUM ALARM"	Pilot light	Red	
Switched ON when the grit pump is running and a low vacuum is detected.			

2.1.2. HMI Displays

The following operating conditions can be viewed through the operator interface terminal:

Operator Interface Display	State	Condition
"PADDLES MOTOR"	Running	The motor is running.
	Stopped	The motor is stopped.
	Faulted	The motor is stopped with fault.
"GRIT PUMP MOTOR"	Running	The motor is running.
	Stopped	The motor is stopped.
	Faulted	The motor is stopped with fault.
"WATER FLUIDIZATION SOLENOID VALVE"	Opened	The valve is opened.
	Closed	The valve is closed.
	Faulted	The valve is faulted.

2.1.3. Operator Mode

When OPERATOR mode is selected, the following can be operated through the operator interface terminal:

Device	Function
"PADDLES MOTOR"	START / STOP
"GRIT PUMP"	START / STOP
"FLUIDIZATION SOLENOID VALVE"	OPEN / CLOSE

2.2. Local Control Station

Each MECTAN® Grit Removal System will be supplied with a local control station located near the unit including the following operators:

Caption	Type	Color	
"EMERGENCY STOP"	Pushbutton - Mushroom	Red	
Stops all the system equipment when pushed.			
"SCREEN" "OFF / REMOTE / MAN. TEST"	Selector switch 3 positions	Black	
"OFF": Prevents any operation of the screen motors and washing system solenoid valve. "REMOTE": Operation from the main control panel. "MAN. TEST": Activates the automatic **Cleaning cycle sequence** - Spring return to "REMOTE"			

2.3. Automation

2.3.1. Automatic Sequences of Operation

2.3.1.1. Paddles Normal Operation

The paddles motor shall run continuously.

2.3.1.2. Grit Extraction Sequence

The automatic grit extraction start signal shall be controlled by an adjustable pre-set *grit extraction time* table.

At reception of a start command, the **grit extraction sequence** shall be activated as follow:

1. The water fluidisation solenoid valve shall open.
2. At the end of the adjustable pre-set *pre-fluidization duration*, the grit pump motor shall start.
3. Simultaneously with the grit pump motor, a signal shall be sent to start a **grit dewatering sequence**.
4. At the end of the adjustable pre-set *grit fluidization duration*, the fluidization solenoid valve shall close.
5. At the end of the adjustable pre-set *grit extraction duration*, the grit pump motor shall stop.

If the grit dewatering screw motor is in fault, the grit extraction sequence should not be allowed.

This sequence will also be launched by:

- The "MAN. TEST" position of the selector located on the local control station;

2.3.1.3. Adjustable Variables

Name	Type	Device	Range	Factory set-up
Grit extraction time	Timetable	PLC	24 Configurable Setpoints	Every Hour
Pre-fluidization duration	Timer	PLC	1 to 3600 seconds	180 sec.
Fluidization duration	Timer	PLC	1 to 3600 seconds	120 sec.
Grit extraction duration	Timer	PLC	1 to 3600 seconds	900 sec.

2.3.2. Paddles Motor

This motor operates in one direction with one speed.

2.3.2.1. Operation

Start / Stop command:

- **Program Mode of the main control panel**
- **Operator Mode of the main control panel**

Interlock:

- None.

Upon reception of a start command, the following events shall be initiated:

1. Start the motor.
2. "PADDLES MOTOR RUNNING" light is activated on the main control panel.
3. Status is displayed on the OIT equipment page.

Upon reception of a stop command, the following events shall be initiated:

1. Stop the motor.
2. "PADDLES MOTOR RUNNING" light is deactivated on the main control panel.
3. Status is displayed on the OIT equipment page.

2.3.2.2. Overload

The overload protection circuit shall protect the motor in case of:

- Motor overheating
- Short-circuit
- Loss of phase

The overload protection shall be sized according to the motor nameplate full load rating.

Alarm

Upon reception of a signal from the overload protection circuit, the following events shall be initiated:

1. Stop the dedicated paddles motor, close its associated solenoid valve(s) (if applicable) and stop the current sequence.
2. "PADDLES MOTOR FAULT" light is activated on the main control panel.
3. Message is displayed on the OIT alarm page.

Activation conditions for this alarm:

- Always active

The protection circuit shall be reset manually inside the control panel.

When the overload alarm is deactivated, a manual reset is required on the overload module in order to re-initialize all automatic sequences and remove the hardwired latch of the alarm.

2.3.3. Grit Pump Motor

This pump operates in one direction with one speed.

2.3.3.1. Operation

Start command:

- **Program Mode of the main control panel**
  - **Grit extraction sequence**
- **Operator Mode of the main control panel**

Interlock:

- None

Upon reception of a start command, the following events shall be initiated:

1. Start the pump.
2. "PUMP MOTOR RUNNING" light is activated on the main control panel.
3. Status is displayed on the OIT equipment page..

Upon reception of a stop command, the following events shall be initiated:

1. Stop the pump.
2. "PUMP MOTOR RUNNING" light is deactivated on the main control panel.
3. Status is displayed on the OIT equipment page.

2.3.3.2. Overload

The overload protection circuit shall protect the motor in case of:

- Motor overheating
- Short-circuit
- Loss of phase

The overload protection shall be sized according to the motor nameplate full load rating.

Alarm priority

Upon reception of a signal from the overload protection circuit, the following events shall be initiated:

1. Stop the dedicated pump motor, close its associated solenoid valve (if applicable) and stop the current sequence.
2. "PUMP MOTOR FAULT" light is activated on the main control panel.
3. Message is displayed on the OIT alarm page.

Activation conditions for this alarm:

- Always active

The protection circuit shall be reset manually inside the control panel.

When the overload alarm is deactivated, a manual reset is required on the overload module in order to re-initialize all automatic sequences and remove the hardwired latch of the alarm.

2.3.3.3. Pump Low Vacuum Alarm

The pump low vacuum alarm shall be activated when low vacuum is detected.

Alarm priority
Upon reception of a signal from the low vacuum protection circuit, the following events shall be initiated:

1. Stop the dedicated pump, close its associated solenoid valve (if applicable) and stop the sequence.
2. "PUMP LOW VACUUM ALARM" light is activated on the main control panel.
3. Message is displayed on the OIT alarm page.

Activation conditions for this alarm:

- Always active

When the low vacuum alarm is deactivated, a system reset is required using the "RESET" push button of the main control panel, in order to re-initialize all automatic sequences and remove the hardwired latch of the alarm.

2.3.4. Fluidization Solenoid Valve

This solenoid valve is normally closed with spring return when deactivated.

2.3.4.1. Operation

Open command:

- **Program Mode of the main control panel**
  - **Grit extraction sequence**
- **Operator Mode of the main control panel**

Interlock:

- None.

Upon reception of an open command, the following events shall be initiated:

1. Open the valve.
2. "FLUIDIZATION VALVE OPENED" light is activated on the main control panel.
3. Status is displayed on the OIT equipment page.

Upon reception of a close command, the following events shall be initiated:

1. Close the valve.
2. "FLUIDIZATION VALVE OPENED" light is deactivated on the main control panel.
3. Status is displayed on the OIT equipment page.

3. SAM® Type GDS Grit Dewatering Screw

Each SAM® Type GDS Grit Dewatering Screw includes the following components:

Description	Electrical details
One (1) Grit screw motor	1.0 HP (FLA 1.43 A), 460V/3Ph/60Hz

3.1. Main control panel

3.1.1. Front Door Operators

The following operators shall be provided on the system main control panel per unit:

Caption	Type	Color
"GRIT SCREW" "MANUAL / OFF / AUTO"	Selector switch 3 positions	Black
"MANUAL": Continuous operation - Starts grit screw motor in forward motion. "OFF": Prevents any operation of the grit screw motor. "AUTO": Automatic sequences of operation of the equipment.		
"GRIT SCREW MOTOR RUNNING"	Pilot light	Green
Switched ON when the motor is running.		
"GRIT SCREW MOTOR FAULT"	Pilot light	Red
Switched ON when the motor is stopped because of an overload or an over current.		

3.1.2. HMI Displays

When Program mode is selected, the following operating conditions can be viewed through the operator interface terminal:

Operator Interface Display	State	Condition
"GRIT SCREW MOTOR"	Running	The motor is running.
	Stopped	The motor is stopped.
	Faulted	The motor is stopped with a fault.

3.1.3. Operator Mode

When Operator mode is selected, the following can be operated through the operator interface terminal:

Device	Function
"GRIT SCREW MOTOR"	START / STOP

3.2. Local Control Station

Each SAM® Type GDS Grit Dewatering Screw will be supplied with a local control station located near the unit including the following operators:

Caption	Type	Color	
"EMERGENCY STOP"	Pushbutton - Mushroom	Red	
Stops all the system equipment when pushed.			
"GRIT SCREW" "OFF / REMOTE / MAN. TEST"	Selector switch 3 positions	Black	
"OFF": Prevents any automatic operation of the grit dewatering screw (grit screw motor). "REMOTE": Operation from the main control panel. "MAN. TEST": Activates the automatic **Grit dewatering sequence** - Spring return to "REMOTE"			

3.3. Automation

3.3.1. Automatic Sequences of Operation

3.3.1.1. Grit Dewatering Sequence

The automatic grit dewatering sequence signal shall be activated by the associated grit chamber **grit extraction sequence**.

When a start command is received, the **grit dewatering sequence** shall be activated as follow:

1. The grit dewatering screw motor shall start.
2. When the start signal is deactivated, the grit dewatering screw operation shall continue for an additional adjustable pre-set *grit dewatering duration* before its motor stops.

This sequence can also be launched by:

- The "MAN. TEST" position of the selector located on the local control station;

3.3.1.2. Adjustable Variables

Name	Type	Device	Range	Factory set-up
Grit dewatering duration	Timer	PLC	1 to 1440 minutes	10 min.

3.3.2. Grit Screw Motor

This motor operates in one direction with one speed.

3.3.2.1. Operation

Start command:

- **Program Mode of the main control panel**
  - **Grit dewatering sequence**
- **Operator Mode of the main control panel**

Interlock:

- None.

Upon reception of a start command, the following events shall be initiated:

1. Start the motor.
2. "GRIT SCREW MOTOR RUNNING" light is activated on the main control panel.

Upon reception of a stop command, the following events shall be initiated:

1. Stop the motor.
2. "GRIT SCREW MOTOR RUNNING" light is deactivated on the main control panel.

3.3.2.2. Overload

The overload protection circuit shall protect the motor in case of:

- Motor overheating
- Short-circuit
- Loss of phase

The overload protection shall be sized according to the motor nameplate full load rating.

Alarm

Upon reception of a signal from the overload protection circuit, the following events shall be initiated:

1. Stop the dedicated grit screw motor, close its washing system solenoid valve (if applicable) and stop the current sequence.
2. "GRIT SCREW MOTOR FAULT" light is activated on the main control panel.
3. Message is displayed on the OIT alarm page.

Activation conditions for this alarm:

- Always active

The protection circuit shall be reset manually inside the control panel.

When the overload alarm is deactivated, a manual reset is required on the overload module in order to re-initialize all automatic sequences and remove the hardwired latch of the alarm.

3.2 Main Panel and Local Stations Drawings

VEOLIA			VWT CANADA #			5000222018-PSDS-0001-AU-VWT
			Project #			5000222018
			Date			2022-06-10
			Automation System			
CLIENT	**DESCRIPTION**	**DATE**	**Written by**	**Prepared by**	**Checked by**	**REV**
Jefferson GA	For Approval	2022-06-10	Watamé Blanchette CPI	Xavier Monette P.Eng		1
						2
PROJECT						3
						4
						5
						6
Panel Tag	CP-01					
General	Voltage		Volts	460		1
	Panel Enclosure	Material		Nema 4X (outdoor installation)	SS304	1
	Panel type	Cable Entry		Wall Mounted		1
	Control Panel Approval			UL		1
	Wires color			Veolia standard		1
	Local Station			Nema 7 (outdoor installation)	Type 4 seal	1
	UPS			N/A		1
	Motor control			Control panel		1
	Remote Access			N/A		1
Environnement	Panel Location			Outdoor	A/C provided	1
	Min. Temperature		°C	-5 (23°F)		1
	Max . Temperature		°C	42 (107°F)		1
	Max. Humidity		%	97.5		1
	Corrosive Atmosphere			Non corrosif		1
	Freeze			Yes		1
	Comments			Outdoor package	Heater not provided	1
Safety	Electrical Classification			Non Hazardous Area		1
	Province/State			USA	Georgia	1
Process Controller	Brand			Schneider		1
	Model			M241-TM241CE24R	14 in / 10 out embedded	1
	Memory			8 MB		1
	Nodes			150		1
	Estimated memory consumption			50%		1
	Spare I/O			20%		1
	Digital inputs cards			N/A		1
	Digital outputs cards			N/A		1
	Analog inputs cards			N/A		1
	Analog outputs cards			N/A		1
	Communication cards			N/A		1
	Power supply			N/A		1
	Remote I/O	Model		N/A		1
HMI	Brand			Schneider		1
	Model			Harmony ST6		1
	Size		in	7		1
	Resolution		Pixels	640x480		1
SCADA Hardware	Brand			N/A		1
	Model			N/A		1
	Screen size	Screen Quantity	in	N/A		1
	Resolution		Pixels	N/A		1
	Printer			N/A		1
	MS Office			N/A		1
	Reporting			N/A		1
Software	PLC Software	Version		EcoStruxure Machine Expert	V2.0.2.1	1
	HMI Software	Version		EcoStruxure™ Operator Terminal Expert	3.30	1
	SCADA Software	Version		N/A	N/A	1
Motor Control	VFNR	Model	Schneider	TeSys island	Ethernet/Ip	1
	VFD	Model		N/A		1

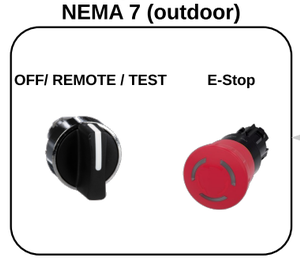
IP addresses:

eWon:	192.168.XX.XX
HMI:	192.168.XX.XX
PLC:	192.168.XX.XX
Tesys:	192.168.XX.XX

Client's Network
(Internet for remote VPN support)

Paddles Motor Local Station
NEMA 7 (outdoor)

Grit Pump Local Station
NEMA 7 (outdoor)



Hardwired (by others)

Grit Classifier Local Station
NEMA 7 (outdoor)

Main Control Panel
NEMA 4X (outdoor)

480 VAC
(By others)

HMI
Schneider ST6 7in

eWon Flexy

Switch
(unmanaged)

PLC
Schneider M241

Starter
Tesys Island

E
E
E
E
E

DO NOT USE FOR CONSTRUCTION
FOR INFORMATION ONLY

Legend

- E — Cat6a by Veolia
- E — Cat6a by others
- FO — Optical cable by Veolia
- FO — Optical cable by other
- Cable by Veolia
- Cable by other

Network

Subnet : 255.255.255.0

Default gateway : XXX.XXX.XXX.XXX

DNS : XXX.XXX.XXX.XXX

VEOLIA

DATE	DRAWN BY	PREPARED BY	VERIFIED BY	PROJECT	DRAWING	SHEET / REV
2022-06-08	Watame Blanchette, CPE	Xavier Monette, P.Ing.		5000222018	5000222018_CA_0001_AU_VWT	1 OF 1 / 1

TITLE: NETWORK ARCHITECTURE

CLIENT: Jefferson, GA

JEFFERSON (GA)
MECTAN, GRIT PUMP, SAM
#5000222018

BAR = 1" AT PLOT SCALE

REF: A-7595-A

STD: "B" 11x17

REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	SB	RA	–	–

DESIGNER	DATE
CHECKER	DATE
ENGINEER	DATE
SCALE:	

TITLE: MECTAN, GRIT PUMP, SAM
TITLE PAGE

CLIENT: JEFFERSON (GA)

VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230

PROJECT	DRAWING	INTERNAL	SHEET	REV
5000222018 –	EPL-0001-AU-VWT		1 OF 7	1

Aug 26, 2022 17:16:54 – G:\Projets A75XX\A7595A – VEOLIA – Projet 5000222018 Jefferson (GA)\DOC\DESSIN\000-DESSINS\REV1\A7595A-5000222018-EPL.dwg – rasiani

DESCRIPTION	DRAWING NUMBER
TITLE PAGE	5000222018-EPL-0001-AU-VWT-001
DRAWING LIST AND LEGEND	5000222018-EPL-0001-AU-VWT-002
EXTERNAL LAYOUT	5000222018-EPL-0001-AU-VWT-003
INTERNAL LAYOUT	5000222018-EPL-0001-AU-VWT-004
BILL OF MATERIAL	5000222018-EPL-0001-AU-VWT-005
LOCAL STATION	5000222018-EPL-0001-AU-VWT-006
TERMINAL LAYOUT	5000222018-EPL-0001-AU-VWT-007
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-001
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-002
SPARE	5000222018-ELD-0001-AU-VWT-003
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-004
SPARE	5000222018-ELD-0001-AU-VWT-005
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-006
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-007
SPARE	5000222018-ELD-0001-AU-VWT-008
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-009
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-010
ELECTRICAL SCHEMATIC	5000222018-ELD-0001-AU-VWT-011

WIRE COLOR CODE	
MINIMAL CONTROL 16AWG GAUGE	
POWER 120VAC	BLACK
CONTROL 120VAC	RED
NEUTRAL	WHITE
24VDC	BLUE
0VDC	BLUE/WHITE
DRY CONTRACT	YELLOW
POWER	BLACK
NON-ISOLATED GROUND	GREEN
ISOLATED GROUND	GREEN – YELLOW
TWISTED PAIR	(+) BLACK & (-) WHITE

WIRE NUMBER

XX XX XX
- LINE NUMBER
- PAGE NUMBER
- PANEL NUMBER

LEGEND

- LOW PRESSURE
- HIGH PRESSURE
- LOW LEVEL
- HIGH LEVEL
- LIMIT SWITCH
- LIMIT SWITCH
- LOW FLOW
- HIGH FLOW
- RELAY CONTACT
- RELAY CONTACT
- RELAY CONTACT
- ON DELAY TIMER
- OFF DELAY TIMER
- GROUND
- ISOLATED GROUND
- FUSE (POWER)
- FUSE (CONTROL)
- DISTRIBUTION BLOCK
- MAINTAINED TWO SELECTOR SWITCH
- MAINTAINED 3 POSITIONS SELECTOR SWITCH
- SPRING RETURN FROM LEFT 3 POSITIONS SELECTOR SWITCH
- SPRING RETURN FROM RIGHT 3 POSITIONS SELECTOR SWITCH
- SPRING RETURN FROM BOTH 3 POSITIONS SELECTOR SWITCH
- PUSH BUTTON
- PUSH BUTTON
- PULL BUTTON
- PULL BUTTON
- EMERGENCY STOP BUTTON
- POTENTIOMETER
- CURRENT TRANSFORMER
- THERMOSTAT
- THERMOSTAT
- 1 POLE CIRCUIT BREAKER
- COOLING FAN
- RECEPTACLE 120VAC WITH RJ45
- RECEPTACLE 120VAC DUPLEX
- PILOT LIGHT
- PUSH TO TEST PILOT LIGHT
- RELAY COIL
- RELAY COIL WITH SURGE SUPPRESSOR
- CONTACTOR COIL
- CONTACTOR COIL WITH SURGE SUPPRESSOR
- ALARM
- RESISTOR
- SOLENOID
- PULL CORD
- ZERO SPEED DETECTOR
- POWER BLOCK FOR FIELD WIRING
- TERMINAL
- WIRING JUNCTION
- KNIFE TERMINAL
- 3 POLES THERMAL MAGNETIC CIRCUIT BREAKER
- 3 POLES MAGNETIC CIRCUIT BREAKER
- 3 POLES FUSIBLE DISCONNECT SWITCH
- 3 POLES DISCONNECT SWITCH
- 3 POLES CONTACTOR
- 3 POLES OVERLOAD RELAY
- 1 POLE TRANSFORMER (H3, H2, H1, X2, X4, X1, X3)

REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	SB	RA	–	–

DESIGNER	DATE
CHECKER	DATE
ENGINEER	DATE
SCALE:	

TITLE: MECTAN, GRIT PUMP, SAM
DRAWING LIST AND LEGEND

CLIENT: JEFFERSON (GA)

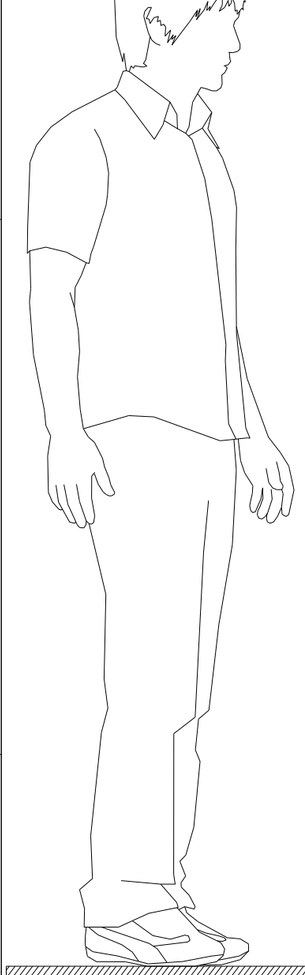
VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230

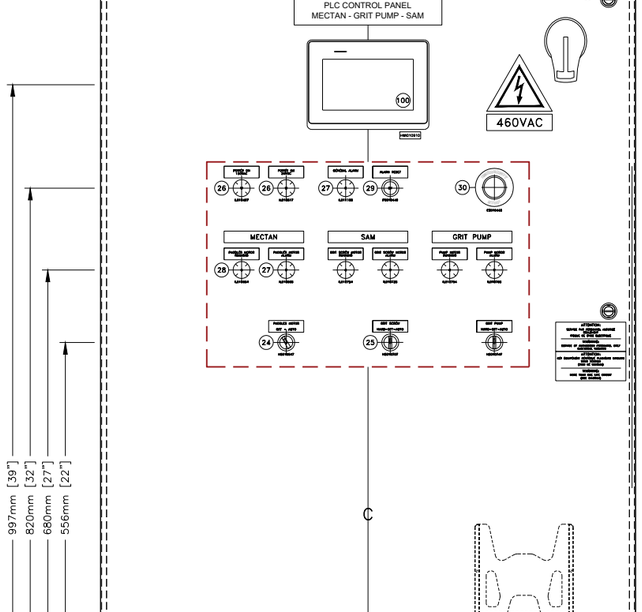
PROJECT	DRAWING	INTERNAL	SHEET	REV
5000222018 –	EPL-0001-AU-VWT		2 OF 7	1

BAR = 1" AT PLOT SCALE
REF: A-7595-A
STD: "B" 11x17

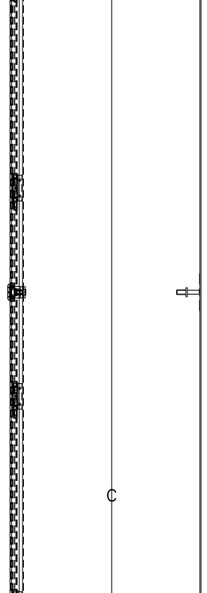
Aug 26, 2022 17:16:54 – G:\Projets A75XX\A7595A – VEOLIA – Projet 5000222018 Jefferson (GA)\DOC\DESSIN\000-DESSINS\REV1\A7595A-5000222018-EPL.dwg – rasiani

ENCLOSURE TYPE 4X–SS304
48H'' X 36W'' X 12D''
cUL APPROVAL

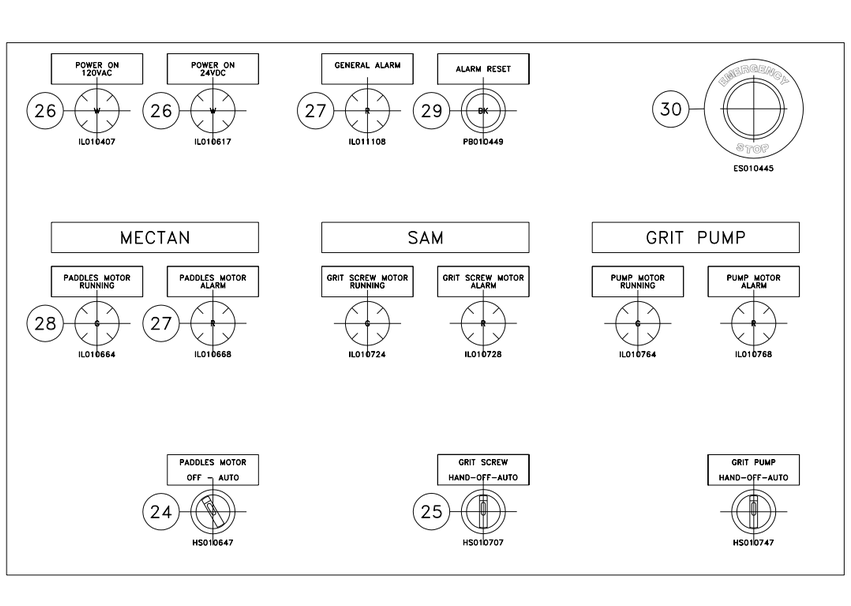




FRONT VIEW



SIDE VIEW



REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	PRELIMINARY	2022–08–15	EH	RA	–	–

DESIGNER	DATE
CHECKER	DATE
ENGINEER	DATE
SCALE:	

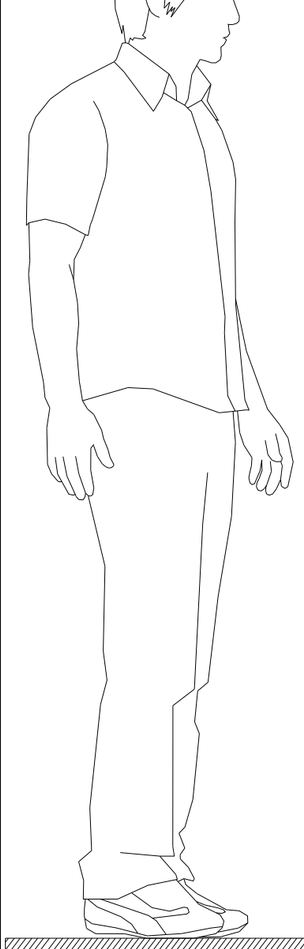
TITLE: MECTAN, GRIT PUMP, SAM
EXTERNAL LAYOUT

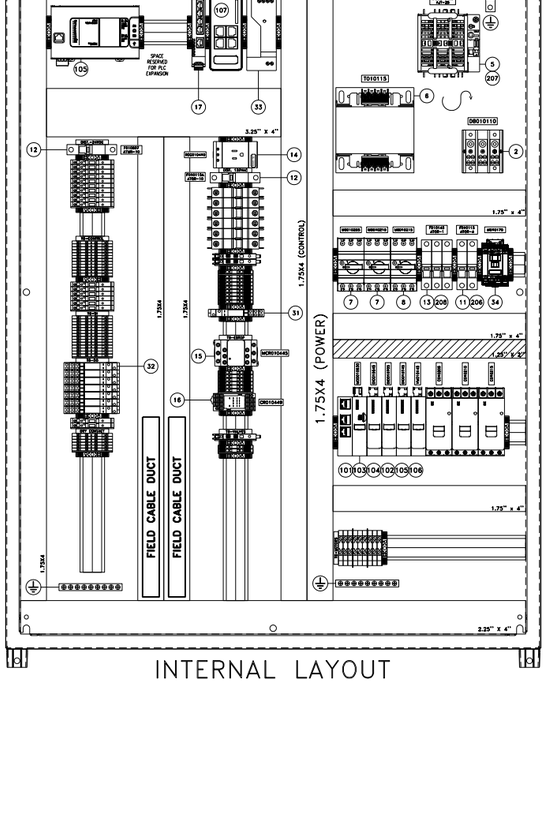
CLIENT: JEFFERSON (GA)

VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230

PROJECT	DRAWING	INTERNAL	SHEET	REV
5000222018 –	EPL–0001–AU–VWT		3 OF 7	1

BAR = 1" AT PLOT SCALE
REF: A–7595–A
STD: "B" 11x17





INTERNAL LAYOUT

BAR = 1" AT PLOT SCALE

REF: A-7595-A

STD: "B" 11x17

REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	PRELIMINARY	2022-08-15	EH	RA	–	–

DESIGNER	DATE
CHECKER	DATE
ENGINEER	DATE
SCALE:	

TITLE: MECTAN, GRIT PUMP, SAM

INTERNAL LAYOUT

CLIENT: JEFFERSON (GA)

VEOLIA

VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230

PROJECT / DRAWING	INTERNAL	SHEET	REV
5000222018 – EPL-0001-AU-VWT		4 OF 7	1

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ITEM	DESCRIPTION	PART NUMBER	MANUF.	QTY	BY
1	NEMA 4X ENCLOSURE, SS304, 48"H X 36"W X 12"D C/W MOUNTING PLATE , DATA POCKET	SE1201262	HOFFMAN	1	ENV
2	DISTRIBUTION BLOCK, 3 POLES, 1 IN – 4 OUT, 175A C/W PROTECTIVE COVER 1492–PBC1	1492–PD3141	ALLEN–BRADLEY	1	ENV
3	GROUND LUG, 600VAC, COPPER, 6–14, STR	SLU35	ILSCO	1	ENV
4	COPPER GROUND BAR, 5FEET, #4–14AWG	4C–190	NSI INDUSTRIES	0.2'	ENV
5	DISCONNECT SWITCH 600VCA, 3 POLES, 30 AMPS C/W HANDLE GS1AH410 AND EXTENSION ROD GS2AE81	GS1DU3	SCHNEIDER	1	ENV
6	TRANSFORMER, 600/460VAC TO 120VAC, 1000VA C/W 2X SPFG	SP1000ACP	HAMMOND	1	ENV
7	MOTOR CIRCUIT BREAKER 3P, 6–10A	GV2P14	SCHNEIDER	2	ENV
8	MOTOR CIRCUIT BREAKER 3P, 20–25A	GV2P22	SCHNEIDER	1	ENV
9	LED LIGHT 23 IN, 120V 10W C/W CABLE LS2–PC6	LS2–239–4	PREMISE	1	ENV
10	DOOR SWITCH 1NO	FLKDS	HAMMOND	1	ENV
11	FUSE HOLDER 2 POLES TYPE CC 600V 30A C/W FUSE	USCC2	MERSEN	1	ENV
12	FUSE HOLDER 1 POLE TYPE CC 600V 30A C/W FUSE	USCC1	MERSEN	2	ENV
13	FUSE HOLDER 3 POLE TYPE CC 600V 30A C/W FUSE	USCC3	MERSEN	1	ENV
14	SIMPLEX OUTLET, 125VAC, 15A	0804155	PHOENIX	1	ENV
15	SAFETY CONTACTOR 3 NO 2 NC 10A COIL 120VAC C/W AUX. CONTACT AUX LADN40	CAD32G7	SCHNEIDER	1	ENV
16	RELAY 4PDT COIL 120VAC, LED C/W BASE PYF14AE + CLAMP PYCA1	MY4N–AC120	OMRON	A/R	ENV
17	ETHERNET SWITCH 5 PORTS	1085039	PHOENIX	1	ENV
18	TERMINAL FUSE HOLDER 300VAC/DC 15A WSI4/2 C/W END PLATE 1880450000	1880430000	WEIDMULLER	A/R	ENV
19	FUSE TERMINAL 2 LEVEL 5 X 20mm, 300VAC/DC, 10A, KDKS C/W END PLATE 9503330000	9503350000	WEIDMULLER	A/R	ENV
20	TERMINAL 600VAC/DC, 30A WDU 4 C/W END PLATE 1050000000	1020100000	WEIDMULLER	A/R	ENV
21	TERMINAL 600VAC/DC, 50A WDU 6 C/W END PLATE 1050000000 OR SEPERATOR 1050100000	1020200000	WEIDMULLER	A/R	ENV
22	STOPPER WEW 35/2	1061200000	WEIDMULLER	A/R	ENV
23	2 POLES RELAY, 120VAC COIL C/W BASE 700HN222	700HK32A1	ALLEN BRADLEY	1	ENV
24	2 POSITION SELECTOR, MAINTAINED, 22MM C/W NO(1) ZBE101 + BASE ZB4BZ009	ZB4BD2	SCHNEIDER	1	ENV
25	3 POSITION SELECTOR, MAINTAINED, 22MM C/W NO(1) ZBE101 + BASE ZB4BZ009	ZB4BD3	SCHNEIDER	2	ENV
26	PILOT LENS WHITE FOR LED MODULE 22MM C/W WHITE LED 120VAC(ZB4BVG1) & 24VDC(ZB4BVB1)	ZB4BV013	SCHNEIDER	2	ENV
27	PILOT LENS RED FOR LED MODULE 22MM C/W RED LED 24VDC AND BASE ZB4BVB4	ZB4BV043	SCHNEIDER	4	ENV
28	PILOT LENS GREEN FOR LED MODULE 22MM C/W GREEN LED 24VDC AND BASE ZB4BVB3	ZB4BV033	SCHNEIDER	3	ENV
29	PUSH BUTTON, 22MM C/W NO(1) ZBE101 + BASE ZB4BZ009	ZB4BA2	SCHNEIDER	1	ENV
30	RED EMERGENCY STOP PUSH BUTTON C/W CONTACT TELZBE102 (X3) + LATCH ZBEBZ009	ZB4BS844	SCHNEIDER	1	ENV
31	2 POLES RELAY, 120VAC COIL C/W BASE 700HN222	700HK32A1	ALLEN BRADLEY	1	ENV
32	2 POLES RELAY, 24VDC COIL C/W BASE 700–HN221	700–HK36Z24	ALLEN–BRADLEY	LOT	ENV
33	240W, 24VDC POWER SUPPLY 10AMP	2904376	PHOENIX	1	ENV
34	32 AMP POWER CONTACTOR	LC1D32G7	SCHNEIDER	1	ENV

FOR MORE DETAILS SEE:
5000222018–0001–EPL–07/07

ITEM	DESCRIPTION	PART NUMBER	MANUF.	QTY	BY
100	HMI HARMONY ST6, 7", 24VDC	HMIST6400	SCHNEIDER	1	VEO
101	Bus Coupler Ethernet/Ip, TeSys island	TPRBCEIP	SCHNEIDER	1	VEO
102	SIL Interface Module, TeSys island	TPRSM001	SCHNEIDER	1	VEO
103	Voltage Interface Module, TeSys island	TPRVM001	SCHNEIDER	1	VEO
104	Direct online SIL starter TeSys island, 15A AC–1, 9A AC–3, 4kW / 5hp	TPRSS009	SCHNEIDER	3	VEO
105	PLC MODICON M241 MICRO PLC, I/O RELAY ETHERNET	TM241CE24R	SCHNEIDER	1	VEO
106	TESYS ISLAND IO MODULE	TPRDG4X2	SCHNEIDER	3	VEO
107	MODEM, 24VDC C/W FLB3205+EW40205	E–WON	FLEXY20500–00	1	VEO

FOR MORE DETAILS SEE:
5000222018–0001–ELD–09/11

ITEM	DESCRIPTION	PART NUMBER	MANUF.	QTY	BY
200	FUSE, FAST ACTING, ¼ X 1¼, XA	ACG–X	BUSSMANN	A/R	ENV
201	FUSE, FAST ACTING, 5 x 20mm XA	GMA–X	BUSSMANN	A/R	ENV
203	BREAKER, C CURVE, 1P	M9F421XXX	SCHNEIDER	A/R	ENV
204	FAST ACTING FUSE TYPE CC, 600VAC, 10A	ATMR–10	MERSEN	1	ENV
205	FUSE TYPE CC, 600VAC, 10A	ATQR–10	MERSEN	1	ENV
206	FUSE TYPE CC, 600VAC, 4A	ATQR–4	MERSEN	2	ENV
207	FUSE TYPE CC, 600VAC, 25A	AJT–25	MERSEN	3	ENV
208	FUSE TYPE CC, 600VAC, 4A	ATQR–1	MERSEN	3	ENV

FOR MORE DETAILS SEE:
5000222018–0001–EPL–07/07

REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	PRELIMINARY	2022–08–15	EH	RA	–	–

DESIGNER	DATE
CHECKER	DATE
ENGINEER	DATE
SCALE:	

TITLE: MECTAN, GRIT PUMP, SAM
BILL OF MATERIAL

CLIENT: JEFFERSON (GA)

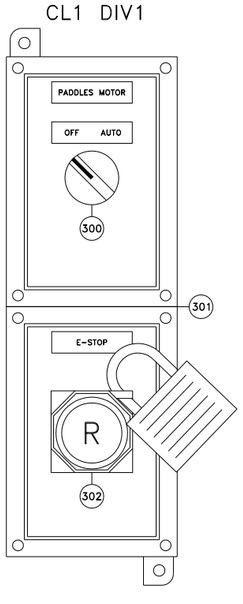
VEOLIA
VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230

PROJECT	DRAWING	INTERNAL	SHEET	REV
5000222018 –	EPL–0001–AU–VWT		5 OF 7	1

LOCAL STATION AND JB PARTS LIST

ITEM	DESCRIPTION	PART NUMBER	MANUF.	QTY	BY
300	2 POSITION SELECTOR 30.5mm C/W CONTACT 800T-XA4(1X)	800H-HP2KB6AAXX	ALLEN-BRADLEY	1	ENV
301	NEMA 7 LOCAL STATION 2 HOLES C/A COVER 800H-NP30(10X) & 800HN479/800HNP20(10X)	800H-2HVX7	ALLEN-BRADLEY	3	ENV
302	RED EMERGENCY PUSH BUTTON	800H-FPX6D4	ALLEN-BRADLEY	3	ENV
303	3 POSITION SELECTOR SPRING RETURN FORM RIGHT 30mm, C/W CONTACT 800T-XA4(1X)	800H-JP5KE7AAXX	ALLEN-BRADLEY	2	ENV

MECTAN
LOCAL STATION
NEMA 7, C/W TYPE 4 SEAL
OUTDOOR USE
CL1 DIV1



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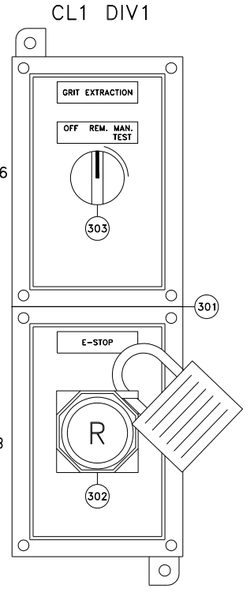
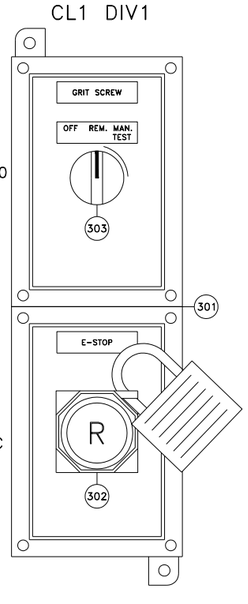
GRIT PUMP
LOCAL STATION
NEMA 7, C/W TYPE 4 SEAL
OUTDOOR USE
CL1 DIV1



HS011026

ES010445B

SAM
LOCAL STATION
NEMA 7, C/W TYPE 4 SEAL
OUTDOOR USE
CL1 DIV1



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REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	PRELIMINARY	2022-08-15	EH	RA	–	–

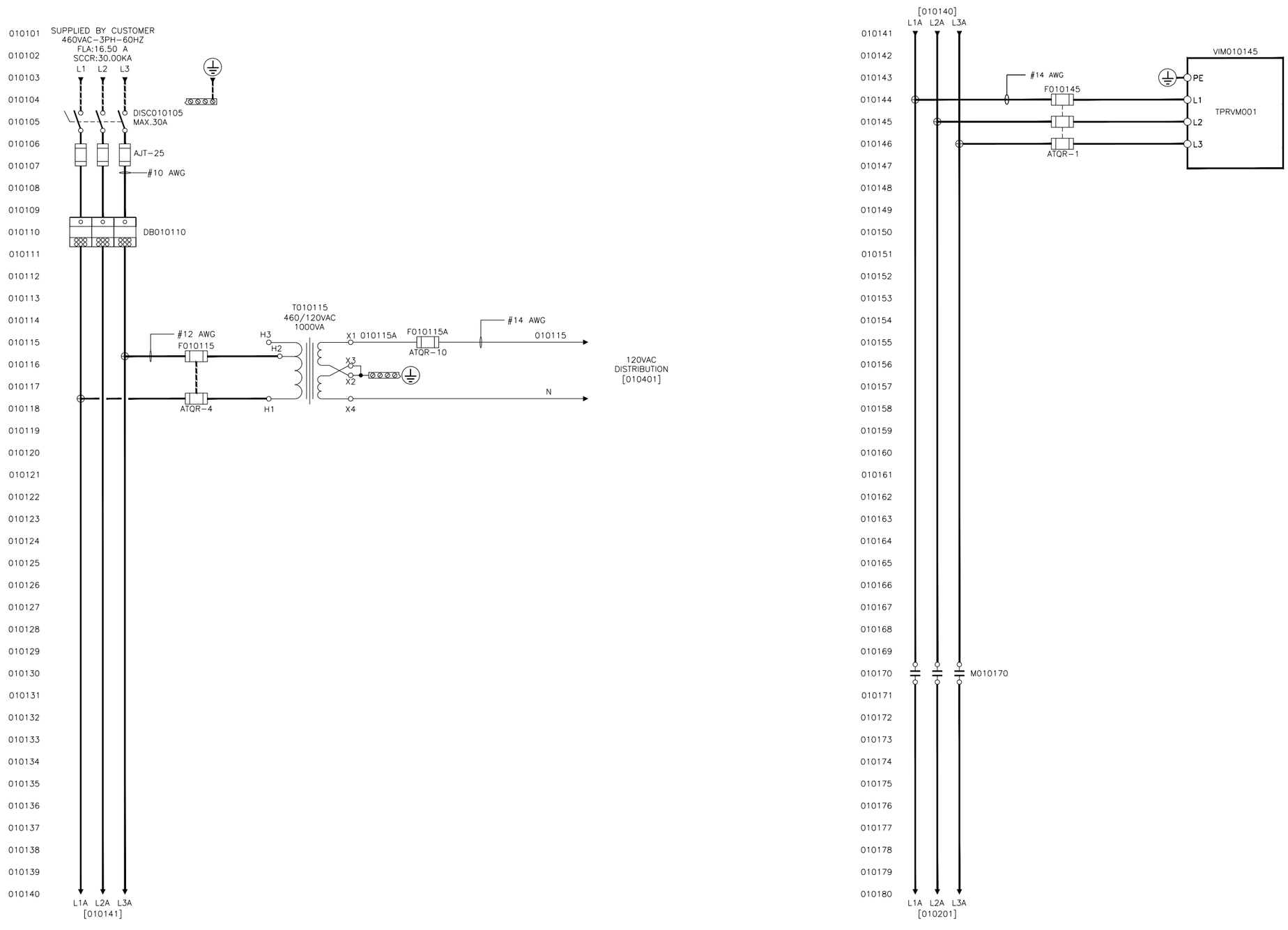
DESIGNER | DATE
CHECKER | DATE
ENGINEER | DATE
SCALE:

TITLE: MECTAN, GRIT PUMP, SAM
LOCAL STATION

CLIENT: JEFFERSON (GA)

VEOLIA
VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230

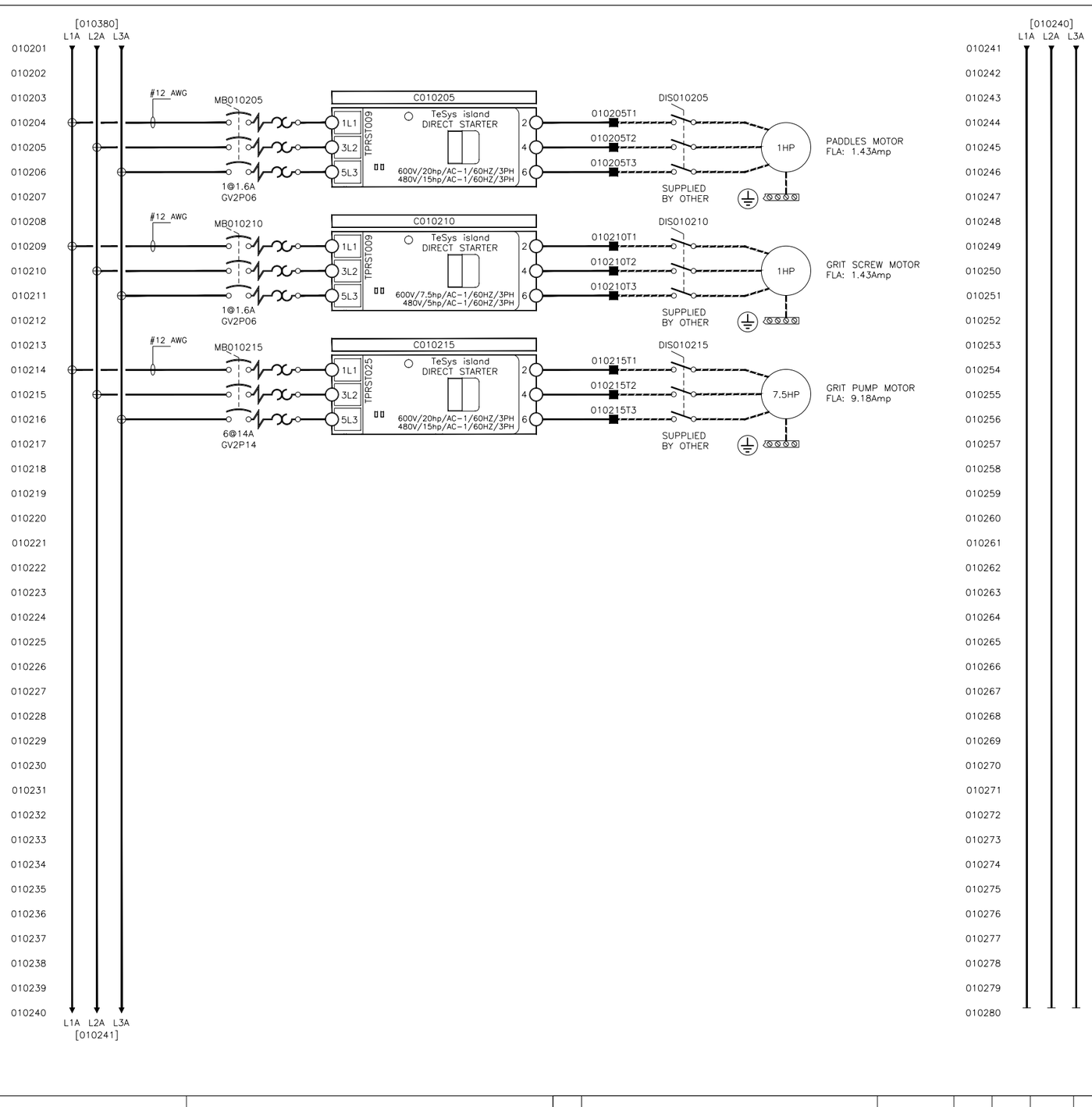
PROJECT	DRAWING	INTERNAL	SHEET	REV
5000222018 –	EPL-0001-AU-VWT		6 OF 7	1



REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
CHECKER	DATE	CLIENT: JEFFERSON (GA)
ENGINEER	DATE	VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT 5000222018 – DRAWING ELD-0001-AU-VWT; INTERNAL –; SHEET 01 OF 11; REV 1

STD: "B" 11x17 | REF: A-7595-A



REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
CHECKER	DATE	CLIENT: JEFFERSON (GA)
ENGINEER	DATE	VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT: 5000222018 — DRAWING: ELD-0001-AU-VWT; INTERNAL: -; SHEET: 02 OF 11; REV: 1

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REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL SPARE
CHECKER	DATE	CLIENT: JEFFERSON (GA)
ENGINEER	DATE	VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT: 5000222018 – DRAWING: ELD-0001-AU-VWT; INTERNAL: –; SHEET: 03 OF 11; REV: 1

STD: "B" 11x17
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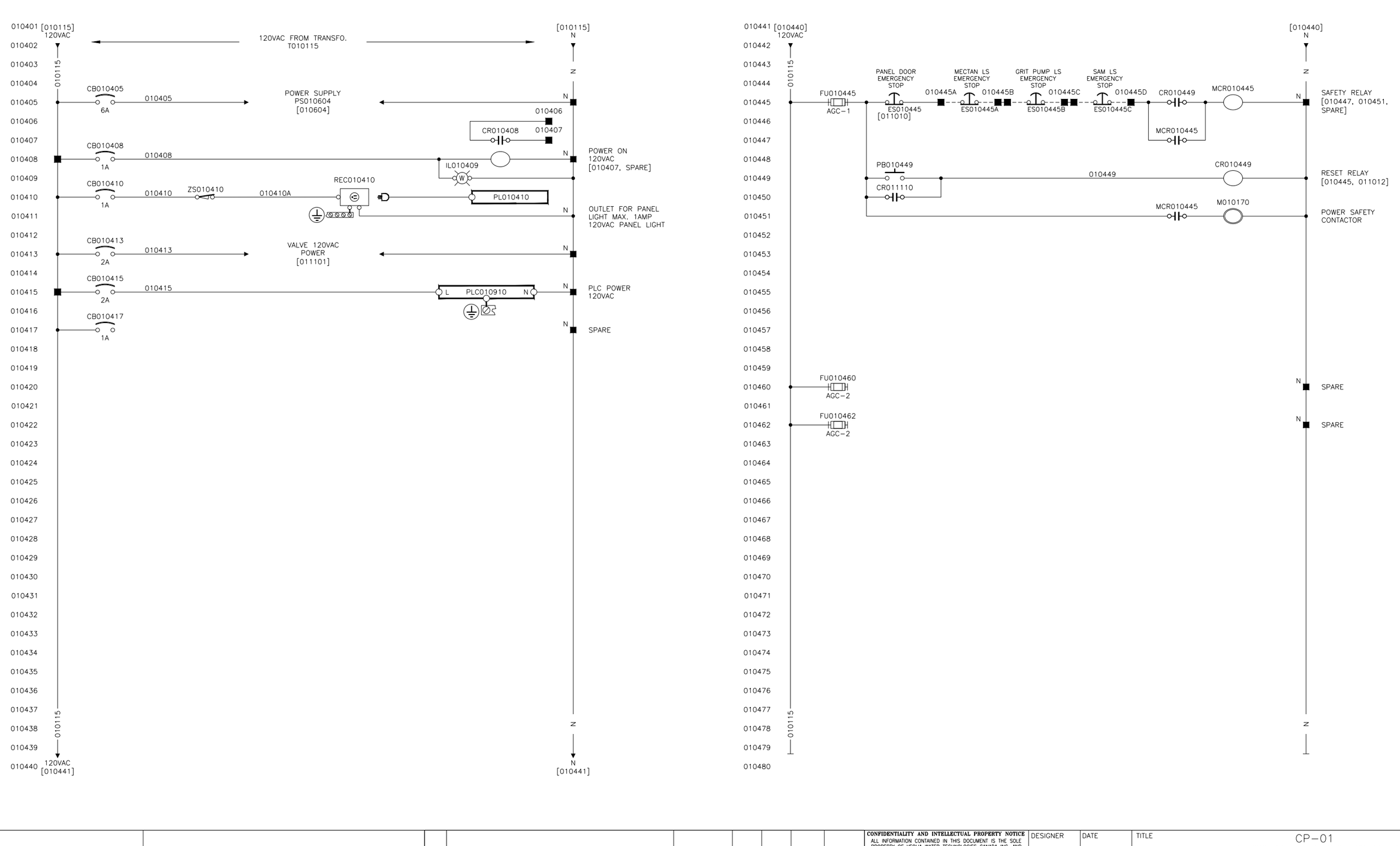

REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
CHECKER	DATE	CLIENT: JEFFERSON (GA)
ENGINEER	DATE	VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT: 5000222018 – DRAWING: ELD-0001-AU-VWT; INTERNAL: –; SHEET: 04 OF 11; REV: 1

STD: "B" 11x17 | REF: A-7595-A

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REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL SPARE
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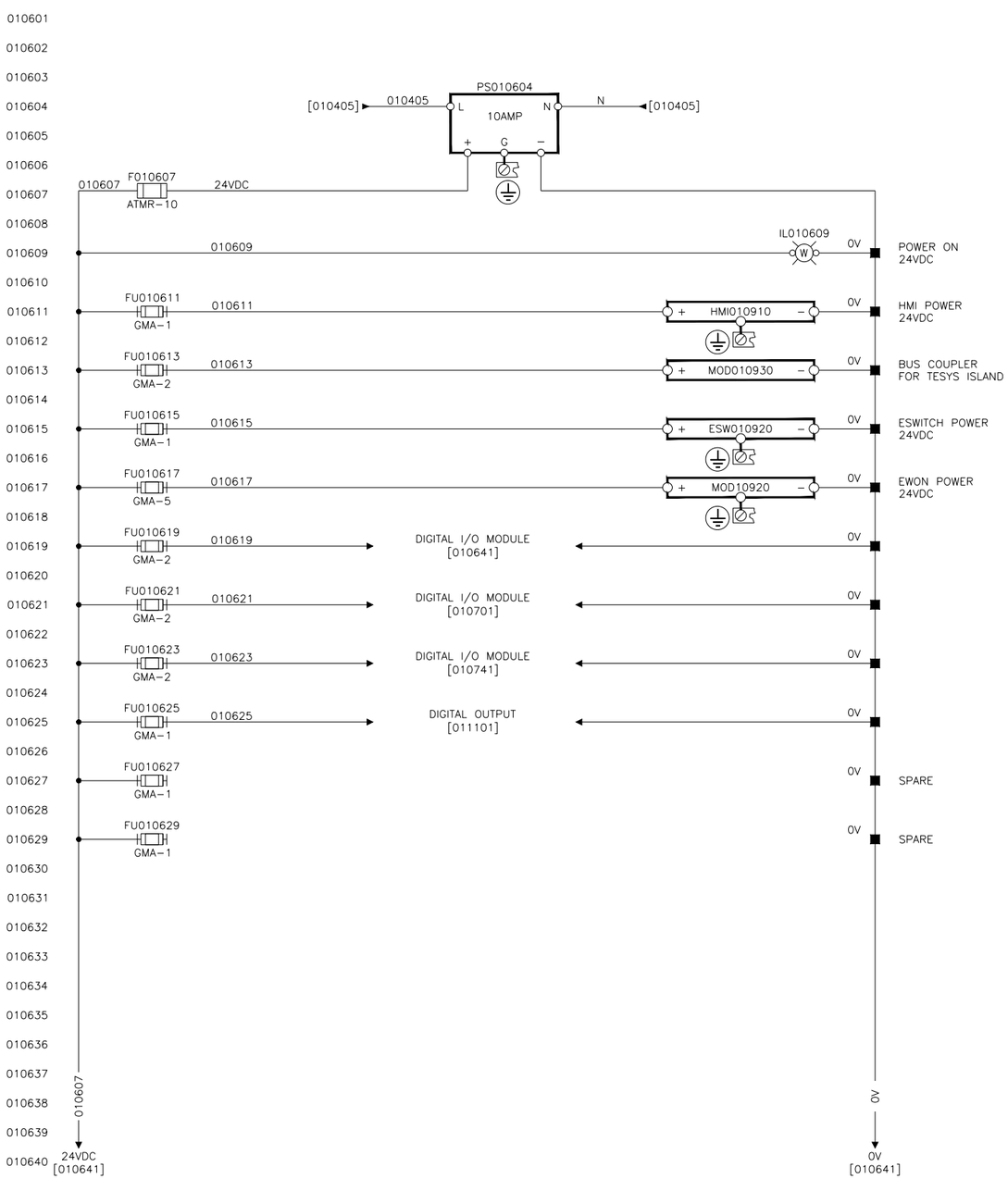
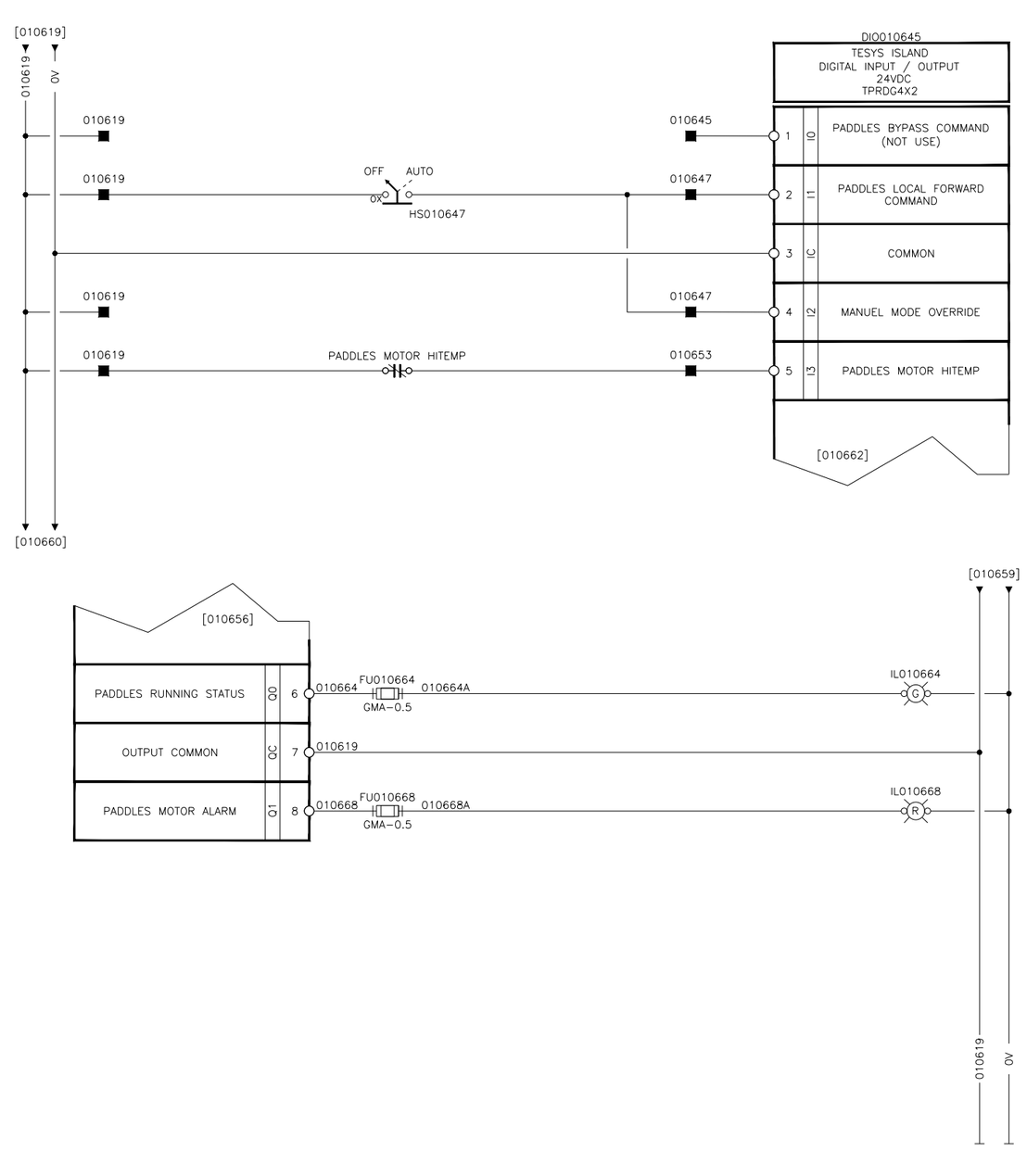
ENGINEER	DATE	VEOLIA VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT: 5000222018 — DRAWING: ELD-0001-AU-VWT; INTERNAL: -; SHEET: 05 OF 11; REV: 1





REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP–01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
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ENGINEER	DATE	VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT: 5000222018 – ELD-0001-AU-VWT · DRAWING: – · INTERNAL: – · SHEET: 06 OF 11 · REV: 1

REF: A–7595–A

STD: "B" 11x17

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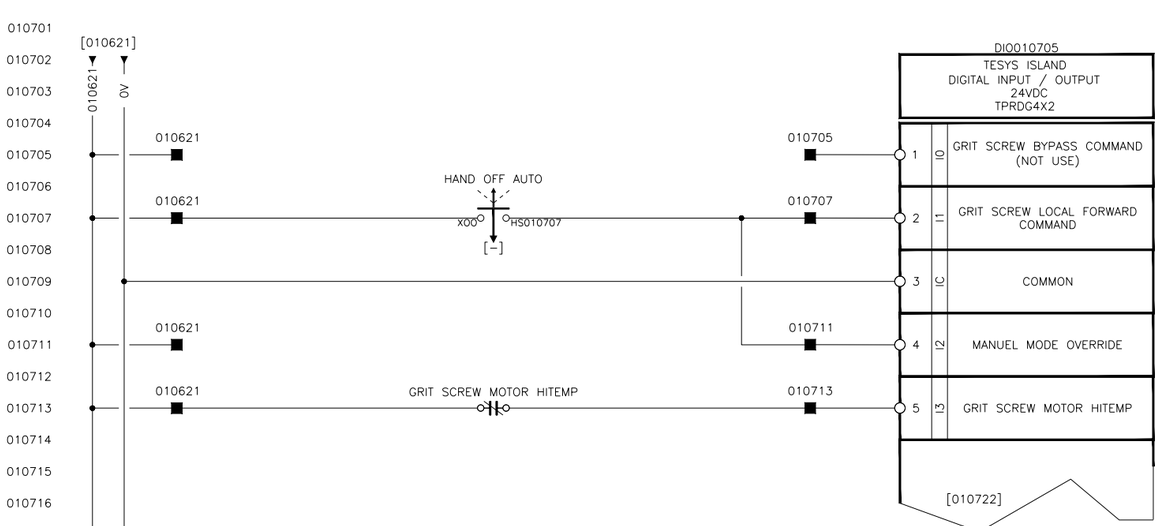

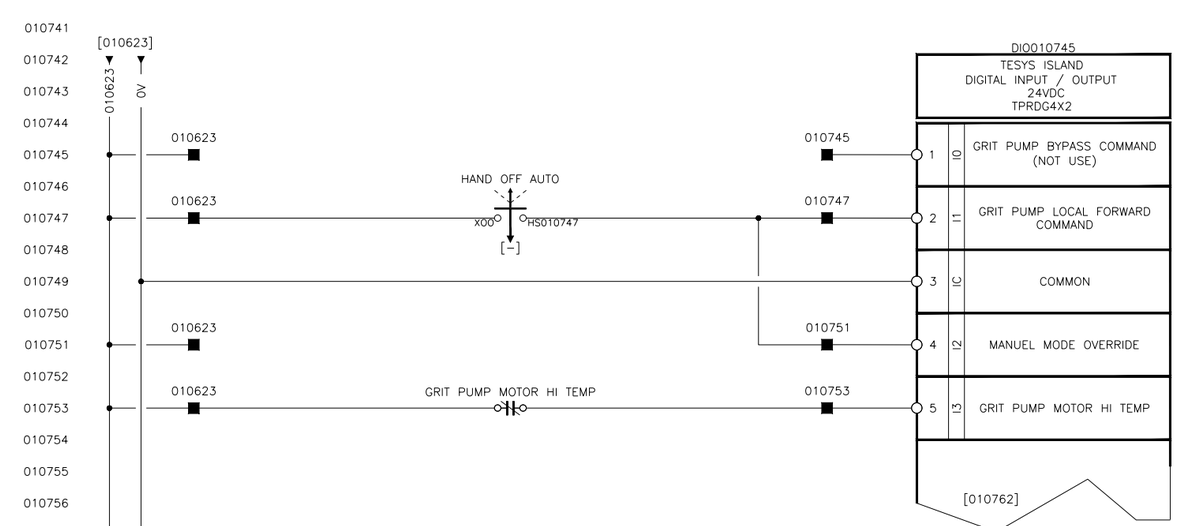

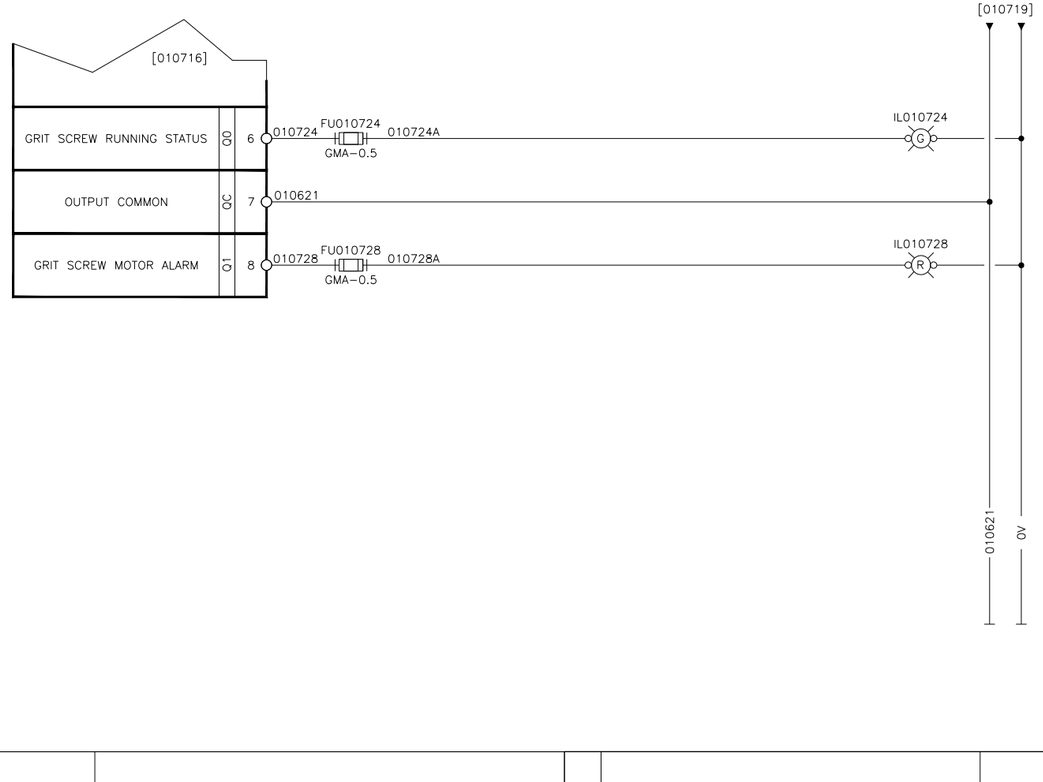

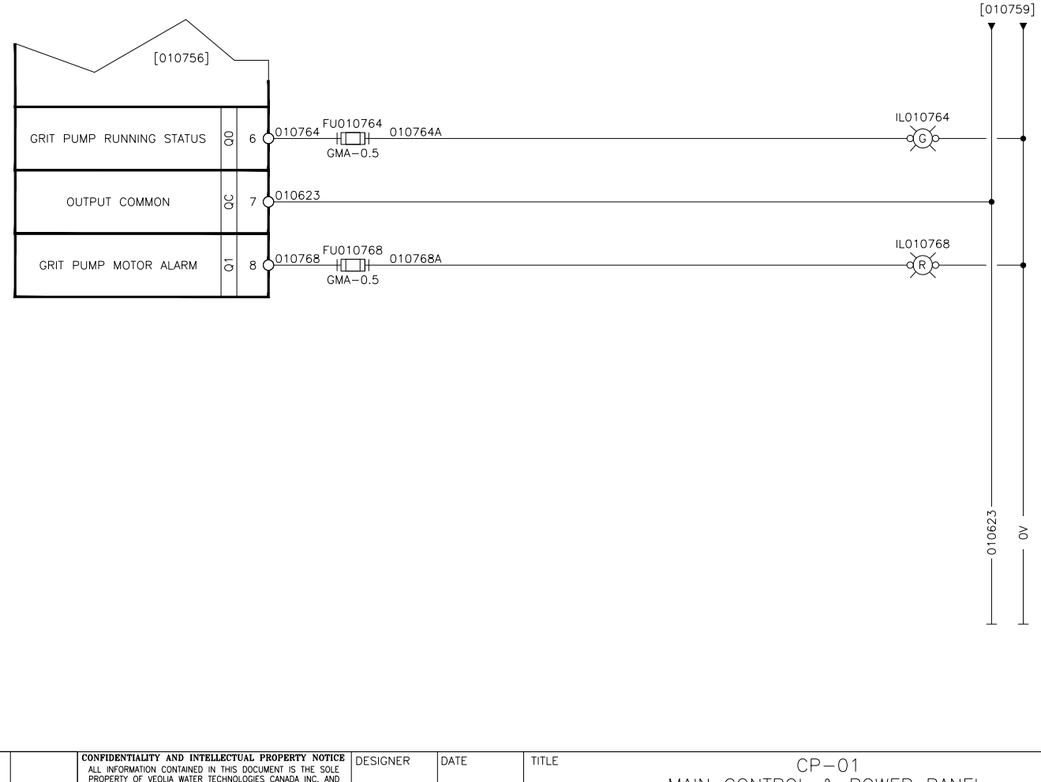

REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP–01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
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SCALE:		PROJECT: 5000222018 – ELD-0001-AU-VWT; DRAWING: –; INTERNAL: –; SHEET: 07 OF 11; REV: 1

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REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL SPARE
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STD: "B" 11x17
REF: A-7595-A

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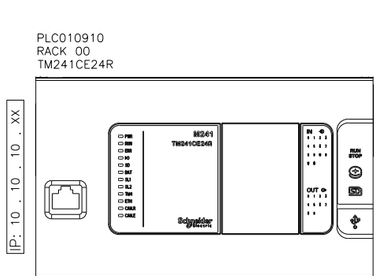

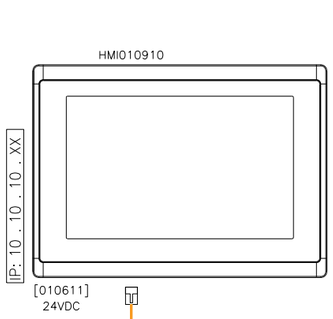

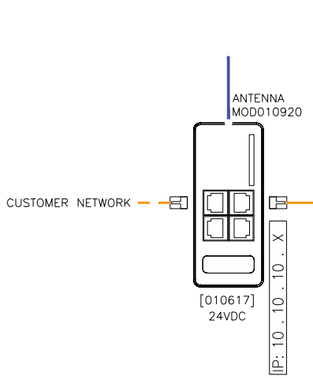

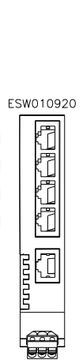

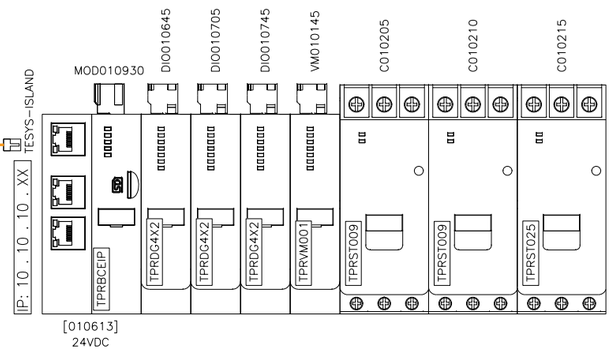

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REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
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ENGINEER	DATE	VEOLIA VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230

SCALE:	PROJECT	DRAWING	INTERNAL	SHEET	REV
	5000222018 –	ELD-0001-AU-VWT	–	09 OF 11	1

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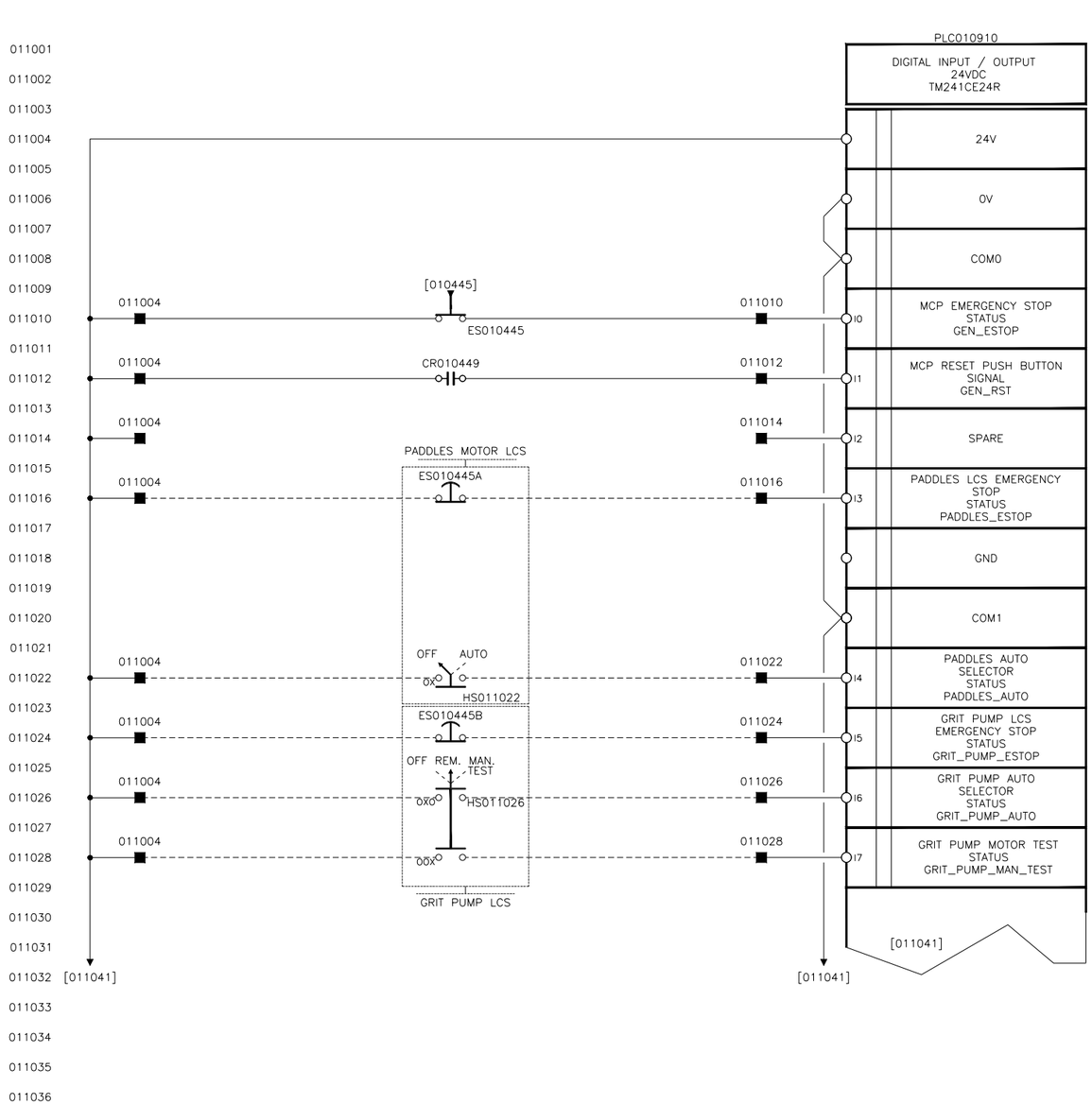

REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022-08-15	EH	RA	–	–

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DESIGNER	DATE	TITLE: CP-01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
CHECKER	DATE	CLIENT: JEFFERSON (GA)
ENGINEER	DATE	VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT: 5000222018 – DRAWING: ELD-0001-AU-VWT; INTERNAL: –; SHEET: 10 OF 11; REV: 1

STD: "B" 11x17 REF: A-7595-A

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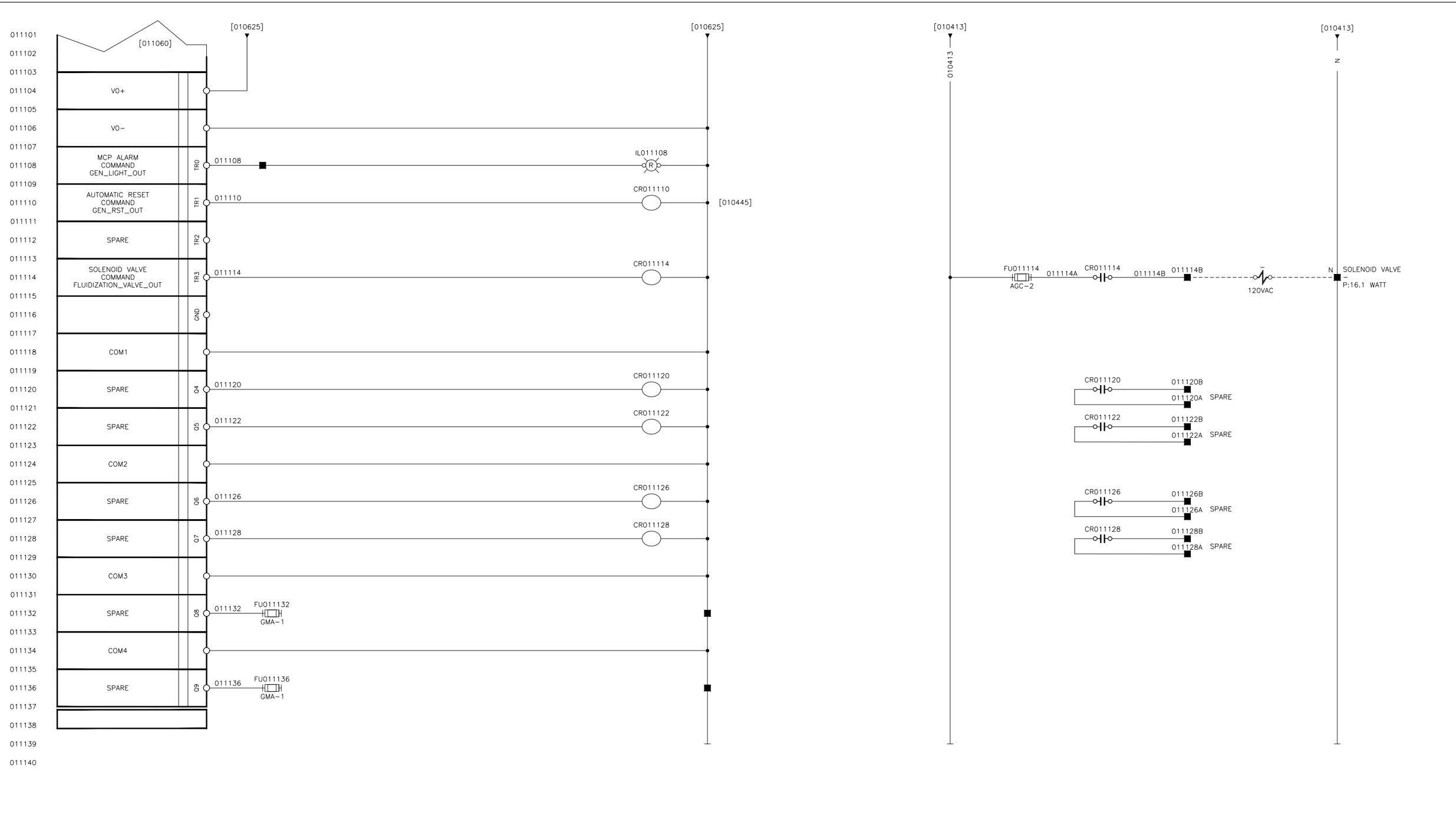

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REV	DESCRIPTION	DATE	REVD	CHKD	APVD	ECN
1	FOR APPROVAL	2022−08−15	EH	RA	−	−

DESIGNER	DATE	TITLE: CP−01 MAIN CONTROL & POWER PANEL ELECTRICAL DIAGRAM
CHECKER	DATE	CLIENT: JEFFERSON (GA)
ENGINEER	DATE	VEOLIA WATER TECHNOLOGIES CANADA INC. 4105 Sartelon, Saint-Laurent, Qc, Canada. Tel: (514) 334-7230
SCALE:		PROJECT: 5000222018 — DRAWING: ELD−0001−AU−VWT; INTERNAL: −; SHEET: 11 OF 11; REV: 1