MicroLogix 1400

Small Programmable Logic Controller

Allen-Bradley

Provide manufacturers model/part number

Features and Benefits

- Expand your application capabilities with up to 7 expansion I/O modules for a maximum of 256 discrete I/O
- Up to 6 embedded 100 kHz highspeed counters (on controllers with dc inputs)
- 2 Serial ports with DF1/ DH485/ Modbus RTU/DNP3/ASCII protocol support
- Ethernet port provides you with EtherNet/IP, DNP3 over IP and Modbus TCP/IP protocol support as well as web server and email capabilities
- Built-in LCD with backlight allows you to view controller and I/O status, and provides a simple interface for messages, bit / integer monitoring and manipulation

Product Description

The Allen-Bradley® MicroLogix™ 1400 from Rockwell Automation complements the existing MicroLogix family of small programmable logic controllers. MicroLogix 1400 combines the features you demand from MicroLogix 1100, such as EtherNet/IP, online editing, and a built-in LCD, plus provides you with enhanced features, such as: higher I/O count, faster High Speed Counter/PTO and enhanced network capabilities

Take advantage of the built-in LCD with back lighting to set the Ethernet network configuration, display floating point values on a user configurable display, display OEM logos at startup and read or write any binary, integer and long file elements in the data table.

Three embedded communication ports provide you with excellent communications capabilities. MicroLogix 1400 offers an isolated RS232C/ RS485 combination port; a non-isolated RS232C port; and an RJ-45 port for 10/100 Mbps EtherNet/IP peer-to-peer messaging, DNP3 over IP and Modbus TCP/IP protocol.

Similar to the rest of the MicroLogix family, MicroLogix 1400 is programmed with RSLogix 500 programming software (Version 8.1 and above) as well as RSLogix Micro programming software.

LISTEN. THINK. SOLVE.®

Provide manufacturers model/part number

Product Specifications

MicroLogix	1766-L32BWA	1766-L32AWA	1766-L32BXB	1766-L32BWAA	1766-L32AWAA	1766-L32BXBA
Input Power	120/240 V AC		24V DC	120/240 V AC		24V DC
Memory	non-volatile battery backed RAM					
User Program / User Data Space	10K / 10K configurable					
Data Logging / Recipe Storage	128 K (without Recipe) / up to 64 K (after subtracting Data Logging)					
Battery Back-up	Yes					
Back-up Memory Module	Yes					
Digital Inputs	(12) Fast 24VDC (8) Normal 24VDC	(20) 120VAC	(12) Fast 24VDC (8) Normal 24VDC	(12) Fast 24VDC (8) Normal 24VDC	(20) 120VAC	(12) Fast 24VDC (8) Normal 24VDC
Digital Outputs	(12) Relay	(12) Relay	(6) Relay (3) Fast DC (3) Normal DC	(12) Relay	(12) Relay	(6) Relay (3) Fast DC (3) Normal DC
Analog Inputs / Outputs	None			(4) Voltage Inputs / (2) Voltage Outputs		
Serial Ports	(1) RS232C/RS485* , (1) RS232C**					
Serial Protocols	DF1 Full Duplex, DF1 Half Duplex Master/Slave, DF1 Radio Modem, DH-485, Modbus RTU Master/Slave, ASCII, DNP 3 Slave					
Ethernet Ports	(1) 10/100 EtherNet/IP port					
Ethernet Protocols	EtherNet/IP messaging, DNP3 over IP and Modbus TCP/IP					
Trim Potentiometers	2 Digital					
High-Speed Inputs	Up to 6 channels @ 100 kHz	N/A	Up to 6 channels @ 100 kHz	Up to 6 channels @ 100 kHz	N/A	Up to 6 channels @ 100 kHz
Real Time Clock	Yes, embedded					
PID	Yes (limited by loop and stack memory)					
PWM /PTO	N/A		3 channel PTO (100kHz)\PWM (40kHz)	N/A		3 channel PTO (100kHz)\PWM (40kHz)
Embedded LCD	Yes					
Floating Point Math	Yes					
Online Editing	Yes					
Operating Temperature	-20°C...+60°C					
Storage Temperature	-40°C (or -30°C)...+85°C					

* Isolated. RS232/RS485 combo port. Same as MicroLogix 1100 Comm 0

** Non-isolated RS232. standard D-sub connector.

Rockwell Automation is an official ENERGY STAR® Industrial Service and Product Provider. It has proven it provides energy efficiency services and/or products to commercial buildings and industrial manufacturing plants in the United States by collaborating with an ENERGY STAR Industrial Partner to submit a teaming profile that outlines the scope and resulting savings from energy efficiency-driven projects. For more information, visit ENERGY STAR for Industry at **www.energystar.gov/index.cfm?c=industry.bus_industry**

Allen-Bradley, MicroLogix and RSLogix are trademarks of Rockwell Automation, Inc.
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www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Publication 1766-PP001D-EN-P – April, 2011
Supercedes Publication 1766-PP001C-EN-P October, 2010

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MARLO INCORPORATED

Submittal

Prepared For:

Webster University, Webster Grove, MO
C/O CW Boiler Supply

October 28, 2016

Description:

High Purity RO/DI Water Skid

Job Number: S-100516001

Submittal pages have been numbered to aid in referencing

All equipment and components shall be sized to fit in the available allocated space with the required working clearances.
All equipment and components shall be sized to fit within the service elevator.

General Specifications

Job Name: Webster University, Webster Grove, MO Job No.: S-100516001

Items: High Purity RO/DI Water Skid

RO/DI Skid Consisting of the Following:

- MAT-60-1" Twin Alt Softener with SXT Digital Timer
- ACA-10G-1" Single Activated Carbon Filter with SXT Digital Timer/ RO Lockout Switch
- MRO-3600-4V" Deluxe RO System with Digital Conductivity
- 460V/3-Phase/60 Hz , 120V /1phase/60 Hz
- (2) 14" x 47" DI Bottles with 3.6 ft3 Mixed Bed Resin and Reslite (Piped in Series)
- 300 Gallon Polyethylene Conical Bottom Storage Tank, PRV Valve, Float Switches
- 5 GPM Flow Control for Slip Stream Recirculation
- (2) Grundfos CM 316 SS Re-press Pumps with VFD Drives & Sensors
- 35gpm @ 76 psi
- Motor Starter Panel with Disconnect
- Aquafine CSL-4R UV System
- Shelco 5FOS3 316 SS Final Filter with (5) 30" .2 Micron Filter Cartidges
- Master AB 1400 PLC with PV 800 Series 7" HMI Interface
- Ethernet Ports for Modbus Communication to BMS
- PLC to Display the Following Points
- (2) Recirculation Loop Flow Sensors
- (2) Recirculation Loop Resistivity Sensors
- (1) RO Conductivity Sensor
- Complete system less Permeate Tank to be Skid-Mounted, Pre-piped and Wired
- Split Skid Design
- Sch 80 PVC Piping to RO System
- Fused Poly Pro Piping Post RO

All components to be made to fit on service elevator. - icon Mechanical

Reference Drawings:

High Purity Skid General Arrangement Drawing	S-100516001-03-01
High Purity Water Treatment System P&ID	S-100516001-07-01

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: December 20, 2016

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Whitworth (WES)

Project No. WT 14127.01
WES 607

[ ] UPS [ ] Courier [X] **Email**

Copies	No.	Description
1 PDF	226700P01B	(Submittal No.'s:)
		(Cannon #22 6700-006) - (Paric #15051-0389) – (WES #607)
		➢ **Processed Water System - Resubmittal**

*Remarks: See Submittal Review from Webb Enginnering.

c: **Kelvin Patel**
Kpatel@cannondesign.com

[X] ***Reviewed**

[X] ***No Exceptions Taken**

[ ]

[ ] *Make Corrections As Noted, No Resubmittal Required

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

WEBB ENGINEERING SERVICES INC.

1400 S. 3rd Street, Suite 201
St. Louis, Missouri 63104
Phone: (314) 588-0600
Fax: (314) 588-0604

Letter of Transmittal

To: wtashop@wmtao.com

From: Mike Whitworth

Date: December 20, 2016

Re: Webster University ISB

WES No: 607

☐ For your Files ☐ For Review ☐ Please Comment ☐ Please Reply

Item No.	Description	No. of Copies	Date
1	Shop Drawing Review – (226700-006 REV002) 226700 Processed Water Systems for Laboratory Facilities	1	12-20-2016

•Signature: Mike Whitworth

WES
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1400 S. 3rd Street, Suite 201 • St. Louis, Missouri 63104 • 314.588.0600 • *fax* 314.588.0604
www.webb-engineering.com

The review of this submittal is limited to the general conformance with the designated design concept and intent of this project and with the general compliance of the information provided in the contract documents. All comments, remarks and notations made on the submittal(s) as a result of this review do not relieve the contractor from full compliance with requirements of the contract documents. Approval for a specific item shall not include approval of an assembly of which the item is not a component. The contractor is solely responsible for rough-in and installation confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordination of this work with that of other trades on this project; and in a safe and satisfactory manner. All work shall be installed in full compliance with the manufacturer's recommendation, Federal, State and Local rules and regulation and the Authority Having Jurisdiction (AHJ) and applicable adopted codes and standards.

PROJECT NAME: Webster University ISB
LOCATION: St. Louis Missouri
CLIENT PROJ. No.: N/A
WES PROJ. No.: 607
SPEC SECTION: 22 6700 Processed Water System for Laboratory Facilities
SUBMITTAL ITEM:: See Below -

CONTRACTOR: ICON Mechanical.
CTR. SUBMITTAL #: 22 6700-006 REV002
SUBMITTAL DATE: December 19, 2016
DATE RECEIVED: December 20, 2016
RECEIVED VIA: E-Mail
RECEIVED FROM: WTA
DATE RETURNED: DECEMBER 20, 2016
RETURNED VIA: E-MAIL
RETRURNED TO: WTASHOP@WMTAO.COM

STATUS KEY:

NO EXCEPTION TAKEN
MAKE CORRECTIONS NOTED, NO RESUBMITTAL:
AMEND AND RESUBMIT
REJECTED, SEE REMARKS:
REVIEWED ONLY

NEC	MCN	AAR	REJ	REV	ITEM	REMARKS
Submittal pages have been numbered to aid in referencing						
All equipment and components shall be sized to fit in the available allocated space with the required working clearances. All equipment and components shall be sized to fit within the service elevator.						
					Page 001 Cover Page	
X					Page 002 Marlo General Specifications	
X					Page 003 Marlo P&I Diagram	
X					Pages 004 - 005 Marlo Skid General Arrangement	
X					Pages 006 – 008 Marlo MAT Series Softener Systems Model – MAT 60M-1	
X					Pages 009 – 011 Marlo MFG Series Media Filter Systems Model – ACG-10G-1 Activated Carbon Filter	
X					Page 012 – 022 Marlo MRO-4V Reverse Osmosis Systems Model – MRO-3600-4V with pump	

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X					Pages 023 – 025 Wave Cyber DI Tank Model 14"x47"	
X					Pages 026 – 028 Pentair Pentek Filter Housings Model – Not specified	
X					Page 029 – 031 Water Storage Tank Den Hartog Model – 36" x 325 Gal. Cone Bottom	1. Includes – stand and vent filter assembly
X					Pages 032 – 033 SPDT Pump Switch SJE Rhombus Model – Not Specified	
X					Page 034 - 035 Pressure Relief Valve Plast-O-Matic Model – Not Specified	
X					Pages 036 – 048 PP Piping Georg Fischer	1. Reviewed for uses as shown on submittal page 003
X					Page 049 – 059 Distribution Pumps Grundfos Model – CM 10-3	1. Motor starter control panel not included in submittal.
X					Pages 060 – 062 Pressure Gauges PIC Gauges Model – 301LFW	
X					Pages 063 – 066 UV System Aquafine Model – CSL-4R	
X					Pages 067 – 069 Final Filter Shelco Filters Model – 5FOS3	
X					Pages 070 – 074 Conductivity/Resistivity Sensor Georg Fischer Model Signet 2850	
X					Pages 075 – 079 Flow meter Georg Fischer Model – Signet 2537	
X					Pages 080 – 082 Pressure Sensor Ifm Electronic Model – PX3234	
X					Pages 083 – 085 Micro Drive Yaskawa Model – Not Specified.	
X					Pages 086 – 087 PLC Allen - Bradley	

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www.webb-engineering.com

X					Pages 088 – 089 HMI Interface Allen Bradley Model – Pane View 800 (7”)	

REVIEWED BY: Michael R. Whitworth DATE: December 20, 2016

THESE COMMENTS ARE TO BE ATTACHED TO ALL COPIES OF THE SHOP DRAWING REFERENCED ABOVE.

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

Joe Voypick
SUBMITTED BY

226700-006 REV1
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

226700
SPECIFICATION SECTION / PARAGRAPH

Icon Mechanical
MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

◯ CRITICAL

ITEM BEING SUBMITTED (check only one)

◯ Shop Drawings
◯ Samples
(_____ copies)
◯ LEED Submittal
◯ Certification / Qualifications
◯ Record Documents
◯ Product Data
◯ Coordination Drawing
◯ Calculations
◯ Schedules
◯ O&M Manuals
◯ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ◯ Information Only ◯ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

Joe Voypick
REVIEWED BY

12/19/16
DATE

To be completed by Reviewer

22 6700-006 REV002
CANNON DESIGN SUBMITTAL NUMBER

12/19/16
RECEIVED DATE

◯ A. No Exceptions Taken
No further review of submittal is required.

◯ B. Make Corrections Noted
Incorporate corrections in work; resubmission is not required.

◯ C. Revise and Resubmit
Revise as noted, and resubmit for review.

◯ D. Rejected
Submittal is not in compliance with Contract Documents; provide new submittal.

◯ E. For Record / Information Only
Submittal was reviewed for Record / Information purposes only.

◯ F. Not Required for Review
Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS

◯ See attached sheet(s) for additional comments

REVIEWED BY

DATE

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0389

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 12/19/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Processed Water System Shop Drawing and Product Data REV1

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		226700-006	2		12/19/2016	Processed Water System Shop Drawing and Product Data REV1	Submitted

NOTES:

CC:

Signed: _____

Devin Gates

LETTER OF TRANSMITTAL

TO: Paric Corporation
77 West Port Plaza #250
St. Louis, MO 63146

ATTN: Jason Szachnieski, Devin Gates

DATE: 12/8/16
JOB # : 5768
RE: Webster ISB

We are sending you
( ) Attached ( ) Under separate cover
(X) Shop drawings ( ) Prints ( ) Plans ( ) Samples ( ) Specifications
( ) Copy of letter ( ) Change order ( ) Other

COPIES	DATE	NO.	DESCRIPTION
1	12/8/16	226700	Processed Water System - Resubmittal

These are transmitted as checked below:

( ) For signature ( ) Approved as submitted (X) Resubmit ( ) copies for approval
( ) For your use ( ) Approved as noted ( ) Submit ( ) copies for distribution
( ) As requested ( ) Returned for corrections ( ) Return ( ) corrected prints
( ) For bids due ( ) Prints returned after loan to us
(X) For review and comment ( ) Other

Remarks: Please return by 12/15/16

RESUBMITTAL WITH HIGHLIGHTED COMMENTS FROM MARLO BELOW WITHIN SUBMITTAL.

COPY TO: file

SIGNED: Alex Chambers

Webster University ISB
Webster Groves, MO

Submittal #:	226700
Submittal Description:	Processed Water System-Resubmittal
Return By:	12/15/16

Please Note: To avoid scheduling delays and equipment release delays, please submit by the "Return By" date.

CHECKED BY:

DESIGNER: X ENGINEER:

X	NO EXCEPTION TAKEN		MAKE CORRECTIONS NOTED
	SUBMIT SPECIFIED ITEM		REVISE AND RESUBMIT
	REJECTED		

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Equipment supplier is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and satisfactory performance of his work.

Job #:	5768
Date:	12/8/16
By:	ARC

• 2227 South Street • P.O. Box 044170
• Racine, Wisconsin 53404-7003
• Phone: 262-681-1300 • Fax: 262-681-1318
www.marlo-inc.com

MARLO INCORPORATED

Date: 12-06-16
RE: Webster University RO/DI Skid
TO: CW Boiler

Paul,

The following letter is to confirm that the RO/DI system is designed based on the P&ID supplied. The system proposed meets and exceeds the demands and performance required per the written specification section 226700. The Marlo system proposed is a custom skid mounted system with PLC controls which will deliver the required RO/DI quantity and quality required. Any questions feel free to give me a call.

Thanks,

_____
Erik Stirle
Commercial & Industrial Division
Marlo Incorporated

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: November 22, 2016

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Whitworth (WES)

Project No. WT 14127.01
WES 607

[ ] UPS [ ] Courier [X] **Email**

Copies	No.	Description
1 PDF	226700P01A	(Submittal No.'s:)
		(Cannon #22 6700-006) - (Paric #15051-0319) – (WES #607)
		➢ **Processed Water System – (High Purity RO/DI Water Skid)**
		(Resubmittal)

*Remarks: See Submittal Review from Webb Enginnering.

c: **Kelvin Patel**
Kpatel@cannondesign.com

[X] ***Reviewed** [X] ***No Exceptions Taken**

[X] ***Make Corrections Noted, No Resubmittal** [X] ***Amend & Resubmit**

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

WEBB ENGINEERING SERVICES INC.

1400 S. 3rd Street, Suite 201
St. Louis, Missouri 63104
Phone: (314) 588-0600
Fax: (314) 588-0604

Letter of Transmittal

To: wtashop@wmtao.com

From: Mike Whitworth

Date: November 22, 2016

Re: Webster University ISB

WES No: 607

☐ For your Files ☐ For Review ☐ Please Comment ☐ Please Reply

Item No.	Description	No. of Copies	Date
1	Shop Drawing Review – Resubmittal 226700 Processed Water Systems for Laboratory Facilities	1	11-22-2016

•Signature: Mike Whitworth

1400 S. 3rd Street, Suite 201 • St. Louis, Missouri 63104 • 314.588.0600 • *fax* 314.588.0604

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www.webb-engineering.com

The review of this submittal is limited to the general conformance with the designated design concept and intent of this project and with the general compliance of the information provided in the contract documents. All comments, remarks and notations made on the submittal(s) as a result of this review do not relieve the contractor from full compliance with requirements of the contract documents. Approval for a specific item shall not include approval of an assembly of which the item is not a component. The contractor is solely responsible for rough-in and installation confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordination of this work with that of other trades on this project; and in a safe and satisfactory manner. All work shall be installed in full compliance with the manufacturer's recommendation, Federal, State and Local rules and regulation and the Authority Having Jurisdiction (AHJ) and applicable adopted codes and standards.

PROJECT NAME: Webster University ISB
LOCATION: St. Louis Missouri
CLIENT PROJ. No.: N/A
WES PROJ. No.: 607
SPEC SECTION: 22 6700 Processed Water System for Laboratory Facilities
SUBMITTAL ITEM:: See Below -

CONTRACTOR: ICON Mechanical.
CTR. SUBMITTAL #: 22 6700-006
SUBMITTAL DATE: October 28, 2016
DATE RECEIVED: November 16, 2016
RECEIVED VIA: E-Mail
RECEIVED FROM: WTA
DATE RETURNED: NOVEMBER 22, 2016
RETURNED VIA: E-MAIL
RETRURNED TO: WTASHOP@WMTAO.COM

STATUS KEY:

NO EXCEPTION TAKEN
MAKE CORRECTIONS NOTED, NO RESUBMITTAL:
AMEND AND RESUBMIT
REJECTED, SEE REMARKS:
REVIEWED ONLY

NEC	MCN	AAR	REJ	REV	ITEM	REMARKS
Submittal pages have been numbered to aid in referencing						
All equipment and components shall be sized to fit in the available allocated space with the required working clearances. All equipment and components shall be sized to fit within the service elevator.						
					Page 001 Cover Page	
X					Page 002 Marlo General Specifications	
X					Page 003 Marlo P&I Diagram	
X					Pages 004 - 005 Marlo Skid General Arrangement	
X					Pages 006 – 008 Marlo MAT Series Softener Systems Model – MAT 60M-1	
X					Pages 009 – 011 Marlo MFG Series Media Filter Systems Model – ACG-10G-1 Activated Carbon Filter	
		X			Page 012 – 022 Marlo MRO-4V Reverse Osmosis Systems Model – MRO-3600-4V with pump	1. Verify assembly includes items and components as specified. Refer to specification section 226700, Part 2.2 – paragraph 7 in its entirety.

X					Pages 023 – 025 Wave Cyber DI Tank Model 14"x47"	
		X			Pages 026 – 028 Pentair Pentek Filter Housings Model – Not specified	1. Provide manufacturers model/part number and list all accessories as applicable.
X					Page 029 – 031 Water Storage Tank Den Hartog Model – 36" x 325 Gal. Cone Bottom	1. Includes – stand and vent filter assembly
		X			Pages 032 – 033 SPDT Pump Switch SJE Rhombus Model – Not Specified	1. Verify electrical rating of SPDT switch is compatible with electrical characteristics of pump.
		X			Page 034 - 035 Pressure Relief Valve Plast-O-Matic Model – Not Specified	1. Provide manufacturers model/part number.
X					Pages 036 – 048 PP Piping Georg Fischer	1. Reviewed for uses as shown on submittal page 003
		X			Page 049 – 059 Distribution Pumps Grundfos Model – CM 10-3	1. Verify correct size and capacities of pumps and motors. 2. Motor starter control panel not included in submittal. 3. Refer to specification section 226700, Pat 2.2, paragraph 7a.
X					Pages 060 – 062 Pressure Gauges PIC Gauges Model – 301LFW	
X					Pages 063 – 066 UV System Aquafine Model – CSL-4R	
X					Pages 067 – 069 Final Filter Shelco Filters Model – 5FOS3	
	X				Pages 070 – 074 Conductivity/Resistivity Sensor Georg Fischer Model Signet 2850	1. All required patch cords and cables are to be included with sensor. Refer to specification section 226700, Part 2.2, paragraph 7d.
	X				Pages 075 – 079 Flow meter Georg Fischer Model – Signet 2537	1. Include all required patch cords and cables.
X					Pages 080 – 082 Pressure Sensor Ifm Electronic Model – PX3234	
		X			Pages 083 – 085 Micro Drive Yaskawa Model – Not Specified.	1. Provide manufacturers model/part number
		X			Pages 086 – 087 PLC Allen - Bradley	1. Provide manufacturers model/part number

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X					Pages 088 – 089 HMI Interface Allen Bradley Model – Pane View 800 (7”)	

REVIEWED BY: Michael R. Whitworth DATE: November 22, 2016

THESE COMMENTS ARE TO BE ATTACHED TO ALL COPIES OF THE SHOP DRAWING REFERENCED ABOVE.

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

Joe Voypick
SUBMITTED BY

226700-006 REV1
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

226700
SPECIFICATION SECTION / PARAGRAPH

Icon Mechanical
MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

◯ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ◯ Shop Drawings
- ◯ Samples (_____ copies)
- ◯ LEED Submittal
- ◯ Certification / Qualifications
- ◯ Record Documents
- ◉ Product Data
- ◯ Coordination Drawing
- ◯ Calculations
- ◯ Schedules
- ◯ O&M Manuals
- ◯ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ◯ Information Only ◯ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

Joe Voypick
REVIEWED BY

12/19/16
DATE

To be completed by Reviewer

22 6700-006 REV002
CANNON DESIGN SUBMITTAL NUMBER

12/19/16
RECEIVED DATE

- ◯ A. No Exceptions Taken
  No further review of submittal is required.
- ◯ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ◯ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ◯ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ◯ E. For Record / Information Only
  Submittal was reviewed for Record / Information purposes only.
- ◯ F. Not Required for Review
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ◯ See attached sheet(s) for additional comments

REVIEWED BY

DATE

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0319

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 11/11/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Processed Water System Shop Drawing and Product Data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☑ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		226700-006	1		11/11/2016	Processed Water System Shop Drawing and Product Data	Submitted

NOTES:

CC:

Signed: _____

Devin Gates

LETTER OF TRANSMITTAL

TO: Paric Corporation
77 West Port Plaza #250
St. Louis, MO 63146

ATTN: Jason Szachnieski, Devin Gates

DATE: 11/11/16
JOB # : 5768
RE: Webster ISB

We are sending you
( ) Attached ( ) Under separate cover
(X) Shop drawings ( ) Prints ( ) Plans ( ) Samples ( ) Specifications
( ) Copy of letter ( ) Change order ( ) Other

COPIES	DATE	NO.	DESCRIPTION
1	11/11/16	226700	Processed Water System

These are transmitted as checked below:

( ) For signature ( ) Approved as submitted ( ) Resubmit ( ) copies for approval
( ) For your use ( ) Approved as noted (X) Submit ( ) copies for distribution
( ) As requested ( ) Returned for corrections ( ) Return ( ) corrected prints
( ) For bids due ( ) Prints returned after loan to us
(X) For review and comment ( ) Other

Remarks: Please return by 11/25/16

COPY TO: file

SIGNED: Alex Chambers

Webster University ISB
Webster Groves, MO

Submittal #:	226700
Submittal Description:	Processed Water System
Return By:	11/25/16

Please Note: To avoid scheduling delays and equipment release delays, please submit by the "Return By" date.

CHECKED BY:

DESIGNER: X ENGINEER:

X	NO EXCEPTION TAKEN		MAKE CORRECTIONS NOTED
	SUBMIT SPECIFIED ITEM		REVISE AND RESUBMIT
	REJECTED		

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Equipment supplier is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and satisfactory performance of his work.

icon Mechanical

Job #:	5768
Date:	11/11/16
By:	ARC