

Dominion Energy Nuclear Connecticut, Inc.
Rt 156, Rope Ferry Road, Waterford, CT 06385
DominionEnergy.com



Serial No. RA-19-010
MPS NSSL/GJC R0

JUN 19 2019

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, Ct. 06051

**Re: Dominion Energy Nuclear Connecticut, Inc. – Notice of exempt Modification
Millstone Power Station- Installation of New Fire Water Tank Heater Skid**

Dear Ms. Bachman:

As you are aware, Dominion Energy Nuclear Connecticut, Inc (DENC) owns and operates the Millstone Power Station (MPS) in Waterford, Connecticut. In an effort to improve overall station reliability, DENC plans to purchase a new Fire Water Tank Heater Skid to provide heat to the 2 fire water tanks. The Fire Water tank Heater skid will be located on a 6-foot by 7-foot concrete equipment pad to the West of the Fire water tanks (see MPS Facilities Site Plan included in Attachment 1 and the MPS Fire Water Storage Tank Heater Skid Plan And Elevation view included in Attachment 2). Vendor drawings for the Heater Skid are included in Attachment 3.

Please accept this letter as notification pursuant to R.C.S.A. §16-50j-58, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-57(b)(2). In accordance with R.C.S.A. §16-50j-58 a copy of this letter is being sent to Daniel M. Steward, First Selectman for the Town of Waterford and Abby Piersall, Waterford's Planning Director.

The planned facility modification at MPS described above does not constitute a modification to an existing energy facility that may have a substantial adverse environment effect as defined in R.C.S.A. §16-50j-57(b)(2).

1. The new Heater Skid adjacent to the Fire Water Storage tanks will not require an extension or expansion of the MPS site boundaries.
2. The Installation of the new Fire Water Heater Skid will not result in an increase in the height of any associated equipment or buildings at MPS.
3. The installation of the new Fire Water Heater Skid will not result in an increase in the noise at the MPS site boundary by 6 decibels or more, or to levels that exceed state or local criteria.
4. The installation of the new Fire Water Heater Skid will not cause an increase in the electric or magnetic field levels at the MPS boundary.

5. The installation of new 6-foot by 7-foot concrete pad and the new Fire Water Heater Skid will not cause any significant or adverse change or alteration in the physical or environmental characteristics at the MPS site.
6. The installation of the new Fire Water Heater Skid will not impact the structural integrity of any buildings or structures at the MPS site.

For these reasons, DENC respectively submits that the modifications described above to MPS constitute an exempt modification under R.C.S.A. 16-50j-57(b)(2).

A check in the amount of \$625.00 is enclosed.

Sincerely,



Lori J. Armstrong
Director, Nuclear Station Safety and Licensing

Attachments:

1. MPS Facilities Site Plan
2. New Millstone Fire Water Storage Tank Heater Skid Plan and Elevation Views
3. Fire Water Heater Skid Vendor Drawings
4. Check for Filing Fee

CC:

Dan Steward, First Selectman, Town of Waterford
Abby Piersall, Planning Director, Town of Waterford
William S. Blair, Esq.
Thomas Moore
Thomas Bransfield

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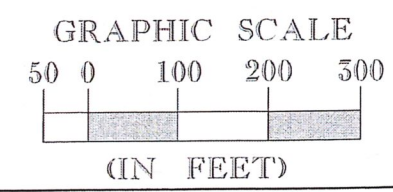
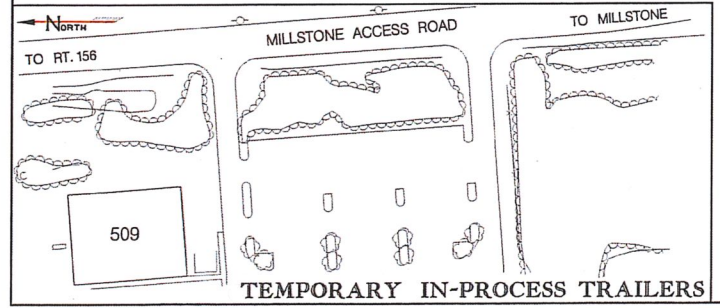
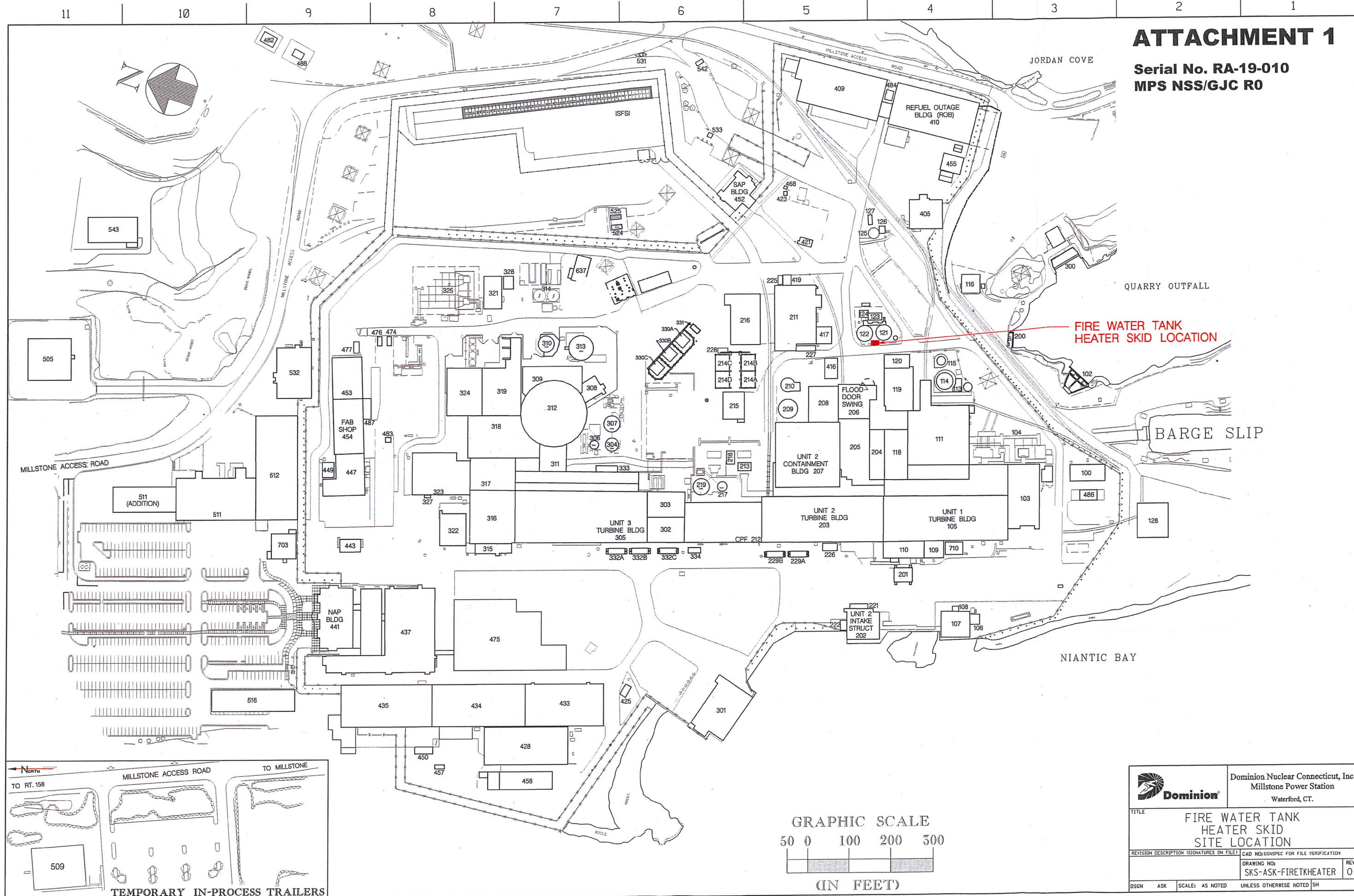
ATTACHMENT 1

MILLSTONE POWER STATION SITE PLAN

**MILLSTONE POWER STATION
DOMINION ENERGY NUCLEAR CONNECTICUT, INC. (DENC)**

ATTACHMENT 1

Serial No. RA-19-010
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		Dominion Nuclear Connecticut, Inc. Millstone Power Station Waterford, CT.	
TITLE: FIRE WATER TANK HEATER SKID SITE LOCATION			
REVISION DESCRIPTION (SIGNATURES ON FILE)		CAD NO: DGHNSPEC FOR FILE VERIFICATION	
DRAWING NO: SKS-ASK-FIRETKEATER		REV 0	
DSGN	ASK	SCALE: AS NOTED	UNLESS OTHERWISE NOTED SH

Serial No. RA-19-010
MPS NSSL/GJC R0

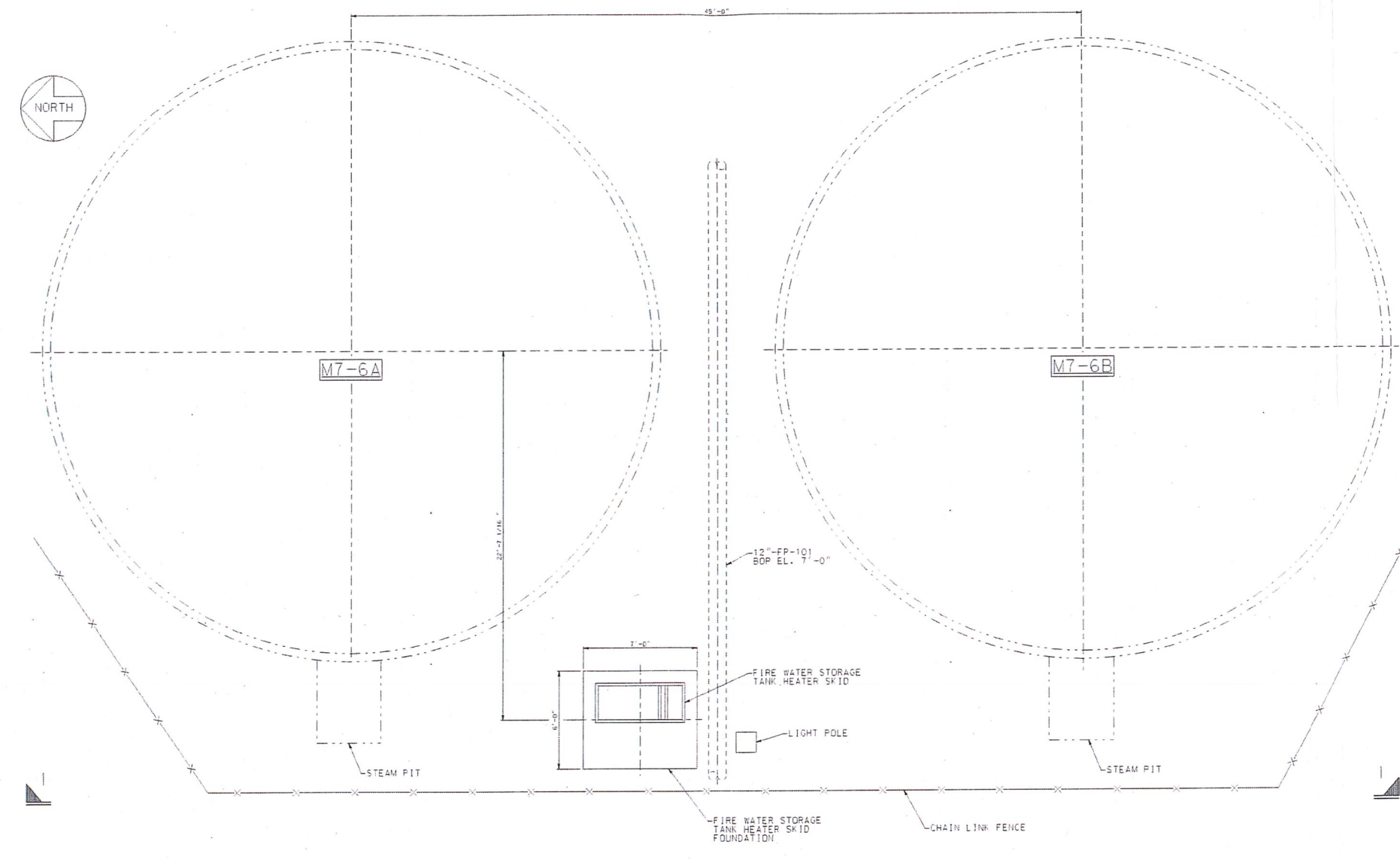
ATTACHMENT 2

**NEW MILLSTONE FIRE WATER STORAGE TANK HEATER SKID PLAN
AND ELEVATION VIEW**

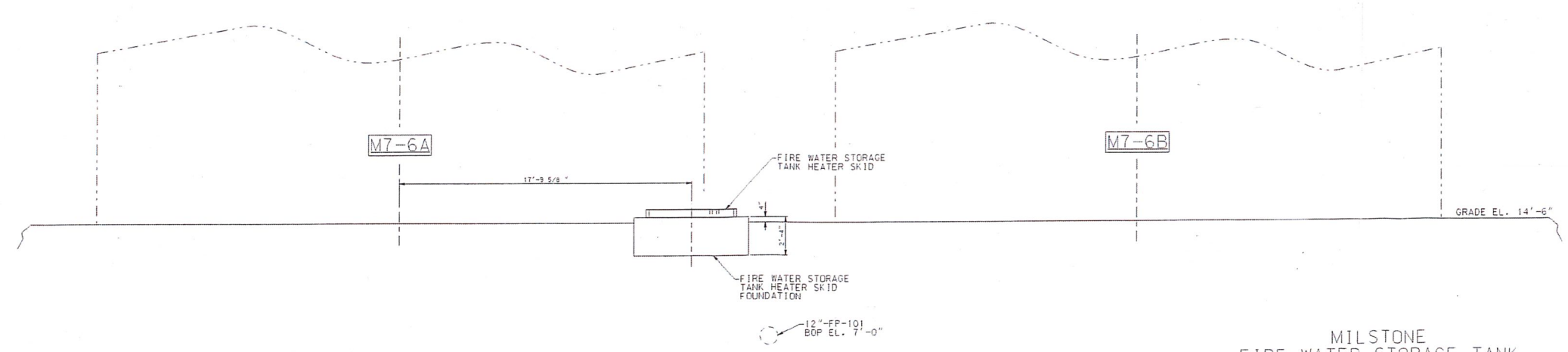
**MILLSTONE POWER STATION
DOMINION ENERGY NUCLEAR CONNECTICUT, INC. (DENC)**

ATTACHMENT 2

Serial No. RA-19-010
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PLAN EL. 14'-6"



ELEVATION 1-1

MILSTONE
FIRE WATER STORAGE TANK
HEATER SKID

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ATTACHMENT 3

FIRE WATER HEATER SKID VENDOR DRAWINGS

**MILLSTONE POWER STATION
DOMINION ENERGY NUCLEAR CONNECTICUT, INC. (DENC)**

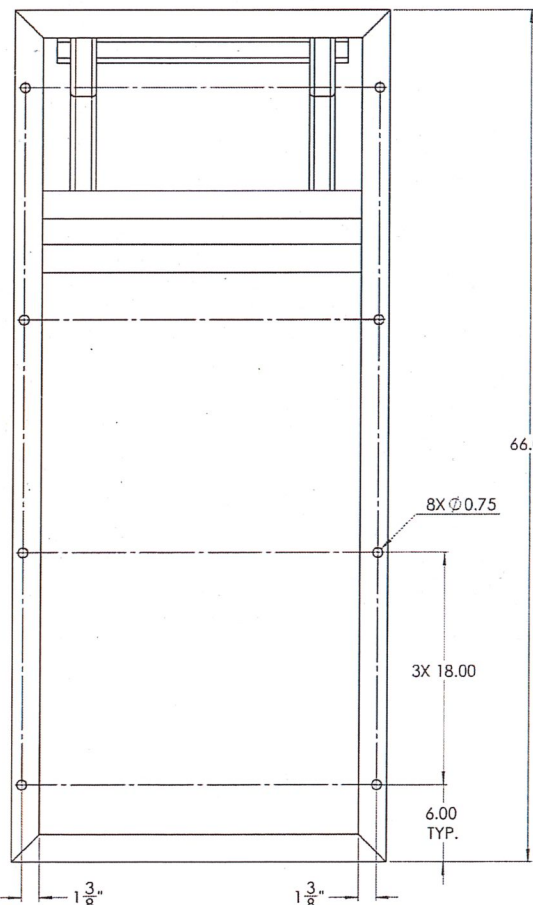
DESIGN DATA		
DESIGN CODE:	ASME/ANSI B31.1-2018*	
ASME STAMP:	-	
PRESSURE	DESIGN (PSIG)	100
	OPERATING (PSIG)	15
	PRESSURE TEST (PSIG)	50
TEMP.	DESIGN (F)	200
	OPERATING (F)	160-180
FLUID	NAME	WATER
	DENSITY lb/ft ³	
	INSULATION (TYPE/THK)	* SEE CONSTRUCTION MATERIAL
ELECTRICAL DATA	VOLTS (V)	480
	KW	12
	AMPS (A)	14.5
	CIRCUIT/ #ELEMENTS	1/3
	DENSITY (WATTS/SQ IN)	45
	IMMERSED LENGTH (IN)	38
	COLD SECTION (IN)	5
	THERMOCOUPLE TYPE	J
	INSTALLATION	HORIZONTAL

CONSTRUCTION MATERIAL:

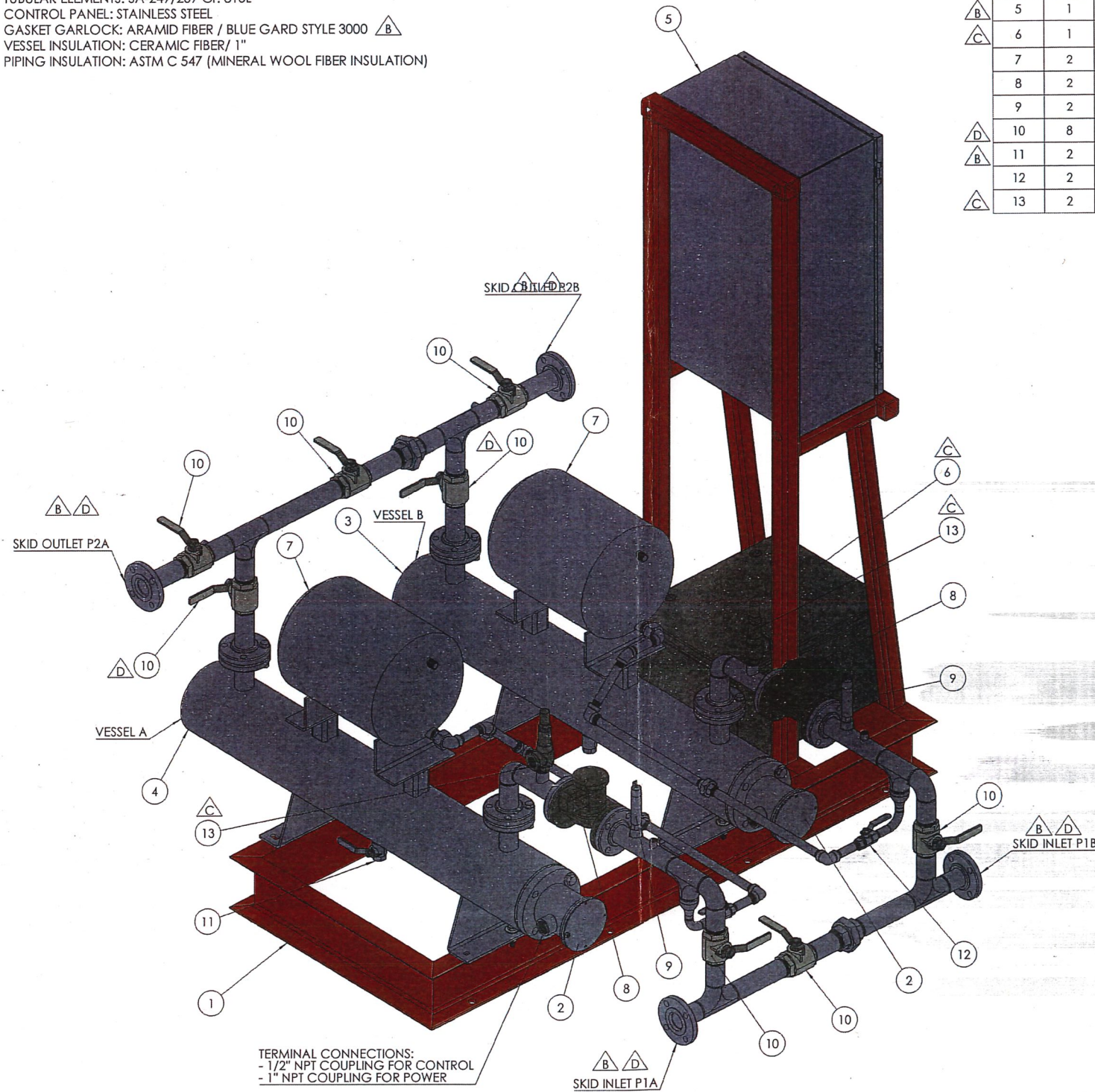
- FLANGES: SA-182 Gr. 316/316L
- TERMINAL BOX: SA-182 Gr. 304 / AISI 304(TB-4-N4X)
- SHELL, NOZZLE: SA-312 Gr. 316/316L
- STRUCTURAL BASE: ASTM A500 GRADE B&C, A513, A6
- TUBULAR ELEMENTS: SA-249/269 Gr. 316L
- CONTROL PANEL: STAINLESS STEEL
- GASKET GARLOCK: ARAMID FIBER / BLUE GARD STYLE 3000
- VESSEL INSULATION: CERAMIC FIBER/ 1"
- PIPING INSULATION: ASTM C 547 (MINERAL WOOL FIBER INSULATION)

BILL OF MATERIAL					
ITEM	QTY.	PART NUMBER	DESCRIPTION	MATERIAL	WEIGHT (LBS)
1	1	1850616-1	SKID	SEE CONSTRUCTION MATERIAL	334.96
2	2	1850616-2	FLANGE HEATER (TB-4-N4X)	AISI 316L	17.38
3	1	1850616-3	VESSEL A	AISI 316L	139.87
4	1	1850616-3	VESSEL B	AISI 316L	139.87
5	1	1850616-4	CONTROL PANEL (30x20x10)	STAINLESS STEEL	
6	1	1850616-5	CONTROL PANEL (20x16x10)	STAINLESS STEEL	
7	2	EXP-TNK_ASS'Y	ASME EXPANSION TANK	STAINLESS STEEL	10.00
8	2	SSF-22	SSF-22 1033579LF PUMP	STAINLESS STEEL	19.84
9	2	CUSTOM-PART	FLOW SWITCH (V6EPS-S-S-1-0-GL)	AISI 316	
10	8	CUSTOM-PART	BALL VALVE 1-1/2 (46325K33)	AISI 316	
11	2	CUSTOM-PART	BALL VALVE 3/4 (46325K29)	AISI 316	
12	2	CUSTOM-PART	BALL VALVE 1/2 (46495K21)	AISI 316	
13	2	CUSTOM-PART	PRESSURE VALVE 1/2 NPTM INLET- 30 PSI (6270T112)	BRONZE	

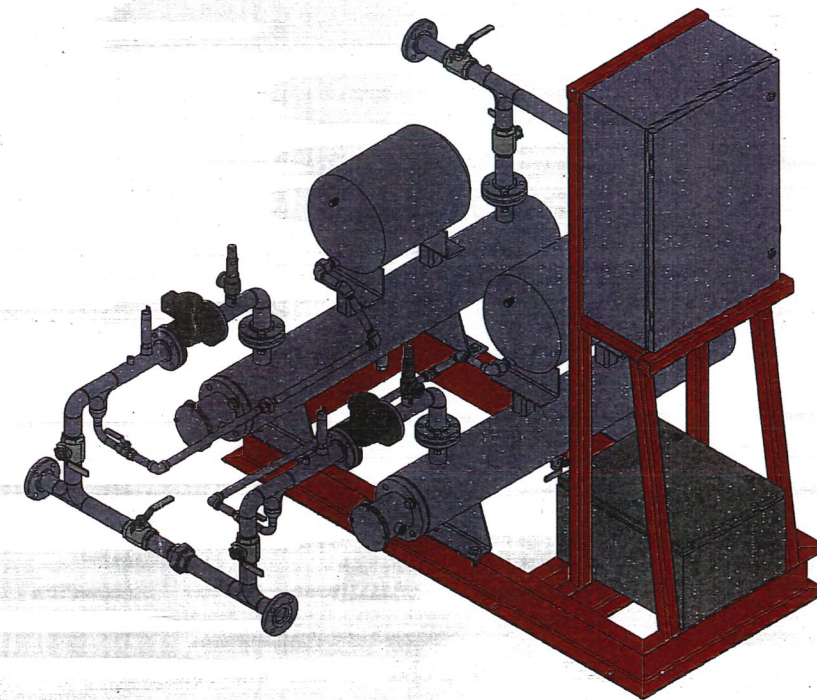
* THE DESIGN HAS BEEN MADE IN ACCORDANCE TO THE REGULATIONS OF 2018 CONNECTICUT STATE BUILDING CODE



BOTTOM VIEW
STRUCTURAL BASE, HOLE LOCATION
SCALE: N/A



TERMINAL CONNECTIONS:
- 1/2" NPT COUPLING FOR CONTROL
- 1" NPT COUPLING FOR POWER



NOTES:

- DIMENSIONS ARE IN INCHES.
- REMOVE ALL SHARP EDGES AND CORNERS.
- ALL DIMENSIONS SHALL BE VERIFIED BEFORE MANUFACTURING.
- BOLT HOLES TO STRADDLE NORMAL CENTER LINES.
- FLANGE FACE FINISH R_a OF 125.
- NOZZLE SIZE ARE IN INCHES UNLESS OTHERWISE NOTED.
- ALL NOZZLE PROJECTIONS ARE REFERRED FROM VESSEL CENTER LINE TO FACE OF FLANGE.
- DESIGN WITH SUPPORT.
- NEMA 4X WITHOUT PAINT SYSTEM.
- THE GASKET SPACE IS A REPRESENTATION.
- THE WEIGHT INCLUDES THE INTERNAL ELEMENTS.
- ESTIMATED WEIGHT: 734.15 LBS.

REV.	DESCRIPTION	NAME	DATE
E	SH 5 ADDED. CLIENT'S COMMENTS ADDED	V.HOLCER	2/13/2019
D	SKID INLET/OUTLET ORIENTATION CHANGED	V.HOLCER	1/16/2019
C	GENERAL REVISION. CONFIGURATION A, ADDED	V.HOLCER	1/9/2019
B	CLIENT'S COMMENTS ADDED	V.HOLCER	12/14/2018
A	ISSUED FOR APPROVAL	M.OMER	11/26/2018

GENERAL TOLERANCES		APPROVED BY / STAMP	
DIMENSION	VALUE	APPROVED	DATE
LINEAR	±1/B		
LINEAR (OVERALL)	±1/B		
DIAGONAL	±1/B		
DIAMETER	±1/B		
ANGLE	±1°		
SURFACE FINISH	✓		

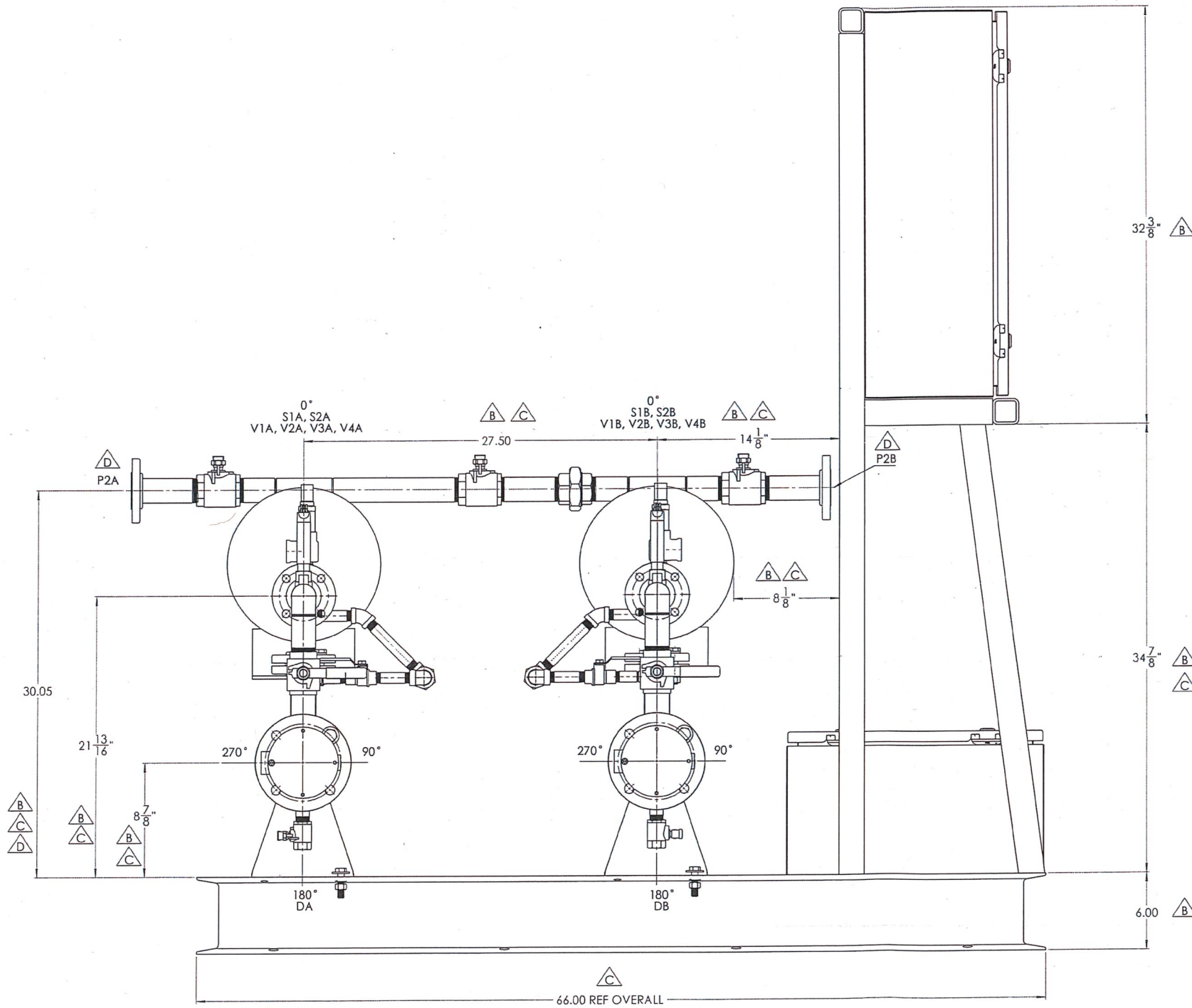
GENERAL ARRANGEMENT

TITLE:	GENERAL ARRANGEMENT
SIZE:	D
DWG. #:	W-DEN-1850616
REV.:	E

ATTACHMENT 3

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SOME ITEMS OMITTED FOR CLARITY

NOZZLE SCHEDULE - VESSEL A						
MK	QTY.	SIZE	NOZZLE NECK	RATING	SERVICE	ORIENTATION
S1A	1	1/2"	SCH 40S	150# S.O	INLET	0°
S2A	1	1/2"	SCH 40S	150# S.O	OUTLET	90°
DA	1	3/4"	-	150# NPTM	DRAIN	180°
HA	1	3"	SCH 40S	150# S.O	FLANGE HEATER	-

NOZZLE SCHEDULE - VESSEL B						
MK	QTY.	SIZE	NOZZLE NECK	RATING	SERVICE	ORIENTATION
S1B	1	1/2"	SCHS 40S	150# S.O	INLET	0°
S2B	1	1/2"	SCHS 40S	150# S.O	OUTLET	0°
DB	1	3/4"	-	150# NPTM	DRAIN	180°
HB	1	3"	SCHS 40S	150# S.O	FLANGE HEATER	-

NOZZLE SCHEDULE - SKID						
MK	QTY.	SIZE	NOZZLE NECK	RATING	SERVICE	ORIENTATION
P1A	1	1/2"	SCH 40S	150# S.O	SKID INLET	270°
V1A	1	1/4"	-	150# NPTF	PRESSURE GAUGE	0°
V2A	1	1/2"	-	150# NPTF	FLOW SWITCH	0°
V3A	1	1/2"	-	150# NPTF	PRESSURE RELIEF VALVE	0°
V4A	1	1/4"	-	150# NPTF	PRESSURE GAUGE	270°
P1B	1	1/2"	SCH 40S	150# S.O	SKID INLET	90°
P2A	1	1/2"	SCH 40S	150# S.O	SKID OUTLET	270°
V1B	1	1/4"	-	150# NPTF	PRESSURE GAUGE	0°
V2B	1	1/2"	-	150# NPTF	FLOW SWITCH	0°
V3B	1	1/2"	-	150# NPTF	PRESSURE RELIEF VALVE	0°
V4B	1	1/4"	-	150# NPTF	PRESSURE GAUGE	90°
P2B	1	1/2"	SCH 40S	150# SO	SKID OUTLET	90°

NOTES:

1. DIMENSIONS ARE IN INCHES.
2. REMOVE ALL SHARP EDGES AND CORNERS.
3. ALL DIMENSIONS SHALL BE VERIFIED BEFORE MANUFACTURING.
4. BOLT HOLES TO STRADDLE NORMAL CENTER LINES.
5. FLANGE FACE FINISH R_a OF 125.
6. NOZZLE SIZE ARE IN INCHES UNLESS OTHERWISE NOTED.
7. ALL NOZZLE PROJECTIONS ARE REFERRED FROM VESSEL CENTER LINE TO FACE OF FLANGE.
8. DESIGN WITH SUPPORT.
9. NEMA 4X WITHOUT PAINT SYSTEM.

APPROVED BY / STAMP		REV.	DESCRIPTION	NAME	DATE
[Stamp]		E	SH 5 ADDED. CLIENT'S COMMENTS ADDED	V.HOLCER	2/13/2019
[Stamp]		D	SKID INLET/OUTLET ORIENTATION CHANGED	V.HOLCER	1/16/2019
[Stamp]		C	GENERAL REVISION. CONFIGURATION A, ADDED	V.HOLCER	1/9/2019
[Stamp]		B	CLIENT'S COMMENTS ADDED	V.HOLCER	12/14/2018
[Stamp]		A	ISSUED FOR APPROVAL	M.OMER	11/26/2018

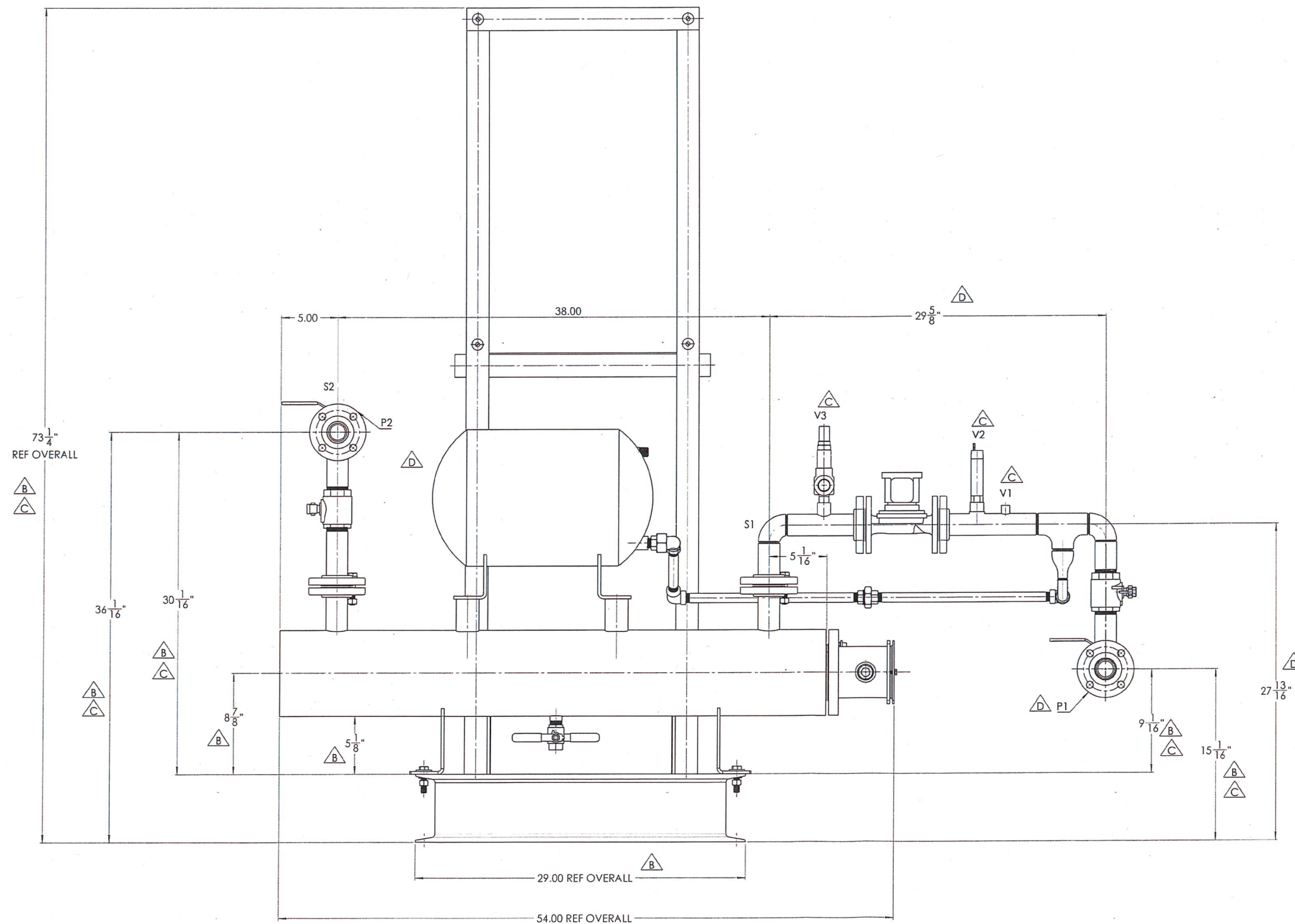
GENERAL TOLERANCES		REV.	DESCRIPTION	NAME	DATE
DIMENSION	VALUE	REVIEWED	V.HOLCER	11/24/2018	
LINEAR	±1/8"	APPROVED			
LINEAR (OVERALL)	±1/8"	TITLE: GENERAL ARRANGEMENT			
DIAGONAL	±1/8"	DWG. # W-DEN-1850616			
DIAMETER	±1/8"	SCALE 1:5 SHEET 2/5			
ANGLE	±1°				
SURFACE FINISH	✓				



ATTACHMENT 3

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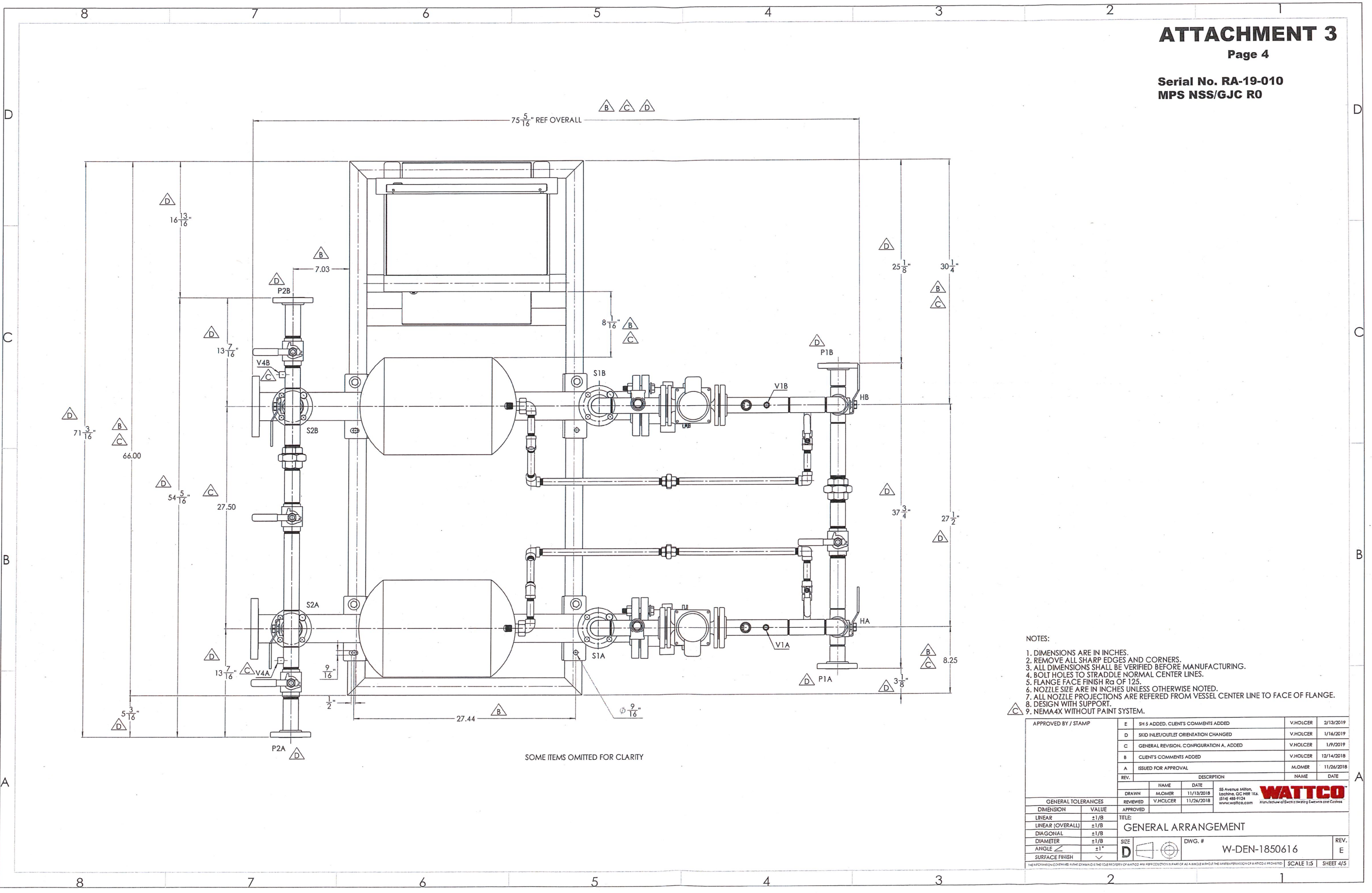
NOTES:

1. DIMENSIONS ARE IN INCHES.
2. REMOVE ALL SHARP EDGES AND CORNERS.
3. ALL DIMENSIONS SHALL BE VERIFIED BEFORE MANUFACTURING.
4. BOLT HOLES TO STRADDLE NORMAL CENTER LINES.
5. FLANGE FACE FINISH R_a OF 125.
6. NOZZLE SIZE ARE IN INCHES UNLESS OTHERWISE NOTED.
7. ALL NOZZLE PROJECTIONS ARE REFERRED FROM VESSEL CENTER LINE TO FACE OF FLANGE.
8. DESIGN WITH SUPPORT.
9. NEMA4X WITHOUT PAINT SYSTEM.

REV.	DESCRIPTION	NAME	DATE
E	SH 5 ADDED. CLIENT'S COMMENTS ADDED	V.HOLCER	2/13/2019
D	SKID INLET/OUTLET ORIENTATION CHANGED	V.HOLCER	1/16/2019
C	GENERAL REVISION. CONFIGURATION A, ADDED	V.HOLCER	1/9/2019
B	CLIENT'S COMMENTS ADDED	V.HOLCER	12/14/2018
A	ISSUED FOR APPROVAL	M.OMER	11/26/2018

GENERAL TOLERANCES		APPROVED		TITLE	
DIMENSION	VALUE	APPROVED	DATE	TITLE	SCALE
LINEAR	±1/8	V.HOLCER	11/26/2018	GENERAL ARRANGEMENT	SCALE 1:5
LINEAR (OVERALL)	±1/8				
DIAGONAL	±1/8				
DIAMETER	±1/8				
ANGLE	±1°				
SURFACE FINISH	✓				





SOME ITEMS OMITTED FOR CLARITY

NOTES:

1. DIMENSIONS ARE IN INCHES.
2. REMOVE ALL SHARP EDGES AND CORNERS.
3. ALL DIMENSIONS SHALL BE VERIFIED BEFORE MANUFACTURING.
4. BOLT HOLES TO STRADDLE NORMAL CENTER LINES.
5. FLANGE FACE FINISH R_a OF 125.
6. NOZZLE SIZE ARE IN INCHES UNLESS OTHERWISE NOTED.
7. ALL NOZZLE PROJECTIONS ARE REFERRED FROM VESSEL CENTER LINE TO FACE OF FLANGE.
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REV.	DESCRIPTION	NAME	DATE
E	SH 5 ADDED, CLIENT'S COMMENTS ADDED	V.HOLCER	2/13/2019
D	SKID INLET/OUTLET ORIENTATION CHANGED	V.HOLCER	1/16/2019
C	GENERAL REVISION, CONFIGURATION A, ADDED	V.HOLCER	1/9/2019
B	CLIENT'S COMMENTS ADDED	V.HOLCER	12/14/2018
A	ISSUED FOR APPROVAL	M.OMER	11/26/2018

REV.	DESCRIPTION	NAME	DATE
DRAWN	M.OMER	11/13/2018	55 Avenue Millon, Lacoline, QC H8R 1K6 514 488-9124 www.wattco.com
REVIEWED	V.HOLCER	11/26/2018	

GENERAL TOLERANCES	VALUE	APPROVED	TITLE
DIMENSION	±1/8		GENERAL ARRANGEMENT
LINEAR	±1/8		
LINEAR (OVERALL)	±1/8		
DIAGONAL	±1/8		
DIAMETER	±1/8		
ANGLE	±1°		
SURFACE FINISH	✓		

SIZE	D	DWG. #	W-DEN-1850616	REV.	E
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BILL OF MATERIAL					
ITEM	QTY.	PART NUMBER	DESCRIPTION	MATERIAL	WEIGHT (KG)
1	1	1850616-1	SKID	ASTM A6	334.96
	2	SQTUB2x2x3-16	SQUARE TUBE 2x2x3/16	A500 Gr. B	21.79
	1	SQTUB2x2x3-16	SQUARE TUBE 2x2x3/16	A500 Gr. B	7.24
	2	SQTUB2x2x3-16	SQUARE TUBE 2x2x3/16	A500 Gr. B	3.35
	1	SQTUB2x2x3-16	SQUARE TUBE 2x2x3/16	A500 Gr. B	7.53
	2	SQTUB2x2x3-16	SQUARE TUBE 2x2x3/16	A500 Gr. B	12.58
	1	STCH-6x13-ST	CHANNEL 6.0" X 13	ASTM A6	67.75
	1	STCH-6x13-ST	CHANNEL 6.0" X 13	ASTM A6	67.75
	1	STCH-6x13-ST	CHANNEL 6.0" X 13	ASTM A6	27.89
	1	STCH-6x13-ST	CHANNEL 6.0" X 13	ASTM A6	27.86
	1	STCH-6x13-ST	CHANNEL 6.0" X 13	ASTM A6	26.77
	1	STCH-6x13-ST	CHANNEL 6.0" X 13	ASTM A6	26.75
2	2	1850616-2	FLANGE HEATER (TB-4-N4X)	AISI 316L	17.38
	1	PIPE04SS-304	PIPE 4.0" SCH40S (ASME B36.19M)	AISI 304	3.99
	1	RING04SS	RING 4" SS 304	AISI 304	0.56
	1	COVER04SS	COVER 4" SS304	AISI 304	0.86
	1	GS-4-NEO	GASKET Ø 4 11/16" O.D./ Ø 3 11/16" I.D./ THK: 1/8"	NEOPRENE	0.05
	1	FC-0500-150-316	FULL COUPLING 1/2" NPT CLASS 150	AISI 316	0.18
	1	FC-1-150-316	FULL COUPLING 1" NPT CLASS 150	AISI 316	0.25
	4	1170003	BOTL HEX 1/4"-20 X 3/4" GRADE 18-8 SS	ASTM F593	
	4	LW-025-SS	WASHER 1/4"		
3	1	1850616-3	VESSEL A	AISI 316L	168.95
	12	SO-1500-150-316	1.50" SO 150# (ANSI B16.5)	SA-182 Gr. 316/316L	3.00
	1	SO-3-150-316	3.0" SO 150# (ANSI B16.5)	SA-312 Gr. 316/316L	8.64
	1	FL-3-150-316	3.0" BF RF 150# (ANSI B16.5)	SA-182 Gr. 316/316L	11.16
	2	PIPE0150SS-316	PIPE 1.50" SCH 40S (ASME B36.19M)	SA-182 Gr. 316/316L	1.30
	2	PIPE0150SS-316	PIPE 1.50" SCH 40S (ASME B36.19M)	SA-182 Gr. 316/316L	0.78
	2	PIPE0150SS-316	PIPE 1.50" SCH 40S (ASME B36.19M)	SA-182 Gr. 316/316L	1.47
	2	PIPE0150SS-316	PIPE 1.50" SCH 40S (ASME B36.19M)	SA-182 Gr. 316/316L	1.88
	2	PIPE0150SS-316	PIPE 1.50" SCH 40S (ASME B36.19M)	SA-182 Gr. 316/316L	0.59
	1	PIPE03SS-316	PIPE 3.0" SCH40S (ASME B36.19M)	SA-312 Gr. 316/316L	29.85
	4	PN-0500-40-316-16	PIPE 1/2" NPT 150# / THREADED (4816K182)	AISI 316	1.12
	2	PN-0500-40-316-4	PIPE 1/2" NPT 150# / THREADED	AISI 316	0.14
	1	PN-0750-40-316-6	NIPPLE 3/4" NPT 150# / THREADED	AISI 316L	0.36
	4	PN-1500-40-316-10	PIPE 1.5" NPT 150# / THREADED	AISI 316	1.22
	2	PN-1500-40-316-10	PIPE 1.5" NPT 150# / THREADED	AISI 316	0.75
	2	PN-1500-40-316-10	PIPE 1.5" NPT 150# / THREADED	AISI 316	0.74
	5	PN-1500-40-316-10	PIPE 1.5" NPT 150# / THREADED	AISI 316	0.75
	1	PN-1500-40-316-10	PIPE 1.5" NPT 150# / THREADED	AISI 316	1.68
	1	PN-1500-40-316-10	PIPE 1.5" NPT 150# / THREADED	AISI 316	1.62
	1	PN-1500-40-316-10	PIPE 1.5" NPT 150# / THREADED	AISI 316	2.37
	4	CUSTOM-PART	NIPPLE 3-1/2 / THREADED (4548K146)	AISI 316	0.22
	2	CUSTOM-PART	NIPPLE 1/2" NPT/THREADED ON BS (4548K334)	AISI 316	0.36
	1	CUSTOM-PART	NIPPLE 5" NPT/ THREADED ON BS (4548K267)	AISI 316	1.01
	1	CUSTOM-PART	NIPPLE 6" NPT/ TREADED ON BS (4548K268)	AISI 316	1.24
	6	T-1500-40-316	1.5" 316 SS BUTT WELD TEE PER ASME B16.9 SCH 40 (45555K625)	AISI 316	0.58
	2	REDUC1-1/2- 1/2	REDUCER PIPE 1-1/2 x 1/2 (45555K113)	AISI 316	0.37
	2	CUSTOM-PART	ELBOW 90 BUTT-WELD, 1/2 PIPE (45555K511)	AISI 316	0.17
	4	CUSTOM-PART	0.5" 90 DEG ELBOW SCH40 SS316 (4452K414)	AISI 316	0.23
	4	ELBOW90-1500-40S-316L	1.5" 90 DEG ELBOW STD WALL BUTT-WELD UNTHREADED (45555K213)	AISI 316L	0.54
	2	CUSTOM-PART	ELBOW 45 DEG, 1/2 NPTF (4452K424)	AISI 316	0.24

BILL OF MATERIAL					
ITEM	QTY.	PART NUMBER	DESCRIPTION	MATERIAL	WEIGHT (KG)
2		CUSTOM-PART	UNION ELBOW 1/2 NPT FEMALE TO MALE (4452K374)	AISI 316	0.79
2		CUSTOM-PART	UNION CONNECTOR, 1/2 NPTF (4452K225)	AISI 316	0.49
2		CUSTOM-PART	UNION CONNECTOR, 1-1/2 NPTF (4452K229)	AISI 316	2.22
4		HC-0250-150-316	HALF COUPLING 1/4" NPT CLASS 150	AISI 316	0.04
4		FC-0500-150-316	FULL COUPLING 1/2" NPT CLASS 150	AISI 316	0.18
1		CUSTOM-METALMFG	PLATE 10-1/4x8x1/4	AISI 304	4.47
1		CUSTOM-METALMFG	PLATE 10-1/4x8x1/4	AISI 304	4.43
2		SQTUB2x2x3-16	SQUARE TUBE 2x2x3/16	A500 Gr. B	1.64
1		INSULATION HIGH	INSULATION	CERAMIC FIBER	2.63
1		SSH-22GA-SS304	STAINLESS SHEET 304L X4 3080H5 BLUE 22GA 48"x96"	AISI 304	8.08
4		BOLT-0500X2-SS	BOLT 1/2"-20x2" STAINLESS STEEL	F593	
32		BOLT-0500X2.5-SS	BOLT 1/2"-20x2.5" STAINLESS STEEL	F593	
4		W-0500-SS	WASHER 1/2" STAINLESS STEEL		
36		LW-0500-SS	LOCK WASHER 1/2" STAINLESS STEEL		
36		NUT-0500-20-SS	NUT 1/2"-20 316 SS STAINLESS STEEL HEX NUT	F594	
4		BOLT-0625-11x3500-SS	BOLT 5/8-11x3.5" STAINLESS STEEL	F593	
4		W-0625-SS	WASHER 5/8" STAINLESS STEEL		
4		LW-0625-SS	LOCK WASHER 5/8"		
4		NUT-0625-11-ST	HEX NUT 5/8"-11	F594	
4	1	1850616-3	VESSEL B	AISI 316L	89.43
4		SO-1500-150-316	1.50" SO 150# (ANSI B16.5)	SA-182 Gr. 316/316L	3.00
1		SO-3-150-316	3.0" SO 150# (ANSI B16.5)	SA-312 Gr. 316/316L	8.64
1		FL-3-150-316	3.0" BF RF 150# (ANSI B16.5)	SA-182 Gr. 316/316L	11.16
2		PIPE0150SS-316	PIPE 1.50" SCH 40S (ASME B36.19M)	SA-182 Gr. 316/316L	1.30
1		PIPE03SS-316	PIPE 3.0" SCH40S (ASME B36.19M)	SA-312 Gr. 316/316L	29.85
1		PN-0750-40-316-6	NIPPLE 3/4" NPT 150# / THREADED	AISI 316L	0.36
2		SQTUB2x2x3-16	SQUARE TUBE 2x2x3/16	A500 Gr. B	1.64
1		CUSTOM-METALMFG	PLATE 10-1/4x8x1/4	AISI 304	4.47
1		CUSTOM-METALMFG	PLATE 10-1/4x8x1/4	AISI 304	4.43
1		INSULATION HIGH	INSULATION	CERAMIC FIBER	2.63
1		SSH-22GA-SS304	STAINLESS SHEET 304L X4 3080H5 BLUE 22GA 48"x96"	AISI 304	8.08
4		BOLT-0500X2-SS	BOLT 1/2"-20x2" STAINLESS STEEL	F593	
8		BOLT-0500X2.5-SS	BOLT 1/2"-20x2.5" STAINLESS STEEL	F593	
4		W-0500-SS	WASHER 1/2" STAINLESS STEEL		
12		LW-0500-SS	LOCK WASHER 1/2" STAINLESS STEEL		
12		NUT-0500-20-SS	NUT 1/2"-20 316 SS STAINLESS STEEL HEX NUT		
4		BOLT-0625-11x3500-SS	BOLT 5/8-11x3.5" STAINLESS STEEL	F593	
4		W-0625-SS	WASHER 5/8" STAINLESS STEEL		
4		LW-0625-SS	LOCK WASHER 5/8"		
4		NUT-0625-11-ST	HEX NUT 5/8"-11	F594	
5	1	1850616-4	CONTROL PANEL (30x20x10)	STAINLESS STEEL	
6	1	1850616-5	CONTROL PANEL (20x16x10)	STAINLESS STEEL	
7	2	EXP-TNK_ASS'Y	ASME EXPANSION TANK	STAINLESS STEEL	10.00
8	2	SSF-22	SSF-22 1033579LF PUMP	STAINLESS STEEL	19.84
9	2	CUSTOM-PART	FLOW SWITCH (V6EPS-S-S-1-0-GL)	AISI 316	
10	8	CUSTOM-PART	BALL VALVE 1-1/2 (46325K33)	AISI 316	
11	2	CUSTOM-PART	BALL VALVE 3/4 (46325K29)	AISI 316	
12	2	CUSTOM-PART	BALL VALVE 1/2 (46495K21)	AISI 316	
13	2	CUSTOM-PART	PRESSURE VALVE 1/2 NPTM INLET- 30 PSI (6270T112)	BRONZE	
14		CUSTOM-PART	MINERAL FIBER PIPE INSULATION*		
15		CUSTOM PART	STAINLESS STEEL SHEET 24GA**	AISI 304	

NOTE:
INSULATION MATERIALS FOR THE PIPING SYSTEM TO BE CONNECTED WITH THE HEATERS
* MINERAL FIBER INSULATION: POLR 1200F (FROM SUPPLIER)
** STAINLESS SHEET 304 24GA (FROM SUPPLIER)

NOTES:

1. DIMENSIONS ARE IN INCHES.
2. REMOVE ALL SHARP EDGES AND CORNERS.
3. ALL DIMENSIONS SHALL BE VERIFIED BEFORE MANUFACTURING.
4. BOLT HOLES TO STRADDLE NORMAL CENTER LINES.
5. FLANGE FACE FINISH R_a OF 125.
6. NOZZLE SIZE ARE IN INCHES UNLESS OTHERWISE NOTED.
7. ALL NOZZLE PROJECTIONS ARE REFERRED FROM VESSEL CENTER LINE TO FACE OF FLANGE.
8. DESIGN WITH SUPPORT.
9. NEMA4X WITHOUT PAINT SYSTEM.

APPROVED BY / STAMP		E	SH 5 ADDED. CLIENT'S COMMENTS ADDED	V.HOLCER	2/13/2019
		D	SKID INLET/OUTLET ORIENTATION CHANGED	V.HOLCER	1/16/2019
		C	GENERAL REVISION. CONFIGURATION A, ADDED	V.HOLCER	1/9/2019
		B	CLIENT'S COMMENTS ADDED	V.HOLCER	12/14/2018
		A	ISSUED FOR APPROVAL	M.OMER	11/26/2018
REV.	DESCRIPTION	NAME	DATE	NAME	DATE
GENERAL TOLERANCES		DRAWN	M.OMER	11/13/2018	55 Avenue Milton, Lucerne, QC H8R 1K4 (514) 488-9124 www.wattco.com
DIMENSION		APPROVED	V.HOLCER	11/26/2018	
LINEAR	±1/8				
LINEAR (OVERALL)	±1/8				
DIAGONAL	±1/8				
DIAMETER	±1/8				
ANGLE	±1°				
SURFACE FINISH	✓	TITLE: GENERAL ARRANGEMENT		SIZE: D	DWG. # W-DEN-1850616
					REV. E
					SCALE N/A SHEET 5/5