



ENGINEERING CLARIFICATION

EC TITLE: Mass Flow Meter for Air Scour
PROJECT: 3 Kings Water Treatment Plant

EC NO.: 18
DATE: 5/4/2020
STATUS: Acknowledged

SECTION 1: BY CONTRACTOR

QUESTION:

The flow meter associated with the air scour system requires a thermal mass flow meter instead of a magnetic flow meter.

DRAWING NO.: 060-N-30001 INSTRUMENTATION AND CONTROL - AIR SCOUR BLOWERS

POTENTIAL COST IMPACT:

SPECIFICATION SECTION:

POTENTIAL SCHEDULE IMPACT:

PROPOSED SOLUTION:

Replace magnetic flow meter with thermal mass flow meter as shown in the attached drawing and specification data sheet modification.

COMMENTS:

INITIATOR: Zalla, Joseph/SLC

PRIORITY: Normal

REQUESTED RESPONSE DATE: 5/18/2020

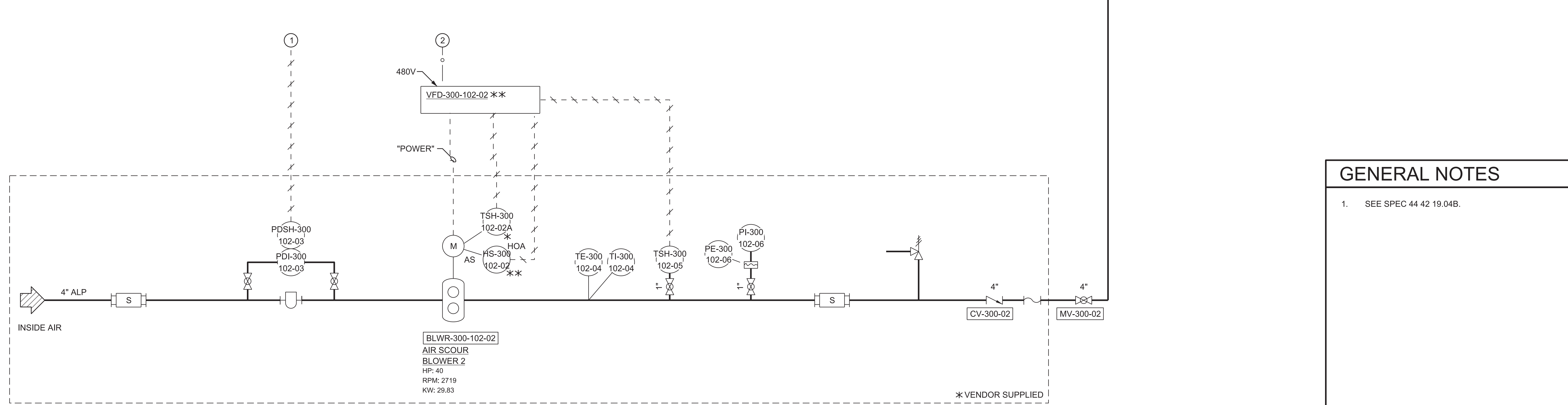
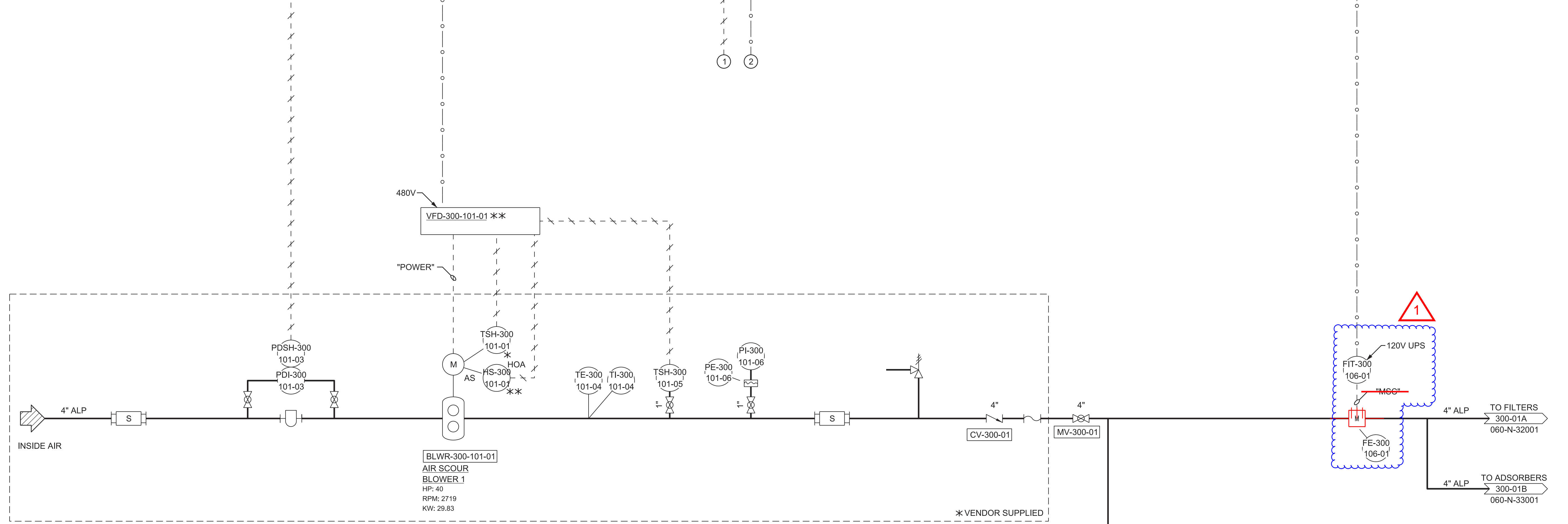
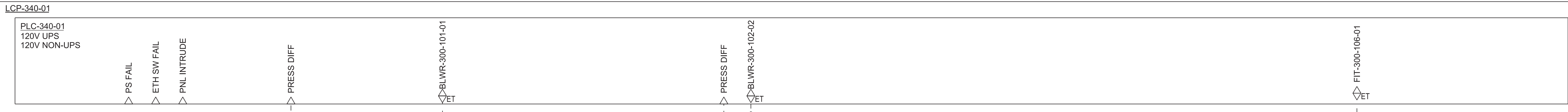
SECTION 2: BY REVIEWER

RESPONSE:

COMMENTS:

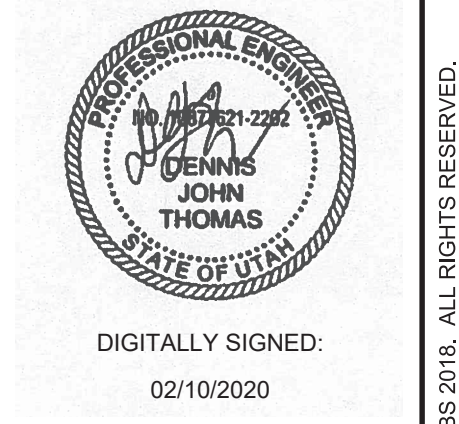
REVIEWED BY: Sam Conant

REVIEWED DATE: 5/13/2020



GENERAL NOTES

- SEE SPEC 44 42 19.04B.



NO.	DATE	REVISION	CHK	APVD
1	05/04/2020	ENGINEERING CLARIFICATION #18	JZ	DT

ZEHREN AND ASSOCIATES, INC.
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 LANDSCAPE ARCHITECTURE
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 801-734-8227 / 801-734-8100

3Kings WTP Phase III Design
 Park City Municipal Corporation
 Park City, Utah

DATE	02/10/2020
PROJ	694342
DWG	060-N-30001
SHEET	182 of 911

GENERAL EC #18	1	Tag Number	P&ID	FE-300-106-01	060-N-30001
	2	Loop Title		FILTER AIR SCOUR FLOW	
	3	Area Classification		Non-Hazardous	
	4				
	5	Line Number	Equipment Number		
	6	Line Size	Line Schedule		
	7				
PROCESS CONDITIONS	8	Fluid		AIR, LOW-PRESSURE	
	9				
	10	Min Flow	Max Flow		
	11	Nominal Pressure			
	12	Nominal Temperature			
	13	Specific Gravity	Viscosity	1.0	
	14	Conductivity	Density		
	15	Vapor Pressure	Critical Pressure		
	16				
	17	Vacuum Possibility		No	
METERING ELEMENT	19	Element Tag		FE-300-106-01	
	20	Element Size		4"	
	21	Process Connection		4-inch Class 150 ANSI Flange	
	22	Electrical Connection		0.5 inch NPT	
	23	Tube Material		Stainless Steel	
	24	Liner Material		Polyurethane	
	25	Electrode Type		Bullet Nose	
	26	Electrode Material		316 SS	
	27	Range			
	28	Element Cable Length			
	29	Grounding Type	Material	Grounding Ring	316SS
	30	Enclosure NEMA Rating		NEMA 4X	
	31	Minimum Measurable Velocity		0.033 Feet/Sec	
	32				
TRANSMITTER	33	Transmitter Tag		FE-300-106-01	
	34	Mounting			
	35	Enclosure NEMA Rating		NEMA 4X	
	36	Power Supply	Voltage	4 - Wire	120 VAC
	37	Output Signal			
	38	Communication Protocol			
	39	Calibrated Range			
	40	Low Flow Cutoff			
	41	Ambient Temperature Limits		-5 degF to 140 degF	
	42	Process Temperature Limits		32 degF to 122 degF	
	43				
OPTIONS	44	Accuracy	Repeatability	0.5 Pct of Span	
	45	Vendor Calibration		Factory calibrate - Provide calibration certificate	
	46	Tagging		Affix stainless steel tag with Tag Number	
	47	Element Mounting Bracket			
PURCHASE	48	Display Protection			
	49	Manufacturer		E&H	
	50	Model Number		PROMAG-W 400/Ethernet-IP	
	51	Grounding Rings Model Number		Order with rings	
	52	Purchase Note			
53					
F04				694342 - 3KINGS-WTF PHASE III DESIGN	
FLOW ELEMENT & TRANSMITTER, ELECTROMAGNETIC				FE-300-106-01	

GENERAL EC #18	1	Tag Number	P&ID	FE-300-106-01	060-N-30001
	2	Loop Title		FILTER AIR SCOUR FLOW	
	3	Area Classification		NON HAZARDOUS	
	4				
	5				
	6	Line Size		4 INCH	
	7				
PROCESS CONDITIONS	8	Fluid		Air (Low Pressure)	
	9				
	10	Min Flow	Max Flow	0 cfm	
	11	Pressure			
	12	Temperature			
	13	Specific Gravity		1.0	
	14				
	15				
16					
17	Vacuum Possibility		No		
18					
ELEMENT	19	Element Tag		FE-300-106-01	
	20	Probe Length		9" (INSERTION LENGTH INTO PIPE 2")	
	21				
	22	Process Connection		1 MNPT, Thread ANSI, Compression Fitting, SS	
	23	Probe Material		SS	
	24				
	25				
	26				
	27	Element Range			
	28				
29	Process Temperature Limits		-40 degF to 266 degF		
30					
TRANSMITTER	31	Transmitter Tag		FIT-300-106-01	
	32	Mounting		INTEGRAL	
	33	Enclosure NEMA Rating		NEMA 4X	
	34	Power Supply	Voltage	4-Wire	120 VAC
	35	Output Signal	Quantity		
	36	Communication Protocol		Profibus PA	
	37	Ambient Temperature Limits		-5 degF to 140 degF	
	38	Process Temperature Limits		-40 degF to 212 degF	
39					
CALIBRATION	40	Calibrated Range			
	41	Vendor Calibration		Factory calibrate - Provide calibration certificate	
	42				
	43	Accuracy		1% Reading + 20 sfpn	
44					
OPTIONS	45	Tagging		Affix stainless steel tag with Tag Number	
	46	Male Compression Fittings		Required	
	47	Teflon Insulated Cable		Required	
	48	Sun Shield		n/a	
PURCHASE	49	Manufacturer		Endress + Hauser	
	50	Model Number		65I-20AA99D1ACBBH-1	
	51	Compression Fittings Part Number		Quantity #	
	52	Teflon Insulated Cable Part Number		Quantity #	
	53	Remote Cable Version		n/a	
F51 FLOW ELEMENT & TRANSMITTER, THERMO MASS FLOW				694342 - 3KINGS WTF PHASE III DESIGN	
				FE-300-106-01	