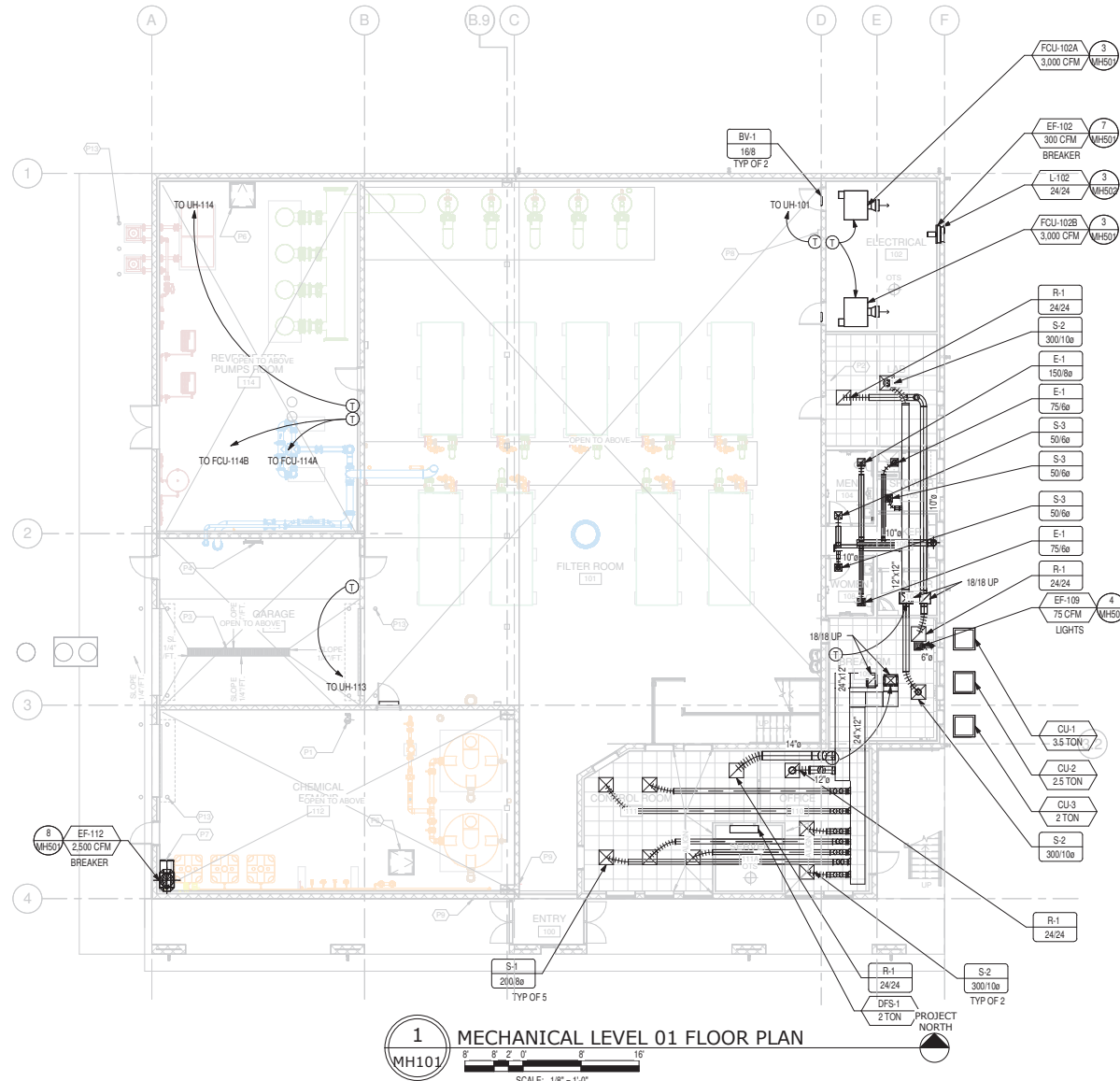




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TYPICAL SHEET METAL DETAILS

2  
MH501 FLEX DUCT CONNECTION



1  
MH101 MECHANICAL LEVEL 01 FLOOR PLAN  
SCALE: 1/8" = 1'-0"



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		OGDEN CITY WATER TREATMENT PLANT RECONST. MECHANICAL LEVEL 01 FLOOR PLAN

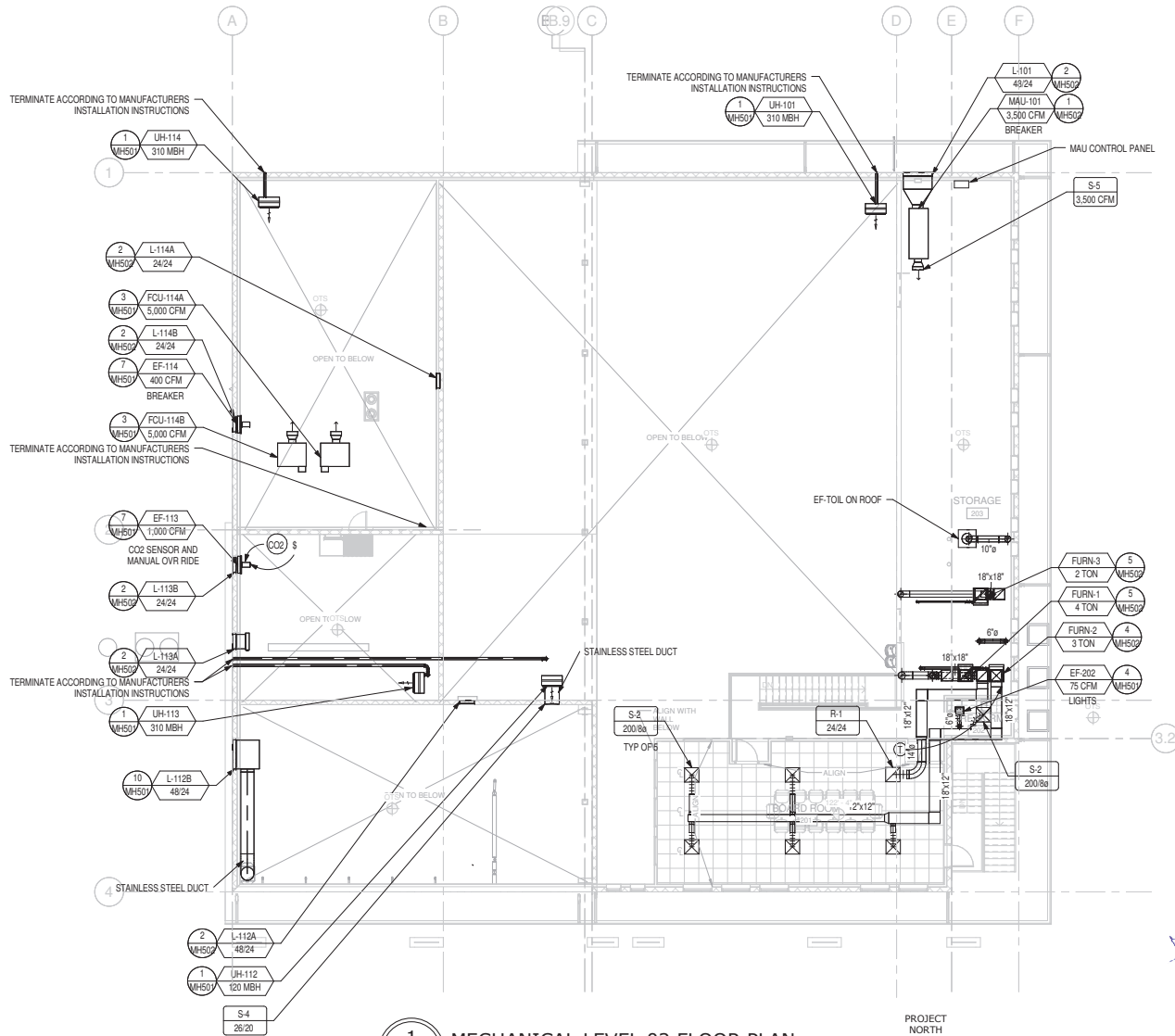
  

SHEET NO. 04655	DESIGNED SMD	DRAWN STAFF	CHECKED SMD	SHEET NO. 178 of 241	MH101
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TYPICAL SHEET METAL DETAILS

2 FLEX DUCT CONNECTION



1 MECHANICAL LEVEL 02 FLOOR PLAN  
 MH102  
 SCALE: 1/8" = 1'-0"



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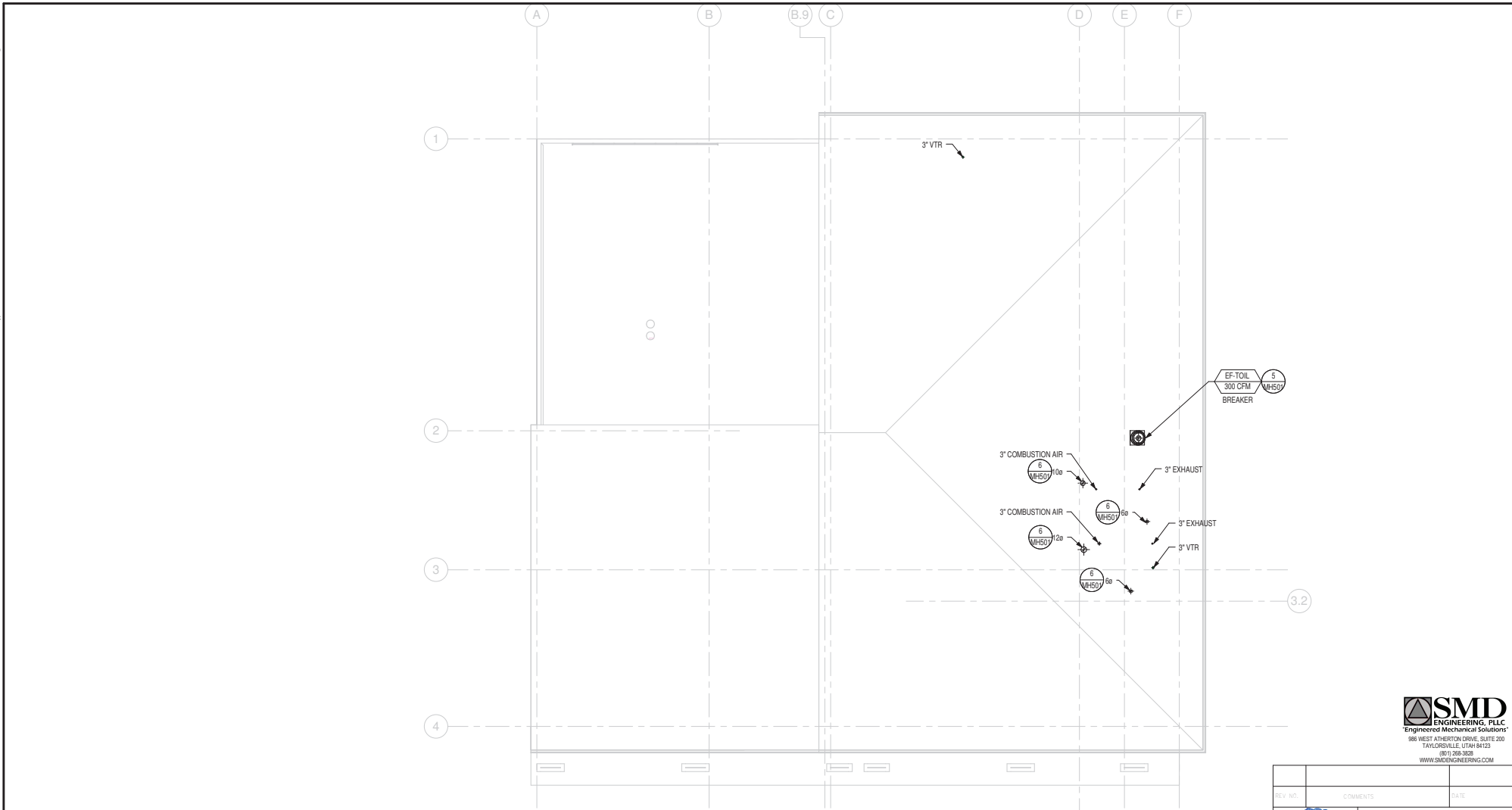
  

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1  
MH103

**MECHANICAL ROOF PLAN**



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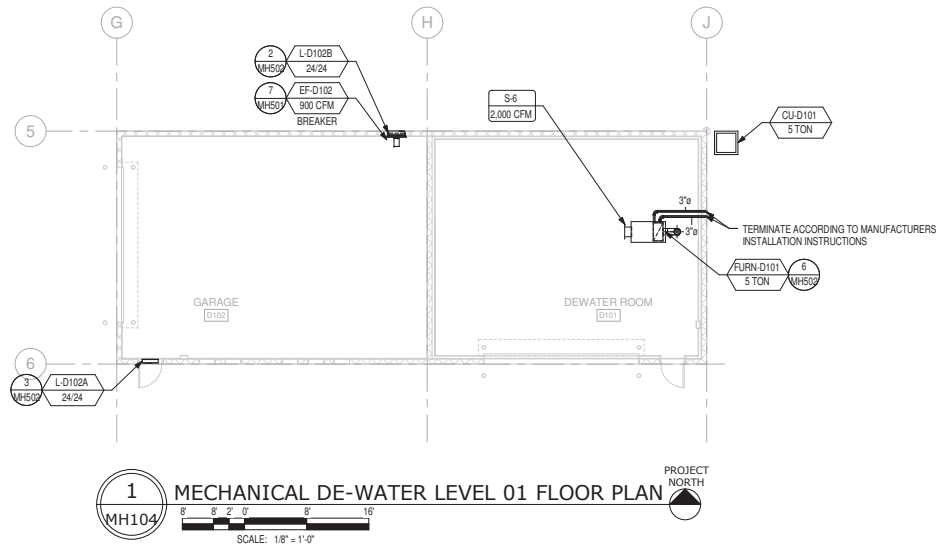
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 MECHANICAL ROOF PLAN

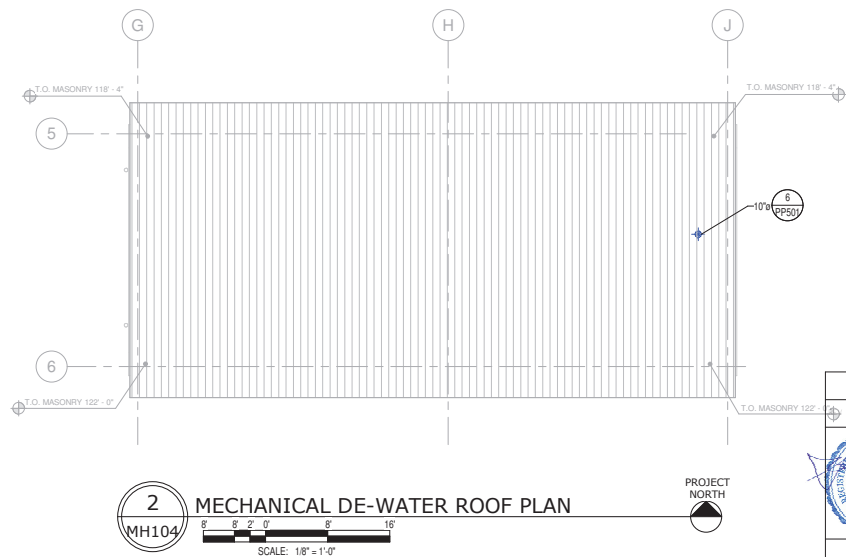
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**MH103**

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**1 MECHANICAL DE-WATER LEVEL 01 FLOOR PLAN**  
 MH104  
 SCALE: 1/8" = 1'-0"  
 PROJECT NORTH



**2 MECHANICAL DE-WATER ROOF PLAN**  
 MH104  
 SCALE: 1/8" = 1'-0"  
 PROJECT NORTH



NO.	COMMENTS	DATE

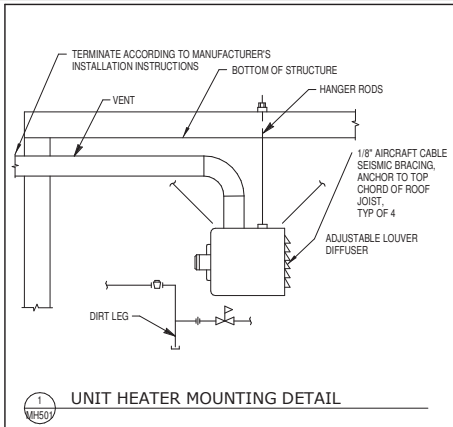
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 STATE OF UTAH

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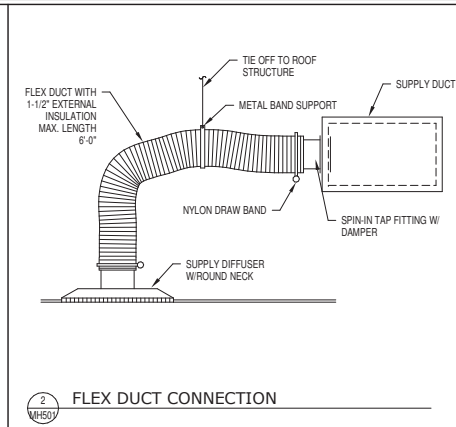
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 WATER TREATMENT PLANT RECONSTRUCTION  
 MECHANICAL DE-WATER FLOOR PLANS

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04655	SMD	STAFF	SMD	179 of 241

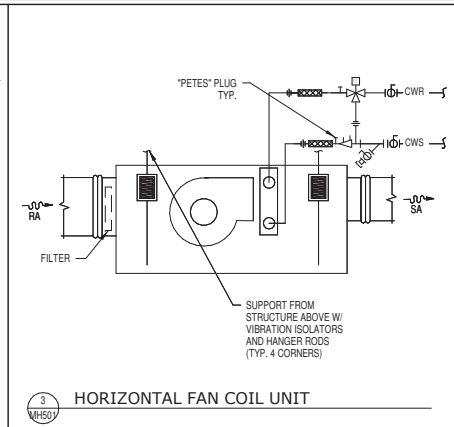
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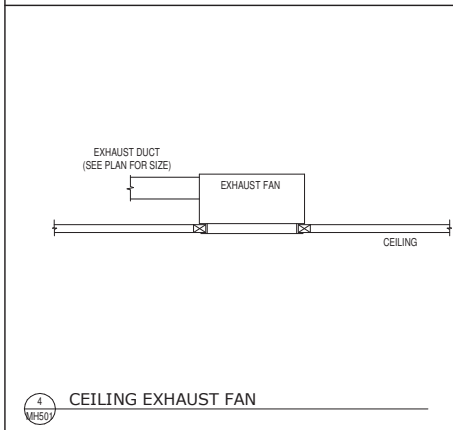
1 UNIT HEATER MOUNTING DETAIL



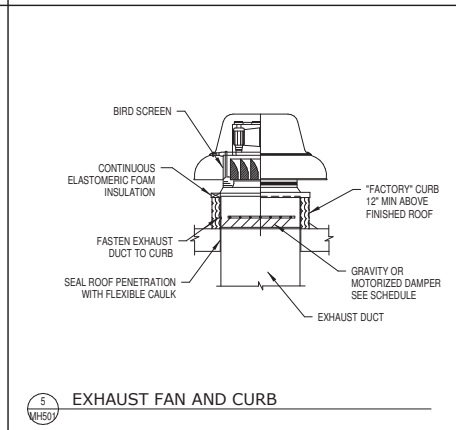
2 FLEX DUCT CONNECTION



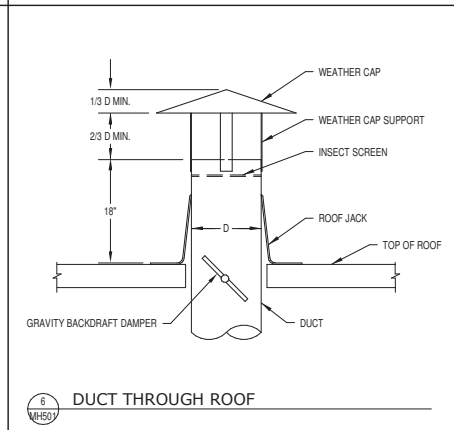
3 HORIZONTAL FAN COIL UNIT



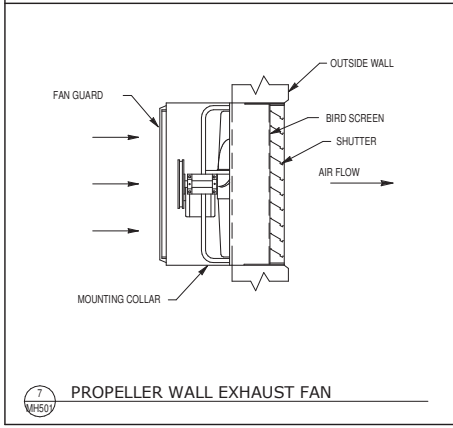
4 CEILING EXHAUST FAN



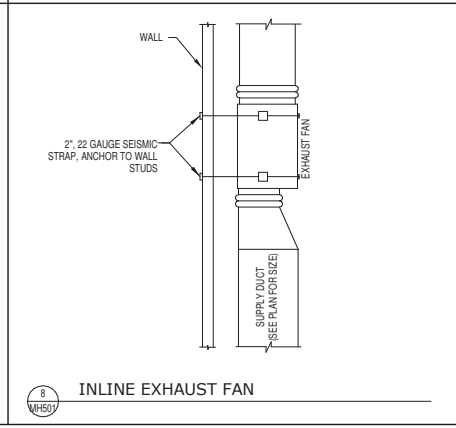
5 EXHAUST FAN AND CURB



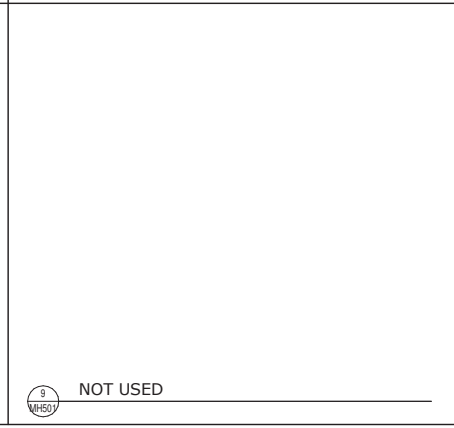
6 DUCT THROUGH ROOF



7 PROPELLER WALL EXHAUST FAN



8 INLINE EXHAUST FAN



9 NOT USED



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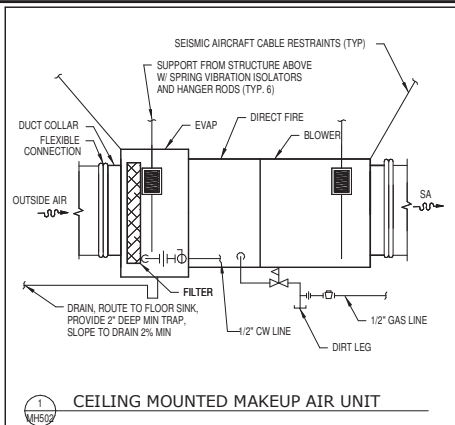
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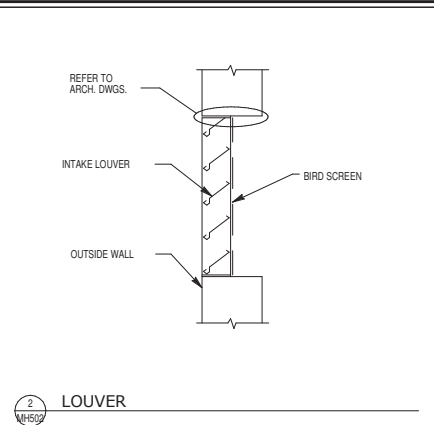
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 WATER TREATMENT PLANT RECONSTR.  
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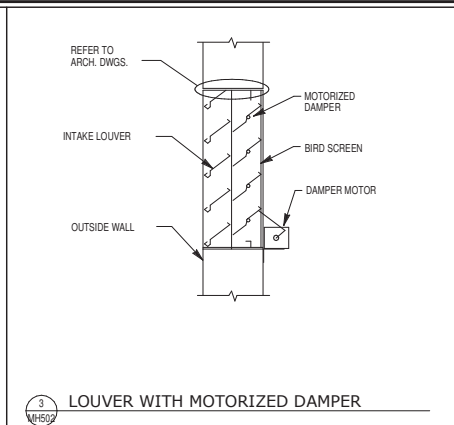
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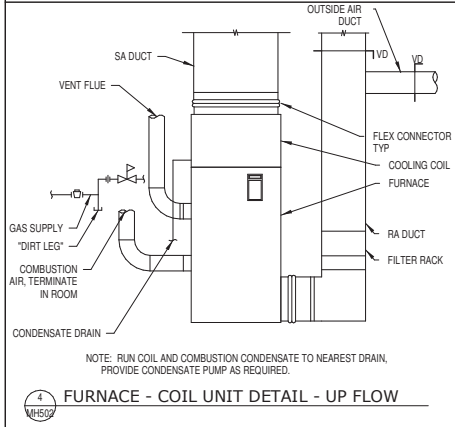
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MH502  
**CEILING MOUNTED MAKEUP AIR UNIT**



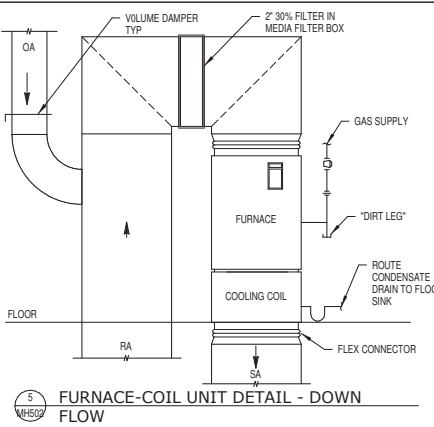
2  
MH502  
**LOUVER**



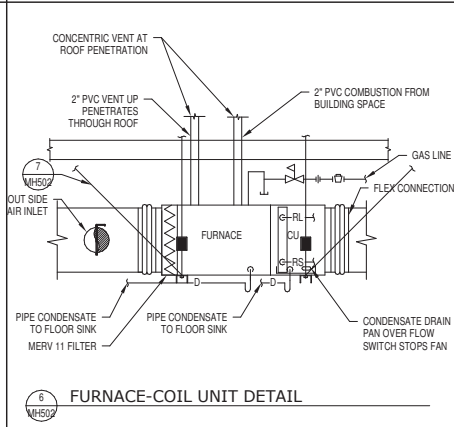
3  
MH502  
**LOUVER WITH MOTORIZED DAMPER**



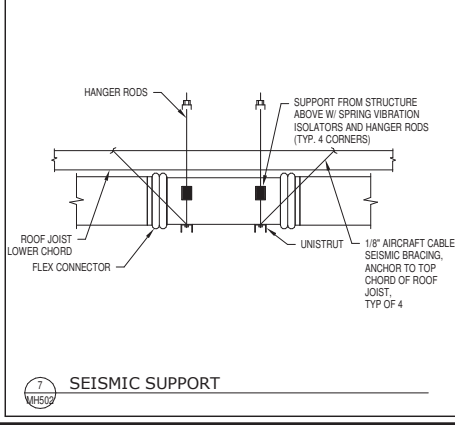
4  
MH502  
**FURNACE - COIL UNIT DETAIL - UP FLOW**



5  
MH502  
**FURNACE-COIL UNIT DETAIL - DOWN FLOW**



6  
MH502  
**FURNACE-COIL UNIT DETAIL**



7  
MH502  
**SEISMIC SUPPORT**



8  
MH502  
**NOT USED**



9  
MH502  
**NOT USED**



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FURNACE SCHEDULE (F)																							FURN CFM			
MARK	BURNER							AIRFLOW		EVAPORATOR COIL								ELECTRICAL			DIMENSIONS				MANUFACTURER MODEL	REMARKS
	GAS INPUT (MBH)	OUTPUT (MBH)	STAGE	AFUE	GAS CONNECT SIZE (IN)	COMB. AIR SIZE/MATL	VENT SIZE/MATL	CFM	ESP (IN WC)	ENTERING DB/WB	LEAVING DB	TOTAL (MBH)	SENS. (MBH)	PRESS. DROP (IN WC)	EVAPORATOR COIL MODEL NO.	CONDEN. UNIT	MOTOR HP	VOLTS/ PHASE	FLA	MOCP	W (IN)	H (IN)	D (IN)	WT (LBS)		
FURN-1	100	96	2	96	1/2	2 1/2"/PVC	2 1/2"/PVC	1,600	0.5	75/59	51.7	36	34	0.3	4TXCB048	CU-1	1/2	120/1ø	1.0	20	23	42	31	168	AMERICAN STANDARD ALJH2C10A9V4	NOTE 1
FURN-2	60	58	2	96	1/2	2"/PVC	2"/PVC	1,200	0.4	75/59	51.2	26	24	0.15	4TXAB036	CU-2	1/3	120/1ø	1.0	15	20	42	31	146	AMERICAN STANDARD ALJH2B060A9V3	NOTE 1
FURN-3	60	58	2	96	1/2	2"/PVC	2"/PVC	730	0.5	75/59	55.7	17	15	0.1175	4TXAA024	CU-3	1/3	120/1ø	1.0	15	18	40	28	168	AMERICAN STANDARD ALJH2B060A9V3	NOTE 1
FURN-D101	120	97	2	80	1/2	4"/PVC	4"/PVC	2000	0.5	75/59	55.5	56.3	52.3	0.35	4TXCDO60	CU-D101	1	120/1ø	1.14	20	25	40	28	181	AMERICAN STANDARD AUJ2D120139V	NOTE 1

NOTE 1: PROVIDE PROGRAMMABLE 7-DAY THERMOSTAT W/ NIGHT SETBACK, 4" DEEP FILTER CABINET AND ECM VARIABLE SPEED MOTOR.

LOUVER SCHEDULE (L)											L W/H
MARK	CFM	FACE VELOCITY (FPM)	FLOW AREA (SF)	DIMENSIONS			DAMPER	MANUFACTURER MODEL	REMARKS		
				W (IN)	H (IN)	D (IN)					
L-114A	400	211	1.89	24	24	6	GRAVITY	RUSKIN ELF637SDX	NOTE 1		
L-114B	400	211	1.89	24	24	6	24V MOTORIZED	RUSKIN ELF637SDX	NOTE 1		
L-113A	1,000	529	1.89	24	24	6	GRAVITY	RUSKIN ELF637SDX	NOTE 1		
L-113B	1,000	529	1.89	24	24	6	24V MOTORIZED	RUSKIN ELF637SDX	NOTE 1		
L-112A	2,500	631	3.96	48	24	6	GRAVITY	RUSKIN ELF637SDX	NOTE 1		
L-112B	2,500	631	3.96	48	24	6	24V MOTORIZED	RUSKIN ELF637SDX	NOTE 1		
L-101	3,500	883	3.96	48	24	6	24V MOTORIZED	RUSKIN ELF637DX	NOTE 1		
L-102	300	159	1.89	24	24	6	24V MOTORIZED	RUSKIN ELF637SDX	NOTE 1		
L-D102A	900	476	1.89	24	24	6	24V MOTORIZED	RUSKIN ELF637SDX	NOTE 1		
L-D102B	900	476	1.89	24	24	6	GRAVITY	RUSKIN ELF637SDX	NOTE 1		

NOTE 1: EXTRUDED ALUMINUM CONSTRUCTION W/ BIRD SCREEN, FACTORY APPLIED KYNAR FINISH MATCHING COLOR CHIP PROVIDED BY ARCHITECT.

CONDENSING UNIT SCHEDULE (CU)																			CU TON	
MARK	NOMINAL CAPACITY (TONS)	REFRIGERANT	AMBIENT	SEER	STEPS	ELECTRICAL						DIMENSIONS						FURNACE	MANUFACTURER MODEL	REMARKS
						VOLTS/ PHASE	MCA	MOCP	COMPRESSOR (EACH)		FAN (EACH)	D (IN)	W (IN)	H (IN)	WT (LBS)	MIN.PAD SIZE (IN)				
									LRA	RLA	FLA									
CU-1	3.5	R-410A	95	16	1	208/1ø	23	40	112	17.9	0.93	35	38	42	235	42X44	FURN-1	AMERICAN STANDARD 4TTB6042A		
CU-2	2.5	R-410A	95	16	1	208/1ø	15	25	63.5	11.5	1.2	35	38	38	201	42X44	FURN-2	AMERICAN STANDARD 4TTB6030A		
CU-3	2	R-410A	95	16	1	208/1ø	9	15	38.6	6.8	0.74	30	33	29	174	36X39	FURN-3	AMERICAN STANDARD 4TTB6024A		
CU-D101	5	R-410A	95	13	1	208/1ø	35	60	134	26.8	0.93	39	35	43	226	45X41	FURN-D101	AMERICAN STANDARD 4TTB3060D		

FAN COIL UNIT SCHEDULE (FCU)																			FCU CFM			
MARK	AREA SERVED	FAN			MOTOR			COOLING COIL								DIMENSIONS				MANUFACTURER MODEL	REMARKS	
		CFM	ESP (IN WC)	DRIVE	HP	VOLT/ PHASE	FLA	ROWS	EAT DB/WB °F	LAT DB/WB °F	TOTAL MBTUH	SENS. MBTUH	EWI/ LWT °F	GPM	WATER PD (FT WC)	PROP. GLYC. %	L (IN)	W (IN)	H (IN)			WT (LBS)
FCU-114A	PUMP ROOM	5,000	0.75	BELT	3	460/3ø	4	6	90/58	61/47	136	136	55/62	37.5	6.87	0	52	61	35	546	TRANE LPCAA10F	W/ MERV 8 4" FILTER, HORIZONTAL CONFIGURATION
FCU-114B	PUMP ROOM	5,000	0.75	BELT	3	460/3ø	4	6	90/58	61/47	136	136	55/62	37.5	6.87	0	52	61	35	546	TRANE LPCAA10F	W/ MERV 8 4" FILTER, HORIZONTAL CONFIGURATION
FCU-102A	ELECTRICAL ROOM	3,000	0.75	BELT	1.5	460/3ø	2.4	6	90/58	61/47	81	81	55/63	22.5	9.18	0	47	48	22	264	TRANE BHC02ZG1	W/ MERV 8 4" FILTER, HORIZONTAL CONFIGURATION
FCU-102B	ELECTRICAL ROOM	3,000	0.75	BELT	1.5	460/3ø	2.4	6	90/58	61/47	81	81	55/63	22.5	9.18	0	47	48	22	264	TRANE BHC02ZG1	W/ MERV 8 4" FILTER, HORIZONTAL CONFIGURATION

MAKE UP AIR UNIT SCHEDULE (MAU)																MAU CFM
MARK	CFM	ESP (IN WC)	FAN		BURNER				DIMENSIONS				MANUFACTURER MODEL	REMARKS		
			HP	VOLT/ PHASE	FUEL	INPUT MBH	OUT. MBH	EFF. %	TEMP. RISE °F	L (IN)	H (IN)	W (IN)			WT (LBS)	
MAU-101	3,500	1.0	5	208/3ø	LPG	300	240	80	60	86	39	31	790	REZTOR ADF-300		



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OGDEN CITY

WATER TREATMENT PLANT RECONST.  
MECHANICAL SCHEDULES

REV. NO.	APPROVED	DRAWN	CHECKED	SHEET NO.
04655	SMD	STAFF	SMD	162 of 241

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### UNIT HEATER SCHEDULE

MARK	AREA SERVED	HEATING CAPACITY (PROJECT)					FAN MOTOR				DIMENSIONS				MANUFACTURER MODEL	REMARKS				
		IN MBH	OUT MBH	GAS CONNECT SIZE (IN)	MIN AFUE	FLUE	FUEL	CFM	THROW (FT)	MOUNTING	NO.	HP	VOLT/PHASE	FLA UNIT			W (IN)	D (IN)	H (IN)	WT (LBS)
UH-101	FILTER ROOM	310	278	3/4	91	4" PVC	LPG	4,283	113	CEILING	1	1/2	120/1ø	10	41	54	35	395	REZNOR UEAS310	NOTE 1
UH-114	PUMPS ROOM	310	278	3/4	91	4" PVC	LPG	4,283	113	CEILING	1	1/2	120/1ø	10	41	54	35	395	REZNOR UEAS310	NOTE 1
UH-113	GARAGE	310	278	3/4	91	4" PVC	LPG	4,283	113	CEILING	1	1/2	120/1ø	10	41	54	35	395	REZNOR UEAS310	NOTE 1
UH-112	CHEMICAL ROOM	120	100	1/2	83	4" PVC	LPG	2,049	196	CEILING	1	3/4	120/1ø	13	40	61	31	136	REZNOR UDBS125	REMOVE DISCHARGE GRILLE AND CONNECT TO STAINLESS STEEL DUCTWORK, NOTE 1

NOTE: SINGLE STAGE, HOT SURFACE IGNITION, 100% SHUT-OFF, MULTIPLE RETRY W/ AUTO RESET FROM LOCKOUT, VIBRATION ISOLATION KIT. VENT IS SLOPED DOWNWARD 1/4" PER FOOT TOWARDS TERMINATION W/ A LISTED THIMBLE IN WALL PENETRATION, AND LISTED VENT CAP.

### DUCT FREE SPLIT (DFS)

MARK	AREA SERVED	NOM TONS	SEER	TOTAL MBH (ARI)	INDOOR UNIT								OUTDOOR UNIT								REMARKS		
					FAN FLA	MCA	CFM	VOLT/PHASE	L (IN)	H (IN)	D (IN)	WT (LBS)	MANUFACTURER MODEL	VOLT/PHASE	MCA	MOCP	FAN FLA	L (IN)	H (IN)	D (IN)		WT (LBS)	MANUFACTURER MODEL
DFS-1	SERVER ROOM	2.0	17	24	0.36	1	775	208/1ø	47	15	12	46	MITSUBISHI EKA-A24K44	208/1ø	18	30	0.75	38	38	14	163	MITSUBISHI PUJ-A24N44	NOTE 1

NOTE 1: ASHRAE 90.1 COMPLIANT, W/ "FACTORY" CONTROLS, "FACTORY" LINE KIT, AND REMOTE CONTROL, "FACTORY" CONDENSATE PUMP, 0" F LOW AMBIENT, "FACTORY" CONDENSING UNIT BASE, AND AUTOMATIC AIR SWEEP. POWER FED FROM CONDENSING UNIT TO INDOOR UNIT.

### EXHAUST FAN SCHEDULE (EF)

MARK	AREA SERVED	TYPE	DRIVE	CFM	ESP (IN WC)	FAN RPM	MOTOR			SONES	DAMPER	CONTROL	OPENING SIZE (IN)	MANUFACTURER MODEL	REMARKS
							RPM	BHP	HP						
EF-TOIL	TOILET ROOMS	CENTRIFUGAL	DIRECT	300	0.5	1,459	1,459	107 WATTS	1/8	120/1ø	9.6	GRAVITY	WHEN OCCUPIED	N/A	COOK 100W15DH
EF-102	ELECTRICAL 102	PROP	DIRECT	300	0.25	1,517	1,517	0.1	0.05	120/1ø	10.7	GRAVITY	BREAKER	N/A	COOK 10515D
EF-109	ROOM 109	CEILING	DIRECT	75	0.5	1,100	1,100	66 WATTS	NA	120/1ø	3.7	GRAVITY	LIGHTS	N/A	COOK GC-144
EF-112	CHEMICAL ROOM 112	PROP	DIRECT	2,500	0.5	1,978	1,978	0.25	1	120/1ø	30	GRAVITY	BREAKER	N/A	COOK 1401B
EF-113	GARAGE 113	PROP	DIRECT	1,000	0.5	1,025	1,025	0.28	1/2	120/1ø	16.7	GRAVITY	SWITCH OR C22	N/A	COOK 24EP16B
EF-114	PUMP ROOM 114	PROP	DIRECT	400	0.25	1,202	1,202	0.09	1/8	120/1ø	1.3	GRAVITY	BREAKER	N/A	COOK 12515D
EF-202	ROOM 202	CEILING	DIRECT	75	0.5	1,100	1,100	66 WATTS	NA	120/1ø	3.7	GRAVITY	LIGHTS	N/A	COOK GC-144
EF-D102	GARAGE	PROP	DIRECT	900	.375	1,725	1,725	0.21	1/4	120/1ø	19.3	GRAVITY	BREAKER	20	COOK AW16A170

### AIR DEVICE SCHEDULE

MARK	TYPE & DUTY	FACE SIZE X W	NECK SIZE X H	CEILING TYPE	MAX. CFM	MAX. T.P. (IN WC)	MAX. NC LEVEL	MIN T50 THROW (FT)	PATTERN	MANUFACTURER MODEL	REMARKS	DEVICE
												CFM/NC
S-1	LOUVERED FACE DIFFUSER	24/24	8ø	LAY-IN	209	0.05	11	12	4-WAY	KRUEGER 1400	FRAME 23, LAY-IN	
S-2	LOUVERED FACE DIFFUSER	24/24	10ø	LAY-IN	327	0.07	17	15	4-WAY	KRUEGER 1400	FRAME 23, LAY-IN	
S-3	FLUSH FACE LOUVERED CEILING DIFFUSER	9/9	6/6-6ø	GYP	150	0.138	19	20	4-WAY	KRUEGER SH	W/ SURFACE MOUNT FRAME AND OBD	
S-4	DOUBLE DEFLECTION SUPPLY GRILLE	26/20	24/18	WALL	2,250	0.096	31	68	4-WAY	KRUEGER AF5800	DOUBLE DEFLECTION, 3/4" BLADE SPACING, BLADES RUN LONGWAY, STEEL CONSTRUCTION	
S-5	DOUBLE DEFLECTION SUPPLY GRILLE	32/26	30/24	DUCT	3,540	0.079	31	85	4-WAY	KRUEGER AF5800	DOUBLE DEFLECTION, 3/4" BLADE SPACING, BLADES RUN LONGWAY, STEEL CONSTRUCTION	
S-6	DOUBLE DEFLECTION SUPPLY GRILLE	22/22	20/20	DUCT	2,300	0.158	36	68	4-WAY	KRUEGER 880	DOUBLE DEFLECTION, 3/4" BLADE SPACING, BLADES RUN LONGWAY, STEEL CONSTRUCTION	
R-1	PERFORATED RETURN	24/24	22/22	LAY-IN	1,000	0.05	15	NA	NA	KRUEGER 6490	LAY-IN FRAME, PROVIDE PLENUM BOX AS REQUIRED	
BV-1	BRICK VENT	16/8	16/8	CMU	MA	NA	NA	NA	NA	COOK BRICK VENT BV5	ALUMINUM CONSTRUCTION W/ CLEAR ANODIZED FINISH	
E-1	ALUMINUM PERFORATED EXHAUST	12/12	10/10	GYP	250	0.05	15	NA	NA	KRUEGER S580P	ALUMINUM CONSTRUCTION W/ SURFACE MOUNT FRAME	



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OGDEN CITY WATER TREATMENT PLANT RECONST. MECHANICAL SCHEDULES

REV NO.	COMMENTS	DATE
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DESIGNED	CHECKED	DATE	PROJECT	SHEET NO.
SMD	SMD		183	241

MH602

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### LIQUID PROPANE EQUIPMENT SCHEDULE - PUMP



PUMP						MOTOR				REMARKS	
MARK	TYPE	MAX DIFFERENTIAL PRESSURE (PSI)	FLOW RATE AT 50 PSI (GPM)	MAX WORKING PRESSURE (PSI)	MANUFACTURER MODEL	RPM	VOLT/ PHASE	HP	FLA		MANUFACTURER MODEL
LPG PUMP	INLINE	125	13.0	350	SOLARES LGF1P	1725	120/1ø	1	13	BALDOR CL5023A	EXPLOSION PROOF MOTOR. USE RANSOME ASSEMBLED PUMP SKID PS10.

### LIQUID PROPANE GAS REGULATOR SCHEDULE



MARK	EQUIPMENT SERVED	OPERATING INLET PRESSURE (PSIG)	OUTLET PRESSURE SETPOINT (PSI)	MAX CFH	INLET/OUTLET SIZE (IN)	MANUFACTURER MODEL	REMARKS
REG-1	LPG TANK	100	4	4420	1	REGO 1588VN	
REG-2	VAPORIZERS	40	5	4420	1	REGO X1588VN	

### LIQUID PROPANE EQUIPMENT SCHEDULE - TANK



MARK	NOMINAL CAPACITY (GALLONS)	REMARKS
LPG TANK	10,000	REUSE EXISTING LIQUID PETROLEUM GAS TANK. REPAIR ALL RUST AS REQUIRED. SEE STRUCTURAL DRAWINGS FOR REQUIRED SUPPORTS.

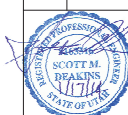
### LIQUID PROPANE EQUIPMENT SCHEDULE - VAPORIZER




MARK	TYPE	MAX PROPANE CAPACITY (GPM)	MAX PROPANE CAPACITY MBTUH	DIMENSIONS				VOLT/ PHASE	MANUFACTURER MODEL	REMARKS
				H (IN)	W (IN)	D (IN)	WT (LBS)			
VAP-1	DIRECT FIRE	50	4,580	31	17	21	205	120/1ø	RANSOME RH50	W/ AUTO PILOT LIGHT REIGNITER.
VAP-2	DIRECT FIRE	50	4,580	31	17	21	205	120/1ø	RANSOME RH50	W/ AUTO PILOT LIGHT REIGNITER.



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OGDEN CITY  
 WATER TREATMENT PLANT RECONST.  
 MECHANICAL SCHEDULES

REV. NO.	DESIGNED	CHECKED	DATE	DESIGNED	CHECKED	DATE	SHEET NO.
04655	SMD	STAFF		SMD			184 of 241

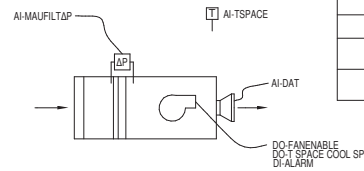
Sheet No. **MH603**

**SEQUENCE OF OPERATION:**

MAKE UP AIR UNIT RUNS CONTINUOUSLY SUBJECT TO FIRE ALARM.

DISCHARGE AIR CONTROLLER STARTS AND MODULATES BURNER TO MAINTAIN DISCHARGE AIR TEMPERATURE SET POINT 55° F (PROGRAMMABLE).

WHEN OUTSIDE AIR IS ABOVE DISCHARGE AIR SET POINT FAN RUNS CONTINUOUSLY.



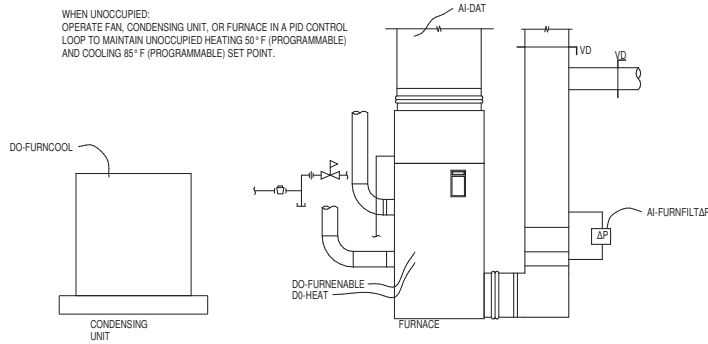
CONTROL POINT LIST				
MARK	TYPE	DESCRIPTION	DISPLAY	ON ALARM
MAU FAN ENABLE	DO	ENABLE MAU FAN	YES	N/A
MAU-FILTDP	AI	MAU DIFFERENTIAL PRESSURE	YES	REPORT
T-SPACE	AI	SPACE TEMPERATURE SENSOR	YES	REPORT
T-SPACE COOL SP	LA	SPACE TEMPERATURE COOLING SET POINT	YES	N/A
DAT	AI	DISCHARGE AIR TEMPERATURE	YES	N/A

**SEQUENCE OF OPERATION:**

FURNACE SHALL OPERATE SUBJECT TO FIRE ALARM.

WHEN OCCUPIED:  
RUN FAN CONTINUOUSLY OPERATE CONDENSING UNIT OR FURNACE TO MAINTAIN SPACE OCCUPIED HEATING 70° F (PROGRAMMABLE) OR COOLING 75° F (PROGRAMMABLE) SET POINT IN A PID CONTROL LOOP.

WHEN UNOCCUPIED:  
OPERATE FAN, CONDENSING UNIT, OR FURNACE IN A PID CONTROL LOOP TO MAINTAIN UNOCCUPIED HEATING 50° F (PROGRAMMABLE) AND COOLING 85° F (PROGRAMMABLE) SET POINT.



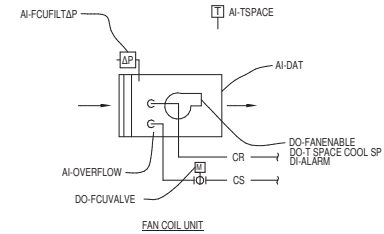
CONTROL POINT LIST				
MARK	TYPE	DESCRIPTION	DISPLAY	ON ALARM
FURN FAN ENABLE	DO	ENABLE FURNACE FAN	YES	N/A
FURN-COOL	DO	FURNACE COOLING MODE	YES	N/A
FURN-HEAT	DO	FURNACE HEATING MODE	YES	N/A
FURN-FILTDP	AI	FURNACE DIFFERENTIAL PRESSURE	YES	REPORT
T-SPACE	AI	SPACE TEMPERATURE SENSOR	YES	REPORT
T-SPACE COOL SP	LA	SPACE TEMPERATURE COOLING SET POINT	YES	N/A
DAT	AI	DISCHARGE AIR TEMPERATURE	YES	N/A
T-SPACE HEAT SP	LA	SPACE TEMPERATURE HEATING SETPOINT	YES	N/A

**SEQUENCE OF OPERATION:**

FAN COIL UNITS SHALL OPERATE SUBJECT TO FIRE ALARM.

WHEN SPACE TEMPERATURE RISES ABOVE 75° F, ENABLE FCU AND OPEN FCU VALVE.

WHEN SPACE TEMPERATURE FALL BELOW 70° F (PROGRAMMABLE), STOP FCU AND CLOSE FCU VALVE.

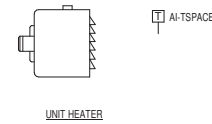


CONTROL POINT LIST				
MARK	TYPE	DESCRIPTION	DISPLAY	ON ALARM
FCU FAN ENABLE	DO	ENABLE FCU FAN	YES	N/A
FCU-COOL	DO	FCU COOLING MODE	YES	N/A
FCU-FILTDP	AI	FCU DIFFERENTIAL PRESSURE	YES	REPORT
FCU-VALVE	DO	OPEN FCU VALVE	YES	N/A
T-SPACE	AI	SPACE TEMPERATURE SENSOR	YES	REPORT
T-SPACE COOL SP	LA	SPACE TEMPERATURE COOLING SET POINT	YES	N/A
OVERFLOW	AI	CONDENSATE DRAIN PAN OVER FLOW ALARM	YES	REPORT
DAT	AI	DISCHARGE AIR TEMPERATURE	YES	N/A

AO-ANALOG OUT FROM BAS  
AI-ANALOG IN TO BAS  
DO-DIGITAL OUT FROM BAS  
DI-DIGITAL IN TO BAS  
LA-LOGICAL BAS ANALOG VARIABLE  
LD-LOGICAL BAS DIGITAL VARIABLE

**SEQUENCE OF OPERATION:**

WHEN SPACE TEMPERATURE FALLS BELOW SPACE TEMPERATURE SET POINT 50° F (PROGRAMMABLE) START UNIT HEATER FAN AND OPEN UNIT HEATING VALVE IN A PID CONTROL LOOP.



CONTROL POINT LIST				
MARK	TYPE	DESCRIPTION	DISPLAY	ON ALARM
TSPACE	AI	SPACE TEMPERATURE SET POINT	YES	REPORT
UH-ENABLE	DO	UNIT HEATER ENABLE	YES	N/A



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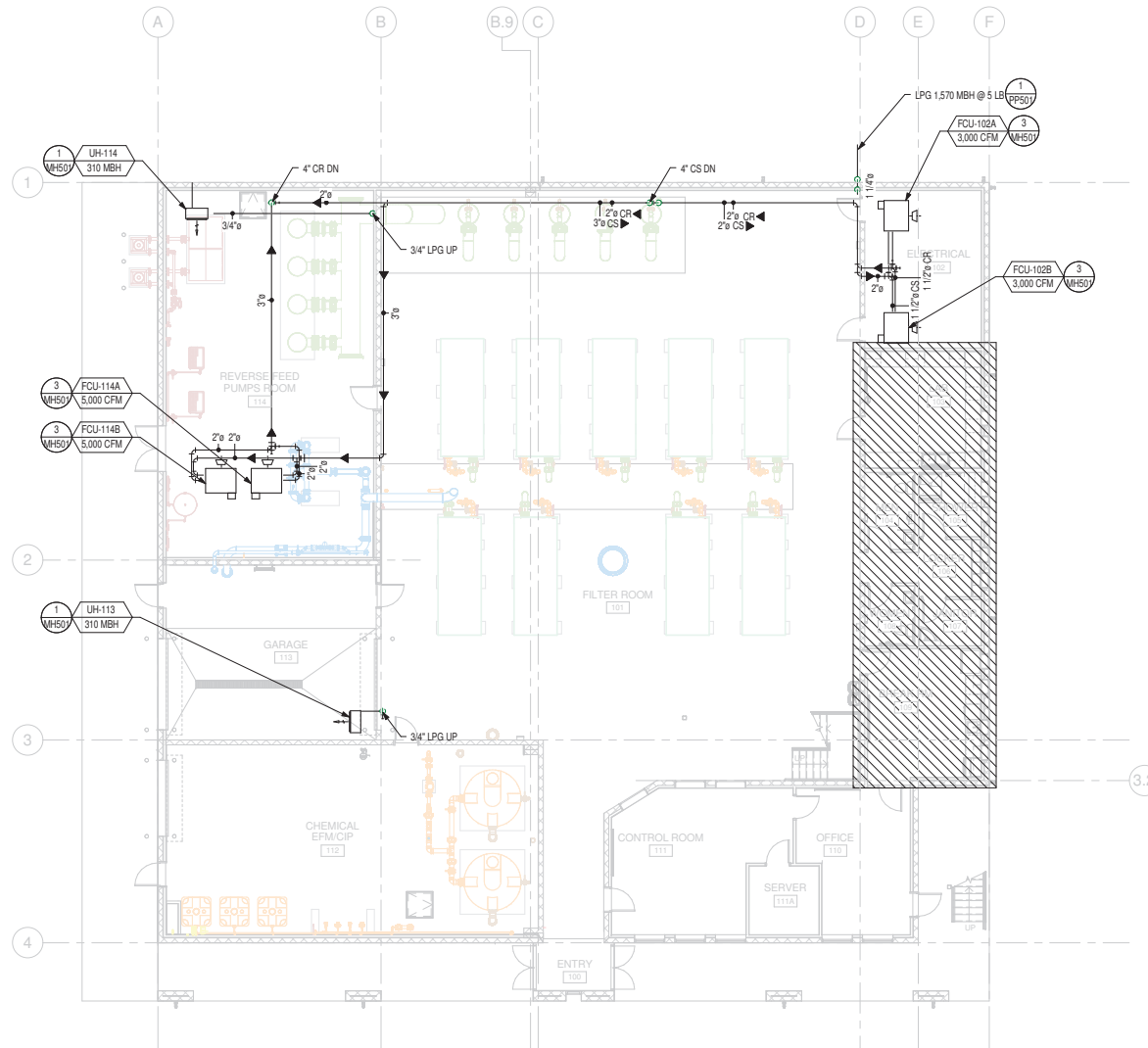
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**OGDEN CITY**  
**WATER TREATMENT PLANT RECONST.**  
**MECHANICAL FLOW AND CONTROL**  
**DIAGRAMS**

REV. NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.
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**1**  
**MECHANICAL PIPING LEVEL 01 FLOOR PLAN**  
 PROJECT NORTH  
 SCALE: 1/8" = 1'-0"

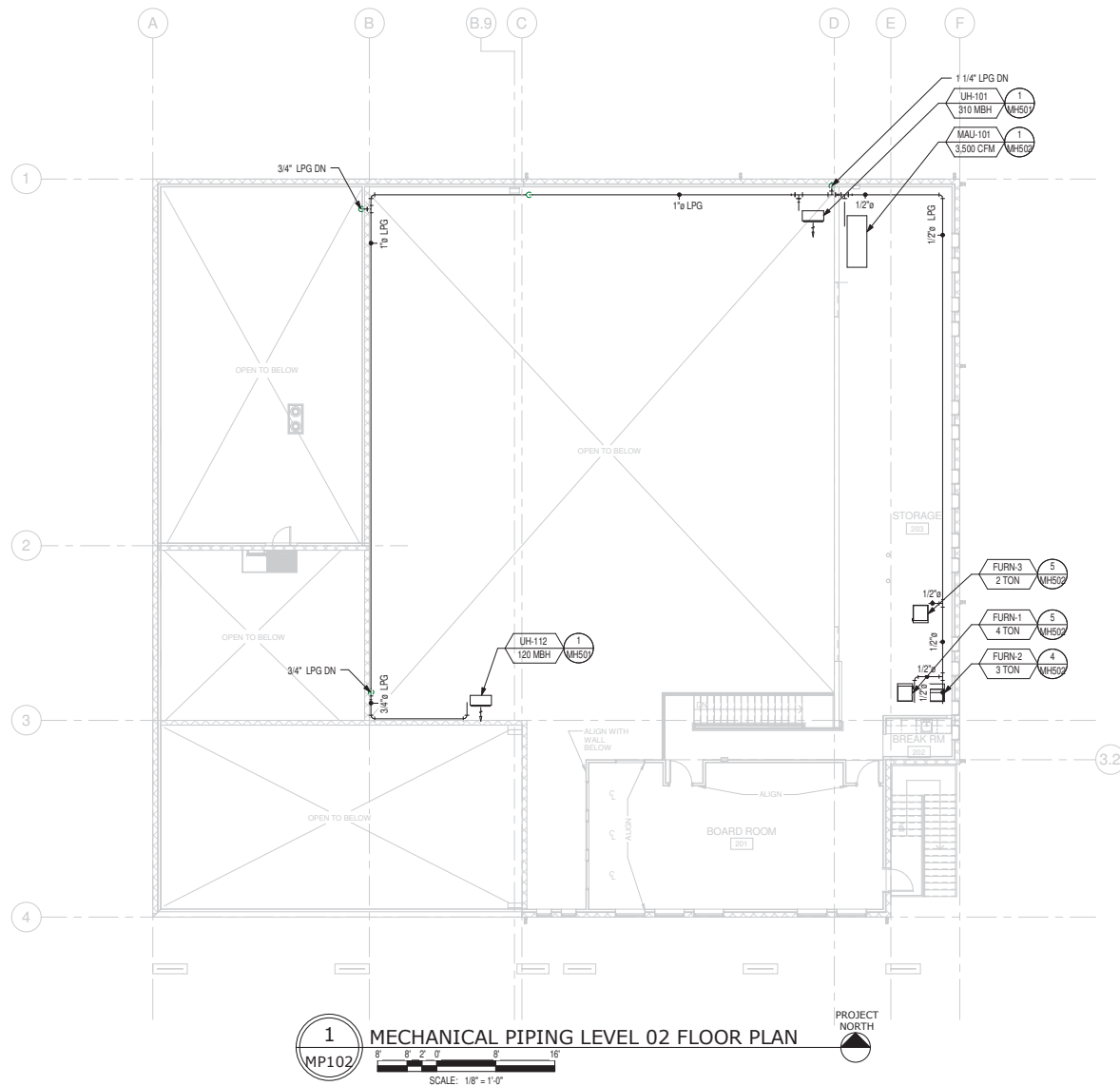


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**1**  
**MP102** MECHANICAL PIPING LEVEL 02 FLOOR PLAN  
 SCALE: 1/8" = 1'-0"  
 PROJECT NORTH



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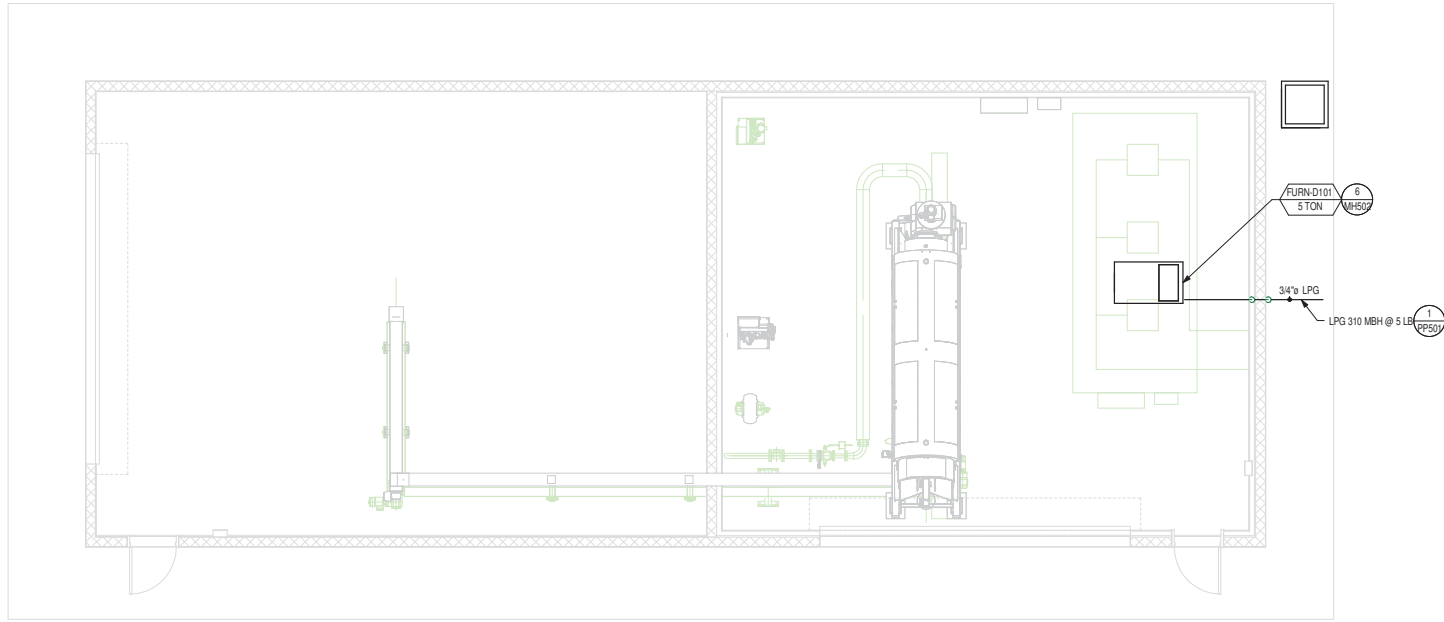
  

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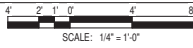
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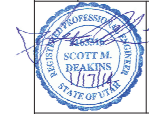


1  
MP103

MECHANICAL PIPING DE-WATER LEVEL 01 FLOOR PLAN



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OGDEN CITY  
 WATER TREATMENT PLANT RECONSTRUCTION  
 MECHANICAL PIPING DE-WATER FLOOR PLAN

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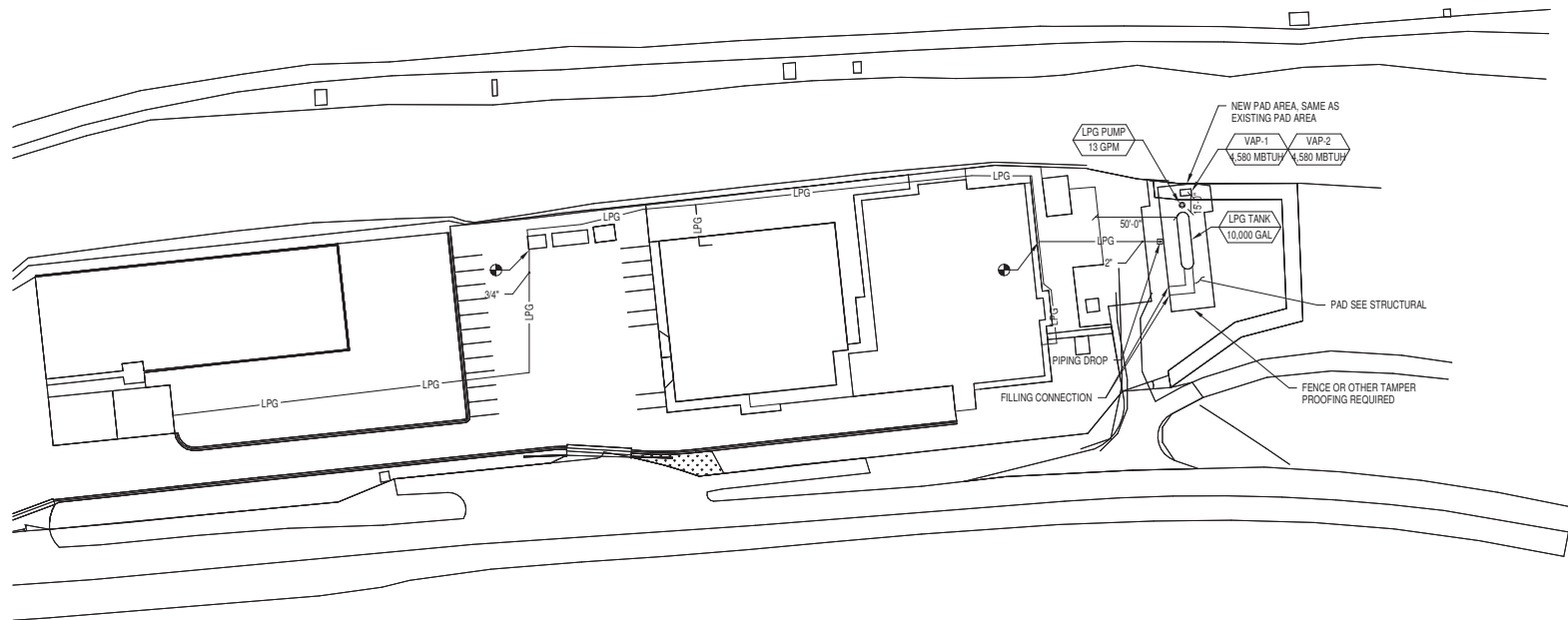
REV NO.	ISSUED BY	DATE	REV NO.	ISSUED BY	DATE
04655	SMD	188	04655	SMD	188

MP103

1 2 3 4 5

**SHEET NOTES**

- THE COMPLETE PLANS AND SPECS FOR ALL LP GAS SYSTEMS COMMERCIAL AND OR PRIVATE USE INVOLVING A STORAGE OF MORE THAN 5,000 WATER GALLONS, SHALL BE SUBMITTED TO THE UTAH STATE FIRE MARSHAL'S OFFICE BY A UTAH LICENSED LP GAS INSTALLER, AND MUST RECEIVE APPROVAL FROM THE UTAH LP GAS BOARD AND THE UTAH STATE FIRE MARSHAL'S OFFICE PRIOR TO INSTALLATION. GENERAL CONTRACTOR IS RESPONSIBLE FOR SECURING A LICENSED LP INSTALLER, ENSURING THESE AND ALL OTHER REQUIRED SUBMITTAL AND APPROVAL PROCEDURES PERTAINING TO THE LP STORAGE TANK AND SYSTEM ARE INCLUDED IN THE SCOPE OF THE GENERAL CONTRACTORS RESPONSIBILITIES.



**1 MECHANICAL PIPING SITE PLAN**  
 MP104  
 SCALE: 1/32" = 1'-0"



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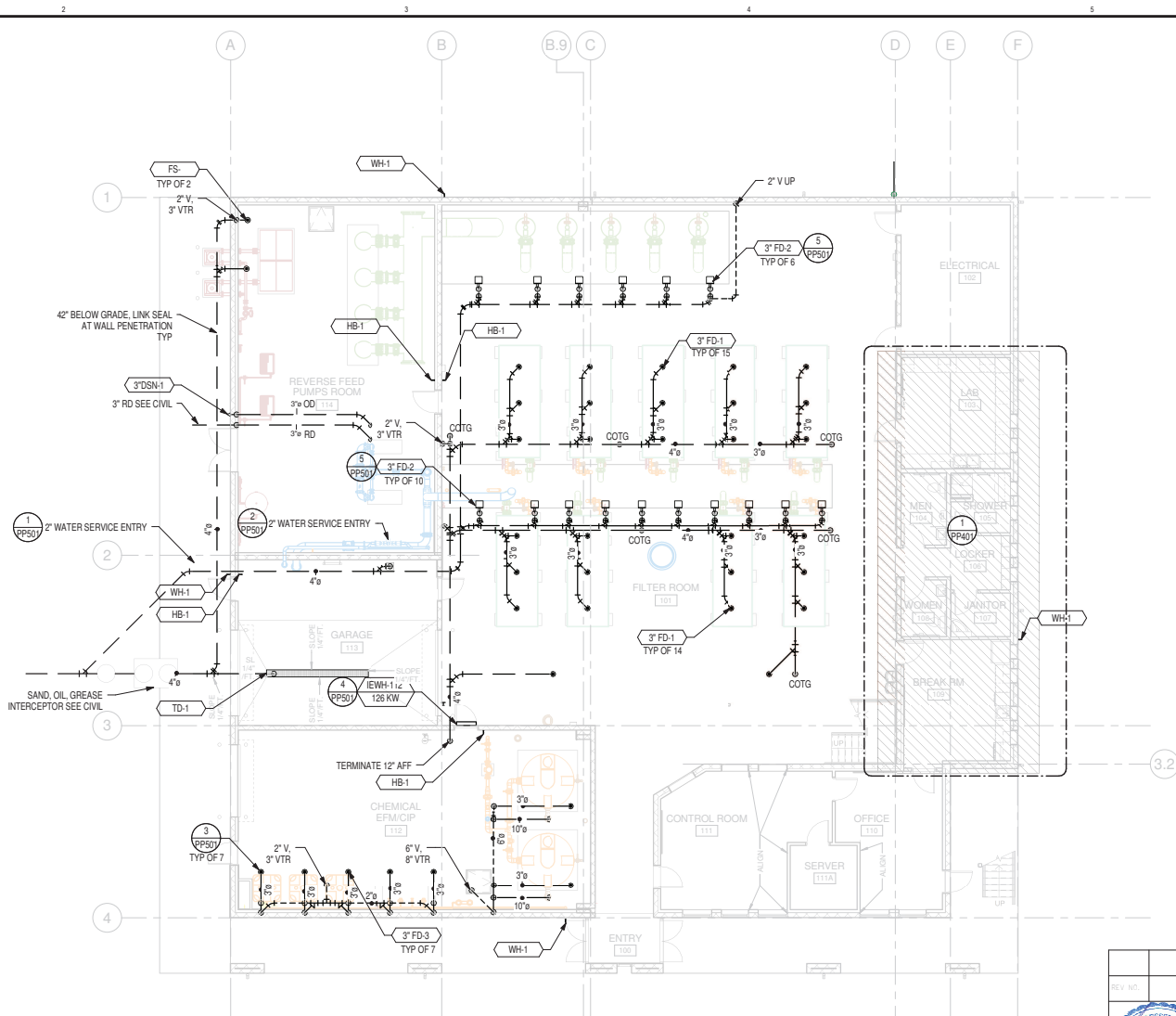
OGDEN CITY  
 WATER TREATMENT PLANT RECONSTRUCTION  
 MECHANICAL PIPING SITE PLAN

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**1**  
**PP101** PLUMBING LEVEL 01 FLOOR PLAN  
 SCALE: 1/8" = 1'-0"



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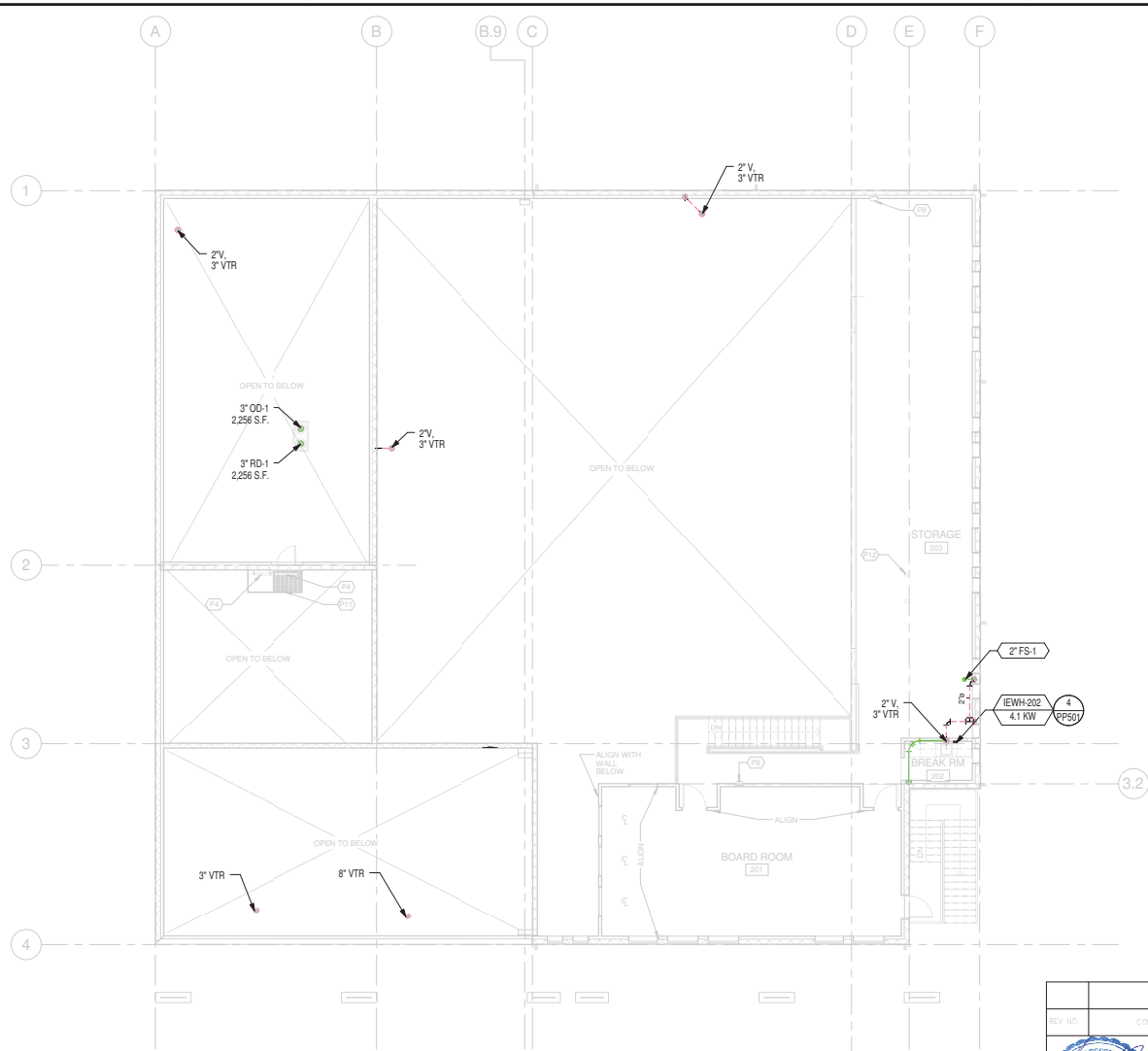
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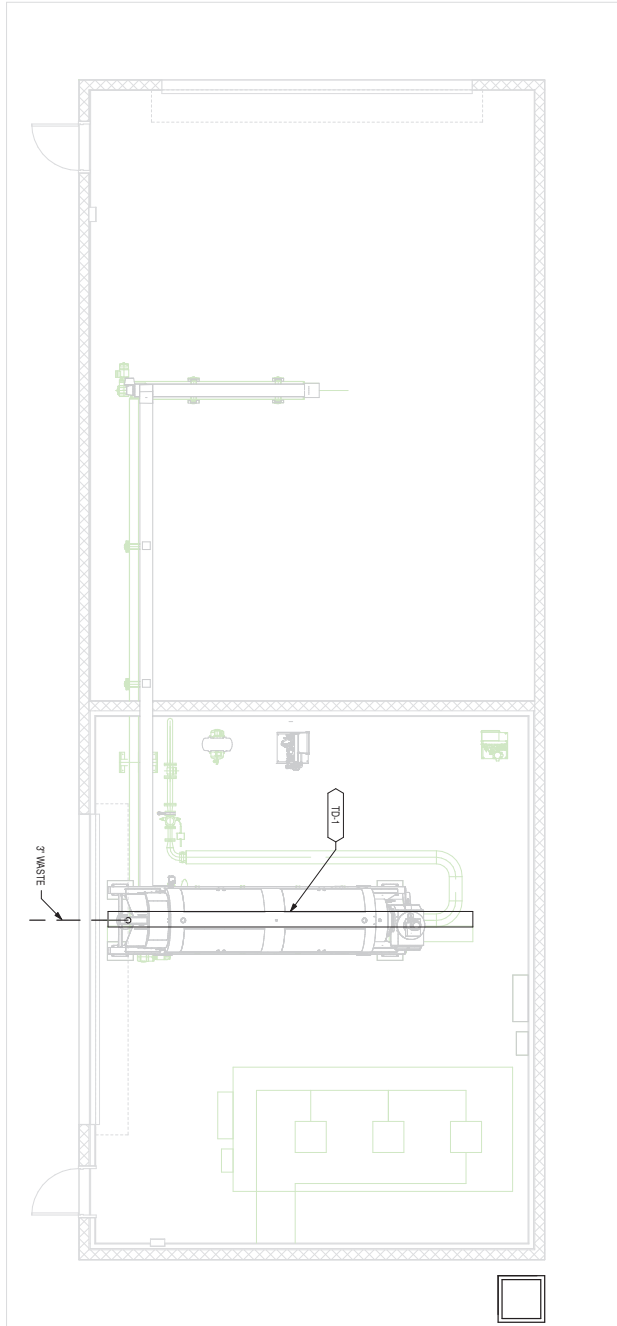
**1**  
**PP102** PLUMBING LEVEL 02 FLOOR PLAN  
 SCALE: 1/8" = 1'-0"



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1  
PP103

**PLUMBING DE-WATER LEVEL 01 FLOOR PLAN**

SCALE: 1/4" = 1'-0"



DATE	04/05	BY	SMD
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PROJECT: NORTH

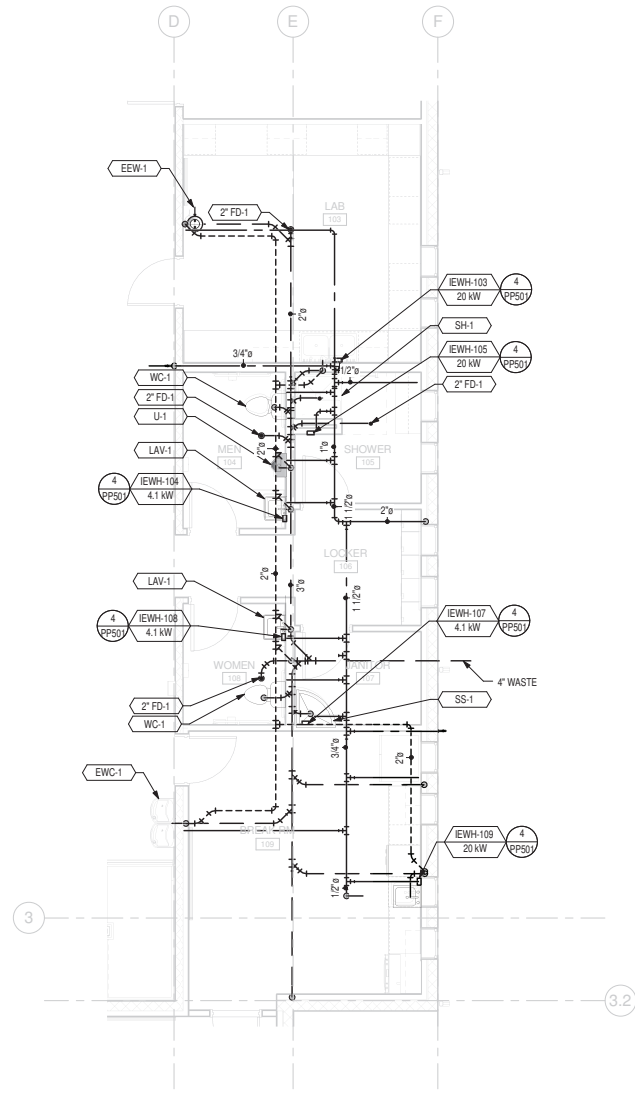
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OGDEN CITY

WATER TREATMENT PLANT RECONSTRUCTION  
 PLUMBING DE-WATER PLAN  
 PP-103

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**1**  
**PP401** ENLARGED PLUMBING LEVEL 01 FLOOR PLAN  
 SCALE: 1/4" = 1'-0"  
 PROJECT NORTH



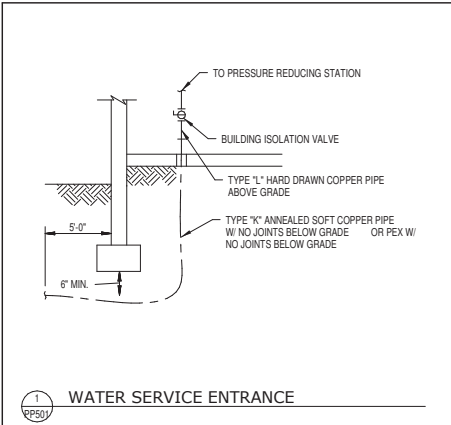
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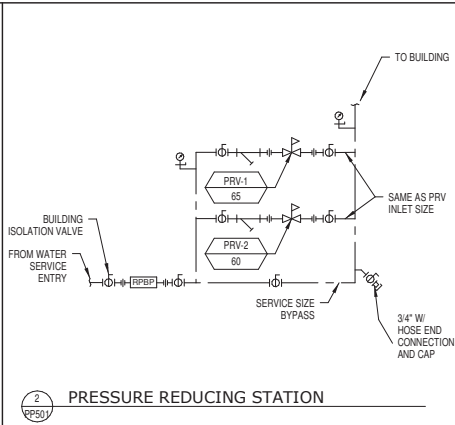
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OGDEN CITY				
WATER TREATMENT PLANT RECONSTR.				
ENLARGED PLUMBING FLOOR PLAN				
REV. NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.
04655	SMD	STAFF	SMD	193 of 241
				<b>PP401</b>

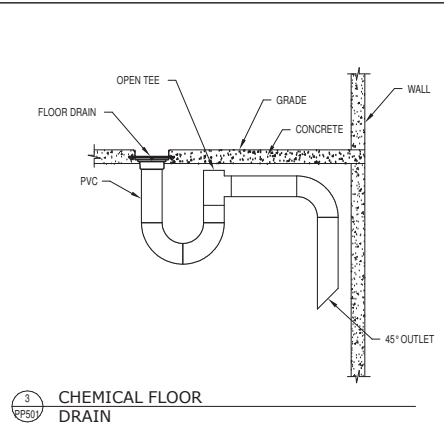
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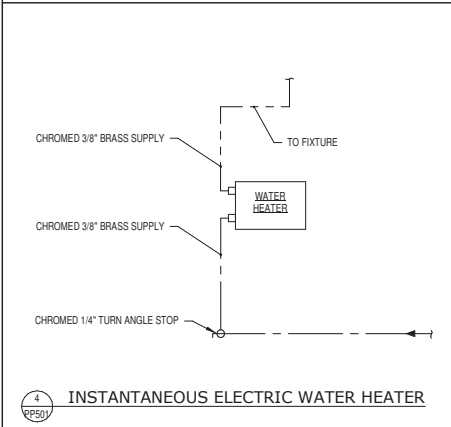
1 WATER SERVICE ENTRANCE  
PP501



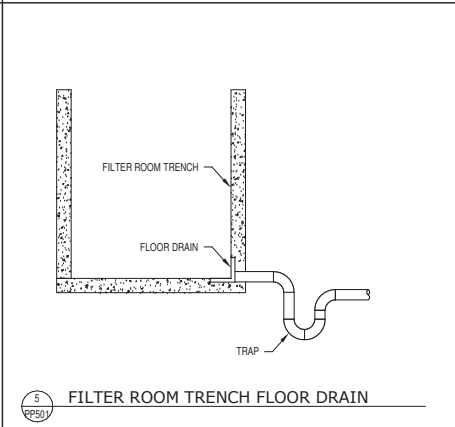
2 PRESSURE REDUCING STATION  
PP501



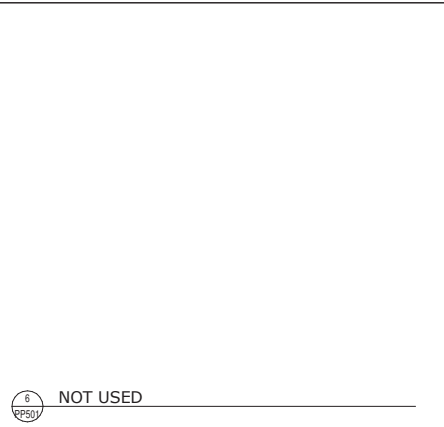
3 CHEMICAL FLOOR DRAIN  
PP501



4 INSTANTANEOUS ELECTRIC WATER HEATER  
PP501



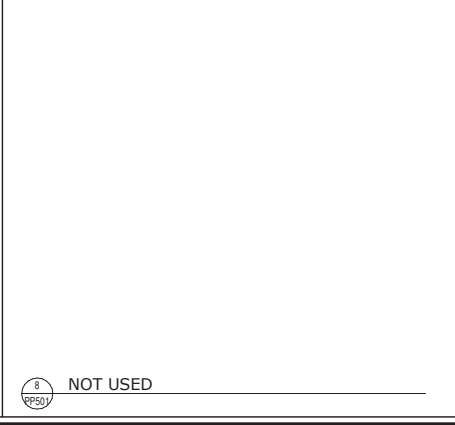
5 FILTER ROOM TRENCH FLOOR DRAIN  
PP501



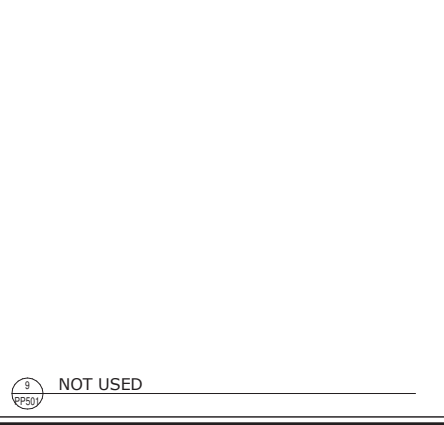
6 NOT USED  
PP501



7 NOT USED  
PP501



8 NOT USED  
PP501



9 NOT USED  
PP501

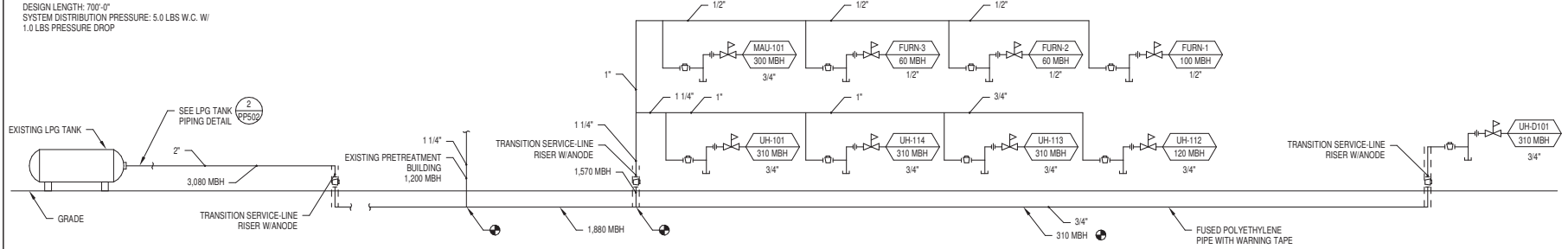


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OGDEN CITY <b>WATER TREATMENT PLANT RECONSTRUCTION</b> <b>PLUMBING DETAILS</b>		
DESIGNED 04655 SMD	CHECKED STAFF	SHEET NO. 194 of 241
PROJECT NO. PP501		DRAWING NO. PP501

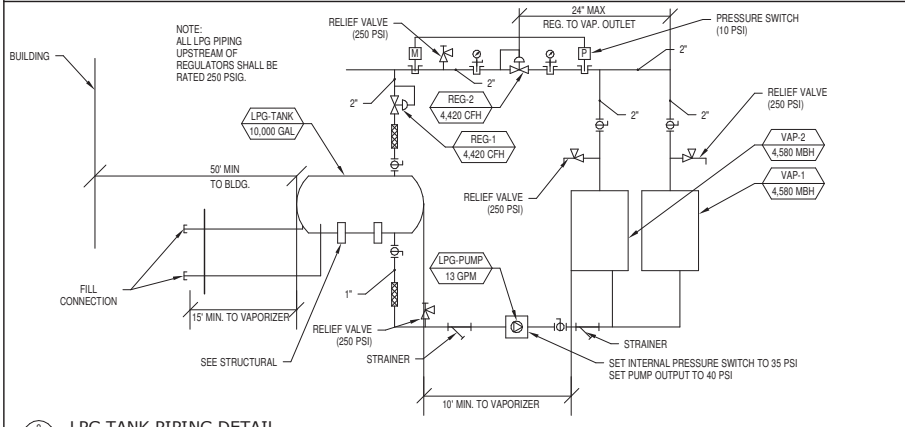
1 2 3 4 5

**DESIGN CRITERIA**

DESIGN LENGTH: 700'-0"  
 SYSTEM DISTRIBUTION PRESSURE: 5.0 LBS W.C. W/  
 1.0 LBS PRESSURE DROP



**1 LIQUID PETROLEUM GAS (LPG) PIPING DIAGRAM**



**2 LPG TANK PIPING DETAIL**

**3 NOT USED**

**4 NOT USED**

1 2 3 4 5

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OGDEN CITY  
 WATER TREATMENT PLANT RECONSTR.  
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PP502

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## INSTANTANEOUS ELECTRIC WATER HEATER (IEWH)



MARK	AREA SERVED	INPUT KW	FLOW GPM	TEMP RISE °F	OPER TEMP °F	DIMENSIONS					ELECT.		MANUFACTURER MODEL	REMARKS
						W IN	D IN	H IN	WT LBS	VOLT/ PHASE	AMPS			
IEWH-103	LAB 103	20	2.5	55	120	15	4	12	15	480/3ø	24	EEMAX ED020480T2T		
IEWH-104	MEN 104	4.1	0.5	56	120	11	3	6	3	277/1ø	14.8	EEMAX SP4277		
IEWH-105	SHOWER 105	20	2.5	55	120	15	4	12	15	480/3ø	24	EEMAX ED020480T2T		
IEWH-107	JANITOR 107	4.1	0.5	56	120	11	3	6	3	277/1ø	14.8	EEMAX SP4277		
IEWH-108	WOMEN 108	4.1	0.5	56	120	11	3	6	3	277/1ø	14.8	EEMAX SP4277		
IEWH-109	BREAK ROOM 109	20	2.5	55	120	15	4	12	15	480/3ø	24	EEMAX ED020480T2T		
IEWH-112	CHEMICAL EFM/CIP 112	126	26	33	95	33	6	33	70	480/3ø	152	EEMAX ED126480T12EFD		
IEWH-202	BREAK ROOM 202	4.1	0.5	56	120	11	3	6	3	277/1ø	14.8	EEMAX SP4277		

### GAS PIPE SUPPORT

STEEL PIPE, NOMINAL SIZE OF PIPE (INCHES)	MAXIMUM SPACING OF SUPPORTS (FEET)
1/2	6
3/4 OR 1	8
1 1/4 OR LARGER (HORIZONTAL)	10
1 1/4 OR LARGER (VERTICAL)	10
COPPER PIPE, NOMINAL SIZE OF PIPE (INCHES)	SPACING OF SUPPORTS (FEET)
1/2	4
5/8 OR 3/4	6
7/8 OR 1 (HORIZONTAL)	8
1 OR LARGER (VERTICAL)	EVERY FLOOR LEVEL

REFERENCE 2012 IFGC TABLE 415.1

## PLUMBING FIXTURE SCHEDULE



MARK	FIXTURE	ROUGH IN SIZE						MANUFACTURER MODEL	REMARKS
		WASTE IN	TRAP IN	VENT IN	HW IN	CW IN			
WC-1	ADA COMPLIANT, WATER CLOSET	3	2	2	N/A	1	AMERICAN STANDARD CADET 3 RIGHT HEIGHT	WHITE VITREOUS CHINA, TANK TYPE, FLOOR MOUNTED, 1.28 GPF, 3" FLUSH VALVE, 17" FLOOR TO RIM, ELONGATED BOWL, W/OLSENITE #95 OPEN FRONT SEAT LESS COVER, CHROMED QUARTER TURNED ANGLE STOPS AND CHROMED BRASS SUPPLY.	
U-1	ADA COMPLIANT, URINAL, WALL MOUNTED	1 1/2	2	1 1/2	N/A	3/4	AMERICAN STANDARD "WASHBROOK" W/ ZURN Z6933 FLUSH VALVE	VITREOUS CHINA, 1.0 GPF 19" W X 27" H X 14" D, WASHOUT FLUSH ACTION, LOW CONSUMPTION URINAL WITH 3/4" MANUAL FLUSH VALVE AND WALL CARRIER. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING ELEVATION.	
LAV-1	ADA COMPLIANT, LAVATORY, W/ SINGLE CONTROL FAUCET	2	1 1/4	2	1/2	1/2	AMERICAN STANDARD "LUCERNE" LAVATORY W/ "SEVA" FAUCET	VITREOUS CHINA, 18"X21", WALL MOUNTED LAVATORY W/ FLOOR MOUNTED CONCEALED ARM CARRIER, FAUCET HOLES ON 4" CENTERS, GRID STRAINER, CHROMED 1/4 TURN ANGLE STOPS, CHROMED BRASS SUPPLIES, AND CHROMED BRASS "P" TRAP. WITH ADA COMPLIANT INSULATION KIT. WWW.ASSE-1070 COMPLIANT WATER TEMPERATURE LIMITING DEVICE, SET TO 110°F.	
SH-1	ADA COMPLIANT SHOWER VALVE W/ HAND SPRAY, SLIDE BAR, AND SHOWER DRAIN	2	2	2	1/2	1/2	TERRAZZO-WARE ADA SERIES BASE MODEL SBADA-36-3F, SHOWER SURROUND KIT 36"X36"X32" INCLUDES 3 WALL PANELS, 1 SOAP SHELF, 1 SHAMPOO SHELF, SHOWER ROD AND CURTAIN, PRESSURE BALANCED SHOWER VALVE W/ INTEGRAL SERVICE STOPS, WALL HAND SHOWER, 5-0" FLEXIBLE METAL HOSE, IN-LINE VACUUM BREAKER, WALL CONNECTION AND FLANGE, AND 30" SLIDE BAR. SHOWER DRAIN W/ CAST IRON BODY, CLAMPING COLLAR, ADJUSTABLE NICKEL BRONZE STRAINER ASSEMBLY AND FIXTURE THERMOSTATIC MIXING VALVE.	TERRAZZO-WARE ADA SERIES BASE MODEL SBADA-36-3F, SHOWER SURROUND KIT 36"X36"X32" INCLUDES 3 WALL PANELS, 1 SOAP SHELF, 1 SHAMPOO SHELF, SHOWER ROD AND CURTAIN, PRESSURE BALANCED SHOWER VALVE W/ INTEGRAL SERVICE STOPS, WALL HAND SHOWER, 5-0" FLEXIBLE METAL HOSE, IN-LINE VACUUM BREAKER, WALL CONNECTION AND FLANGE, AND 30" SLIDE BAR. SHOWER DRAIN W/ CAST IRON BODY, CLAMPING COLLAR, ADJUSTABLE NICKEL BRONZE STRAINER ASSEMBLY AND FIXTURE THERMOSTATIC MIXING VALVE.	
SINK-1	SINK, SINGLE COMPARTMENT, COUNTER MOUNTED, W/ GOOSENECK FAUCET AND DISPOSAL	2	1 1/2	2	1/2	1/2	ELKAY DLR252110 SINK W/ LK2442 FAUCET AND IN-SINK-ERATOR DISPOSAL	STAINLESS STEEL, COUNTERTOP SINK, INSIDE BOWL 21"X15"X10" W/ 18" GOOSENECK FAUCET, CHROMED QUARTER TURNED ANGLE STOPS, CHROMED BRASS SUPPLIES, AND CHROMED BRASS "P" TRAP, AND IN-SINKERATOR MODEL "EVOLUTION EXCEL" W/ 1 HP, 120 VOLT, SINGLE PHASE DISPOSAL MOTOR, AND 36" POWER CHORD W/ 3 PRONG PLUG. PROVIDE DISHWASHER CONNECTION AND HW 1/4 TURN BALL VALVE STOP.	
EW-1	ADA COMPLIANT, ELECTRIC WATER COOLER, TWO STATION	2	1 1/2	2	N/A	1/2	ELKAY EZ2SL8C	W/ FRONT AND SIDE CONTROLS, 9.6 GPH 50°F DRINKING WATER, 120V/1.1/3.7A, CHROMED ANGLE STOP, CHROMED BRASS "P" TRAP, AND CHROMED BRASS SUPPLY.	
EEW-1	EMERGENCY EYEWASH 1ø ABS	2	1 1/4	2	X	1/2	HAWS 7260BT	WALL MOUNTED, ABS PLASTIC RECEPTOR, TWIN SOFT-FLO ABS PLASTIC ANTI-SURGE EYEWASH HEADS, AND CHROMED BRASS "P" TRAP.	
ESEW-1	EMERGENCY SHOWER AND EYEWASH	2	1 1/4	2	1 1/4	N/A	BRADLEY S19-3108FSS W/ S19-3208BYP120	STAINLESS STEEL COMBINATION SHOWER AND EYE/FACE WASH W/ TWIN SOFT-FLO EYEWASH HEADS, COLD WATER ONLY, AND "FACTORY" 120V ALARM SYSTEM CLASS I, DIVISION II CONSTRUCTION.	
ICE-1	ICE WALL BOX	N/A	N/A	N/A	N/A	1/4	SIOUX CHIEF 696-10XXXX	8X8 PLASTIC OUTLET BOX W/ QUARTER TURN ANGLE STOP.	
SS-1	SERVICE SINK, ENAMELED CAST IRON	3	3	2	1/2	1/2	AMERICAN STANDARD FLOWWELL W/ FAUCET 8344.112	28"X28"X13" DEEP ENAMELED CAST IRON SERVICE SINK W/ FLAT GRID DRAIN, REMOVABLE VINYL-COATED RIM GUARD, HOSE AND HOSE BRACKET, POLISHED CHROME FAUCET W/ TOP BRACE, STOPS AND VACUUM BREAKER.	
HB-1	HOSE BIBB	N/A	N/A	N/A	N/A	3/4	ZURN Z1341-BFP-LK-PC	BRASS CONSTRUCTION, POLISHED CHROME PLATED FINISH, ANTI-SIPHON, EXTERNAL BACKFLOW PREVENTER, 3/4" HOSE THREAD, WALL FLANGE, LOOSE KEY OPERATOR.	
WH-1	NON-FREEZE WALL HYDRANT	N/A	N/A	N/A	N/A	3/4	ZURN Z1321-C-PB	EXPOSED ANTI-SIPHON NON-FREEZE WALL HYDRANT W/ INTEGRAL BACK FLOW PREVENTER LOOSE KEY OPERATOR, 3/4" MALE HOSE CONNECTION AND POLISHED NICKEL BRONZE FINISH.	
FD-1	FLOOR DRAIN	X	X	X2 2" MIN	N/A	N/A	ZURN FD-231-"HP"X "X" INDICATED ON DRAWINGS	CAST IRON BODY, ADJUSTABLE NICKEL BRONZE STRAINER ASSEMBLY, MEMBRANE CLAMP, WEEP HOLES, AND TRAP PRIMER CONNECTION.	
FD-2	FLOOR DRAIN	X	N/A	N/A	N/A	N/A	ZURN Z167-ZN-90-X "X" INDICATED ON DRAWINGS	SCUPPER DRAIN, DURA-COATED CAST IRON BODY WITH 90° OUTLET AND FLUSH TYPE STRAINER WITH COMBINATION FRAME.	
FD-3	FLOOR DRAIN	X	N/A	X2 2" MIN	N/A	N/A	ZURN FD-2380-X "X" INDICATED ON DRAWINGS	PVC BODY, 6"X6", PVC GRATE.	
FS-1	FLOOR SINK	X	X	X2 2" MIN	N/A	N/A	ZURN FD-2375-"Y"X "X" INDICATED ON DRAWINGS	CAST IRON, 8"X8"X6" DEEP, 1/2 GRATE, WHITE ACID RESISTING INTERIOR, PVC DOME STRAINER, AND SEDIMENT BUCKET.	
TD-1	TRENCH DRAIN	4	4	2	N/A	N/A	ZURN Z886	HIGH DENSITY POLYETHYLENE, SLOPED, TRENCH DRAIN SYSTEM. W/ CLASS E SLOTTED DUCTILE IRON GRATE, END OUTLET, AND CAP.	
RD-1	ROOF DRAIN	X	N/A	N/A	N/A	N/A	ZURN RD2131-AL"X" "X" INDICATED ON DRAWINGS	CAST IRON ROOF DRAIN W/ ALUMINUM DOME STRAINER AND INTEGRAL GRAVEL GUARD.	
OD-1	ROOF OVERFLOW DRAIN	X	N/A	N/A	N/A	N/A	ZURN RD103-AL "X" INDICATED ON DRAWINGS	CAST IRON OVERFLOW ROOF DRAIN W/ ALUMINUM DOME STRAINER AND INTEGRAL GRAVEL GUARD.	
DSN	DOWNSPOUT NOZZLE	X	N/A	N/A	N/A	N/A	ZURN ZARF-199"X" "X" INDICATED ON DRAWINGS	DOWNSPOUT NOZZLE, ALL ROUGH BRONZE BODY, THREADED INLET, DECORATIVE FACE, NICKEL BRONZE FINISH AND BIRDSCREEN.	



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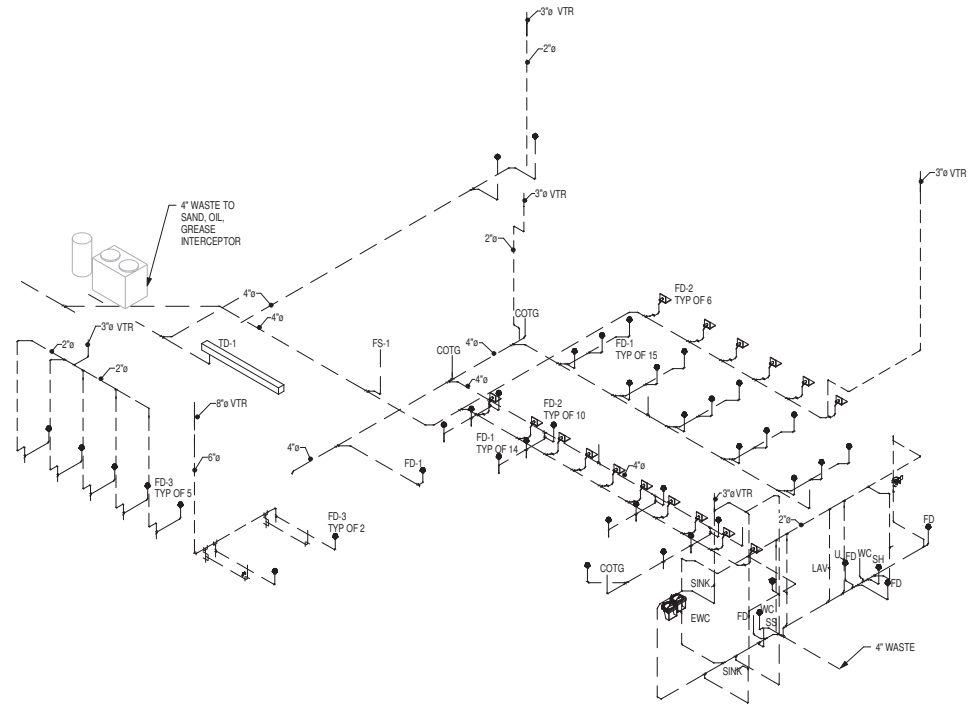
WATER TREATMENT PLANT RECONSTR.

PLUMBING SCHEDULES

SH. NO.	ISSUED	DATE	CHECKED	SHEET NO.
04655	SMD	STAFF	SMD	196 OF 241

**PP601**

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