	PUMP SCHEDULE												
					CIRCU	JLATING FLUID			ELE	CTRICAL N	NOTOR		
MARK	SYSTEM AND/OR SERVICE	TYPE	BASIS OF DESIGN	FLOW	HEAD	TEMPERATURE	SP GR	NOMINAL POWER	PHASE	VOLT	MAX	SPEED CONTROL	REMARKS
				GPM	FT	°F		HP			RPM	CONTROL	
CP-1	RECLAIM HOT WATER	CLOSE COUPLED	BELL & GOSSETT PL-36	5	35	150	1	0.167	1	120	3300	CONSTANT	1
CP-2	RECLAIM HOT WATER BOILER CIRCULATOR	CLOSE COUPLED	BELL & GOSSETT PL-36	5	35	150	1	0.167	1	120	3300	CONSTANT	2

NOTES: 1. PROVIDE WITH AQUA-STAT AND SET TO 145 DEGREES. REFER TO THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION. 2. CIRCULATOR IS TO RUN ONLY WHEN THE BOILER IS ENABLED. REFER TO THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION.

	STORAGE TANK SCHEDULE											
			SYSTEM TEMPE	RATURE RANGE	MAX	MIN	INLET	OUTLET				
MARK	MARK TYPE	BASIS OF DESIGN	MIN	MAX	OPERATING PRESSURE	VOLUME	PIPE SIZES	PIPE SIZES	REMARKS			
			°F	°F	PSIG	GAL	IN	IN				
ST-1	FACTORY JACKETED AND INSULATED	AO SMITH TJV-750A	60	150	80	750	3	3	1			
	1			4	8	1		8				

NOTES: 1. TANK IS TO BE OPEN TO ATMOSPHERE AND NOT PRESSURIZED. PROVIDE WITH SPRAY-ON RIGID INSULATION TOP COAT. A MINIMUM OF 3 PIPING CONNECTIONS SHALL BE AVAILABLE ON THE TANK WITH A BULBWELL

	PACKAGED BOOSTER PUMP SCHEDULE														
	OVOTEM				CIRCULA	TING FLUID			PRESSURE	ELECTRICAL MOTOR					
MARK	SYSTEM AND/OR SERVICE	PUMP TYPE	NO	FLOW EA. PUMP	PUMP HEAD	TEMPERATURE	EMPERATURE SP GR % E		TRANSMITTER SETPOINT	NOMINAL POWER, EA.	PHASE	VOLT	MAX	SPEED	REMARKS
	OERVIOE		PUMPS	GPM	FT	°F			PSIG	HP			RPM	CONTROL	
BP-1	BP-1RECLAIM HOT WATERINLINE CENTRIFUGAL28027515017							70	110	15	3	460	3500	VARIABLE	1 & 2

NOTES:

1. PUMP PACKAGE IS TO INCLUDE INTEGRAL SKID, HEADER, VARIABLE SPEED DRIVES W/ NEMA 4X ENCLOSURE. REFER TO SPECIFICATION SECTION 11215 AS WELL AS THE ELECTRICAL AND THE INSTRUMENTATION & PROCESS PLANS/SPECIFICATIONS FOR MORE INFORMATION. 2. MOTORS SHALL BE PROVIDED WITH SHAFT GROUNDING RINGS.

	HOT WATER BOILER SCHEDULE															
	OVOTEM				FLUID		BOILER				GAS SUPPLY		RELIEF	ELECTRICAL		
MARK	ARK AND/OR TYPE		E BASIS OF DESIGN	FLOW	EWT	LWT	POWER	OUTPUT GENERATED	MAX HEAT INPUT	% EFF	PRESSURE	FUEL	VALVE SETTING	PHASE	VOLT	REMARKS
	OLIVIOL			GPM	°F	°F	HP	MBH	MBH		IN WG		PSIG			
B-1	RECLAIM HOT WATER	FIRE TUBE	COLUMBIA MPH-50	36.5	70	150	50	1722	2100	82%	6	LFG	45	1	120	1

NOTES:

1. BOILER IS TO HAVE INTEGRAL CONTROLS. REFER TO THE ELECTRICAL AND THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION.

### **BLOWER SCHEDULE**

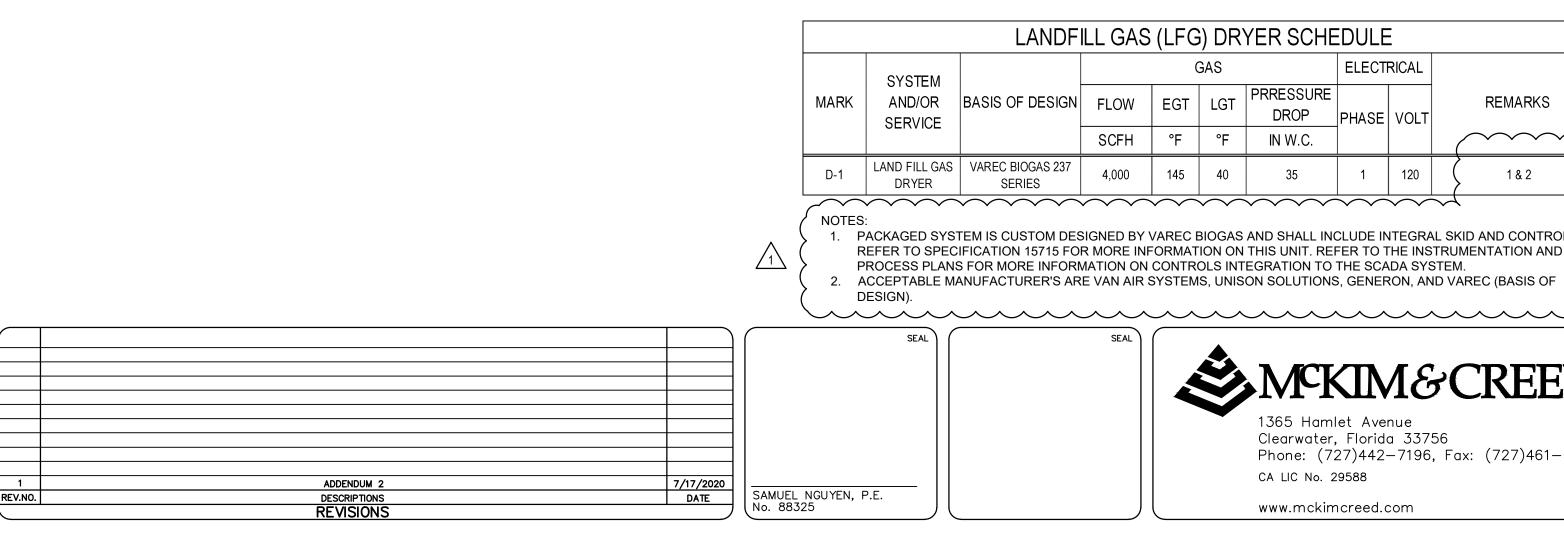
	DLOWLINGOTILDULL												
	SYSTEM				ENT.	INLET	OUTLET		ELECTR	RICAL			
MARK	AND/OR SERVICE	TYPE	BASIS OF DESIGN	FLOW	TEMP	PRESSURE	PRESSURE	POWER	PHASE	VOLT	MAX	REMARKS	
				SCFM	°F	IN. W.G.	IN. W.G.	HP			RPM	$\frown$	
BL-1	LAND FILL GAS (LFG)	TRI-LOBE BLOWER	TUTHILL 3206 PD PLUS	80	120	5	50	3	3	460	1,800	1, 2 & 3	
	$\sim$	$\sim$	$\sim$	$\sim$	$\sim$	$\sim$		$\sim$		$\sim$	$\sim$		

NOTES: 1. BLOWER PACKAGE IS TO INCLUDE INTEGRAL SKID, INTAKE AND EXHAUST SILENCERS, INTAKE FILTER, VARIABLE SPEED CONTROLLER & DRIVE. ENTIRE PACKAGE SHALL BE RATED FOR EXTERIOR USE. REFER TO THE ELECTRICAL AND THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION. 2. MOTOR AND ELECTRICAL COMPONENTS SHALL BE EXPLOSION PROOF. 3. ACCEPTABLE MANUFACTURER'S ARE GARDNER DENVER, UNISON SOLUTIONS, INGERSOLL RAND, AND TUTHILL (BASIS OF DESIGN)

AIR COOLEE	CHILLER	SCHEDULE

	SYSTEM					EVAPORATOR		OR	CONDENSER		ELECTRICAL								
MARK	AND/OR	BASIS OF DESIGN	CAPACITY	REFRIGERANT	MAX IPLV (kW/TON)	FLOW	EWT	LWT	AMBIENT OA TEMP	MCA	MOP		MPRESS	OR MOTO	DR	COND	ENSER F	AN	REMARKS
	SERVICE		BTU/HR	-	, , , , , , , , , , , , , , , , , , ,	GPM	°F	°F	°F			COMP	HP	PHASE	VOLT	# FANS	PHASE	VOLT	
CH-1	LAND FILL GAS DRYER	JOHNSON THERMAL SYSTEMS XPV5-SIA	57,920	R-410A	1.445	12	55	45	95	19	30	1	5	3	460	1	3	460	1

NOTES: 1. CHILLER IS A PART OF THE VAREC BIOGAS LANDFILL GAS (LFG) DRYER PACKAGE.

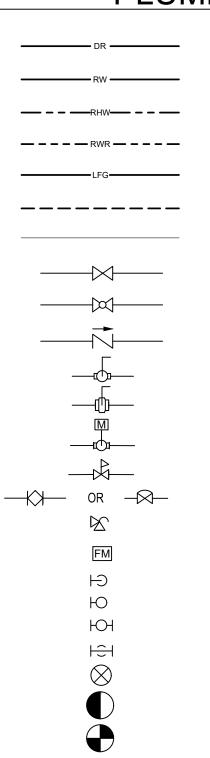


### LANDFILL GAS (LFG) DRYER SCHEDULE

		(	GAS		ELECTRICAL									
ESIGN	FLOW	EGT	LGT	PRRESSURE DROP	PHASE	VOLT		REMARKS						
	SCFH	°F	°F	IN W.C.				$\frown$						
AS 237 S	4,000	145	40	35	1	120	(							
$\overline{}$	$\sim$	$\overline{}$	$\overline{}$	$\overline{\mathbf{n}}$	$\overline{}$	$\overline{}$	$\sim$							

1. PACKAGED SYSTEM IS CUSTOM DESIGNED BY VAREC BIOGAS AND SHALL INCLUDE INTEGRAL SKID AND CONTROLS. REFER TO SPECIFICATION 15715 FOR MORE INFORMATION ON THIS UNIT. REFER TO THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION ON CONTROLS INTEGRATION TO THE SCADA SYSTEM. 2. ACCEPTABLE MANUFACTURER'S ARE VAN AIR SYSTEMS, UNISON SOLUTIONS, GENERON, AND VAREC (BASIS O

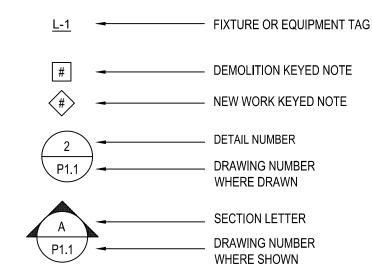




## PLUMBING LEGEND

- DRAINAGE (SANITARY, BELOW GRADE) RECLAIM WATER (COLD) RECLAIM HOT WATER RECLAIM HOT WATER RETURN LANDFILL GAS PIPING TO BE DEMOLISHED EXISTING PIPING TO REMAIN GATE VALVE GLOBE VALVE CHECK VALVE BALL VALVE BUTTERFLY VALVE MOTORIZED CONTROL VALVE PRESSURE REDUCING VALVE BALANCING VALVE PRESSURE RELIEF VALVE FLOW METER PIPING DOWN PIPING UP TEE UP
- TEE DOWN
- GAS REGULATOR
- LIMITS OF DEMOLITION
- POINT OF CONNECTION TO EXISTING

# DRAWING SYMBOLS



ITEM #	MANUFACTURER	MODEL	DESCRIPTION	WASTE	VENT	CW	HW	SPECIFICATION
FD-1	WATTS	FD-100-B	HEAVY DUTY FLOOR DRAIN	SEE PLANS	-	-	-	6" DIA. HEAVY DUTY FLOOR DRAIN WITH NICKEL BRONZE GRATE AND NO HUB CONNECTION. MATERIAL SHALL BE COATED CAST IRON.
FD-2	WATTS	FD-200-WB	FLOOR DRAIN W/ DOMED STANDPIPE	SEE PLANS	-	-	-	DUTY FLOOR DRAIN WITH NO HUB CONNECTION, CHROME PLATED SECURED DOME AND ADJUSTABLE STANDPIPE. MATERIAL SHALL BE COATED CAST IRON.
WHS	T&S BRASS	MV-1907-12CW	SINGLE TEMPERATURE WASH DOWN STATION	-	-	-	3/4"	SINGLE CHROME PLATED WASHDOWN STATION W/ 3/4" GLOBE VALVE, 50' RUBBER HOSE W/ REAR TRIGGER WATER GUN, INTEGRAL THERMOMETER AND SS HOSE RACK.



## PLUMBING GENERAL NOTES

- THE ENTIRE PLUMBING SYSTEM SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES.
- UPON COMPLETION OF ASSEMBLY, PIPING SYSTEMS (INCLUDING HOSES) SHALL BE TESTED AND PROVEN LEAK FREE. 2.
- ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.
- THESE PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSET, TEES, ELBOWS, ETC FOR 4. A COMPLETE WORKING PLUMBING SYSTEM.
- PROVIDE ISOLATION VALVES FOR EACH FIXTURE OR PIECE OF EQUIPMENT. 5.
- ALL PIPING SYSTEMS SHALL BE SUPPORTED AS REQUIRED BY ALL LOCAL, STATE, AND NATIONAL CODES ALONG WITH 6. MANUFACTURER'S RECOMMENDATIONS. PROVIDE PIPE HANGERS OF THE SAME MATERIAL AS THE PIPING SYSTEM OR USE COATED HANGERS.
- THE PLUMBING CONTRACTOR SHALL COORDINATE ALL UNDERGROUND PLUMBING PIPING WITH ALL STRUCTURAL 7. FOUNDATIONS.
- THE PLUMBING CONTRACTOR SHALL VERIFY ALL PLUMBING EQUIPMENT PART NUMBERS PRIOR TO PURCHASING 8. EQUIPMENT. THE ENGINEER IS NOT RESPONSIBLE FOR INVALID PART NUMBERS.
- 9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED FOR HIS WORK. ALL MATERIALS, EQUIPMENT AND PRODUCTS INCORPORATED IN THE WORK UNDER THE CONTRACT SHALL BE NEW, OF 10.
- A SUITABLE GRADE FOR THE PURPOSES INTENDED. AND TO THE EXTENT POSSIBLE. STANDARD PRODUCTS OF THE VARIOUS MANUFACTURES EXCEPT WHERE SPECIAL CONSTRUCTION OR PERFORMANCE FEATURES ARE CALLED FOR.
- ANY EQUIPMENT OR MATERIAL DEVIATIONS FROM THAT SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE 11. SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER, ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.

PLUMBING ABBREVIATIONS										
A/E	ARCHITECT / ENGINEER	LWT	LEAVING WATER TEMPERATURE							
AFF	ABOVE FINISH FLOOR	М	METER							
AFG	ABOVE FINISH GRADE	NC	NORMALLY CLOSED							
AG	AIR GAP	NIC	NOT IN CONTRACT							
AP	ACCESS PANEL	NOM.	NOMINAL							
ASME	AMERICAN SOCIETY	NTS	NOT TO SCALE							
		OC	ON CENTER							
ASPE	AMERICAN SOCIETY PLUMBING ENGINEERS	OD	OUTSIDE DIAMETER							
В	BOILER	PDI	PLUMBING AND DRAINAGE							
СР	CIRCULATING PUMP	PRV	PRESSURE REDUCING VALVE							
DN	DOWN	PSIG	POUNDS PER SQUARE INCH							
DWG	DRAWING	1 310	GAUGE							
EGT	ENTERING GAS TEMPERATURE	RHW	RECLAIM HOT WATER							
EL	ELEVATION	RW	RECLAIM WATER							
ET	EXPANSION TANK	RWR	RECLAIM WATER RETURN							
EWS	EYE WASH STATION	SAN	SANITARY SEWER							
EWT	ENTERING WATER TEMPERATURE	SCFH	STANDARD CUBIC FEET PER HOUR							
EX	EXISTING	SCFM	STANDARD CUBIC FEET PER							
F	FAHRENHEIT	SCHW	MINUTE							
FD	FLOOR DRAIN	SP GR	SPECIFIC GRAVITY							
GAL	GALLON	SQFT	SQUARE FEET							
GPH	GALLONS PER HOUR	SS	STAINLESS STEEL							
GPM	GALLONS PER MINUTE	ST	STORAGE TANK							
HD	HUB DRAIN	TD	TEMPERATURE DIFFERENCE							
HP	HORSEPOWER	TEMP	TEMPERATURE							
IPC	INTERNATIONAL PLUMBING CODE	TYP.	TYPICAL							
LFG	LAND FILL GAS	VTR	VENT THROUGH ROOF							
LFG	LAND FILL GAS	W.G.	WATER GAUGE							
LGI	LEAVING GAS TEMPERATURE	WHS	WASH HOSE STATION							

### PLUMBING FIXTURE CONNECTION/SPECIFICATION SCHEDULE

SEWRF GREASE FACILITY MODIFICATIONS

ATE:	APRIL, 2020	SCALE	DRAWING NUMBER
CE PROJ. #	1024-0173		
RAWN	JMB	HORIZONTAL:	
ESIGNED	JMB/DNM	NA	
HECKED	SN	VERTICAL:	P-01
ROJ. MGR.	MDN	NA	
	)		
TATUS:			REVISION
	ISSUED	FOR BID	

PLUMBING NOTES, LEGEND, AND SCHEDULES