# CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

# SWWRF DIGESTER MODIFICATIONS



# MANATEE COUNTY UTILITIES MANATEE COUNTY, FL

VOLUME 2 OF 2 DRAWINGS

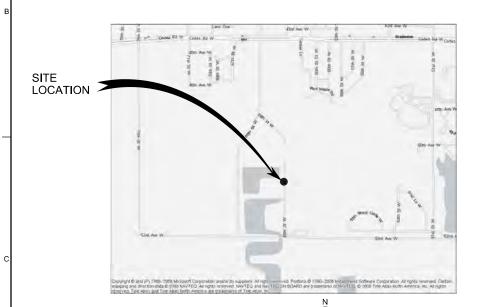
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CH2NHILL

Project No. 457133

**JUNE 2013** 



#### THE DRAWING NUMBERS FOR THIS PROJECT SHALL FOLLOW THE FOLLOWING GUIDELINE: FACILITY NUMBERS XXX - N - # # # # GENERAL DEMOLITION FACILITY NUMBER (3 DIGITS) 007 ELECTRICAL (NON FACILITY SPECIFIC) DISCIPLINE DESIGNATOR INSTRUMENTATION AND CONTROLS 008 VARIABLE (2 DIGIT) SEQUENTIAL NUMBERING (2 DIGITS) 200 GENERATOR ROOM 315 SPLITTER BOX FACILITY NUMBERS SEQUENTIAL NUMBERS DESIGNATOR DISCIPLINE VARIABLES 510 AERATION BASINS GENERAL CIVIL YARD PIPING 000 - GENERAL MOTOR CONTROL BUILDING (SEE LIST ON THIS SHEET FOR OTHER FACILITY STRUCTURAL 825 SLUDGE HOLDING TANKS ARCHITECTURAL PROCESS MECHANICAL 827 **BLOWER BUILDING** HVAC PLUMBING DEWATERING BUILDING ELECTRICAL INSTRUMENTATION AND CONTROL EXISTING SW GENERATOR BUILDING 950 STANDARD DETAILS (PACKAGE SPECIFIC)

**LOCATION MAP** 

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NOTE

ITEMS SCREENED BACK ON THIS LIST ARE NOT INCLUDED IN THIS PACKAGE.

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001-G-0105	STRUCTURAL NOTES
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004 0 4504	DDOOFFOO FLOW DIA OBAMA AND MASS BALANCE

COVER SHEET

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004-D-1005	ANAEROBIC DIGESTER FACILITIES OVERALL PLAN
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004-D-1010	DIGESTER DEMOLITION PHOTOS
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004-Y-1002	YARD PIPING ENLARGED DEMOLITION PLAN
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005-Y-2002	YARD PIPING ENLARGED PLAN 1" = 10'
005-Y-2003	YARD PIPING ENLARGED PLAN 1" = 10'
005-Y-2004	YARD PIPING ENLARGED PLAN 1" = 10'
005-Y-2005	YARD PIPING ENLARGED PLAN 1" = 10'
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005-E-2002	ELECTRICAL YARD ELECTRICAL PLAN SHEET 2
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00E E 6000	ELECTRICAL VARD ELECTRICAL DUCT BANK SCH

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E40 E 2004	CECTION AND DICED DIACDAM

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020-L-0001	OLO 1 ION

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825-D-3002	PLAN AND SECTIONS
825-D-3003	PLAN AND SECTIONS
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023-L-2001	I LAN

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000-L-2001	1

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860-E-2001	PLAN
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950-D-5001	SLUDGE HOLDING TANKS —STANDARD DETAILS
950-M-5001	STANDARD DETAILS
950-E-5001	DETAILS
950-E-5002	DETAILS
950-E-5003	DETAILS
950-N-5001	STANDARD DETAILS
950-N-5002	STANDARD DETAILS
950-N-5003	STANDARD DETAILS

| PE 68302 | PE 68302

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

JUNE 2013

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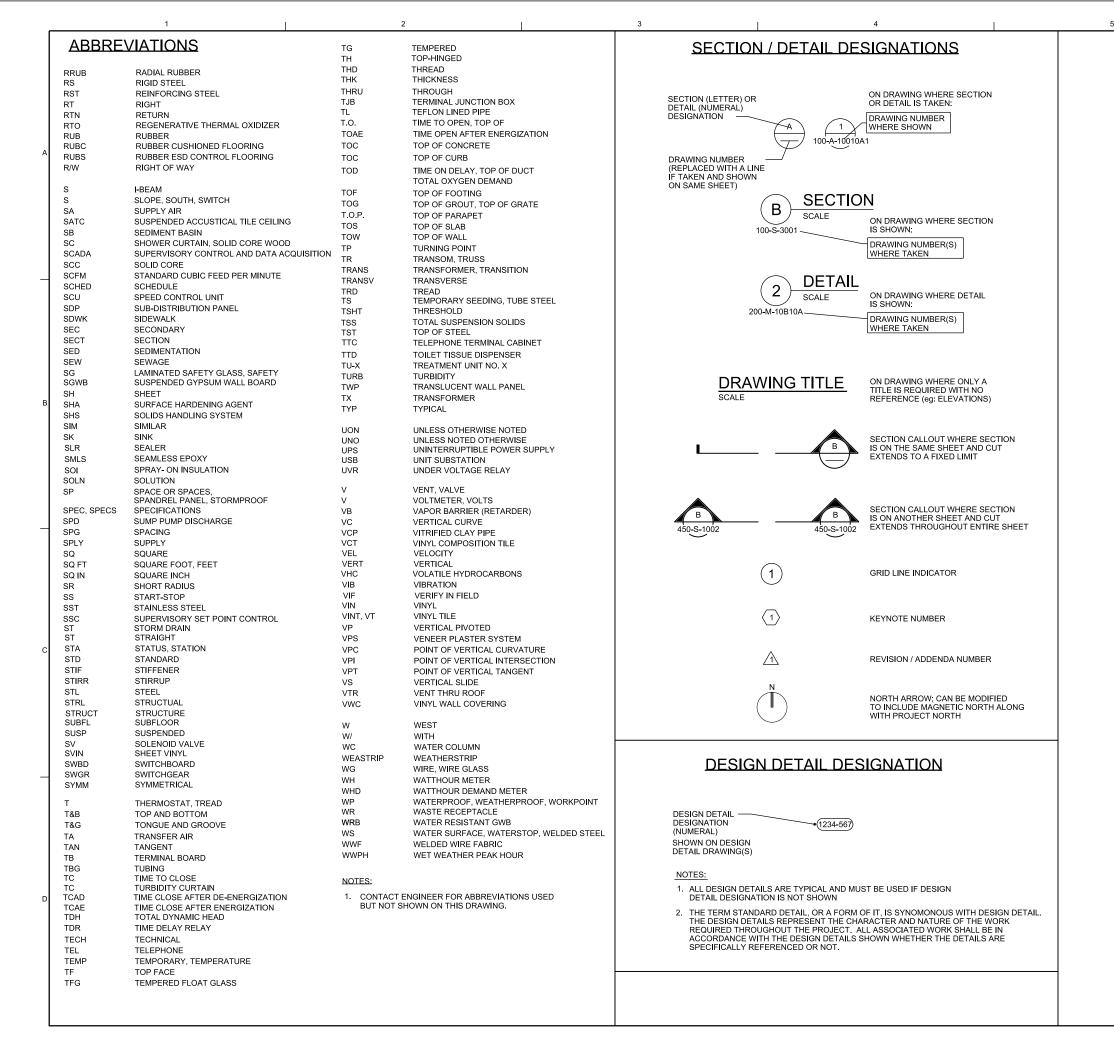
CH2MHILL

_		ı		2		3		4		5			
	۸р	BREVIATIONS	CLSF	CONTROLLED LOW STRENGTH FILL	EQL	EQUAL	HGT	HEIGHT	MDO	MEDIUM DENSITY OVERLAY	PEP	POLYETHYLENE PIPE	
	AD	DKEVIATIONS	CLG	CEILING	EQL SP	EQUALLY SPACED	HH	HANDHOLE	MECH	MECHANICAL	PEN.	PENETRATION	
			CLR	CLEAR, CLEARANCE			HID	HIGH INTENSITY DISCHARGE	MFD	MANUFACTURED	PFC	POUNDS PER CUBIC FOOT	
	<u>A</u>	AMMETER, AMPERES, AWNINGS	CLSM	CONTROLLED LOW STRENGTH MATERIAL	EQPT	EQUIPMENT	HK	HOOK	MFR	MANUFACTURER		PENTHOUSE	
	AB	ANCHOR BOLT, ABOVE	CMP	CENTRAL MONITORING PANEL	ESC	EROSION AND SEDIMENT CONTROL	HM	HOLLOW METAL	MGD	MILLION GALLONS PER DAY	PH pH	HYDROGEN ION CONCENTRATION	
	ABDN	ABANDON	CMP	CORRUGATED METAL PIPE	ETM	ELAPSED TIME METER	HOA	HAND-OFF-AUTO	MH	MANHOLE, MOUNTING HEIGHT	рп PH	PHASE	
	AC	ACOUSTICAL, ACOUSTICAL CEILING	CMU	CONCRETE MASONRY UNIT	EVC	END OF VERTICAL CURVE	HOR	HAND-OFF-REMOTE		,			
	AC	ALTERNATING CURRENT	CNTR	COUNTER	EW	EACH WAY			MIN	MINIMUM	PI PIT	POINT OF INTERSECTION	
	AC	ASPHALTIC CONCRETE	CO	CLEANOUT, CARBON MONOXIDE	EWC	ELECTRIC WATER COOLER	HORIZ	HORIZONTAL	MISC	MISCELLANEOUS		PILOT TUBE TEST STATION	
	ACFL	ACCESS FLOORING	COL	COLUMN, COLOR	EXH	EXHAUST	HP	HORSEPOWER	MJ	MECHANICAL JOINT	PJF	PREMOULDED JOINT FILLER	
	ACI	AMERICAN CONCRETE INSTITUTE	CONC	CONCRETE	EXP	EXPANSION, EXPOSED	HPT	HIGH POINT	MLO	MAIN LUGS ONLY	PL	PLATE (STEEL)	
А	ACMU	ACOUSTICAL CONCRETE MASONRY			EXP AB	EXPANSION ANCHOR BOLT	HPU	HYDRAULIC POWER UNIT	MMDW	DRY WEATHER MAXIMUM MONTH	PL	PROPERTY LINE	
Ĥ	,	UNIT. ACOUSTICAL CMU	COND	CONDENSATE	EXP JT	EXPANSION JOINT	HR	HOSE RACK, HANDRAIL	MMP	MECHANICAL MOUNTING PANEL	PLAM	PLASTIC LAMINATE	
	ACP	ACOUSTICAL PANELS	CONDTN	CONDITIONED	EXST, EXIST	EXISTING	HV	HOSE VALVE	MMWW	WET WEATHER MAXIMUM MONTH	PLAS	PLASTER, PLASTIC	<del>-   -   -   -   -   -   -   -   -   -  </del>
	ACST	ACOUSTICAL	CONN	CONNECTION			HVAC	HEATING, VENTILATING AND	MO	MANUAL OPERABLE, MASONRY OPENING	PLC	PROGRAMMABLE LOGIC CONTROLLER	
	ACT	ACOUSTICAL TILE	CONSTR	CONSTRUCTION	EXT	EXTERIOR		AIR CONDITIONING	MP	METAL PANEL	PLYWD	PLYWOOD	$\sqcup$
	ACT AD	AREA DRAIN	CONT	CONTINUED, CONTINUOUS, CONTINUATION	Ω=	DEGREE FAHRENHEIT	HWL	HIGH WATER LEVEL	MPU	MULTIPURPOSE UNIT	PNL	PANEL	
			CONTR	CONTRACTOR	FB	FLAT BAR	11VVL	THOTTWATERCEVEE	MS	MANUFACTURER'S STANDARD	PP	POWER POLE	
	ADDL	ADDITIONAL	COORD	COORDINATE			IC	INTERRUPTING CAPACITY			P-P	PUSH-PULL	
	ADJ	ADJACENT	COP	COPPER	F, FU	FUSE	ID	INDUCED DRAFT, INSIDE DIAMETER	MSC	MANUFACTURER SUPPLIED CABLE	P-P PPL		
	ADW	DRY WEATHER AVERAGE	CP	CENTER PIVOT	F, FX	FIXED	IE	INVERT ELEVATION	MSR	GROUPED MOTOR CONTROL	PPL PR	POLYPROPYLENE LINED	
	AFD	ADJUSTABLE FREQUENCY DRIVE	CP-X	CONTROL PANEL NO. X	FAP	FIRE ALARM PANEL	l.F.	INSIDE FACE	MT	MOUNT		PAIR	
	AFF	ABOVE FINISHED FLOOR	CPLG	COUPLING	FC	FLEXIBLE CONDUIT		INSULATING. INSULATING GLASS	MTD	MOUNTED	PRC	POINT OF REVERSE CURVE	111
	AFG	ABOVE FINISHED GRADE	CPRSR	COMPRESSOR	FCA	FLANGED COUPLING ADAPTER	IG	· · · · · · · · · · · · · · · · · · ·	MTG	MOUNTING	PRCST	PRECAST	
$\dashv$	AG	ACOUSTICAL, ACOUSTICAL GLASS			FCL2	FREE CHLORINE RESIDUAL	IN	INCH	MTS	MANUAL TRANSFER SWITCH	PREFAB	PREFABRICATION	
	AGGR	AGGREGATE	CPT	CONTROL POWER TRANFORMER, CARPET	FCO	FLOOR CLEANOUT	INCAND	INCANDESCENT	MTS	MILL TYPE STEEL PIPE	PRES	PRESSURE	
	AHR	ANCHOR	CPVC	CHLORINATED PVC	FCTY	FACTORY	INFL	INFLUENT	MU	MULCHING	PRI	PRIMARY	
	AISC	AMERICAN INSTITUTE OF	CR	CONTROL RELAY	FD	FLOOR DRAIN	INJS	INJECTIONS	MV	MERCURY VAPOR	PRM	PERMANENT REFERENCED MARKER	
		STEEL CONSTRUCTION	CRS	COLD ROLLED STEEL	FDN	FOUNDATION	INST	INSTANTANEOUS	MWS	MAXIMUM WATER SURFACE	PROJ	PROJECTION	
	AJ	ADJUSTABLE	CRS	CONSTRUCTION ROAD STABILIZATION	FDR	FEEDER	INSTM	INSTRUMENT, INSTRUMENTATION	IVIVVO	WWW.MINIOW WATER SOM AGE	PROP	PROPERTY	
	AL	ALUMINUM	CT	CERAMIC TILE	FEXT	FIRE EXTINGUISHER	INSUL	INSULATION	N	NORTH, NEUTRAL	PS	PLASTIC SHEET, POLYCARBONATE SHEET	
	AL ALKY	ALKALINITY	CT	CURRENT TRANSFORMER	FF	FINISHED FLOOR	INVT	INVERT	NA	NOT APPLICABLE	PS	PAINT SYSTEM	
	ALTN	ALTERNATE	CTC	COMPUTER TERMINAL CABINET	FG	FINISH GRADE, FLOAT GLASS	IP	INLET PROTECTION, INSTRUMENTATION PANEL	NA	NON-AUTOMATIC	PSF	POUNDS PER SQUARE FOOT	
			CTR	CENTER	FH	FLAT HEAD	IRRIG	IRRIGATION	NC	NORMALLY CLOSED	PSI	POUNDS PER SQUARE INCH	
	AM	AUTO-MANUAL ACOUSTICAL METAL ROOF DECKING	CTRD	CENTERED	FHY	FIRE HYDRANT	ITG	INSULATED TEMPERED GLASS	NEUT	NEUTRAL	PSIG	POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH. GAUGE	
	AMRD		CTSK	COUNTERSUNK	FHY FIG	FIGURE	ITX	ISOLATION TRANSFORMER		NATURAL GAS			
В	ANDZ	ANODIZE	CU	CUBIC			IU	INTAKE UNIT	NG NGVD		PT	POINT OF TANGENCY	
	APPROX	APPROXIMATE	CU FT	CUBIC FOOT	FL	FLOW LINE	IW	IRRIGATION WELL	NGVD	NATIONAL GEODETIC VERTICAL DATUM	PT	POTENTIAL TRANSFORMER	
	APVD	APPROVED	CUIN	CUBIC INCH	FLG	FLANGE	IVV	INNIGATION WELL	NIC	NOT IN CONTRACT	PT	PRESSURE TREATED	
	ARCH	ARCHITECTURAL			FL	FLOOR	Л	JALOUSIE	N.O.	NORMALLY OPEN	PTD	PAPER TOWEL DISPENSER	
	AR	ANALOG RELAY	CUH	COPPER TUBING, HARD DRAWN	FLEX	FLEXIBLE	JA	JAL-AWNING	NO., #	NUMBER	PTN	PARTITION	
	AS	AS SELECTED	CV	CHECK VALVE	FLH	FLAT HEAD	JB	JUNCTION BOX	NOM	NOMINAL	PV	PLUG VALVE	
	ATS	AUTOMATIC TRANSFER SWITCH	CWR	CABINET DOOR MOUNTED	FLTR	FILTER	JAN	JANITOR	NP	NON-PROTECTED	PVC	POLYVINYL CHLORIDE	$\vdash$
	AUTO	AUTOMATIC		WASTE RECEPTACLE	FLUOR	FLUORESCENT		JUNCTION	NPT	NATIONAL PIPE THREADS	PVI	POINT OF VERTICAL INTERSECTION	
	AUX	AUXILIARY	CY, CU YD	CUBIC YARD	FNSH	FINISH	JCT		NS	NON-SHRINK	PVMT	PAVEMENT	
	AVG	AVERAGE	CWS	CLEAN WATER SERVICES	FOB	FLAT ON BOTTOM	JT	JOINT	NTS	NOT TO SCALE	PVT	POINT OF VERTICAL TANGENCY	
	AWW	WET WEATHER AVERAGE			FOT	FLAT ON TOP	К	KEY GROUP, KEY INTERLOCK					
			_	DEED DOALL	FP	FIELD PANEL	KIP	THOUSAND POUNDS	O2	OXYGEN	QAA	AVERAGE FLOW	
	@	AT	D	DEEP, DRAIN	FPM	FEET PER MINUTE	KIT	KITCHEN	ОТОО	OUT TO OUT	QMM	MAXIMUM 30 DAY FLOW	
7	В	BELL	d	PENNY NAIL SIZE	FR	FORWARD REVERSE	KII K-PL	KICKPLATE	OA	OVERALL, ODOROUS AIR	QPI		WILLISTON RD WILLE, FL 32608 372 AAC001992
	BAL	BALANCE	DA	DUAL ACTION	FRP	FIBERGLASS REINFORCED PLASTIC	K-PL KSK	KITCHEN SINK	oc	ON CENTER		PEAK INSTANTANEOUS FLOW	R 88 8
	BETW	BETWEEN	DAS	DATA ACQUISTION SYSTEM	FSHS	FOLDING SHOWER SEAT			oc	OPEN-CLOSE (O)	QPP	PEAK PUMPING FLOW	0,80
	BF	BLIND FLANGE, BOTTOM FACE	DBA	DEFORMED BAR ANCHOR	FT	FOOT OR FEET	KV	KILOVOLTS	OCA	OPEN-CLOSE-AUTO	QT	QUARRY TILE	[양교장]
	BFV	BUTTERFLY VALVE	DBL	DOUBLE			KVA	KILOVOLT AMPERES	OCR	OPEN-CLOSE-REMOTE			∃щ₹
	BL	BASELINE	DC	DIRECT CURRENT	FTG	FOOTING	KVAR	KILOVOLT AMPERES REACTIVE	OD	OUTSIDE DIAMETER, OVERFLOW DRAIN	R	RISER	2 ⊑ ₹
	BFP		DEG	DEGREE	FU	FIXTURE UNIT	KW	KILOWATT	O.F.	OUTSIDE FACE	R OR RAD		SW JOOO7
		BACKFLOW PREVENTER	DET	DETAIL	FVNR	FULL VOLTAGE NON-REVERSING		ANOLE LENGTH	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLE	RA	RETURN AIR	2 4 8
	BLDG	BUILDING	DF	DOUGLAS FIR, DRINKING FOUNTAIN	FVR	FULL VOLTAGE REVERSING	L	ANGLE, LENGTH	OFOL	OWNER FURNISHED, OWNER INSTALLED	RC	REINFORCED CONCRETE	3011 GAIN
	BLK	BLOCK	DDI	DROP INLET	FWD	FORWARD	LA	LIGHTNING ARRESTER		· · · · · · · · · · · · · · · · · · ·	RCP	REINFORCED CONCRETE PIPE	е о ш
	BM	BEAM, BENCHMARK	DH	DOUBLE HUNG			LAB	LABORATORY	OL	OVERLOAD RELAY	RCPT	RECEPTACLE	
	ВО	BOTTOM OF	DI	DUCTILE IRON	G, GND	GROUND	LAM	LAMINATE	00	ON-OFF			
	B.O.B.	BOTTOM OF BEAM	DIA	DIAMETER	GA	GAUGE	LAT	LATITUDE	OOA	ON-OFF-AUTO	RD	ROAD, ROOF DRAIN	
			DIAG	DIAGONAL	GAL	GALLON	LB	POUND	OOR	ON-OFF-REMOTE	RDCR	REDUCER	
	BOD	BOTTOM OF DUCT			GALV	GALVANIZED	LC	LIGHTING CONTACTOR	OP	OPAQUE PANEL, OUTLET PROTECTION	RDW	REDWOOD	
	BOP	BOTTOM OF PIPE	DIP	DUCTILE IRON PIPE	GB	GYPSUM BOARD	LD	COMBINATION LOUVER/DAMPER	OPER	OPERATOR	RECIR	RECIRCULATION	
	BOT	воттом	DIR	DIRECTION	GC	GROOVED COUPLING	LDG	LOADING DOCK	OPNG	OPENING	REF	REFER OR REFERENCE	
	BRG	BEARING	DISCH	DISCHARGE	GCMU	GLAZED CONCRETE	LEL	LOWER EXPLOSIVE LIMIT	OPP	OPPOSITE	1121	E. OKKEL EKENDE	
	BRK	BRICK	DN	DOWN		MASONRY UNITS	LF	LINEAR FEET	OSA	OUTSIDE AIR	DEEE	DEEDIGEDATE DEEDIGEDANT	
	BRKR	BREAKER	DO	DISSOLVED OXYGEN	GFA	GROOVED FLANGE ADAPTER	LG	LONG	osc	OPEN-STOP-CLOSE	REFR	REFRIGERATE, REFRIGERANT	
	BSP	BLACK STEEL PIPE	DOL	DIRECT-ON-LINE	GFA		LH	LEFT HAND	OSD	OPEN SITE DRAIN	REINF	REINFORCED, REINFORCING, REINFORCE	
	BV	BALL VALVE, BLOCK VENT	DP, DPNL	DISTRIBUTION PANEL		GROUND FAULT INTERRUPTER			OWSJ	OPEN WEB STEEL JOIST	REQD	REQUIRED	⊚
	BVC	BEGINNING OF VERTICAL CURVE	DR	DOOR	GFR	GROUND FAULT RELAY	LHR	LEFT HAND REVERSE	OZ	OUNCE	RESIL	RESILIENT	
	DVC	DEGINATING OF VERTICAL CURVE	DS	DOWNSPOUT	GH	GREENHOUSE	LLH	LONG LEG HORIZONTAL			RFS	ROLL-UP FIRE SHUTTER	
	C	CONDUIT CASEMENT	DWG	DRAWING	GL	GLASS	LLV	LONG LEG VERTICAL	Р	PROJECTED	RH	RIGHT HAND	
	C	CONDUIT, CASEMENT	DWL	DOWEL	GPD	GALLONS PER DAY	LNTL	LINTEL	Р	PILASTER, PIPE	RH	RODHOLE	
	°C	DEGREE CELSIUS			GPH	GALLONS PER HOUR	LONG	LONGITUDINAL	PAVT	PAVER TILE	RHR	RIGHT HAND REVERSE	
	O T		/\	DELLA		GALLONS PER MINUTE	LOS	LOCK-OUT STOP PUSHBUTTON	PB	PUSHBUTTON SWITCH	RL	RAIN LEADER	
	C TO C	CENTER TO CENTER	Δ	DELTA	GPM								
	CAB	CENTER TO CENTER CABINET	Δ	DELTA	GPS	GLOBAL POSITION SYSTEM	LP	LIGHT POLE, LIGHTING PANEL, LOCAL PANEL	PC	POINT OF CURVE, PHOTOCELL	RLS	RUBBER LINED STEEL	5
	CAB CB	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER					LP LPT	LIGHT POLE, LIGHTING PANEL, LOCAL PANEL LOW POINT	PC PC	POINT OF CURVE, PHOTOCELL PRECAST CONCRETE PANEL		RUBBER LINED STEEL ROOM	2
	CAB CB CC	CENTER TO CENTER CABINET	E	EAST, EMPTY	GPS	GLOBAL POSITION SYSTEM				· ·	RLS		
	CAB CB CC CC	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER			GPS GRTG	GLOBAL POSITION SYSTEM GRATING	LPT	LOW POINT	PC PCCP	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE	RLS RM RO	ROOM ROUGH OPENING	2
	CAB CB CC	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE	E EA EB, EBCT	EAST, EMPTY	GPS GRTG GSB	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD	LPT LR	LOW POINT LATCHING RELAY	PC PCCP PCV	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE	RLS RM RO ROL	ROOM ROUGH OPENING RAISE-OFF-LOWER	12M
	CAB CB CC CC	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE	E EA	EAST, EMPTY EACH, EXHAUST AIR	GPS GRTG GSB GSP GV	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE	LPT LR LR LR	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END	RLS RM RO ROL RPM	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE	H2ZH
	CAB CB CC CC CCP	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL	E EA EB, EBCT	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME	GPS GRTG GSB GSP GV GVL	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL	LPT LR LR LR LS	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK	PC PCCP PCV	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE	RLS RM RO ROL	ROOM ROUGH OPENING RAISE-OFF-LOWER	<del>Z</del>
	CAB CB CC CC CCP CCS	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM	E EA EB, EBCT ECC EE	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH	GPS GRTG GSB GSP GV GVL GWB	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD	LPT LR LR LR LS LS	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END	RLS RM RO ROL RPM	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE	<del>Z</del>
D	CAB CB CC CC CCP CCS CDF	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL	E EA EB, EBCT ECC EE EDF	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY	GPS GRTG GSB GSP GV GVL	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL	LPT LR LR LR LS LT LTG, LTS	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE	CH2M
D	CAB CB CC CC CCP CCS CDF CE	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE	E EA EB, EBCT ECC EE EDF EF	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN	GPS GRTG GSB GSP GV GVL GWB GYP	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM	LPT LR LR LR LS LT LTG, LTS LTX	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP	<del>Z</del>
D	CAB CB CC CC CCP CCS CDF CE CFM CFS	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND	E EA EB, EBCT ECC EE EDF EF EFF	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT	GPS GRTG GSB GSP GV GVL GWB GYP	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER	LPT LR LR LR LS LT LTG, LTS	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES:	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP ENGINEER FOR ABBREVIATIONS USED	<del>Z</del>
D	CAB CB CC CC CCP CCS CDF CE CFM CFS CHEM	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL	E EA EB, EBCT ECC EE EDF EFF EFF	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT	GPS GRTG GSB GSP GV GVL GWB GYP H H2S	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE	LPT LR LR LR LS LT LTG, LTS LTX LWL	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES:	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP	<del>Z</del>
D	CAB CB CC CC CCP CCS CDF CE CFM CFS	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED	E EA EB, EBCT ECC EE EDF EF EFF EFF EFFL EIFS	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT EXTERIOR INSULATION AND FINISH SYSTEM	GPS GRTG GSB GSP GV GVL GWB GYP	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER	LPT LR LR LS LT LTG, LTS LTX LWL	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES:	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP ENGINEER FOR ABBREVIATIONS USED	CH2
D	CAB CB CC CC CCP CCS CDF CE CFM CFS CHEM CHKD CI	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED CAST IRON	E EA EB, EBCT ECC EE EDF EF EFF EFF EFFL EIFS EL	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION	GPS GRTG GSB GSP GV GVL GWB GYP H H2S H.A.S. HC	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE HEADED ANCHOR STUD HOLLOW CORE WOOD	LPT LR LR LR LS LT LTG, LTS LTX LWL MA MAS	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO MASONRY	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES: CONTACT BUT NOT S	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP ENGINEER FOR ABBREVIATIONS USED SHOWN ON THIS DRAWING.	CHZ
D	CAB CB CC CC CCP CCS CDF CE CFM CFS CHEM CHKD CI CIP	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED CAST IRON CAST IRON PIPE, CAST IN PLACE	E EA EB, EBCT ECC EE EDF EF EFF EFF EFI EIFS EL ELB	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION ELBOW	GPS GRTG GSB GSP GV GVL GWB GYP H H2S H.A.S. HC HCL	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE HEADED ANCHOR STUD HOLLOW CORE WOOD HYDROCHLORIC ACID	LPT LR LR LR LS LT LTG,LTS LTX LWL MA MAS MATL	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO MASONRY MATERIAL	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES: CONTACT BUT NOT S	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP ENGINEER FOR ABBREVIATIONS USED	CHZ
D	CAB CB CC CC CCP CCS CDF CE CFM CFS CHEM CHKD CI CIP CIP	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED CAST IRON CAST IRON PIPE, CAST IN PLACE CULVERT INLET PROTECTION	E EA EB, EBCT ECC EE EDF EFF EFF EFL EIFS EL ELB	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION ELBOW ELECTRICAL LOAD CENTER	GPS GRTG GSB GSP GV GVL GWB GYP H H2S H.A.S. HC HCL HDNR	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE HEADED ANCHOR STUD HOLLOW CORE WOOD HYDROCHLORIC ACID HARDENER	LPT LR LR LR LS LT LTG, LTS LTX LWL MA MAS MATL MAX	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO MASONRY MATERIAL MAXIMUM	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES: CONTACT BUT NOT S	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP  ENGINEER FOR ABBREVIATIONS USED SHOWN ON THIS DRAWING.	CHZ
D	CAB CB CC CC CCP CCS CDF CE CFM CFS CHEM CHKD CI CIP CISP	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED CAST IRON CAST IRON PIPE, CAST IN PLACE CULVERT INLET PROTECTION CAST IRON SOIL PIPE	E EA EB, EBCT ECC EE EDF EF EFF EFF EFL EIFS EL ELB ELC ELEC	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION ELBOW ELECTRICAL LOAD CENTER ELECTRIC, ELECTRICAL	GPS GRTG GSB GSP GV GVL GWB GYP H H2S H.A.S. HC HCL HDNR HDNS	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE HEADED ANCHOR STUD HOLLOW CORE WOOD HYDROCHLORIC ACID HARDENER HARDNESS	LPT LR LR LR LS LT LTG, LTS LTX LWL MA MAS MATL MAX MB	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO MASONRY MATERIAL MAXIMUM MACHINE BOLT	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES: CONTACT BUT NOT S  GENEF  1. THIS IS A	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP ENGINEER FOR ABBREVIATIONS USED SHOWN ON THIS DRAWING.	
D	CAB CB CC CC CCP CCS CDF CE CFM CFS CHEM CHKD CI CIP CIP CISP CJ	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED CAST IRON CAST IRON PIPE, CAST IN PLACE CULVERT INLET PROTECTION CAST IRON SOIL PIPE CONSTRUCTION JOINT	E EA EB, EBCT ECC EE EDF EF EFF EFF EIFS EL ELB ELC ENGR	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION ELBOW ELECTRICAL LOAD CENTER ELECTRIC, ELECTRICAL ENGINEER	GPS GRTG GSB GSP GV GVL GWB GYP H H2S H.A.S. HC HCL HDNR HDNS HDR	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE HEADED ANCHOR STUD HOLLOW CORE WOOD HYDROCHLORIC ACID HARDENER HARDNESS HEADER	LPT LR LR LR LS LT LTG, LTS LTX LWL MA MAS MATL MAX MB MC	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO MASONRY MATERIAL MAXIMUM MACHINE BOLT MASONRY CLEARANCE	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES: CONTACT BUT NOT S  THEREFO	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP  ENGINEER FOR ABBREVIATIONS USED SHOWN ON THIS DRAWING.  RAL NOTE: STANDARD LEGEND SHEET.	V BATE
D	CAB CB CC CC CCP CCS CDF CE CFM CFS CHEM CHKD CI CIP CIP CISP CJ CKT	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED CAST IRON CAST IRON PIPE, CAST IN PLACE CULVERT INLET PROTECTION CAST IRON SOIL PIPE CONSTRUCTION JOINT CIRCUIT	E EA EB, EBCT ECC EE EDF EF EFF EFL EIFS EL ELB ELC ELC ENGR EOP	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION ELBOW ELECTRICAL LOAD CENTER ELECTRIC, ELECTRICAL ENGINEER EDGE OF PAVEMENT	GPS GRTG GSB GSP GV GVL GWB GYP H H2S H.A.S. HC HCL HDNR HDNS HDR HDW	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE HEADED ANCHOR STUD HOLLOW CORE WOOD HYDROCHLORIC ACID HARDENER HARDNESS HEADER HARDWARE	LPT LR LR LR LS LT LTG, LTS LTX LWL MA MAS MATL MAX MB MC MC	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO MASONRY MATERIAL MAXIMUM MACHINE BOLT MASONRY CLEARANCE MODULATE-CLOSE	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES: CONTACT BUT NOT S  THEREFO	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP  ENGINEER FOR ABBREVIATIONS USED SHOWN ON THIS DRAWING.  RAL NOTE: STANDARD LEGEND SHEET. RE, NOT ALL OF THE INFORMATION	V BATE PROJ
D	CAB CB CC CC CCP CCS CDF CF CFM CFS CHEM CHKD CIP CIP CISP CJ CKT CL	CENTER TO CENTER CABINET CATCH BASIN, CIRCUIT BREAKER CENTER OF CIRCLE CONTROL CABLE CENTRAL CONTROL PANEL CENTRAL CONTROL SYSTEM CONTROLLED DENSITY FILL CONSTRUCTION ENTRANCE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHEMICAL CHECKERED CAST IRON CAST IRON PIPE, CAST IN PLACE CULVERT INLET PROTECTION CAST IRON SOIL PIPE CONSTRUCTION JOINT CIRCUIT CENTERLINE	E EA EB, EBCT ECC EE EDF EFF EFF EFL EIFS EL ELB ELC ELEC ENGR EOP ESC	EAST, EMPTY EACH, EXHAUST AIR EMPTY BED CONTACT TIME ECCENTRIC EMERGENCY EYEWASH EGG-SHAPED DIGESTER FACILITY EACH FACE, EXHAUST FAN EFFICIENCY, EFFICIENT EFFLUENT EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION ELBOW ELECTRICAL LOAD CENTER ELECTRIC, ELECTRICAL ENGINEER EDGE OF PAVEMENT EROSION AND SEDIMENT CONTROL	GPS GRTG GSB GSP GV GVL GWB GYP H H2S H.A.S. HC HCL HDNR HDNS HDR HDW HGL	GLOBAL POSITION SYSTEM GRATING GYPSUM SOFFIT BOARD GALVANIZED STEEL PIPE GATE VALVE GRAVEL GYPSUM WALLBOARD GYPSUM HIGH, HORN OR HOWLER HYDROGEN SULFIDE HEADED ANCHOR STUD HOLLOW CORE WOOD HYDROCHLORIC ACID HARDENER HARDNESS HEADER HARDWARE HYDRAULIC GRADE LINE	LPT LR LR LR LS LT LTG, LTS LTX LWL MA MAS MATL MAX MB MC MC MCC	LOW POINT LATCHING RELAY LOCAL-REMOTE LONG RADIUS LABORATORY SINK LEFT LIGHTS OR LIGHTING LIGHTING TRANSFORMER LOW WATER LEVEL MANUAL-AUTO MASONRY MATERIAL MAXIMUM MACHINE BOLT MASONRY CLEARANCE MODULATE-CLOSE MOTOR CONTROL CENTER	PC PCCP PCV PE	PRECAST CONCRETE PANEL PRECAST CONCRETE CYLINDER PIPE PRESSURE CONTROL VALVE PLAIN END PEDESTAL, PEDESTRIAN	RLS RM RO ROL RPM RR  OTES: CONTACT BUT NOT S  THEREFO	ROOM ROUGH OPENING RAISE-OFF-LOWER REVOLUTIONS PER MINUTE RIPRAP  ENGINEER FOR ABBREVIATIONS USED SHOWN ON THIS DRAWING.  RAL NOTE: STANDARD LEGEND SHEET. RE, NOT ALL OF THE INFORMATION	V BATE
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VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. SHEET PLOT DATE: 6/17/2013 PLOT TIME: 4:35:52 PM

ABBREVIATIONS



**ABBREVIATIONS** 2MHILL Ï U VERIFY SCALE BAR IS ONE INCH ON JUNE 2013 🗅 457133

#### **GENERAL NOTE:**

 THIS IS A STANDARD LEGEND SHEET.
 THEREFORE. NOT ALL OF THE INFORMATION. SHOWN MAY BE USED ON THIS PROJECT.

ROJ

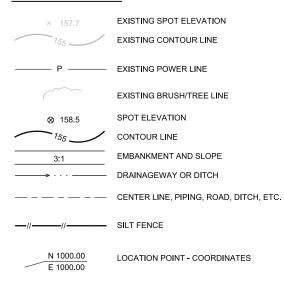
WG SHEET

#### **GENERAL SITE NOTES:**

- SOURCE OF TOPOGRAPHY SHOWN ON THE CIVIL PLANS ARE RECORD DRAWINGS PREPARED BY URS AND WERE PROVIDED BY MANATEE COUNTY, ADDITIONAL MAPPING HAS BEEN ADDED FROM SUPPLEMENT SURVEY FROM ZNS ENGINEERING. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
- EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
- HORIZONTAL DATUM: NAD83
- 4. VERTICAL DATUM: NGVD29
- MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
- FOR LOCATION OF CONTROL POINT ON STRUCTURES, SEE STRUCTURAL DRAWINGS.
- COORDINATES AND DIMENSIONS SHOWN FOR ROADWAY IMPROVEMENTS ARE TO FACE OF CURB OR
- STAGING AREA SHALL BE FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S TRAILERS AND ON-SITE STORAGE OF MATERIALS.
- ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
- 10. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
- 11. ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE SHALL BE COVERED WITH GRASS.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, PERMITTING, IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION. CONTRACTOR SHALL PREPARE A SWPPP AND OBTAIN NECESSARY NPDES PERMIT.
- 13. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE. CONTRACTOR TO SUBMIT EROSION CONTROL PLAN.

#### CIVIL LEGEND

4 4 4



CONCRETE

ASPHALT SURFACING

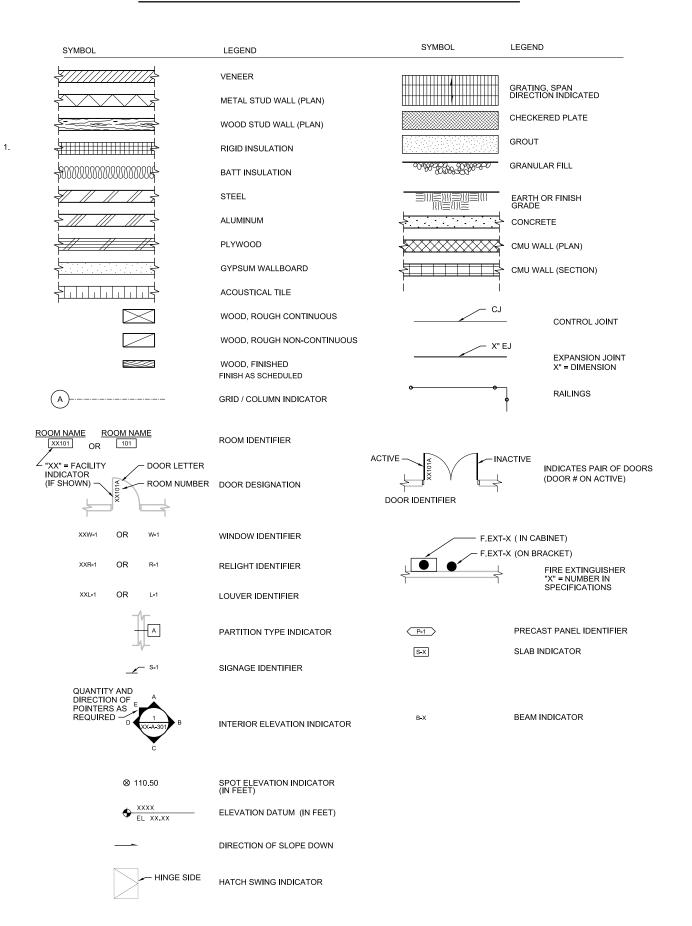
#### **GENERAL NOTE:**

1. THIS IS A STANDARD LEGEND SHEET. THIS IS A STANDARD LEGEND SHEET.
THEREFORE, NOT ALL OF THE INFORMATION
SHOWN MAY BE USED ON THIS PROJECT.

2MHILL CIVIL LEGEND VERIFY SCALE BAR IS ONE INCH ON JUNE 2013 457133 PROJ 001-G-0103 S

DWG SHEET

#### NEW CONSTRUCTION ARCHITECTURAL LEGEND



#### APPLICABLE CODES

2010 FLORIDA EXISTING BUILDING CODE 2010 FLORIDA BUILDING CODE 2010 FLORIDA FIRE PREVENTION CODE 2011 NATIONAL ELECTRIC CODE 2010 FLORIDA PLUMBING CODE 2010 FLORIDA MECHANICAL CODE 2010 FLORIDA FIRE PREVENTION CODE

#### PROJECT SPECIFIC BUILDING CODE INFORMATION

THIS PROJECT SCOPE INVOLVES UPGRADES AND REPLACEMENT EQUIPMENT IN SUPPORT OF WATER TREATMENT AT THE SOUTHWEST WASTEWATER RECLAMATION FACILITY.

PER THE 2010 FLORIDA EXISTING BUILDING CODE, ALL FACILITY BUILDINGS AFFECTED BY PROCESS CHANGES ARE ONLY CLASSIFIED UNDER THE CODE BY ALTERATION OF EQUIPMENT PADS AND RENOVATION OF ELECTRICAL BUILDING POWER SYSTEMS. THE SCOPE OF WORK WITHIN ALL FOUR OF THE BUILDINGS DO NOT QUALIFY AS ADDITIONS, CHANGE OF OCCUPANCY, OR ALTERATIONS LEVEL 2 OR 3.

THE FOLLOWING IS A LIST OF THE AFFECTED FACILITIES, THE CLASSIFICATION OF WORK PER CODE AND SPECIFIC DRAWING NUMBERS FOR REFERENCE:

600 EXISTING SOUTH ELECTRICAL BUILDING -WORK CLASSIFICATION LEVEL I ALTERATION SEE DRAWING 600-A-0001

827 EXISTING BLOWER BUILDING-WORK CLASSIFICATION LEVEL I ALTERATION SEE DRAWING 827-A-0001.

850 EXISTING DEWATERING BUILDING-WORK CLASSIFICATION LEVEL I ALTERATION SEE DRAWING 850-E-2001.

860 EXISTING SOUTHWEST GENERATOR BUILDING-WORK CLASSIFICATION LEVEL I ALTERATION SEE DRAWING 860-A-0001.

#### **ARCHITECTURAL GENERAL NOTES**

LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR AT THE SECTION END EXCEPT AS NOTED.

VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.

NIC MEANS "NOT IN CONTRACT".

VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.

CONTRACTOR IS RESPONSIBLE FOR FULL ENCLOSURE OF ALL AIR CONDITIONED SPACES, AND SEPARATION FROM NON-AIR-CONDITIONED SPACES, BY CARRYING WALLS TO UNDERSIDE OF DECKING AND SEALING TO PREVENT AIR EXCHANGE. SEALING AROUND STRUCTURAL MEMBERS MAY REQUIRE CONTRACTOR TO OBTAIN ADDITIONAL ENGINEERING JUDGEMENTS FOR THE SEALANT MANUFACTURER, WHICH CONTRACTOR SHALL DO AT NO ADDITION COST TO OWNER.

	3011 SW WILLISTON RD								
	GAINESVILLE, FL 32608 FB0000072 - AAC001992								
	BETH TRAUTWEIN - AR 91388								
GENERAL	SWWRF NITROGEN REMOVAL								
	AND DIGESTER MODIFICATIONS								
ARCHITECTURAL LEGEND	MANATEE COUNTY UTILITIES	Ö	NO. DATE	<u> </u>	REVISION		BY APVD	PVD	
AND CODE DATA	MANATEE COUNTY, FL	DSGN		DR	CHK	APVD			
			B TRAUTWEIN	/EIN K RINER					- 1
REUSE OI	REUSE OF DOCUMENTS. THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CHAIN HILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CHAINHILL.	INCORPOR OR IN PART,	ATED HEREIN FOR ANY OTH	, AS AN INSTRUMENT OF PROFESSI IER PROJECT WITHOUT THE WRITT	ONAL SERVICE, IS THE PROPI EN AUTHORIZATION OF CH2M	ERTY OF IHILL	9	©CHZM HILL 2013	Ξ.

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

O THE JUNE 2013

PROJ 457133

PROJ 457133

DWG 001-G-0104

SHEET of

#### DESIGN CRITERIA

- APPLICABLE CODE: 2010 FLORIDA BUILDING CODE (FBC), AS AMENDED BY ALL APPLICABLE LOCAL AGENCIES.
- 2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.

3. WIND LOAD:

. UI TIMATE DESIGN WIND SPEED

= 160 MPH

INTERNAL PRESSURE COEFFICIENT (GCpi) = +/- 0.18

4. SOIL DESIGN PARAMETERS:

NET ALLOWABLE SOIL BEARING PRESSURES: = 2000 PSF

NATIVE SOIL UNIT WEIGHT: 115 PCF

GROUND WATER ASSUMED AT GRADE

#### **GENERAL INFORMATION**

- FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS; PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
- DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
- DETAILING AND DIMENSIONS OF EXISTING STRUCTURES SHOWN ARE BASED ON AS-BUILT DESIGN DRAWINGS, AND DO NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO FABRICATION OF ADJACENT FRAMING OR CONNECTIONS OR SUPPORTS THAT ARE AFFECTED BY THE EXISTING STRUCTURE.
- VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
- FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS
- STRUCTURAL MEMBERS SHALL NOT BE CUT OR MODIFIED FOR PIPES DUCTS FTC. LINLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
- VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE

#### **FOUNDATIONS**

- EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE OR DAMAGE TO ADJACENT EXISTING STRUCTURES, STREETS, UTILITIES, ETC.
- ALL FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEER OR HIS DESIGNEE PRIOR TO PLACEMENT OF FORMING OR REINFORCING STEEL THE OBSERVATION SHALL VERIFY THAT THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS, TEST PITS, TESTING AND DATA REPORTS

#### FORMWORK, SHORING AND BRACING

STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN

#### CONCRETE REINFORCING

1. MINIMUM REINFORCING FOR ALL CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

#4@12 #5@12" #4@12" CENTERED EACH FACE **FACH FACE** 

PROVIDE LARGER SIZES AND MORE REINFORCING IN SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS

- 2. CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE: WHEN PLACED ON GROUND: ALL OTHER CONCRETE SURFACES
- 3. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS
- 4. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING

CONCRETE	DESIGN STREE	NGTH =	4,500 F	'SI**	G	RADE (	30 REIN	FORCIN	IG STE	EL
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE	LENGTH									
SPACING<6"	TOP BAR *	1'-3"	1'-11"	2'-7"	3'-5"	5'-3"	6'-4"	7'-1"	8'-0"	8'-11"
	OTHER BAR	11"	1'-5"	2'-0"	2'-7"	4'-1"	4'-10"	5'-6"	6'-2"	6'-10"
SPACING≥6"	TOP BAR *	1'-2"	1'-6"	1'-11"	2'-3"	2'-8"	3'-0"	3'-9"	4'-8"	7'-11"
	OTHER BAR	10"	1'-2"	1'-5"	1'-9"	2'-0"	2'-4"	2'-11"	3'-9"	5'-4"
EMBEDMENT	LENGTH									
SPACING<6"	TOP BAR *	11"	1'-5"	2'-0"	2'-7"	4'-1"	4'-10"	5'-6"	6'-2"	6'-10"
	OTHER BAR	9"	1'-1"	1'-7"	2'-0"	3'-1"	3'-9"	4'-2"	4'-9"	5'-3"
SPACING≥6"	TOP BAR *	10"	1'-2"	1'-5"	1'-8"	2'-0"	2'-4"	2'-11"	3'-9"	5'-4"
	OTHER BAR	8"	11"	1'-1"	1'-4"	1'-7"	1'-9"	2'-3"	2'-9"	4'-1"

- TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
- \*\* WHERE DIFFERENT STRENGTH CONCRETE IS USED, MULTIPLY ABOVE LENGTHS BY

4500psi CONC STRENGTH USED

5. FOR EXTRA REINFORCING AROUND OPENINGS, SEE DETAIL 0330-001

28-DAY CAST-IN-PLACE CONCRETE STRENGTHS:

TYPICAL (UNO): ELECTRICAL DUCT BANKS AND 4500 PSI PIPE ENCASEMENTS: 3500 PSI

2. REINFORCING STEEL:

ASTM A615, GRADE 60

- FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
- ROUGHEN AND CLEAN CONSTRUCTION JOINTS PRIOR TO PLACING ADJACENT CONCRETE.
- THE CONTRACTOR SHALL COORDINATE PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE
- NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

#### **WELDING**

- WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS), LATEST EDITION:

  - D1.1, STRUCTURAL WELDING CODE STEEL D1.2, STRUCTURAL WELDING CODE ALUMINUM
  - D1.3 STRUCTURAL WELDING CODE SHEET STEEL D1.6, STRUCTURAL WELDING CODE – STAINLESS STEEL
- 2. USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.
- 3. BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

#### STRUCTURAL STEEL AND METAL FABRICATIONS

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:

MISCELLANEOUS SHAPES INCLUDING

ANGLES, CHANNELS, PLATES, ETC.
SQUARE OR RECTANGULAR STEEL TUBING

A500, GRADE B A53, GRADE B

- 2. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
- BOLTS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:

ANCHOR BOLTS (AB) STAINLESS STEEL

F593, AISI TYPE 316, CONDITION CW

STEEL GALVANIZED STEEL F1554, GR 36 F1554, GR 36 / A153 MACHINE BOLTS (MB) A307

- 4. ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
- NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

STRUCTURAL VERIFY SCALE BAR IS ONE INCH ON JUNE 2013 457133 III PROJ 001-G-0105

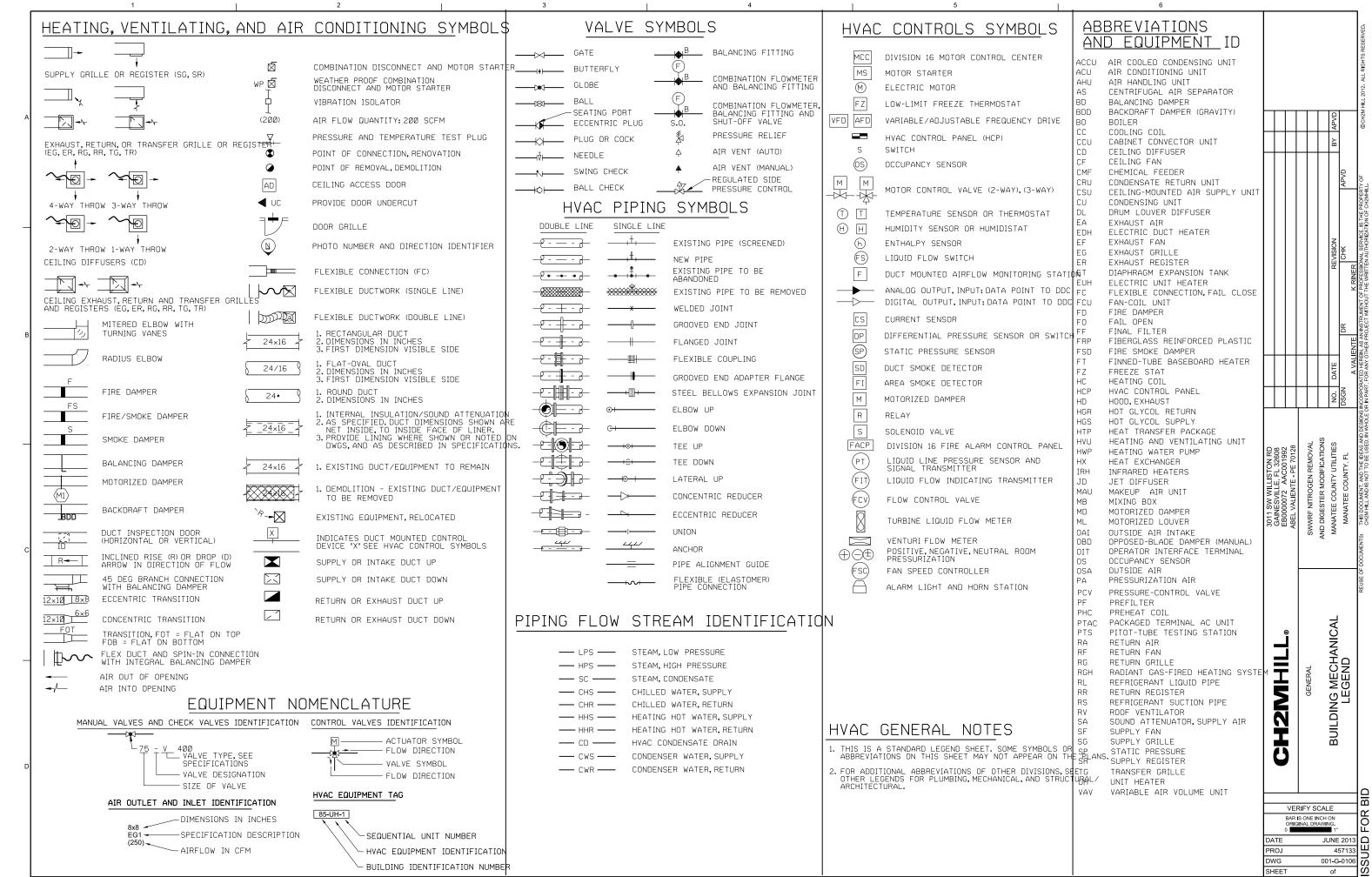
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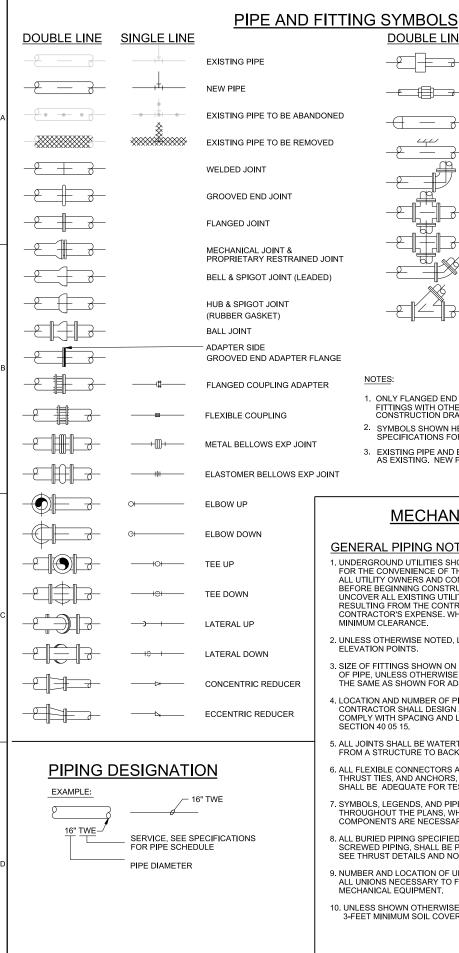
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# CAP ANCHOR ELBOW, 90 DEGREE TEE

REDUCING BUSHING

ELBOW, 45 DEGREE

LATERAL

UNION

DOUBLE LINE SINGLE LINE

#### NOTES:

- 1. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
- 2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
- EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

#### MECHANICAL LEGEND AND NOTES

#### **GENERAL PIPING NOTES**

- 1. UNDERGROUND UTILITIES SHOWN ARE TAKEN FROM EXISTING RECORDS AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL CONTACT ALL UTILITY OWNERS AND CONFIRM LOCATIONS OF EXISTING UTILITIES AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ACCURATELY LOCATE AND UNCOVER ALL EXISTING UTILITIES BEFORE BEGINNING CONSTRUCTION. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. WHERE CROSSING OF EXISTING UTILITIES OCCUR. PROVIDE 12"
- 2. UNLESS OTHERWISE NOTED, LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- 3. SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
- 4. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN ARE ONLY APPROXIMATE. CONTRACTOR SHALL DESIGN AND PROVIDE ALL HANGERS AND SUPPORTS NECESSARY TO COMPLY WITH SPACING AND LOCATON REQUIREMENTS IN ACCORDANCE WITH SPECIFICATION
- 5. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
- 6 ALL ELEXIBLE CONNECTORS AND ELANGED COLIPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, AND ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION
  SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED IN SPECIFICATION SECTION 40 27 00.
- 7. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
- 8. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST RESTRAINTS AT ALL DIRECTION CHANGES. SEE THRUST DETAILS AND NOTES ON THIS SHEET AND SPECIFICATION SECTION 40 27 00.
- 9. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
- 10. UNLESS SHOWN OTHERWISE ON DRAWINGS, THE UNDERGROUND PIPES SHALL HAVE 3-FEET MINIMUM SOIL COVER.

#### **VALVE SYMBOLS** SINGLE LINE DOUBLE LINE —— GATE KNIFE GATE OR OR — | `**■** | BUTTERFLY or I OR I —D⊗CI— BALL - SEATING PORT OR 🗆 ECCENTRIC PLUG OR TO — PLUG OR COCK NEEDLE TOR T DIAPHRAGM — DSCH PINCH SWING CHECK OR HOSE VALVE (HV- X) OR (V-X) -⟨ s⟩ SAMPLE **③** MUD PRESSURE RELIEF

AIR AND/OR VACUUM RELEASE

PRESSURE CONTROL (INTERNAL PILOT)

ARROWS INDICATE FLOW PATTERN.

SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.

TELESCOPING SCUM VALVE

**ACTUATOR SYMBOLS** 

PNEUMATIC DIAPHRAGM

PNEUMATIC CYLINDER

ELECTRIC MOTOR

FLOW STREAM IDENTIFICATIONS ARE SHOWN

ON THE INSTRUMENTATION AND CONTROL LEGENDS

PRESSURE CONTROL (EXTERNAL PILOT)

HYDRAULIC

MANUAL

S SOLENOID

(E/H) ELECTRO HYDRAULIC

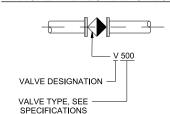
REGULATED SIDE

REGULATED SIDE

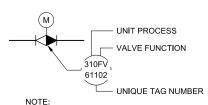
MULTI-PORT VALVE

#### VALVE DESIGNATIONS

#### MANUAL VALVES AND CHECK VALVES

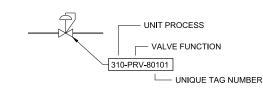


#### **CONTROL VALVES**



SEE I&C LEGENDS FOR FURTHER DEFINITIONS AND ACTUATOR TYPES.

#### SELF-CONTAINED REGULATING VALVES



## THRUST RESTRAINT SCHEDULE/TABLE

NOMINAL				FITTING TY	PE	
(INCHES)	TEE	90°	WYE, OR 45°	22½°	11¼°	TERMINAL PLUG
18	20	20	20	20	20	107
24	20	60	20	20	20	139
36	120	148	90	20	20	203
42	160	185	135	41	20	233
48	198	220	176	93	20	262
54	232	252	213	138	20	290
64	287	303	270	205	80	336

#### NOTES:

- 1. THESE VALUES ARE FOR DUCTILE IRON PIPES WRAPPED WITH POLYETHYLENE.
- 2. ASSUMPTIONS: SANDY MATERIAL USED AS BACKFILL WATER TABLE AT 3' BELOW GROUND SURFACE TESTING PRESSURE AT 100 PSI. For TESTING PRESSURE AT 50 PSI, MULTIPLY THE RESTRAINED LENGTH BY 0.5 MINIMUM 3 FEET OF COVER

NOMINAL				FITTING TY	PE	
PIPE SIZE (INCHES)	TEE	90°	WYE, OR 45°	22½°	11¼°	TERMINAL PLUG
18	20	20	20	20	20	107
24	20	60	20	20	20	139
36	120	148	90	20	20	203
42	160	185	135	41	20	233
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54	232	252	213	138	20	290
64	287	303	270	205	80	336

DATE PROJ WG

SHEET

H2MHILL

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VERIFY SCALE

BAR IS ONE INCH ON

PROCESS MECHANICAL LEGEND

JUNE 2013 🔼

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	1	2	3		4		5	6		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION		ä
	<u>ONE LINE DIAGRAMS</u>		<u>CONTROL DIAGRAMS</u>		GROUND SYSTEM	PLAN		<u>ABBREVIATIONS</u>		ESERVE
<b>←</b>	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN	•	GROUND ROD		A	AMMETER, AMPERES		IGHTS R
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO	<u> </u>	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED	O	GROUND ROD IN TEST WEL	ù <b>L</b>	AIC BC	AVAILABLE INTERRUPTING CURRENT BY-PASS CONTACTOR		2. ALL R
AS or AT AF	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP	OFF DEMOTE	OF FOTOR CONTOUR MAINTAINER CONTACT, CHART	——g——	GROUNDING CONDUCTOR,	SIZE AS INDICATED	C	CONDUIT CIRCUIT BREAKER		HLL 2012
\	TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO	HAND REMOTE	IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY:	— <u>~</u>	PIGTAIL FOR CONNECTION	TO EQUIPMENT	CB CE CPT CR	CONCRETE ENCASED CONTROL POWER TRANSFORMER CONTROL RELAY		SON SON
100/M	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO	- * <u>O I O  </u>	POSITION  CKT HAND OFF REMOTE X - CLOSED CONTACT	G	CABINET OR FRAME EQUIPMENT GROUND BUS		CU	COPPER		CHOL!
	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO	<del></del>	1 X O O O O O O O O O O O O O O O O O O	N	EQUIPMENT NEUTRAL BUS		DOE DPM DWG	DELAY ON ENERGIZATION DIGITAL POWER METER DRAWING	<del>                                     </del>	
100	FUSE, CURRENT RATING AND QUANTITY INDICATED		TOGGLE SWITCH, ON-OFF TYPE				EXST	EXSTING		PVD PVD
60 (3)	. 552, 55 MENT NATING AND QUANTITY INDICATED	ON OFF					FO FOC	FIBER OPTIC FIBER OPTIC CABLE		NE A A A A A A A A A A A A A A A A A A A
—1—X—	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO	***	SELECTOR SWITCH, ON-OFF TYPE				G, GND			M WAYNE
1	·						HH HZ	HANDHOLE HERTZ		
AFD AFD	ELECTRONIC STARTER/SPEED CONTROL  AFD = AC ADJUSTABLE FREQUENCY DRIVE	0 0*					IC KVA	ISOLATION CONTACTOR KILOVOLT AMPERES		VISION OHK
	DC = DC ADJUSTABLE SPEED DRIVE RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVAT = REDUCED VOLTAGE REACTOR TYPE	\ <u>\</u> ,	İ				KV LS1	KILOVOLT  LONG TIME, SHORT TIME, INSTANTANEOUS		RE) REJUNIER RESIGN.
		A	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR				LV	LOW VOLTAGE		X RIII
«—	DRAWOUT CIRCUIT BREAKER, MEDIUM VOLTAGE	) A	INDICATING LIGHT - LETTER INDICATES COLOR				MCC MIN MTD	MOTOR CONTROL CENTER MINUTE, MINIMUM MOUNTED		MENT
	MOTOR CONTACTOR, MEDIUM VOLTAGE	, , , , , ,	A - AMBER G - GREEN S - STROBE B - BLUE R - RED				MTS MV	MANUAL TRANSFER SWITCH MEDIUM VOLTAGE		DR
	MOTOR GONTACTOR, MEDIUM VOLTAGE		C - CLEAR W - WHITE				NEC NFPA	NATIONAL ELECTRICAL CODE NATIONAL FIRE PROTECTION ASSOCIATION		SON N. AS AN
	ı	ETM	ELAPSED TIME METER				OL PH	OVERLOAD PHASE		ATE ALCHOIL
		O(M)O	MOTOR STARTER CONTACTOR COIL				RMS	ROOT MEAN SQUARE		N N D N ORATEI
	RVSS = REDUCED VOLTAGE SOFT STARTER	OCRXO	CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT				RVSS SEC	REDUCES VOLTAGE SOLID STATE STARTER SECONDS		NO. DSGI
	CABLE OR BUS CONNECTION POINT	O(X)	TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT				SPD SW	SURGE PROTECTIVE DEVICE SOUTH WEST		ESIGNS
К	KEY INTERLOCK	(SV X	SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT				TDR TYP	TIME DELAY RELAY TYPICAL	2001	/AL ONS ES SAND D
<b></b>	SURGE ARRESTER (GAP TYPE)	<u> </u>	CONTACT - NORMALLY OPEN				V	VOLTS, VOLTAGE, VOLT METER	ON RD 32608 001992 - PE 60	EMOV ICATIC TILITIE Y, FL
——————————————————————————————————————	CAPACITOR - KVAR INDICATED, 3 PHASE	<del> </del>	CONTACT - NORMALLY CLOSED				W XFMR	WITH TRANSFORMER	WILLISTG //ILLE, FL. 772 AACO HOLSON-	GEN RE MODIFI JUNTY U COUNTY
			REMOTE DEVICE				z	IMPEDANCE	W WILL SVILL 3072	STER I E COU TEE C
(3)	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED	~~	TIME DELAY RELAY CONTACT, NORMALLY OPEN,						3011 SW GAINESV EB00000'	MANA  MANA  THIS DO
G	GENERATOR, KW/KVA RATING SHOWN		CLOSES WHEN ENERGIZED AND TIMED OUT TIME DELAY RELAY CONTACT, NORMALLY CLOSED,						301 GA GANID DAVID	SWWF AND DI MANA MA
500/625	ı	\ \	OPENS WHEN ENERGIZED AND TIMED OUT							OCUME
	UTILITY REVENUE METER	•	TIME DELAY RELAY CONTACT, CLOSES WHEN ENERGIZED, OPENS WHEN DE-ENERGIZED AND TIMED OUT							SE OF D
		J.	TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSES WHEN DE-ENERGIZED AND TIMED OUT							REU
<del>+</del>	GROUND									_
15 KVA 480-120/2	0/240V		TERMINAL BLOCK, REMOTE						e	G P
1 PH 1 PH	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED	•	TERMINAL BLOCK, INTERNAL						🗖	EGE
	SHIELDED ISOLATION TRANSFORMER								토	
<u></u>			FUOE DATING WINES						\$	GENERAL I
480-120V	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED		FUSE, RATING INDICATED						2	CTR
(3)		CPT	TRANSFORMER, CONTROL POWER							ELE(
100:5 (3)	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)	120V	İ						六	ш
) (a)	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER		İ						0	
	DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION									
SDP	SURGE PROTECTIVE DEVICE	NOTES:	İ						VFRI	FY SCALE
		1. THESE ARE STANDA	ARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS						BAR IS	ONE INCH ON IAL DRAWING.
DPM	DIGITAL POWER METER WITH MODBUS CONNUMICATIONS LINK TO DEVICE SHOWN	2. FOR ADDITIONAL AB	HE LEGEND AND NOT ON THE DRAWINGS.  BBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND						DATE	JUNE 2013
	i	STRUCTURAL/ARCH	ITECTURAL) SEE OTHER LEGENDS.						PROJ DWG	457133 001-G-0301
<u></u>		<u> </u>	i	<u> </u>				FILENAME: 001-G-0301_457133.dgn	PLOT DATE: 6/17/2013 PLOT	of <u>(7.</u> TIME: 4:36:33 PM

	DESCRIPTION	SYMBOL	DESCRIPTION
	POWER SYSTEM PLAN		POWER SYSTEM PLAN
<b>(a)</b>	CONNECTION POINT TO EQUIPMENT SPECIFIED. RACEWAY, CONDUCTOR, TERMINATION AND CONNECTION IN THIS DIVISION.	100/40	BREAKER, SEPARATELY MOUNTED, CURRENT RATING INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
MCC-A	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.	E 30	3 POLE  LIGHTING CONTACTOR, CURRENT RATING INDICATED
	PANELBOARD - SURFACE MOUNTED	<b>≥</b> 2	STARTER, MAGNETIC NEMA SIZE INDICATED
LPXXA	PANELBOARD LETTER OR NUMBER  FACILITY NUMBER  LP - LOW VOLTAGE PANEL  DP - DISTRIBUTION PANEL	XX ⊕ 2	CONVENIENCE RECEPTACLE - DUPLEX UNLESS NOTED OTHERWISE WP-WEATHERPROOF C-CLOCK HANGER TL-TWIST LOCK CRE-CORROSION RESISTANT GFCI-GROUND FAULT CIRCUIT INTERRUPTER SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT
	PANELBOARD - FLUSH MOUNTED		240V RECEPTACLE
	TERMINAL JUNCTION BOX	₩	
M	MOTOR, SQUIRREL CAGE INDUCTION	₩.	CONVENIENCE RECEPTACLE - QUADRUPLEX
G	GENERATOR, VOLTAGE AND SIZE AS INDICATED.		DUPLEX CONVENIENCE RECEPTACLE - FLUSH IN FLOOR
→ LPXXA	HOME RUN - DESTINATION SHOWN	₽	CONVENIENCE RECEPTACLE, PEDESTAL, DUPLEX SINGLE FACE UNLESS INDICATED OTHERWISE
or -/// <sub>G</sub>	EXPOSED CONDUIT AND CONDUCTORS*	L20R 20 🙆	RECEPTACLE, SPECIAL PURPOSE-NEMA CONFIGURATION AND AMPERAGE INDICATED
or -/#/ <sub>G</sub> <u>NOTE</u> :	CONCEALED CONDUIT AND CONDUCTORS*	T	THERMOSTAT
ALL UNMARKED COI CONDUCTORS IN 3/4	NDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND 4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES RE.		UTILITY POLE
	CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.		LIGHTING SYSTEM PLAN
	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.	① or ①	LUMINAIRE, SEE SCHEDULE
[A1] —		(1)	LUMINAIRE, SEE SCHEDULE
	CONDUIT DOWN	or Ø	LUMINAIRE WITH INTERNAL BATTERY BACKUP, SEE SCHEDULE
o	CONDUIT UP	<u></u> ⊢0	STRIP LUMINAIRE, SEE SCHEDULE
	CONDUIT, STUBBED AND CAPPED	□-4 or ○-4	LUMINAIRE AND POLE, SEE SCHEDULE
	CONDUIT TERMINATION AT CABLE TRAY	15 or 1−5	WALL MOUNTED LUMINAIRE, SEE SCHEDULE
——ЕХ——	EXISTING CONDUIT/ DUCT BANK	1 -	FLOOD LIGHTS - AIM IN THE DIRECTION SHOWN
——ВD——	BUS DUCT - SEE SPECIFICATIONS	4	STANDBY LIGHTING UNIT, SURFACE MOUNTED, SEE SCHEDULE
——FO——	FIBER OPTIC CONDUIT		
——DB——	DIRECT BURIED CONDUIT	xx⊗ or ⊈	EXIT LIGHTS - FILLED SECTION INDICATES LIGHTED FACE, ARROW INDICATES EGRESS DIRECTIONAL INDICATORS, XX = FIXTURE NUMBER, SEE SCHEDULE
<b></b>	CONCRETE ENCASED CONDUIT	\$ <sub>a or 2</sub>	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT
\(\frac{xxxx}{}	CONCRETE ENCASED DUCT BANK WHERE XXXX IS THE DUCT BANK ID. SEE DUCT BANK SCHEDULE	<b>\$</b> <sub>3</sub>	WALL SWITCH: 2- DOUBLE POLE P- PILOT LIGHT
ⅎ	TRANSFORMER		3- THREE WAY K- KEY OPERATED 4- FOUR WAY D- DIMMER WP- WEATHERPROOF CRE- CORROSION RESISTANT EX- EXPLOSIONPROOF L- MOMENTARY 3-WAY
J or HH	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE	LC	M- MOTOR RATED MS- MANUAL STARTER WITH OVERLOADS LIGHTING CONTACTOR
CS	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.	 	PHOTOCELL
30 🖳	NONFUSED DISCONNECT SWITCH, CURRENT RATING		
60/40 <b>/</b>	INDICATED, 3 POLE  FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE 3 POLE	lacksquare	TELEPHONE/DATA OUTLET
	3 POLE		

#### GENERAL CIRCUIT CONDUCTOR AND CONDUIT IDENTIFICATION

CIRCUIT AND RACEWAY

EQI	JIPMENT GROUNDS		CIRCUIT CALLOUTS 100% GROUNDS		ERVICE GROUND
	IEC 250 Table 122	1	NEC 250-122(A)		NEC 250 Table 66
			2 Wire + Ground	_	
[20E2]	3/4"C-2#12,#12G	[20M2]	3/4"C-2#12,#12G	NA	NA
[30E2]	3/4"C-2#10,#10G	[30M2]	3/4"C-2#10,#10G	NA	NA
[40E2]	3/4"C-2#8,#10G	[40M2]	3/4"C-2#8,#8G	[4052]	3/4"C-2#8,#8G
[50E2]	3/4"C-2#8,#10G	[50M2]	3/4"C-2#8,#8G	[50S2]	3/4"C-2#8,#8G
[60E2]	1"C-2#6,#10G	[60M2]	1"C-2#6,#6G	[60\$2]	3/4"C-2#6,#8G
[70E2]	1"C-2#4,#8G	[70M2]	1"C-2#4,#4G	[70S2]	3/4"C-2#4,#8G
[80E2]	1"C-2#4,#8G	[80M2]	1"C-2#4,#4G	[80S2]	3/4"C-2#4,#8G
[90E2]	1"C-2#3,#8G	[90M2]	1"C-2#3,#3G	[90S2]	1"C-2#3,#8G
[100E2]	1"C-2#3,#8G	[100M2]	1"C-2#3,#3G	[100S2]	1"C-2#3,#8G
[110E2]	1"C-2#2,#6G	[110M2]	1"C-2#2,#2G	[110S2]	1"C-2#2,#8G
[125E2]	1-1/4"C-2#1,#6G	[125M2]	1-1/4"C-2#1,#1G	[125S2]	1-1/4"C-2#1,#6G
[150E2]	1-1/4"C-2#1/0,#6G	[150M2]	1-1/4"C-2#1/0,#1/0G	[150S2]	1-1/4"C-2#1/0,#60
[200E2]	1-1/2"C-2#3/0,#6G	[200M2]	1-1/2"C-2#3/0,#3/0G	[200S2]	1-1/4"C-2#3/0,#40
[225E2]	2"C-2#4/0,#4G	[225M2]	2"C-2#4/0,#4/0G	[225\$2]	1-1/2"-2#4/0,#2G
400E2]	3"C-2#500.#3G	[400M2]	3"C-2#500,#500G	[400S2]	3"-2#500,#1/0G
	· · · · · · · · · · · · · · · · · · ·		3 Wire + Ground		
[20E3]	3/4"C-3#12,#12G	[20M3]	3/4"C-3#12,#12G	NA	NA
[30E3]	3/4"C-3#10,#10G	[30M3]	3/4"C-3#10.#10G	NA	NA
[40E3]	3/4"C-3#8,#10G	[40M3]	3/4"C-3#8,#8G	[4053]	3/4"C-3#8,#8G
[50E3]	3/4"C-3#8,#10G	[50M3]	3/4"C-3#8,#8G	[5083]	3/4"C-3#8,#8G
[60E3]	3/4"C-3#6,#10G	[60M3]	3/4"C-3#6,#6G	[6053]	3/4"C-3#6,#8G
[70E3]	1"C-3#4,#8G	[70M3]	1"C-3#4,#4G	[7053]	1"C-3#4,#8G
[80E3]	1"C-3#4,#8G	[80M3]	1"C-3#4,#4G	[8083]	1"C-3#4,#8G
[90E3]	1-1/4"C-3#3,#8G	[90M3]	1-1/4"C-3#3,#3G	[9053]	1"C-3#3,#8G
[100E3]	1-1/4"C-3#3,#8G	[100M3]	1-1/4"C-3#3,#3G	[10053]	1"C-3#3,#8G
	1-1/2"C-3#2,#6G		1-1/2"C-3#2,#2G		1"C-3#2,#8G
[110E3]		[110M3] [125M3]	1-1/2"C-3#2,#2G	[11083]	
[125E3]	1-1/2"C-3#1,#6G			[125S3] [150S3]	1-1/2"C-3#1,#6G
[150E3]	1-1/2"C-3#1/0,#6G	[150M3]	1-1/2"C-3#1/0,#1/0G		1-1/4"C-3#1/0,#60
[200E3]	2"C-3#3/0,#6G	[200M3]	2"C-3#3/0,#3/0G	[20053]	1-1/2"C-3#3/0,#40
[225E3]	2"C-3#4/0,#4G	[225M3]	2"C-3#4/0,#4/0G	[22583]	2"C-3#4/0,#2G
[250E3]	2-1/2"C-3#300,#4G	[250M3]	2-1/2"C-3#300,#300G	[25083]	2-1/2"C-3#300,#2
[300E3]	3"C-3#350,#4G	[300M3]	3"C-3#350,#350G	[30083]	2-1/2"C-3#350,#2
[350E3]	3"C-3#500,#3G	[350M3]	3"C-3#500,#500G	[35083]	3"C-3#500,#1/0G
[400E3]	3"C-3#500,#3G	[400M3]	3"C-3#500,#500G	[400S3]	3"C-3#500,#1/0G
[500E3]	(2)2-1/2"C-3#250,#2G	[500M3]	(2)2-1/2"C-3#250,#250G	[500S3]	(2)2-1/2"C-3#250,
[600E3]	(2)3"C-3#350,#1G	[600M3]	(2)3"C-3#350,#350G	[600S3]	(2)3"C-3#350,#2/0
[700E3]	(2)3"C-3#500,#1/0G	[700M3]	(2)3"C-3#500,#500G	[70053]	(2)3"C-3#500,#2/0
[800E3]	(2)3"C-3#500,#1/0G	[800M3]	(2)3"C-3#500,#500G	[80053]	(2)3"C-3#500,#2/0
	(3)3"C-3#350,#2/0G		(3)3"C-3#500,#500G		(3)3"C-3#500,#3/0
	(3)3-1/2"C-3#600,#3/0G		(3)3-1/2"C-3#600,#600G		(3)3-1/2"C-3#600,
	(4)3-1/2"C-3#600,#4/0G		(4)3-1/2"C-3#600,#600G		(4)3-1/2"C-3#600,
	(5)3-1/2"C-3#600,#250G		(5)3-1/2"C-3#600,#600G		(5)3-1/2"C-3#600,
	(6)3-1/2"C-3#600,#350G		(6)3-1/2"C-3#600,#600G		(6)3-1/2"C-3#600,
	(8)3-1/2"C-3#600,#400G		(8)3-1/2"C-3#600,#600G		(8)3-1/2"C-3#600,
[4000E3]	(10)3-1/2"C-3#600,#500G	[4000M3]	(10)3-1/2"C-3#600,#600G	[4000S3]	(10)3-1/2"C-3#600
	4 Wire	+ Ground		M	ULTI-WIRE 20 AM
[20E4]	3/4"C-4#12,#12G	[20M4]	3/4"C-4#12,#12G	[20E5]	3/4"C-5#12,1#120
[30E4]	3/4"C-4#10,#10G	[30M4]	3/4"C-4#10,#10G	[20E6]	3/4"C-6#12,1#120
[40E4]	3/4"C-4#8,#10G	[40M4]	3/4"C-4#8,#8G	[20E7]	3/4"C-7#12,1#120
[50E4]	3/4"C-4#8,#10G	[50M4]	3/4"C-4#8,#8G	[20E8]	3/4"C-8#12,1#120
[60E4]	1"C-4#6,#8G	[60M4]	1"C-4#6,#6G	[20E9]	3/4"C-9#12,1#120
[70E4]	1-1/4"C-4#4,#8G	[70M4]	1-1/4"C-4#4,#4G	[20E10]	1"C-10#10,1#10G
[80E4]	1-1/4"C-4#4,#8G	[80M4]	1-1/4"C-4#4,#4G	[20E11]	1"C-11#10,1#10G
[90E4]	1-1/4"C-4#3,#8G	[90M4]	1-1/4"C-4#3,#3G	[20E12]	1"C-12#10,1#10G
[100E4]	1-1/4"C-4#3,#8G	[100M4]	1-1/4"C-4#3,#3G	[20E13]	1"C-13#10,1#10G
[11034]	1-1/2"C-4#2,#0G	[110M3]	1=1/2"C-4#2,#2G	[20E14]	1"C-14#10,1#10G
[125E4]	1-1/2"C-4#1,#6G	[125M4]	1-1/2"C-4#1,#1G	[20E15]	1"C-15#10,1#10G
[150E4]	2"C-4#1/0,#6G	[150M4]	2"C-4#1/0,#1/0G	[20E16]	1-1/4"C-16#10,1#
[200E4]	2"C-4#3/0,#6G	[200M4]	2"C-4#3/0,#3/0G	[20E17]	1-1/4"C-17#10,1#
[225E4]	2-1/2"C-4#4/0,#4G	[225M4]	2-1/2"C-4#4/0,#4/0G	[20E18]	1-1/4"C-18#10,1#
[250E4]	3"C-4#300,#4G	[250M4]	3"C-4#300,#300G	[20E19]	1-1/4 C-19#10,1#
	3"C-4#350,#4G	[300M4]	3"C-4#350,#350G	[20E20]	1-1/4"C-20#10,1#
1300E41	3-1/2"C-4#500,#3G	[350M4]	3-1/2"C-4#500,#500G	الحمتحما	11-11- 0-20#10,1#
[300E4] [350E4]		[400M4]	(2)3-1/2'C-4#500,#500G	-	
[350E4]		[500M4]	(2)3-1/2 C-4#300,#300G	1	
[350E4] [400E4]	(2)3-1/2"C-4#500,#3G		(2)3"C-4#350,#350G	-	THE MILL TIME
[350E4] [400E4] [500E4]	(2)3-1/2"C-4#250,#2G			1	THE MULTIWIRE
[350E4] [400E4] [500E4] [600E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G	[600M4]			
[350E4] [400E4] [500E4] [600E4] [700E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G (2)3-1/2"C-4#500,#1/0G	[600M4] [700M4]	(2)3-1/2"C-4#500,#500G	***	
[350E4] [400E4] [500E4] [600E4] [700E4] [800E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G (2)3-1/2"C-4#500,#1/0G (2)3-1/2"C-4#500,#1/0G	[600M4] [700M4] [800M4]	(2)3-1/2'C-4#500,#500G (2)3-1/2'C-4#500,#500G	HERE SI	HALL NOT BE US
[350E4] [400E4] [500E4] [600E4] [700E4] [800E4] [1000E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G (2)3-1/2"C-4#500,#1/0G (2)3-1/2"C-4#500,#1/0G (3)3"C-4#350,#2/0G	[600M4] [700M4] [800M4] [1000M4]	(2)3-1/2"C-4#500,#500G (2)3-1/2"C-4#500,#500G (3)3"C-4#350,#350G	HERE SI RECE	HALL NOT BE US PTACLE CIRCUIT
[350E4] [400E4] [500E4] [600E4] [700E4] [800E4] [1000E4] [1200E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G (2)3-1/2"C-4#500,#1/0G (2)3-1/2"C-4#500,#1/0G (3)3"C-4#350,#2/0G (3)4"C-4#600,#3/0G	[600M4] [700M4] [800M4] [1000M4] [1200M4]	(2)3-1/2"C-4#500,#500G (2)3-1/2"C-4#500,#500G (3)3"C-4#350,#350G (3)4"C-4#600,#600G	HERE SI RECE OTHI	HALL NOT BE US PTACLE CIRCUIT ER CORD-AND-PL
350E4] [400E4] [500E4] [600E4] [700E4] [800E4] [1000E4] [1200E4] [1600E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#550,#10 (2)3-1/2"C-4#500,#1/0G (2)3-1/2"C-4#500,#1/0G (3)3"C-4#350,#20G (3)4"C-4#600,#3/0G (4)4"C-4#600,#4/0G	[600M4] [700M4] [800M4] [1000M4] [1200M4] [1600M4]	(2)3-1/2"C-4#500,#500G (2)3-1/2"C-4#500,#500G (3)3"C-4#350,#350G (3)4"C-4#600,#600G (4)4"C-4#600,#600G	HERE SI RECE OTHI	HALL NOT BE USI PTACLE CIRCUIT ER CORD-AND-PL TED PORTABLE I
[350E4] [400E4] [500E4] [600E4] [700E4] [800E4] [1000E4] [1200E4] [1600E4] [2000E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G (2)3-1/2"C-4#500,#1/0G (2)3-1/2"C-4#500,#1/0G (3)3"C-4#350,#2/0G (3)4"C-4#600,#3/0G (4)4"C-4#600,#4/0G (5)4"C-4#600,#250G	[600M4] [700M4] [800M4] [1000M4] [1200M4] [1600M4] [2000M4]	(2)3-1/2"C-4#500,#500G (2)3-1/2"C-4#500,#500G (3)3"C-4#350,#350G (3)4"C-4#600,#600G (4)4"C-4#600,#600G 4"C-4#600,#600G	HERE SI RECE OTHI	HALL NOT BE US PTACLE CIRCUIT ER CORD-AND-PL
[350E4] [400E4] [500E4] [600E4] [700E4] [800E4] [1000E4] [1200E4] [1600E4] [2000E4] [2500E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G (2)3-1/2"C-4#500,#1/0G (2)3-1/2"C-4#500,#1/0G (3)3"C-4#350,#2/0G (3)4"C-4#600,#3/0G (4)4"C-4#600,#4/0G (5)4"C-4#600,#350G	[600M4] [700M4] [800M4] [1000M4] [1200M4] [1600M4] [2000M4]	(2)3-1/2"C-4#500,#500G (2)3-1/2"C-4#500,#500G (3)3"C-4#350,#350G (3)4"C-4#600,#600G (4)4"C-4#600,#600G 4"C-4#600,#600G	HERE SI RECE OTHI	HALL NOT BE USI PTACLE CIRCUIT ER CORD-AND-PL TED PORTABLE I
[350E4] [400E4] [500E4] [600E4] [700E4] [800E4] [1000E4] [1200E4] [1600E4] [2000E4] [2500E4]	(2)3-1/2"C-4#250,#2G (2)3"C-4#350,#1G (2)3-1/2"C-4#500,#1/0G (2)3-1/2"C-4#500,#1/0G (3)3"C-4#350,#2/0G (3)4"C-4#600,#3/0G (4)4"C-4#600,#4/0G (5)4"C-4#600,#250G	[600M4] [700M4] [800M4] [1000M4] [1200M4] [1600M4] [2000M4] [2500M4]	(2)3-1/2"C-4#500,#500G (2)3-1/2"C-4#500,#500G (3)3"C-4#350,#350G (3)4"C-4#600,#600G (4)4"C-4#600,#600G 4"C-4#600,#600G	HERE SI RECE OTHI	HALL NOT BE USI PTACLE CIRCUIT ER CORD-AND-PL TED PORTABLE I

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- NOTES:

  1. FOR CABLE TYPES, SEE SPECIFICATIONS.
- 2. CONDUIT SIZES ARE BASE ON THE AREA OF THW CONDUCTORS.
- SIZING OF CONDUCTORS #2AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.
- 4. WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 1".

ANALOG			ANALOG		DISCRETE		
[A1]	3/4"C, 1 TYPE 3	[B1]	3/4"C, 1 TYPE4	[C1]	1"C, MSC		
[A2]	3/4"C, 2 TYPE 3	[B2]	1°C, 2 TYPE 4	[C2]	3/4"C, 2#14, 1#14G		
[A3]	1"C, 3 TYPE 3	[B3]	1°C, 3 TYPE 4	[C4]	3/4"C, 4#14, 1#14G		
[A4]	1"C, 4 TYPE 3	[B4]	1-1/4"C, 4 TYPE 4	[C6]	3/4"C, 6#14, 1#14G		
[A5]	1"C, 5 TYPE 3	[B5]	1-1/4"C, 5 TYPE 4	[C8]	3/4"C, 8#14, 1#14G		
[A6]	1-1/4"C, 6 TYPE 3	[B6]	1-1/2"C, 6 TYPE 4	[C10]	3/4"C, 10#14, 1#14G		
[A7]	1-1/4"C, 7 TYPE 3	[B7]	1-1/2"C, 7 TYPE 4	[C12]	3/4"C, 12#14, 1#14G		
[A8]	1-1/2"C, 8 TYPE 3	[B8]	1-1/2"C, 8 TYPE 4	[C14]	3/4"C, 14#14, 1#14G		
[A9]	1-1/2"C, 9 TYPE 3			[C16]	3/4"C, 16#14, 1#14G		
[A10]	1-1/2"C, 10 TYPE 3			[C18]	3/4"C, 18#14, 1#14G		
[A11]	1-1/2"C, 11 TYPE 3			[C20]	1"C, 20#14, 1#14G		
[A12]	2"C, 12 TYPE 3		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	[C22]	1"C, 22#14, 1#14G		
[A13]	2"C, 13 TYPE 3			[C24]	1"C, 24#14, 1#14G		
[A14]	2"C, 14 TYPE 3			[C26]	1"C, 26#14, 1#14G		
[A15]	2"C, 15 TYPE 3			[C28]	1"C, 28#14, 1#14G		
[A16]	2"C, 16 TYPE 3			[C30]	1"C, 30#14, 1#14G		
[A17]	2"C, 17 TYPE 3			[C36]	1-1/2"C, 36#14, 1#14G		
[A18]	2"C, 18 TYPE 3			[C40]	1-1/2"C, 40#14, 1#14G		
[A19]	2"C, 19 TYPE 3			[C46]	1-1/2"C, 46#14, 1#14G		
[A20]	2"C, 20 TYPE 3			[C50]	1-1/2"C, 50#14, 1#14G		
[A21]	2-1/2"C, 21 TYPE 3			[C58]	1-1/2"C, 58#14, 1#14G		
[A22]	2-1/2"C, 22 TYPE 3			[C72]	1-1/2"C, 72#14, 1#14G		
				[C100]	2-1/2"C, 100#14, 1#14G		
		1		[CAT]	3/4"C, CAT 6		
				[MODBUS]	3/4"C, MODBUS RTU CABLE, TYPE 31		

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ELECTRICAL LEGEND SHEET 2

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#### INSTRUMENT IDENTIFICATION INSTRUMENT IDENTIFICATION LETTERS TABLE FIRST-LETTER SUCCEEDING-LETTERS READOUT OR PROCESS OR READOUT OR READOUT OR **LETTER** INITIATING VARIABLE MODIFIER PASSIVE FUNCTION PASSIVE FUNCTION PASSIVE FUNCTION **EXAMPLE SYMBOLS** ANALYSIS (+) ALARM BURNER, COMBUSTION USER'S CHOICE (\*) USER'S CHOICE (\*) USER'S CHOICE (\*) В UNIT PROCESS NUMBER С USER'S CHOICE (\*) CONTROL DIFFERENTIAL D DENSITY (S.G.) - CLARIFYING ABBREVIATIONS PRIMARY ELEMENT, SENSOR Ε **VOLTAGE** - FIRST LETTER(S) SUCCEEDING LETTER(S) FLOW RATE LLUUS G USER'S CHOICE (\*) GLASS, GAUGE GATE SET LETTER (LISED WHEN HAND (MANUAL) HIGH WITH THE SAME UNIT NUMBER) CURRENT (ELECTRICAL) INDICATE POWER SCAN UNIT NUMBER TIME. TIME SCHEDULE TIME RATE CONTROL STATION OF CHANGE LOOP NUMBER LEVEL LIGHT (PILOT) LOW MOTION MOMENTARY MIDDLE, INTERMEDIATE M Ν TORQUE USER'S CHOICE (\*) USER'S CHOICE (\*) USER'S CHOICE (\*) 0 USER'S CHOICE (\*) ORIFICE, RESTRICTION Ρ PRESSURE, VACUUM POINT (TEST) CONNECTION INTEGRATE, TOTALIZE Q QUANTITY **DIGITAL SYSTEM INTERFACES** RADIATION RECORD OR PRINT SAFETY S SPEED, FREQUENCY SWITCH ANALOG INPUT Т TEMPERATURE TRANSMIT MULTI VARIABLE MULTI FUNCTION MULTI FUNCTION MULTI FUNCTION U ANALOG OUTPUT VALVE, DAMPER, MECHANICAL ANALYSIS DISCRETE INPUT LOUVER Δ WEIGHT, FORCE W WELL DISCRETE OUTPUT Х UNCLASSIFIED (\*) X AXIS UNCLASSIFIED (\*) UNCLASSIFIED (\*) UNCLASSIFIED (\*) EVENT, STATE OR PRESENCE RELAY, COMPUTE, CONVERT Υ Y AXIS DRIVE, ACTUATOR, UNCLASSIFIED FINA POSITION Ζ Z AXIS CONTROL ELEMENT TABLE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARD. (+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS. (\*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT. **GENERAL INSTRUMENT OR TRANSDUCERS** ACCESSORY DEVICES SPECIAL CASES **FUNCTIONAL SYMBOLS** ANALOG CURRENT ALARM ON AND OFF EVENT CONTROLLER DIGITAL **PNEUMATIC** С FIELD MOUNTED VOLTAGE PULSE FREQUENCY I INDICATOR FREQUENCY PD PULSE DURATION RECORDER ON-OFF HAND SWITCH REAR-OF-PANEL 00 MOUNTED (OPERATOR HYDRAULIC RESISTANCE SWITCH MAINTAINED CONTACT / HS $\setminus$ INACCESSIBLE) SWITCH (CONTROLLED TRANSMITTER DEVICE WILL RESTART ON RETURN OF POWER PANEL MOUNTED **EXAMPLE** UNCLASSIFIED AFTER POWER FAILURE) (OPERATOR ACCESSIBLE) **EXAMPLE** CURRENT TO PNEUMATIC STOP-START HAND SWITCH MOMENTARY CONTACT TRANSDUCER (BACK OF / HS $\setminus$ SWITCHES (CONTROLLED PANEL, IN A FLOW LOOP) TRANSMITTER AS AN MCC MOUNTED DEVICE WILL NOT RESTART ACCESSORY TO A ON RETURN OF POWER FLOW ELEMENT COMPUTER FUNCTION PLC FUNCTION نحت SHARED DISPLAY SHARED CONTROL HS LOR HS (UU) ELECTRIC ACTUATOR WITH MULTI-VARIABLE MULTI-FUNCTION OPERATOR STATION. INCLUDING LOCAL/OFF/REMOTE HANDSWITCH, OPEN/STOP/CLOSE PUSHBUTTON AND OPEN CLOSED STATUS LIGHTS E EQUALS ZL

#### LINE LEGEND PRIMARY PROCESS (CLOSED CONDUIT, DASHED LINE INDICATES PARALLELING LINES ALTERNATE FLOW STREAM) SECONDARY PROCESS BYPASS PROCESS (A) (B) PROCESS (OPEN CHANNEL) $\longrightarrow$ TOTAL OF 2 SIGNALS ANALOG SIGNAL (4 TO 20 mAdc, ETC.) 3 TYPICAL SETS OF (B) DISCRETE SIGNALS EACH TOTAL OF 6 SIGNALS. CONNECTING LINES PNEUMATIC SIGNAL -X - X - X -FILLED SYSTEM SIGNAL HYDRAULIC SYSTEM SIGNAL DATA LINK BUILDING OR FACILITY BOUNDARY PACKAGE SYSTEM NON-CONNECTING LINES TYPICAL BREAK INTERFACE SYMBOLS W-A PROCESS INTERFACE SIGNAL INTERFACE W-A D SOURCE UNIT PROCESS NO. (3 DIGITS) INTERFACE NO. (2 DIGITS) DESTINATION DRAWING NO

## **SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS**

W-D-X-Y

UNIT PROCESS NUMBER

SOURCE DRAWING NO

INTERFACE TO

OR FROM PROCESS

EXTERNAL TO PROJECT

PROCESS OR SIGNAL

N=1.2.3.ETC

N LINE CONTINUATION (N)

ARV AIR RELEASE VALVE AIR AND VACUUM RELEASE VALVE BLOWER CMP COMPRESSOR

> GTE GATE MECHANICAL EQUIPMENT MIX MIXER NMH MONORAIL

EJECTOR

PMP PUMP PRV PRESSURE RELIEF VALVE

TANK SCR SCREEN

LOOP NUMBER UNIT NUMBER

# GAIN OR ATTENUATE

**GENERAL NOTES** 

COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (\*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.

ABBREVIATIONS & LETTER SYMBOLS

CHLORINE (TYPICAL: USE STANDARD CHEMICAL

FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER

X=PANEL NUMBER)

ALTERNATING CURRENT

COMPLITER-ALITO-MANUAL

COMPUTER-MANUAL

DIRECT CURRENT

DISSOLVED OXYGEN

FAST-OFF-SLOW-AUTO

FORWARD-REVERSE

HAND-OFF-AUTO

LOCAL-REMOTE

MANUAL-AUTO MODULATE-CLOSE

OPEN-CLOSE(D)

SLOWER-FASTER

START-STOP

TURBIDITY

VIBRATION DIFFERENCE

MULTIPLY

AVERAGE REPEAT OR BOOST SELECT HIGHEST SIGNAL

CHARACTERIZED

SQUARE ROOT

DIVIDE

ON-OFF ON-OFF-AUTO ON-OFF-REMOTE

OPEN-CLOSE-AÚITO

OPEN-CLOSE-REMOTE

HAND-OFF-REMOTE

FAST-OFF-SLOW-REMOTE

INTRINSICALLY SAFE RELAY

MOTOR CONTROL CENTER NO. X MASTER CONTROL PANEL

MANUFACTURER SUPPLIED CABLE

OPERATOR INTERFACE UNIT
OXIDATION REDUCTION POTENTIAL

OPEN-STOP-CLOSE HYDROGEN ION CONCENTRATION

PROGRAMMABLE LOGIC CONTROLLER

REMOTE MULTIPLEXING MODULE NO. X

SUPERVISORY SET POINT CONTROL

TOTAL CHLORINE RESIDUAL

VARIABLE FREQUENCY DRIVE

VOLATILE HYDROCARBONS

RAISED TO THE Nth POWER

SELECT LOWEST SIGNAL

TOTAL ORGANIC CARRON TOTAL OXYGEN DEMAND

LOCAL CONTROL PANEL

LOWER EXPLOSIVE LIMIT LOCKOUT STOP

FIRE ALARM PANEL

FAST-OFF-SLOW

CONTROL PANEL NO. X

CENTRAL CONTROL SYSTEM

CHEMICAL OXYGEN DEMAND

DISTRIBUTED CONTROL UNIT

FREE CHLORINE RESIDUAL

DISTRIBUTED CONTROL SYSTEM

ADJUSTABLE FREQUENCY DRIVE AUTO-MANUAL

AC AFD AM

CAM

CM

COD CP-X

DC DCS

DCU DO FAP

FCL<sub>2</sub>

FOS

FOSA

HOA

HOR

LEL LOS

IR

MA MC

MCC-X MCP

MSC OCA OCR OO OOA OOR OIU ORP

OSC

pH PLC RIO RM-X

SS SSC

TCL<sub>2</sub>

TOC TOD

TURE

VFD VHC VIB

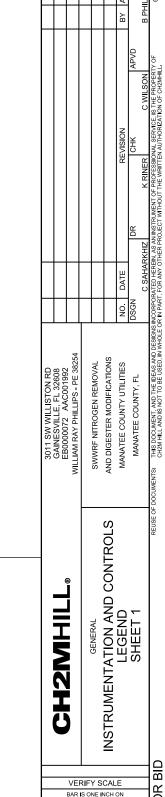
F(X)

AVG 1:1

FOSR FP-W-X

CL<sub>2</sub> etc

- COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (\*\*) ARE TO BE PROVIDED UNDER DIVISION 26, ELÉCTRICAI
- COMPONENTS SHOWN WITH A DIAMOND ( $\spadesuit$ ) ARE PART
- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT

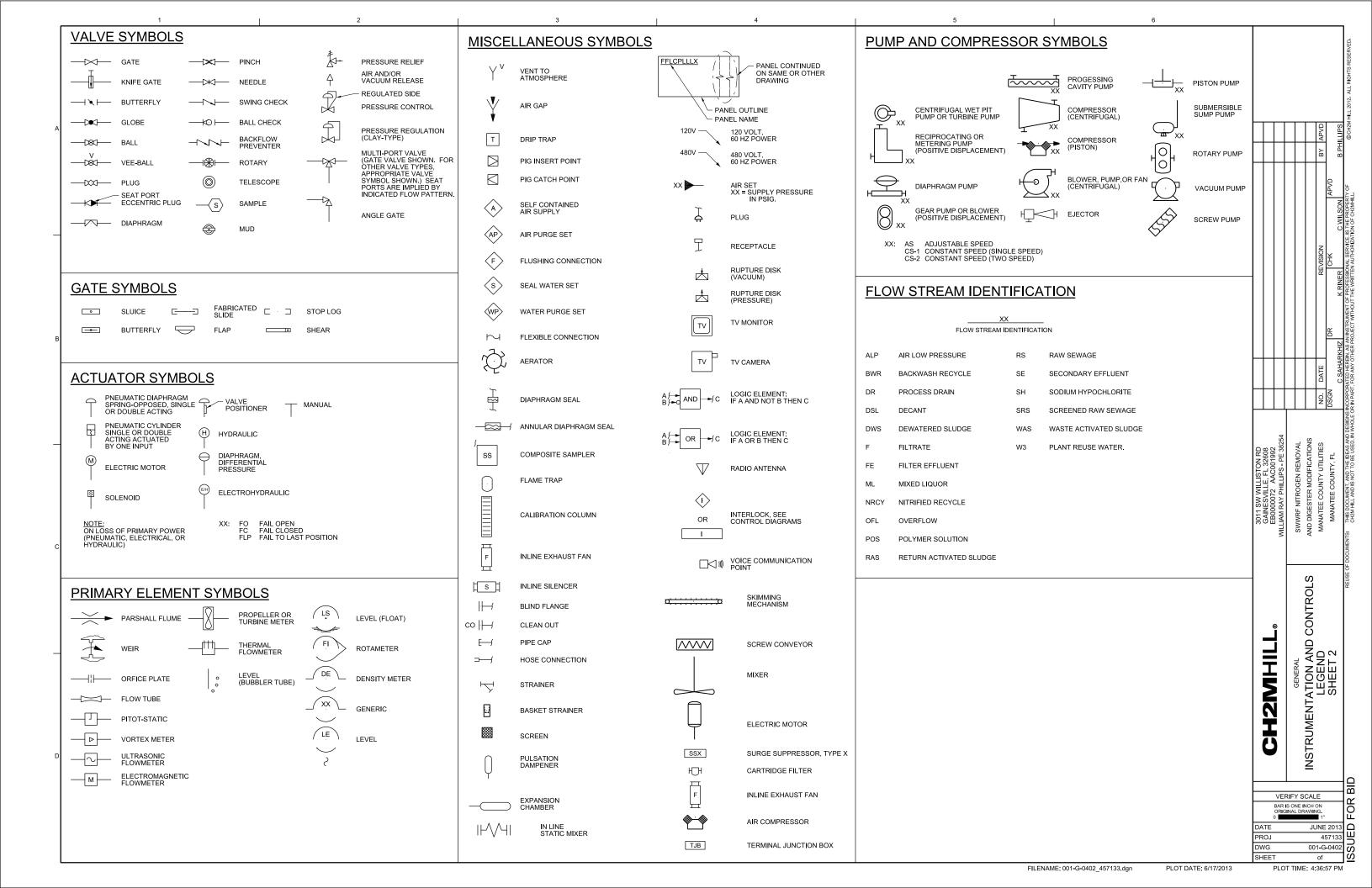


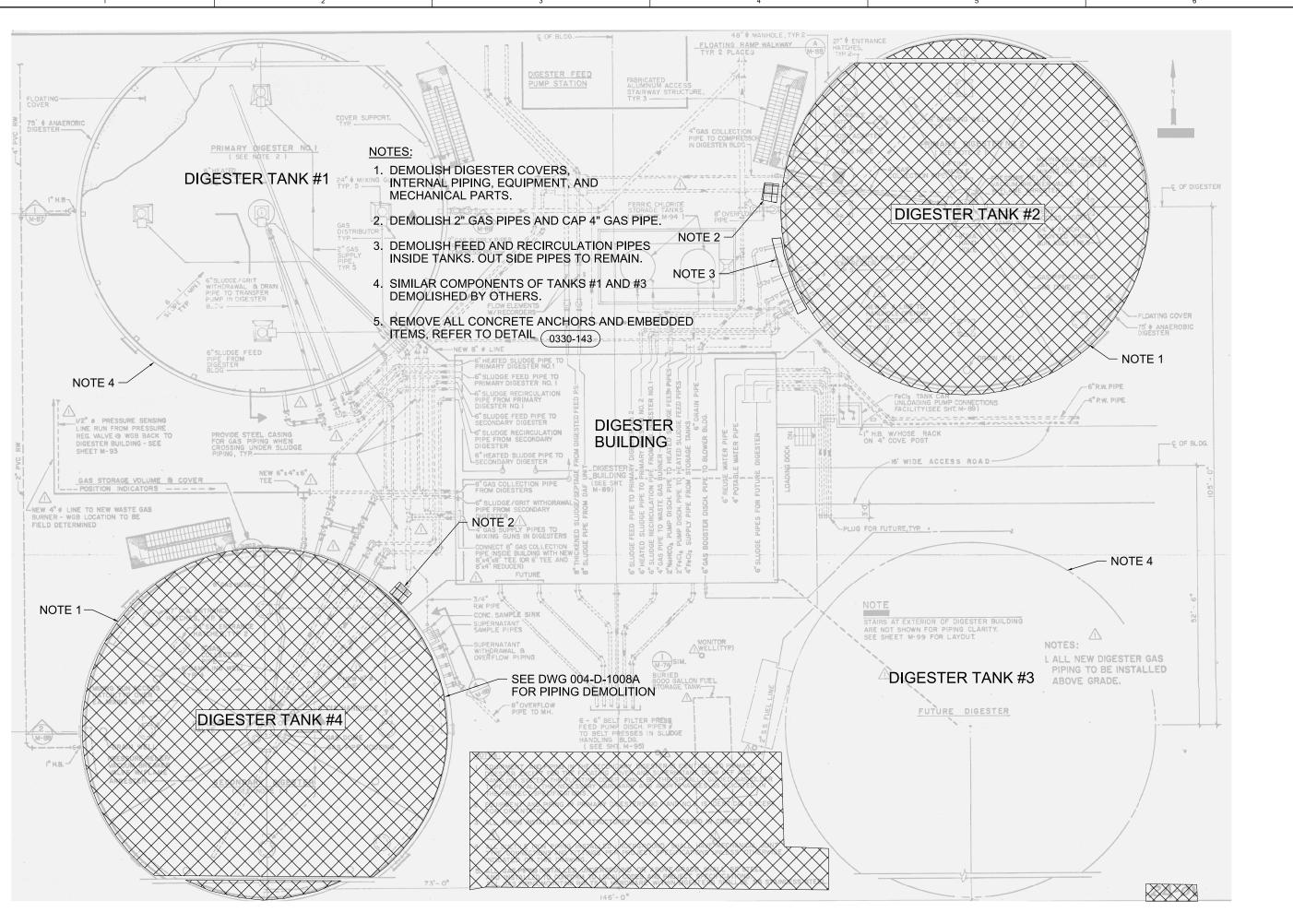
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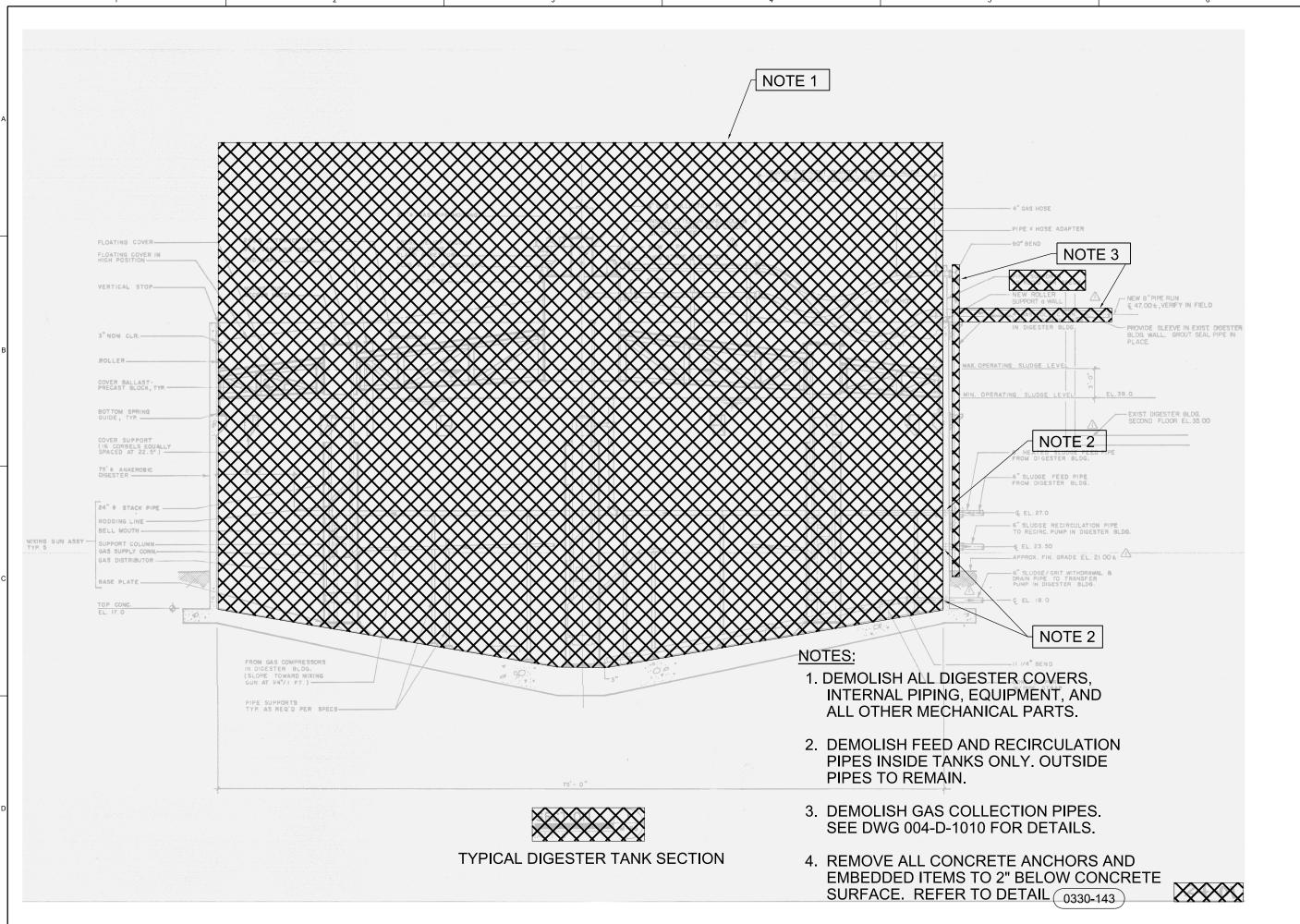


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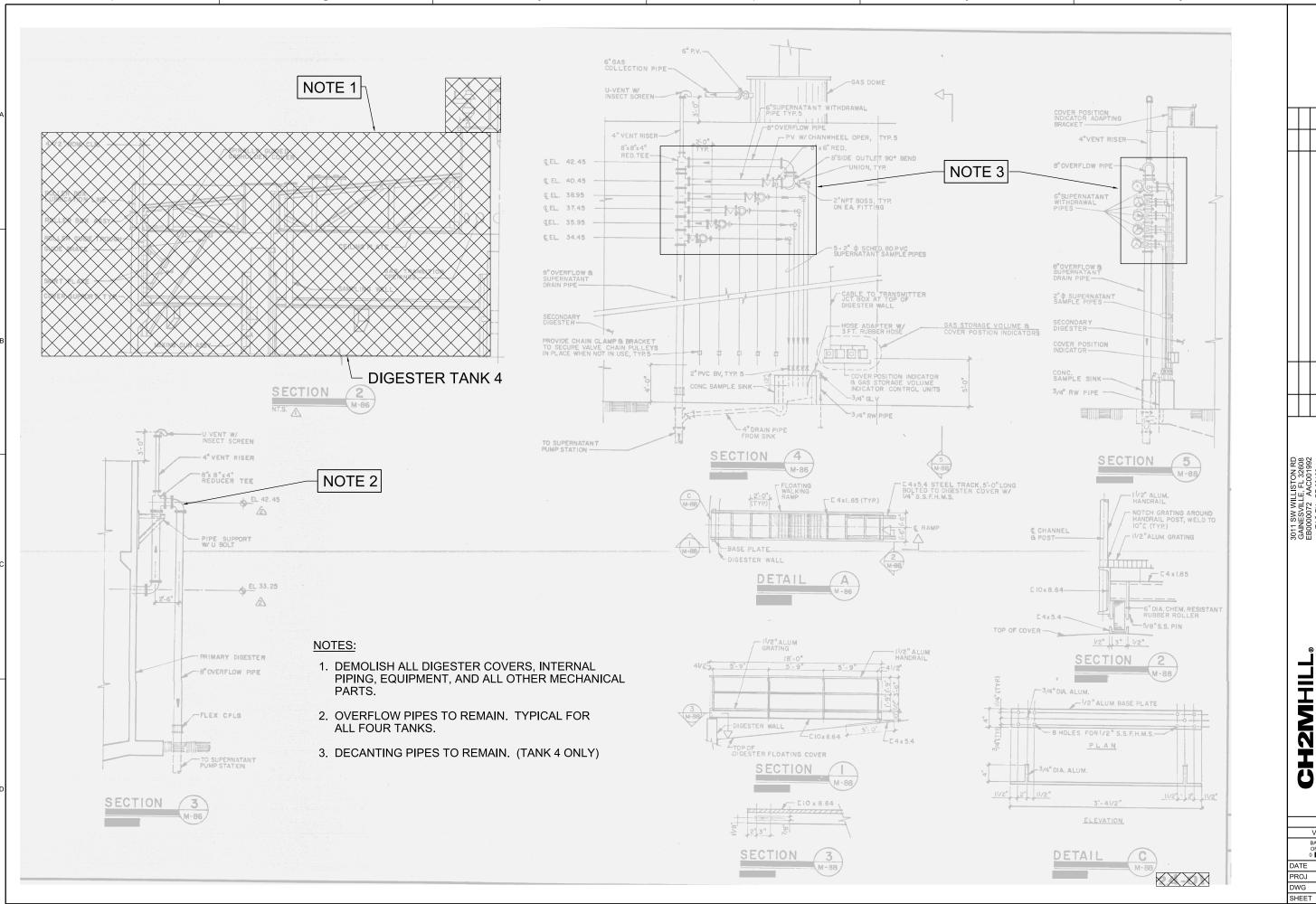
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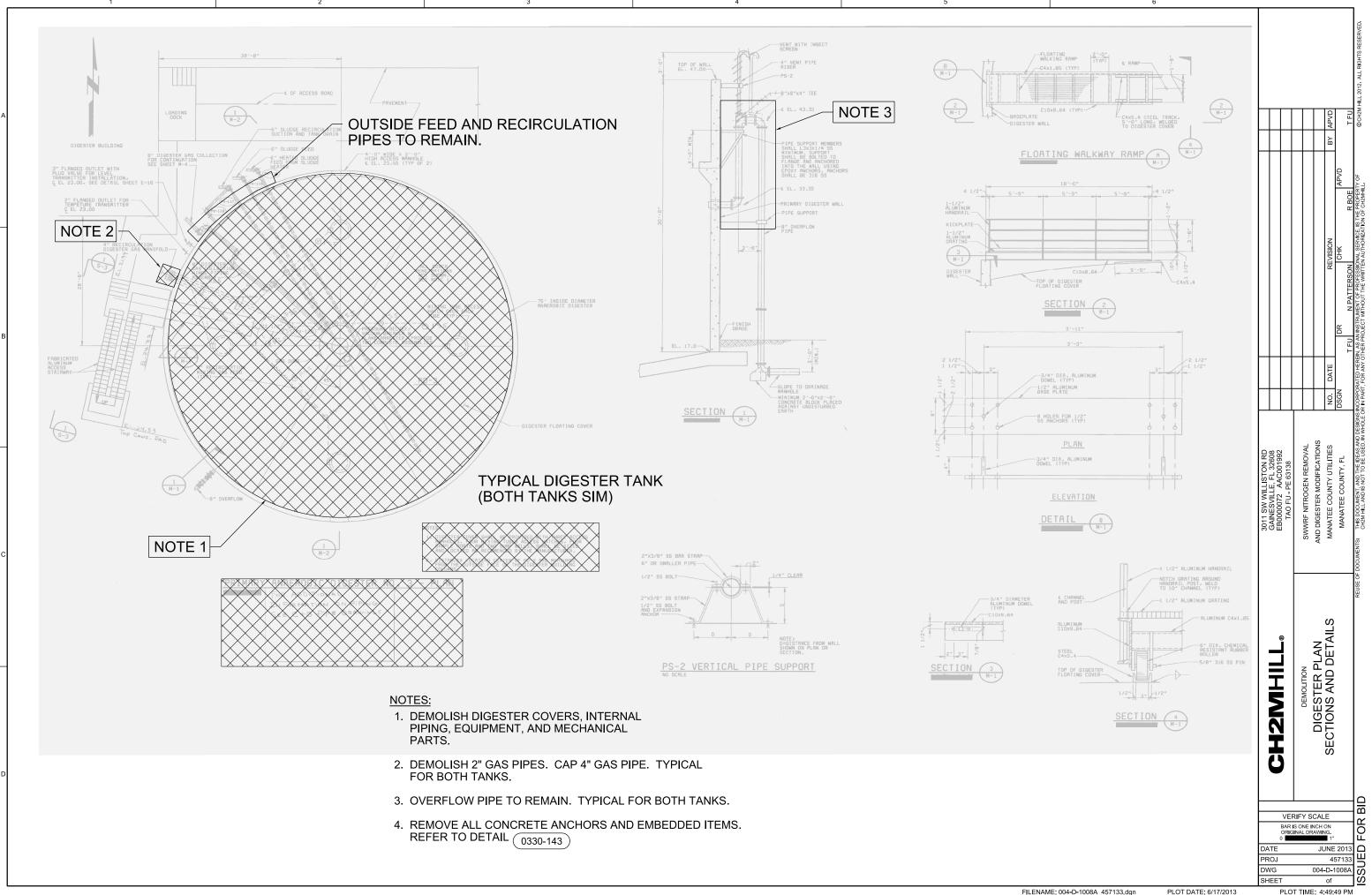


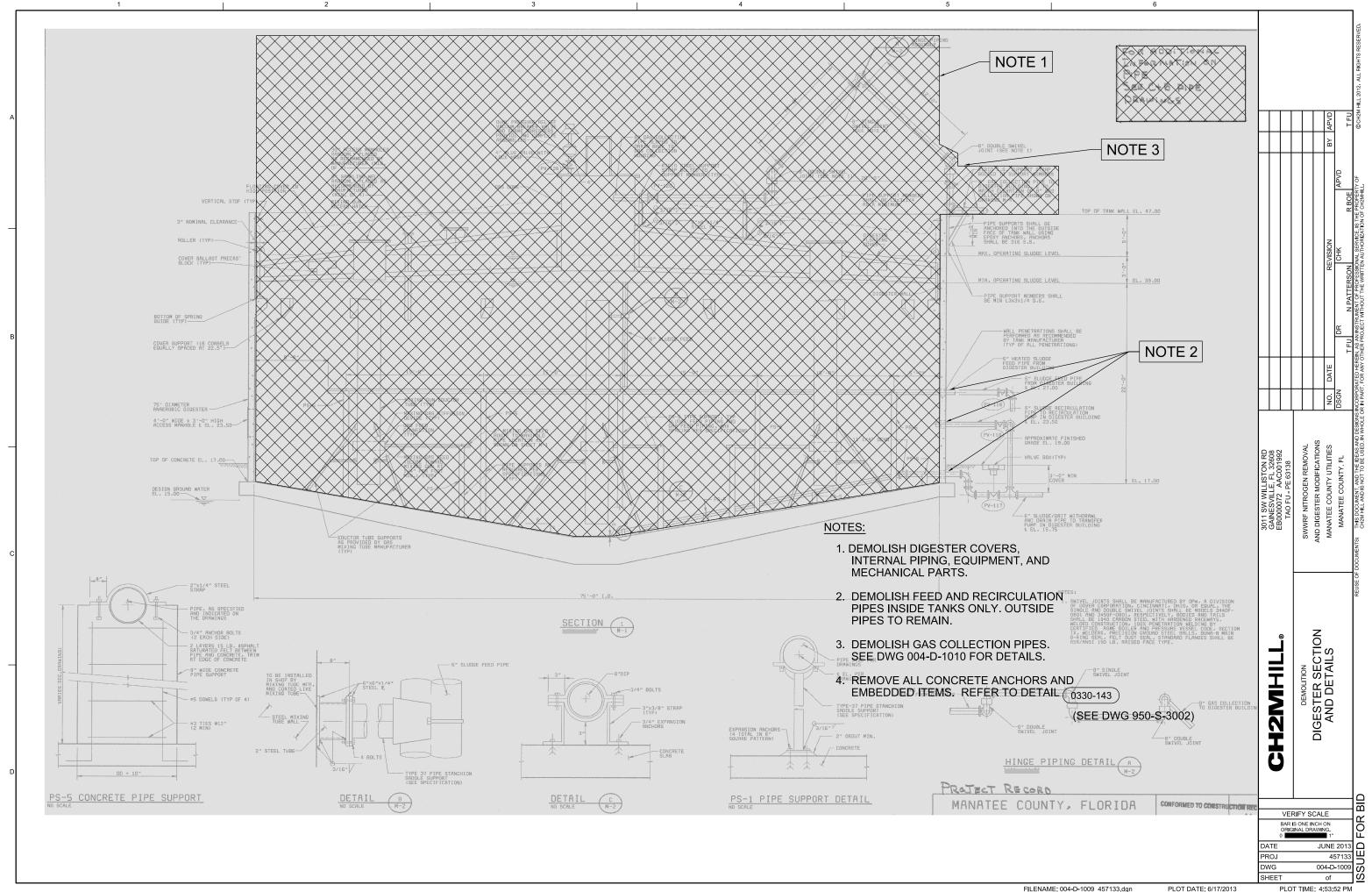
DEMOLITION
ANAEROBIC DIGESTER FACILITIES
PRIMARY & SECONDARY DIGESTERS
SECTIONS & DETAILS

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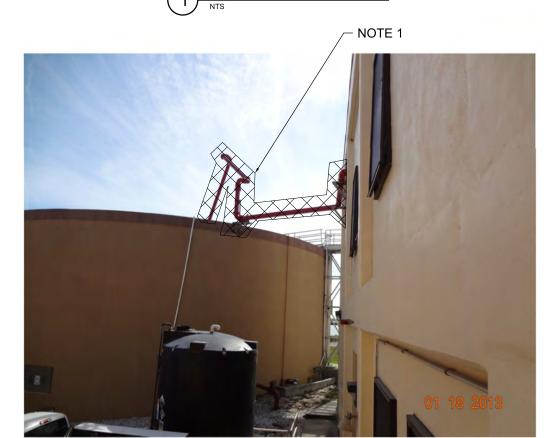
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NOTE 1

DEMOLITION PHOTO 1



2 DEMOLITION PHOTO 2

NOTES:

- 1. DEMOLISH 8" GAS COLLECTION PIPES BETWEEN TANKS AND DIGESTER BUILDING. CAP THE PIPES 8-INCHES FROM THE BUILDING. (TYP OF 2 TANKS)
- 2. RECIRCULATION AND FEED PIPES TO REMAIN. (TYP OF 2 TANKS)
- 3. ELECTRICAL PANEL TO BE REMOVED IN ACCORDANCE WITH SPECIFICATION SECTION 26 05 02B. REMOVE ALL ATTACHED WIRES BACK TO THE SOURCE PANEL. TAG OUT/LOCK OUT THE SOURCE PANEL (TYP OF 4: 1 PER DIGESTER).
- 4. REMOVE ALL CONCRETE ANCHORS AND EMBEDDED ITEMS TO 2" BELOW CONCRETE SURFACE. REFER TO DETAIL 0330-143



3 DEMOLITION PHOTO 3

NOTE 2

NOTE 3

NOTE 2 -

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4 DEMOLITION PHOTO 4

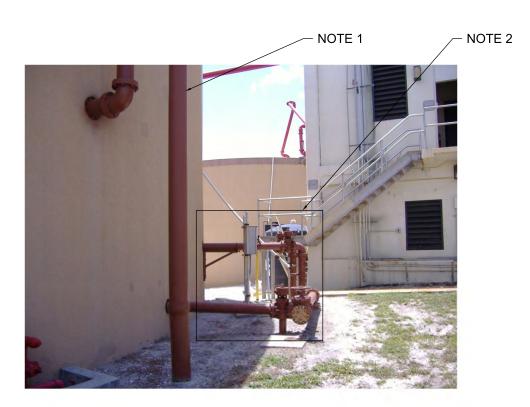
DIGESTER DEMOLITION PHOTOS CH2MHILL VERIFY SCALE

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5 DEMOLITION PHOTO 5



6 DEMOLITION PHOTO 6

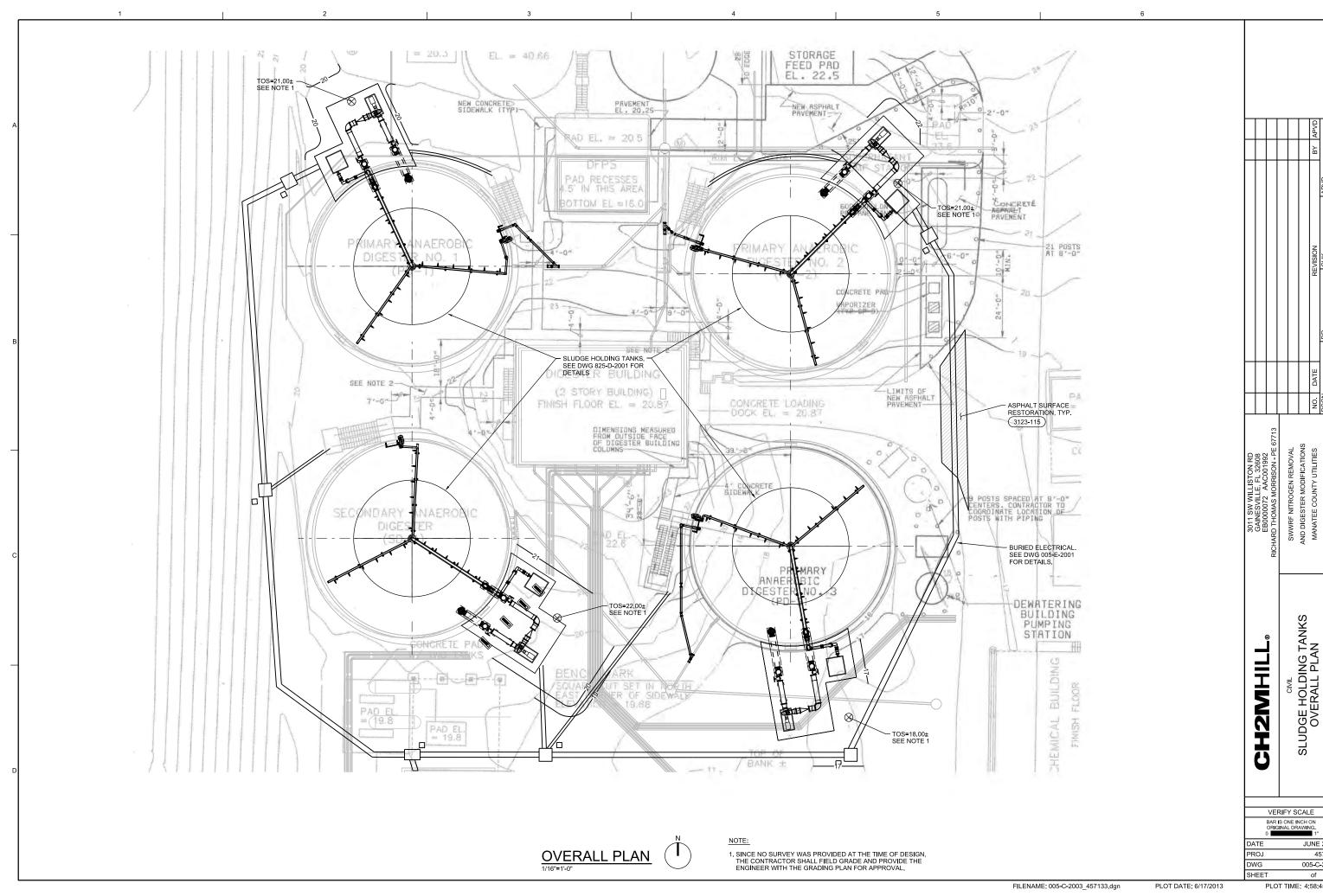
#### NOTES:

- 1. OVERFLOW PIPE TO REMAIN. (TYP OF 2 TANKS)
- 2. DEMOLISH 2" GAS PIPES, CAP 4" GAS PIPE. TYPICAL FOR BOTH TANKS.
- 3. OUTSIDE DECANT PIPES TO REMAIN. (DIGESTER TANK 4 ONLY)
- 4. REMOVE ALL CONCRETE ANCHORS AND EMBEDDED ITEMS TO 2" BELOW CONCRETE SURFACE. REVER TO DETAIL 0330-143

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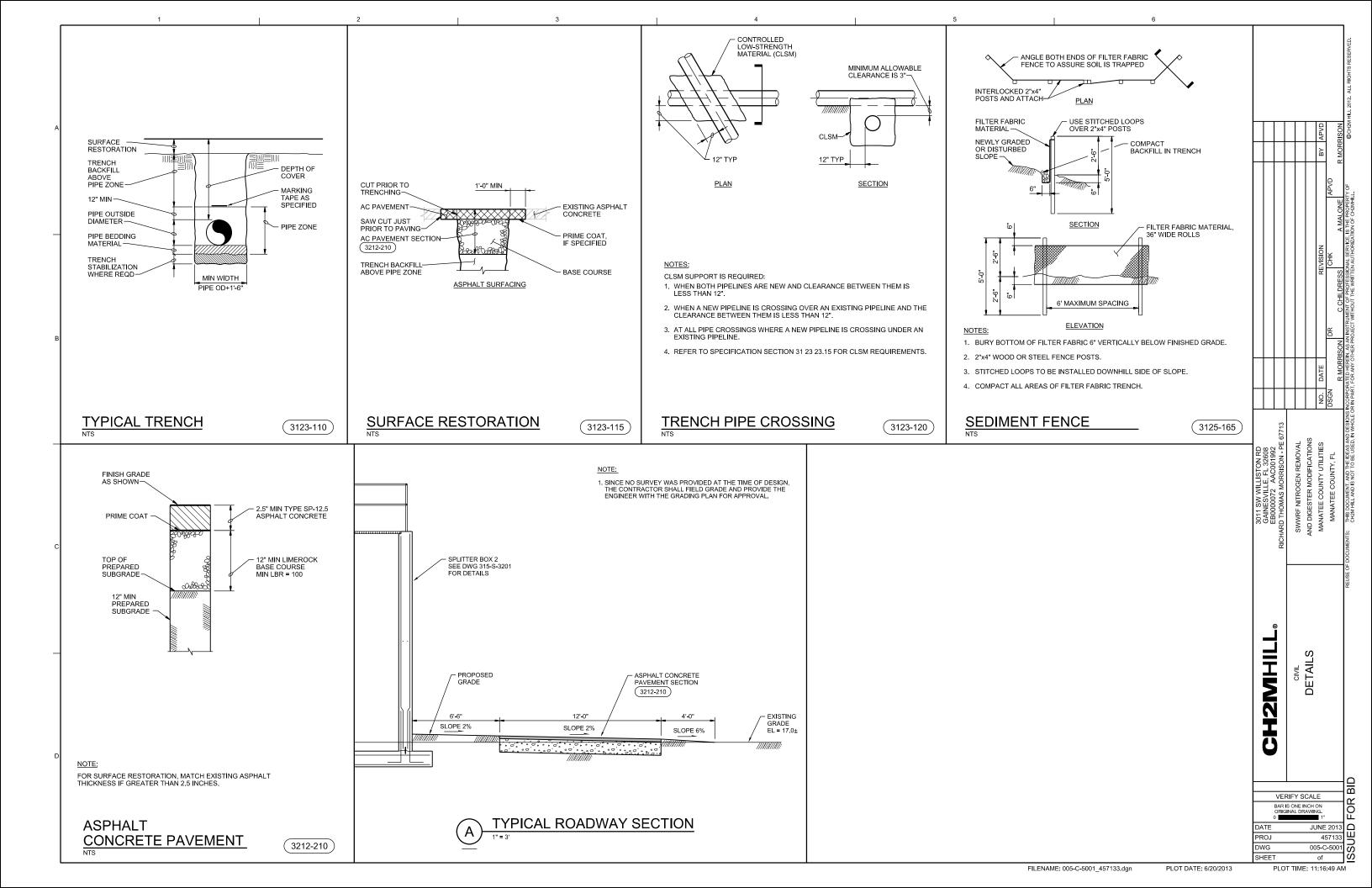


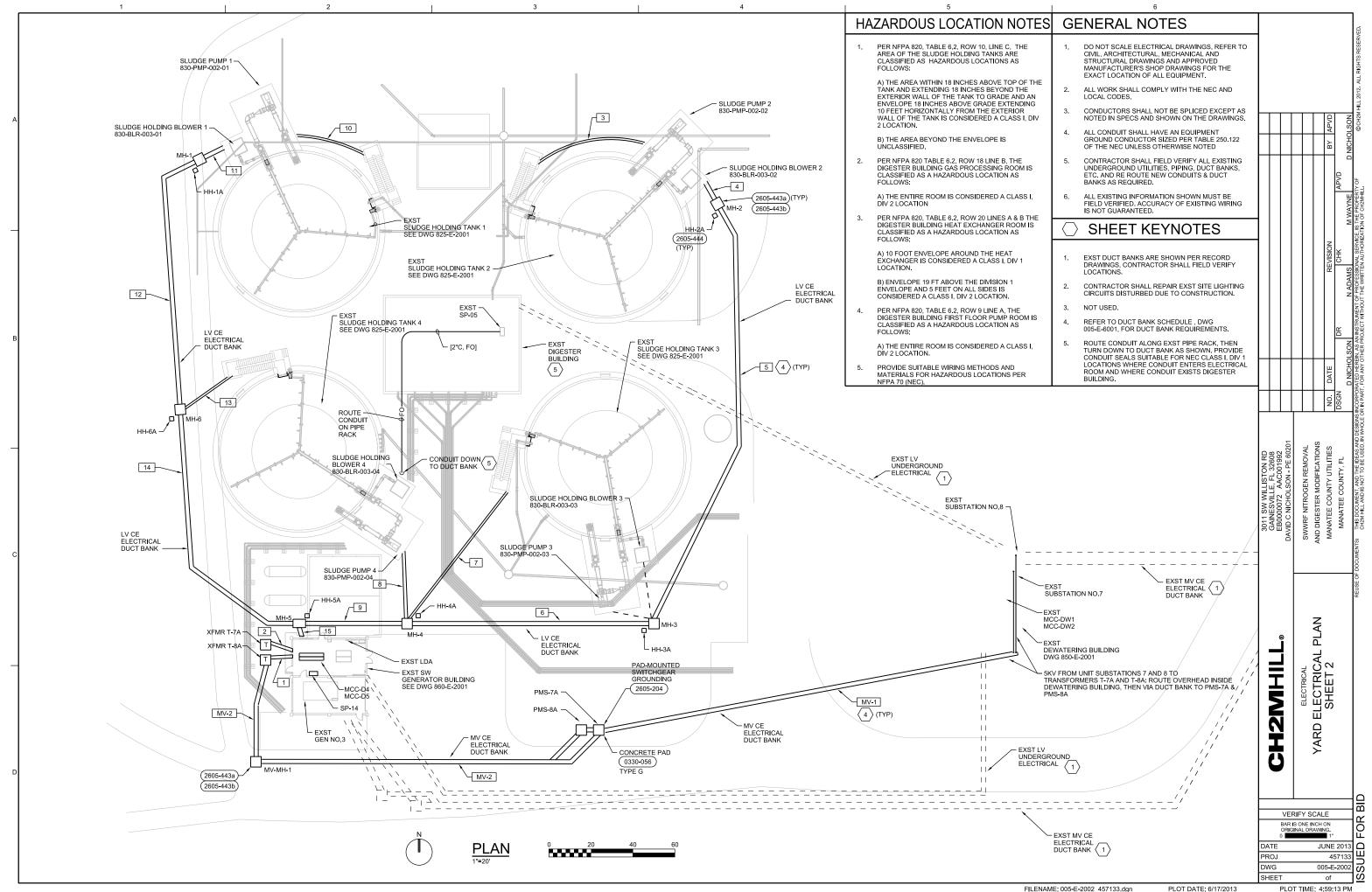
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OUCT ANK ID	CONDUIT SIZE	CIRCUIT ID	CIRCUIT TYPE	CIRCUIT ORIGIN	CIRCUIT DESTINATION	COMMENTS	CONDUCTOR CALLOUTS
MV-1	4"	5KV-SUB-7	MV POWER	UNIT SUBSTATION NO.7 PRIMARY	PMS-7A		860-E-6001
	4"	5KV-SUB-8	MV POWER	UNIT SUBSTATION NO.8 PRIMARY	PMS-8A		860-E-6001
	4"	EMPTY		UNITSUBSTATION	PMS-7A		860-E-6001
	4"	EMPTY		NO.7 UNIT SUBSTATION NO. 8	PMS-8A		860-E-6001
				NU. 8			
	4"	SKV-PMS-7A		PMS-7A	XFMR T-7A		860-E-6001
MV-2	4"	SKV-PMS-8A EMPTY	MV POWER	PMS-8A PMS-7A	XFMR T-8A XFMR T-7A		860-E-6001 860-E-6001
	4"	EMPTY		PMS-8A	XFMR T-8A		860-E-6001
T-	3"	MCC-7A	POWER	XFMR T-7A	MCC-7A		860-E-6001
1	3"	MCC-7A	POWER	XFMR T-7A	MCC-7A		860-E-6001
	3"	EMPTY		XFMR T-7A	MCC-7A		
_	3°	MCC-8A	POWER	XFMR T-8A	MCC-8A		860-E-6001
2	3"	MCC-8A	POWER	XFMR T-8A	MCC-8A		860-E-6001
	3"	EMPTY		XFMR T-8A	MCC-8A		
	3/4"	LDA-25	POWER	830-AIT-007-01	EXST PANEL LDA	TANK 2 INSTRUMENTS	825-E-2001
3	3/4"	830-AIT-007-01 830-LIT-007-01	ANALOG I/O	JBA-830-007-01	SP-14	TANK 2 INSTRUMENTS NOTE 2	825-E-2001
	11/2"	830-PMP-008-01	POWER	830-PMP-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
	3/4"	830-ZSC-008-01 830-TSH-008-01	CONTROL	JBC-830-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
	11/2"	830-BLR-007-01	POWER	830-BLR-007-01	MCC-D5	BLOWER 2	825-E-2001
4	3/4"	830-PSH-007-01 830-TSH-007-01	CONTROL	JBC-830-007-01	MCC-D5	BLOWER 2	825-E-2001
	727	830-TSH-007-02	400		1		
	3/4"	LDA-25	POWER	830-AIT-007-01		TANK 2 INSTRUMENTS	
	3/4"	830-AIT-007-01 830-LIT-007-01	ANALOG I/O	JBA-830-007-01	SP-14	TANK 2 INSTRUMENTS NOTE 2	825-E-2001
-	11/2"	830-PMP-008-01	POWER	830-PMP-008-01	IMCC-D5	SLUDGE PUMP 2	825-E-2001
	3/4"	830-ZSC-008-01	CONTROL	JBC-830-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
		830-TSH-008-01		16/20/20/20			
	11/2"	830-BLR-007-01 830-PSH-007-01	CONTROL	830-BLR-007-01 JBC-830-007-01	MCC-D5	BLOWER 2 BLOWER 2	825-E-2001 825-E-2001
5	3/4"	830-TSH-007-01 830-TSH-007-02					
	3/4"	LDA-25	POWER	830-AIT-007-01		TANK 2 INSTRUMENTS	
	3/4"	830-AIT-007-01 830-LIT-007-01	ANALOG I/O	JBA-830-007-01	SP-14	TANK 2 INSTRUMENTS NOTE 2	825-E-2001
	2"	EMPTY		MH-2	MH-3	NOTEZ	
_	2"	EMPTY		HH-2A	HH-3A		
_	11/2"	830-PMP-008-01	POWER	830-PMP-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
	3/4"	830-ZSC-008-01	CONTROL	JBC-830-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
		830-TSH-008-01	DOMED	020 DLD 007 01	NCC DE	מו סאיבט ז	925 5 2001
	1 1/2"	830-BLR-007-01 830-PSH-007-01	POWER CONTROL	830-BLR-007-01 JBC-830-007-01	MCC-D5 MCC-D5	BLOWER 2 BLOWER 2	825-E-2001 825-E-2001
	3/4"	830-TSH-007-01					
	11/2"	830-TSH-007-02 820 PMP 011 01	POWER	830 PMP 011 01	MCC D4	SLUDGE PUMP 3	825 E 2001
	3/4"	830-ZSC-011-01	CONTROL	JBC-830-011-01	MCC-D4	SLUDGE PUMP 3	825-E-2001
6	-	830-TSH-011-01	DOWER	830-BLR-010-01	MCC DA	DI OWED 2	925 E 2001
	11/2"	830-BLR-010-01 830-PSH-010-01	CONTROL	JBC-830-010-01	MCC-D4 MCC-D4	BLOWER 3 BLOWER 3	825-E-2001 825-E-2001
	3/4"	830-TSH-010-01 830-TSH-010-02	- 1		1		
	1"	830-AIT-007-01	ANALOG I/O	JBA-830-007-01	SP-14	TANK 2 INSTRUMENTS	825-E-2001
	1"	830-LIT-007-01	POWER	830-AIT-007-01	EYCT DANIEL LDA	NOTE 2	925_F_2001
	2"	LDA-25 EMPTY	POWER	MH-3	MH-4	TANK 2 INSTRUMENTS	023-L-2001
Ш	2"	EMPTY		HH-3A	HH-4A		
	2"	EMPTY		MH-3	MH-4		
7	3/4"	LDA-27	POWER	830-AIT-010-01		TANK 3 INSTRUMENTS	
	3/4"	830-AIT-010-01 830-UT-010-01	ANALOG I/O	JBA-830-010-01	SP-14	TANK 3 INSTRUMENTS NOTE 2	825-E-2001
	11/2"	830-PMP-005-01	POWER	830-PMP-005-01	MCC-D5	SLUDGE PUMP 4	825-E-2001
	10.00	830-ZSC-005-01	CONTROL	JBC-830-005-01	MCC-D5	SLUDGE PUMP 4	825-E-2001
	3/4"	830-TSH-005-01		100000000000000000000000000000000000000			
1.25	11/2"	830-BLR-004-01	POWER	830-BLR-004-01	MCC-D5	BLOWER 4	825-E-2001
		830-PSH-004-01	CONTROL	JBC-830-004-01	MCC-D5	BLOWER 4	825-E-2001
8	3/4"	830-TSH-004-01 830-TSH-004-02					
8	3/4"	830-TSH-004-02 SP-14FO	NETWORK	SP-14-PP-01	SP-05-SW-01	FO NETWORK NOTE 3	008-N-6007

DUCT	CONDUIT	CIDCUIT ID	CIDCUIT	CIDCUIT ODICINI	CIDCUIT	CON ANACNITO	CONDUCTOR
DUCT BANK ID	SIZE	CIRCUIT ID	CIRCUIT	CIRCUIT ORIGIN	CIRCUIT DESTINATION	COMMENTS	CONDUCTOR CALLOUTS
BAINKID	11/2"	830-PMP-008-01		830-PMP-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
		830-ZSC-008-01	CONTROL	JBC-830-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
	3/4"	830-TSH-008-01					
	1 1/2"	830-BLR-007-01	POWER	830-BLR-007-01	MCC-D5	BLOWER 2	825-E-2001
	2/4"	830-PSH-007-01	CONTROL	JBC-830-007-01	MCC-D5	BLOWER 2	825-E-2001
	3/4"	830-TSH-007-01 830-TSH-007-02	10.7				
	1 1/2"	830-PMP-011-01	POWER	830-PMP-011-01	MCC-D4	SLUDGE PUMP 3	825-E-2001
	3/4"	830-ZSC-011-01	CONTROL	JBC-830-011-01	MCC-D4	SLUDGE PUMP 3	825-E-2001
		830-TSH-011-01	1				
	1 1/2"	830-BLR-010-01	POWER	830-BLR-010-01	MCC-D4	BLOWER 3	825-E-2001
	3/4"	830-PSH-010-01 830-TSH-010-01	CONTROL	JBC-830-010-01	MCC-D4	BLOWER 3	825-E-2001
	3/4	830-TSH-010-02	150				
	1 1/2"	830-PMP-005-01	POWER	830-PMP-005-01	MCC-D5	SLUDGE PUMP 4	825-E-2001
	3/4"	830-ZSC-005-01	CONTROL	JBC-830-005-01	MCC-D5	SLUDGE PUMP 4	825-E-2001
9	11/2"	830-TSH-005-01 830-BLR-004-01	POWER	830-BLR-004-01	MCC-D5	BLOWER 4	825-E-2001
	11/2	830-PSH-004-01	CONTROL	JBC-830-004-01	MCC-D5	BLOWER 4	825-E-2001
	3/4"	830-TSH-004-01					777
		830-TSH-004-02				LI	
		830-AIT-007-01	ANALOG I/O	JBA-830-007-01	SP-14	TANK 2 INSTRUMENTS	825-E-2001
	1"	830-LIT-007-01 830-AIT-010-01	ANALOGI/O	JBA-830-010-01	SP-14	NOTE 2 TANK 3 INSTRUMENTS	825-E-2001
		830-UT-010-01	ANALOGIJO	JBA-830-010-01	31-14	NOTE 2	023-1-2001
1 3	1"	LDA-25	POWER	830-AIT-007-01	EX3T PANEL LDA	TANK 2 INSTRUMENTS	825-E-2001
		LDA-27	POWER	830-AIT-010-01	EXST PANEL LDA	TANK 3 INSTRUMENTS	825-E-2001
	2"	EMPTY		MH-4	MH-5		
	2"	SP-14 FO	NETWORK	MH-4 SP-14-PP-01	MH-5 SP-05-SW-01	FO NETWORK	008-N-6007
	2"	5. 10	The state of the s		0. 00 01. 02	NOTE 3	000 11 0007
	2"	EMPTY	-	HH-4A	HH-5A		
	2"	EMPTY		SP-14-PP-01	SP-05-SW-01	ri r	
	0/48	10100	nours.		Tener sittet ist		
10	3/4"	LDA-29 830-AIT-001-01	POWER ANALOG I/O	830-AIT-001-01 JBA-830-001-01	SP-14	TANK 1 INSTRUMENTS TANK 1 INSTRUMENTS	825-E-2001 825-E-2001
	3/4"	830-LIT-001-01	Sittle Co. If C	2011 030 002 02		NOTE 2	025 2 2002
	1 1/2"	830-PMP-002-01	POWER	830-PMP-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
	3/4"	830-ZSC-002-01	CONTROL	JBC-830-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
	1 1/2"	830-TSH-002-01 830-BLR-003-01	POWER	830-BLR-003-01	MCC-D4	BLOWER 1	825-E-2001
11		830-PSH-003-01	CONTROL	JBC-830-003-01	MCC-D4	BLOWER 1	825-E-2001
11	3/4"	830-TSH-003-01		1000		11 - 12 - 12 - 13	
	2/48	830-TSH-003-02	noure.	000 117 001 01	FINET DALLES LDA	TARREST MATERIAL	005 5 0004
	3/4"	LDA-29 830-AIT-001-01	ANALOG I/O	JBA-830-001-01	SP-14	TANK 1 INSTRUMENTS TANK 1 INSTRUMENTS	825-E-2001 825-E-2001
	3/4"	830-LIT-001-01	AITHEOU (7 O	357 050 002 02	SC 44	NOTE 2	025 € 2001
			1				
	11/2	830-PMP-002-01	POWER	830-PMP-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
	3/4"	830-ZSC-002-01	CONTROL	JBC-830-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
	11/2"	830-TSH-002-01 830-BLR-003-01	POWER	830-BLR-003-01	MCC-D4	BLOWER 1	825-E-2001
	-44	830-PSH-003-01	CONTROL	JBC-830-003-01	MCC-D4	BLOWER 1	825-E-2001
12	3/4"	830-TSH-003-01				.91	1
12		830-TSH-003-02					11 -
6.5	3/4"	LDA-29	POWER	830-AIT-001-01	_	TANK 1 INSTRUMENTS	
	3/4"	830-AIT-001-01 830-LIT-001-01	ANALOG I/O	JBA-830-001-01	SP-14	TANK 1 INSTRUMENTS NOTE 2	023-E-2001
	2"	EMPTY		MH-6	MH-1		
	2"	EMPTY		HH-6A	HH-1A		
			Industry.				
13	3/4"	LDA-31 830-AIT-004-01	POWER ANALOG I/O	830-AIT-004-01	SP-14	TANK 4 INSTRUMENTS TANK 4 INSTRUMENTS	
13	3/4"	830-A11-004-01	ANALOG I/O	JBA-830-004-01	3F-14	NOTE 2	02.3-E-2001
					10.77		
	1 1/2"	830-PMP-002-01		830-PMP-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
	3/4"	830-ZSC-002-01	CONTROL	JBC-830-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
		830-TSH-002-01	DOWED	920 DIR 002 04	MCC D4	PLOWER 1	92E E 2001
	1 1/2"	830-BLR-003-01 830-PSH-003-01	CONTROL	830-BLR-003-01 JBC-830-003-01	MCC-D4 MCC-D4	BLOWER 1 BLOWER 1	825-E-2001 825-E-2001
	3/4"	830-TSH-003-01				7.7.7.7.7	
		830-TSH-003-02					
14	1"	LDA-29	POWER	830-AIT-001-01		TANK 1 INSTRUMENTS	
1	<u> </u>	LDA-31 830-AIT-001-01	ANALOG I/O	830-AIT-004-01 JBA-830-001-01	SP-14	TANK 4 INSTRUMENTS TANK 1 INSTRUMENTS	
		830-ATT-001-01	ANTALOG I/O	20A-030-001-01	31-24	NOTE 2	02J-L-2001
	1"	830-AIT-004-01	ANALOG I/O	JBA-830-004-01	SP-14	TANK 4 INSTRUMENTS	825-E-2001
		830-LIT-004-01	1 - 2/4	172-174	. 47	NOTE 2	
	2"	EMPTY		MH-6	MH-5	1344	
	2"	EMPTY		MH-6A	MH-5 HH-5A		
		EMPTY		TIT-DA	HIT-3M		L

DUCT		CIRCUIT ID	CIRCUIT	CIRCUIT ORIGIN	CIRCUIT	COMMENTS	CONDUCTOR
BANK ID	SIZE		TYPE		DESTINATION		CALLOUTS
	1 1/2"	830-PMP-002-01	POWER	830-PMP-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
	3/4"	830-ZSC-002-01	CONTROL	JBC-830-002-01	MCC-D4	SLUDGE PUMP 1	825-E-2001
		830-TSH-002-01					
	1 1/2"	830-BLR-003-01	POWER	830-BLR-003-01	MCC-D4	BLOWER 1	825-E-2001
		830-PSH-003-01	CONTROL	JBC-830-003-01	MCC-D4	BLOWER 1	825-E-2001
	3/4"	830-TSH-003-01					
		830-TSH-003-02					
	1 1/2"	830-PMP-008-01		830-PMP-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
	3/4"	830-ZSC-008-01	CONTROL	JBC-830-008-01	MCC-D5	SLUDGE PUMP 2	825-E-2001
		830-TSH-008-01					
	1 1/2"	830-BLR-007-01	POWER	830-BLR-007-01	MCC-D5	BLOWER 2	825-E-2001
		830-PSH-007-01	CONTROL	JBC-830-007-01	MCC-D5	BLOWER 2	825-E-2001
	3/4"	830-TSH-007-01					
	4.4.(2))	830-TSH-007-02	0011/50	000 0040 044 04	1400 04	CILIDOE DI MID 2	005 5 0004
	1 1/2"	830-PMP-011-01		830-PMP-011-01	MCC-D4	SLUDGE PUMP 3	825-E-2001
	3/4"	830-ZSC-011-01	CONTROL	JBC-830-011-01	MCC-D4	SLUDGE PUMP 3	825-E-2001
	1 1/2"	830-TSH-011-01	DOWER	020 010 010 01	MCC D4	DI OWED 2	02E E 2001
	11/2	830-BLR-010-01	POWER	830-BLR-010-01 JBC-830-010-01	MCC-D4 MCC-D4	BLOWER 3 BLOWER 3	825-E-2001 825-E-2001
	2/4//	830-PSH-010-01 830-TSH-010-01	CONTROL	JBC-830-010-01	IVICC-D4	BLOWER 3	025-E-2001
	3/4"	830-TSH-010-01					
	1 1/2"	830-PMP-005-01	DOW/ED	830-PMP-005-01	MCC-D5	SLUDGE PUMP 4	825-E-2001
	11/2	830-ZSC-005-01	CONTROL	JBC-830-005-01	MCC-D5	SLUDGE PUMP 4	825-E-2001
	3/4"	830-Z3C-005-01	CONTROL	JBC-830-003-01	IVICC-D3	SLODGE FOWF 4	823-1-2001
	1 1/2"	830-BLR-004-01	POWER	830-BLR-004-01	MCC-D5	BLOWER 4	825-E-2001
	11/2		CONTROL	JDC-830-004-01	MCC-D3	DLOWER 4	825-E-2001
15	3/4"	830-TSH-004-01					
		830-TSH-004-02					
			ANALOG I/O	JBA-830-001-01	SP-14	TANK 1 INSTRUMENTS	825-E-2001
		830-LIT-001-01			7.2	NOTE 2	
		830-AIT-007-01	ANALOG I/O	JBA-830-007-01	SP-14	TANK 2 INSTRUMENTS	825-E-2001
		830-LIT-007-01	1000	10 - O - D - S - S - S - S - S - S - S - S - S	W. C.	NOTE 2	
	11/2"	830-AIT-010-01	ANALOG I/O	JBA-830-010-01	SP-14	TANK 3 INSTRUMENTS	825-E-2001
		830-LIT-010-01			7.	NOTE 2	
		830-AIT-004-01	ANALOG I/O	JBA-830-004-01	SP-14	TANK 4 INSTRUMENTS	825-E-2001
		830-LIT-004-01	1000	127.22.41.55	1.50	NOTE 2	
		LDA-29	POWER	830-AIT-001-01	EXST PANEL LDA	TANK 1 INSTRUMENTS	825-E-2001
	1"	LDA-31	POWER	830-AIT-004-01	EXST PANEL LDA	TANK 4 INSTRUMENTS	825-E-2001
	1"	LDA-25	POWER	830-AIT-007-01	EXST PANEL LDA	TANK 2 INSTRUMENTS	825-E-2001
		LDA-27	POWER	830-AIT-010-01	EXST PANEL LDA	TANK 3 INSTRUMENTS	825-E-2001
	2"	EMPTY		MH-5	MCC-D4		
	2"	EMPTY		MH-5	MCC-D4		
	2"	EMPTY		MH-5	MCC-D4		
	2"	EMPTY		MH-5	MCC-D4		
	2"	EMPTY	-	MH-5	MCC-D5		
	2"	EMPTY	-	MH-5	MCC-D5		
	2"	EMPTY		MH-5	MCC-D5		
	2"	EMPTY		MH-5	MCC-D5		
	2"	SP-14 FO	NETWORK	SP-14-PP-01	SP-05-SW-01	FO NETWORK	008-N-6007
	4					NOTE 3	
	2"	EMPTY		SP-14-PP-01	SP-05-SW-01		
	2"	EMPTY		HH-5A	MCC-D4		
	2"	EMPTY		HH-5A	MCC-D5		I

- ALL CONDUITS LISTED ON THIS DRAWING SHALL BE CONCRETE ENCASED PER DETAIL  $\underbrace{2605\text{-}400}_{\text{UNLESS NOTED OTHERWISE.}}$
- CONDUITS CONTAINING ANALOG I/O SHALL BE ROUTED VIA SEPARATE HANDHOLES. PROVIDE ANALOG HANDHOLE THAT IS LOCATED ADJACENT TO POWER/DISCRETE CONTROL HANDHOLE.
- ROUTE FIBER OPTIC (FO) CABLE VIA ANALOG HANDHOLES. PROVIDE 24" (MIN) CONDUIT BENDS. CONTRACTOR TO FIELD ROUTE CONDUIT. EXPOSED, WHERE ROUTED INSIDE OF EXST DIGESTER BUILDING. SEE DWG 005-E-2002 FOR ADDITIONAL REQUIREMENTS.

NOTES

CALE
INCH ON AXAMING.

JUNE 2013

457133

005-E-6001

Of VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1" DATE PROJ DWG SHEET

ELECTRICAL
YARD ELECTRICAL
DUCT BANK SCHEDULE

