CONTRACT DOCUMENTS

For the construction of the

PUMP STATIONS REHABILITATION PHASE 1 H, B AND A GENERATOR



Prepared for the CITY OF KEY WEST KEY WEST, FLORIDA

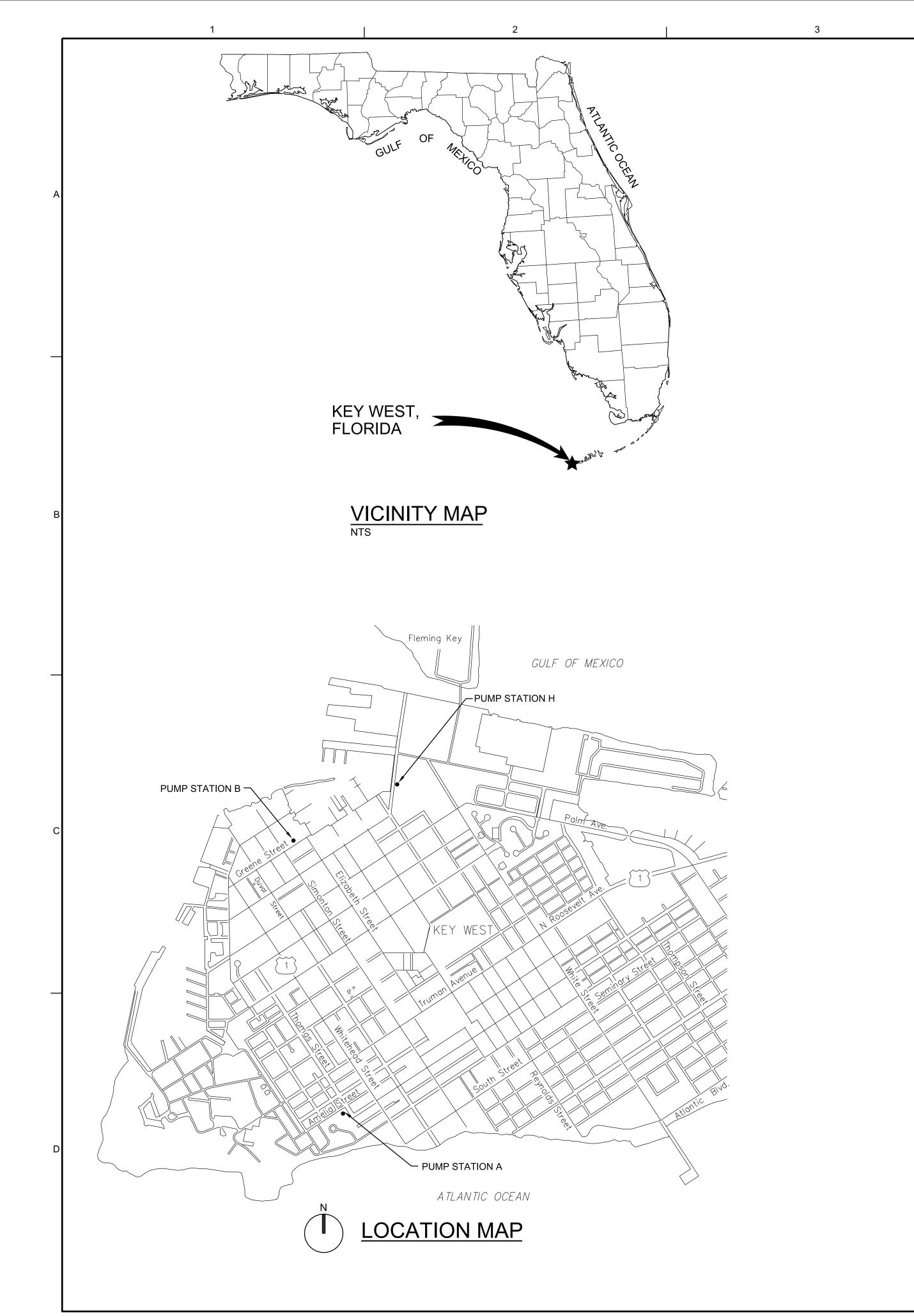
VOLUME 2 OF 2 DRAWINGS

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Project No. 683450 KEY WEST BID # 18-033 MAY 2018 KEY WEST PROJ No. HU1701F01



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683450

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1" = X' VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

	1		2		3		4		5		6	T	
	AMMETER, AMPERES	CRS	PVC COATED RIGID STEEL	FSHS	FOLDING SHOWER SEAT	LHR	LEFT HAND REVERSE	PP	POWER POLE	STIF	STIFFENER		
N	ANCHOR BOLT ABANDON	CS CSATC	CUP SINK CERAMIC SUSPENDED ACOUSTICAL	FT FTG	FOOT OR FEET FOOTING	LLH LLV	LONG LEG HORIZONTAL LONG LEG VERTICAL	PPL PRCST	POLYPROPYLENE LINED PRECAST	STIRR STL	STIRRUP STEEL		
	ALTERNATING CURRENT ASPHALTIC CEMENT	CT	TILE CEILING CERAMIC TILE	FU FVNR	FIXTURE UNIT FULL VOLTAGE NON-REVERSING	LNTL LONG	LINTEL LONGITUDINAL	PREFAB	PREFABRICATION	ST STRL	STRAIGHT STRUCTURAL		
	ASPHALTIC CEMENT AMERICAN CONCRETE INSTITUTE	CT	CURRENT TRANSFORMER	FVR FVR	FULL VOLTAGE NON-REVERSING FULL VOLTAGE REVERSING	LOS	LOCK-OUT STOP PUSHBUTTON	PRES PRI	PRESSURE PRIMARY	STRUCT	STRUCTURAL STRUCTURE		
	ACOUSTICAL AIR CONDITIONING CONDENSING UNIT	CTR CTR'D	CENTER CENTERED	FWD	FORWARD	LP I P	LIGHT POLE LOW POINT	PRM PROJ	PERMANENT REFERENCED MARKER PROJECTION	SUSP SV	SUSPENDED SOLENOID VALVE		
	AREA DRAIN	CTSK	COUNTERSUNK			L.F. LR	LATCHING RELAY	PROP	PROPERTY	SYMM	SYMMETRICAL		
	ADDITIONAL ADJUSTABLE FREQUENCY DRIVE	CU CU FT	CUBIC CUBIC FOOT	G, GND GA	GROUND GAUGE	LR I R	LOCAL-REMOTE LONG RADIUS	PS PSF	POLYCARBONATE SHEET POUNDS PER SQUARE FOOT	т	THERMOSTAT		
	ABOVE FINISHED FLOOR	CU IN	CUBIC INCH	GAL	GALLON	LS	LABORATORY SINK	PSI	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH	T&B	TOP AND BOTTOM		
	ACOUSTICAL GLASS AGGREGATE	CU YD CUH	CUBIC YARD COPPER TUBING. HARD DRAWN	GALV GB	GALVANIZED GRAB BAR	LTG LT	LIGHTS OR LIGHTING LEFT	PSIG PT	POUNDS PER SQUARE INCH, GAUGE POINT OF TANGENCY	T&G T/	TONGUE AND GROOVE TOP OF		A P
	ANCHOR	CV	CHECK VALVE	GC	GROOVED COUPLING	LWL	LOW WATER LEVEL	PT	POTENTIAL TRANSFORMER	TAN	TANGENT		_
	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	CWR	CABINET DOOR MOUNTED WASTE RECEPTACLE	GFI GFR	GROUND FAULT INTERRUPTER GOUND FAULT RELAY	LYRS	LAYERS	PT PTAC	PRESSURE TREATED PACKAGED TERMINAL AIR CONDITIONING	TB TB	TERMINAL BOARD TOWEL BAR	\square	,
JM)	ALUMINUM			GL	GLASS	M&BH	MOP AND BROOM HOLDER	PTD	PAPER TOWEL DISPENSER	TBG	TUBING		
ALT)	ALKALINITY ALTERNATE	D D	DRAIN PENNY NAIL SIZE	GPD GPH	GALLONS PER DAY GALLONS PER HOUR	MA MAS	MANUAL-AUTO MASONRY	PV PVC, P.V.C.	PLUG VALVE POLYVINYL CHLORIDE	TC	TIME TO CLOSE/ TENSION CONTROLLED		.
,	AUTO-MANUAL	DAS	DATA ACQUISTION SYSTEM	GPM	GALLONS PER MINUTE	MATL	MATERIAL	PVI	POINT OF VERTICAL INTERSECTION	TCAE	TIME CLOSE AFTER ENERGIZATION		
×	ANODIZE APPROXIMATE	DBA DBL	DEFORMED BAR ANCHOR DOUBLE	GRTG GR	GRATING GRADE	MAX MB	MAXIMUM MACHINE BOLT	PVMT PVT	PAVEMENT POINT OF VERTICAL TANGENCY	TCL2 TDH	TOTAL CHLORINE RESIDUAL TOTAL DYNAMIC HEAD		.
	APPROVED	DC	DIRECT CURRENT	GSP	GALVANIZED STEEL PIPE	MC	MASONARY CLEARANCE	QT	QUARRY TILE	TDR	TIME DELAY RELAY		
	ARCHITECTURAL ANALOG RELAY	DEG DET	DEGREE DETAIL	GV GVL	GATE VALVE GRAVEL	MC MCC	MODULATE-CLOSE MOTOR CONTROL CENTER	R (RAD)	RADIUS	TECH TEL	TECHNICAL TELEPHONE		
	AIR RELEASE VALVE	DF	DOUGLAS FIR	GWB	GYPSUM WALL BOARD	MECH	MECHANICAL	RC RCP, R.C.P.	REINFORCED CONCRETE REINFORCED CONCRETE PIPE	TEMP	TEMPORARY		
	AIR SUPPLY UNIT AUTOMATIC TRANSFER SWITCH	DF DFM	DRINKING FOUNTAIN DRAINAGE FORCE MAIN	GYP	GYPSUM	MET MFD	METAL MANUFACTURED	RCPT	RECEPTACLE	TF TFG	TOP FACE TEMPERED FLOAT GLASS		,
	AUTOMATIC	DHEC	DEPT OF HEALTH AND	Н	HORN OR HOWLER	MFR	MANUFACTURER	RD RD	ROAD ROOF DRAIN	THD	THREAD		
	AUXILIARY AVERAGE	DDI	ENVIRONMENTAL CONTROL DROP INLET	HAS HB	HEADED ANCHOR STUD HOSE BIB	MGD MH	MILLION GALLONS PER DAY MANHOLE	RDCR	REDUCER	THK THRU	THICKNESS THROUGH		, \
	AVERAGE AIR VACUUM RELEASE VALVE	DI	DUCTILE IRON	HC	HOLLOW CORE	MIN	MINIMUM	RDW R.E.	REDWOOD RIM ELEVATION	TJB	TERMINAL JUNCTION BOX		, "
	AT BELL	DIA, O DIAG	DIAMETER DIAGONAL	HD H.D.P.E.	HUB DRAIN HIGH DENSITY POLY PIPE	MIR MISC	MIRROR MISCELLANEOUS	REF	REFER OR REFERENCE	TL TO	TEFLON LINE PIPE		,
	BELL BRONZE TINT	DIP, D.I.P.	DUCTILE IRON PIPE	H.D.P.E. HDR	HIGH DENSITY POLY PIPE HEADER	MISC MJ	MISCELLANEOUS MECHANICAL JOINT	REF REFR	REFRIGERATOR REFRIGERATE. REFRIGERANT	TO TOAD	TIME TO OPEN		,
	BALANCE	DIR DISCH	DIRECTION DISCHARGE	HDW	HARDWARE	MLO	MAIN LUGS ONLY	REINF	REINFORCED, REINFORCING, REINFORCE	TOAE	TIME OPEN AFTER ENERGIZATION		
	BROWARD COUNTY RECORDS BUTTERFLY DAMPER	DOL	DIRECT-ON-LINE	HESR HGL	HYPALON ELASTIC SHEET ROOFING HYDRAULIC GRADE LINE	MMP M.O.	MECHANICAL MOUNTING PANEL MASONRY OPENING	REQD RG	REQUIRED REFLECTIVE	T.O.P. TP	TOP OF PIPE TURNING POINT		
	BLIND FLANGE	DR DS	DRIVE OR DIMENSION RATIO DOWNSPOUT	HGT	HEIGHT	MP	METAL PANEL	RG RH	RIGHT HAND	TRANS	TRANSFORMER		.
	BUTTERFLY VALVE BUD HEIGHT	DWG	DRAWING	HH HID	HANDHOLE HIGH INTENSITY DISCHARGE	MPU MTD	MULTIPURPOSE UNIT MOUNTED	RH	RODHOLE RIGHT HAND REVERSE	TRANSV TDR	TRANSVERSE TREAD		
	BASELINE	DWN	DOWN DELTA	HK	ноок	MTS	MANUAL TRANSFER SWITCH	RHR RJ	RESTRAINED JOINT	TS	TUBE STEEL		
	BACKFLOW PREVENTER BUILDING	Δ	DELTA	HM HOA	HOLLOW METAL HAND-OFF-AUTO	MTS MV	MILL TYPE STEEL PIPE MERCURY VAPOR	RL	RAIN LEADER	TTD TU-X	TOILET TISSURE DISPENSER TREATMENT UNIT NO. X		, !!
	BLOCK	E	EAST	HOR	HAND-OFF-REMOTE	MWS	MAXIMUM WATER SURFACE	RL RLS	RAISE LOWER RUBBER LINED STEEL	TURB	TURBIDITY		
	BEAM BENCHMARK	E FA	EMPTY EACH	HORIZ HP	HORIZONTAL HORSEPOWER	N	NORTH	RM	ROOM	TYP	TYPICAL	\square	
	BOTTOM OF STRUCTURE	ECC	ECCENTRIC	H.P.	HIGH POINT	N/A	NOT APPLICABLE	ROL RPM	RAISE-OFF-LOWER REVOLUTIONS PER MINUTE	U ON	UNLESS OTHERWISE NOTED		,
PTT), B/	BOTTOM BEARING	EE	EMERGENCY EYEWASH EACH FACE	HPS HR	HIGH PRESSURE SODIUM HOSE RACK	N/C N/O	NORMALLY CLOSED NORMALLY OPEN	RS	RIGID STEEL	UBC UH	UNIFORM BUILDING CODE UNIT HEATER		_
	BLACK STEEL PIPE	EF	EXHAUST FAN	HRDN	HARDENER	N, NEUT	NEUTRAL	RST PTN	REINFORCING STEEL RETURN	UR	URINAL		
	BALL VALVE	EFF	EFFLUENT ELEVATION	HSS HV	HOLLOW STRUCTURAL SECTION HOSE VALVE	NA ND	NON-AUTOMATIC NAPKIN DISPOSAL	RT	RIGHT	UVR	UNDER VOLTAGE RELAY		ON
	BEGINNING OF VERTICAL CIRCUIT	EL, ELEV ELB	ELBOW	HV HVAC	HEATING, VENTILATING AND	NGS STA	NATIONAL GEODETIC SURVEY STATION	RRUB R/W	RADIAL RUBBER RIGHT OF WAY	V	VALVE	468	ATI
	CONDUIT	E!FS	EXTERIOR INSULATION FINISH SYSTEM		AIR CONDITIONING	NIC	NOT IN CONTRACT	R/W RW	RAW WATER	V	VENT	9/ =	ILIT REP
	DEGREE CELSIUS CENTER TO CENTER	ELC ELEC	ELECTRICAL LOAD CENTER ELECTRIC, ELECTRICAL	HW HWL	HEADWALL HIGH WATER LEVEL	NO, # NP	NUMBER NON-PROTECTED	6	I-BEAM	V	VOLT VOLTMETER, VOLTS	B A	HAB OR F
	CABINET	ENGR	ENGINEER			NPT	NATIONAL PIPE THREADS	S S	I-BEAM SLOPE	VB	VAPOR BARRIER	AD 2608 992 OER	REF
	CARPET CABLE TELEVISION	EOG EOP	EDGE OF GUTTER EDGE OF PAVEMENT	IC ID	INTERRUPTING CAPACITY INSIDE DIAMETER	NS NTS	NON-SHRINK NOT TO SCALE	S	SOUTH	VC VCP	VERTICAL CURVE VITRIFIED CLAY PIPE	N RO DA 33 C001	A B S LER
	CATCH BASIN	E.O.W. FP	EDGE OF WATER EDGE OF PAVING	IE, I.E.	INVERT ELEVATION			SATC	SWITCH SUSPENDED ACOUSTICAL TILE CEILING	VDR	VERTICLE DRYING RACK	ISTO LORI AA	S H GEI
	CIRCUIT BREAKER CONTROL CABLE	EP	EXPLOSION PROOF	IF IG	INSIDE FACE INSULATING GLASS	O TO O OA	OUT TO OUT OVERALL	SC	SLIP CRITICAL	VERT VIB	VERTICAL VIBRATION	N. WILLE, F. 72 RS K(NO P
	CENTRAL CONTROL PANEL	EQ	EQUAL	IN	INCH	ОС	ON CENTER	SCBA SCC	SELF CONTAINED BREATHING APPARATUS SOLID CORE	VP	VENEER PLASTER	S.W. SVILI 00072	ATIC ATIC
	CENTRAL CONTROL SYSTEM CUBIC FEET PER MINUTE	EQ SP EQPT, (EQUIP)	EQUALLY SPACED EQUIPMENT	INCAND INJS	INCANDESCENT INJECTIONS	OC OCA	OPEN-CLOSE OPEN-CLOSE-AUTO	SCFM	STANDARD CUBIC FEED PER MINUTE	VPC VPI	POINT OF VERTICAL CURVATURE POINT OF VERTICAL INTERSECTION	3011 3 AINE :B000	TS c
	CHANNEL (BEAM)	ETM	ELAPSED TIME METER	INST	INSTANTANEOUS	OCR	OPEN-CLOSE-REMOTE	SCH	SCHEDULE	VPS	VENEER PLASTER SYSTEM) G G EV	J MN N N N N N N N N N N N N N N N N N N
	CORRUGATED HIGH DENSITY POLYETHYLENE PIPE	EVC EW	END OF VERTICAL CURVE EACH WAY	INSTM INSUL	INSTRUMENT, INSTRUMENTATION INSULATION	OD OF	OUTSIDE DIAMETER OUTSIDE FACE	SCR SCU	SHOWER CURTAIN ROD SPEED CONTROL UNIT	VPT VT	POINT OF VERTICAL TANGENT VINYL TILE	000	A O
	CHEMICAL CAST IRON	EXH	EXHAUST	INV	INVERT	OHW	OVERHEAD WIRE	SD	SOAP DISPENSER	VTR	VENT THRU ROOF	Ö	A
	CAST IRON PIPE	EXP EXP	EXPANSION EXPOSED	IP IRRIG	IRON POST IRRIGATION	OL OO	OVERLOAD RELAY ON-OFF	SDMH, S.D.M.H. SDWK	STORM DRAIN MANHOLE SIDEWALK	\\/	WATER	<u>«</u>	
	CAST IRON SOIL PIPE CONSTRUCTION JOINT/CONTROL JOINT	EXP AB	EXPANSION ANCHOR BOLT	ITG	INSULATED TEMPERED GLASS	OOA	ON-OFF-AUTO	SDR	STANDARD DIMENSION RATIO	W	WEST		
	CIRCUIT	EXP JT EX, EXST, (EXIST)	EXPANSION JOINT EXISTING	IU IW	INTAKE UNIT IRRIGATION WELL	OOR OP	ON-OFF-REMOTE OPAQUE PANEL	SEC SECT	SECONDARY SECTION	W \\//	WIDE FLANGE (BEAM) WITH		
	CENTERLINE CEMENT LINED DUCTILE IRON PIPE	EXT	EXTERIOR			OPER	OPERATOR	SED	SEDIMENTATION	WC	WATER CLOSET		
	CHAIN LINK FENCE	^=	DEGREE FAHRENHEIT	J, JB JAN	JUNCTION BOX JANITOR	OPNG O.R.B.	OPENING OFFICIAL RECORD BOOKS	SEW SF	SEWAGE SLOWER-FASTER	WD WG	WOOD WIRE GLASS		1
	CEILING CLOSET	F, FU	FUSE	JCT	JUNCTION	osc	OPEN-STOP-CLOSE	SF	SQUARE FEET	WH	WATER HEATER		
	CLEAR	FAI FC	FRESH AIR INLET FLEXIBLE CONDUIT	JT	JOINT	OSD	OPEN SITE DRAIN	SG SGWB	LAMINATED SAFETY GLASS SUSPENDED GYPSUM WALL BOARD	WH WHD	WATTHOUR METER	● ~ ®	
4 D	CHLORINE	FCA	FLANGED COUPLING ADAPTER	К	KEY INTERLOCK	OZ	OUNCE	SH	SHOWER	WHD WP	WATTHOUR DEMAND METER WATERPROOF		Ó
Л.Р.	CORRUGATED METAL PIPE CONCRETE MASONRY UNIT	FCL2	FREE CHLORINE RESIDUAL	KIP	THOUSAND POUNDS KITCHEN	P DAY	PILASTER, PIPE	SH (SHT) SHA	SHEET SURFACE HARDENING AGENT	WP	WEATHERPROOF		_ <u> </u>
	CLEANOUT	FCO FCTY	FLOOR CLEANOUT FACTORY	KIT KSK	KITCHEN KITCHEN SINK	PAV P.B.	PAVER TILE PLAT BOOK	SHS	SOLIDS HANDLING SYSTEM	WR WS	WASTE RECEPTACLE WATER SURFACE		
	COLUMN CONCRETE	FD	FLOOR DRAIN	KV	KILOVOLTS	PB	PUSHBUTTON SWITCH	SIM SMH	SIMILAR STORMWATER MANHOLE	WS	WATERSTOP		
	CONDITIONED	FDN FDR	FOUNDATION FEEDER	KVA KVAR	KILOVOLT AMPERES KILOVOLT AMPERES REACTIVE	PC PC	PHOTOCELL POINT OF CURVE	SMH SOLN	SOLUTION	WS WT	WELDED STEEL WEIGHT	5	
	CONNECTION CONSTRUCT	FEXT	FIRE EXTINGUISHER	KW	KILOWATT	PE	PLAIN END	SP	SPACE OR SPACES	WTP	WATER TREATMENT PLANT		3B
	CONTINUOUS, CONTINUATION	FF FG	FINISHED FLOOR FINISH GRADE	1	ANGLE, LENGTH	PED PEP	PEDESTAL POLYETHYLENE PIPE	SPA. SPEC, SPECS	SPACING SPECIFICATIONS	WTR WU	WATER WALL URN		AE
	CONTRACTOR COORDINATE	FHY	FIRE HYDRANT	_ L	ARC LENGTH	PF	PANEL FRONT	SPEC'D.	SPECIFIED	WWTP	WASTEWATER TREATMENT PLANT		
	CENTER PIVOT	FIG FL	FIGURE FLOW LINE	LA LAB	LIGHTNING ARRESTER LABORATORY	PG. nH	PAGE HYDROGEN ION CONCENTRATION	SPLY SQ	SUPPLY SQUARE				
	COUPLING	FLG	FLANGE	LAM	LAMINATE	PI	POINT OF INTERSECTION	SQ FT	SQUARE FOOT, FEET	NOTES:			
	COUPLING COMPRESSOR	FL (FLR) FLEX	FLOOR FLEXIBLE	LAT LAV	LATITUDE LAVATORY	PJF	PREMOULDED JOINT FILLER	SQ IN SR	SQUARE INCH SHORT RADIUS	1. THIS IS A ST	ANDARD LEGEND SHEET, THEREFORE		
	CONTROL POWER TRANFORMER	FLEX FLH	FLAT HEAD	LAV LB	LICENSED BUSINESS	PL PL	PLATE (STEEL) PROPERTY LINE or PARCEL LINE	SS	START-STOP		REVIATIONS MAY APPEAR ON THIS NOT ON THE DRAWINGS.		
	0.0000000000000000000000000000000000000	FLTR FLUOR	FILTER	LB	POUND	PLAS	PLASTIC	SS, SST SSH	STAINLESS STEEL SAFETY SHOWER		NGI ON THE DRAWINGS. NGINEER FOR ABBREVIATIONS NOT		
	CHLORINATED PVC CONTROL RELAY	FLUOR	FLUORESCENT	LB/CU FT LC	POUNDS PER CUBIC FOOT LIGHTING CONTACTOR	PLC PLC-X	PROGRAMMABLE LOGIC CONTROLLER PROGRAMMABLE LOGIC CONTROLLER	SSK	SERVICE SINK	LISTED.			1" = X'
	CHLORINATED PVC CONTROL RELAY COLD ROLLED STEEL		FINISH			1207	NO. X	S.S.M.H.	SANITARY SEWER MANHOLE				
	CONTROL RELAY	FNSH FP	FINISH FIELD PANEL	LF	LINEAR FEET			\circ T \wedge	OTATUO			│ VER	KIFY SCALE
	CONTROL RELAY	FNSH		LF LG LH	LINEAR FEET LONG LEFT HAND	PLYWD PNL	PLYWOOD	STA STD	STATUS STANDARD			BAR IS	IS ONE INCH O
	CONTROL RELAY	FNSH FP FPS FP-W-X FR	FIELD PANEL FEET PER SECOND FIELD PANEL NO. WX FORWARD REVERSE	LF LG	LONG	PLYWD PNL						BAR IS	IS ONE INCH O
	CONTROL RELAY	FNSH FP FPS FP-W-X	FIELD PANEL FEET PER SECOND FIELD PANEL NO. WX	LF LG	LONG		PLYWOOD	STD	STANDARD			BAR IS	IS ONE INCH OI GINAL DRAWING
	CONTROL RELAY	FNSH FP FPS FP-W-X FR	FIELD PANEL FEET PER SECOND FIELD PANEL NO. WX FORWARD REVERSE	LF LG	LONG		PLYWOOD	STD	STANDARD			DATE PROJ	IS ONE INCH OF GINAL DRAWING MA
	CONTROL RELAY	FNSH FP FPS FP-W-X FR	FIELD PANEL FEET PER SECOND FIELD PANEL NO. WX FORWARD REVERSE	LF LG	LONG		PLYWOOD	STD	STANDARD			BAR II ORIGI 0 DATE	RIFY SCALE IS ONE INCH ON GINAL DRAWING MA 00° 02 o

GENERAL SITE NOTES:

- 1. SOURCE OF TOPOGRAPHY SHOWN ON THE CIVIL PLANS FOR PUMP STATION B ARE BASE MAPS PROVIDED BY AVIROM & ASSOCIATES, INC., AUGUST 2013 AND RECORD DRAWINGS FROM CH2M. THE BASE MAPS FOR PUMP STATION H ARE FROM RECORD DRAWINGS FROM CH2M. 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.
- 2. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE. STRUCTURES. AND SITE FEATURES ARE SHOWN HEAVY-LINED.
- 3. HORIZONTAL DATUM: FOR PUMP STATION B, NAD 83, STATE PLANE FLORIDA EAST. FOR PUMP STATION H, UNKNOWN.
- 4. VERTICAL DATUM: FOR PUMP STATION B, NGVD 1929. FOR PUMP STATION H, UNKNOWN.
- 5. ALL UNITS ARE IN US SURVEY FEET.
- 6. 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.
- 7. COORDINATE STAGING AREA WITH THE CITY. STAGING AREA SHALL BE FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S EQUIPMENT AND ON-SITE STORAGE OF MATERIALS.
- 8. PROVIDE TEMPORARY FENCING AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES.
- 9. ELEVATIONS GIVEN ARE TO FINISH GRADE AND PIPE INVERT UNLESS OTHERWISE SHOWN.
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION.
- 11. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE
- 12. LIMIT CONSTRUCTION OPERATIONS TO WITHIN THE RIGHT-OF-WAY EASEMENTS AND ANY OTHER DESIGNATED WORK AREAS AS INDICATED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGES AS A RESULT OF CONSTRUCTION ACTIVITIES OUTSIDE OF RIGHT-OF-WAY. EASEMENTS AND ANY OTHER DESIGNATED WORK AREAS SHOWN ON THE DRAWINGS.
- 13. CONTRACTOR SHALL REPLACE ALL PAVEMENTS, PAVEMENT MARKINGS, SIGNS, AND REFLECTIVE MARKERS DISTURBED OR REMOVED DURING CONSTRUCTION.
- 14. TREE AND SHRUB REMOVAL AND/OR TRIMMING MUST BE COMPLETED BY A CITY APPROVED ISA CERTIFIED ARBORIST.
- 15. ALL DISTURBED AREAS NOT PAVED OR COVERED WITH GRAVEL SHALL BE SODDED.

LEGEND

Δ	ANTENNA	(
-⊗-₩-⊗-	BACK FLOW PREVENTOR VALVE	:
lacktriangle	BENCHMARK	4
•	BOLLARD (UNLESS NOTED)	3
	CATCH BASIN	E
	CONCRETE UTILITY POLE	7
	DRAINAGE MANHOLE	
E	ELECTRIC SERVICE BOX	
+ 6.94	EXISTING ELEVATION	
-0-	METAL LIGHT POLE	
OW	OVERHEAD WIRES	
Q	PARKING METER	
S	SANITARY MANHOLE	
[2]	SEWER VALVE	
	SIGN (UNLESS NOTED)	
\otimes	SPIGOT	
W	WATER METER	
[w]	WATER VALVE	
•	WOOD UTILITY POLE	
D D -	UNDERGROUND DRAINAGE LINE	
	UNDERGROUND SEWER LINE	
	APPROXIMATE RIGHT-OF-WAY LINE	
	, a	

BUTTON WOOD (DIAMETER)

PALM SPECIES (DIAMETER)

POINCIANA (DIAMETER)

UNKNOWN SPECIES (DIAMETER)

SECTION AND DETAIL IDENTIFICATION

SECTION AND DETAIL DESIGNATORS

SECTION (LETTER)
OR DETAIL (NUMBER)
DESIGNATION

DRAWING NUMBER
WHERE DETAIL

CAN BE FOUND

DETAIL DESIGNATED

A DETAIL NAME

SCALE: AS DESIGNATED

ON DRAWING WHERE DETAIL IS DRAWN:

STANDARD DETAIL DESIGNATION

STANDARD DETAIL

AS INDICATED
(SEE DETAIL
DRAWINGS)

DESIGN CRITERIA

- 1. APPLICABLE CODE: 2014 FL BUILDING CODE AND ALL OTHER APPLICABLE LOCAL AGENCIES.
- 2. FLOOR LIVE LOADS: 200 PSF STAIR AND LANDING LIVE LOAD 100 PSF
- 3. WIND LOAD: (ASCE 7-10)

4. SOIL DESIGN PARAMETERS:

- BASIC WIND SPEED (3-SECOND GUST) = 200 MPH EXPOSURE = C

RISK CATEGORY

A. NET ALLOWABLE SOIL BEARING PRESSURES 2000 PSF

GENERAL INFORMATION

= III

- 1. 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.
- 3. 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.
- 4. STRUCTURAL MEMBERS SHALL NOT BE CUT OR MODIFIED FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
- 5. 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.

FORMWORK, SHORING AND BRACING

- 1. 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.
- 2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 80 PERCENT OF THE 28 DAY DESIGN STRENGTH AS DETERMINED BY CYLINDER BREAKS.

CONCRETE REINFORCING

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

WALL THICKNESS	REINF EACH WAY	LOCATION
6"	#4@12"	CENTERED
8"	#5 <u>@</u> 12"	CENTERED
10"	#4 <u>@</u> 12"	EACH FACE
12"	#5 <u>@</u> 12"	EACH 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:
 2"
- 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 MINIMUM REQUIREMENTS:

CONCRETE D	DESIGN STREM	NGTH =	4,000 P	S **	*** G	RADE 6	0 REIN	FORCIN	IG STE	EL
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE I	LENGTH									
SPACING<6"	TOP BAR *	1'-4"	2'-0"	3'-0"	4'-0"	5'-10"	6'-8"	7'-7"	8'-6"	9'-5"
	OTHER BAR	1'-4"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
SPACING≥6"	TOP BAR *	1'-4"	1'-6"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT	LENGTH									
SPACING<6"	TOP BAR *	1'-0"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
	OTHER BAR	1'-0"	1'-3"	1'-9"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"
SPACING≥6"	TOP BAR *	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"
★ TOP BAR	S SHALL BE D	EFINED	AS AN	Y HORI	ZONTAL	BARS	PLACE	D SUCH	THAT	MORE T

- TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
- $\star\star$ WHERE 3000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16 PERCENT
- $\star\star\star$ WHERE 5000 PSI CONCRETE IS USED, DECREASE ABOVE LENGTHS BY 16 PERCENT

CONCRETE

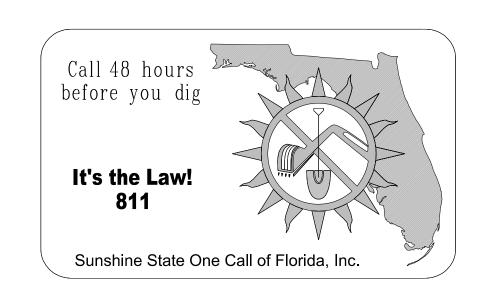
- 28-DAY CAST-IN-PLACE CONCRETE STRENGTHS: TYPICAL:
- 5000 PSI
- REINFORCING STEEL:
 TYPICAL:
- ASTM A615, GRADE 60
- FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
- ROUGHEN AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE.
- 5. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
- 6. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

WELDING

- 1. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS), LATEST EDITION: AWS D1.1/D1.1M:2015
- 2. BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

FOUNDATIONS

1. ALL FOUNDATION BEARING SURFACES SHALL BE INSPECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER OR HIS DESIGNEE PRIOR TO PLACEMENT OF FORMWORK OR REINFORCEMENT. THE INSPECTION SHALL VERIFY THAT THE EXPOSED SUBGRADE IS ADEQUATE. SEE SOIL DESIGN PARAMETERS THIS SHEET.



VERIFY SCALE

BAR IS ONE INCH ON
ORIGINAL DRAWING.
0
1"

DATE

MAY 2018
PROJ

683450
DWG

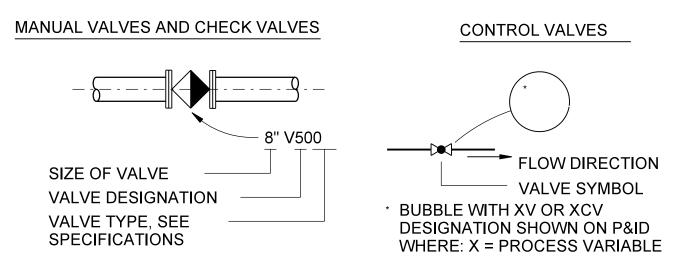
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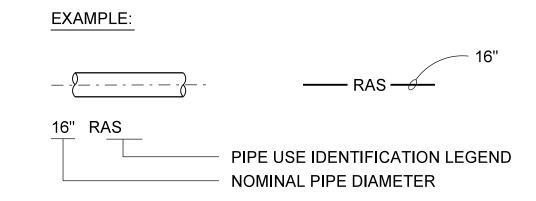
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VALVE DESIGNATIONS



PIPING DESIGNATION



PIPE DESIGNATIONS AND FITTING END PATTERNS

В	BELL	PE	PLAIN END
Ь	DELL	1 L	I LAIN LIND
S	SPIGOT	GE	GROOVED END
F	FLANGE	MJ	MECHANICAL JOINT
		∔ F	
EXAMPLE:	_	 } 	

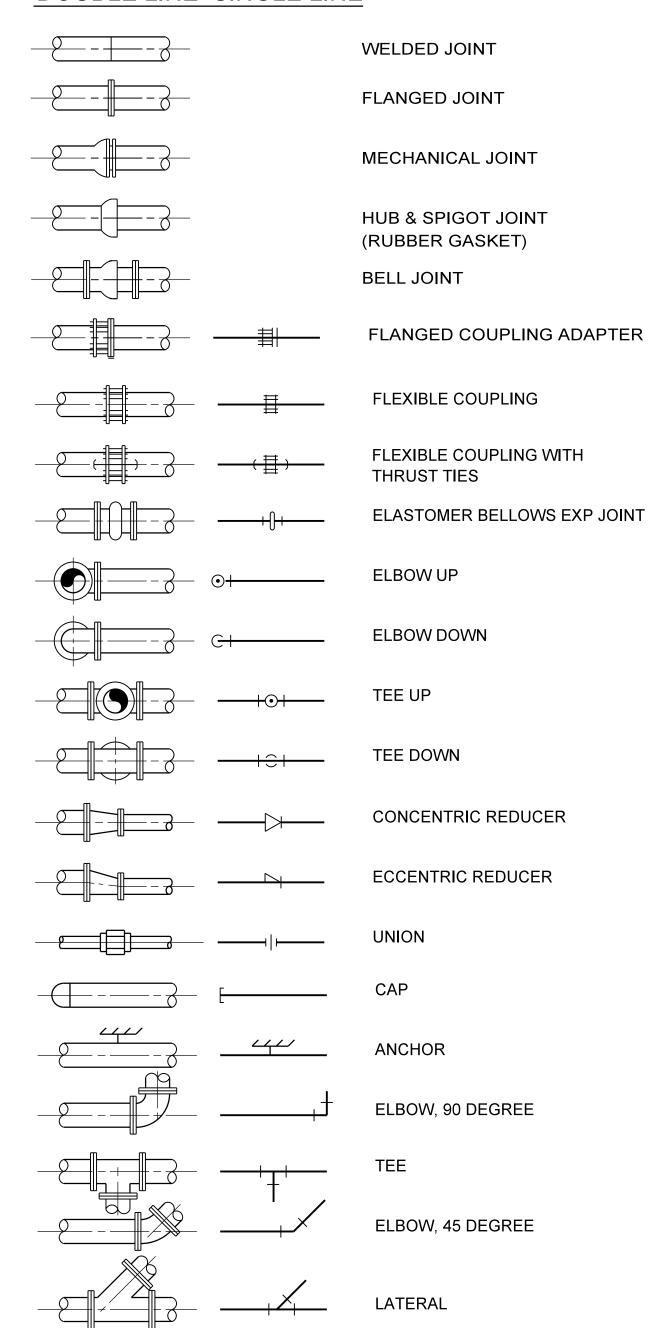
MECHANICAL LEGEND AND NOTES

GENERAL PIPING NOTES

- LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- 2. 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. UNLESS OTHERWISE INDICATED.
- 3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE AS SPECIFIED.
- 4. ALL JOINTS SHALL BE WATERTIGHT. STANDARD WALL PIPE DETAIL SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
- 5. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR PRESSURES SPECIFIED.
- 6. ALL NEW BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST RESTRAINT, AS SPECIFIED AT ALL DIRECTIONAL CHANGES AND DEAD ENDS, UNLESS OTHERWISE NOTED. ALL CONNECTIONS TO EXISITNG PIPE SHALL BE MADE WITH MEGALUGS. ANY EXEPTIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE PROCEEDING.
- 7. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
- 8. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.

PIPE AND FITTING SYMBOLS

DOUBLE LINE SINGLE LINE



1" = X' VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. MAY 2018 PROJ 683450

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION 3	SYMBOL	DESCRIPTION	POWER CIRCUIT C	CALLOUTS	
	ONE LINE DIAGRAMS-1		POWER SYSTEM PLAN-1	1	GROUND SYSTEM PLAN		[P26] [1"C,3#8,5#14,1#10G]	
«——^»	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE	▲ ○	CONNECTION POINT TO EQUIPMENT SPECIFIED.	•	GROUND ROD, REQUIRES TEST WELL IF LOCATED IN PAVED AREA	[P3] [3/4"C,3#12,1#12G]	[P27] [1"C,2#6, 1#10G] [P28] [1"C,3#6, 1#8G]	
~			RACEWAY, CONDUCTOR, TERMINATION AND CONNECTION IN THIS DIVISION.			[P4] [3/4"C,4#12,1#12G] [P5] [3/4"C,5#12,1#12G]	[P28A] [1"C,4#6, 1#8G] [P29] [1"C,3#6, 2#14,1#8G]	
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO	M	MOTOR, SQUIRREL CAGE INDUCTION			[P6] [3/4"C,6#12,1#12G] [P7] [3/4"C,7#12,1#12G]	[P30] [1"C,3#6, 3#14,1#8G] [P31] [1"C,3#6, 4#14,1#8G]	
AS or AT AF	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO	l vi		G	GROUNDING CONDUCTOR, SIZE AS INDICATED		[P32] [1"C,3#6, 5#14,1#8G] [P33] [1"C,3#4,1#8G]	
\	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP	G	GENERATOR, VOLTAGE AND SIZE AS INDICATED.	TA	CABLE TO CABLE TEE	[P10] [3/4"C,3#12,3#14,1#12G]	[P34] [1 1/4"C,3#4,3#14,1#8G]	APVD
100/M	RATING SHOWN, 3 POLE, UNO	→ LPXXA	HOME RUN - DESTINATION SHOWN	 	CABLE TO CABLE CROSS	[P11] [3/4"C,3#12,4#14,1#12G] [P12] [3/4"C,3#12,5#14,1#12G]	[P35] [1 1/4"C,3#4,5#14,1#8G] [P36] [1 1/4"C,3#3, 1#6G]	
400 400	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES,	or - /// _	EXPOSED CONDUIT AND CONDUCTORS	¦ XA	PLATE ADAPTER		[P37] [1 1/4"C,3#3, 3#14,1#6G] [P38] [1 1/4"C,3#2, 1#6G]	
400	TRIP AND FUSE RATING INDICATED, 3 POLE, UNO	or - /// /_	CONCEALED CONDUIT AND CONDUCTORS			[P15] [3/4"C,2#10,1#10G] [P16] [3/4"C,3#10,1#10G]	[P39] [1 1/4"C,3#1, 1#6G] [P39A] [1 1/2"C,4#1, 1#6G]	APVD
400 225	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO	G 77 'G		XJ	CABLE TO REINFORCING STEEL	[16A] [3/4"C,4#10,1#10G] [P17] [3/4"C,3#10,2#14,1#10G]	[P40] [1 1/2"C,3#1, 3#14,1#6G] [P41] [1 1/2"C,3#2/0, 1#4G]	
100	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO		CONDUIT DOWN	©	GROUND ROD TO CABLE	[P18] [3/4"C,3#10,3#14,1#10G]	[P42] [2"C,3#3/0, 1#4G] [P43] [2"C,3#4/0, 1#3G]	
60 (3)	FUSE, CURRENT RATING AND QUANTITY INDICATED		CONDUIT UP	G	FLEXIBLE GROUND STRAP	[P20] [3/4"C,3#10,5#14,1#10G]	[P43A] [2 1/2"C,4#4/0, 1#4G]	
1			CONDUIT, STUBBED AND CAPPED		CABLE TO PIPE (BOLTED CONNECTION)	[P22] [1"C,3#8,1#10G]	[P45] [2 1/2"C,4#3/0, 1#3G]	EVISIC OHK
	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO	CE	CONCRETE ENCASED CONDUIT	GP		[P24] [1"C,3#8,3#14,1#10G]	[P46] [1 1/2"C,3#1/0, 1#6G] [P47] [2 1/2"C,4-250 KCMIL, 1#4G]	
AFD	ELECTRONIC STARTER/SPEED CONTROL	DB	DIRECT BURIED CONDUIT	GF	CABLE TO FLAT		[P48] [3"C, 3-500 KCMIL, 1#3G]	
	RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE	——-FО	FIBER OPTIC CONDUIT	• WA	CABLE TO STEEL/ALUMINUM SURFACE	ANALOG CIRCUIT CALLOUTS [A1] [3/4"C,1 TYPE 3]	[C1] [3/4"C,MSC]	
В	RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVRT = REDUCED VOLTAGE REACTOR TYPE	T	TRANSFORMER	G R	CABLE TO TOP OF GROUND ROD	[A2] [1"C,2 TYPE 3]	[C2] [3/4"C,2#14,1#14G]	
	CABLE OR BUS CONNECTION POINT		GENERAL CONTROL OR WIRING DEVICE.	© SS	PARALLEL SPLICE	[A4] [1"C,4 TYPE 3]	[C3] [3/4"C,3#14,1#14G] [C4] [3/4"C,4#14,1#14G]	
	MECHANICAL INTERLOCK	① or HH	LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE		PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME	[A6] [1 1/4"C,6 TYPE 3]	[C5] [3/4"C,5#14,1#14G] [C6] [3/4"C,6#14,1#14G]	
		cs	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.	G	EQUIPMENT GROUND BUS	[A8] [1 1/2"C,8 TYPE 3]	[C7] [3/4"C,7#14,1#14G] [C8] [3/4"C,8#14,1#14G]	
	SURGE ARRESTER (GAP TYPE)	30 📑	NONFUSED DISCONNECT SWITCH, CURRENT RATING	N	EQUIPMENT NEUTRAL BUS	[A9] [1 1/2"C,9 TYPE 3]	[C9] [3/4"C,9#14,1#14G] [C10] [3/4"C,10#14,1#14G]	
(10	CAPACITOR - KVAR INDICATED, 3 PHASE	60/40 FJ	INDICATED, 3 POLE FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED		CABLE TO LUG	[A11] [2"C,11 TYPE 3]	[C11] [3/4"C,11#14,1#14G] [C12] [3/4"C,12#14,1#14G]	O N EMEN
$\frac{1}{3}$	MOTOR, SQUIRREL CAGE INDUCTION -		(60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE	LA		[A13] [2"C,13 TYPE 3]	[C13] [3/4"C,13#14,1#14G]	LITATI
	HORSEPOWER INDICATED	2	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED	NOTES:		[A15] [3/4"C,1 TYPE 4]	[C15] [3/4"C,15#14,1#14G]	60201 EHABIL TOR REEST
G	GENERATOR, KW/KVA RATING SHOWN	 	CONVENIENCE RECEPTACLE - DUPLEX UNLESS SPECIFIED OTHERWISE	1. THESE ARE STAN	IDARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS	[A17] [1"C,3 TYPE 4]	[C16] [3/4"C,16#14,1#14G] [C17] [3/4"C,17#14,1#14G]	N ROAD NO ROAD NO DE N B RE NERAT (EY W
500/625			WP- WEATHERPROOF C- CLOCK HANGER		THE LEGEND AND NOT ON THE DRAWINGS. ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND	[A19] [1 1/4"C,5 TYPE 4]	[C18] [3/4"C,18#14,1#14G] [C19] [3/4"C,19#14,1#14G]	MILLISTC AMA HOLSO NO BEI Y OF I
Δ	DELTA CONNECTION		GFI = GROUND FAULT INTERRUPTION	STRUCTURAL/AF	CHITECTURAL) SEE OTHER LEGENDS.	[A20] [1 1/4 C,6 TYPE 4] [A21] [1 1/2"C,7 TYPE 4]	[C20] [1"C,20#14,1#14G] [C21] [1"C,21#14,1#14G]	1 S.W. V VESVILLI 000072 NICH STATIC STATIC CIT KEY
\ \K.	WYE GROUNDED CONNECTION, SOLID GROUND	⊗	EXIT SIGN; FILLED SECTION IDICATES LIGHTED FACE, FULLY GASKETED REINFORCED POLYESTER HOUSING, WITH			[A22] [1 1/2"C,8 TYPE 4]	[C22] [1"C,22#14,1#14G] [C23] [1"C,23#14,1#14G]	301- GAIN EBOO AVID C
			STAINLESS STEEL HARDWARE, RED LETTERS, INTEGRAL 90 MINUTES MAINTENANCE FREE SEALED NICKLE CADMIUM EMERGENCY BATTERY BACKUP. SELF TEST DIAGNOSTIC	NOTES:		[A24] [3/4"C,1-4 pr. TYPE 5]	[C24] [1"C,24#14,1#14G] [C25] [1"C,25#14,1#14G]	AND P
DPM			WITH INDICATOR LIGHT, UL LISTED NEMA 4X AND NFPA 101 RATED, LED. HALOPHANE DELEON HD SERIES, MODEL;		PES, SEE SPECIFICATIONS. S ARE BASED ON THE AREA OF THW CONDUCTORS.	[A26] [3/4"C,1 - TYPE 32] [A27] [3/4"C,1 - TYPE 33]	[<u>]</u> [.]	
	DIGITAL POWER METER (MULTIFUNCTION)		LHD2E-NC-R-NK-SH OR APPROVED EQUAL. ALARM HORN	3. SIZING OF CON	DUCTORS #1AWG AND SMALLER BASED ON AMPACITIES	[A28] [3/4"C,1 - TYPE 34] [A29] [3/4"C,1 - TYPE 30]		
0	UTILITY REVENUE METER	×	ALARM LIGHT	ON AMPACITIES	S C, SIZING OF CONDUCTORS #1/0AWG AND LARGER BASED S AT 75 DEGREES C.	MULTICONDUCTOR CONTROL CABLE CIRCUIT C	ALLOUTS	_
	GROUND		ALAMINI LIOTTI		TS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE MUM CONDUIT SIZE SHALL BE 1".	[CC5] [3/4"C,1-5C TYPE 1]		
_ ÷		\$	WALL SWITCH:	1/2" = 16 mm	ONDUIT SIZES USE THE FOLLOWING CONVERSION: 1/4" = 35 mm	[CC7] [3/4"C,1-7C TYPE 1] [CC9] [1"C,1-9C TYPE 1]		
15 KVA 480-120/	/240V TRANSFORMER, SIZE, VOLTAGE RATINGS,		2- DOUBLE POLE 3- THREE WAY 4- FOUR WAY	3/4" = 21 mm 1" = 27 mm	1 1/2" = 41 mm 2" = 53 mm	[CC12] [1"C,1-12C TYPE 1] [CC19] [1 1/2"C, 1-19C TYPE 1]		ERAL YL L ET
	AND PHASE INDICATED		WP- WEATHERPROOF			[CC25] [1 1/2"C,1-25C TYPE 1] [CC37] [2"C,1-37C TYPE 1]		GENERAL GENERAL RICAL SHEET
<u> </u>	SHIELDED ISOLATION TRANSFORMER	\$ a	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER			[CCC1] [1-7C #12 TYPE 1] [CX] [2"C, COAX CABLE]		
1			AT LUMINAIRE INDICATES CIRCUIT IN PANELBOARD.			[MSC] [MANUFACTURER SUPPLIED C/	ABLE]	
$ \longrightarrow \underbrace{ \left\{ \begin{array}{c} 480 - 120 \text{V} \\ \end{array} \right.}_{(3)} $	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED	А	TYPE A LUMINAIRE: ENCLOSED FLUORESCENT: (2) F32T8 LAMPS, ALUMINUM HOUSING, ELECTRONIC BALLAST, 120V WITH EMERGENCY LIGHTING BATTERY PACK.			TURE SCHEDULE] "
D			COLUMBIA LIGHTING MODEL 47A-4-232-E-U-DR12-EL, OR APPROVED EQUAL. LIGHTS TO BE WIRED SO THAT		ARK VOLTS TYPE QTY WATTS MOUNT	DESCRIPTION	MAKE/MODEL PHILIPS	-
100:5 (3)	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)		EMERGENCY BATTERY PACK ILLUMINATES FIXTURE ON POWER FAILURE.			REA LUMINARE LUMINAIRE, TURTLE FRIENDLY, DIE-CAST ALUMINUM HOUS COMPLIANCE AND IP66 . NOMINAL 1400 LUMENS MAX OUTPUT, 120V TYP T-OFF. FWC SHIELDING		
		 	TYPE B LUMINAIRE: CLEAR IMPACT RESISTANT GLASS LENS		DISTRIBUTION, FULL CUT	,	LITHONIA	1" = X' VERIFY SCALE
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION		LED WALL PACK, CAST ALUMINUM HOUSING, FULL CUT-OFF DISTRIBUTION, UL LISTED FOR WET LOCATIONS, NOMINAL 3448 LUMENS OUTPUT, 35.4 WATT INPUT, 120V. 90-MINUTE,	□ -□		REA LUMINARE LUMINAIRE, DIE-CAST ALUMINUM HOUSING, AMBER LED, 1 165 . NOMINAL 5000 LUMENS MAX OUTPUT, 4000K, 120V TYPE 4 DISTRIBU		BAR IS ONE INCH ON ORIGINAL DRAWING.
	IN THIS DIVISION		3448 LUMENS OUTPUT, 35.4 WATT INPUT, 120V. 90-MINUTE, EMERGENCY BATTERY BACKUP, EXTERNAL TEST SWITCH \ HUBBELL LIGHTING LAREDO SERIES, MODEL; LMC-30LU-5K-3-035-4-BOC, OR APPROVED EQUAL.		FULL GUT-OFF,			DATE MAY 2018 PROJ 683450
SPD	SURGE SUPPRESSION DEVICE		POLE MOUNTED LUMINAIRE					DWG 001-G-00
\$PWURL				<u> </u>		FILENAME: 001-G-1006 683450.dgn	PLOT DATE: 5/17/2018	SHEET 05 of 30 PLOT TIME: 1:48:03 PM

ELECTRICAL GENERAL NOTES

- CONDUIT, WIRE AND EQUIPMENT SIZES AND LOCATIONS SHOWN ARE FOR BID BASIS ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH APPROVED SHOP DRAWINGS, WITH THE REQUIREMENTS OF EQUIPMENT PROVIDED, WITH EQUIPMENT FURNISHED BY OWNER FOR INSTALLATION BY CONTRACTOR AND WITH REQUIREMENTS OF OTHER DIVISIONS OF THE CONTRACT AS NECESSARY TO PROVIDE COMPLETE AND WORKING SYSTEMS COMPLYING WITH THE CONTRACT DOCUMENTS. ALL PROPOSED DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE SUBMITTED AND APPROVED BEFORE EXECUTION OF THE AFFECTED WORK.
- THE TERMS RACEWAY AND CONDUIT ARE USED IN THESE DOCUMENTS TO DENOTE NOT ONLY THE RACEWAY OR CONDUIT ITSELF BUT ALSO ALL JUNCTION BOXES, PULL BOXES, CONDUITS, FITTINGS, CLAMPS, SUPPORTS AND ALL OTHER ITEMS NECESSARY FOR A COMPLETE AND WORKING SYSTEM COMPLYING WITH THE CONTRACT DOCUMENTS.
- 3 NOTES INDICATED AS "REF", "REFERENCE" OR "REFER TO" ARE PROVIDED TO ASSIST IN LOCATING RELATED CONTRACTUAL REQUIREMENTS BUT ARE NOT CONTRACTUAL INSTRUCTIONS THEMSELVES. MISSING, INCORRECT OR INCOMPLETE REFERENCES SHALL HAVE NO EFFECT ON THE REQUIREMENTS OF THE CONTRACT.
- 4 AT ITEMS MARKED MSC (MANUFACTURER SUPPLIED OR SPECIFIED CABLE) CONTRACTOR SHALL DETERMINE REQUIREMENTS FOR, AND PROVIDE, CONDUIT AND CABLE AS REQUIRED BY MANUFACTURER AND IN COMPLIANCE WITH CONTRACT DOCUMENTS.
- 5 EXCEPT AS NOTED BELOW, ALL WIRE AND CABLE, INCLUDING FIBER OPTIC, SHALL BE INSTALLED IN RACEWAY. EXCEPTIONS ARE EQUIPMENT CABLES PROVIDED BY EQUIPMENT MANUFACTURERS AND UL LISTED FOR INSTALLATION OUTSIDE OF CONDUIT, INCLUDING FLOAT SWITCH AND SUBMERSIBLE PUMP CABLES.
- 6 SPARE RUNS OF CONDUCTORS SHALL BE INSULATED/TERMINATED AND LABELED AT BOTH ENDS. SPARE RUNS OF FIBER OPTIC STRANDS SHALL BE LABELED AND TERMINATED AT BOTH ENDS. ALL CONDUCTORS AND FIBERS SHALL BE TESTED AFTER INSTALLATION AND TEST REPORTS SHALL BE SUBMITTED. REPLACE ALL DEFECTIVE MATERIAL; DO NOT SUBMIT TEST REPORTS SHOWING DEFECTS.
- 7 LOCATIONS AND ELEVATIONS OF ELECTRICAL CONNECTIONS, MOTORS, PANEL BOARDS, SWITCH GEAR, TRANSFORMERS, CONTROL CABINETS AND OTHER ITEMS SHOWN ON DOCUMENTS ARE APPROXIMATE ONLY UNLESS DIMENSIONED. COORDINATE EXACT LOCATIONS AND ELEVATIONS WITH REQUIREMENTS OF OTHER DIVISIONS OF THESE DOCUMENTS. IN AREAS WHERE SPACE AVAILABLE IS LIMITED. P REPARE DIMENSIONED DRAWINGS SHOWING EXACT PROPOSED LOCATIONS OF EQUIPMENT AND VERIFYING THAT EQUIPMENT PROPOSED FOR USE CAN BE INSTALLED AS SHOWN ON PLANS IN COMPLIANCE WITH NEC AND MANUFACTURER'S REOUIREMENTS. BASE THESE DRAWINGS ON DIMENSIONS OF EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT WHICH ARE KNOWN TO CONTRACTOR TO BE CORRECT AND NOT SUBJECT TO CHANGE. NOTE DEVIATIONS FROM BID BASIS DRAWINGS AND DISCUSS WITH ENGINEER. SUBMIT THESE DRAWINGS AND RECEIVE APPROVAL BEFORE EXECUTING THE WORK. DO NOT SUBMIT SHOP DRAWINGS FOR EQUIPMENT WHICH IS NOT ACCOMPANIED BY DRAWINGS VERIFYING COMPLIANCE WITH CONTRACT REQUIREMENTS.
- 8 CONTROL (LADDER LOGIC) DIAGRAMS DEPICT FUNCTIONS REQUIRED, MAJOR COMPONENTS AND THEIR INTERCONNECTIONS, BUT ARE NOT INTENDED TO BE COMPLETE WIRING DIAGRAMS. CONTRACTOR SHALL COORDINATE WITH MANUFACTURERS OF EQUIPMENT PROVIDED TO ENSURE THAT ALL MATERIALS AND LABOR ARE PROVIDED WHICH ARE NECESSARY TO SECURE COMPLETE AND WORKING SYSTEMS WITH ALL FUNCTIONS AND COMPONENTS SHOWN ON THE CONTRACT DOCUMENTS, INCLUDING THIS DIVISION CONTRACT AND INSTRUMENTATION AND CONTROL DOCUMENTS.

- PROVIDE DISCONNECT SWITCHES WHERE SHOWN, WITH THE SAME NUMBER OF POLES AS THEIR SOURCE CIRCUIT BREAKERS, AND WITH VOLTAGE AND CURRENT RATINGS EQUAL TO OR GREATER THAN THAT OF THE SOURCE CIRCUIT BREAKER'S.
- 10 THE REQUIREMENTS FOR DISCONNECT SWITCHES SHOWN MAY BE MET BY DISCONNECT SWITCHES PROVIDED BY EQUIPMENT MANUFACTURERS, WHERE ALL REQUIREMENTS OF THE NEC AND THESE DOCUMENTS ARE MET BY THOSE SWITCHES.
- 11 INSTALL GROUND RINGS AS NEC-250.52(A)(4) GROUNDING ELECTRODE SYSTEMS AROUND ALL OBIECTS PROVIDED AT OR ABOVE FINISHED GRADE BY THIS PROJECT OR INDICATED ON THE DRAWINGS, EXCEPT AS NOTED BELOW FOR LIGHT POLES, HANDHOLES AND MANHOLES. GROUND RING AND ITS RADIAL CONDUCTORS SHALL BE #2/0 OR LARGER TINNED BARE COPPER CONDUCTOR WITH GROUND RODS AT ALL CORNERS AND AT INTERVALS BETWEEN CORNERS NOT EXCEEDING FIFTY FEET. INSTALL GROUND RING AND GROUND CONDUCTORS NOT LESS THAN 30 INCHES BELOW FINISHED GRADE WITH 6 INCH RED, DETECTABLE, ELECTRICAL WARNING TAPE DIRECTLY ABOVE CONDUCTOR AND 12 INCHES BELOW FINISHED GRADE. MAINTAIN SIX FEET MINIMUM CLEARANCE TO ALL OBJECTS AT OR ABOVE FINISHED GRADE EXCEPT AS NOTED AND FROM LIGHTNING PROTECTION GROUNDING ELECTRODE SYSTEM PER NEC-250.53-(B). PROVIDE NOT LESS THAN ONE GROUND ROD TEST WELLS IN EACH GROUND RING, AT DIAGONALLY OPPOSITE GROUND RODS. WELLS SHALL BE CHRISTY NO. G-5, LIGHTNING AND GROUNDING SYSTEMS I-R SERIES OR ENGINEER APPROVED EQUAL. CAD WELD GROUND RING AND RADIAL GROUND CONDUCTORS TO ALL BURIED GROUND RODS EXCEPT PROVIDE CLAMPS WHERE SHOWN AND AT TEST WELLS. CONNECT RADIAL GROUND CABLES TO STEEL REINFORCEMENT MEMBERS IN CONCRETE AND OTHER STRUCTURAL ELEMENTS AT ALL CORNERS AND AT INTERVALS ON STRAIGHT SECTIONS NOT EXCEEDING FIFTY FEET WHERE A LIGHTNING PROTECTION SYSTEM IS PROVIDED OR PRESENT, CONNECT ALL DOWN CONDUCTOR GROUNDING ELECTRODES (NFPA-780-4.13.1.1) TO THE NEC GROUNDING ELECTRODE SYSTEM PER NFPA-780-4.14.1 AND NEC-250.106
- PROVIDE GROUND ROD INSTEAD OF GROUND RING AT ALL POLE MOUNTED LIGHTING FIXTURES.
 PROVIDE GROUNDING SYSTEMS DESCRIBED ELSEWHERE IN DOCUMENTS FOR MANHOLE AND HANDHOLE INSTEAD OF GROUND RINGS.
 THE TERM CAD WELD IS USED TO DENOTE EXOTHERMIC WELDS.
- 12 RAILING, LADDER, STEPS, GRATINGS, FRAMING, ANTENNAS, ENCLOSURES OF ELECTRICAL, PROCESS OR CONTROL EQUIPMENT OPERATING ABOVE 150 VOLTS TO GROUND OR OTHER CONDUCTIVE ITEMS INSTALLED, OUTDOORS, WHICH ARE NORMALLY NOT ENERGIZED SHALL BE BONDED TOGETHER TO THE OUTDOOR FACILITY GROUND RING WITH #2/0 MINIMUM TINNED BARE COPPER CONDUCTOR, USING UL LISTED CLAMPS ABOVE GRADE AND CAD WELDS BELOW GRADE. ITEMS SUCH AS STAIRS OR RAILINGS WHICH ARE INSTALLED AS MULTIPLE SECTIONS SHALL BE BONDED TOGETHER WITH TINNED #2/0 COPPER CONDUCTOR OR EQUIVALENT TINNED BRAIDED COPPER STRAP. ALL ITEMS SHALL HAVE TWO GROUND CONNECTIONS WITH DIFFERENT TERMINATION POINTS TO AVOID ISOLATION FROM A GROUND SYSTEM OF ANY ITEM DUE TO DISCONNECTION OF A SINGLE GROUND CONNECTION. CONDUCTIVE ENCLOSURES AND OTHER EXTERIOR METAL COMPONENTS WHICH ARE NOT NORMALLY ENERGIZED, OF INSTRUMENTS AND CONTROLS OPERATING AT OR BELOW 150 VOLTS TO GROUND, SHALL BE CONNECTED TO GROUNDING SYSTEM WITH TWO #6 AWG OR LARGER TINNED COPPER OR GREEN INSULATED GROUNDING CONDUCTORS.
- 13 PROVIDE SURGE SUPPRESSORS ON BOTH ENDS OF ALL LOW VOLTAGE (600 VOLTS OR LESS) BRANCH CIRCUITS, FEEDERS, INSTRUMENTATION AND CONTROL CIRCUITS WHICH ARE NOT ENTIRELY WITHIN A BUILDING PROTECTED BY A LIGHTNING PROTECTION SYSTEM OR ENTIRELY UNDER ITS

- 14 PROVIDE #10 WIRE INSTEAD OF #12 WIRE FOR ALL 20 AMPERE 120 VOLT OR 208 VOLT CIRCUITS EXCEEDING 150 FEET CONDUIT LENGTH.
- 15 WHERE THE NUMBER OR SIZE OF CONDUCTORS
 SHOWN TO BE CONNECTED ARE IN EXCESS OF THE
 CAPACITY OF THE STANDARD TERMINALS OF THE
 CONNECTED EQUIPMENT, PROVIDE ADDITIONAL
 TERMINALS, ENCLOSURES, JUNCTION BOXES, PULL
 SECTIONS, WIRES, CONDUITS AND ALL OTHER
 MATERIALS AND LABOR AS NECESSARY TO MAKE
 THE CONNECTIONS SHOWN IN COMPLIANCE
 WITH THE CONTRACT DOCUMENTS.
- 16 ALL MATERIALS AND EQUIPMENT PROPOSED FOR USE SHALL BE NEW, UNUSED, FREE OF DAMAGE OR DETERIORATION, FULLY RATED AS SPECIFIED AND SCHEDULED IN THE CONTRACT DOCUMENTS AT THE PROJECT ALTITUDE AND MAXIMUM AMBIENT TEMPERATURE.
- 17 PROVIDE ARC FLASH WARNING AND OTHER SIGNS ON ALL PANELBOARDS, MOTOR CONTROL CENTERS, MOTOR CONTROLLERS, CONTROL PANELS, SWITCHBOARDS AND OTHER EQUIPMENT REQUIRED BY NEC INCLUDING BUT NOT LIMITED TO PARAGRAPH 110.16 FLASH PROTECTION.
- 18 COORDINATE SIZE AND INSTALLATION OF ALL EQUIPMENT WITH EXISTING CONDITIONS AND WORK IN OTHER DIVISIONS OF CONTRACT TO ENSURE COMPLIANCE WITH THE NEC, INCLUDING BUT NOT LIMITED TO PARAGRAPH 110.26 SPACES ABOUT ELECTRICAL EQUIPMENT.
- 19 STANDARD DETAILS INCLUDED IN THESE DOCUMENTS SHALL BE USED WHERE APPLICABLE WHETHER SPECIFICALLY CALLED OUT ON THE PLANS OR NOT. PRACTICES CUSTOMARY TO THE TRADE MAY BE USED ONLY WHERE NO APPLICABLE STANDARD DETAIL CAN BE FOUND IN THESE DOCUMENTS AND WHERE THE CUSTOMARY PRACTICE WILL RESULT IN A COMPLETE AND WORKING SYSTEM IN COMPLIANCE WITH THESE DOCUMENTS.
- 20 ALL TERMINATIONS OF RIGID CONDUIT IN WALLS OF ENCLOSURES WITHOUT CAST-IN-PLACE THREADED CONDUIT BOSSES, AND WHICH ARE LOCATED OUTDOORS OR IN WET OR DAMP LOCATIONS, SHALL BE MADE USING STAINLESS STEEL MYERS HUBS.
- 21 REFER TO DOCUMENTS OF OTHER DIVISIONS OF CONTRACT, INCLUDING BUT NOT LIMITED TO PROCESS MECHANICAL AND HVAC, FOR LOCATIONS OF PROCESS, INSTRUMENTATION, CONTROL, HVAC AND OTHER EQUIPMENT REQUIRING ELECTRICAL, FIBER OPTIC OR RACEWAY-ONLY CONNECTIONS TO BE PROVIDED UNDER THIS DIVISION OF CONTRACT. ALL EQUIPMENT LOCATIONS SHOWN ON DRAWINGS IN THIS DIVISION ARE APPROXIMATE ONLY UNLESS DIMENSIONED.
- 22 PROVIDE ADDITIONAL RACEWAY, WIRING AND CONNECTIONS AS NECESSARY FOR MOTOR TEMPERATURE PROTECTIVE DEVICES AND OTHER MOTOR AUXILIARIES WHERE RECOMMENDED BY EQUIPMENT MANUFACTURERS, SHOWN IN CONTROL DIAGRAMS OR ON PLANS OR REQUIRED IN SPECIFICATIONS.
- 23 ALL SHEET METAL JUNCTION BOXES, TERMINAL JUNCTION BOXES, CONTROL PANELS AND OTHER SHEET METAL ELECTRICAL ENCLOSURES SHALL BE NEMA 4-X STAINLESS STEEL WHERE SHOWN WITH FAST OPERATING CLAMP ASSEMBLIES. PROVIDE HOFFMAN SUFFIX TYPE SSLP WITH AFC412SS CLAMPS OR APPROVED EQUALS. PROVIDE TERMINAL JUNCTION BOXES AND CONTROL PANELS WITH REMOVABLE INTERIOR STEEL PANELS FACTORY PAINTED WHITE.

- 24 ALL FABRICATED ASSEMBLIES SUPPORTING ELECTRICAL EQUIPMENT PROVIDED UNDER THIS DIVISION OF CONTRACT SHALL BE UL LISTED INDIVIDUALLY, UL LISTED AS PART OF AN ASSEMBLY OR SHALL BE FABRICATED TO A DESIGN PREPARED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE OR OTHERWISE PERMITTED TO PRACTICE ENGINEERING IN THE STATE. WHERE DETAILS IN THIS DIVISION OF THE CONTRACT DOCUMENTS CONTAIN SPECIFIC DIMENSIONS, SIZES, WELD INSTRUCTIONS OR SIMILAR INFORMATION RELATED TO THE STRENGTH OF THE ASSEMBLY, THESE SHALL BE INTERPRETED AS BID-BASIS REQUIREMENTS ONLY AND SHALL BE SUPERCEDED BY THE UL OR ENGINEERING DESIGN REQUIREMENTS ABOVE.
- 25 AT ALL LOCATIONS WHERE CONTRACTOR IS DIRECTED TO CUT OFF CONDUITS THROUGH CONCRETE SLAB AND GROUT CLOSED, CONTRACTOR SHALL FIRST DRILL 1-1/2 INCHES DEEP INTO CONCRETE AND USE NON-SHRINK GROUT TO BACKFILL HOLE FLUSH AND SMOOTH WITH EXISTING CONCRETE SURFACE.
- 26 COORDINATE EARTH WORK AND INSTALLATION OF ELECTRICAL ITEMS WITH INTERFERENCES SHOWN ON DOCUMENTS OF ALL DIVISIONS OF CONTRACT, INCLUDING CIVIL AND YARD PIPING. REPORT ALL DAMAGE AT ONCE TO OWNER AND ENGINEER AND REPAIR AS DIRECTED AT NO CHANGE IN CONTRACT.
- 27 LOOP ALL FIBER OPTIC AND ELECTRICAL CABLES AT LEAST 360 DEGREES AROUND EVERY HANDHOLE OR MANHOLE.
- 28 ALL CONDUCTORS INSTALLED OUTDOORS OR UNDERGROUND, INCLUDING IN DUCT BANK, CONDUIT OR DIRECT BURIED OR IN HANDHOLES OR MANHOLES SHALL BE TRAY RATED CABLE TYPE TC UL LISTED FOR CONTINUOUS SUBMERSION. CABLE SHALL NOT BE SPLICED OR JOINED AND SHALL BE CONTINUOUS BETWEEN SOURCE AND LOAD TERMINATIONS. CONTRACTOR SHALL PROVIDE LARGER CONDUIT IF NECESSARY TO MEET NEC FILL LIMITS FOR CABLE.
- 29 PROVIDE FOUR INCH THICK STEEL-REINFORCED CONCRETE HOUSEKEEPING PAD UNDER ALL FLOOR MOUNTED EQUIPMENT PROVIDED OR INSTALLED UNDER THIS CONTRACT. PAD SHALL HAVE SMOOTH FINISH AND 3/4 INCH BEVEL ON ALL EDGES. COMPLY WITH STRUCTURAL AND CIVIL DIVISIONS OF CONTRACT FOR REINFORCEMENT, CONCRETE AND OTHER ITEMS COVERED BY THOSE DIVISIONS.
- OF ALL HANDHOLES. ROUTE CABLES ON, AND SECURED TO, THESE SUPPORTS. CABLES SHALL NOT BE ROUTED DIRECTLY FROM ONE DUCT TO ANOTHER WITHOUT ATTACHMENT TO SUPPORT ARMS UNLESS NOTED ON DRAWINGS OR ENGINEER HAS ISSUED WRITTEN PERMISSION TO DO SO IN RESPONSE TO AN RFI.
- 31 WHERE UL LISTED AND LABELED MATERIAL OR EQUIPMENT IS REQUIRED BUT IS NOT AVAILABLE FROM A MANUFACTURER NAMED IN THE APPLICABLE SPECIFICATION SECTION OR ON THE DRAWINGS, LISTING AND LABELING BY CSA, ETL OR FM WILL BE ACCEPTABLE UNDER THIS CONTRACT IF ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION (AHJ). IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACCEPTANCE BY THE AHJ; MATERIAL AND EQUIPMENT WHICH IS UNACCEPTABLE OR OTHERWISE NOT IN COMPLIANCE WITH THE CONTRACT SHALL BE REPLACED AT NO CHANGE IN CONTRACT.

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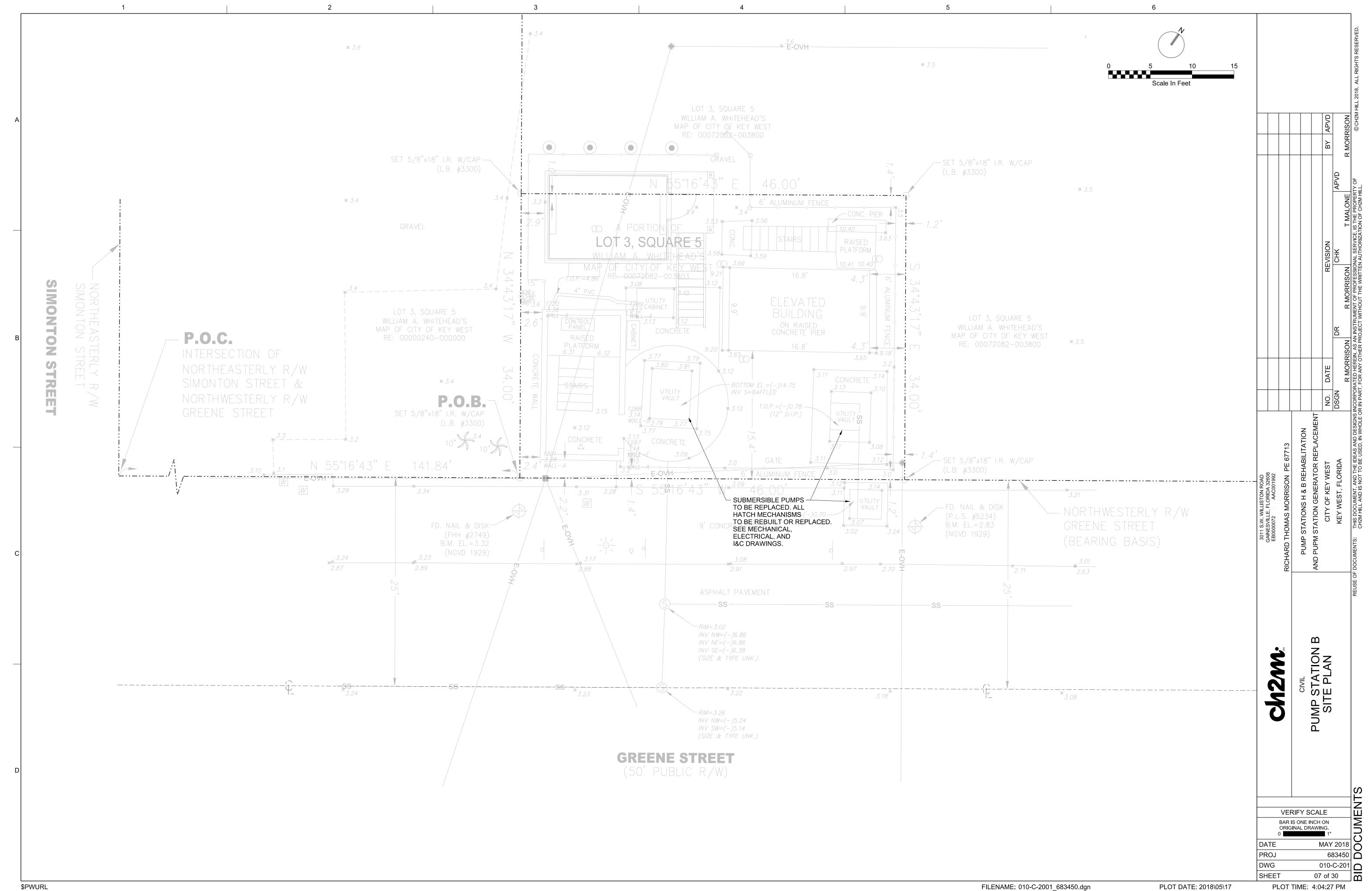
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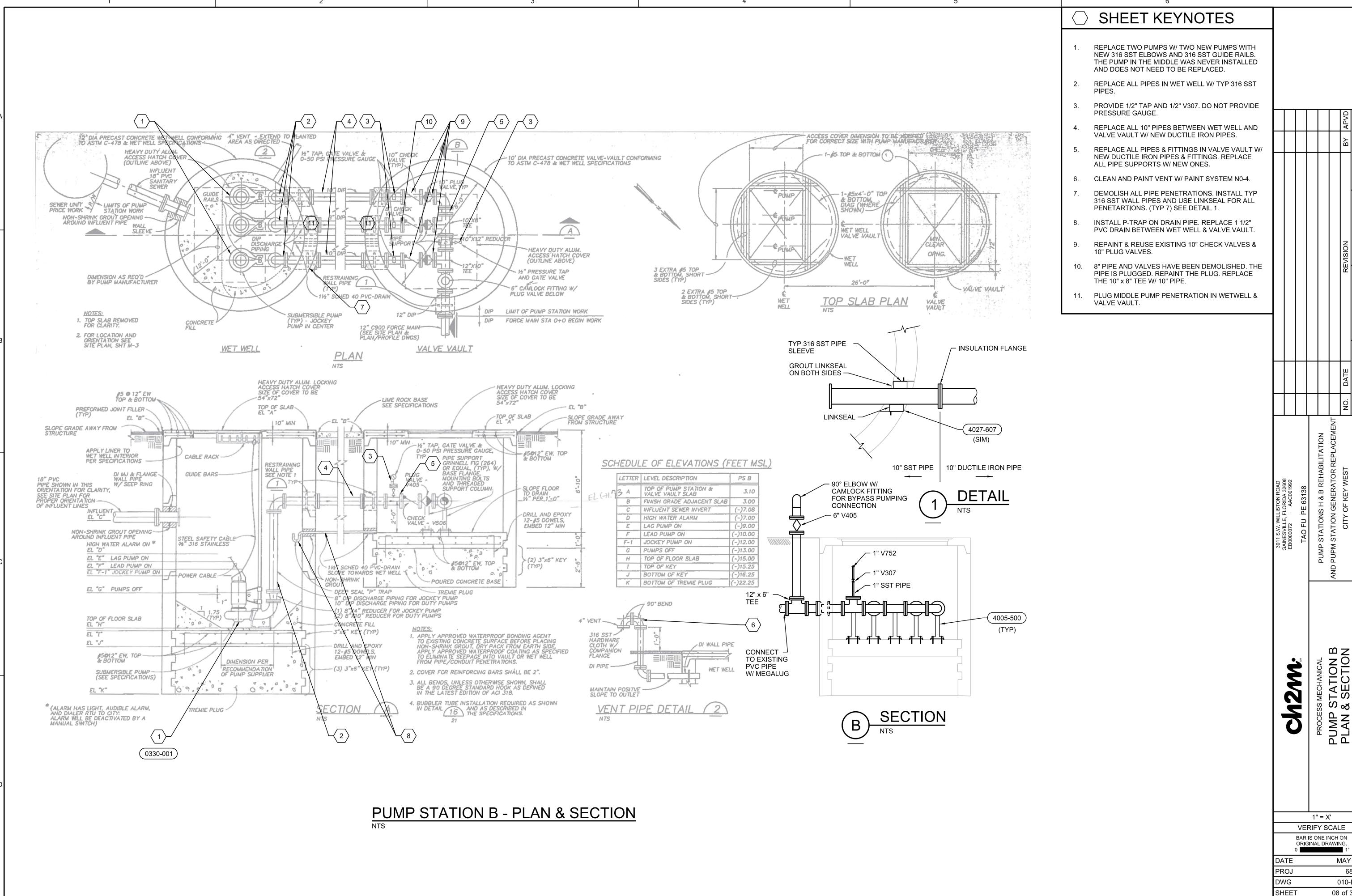
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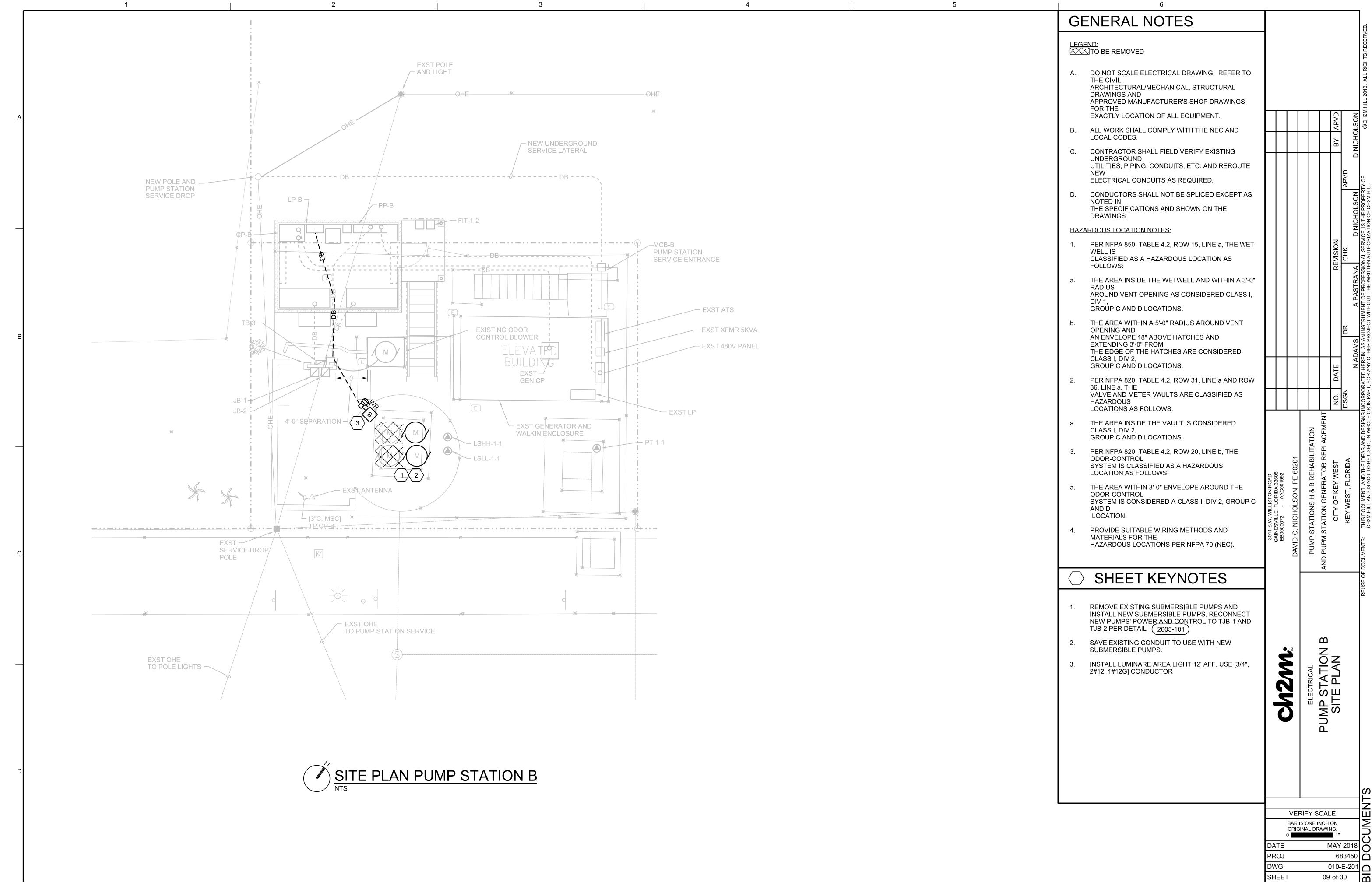
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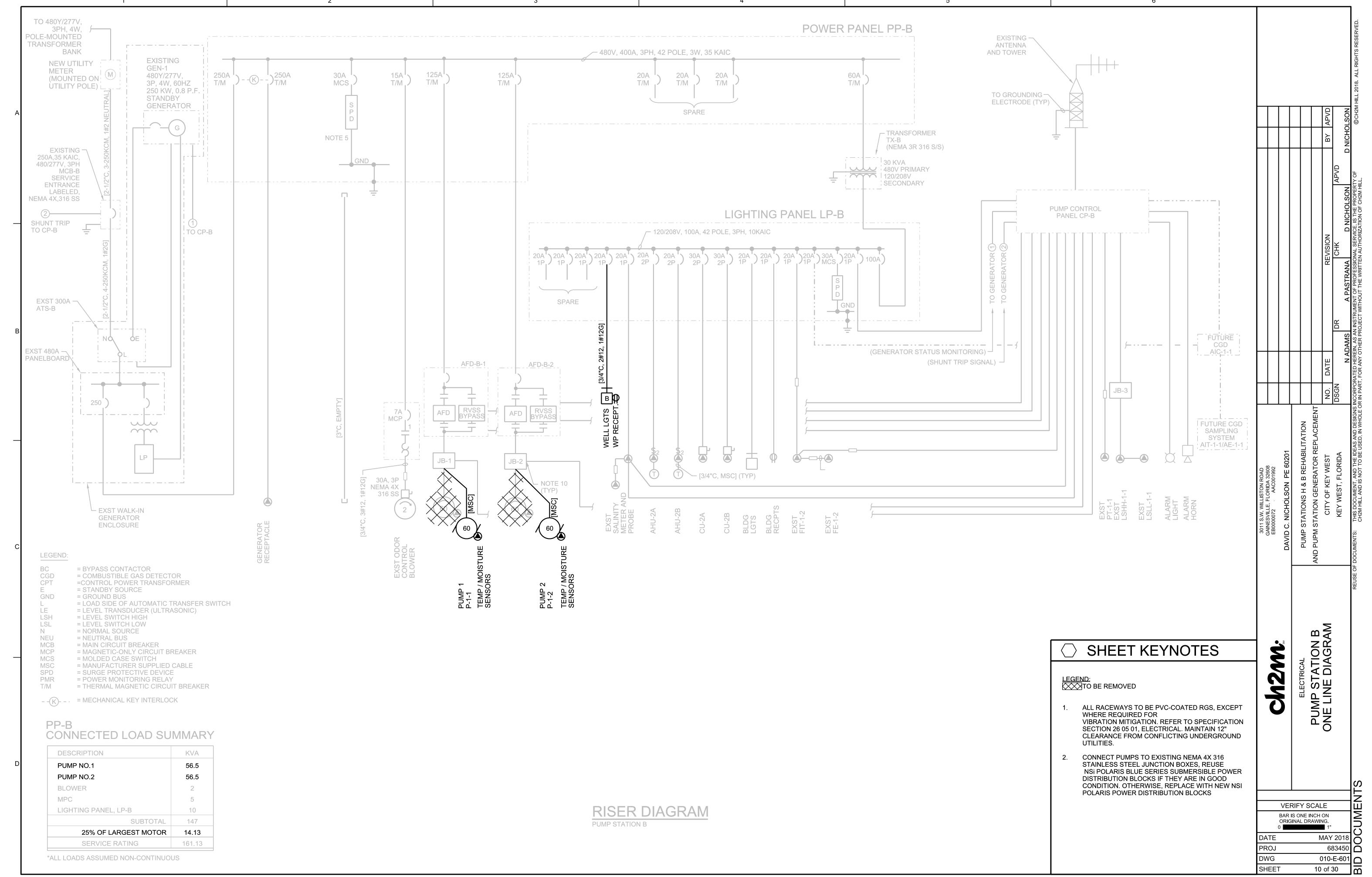
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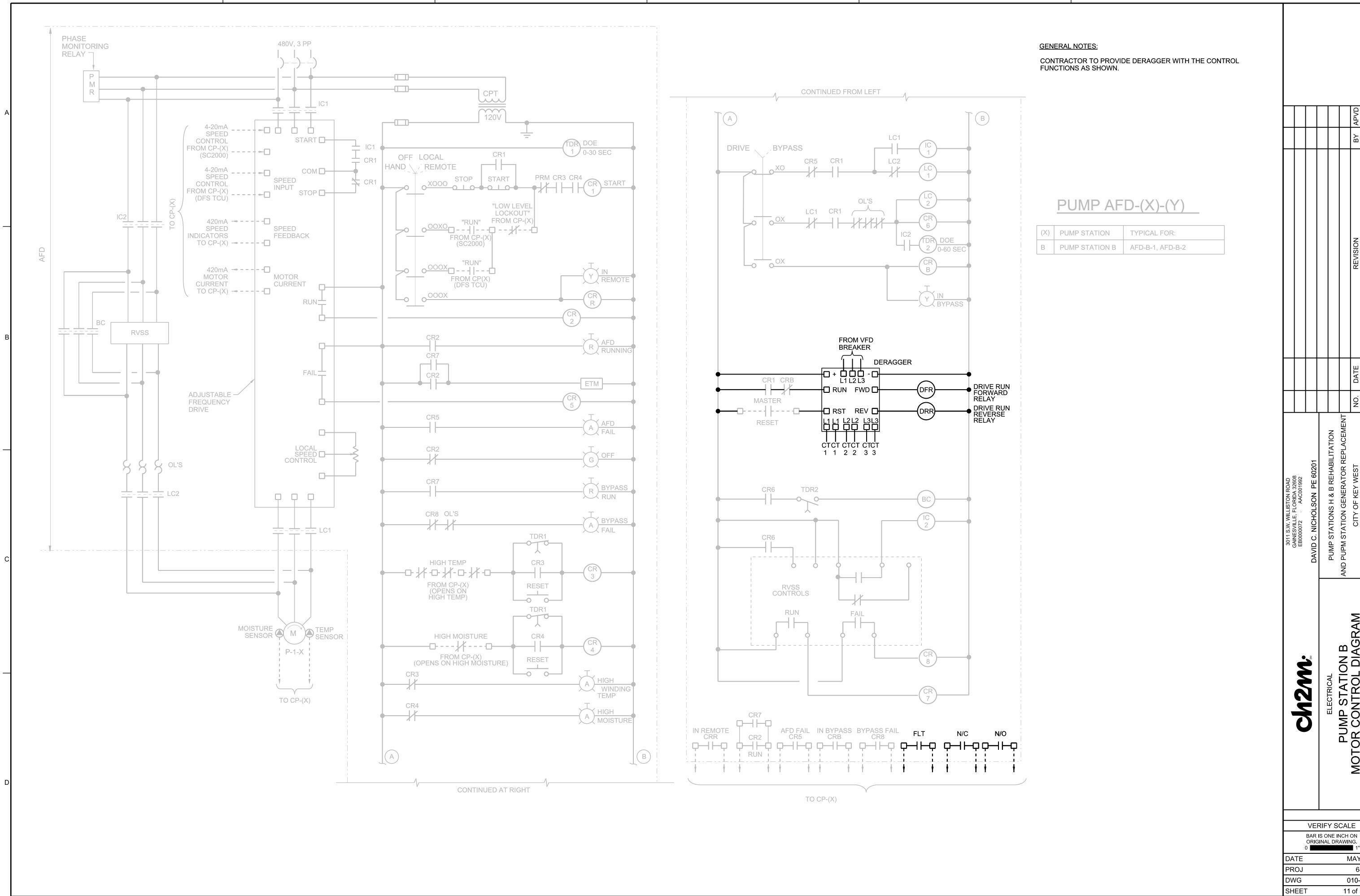
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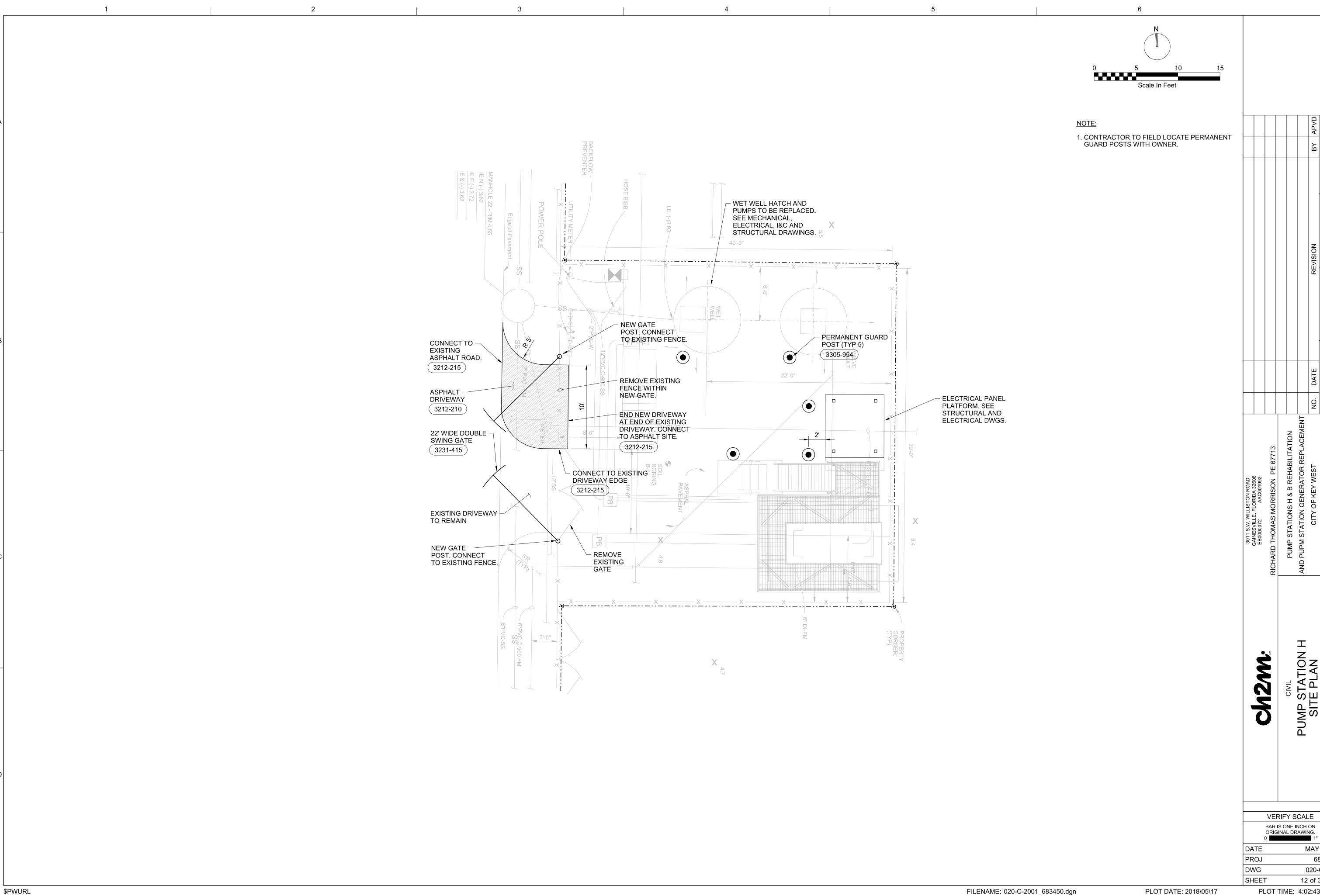


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PUMP STATION B MOTOR CONTROL DIAGRAM



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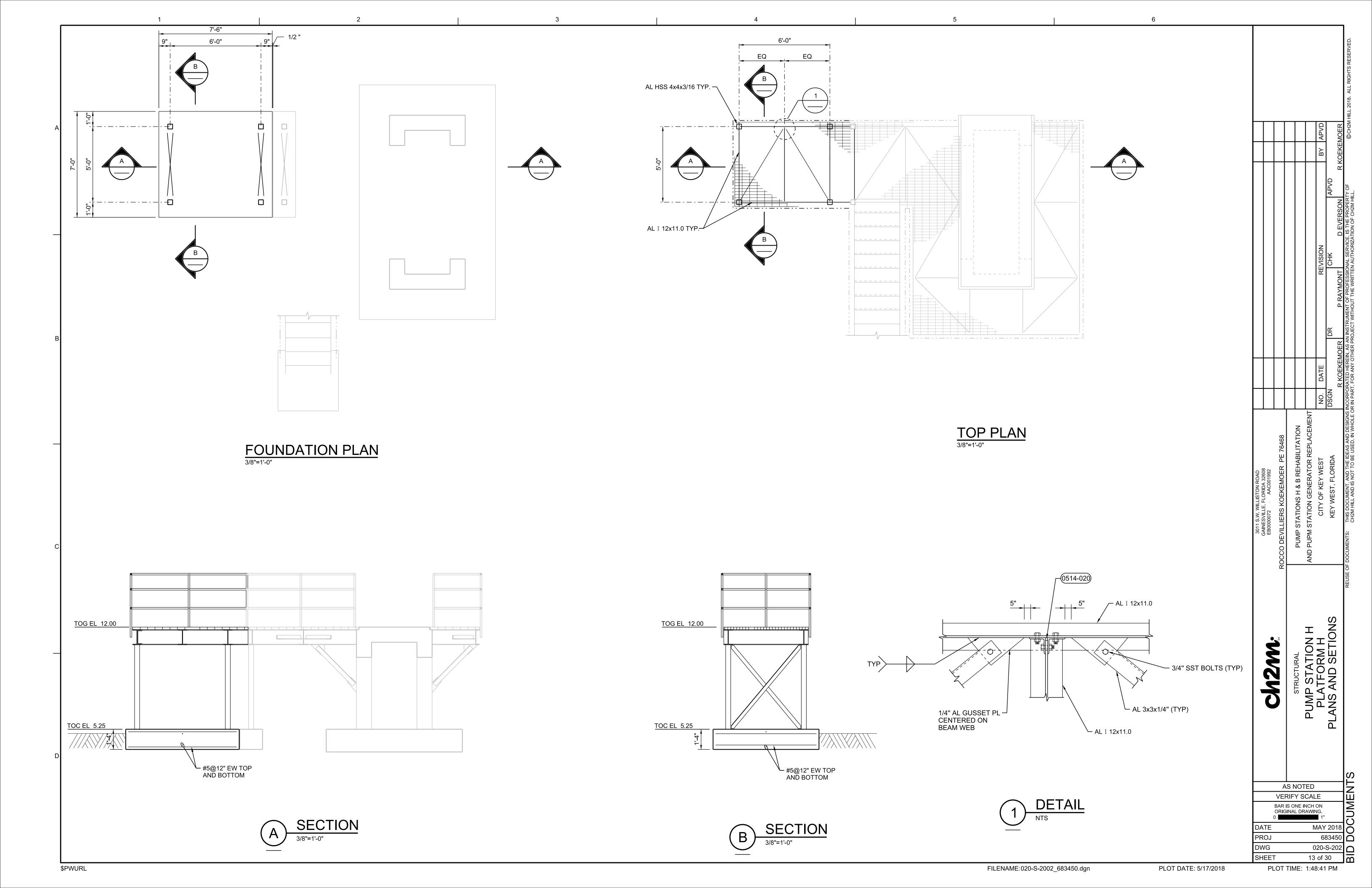
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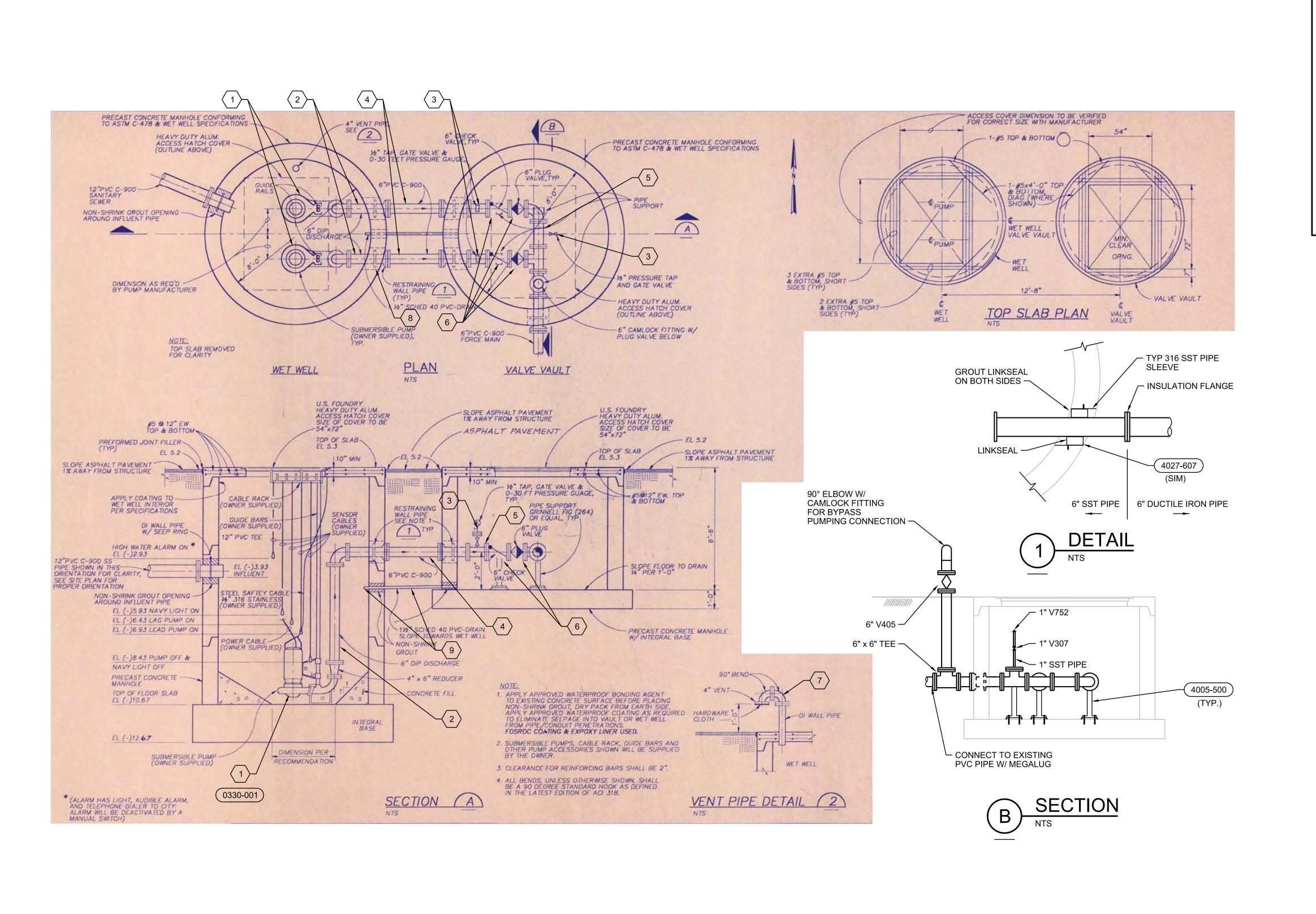
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PUMP STATION H - PLAN

 REPLACE TWO PUMPS W/ NEW TWO PUMPS WITH NEW 316 SST ELBOWS AND 316 SST GUIDE RAILS.

2. REPLACE ALL PIPES IN WET WELL W/ TYPE 316 SST PIPES.

3. PROVIDE 1/2" TAP AND 1/2" V307. DO NOT PROVIDE PRESSURE GAUGE.

4. REPLACE ALL PIPES BETWEEN WET WELL AND VALVE VAULT W/ NEW DUCTILE IRON PIPES.

5. REPLACE ALL PIPES & FITTINGS IN VALVE VAULT W/
NEW DUCTILE IRON PIPES & FITTINGS. REPLACE
ALL PIPE SUPPORTS W/ NEW ONES.

6. REPLACE 2 CHECK VALVES AND 2 PLUG VALVES W/ NEW 6" V608 AND NEW 6" V405.

7. CLEAN AND PAINT VENT W/ PAINT SYSTEM N0-4.

8. DEMOLISH ALL PIPE PENETRATIONS. INSTALL TYP 316 SST WALL PIPES AND USE LINKSEAL FOR ALL PENETARTIONS. (TYP 7) SEE DETAIL 1.

9. INSTALL P-TRAP ON DRAIN PIPE. REPLACE 1 1/2" PVC DRAIN BETWEEN WET WELL & VALVE VAULT.

PUMP PLAN

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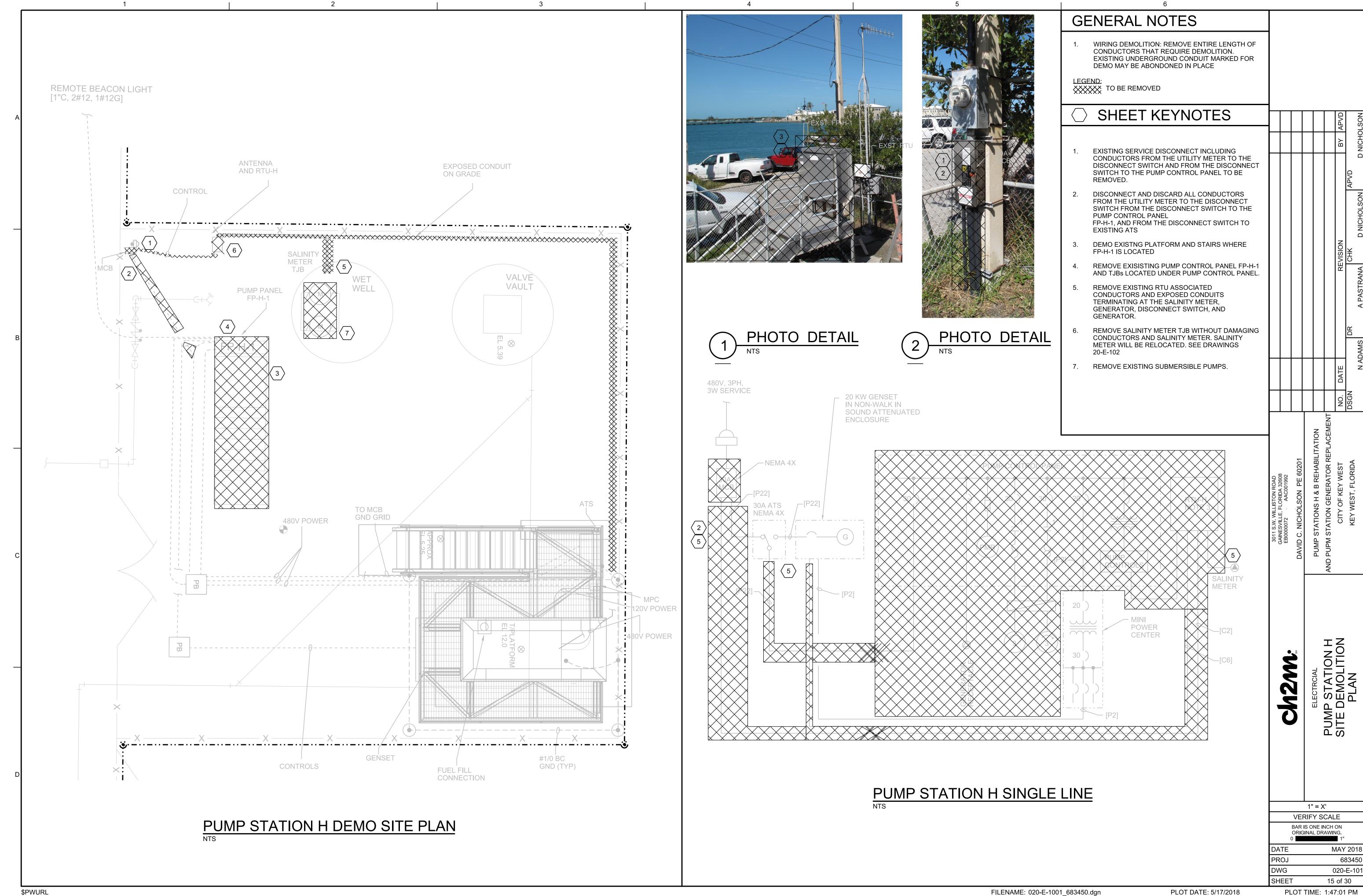
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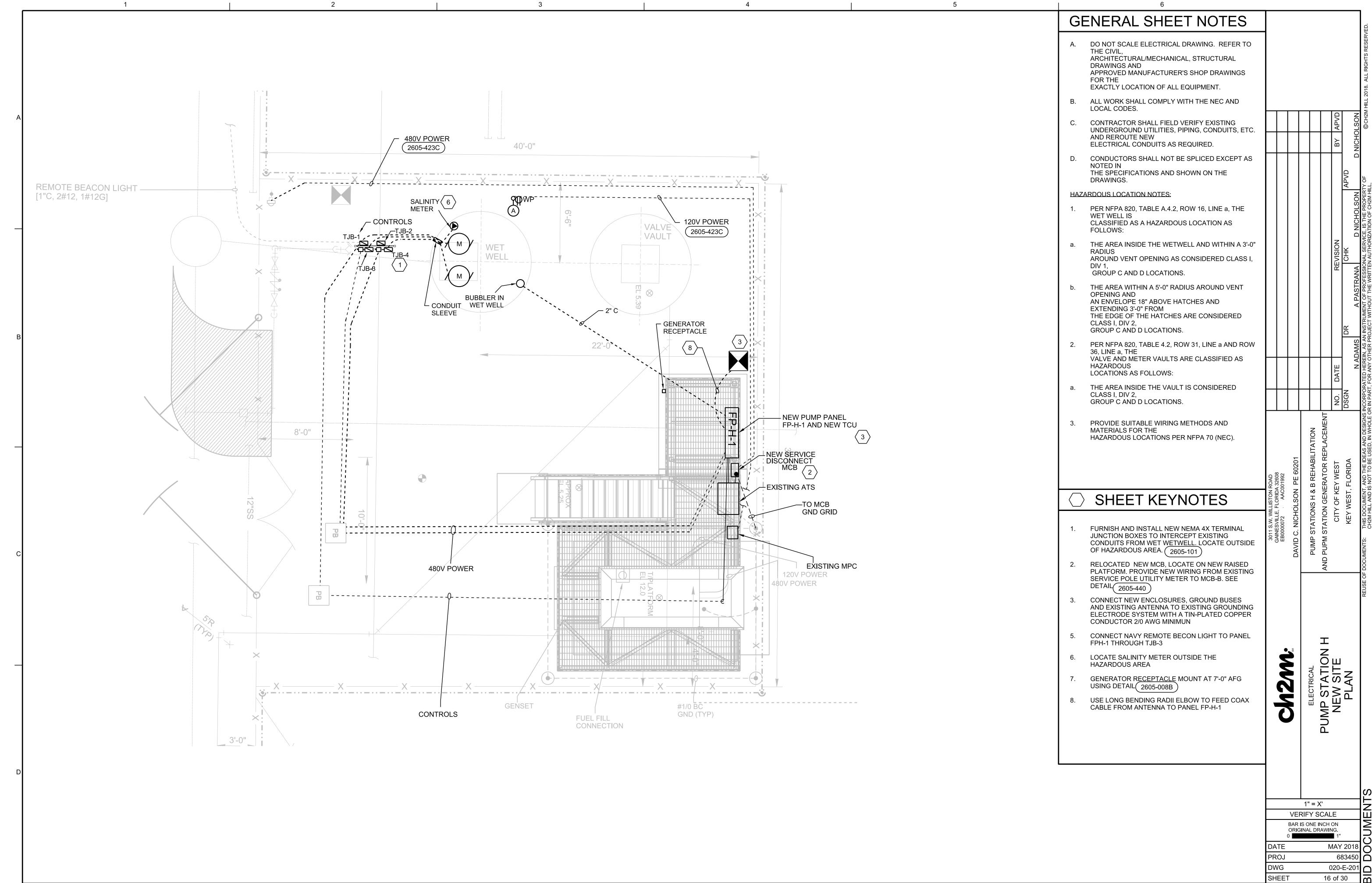
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1" = X'

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.



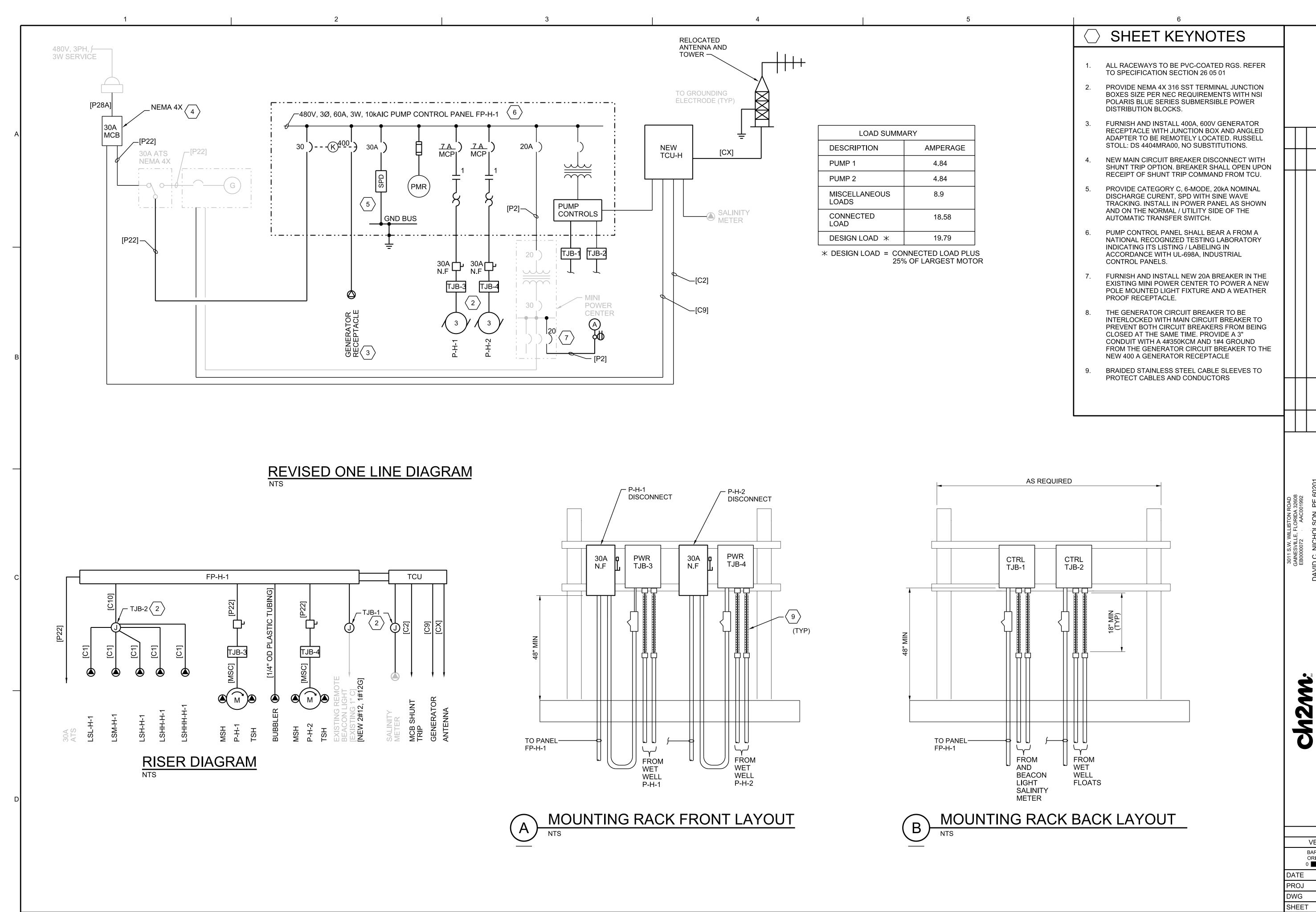


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PUMP STATION H ONE-LINE DIAGRAM

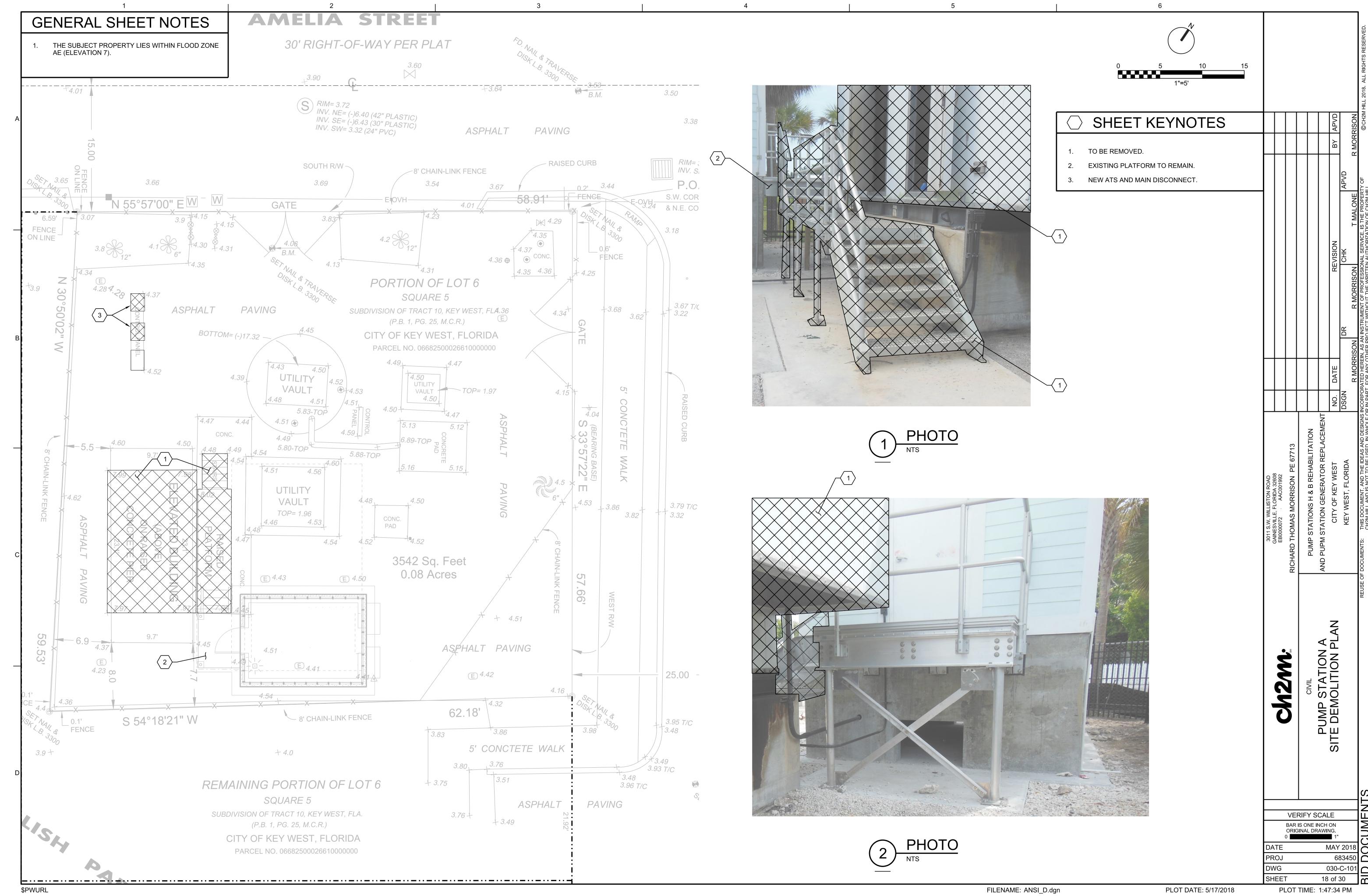
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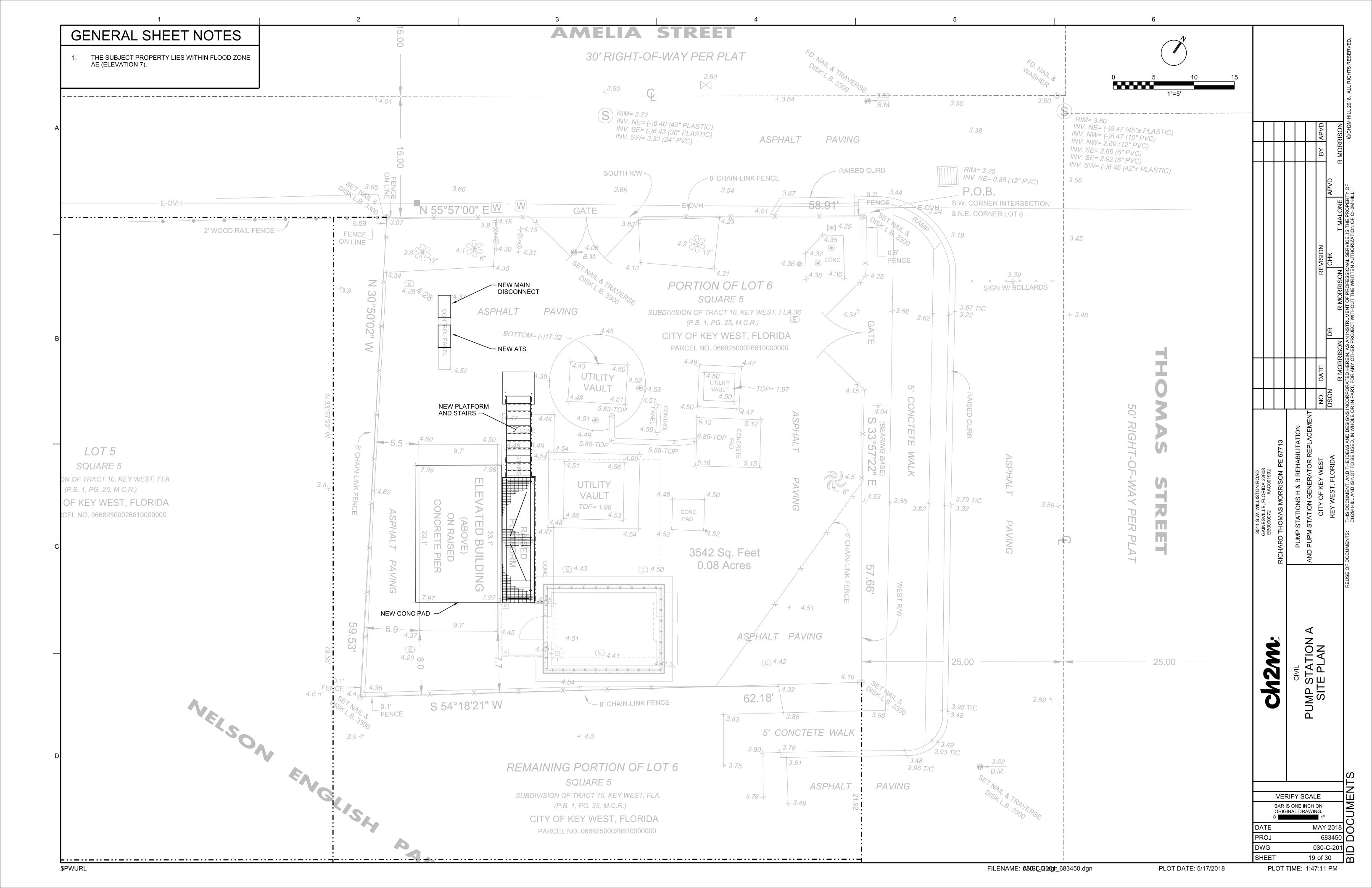
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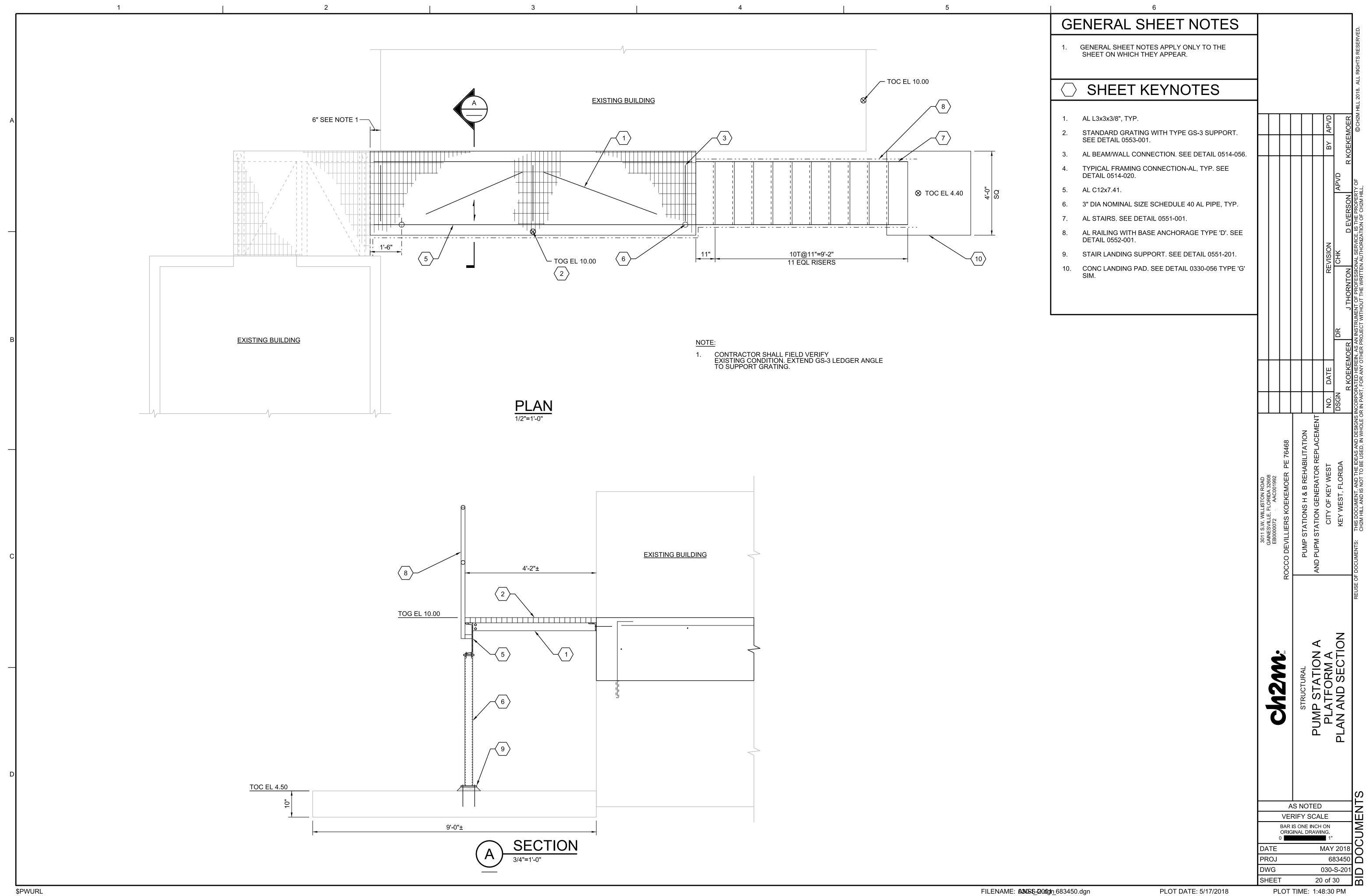
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EXISTING MAIN

EXISTING ATS-A

PANEL, DP-A

C 51012171" \N/

- EXISTING DISTRIBUTION /

BREAKER MCB-A

PORTION OF LOT 6

- FLOAT CABLE 〈 6 〉

← PULL BOX

ANTENNA

CABLE

CONDUIT FOR

62.18'

NEW SCADA

SPECIFICATION

40 90 01 FOR REQUIREMENTS

- EXST ODOR

CONTROL

LSHH-1-1

PT-1-1-

RELOCATED LIGHT AND

DEMO SITE PLAN PUMP STATION A



LEGEND: TO BE REMOVED

- DO NOT SCALE ELECTRICAL DRAWING. REFER TO ARCHITECTURAL/MECHANICAL, STRUCTURAL DRAWINGS AND APPROVED MANUFACTURER'S SHOP DRAWINGS EXACTLY LOCATION OF ALL EQUIPMENT.
- ALL WORK SHALL COMPLY WITH THE NEC AND LOCAL CODES.
- CONTRACTOR SHALL FIELD VERIFY EXISTING UNDERGROUND UTILITIES, PIPING, CONDUITS, ETC. AND REROUTE ELECTRICAL CONDUITS AS REQUIRED.
- CONDUCTORS SHALL NOT BE SPLICED EXCEPT AS THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS.
- CONNECT NEW CONTROL SIGNALS FROM SERVICE ENTRANCE ATS, AND GENERATOR TO EXISTING CONTROL PANEL CP-A LOCATED INSIDE THE ELECTRICAL ROOM.

HAZARDOUS LOCATION NOTES:

- PER NFPA 850, TABLE 4.2, ROW 15, LINE a, THE WET CLASSIFIED AS A HAZARDOUS LOCATION AS FOLLOWS:
- THE AREA INSIDE THE WETWELL AND WITHIN A 3'-0" RADIUS AROUND VENT OPENING AS CONSIDERED CLASS I. GROUP C AND D LOCATIONS.
- THE AREA WITHIN A 5'-0" RADIUS AROUND VENT OPENING AND AN ENVELOPE 18" ABOVE HATCHES AND EXTENDING 3'-0" FROM THE EDGE OF THE HATCHES ARE CONSIDERED CLASS I, DIV 2, GROUP C AND D LOCATIONS.
 - PER NFPA 820, TABLE 4.2, ROW 31, LINE a AND ROW 36, LINE a, THE VALVE AND METER VAULTS ARE CLASSIFIED AS HAZARDOUS LOCATIONS AS FOLLOWS:
 - THE AREA INSIDE THE VAULT IS CONSIDERED CLASS I, DIV 2, GROUP C AND D LOCATIONS.
- PER NFPA 820, TABLE 4.2, ROW 20, LINE b, THE ODOR-CONTROL SYSTEM IS CLASSIFIED AS A HAZARDOUS LOCATION AS FOLLOWS:
- THE AREA WITHIN 3'-0" ENVELOPE AROUND THE ODOR-CONTROL SYSTEM IS CONSIDERED A CLASS I, DIV 2, GROUP C AND D LOCATION.

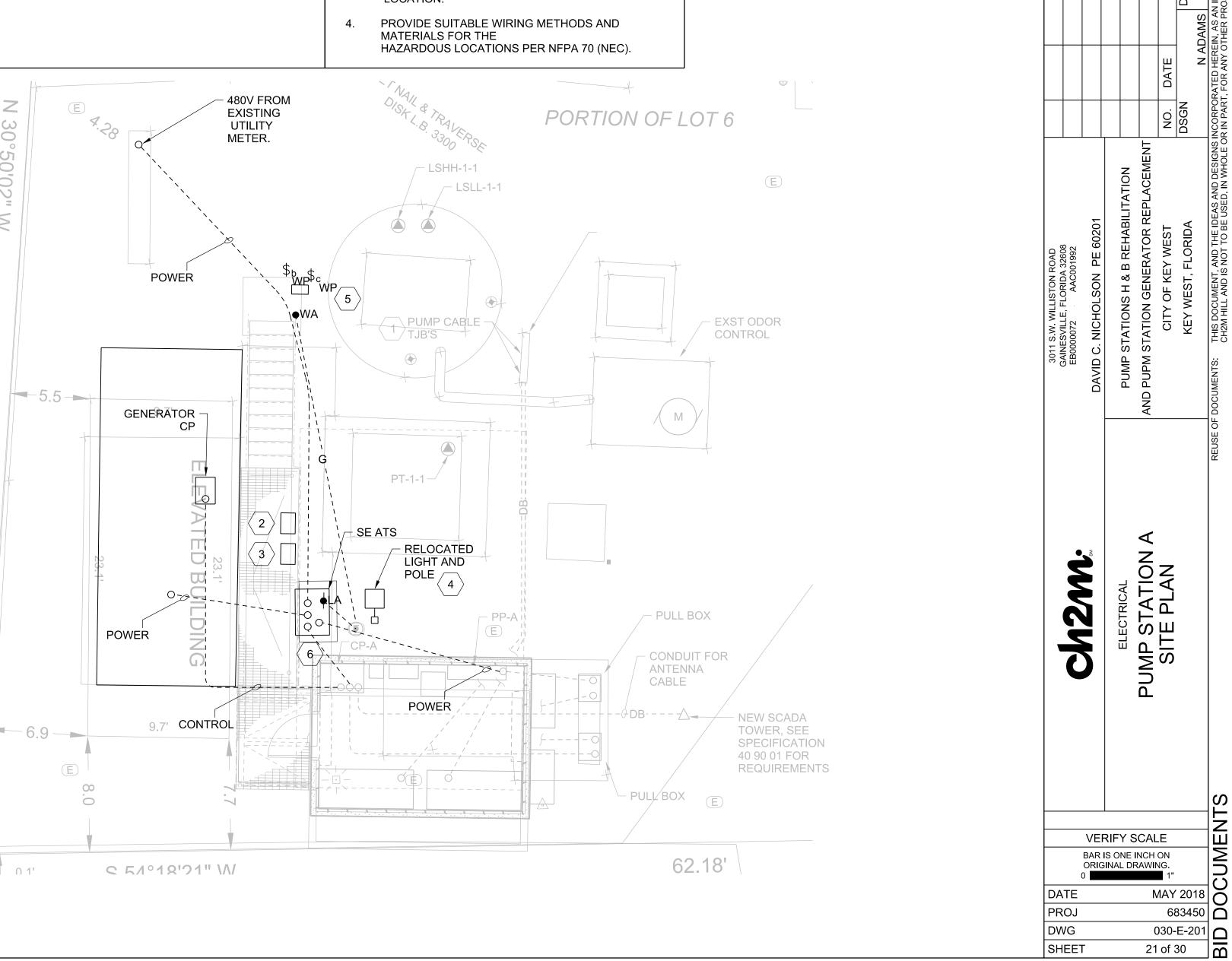
1. SAVE EXISTING CONDUIT TO USE WITH NEW SERVICE ENTRANCE DISCONNECT AND NEW **AUTOMATIC TRANSFER SWITCH**

SHEET KEYNOTES

- 2. REPLACE SALINITY METER (2605-003b)
- 3. REPLACE FIT 1-2 (2605-003b
- 5. RELOCATE WEATHER PROOF LIGHT SWITCHES 2605-011b

ВУ

6. REFERENCE STRUCTURAL DETAILS FOR ATS CONCRETE BASE XXXX-XXX

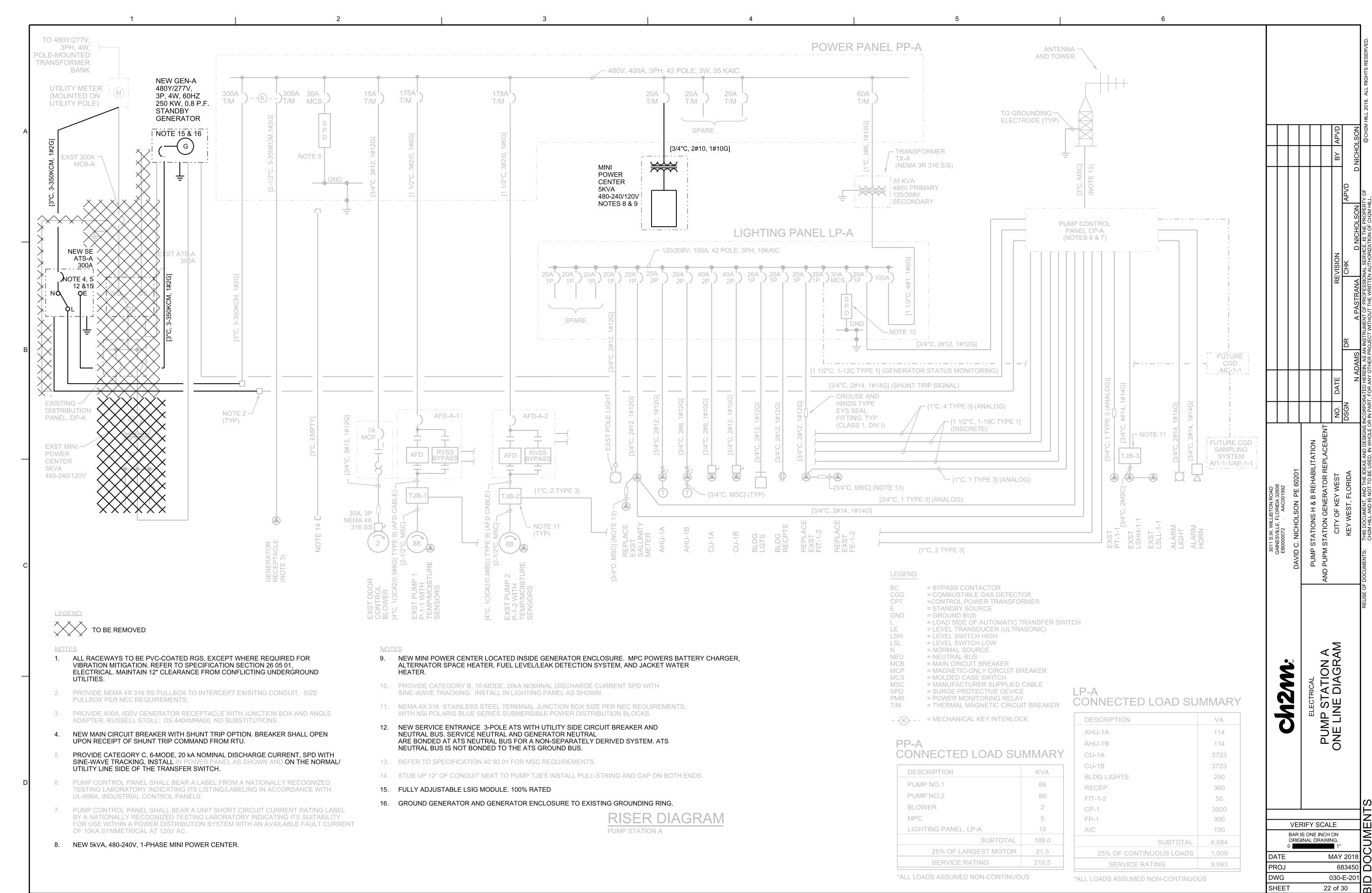


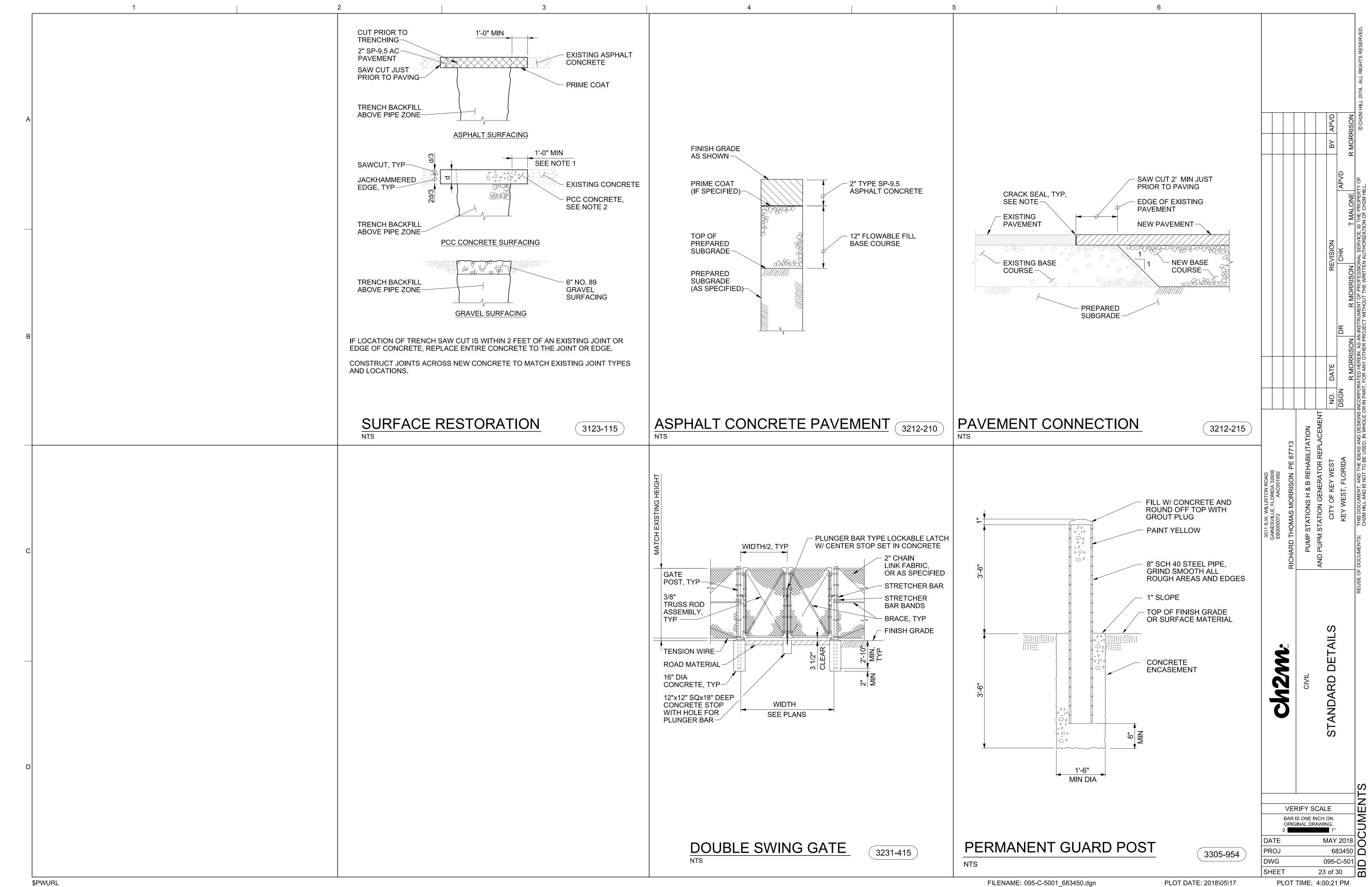
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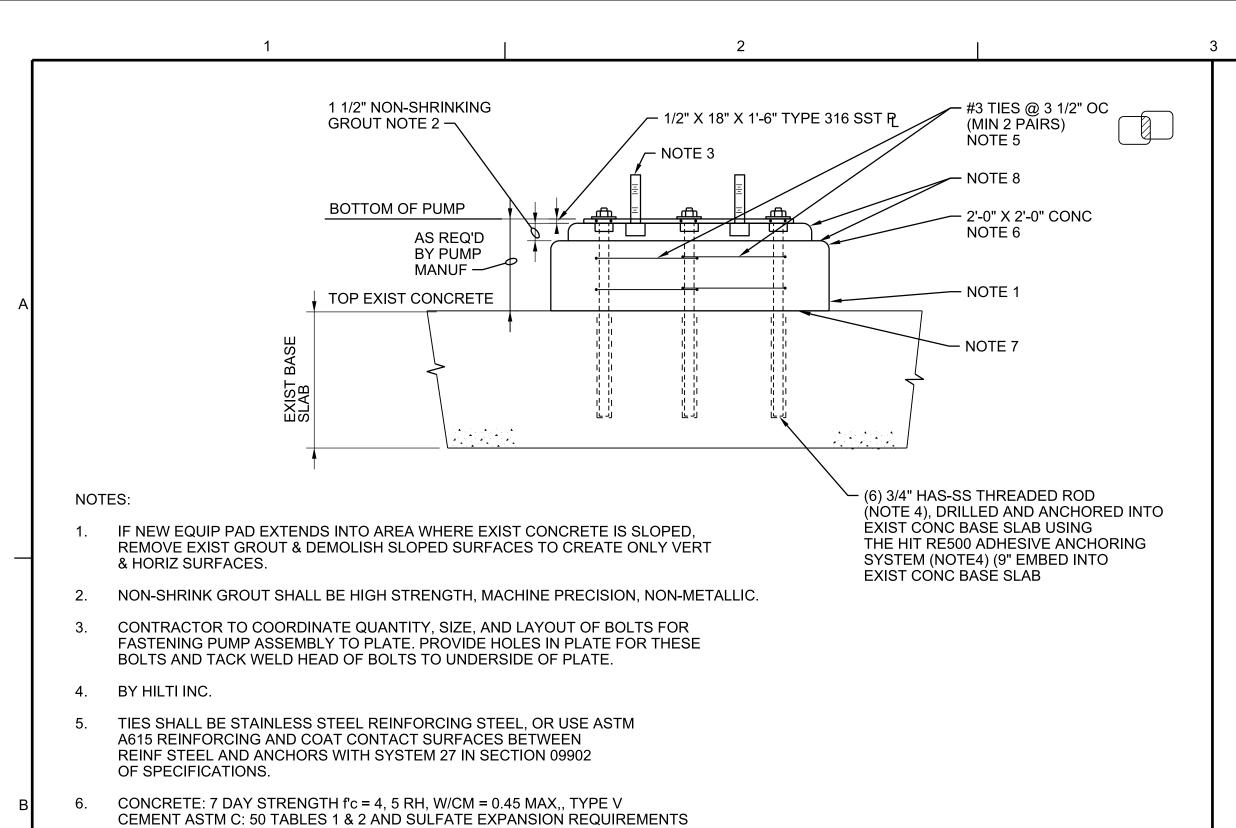
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6" MIN, TYP UNLESS EQUIPMENT NOTED OTHERWISE ON PLANS -CONCRETE ANCHORS, SEE NOTE FINISH CHAMFER, GRADE -TYP -THICKENED EDGE OF SLAB ALL AROUND -#5@12" EW AT 2" CLR FROM TOP SURFACE — WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED. TYPE 'G'

0330-056

CONCRETE EQUIPMENT PAD - TYPE G

COL + 5" MIN W COLUMN-<u>PLAN</u> W OR HSS COLUMN TYP 1 1/2" NON-SHRINK GROUT— **ELEVATION ANCHOR** AS SPECD, ROUND CORNERS **BOLTS** W/ 3/4" RADIUS TOOL UNLESS OTHERWISE NOTED, ANCHOR BOLTS SHALL BE 3/4" DIA x REQUIRED WITH LEVELING NUTS AND 1'-0" MINIMUM EMBED AND BASEPLATES SHALL BE CENTERED ON COLUMN. 2. WELD SIZE SHALL BE DETERMINED BY THE THICKEST MEMBER JOINED; MINIMUM WELD SIZE SHALL BE 3/16" FILLET FOR MATERIAL THICKNESSES UP TO AND INCLUDING 1/2", 1/4" FILLET FOR THICKNESSES OVER 1/2" TO 3/4", AND 5/16" FILLET FOR MATERIAL THICKNESSES OVER 3/4". ALL WELDS SHALL BE SINGLE-PASS WELDS.

STEEL COLUMN BASE

0512-002

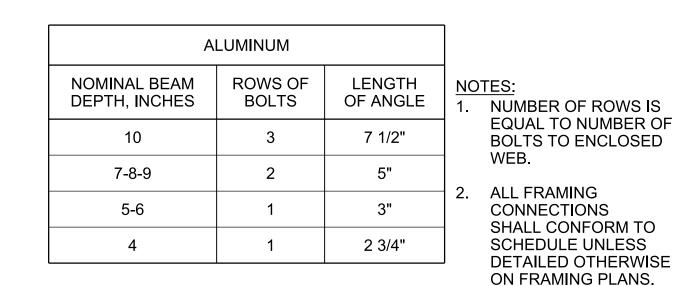
PUMP INSTALLATION 0330-001 NTS

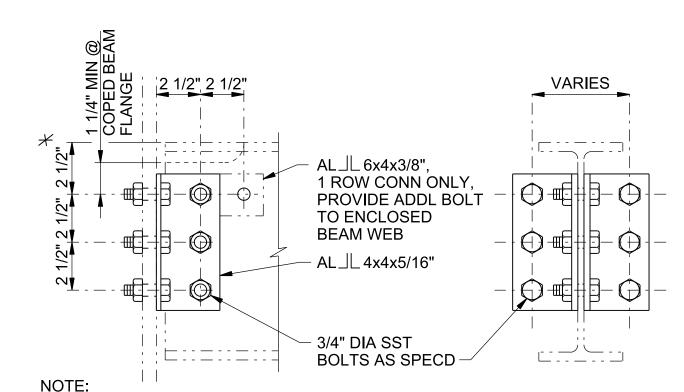
REMOVE DELETRIOUS MATERIAL AND EXIST SURFACE UNTIL EXIST CONCRETE

HAS pH OF 9.0 MIN. ROUGHEN SURFACE TO 3/8" MINIMUM AMPLITUDE.

COAT WITH AN EPOXY COATING SUCH AS SIKADUR-SERIES, 84 SIKA CORP.

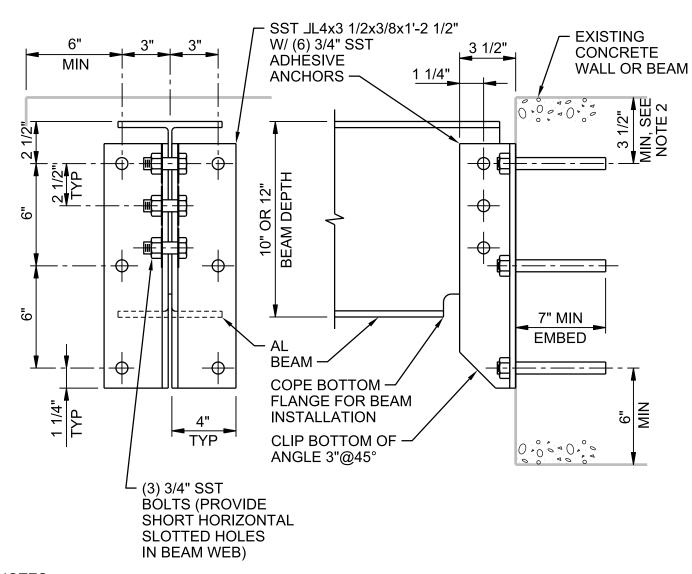
OF TABLE 4.





2 1/2" DIMENSION TYPICAL EXCEPT 2" FOR 4" BEAM.

TYPICAL FRAMING CONNECTION - ALUMINUM 0514-020



NTS

NOTES:

- 1. 2 1/2" DIMENSION TYPICAL EXCEPT 2" FOR 4" BEAMS.
- DO NOT CUT EXISTING CONCRETE BEAM TOP REINFORCING DURING DRILL-IN ANCHOR INSTALLATION. FIELD LOCATE BEAM REINFORCING PRIOR TO FABRICATION WITH GROUND PENETRATING RADAR OR OTHER ACCEPTABLE MEANS. ADD LENGTH TO CLIP ANGLES AS REQUIRED TO LOWER ANCHORS TO CLEAR REINFORCING WHILE MAINTAINING SPACING AND EDGE DISTANCE AS SHOWN.
- WHERE BOTH ENDS OF BEAM ARE ATTACHED TO A WALL, PROVIDE LONG HORIZONTALLY SLOTTED HOLES IN BEAM WEB AT ONE END. TIGHTEN NUTS SNUG TIGHT, BACK OFF 1/2 TURN, AND LOCK WITH DOUBLE NUT.
- PROVIDE PROTECTION FOR DISSIMILAR MATERIALS PER SPECIFICATIONS.

BEAM / WALL CONNECTION - ALUMINUM 0514-056

PROVIDE PROTECTION FOR DISSIMILAR METALS AND FOR ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATIONS. AMERICAN STANDARD C12x7.41 ALUMINUM STRINGERS TYPICAL EXCEPT WHERE

OTHERWISE NOTED ON PLANS. STAIR RAILING NOT SHOWN.

NTS

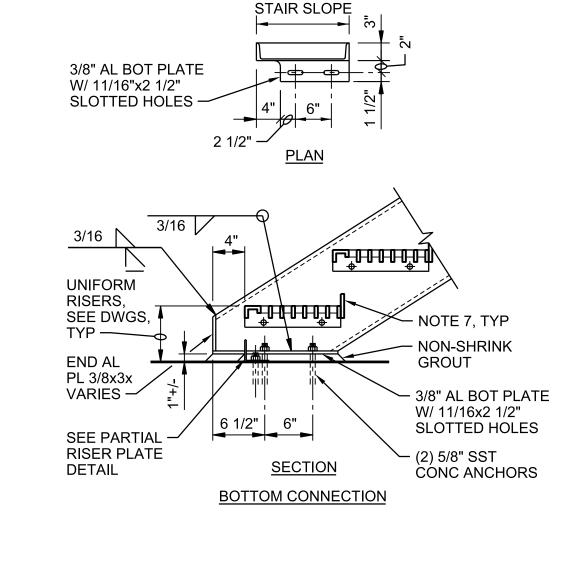
STAIR MANUFACTURER TO COORDINATE BOLTED TREADS AND RAILING CONNECTIONS.

ALL FASTENERS SHALL BE STAINLESS STEEL

FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.

VARIES W/

FOR RISER PLATE SEE PARTIAL RISER PLATE DETAIL UNLESS NOTED OTHERWISE. CLEARANCE BETWEEN TOP OF RISER PLATE AND BOTTOM OF TREAD TO BE 3 3/4" MAXIMUM. FOR STAIRS WITH PICKET RAILING EXTEND RISER PLATE PER FULL RISER PLATE DETAIL.



STAIR DETAILS - ALUMINUM 0551-001

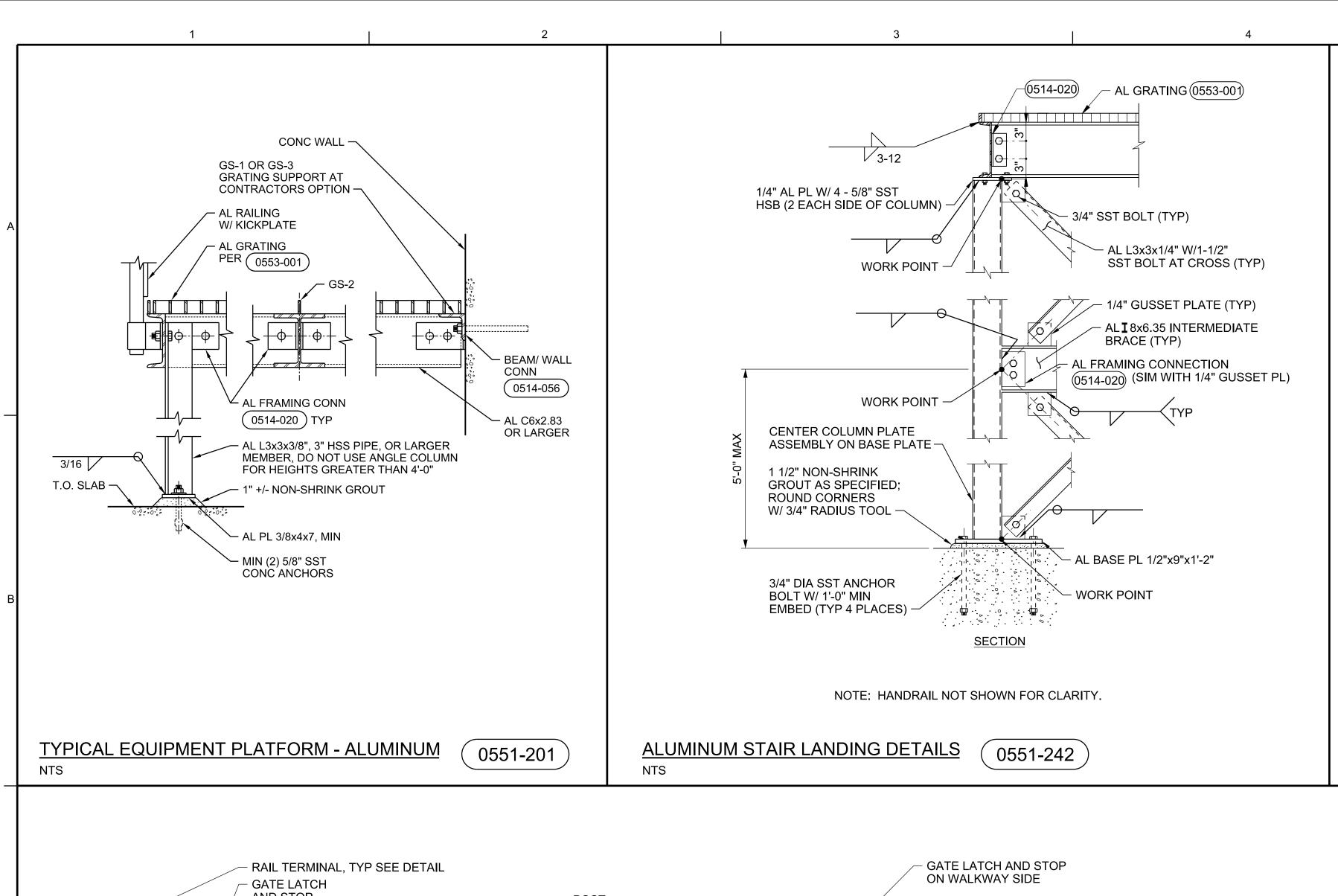
STANDARD AS NOTED **VERIFY SCALE** BAR IS ONE INCH ON ORIGINAL DRAWING. MAY 201

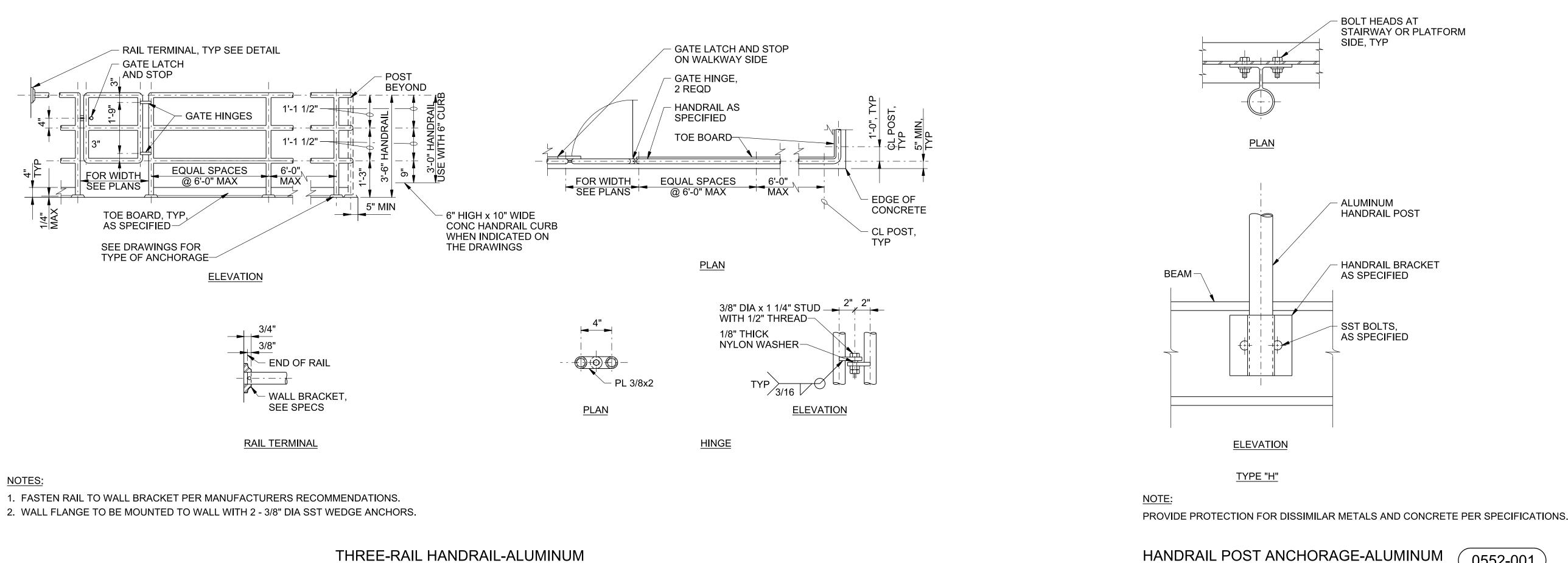
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NOTES:

