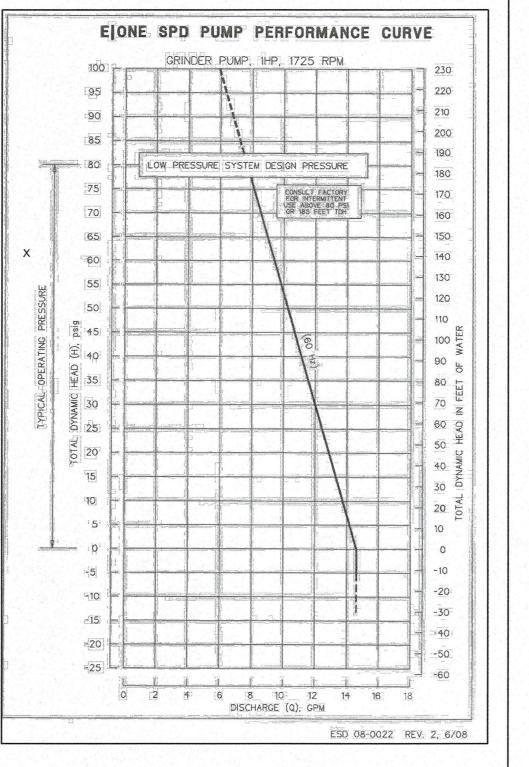
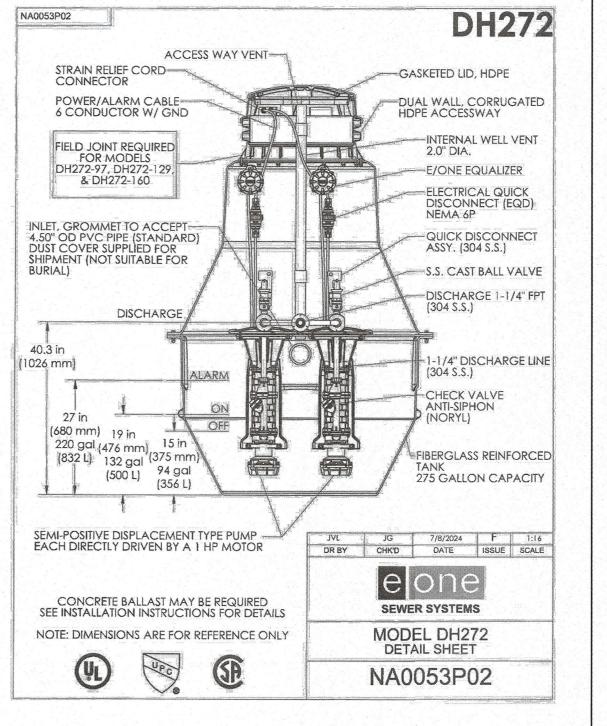


**FLOW GENERATION** 





Sheet List Table					
Sheet Number	Drawing Number	Sheet Title			
1	PS1701	PUMP STATION PLAN			
2	PS1702	PUMP STATION PLAN AND SECTIONS			
3	PS1703	PUMP STATION DETAILS			
4	PS1704	SANITARY SEWER FORCE MAIN PROFILES			
5	PS1705	ELECTRICAL SITE PLAN			
6	PS1706	ELECTRICAL DETAILS			
7	PS1706A	ELECTRICAL DETAILS			
8	PS1707	ELECTRICAL NOTES			



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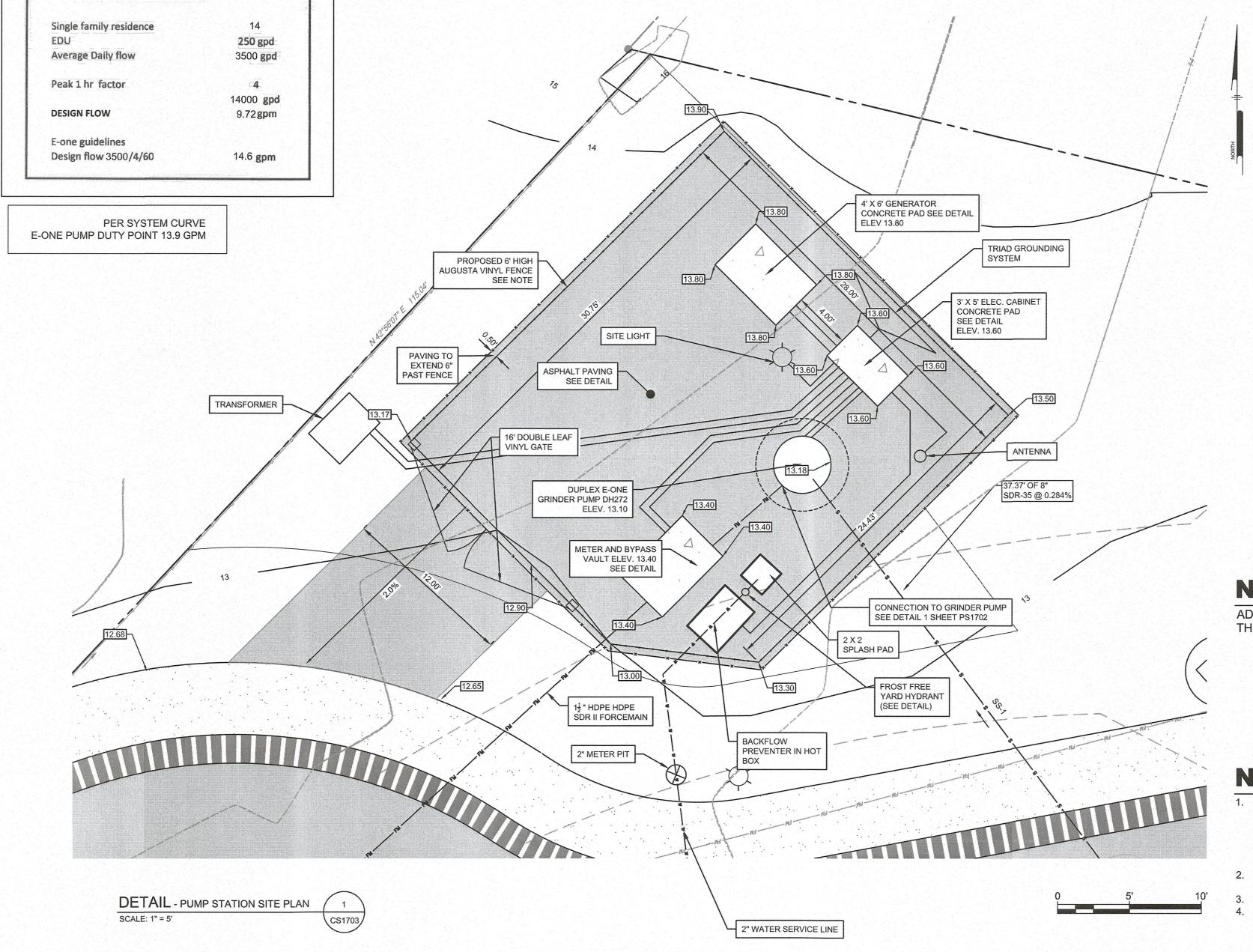
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PS1701

WHITES POND PRESERVE PUMPING STATION: SYSTEM CURVE - CASE - 2 PUMPS ON 1 PUMP ON SYSTEM CURVE

PUMPS **DUTY POINT** 13 9 gpm@ 21.4 FT. TDH ONE PUMP FLOW (GPM)

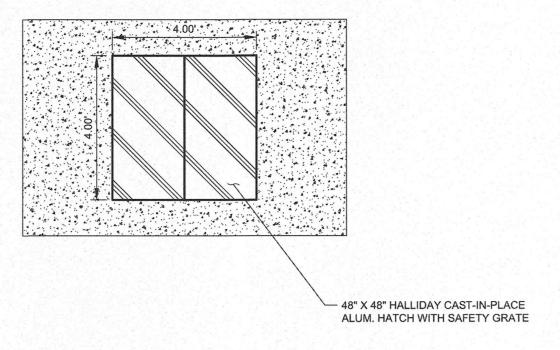


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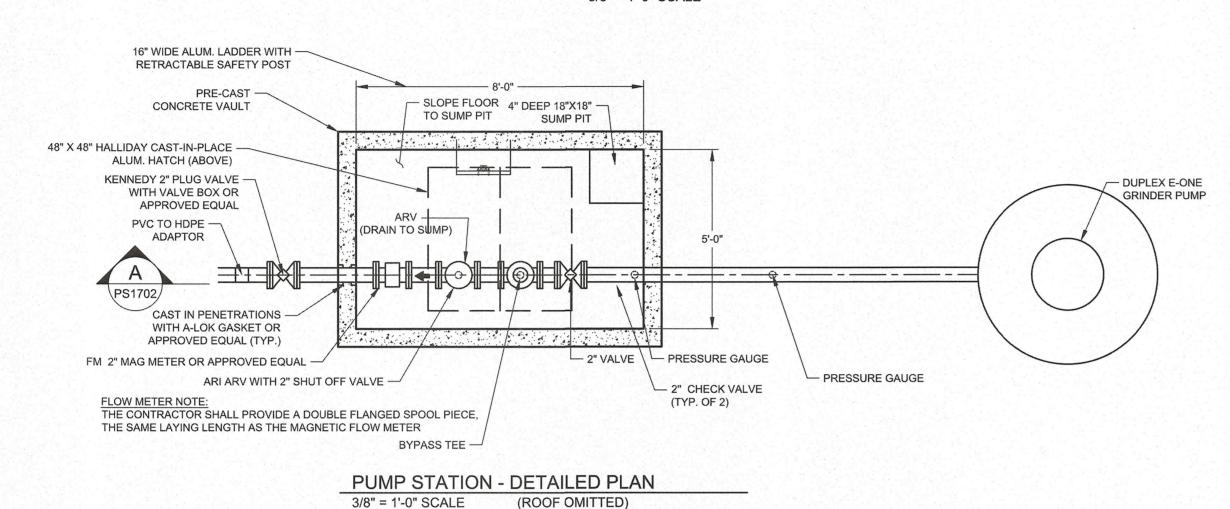
ADD CONCRETE BALLAST RING 8" WIDE X 12" DEEP TO THE WETWELL AT THE DESIGNATED LOCATION

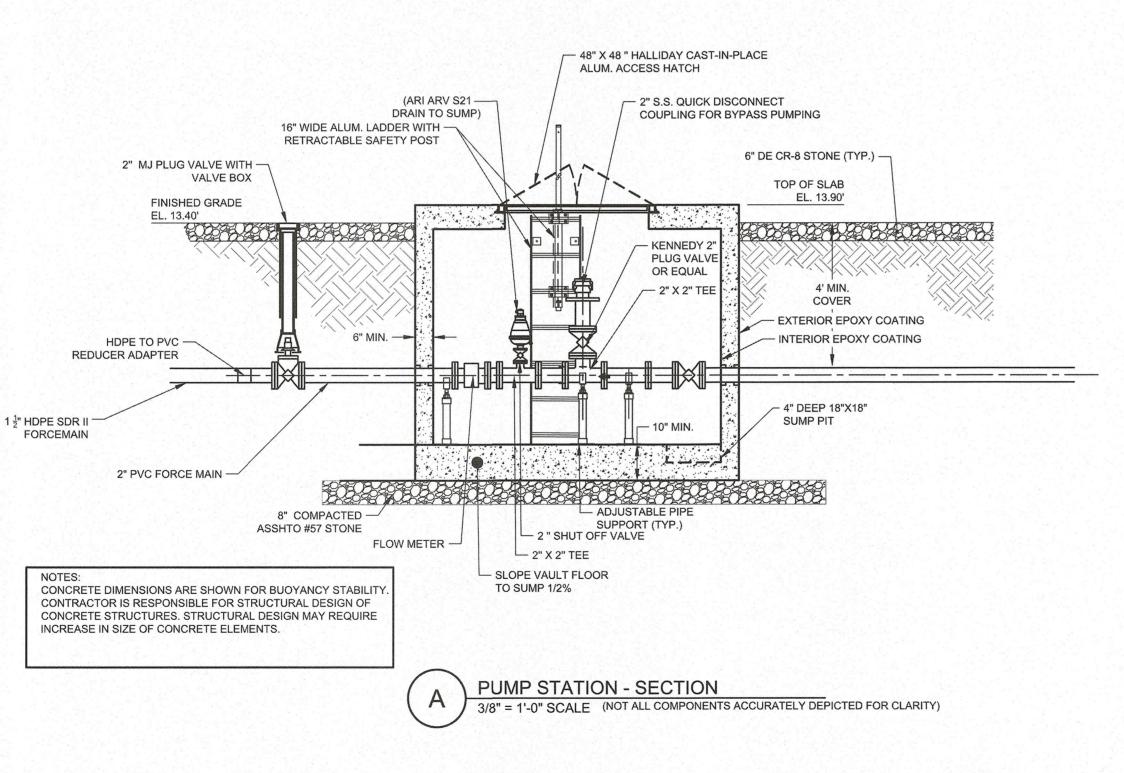
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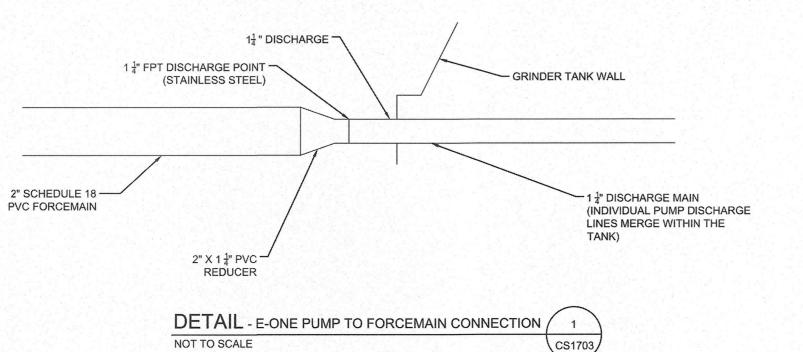
- 1. FENCE TO BE AUGUSTA 6 FOOT HIGH 8 FOOT PANELS AS MANUFACTURED BY WEATHERABLES COMPLETE WITH 6 FOOT HIGH BY 137 INCH DOUBLE GATES. INSTALL 5" X 5" X 9" ALUMINUM GATE POST INSERTS IN 5" X 5" X 9' POSTS AND 5" X 5" NEW ENGLAND STYLE POST CAPS. INSTALL PER
- MANUFACTURERS INSTRUCTIONS. 2. FLOW METER TO BE PROMAG 400W AS MANUFACTURED ENDRESS HAUSER OR EQUAL
- 3. BYPASS TO MATCH TOWN OF LEWES PORTABLE EQUIPMENT 4. SCADA EQUIPMENT SHALL BE PROVIDED AND INSTALLED BY POINT WATCH COMMUNICATION AS REQUIRED BY CITY OF LEWES



# PUMP STATION - TOP SLAB PLAN







# **GENERAL NOTES FOR PUMP STATION**

## ( CIVIL MECHANICAL):

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF LEWES STANDARDS AND SPECIFICATIONS.

- 2. THE STRUCTURAL DESIGN OF THE WET WELL AND VALVE CHAMBER, INCLUDING ANTI-FLOATATION CALCULATIONS, SHALL BI PROVIDED BY THE PRECAST CONCRETE MANUFACTURER AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THI STATE OF DELAWARE, ADDITIONAL CONCRETE IS TO BE PLACED IN THE FIELD TO OVERCOME BUOYANCY.
- 3. CONCRETE EDGES ABOVE FINISHED GRADE SHALL HAVE 3/4" CHAMFER.
- 4. WALLS AND TOP OF VAULTS SHALL HAVE A MINIMUM THICKNESS OF 8" AND THE BOTTOM SHALL HAVE A MINIMUM THICKNESS OF 10" OR AS INDICATED ON PLAN AND SHALL BE DESIGNED FOR A LIVE LOAD OF 300 PSF, UNLESS OTHERWISE NOTED.
- 5. WET WELL TO BE A MINIMUM OF 6" ABOVE FINISHED GRADE.
- 6. ALUMINUM LADDERS, ACCESS DOORS, ETC. IN CONTACT WITH CONCRETE SHALL BE COATED WITH AN 24 MIL TAR EPOXY.
- 7. ALL EXTERIOR PRECAST CONCRETE BELOW FINISH GRADE SHALL RECEIVE A COATING OF EPOXY WATERPROOFING COMPOUND.
- 8. EXACT DIMENSIONS FOR LOCATION OF PUMPS, GUIDERAILS, ACCESS DOORS, ETC. SHALL BE OBTAINED FROM PUMP MANUFACTURER'S APPROVED SHOP DRAWINGS.
- 9. FORCE MAIN PIPING SHALL BE ANCHORED WITH THRUST BLOCKS AT ALL BENDS, IF FUSED HDPE IS NOT USED.
- 10. ALL PIPING WORK SHALL INCLUDE MISCELLANEOUS PIPING MATERIALS AND FITTINGS, INCLUDING, BUT NOT LIMITED TO, FLANGE FILLERS, BEVELED AND PLAIN SPACERS, SPOOLS, UNI-FLANGES, COUPLINGS AND ALL OTHER MATERIALS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- 11. ALL PIPING SHALL BE INSTALLED WITH PIPE SUPPORTS, INCLUDING, BUT NOT LIMITED TO, HANGERS AND FLOOR STANDS. AL HARDWARE SHALL BE STAINLESS STEEL.

### **SYSTEM CONTROL NOTES:**

EQUIPMENT.

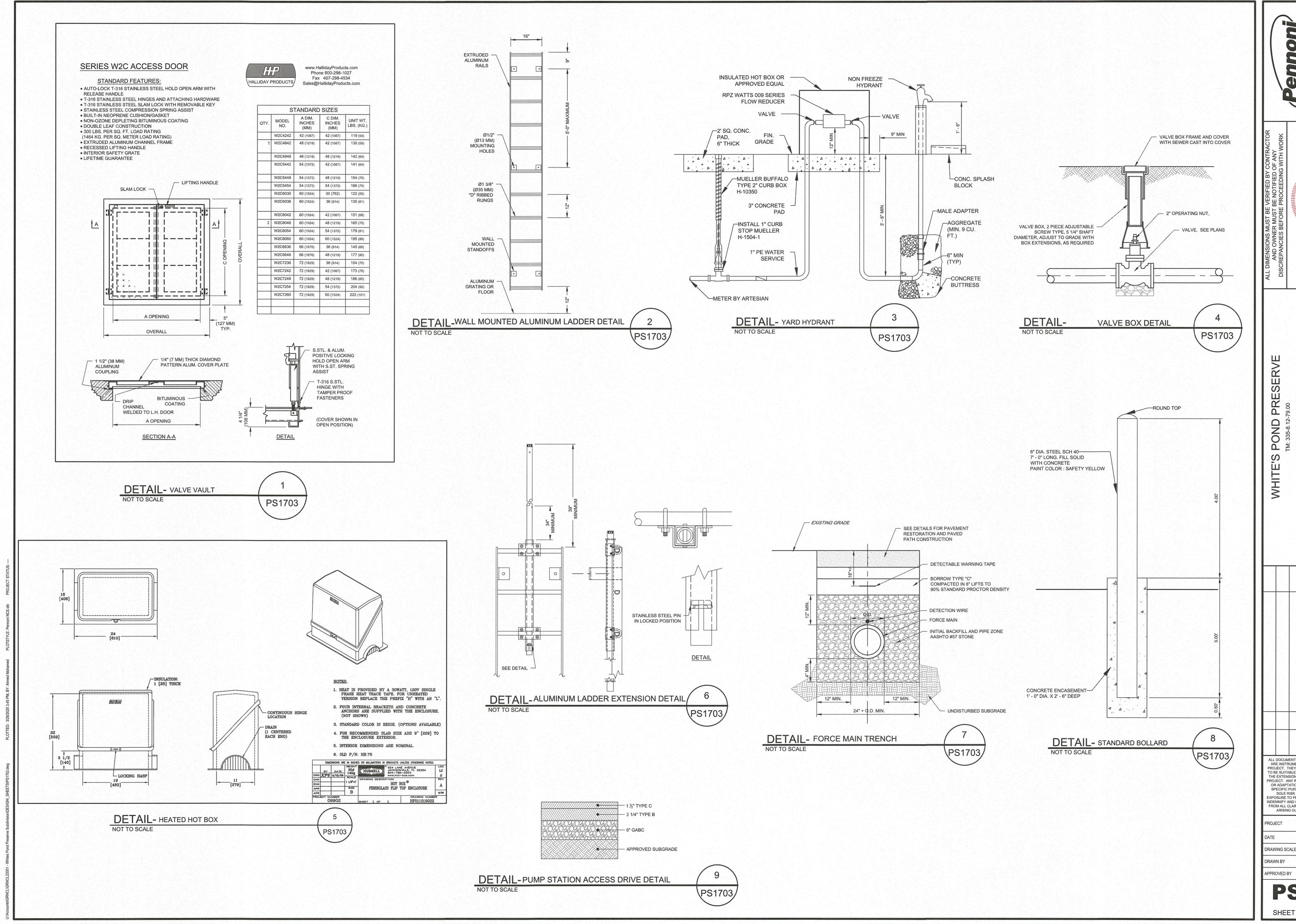
- 1. THE CITY OF LEWES SHALL PROVIDE AND INSTALL THE SCADA SYSTEM REQUIRED FOR THE MONITORING AND COMMUNICATION
- 2. THE CONTRACTOR SHALL COOPERATE WITH THE CITY OF LEWES WITH RESPECT TO ACCESS TO THE SITE AND PROVIDING POWER AND ASSOCIATED DATA INPUT FACILITIES.
- 3. THE WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR AND INCIDENTAL TO THE COMPLETE AND SATISFACTORY INSTALLATION OF THE PUMP CONTROL PROGRAMMABLE LOGIC CONTROLLER (PLC). OPERATOR INTERFACE, AND SUPERVISORY CONTROL AND DATA ACQUISITION COMPONENTS (SCADA) INCLUDING BUT NOT LIMITED TO THE RADIO TRANSCEIVER, MODEMS, ANTENNA, CABLES, SOFTWARE, ETC. THE CITY OF LEWES WILL ADVISE WHICH SYSTEM
- 4. THE SYSTEM SHALL PROVIDE ALARM ANNUNCIATION, SYSTEM MONITORING, DATA COLLECTION, HISTORICAL TRENDING, AND REMOTE AUTOMATIC MODE OVERRIDE.
- 5. UPDATING THE SYSTEM AT THE CENTRAL MONITORING STATION WILL BE BY OTHERS.
- 6. A SYSTEMS INTEGRATOR EXPERIENCED IN PLC SYSTEMS SHALL BE PROVIDED BY THE CITY OF LEWES FOR ALL THE WORK PERTAINING TO THE INSTALLATION AND PROPER FUNCTIONING OF THE PUMP CONTROL PLC SYSTEM, PROVIDING TECHNICAL SUPERVISION FOR THE INSTALLATION AND CONNECTIONS TO EQUIPMENT. ALL TESTS AND OPERATIONAL DEMONSTRATIONS, AND EQUIPMENT CALIBRATIONS. IT SHALL BE THE SYSTEMS INTEGRATOR'S RESPONSIBILITY TO FURNISH A COMPLETE AND FUNCTIONAL, FULLY INTEGRATED PUMP CONTROL PLC SYSTEM, INCLUDING ALL SOFTWARE AND HARDWARE DEVICES NECESSARY TO INTERFACE THE COMPONENTS OF THE PUMPING STATION.
- 7. THE SYSTEM INTEGRATOR SHALL PROVIDE SCADA FUNCTION PROGRAMMING IN THE PUMP CONTROL PLC AND COMPONENTS FOR RADIO COMMUNICATIONS AND BACK UP POWER, UNINTERRUPTIBLE POWER SUPPLY (UPS) AND SURGE PROTECTION. SYSTEM INSTALLATION CD ROM OR DISKS FOR ALL SOFTWARE, OPERATOR INTERFACE SCREENS AT THE PUMPING STATION HMI (HUMAN MACHINE INTERFACE), AND ALL INCIDENTAL EQUIPMENT NECESSARY FOR A PROPERLY FUNCTIONING FACILITY.
- 8. RADIO INSTALLATIONS SHALL BE COORDINATED WITH THE CITY OF LEWES REQUIREMENTS.
- 9. SUBMITTALS SHALL INCLUDE AND NOT BE LIMITED TO MANUFACTURERS DESCRIPTIVE LITERATURE AND DATA SHEETS FOR OPERATOR INTERFACE SCREENS, SOFTWARE, PLC'S, RADIO EQUIPMENT, UPS AND SURGE PROTECTION DEVICES, WIRING SCHEMATICS, SOFTWARE PROGRAMS AND PROGRAMMING, PROGRESS SCHEDULES, AND SHOP DRAWINGS SHOWING DIMENSIONS, MOUNTING DETAILS, ENCLOSURES, AND EXTERNAL CONNECTION DETAILS. EQUIPMENT SHALL BE HOUSED IN THE EQUIPMENT CONTROL CABINET. THE EXACT SIZE OF THE CABINET SHALL BE COORDINATED WITH THE PUMP/PUMP CONTROL MANUFACTURER(S) AND SIZED TO MOUNT THE EQUIPMENT FOR EASE OF OPERATION AND MAINTENANCE.
- 10. INTEGRATED OPERATION AND MAINTENANCE MANUALS AND OPERATING TRAINING SHALL BE PROVIDED.
- 11. ALL PUMP CONTROL PLC SYSTEM COMPONENTS SHALL BE PROVIDED BY PUMP MANUFACTURER (E-ONE) OR APPROVED EQUAL AND HAVE CONTROLS WITH PUMP RUNNING AND ALARM LIGHTS, PUMP ELAPSED TIME METERS, AND FLOAT SYSTEM WITH HIGH
- 12. OPERATOR INTERFACE SHALL BE SUPPLIED BY PUMP MANUFACTURER OR APPROVED EQUAL.
- 13. SURGE PROTECTOR SHALL BE LEVITON CATALOGUE No. 51020-WM; UPS SHALL BE PULSAR ES AS MANUFACTURED BY MGE UPS SYSTEMS CATALOGUE PART No. 89363.
- 14 A TEST PROCEDURE SHALL BE DEVELOPED BY THE SYSTEM INTEGRATOR FOR THE CITY OF LEWES APPROVAL NO LATER THA 14 DAYS PRIOR TO THE TEST DATE. ALL COMPONENTS SHALL BE TESTED AND WITNESSED BY ARTESIAN WASTEWATER MANAGEMENT, INC. AND OWNER'S REPRESENTATIVE INCLUDING FACTORY TESTING OF THE PUMP CONTROL PLC SYSTEM.
- 15. THE SYSTEM INTEGRATOR SHALL PROVIDE SPARE PARTS AS RECOMMENDED BY THE MANUFACTURER AS WELL AS THE FOLLOWING: A SPARE BOARD FOR EACH TYPE USED IN THE PLC INCLUDING I/O BOARDS, PLC PROCESSOR, AND COMMUNICATIONS, ETC., A RADIO MODEM, AND A PLC POWER SUPPLY WITH BATTERY BACKUP.
- 16. THE PUMP CONTROL PROGRAMMABLE LOGIC CONTROLLER (PLC) SHALL 16.1. BE OF MODULAR DESIGN, CAPABLE OF SUPPORTING REMOTE I/O, OPERATOR INTERFACE, ADDITIONAL PLO
- PROCESSORS, AND REMOTE COMMUNICATIONS. 16.2. PROVIDE ALL HARDWARE, SOFTWARE, COMMUNICATION DRIVERS, AND CABLES NECESSARY TO FACILITATE
- COMMUNICATIONS WITH THE CENTRAL PLC. 16.3. ALLOW FOR FUTURE I/O EXPANSION BY ADDING I/O MODULES.
- OPERATE FROM A 120V AC/24 VDC UPS WITH A CHARGER AND BATTERIES TO SUPPLY UP TO ONE HOUR OF BACKUP
- 16.5. USE PROGRAMS HAVING RELAY LADDER LOGIC FORMAT. 16.6. INCLUDE THE FOLLOWING FUNCTIONS: EVENT SEQUENCER, DOWN COUNTING TIMER (UP TO 30 MINUTES BY SECONDS).
- AVERAGING OF INPUT SIGNAL TOTALIZING OF INPUT SIGNAL, COMPARATOR, AND PID CONTROLLER. \ BE SUITABLE FOR BACK PANEL OR RACK MOUNTING.
- 16.8. OPERATE IN AN INDUSTRIAL ENVIRONMENT, 0°C TO 60°C, 5 TO 95% RELATIVE HUMIDITY, WITH NO EXTERNAL FORCED
- 16.9. BE PROVIDED WITH THE MINIMUM NUMBER OF I/O's AS REQUIRED BY THE I/O LISTS, AND SPARE I/O's FOR AN ADDITIONAL (8) RELAY CONTACT OUTPUTS, (4) 4-20 mADC ANALOG INPUTS, AND (4) 4-20 mADC ANALOG OUTPUTS.



PROJECT. THEY ARE NOT INTENDED OR REPRESENT TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS O THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT, ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES: AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AN EXPENSES ARISING OUT OF OR RESULTING THEREFRO

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE

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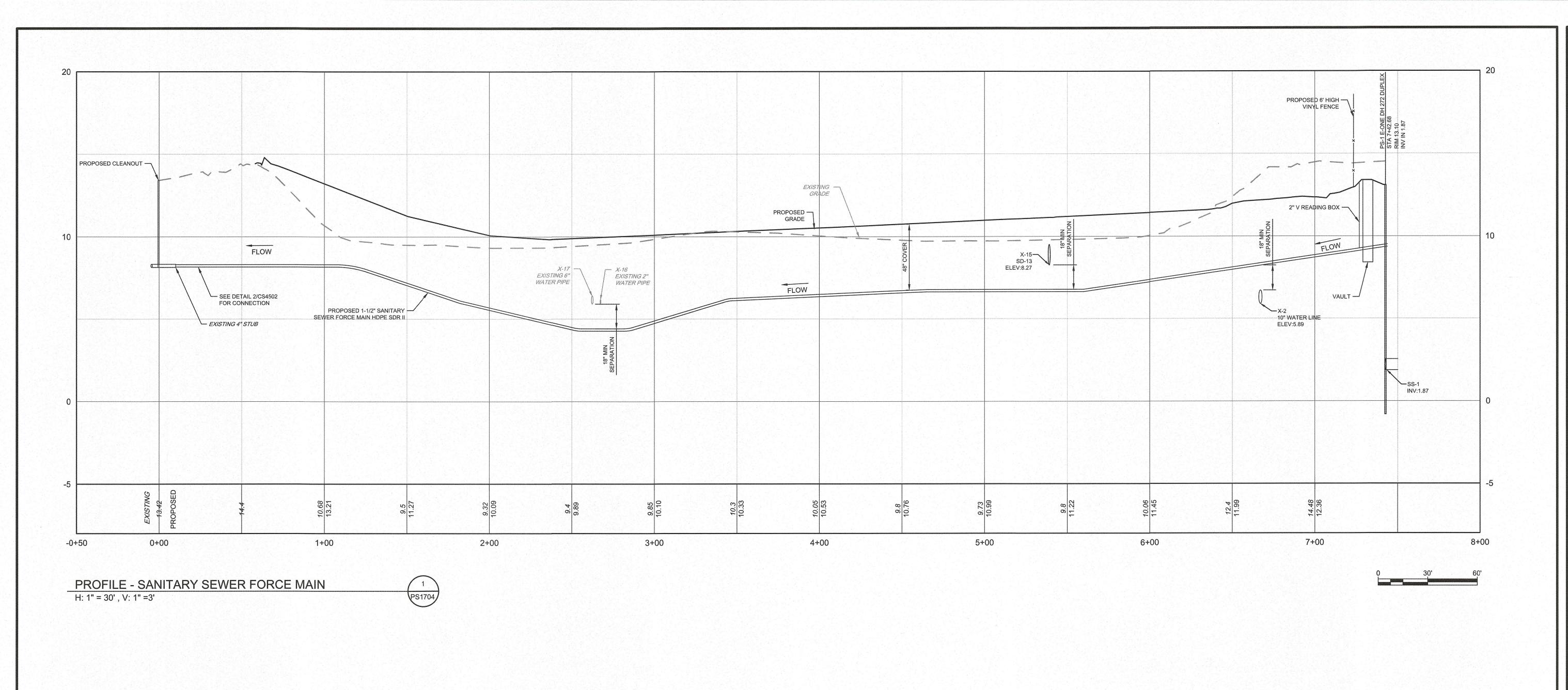
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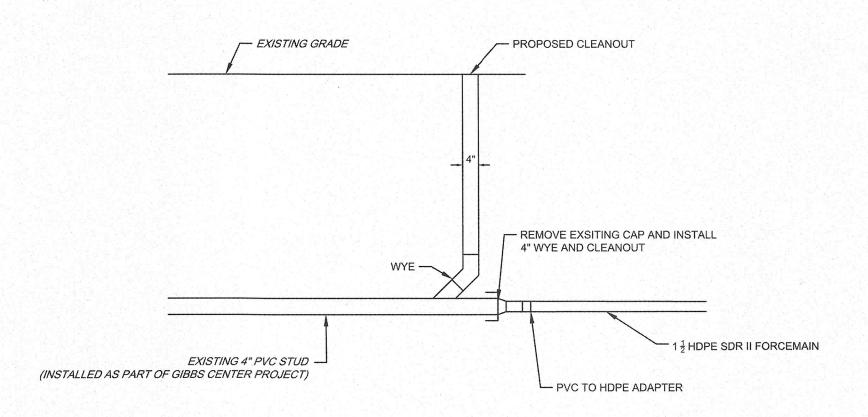
TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS OF THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHA INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

GRNCL22001 2024-11-01

DRAWING SCALE AS SHOWN **RWS** 

PS1703





DETAIL 2 - SCHEMATIC CONNECTION DETAIL AT EXISTING 4" STUB
NOT TO SCALE



WHITE'S POND PRESERVE
TM: 335-8.12-79.00
MONROE AVE EXTENDED
LEWES, DE 19958

SANITARY SEWER FORCE MAIN

2025-03-04 1 REVISED PER CITY OF LEWES AND SCD COMMENTS TOU

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PROJECT. THEY ARE NOT INTENDED OR REPRESENTED
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OR ADAPTATION BY PENNONI ASSOCIATES FOR THE
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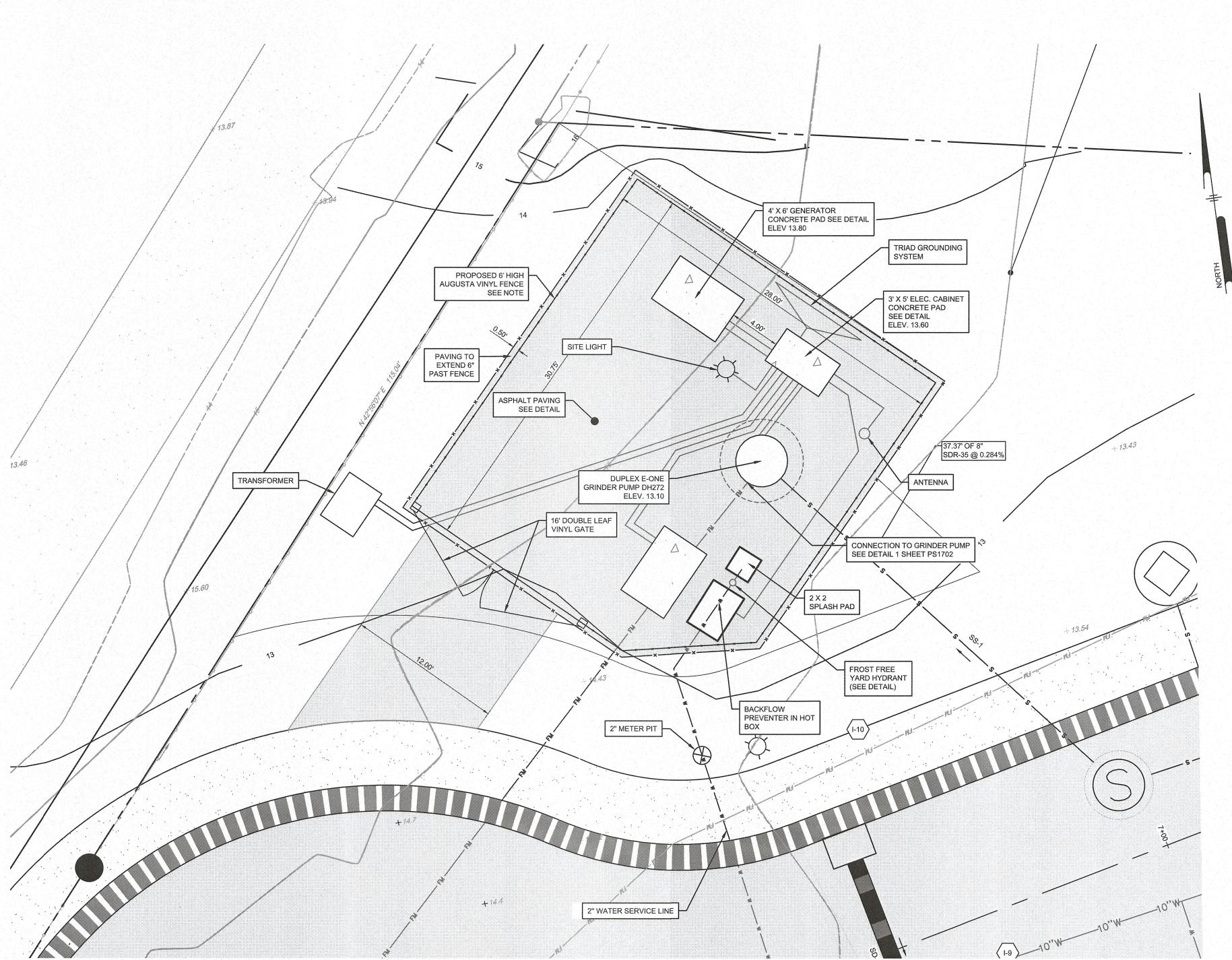
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 DRAWING SCALE
 1" = 30'

 DRAWN BY
 RWS

PS1704

SHEET 4 OF



# **GENERAL NOTES:**

- 1. THIS PLAN AND APPROVAL IS FOR DOMESTIC WASTE WATER ONLY.
- 2. ALL FACILITIES TO MEET ARTESIAN WASTEWATER MANAGEMENT INC. STANDARDS AND SPECIFICATIONS.

### SITE NOTES:

- 1. THE PROPERTY LINES SHOWN ON THIS PLAT WAS TAKEN FROM DOCUMENTS OF PUBLIC RECORDS AS WELL AS ACTUAL FIELD SURVEY PREPARED BY PENNONI ASSOCIATES.
- 2. THE TOPOGRAPHY SHOWN ON THIS PLAN WAS TAKEN FROM A PLAN PREPARED BY PENNONI ASSOCIATES, VERTICAL DATUM NAVD88, HORIZONTAL DATUM NAD83.
- 3. SANITARY SEWER SERVICE FOR THE SUBDIVISION WILL BE HANDLED BY THE INLAND BAYS WATER TREATMENT FACILITY AS OPERATED BY SUSSEX COUNTY.
- 4. WATER FOR THE SITE WILL BE PROVIDED BY ARTESIAN WATER COMPANY INC..
- 5. WATER AND SEWER MAIN SHALL HAVE A MINIMUM OF 10 FEET OF HORIZONTAL AND A MINIMUM OF 18 INCHES VERTICAL CLEARANCE BETWEEN THEM.
- 6. IF THE SITE CONTAINS WETLANDS CONFINED TO THE TAX DITCHES. ACTIVITIES WITHIN THESE WETLANDS MAY REQUIRE A PERMIT FROM THE U.S. ARMY CORPS OF ENGINEERS AND/OR THE STATE OF DELAWARE.
- 7. THE SITE IS LOCATED IN ZONE X BASED ON THE FEMA FLOOD INSURANCE RATE MAP NUMBER 10005C0340K, MAP REVISED MARCH 16, 2015 AND IS DETERMINED TO NOT BE INSIDE THE 500 YEAR
- 8. THE SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD, DELETE OR MODIFY ANY EROSION AND SEDIMENT CONTROL MEASURES AS THEY DEEM NECESSARY.
- 9. ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, BUT NOT IN PAVEMENT, SHALL BE TOPSOILED (6" MINIMUM), FERTILIZED AND SEEDED.
- 10. A 72 HOUR (MINIMUM) NOTICE SHALL BE GIVEN TO THE DELDOT DISTRICT PERMIT SUPERVISOR PRIOR TO STARTING ENTRANCE CONSTRUCTION.
- 11. MISS UTILITY (811) OR 1-800-282-8555 SHALL BE NOTIFIED THREE (3) DAYS PRIOR TO EXCAVATION.
- 12. ALL SIGNING FOR MAINTENANCE OF TRAFFIC IS THE CONTRACTORS RESPONSIBILITY, AND SHALL FOLLOW THE GUIDELINES SHOWN IN "DELAWARE 2000 TRAFFIC CONTROLS FOR STREETS AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND EMERGENCY OPERATIONS."
- 13. DAMAGE TO EXISTING SIGNS SHALL BE REPAIRED OR REPLACED AS PER THE "GUIDE FOR FABRICATION" AND INSTALLATION OF TRAFFIC CONTROL DEVICES".
- 14. ALL PROPOSED FOREST BUFFERS ARE TO BE MAINTAINED BY THE CONTRACTOR.
- 15. ALL FIRE LANES, FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS.

## **ELECTRICAL SITE PLAN**

SCALE: 1" = 5'

## NOTE:

ADD CONCRETE BALLAST RING 8" WIDE X 12" DEEP TO THE WETWELL AT THE DESIGNATED LOCATION

## **GENERAL NOTES FOR PUMP STATION CONSTRUCTION:**

- 1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF LEWES STANDARDS AND SPECIFICATIONS LATEST EDITION.
- 2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL AMENDMENTS THERETO. THESE DRAWINGS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
- 3. NO DEBRIS SHALL BE BURIED ON SITE. DEBRIS ENCOUNTERED DURING CONSTRUCTION SHALL BE REMOVED AT THE CONTRACTORS EXPENSE, TO AN AREA OR SITE WITH AN APPROVED DRY WASTE FILL PLAN AND EROSION AND SEDIMENT CONTROL PLAN.
- 4. EXISTING UTILITIES, AS OF THIS DATE ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS AND CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONFER WITH THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION. THE FAILURE TO SHOW ON THE DRAWINGS ANY EXISTING UTILITIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OF DETERMINING THE LOCATION OF THESE UTILITIES. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BE DONE WITHOUT FIRST CALLING "MISS UTILITY" (1-800-282-8555) 72 HOURS PRIOR TO EXCAVATION TO HAVE UNDERGROUND UTILITY CABLES LOCATED AND MARKED.
- THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE, AND ANY DAMAGE DONE TO THEM DUE TO THEIR NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED TO THE OWNERS SATISFACTION AT THE CONTRACTORS SOLE EXPENSE. IF THE CONTRACTOR RELIES ON THE UTILITY LOCATIONS SHOWN HEREON, HE DOES SO AT HIS OWN RISK AND WILL NOT BE ENTITLED TO ADDITIONAL COMPENSATION DUE TO TIME DELAYS FROM SAID
- 6. CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER WHEN PERMANENT OR TEMPORARY RELOCATION OF THE EXISTING UTILITY IS REQUIRED. THIS SHALL INCLUDE BUT NOT BE LIMITED TO STORM DRAINS, INLETS, PAVEMENT, SIGNALS, CONDUITS, CABLES, PIPING, GUY WIRES, POLES, AND OVERHEAD FACILITIES, ETC., REGARDLESS OF OWNERSHIP
- THE CONTRACTOR SHALL PROTECT ALL ADJOINING AND NEARBY BUILDINGS, EQUIPMENT, ALL UTILITIES, STRUCTURES, FENCES, TREES, SHRUBBERY, ETC., FROM DAMAGE DUE TO EXCAVATION, DEMOLITION, AND CONSTRUCTION, DURING THE ENTIRE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED DIRECTLY OR INDIRECTLY WILL BE REPAIRED AT THE
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL INSTALLED UTILITIES UNTIL THE COMPLETION OF CONSTRUCTION. PIPES WITH SHALLOW COVER SHALL BE PROTECTED FROM DAMAGE BY CONSTRUCTION MACHINERY WITH ADEQUATE TEMPORARY COVER. PIPING, MANHOLE AND VAULT OPENINGS SHALL BE PROTECTED TO PREVENT SEDIMENT, DEBRIS AND WATER FROM ENTERING THE FACILITIES. THE CONTRACTOR SHALL CLEAN AND DISPOSE OF ALL MATERIAL TO THE SATISFACTION OF THE CITY SHOULD THESE MATERIALS BE ALLOWED TO ENTER THE INSTALLED FACILITIES OR EXISTING FACILITIES WHERE CONNECTIONS EXIST.
- ALL EXCAVATION FOR STRUCTURES AND PIPE TRENCHES SHALL BE KEPT FREE OF WATER UNTIL BACKFILL IS PROPERLY TAMPED IN PLACE TO FINISH GRADE. SPECIAL ATTENTION IS CALLED TO THE NEED TO PROPERLY REMOVE SEDIMENT FROM DEWATERING ACTIVITIES WITHOUT THE USE OF EXCAVATED SEDIMENT PITS. THE CONTRACTORS ATTENTION IS CALLED TO THE NEED TO ACHIEVE DEWATERING ACTIVITY AND SEDIMENT REMOVAL WITH PORTABLE DEWATERING BOXES OR OTHER SIMILAR DEVICES WHILE MINIMIZING THE DISRUPTION TO BUSINESSES AND ADJACENT GROUND AREAS, WATER DISCHARGED FROM DEWATERING / SEDIMENT REMOVAL DEVICES SHALL BE CONVEYED TO EXISTING DRAINAGE FACILITIES SUCH AS INLETS AND DRAINAGE DITCHES SO AS TO PREVENT HAZARDOUS CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE AND INJURY WHICH OCCURS AS A RESULT OF IMPROPER DEWATERING / SEDIMENT REMOVAL ACTIVITIES.
- 10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE APPROVAL AND ACCEPTANCE OF THE PUMP STATION, BY CITY OF LEWES., UPON COMPLETION OF
- 11. SANITARY SEWER SEPARATION FROM WATER MAINS SHALL BE 10 FEET HORIZONTAL, 18 INCH VERTICAL MINIMUM AT ALL WATER AND SEWER CROSSINGS, UNLESS OTHERWISE
- 12. CONTRACTOR TO DISPOSE OF ALL HAZARDOUS WASTE ENCOUNTERED DURING EXCAVATION IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. THE DISPOSAL SITE MUST BE A PERMITTED SITE.
- 13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DISPOSE OF ALL EXCAVATED MATERIAL NOT USED IN THE PROJECT CONSTRUCTION AT AN APPROVED UPLAND DISPOSAL SITE HAVING AN APPROVED EROSION AND SEDIMENT CONTROL PLAN.

### **ELECTRICAL NOTES:**

- 1. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH THE REQUIREMENTS / REGULATIONS OF THE FOLLOWING CODES / AGENCIES / UTILITIES:
- 1.1. THE NATIONAL ELECTRICAL CODE (NEC)
- 1.2. LOCAL BUILDING AND FIRE CODES
- 1.3. ALL LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS 1.4. ALL LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PROTECTION REGULATIONS
- 1.5. DESIGN SAFETY STANDARDS FOR ELECTRICAL SYSTEMS (OSHA)
- 1.7. DELAWARE ELECTRICAL CO-OP

DISTRIBUTION SYSTEM.

- 1.8. ARTESIAN WASTEWATER COMPANY
- 1.9. THE LOCATION OF TRANSFORMER AND METER TO BE DECIDED IN CONJUNCTION WITH POWER COMPANY/SUPPLIER
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSURE "ON THE JOB" SAFETY FOR HIS EMPLOYEES. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT HIS WORK SHALL BE PERFORMED IN A MANNER THAT SHALL PROVIDE SAFE CONDITIONS FOR OTHER PERSONS EMPLOYED ON THE PROJECT. EMPLOYEES OF THE OWNER, AND ALL OTHER PERSONS HAVING AUTHORIZED OR UNAUTHORIZED ACCESS TO THE WORK AND THE PUBLIC.
- 3. THE ELECTRICAL DRAWINGS DO NOT INDICATE ALL OF THE EXISTING EQUIPMENT, DEVICES, WIRING, STRUCTURES, PIPING, ETC., EITHER EXPOSED OR CONCEALED. PRIOR TO COMMENCING CONSTRUCTION THE CONTRACTOR SHALL OBTAIN OR VERIFY THE EXACT LOCATION OF ALL THE EXISTING ITEMS THAT AFFECT THE WORK.
- 4. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF THE VARIOUS SYSTEMS AND THE APPROXIMATE / RELATIVE LOCATIONS OF THE EQUIPMENT / DEVICES / ITEMS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THAT THERE IS ADEQUATE SPACE AT THE LOCATIONS INDICATED FOR ALL THE EQUIPMENT / DEVICES / ITEMS PRIOR TO INSTALLATION OF SAME.
- 5. ALL WORK SHALL BE GROUNDED AS INDICATED ON THE DRAWINGS AND / OR AS REQUIRED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- 6. THE CONTRACTOR SHALL USE WHERE APPROPRIATE A MECHANICAL STRUT SYSTEM (1-5/8" CHANNEL WIDTH SERIES) AS A MEANS OF SUPPORT FOR THE INSTALLATION AND MOUNTING OF EQUIPMENT / DEVICES.
- 7. ALL EQUIPMENT SHALL BE INSTALLED AND WIRED IN STRICT COMPLIANCE WITH THE REQUIREMENTS AND RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURER.
- 8. UPON COMPLETION OF THE INSTALLATION THE CONTRACTOR SHALL BALANCE THE LOAD ON ALL PARTS OF THE
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ALL DAMAGE CAUSED BY THE INSTALLATION OF
- EQUIPMENT / DEVICES / MATERIALS AT THE PROJECT. REPAIRS OR REPLACEMENT WORK SHALL CONFORM TO HE
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY / ALL CORE DRILLING AS REQUIRED FOR THE COMPLETION OF HIS WORK. COORDINATE CORE DRILLING WITH REBAR PLACEMENT AND/OR REINFORCEMENT ELEMENTS OF THE PRECAST STRUCTURES TO AVOID DAMAGE TO THESE ITEMS.
- 11. CONTRACTOR SHALL PROVIDE ARC FLASH LABELS FOR ALL EQUIPMENT BEING INSTALLED. LABELS SHALL INDICATE HAZARD LEVEL AND PPE REQUIREMENTS AS REQUIRED BY NFPA 70E AND IEEE 1584

## **SPECIAL NOTE:**

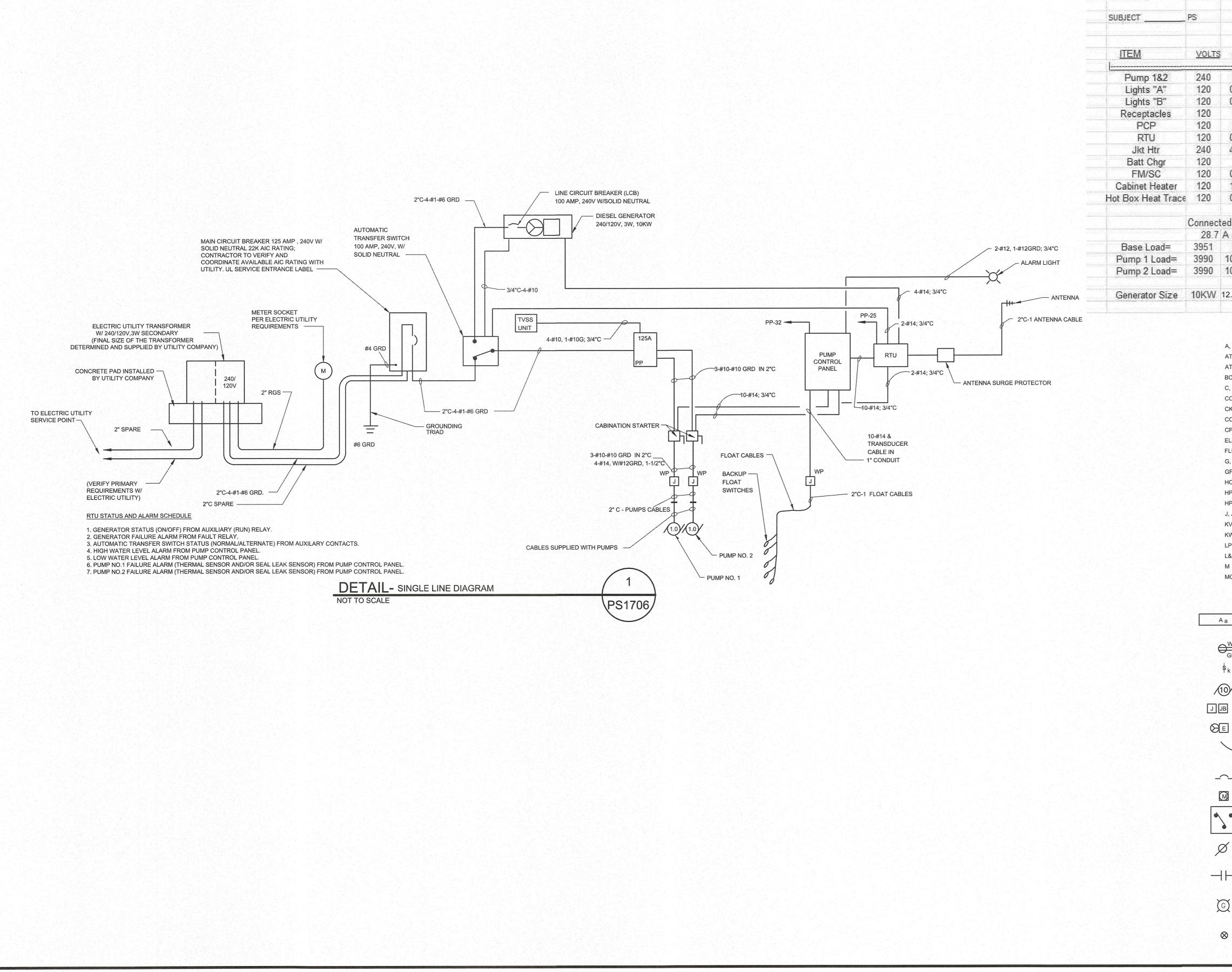
THE WET WELL SHALL BE CONSIDERED CLASSIFIED AREAS - CLASS I, DIVISION1, GROUPS C AND D. ALL EQUIPMENT AND WIRING INSTALLED IN THESE AREAS SHALL MEET THE REQUIREMENTS FOR THIS TYPE OF HAZARDOUS LOCATION.

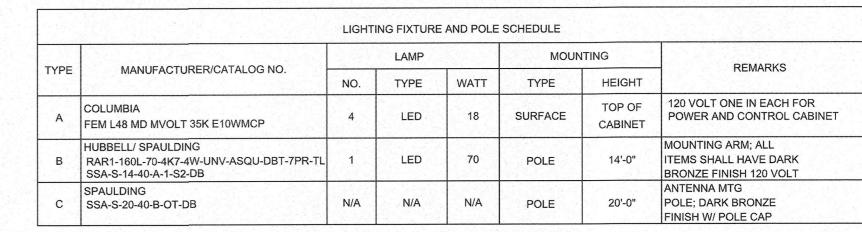


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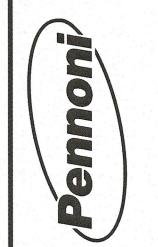
#### GENERATOR LOAD CALCULATIONS

PENNONI ASSOC	IATES, I	NC.			JOB NO.	GRNCL220	01	and had superind a subset in december who had been and superinder.	
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PROJECT	WHITE:	S POND							
					DATE:	28-Feb-25			
SUBJECT	PS								
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a. En langington lan dan direkteriandan inng serken barakeri or derek erikandin denden denden denden denden di	and a second and a second and a second and a second as	gentinink seitensken ingedoministeret veteret der trette	* 1,732=3 *	usiansku mekan signe stjernik andrem i med andrem tremte mekanske mekanske	nordin bilank den in der dien een een een een een een een een een			ut makeur media silanda sekenda sel enderedi sedenda sekenda selari da saturade sekenda selari da sebanda sebe	
ITEM	VOLTS	AMPS	PHASE	VA	<u>HP</u>	QTY	NOTE	TOTAL	
								_	
Pump 182	240	3.6	1	864	1HP	2	NEMA-J	1728.00	
Lights "A"	120	0.15	1	18.0		<b>4</b>	Cabinet	72.00	
Lights "B"	120	0.58	1	70.0		1	Site	70_00	
Receptacles	120	1.5		180.0		3		540.00	
PCP	120	5.0	· · · · · · · · · · · · · · · · · · ·	600.0		1		600.00	
RTU	120	0.33	1	40.0				40.00	
Jkt Htr	240	4.17	1	1000.0	1KW		Genset	1000.00	
Batt Chgr	120	2	***************************************	240.0		1	Genset	240.00	
FM/SC	120	0.21	1	25.0		1	Flowmeter	25.00	
Cabinet Heater	120	1.67	1	200.0		2	Cabinet	400.00	
Hot Box Heat Trace	120	0.25		30.0		1		30.00	
	Connec	ted Load:	in VA					4745	
	English and Salar Sa	and the second second second second	V-3Phase					aagaagaanagaa gaga yahikii yilayaini iyoliyiliyiliya kabaayaa aa a	
Base Load=	3951	9.5							
Pump 1 Load=	3990	Simulation in Section 2	64LRA	***************************************					
Pump 2 Load=	3990	10RLA	64LRA		is verified to the first official real and and the first of the series and and the first of			ne en statut et en	
Generator Size	401/101	12 5 KV/A	at 0.8PF	604			***************************************		

#### **ELECTRICAL ABBREVIATIONS**

	ELECTRICAL ADDICE	VIATIONS	
A, AMP	AMPERE	MFR	MANUFACTURER
ATD	AUTOMATIC TELEPHONE DIALER	MLO	MAIN LUG ONLY
ATS	AUTOMATIC TRANSFER SWITCH	ОС	ON CENTER
BC	BATTERY CHARGER	Р	POLE
C, CND	CONDUIT	PCP	PUMP CONTROL PANEL
CCR	CIRCULAR CHART RECORDER	PF	POWER FACTOR
CKT	CIRCUIT	PP	POWER PANEL
CONC	CONCRETE	RECP	RECEPTACLE
CPT	CONTROL POWER TRANSFORMER	RTM	RUNNING TIME METER
ELEC	ELECTRICAL	RTU	REMOTE TELEMETRY UNIT
FLUOR	FLUORESCENT	SC	SIGNAL CONVERTER
G, GRD	GROUND GEN GENERATOR	T	TRANSFORMER
GFI	GROUND FAULT CIRCUIT INTERRUPTER	TSP	TWISTED SHIELDED PAIR
HOA	HAND-OFF-AUTOMATIC	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
HP	HORSEPOWER HP	UL	UNDERWRITERS LABORATORIES
HPS	HIGH PRESSURE SODIUM	V	VOLT
J, JB	JUNCTION BOX	VA	VOLT AMPERES
KVA	KILOVOLT AMPERES	VFD	VARIABLE FREQUENCY DRIVE
KW	KILOWATT	W	WATT, WIRE
LP	LIGHTING PANELBOARD	W/	WITH
L&P	LIGHTING & POWER LIGHTING PANEL BOARD	W/W	WIREWAY
M	METER	WP	WEATHERPROOF
MCB	MAIN CIRCUIT BREAKER	XP	EXPLOSION PROOF

	ELECTRICAL LEGEND				
Aa	LED LIGHTING FIXTURE UPPER CASE LETTER DENOTES TYPE IN SCHEDULE, LOWER CASE LETTER DENOTES SWITCH LEG		EXPOSED CONDUIT  CONCEALED CONDUIT		
⊖ <u>W</u> P GFI	DUPLEX RECEPTACLE, 120V, 20A	1	CONDUIT SEAL		
\$ <sub>k</sub>	TOGGLE SWITCH, 120V, 20A, LOWER CASE LETTER DENOTES FIXTURES TO BE SWITCHED	•	GROUND ROD		
(10)	MOTOR, NUMBER DENOTES HP	—— G——	GROUND CONDUCTOR		
JJB	JUNCTION BOX	FE	FIRE EXTINGUISHER		
ØE.	DIESEL GENERATOR	1	GROUND CONNECTION		
	WIRING, ARROW INDICATES HOMERUN TO PANEL	M	TELEPHONE OUTLET		
8	NUMBER "8" INDICATES CIRCUIT	$\boxtimes_{1}$	COMBINATION MOTOR STARTER		
	CIRCUIT BREAKER		DISCONNECT SWITCH		
	METER		ELECTRIC LINES		
<b>\'\'</b>	AUTOMATIC TRANSFER SWITCH	<del>-</del>	TELEPHONE LINES		
Ø	PHASE, DIAMETER	—— нт	HEAT TRACE		
$\dashv\vdash$	CONTACT	VFD-	VARIABLE FREQUENCY DRIVE		
Q	PILOT LIGHT; R = RED, G = GREEN				
8	EXTERNAL WIRING TERMINAL				



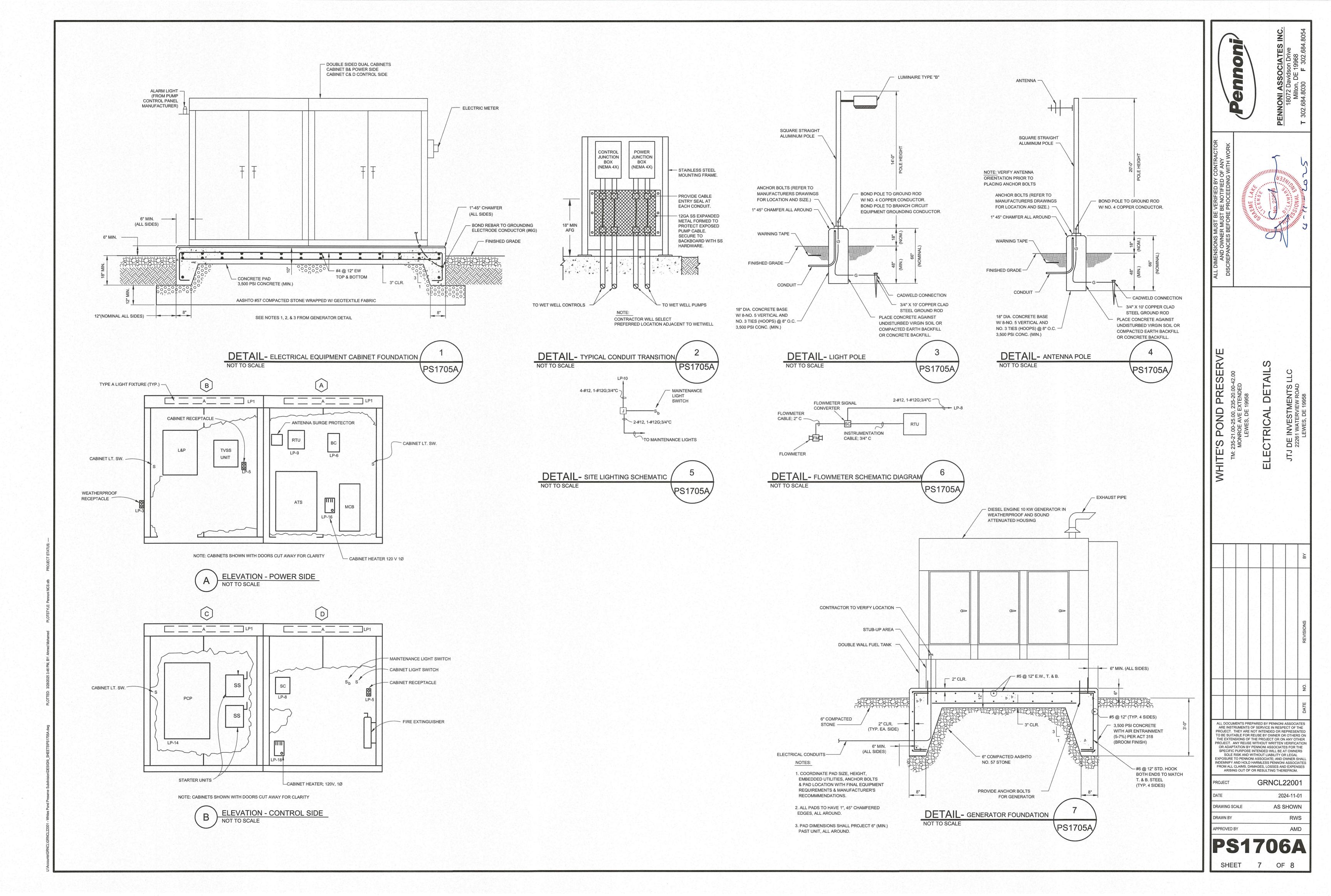


EC.

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SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS
SOLE RISK AND WITHOUT LIABILITY OR LEGAL
EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHALL
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4. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB1; MATERIALS TO MATCH CONDUIT, ALL CONNECTIONS SHALL BE THREADED.

5. LIQUIDTIGHT FLEXIBLE METAL CONDUIT: FLEXIBLE METAL CONDUIT WITH PVC JACKET.

SIZE CONDUIT FOR CONDUCTOR TYPE INSTALLED OR FOR TYPE THWN CONDUCTORS, WHICHEVER INCH MINIMUM SIZE. 3/4 IS LARGER; 8. ARRANGE CONDUIT TO MAINTAIN ACCESSIBILITY AND PRESENT A NEAT APPEARANCE.

9. ROUTE EXPOSED CONDUIT PARALLEL AND PERPENDICULAR TO ELECTRICAL EQUIPMENT RACK AND ADJACENT CABINETS/ENCLOSURES. 10. MAINTAIN MINIMUM 6 INCH CLEARANCE BETWEEN CONDUIT AND PIPING. MAINTAIN 12 INCH CLEARANCE BETWEEN CONDUIT AND HEAT SOURCES SUCH AS FLUES, STEAM PIPES, AND HEATING APPLIANCES.

11. ARRANGE CONDUIT SUPPORTS TO PREVENT DISTORTION OF ALIGNMENT BY WIRE PULLING OPERATIONS. FASTEN CONDUIT USING GALVANIZED SPACERS AND STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS, OR BOLTED SPLIT STAMPED GALVANIZED

12. SUPPORT CONDUIT AT A MAXIMUM OF 7 FEET ON CENTER. 13. LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL NOT EXCEED 24 INCHES IN LENGTH AND ALL RUNS SHALL BE PROVIDED WITH AN

CONDUIT CLAMPS, STRAPS, AND SUPPORTS: STEEL OR MALLEABLE IRON, FINISH TO MATCH CONDUIT.

APPROPRIATE LENGTH OF GROUND CONDUCTOR. 14. USE CONDUIT HUBS FOR FASTENING CONDUIT TO CAST BOXES, AND FOR FASTENING CONDUIT TO CABINETS/ENCLOSURES IN DAMP OR

WET LOCATIONS 15. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90° BENDS BETWEEN BOXES.

16. USE SUITABLE CONDUIT CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE 17. PROVIDE NO. 12 AWG INSULATED CONDUCTOR OR SUITABLE PULL STRING IN EMPTY CONDUIT, EXCEPT SLEEVES AND NIPPLES.

18. INSTALL EXPANSION JOINTS WHERE CONDUIT CROSSES STRUCTURAL EXPANSION JOINTS. 19. ALL UNDERGROUND CONDUIT SHALL BE CONCRETE ENCASED. THE THICKNESS OF CONCRETE COVERING THE CONDUIT ON ALL SIDES

AND BETWEEN CONDUITS SHALL NOT BE LESS THAN THREE (3) INCHES. 20. INSTALL TOP OF UNDERGROUND CONDUIT A MINIMUM OF 36 INCHES BELOW FINISHED GRADE

21. STAGGER CONDUIT JOINTS IN CONCRETE ENCASEMENT 6 INCHES MINIMUM, HORIZONTALLY. 22. USE SUITABLE SEPARATORS AND CHAIRS INSTALLED NOT GREATER THAN 4 FEET ON CENTERS. BAND CONDUIT TOGETHER WITH SUITABLE BANDING DEVICES. SECURELY ANCHOR CONDUIT TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT.

23. PROVIDE MINIMUM 3 INCH CONCRETE COVER AT BOTTOM, TOP, AND SIDES OF CONDUIT. 24. PROVIDE TWO NO. 4 STEEL REINFORCING BARS IN TOP OF CONCRETE ENCASEMENT.

25. ALL RIGID STEEL CONDUIT WHICH IS UNDERGROUND OR ENCASED IN CONCRETE SHALL BE COATED WITH TWO (2) COATS OF BITUMINOUS MASTIC PAINT OR SHALL BE PVC EXTERNALLY-COATED CONDUIT. THE BITUMINOUS OR PVC COATING SHALL BE CARRIED NO LESS THAN

26. A PLASTIC WARNING TAPE SHALL BE INSTALLED OVER ALL BURIED CONDUIT. THE TAPE SHALL HAVE THE WARNING "CAUTION--BURIED ELECTRIC LINE" CONTINUOUSLY IMPRINTED ON A RED BACKGROUND OR "BURIED TELEPHONE LINE" ON AN ORANGE BACKGROUND. THE CAUTION TAPE SHALL BE POSITIONED ABOVE THE CONDUIT AT A POINT TWELVE INCHES (12") BELOW FINISHED GRADE.

#### B. CONDUIT INSTALLATION SCHEDULE

1. OUTDOOR LOCATIONS: PVC EXTERNALLY-COATED RIGID STEEL CONDUIT

2. UNDERGROUND: SCHEDULE 40 PVC 3. FLEXIBLE CONNECTIONS: LIQUIDTIGHT FLEXIBLE METAL CONDUIT

4. INSTALLATIONS WITHIN WET WELL OR VALVE VAULT: PVC EXTERNALLY-COATED RIGID STEEL CONDUIT.

INSTALLATION WITHIN CABINETS: EMT.

#### C. WIRE AND CABLE

1. BUILDING WIRE: SINGLE COPPER CONDUCTOR INSULATED WIRE, 600 VOLTS INSULATION VOLTAGE RATING, TYPE THHN/THWN-2. 2. INSTRUMENTATION CABLE: MULTICONDUCTOR TYPE HAVING STRANDED TINNED COPPER CONDUCTORS INDIVIDUALLY INSULATED. THE CABLE SHALL HAVE ALUMINUM-POLYESTER SHIELDING TAPE PROVIDING 100% COVERAGE, A STRANDED TINNED COPPER DRAIN WIRE, AND A CHROME PVC JACKET. THE CABLE SHALL HAVE A NOMINAL CAPACITANCE OF 24 PF/FT. AND VOLTAGE RATING OF 300 VOLTS. THE CABLE SHALL BE UL LISTED AND LABELED.

3. TELEPHONE CABLE: MULTICONDUCTOR TYPE HAVING SOLID 20 AWG TINNED COPPER CONDUCTORS INDIVIDUALLY INSULATED. THE CABLE SHALL HAVE ALUMINUM-POLYESTER SHIELDING PROVIDING 100% COVERAGE, A SOLID 22 AWG TINNED COPPER DRAIN WIRE, AND AN OVERALL HIGH DENSITY BLACK POLYETHYLENE JACKET. THE CABLE SHALL HAVE A NOMINAL CAPACITANCE OF 23 PF/FT AND A VOLTAGE RATING OF 300 VOLTS. THE CABLE SHALL BE UL LISTED AND LABELED. CONDUCTOR QUANTITY: SIX (6) SINGLE CONDUCTORS (3 PAIR);

4. USE CONDUCTOR NOT SMALLER THAN 12 AWG FOR POWER AND LIGHTING CIRCUITS.

5. USE CONDUCTOR NOT SMALLER THAN 14 AWG FOR CONTROL CIRCUITS. 6. USE SPLIT BOLT CONNECTORS FOR COPPER CONDUCTOR SPLICES AND TAPS, 6 AWG AND LARGER.

7. USE SOLDERLESS PRESSURE CONNECTORS WITH INSULATING COVERS FOR COPPER CONDUCTOR SPLICES AND TAPS, 8 AWG AND

8. USE INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR COPPER CONDUCTOR SPLICES AND TAPS, 10 AWG AND SMALLER.

1. CAST BOXES: NEMA FB 1, TYPE FD, CAST FERALLOY. PROVIDE GASKETED COVER BY BOX MANUFACTURER. PROVIDE THREADED HUBS.

1. PROVIDE SURFACE-MOUNTED CAST METAL BOX: NEMA 250, TYPE 4; FLAT-FLANGED, SURFACE-MOUNTED JUNCTION BOX AND COVER: GROUND FLANGE, NEOPRENE GASKET, AND STAINLESS STEEL COVER SCREWS. MATERIAL: NEMA 4X STAINLESS STEEL

#### F. WIRING DEVICES

1. LIGHT SWITCHES: NEMA WD 1, HEAVY-DUTY, AC ONLY GENERAL-USE SNAP SWITCH, BROWN PLASTIC WITH TOGGLE HANDLE, 120-277

VOLTS, AC, 20 AMPERES. RECEPTACLES: NEMA WD 1; HEAVY-DUTY GENERAL-USE RECEPTACLE, BROWN PLASTIC, NEMA WD 6, TYPE 5-20

3. GFCI RECEPTACLE: CONVENIENCE RECEPTACLE WITH INTEGRAL CLASS A GROUND FAULT CIRCUIT INTERRUPTER. 4. INTERIOR COVER PLATE: SMOOTH STAINLESS STEEL, TO MATCH TYPE FD BOXES.

5. WEATHERPROOF COVER PLATE: GASKETED CAST METAL WITH HINGED GASKETED DEVICE COVER AND SUITABLE FOR USE IN "WET

6. INSTALL LIGHT SWITCHES 48 INCHES ABOVE FINISHED FLOOR. 7. IN GENERAL, INSTALL INTERIOR CONVENIENCE RECEPTACLES 18 INCHES ABOVE FINISHED FLOOR, UNLESS INDICATED OTHERWISE.

8. INSTALL EXTERIOR CONVENIENCE RECEPTACLES 36 INCHES ABOVE FINISHED GRADE.

### G. GROUNDING AND BONDING

 PROVIDE ALL GROUNDING AND BONDING IN ACCORDANCE WITH THE NEC. GROUND THE ELECTRICAL SERVICE SYSTEM NEUTRAL AT SERVICE ENTRANCE EQUIPMENT TO METALLIC WATER PIPING AND TO SUPPLEMENTARY GROUNDING ELECTRODES. BOND TOGETHER SYSTEM NEUTRALS, SERVICE EQUIPMENT ENCLOSURES, EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, METAL RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN

RACEWAYS AND CABLES, RECEPTACLE GROUND CONNECTORS, AND METALLIC PIPING SYSTEMS.

3. ALL GROUNDING AND BONDING CONNECTIONS BELOW GRADE SHALL BE OF THE EXOTHERMIC (CADWELD) WELDED TYPE. 4. GROUND RODS: COPPER-ENCASED STEEL, 3/4 INCH DIAMETER, MINIMUM LENGTH TEN (10) FEET

5. PROVIDE A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN FEEDER AND BRANCH CIRCUITS. TERMINATE EACH END ON A GROUNDING LUG. BUS. OR BUSHING.

6. CONNECT GROUNDING ELECTRODE CONDUCTORS TO METAL WATER PIPE USING A SUITABLE GROUND CLAMP. MAKE CONNECTIONS TO FLANGED PIPING AT STREET SIDE OF FLANGE. PROVIDE BONDING JUMPER AROUND METERS.

1. NAMEPLATES AND LABELS: ENGRAVED TWO-LAYER LAMINATED PLASTIC, WHITE LETTERS ON A BLACK BACKGROUND.

2. NAMEPLATES AND LABELS SHALL BE AFFIXED TO ITEMS USING BRASS OR STAINLESS STEEL SCREWS. NO ADHESIVE TYPES WILL BE

3. WIRE AND CABLE MARKERS: CLOTH MARKERS, SPLIT SLEEVE OR TUBING TYPE. 4. PROVIDE WIRE MARKERS ON EACH CONDUCTOR IN PANELBOARD GUTTERS, EQUIPMENT CABINETS AND ENCLOSURES, PULL BOXES, OUTLET AND JUNCTION BOXES, AND AT LOAD CONNECTION. IDENTIFY WITH BRANCH CIRCUIT OR FEEDER NUMBER FOR POWER AND LIGHTING CIRCUITS, AND WITH CONTROL WIRE NUMBER AS INDICATED ON EQUIPMENT MANUFACTURER'S SHOP DRAWINGS FOR CONTROL

## I. SUPPORTS

1. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY HANGARS AND SUPPORTS FOR EQUIPMENT AND MATERIALS. EQUIPMENT AND

MATERIALS SHALL BE ADEQUATELY SUPPORTED TO PROVIDE A STRUCTURALLY SOUND INSTALLATION. 2. WIRING/RACEWAYS AND/OR EQUIPMENT FASTENED TO CONCRETE AND/OR MASONRY CONSTRUCTION SHALL BE SECURED THERETO USING APPROVED CLAMPS AND/OR FITTINGS WITH EXPANSION ANCHORS AND MACHINE SCREWS OR CONCRETE INSERTS WITH APPROVED FASTENERS. WOOD PLUGS AND PLASTIC ANCHORS SHALL NOT BE PERMITTED

3. WHERE APPLICABLE, ALL RACEWAY, DEVICES, EQUIPMENT, ETC. MAY BE SUPPORTED AND HUNG BY THE USE OF ONE AND FIVE-EIGHTS INCH (1-5/8") SIZE CHANNEL STRUT SYSTEM. INTERIOR CHANNELS SHALL BE CONSTRUCTED OF MILD STRIP STEEL, WHICH HAS BEEN HOT DIPPED GALVANIZED CONFORMING TO ASTM SPECIFICATIONS A-386 OR A-153. THE SUPPORT AND HANGER SYSTEM SHALL BE INSTALLED FOLLOWING THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. EXTERIOR CHANNELS SHALL BE STAINLESS STEEL

4. ALL SCREWS AND NUTS USED TO FASTEN DEVICE COVERS, ENCLOSURE COVERS, AND SIMILAR APPLICATIONS WHERE SCREWS MUST BE USED FOR SERVICING OR REPLACEMENT OF EQUIPMENT SHALL BE STAINLESS STEEL. ALL OTHER SCREWS AND BOLTS SHALL BE ZINC OR CADMIUM PLATED OR HOT-DIPPED GALVANIZED 5. CONDUIT STRAPS SHALL BE OF MALLEABLE IRON CONSTRUCTION, HOT-DIPPED GALVANIZED, SIZE AND FINISH TO MATCH RACEWAY

6. FASTEN HANGER RODS, CONDUIT CLAMPS, AND OUTLET AND JUNCTION BOXES TO BUILDING STRUCTURE USING EXPANSION ANCHORS. DO NOT USE SPRING STEEL CLIPS AND CLAMPS.

7. USE TOGGLE BOLTS OR HOLLOW WALL FASTENERS IN HOLLOW MASONRY, PLASTER, OR GYPSUM BOARD PARTITIONS AND WALLS; EXPANSION ANCHORS OR PRESET INSERTS IN SOLID MASONRY WALLS.

### DO NOT FASTEN SUPPORTS TO PIPING, DUCTWORK, MECHANICAL EQUIPMENT, OR CONDUIT.

### J. ELECTRIC SERVICE

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ALL ARRANGEMENTS WITH THE UTILITY COMPANY FOR PERMANENT ELECTRIC

SERVICE, FOR THE PUMP STATION, INCLUDING ALL COST AND WORK REQUIRED FOR SAME. 2. UTILITY COMPANY (CITY OF MILFORD ) HAS CONFIRMED THAT 208 V POWER WILL BE AVAILABLE AT SITE, EVERY BIDDER SHALL BE RESPONSIBLE TO CONTACT THE UTILITY COMPANY TO VERIFY ALL ELECTRIC SERVICE REQUIREMENTS. ADDITIONAL EQUIPMENT MATERIALS AND LABOR REQUIRED THROUGH FAILURE TO FOLLOW THESE INSTRUCTIONS SHALL BE PROVIDED BY THE CONTRACTOR AT

3. INSTALL SERVICE ENTRANCE IN ACCORDANCE WITH THE UTILITY COMPANY RULES AND REGULATIONS 4. METERS: FURNISHED BY UTILITY COMPANY, INSTALLED BY CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS.

5. METER BOX AND CONDUIT: PROVIDED BY CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS.

5. UNDERGROUND SERVICE ENTRANCE CONDUIT: PROVIDED BY CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS . PRIMARY AND SECONDARY CABLE: PROVIDED BY CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS.

8. CONCRETE TRANSFORMER VAULT/PAD: PROVIDED BY CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS. 9. BOLLARDS: PROVIDED BY CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS.

10. ON SITE TRANSFORMER: FURNISHED AND INSTALLED BY UTILITY COMPANY. 11. GROUND RING, PROTECTIVE BARRIERS, AND APPURTENANCES: PROVIDED BY CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS.

#### K. GENERATOR SET

a. TYPE: AIR COOLED, INLINE, FOUR STROKE CYCLE, COMPRESSION IGNITION DIESEL COMBUSTION ENGINE.

b. FUEL SYSTEM: APPROPRIATE FOR USE OF NO. 2 DIESEL FUEL OIL.

d. ELECTRONIC GOVERNOR: ISOCHRONOUS TYPE TO MAINTAIN ENGINE SPEED WITHIN 0.5 PERCENT, STEADY STATE, AND 5 PERCENT, NO LOAD TO FULL LOAD, WIT RECOVERY TO STEADY STATE WITHIN 2 SECONDS FOLLOWING SUDDEN LOAD CHANGES. EQUIP

GOVERNOR WITH MEANS FOR MANUAL OPERATION AND ADJUSTMENT. e. SAFETY DEVICES: ENGINE SHUTDOWN ON HIGH COOLANT TEMPERATURE, LOW COOLANT LEVEL, LOW OIL PRESSURE, OVERSPEED AND ENGINE OVERCRANK. LIMITS AS SELECTED BY MANUFACTURER

ENGINE STARTING: DC STARTING SYSTEM WITH POSITIVE ENGAGEMENT, NUMBER AND VOLTAGE OF STARTER MOTORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INCLUDE REMOTE STARTING CONTROL CIRCUIT, WITH MANUAL-OFF-REMOTE SELECTOR SWITCH ON ENGINE-GENERATOR CONTROL PANEL

g. ENGINE JACKET HEATER: THERMAL CIRCULATION TYPE HEATER WITH INTEGRAL THERMOSTATIC CONTROL, NOMINAL RATING 1000 WATTS, AND SUITABLE FOR OPERATION ON 208 VOLTS AC, 1-PHASE

RADIATOR: RADIATOR USING GLYCON COOLANT, WITH BLOWER TYPE FAN, SIZED TO MAINTAIN SAFE DEGREES F. RADIATOR AIR FLOW ENGINE TEMPERATURE IN AMBIENT TEMPERATURE OF 110 RESTRICTION: 0.50 INCHES OF WATER, MAXIMUM. ENGINE ACCESSORIES: FUEL FILTER, LUBE OIL FILTER, INTAKE AIR FILTER, FLEXIBLE FUEL LINES, LUBE OIL COOLER, AND GEAR

DRIVEN COOLANT PUMP, INCLUDE COOLANT TEMPERATURE GAGE, OIL TEMPERATURE GAGE, AND OIL PRESSURE GAGE ON

#### j. MOUNTING: PROVIDE UNIT WITH SUITABLE PAD-TYPE VIBRATION ISOLATORS AND MOUNT ON STRUCTURAL STEEL BASE.

a. GENERATOR: ANSI/NEMA MG 1; SINGLE PHASE, FOUR POLE, RECONNECTIBLE BRUSHLESS SYNCHRONOUS GENERATOR WITH PMG

b. RATING: 10 KW, 12.5 KVA, AT 0.8 POWER FACTOR, 240/120 VOLTS, 1 PHASE, 3 WIRE, 60 HZ AT 1800 RPM.

c. MOTOR STARTING KVA SHALL BE 155 KVA, BASED ON SUSTAINED RMS VOLTAGE DROP OF NO MORE THAN 10% OF NO LOAD VOLTAGE WITH THE SPECIFIED LOAD KVA AT NEAR ZERO POWER MONITOR. FACTOR APPLIED TO THE ENGINE-GENERATOR SET. d. INSULATION: ANSI/NEMA MG 1 CLASS H.

e. TEMPERATURE RISE: 125 DEGREES C. f. ENCLOSURE: WEATHER PROOF SOUND ATTENUATED HOUSING WITH CRITICAL SILENCER; 66 dB (A) AT 23 FT. (MAX.). g. VOLTAGE REGULATION: INCLUDE GENERATOR-MOUNTED VOLTS PER HERTZ EXCITER-REGULATOR TO MATCH ENGINE AND GENERATOR CHARACTERISTICS, WITH VOLTAGE REGULATIONS +/- TWO PERCENT FROM NO LOAD TO FULL LOAD. INCLUDE MANUAL CONTROLS TO ADJUST VOLTAGE DROP +/- 5 PERCENT VOLTAGE LEVEL, AND VOLTAGE GAIN.

a. SUB-BASE FUEL TANK: LONG ENOUGH FOR 48 HRS OF CONTINUOUS OPERATION UL DOUBLE WALL TANK UNIT COMPATIBLE WITH GENERATOR SET. INCLUDE LOW LEVEL SWITCH, FLEXIBLE FUEL LINE CONNECTIONS, FUEL GAGE, CHECK VALVE, AND ALL REQUIRED FILL AND VENT PIPING (SCHEDULE 40 BLACK STEEL), INCLUDING EMERGENCY RELIEF VENT FITTING

b. BATTERIES: HEAVY DUTY STARTING TYPE LEAD-ACID STORAGE BATTERIES, MATCH BATTERY VOLTAGE TO STARTING SYSTEM. INCLUDE NECESSARY CABLES AND CLAMPS. c. BATTERY TRAY: PLASTIC COATED METAL OR WOODEN TRAY TREATED FOR ELECTROLYTE RESISTANCE, CONSTRUCTED TO CONTAIN

SPILLAGE OF ELECTROLYTE. d. BATTERY CHARGER: RATED TO MATCH BATTERY (6 AMP, 12 VOLT) WITH CHARGE RATE AMMETER AND VOLTMETER, MOUNTED WITHIN GENERATOR ENCLOSURE. INPUT POWER: 120V, 60 HZ EXTERNAL SOURCE.

e. LINE CIRCUIT BREAKER: NEMA AB 1; MOLDED CASE CIRCUIT BREAKER ON GENERATOR OUTPUT WITH INTEGRAL THERMAL AND INSTANTANEOUS MAGNETIC TRIP IN EACH POLE; 100% RATING AS INDICATED. MOUNT UNIT IN ENCLOSURE TO MEET ANSI/NEMA 250; f. ENGINE-GENERATOR CONTROL PANEL: ANSI/NEMA 250; TYPE 12 GENERATOR MOUNTED CONTROL PANEL ENCLOSURE WITH ENGINE

AND GENERATOR CONTROLS AND INDICATORS. INCLUDE PROVISION FOR PADLOCK AND THE FOLLOWINGS EQUIPMENT AND

FREQUENCY METER: 45-65 HZ RANGE. AC OUTPUT VOLTMETER.

**ENGINE-GENERATOR CONTROL PANEL** 

AC OUTPUT AMMETER.

OUTPUT VOLTAGE ADJUSTMENT. RUN LIGHT; GREEN.

COOLANT TEMPERATURE GAUGE. FAULT RESET SWITCH

ENGINE RUN/STOP/REMOTE SELECTOR SWITCH. ENGINE RUNNING TIME METER.

f.10. OIL PRESSURE GAUGE. f.11. OIL TEMPERATURE GAUGE.

f.12. BATTERY VOLTMETER. f.13. INDICATOR LAMPS; RED, ONE EACH FOR LOW OIL PRESSURE, HIGH COOLANT TEMPERATURE, LOW COOLANT LEVEL, LOW FUEL

LEVEL, OVERSPEED, AND OVERCRANK AUXILIARY RELAY; 3 PDT, OPERATES WHEN ENGINE RUNS, WITH CONTACTS PRE-WIRED TO TERMINAL STRIP.

f.15. FAULT RELAY; 3 PDT, OPERATES WHEN SAFETY DEVICES SHUTDOWN ENGINE, WITH CONTACTS PRE-WIRED TO TERMINAL STRIP. f.16. AUXILIARY RELAY; DPDT, OPERATES WHEN FUEL IN SUB-BASE STORAGE TANK REACHES LOW LEVEL

g. THE CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ONE (1) LOAD OF DIESEL FUEL TO FILL THE SUB-BASE FUEL TANK.

#### a. PROVIDE MANUFACTURER'S TWO (2) YEAR WARRANTY FOR GENERATOR SET

 a. FURNISH SERVICE AND MAINTENANCE AGREEMENT BETWEEN THE SUPPLIER OF PACKAGED ENGINE GENERATOR SYSTEM AND THE OWNER FOR ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION. MAINTENANCE SERVICES SHALL CONSIST OF NOT LESS THAN TWO (2) SERVICE OR MAINTENANCE CALLS/VISITS. PROVIDE FULL LOAD TEST UTILIZING PORTABLE RESISTIVE TEST BANK RATED AT THE NAMEPLATE OF THE GENERATOR, FOR FOUR (4) HOURS MINIMUM. DURING TEST, RECORD PARAMETERS AT 20 MINUTE INTERVALS. SUBMIT FULL LOAD TEST RESULTS FOR REVIEW.

b. CLEAN ENGINE AND GENERATOR SURFACES. REPLACE ALL OIL AND FUEL FILTERS AFTER FULL LOAD TESTING c. PROVIDE MANUFACTURER'S FIELD SERVICES AS FOLLOWS: 1. SERVICES OF QUALIFIED TECHNICIAN TO SUPERVISE INSTALLATIONS, ADJUSTMENTS, FINAL CONNECTIONS, AND SYSTEM STARTUP AND TESTING. 2. MANUFACTURER'S LETTER CERTIFYING THAT THE

SYSTEM'S INSTALLATION, START-UP, AND TESTING ARE ACCEPTABLE AND THAT THE SYSTEM IS OPERATING PROPERLY. d. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE MANUFACTURER AND PAY ALL CHARGES MADE BY THE MANUFACTURER FOR FIELD SERVICES INVOLVED WITH THE PROJECT. THE CONTRACTOR'S BID SHALL INCLUDE ALL MANUFACTURER'S

### L. AUTOMATIC TRANSFER SWITCH

DESCRIPTION: NEMA ICS 10: AUTOMATIC TRANSFER SWITCH

CONFIGURATION: ELECTRICALLY-OPERATED, MECHANICALLY-HELD TRANSFER SWITCH. MANUFACTURER: THE AUTOMATIC TRANSFER SWITCH SHALL BE FROM THE SAME MANUFACTURER AS THE GENERATOR SET

a. RATINGS: NEMA ICS 10; AS FOLLOWS:

b. VOLTAGE: 208 VOLTS, SINGLE PHASE, FOUR WIRE, 60 HZ., SOLID NEUTRAL.

c. SWITCHED POLES: 3. d. LOAD INRUSH RATING: COMBINATION; MOTORS, ELECTRIC DISCHARGE LIGHTING, AND RESISTIVE LOADS.

e. CONTINUOUS RATING: 150 AMPERES. INTERRUPTING CAPACITY: 100 PERCENT OF CONTINUOUS RATING.

g. WITHSTAND CURRENT RATING: 10,000 RMS SYMMETRICAL AMPERES, WHEN USED WITH MOLDED CASE CIRCUIT BREAKER.

### 5. AUTOMATIC SEQUENCE OF OPERATION

a. A. INITIATE TIME DELAY TO START ALTERNATE SOURCE ENGINE GENERATOR: UPON INITIATION BY NORMAL SOURCE MONITOR. b. TIME DELAY TO START ALTERNATE SOURCE ENGINE GENERATOR: 0 TO 15 SECONDS, ADJUSTABLE c. INITIATE TRANSFER LOAD TO ALTERNATE SOURCE: UPON INITIATION BY NORMAL SOURCE MONITOR AND PERMISSION BY ALTERNATE SOURCE MONITOR.

d. TIME DELAY BEFORE TRANSFER TO ALTERNATE POWER SOURCE: 2 TO 120 SECONDS, ADJUSTABLE. e. INITIATE RETRANSFER LOAD TO NORMAL SOURCE: UPON PERMISSION BY NORMAL SOURCE MONITOR

f. TIME DELAY BEFORE TRANSFER TO NORMAL POWER: 0 TO 30 MINUTES, ADJUSTABLE; BYPASS TIME DELAY IN EVENT OF ALTERNATE

TIME DELAY BEFORE ENGINE SHUT DOWN: 0 TO 10 MINUTES, ADJUSTABLE, OF UNLOADED OPERATION. ENGINE EXERCISER: START ENGINE EVERY 7 DAYS; RUN FOR 30 MINUTES BEFORE SHUTTING DOWN. BYPASS EXERCISER CONTROL IF NORMAL SOURCE FAILS DURING EXERCISING PERIOD

## 6. ENCLOSURE A. ENCLOSURE: NEMA ICS 6; TYPE 1, UNLESS INDICATED OTHERWISE

a. INDICATING LIGHTS: MOUNT IN COVER OF ENCLOSURE TO INDICATE NORMAL SOURCE AVAILABLE, ALTERNATE SOURCE AVAILABLE, AND SWITCH POSITION.

b. TEST SWITCH: MOUNT IN COVER OF ENCLOSURE TO SIMULATE FAILURE OF NORMAL SOURCE.

c. RETURN TO NORMAL SWITCH: MOUNT IN COVER OF ENCLOSURE TO INITIATE MANUAL TRANSFER FROM ALTERNATE TO NORMAL SOURCE BY PASSING TYPICAL TIME DELAY. d. TRANSFER SWITCH AUXILIARY CONTACTS: 2 NORMALLY OPEN; 2 NORMALLY CLOSED. e. NORMAL SOURCE MONITOR: MONITOR EACH LINE OF NORMAL SOURCE VOLTAGE; INITIATE TRANSFER WHEN VOLTAGE DROPS BELOW

85 PERCENT FROM RATED NOMINAL VALUE, ADJUSTABLE. ALTERNATE SOURCE MONITOR: MONITOR ALTERNATE SOURCE VOLTAGE AND FREQUENCY; ALLOW TRANSFER WHEN VOLTAGE IS 90 PERCENT FREQUENCY AND 2 HERTZ FROM RATED NOMINAL, ADJUSTABLE PROGRAMMED TRANSITION: SWITCH TO AN OPEN POSITION, THEN INHIBIT TRANSFER FOR AN ADJUSTABLE TIME DELAY PERIOD (1 TO 60 SECONDS, MINIMUM).

PROVIDE MANUFACTURER'S FIELD SERVICES AS FOLLOWS:

THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE MANUFACTURER AND PAY ALL CHARGES MADE BY THE

SERVICES OF QUALIFIED TECHNICIAN TO SUPERVISE INSTALLATIONS, ADJUSTMENTS, FINAL CONNECTIONS, AND SYSTEM STARTUP MANUFACTURER'S LETTER CERTIFYING THAT THE SYSTEM'S INSTALLATION, START-UP, AND TESTING ARE ACCEPTABLE AND THAT THE SYSTEM IS OPERATING PROPERLY.

MANUFACTURER FOR FIELD SERVICES INVOLVED WITH THE PROJECT. THE CONTRACTOR'S BID SHALL INCLUDE ALL MANUFACTURER'S

### M. FIRE EXTINGUISHERS

1. NFPA 10 DRY CHEMICAL TYPE: STEEL TANK WITH PRESSURE GAGE AND UPRIGHT SQUEEZE GRIP OPERATION, NOMINAL CAPACITY: SIX (6) POUNDS, MONO AMMONIUM PHOSPHATE POWDER WITH UL RATING: 3A - 40B: C. PROVIDE WALL/SURFACE MOUNTING BRACKET.

### N. PUMP CONTROL PANEL (PCP) AND REMOTE TELEMETRY UNIT (RTU)

PCP/RTU PANELS AND CONTROLS SHALL BE PROVIDED BY E-ONE AND BE COMPATABLE WITH SCADA SYSTEM AS PROVIDED BY CITY OF LEWES

MAIN CIRCUIT BREAKER (MCB): 150A-1P MOLDED CASE CIRCUIT BREAKER WITH NEMA TYPE 1 ENCLOSURE, SERVICE ENTRANCE RATED; MANUFACTURER - SQUARE-D, MODEL NO. HDL36150 WITH ENCLOSURE MODEL NO. J250S OR AN ACCEPTABLE EQUIVALENT.

POWER PANEL (PP): 225A, 240/120V, 1-PHASE, 3-WIRE, 30-POLE RATED, 150A-3P MAIN CIRCUIT BREAKER WITH NEMA TYPE 1 ENCLOSURE MANUFACTURER - SQUARE D, MODEL NO. NQ430L2C WITH ENCLOSURE MODEL NO. MH44 OR AN ACCEPTABLE EQUIVALENT. (SEE PANEL

LIGHTING PANEL (LP): 100A, 240/120V, 1-PHASE, 3-WIRE, 30-POLE RATED, 60A-3P MAIN CIRCUIT BREAKER WITH NEMA TYPE 1 ENCLOSURE; MANUFACTURER - SQUARE D, MODEL NO. NQ430L1C WITH ENCLOSURE MODEL NO. MH32 OR AN ACCEPTABLE EQUIVALENT. (SEE PANEL

TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS-SPD) UNIT: 200KA PER PHASE SURGE CAPACITY, 240/120V, 1-PHASE, 3-WIRE WITH NEMA TYPE 1 ENCLOSURE, MANUFACTURER; ASCO, MODEL NO. 460120Y P20ACCE20 OR AN ACCEPTABLE EQUIVALENT.

MANUAL MOTOR STARTER: DUPLEX UNIT; 1-POLE TOGGLE TYPE WITH RED PILOT LIGHT AND HOA SELECTOR SWITCH, NEMA TYPE 1 ENCLOSURE; MANUFACTURER - SQUARE-D, MODEL NO. FG71P OR AN ACCEPTABLE EQUIVALENT.

CABINET ELECTRIC HEATER: 200W, 120V, SINGLE-PHASE, NEMA TYPE 1 ENCLOSURE; MANUFACTURER - HOFFMAN MODEL NO. D-AH2001A

CUMMINS/GENEREC WITH 140 GALLON (NOMINAL) DUAL-WALL SUB-BASE FUEL TANK (MINIMUM SIZE FOR 48 HRS OF CONTINUOUS OPERATION), AND LEVEL-2 SOUND-ATTENUATED, WEATHERPROOF ENCLOSURE OR AN ACCEPTABLE EQUIVALENT.

AUTOMATIC TRANSFER SWITCH (ATS): 150A-3P-SOLID NEUTRAL, 240/120V, 1-PHASE, 3-WIRE, NEMA TYPE 1 ENCLOSURE; MANUFACTURER -

DIESEL GENERATOR SET: 10KW/12.5KVA, 240/120V, 1-PHASE, 3-WIRE, 60HZ AT 1800 RPM WITH PMG EXCITATION; MANUFACTURER -

ELECTRICAL EQUIPMENT CABINETS: DOUBLE-DOOR, FREESTANDING, NEMA TYPE 4X STAINLESS STEEL CABINET WITH INTERIOR ENCLOSURE; MANUFACTURER - SQUARE-D, MODEL NO. FG71P OR AN ACCEPTABLE EQUIVALENT.

CUMMINS /GENEREC OR AN ACCEPTABLE EQUIVALENT.

ARE INSTRUMENTS OF SERVICE IN RESPECT OF THI DJECT. THEY ARE NOT INTENDED OR REPRESEN TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS OF THE EXTENSIONS OF THE PROJECT OR ON ANY OTHE PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICAT OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL XPOSURE TO PENNONI ASSOCIATE; AND OWNER SHA INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATE ARISING OUT OF OR RESULTING THEREFROM.

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