

1. ALL HINGES, GUIDE RAILS, CHAIN HOLDERS, CHAIN, CABLE, NUTS, BOLTS, WASHERS, OTHER FASTENERS, AND ANY EQUIPMENT THAT MAY ENTER THE WETWELL SHALL BE 316 STAINLESS STEEL.
2. ALL ELECTRICAL ENCLOSURES SHALL BE CONSTRUCTED OF 304 STAINLESS STEEL.
3. ALL ELECTRICAL MATERIAL AND WORK SHALL COMPLY TO NFPA 70, NATIONAL ELECTRIC CODE, UTILITY COMPANY REQUIREMENTS, AND ALL APPLICABLE STATE AND LOCAL CODES AND REGULATIONS.
4. ALL PIPING SHALL BE PRESSURE CLASS 350 DUCTILE IRON PIPE AND ALL FITTINGS SHALL BE CLASS 160 DUCTILE IRON. ALL PIPE AND FITTINGS SHALL CONFORM TO PROTECTO 401 OR TNEC PERMASHIELD 431 FOR INTERNAL LINING. PIPE AND FITTINGS THAT ARE LOCATED ABOVE GRADE ARE TO BE PAINTED CONFORMING TO TNEC OR SHERWIN WILLIAMS SPECIFICATIONS. SEE APPENDIX G 02733. PIPING AND FITTINGS INSIDE OF THE WETWELL SHALL BE EPOXY COATED WITH APPROVED HYDROGEN SULFIDE PROTECTIVE COATING. ALL PIPE AND FITTINGS THAT ARE BURIED SHALL HAVE A BITUMASTIC EXTERNAL COATING.
5. EACH DISCHARGE LINE SHALL BE EQUIPPED WITH FITTINGS, PETCOCK AND A FOUR INCH (4") DIAMETER GLYCERIN-FILLED PRESSURE GAUGE AND DIAPHRAGM. THE GAUGE SHALL BE DUAL RANGE READING IN FT. AND PSI, AND THE NORMAL OPERATING PRESSURE FOR THE PUMPS SHALL FALL IN THE MIDDLE OF THE MEASUREMENT RANGE. FITTINGS, PETCOCKS, GAUGE DIAPHRAGM AND GAUGE SHALL BE STAINLESS STEEL.
6. ALL WETWELL HARDWARE SHALL BE MOUNTED SUCH THAT ANY COMPONENT MAY BE REMOVED.
7. WETWELL SECTIONS SHALL CONFORM WITH ASTM C-478 AND BE OF O-RING TYPE. ALL EXPOSED CONCRETE WITHIN THE WETWELL SHALL RECEIVE A HYDROGEN SULFIDE INHIBITING COATING, IDENTIFIED IN APPENDIX G 02733 SANITARY SEWER FORCE MAIN SPECIFICATION. MANHOLE(S) DIRECTLY UPSTREAM FROM PUMP STATION IN CLOSE PROXIMITY, DISCHARGE MANHOLES AND NEXT DOWNSTREAM MANHOLE FROM DISCHARGE MUST BE COATED.
8. ALL MAIN LINE SEWER INSIDE DROP MANHOLES SHALL BE COATED AS SPECIFIED IN ITEM # 6.
9. THE ELECTRIC METER SHALL BE INSTALLED WITH A CIRCUIT BREAKER SERVICE DISCONNECT INSTALLED ON EQUIPMENT RACK INSIDE OF PUMP STATION. METER SHALL BE OUTSIDE OF STATION FENCING.
10. a.) THE CONTROL PANEL MAY BE RACK MOUNTED FOR STATIONS OR FREE STANDING SECURED TO RACK FOR STATIONS REQUIRING LARGER CABINETS.
b.) ALL RACKS SHALL BE COATED WITH MASTIC AT BASE AT LEAST 2" ABOVE CONCRETE PAD.
c.) THE CONTROL PANEL MUST BE POWDER COATED WHITE.
d.) ELECTRICAL PANEL RACK DESIGN TO SUBMITTED AND APPROVED BY EOR AND BCWS PRIOR TO CONSTRUCTION. SEE POWER RISER DETAIL FOR GENERAL REQUIREMENTS.
11. A WEATHERPROOF BREAKER PANEL SHALL BE PROVIDED. THE PANEL SHALL HAVE SPACE FOR 6 SINGLE POLE BREAKERS.
12. AN EXTERNAL DRY TRANSFORMER SHALL BE PROVIDED FOR 460V STATIONS, TO PROVIDE POWER TO NOTE 9 ABOVE.
13. SECURITY LIGHTS SHALL BE PROVIDED FOR THE STATION. THE LIGHTS SHALL BE LED AND MUST ADEQUATELY ILLUMINATE THE CONTROL PANEL AND WETWELL HATCH.
14. A COMPLETE SCADA SYSTEM SHALL BE INSTALLED. THE SYSTEM SHALL INCLUDE MULTITRODE EQUIPMENT, RADIO, ANTENNA, DC POWER SUPPLY, CABLES, ETC. FOR A COMPLETE SYSTEM. SCADA POLE WILL BE GROUNDED WITH AN INDEPENDENT GROUNDING ROD.
15. AN ANTENNA POLE WITH PROPER GROUNDING SHALL BE INSTALLED. THE INSTALLED HEIGHT OF THE ANTENNA SHALL BE BETWEEN 47 AND 52 FEET AND THE POLE SHALL BE BURIED A MINIMUM OF 10 FEET. ALUMINUM OR 316 STAINLESS STEEL IS TO BE USED FOR THE ANTENNA CABLE FOR THE BOTTOM 3' OF THE POLE. A WEATHER PROTECTED 120 VOLT DUPLEX OUTLET WILL BE INSTALLED NEAR THE BASE OF THE ANTENNAE POLE.
16. ALL GROUND ROD CONNECTIONS SHALL BE CAD WELDED. ALL GROUND ROD CONNECTIONS ARE TO BE INSPECTED BY BCWS PRIOR TO BURIAL.
17. THE EXCAVATION FOR THE WETWELL CONSTRUCTION SHALL BE BACKFILLED WITH SELECT FILL MATERIAL OR AS SPECIFIED IN PLANS AND COMPACTED TO 95% MODIFIED PROCTOR. COMPACTION RESULTS MUST BE SUBMITTED TO EOR/BCWS PRIOR TO ANY PAD POURS.
18. THE EOR MUST CROSS REFERENCE THE BUOYANCY CALCULATIONS FOR BACKFILL UNIT WEIGHT TO ENSURE FIELD CONDITIONS (GW DEPTH, UNIT WEIGHT OF SOIL) MATCH THOSE CONDITIONS ASSUMED IN THE DESIGN. BUOYANCY CALCULATIONS MUST BE VERIFIED WITH THE ACTUAL UNIT WEIGHT OF SOIL PROPOSED PRIOR TO USE AS BACKFILL. THERE SHOULD BE SPECS. FOR ALLOWABLE SOIL TYPES THAT ARE ACCEPTABLE FOR USE AS BACKFILL
19. THE POWER CABLE IS TO BE WIRED NONSTOP FROM THE PUMP MOTOR TO THE MOTOR STARTER WITH NO JUNCTION BOXES OR SPLICES.
20. STAINLESS STEEL KELLUMS GRIPS SHALL BE INSTALLED ON POWER CABLES FOR THE PUMPS AND MULTITRODE PROBE SO AS TO ADEQUATELY SUPPORT THE CABLES TO PREVENT FALLING AND BEING PULLED INTO THE PUMP WHEN RUNNING. MULTIPLE GRIPS/LOCATIONS MAY BE REQUIRED PER PUMP.
21. PUMPS SHALL BE FLYGT OR ABS.
22. ALL ABOVE GRADE CONDUIT SHALL BE ALUMINUM OR 316 STAINLESS STEEL. FLEXIBLE METALLIC CONDUIT WILL ALSO BE USED WHERE RIGID ALUMINUM CANNOT BE USED. SCHEDULE 80 PVC TO BE USED FOR UNDERGROUND APPLICATIONS ONLY. USE OF GALVANIZED CONDUIT AND EMT IS NOT ACCEPTABLE.
23. PUMPS AND MOTORS SHALL HAVE STAINLESS STEEL CHAIN FOR LIFTING. THE LENGTH OF THE CHAIN SHALL REACH THE TOP OF THE WETWELL PLUS THREE FEET (3). A COMBINATION OF S.S. CHAIN AND S.S. WIRE ROPE MAY BE UTILIZED AS LONG AS THE BOTTOM SIX FEET (6') IS CHAIN. ALL COMPONENTS THAT MAKE UP THE FITTING ASSEMBLY SHALL BE RATED FOR OVERHEAD USE.
24. ALL METAL STRUCTURES SHALL BE GROUNDED, INCLUDING BUT NOT LIMITED TO THE CONTROL PANEL AND GENERATOR PER BCWS GROUNDING SPECIFICATIONS.
25. A METAL PLATE SIGN SHALL BE PROVIDED THAT DISPLAYS THE EMERGENCY PHONE NUMBERS AND FACILITY NUMBER. AND A SEPARATE METAL PLATE SIGN SHALL BE PROVIDED THAT DISPLAYS THE SITE ADDRESS. SEE EMERGENCY SIGN DETAIL.
26. ALL THRUST BLOCKS MUST BE INSPECTED BY BCWS PRIOR TO POURING THE SLAB.
27. WHEN APPLICABLE, TOSHIBA FLOW METER SHALL BE PLACED DOWNSTREAM OF THE BYPASS TEE ON THE DISCHARGE PIPING. FLOW METER SHALL BE INSTALLED PER MANUFACTURER'S SPACING REQUIREMENTS. INSTALL STAINLESS STEEL/ALUMINUM SUN SHADING/PROTECTION.
28. STAINLESS STEEL HOOKS SHALL BE PROVIDED ON EACH SIDE OF THE WETWELL HATCH OPENING FOR HANGING POWER CABLES FOR EACH PUMP.
29. ALL PUMP STATION SLABS MUST BE MONOLITHIC POURS WITH PROPERLY SIZED REBAR.
30. ALL PUMP STATIONS SHALL BE DESIGNED USING A SLIDE GATE FOR VEHICLE ACCESS UNLESS OTHERWISE SPECIFIED ON PLANS.
31. ANY PUMP STATION THAT REQUIRES BYPASS PUMPING, MUST ADHERE TO THE BCWS BYPASS DETAIL. BYPASS PLAN MUST BE SUBMITTED AND APPROVED BY BCWS AND EOR PRIOR TO ANY EQUIPMENT BEING ONSITE OR THE STATION TAKEN OFFLINE.
32. ANY PUMP STATION BEING UPGRADED WILL REQUIRE ALL WELL EQUIPMENT TO BE NEW.
33. DISCHARGE PIPE WITHIN THE WELL IS TO BE COATED PRIOR TO STAINLESS STEEL STRAPPING INSTALLATION.
34. SITE VISIT REQUIRED TO STATIONS BEING UPGRADED PRIOR TO START OF DESIGN.

SEWER PANEL 3F

PUMP STATION NOTES

BERKELEY COUNTY WATER AND SANITATION
POTABLE WATER & SANITARY SEWER STANDARDS

REVISED 07/28/2025