

EQUIPMENT SCHEDULE

| FE/MN REMOVAL SYSTEM | DISCRIPTION |
|--------------------------------|---|
| Number of Filters | 3 (2 duty + 1 standby) Future: 4 (3 duty + 1 standby) |
| Filter Type | Horizontal Tank Media Filter |
| Design Capacity per Filter | 1,850 gpm |
| Surface Area per Filter | 125 ft ² |
| Backwash System | |
| Backwash Tank Capacity | 60,000 gallons |
| Tank Dimension | 24' diameter X 24'-5" straight wall hight |
| Tank Material/Type | Steel/Bolted |
| Backwash Pump | |
| Number of Pumps | 2 (1 duty + 1 standby) |
| Pump Type | End Section Centrifugal Pump |
| Pump Capacity | 2500 gpm |
| Pump TDH | 85 ft |
| Pump Efficiency | 83% |
| NPSHR | * |
| Motor Horsepower | 75 |
| Motor Drive | Constant Speed |
| Backwash Reclaim Tank Capacity | 66,000 gallons |
| Tank Dimension | 24' diameter X 24' straight wall hight |
| Tank Material/Type | Steel/Bolted |
| Backwash Reclaim Pump | |
| Number of Pumps | 3 (2 duty+ 1 standby) |
| Pump Type | End Section Centrifugal Pump |
| Pump Capacity | 250 gpm |
| Pump TDH | 210 ft |
| Pump Efficiency | 62% |
| NPSHR | * |
| Motor Horsepower | 25 |
| Motor Drive | Variable Frequency Drive |
| Air Compressor | |
| Number of Air Compressor | 1 |
| Motor Horsepower | 7.5 |

| RO FEED CARTRIDGE FILTERS | DISCRIPTION |
|---------------------------------------|---|
| Number of Filters | 3 (2 duty+1 standby) |
| Capacity per Filter | 2,330 gpm |
| Housing Material and Type | 2205 duplex SST, Horizontal |
| Element Size | 2-1/2-inch nominal OD filter element 40-inches long |
| Element Material | Polypropylene |
| Number of Elements per Filter Housing | 118 |
| Element Loading Rate | 4.9 gpm/10" equivalent |
| Filter Size | 5 micron |

| RO FEED PUMPS | DISCRIPTION |
|-------------------------|--------------------------|
| Number of Pumps | 2 (Future 3) |
| Pump Type | Vertical Turbine |
| Pump Material | 2205 duplex SST |
| Pump Capacity | 1,450 gpm |
| Pump TDH | 401 ft |
| Minimum Pump Efficiency | 80% |
| NPSHR | * |
| Motor Horsepower | 200 |
| Motor Drive | Variable Frequency Drive |

| RO TRAINS | DISCRIPTION |
|--|--------------------------------|
| Number of RO Trains | 2 (Future 3) |
| Design RO Recovery | 72% |
| Number of Stages per Train | 2 |
| Number of Pressure Vessels per Train | 36 |
| Number of Pressure Vessels per 1st Stage | 24 |
| Number of Pressure Vessels per 2nd Stage | 12 |
| Type of Vessels | FRP, Side ports or Multi ports |
| Number of Elements per Vessel | 7 |
| Element Size | 8-inch dia, 40-inch long |
| Boosting Device | Hydraulic Turbocharger |

| RO CLEAN-IN-PLACE SYSTEM | DISCRIPTION |
|--------------------------|---------------|
| RO CIP Tank | |
| Diameter | 10 ft |
| Shell Height | 10.25 ft |
| Capacity | 4,000 gallons |
| Tank Material | FRP |
| Number of Heater | 1 |
| Heater Power | 200 kw |

| RO CLEAN-IN-PLACE SYSTEM CONT. | DISCRIPTION |
|---------------------------------------|---|
| RO CIP Pump | Horizontal End Suction Centrifugal |
| Pump Material | 316 Stainless Steel |
| Pump Capacity | 1,200 gpm |
| Pump TDH | 150 ft |
| NPSHR | * |
| Flow for 2nd Stage Cleaning | 560 gpm |
| Motor Horsepower | 75 |
| Motor Drive | Variable Frequency Drive |
| Cartridge Filter | |
| Flow Capacity per Filter | 1,200 gpm |
| Housing Material and Type | 316 SST Horizontal |
| Element Size | 2-1/2-inch nominal OD filter element 40-inches long |
| Element Material | Polypropylene |
| Number of Elements per Filter Housing | 86 |
| Element Loading Rate | 3.5 gpm/10" equivalent |
| Filter Size | 5 micron |

| RO FLUSH SYSTEM | DISCRIPTION |
|------------------|------------------------------------|
| RO Flush Tank | 12 ft Diameter |
| Shell Height | 16.33 ft |
| Working Capacity | 12,000 gallons |
| Tank Material | FRP |
| RO Flush Pump | Horizontal End Suction Centrifugal |
| Pump Material | 316 Stainless Steel |
| Number of Pumps | 1 |
| Pump Capacity | 400 gpm |
| Pump TDH | 150 ft |
| NPSHR | * |
| Motor Horsepower | 30 |
| Motor Drive | Variable Frequency Drive |

| DECARBONATOR | DISCRIPTION |
|--------------------------------|---------------------|
| Treatment Capacity | 3,125 gpm (4.5 mgd) |
| Max influent CO2 Concentration | 160 mg/L |
| Influent pH | 5.0 to 6.0 |
| Decarbonator Diameter | 12 ft |
| Decarbonator Height | 25 ft |
| Decarbonator Tower Material | FRP |
| Air to Water Ratio | 30 |
| Blower Capacity | 14,000 scfm |
| Blower Motor | 15 hp |

| FINISHED WATER PUMP STATION | DISCRIPTION |
|-----------------------------|---|
| Number of Pumps | 3 (2 duty + 1 standby), Future:4 (3 duty + 1 standby) |
| Pump Type | Vertical Turbine |
| Pump Material | 316 Stainless Steel |
| Pump Capacity each | 1,250 |
| Pump TDH | 245 ft |
| Minimum Pump Efficiency | 80% |
| NPSHR | * |
| Motor Horsepower | 125 |
| Motor Drive | Variable Frequency Drive |

| CONCENTRATE PUMP STATION | DISCRIPTION |
|--------------------------|--------------------------|
| Number of Pumps | 3 (2 duty + 1 standby) |
| Pump Type | Vertical Turbine |
| Pump Material | 2205 duplex SST |
| Pump Capacity | 1,000 gpm |
| Pump TDH | 240 ft |
| Minimum Pump Efficiency | 80% |
| NPSHR | * |
| Motor Horsepower | 125 |
| Motor Drive | Variable Frequency Drive |

| THRESHOLD INHIBITOR SYSTEM | DISCRIPTION |
|--------------------------------|-----------------------------------|
| Metering Pump | |
| Pump Type | Peristaltic |
| Pump Head Material | 316 Stainless Steel |
| Number of Pumps | 2 (1 service + 1 standby) |
| Pump Design Capacity | 1.4 gph |
| Pump Design Discharge Pressure | 120 psi |
| Motor | 1/2 HP, TEFC |
| Storage Tank | |
| Tank Material | FRP |
| Tank Dimensions | 5' Dia. by 7'-6" Side wall Height |
| Tank Capacity | 1,000 gallons |

* TO BE FILLED DURING CONSTRUCTION

| SYMBOL | DESCRIPTIONS | DATE | APPROVAL |
|--------|--------------|------|----------|
| | | | |
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EASTERN MUNICIPAL WATER DISTRICT
PERRIS II DESALINATION FACILITY
PERRIS, CALIFORNIA

EQUIPMENT SCHEDULE SHEET 1

DESIGNED BY: G. WANG
DRAWN BY: A. GOREN
CHECKED BY: A. NAMEY

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

ART. JUNG, P.E.
CHIEF, DESIGN BRANCH

CH2MHILL

SUBMITTED BY:

L.A. DISTRICT FILE NO. XXX-XXXX

SPEC. NO. : NOT APPLICABLE

CADD FILE NAME: PDFg016d.dgn



DATE: 10/05/09

PLOT DATE: 2/19/2010 PLOT TIME: 10:52:58 AM

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