



Design Task Order: Headworks Equipment Replacement Project (CIP 17726)

Napa Sanitation District
Board of Directors Meeting
June 21, 2017



Project Location





Headworks





About Headworks

- Fine Screening of Raw Wastewater
 - Papers, wrappers, solids > 6mm
 - Screenings washed and compacted
 - Conveyed to Dumpster for Landfill Disposal
- Grit Removal
 - Sands/Debris < 6mm pass through fine screens
 - Grit pumped and washed
 - Conveyed to Dumpster for Landfill Disposal
- Chemical Addition
 - Coagulant and Corrosion Inhibitor before Primary Clarification

About Headworks



- Raw Wastewater – Odors/Corrosion
- H₂S Corrosion
- Grit pumping and processing



Project Goals

- Replace Existing Fine Screen & Grit Processing Equipment
 - Installed in 1998, end of useful service life
 - Project identified in 2011 WWTP Master Plan, confirmed by condition assessment
 - Newer technologies available on market
- Replace/Rehabilitate Corroded Assets
 - Metallic decking
- Address Corrosion
 - Ventilation system improvements
- Address O&M Issues (access/serviceability)

(E) Screening Equipment



(E) Screen Corrosion

Location	Remarks	Needs Correction
A	Significant corrosion pitting on side of screen frame	Yes
B	Surface corrosion of side of frame	Yes

	Napa Sanitation District, CA Screen Corrosion	Figure A2

(E) Grit Equipment



Corroded Metal Decking



Corroded Metal Decking



Accessibility/Maintainability Issues





Recommended Project

- (N) Perforated Plate Type Screens
 - 35% Increase in captured materials,
 - Less head loss during winter peak flows
 - Lower maintenance needs, better O&M access
- (N) Auger-Press Washer/Compactor
 - Drier, higher quality screenings (less volume)
 - Reduce odors
- (N) Vortex Grit Declassification and Dewatering
 - Drier grit, (less hauling weight)
 - Reduce odors
- Repair/Replace Corroded Structural Components



Project Schedule

- Preliminary Design: 10/2016 – 2/2017
- Design: July 2017 – June 2018
- Bid Period: Summer 2018
- Award: Fall 2018
- Construction: Oct 2018 – Sept 2019
 - Procure equipment in fall/winter 2018
 - Construction in 2019 dry weather season



Questions?

Recommendation

- Award Task Order No. 27 to HDR Engineering, Inc to provide engineering design services for the Headworks Equipment Replacement Project (CIP 17726).