Rehabilitation of Finished Water Reservoirs at the Jensen & Mills Plants

Engineering & Operations Committee
Item 7-1
April 10, 2017

Current Action

- Appropriate $1.32 M
- Authorize prelim. design to rehabilitate 3 finished water reservoirs with floating covers at the Jensen & Mills plants
- Authorize final design to repair 1 finished water reservoir at the Jensen plant

Distribution System

Jensen Plant

Mills Plant

Finished Water Reservoirs

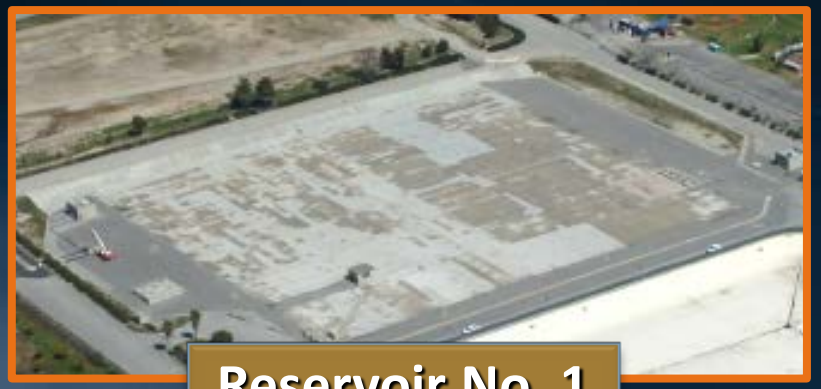
Background

- Covers required on potable water reservoirs by state Division of Drinking Water
  - Older reservoirs have concrete covers
  - Recent reservoirs have floating covers
- Useful life for both floating covers & roofing systems for rigid roofs is approx. 20 yrs
- Age of existing covers at both plants is 17-21 yrs

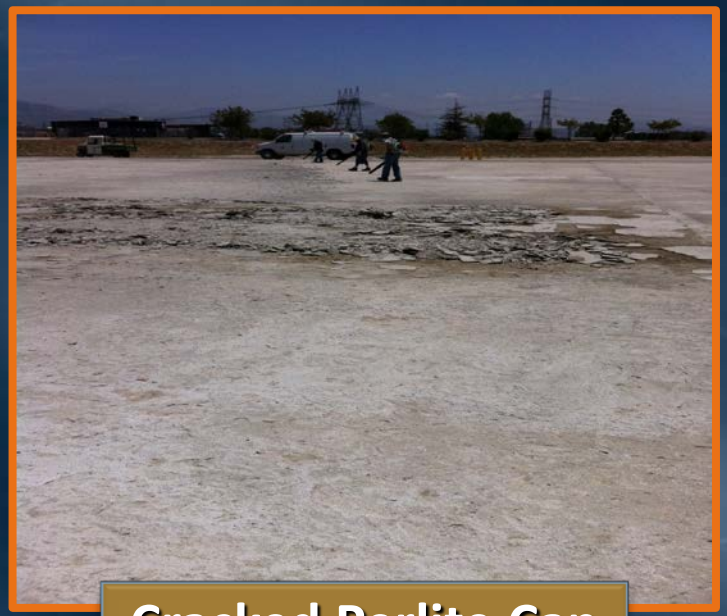
1. Jensen Finished Water Reservoirs

Background

- 2 reservoirs with capacity of 50 MG each
- Floating cover on Reservoir No. 2 built in 1995
  - Inlet causes tears in cover
- Concrete roof on Reservoir No. 1 built in 1972
  - 260,000 sq ft of perlite (lightweight concrete) as cap
  - Deteriorated due to weathering



Reservoir No. 1



Cracked Perlite Cap

1. Jensen Finished Water Reservoirs

Scope of Reservoir Rehabilitation

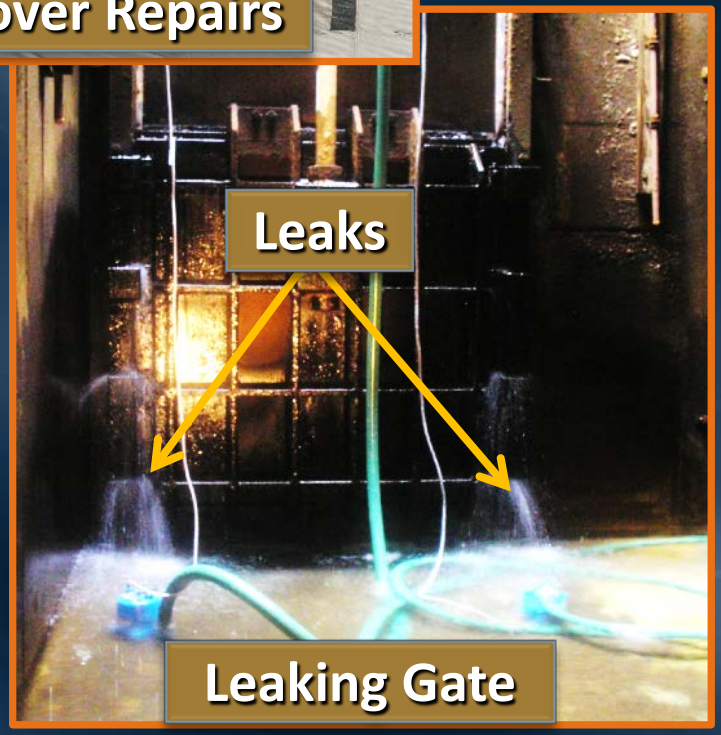
- Reservoir No. 1
  - Repair 40% of perlite cap
- Reservoir No. 2
  - Install new liner & floating cover with rain removal system
  - Improve reservoir inlet configuration

Reservoir No. 2

2. Mills Finished Water Reservoirs

Background

- 2 reservoirs with capacity of 25 MG each
- Covers are aging
  - Increasing rips & pinholes
  - Difficult to repair
- Classified as dams by state Division of Safety of Dams
- Gates are corroded & leak
- Security enhancements needed



2. Mills Finished Water Reservoirs

Scope of Reservoir Rehabilitation

- Install new liners & floating covers with rain removal system
- Refurbish or replace 6 reservoir gates
- Provide new drop gate for isolation
- Install enhanced security features

Planned Activities

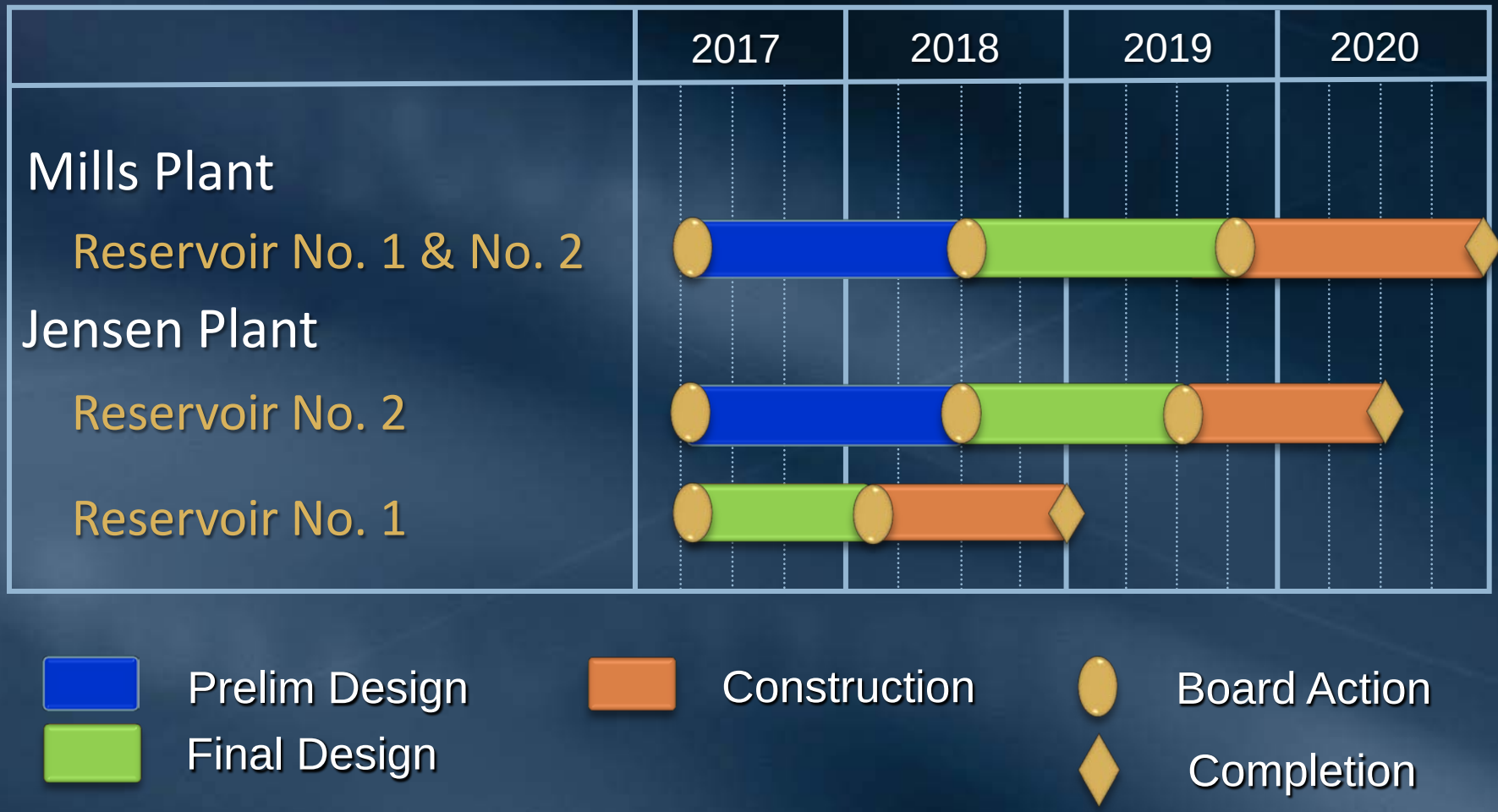
- Metropolitan
  - Conduct detailed field inspections
  - Prepare prelim. drwgs for cover installation, gates & security enhancements
  - Conduct Value Engineering
  - Prepare drwgs & specifications, & receive bids for Jensen Reservoir No. 1
  - Develop construction cost estimates
- Hilts Consulting Group, Inc.
  - Design criteria & layout drwgs for floating covers
  - Estimated cost - $74,000
  - Agreement under GM authority – No action required
  - SBE firm

Requested Funds

	Jensen Plant	Mills Plant
Labor		
Preliminary design	$186,000	$542,000
Final design	90,000	-
Program mgmt. & bidding	112,000	74,000
Professional Services	67,000	67,000
Materials & Incidentals	1,000	4,000
Remaining Budget	74,000	103,000
	$530,000	$790,000

Total $1,320,000

Schedule


2017
2018
2019
2020
Mills Plant
Reservoir No. 1 & No. 2
Jensen Plant
Reservoir No. 2
Reservoir No. 1
Prelim Design
Final Design
Construction
Board Action
Completion

Board Options

- Option #1
  - Adopt CEQA determination that the proposed actions are categorically exempt
  - Appropriate $1.32 M
  - Authorize preliminary design to rehabilitate 3 finished water reservoirs with floating covers at the Jensen & Mills plants
  - Authorize final design to repair the concrete roof of 1 finished water reservoir at the Jensen plant
- Option #2
  - Do not proceed with the work at this time

Staff Recommendation

- Option #1

THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928