Pure Water Southern California and Regional Conveyance Subcommittee

Surface Water Storage Study Update

Item 3d

January 22, 2025

Item 3d
Surface Water Storage Study Update

Subject

Update on the feasibility of new surface water storage facilities

Purpose

To share the study's progress and findings while gathering feedback on the proposed next steps

Next Steps

- Complete the Phase 2 study to narrow down potential sites
- Proceed to site-specific assessments (Phase 3)
- Inform One Water and Stewardship Committee & CAMP4W Task Force on findings & recommendations

Drivers, Objectives, & Approach

- **Drivers**
  - Fluctuated SWP supply conditions
  - Challenges to mitigate severe droughts and manage excessive surplus
  - Core supply identified as a time-bound target in CAMP4W annual report
- **Objectives**
  - Improve SWP supply reliability
  - Enhance regional resilience
  - Incorporate climate adaptation to align with CAMP4W objectives
- **Study Approach**
  - Phase 1 – inventory & screening
  - Phase 2 – comprehensive evaluation
  - Phase 3 – site-specific assessment

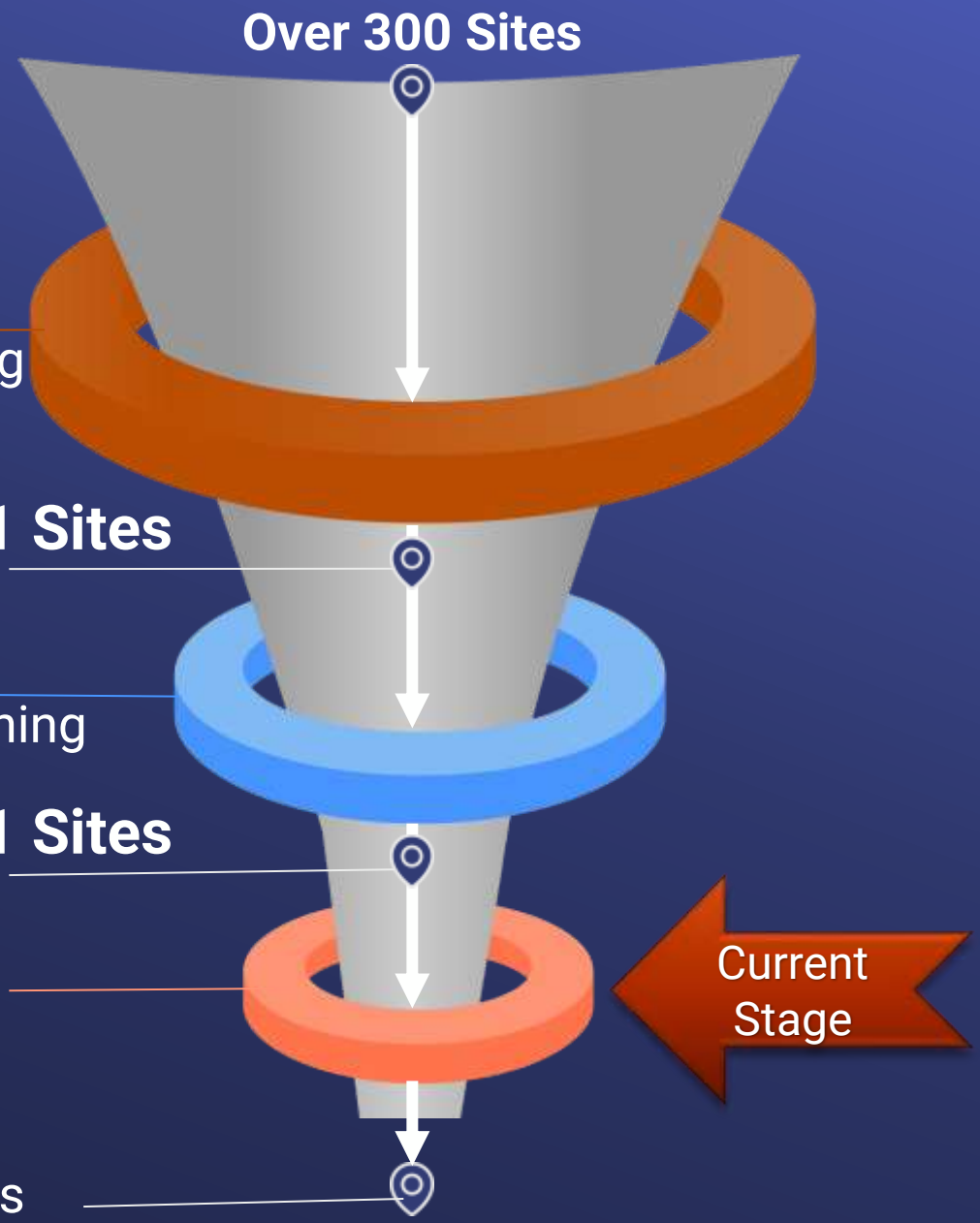
Evaluation of Potential Sites

PHASE 1 Criteria

- Location
- Storage capacity (minimum of 30 TAF)
- General geological/geotechnical
- Institutional constraints
- Environmental protections

PHASE 2a Criteria

- Distance from aqueduct & vertical lift
- Storage capacity (minimum 100 TAF)
- Land ownership and use
- Interference with flood protection
- Potential for partnerships



Sites Retained for Phase 2b Evaluation

Phase 2b Quantitative Evaluation Criteria

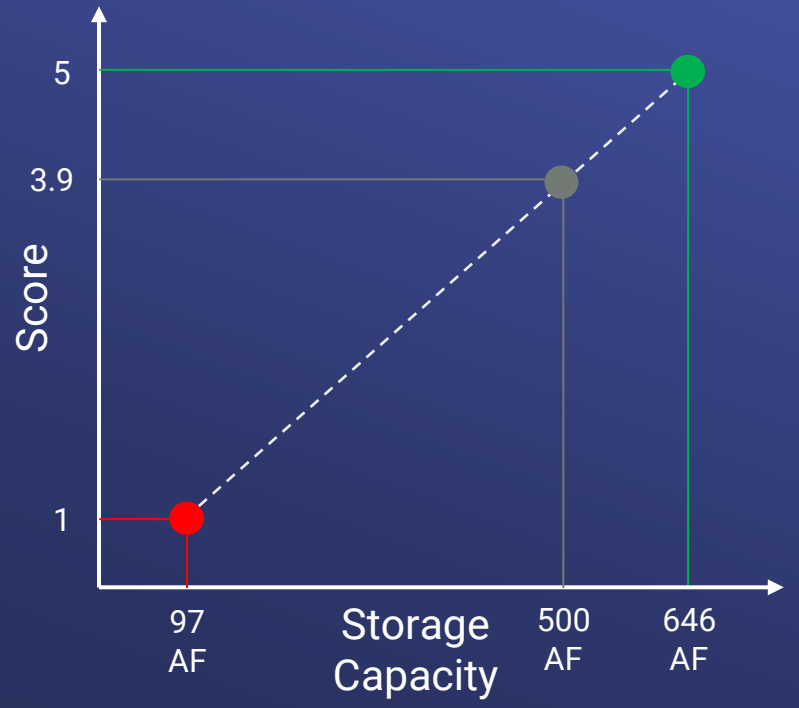
Criteria	Key Metrics
Facility Characteristics	• Storage efficiency and potential for sediment
Water Quality	• Risks of impairment to stored water supplies
System-Wide Considerations	• Contribution to storage objective and effects on SWP
Financial Affordability	• Capital cost per acre-foot of storage capacity
Climate Adaptability and Reliability	• Potential capacity for pumped storage hydropower

Phase 2b Qualitative Evaluation Criteria

Criteria	Key Attributes
Facility Characteristics	• Dam, conveyance system, utility relocations
Water Quality	• Inflow water quality conditions
System-Wide Considerations	• Flexibility to serve Metropolitan service areas, proximity to population centers, potential downstream hazards
Geologic Considerations	• Seismicity, liquefication, landslide risk
Environmental Considerations	• Environmental compliance complexity
Climate Adaptability and Reliability	• Seismic reliability to Metropolitan supply • Site wildfire and heat risks

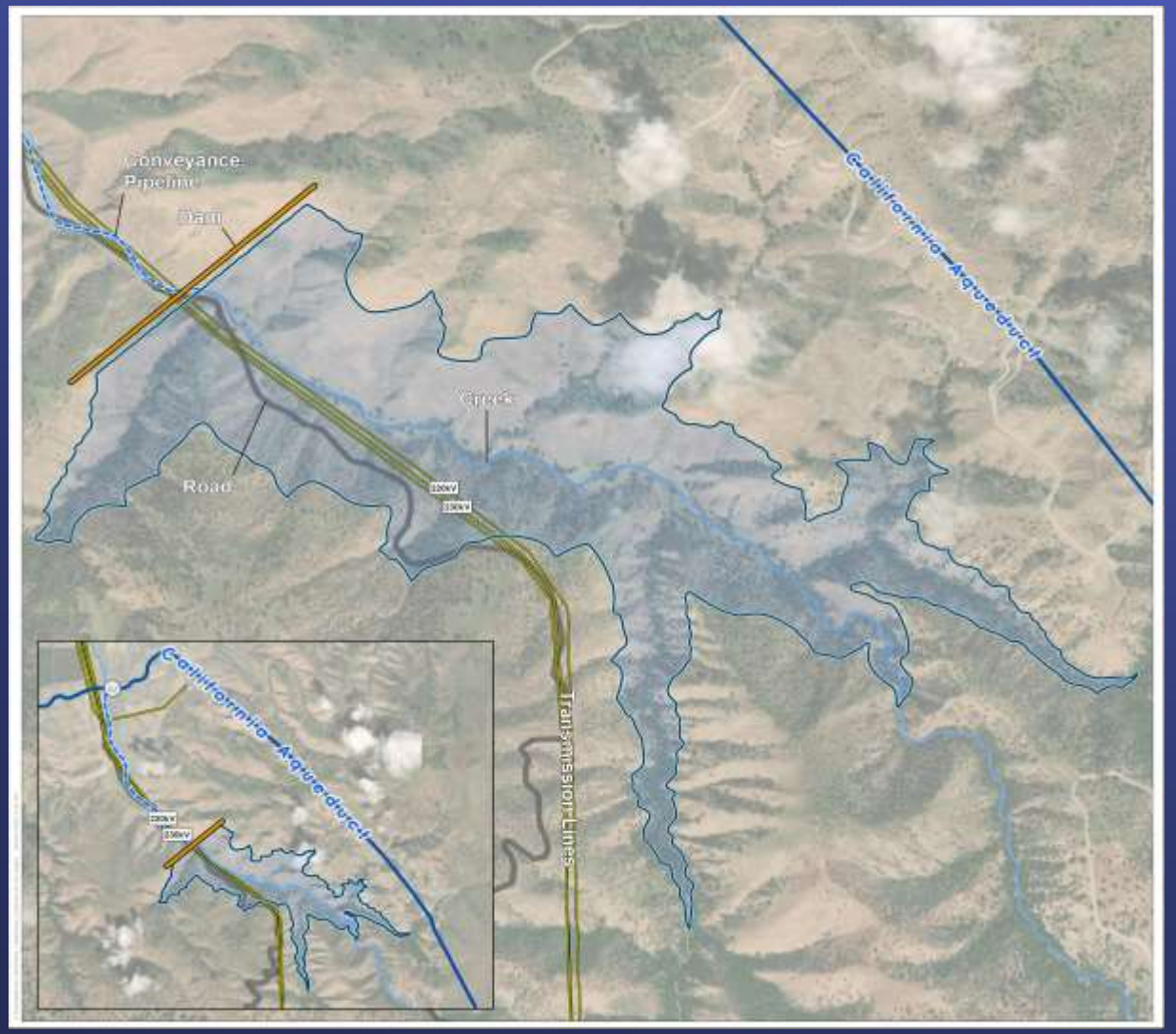
Quantitative Example - Reservoir Storage Capacity

- Larger reservoirs provide greater contributions to Metropolitan's storage objective
- Larger reservoirs provide greater supply reliability
- Scoring Scale:
  - Largest storage capacity scores 5 points
  - Smallest storage capacity scores 1 point



Qualitative Example–Pastoria Creek Reservoir Area Relocations

- Identifying existing utilities/facilities within the reservoir footprint, including:
  - Electrical transmission lines
  - Buried pipelines
  - Railroads
  - Structures
  - Wells
  - Roads
- Evaluating level of complexity and/or general risk involved in the relocations



Most complex/ high-risk relocations required
1

Many relocations required
2

Several relocations needed
3

Some relocations needed
4

No major relocations required
5

Next Steps

- **Complete Phase 2 evaluation**
  - Rank potential sites based on weighted scores
  - Categorize sites into geographical regions
  - Identify high-potential sites for Phase 3 study
- **Initiate Phase 3 study in Q1 2025**
  - Conduct site-specific assessment to recommend preferred sites
    - Additional site-specific criteria
    - Evaluation of co-benefits
    - System integration
  - Develop preferred sites to prepare for potential CEQA analysis
- **Present findings to One Water and Stewardship Committee**
- **Inform CAMP4W process with study findings**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