



EMERGENCY STORAGE EVALUATION Follow-up

April 11, 2019

Public Works Commission





Cabrillo Project

- 2016, \$3M approved by Council for Cabrillo Reservoir Project
- Install Liner, capture local non-potable water
- Use intended for irrigation of local parks, street medians
- Estimated cost projection: \$6,300 per Acre Foot
- Not Economically Feasible

Budget Summary

Project	Budgeted	Actual
CIP 0972 – Cabrillo Reservoir and Non-potable Water Project	\$3,000,000	
Liner Construction – Travis Agricultural Construction	\$556,797	\$529,742
Feasibility Study – Michael Baker International	\$230,604	\$205,640
Balance		\$2,264,618



STORAGE SUMMARY

RESERVOIR	ZONE SERVED	CAPACITY (MG)
7	15	1.5
6	13	1.0
5	11	1.0
4B	8	1.0
4A	8	2.2
Greystone	6	19.4
3A	6	0.81
Woodland	4	1.71
Coldwater	4	8.3
Sunset	3	6.0
TOTAL		43 MG



EMERGENCY STORAGE SUMMARY

[February, 2019]

10%

25%

40%

Scenario	Available Supply from WTP (MGD)	Average Demand (MGD)	Duration of Emergency Storage with Average Demand (Days)	Reduced Demand (10%) During Emergency ¹ (MGD)	Duration of Emergency Storage with 10% Reduced Demand (Days)	Reduced Demand (25%) During Emergency ² (MGD)	Duration of Emergency Storage with 25% Reduced Demand (Days)	Reduced Demand (40%) During Emergency ³ (MGD)	Duration of Emergency Storage with 40% Reduced Demand (Days)
2019 – Off-Peak (Foothill WTP offline)	0	7.3	5.1 days	6.5	5.7 days	5.5	6.8 days	4.4	8.5 days
2019 – Peak (Foothill WTP offline)	0	8.9	4.2 days	8.0	4.6 days	6.7	5.6 days	5.3	7.0 days
2020 – Off-Peak (Foothill WTP Design Build Complete)	2.6	7.8	7.2 days	7.0	8.4 days	5.8	11.4 days	4.7	17.8 days
2020 – Peak (Foothill WTP Design Build Complete)	2.6	9.6	5.3 days	8.6	6.2 days	7.2	8.2 days	5.7	12.0 days
2022 – Off-Peak (Foothill WTP w/ La Brea Expansion)	3.6	8.4	7.8 days	7.6	9.4 days	6.3	13.7 days	5.0	26.6 days
2022 – Peak (Foothill WTP w/ La Brea Expansion)	3.6	10.2	5.7 days	9.2	6.6 days	7.7	9.0 days	6.1	14.9 days

¹ Assumes 10% reduction in demands due to public outreach to restrict irrigation use during emergency conditions

² Assumes 25% reduction in demands due to public outreach to restrict irrigation use during emergency conditions

³ Assumes 40% reduction in demands due to public outreach to restrict irrigation use during emergency conditions



Emergency Storage

	Available Supply from WTP (MGD)	Duration of Emergency Storage, No Conservation (Days)	Duration of Emergency Storage, 10% Conservation (Days)	Duration of Emergency Storage, 25% Conservation (Days)	Duration of Emergency Storage, 40% Conservation (Days)
2019 Peak Demand (Current Day, WTP offline)	0	4.2	4.6	5.6	7.0
2020 Peak Demand (WTP design build complete)	2.6	5.3	6.2	8.2	12.0
2022 Peak Demand (WTP design build complete)	3.6	5.7	6.6	9.0	14.9



Key Issues – Staff Recommendations

- Additional Reservoir Storage vs Groundwater Development – maintain current focus on WTB/La Brea groundwater development, defer additional storage pending IWRMP
- Appropriate conservation level in emergency response situations – 25% is reasonable, achievable
- Number of Days of Storage – Maintain min. 7 days per MWD



Additional Considerations

- Existing locations, City-owned, for additional storage: Cabrillo, 4B
- Cost estimates:

	Cabrillo 800,000 gal	4B 1.0M gal.	Total 1,800,000 gal.
Demolition	\$150,000		\$150,000
Foundation Stabilization		\$1,000,000	\$1,000,000
Construct new reservoir	\$3,200,000	\$4,000,000	\$7,200,000
Est. Total \$	\$3,350,000	\$5,000,000	\$8,350,000

- Additional 1.8 MG storage increases emergency storage from 9.0 days to 9.5 days (2022, peak demand, 25% conservation)