



Sunnyvale

Sunnyvale Cleanwater Program: Master Plan Update/Cogeneration Upgrade Design

CITY COUNCIL MEETING
April 4, 2023



Water Pollution Control Plant (WPCP)



Approx. Scale: 1" = 7000'

440± Acre Ponds

Pond Facilities

16.5± Acre Site

Caribbean Drive

Landfill

Landfill

Sunnyvale Cleanwater Program: Planning to Date

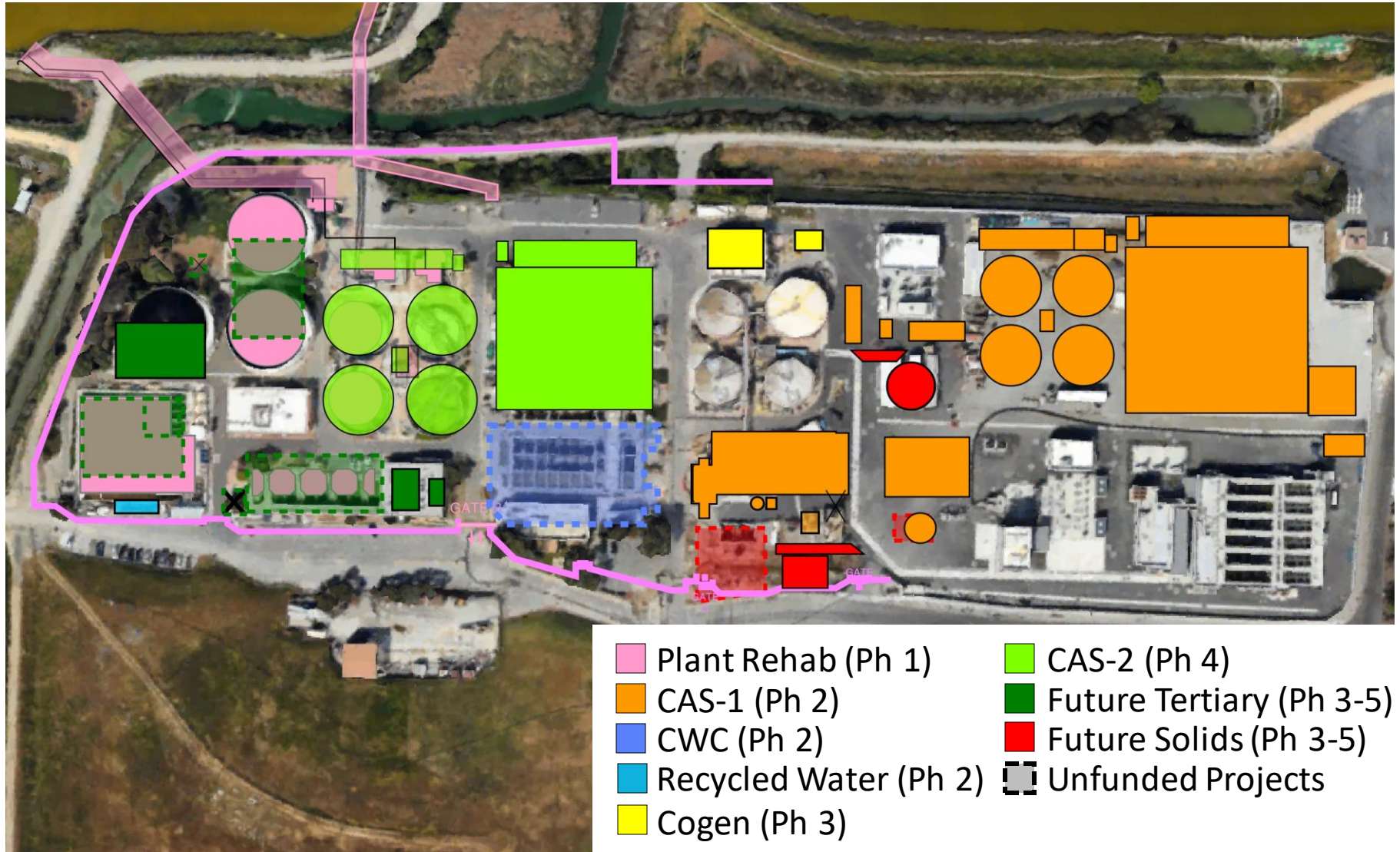


The 2016 Master Plan...

- Identified key projects
- Estimated costs
- Recommended implementation approach: 5 phases
 - ◆ Phase 1 and 2 clearly defined
 - ◆ Some uncertainty with Phase 3, 4, and 5



Sunnyvale Cleanwater Program: Projects



Why Update the Master Plan?

- The Master Plan is a “living” document
 - ◆ City aims to update every 5-10 years
- Changing conditions
 - ◆ Regulatory changes (e.g. nutrients)
 - ◆ Policy changes (e.g. recycled water)
 - ◆ Aging infrastructure
 - ◆ Increased growth (e.g. from new service areas)
 - ◆ Changing water quality
 - ◆ New technologies



Corroded Pipe

Master Plan Update Drivers



REGULATIONS



CONDITION



CAPACITY



PERFORMANCE



POLICY

Master Plan Update Scope

Evaluate
strategic
issues

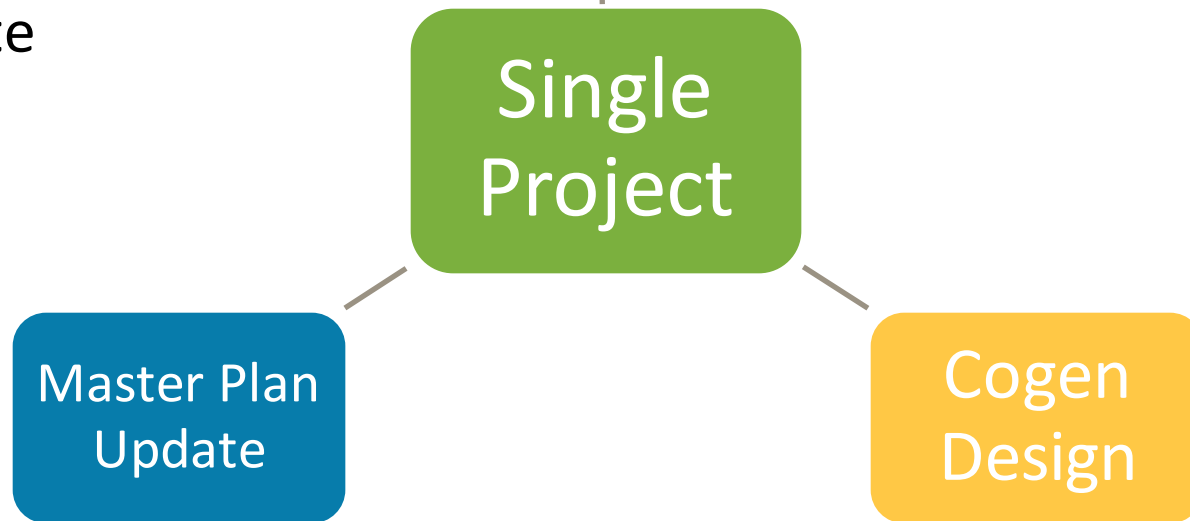
Recommend
process
improvements

Plan for
support
systems and
site use

Lay out
updated
scope,
schedule, and
cost

Cogeneration Design Need

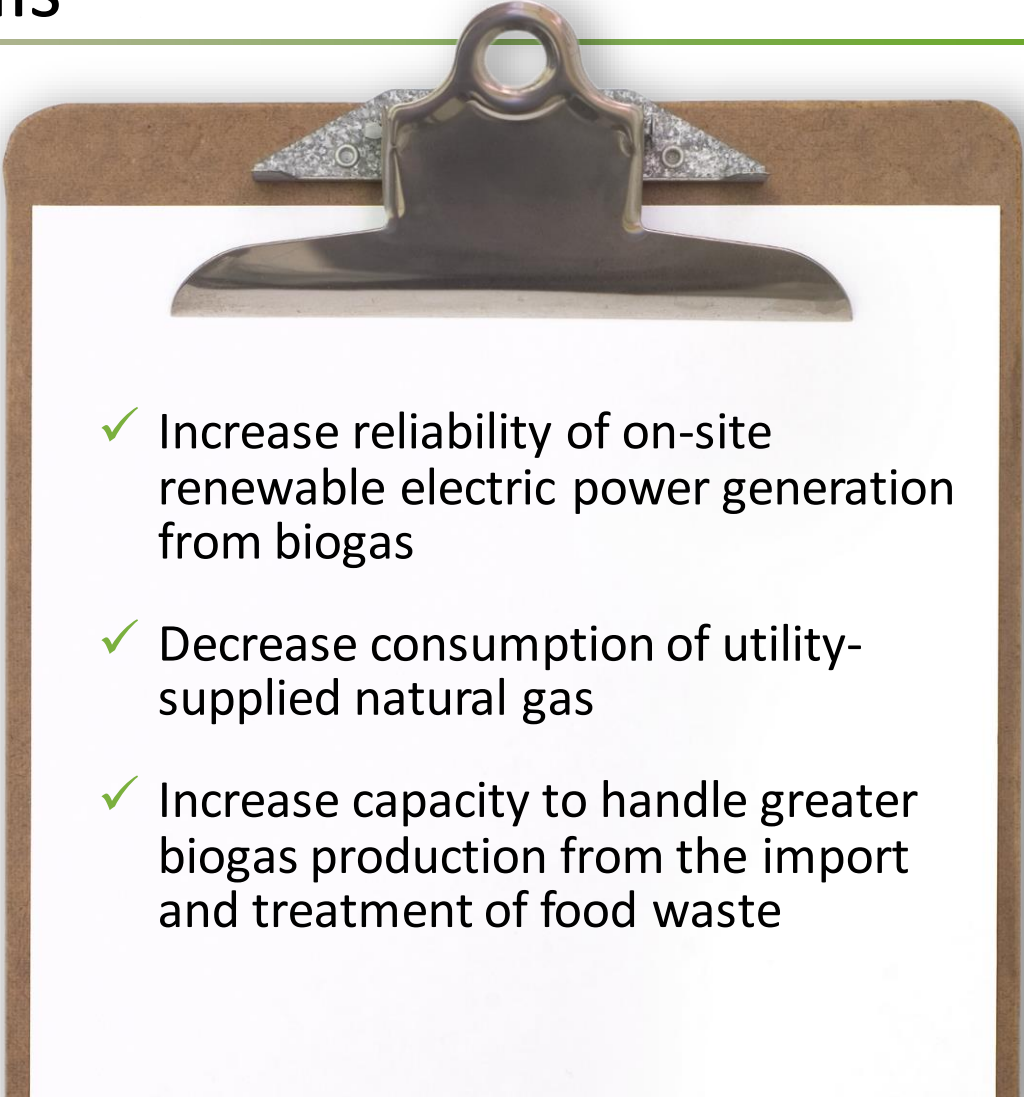
- Existing cogeneration engines are not reliable. This has led to:
 - ◆ Frequent failures at high repair costs
 - ◆ Not meeting emission requirements
 - ◆ Less renewable electricity production and increased flaring of gas to the atmosphere
- Fast-tracking this project by combining with the Master Plan Update



Cogeneration Goals



Key Objectives

- 
- ✓ Increase reliability of on-site renewable electric power generation from biogas
 - ✓ Decrease consumption of utility-supplied natural gas
 - ✓ Increase capacity to handle greater biogas production from the import and treatment of food waste

Cogeneration Design Scope

- New cogeneration engines and facility
- Best available control technology (BACT) emissions control
- Biogas safety, handling, and treatment improvements
- Hot water loop improvements



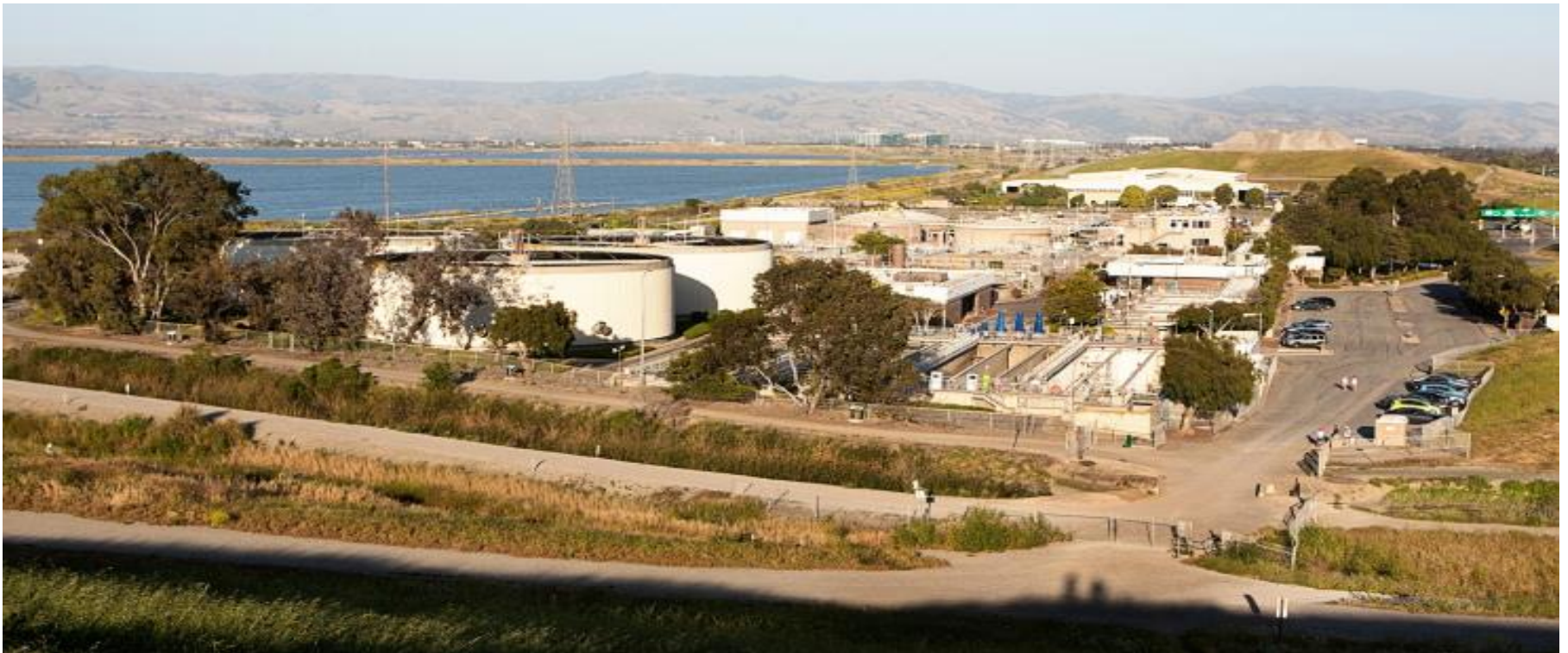
Selection and Fiscal Impact

- Selected consultant is Hazen and Sawyer, teamed with HDR
- Fiscal Impact (Contract Dollars)

	0.3 Master Plan Update (Project 834400)	5.1 Cogeneration Upgrade (Project 833370)	Total
Total Contract Amount	\$2,987,072	\$4,414,525	\$7,401,597
10% Contingency	\$298,707	\$441,453	\$740,160
Total Cost	\$3,285,779	\$4,855,978	\$8,141,757

Closing

- Staff Recommendation
 - ◆ Award the Master Plan Update and Cogen Design contract to Hazen and Sawyer
 - ◆ Approve a 10% design contingency for the consultant services



Thank You!

Questions?



Extra Slides

Master Plan Update Drivers

Capacity

- Planned development
- Increased flows and loads
- Increased imported material (i.e. food waste)
- Selection, timing, and size of projects

