

Sewer Pump Station Renovation plans for Group 2-

Adelphian - Verdemar

**- Harbor Bay Pkwy 2 - Bay Fairway Hall-
Willow/Whitehall - Cola Ballena -
Marina Village - Haile**

Community Meeting #1

October 30, 2013

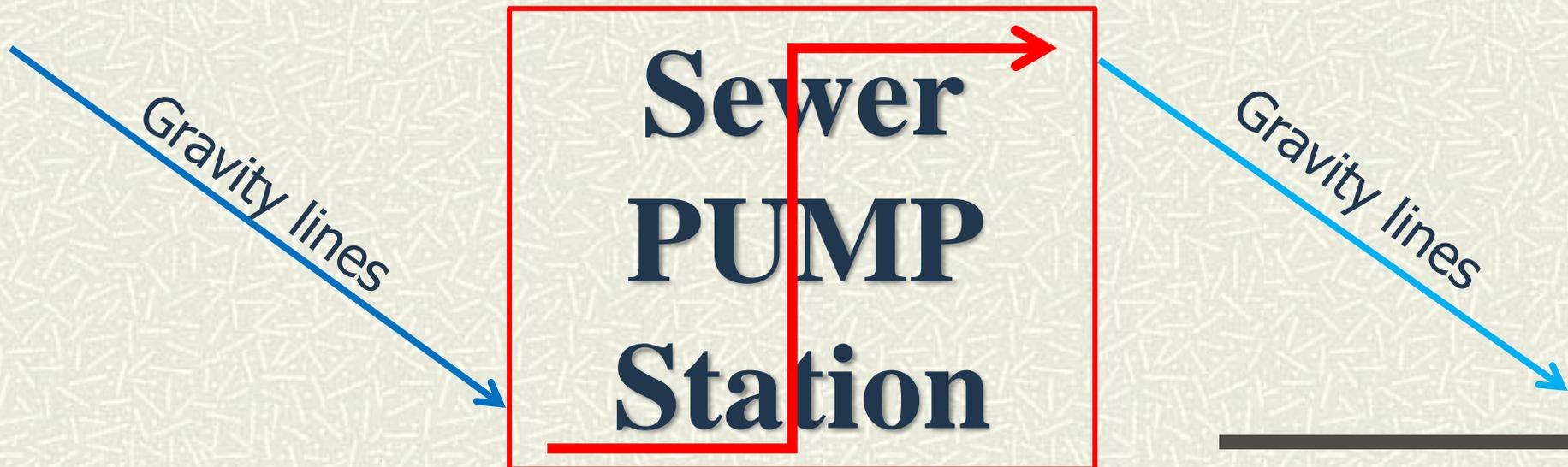
City Hall Of Alameda

Agenda

- # Welcome/introductions
 - # Basic information on sewer pump stations
 - # Presentation of the eight projects
 - # Concerns, questions, comments and discussion
 - # Meeting summary/follow-up actions
-

Why do we need Sewer PUMP STATIONS?

- Most sewer pipes are gravity lines where the water flows down slope.
- The Pump Station pumps the water “up” to a new higher elevation level so it can continue to flow by gravity down hill to the next “Lift” Station.



EPA's concerns with existing Pump stations

- Handle the peak flow during storms
 - Installation of equipment to notify City in the event of a power failure
 - Back up equipment –pumps and power supply that turn on during an electrical outage or mechanical failure.
-

Upgrading for reliability and redundancy per a Stipulated Order from EPA.

Four ways to increase the reliability of a pump station

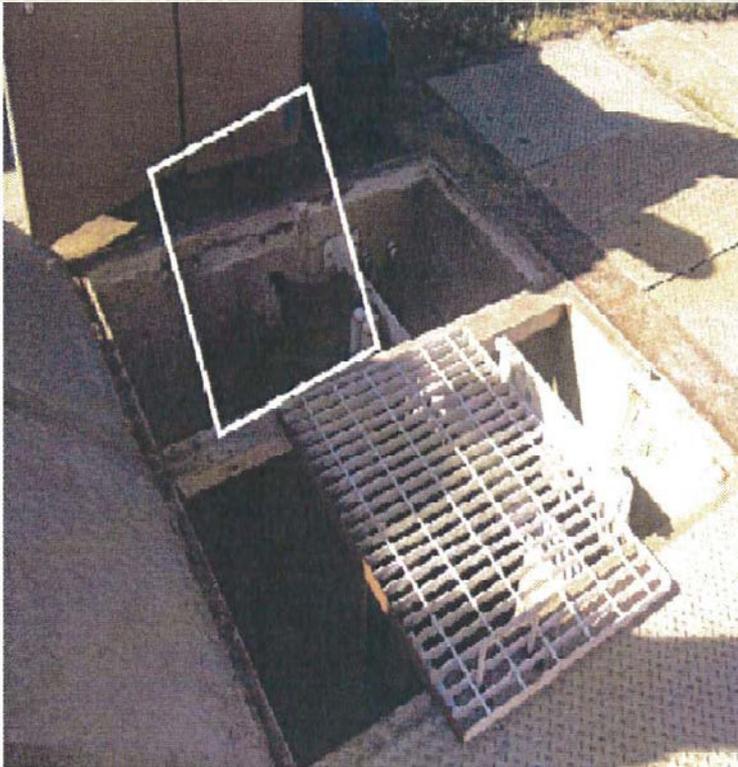
- Add an emergency generator.
 - Have a back up pump.
 - Have an optional place for flow to be stored until the system is restored to normal.
 - Have floats and SCADA equipment to alert City staff.
-

Major Components of Pump stations

Below Ground	Above Ground
Hatches	Motor Controls and Pedestal Cabinets
Valves	Generators with vents
Wet wells	Fences with gates
Dry wells	Back flow device
Pumps	Hatch Covers
Pipes	SCADA pole
Pull boxes	Landscaping

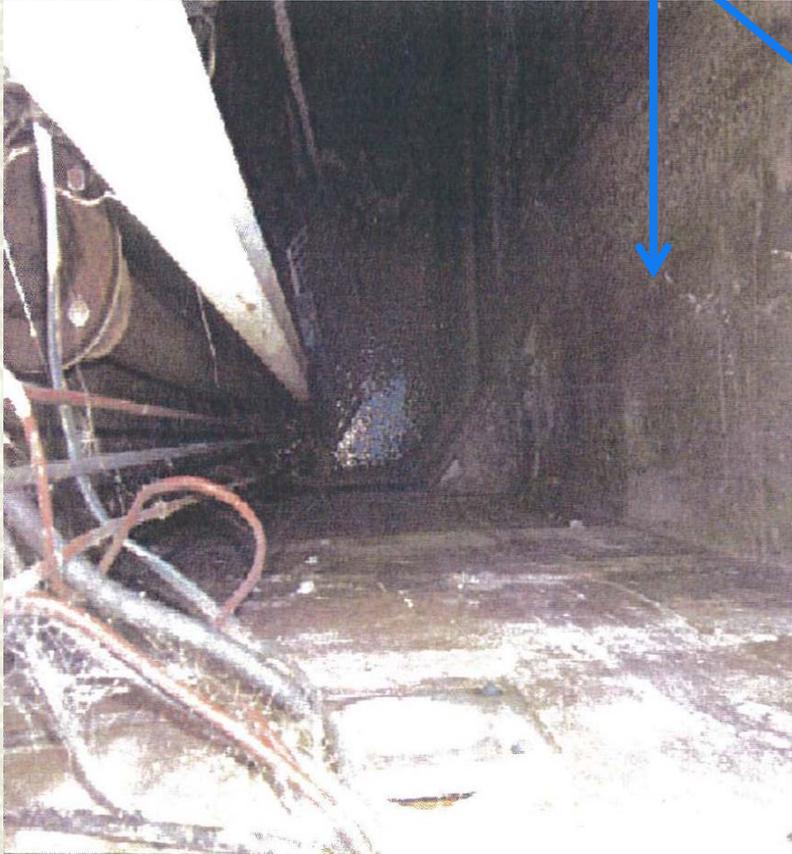
Pump station parts – Hatches and Valves

Hatches and Valves

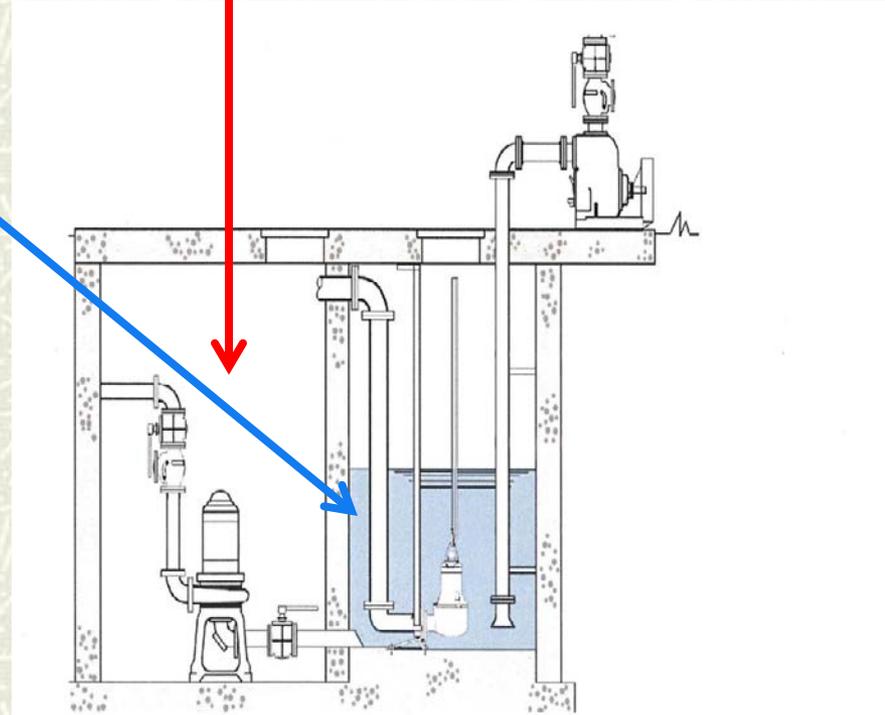


Pump station parts – Pumps in an underground well

Wet wells and Dry wells



Looking down into a wet well



A conventional centrifugal is on the left. A submersible (the industry "standard") is in the middle,

Pump station parts -

Generators

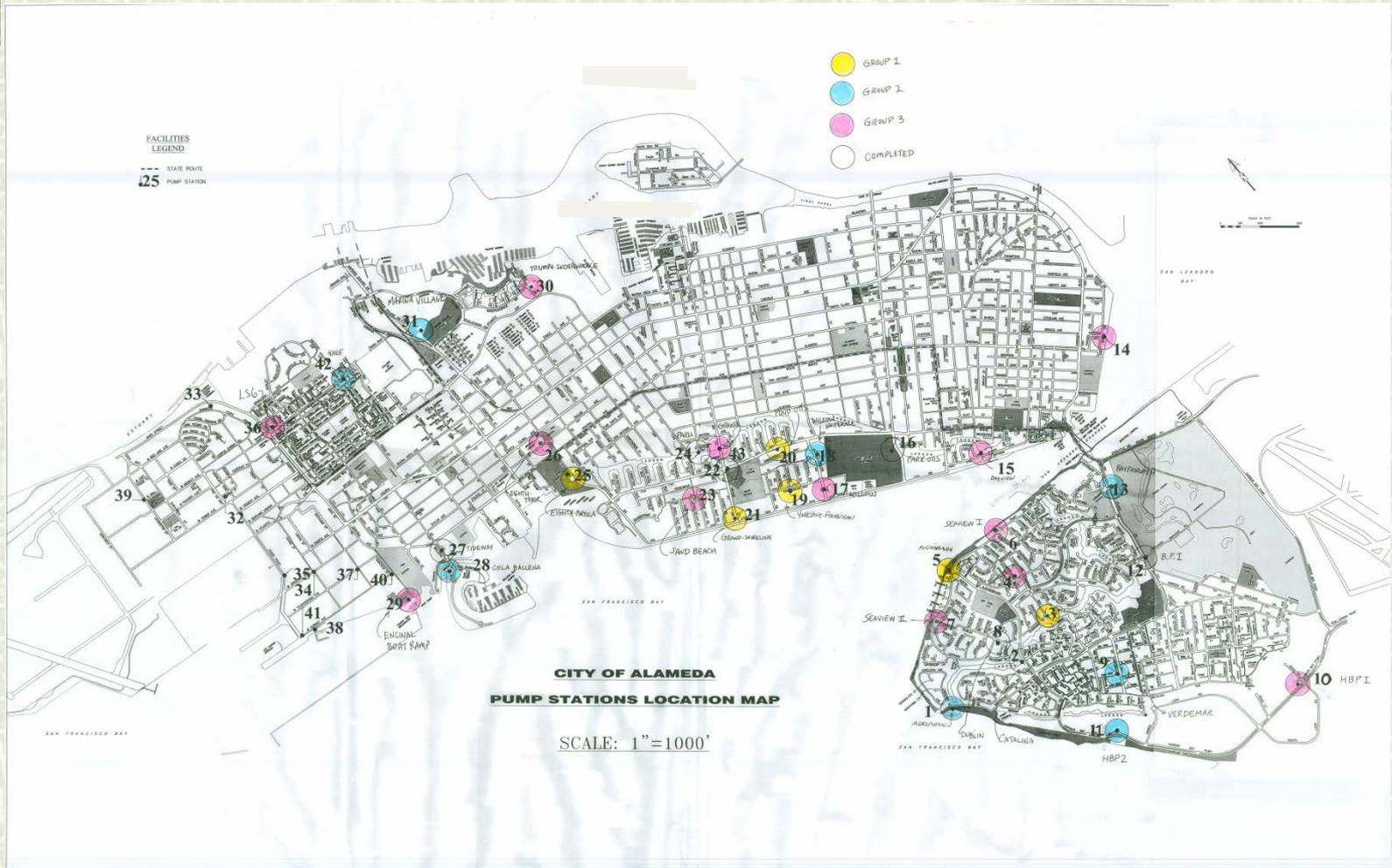
Motor Control Cabinets (MC)



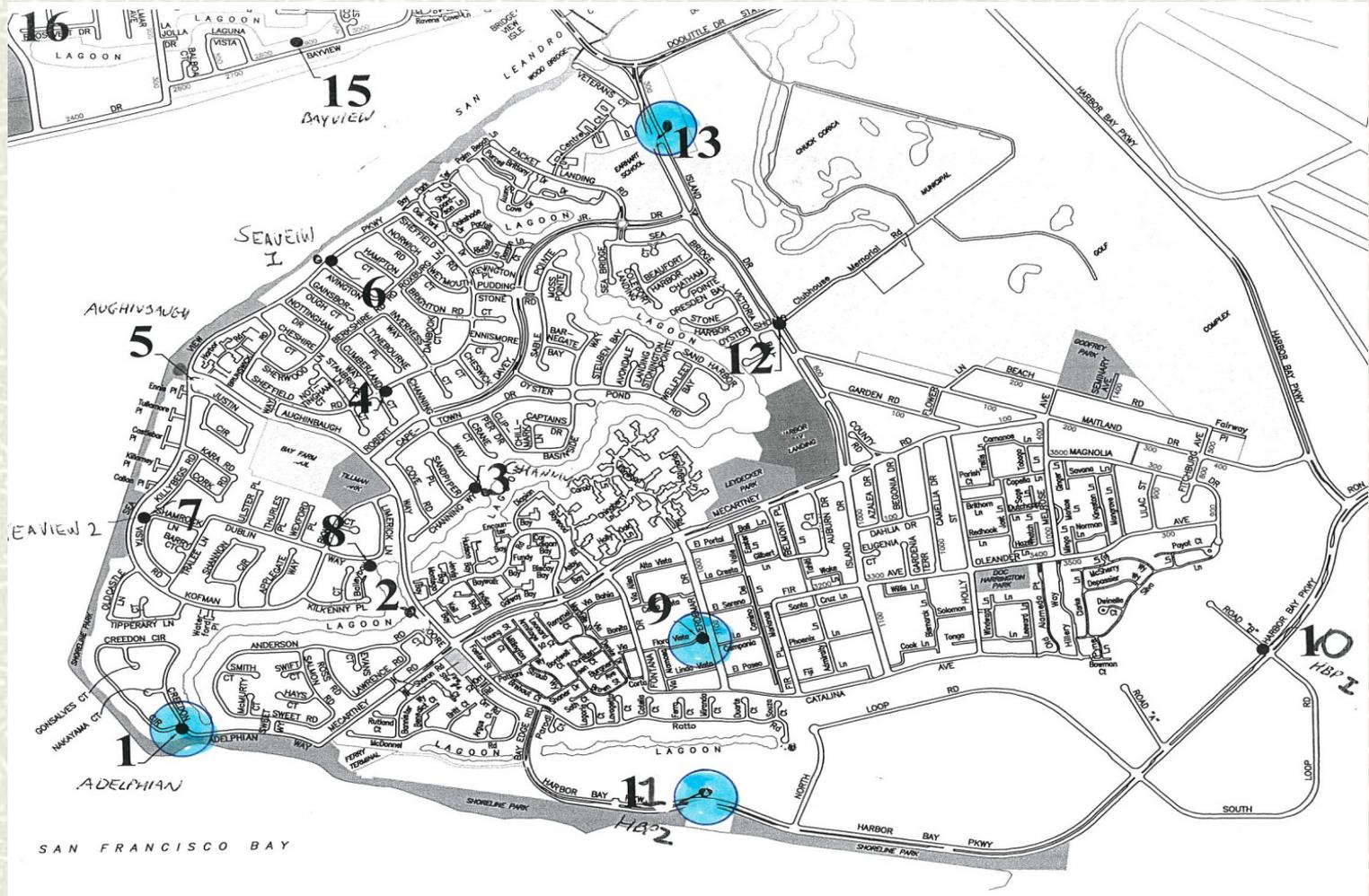
Wet well hatch (WW)
Pedestal cabinets (PED)

Back flow device and hose bib (BFD)

General Location Map of 35 PS



General Location Map of Group 2 PS - page 1 of 2 –Bay Farm Island



General Location Map of Group 2 PS - page 2 of 2 - Main Island



Newly renovated Pump stations

Completed in Fall 2012

- # Dublin – 25 kW generator add
- # Tideway - 25 kW generator add
- # Grand/Otis – 35 kW generator add
- # Catalina – 50 kW generator add
- # Park/Otis – 100 kW generator add

Station upgrades included restoring landscaping, fencing, pump and motor control upgrades and other improvements.

Dublin Pump station

25 kW Generator

Address:
612 Dublin Way
On Bay Farm Island



Tideway Pump station

25 kW generator

Address:

1350 Ballena Blvd. (Fourth Street)



Grand/Otis Pump station

Address : 1700 Otis Drive, Rittler Park - 35 kW generator

Generator Vent
pipe



Catalina Pump station

Address: 1849 Aughinbaugh Way -50 kW generator



Park/Otis Pump station

Address: In South Shore Shopping Center- 501 Park Street
-100 kW generator



Comparison of Generator sizes

RECENTLY RENOVATED EXISTING STATIONS

Pump Station Name Group 2	Catalina 50 kW	Dublin & Tideway 25 kW	Grand/Otis 35 kW	Park/Otis 100kW	Portable Generator (manual)	Adjacent Gravity By-pass
Adelphian		X or smaller				no
Verdemar					X	yes
HBP 2		X				no
Bay Fairway					X	no
Willow/White hall					X	yes
Cola Ballena			X			no

Comparison of Generator sizes

RECENTLY RENOVATED EXISTING STATIONS

Pump Station Name Group 2	Catalina 50 kW	Dublin & Tideway 25 kW	Grand/ Otis 35 kW	Park/ Otis 100kW	Portable Generator (manual)	Adjacent Gravity By-pass
Marina Village	X					no
Haile					X	yes

Portable generators



Cummins portable diesel generator

Generator Details

Generator Type

- Cummins diesel generator set - in use since 2009

Air Quality rating

- Used in schools and hospitals. Rated as the cleanest burning diesel Fuel engine by Bay Area Air Quality Management District. (BAAQMD) and EPA

Existing Installations

- Examples of existing residential and commercial installations in Palo Alto, Los Gatos, Hayward, San Jose, Santa Rosa, Petaluma, Dublin, Livermore, Pleasanton, Fremont, San Francisco.
-

Generator Details

Health Rating

- NFPA Health hazard rating: 0
- HMIS health hazard Rating: 1

Additional Safety Measures

- Install optional pressure vacuum vent cap at the end of the vent pipe
 - Vent cap only opens during testing, re-fueling or during generator operation
-

Why Diesel?

An Alternative Fuel Sources Analysis

Biodiesel: Not recommended by Generator Supplier (Cummins)

- Lack quality and consistency in fuel
- Fuel cannot sit in a tank and must be used quickly
- Damages injectors, pumps, tanks and fuel system

Liquid Propane Vapor: Not recommended by Generator Supplier

- Requires a large propane fuel tank which has visual impact
 - Propane is highly flammable and explosive if leak occurs
 - Not as dependable and shorter life spans than diesel generators
-

Why Diesel?

An Alternative Fuel Sources Analysis

(Continued-)

Natural Gas: Not recommended by Cummins

- Reliance on PG&E for fuel source can become an issue if gas lines are damaged
 - Natural gas is flammable and explosive if leak occurs
 - Not as dependable and shorter life spans than diesel generators
-

Pump stations – Group 2

Reliability Renovations

PS #	PS Name	LOCATION
1	Adelphian	103 Adelphian Way by shoreline
9	Verdemar	3049 Flora Vista Drive by circular drive
11	Harbor Bay Parkway 2	HBP in vacant parking lot
13	Bay Fairway Hall	300 Island Drive by Grand Pavilion Building
18	Willow/Whitehall	Intersection of Willow St. and Whitehall Place
28	Cola Ballena	Intersection of Cola Ballena and Ballena Blvd
31	Marina Village	Behind Lucky's Shopping center
42	Haile	2470 Haile Street - south of Stargell Avenue

ADELPHIAN Pump station – LOCATION MAP – wetwell and generator sites



Existing site conditions – Adelphian Pump station

Wetwell Location

Cabinets located at part 2 of the site under the cypress tree



BFD

Proposed site conditions – 1 of 2

Adelphian Pump station at wetwell



No easement –
City property

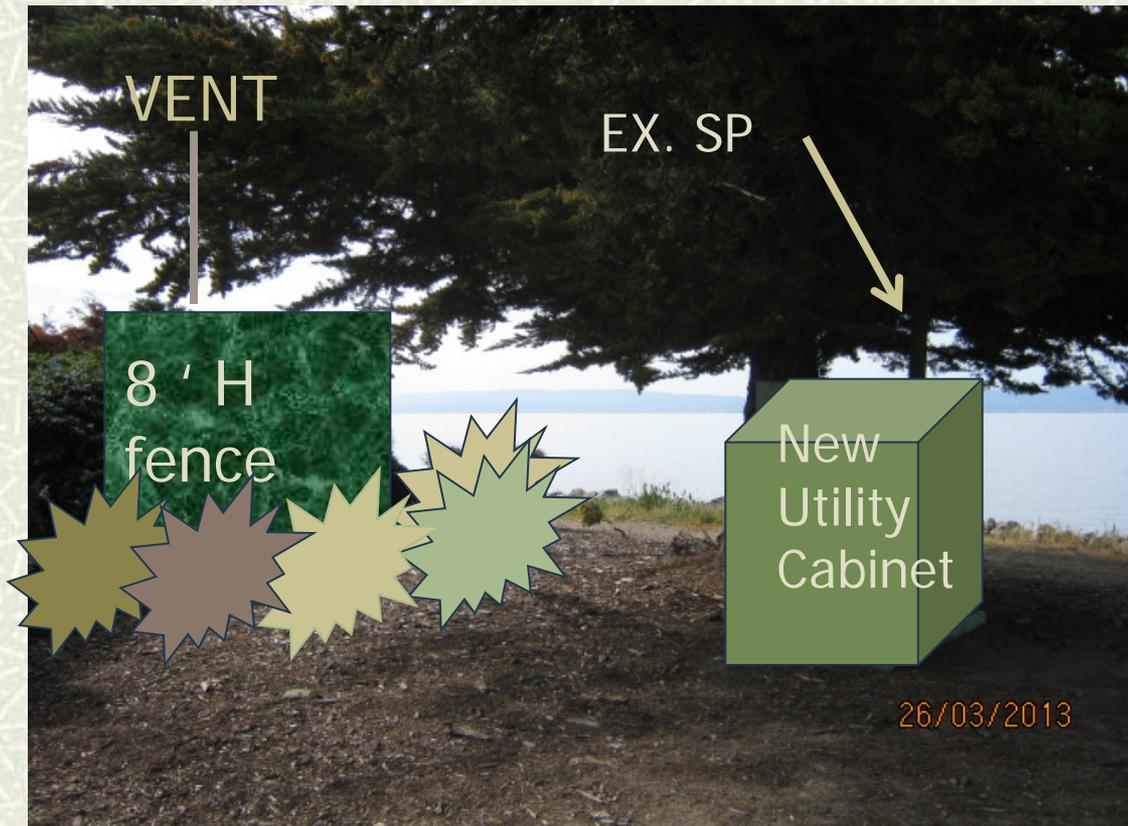
All trees will be
protected around
the wetwell area

New pedestal and
motor control
cabinet, no fencing

Proposed site conditions – 2 of 2

Adelphian Pump station at generator

2" dia. Generator Vent -12' high extending over the fence



Add a new 20kW diesel Generator and enclose with chain link - green slat fence. Remove and replace dead landscaping around new generator fence. Protect cypress tree. Replace old motor control cabinet with utility box.

Proposed site conditions – 3 of 3 Adelphian Pump station at generator

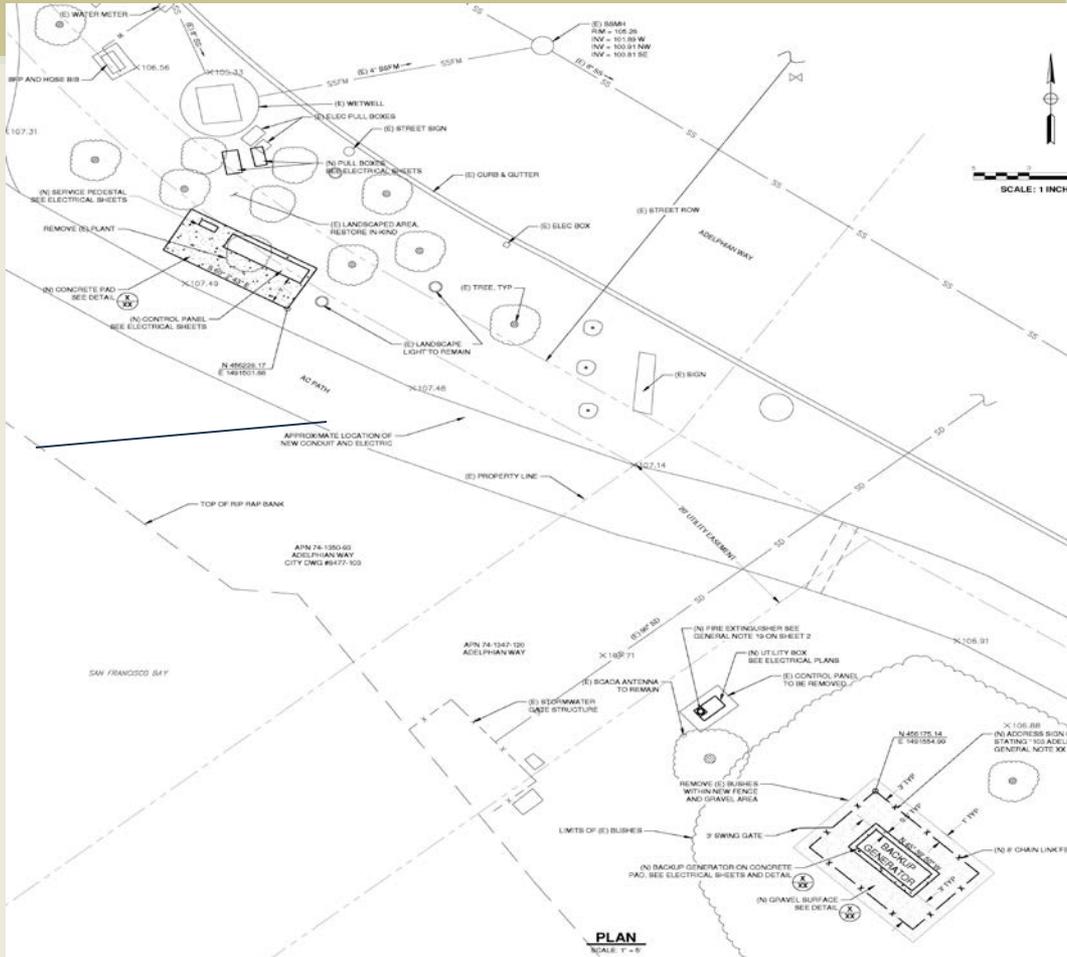
Proposed conditions EX. SP



Existing conditions

ADELPHIAN Pump station - site plan

Estimated Reliability Improvement cost = \$176,000



INSTALL

1. New pedestal - 1.68' L x 1' W x 5.25' H
2. New 8' H fence
3. New Control panel - 8' L x 1.67' W x 5' H
4. New emergency diesel Generator - 8' L x 3.5' W x 8' H with 12' H vent- 2" dia.
5. New Landscaping
6. New utility box
7. New pull boxes

REMOVE

1. Old Control panel

All proposed equipment is located on City Property.

Harbor Bay Parkway 2 Pump Station – LOCATION MAP



Existing site conditions at Harbor Bay Parkway 2 Pump station



Wet well hatch

SCADA pole



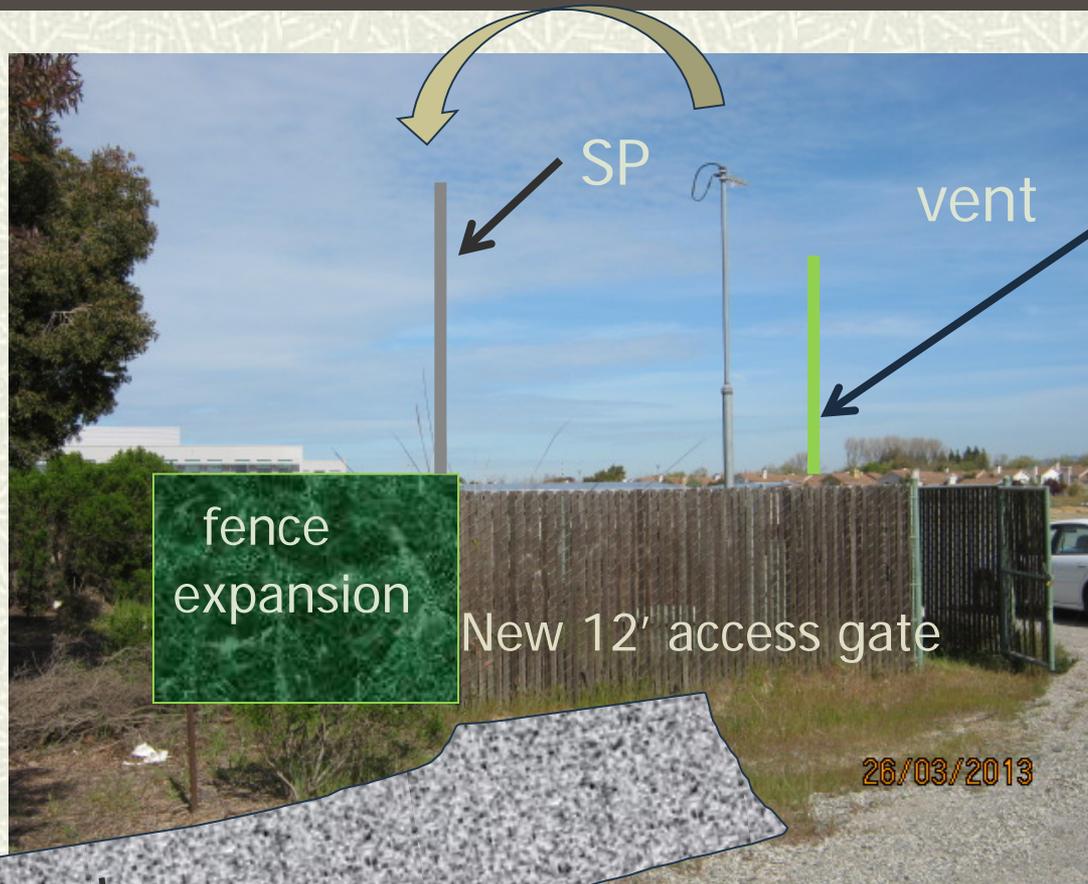
Dry well hatch

Existing Motor control And PED



BFD

Proposed site conditions for Harbor Bay Parkway 2 Pump station

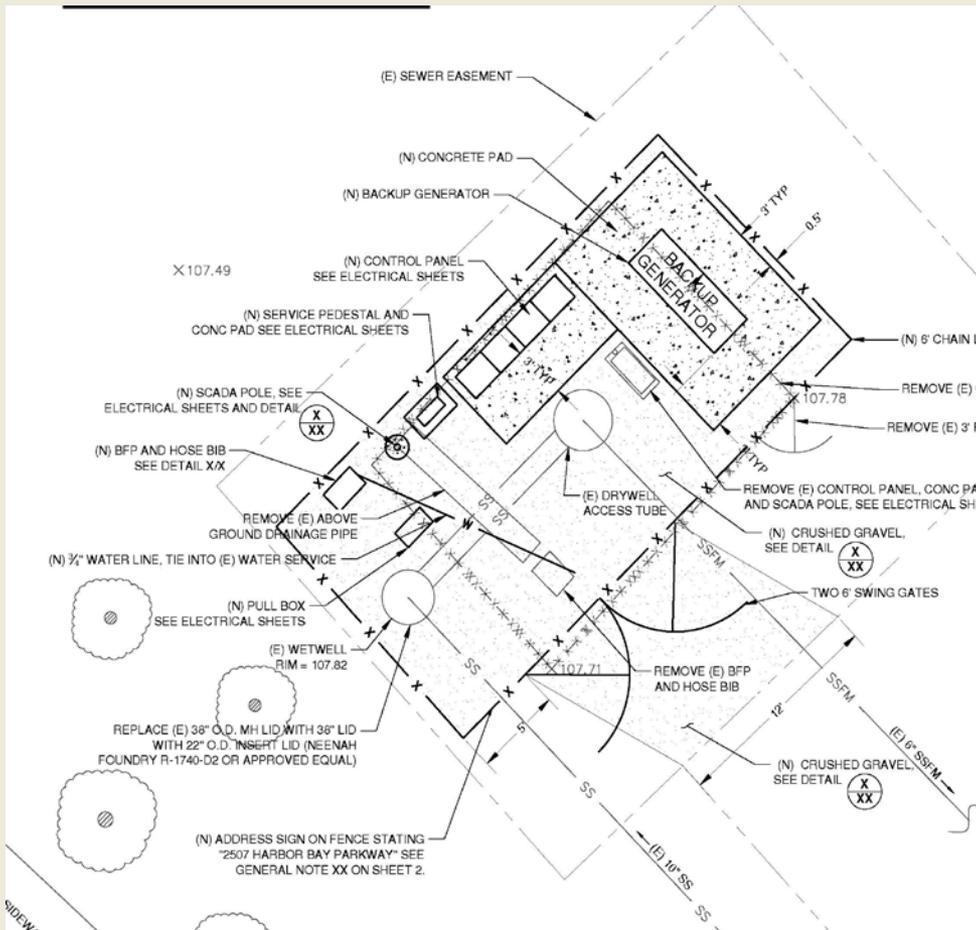


Add New 25kW generator with 12' Height -2" diameter vent, new SCADA pole, new control panel behind 16' x 32' – new 6 ft. High chain link fencing, new BFP –all equipment is behind fence

All new improvements are within existing easements.

HARBOR BAY PARKWAY 2 Pump station - Site Plan

Estimated Reliability Improvement cost = \$204,000



INSTALL

1. New pedestal -1.68' L x 1' W x5.25' H
2. New fence with vehicle access gate
3. New Control panel 8' L x 1.67' W x 5' H
4. New 25kW emergency diesel Generator
5. New gravel access driveway
6. New SCADA
9. New BFD

REMOVE

1. Old Motor Controls

All improvements are located within the existing easement.

VERDEMAR Pump station LOCATION MAP



Existing site conditions at VERDEMAR Pump station

MCC



SCADA



wetwell



Proposed site conditions at Verdemar Pump station – 1 of 2

SP to be relocated

Olive Tree to be protected

Install New motor control (MC) panel and Pedestal PED behind sidewalk

New screen
Landscape. Ex. LS to be removed



Proposed site conditions at Verdemar Pump station -2 of 2

SP to be relocated
Olive Tree to be protected

SP

Remove old cabinet

PED

MC

D

Install New motor control (MC) panel and Pedestal PED behind sidewalk

New bush screen Landscape. Old removed.

Concrete drive to wetwell



BAY FAIRWAY HALL Pump station – LOCATION MAP



Existing site conditions at BAY FAIRWAY HALL Pump station



Access drive



Existing Motor control



Water source

Existing wetwell

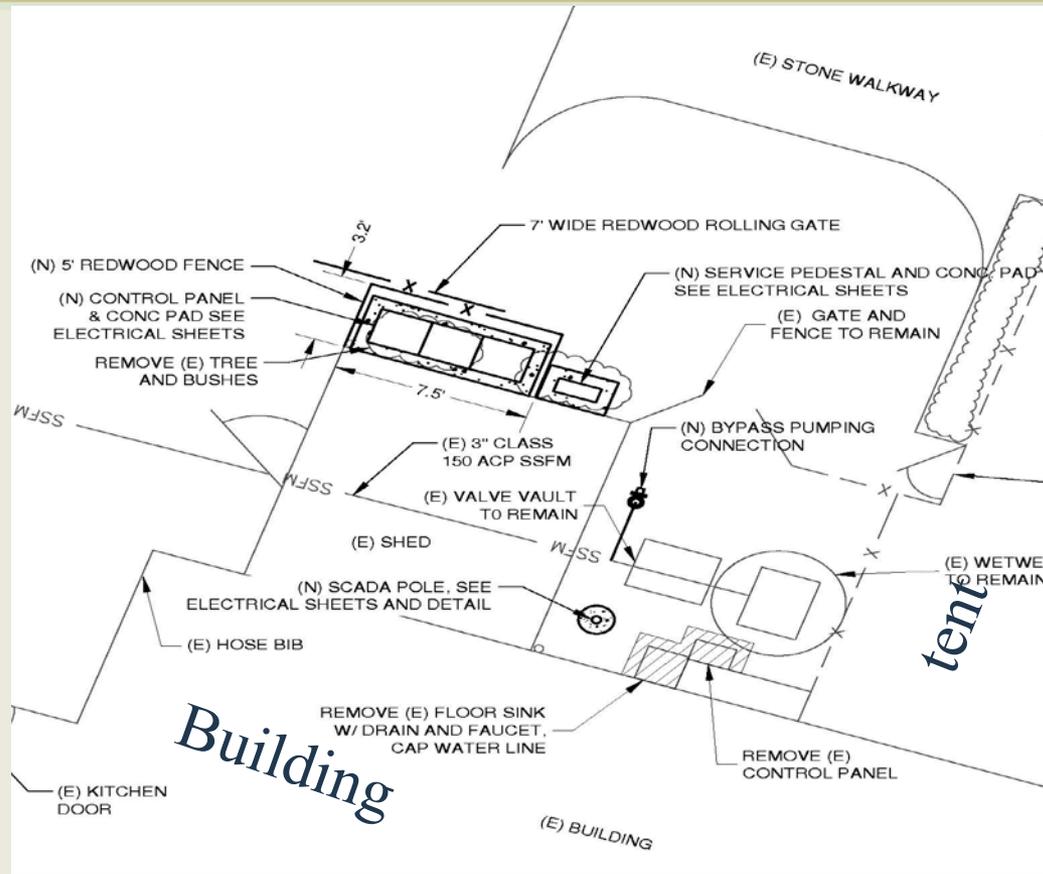
Proposed site conditions at BAY FAIRWAY HALL Pump station

- New Motor Control cabinet (MC)
- New Pedestal Cabinet (PED) located in front of shed with a new rolling redwood fence as a screen (new fence not shown)
- New SCADA pole



BAY FAIRWAY HALL Pump station - Site Plan

Estimated Reliability Improvement Cost = \$109,000



INSTALL

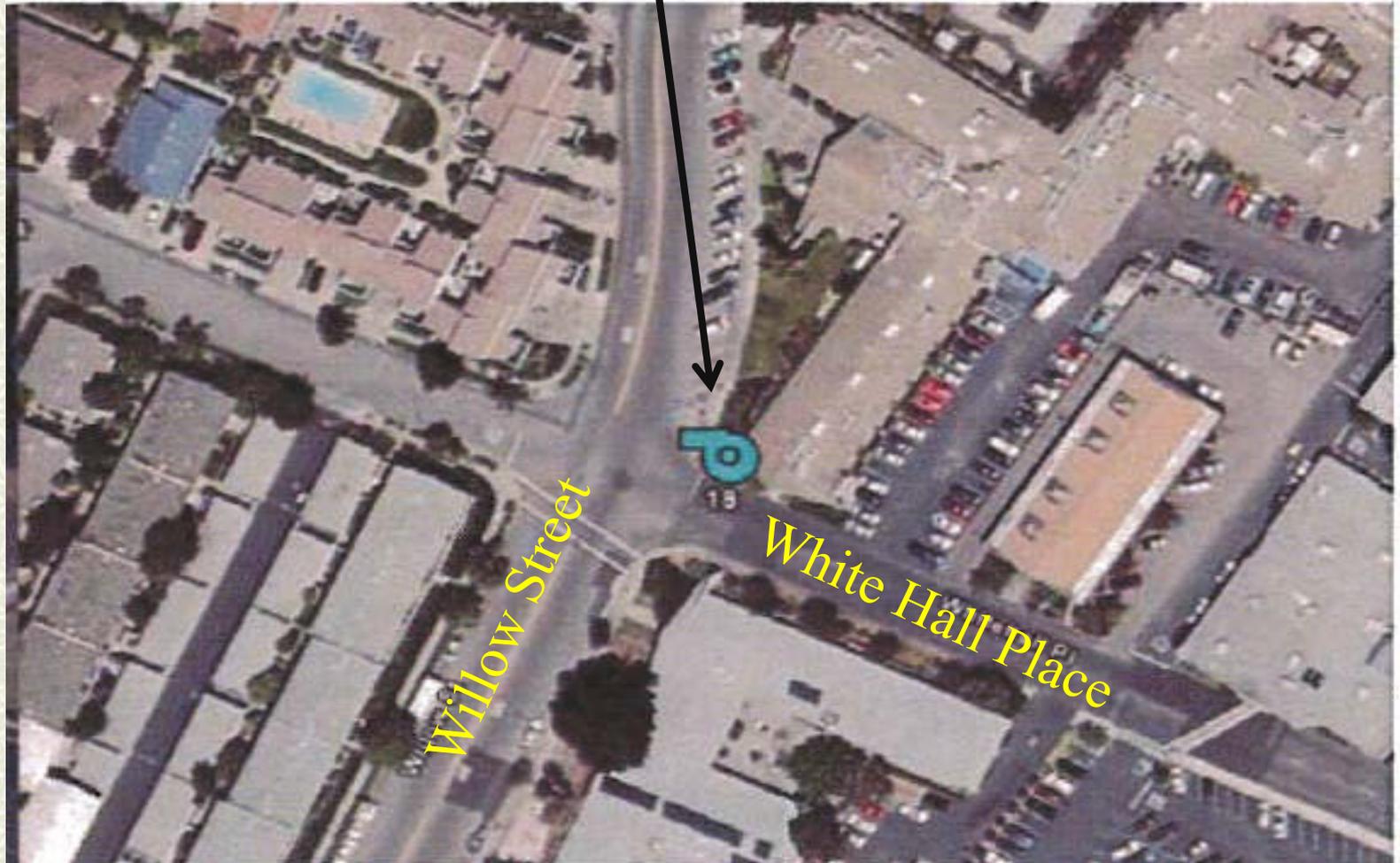
1. New pedestal -1.68' L x 1' W x5.25' H
2. New SCADA pole
3. New Control panel - 6' L x 1.67' W x 5' H
4. new screen fence
5. Repair AC
6. Plug in for portable generator
7. By pass pump connection
8. new Water shut off valve

REMOVE

1. Old Motor Control

All proposed equipment is on City property.

WILLOW/WHITEHALL Pump station – LOCATION MAP



Existing site conditions at Willow/Whitehall Pump station

Wetwell

SCADA pole

SP



Cabinet and pedestal

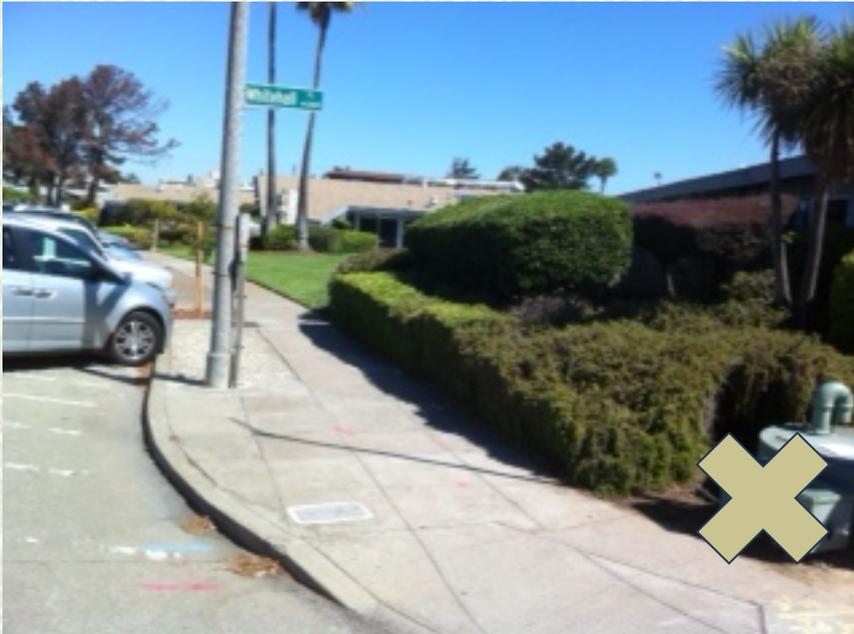
BFD



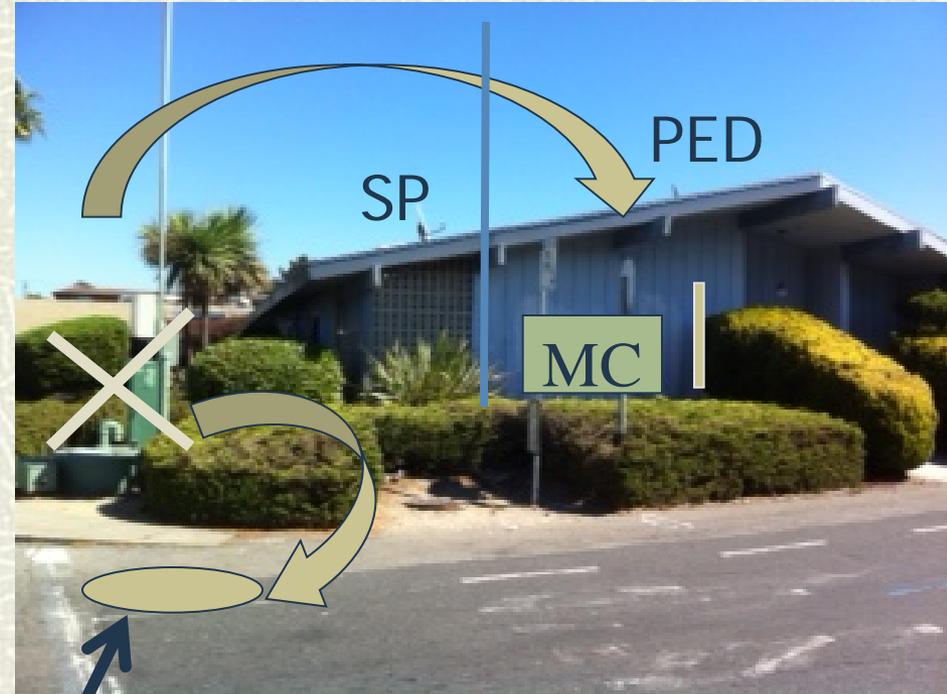
Proposed site conditions at Willow/Whitehall Pump station 1 of 2

A new Public utility easement will be needed to relocate the station.

No changes on Willow Dr.



Whitehall Street



Relocate wetwell to street.
Remove old Motor control, wet well etc. from corner – cont.-

Proposed site conditions at Willow/Whitehall Pump station - 2 of 2

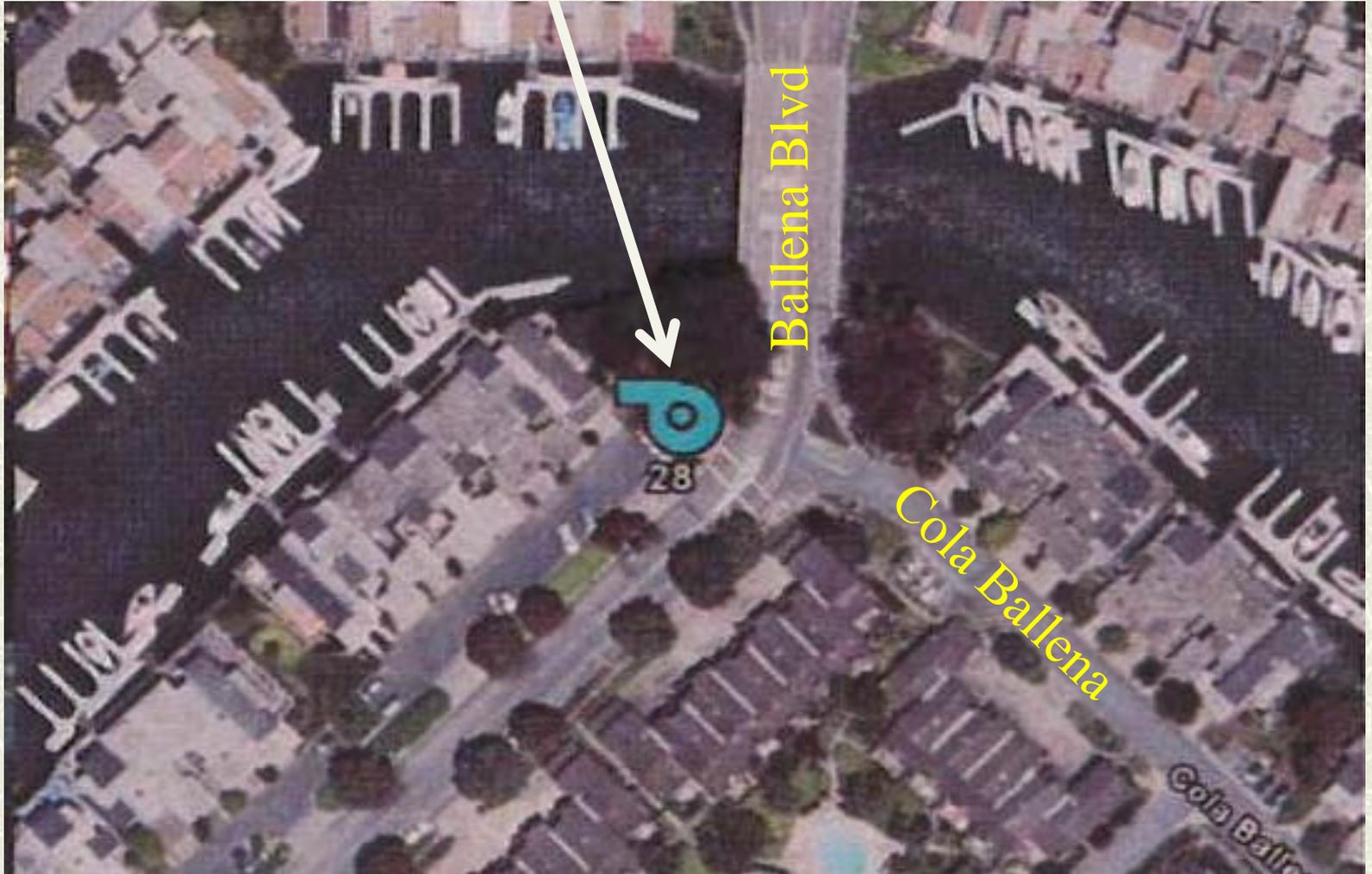
Relocate station controls to near building on Whitehall Street

No changes on Willow Dr.



- New motor control cabinet (MC)
- New pedestal cabinet (PED)
- Relocate SCADA pole (SP)
- Red wood fence not shown

COLA BALLENA Pump Station – LOCATION MAP



Existing site conditions at Cola Ballena Pump station

Drywell

Wetwell

MCC are
under
ground in
drywell

SCADA



PGE Transformer



BFD

Proposed site conditions for Cola Ballena Pump station - 1 of 3

Vent SP MC PED



Install new Generator and fence. Relocate SCADA. Install new Motor controls and PED. Remove conflicting trees.

Proposed site conditions for Cola Ballena Pump station - 2 of 3

Remove 5 strawberry trees from within the easement to protect the equipment.



Install new Generator and fence. Relocate SCADA. Install new Motor Controls And PED.

Proposed site conditions for Cola Ballena Pump station - 3 of 3

Remove 5 strawberry trees from within the easement to protect the equipment.



Install new Generator and fence. Relocate SCADA. Install new Motor Controls And PED.

MARINA VILLAGE Pump Station – LOCATION MAP



Constitution Way

*Lucky's
shopping
center*

Existing site conditions at Marina Village Pump station



SCADA
MCC

PED

wetwell



2 Trees on
top of
force main
to be
removed

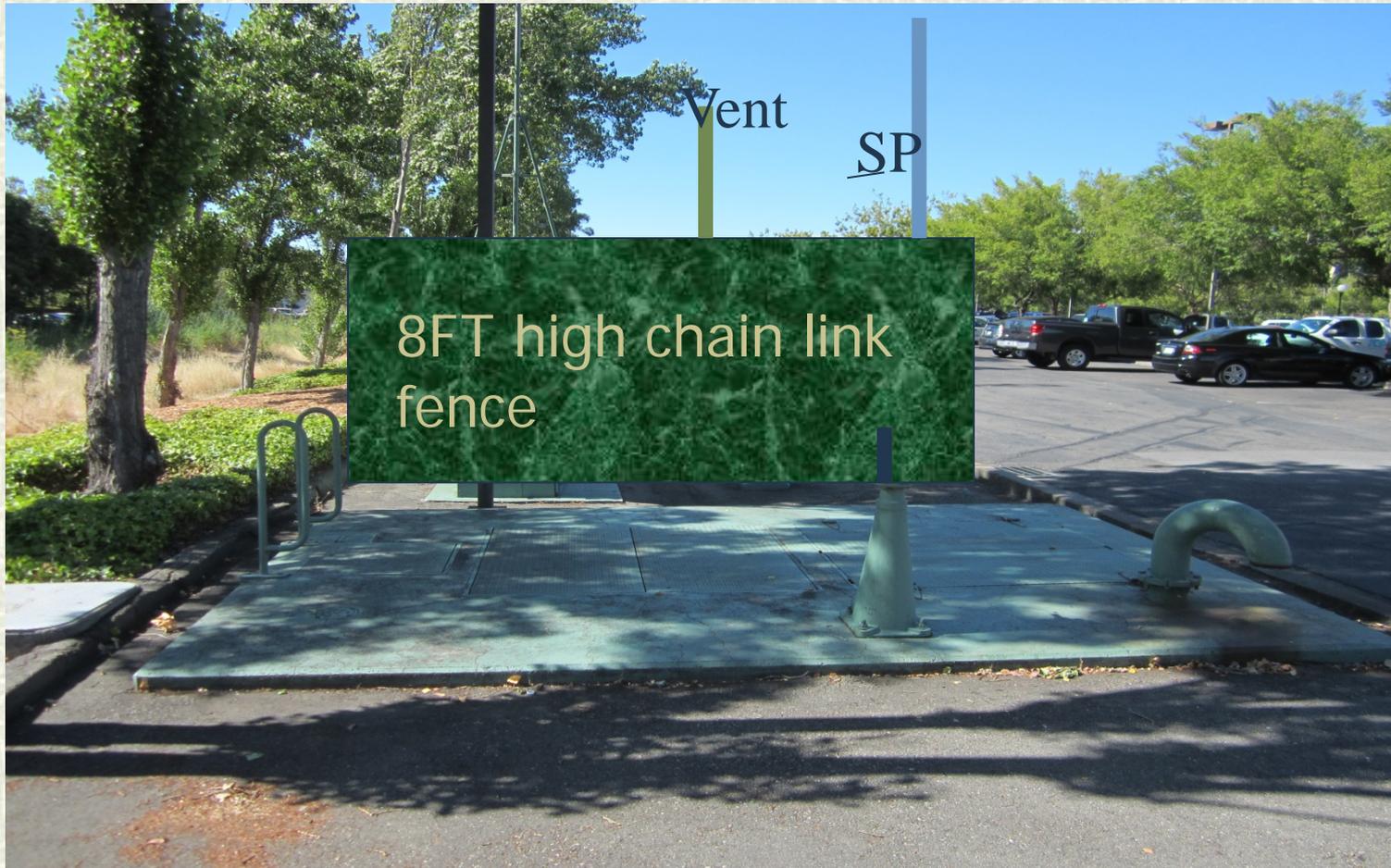


Proposed site conditions for Marina Village Pump station -1 of 2



Install new Motor controls, new 50kW Generator and SCADA alarm within New fence enclosure. Install new pedestal for electric service.

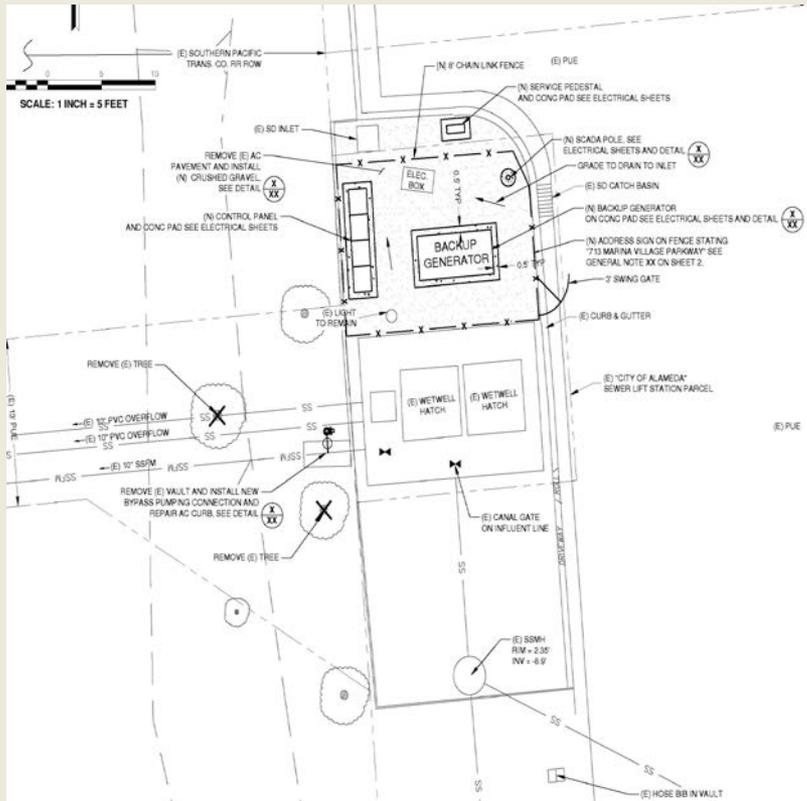
Proposed site conditions for Marina Village Pump station -2 of 2



Install new Motor controls, new 50kW Generator and SCADA alarm within new fence enclosure. Install new pedestal for electric service.

MARINA VILLAGE Pump station – Site Plan

Estimated Reliability Improvement cost = \$208,000



INSTALL

1. New motor control panel -8' L x 1.7' W x 5' H behind new 50 kW diesel generator
2. Relocate SCADA
3. New pedestal for electric service
4. New By- pass pumping connection
5. New fence

REMOVE

1. Old Motor Controls
2. two trees to be removed from private property

The equipment is located on City property behind Lucky's Shopping Center on Marina Village Parkway and Constitution Ave.

HAILE Pump station – LOCATION MAP



Existing site conditions at HAILE Pump station



Wetwell

Motor control

PED

2 trees to be relocated
from within the easement



Proposed site conditions at HAILE Pump station



- New motor control cabinet (MC)
- New pedestal cabinet (PED)
- Relocate SCADA pole (SP)
- Gravel access approach

What do you think?

- **Concerns,
Questions,
Comments and
Discussion**

Next Steps

- # Community Input and Comments to be received by Nov 13, 2013
 - # Public Works Dept. – Capital Improvement Project Manager
 - Ms. Carol Clark, Associate Engineer; telex. 510-747-7944,
 - email : cclark@alamedaca.gov
 - By letter to :
 - City of Alameda, CA., West City Hall,
 - Public Works Department,
 - 950 W. Square Mall Rd., Room 110
 - Alameda, CA., 94501
 - ATTN: C. Clark
 - # View City's web site – use www.alamedaca.gov to find posted power point presentation. Click on departments/public works/projects/sewer reliability- Group 2
 - # E-mail sign up for future pump station notices
-