



THE CITY OF SAN DIEGO



City of San Diego Harbor Drive Siting

Public Utilities Department
Pure Water San Diego

March 10, 2015



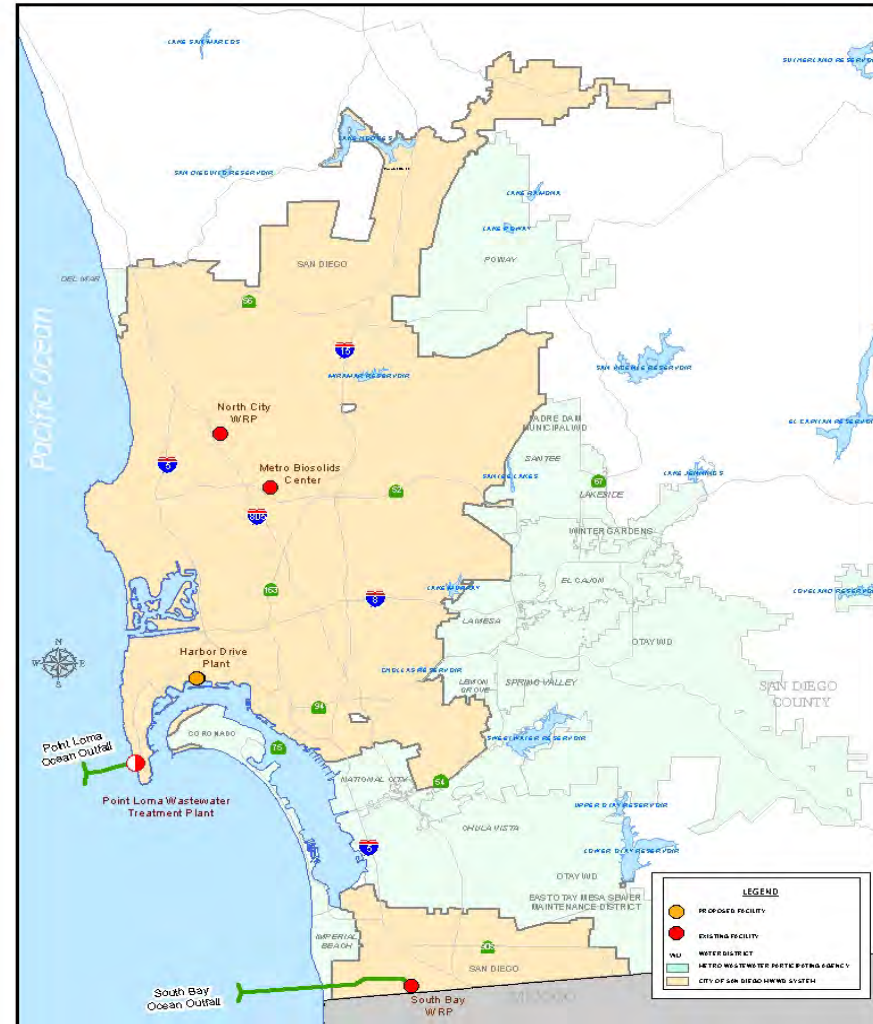
Facility Siting Criteria

- Proximity to large wastewater flows
- Minimize pumping & conveyance (wastewater, tertiary water, sludge, brine)
- Minimize number of facilities
- Land Availability ≥ 23 acres
- Room to expand
- Environmental Impact
- Health and Safety
- Ability to implement



Five Sites Considered

- Harbor Drive
- Fiesta Island
- Qualcomm Stadium (Mission Valley)
- Pump Station 1
- Main Post Office Site (Midway Drive)



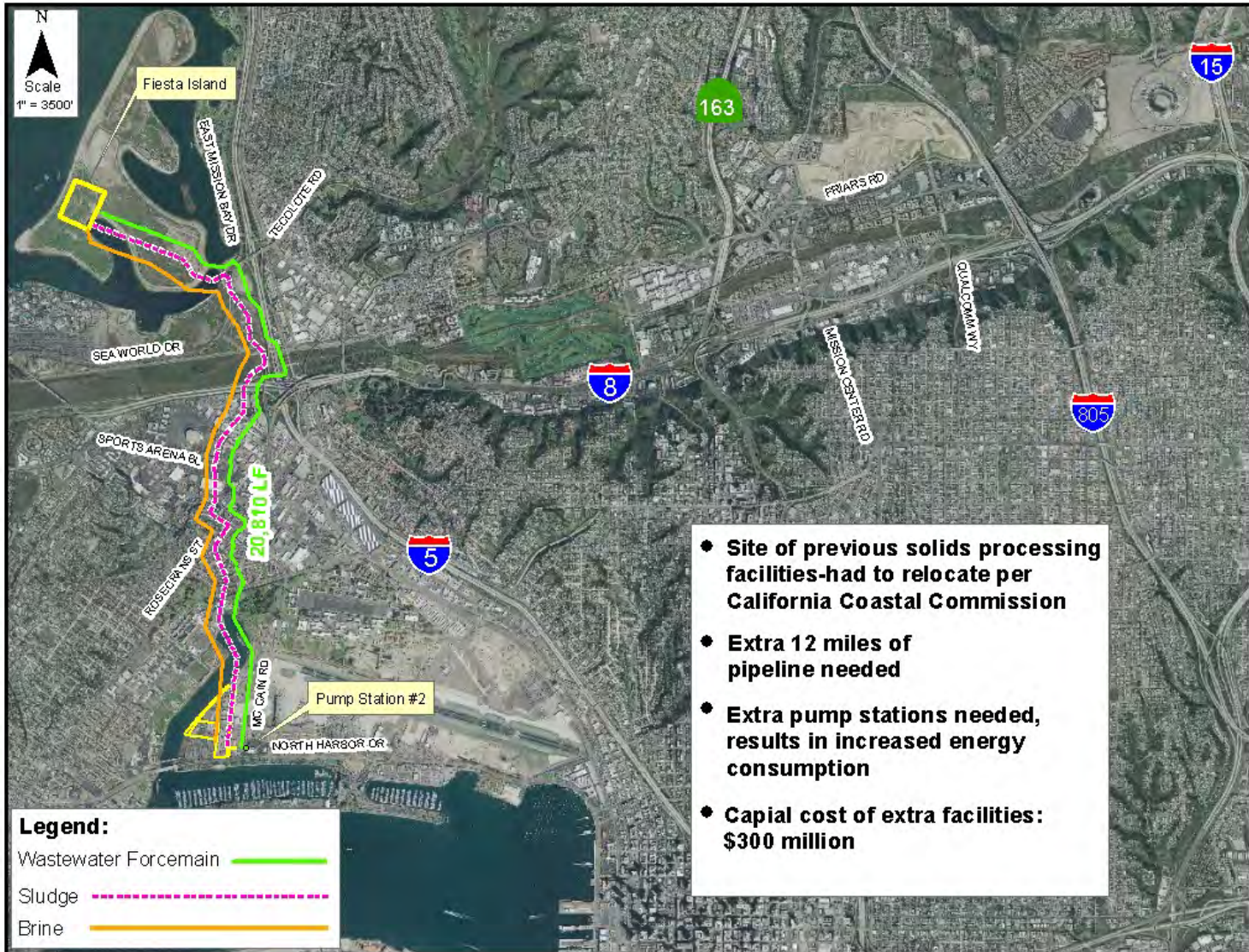
Harbor Drive Site

- Next to Pump Station No. 2, the two largest wastewater lines meet here, currently delivering 157mgd of flow
- Minimize pumping & conveyance (wastewater, tertiary water, sludge, brine)
- Minimize the number of facilities
- 23-acre site currently used for fire and police training
 - Occupants willing to relocate
- Challenges
 - Construction near Bay and Airport
 - Special FAA requirements likely apply



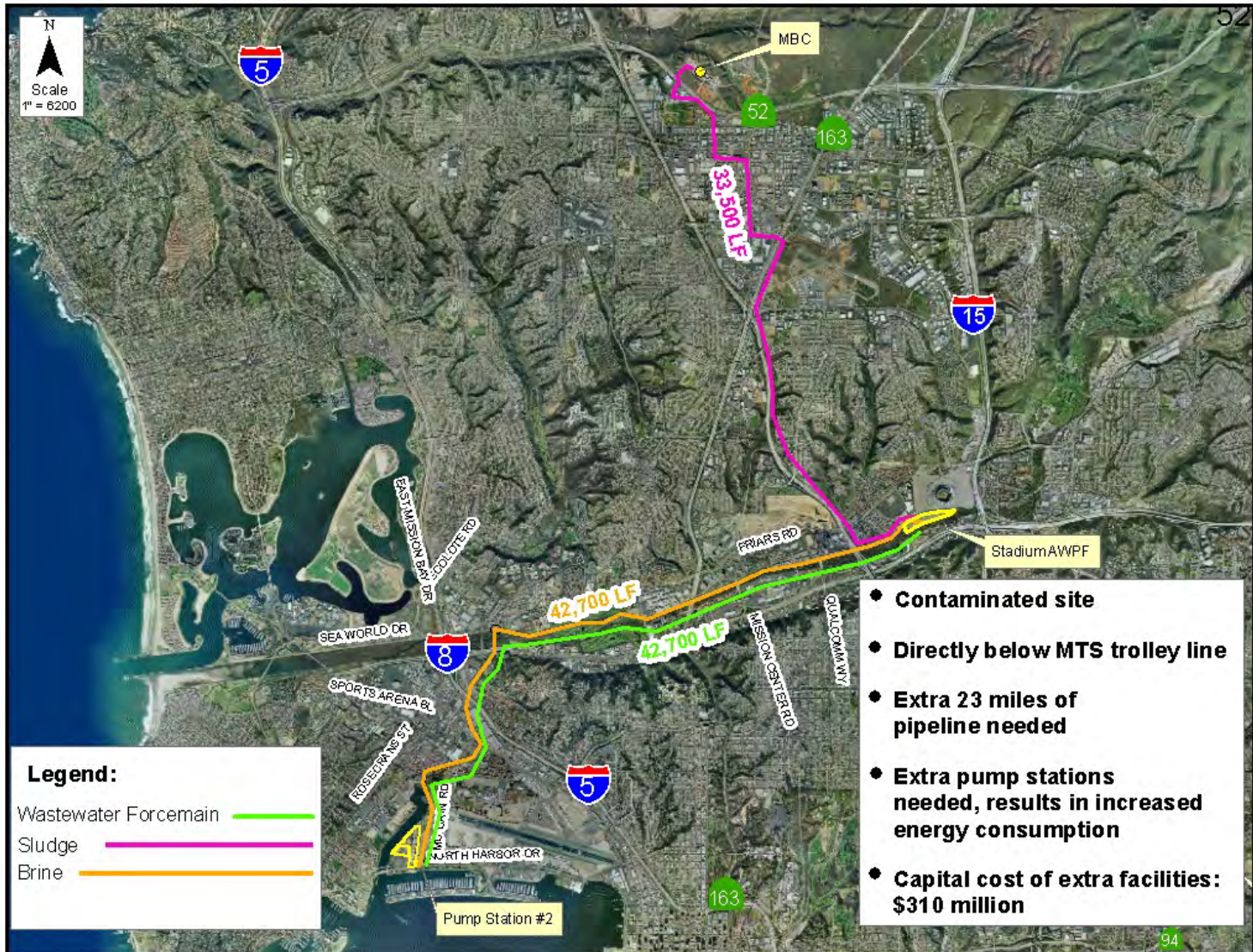
Alternative Site

Fiesta Island (23+ Acres)



Alternative Site

Qualcomm Stadium South Parking Lot (23 Acres)



Alternative Site

Pump Station No. 1-Navy Land (17 acres)



Post Office Site

- Liquefaction Potential
- Only 15.5 acres available < 23 acres required
- Proximity to residential
- Requires additional pump station to redirect wastewater to the site
- Requires additional pipelines from from and to the site



Site Comparison

Site	Capital Cost of Additional Pipe and Pump Stations	Challenges
Harbor Drive	-	<ul style="list-style-type: none"> • FAA will dictate the height of the facility and additional land beyond the 23 acres may be required due to height restrictions • Proximity to Bay and Ocean will require special construction • Ability to acquire land and utilize for treatment purposes
Fiesta Island	\$300 Million	<ul style="list-style-type: none"> • Implementation challenges – previous solids-handling facilities had to be relocated to Metro Biosolids Center. The City was required to relocate facilities from Fiesta Island in the 1990s by the CCC and placing a facility back on the island may be difficult but not impossible • Additional facilities to build and operate • Increased energy requirement due to additional pumping • Pipeline construction through high-traffic tourist areas, including two water crossings
Qualcomm Stadium	\$310 Million	<ul style="list-style-type: none"> • Implementation challenges – City-owned property on Qualcomm Stadium site • Additional facilities to build and operate • Increased energy requirement due to additional pumping • Pipeline construction: 2 freeway crossings, San Diego River crossing → challenging permit acquisition and/or tunneling costs • Site is contaminated and requires clean up
Pump Station 1	\$370 Million	<ul style="list-style-type: none"> • Implementation challenges – site currently owned by United States Navy and used as a parking lot and storage • Additional facilities to build and operate • Increased energy requirement due to additional pumping • Pipeline construction: 2 freeway crossings, San Diego River crossing → challenging permit acquisition and/or tunneling costs • Pipeline construction on Harbor Drive constrained by airport access needs and Port Authority requirements • Previous conversation with the Navy has indicated that the site is contaminated and requires clean-up
Post Office Site	No Cost Determined	<ul style="list-style-type: none"> • Geotechnical data indicate site has liquefaction potential • Would require additional pump stations and pipeline to pump wastewater to the site as well as pumping brine back to past pump station 2 • Proximity to residential communities and businesses • Will not accommodate treatment process due to limited space (15.5 acres)

Causes of Odor

- One of the main reasons for odors at a treatment facility is the use of open treatment processes.
- Other principal causes of odors include wastewater turning septic due to stagnation, overloading of the wastewater treatment.
- Improperly sizing of Odor Control System.

Odor Control Systems

- Some of the proven treatment methods being used at the City's facilities include:
 - Biological foul air treatment (Biofilters)
 - Adsorption (Activated Carbon) – Odorous gases are passed through beds of activated carbon to remove odors;
 - Wet Chemical Scrubbing - Odorous gases passed through specially designed scrubbing towers where chemicals are added to remove odors

Effectiveness and Regulatory Compliance:

- Odor control methods have proven very effective in the wastewater collection and treatment process.
- The City has a strong track record of nominal odor complaints throughout our vast service territory, with those primarily occurring within the collection system.
- Odor control methods at wastewater treatment plants are proven.

North City Water Reclamation Facility



All treatment processes are covered to prevent birds as well as to treat odors generated within each treatment process. Each treatment facility will be equipped with state of the art Odor Control Facility .

North City Water Reclamation Facility



Architecturally Pleasing

Similar Facilities



Typical architecture of Treatment Facility located elsewhere

Similar Facilities



Typical architecture of Treatment Facility located elsewhere

Similar Facilities



Similar Facilities



Oceanside Pollution Control Plant

Similar Facilities



Oceanside Pollution Control Plant

Similar Facilities



Tillman Reclamation Plant (City of LA)

Questions?

