



San Diego Office Update San Diego Citizen's Forum

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SAN DIEGO OFFICE ACTIVITIES

- Flood Control – Tijuana River Flood Control Project
- Water Quality – South Bay International Wastewater Treatment Plant
- Boundary Demarcation – Ports of Entry, San Diego County, Monuments 230-258
- Tijuana Emergency Water Deliveries
- Tijuana River Valley Recovery Team



Tijuana River Valley





TIJUANA RIVER WATERSHED

- 1,725 square miles, 2/3 in Mexico
- River flows north into ocean at Imperial Beach
- Morena and Barrett Dams in the U.S. operated by City of San Diego for water conservation
- Carrizo and Rodriguez Dams in Mexico operated by National Water Commission for water conservation and flood control

TIJUANA RIVER WATERSHED



TIJUANA RIVER WATERSHED



Barrett Dam
San Diego, California



Rodriguez Dam
Tijuana, Mexico

TIJUANA RIVER FLOOD CONTROL PROJECT

- International flood control project; constructed in 1970s per Minutes 225, 236, and 258
- Design flood of 135,000 cfs, “the maximum flood that can reasonably be expected”
- Mexico has a 2.7-mile concrete-lined channel
- Original plan for 5.3 mile concrete-lined channel in U.S. scaled back at request of City of San Diego
- U.S. constructed a 1200-ft. concrete-lined channel connected to 3700-ft. long velocity reduction structure; levees extend to Dairy Mart Road
- U.S. levee height of 12-23 feet
- USIBWC responsible for maintenance of U.S. portion

TIJUANA RIVER FLOOD CONTROL PROJECT

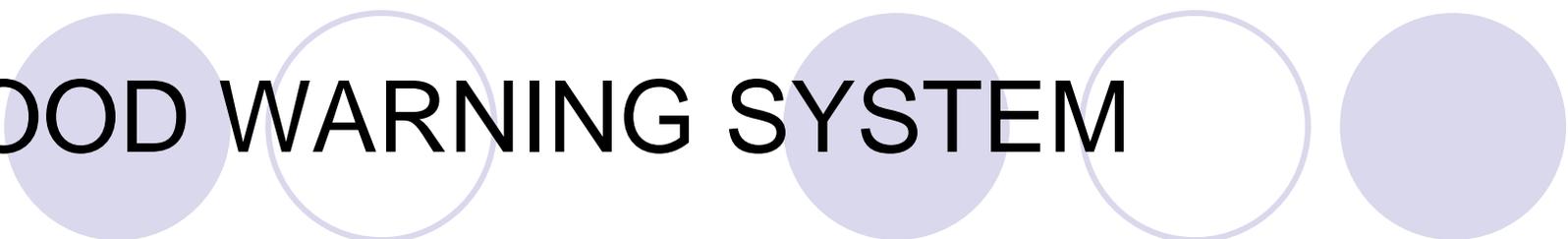


Channel at international boundary



**During Dec. 2008 storm.
Flooding occurred downstream
from IBWC project.**

FLOOD WARNING SYSTEM



- Binational flood warning system for Tijuana River established per 2003 agreement
- System of rain gages and stream gages provides real-time data accessible to emergency managers in both countries
- Encompasses Morena Lake, points east to Tecate, and west to the coast
- Automatic Local Evaluation in Real Time (ALERT) system maintained by San Diego County in U.S. and IBWC in Mexico

Boundary Demarcation

- Boundary demarcation
 - Demarcation at ports of entry
 - Repair or replacement of monuments
 - Address boundary encroachments



Boundary Monument

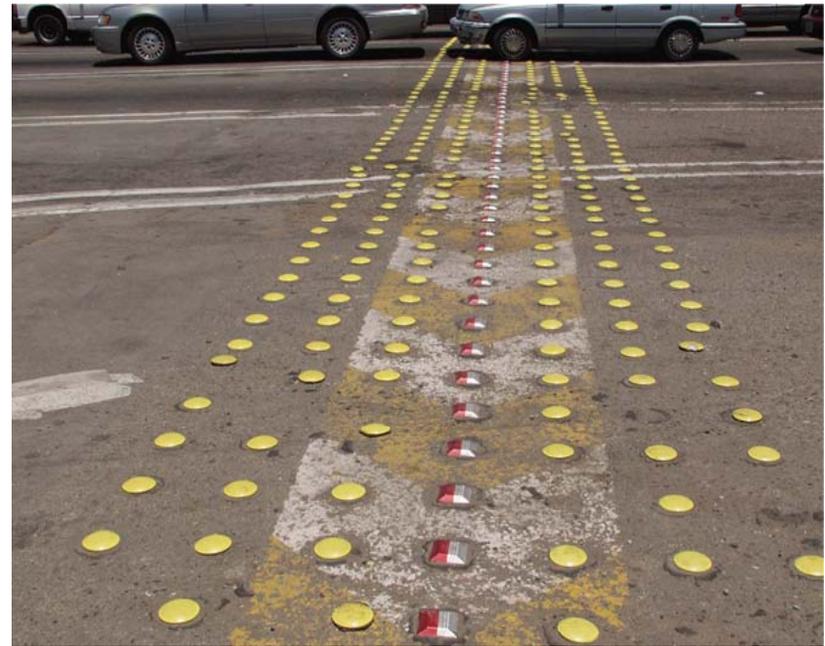
Monument 258



Port of Entry Delineation



**Boundary Demarcation
San Ysidro, CA**



**Port-of-Entry Markings
Otay Mesa, CA**

Tijuana Emergency Connection — Minute 314 (2008)

- Provides for emergency delivery of a portion of Mexico's allotment of Colorado River water through California conveyance system
- Various U.S. entities cooperated:
 - SDCWA
 - MWD
 - Otay Water District
- Mexico pays all costs



Connection at Otay Mesa

SANITATION - MINUTE NO. 283 (1990)

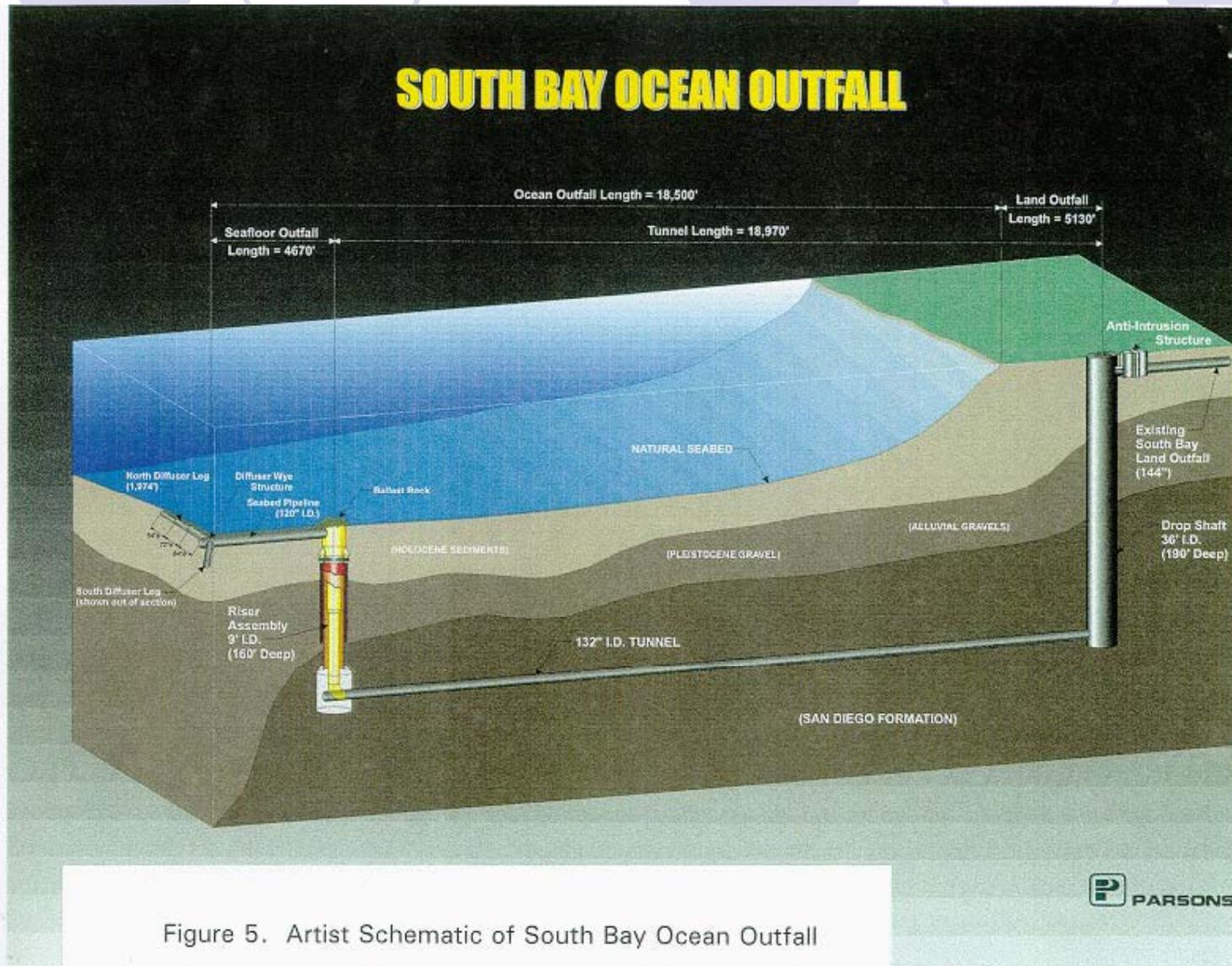
- To address flow of sewage into the U.S. via the Tijuana River
- Mexico to help fund a wastewater treatment plant in San Diego in lieu of a planned plant in Tijuana
- Secondary treatment level in accordance with more stringent U.S. standards
- Construction of an ocean outfall by the U.S.

SOUTH BAY INTERNATIONAL WASTEWATER TREATMENT PLANT

- Located on Clearwater Way, next to San Diego's South Bay Water Reclamation Plant.
- Plant capacity of 25 mgd – advanced primary plant completed 1997
- Construction of the secondary plant began Jan 2009 and was completed April 2011. Cost = \$93M. Provides secondary treatment to sewage emanating from Tijuana
- Mexico paid a portion of capital costs, continues to contribute to O & M, approx \$1.8M/ year + all solids disposal. O&M cost share is based on treated flow.
- Treated effluent discharged 3.5 miles offshore via South Bay Ocean Outfall



SOUTH BAY OCEAN OUTFALL



SOUTH BAY INTERNATIONAL WWTP





Construction Status

Contract Completion Date 8/31/11

Secondary Compliance Date 1/5/11

Award Amount: \$87,637,816

Current Contract Amount: \$92,984,692

Contract Obligation are complete
except for warranty items



Plant Operations

Bypassing flow around secondary has been resolved.

Permit requirements generally met in Feb-May 2011 timeframe

Upset in June 2011 may have been result of increased metals in influent (chromium, iron, nickel, copper)



Effluent Quality

Effluent violations in July thought to be result of higher peak flows causing hydraulic issue and solids washout.

Discovered to be result of low DO at peak flows.

Since early Aug, TSS/CBOD averaging <20 mg/l. Permit is 30/25
Acute Toxicity – all tests passing

Wastewater Infrastructure

- USIBWC, CESPTT (Tijuana Utility)
- Four WWTPs
 - SBIWTP (US-25 mgd), Arturo Herrera (MX-10 mgd), La Morita (MX-6 mgd), San Antonio de los Buenos (MX-25 mgd)



- Pump Station No. 1, PS CILA, smaller lift stations (MX)
- Canyon collection facilities (US)

Mexican Wastewater Facilities

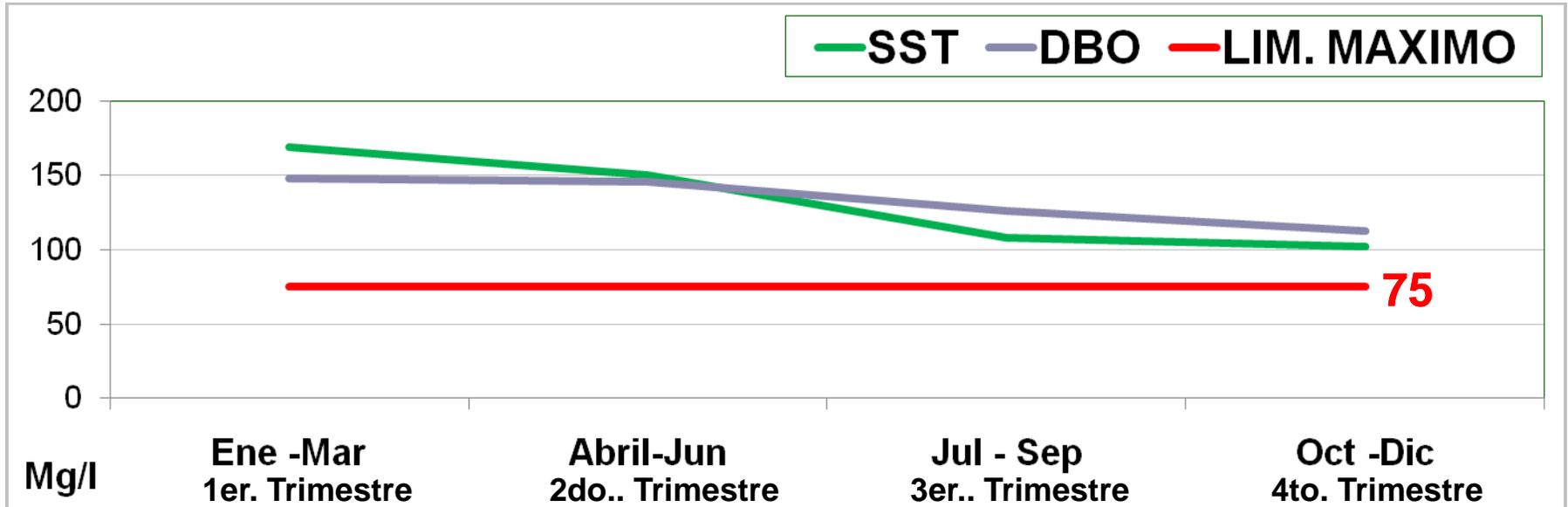
San Antonio WWTP

25 mgd



CALIDAD Efluente Laguna #3

San Antonio de los Buenos



Arturo Herrera WWTP – 10.5 mgd (currently treating 5 mgd)

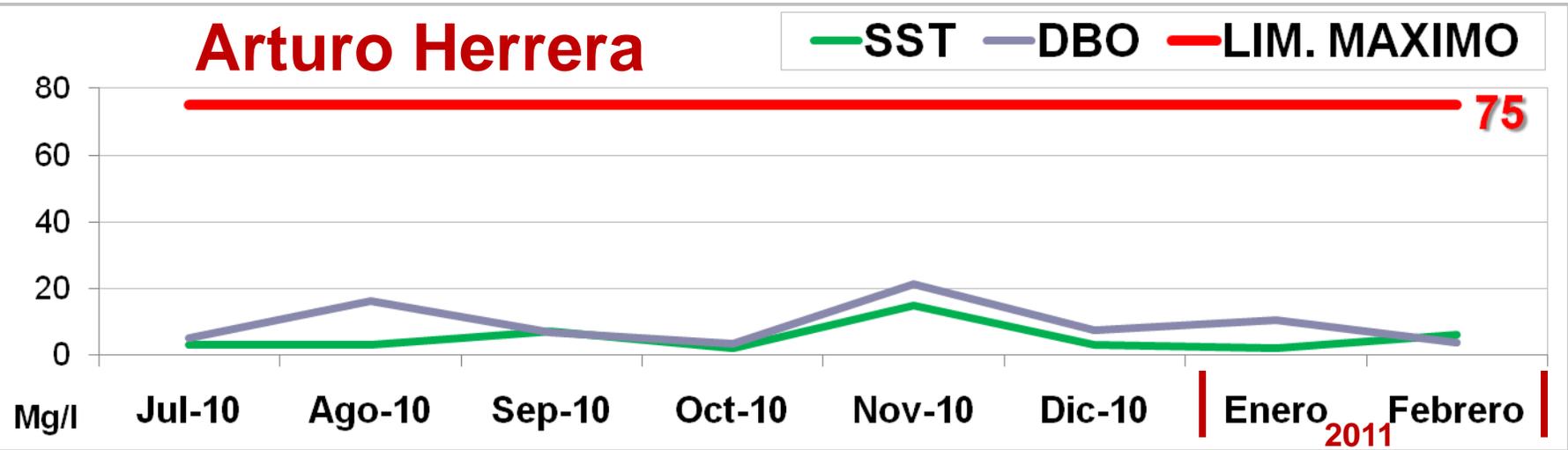


La Morita WWTP- (5.8 mgd – currently treating 2 mgd)

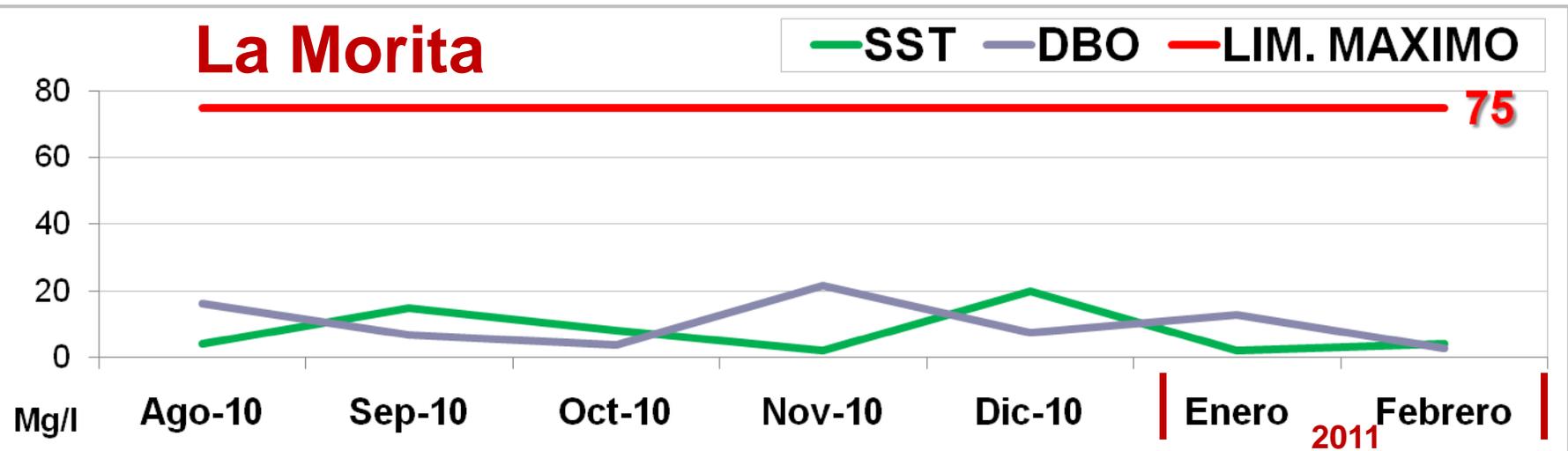


CALIDAD Plantas de Tratamiento

Arturo Herrera



La Morita



Canyon Collectors



- Canyons flowing north from Mexico to US (high risk due to passage/sheltering of illegals – Stewarts Drain)
- Necessary in case of failure of Mexico lift stations – may result in sewage spills in the US
- Small concrete weirs and diversion boxes with gravity flow to larger pump stations (Smugglers Gulch above left)
- Largest two recently rebuilt as part of Border Fence



Pump Station CILA



- Pump Station CILA diverts Tijuana River flows into 1) sewer system or 2) reclaimed water system
- TJ River flows are combination of 7 mgd of sec effluent, storm runoff and wastewater discharges
- Eliminates dry weather flow into the US, wet weather flows continue to plague US beaches

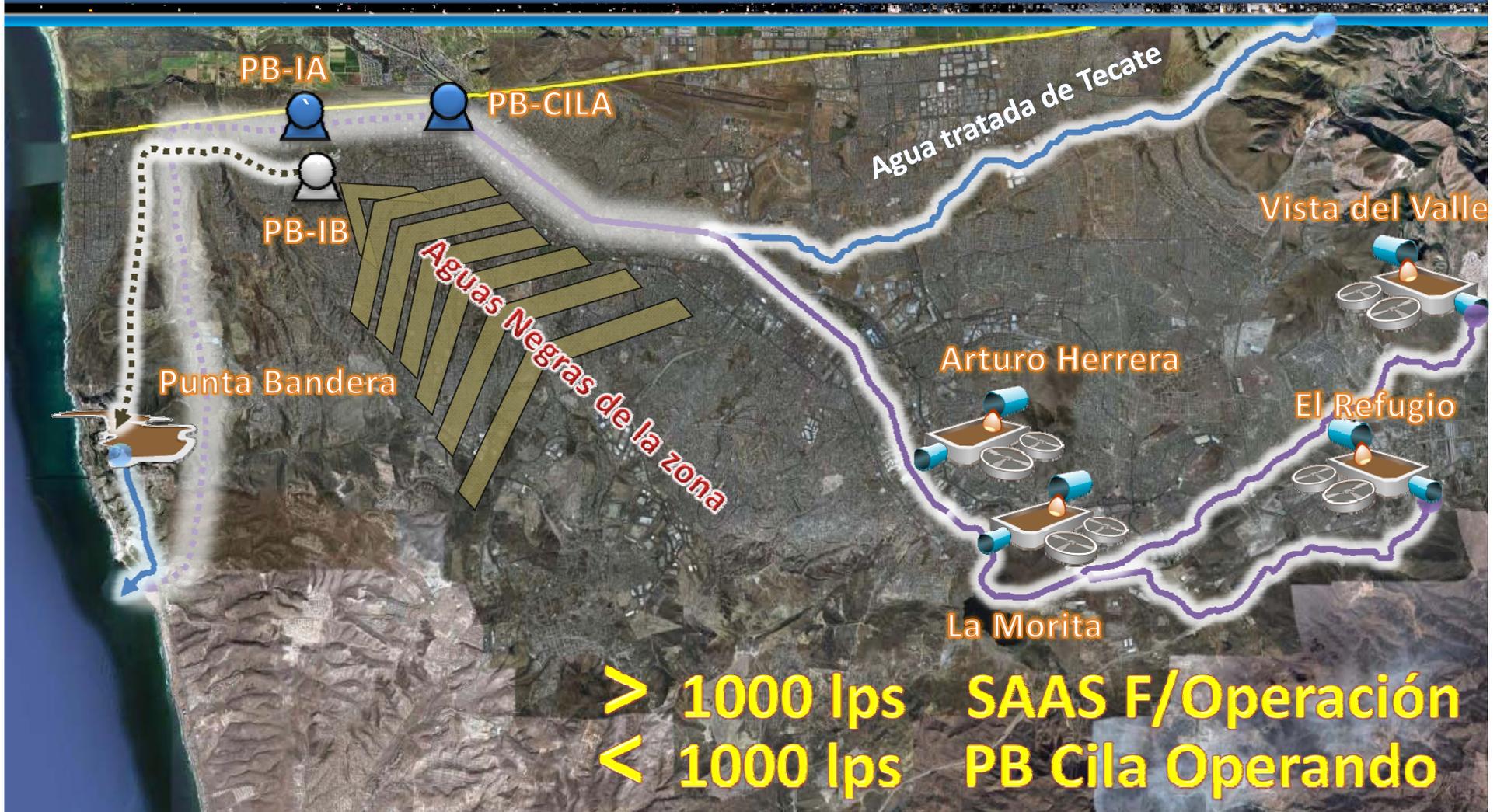


Tijuana River Flow

- Two “sources”- 1) runoff from the Tijuana River Watershed and 2) secondary effluent from Arturo Herrera and La Morita WWTPs.
- Runoff includes uncontrolled flow from a full Barrett Dam in the US or a full Rodriguez Dam in Mexico, and from undammed portions of the watershed during rainy periods. Effluent flow is continuous and steady and is not influenced by rainfall.
- In accordance with Mexican policy, when flows exceed 1000 lps (about 23 mgd), Pump Station CILA is shut down. US and Mexico are in discussions to increase this number.



SISTEMA PB-CILA – PB1-A



— Agua proyecto morado
— Agua tratada

— Agua proyecto morado mezclada
— Agua negra

Reservoir Levels

- City Water Department is drafting Barrett and transferring water to Lower Otay Reservoir using Dulzura Flume
- As of 7/27/11, Barrett was being drafted at 5 mgd and by first week in Aug will increase to 20 mgd
- Continue to draft at that rate through 2012 to lower Barrett 50 feet.
- Rodriguez Dam was at 25% capacity in Feb 2011, now at 17%

Bi-national Challenges



Joint Operation of Pump Station No.1 and SBIWTP

- SBIWTP takes flow just upstream of PS No.1 wet well
- During maintenance periods, SBIWTP must take all flow from Mexico for short periods. Alternatively, during special operations at SBIWTP, Mexico is required to pump all flow. These periods usually occur during overnight hours.
- PS No.1 has no Emergency Generator
- Quarterly Operations Meetings- CESPTT, IBWC, Veolia to discuss/resolve issues



NPDES Permit Compliance

- Higher flows to SBIWTP must be accounted for within 30 days – NTE 25 mgd in 30 day average
- Sampling in Mexico at 3 surf stations for US NPDES permit
- Dumping of concentrated loads may cause plant upsets/violations
- monitoring sewer overflows/ww spills
- draft NPDES permit expected end of 2011.



Sludge Hauling

- Mexico Responsible for Solids Disposal - Landfilled at San Antonio de los Buenos Treatment Plant
- Special Gates in Border Fence to Expedite Passage
- Poses Security Risk, Drivers have Commission IDs



TIJUANA RIVER VALLEY RECOVERY TEAM



- Initiated by Regional Water Quality Control Board in 2008 to facilitate future issuance of Total Maximum Daily Load limits for solid waste and sediment
- Group of 20 agencies and stakeholder groups with policy oversight
- Focus is to implement a recovery plan for the TJ River Valley
- Tijuana River estuary is unique in Southern CA because it has not been bisected by urban corridors

Tijuana River Valley Recovery Team - Trash and Sediment



Trash and Sediment

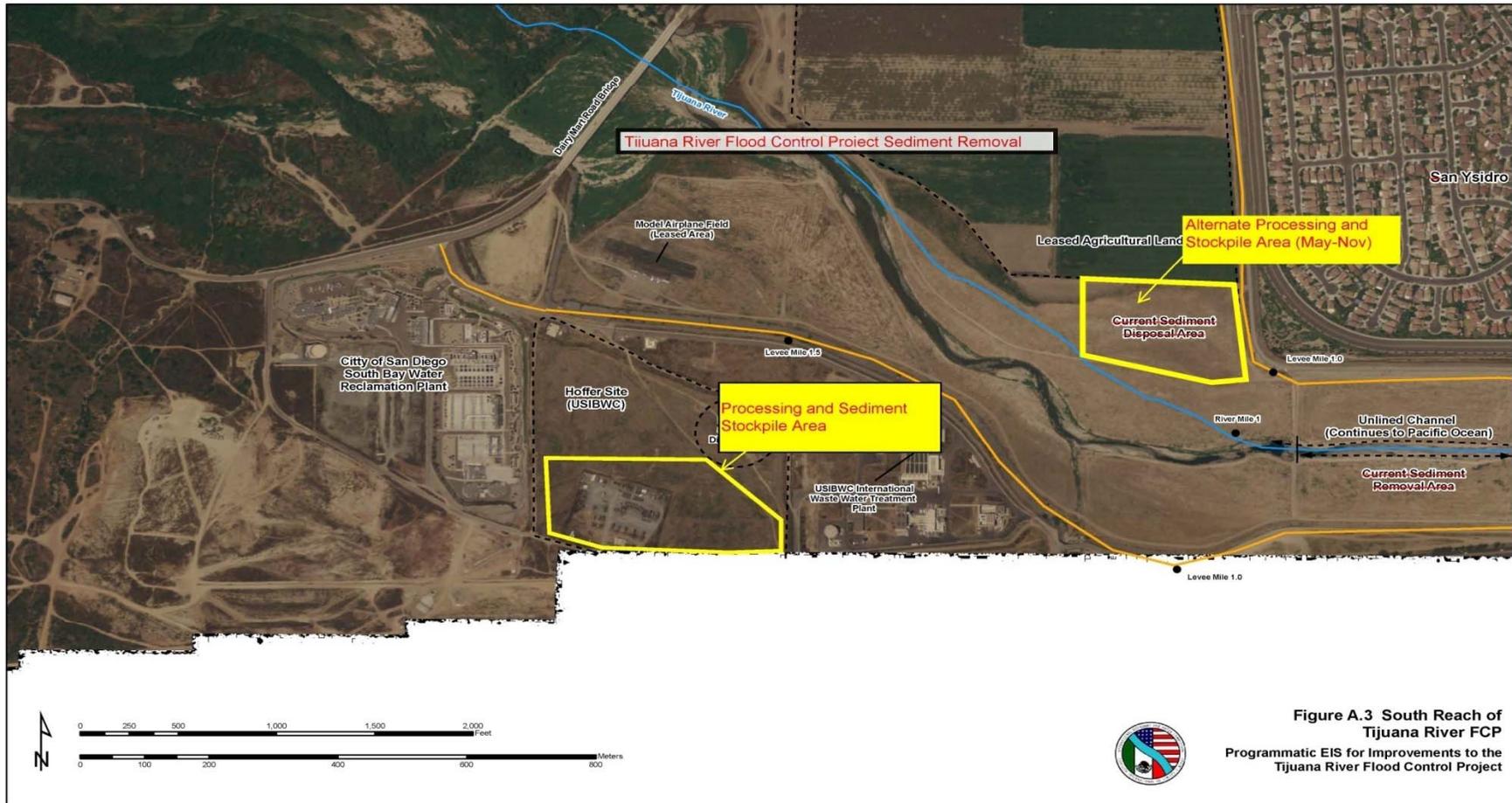
- TJ River Flood Control Project Sediment/Trash Removal planned for FY12
 - 404 Permit
 - 401 Water Quality Cert
 - Coastal Consistency Determination
- Removal of sediment from Goat Canyon basins and invasives removal & restoration d/s of the basins –SBIWTP construction mitigation planned for this fall.



Tijuana River Sediment Removal



Tijuana River Sediment Removal



INTERNATIONAL BOUNDARY AND WATER COMMISSION,
UNITED STATES AND MEXICO
UNITED STATES SECTION



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