



# **Citizens Forum Meeting**

## **Binational Water Quality Study of the Tijuana River and Canyons**

Jose A. Nuñez, P.E.  
Principal Engineer  
Engineering Department

**International Boundary and Water Commission**

United States Section

December 06, 2018



# Binational Monitoring Program

## Binational Water Quality Study of the Tijuana River and Canyons

- February 2017 spill investigation noted a lack of baseline data
- Recommendation from binational work group to develop a routine monitoring program to gather baseline data

### **12-Month Study:**

- Collect data from the main transboundary sites
- Mold future monitoring events based on information
- Develop more focused monitoring studies based on the location/data
- **Prepare an IBWC binational technical report of findings (English/Spanish)**



# **Binational Monitoring Program**

## **Binational Water Quality Study of the Tijuana River and Canyons**

### **Parameters being analyzed in Water:**

- Field (pH, dissolved oxygen, conductivity, temperature, weather (wind, direction), flow)
- Conventional- TSS/VSS, BOD, COD, Ammonia, T-Phosphorus
- Pathogens- E. coli, Enterococcus, Cholera, Enteric Virus, Campylobacter, Norovirus
- Metals and Organics (Pesticides, Volatiles, Semi-Volatiles (BNA's))

### **Parameters being analyzed in Sediment:**

- Metals, Organics, BNA's
- Pathogens
- Recommendation from binational work group to develop a routine
- monitoring program to gather baseline data

# Binational Monitoring Program



## Sampling Plan

### Binational sampling team:

- U.S. team to collect at all sites in the U.S. plus at the PBCILA station, samples to be analyzed by a U.S. lab
- Mexican team to collect at all sites in Mexico as well as canyon sites, samples
- to be analyzed by a Mexican lab

**First Sampling to begin on December 6, 2018**



**Monitoring Sites**  
**Tijuana River and Canyon Areas**

- Water and Sediment
- Sediment Only

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



# Discussion



# **Citizens Forum Meeting**

## **Feasibility Study for Sediment Basins – Tijuana River**

Jose A. Nuñez, P.E.  
Principal Engineer  
Engineering Department

**International Boundary and Water Commission**

United States Section

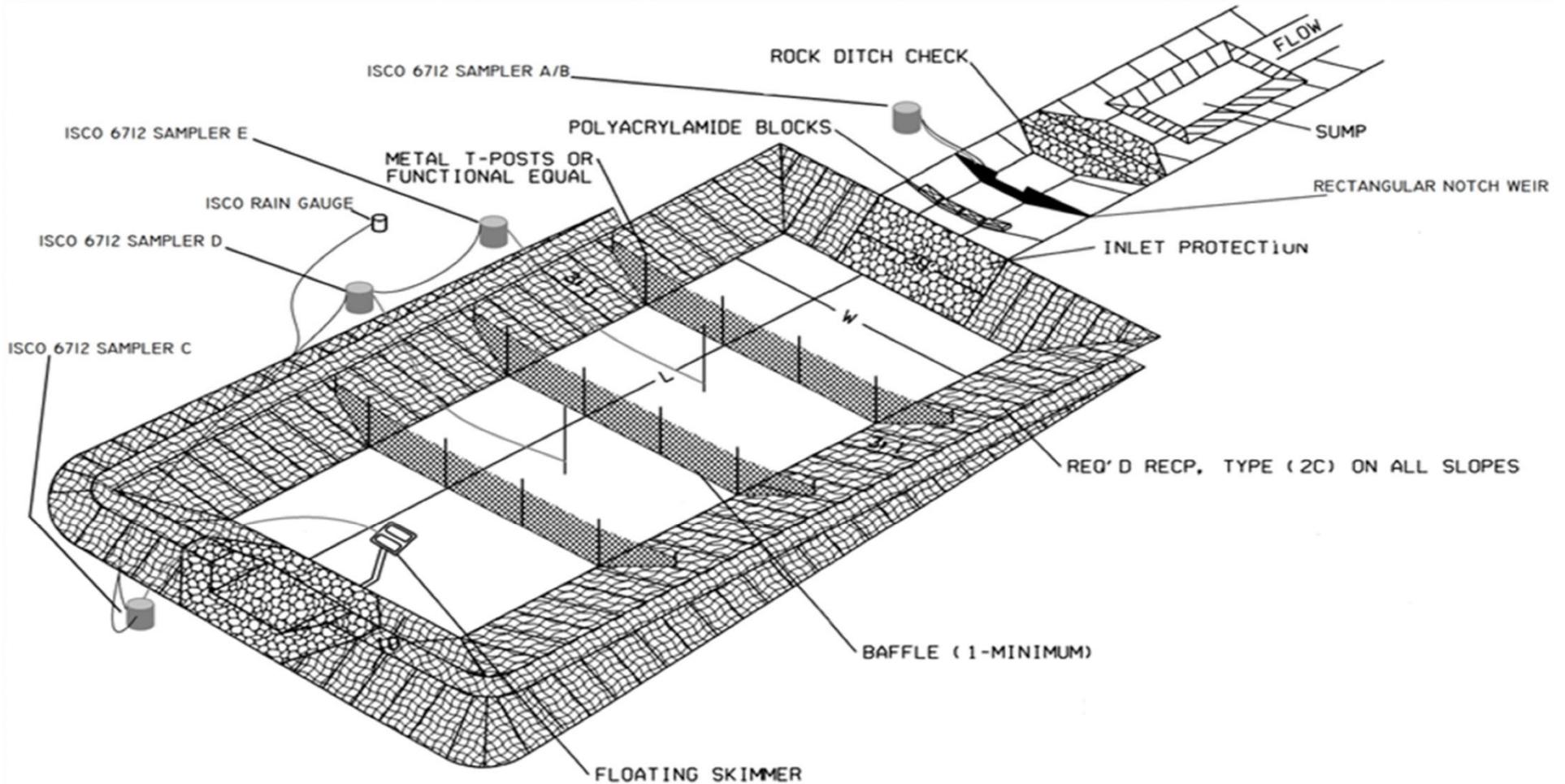
December 06, 2018



# Purpose of the Feasibility Study

- To locate and size sediment basin(s) in the Tijuana River between the International Border and Dairy Mart Road to intercept sediment, transboundary flows, incidental wastewater flows, and capture debris and trash.
- Study will include Hydrologic/Hydraulic and Sediment Transport modeling.
- The Study will develop alternatives and identify a preferred alternative.
- A conceptual design will be developed for the preferred alternative.
- The Scope of Work was developed with the Minute 320 Sediment Work Group and Stantec was awarded Study Contract in Sep, 2018.

# Sediment Basin Concept



# Project Location

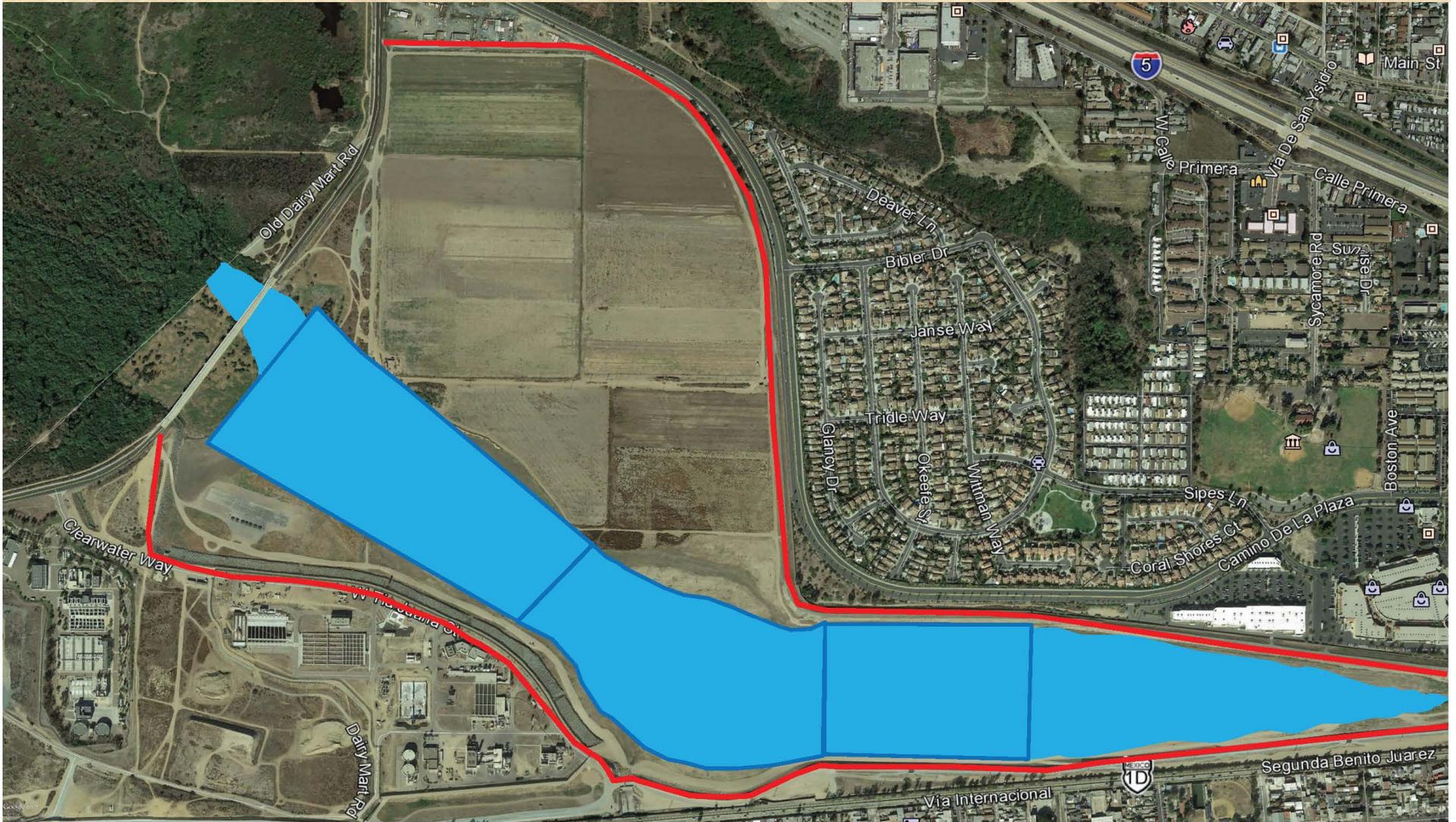




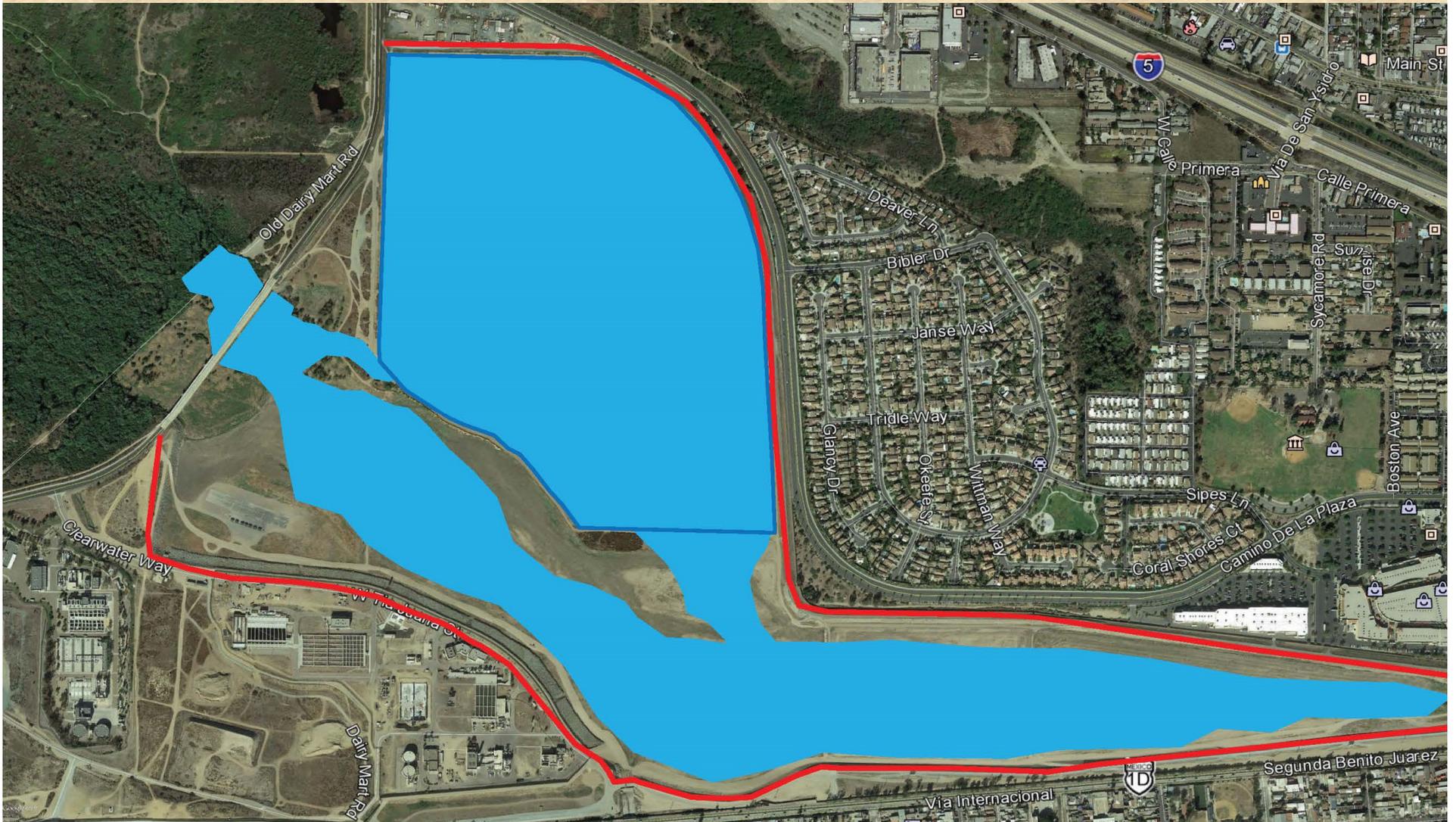
# Project Alternatives

- Alternative A – In-channel sediment basin
- Alternative B – Off-channel sediment basin
- Alternative C – Combination of In-channel and Off-channel sediment basin

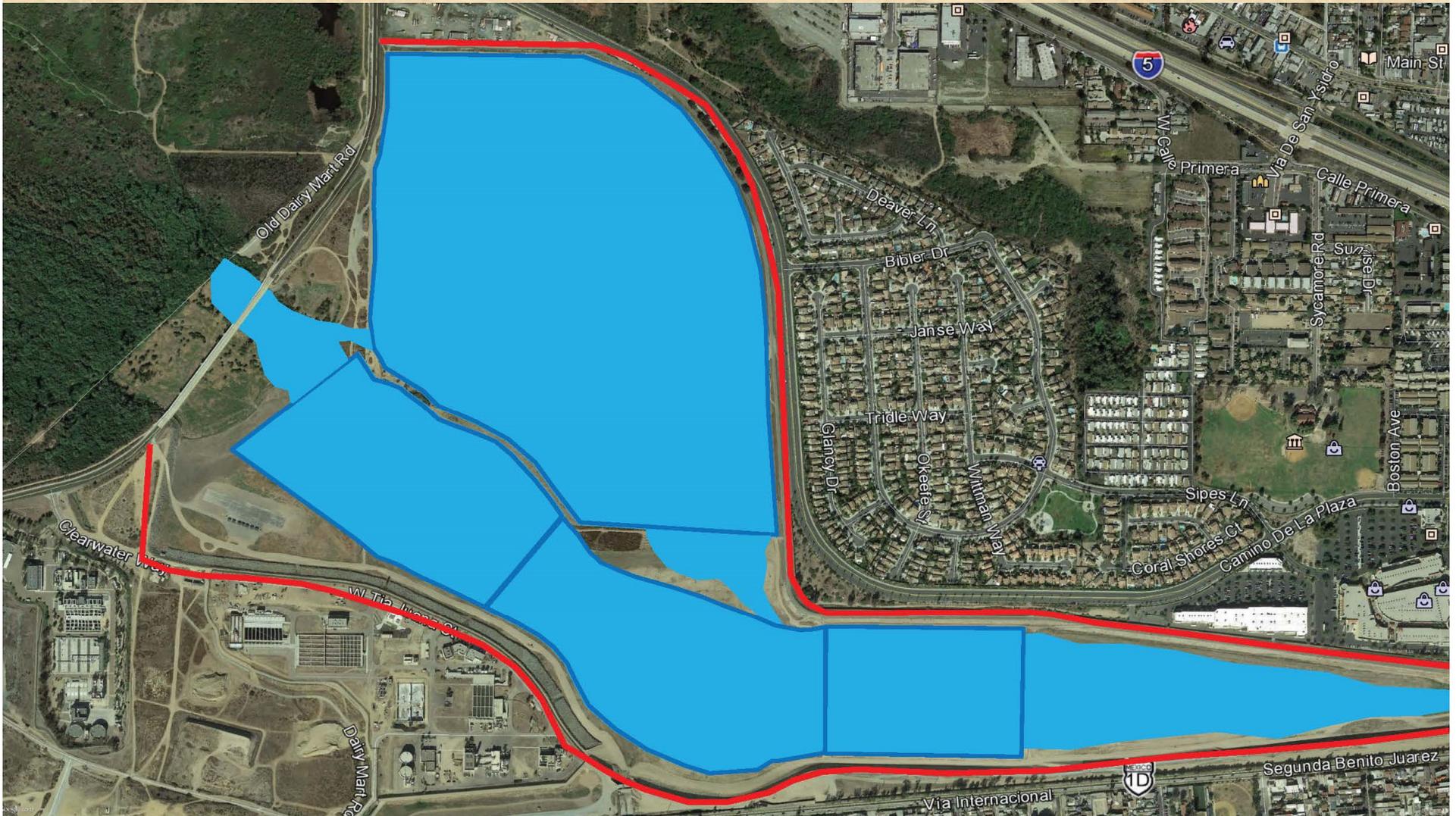
# Alternative A – In-Channel Sediment Basin



# Alternative B – Off-Channel Sediment Basin



# Alternative C – Combination of In-Channel and Off-Channel Sediment Basin





# Project Schedule

- Nov 5, 2018: Kickoff meeting
- Dec 20, 2018: 30% Conceptual Design
- Apr 10, 2019: 60% Conceptual Design
- Jun 30, 2019: 90% Conceptual Design
- Sep 16, 2019: 100% Conceptual Design



# Discussion



# **Citizens Forum Meeting**

## **Tijuana River Flood Control Rehabilitation of North and South Levees, San Diego County, California**

Jose A. Nuñez, P.E.  
Principal Engineer  
Engineering Department

**International Boundary and Water Commission**

United States Section

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# Scope Overview

## FOR NORTH LEVEE

- Design of approximately 2,300 linear feet reinforced floodwall at the north levee, including levee abutting Dairy Mart Road.
- Design of levee repairs for damages by burrowing rodents and erosions in the locations near the 90° bend at the energy dissipater.
- Design of necessary rehabilitation to existing drainage structures or new drainage structures that may be needed to meet FEMA 44 CFR §65.10 requirements and USIBWC standards.

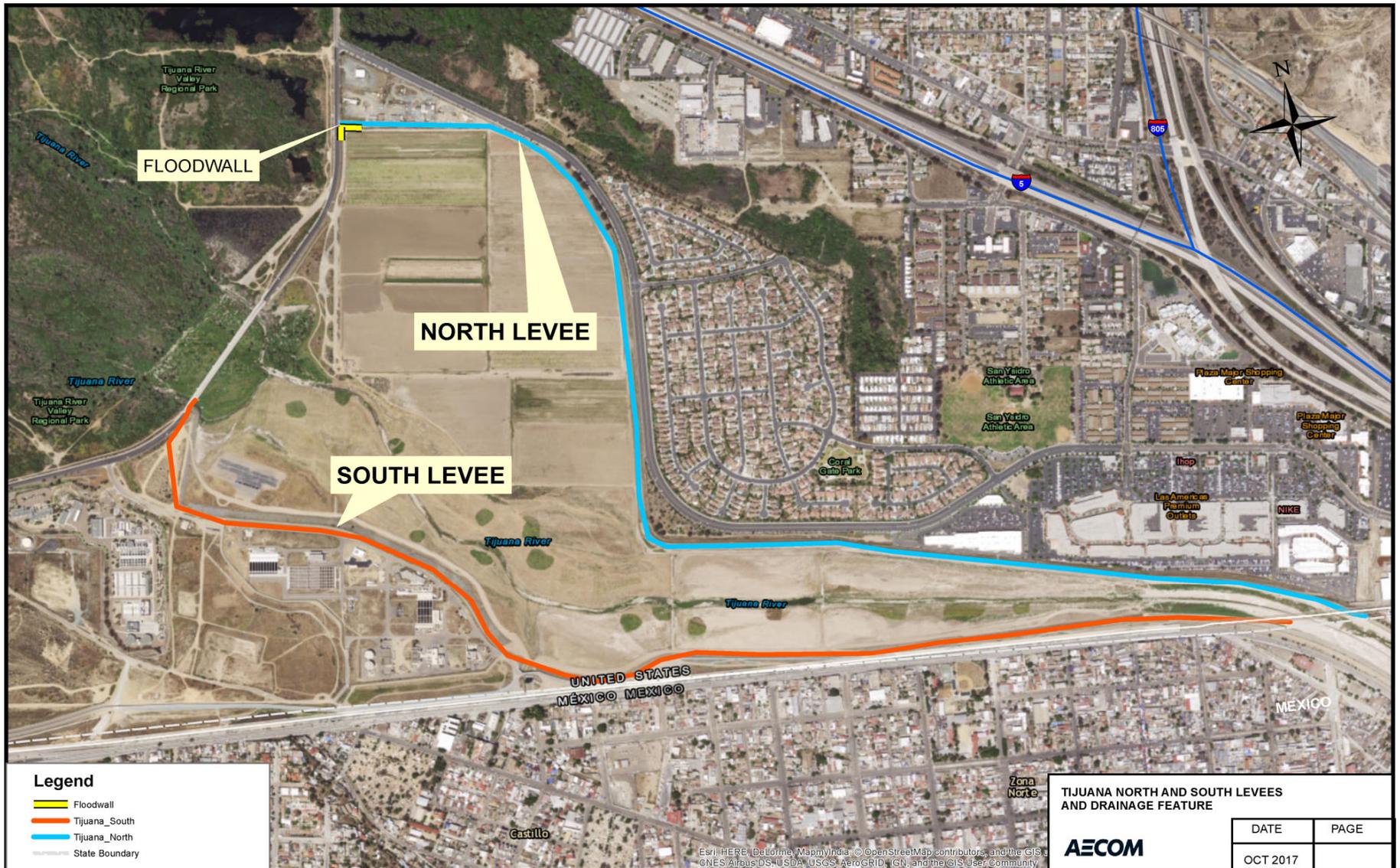


# Scope Overview contd.

## FOR SOUTH LEVEE

- Design of levee repairs for the damage caused by burrowing rodents, erosion, other factors in the locations observed during the site reconnaissance.
- Design of necessary rehabilitation to existing drainage structures or new drainage structures that may be needed to meet FEMA 44 CFR §65.10 requirements and USIBWC standards

# Project Location

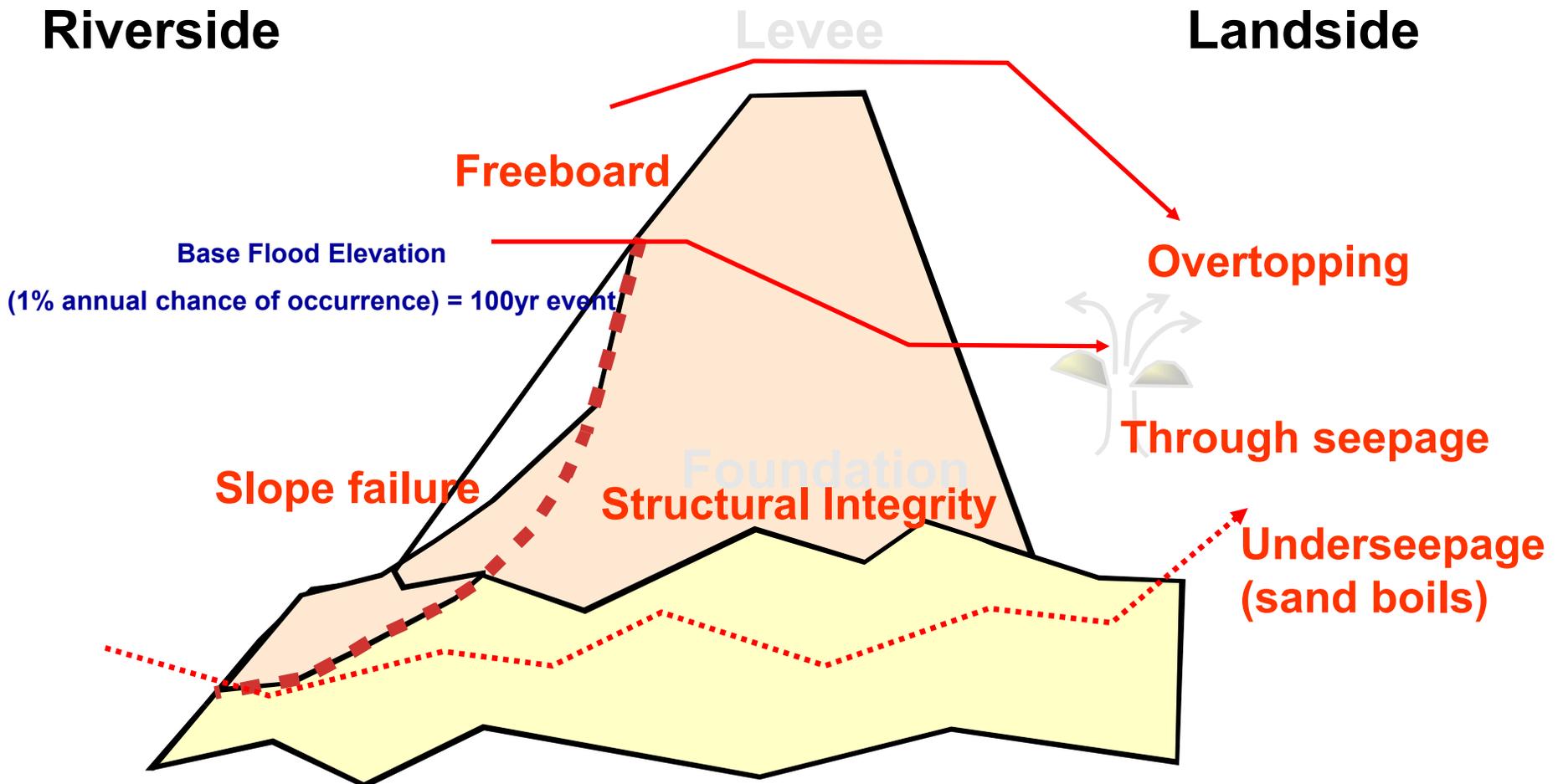




## Scope Overview contd.

- Ground Survey – Survey control & existing survey markers, right of way, cross section survey, existing utility survey, geophysical location and potholing.
- Geotechnical Investigation and Biological Survey.
- Hydrologic and Hydraulic Analysis.

# Levee Terminology





# North Levee Alignment



# Riverside Earthen Section

## Ground squirrel burrows within embankment





# Storm Drains

**North Drain 1 - Landside**



**CULVERT PIPES  
LOOKING NORTH**



**North Drain 1 - Riverside**





# Project Schedule

- Sep, 2017: Project awarded to AECOM
- Oct 11, 2017: Kickoff meeting
- Nov 13, 2018: Final Survey Report
- Feb 19, 2019: 30% Conceptual Submittal
- Apr 12, 2019: 60% Design Submittal
- Jun 3, 2019: 90% Design Submittal
- Sep, 2019: 100% Design Submittal



# Discussion