



# **STATUS UPDATE ON FEMA ACCREDITATION OF RIO GRANDE FLOOD CONTROL LEVEES**

**Apurba Borah, Ph.D., P.E., PMP  
Lead Hydraulic Engineer**

**International Boundary and Water Commission  
United States Section**

**Engineering Services Division**

**Upper Rio Grande Citizens Forum  
January 21, 2016**



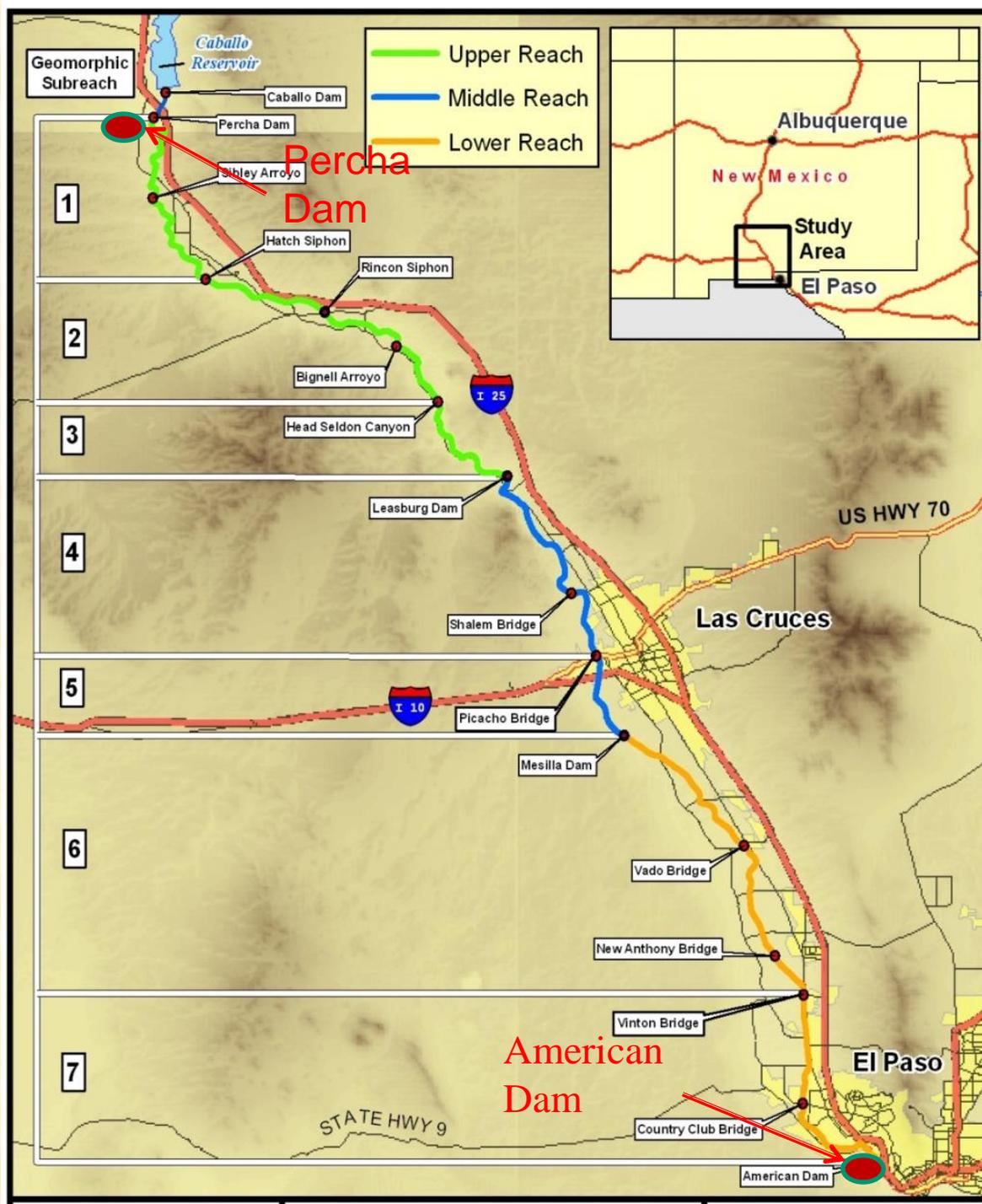
# Study Area

## **Rio Grande Canalization Project (RGCP)**

- **From Percha Dam to American Dam**
  - **Reach of 105.4 miles**

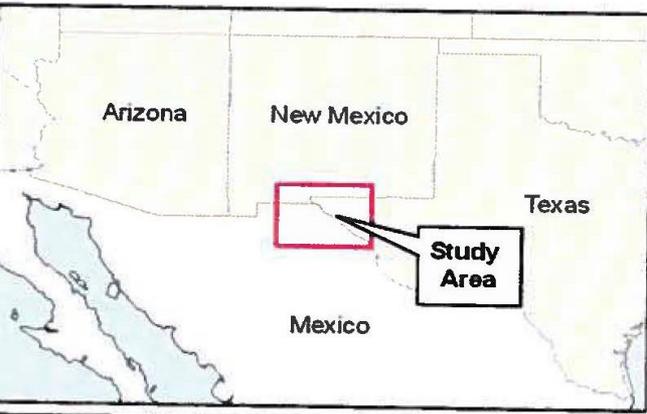
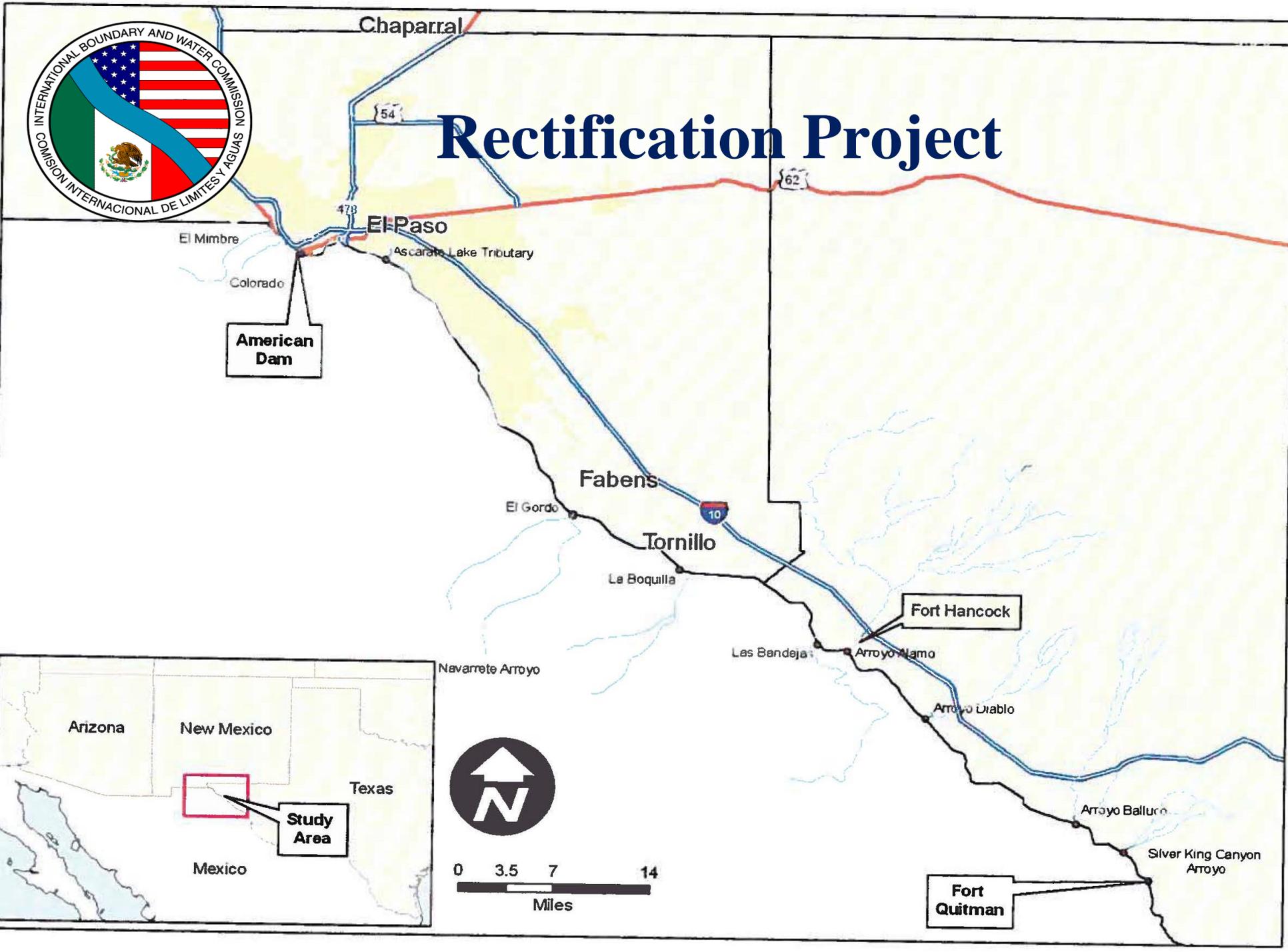
## **Rectification Reach**

- **From American Dam to Little Box Canyon**
  - **Reach of 93.6 miles**





# Rectification Project



Fort Quitman



# Background

- **The USIBWC has rehabilitated several sections of the Rio Grande Canalization Project (RGCP) and Rectification Project levees as part of the American Recovery and Reinvestment Act (2009)**
- **The USIBWC has completed the submittals of several packages representing rehabilitated levee segments to FEMA for levee accreditation.**



# FEMA Levee Accreditation

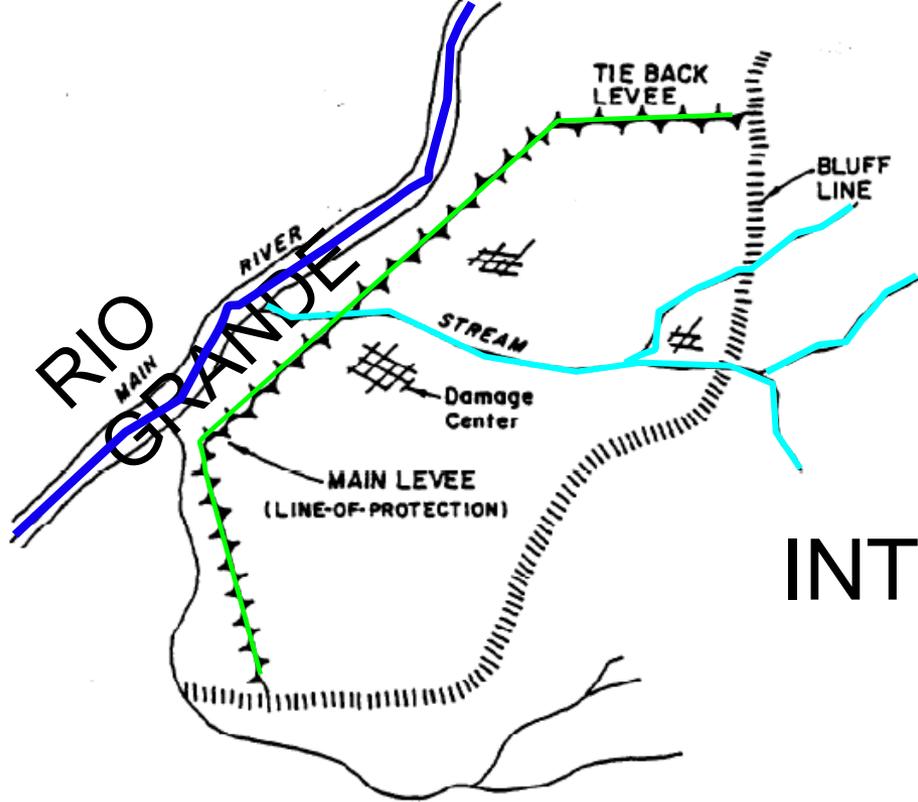
- **A FEMA accredited levee system is a levee system that meets the requirements of Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations (44 CFR 65.10) ‘Mapping of Areas Protected by Levee Systems’**
- **Such a levee system is shown on the Federal Insurance Rate Map (FIRM) as providing protection from the 1-percent-annual chance flood (100-year flood).**



# Requirements for FEMA Levee Accreditation

**Must Meet 44 CFR 65.10 Standards. These include:**

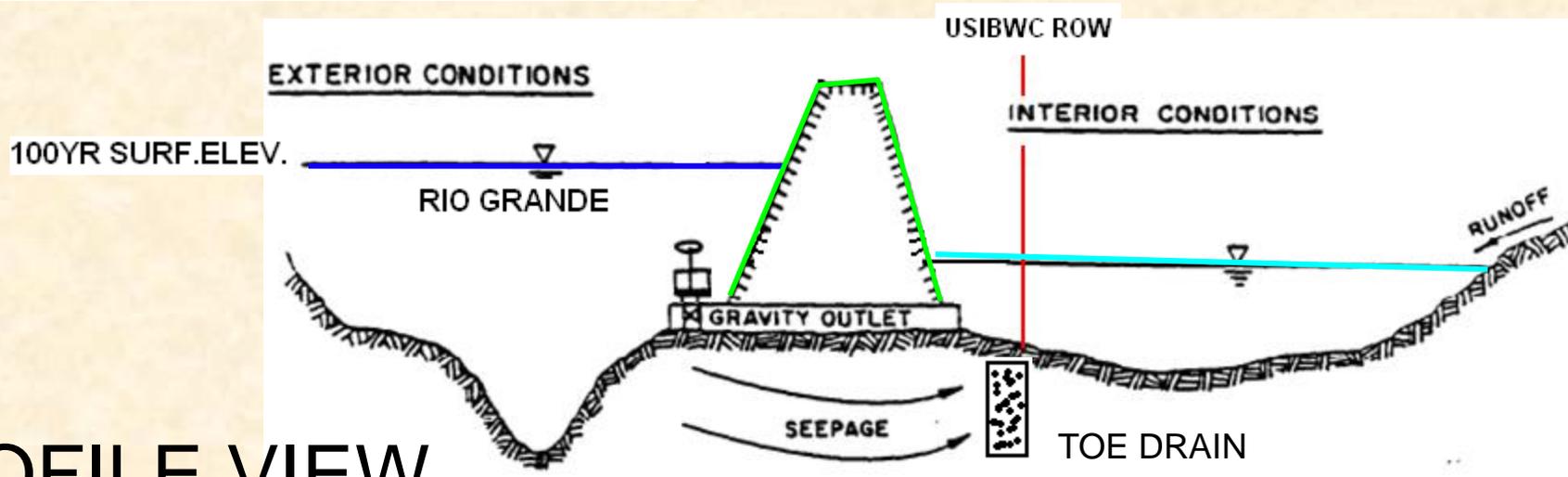
- **Hydraulic Models to Determine Water Surface Elevations (WSEL) and Establish Minimum Top of Levee Elevations (TOLE) – with Freeboard**
- **Geotechnical Analysis**
- **Embankment Stability**
- **Interior Drainage Analysis**
- **Operations & Maintenance (O&M) Plans**



# PLAN VIEW



# INTERIOR DRAINAGE



# PROFILE VIEW



## **USIBWC Submittals Completed for FEMA Levee Accreditation**

**Completed as of January 21, 2016**

- **Canutillo Phase I, Doña Ana County**
- **Hatch West Levee, Doña Ana County**
- **Mesilla Phase I, Doña Ana County**
- **Rectification Project (International Dam to Riverside Weir), El Paso**
- **Draft FEMA review comments received for above levee segments and are addressed.**
- **Mesilla Phase II**
- **Draft FEMA review comments for Mesilla Phase II are being addressed**



# **USIBWC Submittals Completed for FEMA Levee Accreditation**

**Completed as of January 21, 2016**

- **Mission Levee Phase I**
- **Mission Levee Phase II**
- **DHS Levee/Wall Segment O-04A**
- **DHS Levee/Wall Segment O-04C**
- **DHS Levee/Wall Segment O-05**
- **DHS Levee/Wall Segment O-06A**
- **DHS Levee/Wall Segment O-06B & C**



## **USIBWC Submittals Completed for FEMA Levee Accreditation**

- **DHS Levee/Wall Segment O-07**
- **DHS Levee/Wall Segment O-08**
- **DHS Levee/Wall Segment O-09 Phases I**
- **DHS Levee/Wall Segment O-09 Phases II**
- **DHS Levee/Wall Segment O-10**
- **North Banker Floodway Levee**
- **Mission Levee Improvements at Bentsen Palm Drive, UID, Penitas Railroad Crossing**
- **Main Floodway (North and South Levee)**



## **USIBWC Submittals Completed for FEMA Levee Accreditation**

- **Draft FEMA review comments received for Main Floodway (North and South Levee) and are addressed**
- **North Floodway – Two Structures 172 & 413**
- **North Floodway Phase 1**
- **Upper Brownsville Levee**



# FEMA Draft Review Comments

- **Nature of comments**
  - **Freeboard**
  - **Geotechnical Analysis**
  - **Embankment Stability**
  - **Tie-Ins**
  - **Hydraulic Independence**
  - **Interior Drainage Analysis**
  - **Site Specific O&M Plans**
  - **Structure Closures**



## **FEMA LAMP Process**

**LAMP = Levee Analysis and Mapping Procedure  
for Non-Accredited Levees**

- **Takes into account that non-accredited levees may still provide a measure of flood protection.**



## FEMA LAMP Process

- **Mapping along Non-Accredited Levee Reaches**
- **Mapping Techniques (Natural Valley being considered by FEMA for RGCP and Rectification Reaches)**
- **Interactive stakeholder engagement by FEMA throughout the analysis and mapping process**
- **Interim flood maps with Zone D**
- **Will be replaced with floodplains that fully account for levee protection after levee accreditation**



## Natural Valley Procedure

- **Hydraulic modeling without the levee impeding flow.**
- **Levee will remain in ground profile.**
- **Will not prevent water from moving landward.**



# Natural Valley Procedure

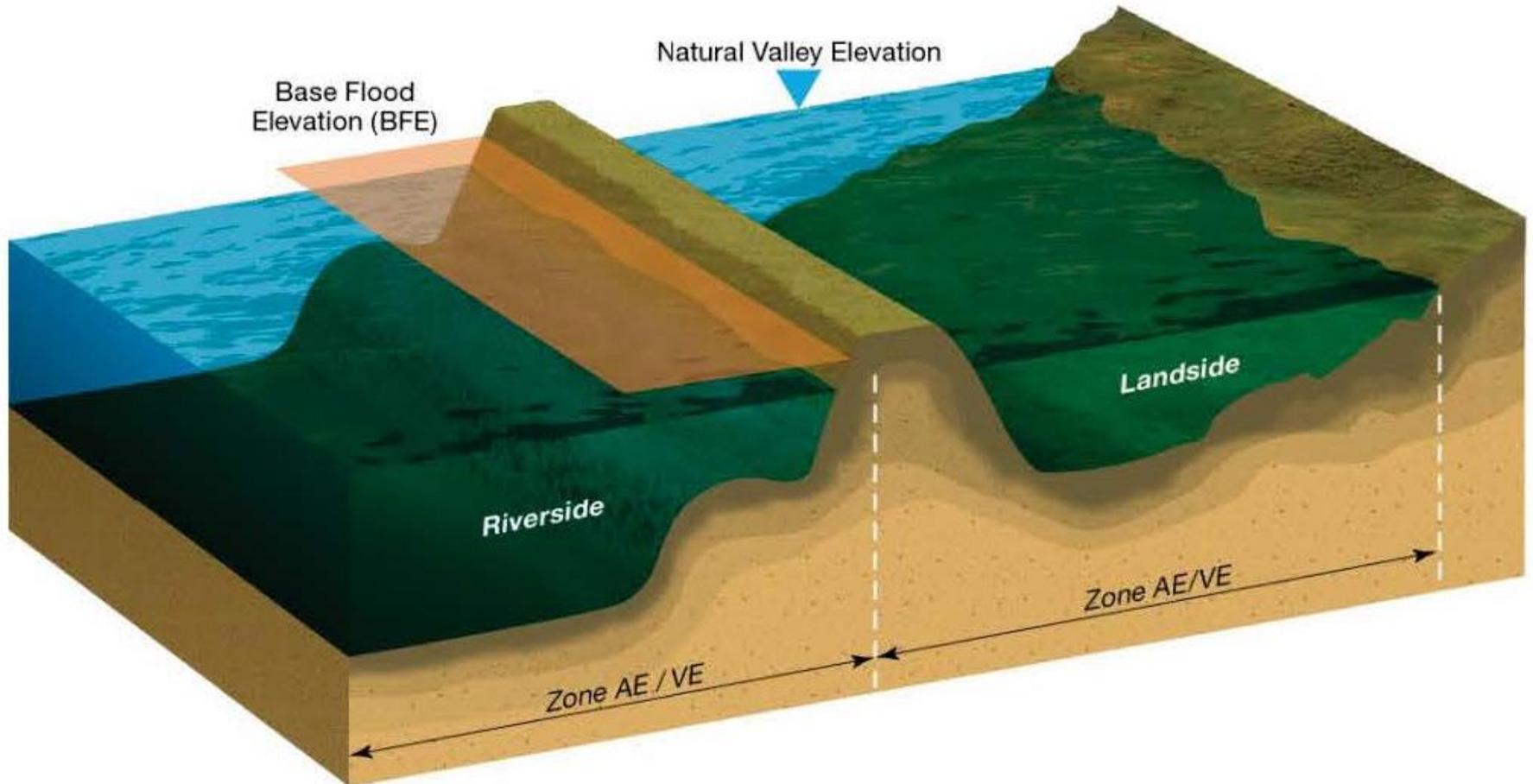


Figure 4-9. Natural Valley Cross Section View



## Zone D

- **Defined as “undetermined, but possible, flood hazards”**
- **FEMA will use Zone D designation to map possible 1-percent-annual-chance flood inundation areas landward of non-accredited levee systems**
- **No federally mandated flood insurance purchase requirement in Zone D areas**



## Seclusion Method

- **FEMA may seclude levee area to prevent ongoing projects from being stopped.**
- **Levee area will reflect current effective floodplain.**
- **The areas will be revisited when new levee procedures are final based on data and consultation with stakeholders.**



## Coordination Meetings with FEMA

- **Sept 9-10, 2015: Attended meeting of FEMA with communities in El Paso, and Las Cruces where FEMA explained Seclusion being adopted for this area**
- **USIBWC continues to provide response to FEMA comments on levee submittals**



## **FY 2016 LEVEE IMPROVEMENTS**

### **Levee Improvements Being Considered:**

- **Sunland Park Forensic Geotechnical Investigation**
- **Vado East Levee (1.08 miles levee from upstream of Del Rio Drain outlet to Three Saints Lateral / Wasteway No. 19) – scheduled to be completed by July 2016**
- **Wasteways Phase 1 and Phase 2 – Design mod to be followed by construction**
- **Courchesne NEMEXAS Phase 1A– Design almost completed**



# QUESTIONS



# **STATUS UPDATE ON THE COUNTRY CLUB ROAD FLOODGATE**

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## **COUNTRY CLUB BRIDGE FLOODGATE**

- **Floodgate was installed to meet FEMA minimum top of levee elevation standards for protection against the base flood (1-percent-chance flood)**
- **Residents in the area reported significant noise when the vehicles went over the floodgate**
- **In response to these complaints, the USIBWC coordinated with the City of El Paso and installed sound insulation panels (Accoustical Solutions, Inc.) in Nov 2-3, 2014**



# COUNTRY CLUB BRIDGE FLOODGATE

- **Floodgate deteriorated due to heavy traffic loads, and became a safety concern**
- **In November 2015, USIBWC with the cooperation of City of El Paso installed steel plates with asphalt concrete transitions over the floodgate to address the safety issue**
- **The installation of the steel plates provides a safe ride over the floodgate and also significantly reduces the noise**



# Floodgate Installation (January 2012)





# Sound Proof Panel Installation (November 2014)





# Damaged Floodgate Frame/Missing Bolts (September 2015)





# Installation of Steel Plates over the Floodgate (November 2015)





# Steel Plates provide a safe ride over the Floodgate



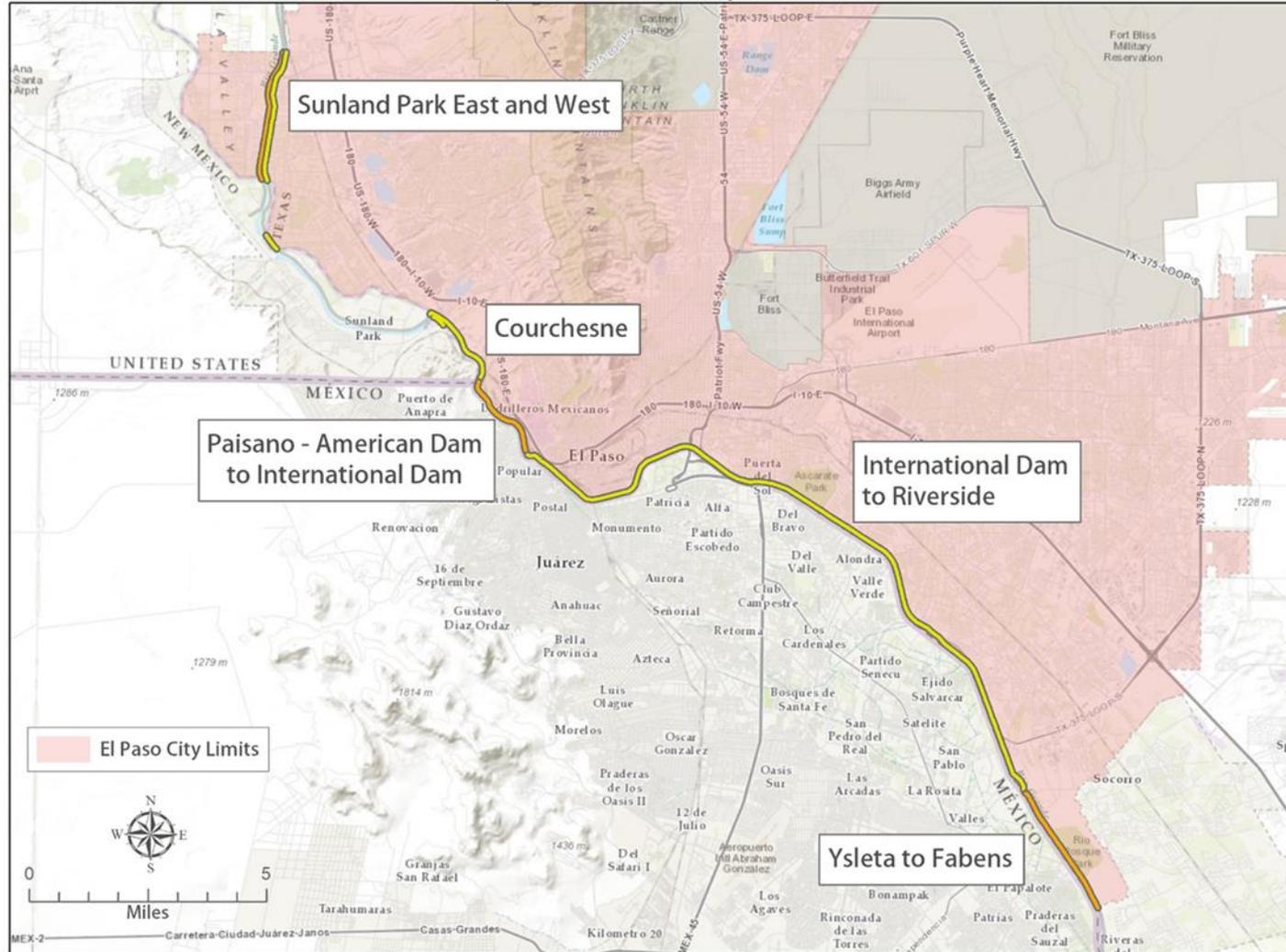


# QUESTIONS

# EL PASO PROJECTS

## Levee Rehabilitation

IBWC Levee Construction Projects Within City Limits, Total Estimated Miles: 28.5



Basemap provided by ESRI