

INTERNATIONAL BOUNDARY AND WATER COMMISSION, UNITED STATES AND MEXICO



November 7, 2007

Citizen's Forum – Las Cruces

Levee Certification



Federal Emergency Management Agency (FEMA) Basic Certification Criteria for Federal Agencies

- ✓ Self - certification that levee is operated and maintained by a federal agency. (USIBWC policy is to provide three feet of freeboard above base flood elevation for 1 percent annual chance flood event protection.)
- ✓ Flood operations plan to insure adequate warning system and provision for levee closures
- ✓ Flood operations plan for interior drainage system.
- ✓ Maintenance plan to ensure continued levee integrity

USIBWC Certifications

- USIBWC has decertified levee systems in Dona Ana, El Paso, Hidalgo and Cameron Counties. At the present time we are planning and executing both force account and contracted levee raising activities.
- USIBWC has a joint powers agreement with EBID which covers flood operations. USIBWC is working with City of El Paso and El Paso County Water Improvement District No.1 to sign similar MOUs for flood operations. We have revised our flood operations manual and levee maintenance manuals, and will be submitting draft certification documentation to FEMA this month for the reach from International Dam to Riverside in El Paso city limits.

USIBWC Certifications

- DFIRMs have been issued for Dona Ana and El Paso Counties, but no schedule has been issued by FEMA for finalizing the maps. We have received notice that the appeal process for El Paso County may begin in early December. Finalization includes an appeal process starting with 2 public notices followed by a 90 day public comment period. The appeal resolution process can last from 1 month up to 2 years.

Simplified Methodology

Failure to certify the levee in accordance with FEMA standards = no levee

Zones of flooding on DFIRMS will be shown as all areas lower in elevation than the computed water surface elevation for 1% chance annual flood, *as modeled with levees in place*. These will cover large areas in the Mesilla and El Paso Valleys.

Simplified methodology does not take into account levees in place, volume of flow, attenuation due to infiltration, or the lower water surface which is present in a wider floodplain.



Dona Ana

Levee Raising





Environmental Documents

- ✓ Draft Canalization EA comment period closed on October 30. Comments are being addressed in the Final EA.
- ✓ Habitat enhancements are being considered in the collaborative process and will be implemented subsequent to levee raising and certification to FEMA.

Current Status

- ◆ Corps is modeling inundation at 30 proposed sites for ecosystem enhancement in the Canalization Project recommended by stakeholders
- ◆ Two stakeholder meetings held, final meeting to be held in early January with final report by mid-February
- ◆ EBID will develop a strategy/framework for acquiring water rights for environmental uses
- ◆ EBID has received a \$100k grant from State of NM to develop riparian areas at drain outlets to the Rio Grande

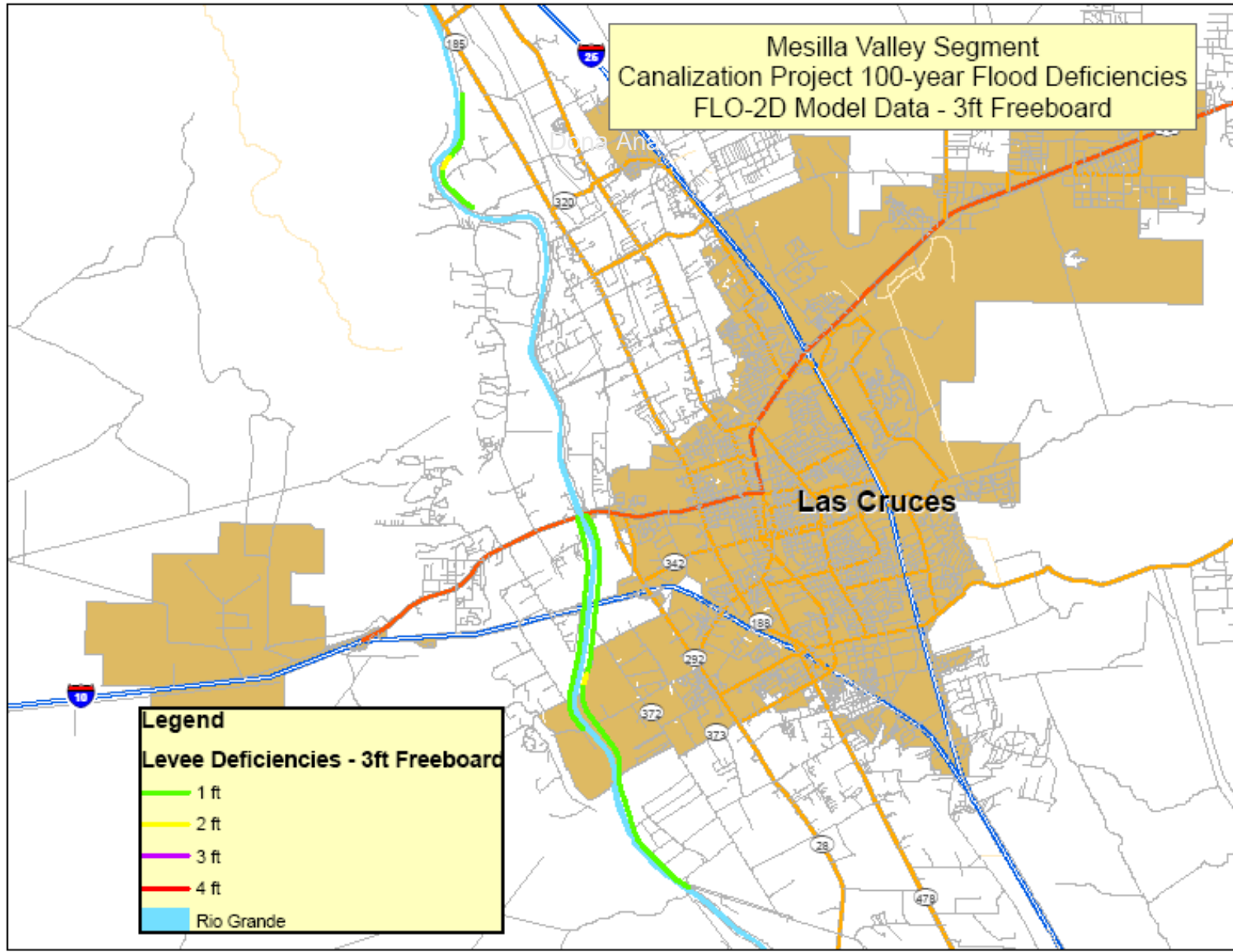
Levee Raising

- USIBWC will initiate levee raising downstream of Selden Canyon, where only minor amounts of fill are required, enabling certification for a large part of the Mesilla Valley.
 - Hill/Shalem Bridge
 - Picacho to Mesilla Bridge
 - Vado to Texas State Line
 - Sunland Park
- Upper reach in Hatch Valley and Lower reach in Texas at Canutillo are being evaluated for potential alternatives to levee raising.

Levee Raising

- Work will be accomplished using USIBWC personnel and equipment . Draft statements of work have been developed for embankment and surfacing materials and for density testing. LiDAR data must be field verified in actual survey before final material quantities can be estimated. All work is contingent upon funding.
- Projection to begin work is Spring of 2008.

Mesilla Valley Segment
Canalization Project 100-year Flood Deficiencies
FLO-2D Model Data - 3ft Freeboard

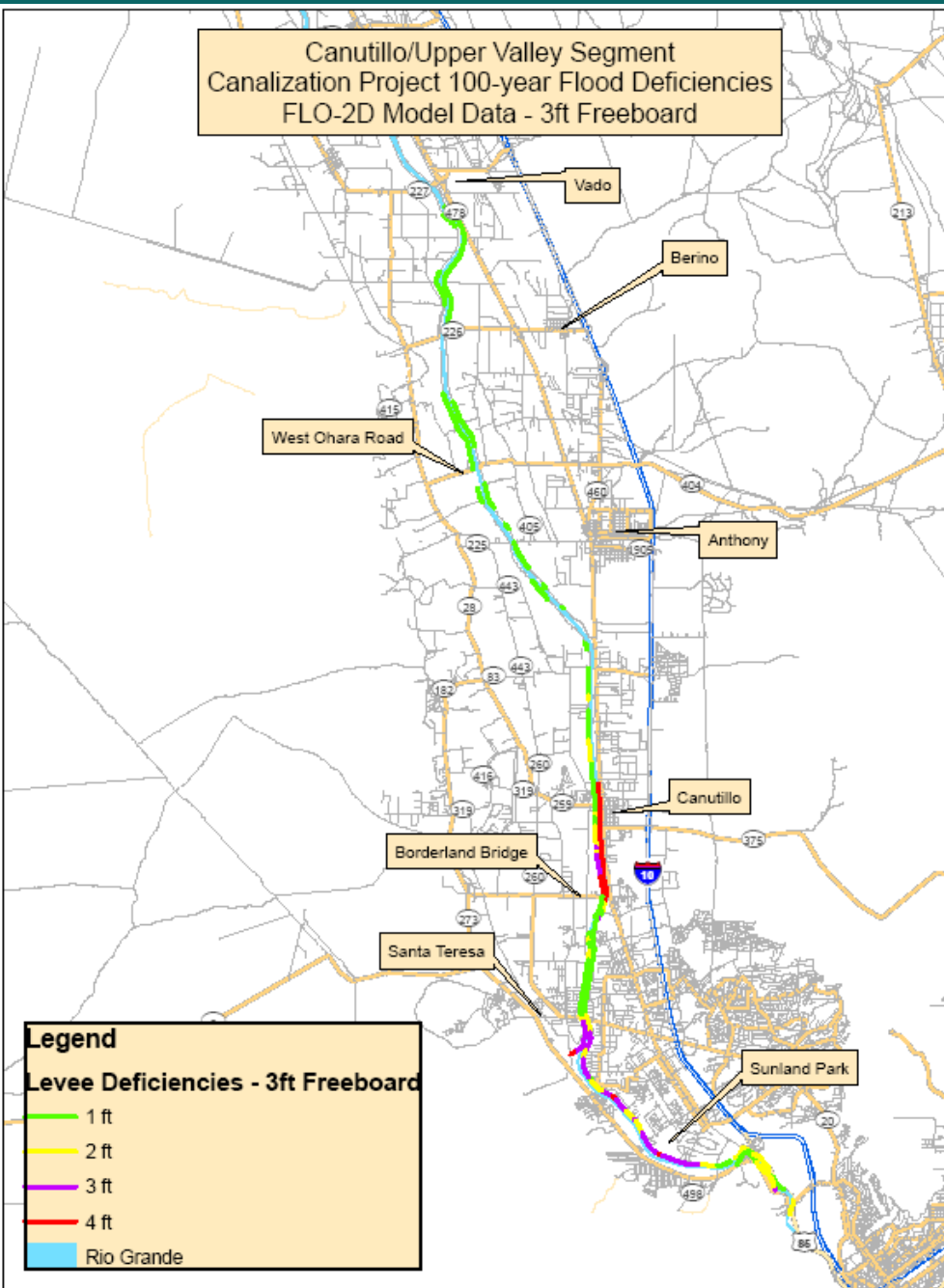


Legend

Levee Deficiencies - 3ft Freeboard

- 1 ft
- 2 ft
- 3 ft
- 4 ft
- Rio Grande

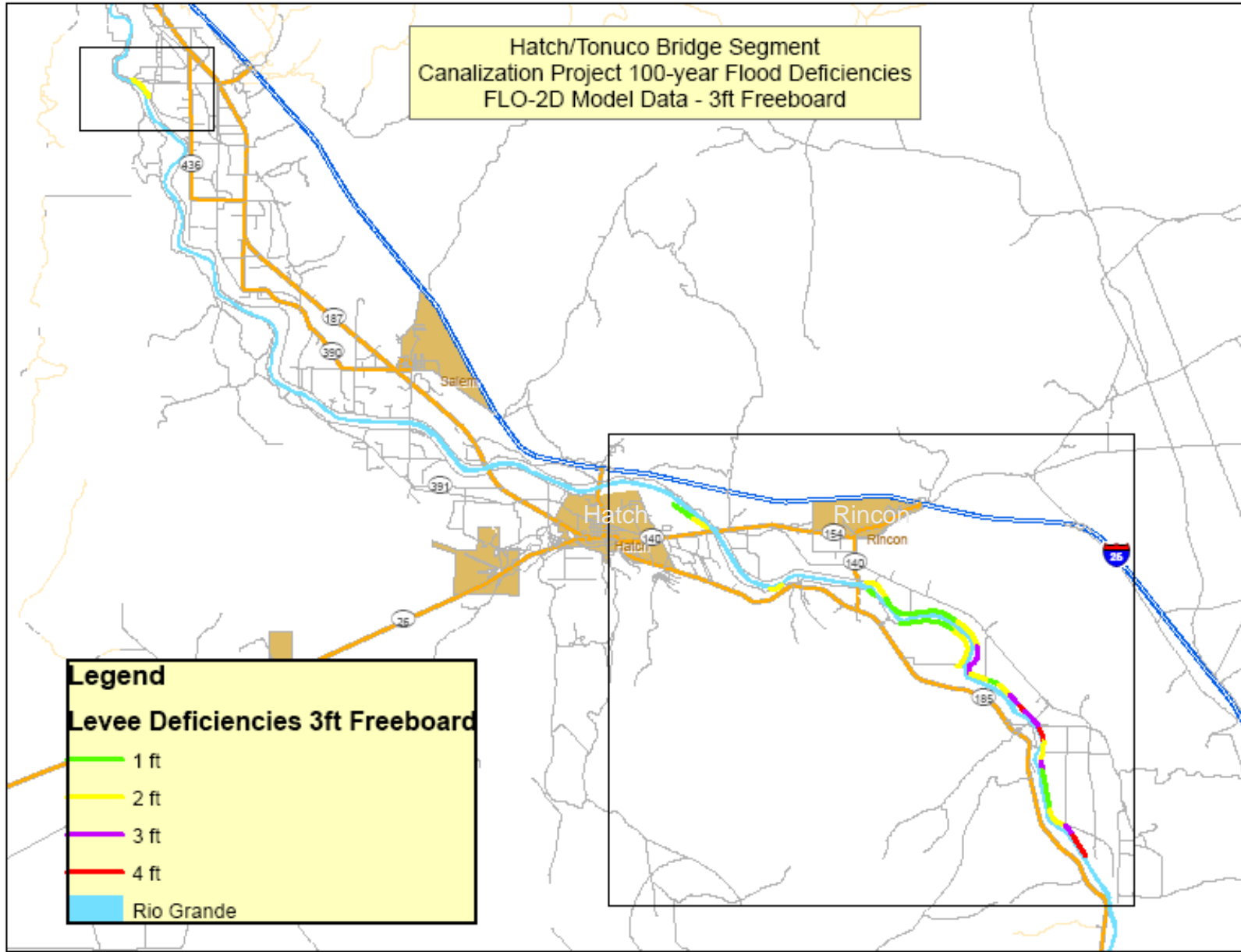
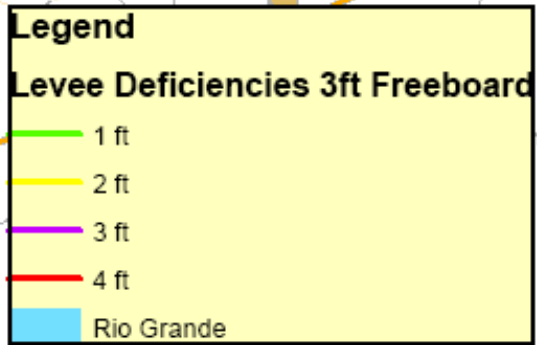
Canutillo/Upper Valley Segment
Canalization Project 100-year Flood Deficiencies
FLO-2D Model Data - 3ft Freeboard



Legend
Levee Deficiencies - 3ft Freeboard

- 1 ft
- 2 ft
- 3 ft
- 4 ft
- Rio Grande

Hatch/Tonuco Bridge Segment
Canalization Project 100-year Flood Deficiencies
FLO-2D Model Data - 3ft Freeboard



Preliminary Studies, Canutillo

- Canutillo Reach (based on overtopping of RR embankment)
 - construction of 13000 LF of floodwall;
 - construction of 5600 LF of new RR embankment.
 - estimated cost \$16 M, reevaluation to reduce costs
- Cannot certify RR embankment to FEMA, Canutillo Bridge must also be raised.
- US Section is in the process of revising the model for the entire reach from upstream of Vinton Bridge to Artcraft Rd.







Preliminary Studies, Canutillo

Potential alternatives for Canutillo :

- 1) Overflow sections (flooding easements) – high cost
- 2) Possible use of alternate interior floodway to reduce flow volumes - higher cost
- 3) Levee in lieu of floodwall
- 4) Shifting west levee further west, increasing floodplain width.