INTERNATIONAL BOUNDARY AND WATER COMMISSION, UNITED STATES AND MEXICO

Steve Smullen, Acting Principal Engineer
Rio Grande Citizens’ Forum
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Rio Grande Canalization Project

- Constructed 1938-1943
- Water delivery and flood control project
- 106 river miles from Percha Dam, NM to American Dam at El Paso, TX
- 130 miles of flood control levees
EIS – Canalization Project

- Rio Grande Canalization Project EIS analyzes alternatives for environmental restoration/enhancement and flood control.
- Selection of an alternative/Record of Decision is on hold pending outcome of collaborative process between environmental groups and EBID.
- Construction of environmental enhancements and levee improvements are subject to availability of federal appropriations.
Levee Terminology

River side

Levee

Base Flood Elevation
(1% annual chance of occurrence) = 100yr event

Freeboard

Slope failure

Foundation

Structural Integrity

Land side

Levee

Overtopping

Through seepage

Underseepage (sand boils)
Levee Status – Doña Ana County

- Levee height is deficient for 38 miles in Doña Ana County – deficient means less than 3 feet of freeboard for the 100 year return frequency flow.
- Based on results of recent FLO2D modeling done by Corps of Engineers to extend their Upper Rio Grande Water Operations Model from Caballo Dam to El Paso.
- Approximately 8 miles of levee have zero freeboard and are subject to overtopping in the 100 year flood (Tonuco, Sunland Park).
- Cost to raise levees in Doña Ana County is estimated $19.8 million.
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
Levee Status – Doña Ana County

- USIBWC proposes to raise levees:
  - Hatch/Rincon/Tonuco Bridge area – 10.48 miles ($6.5 million)
  - Mesilla Valley – 11.55 miles ($4.3 million)
  - Vado to American Dam – 16.0 miles ($8.9 million)
Levee Status – El Paso County within Canalization Project

- USIBWC proposes to raise levees:
  - Vado to American Dam –
    - 13 miles in Texas ($6.5 million)
    - 6.6 miles levee, 1.5 mile floodwall at Canutillo - $13.6 million
Flood Mapping

- FEMA is updating flood insurance rate maps
- Draft maps for Doña Ana County released April 2007
- Draft maps for El Paso County to be released shortly
- FEMA requires levees to contain the 100-year flood with 3 ft. freeboard
- USIBWC notified FEMA last year that it could not certify all levees as meeting this requirement
- USIBWC levees were not overtopped in 2006
Flood Mapping

- FEMA will map flood risk as if the levees did not exist at all
- FEMA has a public appeal and protest process
- USIBWC will propose additional state-of-the-art modeling to accurately map flood risk
- USIBWC believes FEMA’s model may overestimate flood risk
  - 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

FIRM – Mesquite / Vado
Funding and Priorities—Doña Ana Co

- Priority are levee reaches subject to overtopping/failure in urban areas.
- USIBWC will work with FEMA and recommend map revisions based on FLO2D model – may require additional funding for further analysis.
- Partial certification (Picacho to Mesilla Bridge) is being considered contingent on funding.
- Sediment removal to be accomplished using annual O&M funding:
  - completed in FY 06-07 at Trujillo, Hershey, Placitas, & Thurman Arroyos, above Mesilla Dam and from Canutillo to American Dam
  - proposed for FY 08-10 at Rincon and Sibley Arroyos, Hatch and Salem Bridges
Rio Grande Rectification Project

- Constructed in 1930s
- El Paso, TX-Cd. Juarez to Ft. Quitman, TX
- Boundary stabilization and flood control project
- 85 miles of U.S. levee
Levee Status – Rectification Project

- Levee height is deficient for 46 miles in El Paso and Hudspeth Counties, with approximately 11 miles of overtopping, mostly in the extreme lower reach.
- Cost to raise levees in Rectification Project is estimated at $34.4 million.
- Corps of Engineers is extending URGWOM to Fort Quitman using FLO2D, completion scheduled for July 2007.
Rectification Project - Levee Deficiency
Rectification Project - Levee Deficiency
Rectification Project Improvements

- American Dam to Beginning of Chamizal Channel - Freeboard encroachment for 2 miles – $2.7M
- End of Chamizal to Old Riverside Dam (downstream of Ysleta-Zaragoza Bridge) – 7.4 miles of freeboard encroachment – $1.5M (with US forces)
- Old Riverside Dam to Hudspeth County Line: 3 miles of freeboard encroachment. - $1.2M
- Hudspeth County Line to Little Box Canyon (end of Project) -23 miles of freeboard encroachment - $15.0M
- Hudspeth County Line to Little Box Canyon (end of Project) -11 miles of levee overtopping - $14.0M
USIBWC plans to certify Rectification levee from International Dam to Ysleta-Zaragoza Bridge area by early 2008.

Affected Area:
- .5 miles of improvements from International Dam to the beginning of the Chamizal
- 7.4 miles of levee raising from end of Chamizal (upstream of Ascarate Park) to Ysleta-Zaragoza Bridge

Estimated Completion – 9 months for 7.9 miles for 3 ft. of freeboard

Estimated Cost - $1.5 million

Funding available in current fiscal year
Rectification Project – Environmental Considerations

- Draft Environmental Assessment completed April 2007 (FONSI) for International Dam to Ysleta-Zaragoza Bridge reach
  - Burrowing owl survey and relocation completed in April
  - Construction to begin mid May 2007
- Release of Draft Programmatic EIS in May 2007
Sediment Removal – Chamizal Project

- 200,000 cubic yards.
- Estimated cost: $1.5 million.
- Funding available to initiate a limited effort during FY 07.

The U.S. Section and the Mexican Section are developing a joint plan for sediment removal and levee improvements in the international reach of the Rio Grande. CONAGUA is providing the funding for the work by Mexico.