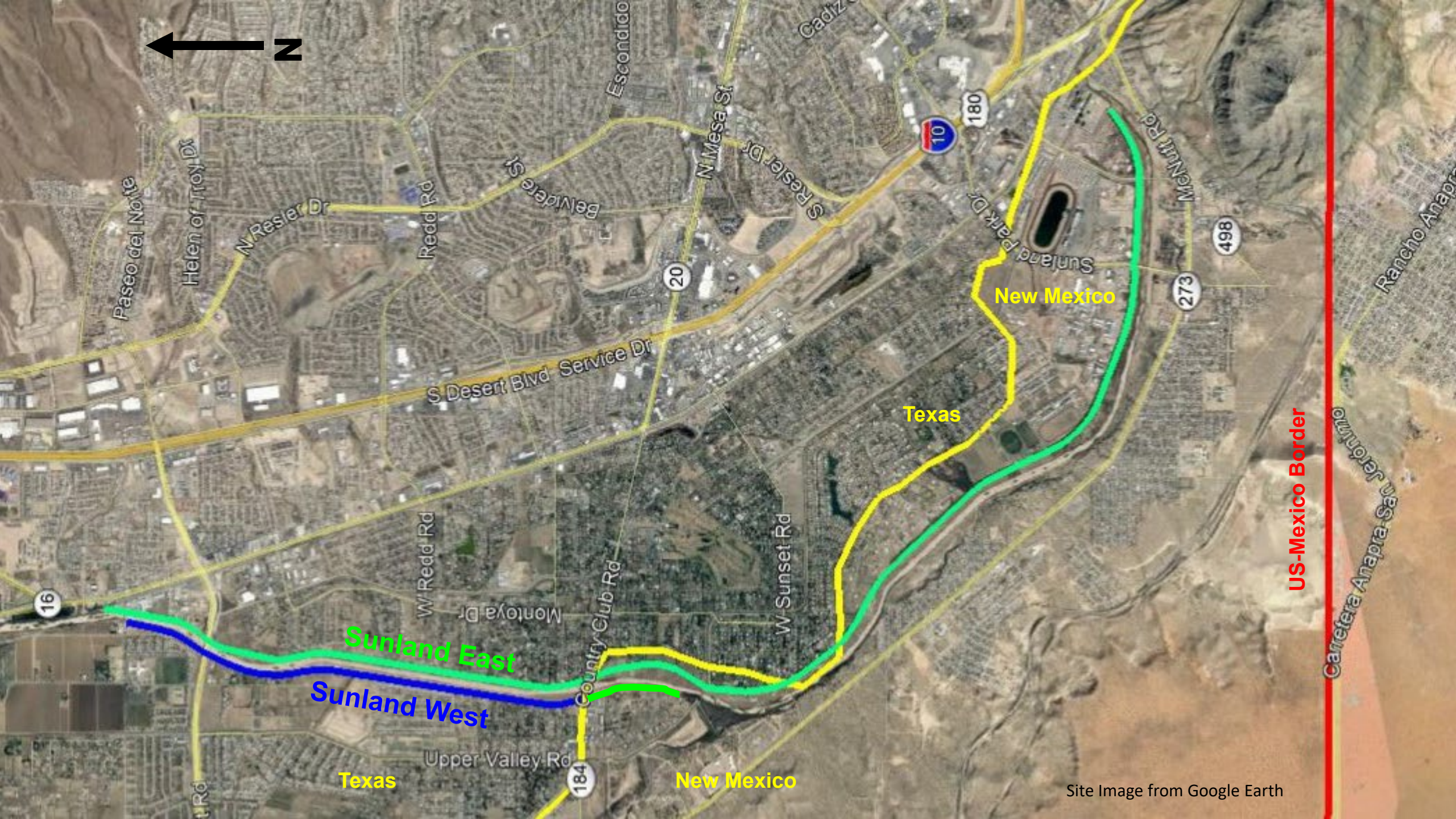
Rio Grande Levee Rehabilitation

June 2023 Citizens Forum

Update on Levee Work and FEMA Accreditation in Doña Ana and El Paso Counties

Sunland Park Levees

- Sunland Park West Levee
  - 2.8 miles constructed with ongoing revegetation
  - 0.6 miles just awarded for construction
- Sunland Park East Levee
  - 8.4 miles just awarded for construction
- Country Club Bridge Floodgate
- Site map follows on next slide


N
Escondido
N Mesa St
Cadiz
180
10
S Resler Dr
Sunland Park Dr
Menuit Rd
498
273
Rancho Anapra
N Resler Dr
Redd Rd
Belvidere St
Paseo del Norte
Helen of Troy Dr
20
S Desert Blvd
Service Dr
New Mexico
Texas
US-Mexico Border
Carretera Anapra-San Jeronimo
W Redd Rd
Monloya Dr
W Sunset Rd
Country Club Rd
16
Sunland East
Sunland West
Upper Valley Rd
184
Texas
New Mexico
Site Image from Google Earth

Sunland Park West Levee

- Currently under Revegetation
  - Borderland Bridge to Country Club Bridge
  - Contract #191BWC19C0010
    - $6,392,200
    - Fisher Sand & Gravel Co
  - Construction reached substantial completion on June 11, 2021
  - Levee and floodplain has been seeded with native grasses
  - Maintenance of vegetation until established

Sunland Park Levee Repair

- Awarded for construction on September 30, 2022
  - $34,800,627
  - Odin Construction Solutions, LLC
  - Construction to be completed by March 2025
- West levee: Country Club Bridge to Nemexas Siphon (0.59 miles)
- East Levee: Borderland Bridge to El Paso Electric (8.42 miles)
- Country Club Bridge stoplogs
- Adding barriers to access from unauthorized vehicles

Country Club Floodgate

- Replacing east floodgate as part of levee reconstruction that has caused significant noise complaints
- Stoplogs to be installed on both sides of bridge
  - Roadway will be rebuilt to match bridge/road crown, eliminating current noise
  - Stoplogs will require shed or container to store materials onsite

Stoplog Examples

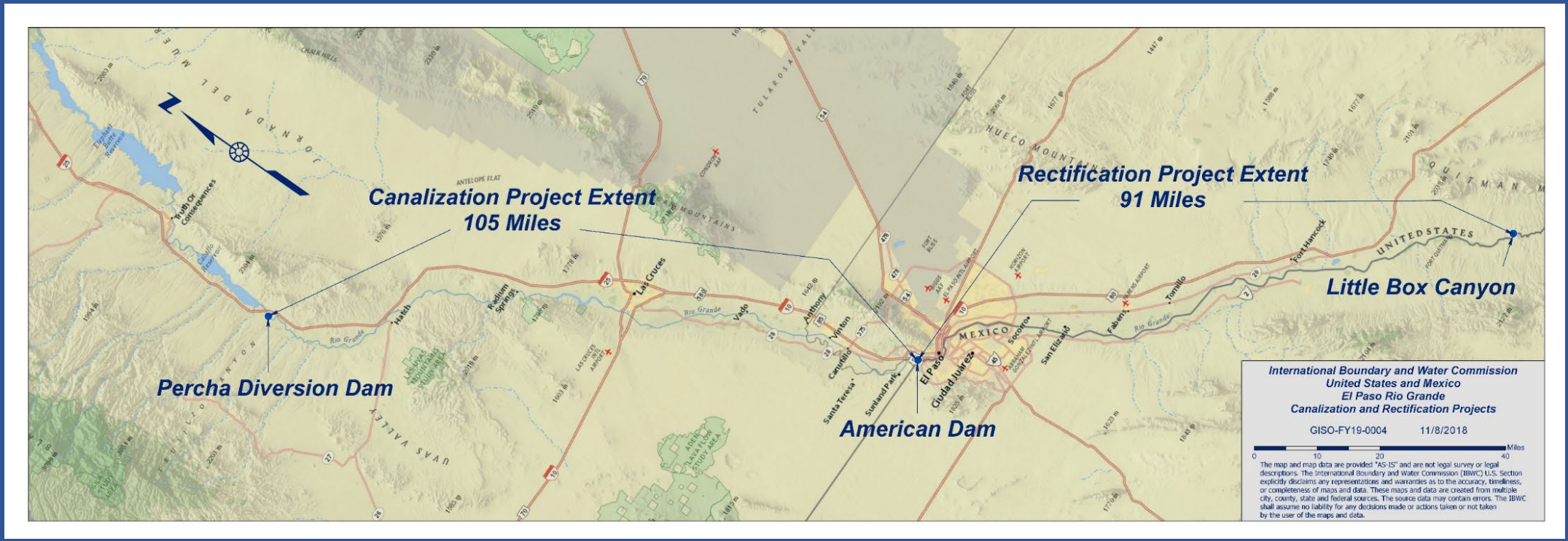
Country Club stoplogs will have 5 bays and be about 2 feet tall.

Zaragoza Levee

- 1 mile length of levee from just upstream of Zaragoza Bridge to Riverside Canal

- Design Task Order issued on September 30, 2022
  - Wilson-Freese and Nichols Joint Venture
  - $1,171,251

Upper Rio Grande Flood Control System



The Upper Rio Grande Flood Control System consists of US flood control levees alongside 204 miles of the Rio Grande from Percha Dam located below Caballo Reservoir in New Mexico to Little Box Canyon, Texas. It includes both the Canalization Project and the Rectification Project.

Background

- USIBWC has rehabilitated many segments of the Canalization and Rectification Project levees as part of our flood control mission
- Work continues on design and construction of additional levee segments
- Regional levees are designed to result in a reduced flood risk from the 100 year flood which is a flood that has a 1% chance of occurring in any year.

FEMA Definitions

- Levee: A man-made structure, usually an earthen embankment, designed and constructed with sound engineering practices to contain, control or divert the flow of water in order to provide protection from temporary flooding. (44 CFR 59.1)

- A levee is a flood risk reduction structure.

FEMA Definitions, continued

- Levee System: A flood hazard-reduction system that consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices. (44 CFR 59.1)

- Accredited Levee System: A FEMA accredited levee system is a levee system that meets the requirements of 44 CFR 65.10 and therefore is shown on the FIRM as providing protection from the 1%-annual-chance flood.

FEMA Accreditation

- FEMA does not own, operate, maintain, or inspect levee systems or develop certified levee-related data for accreditation purposes.
- As the levee owner, USIBWC will evaluate (certify) that the levees have been constructed to required design standards and are operated appropriately.
- FEMA will only accredit levee systems, not individual levee reaches

FEMA Accreditation, continued

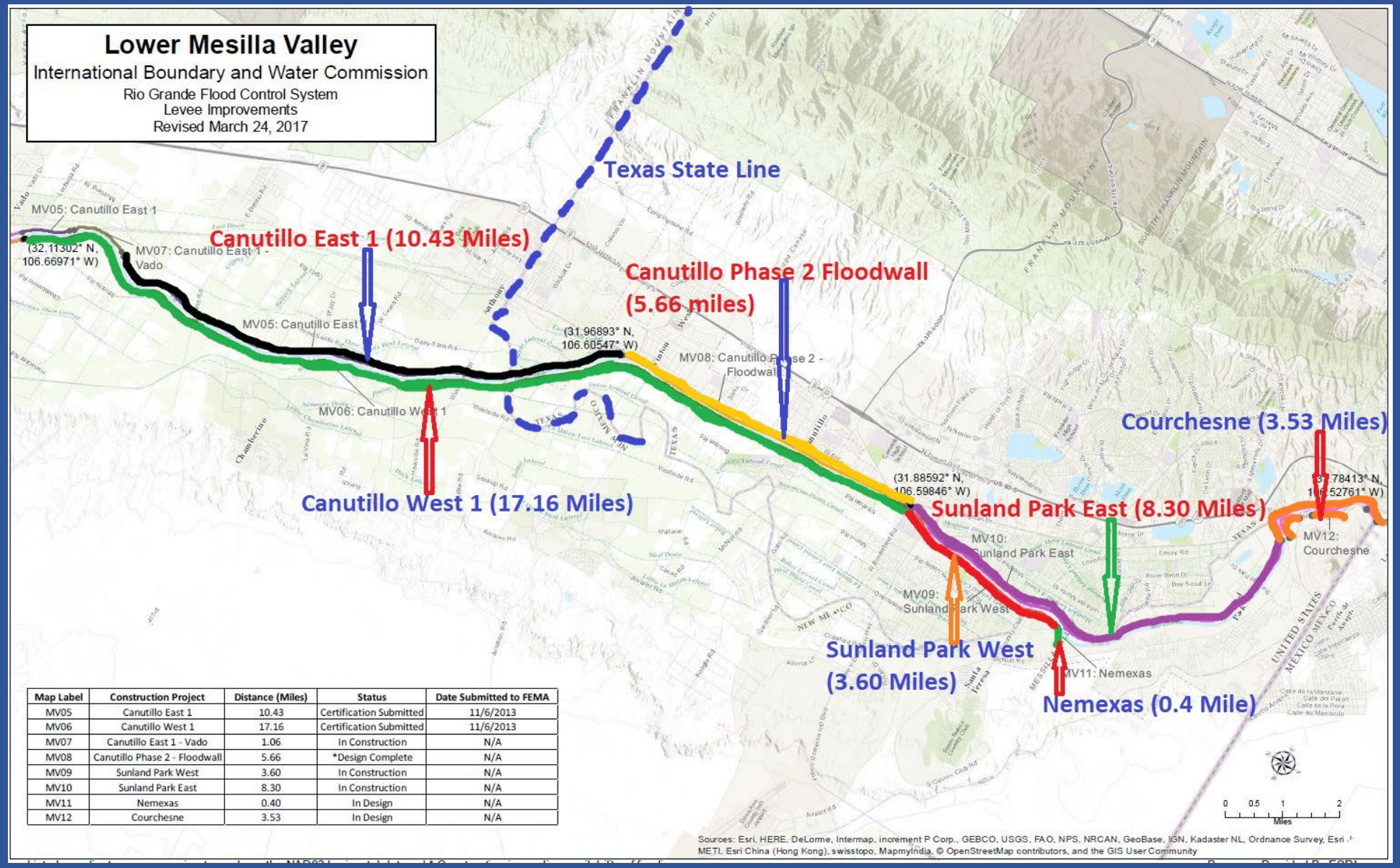
- For FEMA to accredit a levee system with 1%-annual-chance flood hazard reduction capability on a Flood Insurance Rate Map (FIRM), the local project sponsor must submit a package containing the required data and documentation to show that the levee system meets all design and operation requirements of 44 CFR 65.10.
- 44 CFR 65.10 requires: levee design (freeboard, closures, erosion protection, seepage, and settlement), interior drainage, operation plans, and maintenance plans.

Common Documents Submitted to FEMA

- Hydraulic models and associated reports
- Final design reports and drawings
- Geotechnical reports
- Operation and maintenance (O&M) manuals
- Flood emergency operations manuals
- Record of Decision, River Management Alternatives, etc.
- Levee inspection reports
- As-built (record) drawings

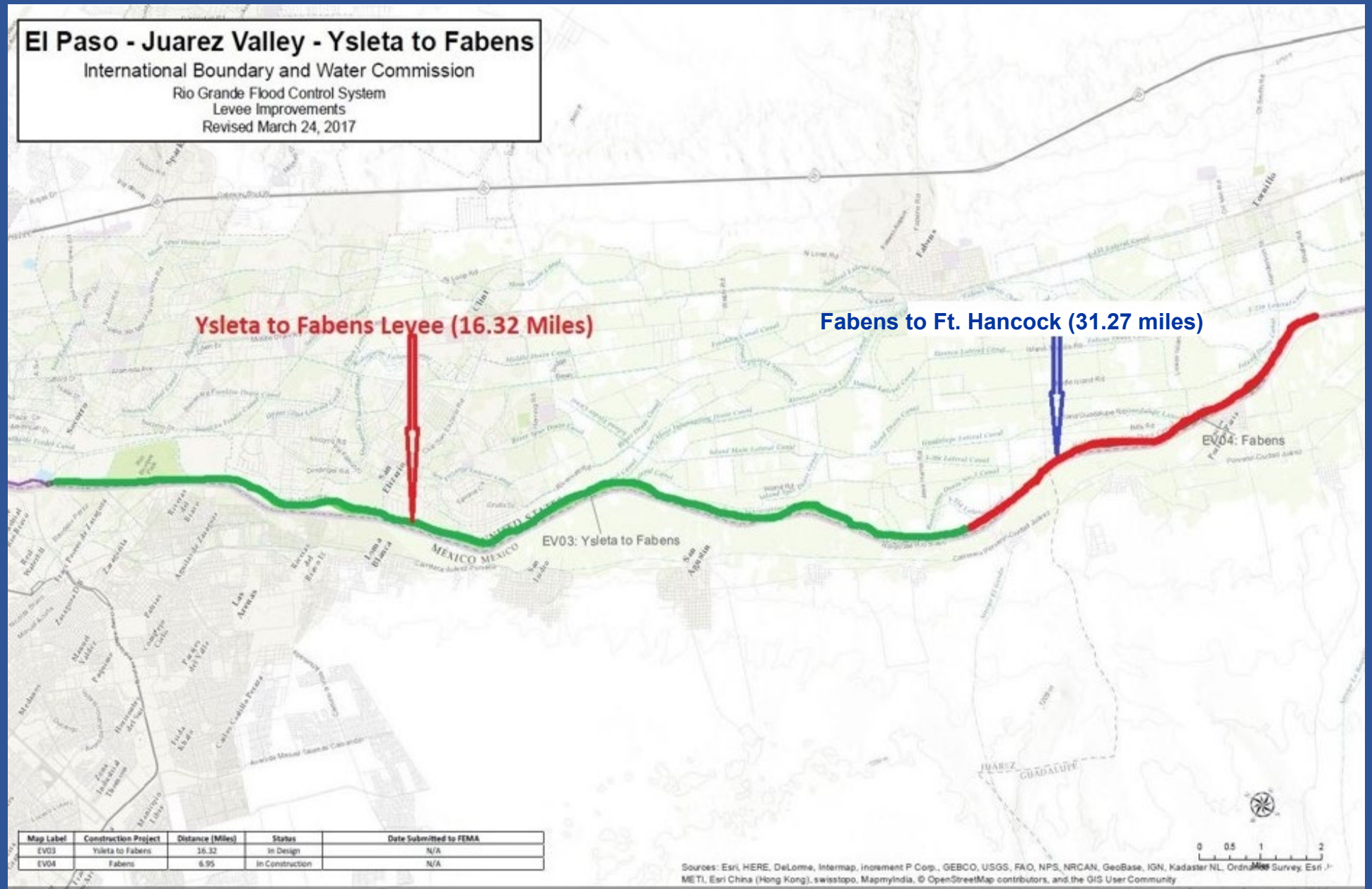
El Paso County

- IBWC has provided completed levee information for:
  - Canutillo East Phase I
  - Canutillo West Levee
  - El Paso Levee 2
- Levee Certification Sponsors
  - El Paso City limits: EP Water
  - El Paso County outside city limits: El Paso County
  - Partially in city/county limits: EP Water



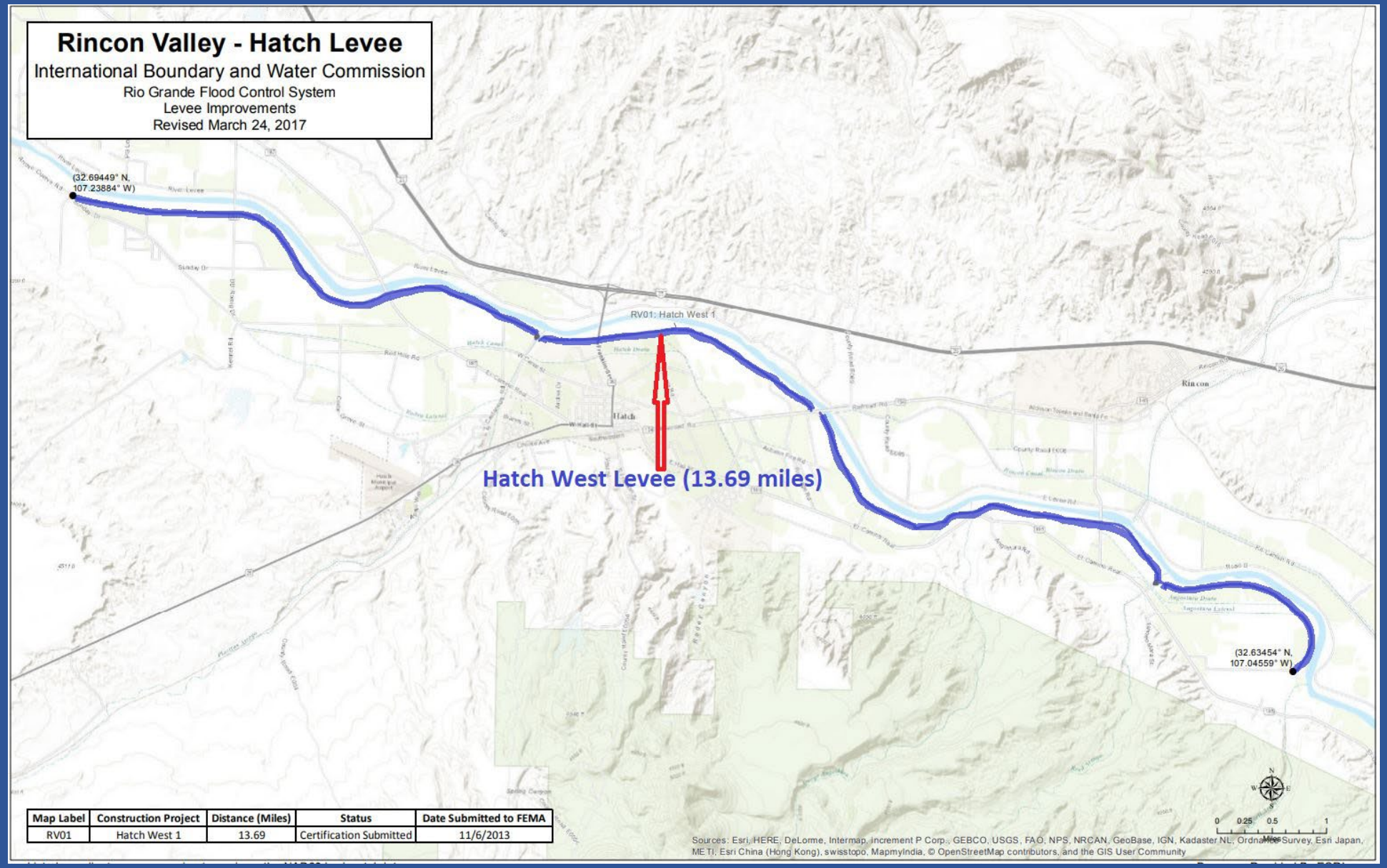
Map Label	Construction Project	Distance (Miles)	Status	Date Submitted to FEMA
MV05	Canutillo East 1	10.43	Certification Submitted	11/6/2013
MV06	Canutillo West 1	17.16	Certification Submitted	11/6/2013
MV07	Canutillo East 1 - Vado	1.06	In Construction	N/A
MV08	Canutillo Phase 2 - Floodwall	5.66	*Design Complete	N/A
MV09	Sunland Park West	3.60	In Construction	N/A
MV10	Sunland Park East	8.30	In Construction	N/A
MV11	Nemexas	0.40	In Design	N/A
MV12	Courchesne	3.53	In Design	N/A

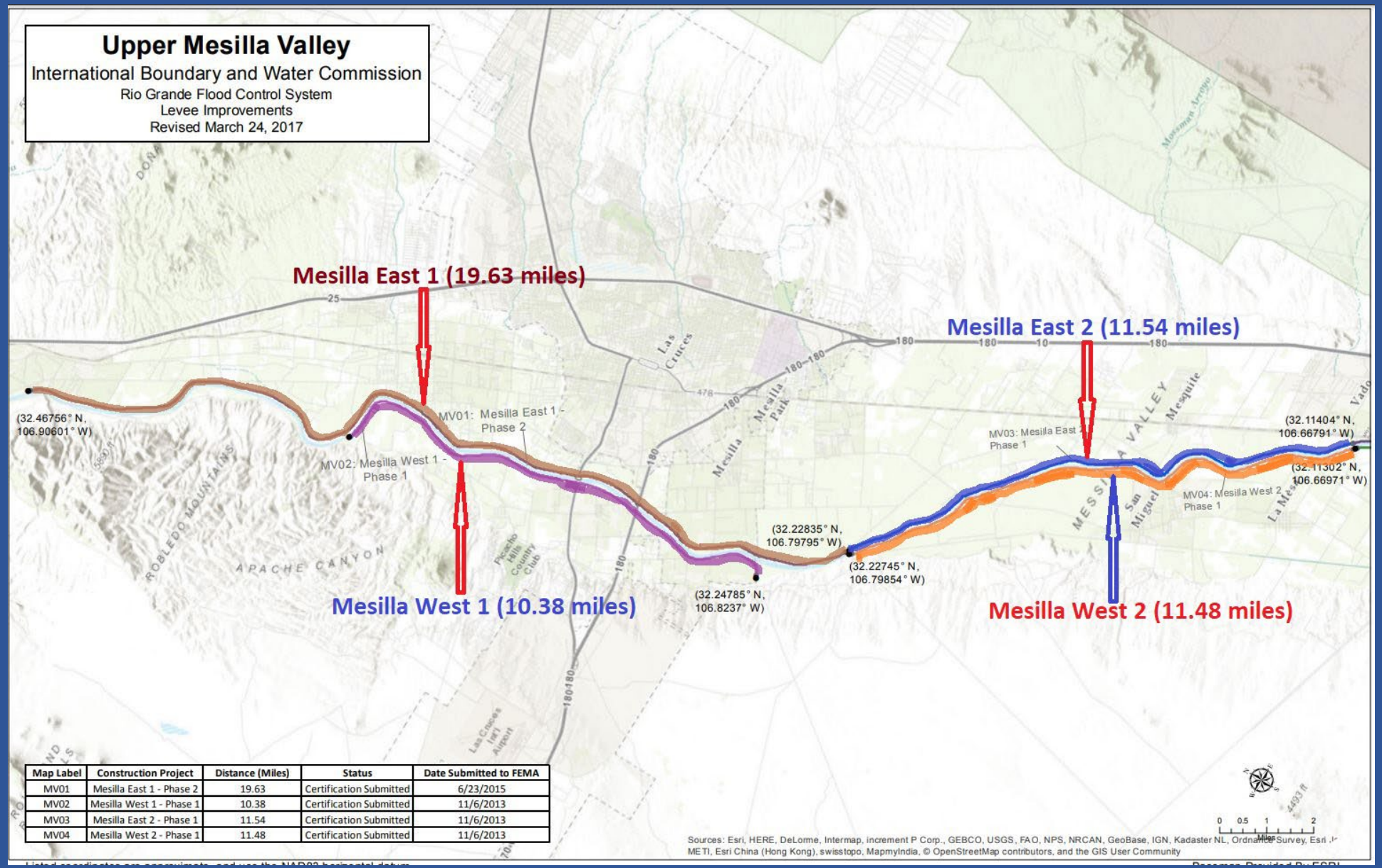

El Paso - Juarez Valley - International Dam to Riverside
International Boundary and Water Commission
Rio Grande Flood Control System
Levee Improvements
Revised March 24, 2017
Provisionally accredited, 15,000 properties protected
El Paso 2 Levee (14.31 Miles)
EV02: International Dam to Riverside
Zaragoza Levee
To be constructed
(1 Mile)
(31.76154° N, 106.50968° W)
(31.65823° N, 106.32929° W)
MEXICO MEXICO
Map Label | Construction Project | Distance (Miles) | Status | Date Submitted to FEMA
EV02 | International Dam to Riverside | 15.31 | Certification Submitted | 11/9/2007
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
0 0.3 0.6 1.2
Miles


El Paso - Juarez Valley - Ysleta to Fabens
International Boundary and Water Commission
Rio Grande Flood Control System
Levee Improvements
Revised March 24, 2017
Ysleta to Fabens Levee (16.32 Miles)
Fabens to Ft. Hancock (31.27 miles)
EV03: Ysleta to Fabens
EV04: Fabens
MEXICO
Map Label | Construction Project | Distance (Miles) | Status | Date Submitted to FEMA
EV03 | Ysleta to Fabens | 16.32 | In Design | N/A
EV04 | Fabens | 6.95 | In Construction | N/A
0 0.5 1 2
Miles
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri J
METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Doña Ana County

- IBWC has provided completed levee information for:
  - Canutillo East Phase I, including Vado East Levee Segment
  - Canutillo West
  - Hatch West Levee
  - Mesilla East and West
- Levee Stakeholders
  - City of Sunland Park
  - Doña Ana County
  - Elephant Butte Irrigation District


Rincon Valley - Hatch Levee
International Boundary and Water Commission
Rio Grande Flood Control System
Levee Improvements
Revised March 24, 2017
(32.69449° N, 107.23884° W)
RV01: Hatch West 1
Hatch West Levee (13.69 miles)
Hatch
Rincon
(32.63454° N, 107.04559° W)
Map Label | Construction Project | Distance (Miles) | Status | Date Submitted to FEMA
RV01 | Hatch West 1 | 13.69 | Certification Submitted | 11/6/2013
0 0.25 0.5 1
Miles
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Map Label	Construction Project	Distance (Miles)	Status	Date Submitted to FEMA
MV01	Mesilla East 1 - Phase 2	19.63	Certification Submitted	6/23/2015
MV02	Mesilla West 1 - Phase 1	10.38	Certification Submitted	11/6/2013
MV03	Mesilla East 2 - Phase 1	11.54	Certification Submitted	11/6/2013
MV04	Mesilla West 2 - Phase 1	11.48	Certification Submitted	11/6/2013


N 401814.330
E 1513454.489
Start Point
Vado East Levee (1.06 miles)
N 396754.800
E 1514048.999
End Point
Mexico
bing

Accreditation "Speed Bumps"

- Interior Drainage - FEMA requires an Interior Drainage Analysis. To date, no analysis exists in NM. USIBWC is only authorized to do work on the levees within USIBWC ROW and does not have authority in assessing the interior drainage issues.
- Levees need to tie into high ground
- Levees crossing Political Boundaries
- Levee/roadway intersections
- Intake/drainage Channels

Next Steps

- USIBWC continues work on levee design and construction prioritizing levee systems that remove most urbanized areas from the flood zones.
- The interior drainage studies are completed by the municipalities (El Paso Water, City of El Paso, El Paso County).
- Doña Ana County interior drainage studies are not completed.

Next Steps, continued

- USIBWC will submit the levee system documents to the respective municipality, who will be the levee certification sponsor submitting the documents to FEMA along with their interior drainage study.
- USIBWC will address "speed bump" issues noted.
- After addressing FEMA’s review comments, FEMA will develop floodplain maps showing reduced flood zones due to the levees.

Next Steps, continued

- Completion of work along various levee reaches depends upon the availability of funding. In addition to the Upper Rio Grande Flood Control Project, the USIBWC also has to consider the other Rio Grande levees in its program.

International Boundary and Water Commission

United Station Section

Construction Management Division

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Please submit questions and comments to:

forms.office.com/g/tZNR9Cv0qL