

**International Boundary And Water Commission  
United States And Mexico  
United States Section**

**2018 Upper Rio Grande Field Office O&M  
Critical Mission Directives and Responsibilities**



July 12, 2018

# FLOOD CONTROL RESPONSIBILITIES



- Inspect and maintain approx. 220 miles of river and levees along the river from below Percha Dam to Little Box Canyon
- Maintain approx. 4,500 acres of river floodplains
- Maintain approx. 18.5 miles of Canals
- Inspect and maintain 210 drainage and irrigation structures

# FLOOD CONTROL RESPONSIBILITIES



- Inspect and maintain 5 major sediment control dams- Green, Jalarosa 1 & 2, Crow Canyon & Broad Canyon, all five located north Dona Ana and southern Sierra Counties, (south of Garfield Bridge, north of Hatch, & northwest of radium Springs).
- Operate and maintain 2 major diversion dams- American and International.
- Inspect, monitor & maintain four flood warning stations and five flow gaging stations throughout the entire project.

# **BOUNDARY DEMARCATIION & PORTS of ENTRY RESPONSIBILITIES**



- Maintain several International Bridges, including Bridge of the Americas(BOTA), Ft. Hancock/Porvenir Bridge & Tornillo/Guadalupe Bridge.
- Perform weekly trash removal, monthly sweeping, fencing repairs, monuments maintenance and pavement markers replacement.
- Maintenance of flag poles & replacement of US flags, as needed at El Paso/Santa Fe, Stanton and BOTA bridges.

# BOUNDARY DEMARCATATION & PORTS of ENTRY RESPONSIBILITIES



Tornillo/Guadalupe  
Bridge-Port of Entry



04/13/2016



04/13/2016

# BOUNDARY DEMARCATON & PORTS of ENTRY RESPONSIBILITIES



Ft Hancock/Porvenir  
Bridge-Port of Entry



# URGFO FLOOD CONTROL CANALIZATION PROJECT LIMITS



## Canalization Project



# URGFO FLOOD CONTROL

## Rio Grande Design Flow Capacities



DESIGN FLOW CAPACITIES  
UPPER RIO GRANDE PROJECTS  
PERCHA DAM TO QUITMAN CANYON

Reach/Location	Designed Capacity- C.F.S.	
	Start of Reach	End of Reach
Percha Dam to Trujillo Arroyo	13,000	13,000
Trujillo Arroyo to Jaralosa Arroyo	16,000	18,000
Jaralosa Arroyo to Placitas Arroyo	20,000	20,000
Placitas Arroyo to Angostura Arroyo	21,000	21,000
Angostura Arroyo to Tonuco Cut-Off	21,000	22,000
Tonuco Cut-Off to Leasburg Dam	No Construction	No Construction
Leasburg Dam to Picacho Flume	17,000	16,000
Picacho Flume to Mesilla Dam	16,000	15,000
Mesilla Dam to Mesquite Bridge	15,000	15,000
Mesquite Bride to Vado Bridge	14,000	14,000
Vado Bridge to Berino Bridge	13,000	13,000
Berino Bridge to American Dam	12,000	12,000
American Dam to Chamizal Project	12,000	12,000
Chamizal Project	24,000	24,000
Chamizal to End of Rectification @ Quitman Canyon	11,000	11,000

# CANALIZATION SEGMENT

## FIVE SEDIMENT CONTROL DAMS



- The Five Sediment Control Dams located at tributary arroyos were constructed to reduce flood peaks and sediment inflows into the Rio Grande, thereby reducing the average annual maintenance cost for the Rio Grande Canalization Project.
- Between 1969 and 1975, five dams were constructed by SCS(now NRCS) at four major arroyos. They are designed, with one exception(Broad Canyon; 50 yr Design), to provide sufficient storage capacity to contain an estimated 100 years of sediment inflow and to control the estimated 100 year-over flood.

# CANALIZATION SEGMENT

## FIVE SEDIMENT CONTROL DAMS



- The five sediment control dams, outlet works and access roads, are maintained by the USIBWC-Las Cruces Facility.
- The local entities sponsoring these five SCS projects are the Elephant Butte Irrigation District, and the Caballo Natural Resources Conservation District.

Soil Conservation Service, PL 566 Projects , 1975 Conditions

ARROYO/DAM	COMPLETED	DRAINAGE AREA REGULATED, SQ.MI.	CAPACITY IN ACRE-FEET			HEIGHT FEET
			SEDIMENT	FLOOD	TOTAL	
BROAD CANYON, NO. I	1969	64	<b>2,625</b>	3,405	6,030	70.5
CROW CANYON, NO. 2A	1971	120	3,945	7,384	11,329	65.5
GREEN ARROYO, NO. IA	1972	31	1,320	1,612	<b>2,932</b>	90.2
JARALOSA ARROYO NO. 4	1975	86	3,427	2,891	6,318	91.5
JARALOSA ARROYO NO. 5	1975	6	389	327	716	27.5
<b>TOTAL</b>		307	11,706	15,619	27,325	-



# SEDIMENT CONTROL DAMS

Las Cruces Facility field personnel required to inspect and maintain all five sediment control dams. Also, Facilitate yearly inspections w/EBID, NRCS & State engineer Reps.



- Berrenda Sediment Control Dam-Maintenance work.
- Berrenda Sediment Control spillway maintenance work.

# CANALIZATION RIVER PROJECTS



- As required by Record of Decision(ROD) under Part IV on River Channel Maintenance Plan in Canalization project segment. Typically 100,000 to 120,000 CY of river sediment are removed during non-irrigation season-late October to mid-March.
- Completed all of this FY-18 non-irrigation season - 12 Canalization river channel maintenance projects, an approximate total of 178,973 CY of river sediment was removed.
- The river channel sediment removal performed this year was due to additional personnel brought in from the Mercedes and Ft. Hancock Field Office's to assist.

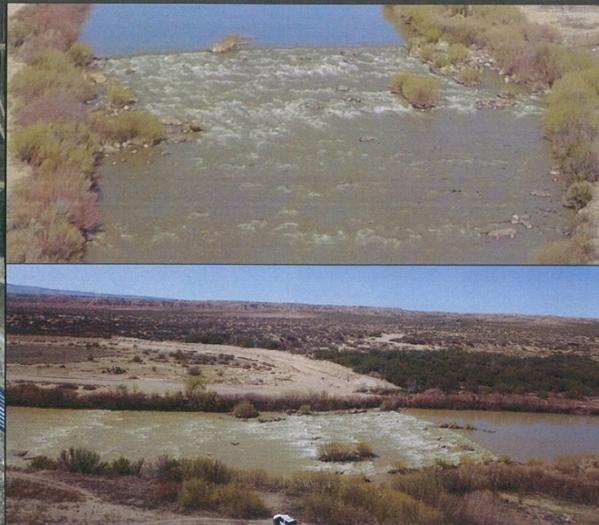
# CANALIZATION RIVER PROJECTS



- Late 2018/early2019, non-irrigation season, scheduled to address priority river channel and arroyo locations listed under, the USIBWC River Management Plan - Canalization Record of Decision(ROD) - 5 Yr. Part IV-Channel Maintenance Section.
- FY 19- River sediment removal schedule will include work sites on various Arroyos and Siphons maintenance, in particular: Placitas Arroyo, Rincon Siphon, Garcia I Arroyo, Rincon Arroyo and Bignell Arroyo.
- Various locations will require willow restoration work, which will require additional time to perform both river sediment removal and restoration work by same IBWC personnel.

# CANALIZATION RIVER PROJECTS

## Proposed 2018/2019 work sites



**URGFO**

2018/19 Canalization sediment  
removal project location map

Drawn By: Daniel J. Dergance	Checked By: Jose Luis Sierra	Sheet: 1 of 3
2nd April 2018		

### HATCH SIPHON

During the 2018/19 non-irrigation season approximately 4,000 cubic yards of sediment anticipated to be removed from the area at the Hatch Siphon.



### PLACITAS ARROYO

During the 2018/19 non-irrigation season approximately 13,000 cubic yards of sediment anticipated to be removed from the area at the Placitas Arroyo.

# CANALIZATION RIVER PROJECTS

## Prop 2018/2019 work sites



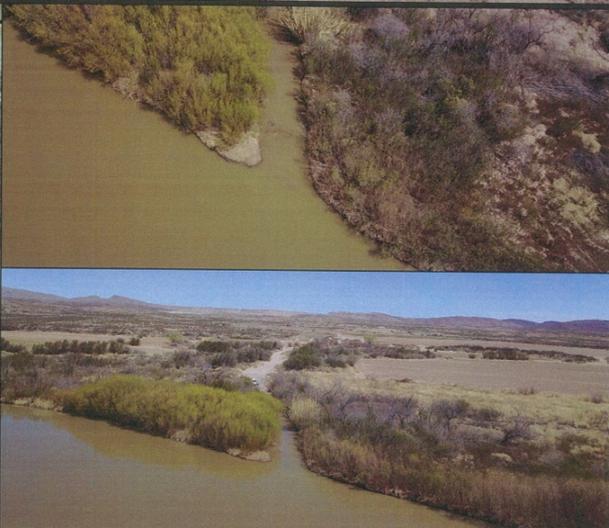
### URGFO

#### 2018/19 Canalization sediment removal project location map

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2nd April 2018		

### RINCON SIPHON

During the 2018/19 non-irrigation season approximately 15,000 cubic yards of sediment anticipated to be removed from the area at the Rincon Siphon.



### GARCIA I ARROYO

During the 2018/19 non-irrigation season approximately 12,000 cubic yards of sediment anticipated to be removed from the area at the Garcia Arroyo.

# CANALIZATION RIVER PROJECTS

## Proposed 2018/2019 work sites



URGFO

2018/19 Canalization sediment removal project location map

Drawn By Daniel J. Dergance Checked By Jose Luis Sierra Sheet: 3 of 3

2nd April 2018

### RINCON ARROYO to BIGNELL ARROYO

During the 2018/19 non-irrigation season approximately 56,000 cubic yards of sediment anticipated to be removed from selected areas between Rincon and Bignell arroyos.



# DIVERSION DAMS MAINTENANCE

Am Dam field personnel required to inspect and maintain both Diversion Dams, as a priority. Also working w/ESD on projects to rehabilitate gates, cables, seals, trunnions, sprockets, motors, limit switches, etc.



- American Dam during USACE five year inspection Dec. 2016.

- International Dam Winter Maintenance completed Dec. 1<sup>st</sup>, 2017. Cables replaced, gates exercised, dam power washed, cleaned, scraped, and painted. Limit switches adjusted.

# FIVE YEAR USACE DIVERSION DAMS INSPECTIONS



In order to perform the 5 year USACE Diversions Dams inspections it is necessary to remove all of the silt from the upstream and downstream aprons of the dams.



At American Dam 30,000 cy of material was removed.



At International Dam 20,000 cy of material was removed.

# RECTIFICATION PROJECT

## CHAMIZAL CONCRETE CHANNEL AREA



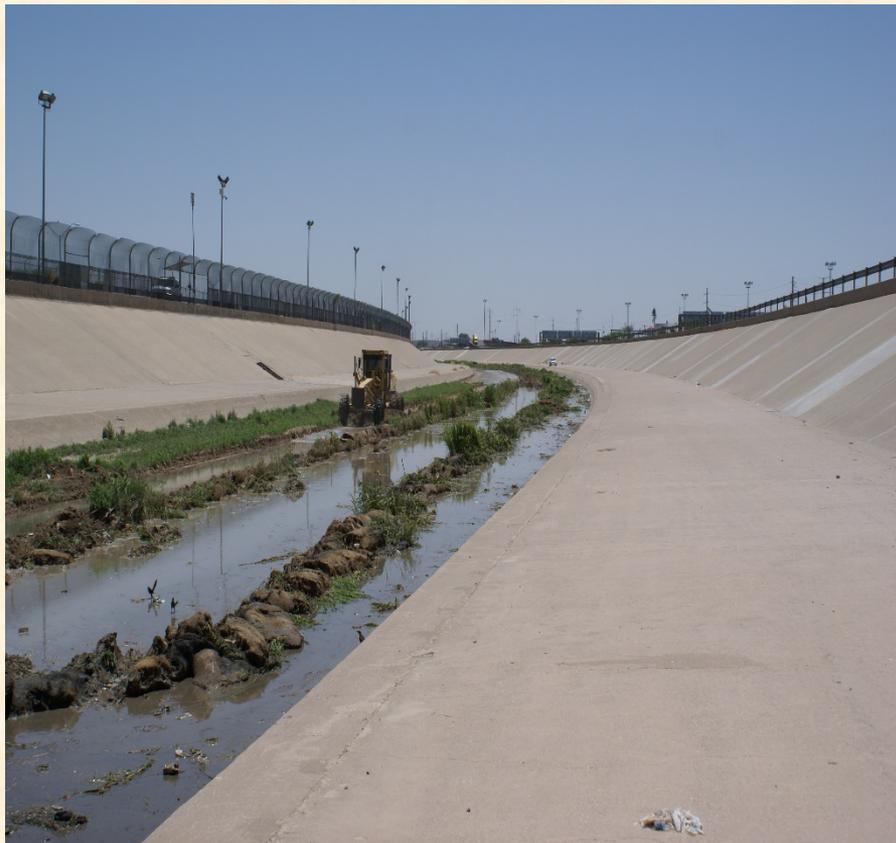
- Project area is from start of Chamizal concrete channel @ Chihuahuita to 2.5 miles downstream.(Remaining 2.5 miles downstream are under CILA maintenance responsibility.

# RECTIFICATION PROJECT CHAMIZAL CONCRETE CHANNEL AREA



- Schedule for July-August, perform required maintenance on silt and vegetation removal from start of Chamizal concrete channel @ Chihuahuita to 2.5 miles downstream.

# RECTIFICATION PROJECT CHAMIZAL CONCRETE CHANNEL AREA



- Mexico-CILA contractor has already started their downstream end of required maintenance on silt and vegetation removal on Chamizal concrete channel.

# RECTIFICATION PROJECT



## Rectification Project



# RECTIFICATION PROJECT

## Major Maint. Project: Guayuco Arroyo



- In 2017- 42,944 CY of sediment were removed. This is a major arroyo requiring continual, regular maintenance.
- In 2018- Approx. 8,000 CY have been removed from this Arroyo, just recently. Coordinated w/CILA Rep. to request permission to work from Mexico side. Will address as 2018 rain events require.

# RECTIFICATION PROJECT

## Fort Quitman Gaging Station



Removal of silt at this critical site required, in order to improve the ability to accurately measure flow at the Fort Quitman Gaging Station site. Approximately 15,000 cubic yards of material was removed.

# RECTIFICATION PROJECT

Ft Quitman Gaging Station to Neely Arroyo



- Critical local flooding downstream at Neely Arroyo. Working upstream of area from Ft Quitman Gaging downstream to Neely. Already 3 miles downstream.

# RECTIFICATION PROJECT

## Neely Arroyo- Local Flooding Problem Area



- Levee repairs and grading at Neely Arroyo, to assist in addressing adjacent local flooding to extent possible.
- River flow covering floodplain. This entire general area needs to be addressed as a total separate river dredging project, as it has not been addressed for a number of years.

# BOUNDARY PRESERVATION

## Arroyo Del Fraile Problem Area and Upstream



- Widened and re-established pilot channel to approx. 38’.
- Removed an avg. of 3’ of sediment. Totaling approx. 55,736 CY. to date.

- Have re-established pilot channel for approx. 2.5 miles upstream of Del Fraile. Presently approx. 1500’ below Little Box Canyon.

# QUESTIONS ???

