



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

## **American Dam/Carlos Marin Field Office REMEDIATION PROJECTS**

**Rio Grande Citizens Forum  
March 23, 2010**

# Remediation

- Remediation is defined as:  
*the removal of pollution or contaminants from the environment that have affected the soil, groundwater or surface water, for the general protection of human health and the environment*

# Effects of Metals Present

- Arsenic: human carcinogen
- Lead: neurological damage
- Risks to health from soil exposure are low, but increase significantly when the contamination moves into the water supply

# Remediation Methods

- Remediation method depends on:
  - site characteristics
  - concentration
  - types of pollutants to be removed
  - the end use of site or medium
- Five general approaches may include:
  - isolation, immobilization, toxicity reduction, physical separation and extraction

# Remediation Methods

- **Isolation:** prevent transport by containing within designated area (capping or subsurface barriers)
- **Immobilization:** designed to reduce mobility by changing the physical characteristics of contaminated matrix (solidification/stabilization)
- **Toxicity Reduction:** chemical or biological processes to alter the form of metal contaminants

# Remediation Methods

- **Physical Separation:** separate the contaminated material from the rest of the soil matrix (screening)
- **Extraction:** designed to extract the contaminated fraction from the rest of the soil (on-site or off-site) by “washing” with extracting agents

# USIBWC Remediation Projects

- American Dam/Carlos Marin Field Office Complex (5.56 acre site)
  - Approximately 4,147 cubic yards soil remediation
- American Dam Island
  - Approximately 12,874 cubic yards soil remediation
- Remediation method has not been determined

# American Dam/Carlos Marin Field Office







# American Canal Remediation

- 3 Open Channel Segments (~2 miles total length)
- Will require soil remediation along construction footprint
- Groundwater removal and remediation also along construction footprint
- Remediation method has not been determined

# American Canal Reconstruction

- 2 Open Trapezoidal Channel Segments
- 1 Closed Conduit Segment -12' x 12'  
double pre-cast concrete closed culverts
- Anticipate 3 Construction Phases
  - During non-irrigation season (October to February)
  - No work anticipated on the closed conduits under Paisano Drive

# American Canal Segments

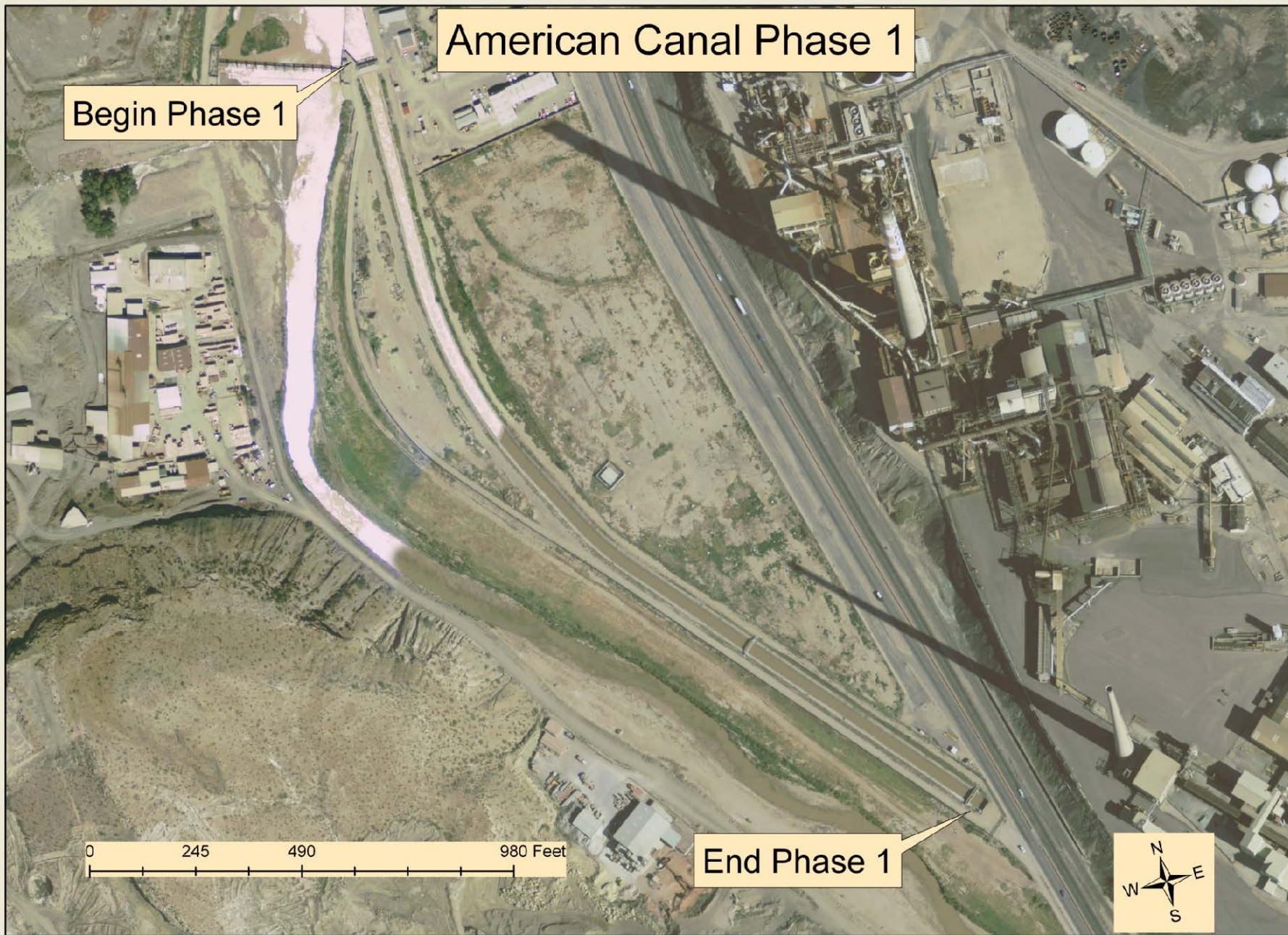
- Phase 1- Canal reach from American Dam to Paisano Drive
- Phase 2- Canal reach adjacent to ASARCO (north side of Paisano)
- Phase 3- Canal reach from double gates to near La Hacienda Restaurant beginning of RGACE

# American Canal Phase 1

Begin Phase 1

End Phase 1

0 245 490 980 Feet





# American Canal Phase 2

Begin Phase 2

End Phase 2

0 295 590 1,180 Feet



# American Canal Phase 3

Begin Phase 3

End Phase 3

0 295 590 1,180 Feet





# Questions

