International Boundary and Water Commission

United States and Mexico

United States Section

4191 N. Mesa, El Paso, TX 79902

American Canal Lower Reach Replacement

Contract Number:	191BWC23C0006
Contractor:	Odin Construction Solutions, LLC
Notice to Proceed (NTP):	August 2023
Substantial Completion:	May 2027
Awarded Contract Price:	$90,352,323

American Canal was originally built in 1937-38 and was first put into service on June 2, 1938. Since then, the canal has deteriorated significantly requiring removal and replacement for continued serviceability. The Lower Reach consists of 2,518 linear feet of precast arch culvert to create a canal 24 feet wide and 12 to 14 feet deep. Another 510 feet of 24 feet wide by 15 feet deep U-channel will also be constructed that will tie into the College Arroyo Overchute that was built in 2014. Performing maintenance on the old canal was difficult because there was no access for O&M equipment. Equipment literally had to be lifted into the canal. The new canal will have two ramps, accessible from the levee, to enter the canal: one upstream of the College Arroyo Overchute and one downstream of the overchute. Both ramps will be gated to prevent unauthorized access and for safety. The preexisting canal has no safety features except a single safety cable right before the RGACE headgates. The new canal has two sets of safety ladders, two safety cables, handrails adjacent to the U-channel and around the top of the overchute, and ladders within the overchute.

With construction of the DHS fence in approximately 2012, it became difficult for O&M to perform regular maintenance on the landside of the canal. Extensive erosion has occurred in some areas and weed growth is rampant. The completed project will have slope paving between the finished canal surface (rocks or concrete) to control erosion and weeds. Five manholes are included with the precast arch culverts to allow visual inspection of the canal downstream of all stormwater inlets. The manholes will also offer venting and airflow when work needs to occur within the closed canal. Border Patrol regularly patrols the levee in this area. They often drive across areas that simply look like soil, but often are part of the levee. To protect the top of the precast arch culverts, USIBWC is placing 6" rock over top of the culverts to minimize damage from vehicles. Vehicles can transverse the rock if needed for maintenance or emergencies, but the rock creates a rough ride which will prevent normal driving.

The Lower Reach of American Canal extends through an area of rich cultural history. Portions of old Fort Bliss were used to originally construct the canal and two buildings that were once bachelor's officers quarters still stand adjacent to the canal. Near the downstream end of the project sits the location of Hart's Mill which began operations in the 1850s. This area is also near the location where Juan de Oñate crossed the Rio Grande in 1598. Because of the vast history of the area and the very real possibility of finding items of cultural significance, USIBWC has hired a cultural resource specialist to oversee all ground disturbing activities.

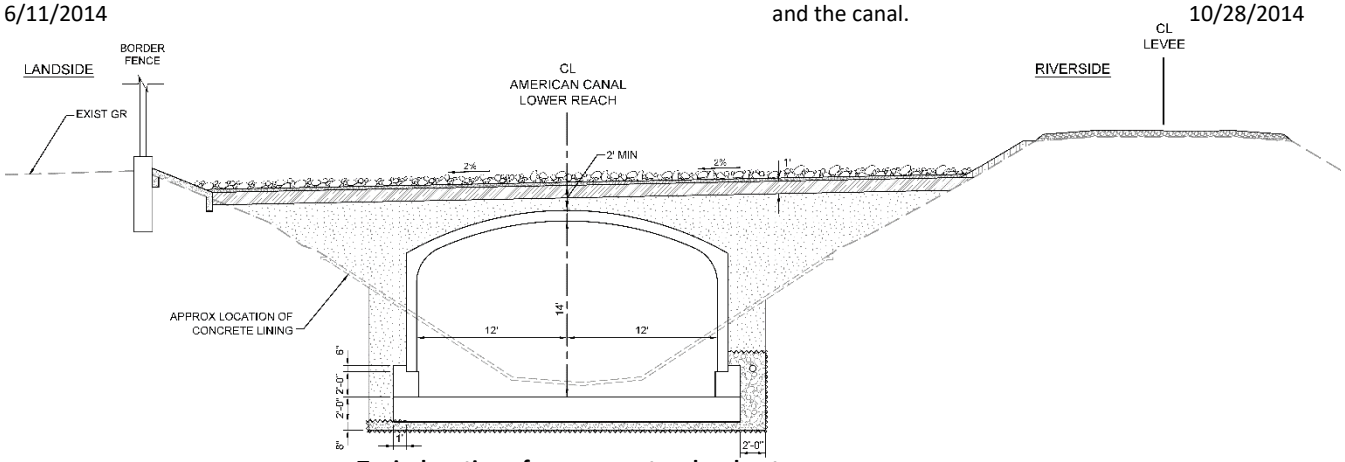
Feature	**Original**	**Reconstructed**		
		STA 79+60 to 94+00	*STA 94+00 to 104+78*	*STA 104+78 to 110+69*
Bottom Width	12 ft	12 ft	12 ft	24 ft
Depth	10 ft	12 ft	14 ft	15 ft
Shape	Trapezoid	Precast Arch	Precast Arch	Rectangular
Concrete Thickness	3 in	precast walls & roof 24 in invert	precast walls & roof 24 in invert	24 in walls 24 in invert
Capacity	1200 cfs	1769 cfs	1826 cfs	1828 cfs

Looking upstream from approx. Sta 106+00. Note damaged concrete panels. 11/24/2014

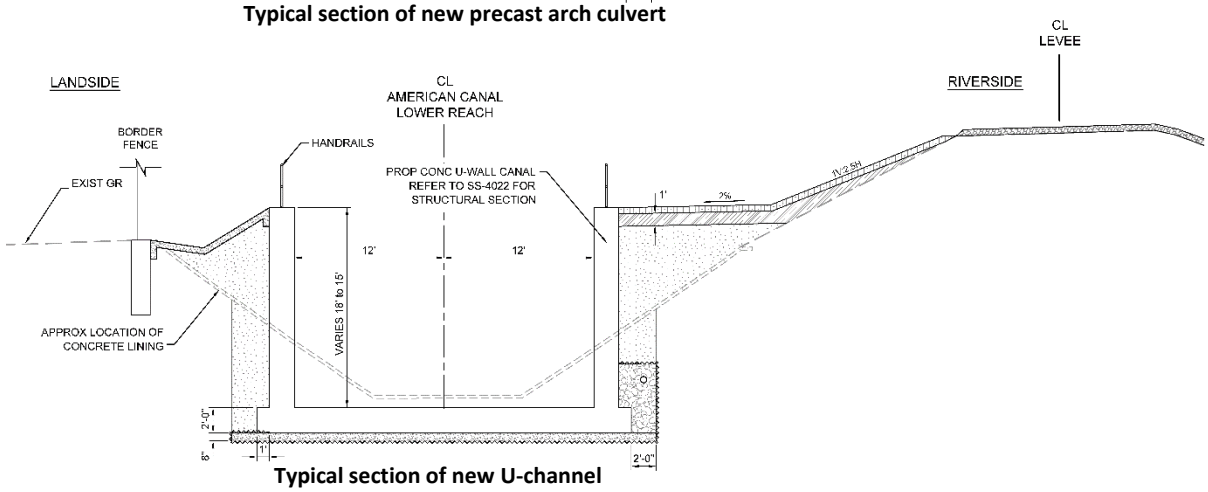
Example of erosion and existing concrete damage 11/29/2022

Upper Valley Outfall sewer line crossing the canal 6/11/2014

Example of erosion that occurs between the DHS fence and the canal. 10/28/2014



Typical section of new precast arch culvert



Typical section of new U-channel