RIO GRANDE
DIVERSION INFRASTRUCTURE INVENTORY

Structure Name: COSTILLA D (CANAL)

Reported By: Daniel Boyes

Date: April 10, 2019

Headgate Location:	**Latitude**	**Longitude**
	37.55271667	-106.95066667

Headgate Type: Mechanically operated 10' wide radial gate

Headgate Condition:	**Diversion and Other Condition:**	**River Miles from New Mexico State Line (Point of Diversion):**	**Structure Submerged:**
A ☐	A ☐		Yes ☒
B+ ☒	B- ☒		No ☐
C ☐	C ☐		
D ☐	D ☐	64.99 mi	
F ☐	F ☐		

Repair(s) or Improvement(s) Completed Since 2006: None

Structure Description: This structure is located on the outside of a meander and just downstream of its apex. A trapezoidal concrete diversion dam diverts river flow into the feeder channel on the east bank of the river. The diversion dam effectively diverts water, however it significantly reduces channel capacity at this location. The feeder channel is approximately 1,000 ft long and directs river flow to the headgate. There is a steel trash rack at the entrance of the feeder channel. There are several historic channels near the current channel, suggesting channel avulsion was historically prevalent here. For this reason, it is assumed that channel avulsion from the current channel to a historic channel during a flood event is possible. Immediately upstream of the structure, the river has not migrated significantly since the 1960s (see report card). This is due in part to riprap and concrete blocks that were placed upstream of the diversion on the east bank of the river for stabilization. Downstream of the diversion, channel avulsion has occurred historically and there is potential for meander cutoffs. This ditch's slope is very low and backs up when the ditch is in priority, resulting in a significant issue for water users.

Repair(s) or Improvement(s) Currently Needed: Based on these issues, the SMP Technical Advisory Team (TAT) recommends removing the concrete upstream of the diversion and replacing it with bank stabilization structures and riparian vegetation. This restoration would improve river function and reduce hazards for boaters and livestock. Additionally, if the diversion is reconstructed in the future, the TAT recommends increasing its capacity to improve river function and reduce the likelihood of the river reclaiming a historic channel during a high flow event.

Comments: The headgate is relatively new and functions well. This ditch is a priority 293.

Notes:

Estimated Range of Cost: Low

Headgate looking downstream

East bank of Rio Grande looking upstream

Headgate outlet

Diversion dam looking downstream

Diversion dam and feeder ditch

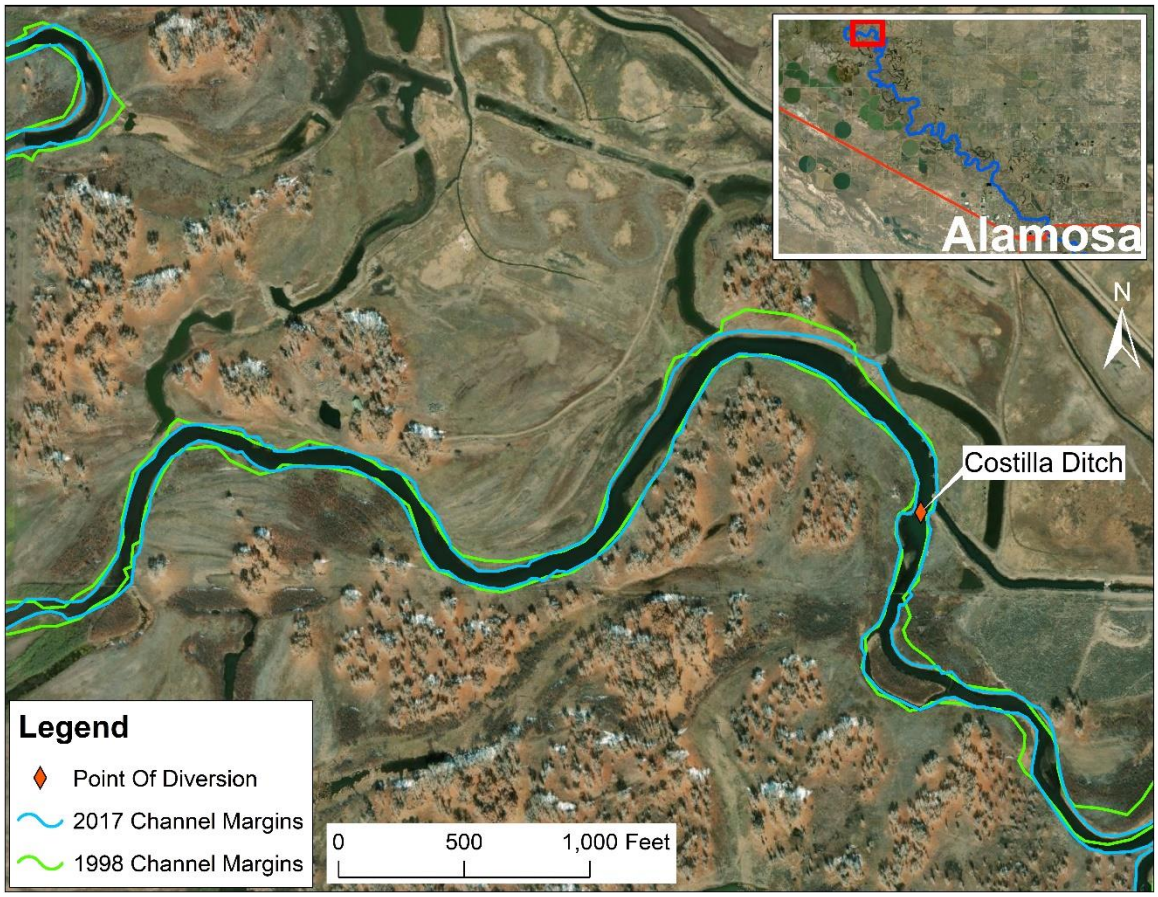
Measurement structure looking downstream

RIO GRANDE DIVERSION INFRASTRUCTURE INVENTORY

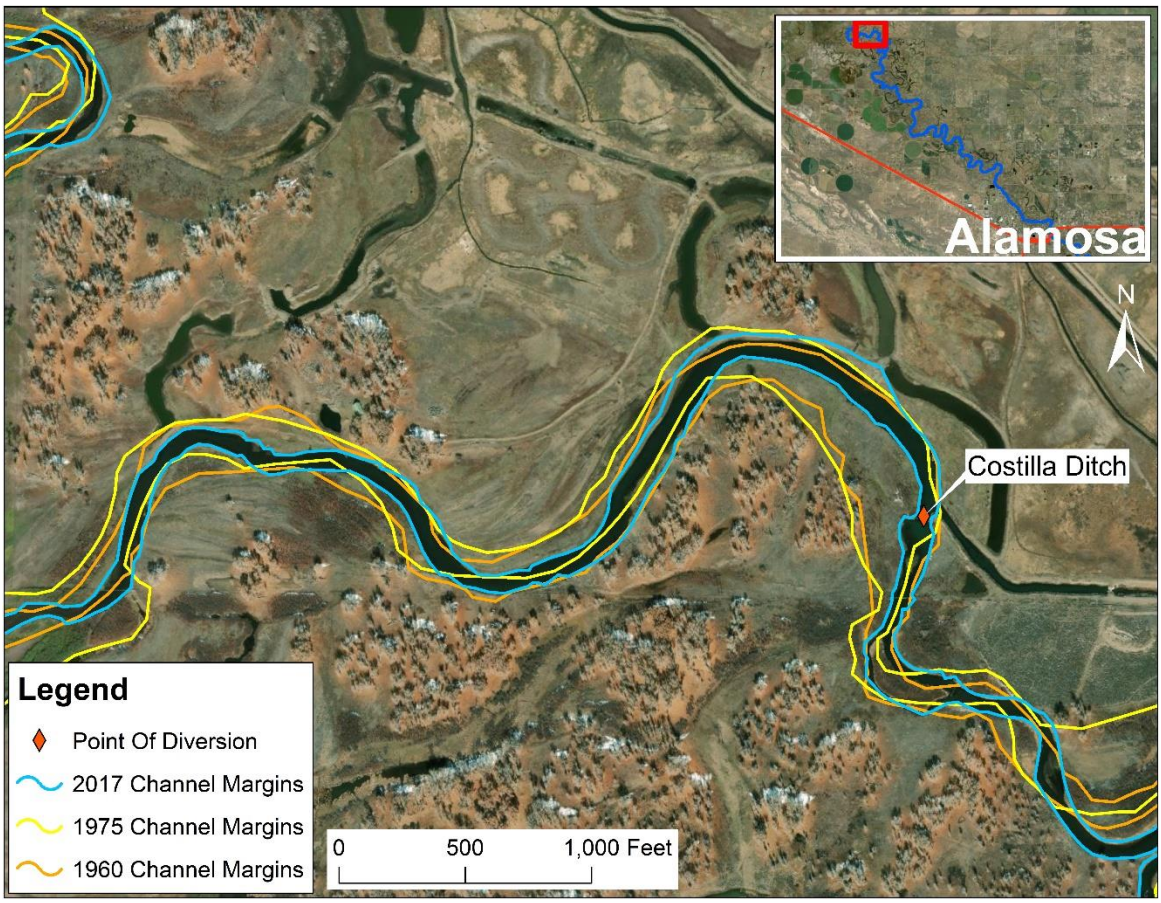
COSTILLA DITCH (CANAL)

PHOTO LOG

Rio Grande Stream Management Plan



Map showing point of diversion with 1998 and 2017 channel margins overlaid



Map showing point of diversion with 1960, 1975, and 2017 channel margins overlaid