

Pondera County Canal and Reservoir Company East Dam of Lake Frances Rehabilitation

Location:

Lake Frances, part of the irrigation project owned and operated by the Pondera County Canal and Reservoir Company (PCCRC), lies directly south of the Town of Valier and 14 miles northwest of the City of Conrad. Lake Frances is an off-stream storage reservoir that is filled by diversion of water from Birch and Dupuyer Creeks. Its capacity is 105,000 acre-feet.



Quick Facts:

- The PCCRC was originally incorporated in 1909 and construction of the irrigation project was completed in 1948.
- The PCCRC maintains Swift Dam, 350 miles of canals, hundreds of diversions and two dam structures on Lake Frances, the East Dam and the North Dam for delivery of water to the shareholders of the company.
- Lake Frances serves as the sole source of municipal water for the City of Conrad, population 2,681.
- There are 79,640 shares held by 395 shareholders, representing a population of 3,884 who irrigated 64,017 acres in 2003.
- Approximately 90 percent of the irrigated acres in Pondera County are supplied from the PCCRC.
- Historical crop production has been in wheat, barley, hay, pasture and canola.
- Total cash receipts for all crops in Pondera County in 2002: \$19,086,000 from a total of 478,400 acres.
- Total cash receipts for PCCRC acres in 2002: \$9,000,000 from 49,666 irrigated acres. This represents 47% of the revenues from 10% of acres in production.
- The median household income for Pondera County is \$30,464, which is 8.4 percent less than the State median household income of \$33,024.
- Irrigation allows for value-added agricultural production, such as the Anheuser-Busch malting plant, and has accounted for much-needed economic development in Pondera County and Montana.

East Dam:

Date Constructed:	1908 – 1910	Dam Classification:	High Hazard
Dam Height:	57 feet	Length of Dam:	700 feet
Dam Crest Width:	20 feet	Width at Base:	294 feet
Design Outlet Capacity:	950 cfs	Current Outlet Capacity:	450 cfs

Condition of the East Dam:



The outlet of the East Dam is severely deteriorated and does not meet current dam safety design criteria for adequate draw-down capacity, air vents and cavitation protection, and smooth transition sections in the outlet conduit. The concrete does not meet current dam safety design criteria for strength.

Because of the extent of deterioration of the outlet conduit, discharges from the East Dam outlet works are limited to 450 cfs, just enough to meet project irrigation demand. Abnormally high reservoir water surface elevations and outlet releases higher than typical irrigation demand would accelerate deterioration of the concrete in the outlet pipe, further limiting its allowable flow rate.

Recommended Plan:

Alternative 4: Rehabilitate Existing Dam and Replace Existing Outlet Works

Cost: \$5,900,000

The recommended alternative will require that the existing outlet works be removed and filled, and that the existing gate tower be demolished. The existing dam embankment will be rehabilitated by constructing a new outlet conduit and gate towers in the same location.

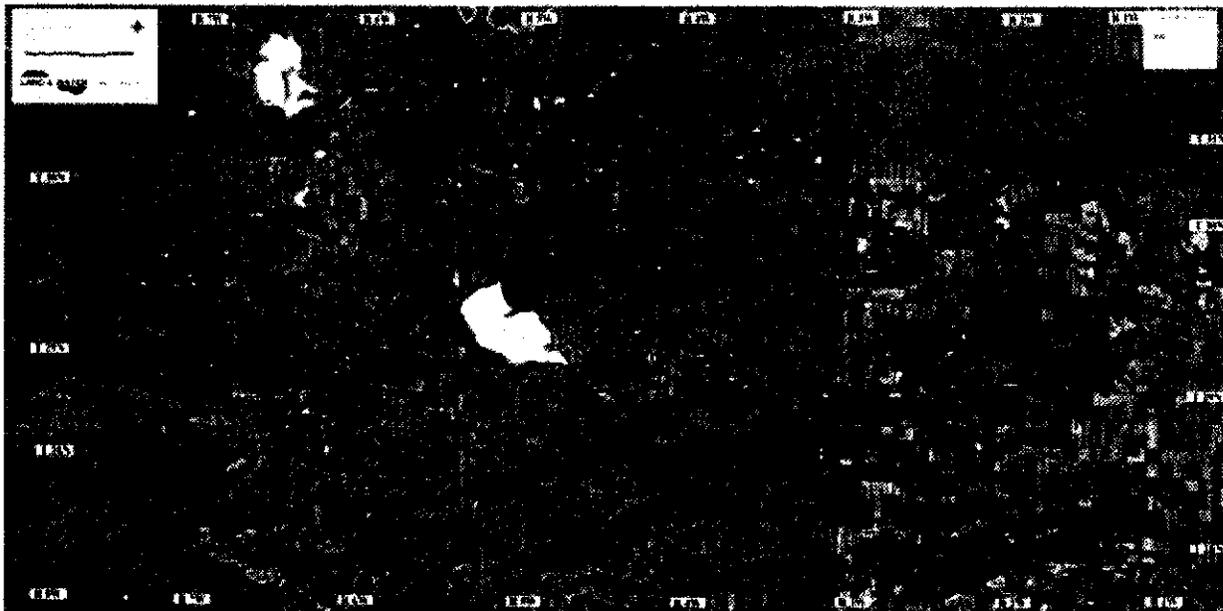
The remaining three alternatives were to 1) No Action, 2) Construct a New Dam and Outlet Works Downstream of the Existing Dam, and 3) Rehabilitate the Existing Outlet Works. All of these alternatives were determined to be cost prohibitive.

Financial Capacity of the PCCRC

The PCCRC gained tax-exempt status [501(C)(12)] from the Internal Revenue Service in 1985 and continues to maintain that status. Annual receipts from shareholders for the purpose of meeting losses and expenses are a minimum of 85 percent of the total income of the company.

PCCRC OPERATION AND MAINTENANCE BUDGET 2001 – 2004			
Year	Operating Income	Expense & Depreciation	Net Profit (Loss) From Operations
2001 – 2002	\$907,548	(\$1,006,556)	(\$99,008)
2002 – 2003	\$1,238,068	(\$1,253,748)	(\$15,680)
2003 – 2004	\$1,082,169	(\$1,131,737)	(\$49,568)

- In 2003, the maintenance fee was \$14.25 per share, with \$8.50 going to operation and maintenance and \$5.75 going into the watershed fund, which is used for capital improvements to the irrigation system infrastructure. It is anticipated that the 2005 maintenance fee will increase by \$0.50 to \$14.75 per share.
- The City of Conrad is the second largest shareholder with 2,180 shares. The anticipated annual cost to the City for PCCRC maintenance fees is \$32,155. For an average shareholder with approximately 400 shares, the annual cost would be \$5,900.
- Without any grant, the average PCCRC shareholder with 400 shares would be required to pay an annual cost of \$3,100 for 20 years in addition to their anticipated annual assessment of \$5,900, or an increase of 53%. The annual increase to the City of Conrad would be \$16,893 in addition to their anticipated annual assessment of \$32,155.



Irrigated Acres of the PCCRC