

Publications

TR- 248

Economic and Conservation Evaluation of Capital Renovation Projects: Maverick County Water Control and Improvement District No. 1 (Eagle Pass) - Lining Main Canal - Preliminary

M. Edward Rister, Ronald D. Lacewell, Allen W. Sturdivant, John R. C. Robinson, Michael C. Popp

- [Full Text](#)

Initial construction costs and net annual changes in operating and maintenance expenses are identified for a capital renovation project proposed by Maverick County Water Control and Improvement District No. 1 to the Bureau of Reclamation and North American Development Bank. The proposed project involves lining 3 miles of the “Main Canal” with a urethane lining and a concrete anchor and ballast system. Both nominal and real estimates of water and energy savings and expected economic and financial costs of those savings are identified throughout the anticipated 49-year useful life for the proposed project. Sensitivity results for both the cost of water savings and cost of energy savings are presented for several important parameters.

Annual water and energy savings forthcoming from the total project are estimated, using amortization procedures, to be 8,084 ac-ft of water per year and 2,041,095,338 BTUs (598,211 kwh) of energy per year. The calculated economic and financial cost of water savings is estimated to be \$33.37 per ac-ft. The calculated economic and financial cost of energy savings is estimated to be \$0.0001322 per BTU (\$0.451 per kwh).

In addition, expected real (rather than nominal) values are indicated for the Bureau of Reclamation's three principal evaluation measures specified in the United States Public Law 106-576 legislation. The initial construction cost per ac-ft of water savings measure is \$25.97 per ac-ft of water savings. The initial construction cost per BTU (kwh) of energy savings measure is \$0.0001029 per BTU (\$0.351 per kwh). The ratio of initial construction costs per dollar of total annual economic savings is estimated to be -13.65.

Texas Water Resources Institute

1500 Research Parkway A110
2260 TAMU
College Station, TX 77843-2260

TWRI and the [Texas A&M Institute of Renewable Natural Resources](#) are working together to foster and communicate research and educational outreach programs focused on water and natural resources science and management issues in Texas and beyond.

Phone: 979.845.1851
Fax: 979.845.0662
Email: twri@tamu.edu



[Compact with Texans](#) | [Privacy and Security](#) | [Accessibility Policy](#) | [State Link Policy](#) | [Statewide Search](#)
[Plug-ins](#) | [Veterans Benefits](#) | [Military Families](#) | [Texas Homeland Security](#) | [Open Records/Public Information](#)
[Equal Opportunity Statement](#) | [Risk, Fraud & Misconduct Hotline](#)

© 2013 All rights reserved. Problem with this page? Contact: twri-webmaster@tamu.edu



[CANOPY](#)