

COST COMPARISONS OF CANAL MODERNIZATION METHODS, 100-YEAR DESIGN LIFE

PIPING PER AID/FCA EA

100-YEAR DESIGN LIFE \$42,759,000
100% SEEPAGE PREVENTION

CANAL LINING PER AID/FCA EA

1" SHOTCRETE OVER GEOMEMBRANE, 100-YEAR DESIGN LIFE \$80,864,000
(this was estimated with an incorrect 33-year design life, 3X)
95% SEEPAGE PREVENTION

OUR RESEARCH

CANAL LINING

1" SHOTCRETE OVER GEOMEMBRANE, 100-YEAR DESIGN LIFE \$9,630,572 (low bid)
(this was estimated by using actual 50-year design life, 2X) \$33,206,940 (high bid)
95% SEEPAGE PREVENTION

CANAL LINING

4" GEOTEXTILE GROUT-FILLED MATTRESS, 100-YEAR DESIGN LIFE \$23,857,156
(this was estimated by using actual 50-year design life, 2X)
70% SEEPAGE PREVENTION

CANAL LINING

2" GEOTEXTILE GROUT-FILLED MATTRESS, 100-YEAR DESIGN LIFE \$20,045,960
(this was estimated by using actual 50-year design life, 2X)
70% SEEPAGE PREVENTION

CANAL LINING

3" SHOTCRETE, NO MEMBRANE, 100-YEAR DESIGN LIFE \$15,120,000 (low bid)
(this was estimated by using actual 50-year design life, 2X) \$29,494,050 (high bid)
70% SEEPAGE PREVENTION

Our preferred alternative at this point—Shotcrete lining with NO membrane is already used successfully and is the cheapest of all alternatives; 3" thickness is best; 70% seepage prevention.

Notes on how AID/FCA produced their "Canal Lining Alternative" cost estimates:

Because the piping material is considered to have a 100-year design life, AID/FCA has made that level of "durability" their gold standard. In their EA, they falsely claimed that shotcrete-covered-membrane had a design life of 33-years, and so multiplied their full installation cost by 3 to get their \$80.8 million number above.

Our cost estimates above:

The widely recognized (in the EA's own cited outside documentation) design life of concrete lining methods is 50-years, so we take the cost estimates that we compiled for installation and multiplied them by 2 to get the 100-year design life numbers above. If AID/FCA wished to be realistic they would consider the cost of a single concrete lining method install as "the cost," at half the prices listed above, but to compare "apples-to-apples" with the EA's numbers and still show that there are much less expensive options than piping we've shown 100-year design life figures here.