

ABBS VALLEY SEWER EXTENSION

TAZEWELL COUNTY PUBLIC SERVICE AUTHORITY

Cumberland Plateau Planning District

Project Background

The Abbs Valley project area is located along State Route 644, west of Boissevain and includes approximately 420 residential and 15 commercial connections. Currently, the area is not served by a public sewage system. Residences and businesses in the area primarily utilize privately owned and maintained on-site septic systems. It is suspected that some of the septic systems in the area are failing and that straight piping does occur. The majority of the project area lies in the watershed of the Middle New River which has been identified by the Virginia Department of Environmental Quality (DEQ) as an impaired stream. It is anticipated that, with the provision of public sewage service, moderate potential exists for residential growth, and low potential exists for commercial growth.

Proposed Facilities

The proposed facilities associated with the Abbs Valley Sewer Extension include approximately 31,400 linear feet of 8-inch gravity sewer, 8,342 linear feet of 4-inch force main, 1,100 linear feet of 2-inch force main, and three sewage pumping stations. The extension will connect to the existing TCPSA sewage collection system in Boissevain and all wastewater generated in the project area will ultimately be conveyed to and treated at the proposed Northern Tazewell County Wastewater Treatment Plant (WWTP). The Northern Tazewell County WWTP has a proposed capacity of 0.50 million gallons per day (MGD). Treated effluent from the Northern Tazewell County WWTP will discharge into Laurel Fork River which has been identified by DEQ as an impaired stream. Based on a 50-year design period, a potential future customer base of 479 connections (anticipated 50-year growth of 10%) and a flow of 300 gallons per day (GPD) per connection, future average daily flow for the project area will be approximately 143,700 GPD or 0.14 MGD. Therefore, adequate capacity will be available at the Northern Tazewell County WWTP to treat the anticipated wastewater generated in the Abbs Valley project area.

Project Costs

The preliminary probable project cost and annual operation and maintenance costs associated with the Abbs Valley Sewer Extension are \$3,838,583 and \$19,084, respectively. These costs result in an approximate present worth of \$9,318 per existing connection.

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PRELIMINARY PROBABLE PROJECT COST

Construction Cost

31,400 L.F.	8-inch Gravity Sewer @	\$54 /L.F.	\$1,695,600
8,342 L.F.	4-inch Force Main @	\$18 /L.F.	\$150,156
1,100 L.F.	2-inch Force Main @	\$15 /L.F.	\$16,500
3 EA.	Sewage Pump Station @	\$175,000 /EA.	\$525,000
435 EA.	Gravity Sewer Connections @	\$1,300 /EA.	\$565,500
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Total Construction Cost			\$2,952,756

Related Cost

30 %	Total Construction Cost		
	Total Related Cost		\$885,827
TOTAL PROJECT COST			\$3,838,583

ANNUAL OPERATION AND MAINTENANCE (O&M) COST

Operation and Maintenance Cost

31,400 L.F.	8-inch Gravity Sewer @	\$0.10 /L.F.	\$3,140
8,342 L.F.	4-inch Force Main @	\$0.10 /L.F.	\$834
1,100 L.F.	2-inch Force Main @	\$0.10 /L.F.	\$110
3 EA.	Sewage Pump Station @	\$5,000 /EA.	\$15,000
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TOTAL ANNUAL O&M COST			\$19,084

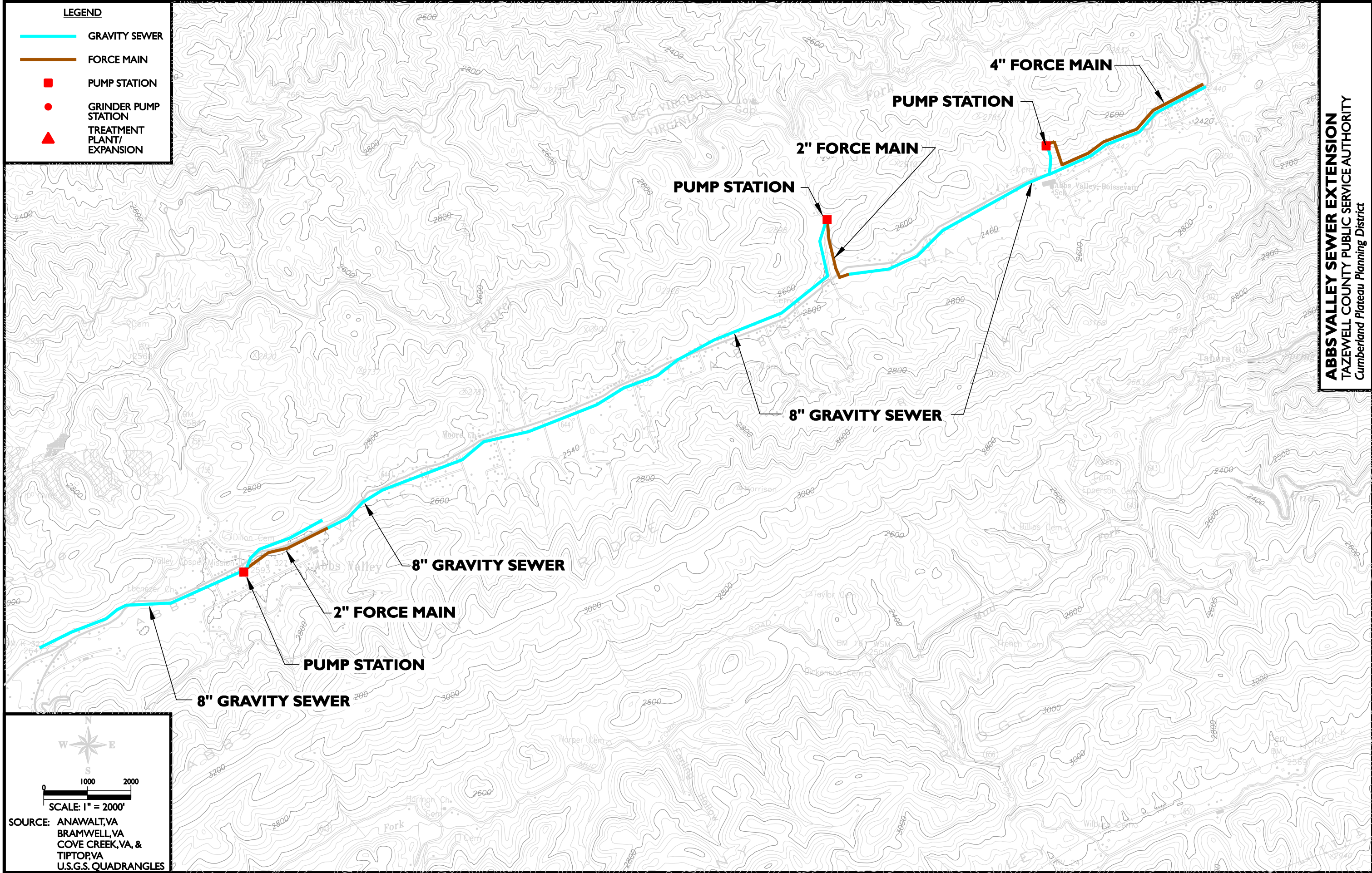
PRESENT WORTH OF ANNUAL O&M COST (30 YEARS, 8%) \$214,846

TOTAL PROJECT PRESENT WORTH \$4,053,429

PRESENT WORTH PER CONNECTION (435 CONNECTIONS) \$9,318

LEGEND

- GRAVITY SEWER
- FORCE MAIN
- PUMP STATION
- GRINDER PUMP STATION
- ▲ TREATMENT PLANT/ EXPANSION



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SCALE: 1" = 2000'
 SOURCE: ANAWALT, VA
 BRAMWELL, VA
 COVE CREEK, VA, &
 TIPTOP, VA
 U.S.G.S. QUADRANGLES