

RED ASH SEWER EXTENSION

TAZEWELL COUNTY PUBLIC SERVICE AUTHORITY
Cumberland Plateau Planning District

Project Background

The Red Ash project area is located along State Route 618 north of Raven near the Tazewell County/Russell County line and includes approximately 105 residential 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 Upper Clinch 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.

Proposed Facilities

The proposed facilities associated with the Red Ash Sewer Extension include approximately 17,000 linear feet of 8-inch gravity sewer and three railroad crossings. The extension will connect to the existing TCPSA sewage collection system in Raven and all wastewater generated in the project area will ultimately be conveyed to and treated at the existing Richlands Wastewater Treatment Plant (WWTP). The Richlands WWTP has a permitted capacity of 4.00 million gallons per day (MGD) and currently treats an average of 2.25 MGD. Treated effluent from the Richlands WWTP discharges into the Clinch River which has been identified by DEQ as an impaired stream. Based on a 50-year design period, a potential future customer base of 116 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 34,800 GPD or 0.03 MGD. Therefore, adequate capacity is available at the Richlands WWTP to treat the anticipated wastewater generated in the Red Ash project area.

Project Costs

The preliminary probable project cost and annual operation and maintenance costs associated with the Red Ash Sewer Extension are \$1,448,850 and \$1,700, respectively. These costs result in an approximate present worth of \$13,981 per existing connection.

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PRELIMINARY PROBABLE PROJECT COST

Construction Cost

17,000 L.F. 8-inch Gravity Sewer @	\$54 /L.F.	\$918,000
105 EA. Gravity Sewer Connections @	\$1,300 /EA.	\$136,500
3 EA. Railroad Crossing	\$20,000 /EA.	\$60,000
		<hr/>
Total Construction Cost		\$1,114,500

Related Cost

30 % Total Construction Cost		
Total Related Cost		\$334,350

TOTAL PROJECT COST \$1,448,850

ANNUAL OPERATION AND MAINTENANCE (O&M) COST

Operation and Maintenance Cost






17,000 L.F. 8-inch Gravity Sewer @	\$0.10 /L.F.	\$1,700
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TOTAL ANNUAL O&M COST		\$1,700

PRESENT WORTH OF ANNUAL O&M COST (30 YEARS, 8%) \$19,138

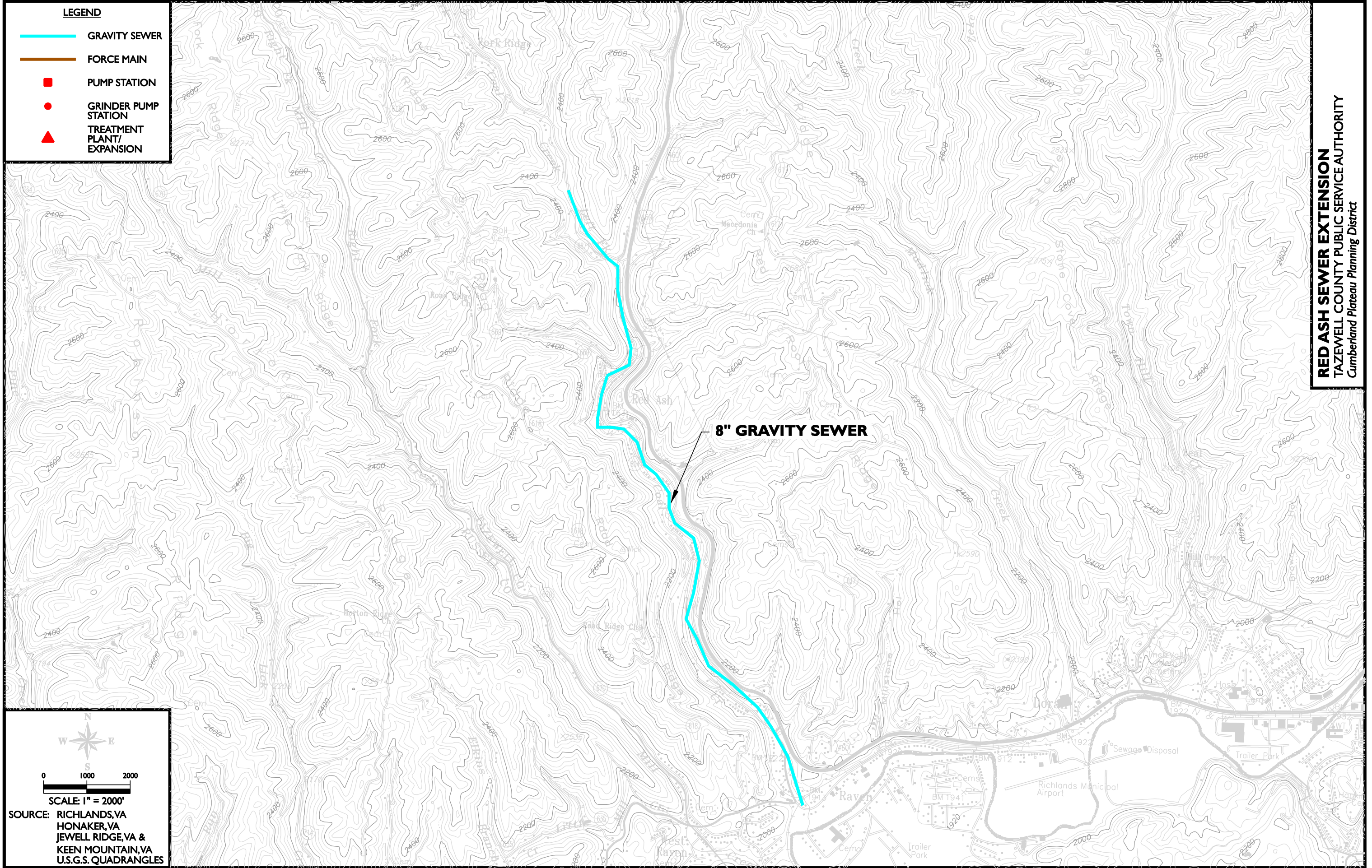
TOTAL PROJECT PRESENT WORTH \$1,467,988

PRESENT WORTH PER CONNECTION (105 CONNECTIONS) \$13,981

LEGEND

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

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0 1000 2000

SCALE: 1" = 2000'

SOURCE: RICHLANDS, VA
HONAKER, VA
JEWELL RIDGE, VA &
KEEN MOUNTAIN, VA
U.S.G.S. QUADRANGLES