

DUNBAR DECENTRALIZED SEWER PROJECT

WISE COUNTY PUBLIC SERVICE AUTHORITY
LENOWISCO Planning District

Project Background

There are currently 40 homes in this remote community and the soils are inadequate for providing onsite treatment. The wastewater from the homes is collected in makeshift septic tanks where the solids are settled out and the effluent flows into the stream with no further treatment. Public sewer service is badly needed. The PSA has just been awarded a combination grant-loan funding package by the Virginia Department of Health to upgrade the community's water system.

Proposed Facilities

A decentralized wastewater system is recommended for this community. The proposed facilities include 40 watertight septic tanks, 6,750 linear feet of 3-inch and 4-inch sewer line, and an 8,000-gallon treatment and disposal system. The proposed treatment unit is the AdvanTex AX100 treatment module, identical to treatment system used at Imboden. This treatment system will treat domestic wastewater to advanced secondary standards before disposing of it into the ground or surface water.

Project Costs

The preliminary probable project cost and annual operation and maintenance costs associated with the Dunbar Decentralized Sewer Project are \$406,000 and \$9,600, respectively. These costs result in an approximate present worth of \$12,852 per equivalent connection.

DUNBAR DECENTRALIZED SEWER PROJECT

WISE COUNTY PUBLIC SERVICE AUTHORITY

LENOWISCO Planning District

PRELIMINARY PROBABLE PROJECT COST

Construction Cost

5,500	L.F.	3-inch Sewer Line	\$10 /L.F.	\$55,000
1,250	L.F.	4-inch Sewer Line	\$14 /L.F.	\$17,500
30	EA.	STEG System	\$2,000 /EA.	\$60,000
10	EA.	STEP System	\$3,500 /EA.	\$35,000
5	EA.	Road Crossing	\$1,500 /EA.	\$7,500
2	EA.	Stream Crossing	\$1,500 /EA.	\$3,000
8,000	GAL.	Treatment System	\$10 /GAL	\$80,000
8,000	GAL.	Disposal System	\$4 /GAL	\$32,000

Total Construction Cost \$290,000

Related Cost

40 % Related Cost \$116,000

TOTAL PROJECT COST \$406,000

OPERATION AND MAINTENANCE (O&M) COST

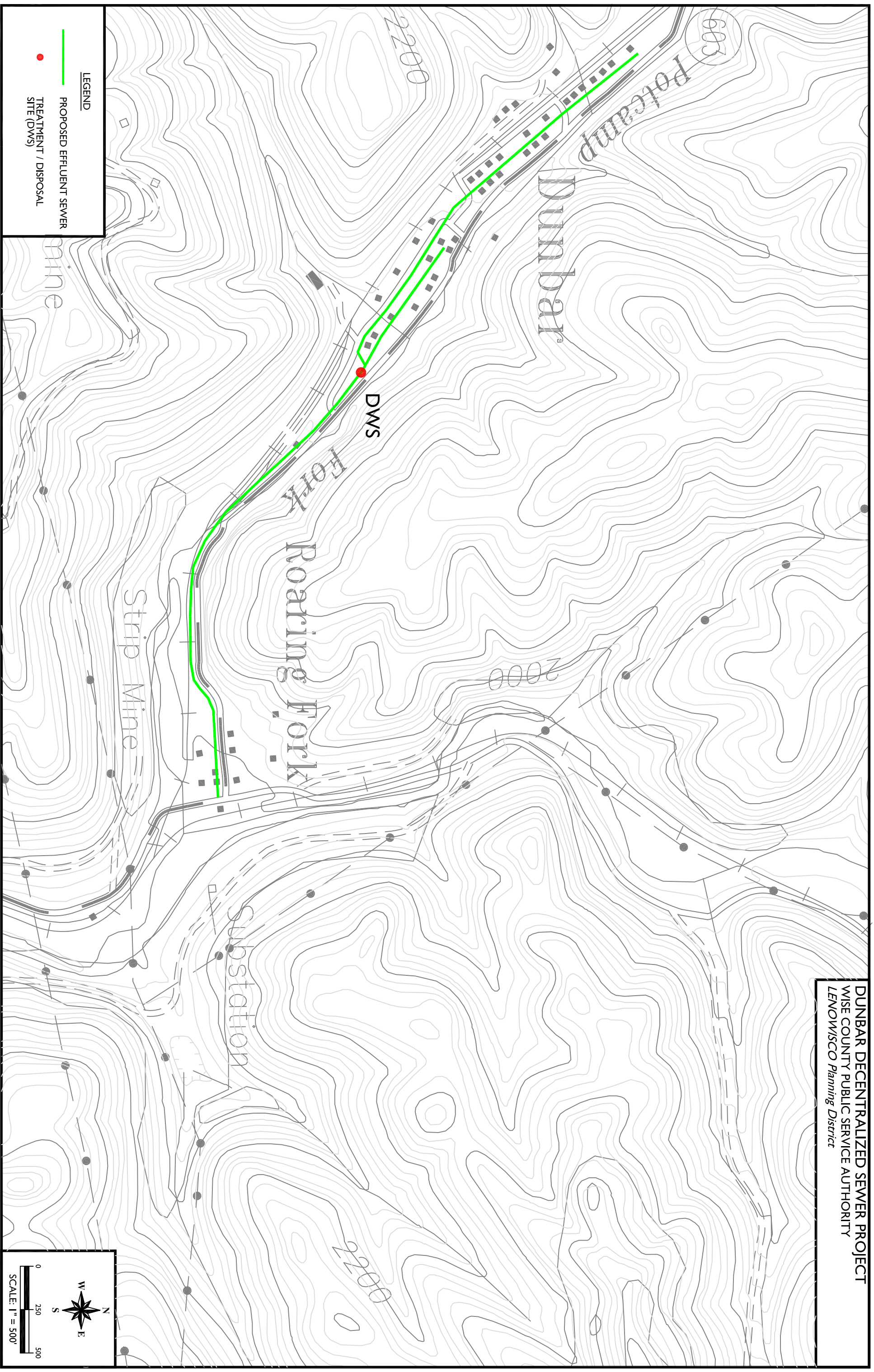
<u>CONN.</u>	<u>UNIT</u>	<u>DESCRIPTION</u>	<u>MONTHLY</u>	<u>ANNUALLY</u>
40	EA.	Routine Maint. & Monitoring	\$11.00	\$5,280
40	EA.	Pump Septic Tanks	\$2.50	\$1,200
40	EA.	Power & Telephone	\$4.00	\$1,920
40	EA.	Sampling	\$1.00	\$480
40	EA.	Breakdown Maintenance	\$1.50	\$720
		TOTAL O&M COST	<u>\$20.00</u>	<u>\$9,600</u>

PRESENT WORTH OF ANNUAL O&M COST (30 YEARS, 8%) \$108,075

TOTAL PROJECT PRESENT WORTH \$514,075

PRESENT WORTH PER CONNECTION (40 CONNECTIONS) \$12,852

DUNBAR DECENTRALIZED SEWER PROJECT
WISE COUNTY PUBLIC SERVICE AUTHORITY
LENO/ISCO Planning District



LEGEND

- PROPOSED EFFLUENT SEWER
- TREATMENT / DISPOSAL SITE (DWS)

SCALE: 1" = 500'

A north arrow pointing upwards, with 'N' at the top, 'S' at the bottom, 'E' to the right, and 'W' to the left. Below the arrow is a scale bar with markings at 0, 250, and 500 feet.