

ST. CLAIR CREEK DECENTRALIZED SEWER PROJECT

SMYTH COUNTY BOARD OF SUPERVISORS

MOUNT ROGERS Planning District

Project Background

St. Clair Creek is a tributary to the South Fork of the Holston River. There are approximately 150 homes and commercial businesses along the 3-mile creek. There are several straight pipes and septic system failures in this community. The residential growth potential in this area is good as evidenced by the recent development of the McClure Subdivision.

Proposed Facilities

Watertight septic tanks are proposed for the homes along this creek. Small diameter lines can be laid along the roadway to collect the effluent from these tanks. The preliminary design calls for a decentralized treatment facility to be placed at the abandoned stone building near the intersection of old Route 600 and Route 605. The homes above the treatment facility would flow by gravity, while the homes below the plant would require a pump to get the effluent to the plant. Plans call for the treated effluent to be disinfected and discharged into St. Clair Creek.

Project Costs

The preliminary probable project cost and annual operation and maintenance costs associated with the St. Clair Creek Decentralized Sewer Project are \$1,495,200 and \$33,300, respectively. These costs result in an approximate present worth of \$12,467 per equivalent connection.

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PRELIMINARY PROBABLE PROJECT COST

Construction Cost

10,560 L.F.	3-inch Sewer Line	\$10 /L.F.	\$105,600
7,920 L.F.	4-inch Sewer Line	\$14 /L.F.	\$110,880
2,640 L.F.	6-inch Sewer Line	\$18 /L.F.	\$47,520
4 EA.	Road Crossing	\$1,500 /EA	\$6,000
2 EA.	Stream Crossing	\$1,500 /EA	\$3,000
100 EA.	STEG System	\$2,000 /EA	\$200,000
50 EA.	STEP System	\$3,500 /EA	\$175,000
30,000 GAL.	Treatment System	\$10 /GAL	\$300,000
30,000 GAL.	Disposal - Point Discharge	\$4 /GAL	\$120,000
Total Construction Cost			\$1,068,000

Related Cost

40 %	Related Cost	\$427,200
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TOTAL PROJECT COST \$1,495,200

OPERATION AND MAINTENANCE (O&M) COST

<u>CONN.</u>	<u>UNIT</u>	<u>DESCRIPTION</u>	<u>MONTHLY</u>	<u>ANNUALLY</u>
150 EA.		Routine Maint. & Monitoring	\$10.00	\$18,000
150 EA.		Pump Septic Tanks	\$2.50	\$4,500
150 EA.		Power & Telephone	\$3.50	\$6,300
150 EA.		Sampling	\$1.00	\$1,800
150 EA.		Breakdown Maintenance	\$1.50	\$2,700
TOTAL O&M COST			\$18.50	\$33,300

PRESENT WORTH OF ANNUAL O&M COST (30 YEARS, 8%) \$374,885

TOTAL PROJECT PRESENT WORTH \$1,870,085

PRESENT WORTH PER CONNECTION (150 CONNECTIONS) \$12,467

