

TOMS CREEK SEWER COMPREHENSIVE PLAN AMENDMENT

MOST FREQUENTLY ASKED QUESTIONS

WHAT IS THE TOMS CREEK SEWER AS PROPOSED?

This is an approximately 12 mile length of sanitary sewer, with manholes, and a pump station located near the western limit of Town. The sanitary sewer materials would be those currently used in sanitary sewer installations, generally plastic (PVC), reinforced concrete (RCP), and ductile iron. Manholes are constructed of reinforced concrete.

In order that the sewer serve adjacent areas by gravity, minimizing the energy costs and reliability issues associated with mechanical pumping of effluent, the sewer line would largely follow near the creeks and tributaries of the area.

The path of the sewer is planned so minimize disruption to wetlands, wooded areas, steep slopes, creek banks, and other sensitive areas. To accomplish this, the sewer alignment would cross Toms Creek in approximately nine locations in Phase I, and up to seven additional locations in Phase II.

Creek crossings require specific measures to minimize disruption and damage to the waterway. The sewer plans have been reviewed by environmental and regulatory agencies for this purpose, and a construction permit is required.

WHY IS THE TOWN CONSIDERING CONSTRUCTION OF THE TOMS CREEK SEWER NOW?

During the spring of 2003 the Town experienced sewer overflows in the West Stroubles Sewer shed. This portion of the Town sewer system runs along North Main Street, Giles Road, and Kabrich Street. In addition, lines from McBryde Village and University Mall tie into this area of the sewer system.

Over the last 20 years, pump stations have been built to serve developments in the Toms Creek basin area, that discharge into the West Stroubles sewer lines. These lines were not designed to carry this additional flow, however because there was significant vacant land in the North Main area not contributing to the sewer flow, the capacity was available.

The Town's Comprehensive Plan did identify in 1996 and again in 2001 that in the future this area of sewer would be over capacity, and a long term solution would be necessary. Due to heavy rains this spring, which contributed inflow and infiltration to these

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burdened sections of line, the sections of line for which there was concern did experience overflows and sewer backups. Although infrequent, this condition must be corrected.

Therefore, the Town Council held a series of work sessions between May and August of 2003 to evaluate the situation, consider alternatives and select a course of action. The Town Council took action at a meeting on July 29, 2003 to initiate a Comprehensive Plan Amendment to authorize the construction of the Toms Creek Sewer.

WHAT IS THE CONSTRUCTION COST?

The construction cost is estimated at \$11.2 million. An additional \$0.3 million is estimated for land acquisition and supplemental inspection during construction. Thus the total capital cost to be financed is estimated at \$11.5 million.

WHAT IS THE SOURCE OF THIS ESTIMATE?

The design consultant, Anderson and Associates, provided a construction estimate. That estimate was reviewed this summer by the consultant against recent bids by contractors on similar jobs, and found to be reflective of current construction costs.

The land acquisition estimate was developed by Town staff based on appraisals of easement areas and recent reassessment land values provided by the County.

The supplemental inspection costs were estimated by Town staff. It should be noted that all new sewer construction is currently inspected during construction by Town staff. Supplemental inspection would be necessary at key stages of the pump station construction and at critical areas of the sewer construction, such as creek crossings, wooded areas, and wetland, and to assure appropriate erosion and sediment control measures are in place, and maintained.

HOW WILL THE COST TO BUILD THIS SEWER BE PAID?

The \$11.5 million capital cost would be funded through a 20 year bond. The approximate interest rate anticipated is 5%.

WILL THERE BE A FEE ON NEW CONSTRUCTION TO OFFSET THIS COST?

Approximately half the cost of the sewer construction would be paid through one time fees paid at the time of new construction. These are termed availability fees. The Town's current sewer availability fee for a new single family home is \$422. The proposed availability fee for a new single family home would be \$2500. These availability fees would apply town wide.

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Town Council action would be required to implement this availability fee increase.

This proportioning of cost between new construction and existing customers is based upon the proportion of sewer capacity that offloads the existing pump stations to alleviate current sewer capacity problems, and the portion of sewer capacity that is available for new customers.

HOW WILL THE BALANCE OF THE CAPITAL COST BE FUNDED?

Half of the cost of the sewer construction would be paid through an increase in the sewer use rate paid by sewer customers. The current sewer use rate is \$3.22 per 1000 gallons. The rate per thousand gallons would increase to \$3.41, \$3.71, and \$4.03 over the next three years and then remain level at \$4.03 to fund the debt.

Town Council action would be required to implement this rate increase.

HOW WILL THESE RATE INCREASES AFFECT MY BILL?

Rate increases to support this debt payment would be phased in over a three year period.

The average sewer customer in Blacksburg uses 6000 gallons per month. Thus the average sewer customer would see an increase in their sewer bill of \$1.14 per month the first year, an additional \$1.80 per month the second year for a total difference of \$2.94, and an additional \$1.80 per month the third year for a total \$4.74, and then remain level.

WHY MUST MY BILL BE AFFECTED, WHY CANT RATE INCREASES APPLY ONLY TO NEW CUSTOMERS IN THE TOMS CREEK AREA?

The Town Council provided to staff policy direction that all sewer customers in Town should pay the same sewer use rates.

WILL THERE BE ANY TAX INCREASE TO FUND THIS SEWER?

No. In Blacksburg, all water and sewer utility costs are funded through the one time availability fees paid by new construction, and the utility rates paid by water and sewer utility customers.

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WHAT IS THE BYPASS FORCE MAIN OPTION?

This was an option that was considered by Town Council that would address the sewer capacity concerns by constructing new force mains, or discharge pipes from each of seven pump stations that would reroute their flow around the sections of Town sewer that are over capacity and reconnect to a point in the sewer system downstream. This option was attractive because the route of the new discharge pipes would parallel the 460 bypass in an area in which the construction would have little environmental impact. This option would not provide for future sanitary sewerage service to the area west of the Bypass.

WHAT IS THE STEG HYBRID SEWER OPTION?

The STEG hybrid sewer option that was considered by Town Council, would not address the current sewer capacity problem, but would provide a means for future sanitary sewerage service west of the Bypass.

In this system, each home would have a septic tank, with a filter. The sewage would flow from the house into the tank, then from the tank into sewer pipe that would convey the effluent to the existing Sanitation Authority sewage treatment plant, rather than to a drainfield, or a decentralized treatment site such as a sand filter. To avoid odors, there would need to be several smaller pipes located in the “trunk system” rather than one larger pipe. The total pipe mileage would be 10.7 miles.

Studies of this system have determined that regular oversight and maintenance is required for the tanks to function as intended. Thus, this proposal included Town maintenance of each individual tank and the pipes from the tanks to the treatment plant. Some of the regular maintenance requirements include pumping the tanks on a periodic basis and regular inspections of the tanks to monitor the needed pumping frequency.

In order to provide for maximum reliability of the system, and serve the same areas of future growth with sanitary sewerage that the Toms Creek sewer would serve, this system would also follow the natural drainage ways, and would include some creek crossings in order to serve land on both sides of Toms Creek.

WHY IS THE BYPASS FORCE MAIN OPTION COMBINED FOR CONSIDERATION WITH THE STEG HYBRID?

In order to compare with the Toms Creek sewer that will both offload capacity and serve the new Toms Creek basin area development, both the Bypass (offload capacity) and STEG Hybrid (which would serve new development) are necessary.

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HOW DOES THE LIFE CYCLE COST OF THE TOMS CREEK SEWER COMPARE TO THE OPTION OF A BYPASS FORCE MAIN TO SERVE THE CURRENT PUMP STATIONS COUPLED WITH A STEG HYBRID SYSTEM TO SERVE NEW CONSTRUCTION?

A detailed analysis of the capital and operation and maintenance cost of the sewer versus the other option is available for review on www.blacksburg.gov.

In summary, the Toms Creek Sewer is more expensive to construct, and less expensive to operate and maintain than the other option.

Considering both the bonding interest cost at 5% per year for a 20 year bond, and inflation at 3% per year and a 50 year cost analysis, the Toms Creek Sewer construction, operation, and maintenance cost will be \$ 26.0 million (future worth) over 50 years.

The most frequently mentioned option, Bypass Force Main coupled with STEG hybrid construction, operation, and maintenance will be \$ 32.3 million (future worth) over 50 years.

WHY IS THE TOWN CONSIDERING A COMPREHENSIVE PLAN AMENDMENT FOR THE TOMS CREEK SEWER, RATHER THAN CONSIDERING ALL OPTIONS?

The Comprehensive Plan must reflect the Town's major planned utility systems. The Town Council, after considering numerous options, in numerous meetings between May and August, 2003, directed that an amendment be prepared to reflect the Toms Creek Sewer as the intended utility system to be provided. In addition, the comprehensive plan amendment process provides an opportunity for public input and education.

The agendas and presentations and minutes of these meetings are available on www.blacksburg.gov/eneews.

WHAT WAS THE CHARGE OF THE WORKING GROUP

The working group was a group appointed by the Town Manager to study *decentralized* wastewater collection, treatment, and disposal systems to serve the Tom's Creek Basin, and to make a recommendation on the best of the *decentralized* system(s) for the basin. Decentralized systems analyzed included recirculating media filters, package aeration treatment plants, sequencing batch reactors, and deep cell lagoons.

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The working group did not study the central Toms Creek sewer, the Force Main Bypass, or the STEG hybrid system. In addition, they were not tasked with comparison of these with a decentralized system.

WHAT WAS THE RECOMMENDATION OF THE WORKING GROUP

Their recommendation included dividing the Basin area into 10-20 collection clusters. Within each cluster, every home would have a publicly maintained and operated STEG/STEP tank to remove solids and small diameter lines to transport the effluent to a treatment collection site. The treatment collection site would consist of publicly operated and maintained recirculating media filters. Additionally, the working group recommended that deep cell lagoons be considered for larger systems serving more than one cluster and as a means for “off loading” flow from existing Tom’s Creek Pump Stations.

WHO SERVED ON THE WORKING GROUP

The working group consisted of the following members: Gary Crouch, Anderson and Associates (Chair); Harriet Cooper, League of Women Voters (Vice Chair); Mary Houska, Citizen; Joyce Graham, Developer of the Village at Tom’s Creek; Anish Jantrania, Va. Dept. of Health; John Novak, Va. Tech Professor and Planning Commission Member; Kelly Mattingly, Town of Blacksburg; David Scheim, Resident; Tom Sherman, Council Member; and Shawn Veltman, Olver Inc.

HOW WILL THE ZONING AND FUTURE LAND USE OF THE TOMS CREEK AREA CHANGE IF TOMS CREEK SEWER IS CONSTRUCTED?

The future land use and zoning is planned and intended **NOT** to change. The Toms Creek sewer design is based upon only 1 unit per acre density west of the Bypass, and the planned future land use that is currently reflected in the comprehensive plan for the area east of the bypass. Increases in density would require additional sanitary sewer infrastructure (larger pipes), or an offsetting density decrease in the same area.

IS THE TOMS CREEK SEWER DESIGNED ONLY TO SERVE THE CURRENT PLANNED FUTURE LAND USE IN THE TOMS CREEK BASIN

Yes. Once the offloaded pump station flows and growth east of the bypass is included in the line, there is only capacity left for the planned one unit per acre density in the Rural Residential area of the Toms Creek basin west of the bypass.