

Sewer System Evaluation Study

Memo

Date: July 13, 2009 (with update & edits on July 21, 2009)

To: Mary Jo Cusack, Mayor, Village of Riverlea

John McAlearney, Council Member, Village of Riverlea
Steve Mershon, Solicitor, Village of Riverlea
All other Council Members & Village Officials

Cc: Jim Dippel, B&N

From: Bill Charles, Street Commissioner

RE: OEPA Director's Findings and Orders - Village of Riverlea
Sewer System Evaluation Study (SSES) Schedule
by Burgess & Niple

Coordination of the above work with Street Improvements Plan
Assessment of Water Lines & Possible Replacement
Infrastructure Projects Planning and Funding

SSES Schedule

Linked for your review and comment is a copy of [Burgess & Niple's proposed SSES schedule](#) for the Village of Riverlea which is due to be submitted to OEPA on Aug. 11, 2009.

I apologize for the short notice, but I'm asking for your comments on this by Wednesday July 15, 2009 so Jim has a couple of days to make final revisions before the July 20, 2009 Council Meeting. At that meeting we will need an Ordinance drafted for Council's approval of the SSES schedule. We will also need a separate Ordinance for Council's approval of the Sanitary Sewer Overflow Emergency Response Plan at that meeting.

I received a copy of this schedule from Jim Dippel when I met with him and Louis McFarland at their office on June 26, 2009. Per the Findings and Orders, the SSES work has to be completed by February 11, 2014 (5 years from F&O start date). B&N has proposed a schedule of about 3-1/2 years, with SSES report submission to OEPA at the end of January 2013.

I have reviewed the SSES scope and schedule and discussed it further with Jim last week. I agree with the overall 3-1/2 year timeline. **Along with potential costs and funding sources, my only real concern with the SSES Schedule is how we could best coordinate the scope and timing of the work with the needed Street Improvements, and in particular, the need to assess the condition of the sanitary sewers sections underlying the streets, and to design and schedule any needed repairs and/or replacements of these sections prior to, or concurrent with, the street work.**

The proposed schedule proposes a standard methodology for SSES. Besides the initial Mapping and Records Review Tasks (Parts 2.1 and 2.2), the first major field work task is to perform extended Dry and Wet Weather Flow Monitoring and Evaluation (Parts 2.2 and 2.3) for the 3 main sewer sub-areas. Sub-areas in which the wet weather, dry weather and wet to dry weather flow ratios fall below acceptable limits are considered satisfactory, and not in need of further study. Only sub-areas that exceed the defined limits need be subjected to further study as outlined in Parts 2.5 through 2.8 (Manhole Inspections, Cleaning & Televising, Smoke Testing and Dye Testing).

Given the overall age of the system, and given that only a few cleanings of the system have been performed since the last SSES in 1980, I believe that we should expand the Inspections and Cleaning/Televising work proposed in Parts 2.5 and 2.6 of the SSES to cover the entire system. I also believe we should do this work ahead of, or in conjunction with, the design of any major street improvements, so I recommend we move this work up ahead of the Flow Monitoring. If

possible, I would like to see it done in conjunction with the sewer mapping and records review work starting this fall.

Jim and I spoke briefly about the potential cost of the SSES work. His preliminary ballpark estimate of work per original proposed plan is around \$150,000 (roughly \$50,000 per year over 3 years). If we revise the plan to include Inspections and Cleaning/Televising of the entire system, I'm guessing this may up the cost another \$50,000. So we may be looking at up to \$200,000 for the entire SSES program. I believe we have budgeted this amount in 2010 for street improvements. But perhaps some of these dollars could be shifted to cover the SSES program.

Street Improvements, Water Lines, Infrastructure Project Costs and Planning, Costs and Funding

As for the Village Street Improvements, preliminary costs for complete street and curb & gutter reconstruction and associated storm drainage repairs are probably going to be in the range of 2.75 to 3.0 million dollars.

Another concern Burgess & Niple expressed in our June 26, 2009 meeting, and which I share with them, is the possible damage that may occur to the original 80 year old cast iron water mains during major street reconstruction. All of the water mains run under the streets, and thus they will be subject to severe additional stress and vibration from heavy equipment during construction. This will further weaken and shorten the life of these lines, and could result in a major increase in leaks and/or breaks following street construction. Cutting and patching newly reconstructed streets to repair water main leaks and/or replace major breaks would not be well received by the residents. So I believe it is in the best interest of the Village to give serious consideration to replacing the cast iron water mains in concert with any major street reconstruction. I don't believe this is something that B&N has been tasked with assessing, but I think it would be wise to have them study this in a bit more detail and provide additional cost estimates on what this would add to the overall cost of the street improvements plan. I'm guessing in the range of another 1.5 to 2.0 million dollars.

So in conclusion, I believe we need to take a larger view of the Village's infrastructure needs and consider the possibility putting together a comprehensive infrastructure plan and funding package (bond, assessments, inside millage ?) that would include money not only for the street reconstruction and storm drainage improvements, but also water main replacement, the required SSES work and any potential sewer repairs and rehab work that the SSES might identify as needed.

I believe we need to develop a long range (5-10 yr) infrastructure plan to address our current and future needs, along with probable costs, funding options and a coordinated implementation plan. Major components of the plan should include:

- The OEPA mandated Sanitary Sewer Evaluation Survey (SSES) to be completed over the next 4 to 5 years, and any needed sanitary sewer and associated storm sewer system repairs that the completed SSES work may identify.
- Coordination with the City of Worthington Sanitary Sewer System Improvements Plan and the possible future elimination of the Riverlea Lift Station if the Worthington trunk sewer is lowered.
- Provision of a Remote Monitoring and Alarming system for the Riverlea Sanitary Lift Station to minimize the potential for overflows due to pump failures and power outages. Also consider provision of an on-site backup generator with automatic transfer switch to assure continued operation during utility power outages. (Ties in with the Overflow ERP).
- Immediate Street & Curb Repairs and Maintenance needs.
- Future Street and Curb and Storm Catch Basins Reconstruction .
- Storm Sewer System Evaluation (cleaning and televising the storm sewer segments similar to the SSES).
- Storm Sewer repairs that may be needed as determined this evaluation and the Street & Curb Reconstruction planning and design.
- Water Line Repairs and Ultimate Replacement of all mains and service taps.
- Coordination with Columbia Gas plans for Gas Line maintenance and rehabilitation work within the Village.

A possible funding source these infrastructure improvements is the OPWC grants program, http://www.morpc.org/transportation/funding/ohio_public_works.asp

OWPC grant applications for 2010 money are due in Sept 8, 2009.

The application would require a lot of work to prepare, and given that we don't now have, or wouldn't have, any completed designs to submit by that time, chances are extremely slim that we would be successful.Â But we could apply for 2011 money next year.Â B&N is familiar with the program and could help us prepare and submit the application (app fee around \$5,000).

Please call or email me with any questions you may have.

Thanks,

Bill Charles
Riverlea Street Commissioner