


City of Alexandria, Virginia

MEMORANDUM

DATE: DECEMBER 28, 2021

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: MARK B. JINKS, CITY MANAGER 

SUBJECT: STREAM RESTORATION UPDATE: SOIL SAMPLING RESULTS AND ENVIRONMENTAL POLICY COMMISSION COLLABORATION

ISSUE: This memo serves as an update on staff collaboration with Environmental Policy Commission (EPC) based on City Council direction received during the April 27, 2021, Legislative meeting. This update builds on the May 26, 2021 memo (attached) to City Council.

BACKGROUND: In April, City Council directed staff to pause the Taylor Run and Strawberry Run proposed stream restoration projects and collaborate with EPC on alternatives to natural channel design stabilization and restoration techniques used in the proposed design. Council directed staff to continue work on delivering the Lucky Run project. Finally, City Council directed staff to perform onsite soil sampling for all three projects to determine nutrient concentrations for use in pollutant reduction calculations in lieu of the default values in the expert panel report that have been used to calculate pollution reduction for the proposed projects. Subsequent to Council's guidance, staff and the EPC developed a three-prong strategy to move forward that included: (1) Determination of Chesapeake Bay credits, (2) Understanding why the downstream Strawberry Run prior stream restoration project failed, and agreement to (3) Explore alternatives to Natural Channel Design.

In October, staff introduced the approach of using a neutral third party, the Institute for Engagement and Negotiation (IEN) of the University of Virginia, to provide a draft approach for the public collaboration to the EPC that is discussed in further detail below.

DISCUSSION: The following is an update on soils sampling results and the current status of EPC collaboration.

Soil Sampling

Collection and analyses of onsite nutrient and bulk density soil samples were performed for all three sites. Previous pollutant reduction calculations for these projects used default soil concentrations consistent with State guidance applicable to the grant funding for these projects. Given that the guidance has changed since the grants were originally awarded, City Council directed staff to perform the onsite sampling at all three project locations and provide the results

consistent with the updated guidance. Soil sampling methodology and steps, along with the calculation of potential pollutant reduction benefits for each project using default soils value and the results of the onsite soil sampling, are included the “Soil Sampling and Analysis Report” for each project. The [“Taylor Run Soil Sampling and Analysis Report,”](#) the [“Strawberry Run Soil Sampling and Analysis Report,”](#) and the [“Lucky Run Soil Sampling and Analysis Report”](#) are available on respective individual project webpages.. Summary results of calculated pollutant reductions using the default rate found in the State guidance applicable to these projects and the onsite sampling are provided in the following tables. The default soils values in earlier State guidance used in calculating pollutant reductions are based on eleven different reference stream reaches. Recent guidance requires new projects to collect and analyze onsite soils to calculate pollutant reductions.

Summary of Pollutant Reduction Calculations

Taylor Run	Default	Sampling
TP (lbs./yr.)	291.2	89.9
TN (lbs./yr.)	632.3	126.4
TSS (lbs./yr.)	554,680.40	369,706.80
TP \$/lb.	\$15,000	\$50,000
Total Est Project Cost	\$4,500,000	

Strawberry Run	Default	Sampling
TP (lbs./yr.)	342.3	78.5
TN (lbs./yr.)	743.4	81.6
TSS (lbs./yr.)	652,064	529,023.50
TP \$/lb.	\$5,000	\$20,000
Total Est Project Cost	\$1,600,000	

Lucky Run	Default	Sampling
TP (lbs./yr.)	257.2	26.4
TN (lbs./yr.)	558.4	116.1
TSS (lbs./yr.)	489,817.70	351,872.50
TP \$/lb.	\$7,000	\$72,000
Total Est Project Cost	\$1,900,000	

Comparing the results of the pollutant reduction calculations based on the onsite soil sampling analyses versus those based on the default values from the earlier State guidance highlights the variability that can occur based on the data sets. This also highlights inexactness of the watershed modeling and stream restoration approach and the evolving nature of the science, which is being discussed by workgroups and committees at the State and regional levels. While the City has confirmation that the use of the default rates for calculating pollutant reductions is consistent with the State guidance and applicable to these projects, the decreased results using the onsite soil sampling results raise some questions and staff’s collaboration with the EPC is aimed at discussing these results along with the below topics.

EPC Collaboration

Staff requested that a neutral third party, the [Institute for Engagement & Negotiation \(IEN\) of the University of Virginia](#) lead the planning and facilitation of the collaborative engagement process with the EPC, the community, and staff for the Strawberry Run and Taylor Run stream projects. Founded in 1980, IEN is a nationally recognized leader in fostering collaborative change across a broad range of environmental, social and economic issues. IEN's team of facilitators and mediators assists organizations, agencies, industry, and communities in making decisions in the four areas: sustainable environment; resilient communities; health, food and social equity; and building capacity through training and leadership. At the October 18, 2021, EPC meeting, IEN proposed a draft stakeholder engagement framework which included the creation of a "stakeholder team" to lead the collaboration. At IEN's request, EPC provided a list of their chosen potential stakeholders. IEN is considering the EPC list of potential stakeholders that includes representatives for nearby civic associations and members of the Environmental Council of Alexandria (ECA). Additional interested stakeholders are being sought to build out a broad coalition. IEN will meet with EPC in early 2022 to finalize the stakeholder team.

The following are updates on the three elements of the EPC/City collaboration:

1. Determination of Chesapeake Bay (Pollution Reduction) Credits
Staff is compiling information for previously generated and planned pollution reduction 'credits.' These will include credits already generated by development and large City-led retrofit projects, along with credits planned to be generated by the Alex Renew 'River Renew' combined sewer overflow remediation project and from upcoming large development projects like North Potomac Yard and the Landmark Mall redevelopment. Staff proposes to present this information for discussion with EPC in early 2022.
2. Understanding Why Downstream Strawberry Run's Prior Restoration Failed
There has been much discussion about recent issues with the prior restoration effort implemented by the developer during the Taft Avenue subdivision on the segment of Strawberry Run that is downstream from the proposed Strawberry Run project. Staff has engaged a consultant to investigate and catalog and analyze issues and recommend potential maintenance for the previous downstream restoration. A report is anticipated in March 2022, and the findings will be a topic of discussion in collaborating with the EPC.
3. Explore Alternatives to Natural Channel Design
The proposed designs for the Taylor Run and Strawberry Run projects incorporate natural channel design techniques. Following City Council direction to collaborate on alternatives to this approach, staff is working with a consultant to provide concept-level stabilization techniques as alternatives to natural channel design. The schedule to complete this effort is March 2022, with preliminary stakeholder engagement with draft information targeted for February 2022.

While pollutant reduction credits are an important factor, they are not the sole driver for pursuing these projects. The objectives of stabilizing the stream corridor, to include protecting at-risk sanitary and storm infrastructure and nearby private property, are part of the broader issues to be included in this collaboration.

Staff looks forward to continued collaboration with stakeholders and will continue to update City Council on collaboration efforts.

Attachment: Stream Restoration Work Session Follow Up Memo of May 26, 2021

cc:

Emily A. Baker, Deputy City Manager

Yon Lambert, Director, Transportation & Environmental Services

William J. Skrabak, Deputy Director, Infrastructure & Environmental Quality, T&ES


Jesse E. Maines, Division Chief, Stormwater Management, T&ES


City of Alexandria, Virginia

MEMORANDUM

DATE: MAY 26, 2021

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

THROUGH: MARK B. JINKS, CITY MANAGER 

FROM: YON LAMBERT, AICP, DIRECTOR, DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES 

SUBJECT: STREAM RESTORATION WORK SESSION FOLLOW UP

The purpose of this memo is to memorialize City Council guidance regarding stream restoration from the April 27, 2021 work session.

At the work session, City Council instructed staff to perform soil analysis tests on all three streams using the updated Expert Panel protocol. Council also instructed staff to pause the planned stream restoration projects at Taylor Run and Strawberry Run for further evaluation but proceed with Lucky Run while the soil analysis occurs. Council also directed staff to evaluate alternatives to natural channel design in coordination with the Environmental Policy Commission (EPC). Finally, Council instructed staff to return as soon as possible with a planned schedule and summary of impacts.

What does this mean?

- Performing soil analysis testing in accordance with the February 2021 Protocol 1 updated recommendations for all three streams will cost approximately \$45,000 (\$15,000 per stream) and will take 3-5 months. The process includes collection of soil samples for submission to a certified lab to determine soil nutrient concentrations (total nitrogen and total phosphorus), collection and analysis of bulk density samples, and development of a report describing the effort and using the data to potentially recalculate the nutrient reductions using these data.
- The State Stormwater Local Assistance Fund (SLAF) grant deadline was previously extended by the Virginia Department of Environmental Quality (VDEQ) for one year due to COVID impacts. While the VDEQ SLAF award requires the City to have a signed grant agreement by the extended deadline of June 30, 2022, VDEQ has recently stated that the intent of the SLAF grant deadline is to ensure that applicants are making a good faith effort to move projects forward, and VDEQ is likely willing to adjust the sunset date if requested by the City. As the analysis of alternatives to natural channel design proceeds, staff will consider requesting an extension to the SLAF grant deadlines if appropriate.

- By analyzing site-specific soils for the all the sites, including Lucky Run, it is possible the previously accepted credit calculations will change and the projects may provide more or fewer credits toward the City's Chesapeake Bay cleanup mandates. This may result in the need for additional credits to meet the City's targets in the future.

What are the next steps?

- Staff is in the process of issuing a task order for the consultant to perform the soil sampling and analysis and reporting. The work is anticipated to be completed for the three streams by October 2021.
- Staff has already begun coordinating with the EPC to consider alternatives to Natural Channel Design. The EPC on Monday, May 17 provided staff with a three-prong strategy to move forward. Staff is currently evaluating the strategy, has begun developing discussion alternatives for consideration and will coordinate with the EPC as well as re-engage with the community stakeholders and other interested parties (and communicate next steps to Council).
- While the soil sampling and analysis is being performed, staff continues to advance the design of the Lucky Run project.
- While discussions on the appropriate next steps for Taylor Run and Strawberry Run continue, staff is considering alternatives which include (1) conceptual planning for a sanitary sewer stabilization in Taylor Run, (2) stream stabilization at Strawberry Run to protect private property adjacent to the upstream component and (3) maintenance for the Taft Avenue related downstream restoration.

Please let me know if you have any questions.

cc: Emily A. Baker, P.E., Deputy City Manager