

Alexandria Stream Restoration: Concerns and Staff Response Companion

Stakeholders have raised issues and concerns with stream restoration, which are outlined below.

Issue	Specific Concern	Staff Response
<i>Strawberry Run</i>		
Protocol (BANCS) Assessment and Plans	Residents have requested a specific BANCS assessment.	The Phase III Stream Assessment contains the BANCS assessment documentation. Staff has posted plans for all projects on the City website.
Outreach	Residents have expressed concern about City outreach prior to Sept 2018 City Council SLAF consideration.	Staff notes that 2018 outreach was performed in association with citywide stream assessments. Once the project was selected, the consultant received a notice to proceed with design in May 2019. Widespread public engagement began in Nov. 2019 which included letters to residents and presentations.
Restoration will wash away	Residents have expressed concerns the stream restoration is not designed for large storms.	The project has been designed to withstand large storm events; streams are not intended to hold the 100-yr event; flow spreads out to floodplain to further dissipate energy. Once the project has been implemented, the design seeks to ensure it will not degrade with larger storms.
Prior restoration downstream on Strawberry Run failed	Residents have expressed concerns that a prior (circa 2010) downstream restoration implemented by a developer has already failed.	Staff notes the prior project was an early natural channel design effort constructed by a developer as an opportunity to restore a portion of the overall stream segment that was identified as degraded in the preceding Phase II Stream Assessment, but there was no current project funding to address. Staff acknowledges there are points of failure, but does not agree the entire project failed. The stream needs ongoing maintenance since it was designed for a two-year storm. The proposed upstream restoration is designed to handle the force and stresses associated with larger storm events. In hindsight, the upstream portion should have been completed first.

Issue	Specific Concern	Staff Response
Fill brought in to raise the stream bed	Residents have expressed concern the fill will erode.	Material is designed and sized to resist erosion during the “bankfull” flood, with an additional factor of safety to account for larger storms. These dimensions were selected by calculating the rock size that can be moved by a flood’s erosive forces when the channel is completely full (i.e., bankfull condition). The project design proposes a rock size around twice as large to add a factor of safety.

Issue	Specific Concern	Response
<i>Taylor Run</i>		
Acidic Seepage Wetland (Swamp)	Stakeholders have expressed concerns that trees and the swamp will be destroyed during and after project implementation.	The wetland is outside of the project area. The design was modified to provide access from farther away than the earlier access.
	Stakeholders have expressed concerns that raising the streambed in Taylor Run will flood the swamp and destroy it.	Raising the bed will bring the stream bed closer to the historical elevation, which is just below the wetland. The project is designed to not impact the wetland according to engineers and wetland scientists for the consultant.
Calculated Total Phosphorus (TP) concentrations / Pollutant reductions will not be realized	Residents have raised concerns the total phosphorous concentrations are 4-5 times lower than the rates typically seen in similar streams.	Staff notes the soil analysis conducted by residents determines bioavailable phosphorus and not total phosphorus. Plant available phosphorus is only part of total phosphorus, the targeted pollutant, and typically 12% to 25% of TP ¹ .
	Expert Panel protocol has been updated and default rates should no longer be used.	Default rates were developed to provide consistency of approach. Use of the default rates is consistent with EPA/VDEQ guidelines that apply to this project. ²
Expert Panel and Natural Channel Design (NCD)	Stakeholders have suggested NCD is not scientifically supported.	Staff acknowledges the ongoing debate in the scientific community about stream restorations. However, there is general consensus that stream restorations are effective, cost-efficient solutions given the need to provide stewardship to our urban streams and limited alternatives.

¹ *What Role Does Stream Restoration Play in Nutrient Management*, Roderick W. Lammers and Brian P. Bledsoe, 2017

² Paylor, David K. Letter to Environmental Council of Alexandria (ECA), April 20, 2021. TS.

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Stream restoration should begin upstream	Stakeholders have suggested the City should focus restoration efforts upstream to limit intense stormwater events from impacting Taylor Run.	Staff notes the stream has been impacted over decades. It no longer has elements such as “meanders” that can naturally absorb intense flows. It has been straightened and continues to downcut; upstream efforts won’t be able to fully reverse stream impacts.
Natural Channel Design (NCD) as an approach is outdated.	Stakeholders have expressed concerns that NCD will no longer be able to be used after July 1, 2021 because of changes to grant implementation protocols.	Even with recent updates to the Expert Panel protocols, NCD will continue to be employed. Protocol updates generally require more upfront onsite testing and more post-construction monitoring; NCD elements will remain and be likely continue to be refined similar to other scientific approaches.
Bay credits from stream restoration projects are short term.	Stakeholders have expressed concerns that any credits toward Bay goals will end after five years.	The City will perform post-construction monitoring, and ongoing inspection and maintenance. The credits will remain so long as the project remains stable.
Construction methods	Stakeholders have expressed concerns the area will be clear cut and the forest will be destroyed.	Forest will be protected, will not be bulldozed, and will not be destroyed. The forest and the stream has been impacted multiple times since the 1920s. Chinquapin and Forest Park areas include about 31.6 acres with about 1,300 trees (plus more on church property). The project limits of disturbance includes 2.2 acres of forest (plus additional disturbed area in the field adjacent to King Street) and would require removal of 261 trees, 61 of which are already dead. As part of the project, the City will replant 2,280 native trees and 7,200 shrubs using over 30 native species. The disturbed area includes the 30-foot wide stream and approximately 20 feet on each bank, which includes the sanitary sewer easement and trail areas, with 0.9 acres disturbed outside of the easement and stream areas. The project access road will be 16’ wide on deck mats. The access road largely follows the existing 4-foot trail and sanitary sewer easement to minimize tree impacts. There will be an

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		additional 1.7 acres of disturbance on church property.
Tree planting is preferred.	Stakeholders have expressed concerns the City should focus on tree planting alternatives instead of stream restoration.	Staff supports tree planting, bioretention, and other green practices. However, tree planting initiatives are extremely challenging since there are very few dedicated open spaces available in the City. The staff position is that the stream needs stewardship and the sanitary sewer pipes and manhole structure need to be protected to eliminate risk of pipe breakage and resulting downstream pollution.
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