

Supplemental Addendum

Development Review Committee Application for the Friends of the Wissahickon Stream Stabilization Project

Question 18 – Environmental Assessment

The proposed project involves restoration of a section of Valley Green Run (Channel 1) and as such, is considered a self-mitigating project. Over the last decade, Channel 1 has experienced repeated, significant high flow events that has resulted in the existing stream channel being eroded away both vertically and horizontally. The reoccurring erosion has caused the failure and partial collapse of a large section of stacked stone wall and a wooden boardwalk that was part of the trail system along the left bank of the stream. The stream channel in its present state is unstable and without restoration will continue to erode and undermine the remaining sections of stone wall within the project area at an accelerated rate, leading to their failure and collapse. As the sections of stone wall collapse into the streambed below, additional erosion and/or flooding will occur within the project area due to the channel being blocked with debris from the wall.

The proposed project will restore approximately 219 linear feet of stream channel along Channel 1. As part of this effort, boulder weirs and stacked boulder revetments will be constructed to stabilize the stream channel and its banks to prevent vertical and horizontal erosion and to dissipate energy during high-flow (flood) events. The boulders utilized for the weirs and stacked walls will be strategically sourced in order to be congruent with the aesthetics of the park setting. Shrubs will be planted along the floodplain and forest understory to aid with streambank stability and increase the riparian zone habitat. In addition, a new pedestrian bridge will be constructed generally parallel to the alignment of Channel 1 to provide safe pedestrian access to the trail system and allow users to avoid walking along the paved road.

The PA Riverine Condition Level 2 Rapid Assessment Protocol was used to assess the existing stream condition within the proposed stream restoration section, which resulted in a Riverine Condition Index (RCI) score of 0.58. The Rapid Assessment Data Forms for Channel 1 are provided in the Wetland and Watercourse Delineation Report in Enclosure B. The completion of the stream restoration plan is expected to result in an increase to the RCI score when compared to existing conditions. The installation of boulder steps will provide an increase in habitat variation by adding pools and riffles throughout the section of stream. Boulder bank revetments will provide stabilization to prevent future bank erosion and slope instability. Shrub plantings will also aid in bank stability and provide habitat for terrestrial faunal use and eventual stream shading that will help with stream water temperature regulation. The reduction in erosional deposition from the banks will decrease the sediment load not only within Channel 1 but also within Wissahickon Creek that is immediately downstream of the stream restoration section. The decrease in deposition will also provide more habitat for aquatic organism use by reducing the amount of embeddedness surrounding the streambed substrate. The implementation of this proposed Valley Green Run Restoration will provide a functional lift to the stream and watershed.