“Urban Creek Impacted Sediment Removal and Isolation Utilizing a Geosynthetic Clay Liner”

Joel Ruselink – Principle of Construction Services
Presentation Overview

• Site Background
  • What was the original plan for remediation?
• Remedial Design Modifications
  • How did the remedial plan change and why?
• Remedial Design Implementation
  • How was the change managed?
Site History – 1940’s
Site History – 2008
PRC Investigation - 2012-2016

2019 Design and Construction Issues at Hazardous Waste Sites
TarGOST Investigation
Project Area - 2016
Pleasant Run Creek (PRC) Characteristics
Pleasant Run Creek (PRC) Characteristics
PRC IM Design Objectives

• Objectives:
  • Mitigate direct contact potential with impacted soil/sediment
  • Mitigate potential for ecological risk from groundwater discharge
  • Protect PRC from being re-contaminated from on-site sources
  • Restore creek to promote ecological function and mitigate flooding.
• Remedial Approach = Hydraulic Control + Low Permeability Barrier
PRC IM Design Modifications

Low Permeability Barrier Options:

- Bentonite/aggregate mix
- Geosynthetic Clay Liner (GCL)

https://www.geosyntheticssociety.org/corporate/6507/
http://www.gseworld.com/content/documents/product-sheets/Bentonite_Installation_QA_.pdf
Project Implementation

• “Phased” Work Approach (April-December 2017)
  • Phase I – Hydraulic Control Installation
  • Phase II – Mass Excavation
  • Phase III – GCL Installation & Restoration
Project Implementation – Phase I
Project Implementation – Phase II
Project Implementation – Phase III
Project Implementation – Phase III
Project Implementation

Spring 2017

Fall 2017
Project Statistics

• Over 18,400 Man-hours worked - ZERO Safety Incidents.
• Over 40,000 tons of soil/sediment removed.
• 130 Sheets of GCL Installed (>200,000 sf).
• 190 Million Gallons of Water By-Passed.
• Reached Substantial Completion 6 weeks ahead of schedule.
• Completed Project approximately 15% under budget.
Thank You!

• Questions