Sustainable Remediation of Abandoned/Degraded Jack’s Marina Site along Neshaminy Creek in Croydon, Pennsylvania

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The Philadelphia Regional Port Authority (PRPA) engaged in an ambitious initiative to enhance waterborne commerce, promote economic growth and create jobs, while protecting and enhancing the City’s coastal resources and fostering sustainable development. This initiative is creating a state of the art marine terminal at the former Philadelphia Navy Yards, known as the Southport Marine Terminal Project. In collaboration with PRPA, Louis Berger and A.P. Construction, Inc. provided initial and final soil characterization findings and resolution along with design/build services and construction management services to create compensatory mitigation at the abandoned/degraded former Jack’s Marina. This site was historically used as a dumping ground and was severely degraded since marina operations ceased in the late 1990s.

Baseline design studies, including soil analyses for disposal of the debris and historic fill material, were conducted in coordination with the Pennsylvania Department of Environmental Protection, US Army Corps of Engineers - Philadelphia District, Pennsylvania Fish and Boat Commission and Bucks County Soil Conservation District. Louis Berger developed design documents for construction and provided construction services, adaptive management and monitoring for permit requirements. One hot spot location with benzo-a-pyrene contamination was identified during soil characterization analysis that exceeded applicable clean fill criteria. Design/build measures were developed to effectively dispose the material in-situ.

Construction at the abandoned and degraded Jack’s Marina site included excavation and off-site disposal of 165,000 cubic yards of historic fill dating back to the early 1900s (based on debris found in the former wetlands). The sustainable remediation project re-established 11.52 acres of intertidal wetland and mudflat, enhanced 13.65 acres of existing wetlands by removing invasives and debris, established 3.29 acres of submerged aquatic vegetation within former boat basins, created 0.45 acres of red-belly turtle nesting habitat (a state threatened species), and created 4.26 acres of upland buffer/berms. Neshaminy Creek shoreline stabilization for coastal resiliency was also implemented by utilization of excavated concrete debris from the abandoned marina to protect the bank slopes along Neshaminy Creek. A refurbished public access trail and fishing platform were designed and constructed to enhance waterfront development goals as part of the remediation of this degraded site.