

Executive Summary

Green Stormwater Infrastructure at Wissinoming Park Category G

The Philadelphia Water Department's (PWD) Green Stormwater Infrastructure (GSI) Unit initiated the development of GSI at Wissinoming Park, located in Northeast Philadelphia, to improve water quality and reduce combined sewer overflows as part of their Green City, Clean Waters (GCCW) program. The Centralized GSI Facility at Wissinoming Park was designed by Johnson, Mirmiran & Thompson, Inc. (JMT) to align with GCCW through the creation of Greened Acres (GA) by treating runoff from 2 inches of rainfall over 20 acres of impervious area collected by a GSI sewer system within the neighborhood.

Johnson, Mirmiran & Thompson, Inc. sloping wetland design maximizes environmental resiliency and diversity by restoring a historic stream valley within the park to promote additional benefits aimed at improving the community. The sloping wetland brings a unique look to the park, increases biodiversity, provides educational/recreational opportunities, and restores functions and values of the historic stream valley which were removed during urbanization. The construction of GSI sewers and ADA ramps in the neighborhood drastically improve drainage and access within the public right-of-way. Overall, the design improves public safety and provides numerous environmental, social, and economic benefits while maximizing GAs.

GSI at Wissinoming Park is a marquee project for the GCCW program, showcasing PWD's successful implementation of their overall programmatic strategy from planning/design through construction. The sloping wetland, teamed with two underground slow-release detention systems, more than doubled the planned creation of GAs for the project by creating 42 GAs—treating over 1.1 million gallons or 200 tanker trucks of water—in a cost-effective manner.