

Charles P. Johnson & Associates

Category: Partnership with a Civic or Environmental Organization

Project: College Gardens Park, Rockville MD

College Gardens Park is a prime example of how the utility and amenity of a project can come together to minimize the impact of storm water management and at the same time create a beautiful park, which enhances the quality of life for a community. In 2006 the City of Rockville contracted Charles P Johnson and Associates, Inc. (CPJ) with the task of rejuvenating an aging community park in concert with providing stormwater management to the surrounding 158 acre, 42% impervious catchment area in an effort to protect the downstream receiving water, known as the College Gardens Tributary to Watts Branch. This heavily impaired stream, which daylighted from a 54" stormdrain pipe that transverses the park, had become enlarged and incised due to increased urbanized flow, degraded bank conditions, and lack of upstream bedload input.

Prior to rehabilitation, the park contained a playground area, basketball courts, paved trails, and a small shelter — all of which surrounded a small farm pond built in the 1930s which could not support a permanent pool during the summer without supplemental water. Unfortunately, the park was starting to show its age. Erosion around the basketball court and shelter caused hazardous conditions, while the playground area was outdated and deteriorating. In addition, many of the walking paths and other amenities did not meet current Americans with Disabilities Act requirements.

Through the combined efforts of CPJ, Slater Associates Inc., McKim & Creed, and The City of Rockville Department of Public Works, the team was able to meet the project goals to provide stormwater quality improvement and downstream flood relief; reduce bank erosion along the outlying tributary; protect and enhance existing natural resources; and improve park use and aesthetics through the implementation of a large onsite pond retrofit. Park amenities include multiple sports fields and courts, gazebo, grills, picnic benches and bicycle racks. The prominent storm water pond in the center of the park is the main attraction with paths and a walking bridge navigating over and around it. Multiple lookouts and benches provide an enjoyable retreat for local citizens, with many chances to observe the numerous birds and insects attracted to the waters surface.

The pond features water quality improvements that incorporate a sediment forebay, aquatic wetland bench, and direct feed of storm flow from the 54" SD pipe via a flow splitter vault. The design provides approximately 50% of the water quality volume and 100% of the channel protection goal. The 80% removal of total

suspended solids from water discharged by the pond is very close to the MDE 85% removal criteria adopted by the city, and may in fact exceed 80% with adequate maintenance dredging. The pond is predicted to reduce peak storm flows by 60% for a 1-year storm, 40% for a 2-year storm, and 15% for a 10-year storm. With peak storm flows reduced, only 280 ft of the tributary — instead of the entire 2,100 ft reach — needed to be stabilized, resulting in decreased environmental impact and on-site disturbance.

Prior to construction CPJ completed a Natural Resource Inventory and Forest Stand Delineation to determine the location, size, and health of all trees and forest stands located within the park and along the tributary. This document helped determine the limits of the tributary and existing farm pond, as well as soil types and other environmentally sensitive features of the site. CPJ tagged, surveyed, and cataloged 574 trees, the vast majority of which remain undisturbed. In addition to preserving existing vegetation the landscape plan incorporates more than 120 native tree species, 167 shrubs, 1600 perennials, 2600 wetland plugs, and 10,000 square feet of wetland and wildflower seeding mix.

Through multiple public meeting and surveys, CPJ arrived at a design solution that best met the environmental and recreational needs of the local community and City of Rockville. During the design phase the city sent out a “Park Amenity Survey” to more than 600 nearby residents, asking them to rank 18 potential amenities that might become part of the new park. The survey results confirmed some anticipated issues (such as the importance of preserving trees) but it also yielded a lot of new information that positively affected the park design. Involvement of stakeholders and the general public — through surveys, town hall meetings, monthly status meetings, and design focus meetings — was critical in the project’s success.