



# Green Infrastructure & Stormwater Management CASE STUDY

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## Aurora Country Club

**Location:** Prairie and Western Ave. Aurora, IL

**Client:** Mr. John Gurke

**Design Firm(s):** Martin Design Partnership, Ltd.

**Landscape architect/Project contact:** Gregory E. Martin, ASLA

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**ASLA Chapter:** Illinois

## Project Specifications

**Project Description:** Hole #15 had specific maintenance and operational problems and presented unique opportunities. During larger rain events, the 15th hole was impacted across a broad section of the fairway. The improvement strategy addressed the need for better conditions for golf while updating the infrastructure for stormwater management and improvement of water quality both on and off-site.

Many of the problems on hole #15 are caused by off-site impacts – the reconstruction of Burlington Northern Railroad tracks and the recent installation of an elevated bike path along the southern border of the course have impeded the overland flow during larger rain events. Further, these improvements crushed an existing clay field tile that allowed for underground flow from the southern boundary of the club. While government officials agreed on the concerns, fixing these off-site problems was not likely in the near term. Therefore, on-site drainage problems would persist unless addressed.

The plan called for a shallow wetland to collect and then disperse excess rainfall after rain events. The spoils generated from excavated the wetland were then utilized to raise the 15th fairway. Up-stream, catch basin structures and underground drainage provide for systematic convergence to the wetland.

Elevations were closely designed to ensure that flow across the fairway to the wetland would be minimal [only in 100-year rain events] and limited to specific areas out of prime play locations. This wetland was designed to slow release rates while allowing overland drainage in a broad expanse to enable play after rain events and create a more sustainable and maintainable environment.

The drainage and stormwater management strategy for ACC was an integration of a variety of components. This plan included:

1. Traditional measures [perforated and solid pipe into a drainage network];
2. Grading and grassing schemes to slow overland drainage, ensuring playability while slowing hydrology;
3. Existing water features and the new wetland to act as storage devices;
4. Slow diffusion from on-site drainage by using limited underground devices and broad expanses of wetland vegetation to filter and absorb contaminants.

Ultimately, this shallow wetland worked to solve the immediate need of the golf course, while slowing off-site drainage to a neighboring park.

**Project Type:**

Golf course

Part of a redevelopment project

**Design features:** Wetland construction

**This project was designed to meet the following specific requirements or mandates:**

Local ordinance

**Impervious area managed:** 1 acre to 5 acres

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** 1 acre to 5 acres

**The regulatory environment and regulator was** apprehensive about the project.

**Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements?** No

**Cost & Jobs Analysis**

**Estimated Cost of Stormwater Project:** \$50,000-\$100,000 (Public funding: Private)

**Was a green vs. grey cost analysis performed?** No

**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Did not influence costs.

**Number of jobs created:** 15 seasonal

**Job hours devoted to project:**

Planning and Design: 200

Construction: 160

Annual Maintenance: 15

**Performance Measures**

**Stormwater reduction performance analysis:**

80%

**Community & economic benefits that have resulted from the project:** Reduced impacts to surrounding neighborhood parks and open space including a path system that would be impacted during rain events.