
Braemar Golf Course Natural Resource Enhancements

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Braemar Golf Course Features

- Academy 9 Course and Driving Range (2015-2016)
- Main Course Reconstruction (2016-2018)
- Desired Natural Resource Features:
 - Flood Storage
 - Wetland Buffers
 - Native Prairie
 - Oak Savanna
 - Wetland Mitigation

Pre-Project Conditions

- Frequent flooding and poor drainage
- Lack of wetland buffer
- High density of invasive species
 - Buckthorn, purple loosestrife, reed canary grass, cattails
- Lots of turf with high management needs
- Lack of natural areas

Flooding Issues



Poor Drainage



Lack of Wetland Buffers



Invasive Species



Water Quality



Lots of Turf



Goals to Incorporate Natural Resource Enhancements

- Provide flood storage
 - Improve drainage, direct flooding to non-course areas
- Establish wetland buffers
 - Improve water quality
- Manage invasive species
- Convert turf to prairie where space is available
- Restore or establish oak savanna
- Restore or create wetland

Here is what that looks like..

Create Flood Storage



Direct Flooding to Non-Course Areas



Establish Wetland Buffers



Restore Oak Savanna



Establish Oak Savanna



Restore Native Prairie



Establish Native Prairie and Reduce Turf



Establish Native Prairie and Reduce Turf



Provide Educational Opportunities



Restoring Braemar's Legacy Landscape

Before it was home to an award-winning golf course, Braemar's rolling landscape was once a grassland scattered with large oak trees. The open landscape was filled with diverse colors, sounds and textures of native plants and animals. The openness of the oak savanna landscape relied on natural fire. Native grasses would quickly return after a fire and only trees with a high tolerance for fire such as oak were able to survive.

Shortly after the area was settled, groves were pastured for sheep and cattle. In the 1960s, the City of Edina purchased nearly 500 acres and opened Braemar Golf Course in 1964. The City cleared much of the oak savanna and suppressed the fire cycle, leading to a succession of forests and thickets.

Invasive and aggressive species such as buckthorn, turf grass and reed canary grass began to dominate the natural areas. The construction of the Academy 9 Par 3 course in 2016 provided a unique opportunity to restore the natural landscape, invite birds and butterflies back to the land, and showcase the beauty of Minnesota flora and fauna in an urban setting. Part of our natural heritage has been saved for future generations.

LOOK AND LISTEN



Legacy oak tree



Wind blowing through native grasses, including Little Bluestem



The song of a Bluebird



Monarch caterpillar on a milkweed plant



Vibrant red drupes in a sumac stand

Native Landscaping

Native vegetation provides soil stabilization, cleaner water and habitat for wildlife, including pollinators. Legacy oak trees that have stood for more than half a century can be seen around Braemar.

Water Quality

Ponds in the golf course help to clean water before it reaches the south fork of Nine Mile Creek.

Wetlands

Wetlands store flood water; filter pollutants and sediment, and provide wildlife habitat to sustain populations of amphibians, insects and birds.

Thanks to our project sponsor



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Summary of Accomplishments

- A lot has been achieved for both projects

Academy 9 Accomplishments

2015



2018



Academy 9 Accomplishments

Summary of Academy 9 Enhancements			
Feature	Pre- Project	Post- Project	Difference
Flood Storage	2.1 acre/ft	9.8 acre/ft	7.7 acre/ft more storage
Maintained turf	37.1 acres	29.1 acres	8 fewer acres of turf
Oak Savanna	none	6.2 acres	6.2 acres added
Native Prairie	none	7.4 acres	7.4 acres added

Main Course



Main Course Accomplishments

Summary of Main Course Natural Resource Features	
Feature	Changes
Flood Storage	Provided 0.77 acre feet of storage and moved storage to off-course areas
Wetland Buffer	Installed 18.22 acres of wetland buffer (16.67 required)
Prairie and Oak Savanna	Installed 29.77 acres (none required)

Wetland Impacts and Mitigation

- Both areas had some unavoidable wetland impacts
 - 0.11 acres on Academy and 0.37 acres on Main
- Nine Mile Creek Watershed District requires replacement on-site
- Two mitigation sites proposed
 - Requirements were exceeded

Academy Wetland Before



Academy Wetland During Construction



Academy Wetland Now



Academy Wetland Now – Tons of Plants



Main Course Wetland Before



Main Course Wetland During Construction



Main Course Wetland During Construction



Main Course Wetland Now



Wetland Accomplishments

Summary of Wetland Impacts and Replacement			
Location	Wetland Impacts	Acres or Credits Needed	Acres or Credits Provided
Academy Course	0.11 acres	0.25 acres 0.25 credits	0.25 acres 0.25 credits
Main Course	0.37 acres	0.83 acres 0.83 credits	7.65 acres 3.87 (USACE) credits 2.83 (WCA) credits

On-Going Monitoring and Maintenance

- Manage natural areas
 - Combination of contractor, staff, and 3rd parties
- Annual monitoring to track progress and guide maintenance
- Regulatory requirements
 - For wetlands, annual reporting is required

Summary of Accomplishments

- The City has successfully incorporated a variety of natural resource enhancements at Braemar
- These are good for the environment, and also add to golfers' experience
- Provide a demonstration/education opportunity
- The majority of the enhancements are elective
 - or when required were exceeded
- A source of pride for what was achieved

Drones and Annual Reporting*

<https://vimeo.com/showcase/6581116>

Password: braemar

*This is by far the best way to see the site and what was accomplished.



SEHINC.COM/DRONES