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Changing Course: Increasing Sustainability of MN Golf Courses

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Changing Course: Increasing Sustainability of MN Golf Courses

Jake VanderMeeden ENVR 395 Fall 2022 Advised by Jean Lavigne and Joe Storlien

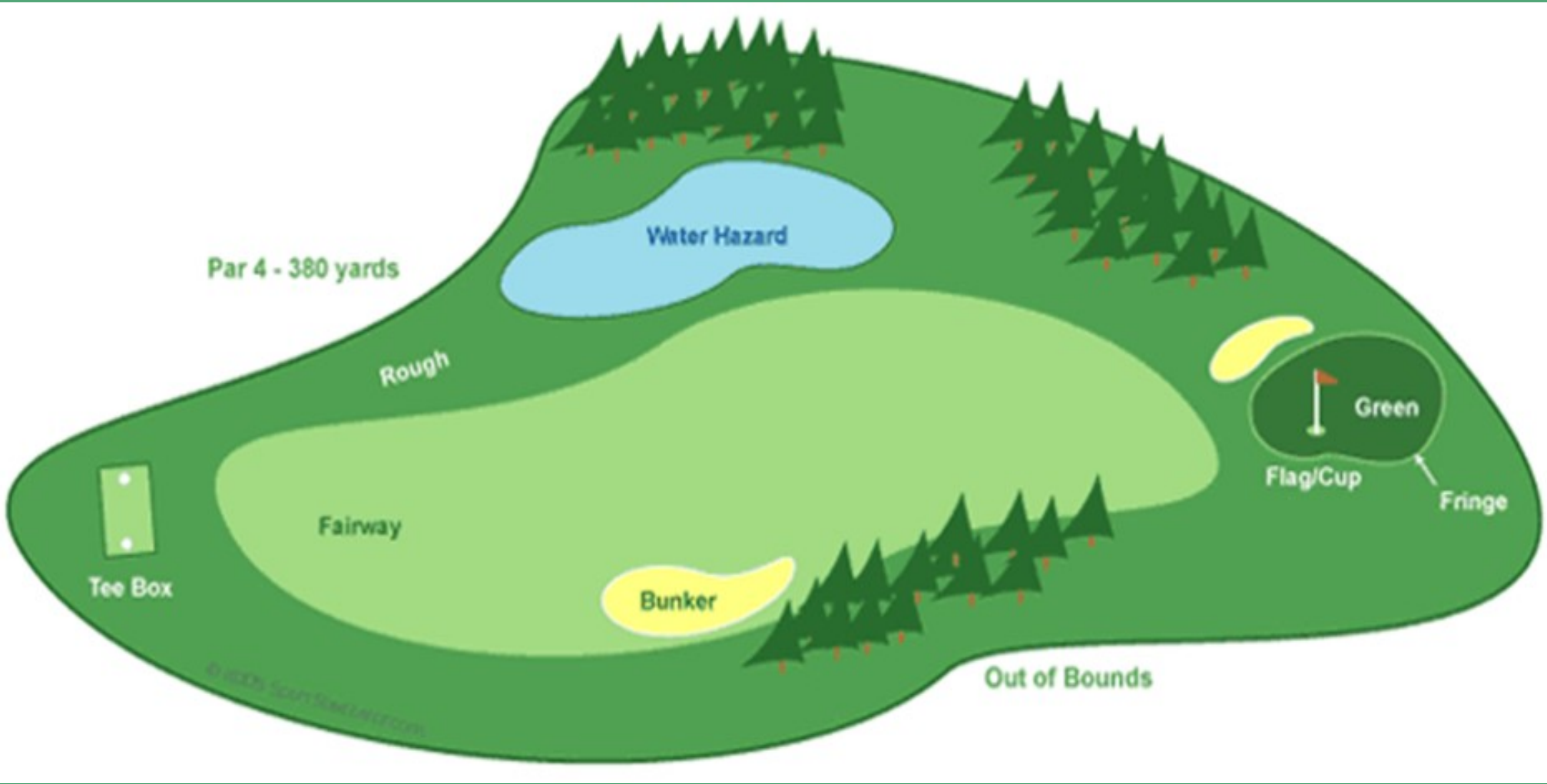
Introduction

The game of golf is growing at a pace faster than ever before. Positives of golf include increases in revenue, health/exercise, recreation opportunity, and greater appreciation for the outdoors. Unfortunately, **many golf courses are not environmentally friendly**. Considering the impending challenges of climate change, efforts to increase sustainability are very important and environmentally sustainable golf course practices will ensure long-term prosperity and growth of the game of golf

Ultimately, I will create a sustainability plan for Edinburgh USA, which is a golf course in Brooklyn Park, Minnesota



Native Vegetation at Erin Hills GC in WI— <https://golf.brec.org/golf-course-native-areas>

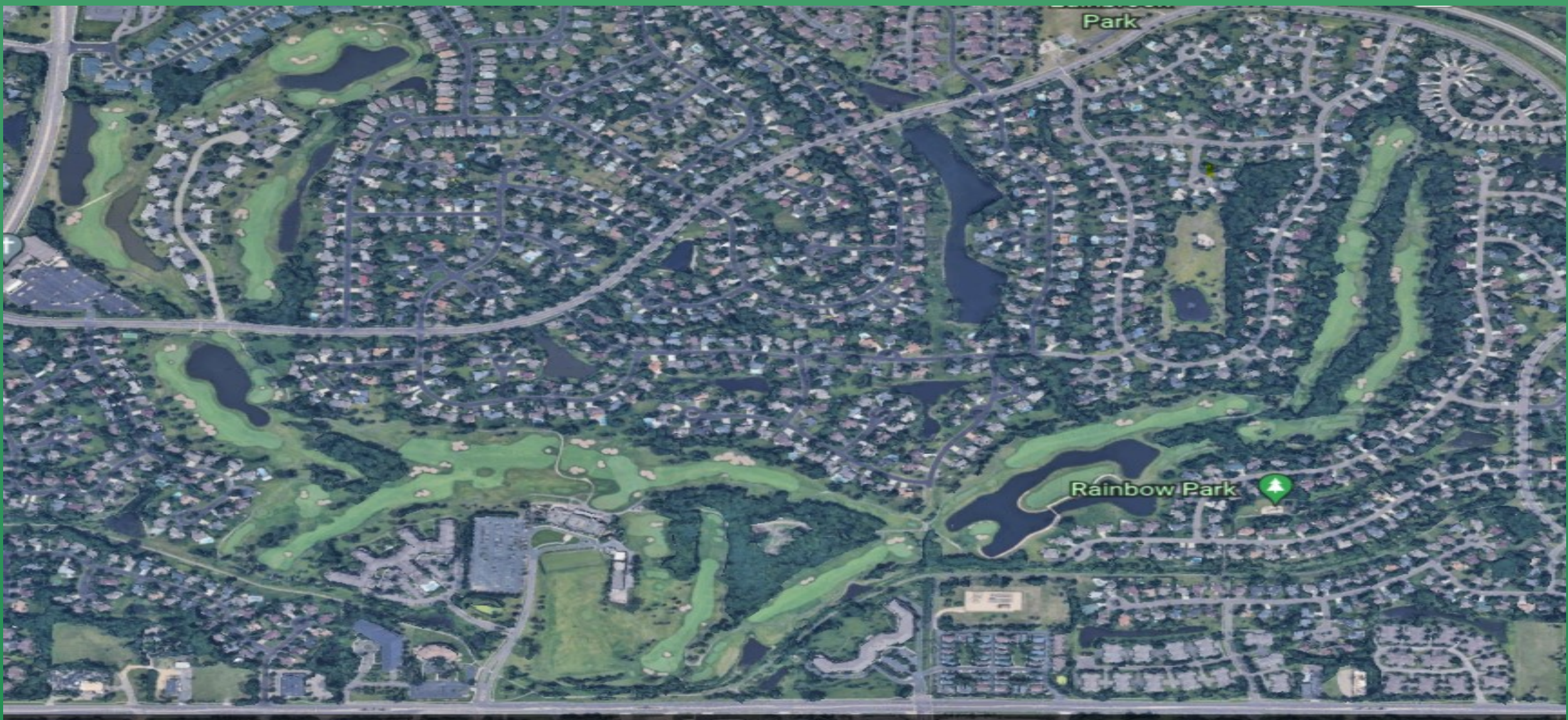


Layout of an average golf course— <https://www.sportspectator.com/fancentral/golf/guide04.html>

Research Question

What can be done to make golf courses in Minnesota more sustainable in the future?

Proposed Solution	Sustainability Impact	Ease of Implementation	Acceptability	Cost
Reintroducing Native Vegetation	VERY High	High	High	Medium
Rain Gardens/ Drainage Basin Creation	High	High	High	Low
Managing for Wildlife	High	High/Medium	High	Medium
Utilizing Recycled Water	Medium	Medium	Medium	Medium
Modifying Chemical Usage	Medium	Low/Medium	Low	High



Edinburgh USA Golf Course aerial view— Brooklyn Park, Minnesota

Sustainability Problems

Monoculture

Chemical usage

Water/irrigation

Wildlife



Sustainability Solutions

Reintroducing native vegetation

Organic alternatives

Recycled water sources,
rain gardens

Establishing wildlife habitat,
Natural corridors

Conclusion

Potential solutions to make Minnesota golf courses more sustainable include: reintroducing native plants, chemical alternatives, recycled water, rain gardens, managing for wildlife, and reevaluating golf course expectations.

Top 3 feasible solutions for Edinburgh USA: native vegetation, rain gardens, managing for wildlife.

Further Reading:

Lyman, Gregory T., Clark S. Throssell, Mark E. Johnson, Greg A. Stacey, and Clark D. Brown. "Golf Course Profile Describes Turfgrass, Landscape, and Environmental Stewardship Features." In *Applied Turfgrass Research*, 1-25, 2009.
Higgins, Monica. "Keeping Wildlife on Course." *Grounds Maintenance* 36, no. 8 (2001): Gol6. <http://ezproxy.csbsju.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=5104240&site=ehost-live&scope=site>.
Doyle, Andrea. "Golf Courses Push Sustainability Efforts, Green Design." *Meeting News* 34, no. 5 (2010): 42-42. <http://ezproxy.csbsju.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=67616352&site=ehost-live&scope=site>.