

Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co.
Subject: Item 5G: Update on Four Seasons Mall Area Water Quality Improvement Project (2013 CIP NL-2) – BCWMC November 20, 2024 Meeting Agenda
Date: November 14, 2024
Project: 23270051.62 6000 623

5G Update on Four Seasons Mall Area Water Quality Improvement Project, Plymouth (2013 CIP NL-2)

Summary:

Proposed Work: Above-and-beyond stormwater quality improvements and wetland restoration

Impervious Surface Area: No change

Recommendations: No action required - informational only. The estimated average annual total phosphorus removal decreased from 113.1 lbs/yr to 109.7 lbs/yr between the conditionally approved 2023 Project and revised plan set dated October 10, 2024 (i.e., the 2024 Project). The project will still achieve the above-and-beyond treatment goal of 100 pounds of total phosphorus removal annually. The project will be administratively reviewed and approved by the BCWMC Engineer.

Project Proposer: City of Plymouth

Project Schedule: Construction is planned during winter 2025 with restoration anticipated during spring 2025.

Background

The Four Seasons Mall area is located in the southwest corner of Highway 169 and Rockford Road as shown on the location map. This area drains into the North Branch of Bassett Creek which flows along the west side of the former Four Seasons Mall site, then through a degraded wetland before flowing under Highway 169 and into Northwood Lake on the east side of the highway. Northwood Lake is impaired due to high nutrients. Several proposed CIP projects have been designed and planned for this area dating back to 2013 including a stream restoration project upstream from this site, and two different private redevelopments (Agora and Dominion). After plans for the private redevelopment fell through for a second time, the city purchased the land and demolished the Four Seasons Mall. At its July 2023 meeting, the Commission approved an agreement with the City of Plymouth to design and construct the CIP components of the Four Seasons Area Water Quality Improvement Project with reimbursement from this project's BCWMC CIP funds. There is approximately \$783,000 remaining in the budget for this CIP project. (Find more information on the earlier proposed projects in the [memo from September 2023](#)).

2024 Four Seasons Mall Area Water Quality Improvement Project (2013 CIP NL-2): General Project Information

The City of Plymouth completed the demolition of the Four Seasons Mall (BCWMC 2022-18), as conditionally approved by the Commission at its November 2022 meeting. Building demolition was completed January 18, 2023. While the redevelopment planning process continues, the City would like to move forward with construction of the referenced "above and beyond" project to remove at least 100 pounds of total phosphorus annually.

At the September 13, 2023 BCWMC meeting, the Commission conditionally approved 90% design plans for the Four Seasons Mall Area Water Quality Improvement Project, 2013 CIP NL-2 (2023 Project). Since the Commission's conditional approval of the 2023 Project, the City of Plymouth has been working with the MN Department of Natural Resources (MNDNR) and U.S. Army Corps of Engineers (USACE) to address permitting requirements from those agencies. The 2023 Project plans and submittal were revised based on comments received from those permitting processes. The BCWMC Engineer received a revised plan set dated October 10, 2024 (i.e., the 2024 Project) and performed an administrative review. This memorandum highlights the differences between the proposed 2024 Project and the conditionally approved 2023 Project.

Floodplain Storage Modification

The proposed 2024 Four Seasons Mall Water Quality Improvement Project includes work within the Bassett Creek 100-year floodplain. The January 2023 BCWMC Requirements for Improvements and Development Proposals (Requirements) document states that *projects within the floodplain must maintain no net loss in floodplain storage and no increase in flood level at any point along the trunk system* (managed to at least a precision of 0.00 feet). The 100-year floodplain elevation of the North Branch of Bassett Creek (North Branch) in this reach is 892.9 feet NAVD88.

The conditionally approved 2023 Project plans would have resulted in a net increase in floodplain storage of approximately 0.70 acre-feet from the pre-demolition condition. The 2024 Project plans will result in an increase of 4.3 acre-feet of floodplain storage. This additional increase in floodplain storage is primarily due to the removal of a berm around the proposed South Pond (renamed as the North Wetland for the 2024 Project). The attached floodplain exhibits identify areas of cut and fill for the conditionally approved 2023 Project plans and the 2024 Project plans.

Wetlands

The City of Plymouth is the local government unit (LGU) responsible for administering the Wetland Conservation Act; therefore, BCWMC wetland review is not required for this project.

Rate Control

The proposed 2024 Project does not create one or more acres of new or fully reconstructed impervious surfaces; therefore, BCWMC rate control review is not currently required. Rate control requirements for the former mall area will be assessed as part of the future redevelopment submittal.

Above-and-Beyond Water Quality Treatment Changes

The 2024 Project will remove pollutants from the North Branch of Bassett Creek (including treating stormwater runoff from the former Four Seasons Mall site and sources upstream of the project site that discharge to the North Branch of Bassett Creek). The 2024 Project also treats runoff from approximately 186.4 acres (located generally west and south of the project site) that are conveyed via storm sewer directly to the Wetland and 14.5 acres (northwest of site) that are conveyed via storm sewer directly to the Northwest Pond. The 2024 Project BMP's include a relatively small stormwater pond (Northwest Pond), a larger stormwater pond (North Wetland), and a wetland restoration (Wetland), as shown in the attached Proposed BMPs figure provided by the applicant. Additional BMPs will be incorporated as part of the future development of the Four Seasons Mall site.

Primary differences between the BMPs proposed in the 2023 Project and the 2024 Project are listed below and shown on the attached BMP figures.

1. The North Wetland (denoted as South Pond on the 2023 Project plans) was decreased in volume and surface area.
2. The restored wetland grading area (Wetland) was altered and expanded.
3. The 2023 Project included a vegetative swale and pipe to convey flow from North Branch of Bassett Creek to the South Pond and restored wetland (Wetland). Instead of a vegetative swale and pipe, the 2024 Project includes a berm to direct flow from North Branch of Bassett Creek to the North Wetland and Wetland.

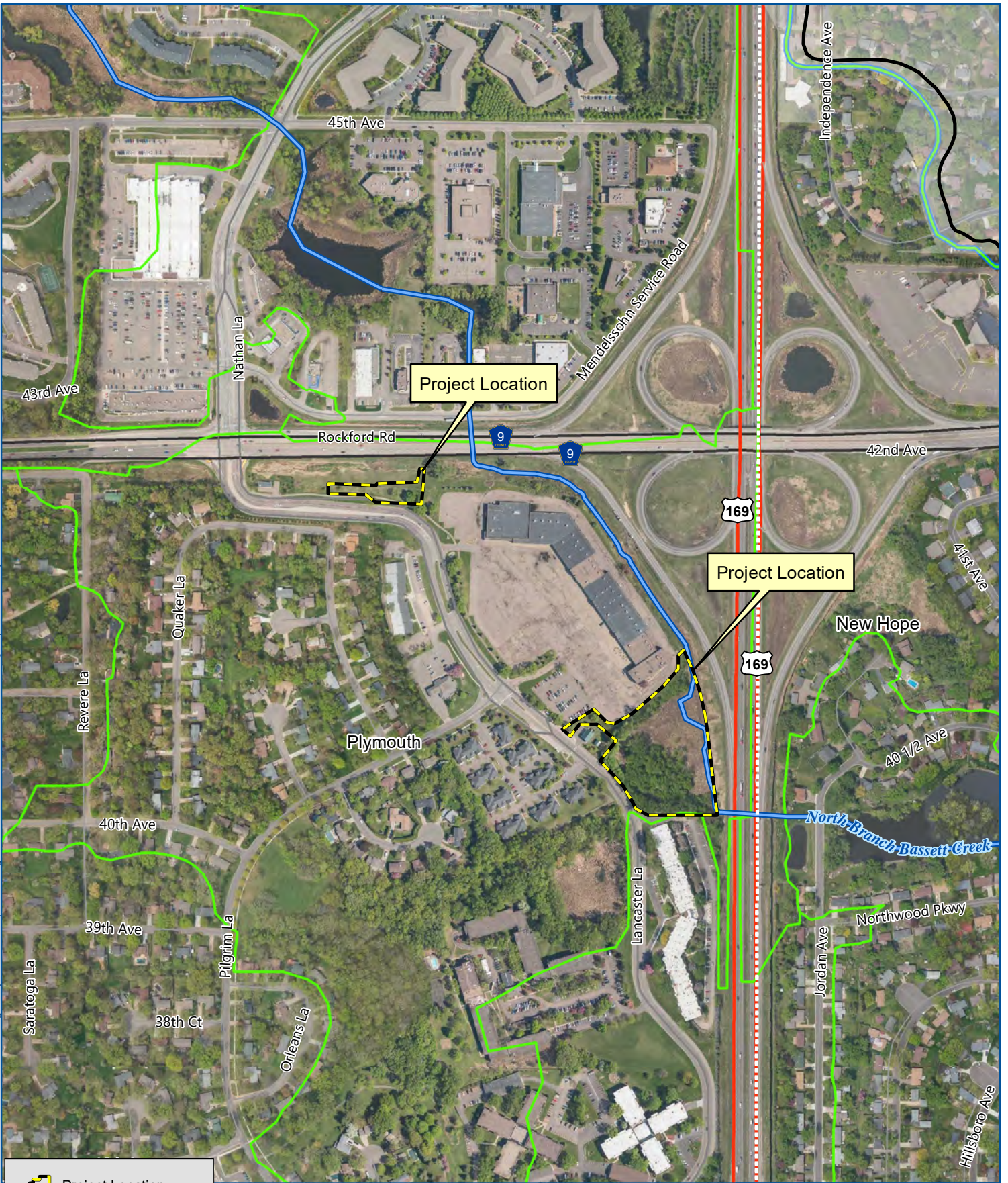
The total phosphorus loading and removals for the downstream BMPs changed between the 2023 Project and the 2024 Project, however, the site still achieves the treatment goal – 100 pounds or more of total phosphorus removal annually.


Table 1 summarizes the estimated average annual total phosphorus removal by each proposed BMP for the conditionally approved 2023 Project plans and the revised 2024 Project plans.

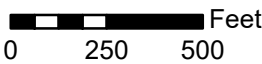
BMP	2023 Project Plans Total Phosphorus Removal (lbs/year)	2024 Project Plans Total Phosphorus Removal (lbs/year)
Northwest Pond (WP)	3.9	3.9
Vegetative Swale (CRSP)	6.2	-
South Pond/North Wetland (NP)	4.6	5.3
Wetland Restoration (Wetland/NB-07))	98.4	100.6
TOTAL	113.1	109.7

Erosion and Sediment Control

The proposed project results in more than 10,000 square feet of land disturbance; therefore, the proposed project must meet the BCWMC erosion and sediment control requirements. Proposed temporary erosion and sediment control features include rock construction entrances, silt fence, bioroll logs, and storm drain inlet protection. Permanent erosion and sediment control features include erosion control blanket and stabilization with seed and mulch.

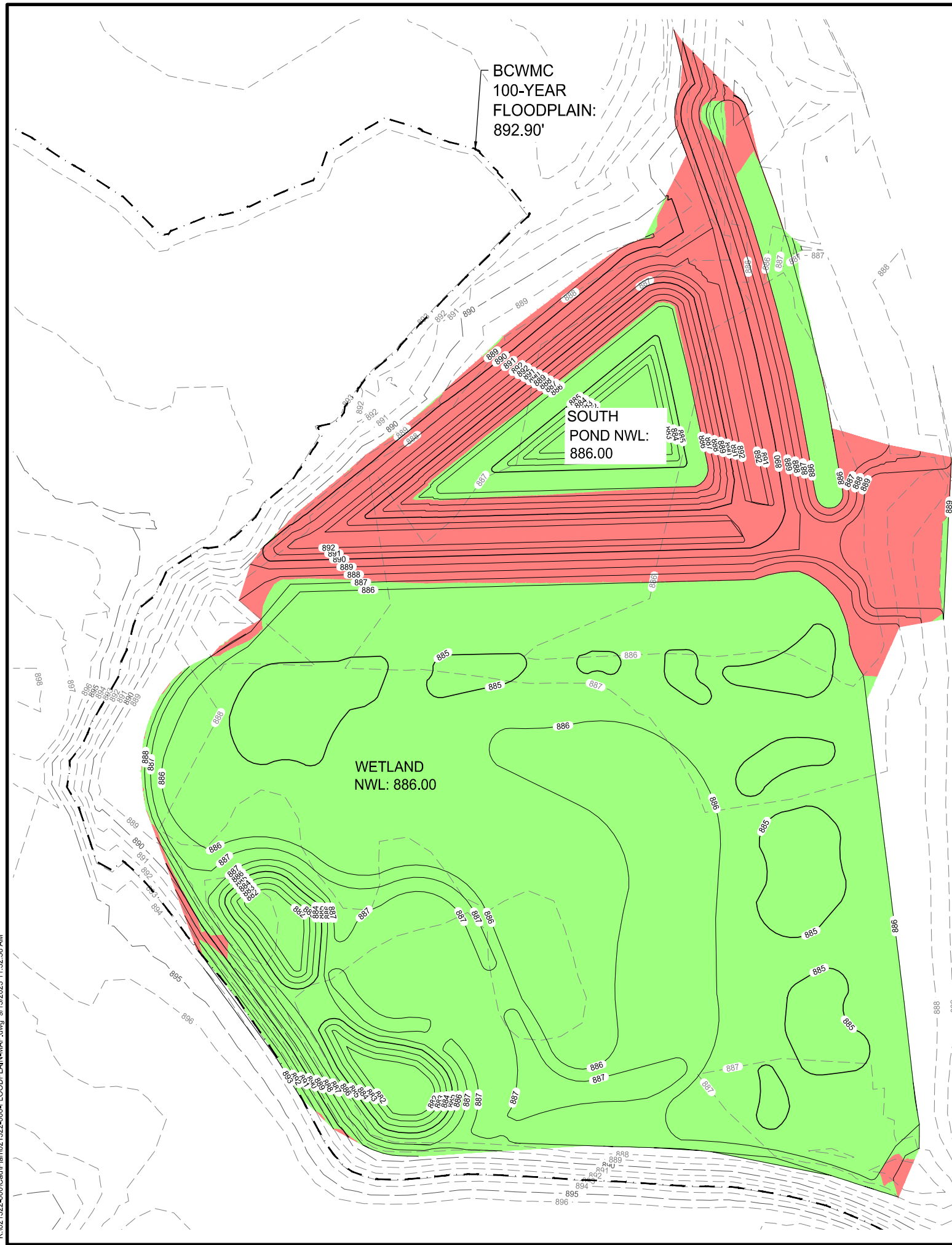
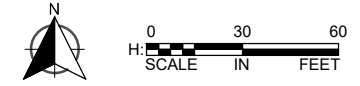


-  Project Location
-  Municipality
-  BCWMC Legal Boundary
-  Major Subwatershed
-  BCWMC Hydrologic Boundary
-  Bassett Creek



CIP NL-2
 FOUR SEASONS
 WATER QUALITY
 IMPROVEMENT PROJECT
 Plymouth, MN
 LOCATION MAP

2023 Project



LEGEND

- FILL
- CUT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- BCWMC 100-YR FLOODPLAIN

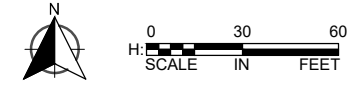
FLOODPLAIN EXHIBIT

FOUR SEASONS WATER QUALITY PROJECT
CITY OF PLYMOUTH, MN

FLOODPLAIN STORAGE	
STORAGE BELOW THE FLOODPLAIN ELEVATION (892.90) AND ABOVE RELEVANT WATERBODY NWLS	
CUT (CY)	4482
FILL (CY)	3355
NET CUT (CY)	1127

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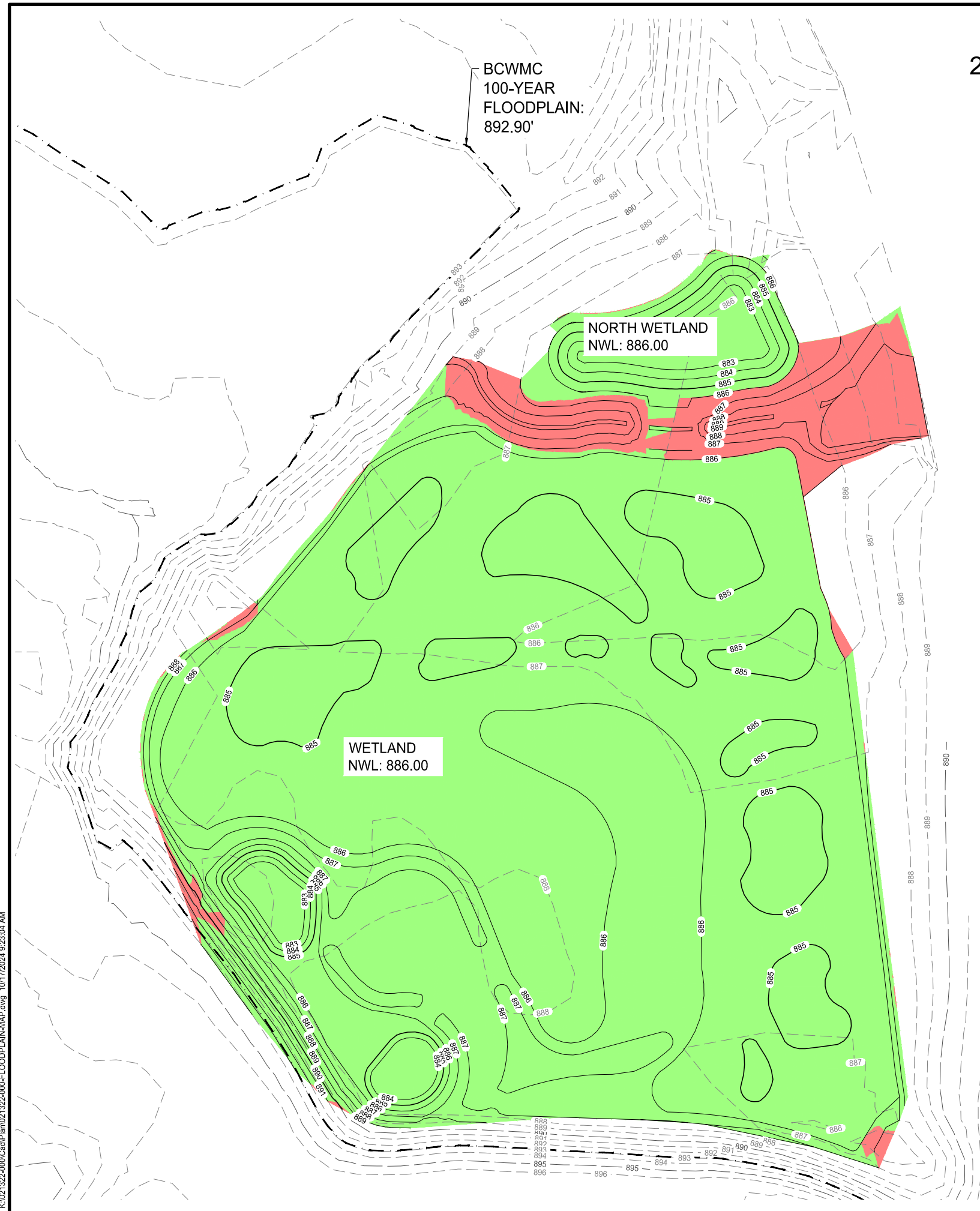
2024 Project



BCWMC
100-YEAR
FLOODPLAIN:
892.90'

LEGEND

- CUT
- FILL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- BCWMC 100-YR FLOODPLAIN



FLOODPLAIN EXHIBIT

FOUR SEASONS WATER QUALITY PROJECT
CITY OF PLYMOUTH, MN

FLOODPLAIN STORAGE

STORAGE BELOW THE FLOODPLAIN ELEVATION (892.90) AND ABOVE RELEVANT WATERBODY NWLS

CUT (CY)	7335
FILL (CY)	410
NET CUT (CY)	6925

CLIENT PROJECT NO.
WR2200004

WSB PROJECT NO.
021322-000

SHEET
1 OF 1

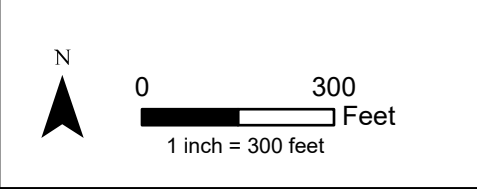
2023 Project

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Proposed BMPs

Four Seasons Water Quality Project
City of Plymouth, MN





Proposed BMPs

Four Seasons Water Quality Project
City of Plymouth, MN

