Item 4E.
BCWMC 10-21-21

Environmental Assessment Worksheet

Main Stem Lagoon Dredging Project

Prepared for
Bassett Creek Watershed Management Commission

October 2021

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July 2013 version

ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. Project Title

Main Stem Lagoon Dredging Project

2. Proposer

Bassett Creek Watershed Management Commission
Contact person: Laura Jester
Title: Administrator
Address: 16145 Hillcrest Lane
City, State, ZIP: Eden Prairie, MN 55346
Phone: (952) 270-1990
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3. RGU

City of Golden Valley
Contact person: Marc Nevinski
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Address: 7800 Golden Valley Road
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Phone: (763) 593-8008
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4. Reason for EAW Preparation

Required:	Discretionary:
· EIS Scoping	· Citizen petition
X Mandatory EAW	· RGU discretion
	· Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

Minnesota Rules, part 4410.4300, subpart 27 – Public waters, public waters wetlands, and wetlands.

5. Project Location

- County: Hennepin County
- City/Township: Golden Valley
- PLS Location (¼, ¼, Section, Township, Range): Sections 17 and 20, Township 29N, Range 24W
- Watershed (81 major watershed scale): Mississippi River – Twin Cities
- GPS Coordinates: Latitude: 44.992641 Longitude: -93.320695
- Tax Parcel Numbers: 702924310001, 1702924340008, 1702924340006, 2002924230002, 1702924340010, and 2002924210004

At a minimum attach each of the following to the EAW:

- County map showing the general location of the project (**Figure 1**)
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable) (**Figure 2**)
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan. (**Appendix A**)

Figures are included in the "Figures" section at the end of the document text.

6. Project Description

a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

The Bassett Creek Watershed Management Commission's (BCWMC) current Capital Improvement Program (CIP) includes project BC 7 "dredging of accumulated sediment in Main

Stem of Bassett Creek just north of Highway 55, Theodore Wirth Regional Park" (Main Stem Lagoon Dredging Project; Project). The Project includes dredging accumulated sediment from three lagoons (D, E, and F) along the Main Stem of Bassett Creek to improve water quality, improve habitat, and alleviate flooding.

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

Project-related activities include removal of sediment from Lagoons D, E, and F (**Figure 3).** As planned, the Project would dredge all three lagoons (D, E, and F) to a depth of 6 feet, removing approximately 39,600 cubic yards of accumulated sediment. The lagoon bathymetry and bottom elevation currently varies from a deeper flow channel to sediment islands. In general, the depth of excavation will vary between 0 to 10 feet, roughly from 820 feet above mean sea level (amsl) to 810.6 feet amsl. After construction the approximate 6-foot depth of the three lagoons would increase the flood storage by approximately 2.19 acre feet.

Sediment removal would occur with mechanical dredging, using an excavator to scoop the sediment, with no grading taking place within the bottom of the lagoons. Excavation would be completed during the winter months when water levels are low.

Sediment from the three lagoons was tested in Fall 2019 for contaminants as part of Project planning. Testing results indicate that the sediment removed from the lagoons is not suitable for off-site reuse under MPCA's Best Management Practices for the Off-Site Reuse of Unregulated Fill document due to concentrations of polycyclic aromatic hydrocarbons (PAHs) as benzo[a]pyrene (BaP) equivalents and diesel range organics (DRO) (MPCA, 2012). In addition, BaP equivalents are above the MPCA Industrial Soil Reference Value (SRV), indicating the sediments are not suitable for reuse at other commercial or industrial properties. Based on the sediment sampling results and MPCA guidelines, the dredged material will require landfill disposal. If required, the dredged material would be stockpiled and allowed to dewater prior to hauling. Once selected, the contractor would be responsible for locating a suitable landfill for disposal of the dredged material.

The Project is located on public property (Theodore Wirth Regional Park) which is owned by the Minneapolis Park and Recreation Board (MPRB). Site access during construction would occur via Theodore Wirth Parkway.

It is anticipated that construction would begin in January 2023. Dredging activities would be completed by March 2023. The overall project, including restoration, would be completed by summer 2023.

c. Project magnitude:

Table 1 provides a summary of the proposed Project's magnitude.

Table 1 Project Magnitude Summary

Component	Size
Total project acreage	24.5 acres
Linear project length	Not applicable
Number and type of residential units	Not applicable
Commercial building area (in square feet)	Not applicable
Industrial building area (in square feet)	Not applicable
Institutional building area (in square feet)	Not applicable
Other uses—specify (in square feet)	Not applicable
Structure height(s)	Not applicable

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

Overall, the purpose of the Project is to increase permanent pool volume and sediment storage volume in the three lagoons; this would accomplish the following goals and objectives:

1. Reduce sediment loading to the Main Stem of Bassett Creek and improve downstream water quality by removing an estimated 600 lbs of total phosphorus (TP) and 156,000 lbs of total suspended solids (TSS) removed annually.
2. Remove accumulated sediment that is contaminated with PAHs, elevated lead, and petroleum associated with DRO.
3. Restore the intended design aesthetics and function of the original lagoon project.
4. Preserve natural beauty along the Main Stem of Bassett Creek and contribute to natural habitat quality.
5. Restore flood conveyance through this section of Bassett Creek.
6. Improve habitat for fish and other aquatic species by deepening the lagoons.

e. Are future stages of this development including development on any other property planned or likely to happen? · Yes X No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

f. Is this project a subsequent stage of an earlier project? X Yes · No

If yes, briefly describe the past development, timeline and any past environmental review.

The Civilian Conservation Corps (CCC) originally constructed the three lagoons (seven in total) in 1937. Approximately 405,000 cubic yards (CY) of soil was excavated to create all seven lagoons. The seven lagoons created 27 acres of open water and 36 acres of usable land for recreation.

Since their creation in 1937, significant development has occurred throughout the watershed. A study performed by Barr in 2015 (Barr 2015) found that the lagoons remained relatively unchanged until the early to mid-1990s when dramatic changes started to occur. The study concluded that a sediment pulse in the early 1990's was the main contributor to rapid sedimentation in the lagoons. Through comparison of historical aerial imagery, it was apparent the lagoons were filling in, becoming noticeably shallower with sediment deposits forming along the banks. Lagoons D, E, and F have filled in significantly, becoming shallower and narrower. Sediment islands have formed in Lagoon E, which restricts flow and reduces the flood storage available in the area, resulting in an increase in flooding during smaller storm events. This could lead to additional flooding in other areas that would normally not be inundated. The sediment islands may also deflect flow and create erosion along the banks.

7. Cover Types

Estimate the acreage of the site with each of the following cover types before and after development: An assessment of land cover types was estimated using geographic information systems (GIS); the results are summarized in **Table 2** and shown in **Figure 4**.

Table 2 Summary of Cover Types (in acres)

Cover Type	Before	After
Deciduous Tree Canopy	5.8	5.8
Forested/Shrub Wetland	4.9	4.9
River	4.9	4.9
Grass/Shrub	4.7	4.7
Roads/Paved Surfaces	2.9	2.9
Emergent Wetland	0.7	0.7
Coniferous Tree Canopy	0.4	0.4
Bare Soil	0.1	0.1
Buildings	0.1	0.1
Lakes/Ponds	<0.1	<0.1
Total Area	**24.5**	**24.5**

8. Permits and Approvals Required

List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Table 3 lists permits and approvals required.

Table 3 Permits and Approvals Required

Unit of Government	Type of Application	Status
U.S. Army Corps of Engineers	• Section 404 Permit	• To be obtained
Minnesota Pollution Control Agency	• Section 401 Water Quality Certification • NPDES/SDS Construction Stormwater Permit • Spill Prevention Plan approval	• To be obtained • To be obtained • To be obtained
Minnesota Department of Natural Resources	• Work in Public Waters Permit	• To be obtained
City of Golden Valley	• Wetland Conservation Act • Stormwater Management Permit	• To be obtained • To be obtained
Minneapolis Park and Recreation Board	• Construction Permit	• To be obtained

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

All potential cumulative impacts are discussed in EAW Item 19, Cumulative Potential Effects.

9. Land Use

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The proposed project is located along the Main Stem of Bassett Creek. Bassett Creek is a Minnesota Department of Natural Resources MDNR)-designated public watercourse and Lagoon E is a MDNR-designated public water (27065100). The site is currently owned and operated by the MPRB and located within Theodore Wirth Regional Park. Lagoons D, E and F along the Main Stem of Bassett Creek are located west of Xerxes Avenue North and east of the Theodore Wirth Golf Course, with Lagoons E and F located north of Plymouth Avenue and Lagoon D located south of Plymouth Avenue. The lagoons are mainly surrounded by narrow buffers of hardwood trees with small portions of manicured grass lawns interspersed throughout. Areas surrounding Lagoons D, E and F along the Main Stem of Bassett Creek consist of public park land and medium density residential land, with commercial land located farther beyond.

The project is located immediately within the Theodore Wirth Regional Park boundaries, which also includes the Luce Line Regional Trail and the Conundrum Trail. Glenview Terrace Park and Valley View Park are two additional parks within the vicinity of the project located approximately 0.4 mile and 0.5 mile north of the Project area, respectively. Wirth Lake is also located approximately 0.4 mile south of the Project area within the Theodore Wirth Regional Park. There are no prime or unique farmlands located inside or adjacent to the Project area.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

The City of Golden Valley recently updated its comprehensive plan between 2016 and 2018 and received formal approval from the Metropolitan Council on January 22, 2020. The new *Comprehensive Plan* (City of Golden Valley, 2020) is the City's policy document and guide for land use and related decision making. The Metropolitan Council, which provides policy

direction for the Twin Cities metropolitan area, established the following general policies for inclusion in the existing plan:

- Goal 1 – Strive for a diverse and balanced community that contains a variety of residential areas, major employers, retail, services, institutions, and parks and open spaces.
- Goal 2 – Develop a regulatory framework designed to minimize potential conflicts between land uses.
- Goal 3 – Ensure new development meets high construction and visual quality standards and includes measures of sustainability.
- Goal 4 – Use public and private redevelopment opportunities to advance the City's Future Land Use Map and policies.
- Goal 5 – Encourage environmentally sustainable land use patterns and development practices that accommodate the City's social and economic needs.
- Goal 6 – Integrate land use and transportation planning principles to provide a balanced system of transportation alternatives.

The project aligns with the goals outlined in the Comprehensive Plan as the project would not alter land use along the Main Stem of Bassett Creek and would improve water quality for the community.

Surface Water Management Plan

The *Surface Water Management Plan* (Plan) (City of Golden Valley, 2018) provides direction concerning the continued maintenance and improvement of the quality and effectiveness of water resource planning and management within the City. The Plan includes a number of goals, policies, and objectives to manage the City of Golden Valley's stormwater and surface water resources, the following of which are applicable to the Project:

- Achieve pollutant load reductions as required by the state or watershed management organizations (e.g., as specified in Total Maximum Daily Loads).
- Minimize pollutant loading from stormwater runoff through non-point source pollution reduction and treatment.
- Minimize the volume of stormwater runoff entering Bassett Creek.

- Minimize the risk of flooding along Bassett Creek, its tributaries, and other flood-prone areas.
- Minimize erosion and sedimentation to protect the City's water resources.
- Maintain and enhance the integrity and ecological function of aquatic resources and shoreland areas.
- Protect the quantity and quality of groundwater resources.

Bassett Creek Watershed Management Plan (2015-2025)

The *Bassett Creek Watershed Management Plan* (BCWMC, 2015) sets the vision, guidelines, and proposed tasks for managing surface water within the jurisdictional boundaries of the BCWMC. The BCWMC is a joint powers watershed management organization (WMO). The Metropolitan Surface Water Management Act states that the purposes of WMO water management programs are as follows (quoted from Minnesota Statutes 103B.201 – 103B.255):

1. Protect, preserve, and use natural surface and groundwater storage and retention systems.
2. Minimize public capital expenditures needed to correct flooding and water quality problems.
3. Identify and plan for means to effectively protect and improve surface and groundwater quality.
4. Establish more uniform local policies and official controls for surface and groundwater management.
5. Prevent erosion of soil into surface water systems.
6. Promote groundwater recharge.
7. Protect and enhance fish and wildlife habitat and water recreational facilities.
8. Secure the other benefits associated with the proper management of surface and groundwater.

The Main Stem of Bassett Creek which runs through Lagoons D, E, and F, is classified as a Priority 1 Stream by the BCWMC. The BCWMC classifies specific waterbodies within the watershed as priority waterbodies based on the desired water quality standards and uses for those waterbodies. The Project would meet the goals of the watershed management plan by improving water quality and enhancing Bassett Creek through the removal of accumulated sediment from the waterbody.

Metropolitan Council 2040 Water Resources Policy Plan

The *2040 Water Resources Policy Plan* (Metropolitan Council, 2015) is a framework for building strategies that integrate wastewater, water supply, and surface water as related areas of a comprehensive water picture. The plan carries forward the vision of *Thrive MSP 2040*, the long-range plan for the Twin Cities region that is updated every 10 years. Thrive's regional vision includes five desired outcomes that provide policy direction for the *2040 Water Resources Policy Plan*:

- Stewardship – advancing the Council's longstanding mission of orderly and economical development by responsibly managing the region's natural and financial resources and making strategic investments in our region's future.
- Prosperity – investing in infrastructure and amenities that make our region competitive in attracting and retaining successful businesses, a talented workforce, and strong economic opportunities.
- Equity – connecting all residents to opportunity and creating viable housing, transportation, and recreation options for people of all races, ethnicities, incomes, and abilities so that all communities share the opportunities and challenges of growth and change.
- Livability – focusing on the quality of our residents' lives and experiences in the region, and how places and infrastructure create and enhance the quality of life that makes our region a great place to live.
- Sustainability – protecting our regional vitality for generations to come by preserving our capacity to maintain and support our region's well-being and productivity over the long term

The project would help to achieve the plan's desired outcomes through the removal of accumulated sediment in Bassett Creek. This would help improve water quality, improve habitat, and alleviate flooding.

Theodore Wirth Regional Park Master Plan

The *Theodore Wirth Regional Park Master Plan* (MPRB, 2015) provides a strategy for the park's future, capture current park data and analysis, and guides the implementation of the plan over the next 20 years. The plan is guided by the mission of MPRB's *2007-2020 Comprehensive Plan* and outlines a broad vision for Theodore Wirth Regional Park through to 2035. The plan outlines the following two key outcomes for the future of the park:

1. Wirth Park's unique natural and ecological resources will be protected and enhanced:
    - Park resources and programming will promote both mental and physical health.
    - The park will provide vital opportunities to experience and learn about the natural world in an urban setting.
    - The park will play an important role in supporting health regional ecosystems.
2. Wirth Park's natural resources will be a basis for recreational and visitor experiences:
    - The park's infrastructure and recreational amenities will be designed to support a balanced palette of complementary uses while preserving the ecological quality of the park.
    - The park will balance responsiveness to recreational interests with a commitment to healthy and natural resources.
    - The park will offer safe and equitable access to accommodate a variety of local and regional users in all seasons.

Soil and Water Conservation District

As of February 2014, Hennepin County assumed the role of soil and water conservation district (SWCD) and is responsible for all duties and authorities of an SWCD. The *Hennepin County Natural Resources Strategic Plan* (Hennepin County, 2016) includes a goal to protect and restore lakes, rivers, streams, and wetlands to preserve the health of aquatic ecosystems, meet applicable standards for fishing and recreation, and ensure that water supplies are sustainable. A strategy to meet this goal includes working with partners to implement water quality restoration and protection projects to improve impaired water resources.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The Project is located in an area zoned by the City of Golden Valley as the I-4 Institutional Zoning Sub-District. I-4 is a zoning district containing golf courses, parks, playgrounds, and city offices. In addition, the Project is located within a floodway and Zone AE, making this a Flood Fringe District. Within Flood Fringe Districts, the use, size, type, and location of development must comply with applicable regulations. In no cases shall floodplain development adversely affect the efficiency or unduly restrict the capacity of the channels or floodways of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems. The project would increase the capacity of the Main Stem of Bassett Creek through the removal of accumulated sediment within the waterbody. This would help improve water quality and provide some increase in the flood storage capacity of the channel.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The Project would be compatible with the nearby land uses, zoning, and plans previously described in EAW Items 9aii and 9aiii.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The Project would be compatible with current land uses.

10. Geology, Soils and Topography/Land Forms

a. Geology – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

Bedrock in the Project area is the St. Peter Sandstone formation (Minnesota Geological Survey, 2018). The upper half to two-thirds of this formation is fine- to medium-grained friable quartz sandstone. Exposures are limited in this part of the unit and commonly exhibit case-hardened weathered surfaces. The lower part of the St. Peter Sandstone contains multicolored beds of mudstone, siltstone, and shale with interbedded very coarse sandstone. Depth to bedrock in the Project area is up to 125 feet below ground surface. Surficial geology consists of loam to sandy loam diamict.

No karst features or other geologically sensitive features are known to occur in the vicinity of the Project area.

b. Soils and topography – Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

Topography in the Project area ranges from 816 to 856 feet above mean sea level (amsl), with the highest elevations and steepest slopes north of Lagoon F and in between Lagoons E and D.

According to the United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS), soils in the Project area are predominantly mapped as water (map unit W); Udorthents, wet substratum, 0 to 2 percent slopes (map unit U2A); Koronis-Kingsley complex, 2 to 6 percent slopes (map unit L58B); and Kingsley-Gotham complex, 25 to 35 percent slopes (map unit L42F) (USDA-NRCS 2021). All soils in the Project area are well drained and classified as not hydric or predominantly not hydric.

The proposed dredging is expected to remove approximately 39,600 cubic yards of accumulated sediment, and minor grading would take place in uplands to provide safe construction and maintenance accesses and to transition between the lagoons and upland areas. During construction, ground disturbance would be limited to the extent possible to minimize the potential for erosion. Temporary erosion and sediment control best management practices (BMPs) would be installed and designed to minimize erosion onsite and to prevent construction-related sediment from migrating offsite. Site conditions would determine final selection and placement of BMPs. BMPs would be installed prior to soil disturbance, and the contractor would be responsible for their inspection and maintenance.

11. Water Resources

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water – lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current

MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

The Project area is centered on three lagoons located along Bassett Creek (PWI #270320a), as shown in **Figure 5**. Lagoon E, also referred to as Ski Jump Pond, was identified as an MDNR public water basin (PWI #27065100). The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) database identified nine wetlands located within the Project area. The database identified 10.8 acres of wetland within the Project area (**Table 4**)

Table 4 Summary of National Wetland Inventory Wetland Types and Acreages in the Project Area

Wetland Type	Total Area (acres)
Riverine (R2UBH/R2USA)	5.19
Freshwater Forested Wetland (PFO1A)	4.92
Freshwater Emergent Wetland (PEM1A/C)	0.69
Total	10.8

Bassett Creek, is listed as an impaired stream on the Minnesota Pollution Control Agency (MPCA) 2020 Impaired Wates 303(d) list. Two waterbodies within 1-mile of the Project area are listed by the MPCA as impaired: Sweeney Lake (PWI #27003501) and Wirth Lake (PWI #27003700).

Bassett Creek has been listed for impairments three times; for fish bioassessments in 2004, fecal coliform in 2008, and chloride in 2010 (MPCA AUID #07010206). Bassett Creek begins 3.96 miles west of the Project area at the outlet of Medicine Lake (PWI #27010400), an MPCA-listed impaired waterbody. A confluence of Bassett Creek and an unnamed, impaired creek (known as the North Branch of Bassett Creek, AUID #07010206-552) is located 1.64 miles northwest of the Project area. The source of the unnamed creek is Northwood Lake (PWI #27064600), which is identified by the MPCA as an impaired lake.

Sweeney Lake is located 0.47 miles west of the Project area and is identified as an impaired lake on the 2020 Impaired Waters list. The lake was listed as impaired in 2004 for nutrient impacts on aquatic recreation and in 2014 for chloride. Bassett Creek is hydrologically connected to Sweeney Lake through an unnamed stream (known as the Sweeney Branch of Bassett Creek AUID #07010206-736) and the Rapids (PWI #27065000) located 0.29 miles north of the Project area.

Wirth Lake (PWI #27003700), located 0.37 miles south of the Project area, is identified as an impaired lake on the 2020 Impaired Waters list. The lake was listed as impaired in 1998 for mercury in fish tissue and in 2016 for chloride. Wirth Lake is hydrologically connected to Bassett Creek downstream of the Project area.

The Project area is located within the 100-year and 500-year FEMA flood zones, which characterizes areas that experience inundation during 1-percent-annual-chance floods and 0.2-percent-annual-chance floods. These areas, referred to as the 100-year floodplain and 500-year floodplain, have a 1-percent and 0.2-percent chance of flooding during a given year.

Barr Engineering Co. (Barr) completed a Level I Desktop Wetland Determination Review for the Main Stem of Bassett Creek in Theodore Wirth Park in December 2019. The desktop wetland determination used previously-approved wetland delineations completed in the Project area by Barr in 2011 and SEH, Inc in 2016. The wetland determination identified the entire wetland area as one wetland complex due to the area's hydrological connectivity with Bassett Creek. The 9.91-acre wetland complex is composed of riverine (RUBG), floodplain forest (PFOA), shrub-carr (PSSB/C), shallow marsh (PEMC), and wet meadow (PEMB) wetland types. A technical evaluation panel (TEP) determined that the wetland areas delineated in 2011 and 2016 appear consistent with the types and boundaries as evaluated in the field. The TEP approved the wetland delineation and classification on January 29, 2020.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

The Project area is located above the St. Peter Aquifer and has a depth to water table of 0 to 30 feet, and no springs or seeps were identified within the Project area. The Project area is not located within a Minnesota Department of Health (MDH) Wellhead Protection Area. Following a review of the Minnesota County Well Index database (Minnesota Geological Survey 2019), no wells were identified within the Project area; however, two wells were found within 500 feet of the Project area. Details regarding the Unique Well ID Numbers, location, depth, and primary functions are detailed below.

- ID 482944: Irrigation well, 368 feet deep, located 480 feet west of the Project area.
- ID 1000004662: Domestic well, 65 feet deep, located 485 feet northeast of the Project area.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater – For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

The Project would not produce or treat sanitary, municipal/domestic, or industrial wastewater.

ii. Stormwater – Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

The Main Stem of Bassett Creek receives stormwater runoff from the surrounding lands, Sweeney Lake, and an unnamed waterbody (known as South Rice Pond, PWI #27064500). Stormwater received by Sweeney Lake flows through an unnamed creek (known as the Sweeney Branch of Bassett Creek, AUID #07010206-736) into the Rapids (PWI #27065000), which drains into Bassett Creek approximately 0.28 miles north of the Project area. Downstream of the Project area, Bassett Creek flows through Bassetts Pond (PWI #27003600) and into the Mississippi River through the Bassett Creek Tunnel. In large storm

events (e.g., the 100-year 24-hour rainfall event), some overflows from Bassett Creek flow into the Mississippi River through the Old Bassett Creek Tunnel.

Prior to construction activities, rock entrances would be installed to minimize soil disturbance from vehicles and equipment. The excavated soils would require landfill disposal due to high levels of contaminants in the sediment, and temporary soil stockpiles may be necessary to dry soils prior to transportation. Soil stockpiles would be stabilized using one or more of the following methods: bio logs, silt fences, erosion control blankets, preservation of mature vegetation, mulch, vegetative slash, or other appropriate cover materials. Additional bio logs, silt fences, and erosional control blankets would be used, at the contractor's discretion, to minimize soil erosion from construction activities. Following the completion of all construction activities, the Project area would be restored by reestablishing native vegetative communities through seeding native vegetation, mulching, and installing erosion control blankets.

iii. Water appropriation – Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

The Project would require an MDNR Temporary Water Appropriations General Permit No. 1997-0005 for construction dewatering of the lagoons prior to dredging activities, to be obtained by the Contractor. Per guidance from the MDNR, the Project does not require a MDNR Water Appropriations Permit. No well abandonment will occur because of the Project.

Temporary impacts to aquatic resources in the littoral zone of the lagoons is anticipated from dewatering activities. Aquatic biota may be transported along with drained water, and overwintering habitat for species, primarily fish and turtles, would be reduced due to the decrease in water levels. Dewatering may expose macrophytes located in the littoral zone to winter conditions, causing a potential increase in mortality.

iv. Surface Waters

a) Wetlands – Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

The Project would mechanically dredge 6.9 acres of Bassett Creek at Lagoons D, E, and F (**Figure 6**). Dredging activities would occur in the winter when low water levels and flow are anticipated. All three lagoons will be dredged to a final depth of 6 feet, resulting in improved water quality, aquatic habitat, and increased floodwater storage.

Methods for dewatering and control of water during construction will be chosen by the contractor and approved by the engineer. We anticipate the contractor would utilize a combination of temporary earthen dams, temporary bypass channels or piping, or bypass pumping. Dredging activities can be performed either in the wet (with standing water), or by removing all water from the dredging work area.

The Project would install approximately 30 CY of riprap on the right bank between Theodore Wirth Parkway and Lagoon E to repair an existing eroded riprap area. The Project would also install 100 linear feet of natural stabilization methods along the left bank of Lagoon D to repair the eroded banks.

The Project may require tree removal for equipment access to each site, but tree removals would be avoided if possible. Trees, shrubs, and any additional vegetation located on the sediment islands will be removed during construction activities. The project area is primarily dominated by invasive and undesirable trees and shrubs, such as common buckthorn (*Rhamnus cathartica*) and Siberian elm (*Ulmus pumila*).

In summary, the Project would result in 6.9 acres of temporary wetland impacts from dredging activities and less than 0.01 acres of permanent wetland impacts from the placement of riprap. A Joint Permit Application detailing Project related wetland impacts will be submitted to the USACE and Local Government Unit (LGU) for approval under the Clean Water Act and Wetland Conservation Act.

A Work in Public Waters permit application will be submitted to the DNR for the wetland impacts located below the Ordinary High Water Level (OHWL) and a Temporary Water Appropriations Permit will be submitted to the DNR for dewatering purposes.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

The Project would temporarily impact Bassett Creek and Lagoons D, E, and F, primarily by an increase in turbidity during construction activities. The installation of 30 CY of riprap and 100 linear feet of natural stabilization structures below the top of bank would minimize soil erosion along the banks. Appropriate BMPs would be implemented to minimize soil erosion and sediment transportation downstream from each site (see Appendix A for BMP details).

Bassett Creek may be used by the public for aquatic recreation activities. While the creek is not easily navigable by motorized watercraft, canoes and kayaks can navigate the creek in areas of adequate water depth. Construction activities would occur in the winter when weather conditions and potential freezing of the creek will limit boating opportunities. Therefore, it is anticipated that the Project would not impact recreational activities on Bassett Creek.

12. Contamination/Hazardous Materials/Wastes

a. Pre-project site conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

The MPCA's What's in My Neighborhood database was reviewed to determine if sites with regulatory listings for contamination such as dumps, landfills, storage tanks, or hazardous liquids are located within or adjacent to the Project area.

No contamination sites were identified within the Project area. The nearest site, an inactive petroleum remediation leak site, is located 0.02 mile west of the Project area at the Theodore Wirth Golf Course (**Figure 7**). In addition to this site, one Brownfields investigation and clean-up site, one inactive tank, three active construction stormwater sites, one inactive multiple activities site (tank and construction stormwater), and another inactive petroleum remediation leak site were identified within a quarter mile of the Project area, as shown in **Figure 7**.

Sediment sampling to test for potential contaminants was completed for all 3 lagoons in the Fall of 2019. As indicated above in EAW item #6, results indicate that the sediment removed from the lagoons is not suitable for off-site reuse under MPCA's Best Management Practices for the Off-Site Reuse of Unregulated Fill document due to concentrations of PAHs as BaP equivalents and DRO (MPCA, 2012). In addition, BaP equivalents are above the MPCA Industrial SRV, indicating the sediments are not suitable for reuse at other commercial or industrial properties. Based on the sediment sampling results and MPCA guidelines, the dredged material will require landfill disposal. If required, the dredged material would be stockpiled and allowed to dewater prior to hauling. Once selected, the contractor would be responsible for locating a suitable landfill for disposal of the dredged material.

b. Project related generation/storage of solid wastes – Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

Dredging in the three lagoons is expected to result in removal of approximately 39,600 yards of accumulated sediment. As described in the previous section, testing confirmed that the dredged sediment is not suitable for off-site reuse. Proper disposal of the generated materials will be the contractor's responsibility, in accordance with local and state requirements.

c. Project related use/storage of hazardous materials – Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground

tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

Hazardous material storage would include secondary containment of fuels during construction of the Project. Fuels, oils, lubricants, and other materials typically used by construction equipment would be used during construction. No other chemicals or hazardous materials would be needed for or generated by the Project.

Refueling spills and equipment failures, such as a broken hydraulic line, could introduce contaminants into soil and surface waters during construction. A spill could result in potentially adverse effects to on-site soils and surface waters. However, the amounts of fuel and other lubricants and oils would be limited to that needed by the equipment onsite. Supplies and equipment needed to quickly limit any contamination would also be located onsite.

To minimize the likelihood of potential spills and leaks of petroleum and hydraulic fluids during project construction, equipment would be inspected daily for leaks and petroleum contamination, fuels for construction would be stored at staging areas in upland locations, and equipment refueling and maintenance would be performed in locations away from the three lagoons. In addition, the contractor would be required to use double-walled tanks or secondary containment for single-walled tanks used to store petroleum products onsite. Any bulk lubricants would also be stored with secondary containment protection. All petroleum and lubricant storage containers would be inspected on a weekly basis and the inspections would be documented.

d. Project related generation/storage of hazardous wastes – Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

The Project is not anticipated to generate any hazardous waste.

13. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

The MDNR, in collaboration with the U.S. Forest Service, developed an Ecological Classification System (ECS) for hierarchical mapping and classification of Minnesota land areas with similar native plant communities and other ecological features. Based on the ECS, the Project is located within the Big Woods Subsection of the Minnesota and Northeast Iowa Morainal Section of the Eastern Broadleaf Forest Province (MDNR 2021). The dominant landscape feature in the Big Woods Subsection is circular, level topped hills bounded by smooth side slopes. Broad level areas between the hills are interspersed with closed depressions containing lakes and peat bogs. Pre-settlement vegetation primarily consisted of deciduous forest comprising northern red oak (*Quercus rubra*), sugar maple (*Acer saccharum*), basswood (*Tilia americana*), and American elm (*Ulmus americana*). At present, the majority of the Big Woods subsection is cropland, with approximately 10 to 15 percent comprising upland forest or wetland (MDNR 2021).

The lagoons are located in Theodore Wirth Park, along the Main Stem of Bassett Creek. The land adjacent to the lagoons consists of open grassy areas used for golf and other recreation activities and wetland communities. Just east of the Project area is a highly developed residential area, with limited habitat available. The aquatic pond/lagoon habitat, wetlands, and wooded uplands provide suitable habitat for fish, turtles, amphibians, such as frogs, toads, and salamanders, birds, such as bald eagles, hawks, blue heron, and wood ducks and perching birds, and mammals, such as fox, deer, squirrels, beaver, and muskrats.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online tool was queried on September 14, 2021 to identify federally listed species that could potentially be present in the vicinity of the Project area. The IPaC query identified three species as potentially being present in the vicinity of the Project area; these include the federally endangered (state watchlist) rusty-patched bumble bee (*Bombus affinis*), the federally threatened (state special concern) northern long-eared bat (*Myotis septentrionalis*),

and the federal candidate monarch butterfly (*Danaus plexippus*) (Appendix B). No designated critical habitat is present within the vicinity of the Project area.

Rusty-patched bumble bees inhabit grasslands with flowering plants that provide nectar and pollen, nesting sites (underground and abandoned rodent cavities or clumps of grasses), and overwintering sites for hibernating queens (undisturbed soil) (USFWS 2019). The Project area is located within the USFWS rusty-patched bumble bee designated High Potential Zone; this zone represents areas where rusty-patched bumble bees and suitable habitat are likely to be present (USFWS 2021). According to the MDNR Minnesota Natural Heritage Information System (NHIS) database (Barr License Agreement LA-986), rusty-patched bumble bees have been documented within one mile of the Project area. Suitable habitat for rusty-patched bumble bees is present in the vicinity of the Project area; however, not in the lagoons, where the dredging would occur.

The northern long-eared bat inhabits caves, mines, and forests (MDNR 2018a). Suitable forest habitat for northern long-eared bats is present in the Project area. According to the MDNR, the nearest hibernacula is over 5 miles southeast of the Project area and no maternity roost trees have been identified within the vicinity of the Project area (MDNR 2021a).

Due to its decline from habitat loss and fragmentation, in December 2020, the USFWS assigned the monarch butterfly a candidate for listing under the Endangered Species Act (ESA); however, candidate species are not protected under the ESA. The monarch butterfly inhabits fields and parks where native flowering plants, including milkweed (*Asclepias* spp.) which is required for breeding, are common (MDNR 2021b). Although suitable habitat for monarch butterflies is present in the vicinity of the Project area, Project activities would primarily occur within the lagoons, where suitable habitat for monarchs is not present.

The MDNR's NHIS database was reviewed in September 2021 to determine if any additional state-listed rare species have been documented within the vicinity of the Project area. The NHIS database does not identify any rare species within the Project area. However, the NHIS database indicates that in addition to the federally endangered and state watchlist rusty-patched bumble bee, the state threatened Blanding's turtle (*Emydoidea blandingii*) has also been documented within one mile of the Project area.

The Blanding's turtle inhabits wetland complexes and adjacent sandy uplands, with preferred habitat consisting of calm shallow waters, including wetlands associated with rivers and streams with rich aquatic vegetation (MDNR 2018b). Suitable habitat for Blanding's turtles is present within the Project area.

No Minnesota Biological Survey (MBS) native plant communities, Sites of Biodiversity Significance (SBS), or MDNR Scientific and Natural Areas (SNAs) are present within the vicinity of the Project area.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

The Project may have minor temporary adverse impacts on terrestrial wildlife in the vicinity of the Project area. Temporary impacts to terrestrial wildlife may occur during construction activities, which would result in increased noise and human activity in the vicinity of the Project area. Many species, even those accustomed to human proximity, would likely temporarily abandon habitats near the Project area.

Any tree clearing that would occur for site access or dredging would be minimal and would occur during the winter months. Due to the timing of tree clearing and the fact that no hibernacula or maternity roost trees are known to occur within the vicinity of the Project area, no impacts to the northern long-eared bat are anticipated from the Project.

The Project could have temporary and permanent impacts on aquatic biota inhabiting the three lagoons. During dredging activities, it is anticipated that the more mobile organisms would relocate to adjacent aquatic habitats, but that mortality of the more sessile aquatic organisms could occur if they reside within the areas of active dredging. Ultimately, it is anticipated that the Project would improve aquatic habitat through the creation of added depth that would improve survivability of fish and other aquatic species through the winter months.

Impacts to rusty-patched bumble bees and monarch butterflies are not anticipated given that Project activities would occur within the lagoons, where suitable habitat for these species is not present. In addition, dredging would occur during the winter months when neither species is active.

Depending upon season, active or hibernating Blanding's turtles may be present in the Project area. Blanding's turtles could potentially be directly impacted by the Project during dredging activities should they be hibernating in the immediate dredging area.

No MBS native plant communities, SBS, or MDNR SNAs are present within the Project area, therefore impacts to these resources are not anticipated.

Barr contacted Lisa Joyal, the Environmental Review Coordinator at the MDNR, on October 13, 2021 to report the results of the NHIS database review and to request MDNR concurrence on potential effects on state listed species and rare features. As of the publication of this EAW, no response has been received.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

As described above in EAW Item 11B(ii), erosion and sediment control BMPs would be installed throughout the Project area to minimize potential impacts to water quality.

Because the Project area is part of a stream, exclusion fencing around the perimeter of the Project area to prevent Blanding's turtles from hibernating in the lagoons is not feasible. However, potential impacts to Blanding's turtles could be minimized by making all contractors aware of the possibility of Blanding's turtles in the area and providing them a flyer with information on the species and what to do if one is observed.

Although no maternity roost trees have been identified in the Project area, potential impacts to northern long-eared bats would be minimized by avoiding tree clearing during the pup season (June 1 to July 31) per the USFWS 4(d) rule.

To minimize the spread of non-native invasive species, construction equipment would be cleaned prior to arriving on site. Contractors would comply with Minnesota regulations regarding the spread of aquatic invasive species (MDNR 2021). Once the Project is complete and seeded with the selected seed mix, the MPRB would monitor the Project area and would remove, spray, or mow any undesirable vegetation, such as non-native invasive species.

No dredging would occur between March 15 and June 15 to avoid the primary months for fish spawning and migration.

No impacts are anticipated to other federal or state-listed species or rare communities; as such, no additional avoidance or minimization measures are proposed specific to these natural resources.

14. Historic Properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project

construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A request for data from the Minnesota State Historic Preservation Office (SHPO) was conducted in December of 2019 to identify known historic structures and archaeological sites within 1 mile of the Project area. According to the data SHPO provided, there are 461 historic structure records and 7 archaeological site records located within 1 mile of the Project area. The historic records largely consist of residential buildings located in the adjacent neighborhood east of the Project area. No historic or archaeological records are identified within or immediately adjacent to the Project area. The Project would not impact any previously recorded historic structures or archaeological sites.

15. Visual

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The Project would occur within Theodore Wirth Regional Park in a natural/urban setting containing diverse features such as lakes, woodlands, prairies, and views of downtown Minneapolis. The Project is located adjacent to a residential neighborhood and multiple roadways.

Trees, shrubs, and any additional vegetation located on the sediment islands will be removed during construction activities. Additional tree removals may be required for construction access. Tree removals may create a slight visual impact to the viewshed along the Main Stem of Bassett Creek. However, as the trees planned for removal are considered invasive and/or undesirable (buckthorn, green ash, and Siberian elm), the viewshed of the Main Stem of Bassett Creek would likely be improved. Additionally, the viewshed would temporarily be disrupted due to the presence of construction equipment and materials staging. However, this visual impact would be temporary in nature and would not affect the permanent viewshed of Lagoons D, E, and F along the Main Stem of Bassett Creek and the surrounding landscape.

16. Air

a. Stationary source emissions – Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria.

Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

Not applicable – no stationary source emissions would be created by the Project.

b. Vehicle emissions – Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

The Project would result in temporary, localized air-quality impacts due to emissions from construction vehicles during construction and restoration activities. These activities are expected to last 8 months, with re-vegetation activities potentially extending into the following growing season. Emissions from the powered equipment would be minor and are expected to have an overall negligible impact on air quality.

c. Construction traffic related to the delivery of project materials and the hauling off-site of excess soil would temporarily increase traffic during construction. To minimize vehicle emissions. Dust and odors – Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

After construction, the Project is not expected to generate dust. However, during construction the proposed project would generate limited amounts of dust because of site preparation. No impacts to quality of life are anticipated as any fugitive dust emissions from construction activities would be minimized through control measures.

The Project is anticipated to generate odors from excavated sediment during dredging activities and construction vehicle fumes. The generated odors are expected to be localized around the Project area and only last the duration of dredging activities.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

The existing noise surrounding the Project area is a combination of typical suburban and natural settings. The Project is located within Theodore Wirth Regional Park, with suburban neighborhoods located adjacent to the eastern boundary of the Project area. Noise in the surrounding area is primarily from traffic on roadways and, periodically, trains on the BNSF railroad along the eastern boundary of the Project area.

Construction noise is expected to be limited to the noise created by construction equipment and staff and contractors accessing the Project area. The equipment associated with the Project is anticipated to include earthmoving equipment (loaders, excavators, etc.), chainsaws, and trucks hauling material (dredged sediment, etc.) to and from the Project area. Most of the noise generated by the Project would likely occur during dredging activities in the winter months.

No change in long-term noise levels is expected after the completion of Project activities.

18. Transportation

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

There are no parking lots located within the Project area; however, the parking lot for the Theodore Wirth Golf Course is located west of the Project area. This municipal course is operated by MPRB and the parking lot may be used as a staging area for equipment and personal vehicle parking for staff and contractors.

Theodore Wirth Parkway runs through the northern section of the Project area between Lagoons F and E, and crosses Bassett Creek north of the Theodore Wirth Golf Course parking lot. The Minnesota Department of Transportation (MnDOT) classifies this roadway as a major collector serving approximately 4,300 vehicles per day (MnDOT 2017). Plymouth Avenue intersects the southern portion between Lagoons E and D, and crosses Bassett Creek along the eastern boundary of the Project area. This roadway is classified by MnDOT as a major collector that serves approximately 2,300 vehicles per day (MnDOT 2017). A BNSF railroad runs parallel to the eastern boundary of the Project area; therefore, equipment would not be able to access any site from east of the railroad.

The daily truck traffic would be dependent on the availability of the contractor's equipment and detailed work schedule. It is anticipated that the daily truck traffic would include a

minimum of 20 trucks hauling three loads of sediment per day, with up to 40 trucks hauling three loads of sediment per day. This traffic may begin as early as 7:00 am and would likely end in the late afternoon or evening, depending on light availability. Commercial vehicles, other than hauling trucks, may periodically access the Project area for various purposes throughout construction activities, but are not expected to be a consistent traffic source. Following the completion of construction activities, the Project area would be accessed as needed for monitoring and maintenance purposes. The Project-generated traffic is anticipated to be temporary and would cease following the completion of all construction activities.

The Project area is accessible by public transit, biking, or walking. There is one public transit location within 0.5 miles of the Project area and two transit routes that intersect the Project area along Plymouth Avenue. A bike lane is present along Plymouth Avenue, and the Grand Rounds Trail is located within the Project area. This trail is located to the east of Lagoon F and splits into two trails between Lagoons E and F, running the length of the Project on both the eastern and western boundaries. The Project would use the Grand Rounds Trail for equipment access to each site, which may require temporary closure of the trail to the public for safety purposes.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system.

If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 *(available at: http://www.dot.state.mn.us/accessmanagement/resources.html)* or a similar local guidance,

The Project is not anticipated to significantly impact local traffic flows around the Project area. Lagoons D and F would be accessed from the Grand Rounds Trail and would have minimal impact on vehicle traffic in the area. Lagoon E would be accessed from Theodore Wirth Parkway near the Theodore Wirth Archery Range. The traffic along the road may be briefly stopped for hauling trucks and equipment transportation but is not expected to significantly impact local traffic.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

The Project would temporarily increase traffic in the area surrounding the Project. All staff and contractors will be responsible to follow all pertinent traffic restrictions, speed limits, and load limits for the duration of construction activities. BMPs, such as rock pads, wash rocks, or equivalent systems, would be installed to reduce sediment transfer from vehicles and equipment to trails and roads in the surrounding area. The contractor will be responsible for street sweeping within 24 hours of sediment being tracked onto paved roads if the BMPs are not sufficient. Additional minimization or mitigation methods are not proposed due to the minimal level of impact expected from the Project.

19. Cumulative Potential Effects

(Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

The cumulative effects for the Project were assessed in the geographic area that includes portions of the watershed within several miles upstream and downstream of the three lagoons, as well as Theodore Wirth Park and adjacent developed areas within several blocks of the lagoons. It is anticipated that the Project would take approximately 6 months to complete. Projects that were recently completed within the last few years, are currently being constructed, or are in the planning stages, were considered in the cumulative effects analysis.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

Recent, current, or reasonably foreseeable future projects in the geographic assessment area are limited and include the projects summarized below.

The City of Golden Valley repaved Theodore Wirth Parkway; this project was completed in July 2021.

In 2017, the MPRB made improvements to the Eloise Butler Wildflower Garden, located in Theodore Wirth Regional Park. In 2020, funding was allocated for implementation of the Theodore Wirth Regional Park master plan (MPRB 2015); additional funding for this is planned for 2023.

The BCWMC has completed or is planning to complete several CIP projects in the vicinity of the Project, as summarized Appendix C (BCWMC 2021).

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

The cumulative effects analysis for the Project assesses both negative and beneficial potential environmental effects.

Negative Effects

For the most part, the potential for negative effects from the Project would be temporary, lasting only the duration of construction activities. These effects are discussed in detail in resource-specific sections above. Since these effects would be temporary and localized in nature, they are not likely to interact with the projects identified above. The removal of some trees would represent a permanent impact; however this impact is expected to be minimal and is not anticipated to interact with other projects in the geographic area or timeframe to contribute to cumulative effects.

Beneficial Effects

As summarized above, the Project would reduce sediment loading to the Main Stem of Bassett Creek and improve downstream water quality by restoring permanent pool storage in the three lagoons. As identified above, the BCWMC has completed or plans to complete several CIP projects focused on stormwater and water quality. These projects work in conjunction with this Project to provide stormwater and water quality benefits throughout the watershed. The improvements associated with this Project would complement the goal of protecting and enhancing water quality within Theodore Wirth Regional Park (MPRB 2015).

20. Other Potential Environmental Effects

If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

The proposed Project is not anticipated to cause any additional environmental effects beyond those addressed above.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature: _____ **Date:** _____

Marc Nevinski

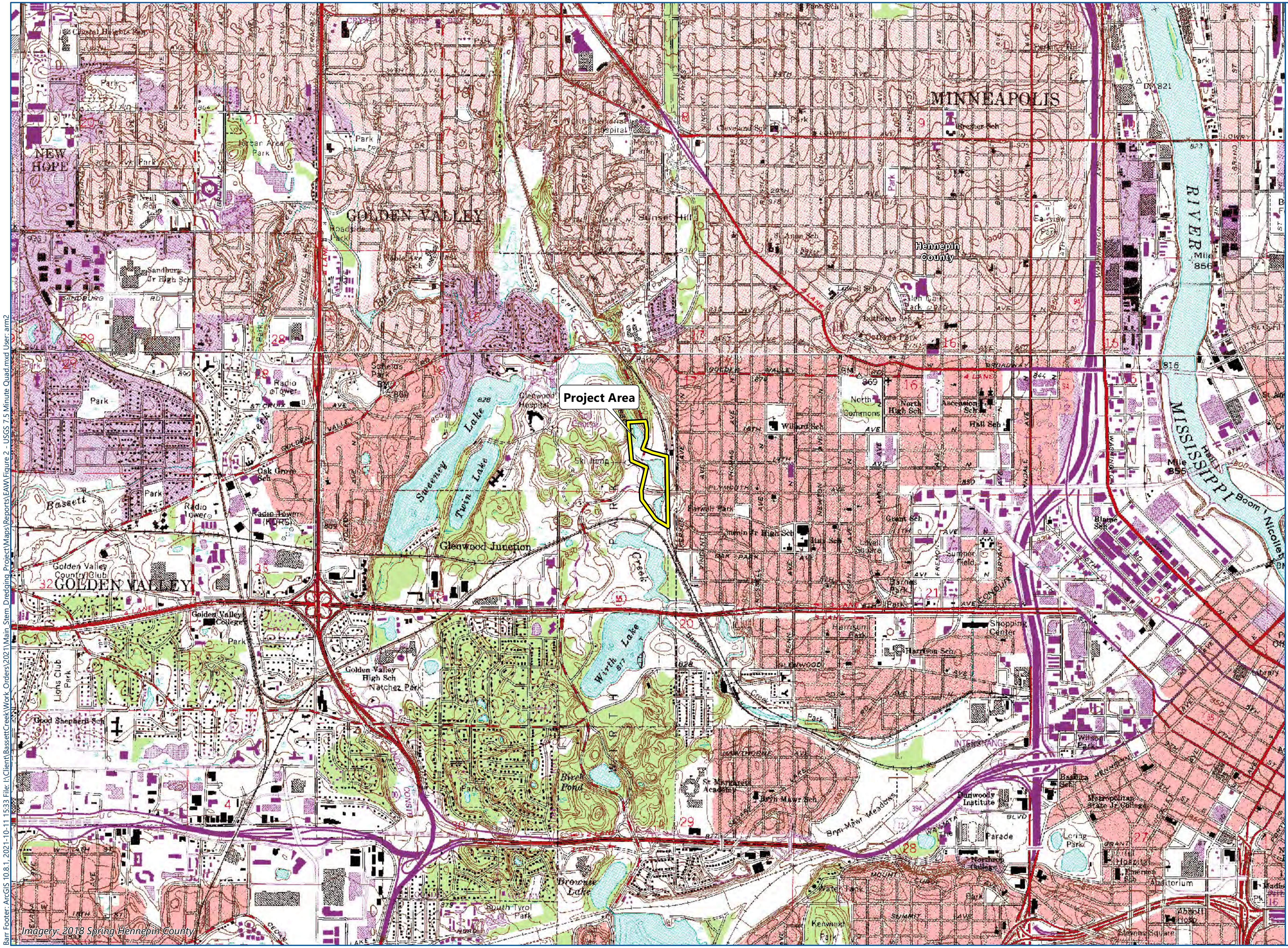
Title: Physical Development Director
City of Golden Valley

Figures

Barr Footer: ArcGIS 10.8.1, 2021-10-11 15:33 File: I:\Client\BassettCreek\Work_Orders\2021\Main_Stem_Dredging_Project\Maps\Reports\EAW\Figure 1 - Project Location.mxd User: am2

PROJECT LOCATION
Main Stem Lagoon
Dredging Project
Bassett Creek Watershed
Management Comission
Hennepin County, Minnesota

FIGURE 1



Project Area

0 1,000 2,000
Feet

USGS 7.5 MINUTE QUAD
Main Stem Lagoon
Dredging Project
Bassett Creek Watershed
Management Comission
Hennepin County, Minnesota

FIGURE 2

Lagoon F

Lagoon F Access Site

Bassett Creek

Lagoon E

Construction Entrance

Plymouth Ave

Lagoon D Site Access

Lagoon D

Theodore Wirth Pkwy

GOLDEN VALLEY

MINNEAPOLIS

16th Ave N

14th Ave N

12th Ave N

Plymouth Ave N

Xerxes Ave N

Washburn Ave N

Vincent Ave N

Upton Ave N

Farwell Ave

Imagery: 2018 Spring Hennepin County

Project Area
Dredging Area
Site Access
Sediment Controls
City Boundary
Surface Elevation Contours
5-Foot
1-Foot

N

0 125 250
Feet

BARR

Bassett Creek Watershed Management Commission

PROJECT OVERVIEW
Main Stem Lagoon
Dredging Project
Bassett Creek Watershed
Management Comission
Hennepin County, Minnesota

FIGURE 3

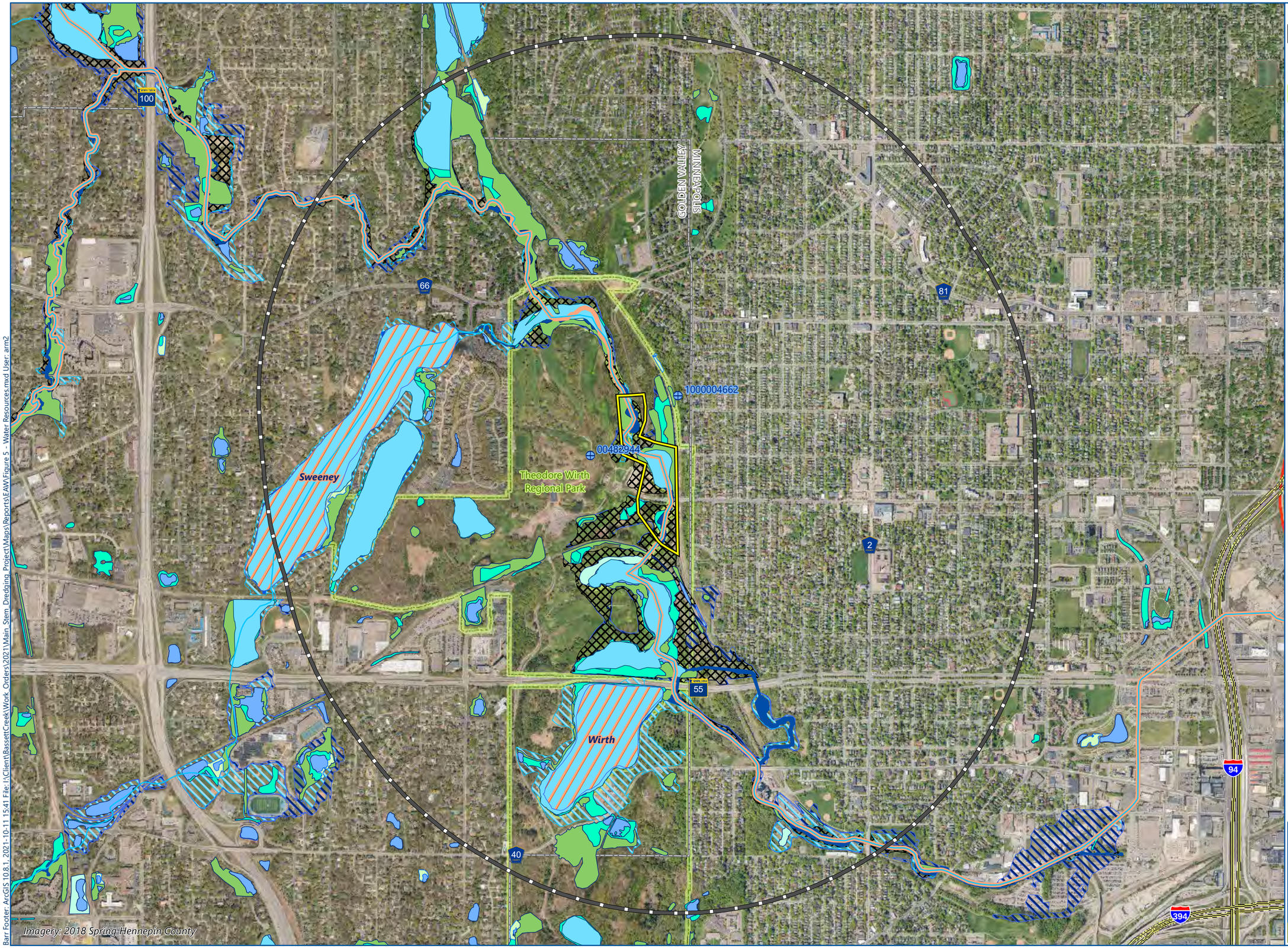
Barr Footer: ArcGIS 10.8.1, 2021-10-11 15:36 File: I:\Client\BassettCreek\Work_Orders\2021\Main_Stem_Dredging_Project\Maps\Reports\EAW\Figure 3 - Project Overview.mxd User: arm2

Barr Footer: ArcGIS 10.8.1, 2021-10-11 15:40 File: I:\Client\BassettCreek\Work_Orders\2021\Main_Stem_Dredging_Project\Maps\Report\EAW\Figure 4 - Land Cover.mxd User: arm2

BARR

LAND COVER
Main Stem Lagoon
Dredging Project
Bassett Creek Watershed
Management Comission
Hennepin County, Minnesota

FIGURE 4



Project Area
Project Area 1 Mile Buffer
City Boundary
Regional Park
Well - County Well Index
Impaired Streams (2018)
Impaired Lakes (2018)
Public Waters Inventory (PWI) Watercourses
Public Waters Inventory (PWI) Basins

National Wetlands Inventory
Freshwater Emergent Wetland
Freshwater Forested Wetland
Freshwater Pond
Freshwater Shrub Wetland
Freshwater Shrub/Emergent Wetland
Lake
Riverine

FEMA Floodplain
Floodway
100-Year Floodplain
500-Year Floodplain

N

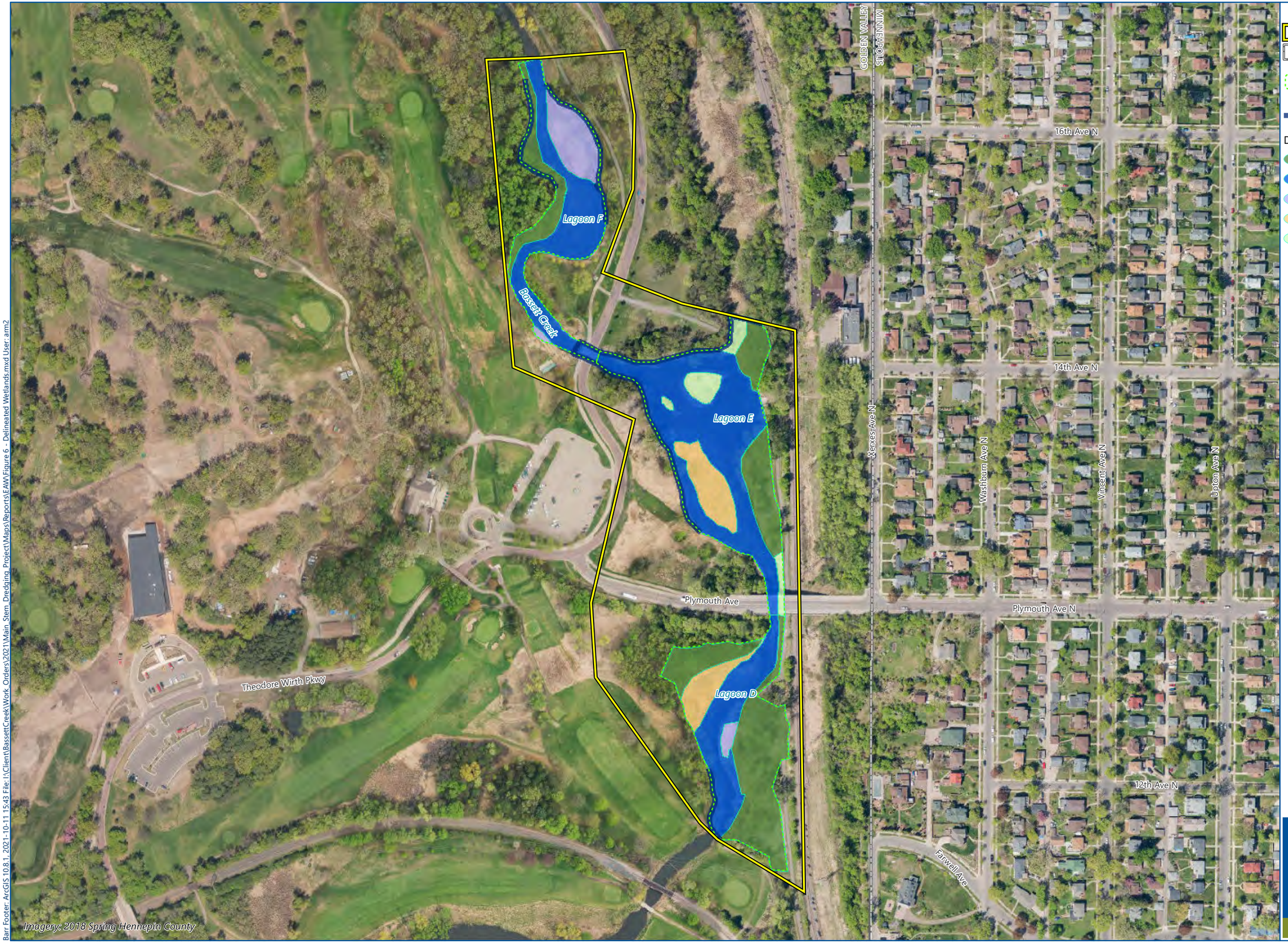
0 0.125 0.25
Miles

BARR

WATER RESOURCES
Main Stem Lagoon
Dredging Project
Bassett Creek Watershed
Management Comission
Hennepin County, Minnesota

FIGURE 5

Barr Footer: ArcGIS 10.8.1, 2021-10-11 15:41 File: J:\Client\BassettCreek\Work_Orders\2021\Main_Stem_Dredging_Project\Maps\Reports\EAW\Figure 5 - Water Resources.mxd User: arm2



Project Area
City Boundary
Previously Delineated Wetland Area
2019 Desktop Delineated Wetlands

Delineated Wetlands (Desktop, 2019)
- Floodplain forest
- Riverine
- Shallow marsh
- Shrub-carr
- Wet meadow

N

0 125 250
Feet

BARR

DELINEATED WETLANDS
Main Stem Lagoon
Dredging Project
Bassett Creek Watershed
Management Comission
Hennepin County, Minnesota

FIGURE 6

Barr Footer: ArcGIS 10.8.1, 2021-10-11 15:43 File: I:\Client\BassettCreek\Work_Orders\2021\Main_Stem_Dredging_Project\Maps\Reports\EAW\Figure 6 - Delineated Wetlands.mxd User: arm2

Project Area
Project Area 0.25 Mile Buffer
City Boundary
Regional Park
Creeks

What's in my Neighborhood (MPCA)

- Brownfields
- Construction Stormwater
- Hazardous Waste
- Tanks and Leaks
- Multiple Activities
- Petroleum Remediation

N

0 250 500

Feet

BARR

WHAT'S IN MY NEIGHBORHOOD
Main Stem Lagoon
Dredging Project
Bassett Creek Watershed
Management Comission
Hennepin County, Minnesota

FIGURE 7

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

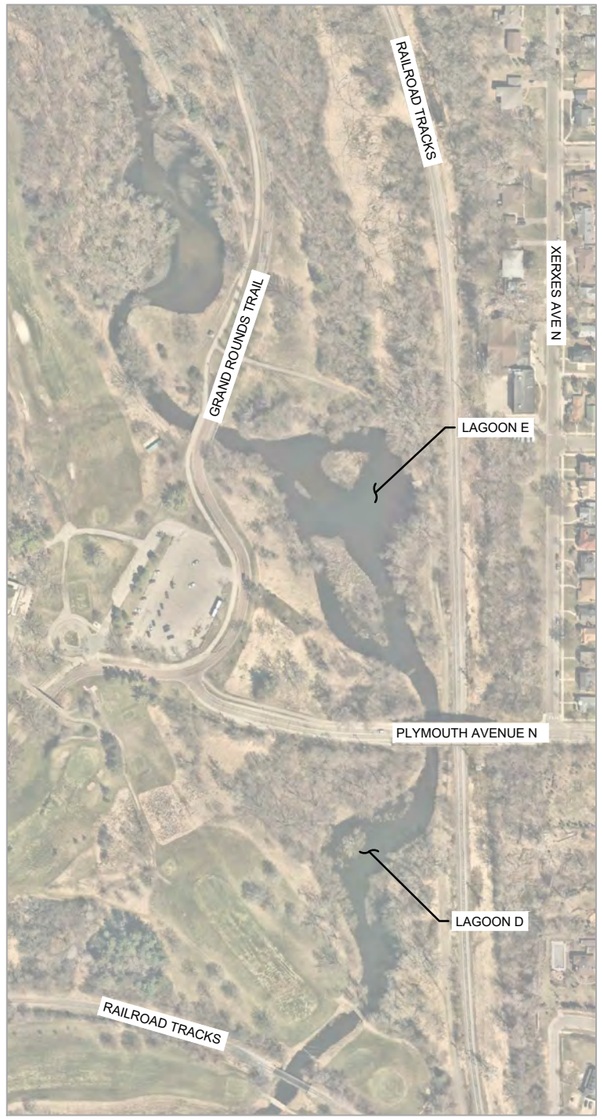
Barr Footer: ArcGIS 10.8.1, 2021-10-11 15:28 File: I:\Client\BassettCreek\Work_Orders\2021\Main_Stem_Dredging_Project\Maps\Reports\EAW\Figure 7 - Whats In My Neighborhood.mxd User: arm2

Appendix A

Site Plans

MAIN STEM LAGOON DREDGING
BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MINNESOTA COUNTY MAP



PROJECT LOCATION MAP

INDEX OF SHEETS

CONTACTS:

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WATER RESOURCES ENGINEER
BARR ENGINEERING CO.
PHONE: 952-842-3593
FAX: 952-832-2601
EMAIL: PBROCKAMP@BARR.COM

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

DATUM
HORIZONTAL: HENNEPIN COUNTY COORDINATES (FT) - NAD83, 2011
VERTICAL: NAVD88

DATE OF BATHYMETRIC SURVEY:
SEPTEMBER 2019

50% DESIGN
FOR REVIEW

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION
-	-	-	-	— —	-

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PRINTED NAME PATRICK E. BROCKAMP

SIGNATURE _____

DATE ____-____-____ LICENSE # 54931

AGENCY							
BID							
CONSTRUCTION							
RECORD							
RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

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Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277

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MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

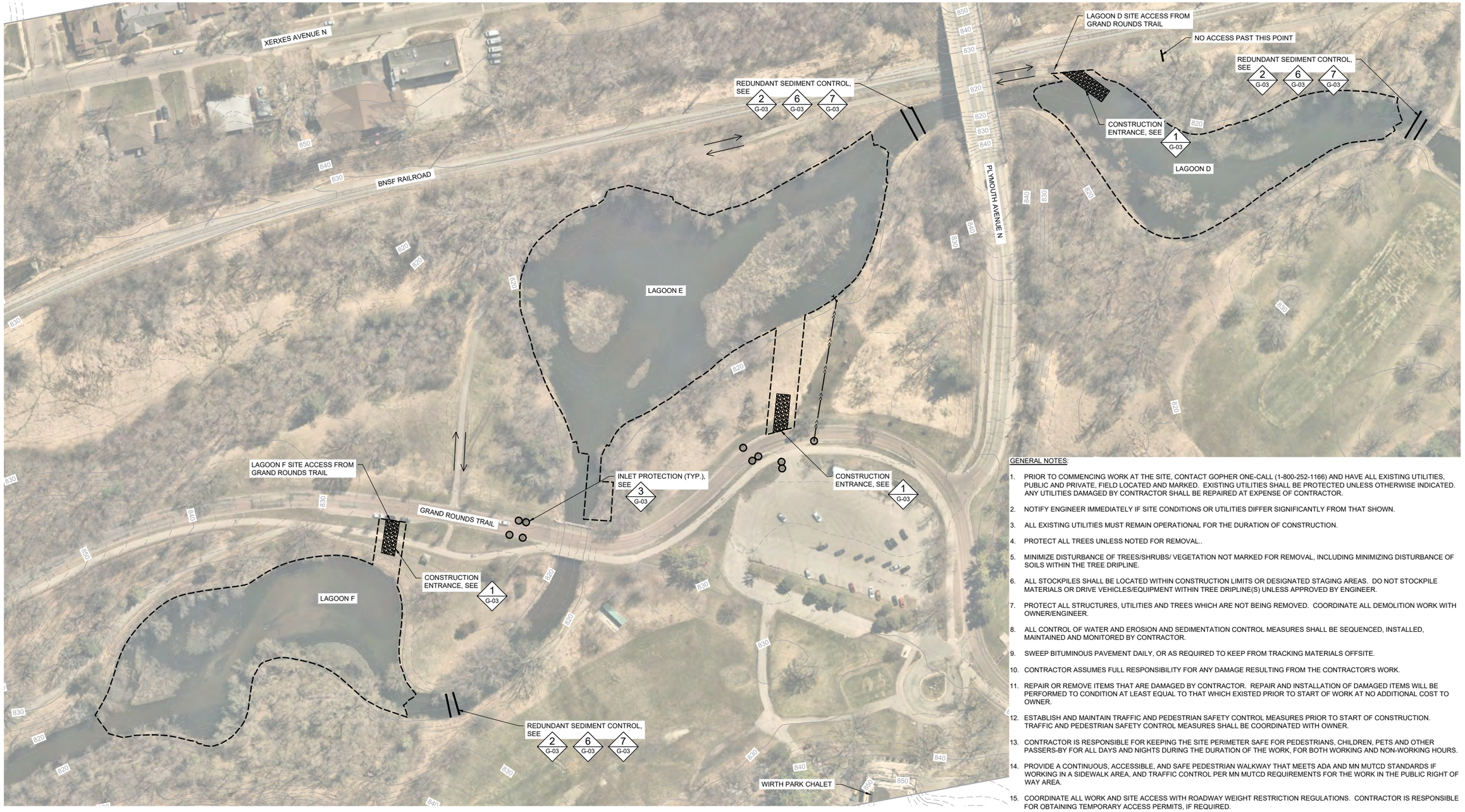
Scale	AS SHOWN
Date	06/07/2021
Drawn	ADB2
Checked	PEB
Designed	BARR
Approved	PEB

BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

PROJECT LOCATION AND SHEET INDEX

BARR PROJECT No. 23/27-1860.00
CLIENT PROJECT No.
DWG. No. G-01
REV. No. A



GENERAL NOTES:

1. PRIOR TO COMMENCING WORK AT THE SITE, CONTACT GOPHER ONE-CALL (1-800-252-1166) AND HAVE ALL EXISTING UTILITIES, PUBLIC AND PRIVATE, FIELD LOCATED AND MARKED. EXISTING UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE INDICATED. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED AT EXPENSE OF CONTRACTOR.
2. NOTIFY ENGINEER IMMEDIATELY IF SITE CONDITIONS OR UTILITIES DIFFER SIGNIFICANTLY FROM THAT SHOWN.
3. ALL EXISTING UTILITIES MUST REMAIN OPERATIONAL FOR THE DURATION OF CONSTRUCTION.
4. PROTECT ALL TREES UNLESS NOTED FOR REMOVAL..
5. MINIMIZE DISTURBANCE OF TREES/SHRUBS/ VEGETATION NOT MARKED FOR REMOVAL, INCLUDING MINIMIZING DISTURBANCE OF SOILS WITHIN THE TREE DRIPLINE.
6. ALL STOCKPILES SHALL BE LOCATED WITHIN CONSTRUCTION LIMITS OR DESIGNATED STAGING AREAS. DO NOT STOCKPILE MATERIALS OR DRIVE VEHICLES/EQUIPMENT WITHIN TREE DRIPLINE(S) UNLESS APPROVED BY ENGINEER.
7. PROTECT ALL STRUCTURES, UTILITIES AND TREES WHICH ARE NOT BEING REMOVED. COORDINATE ALL DEMOLITION WORK WITH OWNER/ENGINEER.
8. ALL CONTROL OF WATER AND EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE SEQUENCED, INSTALLED, MAINTAINED AND MONITORED BY CONTRACTOR.
9. SWEEP BITUMINOUS PAVEMENT DAILY, OR AS REQUIRED TO KEEP FROM TRACKING MATERIALS OFFSITE.
10. CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ANY DAMAGE RESULTING FROM THE CONTRACTOR'S WORK.
11. REPAIR OR REMOVE ITEMS THAT ARE DAMAGED BY CONTRACTOR. REPAIR AND INSTALLATION OF DAMAGED ITEMS WILL BE PERFORMED TO CONDITION AT LEAST EQUAL TO THAT WHICH EXISTED PRIOR TO START OF WORK AT NO ADDITIONAL COST TO OWNER.
12. ESTABLISH AND MAINTAIN TRAFFIC AND PEDESTRIAN SAFETY CONTROL MEASURES PRIOR TO START OF CONSTRUCTION. TRAFFIC AND PEDESTRIAN SAFETY CONTROL MEASURES SHALL BE COORDINATED WITH OWNER.
13. CONTRACTOR IS RESPONSIBLE FOR KEEPING THE SITE PERIMETER SAFE FOR PEDESTRIANS, CHILDREN, PETS AND OTHER PASSERS-BY FOR ALL DAYS AND NIGHTS DURING THE DURATION OF THE WORK, FOR BOTH WORKING AND NON-WORKING HOURS.
14. PROVIDE A CONTINUOUS, ACCESSIBLE, AND SAFE PEDESTRIAN WALKWAY THAT MEETS ADA AND MN MUTCD STANDARDS IF WORKING IN A SIDEWALK AREA, AND TRAFFIC CONTROL PER MN MUTCD REQUIREMENTS FOR THE WORK IN THE PUBLIC RIGHT OF WAY AREA.
15. COORDINATE ALL WORK AND SITE ACCESS WITH ROADWAY WEIGHT RESTRICTION REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING TEMPORARY ACCESS PERMITS, IF REQUIRED.

1 PLAN: SITE ACCESS, REMOVALS, AND EROSION CONTROL PLAN

0 70 140
SCALE IN FEET

50% DESIGN FOR REVIEW

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION
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PRINTED NAME _____

SIGNATURE _____

DATE _____ - _____ LICENSE # _____ - _____

	A	B	C	0	1	2	3
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BID							
CONSTRUCTION							
RECORD							

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Fax: (952) 832-2601
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Minneapolis, Minnesota
Ph: 1-800-632-2277

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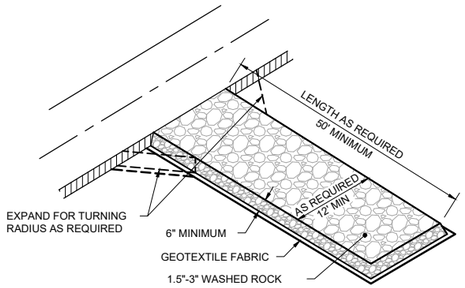
Date	06/07/2021
Drawn	ADB2
Checked	PEB
Designed	BARR
Approved	PEB

BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

SITE ACCESS, REMOVALS, AND EROSION CONTROL

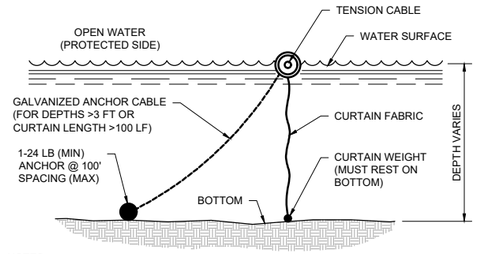
BARR PROJECT No. 23/27-1860.00
CLIENT PROJECT No.
DWG. No. G-02
REV. No. A



NOTES:

1. MAINTAIN ENTRANCE THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIR OR REPLACE AS REQUIRED TO PREVENT TRACKING OFFSITE.
2. REMOVE ENTRANCE IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.

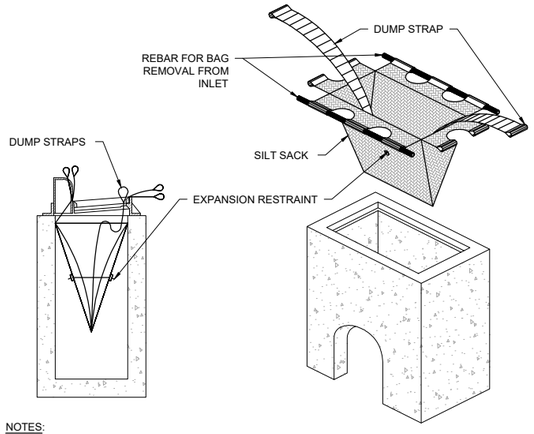
1 - DETAIL: CONSTRUCTION ENTRANCE - ROCK
NOT TO SCALE



NOTES:

1. INSTALL SILT CURTAIN PRIOR TO ANY CONSTRUCTION ACTIVITIES IN AREAS DRAINING TO OPEN WATER OR WORK IN WATER.
2. ANCHOR TENSION CABLE AT SHORE AT BOTH END WITH STEEL POSTS OF DIAMETER AND LENGTH SUFFICIENT TO PREVENT BENDING AND PULL-OUT.
3. ELIMINATE ANCHOR AND CABLE FOR WATER DEPTHS LESS THAN 3'-0" OR DISTANCE BETWEEN SHORE ANCHORS FOR TENSION CABLE OF LESS THAN 100'
4. CURTAIN WEIGHT SHALL BE HEAVY ENOUGH TO HOLD CURTAIN VERTICAL IN CURRENT AND WAVES TYPICAL FOR THE SITE.
5. SILT CURTAIN MATERIALS SHALL CONFORM TO MN/DOT SPECIFICATION 3887.
6. MAINTAIN SILT CURTAIN AND REPAIR OR REPLACE AS REQUIRED TO PREVENT DISCHARGE OF SEDIMENT TO PROTECTED WATER BODY.
7. REMOVE ANY ACCUMULATED SEDIMENT PRIOR TO REMOVAL OF SILT CURTAIN.
8. REMOVE SILT CURTAIN FOLLOWING SITE STABILIZATION OR AS DIRECTED BY ENGINEER.

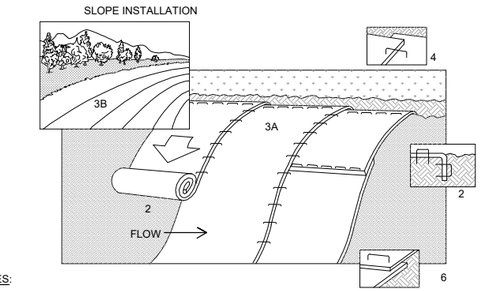
2 - DETAIL: FLOTATION SILT CURTAIN
NOT TO SCALE



NOTES:

1. INSTALL INLET PROTECTION PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED OR IMMEDIATELY FOLLOWING ANY CATCHBASIN INSTALLATION AND MAINTAIN THROUGHOUT THE CONSTRUCTION PERIOD.
2. MATERIALS SHALL BE SUFFICIENT TO ALLOW FLOW WHILE BLOCKING SEDIMENT. NO HOLES OR GAPS SHALL BE PRESENT IN/AROUND FILTER SACK.
3. CLEAN FILTER SACK AND REMOVE ACCUMULATED SEDIMENT AS REQUIRED TO ALLOW FLOW INTO THE CATCHBASIN AND PREVENT SEDIMENT FROM LEAVING THE DEVICE.
4. REMOVE DEVICE AND ANY ACCUMULATED SEDIMENT IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
5. INLET PROTECTION SHALL BE THE APPROPRIATE SIZE AND TYPE FOR THE STRUCTURE BEING PROTECTED.

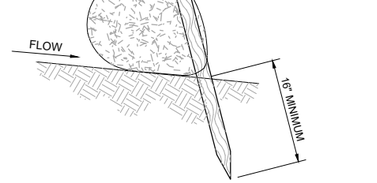
3 - DETAIL: INLET PROTECTION - FILTER SACK
NOT TO SCALE



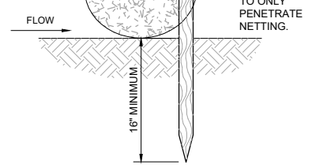
NOTES:

1. REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
2. PREPARE SOIL BY LOOSENING TOP 1-2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
3. BEGIN (A) AT THE TOP OF THE SLOPE AND ROLL THE BLANKETS DOWN OR (B) AT ONE END OF THE SLOPE AND ROLL THE BLANKETS HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.

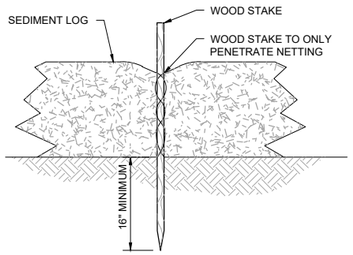
4 - DETAIL: EROSION CONTROL BLANKET - INSTALLATION
NOT TO SCALE



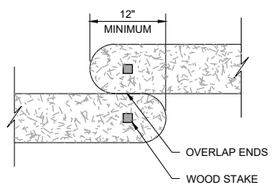
SIDE VIEW ON SLOPE



SIDE VIEW FLAT



FRONT VIEW

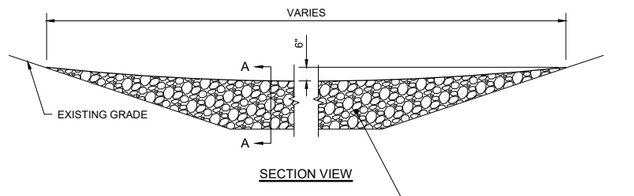


TOP VIEW

NOTES:

1. SEDIMENT LOG SHOULD BE INSTALLED ALONG CONTOURS (CONSTANT ELEVATION) AND NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
2. SEDIMENT LOG SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED - ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING 1/2 OF LOG HEIGHT.

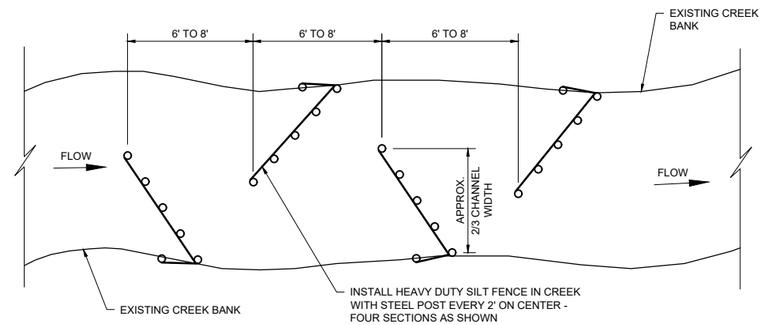
5 - DETAIL: EROSION LOG - STAKING
NOT TO SCALE



NOTES:

1. AGGREGATE SIZE MAY VARY AND DEPENDING ON CHANNEL/POND SIZE, FLOW, SEDIMENT LOAD OR OTHER SITE CONDITIONS. AGGREGATE USED SHOULD BE FREE OF FINE SEDIMENT PRIOR TO INSTALLATION.
2. CLEAN OR REPLACE WHEN SEDIMENT BUILD UP REACHES 1/2 OF THE DIKE HEIGHT. ALTERNATIVELY A SECOND ROCK FILTER DIKE MAY BE INSTALLED DOWNSTREAM OF THE EXISTING DIKE AT A SUITABLE DISTANCE.
3. MAINTAIN THROUGHOUT THE CONSTRUCTION PERIOD. ROCK AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.

6 - DETAIL: ROCK FILTER DIKE
NOT TO SCALE



NOTES:

1. IN-STREAM SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. NO HOLES OR GAPS SHALL BE PRESENT IN/UNDER SILT FENCE. WHEN SEDIMENT BUILD UP REACHES 1/3 OF FENCE HEIGHT
2. SILT FENCE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION, OR WHEN SEDIMENT BUILD UP REACHES 1/3 OF FENCE HEIGHT.
3. ACCUMULATED SEDIMENT SHALL BE DISPOSED OF AT AN UPLAND LOCATION ABOVE THE ORDINARY HIGH WATER ELEVATION (OR DISPOSED OF OFF SITE). THE DISPOSAL LOCATION SHALL BE STABILIZED WITH VEGETATION AND EROSION CONTROL MEASURES AS DIRECTED BY ENGINEER.

7 - DETAIL: SILT FENCE - IN STREAM
NOT TO SCALE

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FOR REVIEW

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AGENCY	—	—	—	—	—	—	—
BID	—	—	—	—	—	—	—
CONSTRUCTION	—	—	—	—	—	—	—
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Date	06/07/2021
Drawn	ADB2
Checked	PEB
Designed	BARR
Approved	PEB

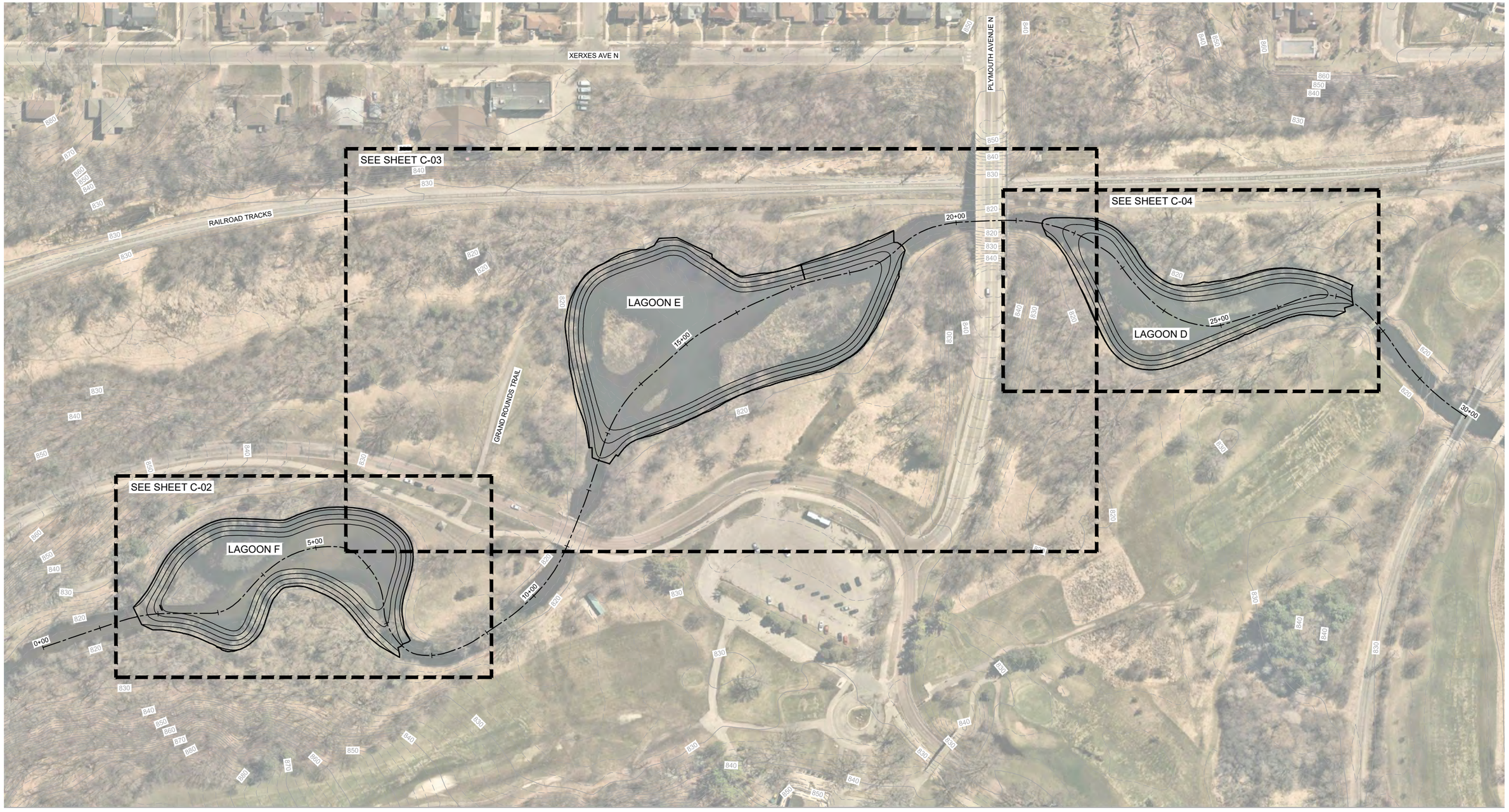
BASSETT CREEK WATERSHED

MANAGEMENT COMMISSION

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

SEDIMENT AND EROSION
CONTROL DETAILS

BARR PROJECT No.	23/27-1860.00
CLIENT PROJECT No.	
DWG. No.	G-03
REV. No.	A



1 / - PLAN: SITE PLAN DRAWING REFERENCE

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SCALE IN FEET

50% DESIGN FOR REVIEW

CADD USER: Patrick E. Brockamp FILE: M:\DESIGN\23271860.00\23271860_C-01.DWG PLOT SCALE: 1:2.5849 PLOT DATE: 10/1/2021 10:08 AM

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
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PRINTED NAME _____

SIGNATURE _____

DATE ____ . ____ . LICENSE # ____ . ____

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RECORD	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
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	DATE RELEASED							

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MINNEAPOLIS, MN 55435
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Fax: (952) 832-2601
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Scale	AS SHOWN
Date	06/07/2021
Drawn	ADB2
Checked	PEB
Designed	BARR
Approved	PEB

BASSETT CREEEK WATERSHED MANAGEMENT COMMISSION

GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

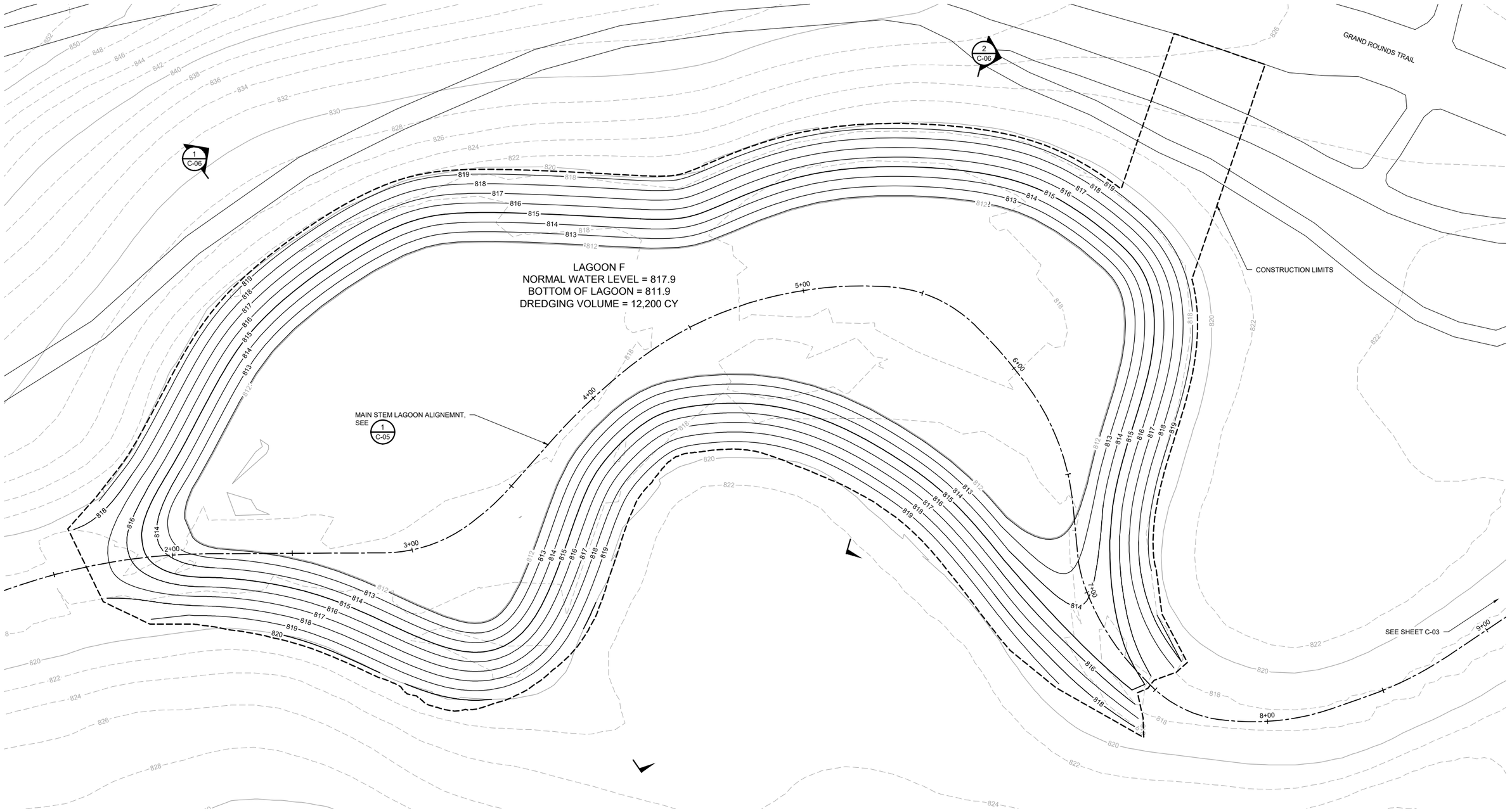
SITE PLAN DRAWING REFERENCE

BARR PROJECT No. 23/27-1860.00

CLIENT PROJECT No.

DWG. No. C-01

REV. No. A



1 PLAN: SITE PLAN - LAGOON F

0 20 40
SCALE IN FEET

50% DESIGN FOR REVIEW

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
-	-	-	-	— — -	

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PRINTED NAME _____

SIGNATURE _____

DATE _____ - _____ LICENSE # _____ - _____

AGENCY	—	—	—	—	—	—	—
BID	—	—	—	—	—	—	—
CONSTRUCTION	—	—	—	—	—	—	—
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BARR

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277

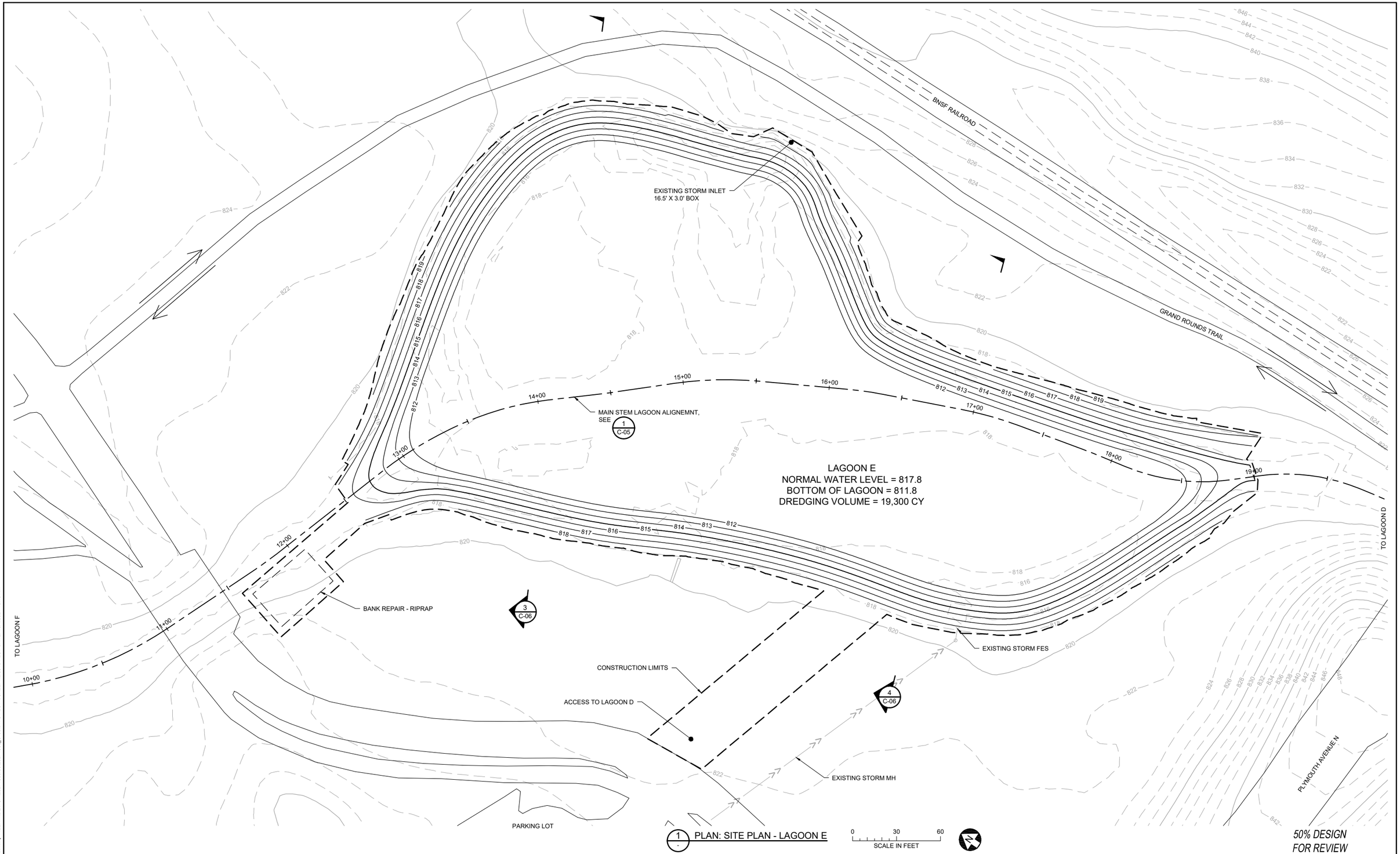
Scale	AS SHOWN
Date	06/07/2021
Drawn	ADB2
Checked	PEB
Designed	BARR
Approved	PEB

BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

SITE PLAN - LAGOON F

BARR PROJECT No. 23/27-1860.00
CLIENT PROJECT No.
DWG. No. C-02
REV. No. A



1 PLAN: SITE PLAN - LAGOON E

0 30 60
SCALE IN FEET

50% DESIGN FOR REVIEW

CADD USER: Patrick E. Brockamp FILE: M:\DESIGN\23271860.00\23271860_C-03.DWG PLOT SCALE: 1:2.5849 PLOT DATE: 10/1/2021 10:13 AM

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION
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CONSTRUCTION							
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	DATE RELEASED						

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Approved	PEB

BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

SITE PLAN - LAGOON E

BARR PROJECT No.	
23/27-1860.00	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-03	A

LAGOON D SITE ACCESS FROM GRAND ROUNDS TRAIL

NO ACCESS PAST THIS POINT

SEE SHEET C-03

21+00

22+00

23+00

24+00

25+00

26+00

27+00

MAIN STEM LAGOON ALIGNEMNT, SEE 1 / C-05

5 / C-06

6 / C-06

LAGOON D
NORMAL WATER LEVEL = 816.6
BOTTOM OF LAGOON = 810.6
DREDGING VOLUME = 8,100 CY

1 / - PLAN: SITE PLAN - LAGOON D

0 20 40
SCALE IN FEET

50% DRAFT FOR REVIEW

CADD USER: Patrick E. Brockamp FILE: M:\DESIGN\23271860.00\23271860_C-04.DWG PLOT SCALE: 1:2.5849 PLOT DATE: 10/1/2021 10:14 AM

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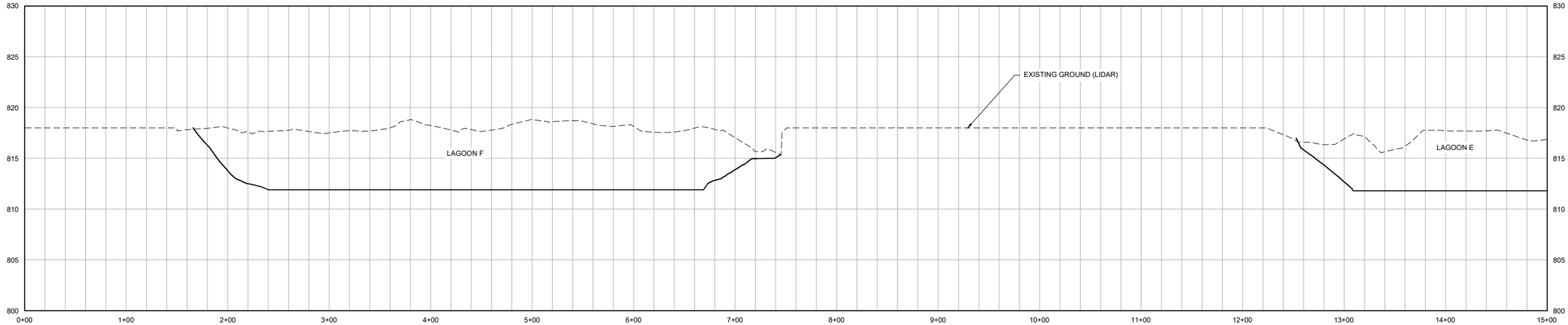
Designed	BARR
Approved	PEB

BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

SITE PLAN - LAGOON D

BARR PROJECT No.	
23/27-1860.00	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-04	A



1 - PROFILE: MAIN STEM LAGOON: 0+00 - 15+00

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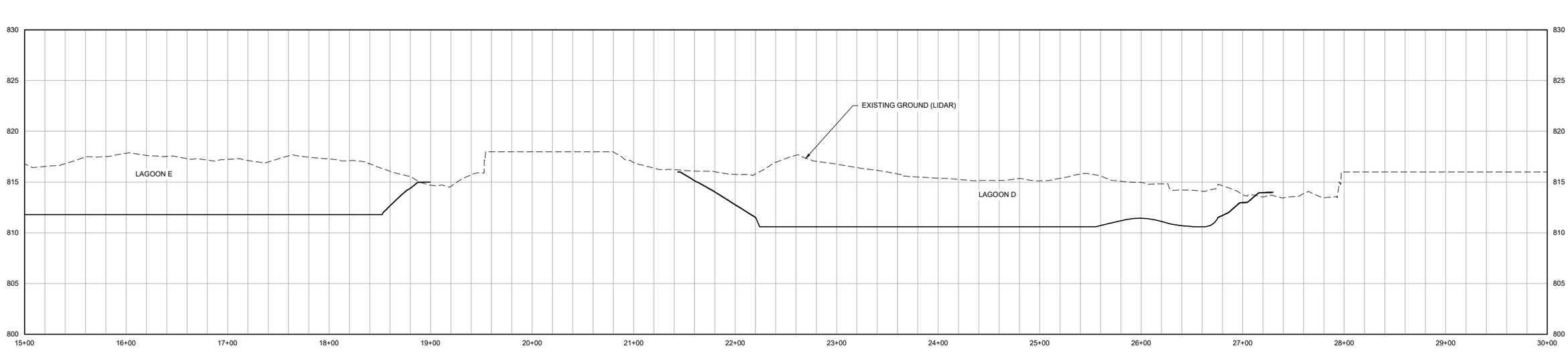
0 5 10 VERTICAL SCALE IN FEET



2 - PROFILE: MAIN STEM LAGOON: 15+00 - 30+00

0 50 100 HORIZONTAL SCALE IN FEET

0 5 10 VERTICAL SCALE IN FEET

50% DRAFT FOR REVIEW

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION
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SIGNATURE _____

DATE _____ - _____ - _____ LICENSE # _____ - _____

AGENCY	—	—	—	—	—	—	—
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BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

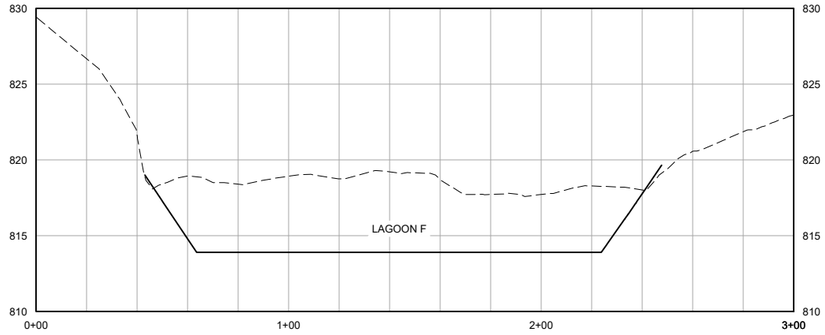
MAIN STEM LAGOON PROFILE

BARR PROJECT No. 23/27-1860.00

CLIENT PROJECT No.

DWG. No. C-05

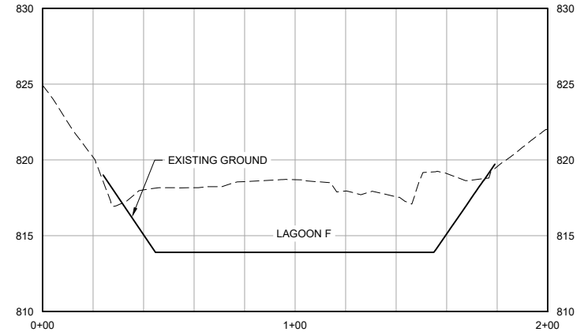
REV. No. A



1 - SECTION: LAGOON F DREDGING - 1

0 30 60 HORIZONTAL SCALE IN FEET

0 5 10 VERTICAL SCALE IN FEET



2 - SECTION: LAGOON F DREDGING - 2

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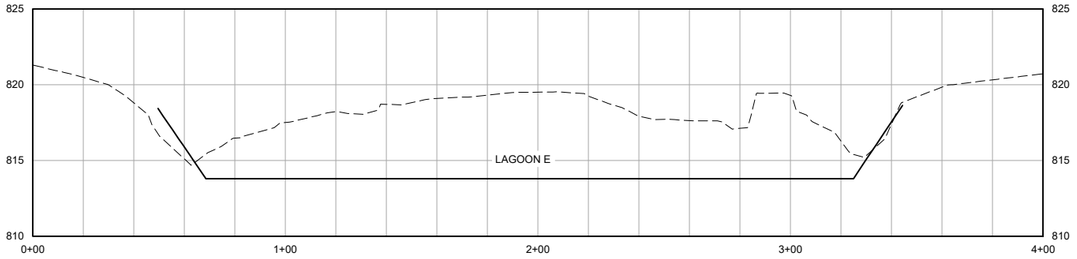
0 5 10 VERTICAL SCALE IN FEET



3 - SECTION: LAGOON E DREDGING - 1

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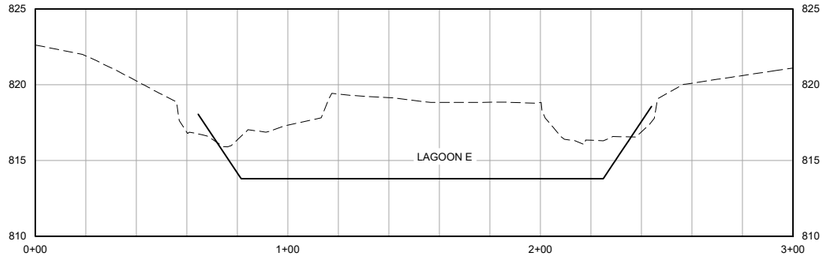
0 5 10 VERTICAL SCALE IN FEET



4 - SECTION: LAGOON E DREDGING - 2

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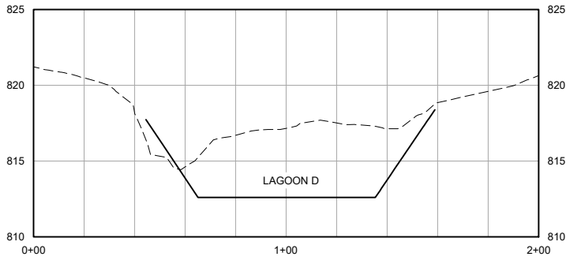
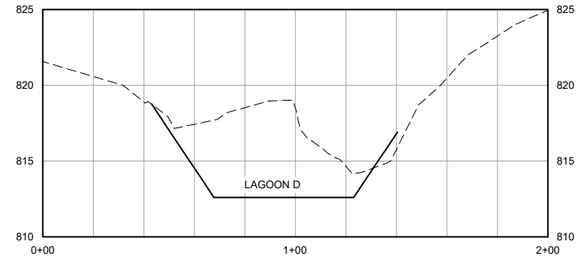
0 5 10 VERTICAL SCALE IN FEET



5 - SECTION: LAGOON D DREDGING - 1

0 30 60 HORIZONTAL SCALE IN FEET

0 5 10 VERTICAL SCALE IN FEET



6 - SECTION: LAGOON D DREDGING - 2

0 30 60 HORIZONTAL SCALE IN FEET

0 5 10 VERTICAL SCALE IN FEET

50% DRAFT
FOR REVIEW

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
-	-	-	-	— —	-

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DATE _____ LICENSE # _____

AGENCY	— — — — — — —
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Approved	PEB

BASSETT CREEK WATERSHED MANAGEMENT COMMISSION
GOLDEN VALLEY, MINNESOTA

MAIN STEM LAGOON DREDGING
GOLDEN VALLEY, MINNESOTA

LAGOON CROSS SECTIONS

BARR PROJECT No. 23/27-1860.00
CLIENT PROJECT No.
DWG. No. C-06
REV. No. A

Appendix B

U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC)

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Hennepin County, Minnesota

Local office

Minnesota-Wisconsin Ecological Services Field Office

(952) 252-0092
(952) 646-2873

MAILING ADDRESS
4101 American Blvd E
Bloomington, MN 55425-1665

PHYSICAL ADDRESS
4101 American Blvd E

-}
Bloomington, MN 55425-1665

http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9743	Candidate
Rusty Patched Bumble Bee Bombus affinis Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9383	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php

- Nationwide conservation measures for birds
  http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. http://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. http://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10

Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden-winged Warbler Vermivora chrysoptera This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. http://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. http://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. http://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

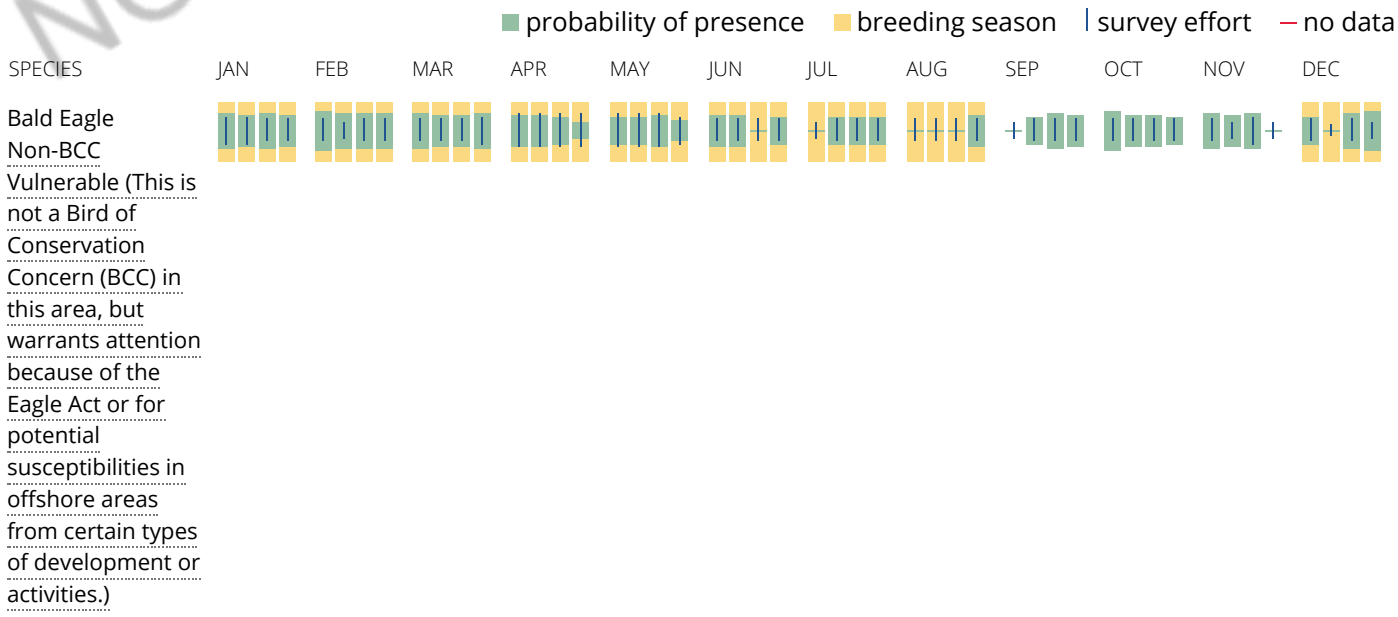
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

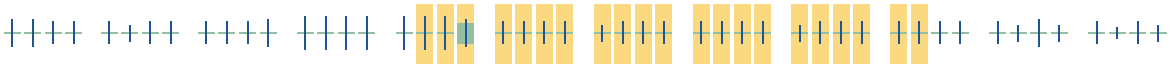
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

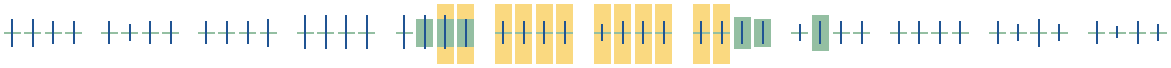
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



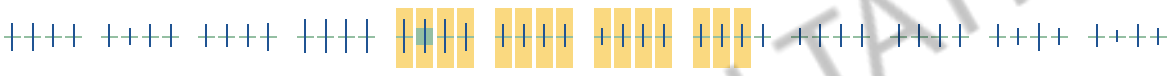
Black-billed Cuckoo BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



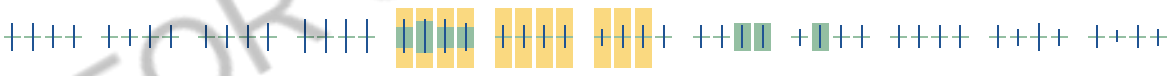
Canada Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



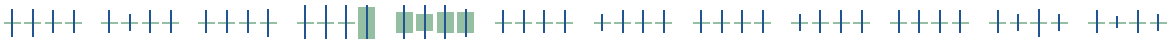
Eastern Whip-poor-will BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



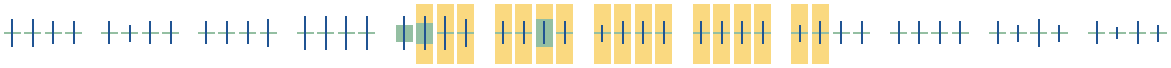
Golden-winged Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Lesser Yellowlegs BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



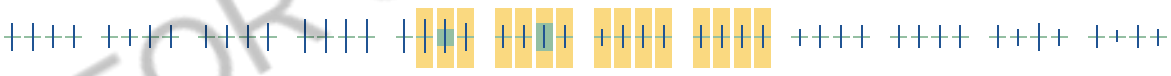
Red-headed Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Rusty Blackbird BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wood Thrush BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A

RIVERINE

- R2UBH
- R2USA

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in

activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

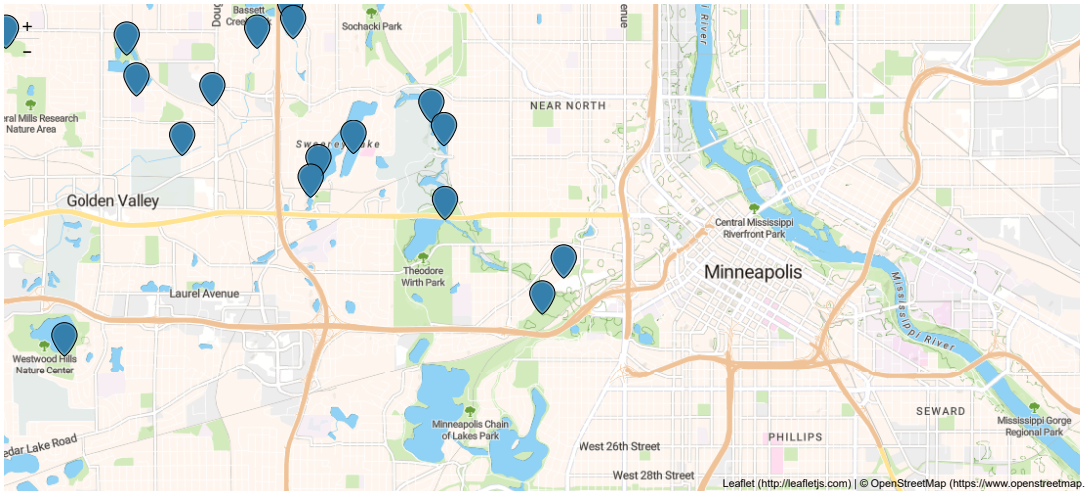
Bassett Creek Watershed Management Commission's (BCWMC) Capital Improvement Program (CIP) Projects

BCWMC Capital Improvement Project Projects

Search the map

Proposed Active Complete On Hold Grant funded SHOW ALL

Search address: enter your address GO



BCWMC Capital Improvement Project Status – September 2021

Feasibility Study	In Design/Bidding	In Construction	Completed
2020 ML-21 Jevne Park Stormwater Improvement Project Medicine Lake Study proposal by Commission Engineer approved July 2018. Study approved April 2019. Project ordered Sept 2019. No agreement executed to date.	2020 BC-5 Bryn Mawr Meadows Water Quality Improvement Project Minneapolis Draft study presented October 2018. Final study approved January 2019. Project ordered Sept 2019. Clean Water Fund grant awarded. Agreement with MPLS and MPRB for design approved June 2021. Design in 2021; construction in 2022.	2013 NL-2 Four Season Area Water Quality Project/Agora Development Plymouth Original Agora redevelopment project cancelled. Dominium redevelopment project cancelled. City purchased property June 2021. Project may be constructed by city ahead of redevelopment.	2014 BC-7 Briarwood/Dawnview Water Quality Improvement Project Golden Valley 40 lbs TP 23 tons TSS
	ML-20 Mt. Olivet Stream Restoration Project Plymouth Feasibility study proposal approved August 2019. Public open house Feb 12, 2020. Feasibility study approved May 2020. 60% designs approved June 2021. 90% designs approved August 2021.	2014 SL-3 Schaper Pond Diversion Project Golden Valley Project constructed 2016-2017. Project monitoring in progress. Carp survey & mgmt. recommendations report Oct 2019. Carp removals completed 2020 through SL-8. Long term carp management being evaluated spring/summer 2021.	2012 CR -M Main Stem Restoration Project, Wirth Park Minneapolis 60 lbs TP 105,000 lbs TSS
	PL-7 Parkers Lake Drainage Improvement and Chloride Reduction Project Plymouth Feasibility study proposal approved August 2019. Public open house Feb 12, 2020. Feasibility study approved May 2020. 60% designs approved June 2021. 90% designs approved August 2021.	2017 CR-M Main Stem Bassett Creek Streambank Erosion Repair Project Minneapolis 50% Designs approved: August 2017 90% Designs approved: October 2017 Bidding process complete Construction planned for winter 2019/2020. Project scope revised due to access issues Sept/Oct 2019. Construction Nov - Dec 2020. Vegetation establishment spring/summer 2021.	2012 THW-4 Wirth Lake Outlet Structure Golden Valley Resulted in removal of lake from impaired waters list. 55 lbs TP
	BC-7 Bassett Creek Main Stem Lagoon Dredging Project Minneapolis Feasibility study proposal approved July 2019. Public open house Feb 27, 2020. Feasibility study approved June 2020. Engineering proposal approved January 2021. Permitting and design began summer 2021. Construction expected winter 2022/2023.	2015 TW-2 Twin Lake Alum Treatment Golden Valley First treatment in May 2015. Results from the first treatment were presented in June 2018. Second treatment date TBD.	2012 North Branch Bassett Creek Restoration Project, 200 Feet Upstream of Douglas Drive to 32nd Avenue North Crystal 68 lbs TP 119,000 lbs TSS
	BC-2, 3, 8, 10 DeCola Pond – Wildwood Park – SEA School Flood Storage Project Golden Valley Feasibility Study approved June 2021 (Concept 3). Public hearing scheduled for September 16, 2021.	2019 WST-2 Westwood Lake Water Quality Improvement Project St. Louis Park Feasibility Study approved May 2018 90% Designs approved Aug 2018 BCWMC educational sign development is finalized. Nature center groundbreaking April 2019. Most construction completed summer 2020. Final report expected summer 2021.	2011 CR-M Main Stem Restoration Project, Wisconsin Ave to 10th Ave and Duluth St to the Crystal Border Golden Valley 60 lbs TP 105,000 lbs TSS
	ML-12 Medley Park Stormwater Treatment Facility Golden Valley Feasibility Study approved June 2021 (Concept 3). Public hearing scheduled for September 16, 2021.	2019 BC-2, 3, 8 DeCola Ponds B & C Improvement Project Golden Valley Study approved: May 2018 Agreement with GV signed Aug 2018. 50% Design Plans approved at February 2019 meeting. 90% plans to Commission April 2019. Construction largely completed spring 2020; veg restoration underway summers 2020 and 2021.	2010 PC-1 Plymouth Creek Restoration Project, Medicine Lake to 26th Ave. Plymouth 180 lbs TP 180 Tons TSS
		2020 SL-8 Sweeney Lake Water Quality Improvement Project Golden Valley	2010 CR-M Main Stem Restoration Project Golden Valley-Crystal Border to Regent Ave. Golden Valley

		With 319 grant funds, perform alum treatment in lake and carp removal and management in Schaper Pond and Sweeney Lake. Project ordered Sept 2019. Grant agreement executed Jan 2020. Open house held April 2020. Carp removal summer 2020; first phase alum treatment late Oct 2020. Follow up monitoring summer 2021.	96 lbs TP; 100 tons TSS
			2016 BC-4 Honeywell Pond Expansion Project Golden Valley; 40 lbs TP
			2016 NL-1 Northwood Lake Improvement Project New Hope; 22 lbs TP
			2015 CR-M Bassett Creek Main Stem Restoration Project: 10th Avenue to Duluth Street Golden Valley Project constructed 2015-2016. Vegetation mgmt. through 2018. 80 lbs TP + 170,000 lbs TSS
			2017 CR-P Plymouth Creek Restoration Project, Annapolis Lane to 2,500 feet Upstream Plymouth Design summer 2017 Construction completed May 2018. Veg establishment, repairs thru 2019 52 lbs TP + 90,800 lbs TSS Final report January 2020
			2018 BCP-2 Bassett Creek Park Pond Phase I Dredging Project: Winnetka Pond Crystal Design approved summer 2018 Pond excavation completed March 2019 Native buffer establishment 2019 – 2023. 51.7 lbs TP + 1,823 lbs TSS Final report (not including buffer) approved Sept 2020
			2020 CL-3 Crane Lake Improvement Project Minnetonka Design approved May 2019. Construction 2019 and 2020. 9 lbs TP + 3,500 lbs TSS Final report presented Dec 2020.

Appendix D

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