



Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4J – I-494 General Purpose Lane (SP 2785-330)
BCWMC January 15, 2015 Meeting Agenda
Date: January 7, 2015
Project: 23270051 2014 2005

4J. I-494 General Purpose Lane (SP 2785-330): Plymouth

Summary:

Proposed Work: Demolition and reconstruction of I-494 to add an additional lane

Basis for Commission Review: Linear project with greater than 5 acres disturbed area

Change in Impervious Surface: additional 9.17 acres

Recommendation: Conditional Approval

General Background & Comments

The proposed road reconstruction will take place on I-494 between I-394 and I-94. The proposed project includes site grading and reconstruction of I-494 with an added general purpose lane. There will be an increase in impervious surface of approximately 9.17 acres within the BCWMC jurisdiction. Proposed BMPs include wet ponds and filtration basins. The site is in the Medicine Lake, Plymouth Creek, and Parkers Lake watersheds, in the City of Plymouth.

Since the area to be graded is greater than 10,000 square feet, the proposed project must meet the BCWMC erosion control requirements. Because the project is a linear road reconstruction project, BMPs must be considered to improve the quality of stormwater runoff. BMPs shall reduce pollutants to the maximum extent practicable and reduce runoff. The BCWMC reviewed the EAW for the referenced project and provided comments in its January 24, 2011 letter. Attached are the BCWMC comments and the EAW response to the BCWMC comments. BCWMC staff and other watershed stakeholders attended a meeting with the design team on May 13, 2014 to discuss each organization's requirements.

Floodplain

N.A.

Wetlands

N.A.

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Stormwater Management

Under existing conditions, there is a wet pond which provides stormwater management. The project proposes 4 wet ponds, 2 filtration basins, and a dry pond within the Bassett Creek watershed. The proposed stormwater management system will provide rate control such that the proposed discharge rates from the site will not exceed existing discharge rates for the 2-, 10-, and 100-year storm events.

Water Quality Management

Currently, the existing stormwater pond provides some water quality improvement. Proposed permanent BMPs include 4 wet ponds, 2 filtration basins, and a dry pond. SAFL baffles will also be installed along the length of the project for additional water quality benefit and pretreatment for the water quality features.

Erosion and Sediment Control

Temporary erosion control features include silt fence, biorolls, floating slit curtain, rock filter berms, culvert end controls, inlet protection around all storm sewer inlets, rock construction entrances, and street sweeping.

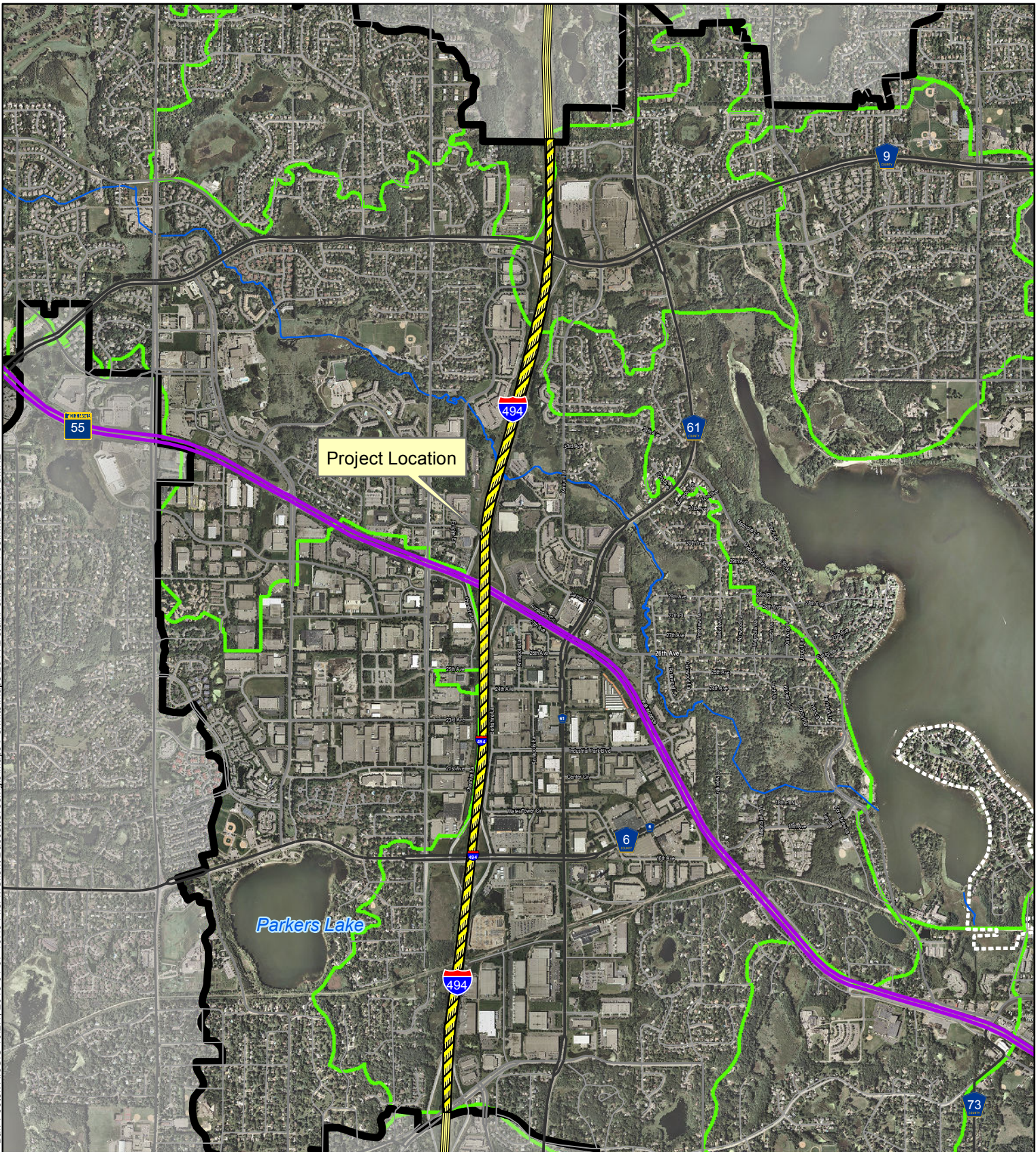
Recommendation

Conditional approval based on the following comments:







1. The following erosion control comments must be added to the plans:
 - Applicant should review silt fence and bioroll placement along entrance and exit ramps and add silt fence or bioroll as appropriate.
 - Rock construction entrances must have a minimum height of 2 feet above the adjacent roadway and with maximum side slopes of 4:1. Rumble strips (mud mats), wood chips, wash racks, or equivalent systems may also be used.
 - Temporary vegetative cover must be spread at 1.5 times the usual rate per acre. If temporary cover is to remain in place beyond the present growing season, two-thirds of the seed mix shall be composed of perennial grasses.
 - Temporary or permanent mulch must be uniformly applied by mechanical or hydraulic means and stabilized by disc-anchoring or use of hydraulic soil stabilizers.
2. Where feasible, the bioretention basin must be designed to pond 6 to 9 inches (the maximum pooling depth may be up to 2 feet, if justification for the increased depth can be provided). The ponding depth at the Westley filtration basin, Miracle Max filtration basin, and Inigo Montoya dry pond are all above 2 feet.

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3. Applicant must address how each of the issues identified in the BCWMC's January 24, 2011 letter (attached) has been addressed.
4. In accordance to the May 13, 2014 watershed stakeholder meeting (and referenced January 24, 2011 letter), BMP maintenance must be addressed. Also, the project should demonstrate how source load allocation reductions consistent with the Medicine Lake TMDL have been achieved.
5. Revised plans must be provided to the BCWMC Engineer for review and approval.

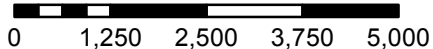


Imagery Source: Aerial Express (2009)

-  Project Location
-  Bassett Creek
-  WMC Boundary
-  Major Subwatershed
-  Municipality
-  Stream



Feet



**LOCATION MAP
APPLICATION 2014-05
I-494 General Purpose Lane
Plymouth, MN**

COMMENT



January 24, 2011

Mr. Richard Dalton
Mn/DOT Environmental Coordinator
1500 W. County Road B2
Roseville, MN 55113

**Re: Interstate 494 Expansion Project
Environmental Assessment Worksheet
S.P. 2785-330
BCWMC #2010-19**

Dear Mr. Dalton:

The Bassett Creek Watershed Management Commission (BCWMC) has reviewed the Environmental Assessment Worksheet (EAW) for the Interstate 494 Expansion Project and has the following comments on the areas potentially impacted by the project that are within the BCWMC jurisdiction.

1. **General:** The portion of the project that is in the Bassett Creek Watershed is tributary to Medicine Lake which is an impaired water of the State of Minnesota. The lake is impaired for the nutrient, phosphorus. The September 2010 Draft Medicine Lake TMDL specifies a discharge allocation of 94 lbs/year of phosphorus for Mn/DOT. According to the Draft TMDL, Mn/DOT needs to reduce its current loading by 28 percent to meet this allocation and no increases in loading are allowed by the TMDL due to the project. The EAW should identify BMPs that eliminate any nutrient loading to Medicine Lake from the project and reduce nutrient loading from the existing highway to the extent possible.

One of the most effective ways to reduce pollutant loadings is to reduce the volume of stormwater runoff through infiltration or treat the runoff through filtration. The BCWMC urges Mn/DOT to implement sufficient infiltration and filtration measures within each drainage area. The BCWMC expects that efforts and expenditures will be required of all MS4s in the watershed to reach the Medicine Lake water quality goals contained in the TMDL study.

2. **Floodplain and Rate Control:** While the EAW acknowledges that stormwater flows and volume will increase as a result of the project, it does not quantify the increased flow volumes and rates. The project should quantify rate and volume increases due to the project and mitigate any increases accordingly. Plymouth Creek has experienced significant erosion and sedimentation and the BCWMC, in partnership with the City of Plymouth, has invested in projects to address these issues. Increased stormwater runoff volumes and rates from this project could undermine the effectiveness of this work and cause damage to the stream and the stormwater management system. BMPs must be implemented to minimize flood related impacts to ensure that flood profiles are not increased along the creek.

Bassett Creek Watershed Management Commission
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RESPONSE

Bassett Creek Watershed Management Commission

- A Individual or combinations of wet detention basins, infiltration/filtration basins and infiltration/filtration basins with wet basin pretreatment will be implemented throughout the I-494 project corridor to meet watershed and NPDES criteria. A detailed description of proposed best management practices (BMPs) within the I-494 segments that discharge to Medicine Lake are described in the preliminary drainage design report, available for review from the Mn/DOT Metro District. Proposed BMPs identified in the preliminary drainage design report were designed such that pollutant loadings of phosphorus and total suspended solids would be maintained or reduced from existing conditions.
- B Various BMPs or combinations of BMPs will be utilized for stormwater management within the I-494 project corridor. The BMPs considered for use within the I-494 project corridor include: (1) wet detention basins, (2) infiltration/filtration basins, (3) infiltration/filtration basins with wet basin pretreatment, and (4) structural pollution control devices (SPCDs). Wet detention basins will be utilized as a standalone BMP or as pretreatment to an infiltration/filtration BMP. Infiltration/filtration basins will be utilized in locations where wet detention basins are not permitted, such as in the infield areas of off ramps, and stormwater retention is required.
- C Peak discharge rates and volumes have been evaluated and are documented in the preliminary drainage design report. Proposed BMPs have been designed to provide peak discharge attenuation and to retain a minimum of one-half inch of runoff volume over the added impervious area throughout the project corridor. Modeling results documented in the preliminary drainage design report indicated that peak discharge rates for the proposed project have been effectively managed and do not exceed existing discharges to Plymouth Creek. Therefore, no adverse impacts to Plymouth Creek are anticipated.

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B
C

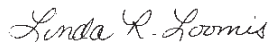
COMMENT

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3. **BMP Maintenance:** The EAW does not address future maintenance issues or responsibilities. Maintenance of stormwater management (water quality and flood control) features is critical to ensure proper operation. The maintenance measures that will occur should be described in the EAW to ensure the efficacy of stormwater management features. The EAW should identify the responsible agency for inspections, for maintenance, and for scheduling activities.
4. **Wetland Management:** The EAW identifies 1.4 acres of wetland in the project area from delineations done in 2003-2004. The EAW states no impacts are proposed to wetland areas. Mn/DOT proposes to use the local Technical Evaluation Panel process (TEP) to validate the delineation and review impacts.

The BCWMC's wetland goal is to achieve no net loss of wetlands in the watershed in conformance to the MN Wetland Conservation Act (WCA) and associated rules (MN Rules 8420). The City of Plymouth is the Local Governmental Unit for the administration of the Wetland Conservation Act in the portion of the BCWMC impacted by the project.
5. **Erosion Control:** The EAW states that Mn/DOT will follow the NPDES erosion control requirements and will consider the local city and watershed standards in preparing final plans. The BCWMC's goal is to prevent erosion and sedimentation to the greatest extent possible to protect water resources from increased water quality problems. Temporary and permanent best management practices (BMPs) must be implemented to control construction and post-development runoff and erosion.

Sincerely,



Linda R. Loomis
Chair, Bassett Creek Watershed Management Commission

c: Commissioners
Scott Pederson, Mn/DOT Project Manager
Geoff Nash, Administrator
Charlie LeFevre, Counsel
Len Kremer, Engineer

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RESPONSE

Bassett Creek Watershed Management Commission

- D Inspection and maintenance of stormwater management features will be consistent with Mn/DOT's MS4 permitting requirements in place at the time of final design and construction.
- E Mn/DOT is the Wetland Conservation Act (WCA) Local Government Unit (LGU) on lands administered by Mn/DOT. Mn/DOT will coordinate with the Technical Evaluation Panel (TEP) and Army Corps of Engineers as necessary to gain concurrence on the adequacy of previous wetland delineations, or subsequent updates as necessary, to reconfirm no wetland impacts consistent with laws and regulations in place at the time of final design and construction.
- F This comment is noted. Temporary and permanent erosion control best management practices will be implemented in accordance with NPDES permitting requirements in place at the time of final design and construction. Consideration will also be given to City and Watershed Management Commission standards, consistent with Mn/DOT Metro District practices at the time of final design and construction.