

# **Information for File # 2015-01683-MMJ; Purgatory Creek/Highway 101 Bank Stabilization Project**

**Applicant: Riley Purgatory Bluff Creek Watershed District**

**Corps Contact: Melissa Jenny**

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**Phone : (651) 290-5363**

**Primary County: Hennepin**

**Section: 31**

**Township: 117 North**

**Range: 22 West**

**Information Complete On: August 11, 2015**

**Posting Expires On: August 21, 2015**

**Authorization Type: LOP-05-MN**

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 07-01. We have made a preliminary determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act. Our jurisdictional review and final jurisdictional determination could result in modifications to the scope of the project's regulated waterbody/wetland impacts and compensatory mitigation requirements identified above. An approved jurisdictional determination may be made prior to reaching a permit decision, and will be posted on the St. Paul District web page at <http://www.mvp.usace.army.mil/>.

**PROJECT DESCRIPTION AND PURPOSE:** The project as proposed would involve bank stabilization activities at 13 separate locations along a 1,100 linear foot portion of Purgatory Creek beginning approximately 1,000 feet east of Highway 101 in Minnetonka, and progressing downstream. Erosion has been documented on much of this reach, with detrimental effects on water quality and stream habitat. Within this reach, Purgatory Creek is highly incised and disconnected from its floodplain. This project would provide stabilization at 13 targeted highly eroded sites within the reach using a variety of methods, including root wads, rock vanes, bank grading, and vegetated reinforced soil slopes (VRSS). All soil material excavated from the project would be hauled off-site for appropriate disposal.

**NAME, AREA AND TYPES OF WATERS (INCLUDING WETLANDS) SUBJECT TO LOSS:** The project as proposed would include work at 13 separate locations along Purgatory Creek. The project would result in the discharge of fill material into approximately 2,650 square feet of streambed below the Ordinary High Water Mark (OHWM) of the creek, and would also include excavation activities that would disturb an additional 3,620 square feet of streambed/banks

located below the OHWM of the creek. See the attached impact chart for details, labeled as 2015-01683-MMJ, Posting figures, Page 9.

**ALTERNATIVES CONSIDERED:** The no build alternative was considered, but if the Watershed District did not complete the project the creek banks along the areas identified for maintenance would continue to erode.

The applicant also considered completing only the bank grading portion of the project to reconnect the stream to its floodplain and reduce erosive pressures during high flows. However, completing bank grading would be difficult in some locations due to tall, steep slopes. Existing tree canopy would also make it difficult to quickly establish sufficient vegetation on graded banks, increasing the time bare soil would remain susceptible to increased erosion.

The project as proposed would best meet the overall project purpose and need by providing the existing eroded banks with additional stability and installing features to divert both flood and low flows toward the center of the channel and away from eroded banks.

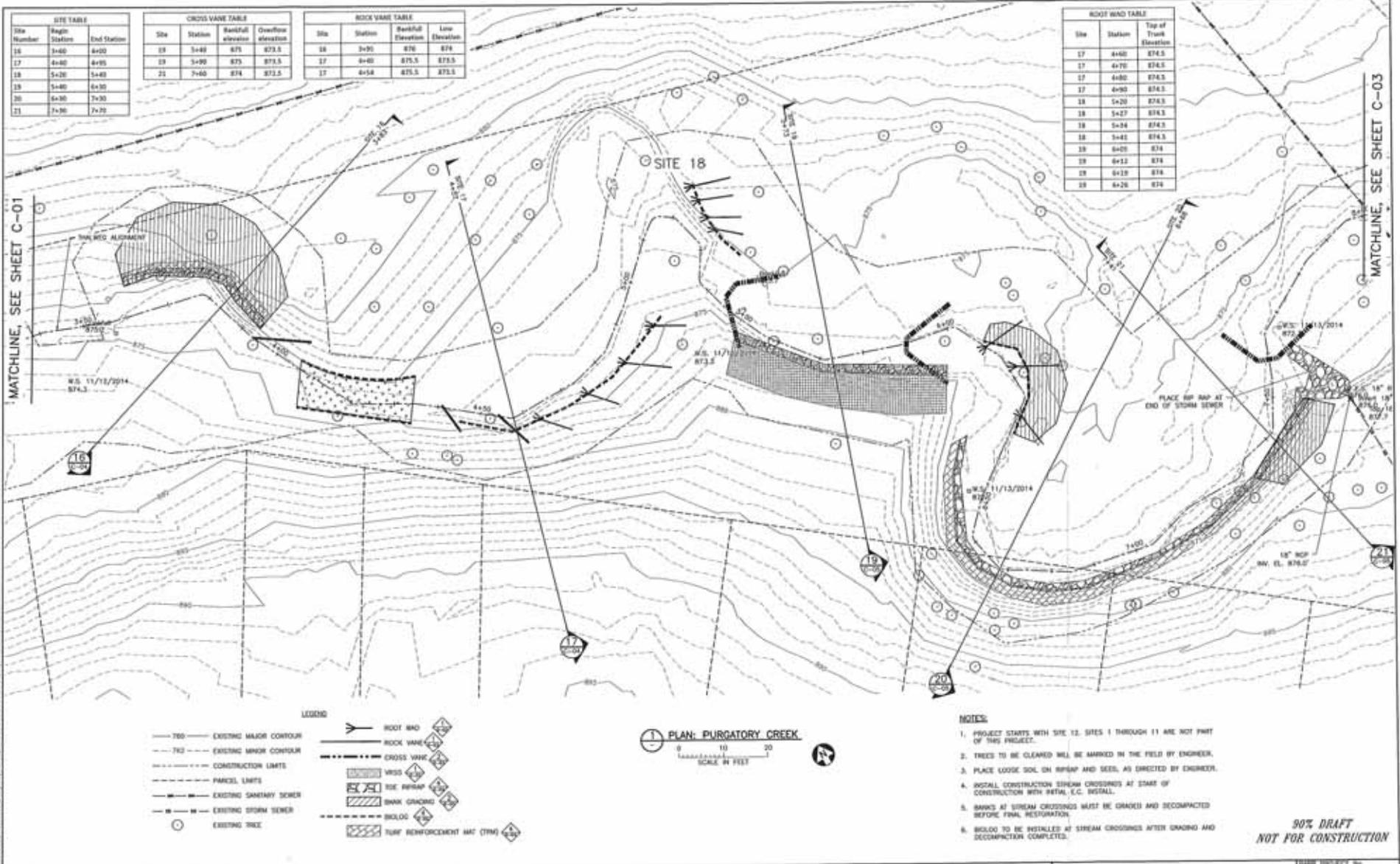
**COMPENSATORY MITIGATION:** Was not proposed as part of this project. This is a water quality improvement project intended to improve the resource; it would not result in the loss of wetland functions or services.

**Drawings:** See attached figures labeled as 2015-01683-MMJ, Posting figures, Pages 1-9.









SITE TABLE		
Site Number	Begin Station	End Station
16	3+60	4+00
17	4+40	4+95
18	5+20	5+40
19	5+40	6+30
20	6+30	7+30
21	7+30	7+70

CROSS VANE TABLE			
Sta	Station	Bankfull elevation	Crestline elevation
18	3+40	875	873.5
19	5+90	875	873.5
21	7+60	874	873.5

ROCK VANE TABLE			
Site	Station	Bankfull Elevation	Low Elevation
18	3+90	876	874
17	4+40	875.5	873.5
17	4+54	875.5	873.5

ROCK WAD TABLE		
Site	Station	Top of Trunk Elevation
17	4+40	874.5
17	4+70	874.5
17	4+80	874.5
17	4+90	874.5
18	5+20	874.5
18	5+27	874.5
18	5+34	874.5
18	5+40	874.5
19	6+05	874
19	6+12	874
19	6+19	874
19	6+26	874

**LEGEND**

- 750 --- EXISTING MAJOR CONTOUR
- 752 --- EXISTING MINOR CONTOUR
- - - - - CONSTRUCTION LIMITS
- - - - - PARCEL LIMITS
- - - - - EXISTING SANITARY SEWER
- - - - - EXISTING STORM SEWER
- EXISTING TREE
- ROOT WAD
- ROCK VANE
- CROSS VANE
- WEIR
- RIP RAP
- BANK GRACING
- BLOC
- TUFF REINFORCEMENT MAT (TRM)

**PLAN: PURGATORY CREEK**

0 10 20  
SCALE BY FEET

- NOTES:**
- PROJECT STARTS WITH SITE 12. SITES 1 THROUGH 11 ARE NOT PART OF THIS PROJECT.
  - TREES TO BE CLEARED WILL BE MARKED IN THE FIELD BY ENGINEER.
  - PLACE LOOSE SOIL ON RIPRAP AND SEED, AS DIRECTED BY ENGINEER.
  - INSTALL CONSTRUCTION STREAM CROSSINGS AT START OF CONSTRUCTION WITH RETAIL, I.E. SODIAL.
  - BANKS AT STREAM CROSSINGS MUST BE GRADED AND RECOMPACTED BEFORE FINAL RESTORATION.
  - BLOC TO BE INSTALLED AT STREAM CROSSINGS AFTER GRADING AND RECOMPACTON COMPLETED.

**90% DRAFT  
NOT FOR CONSTRUCTION**

<p>PROJECT NO. 23/27-0053.14                  SHEET NO. C-02                  DATE: 1/14/15</p>		<p>PROJECT NAME: RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT                  CREEK STABILIZATION STA. 3+50 TO 8+00</p>		<p>DATE: 1/14/15                  DRAWN BY: JSM                  CHECKED BY: JSM                  DESIGNED BY: JSM</p>																	
<p>REVISIONS:</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>BY</th> <th>DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	BY	DATE	REVISION DESCRIPTION													<p><b>BARR</b>                  BARR ENGINEERING CO.                  4700 WEST 77TH STREET                  MINNEAPOLIS, MN 55425-4803                  TEL: 763-883-8277                  FAX: (952) 833-1897                  WWW.BARR.COM</p>		<p>PROJECT NO. 23/27-0053.14                  SHEET PROJECT NO. C-02                  REV. NO. A</p>	
NO.	BY	DATE	REVISION DESCRIPTION																		









Project Name and/or Number: Purgatory Creek Stabilization at Highway 101

## PART FOUR: Aquatic Resource Impact<sup>1</sup> Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) <sup>1</sup>	Size of Impact <sup>2</sup>	Overall Size of Aquatic Resource <sup>3</sup>	Existing Plant Community Type(s) in Impact Area <sup>4</sup>	County, Major Watershed #, and Bank Service Area # of Impact Area <sup>5</sup>
M-055-011-006 (Site 12)	Stream	Fill Excavate	P P	90 ft (200 ft <sup>2</sup> ) 90 ft (520 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 13)	Stream	Fill Excavate	P P	35 ft (115 ft <sup>2</sup> ) 35 ft (135 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 14)	Stream	Fill Excavate	P P	50 ft (140 ft <sup>2</sup> ) 50 ft (200 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 15)	Stream	Fill Excavate	P P	40 ft (100 ft <sup>2</sup> ) 40 ft (270 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 16)	Stream	Fill Excavate	P P	40 ft (140 ft <sup>2</sup> ) 40 ft (200 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 17)	Stream	Fill Excavate	P P	55 ft (100 ft <sup>2</sup> ) 55 ft (20 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 18)	Stream	Fill Excavate	P P	20 ft (20 ft <sup>2</sup> ) 20 ft (20 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 19)	Stream	Fill Excavate	P P	90 ft (380 ft <sup>2</sup> ) 90 ft (335 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 20)	Stream	Fill Excavate	P P	100 ft (250 ft <sup>2</sup> ) 100 ft (250 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 21)	Stream	Fill Excavate	P P	40 ft (125 ft <sup>2</sup> ) 40 ft (200 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 22)	Stream	Fill Excavate	P P	80 ft (840 ft <sup>2</sup> ) 80 ft (840 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 23)	Stream	Fill Excavate	P P	60 ft (120 ft <sup>2</sup> ) 60 ft (390 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121
M-055-011-006 (Site 24)	Stream	Fill Excavate	P P	64 ft (120 ft <sup>2</sup> ) 64 ft (240 ft <sup>2</sup> )	N/A	Floodplain Forest	Hennepin; 121

<sup>1</sup>If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

<sup>2</sup>Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

<sup>3</sup>This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

<sup>4</sup>Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3<sup>rd</sup> Ed. as modified in MN Rules 8420.0405 Subp. 2.

<sup>5</sup>Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

None of the listed impacts have already occurred.

<sup>1</sup> The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.