

**ENVIRONMENTAL ASSESSMENT
REHABILITATION AND REPAIR
ROOT RIVER AND RUSH CREEK FLOOD CONTROL PROJECT
RUSHFORD, MINNESOTA**

**U.S ARMY CORPS OF ENGINEERS
ST. PAUL DISTRICT**

MAY 2008

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1.00 SUMMARY

1.01 The city of Rushford is located in southeastern Minnesota in Fillmore County, approximately 100 miles southeast of St. Paul, Minnesota and 25 miles west of LaCrosse, WI. Rush Creek passes through the City of Rushford, entering on the northeast corner of the community and exits 1.4 Miles downstream at the confluence of the creek with the Root River. The Rush Creek watershed above Rushford is approximately 135 square miles. The Root River passes on the south side of the community and continues for approximately 25-miles to where it joins with the Mississippi River. A flood control project along the Root River and Rush Creek was completed by the Corps of Engineers in 1968 at Rushford, Minnesota. On August 17-18, 2007, up to 17 inches of rain fell over southeast Minnesota and the Rush Creek/Root River drainage basin within a 24 hour period. The resulting conditions resulted in extensive damage to the existing flood control project at Rushford including: debris at each of the bridge crossings; a new creek channel cut at the upstream end of the project; sediment accumulation in the storm water drainage swales /discharge pipes; displaced riprap along the channel and dry run; sloughing of the riverward slope of the levee downstream of the railway/recreation trail bridge; and electrical damage to the pump stations.

1.02 Several actions are required to the repair damaged flood control project features and restore them to pre-flood conditions including; electrical repair to the pump stations, debris removal from bridges and channel areas, removal of sediment from drainage areas, repair/stabilization of damaged or settled embankments and replacement of displaced riprap in several areas. Pump stations repairs and debris removal have been reviewed and, in accordance with guidance provided in Corps of Engineers Regulation ER 200-2-2, have been determined to be categorically excluded from additional National Environmental Policy Act documentation. The proposed actions covered under this EA include the removal of sediment from drainage areas, embankment repairs/re-grading/stabilization and the replacement of riprap. In select reaches, stabilization will involve the construction of a 5-foot wide riprap berm at the toe of the embankment to ensure bank stability. None of the actions proposed would increase the protective level or the size the repaired structure's footprint beyond that of the original structures.

1.03 An environmental review indicates the impacts associated with the proposed action would not significantly affect the quality of the human environment, as the probable effects in the area would be short term and minor. Therefore, an environmental impact statement will not be prepared.

1.04 All of the proposed fill activity involves the repair of an existing serviceable structure and in general would not increase the original footprint. Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as levees is

exempt from regulation under Section 404 of the Clean Water Act, provided the work does not involve any modifications that change the character, scope, or size of the original fill (33 CFR 323.4(a)(2)). The majority of the discharges into waters of the U.S. associated with the repair work would fall under this exemption, and therefore not require a 404(b)(1) evaluation. Any minor changes to the footprint of the fill are anticipated to total less than one half acre, and therefore would qualify as a maintenance activity in the Corps' Clean Water Act Section 404 Regional General Permit (RGP) 003-MN. As the Section 404(b)(1) analysis was previously performed for RGP-003-MN, a separate Section 404(b)(1) analysis is not required.

Relationship to Environmental Requirements

1.05 The proposed action would be in compliance with Federal environmental laws, Executive Orders and policies, and State and local laws and policies including the Clean Air Act, as amended; the Clean Water Act, as amended; the Endangered Species Act of 1973, as amended; the Fish and Wildlife Coordination Act of 1958, as amended; the Land and Water Conservation Fund Act of 1965, as amended; the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act of 1969, as amended; Executive Order 11988 - Floodplain Management; Executive Order 11990 - Protection of Wetlands; and Executive Order 12898 - Federal Action to Address Environmental Justice in Minority Population and Low-Income Population. The project would not result in the conversion of farmland to non-agricultural uses. Therefore, the provisions of the Farmland Protection Policy Act of 1981 do not apply to this project. The proposed action would not be in conflict with any State of Minnesota air quality implementation plans.

2.00 NEED FOR AND OBJECTIVE OF ACTION

2.01 The authorization for the proposed repair of the existing structures is given in PL 84-99. This legislation allows the Corps of Engineers to repair flood control structures that have been damaged during flood events. On August 17-18, 2007, up to 17 inches of rain fell over southeast Minnesota and the Rush Creek/Root River drainage basin within a 24 hour period. This rainfall event resulted in a stream flow of approximately 39,500 cfs (cubic feet per second) within Rush Creek as it passed through the City of Rushford, MN and approximately 46,000 cfs on the Root River. The flow on Rush Creek far exceeded the project design capability of the levees and floodwalls that were designed to contain a flood event of 16,200 cfs plus levee freeboard. Once the flood had passed, the city and Corps conducted a damage assessment and project inspection. The project inspection revealed that although the project withstood these tremendous flows without breaching or failure, flood damage to nearly every portion of the levee was sustained. Damages included debris at each of the bridge crossings; a new creek channel cut at the upstream end of the project; sediment accumulation in the storm water drainage swales /discharge pipes; displaced riprap along the channel and dry run; sloughing of the riverward slope of the levee downstream of the railway/recreation trail bridge; and electrical damage to the pump stations. In order for the flood control project to provide the protection it was originally designed for, the damages incurred need to be repaired or corrected.

3.00 ALTERNATIVES CONSIDERED

3.01 Repairs to the project features fall into four general categories: electrical repair at the pump stations, removal of debris, excavation of deposited material from drainage swales and channels, repair of riprap protection in selected area. Analysis of the some of the proposed repairs resulted in a determination that the action qualified to be categorically excluded from additional National Environmental Policy Act documentation and could proceed as soon as contracts could be awarded. These included the electrical repairs to the pump stations and the removal of woody debris. Contracts were awarded for these actions in January 2008. The cumulative effects these actions are discussed in section 5.00.

Alternatives Eliminated from Detailed Analysis

3.02 The No Action alternative assumes that local authorities may not be able to complete all the needed repairs prior to the next flood season. Without the immediate repairs, it is possible that additional damages could occur during the next high water event and could lead to the eventual failure of the existing project. This alternative was not selected because the failure of the existing system could result in conditions that would significantly compromise the recovery efforts at Rushford.

Selected Plan

3.03 The proposed action involves the removal or re-grading of storm deposited material, repair/stabilization of damaged or settled embankments, and the replacement of riprap at numerous locations throughout the project reach. All actions proposed would be limited to the return of the flood control project features to pre-flood conditions and would not increase the protective level of the project. In general, the proposed actions would not increase the size of the original footprint of the project. Up to 20,000 cubic yards of material would be excavated from the project reach. Excavated material would be placed on an area being prepared for commercial development by the city of Rushford. Any excavated riprap/overbank material not suitable for the development site will be stockpiled at the City of Rushford compost site and salvaged for later use. Any riprap or fill material needed for repairing damaged embankments would come from existing quarries or borrow facilities. Specific locations and pictures of the areas needing repair are presented in Attachment 1.

4.00 AFFECTED ENVIRONMENT

Socio-Economic Resources

4.01 The proposed rehabilitation project area is located in the city of Rushford, Fillmore County, in southeastern Minnesota near the Wisconsin and Iowa state lines. The city of Rushford is

located at the confluence of Rush Creek and the Root River, the later being a tributary of the Mississippi River. Founded in 1854 by East Coast adventurers who pole-boated up the Root River from the Mississippi at La Crosse, Wisconsin, hearty immigrants bringing Norwegian, German, and Irish traditions soon populated Rushford. The railroad made Rushford an early center of commerce, water and rail travel, manufacturing and agriculture.

4.02 Rushford is approximately 110 miles southeast of Minneapolis/St. Paul, Minnesota and 55 miles southeast of Rochester, Minnesota. The city comprises an area of approximately 1.72 square miles. Fillmore County is a predominately agricultural county, but a tourism industry based on the Root River and many other natural and cultural attractions has grown strong in recent years.

4.03 The 2000 population of Rushford was 1,696, an increase of 14.2% from 1990. Fillmore County's 2000 population totaled 21,122, an increase of 1.7 percent from 1990. Fillmore County's 2000 population is equivalent to only 24.5 persons per square mile, compared to the statewide and nationwide densities of 61.8 and 79.6 persons per square mile, respectively.

POPULATION

Area	1960 Census	1970 Census	1980 Census	1990 Census	2000 Census
City	1,335	1,318	1,478	1,485	1,696
County	23,768	21,916	21,930	20,777	21,122

The city of Rushford's population has a median age of 42.3 years, with 23.0 percent of the population under the age of 18 and 26.1 percent of the population aged 65 years and over.

4.04 According to information from the U.S. Census Bureau, the 1999 median household income for Rushford was \$37,159. This compares to \$47,111 for the State of Minnesota and \$41,994 for the United States. In Fillmore County, 10.1 percent of the population is below the poverty level, compared to 7.9 percent for the State of Minnesota and 12.4 percent for the United States. According to 2000 census figures, per capita income for Rushford was \$16,508, compared to \$23,198 for the State of Minnesota and \$21,587 for the United States.

4.05 According to 2000 census figures, there are a total of 761 housing units in Rushford. There were 529 owner-occupied (69.5 percent), 175 renter-occupied (23.0 percent), and 57 (7.5 percent) vacant housing units. The median value of owner-occupied housing units is \$78,400. The median mortgage is \$669.

4.06 Among persons 25 years and over, 77.0 percent of Rushford's population has achieved high school or higher educational attainment compared to 81.7 percent for Fillmore County, and 87.9 percent for the State of Minnesota. Approximately 16.4 percent of Rushford's adults 25 years and over possess bachelor's degrees or higher, compared with 15.1 percent for Fillmore County, and 27.4 percent for the State of Minnesota.

4.07 Rushford has an elementary, middle, and senior high school with an enrollment of

approximately 696 students from kindergarten through grade 12. While there is no institution of post-secondary education in Rushford, Winona State University and St. Mary's University are located 20 miles away in Winona, Minnesota. Rochester Community and Technical College is located 45 miles away in Rochester, Minnesota.

4.08 The Fillmore County labor force totaled 11,259 in October 2007, with an unemployment rate of 4.9%, compared to 4.1% for the State of Minnesota and 4.4% for the United States. The most significant industries in Fillmore County are education, health and social services (23.5% of employed persons); manufacturing (14.8%); agriculture (13.0%); and retail trade (10.4%).

4.09 Rushford is governed by a council composed of the Mayor and four council members, who are responsible for the operation of City government. The city's budget is approximately \$4,674,000. The city of Rushford has a Moody's bond rating of BAA.

Natural Resources

4.10 The City of Rushford is located in the Coulee Region of southeast Minnesota. This area is characterized by steep sloped valleys, formed by small tributaries of the Mississippi River. The city is located along Rush Creek immediately above its confluence with the Root River. The steep hillsides surrounding the city were created by the creek cutting through the sandstone deposits which are found throughout this region of Minnesota. These bluffs rise 400-500 feet to meet the expansive flat agricultural lands which compose the majority of southern Minnesota.

4.11 The immediate project area has been highly altered from natural conditions with residential and commercial development, and by the flood control project completed on Rush Creek and the Root River in 1967. The majority of the levee system has a vegetated cover of grass which is frequently mowed. A large portion of the waterward sides of the levees are rock lined. There are portions of the upstream and downstream ends of the project which border on floodplain forest areas which consist primarily of green ash, willow, box elder, cottonwood, and elm.

4.12 Wildlife in the immediate project area is typical of a disturbed urban/rural area with white-tailed deer, fox, raccoon and a variety of songbirds being the predominant type of wildlife present.

4.13 The project reach of Rush Creek is characterized by a relatively straight alignment and riprap banks. Because of the project modifications, the project area provides minimal quality natural aquatic habitat. However water quality is fairly good and Rush Creek, including the portion that runs through town, is classified as a coldwater trout stream.

4.14 The U.S. Fish and Wildlife Service indicates that the federally threatened Leedy's roseroot (*Sedum integrifolium* ssp. *Leedyi*) is present in Fillmore County. Site conditions for this species typically include cool, wet groundwater fed limestone cliffs. Conditions with the project area are not suitable for this species.

4.15 A review of the Natural Heritage Data Base indicates that several state botanical species of importance are located in the hilly and bluff areas of the county, including the park areas around Rushford. None are located in the immediate project area.

Cultural Resources

4.16 Archaeological resources are a major component of the Root River valley and its tributaries and are integral, nonrenewable elements of the physical landscape. As expressions of human culture, they convey an appreciation for the past, our cultural heritage and diversity, enriching and shaping our identities and those of future generations. Preserving, or minimizing the degradation of significant archaeological resources contributes to our knowledge of the past and is one of the responsibilities of the Corps and other agencies. Within one mile of Rushford there are 55 recorded cultural resource sites, including precontact lithic and artifact scatters, village sites and burial mounds and historic standing structures.

4.17 A total of 50 of the cultural resources are historic standing structures, consisting of farmsteads, schools, residences, factories, mills, businesses, churches, cemeteries, public works facilities, water control structures, bridges and the former location of a mill. The majority of these are within the bounds of the city. Four sites are listed on the National Register of Historic Places (NRHP). They include the Walker-Valentine House (built 1859); the Southern Minnesota Railroad Depot (built 1867); the Rushford Wagon and Carriage Company (built 1872) and the Rushford City Mill (built 1875). Bridge 4900 along highways 16 and 43 over the Root River has been determined eligible for listing on the NRHP. The remaining identified historic structures have not been evaluated for their eligibility for listing on the NRHP.

4.18 A total of five precontact sites are located within or around Rushford. Three of these sites consist of, or once consisted of burial mounds. Burial of the dead in earthen mounds in this portion of Minnesota likely came into vogue around the Middle Woodland Period, from approximately AD 100 and continued through contact with Europeans around the middle of the Seventeenth Century. It is estimated that approximately 80 to 90 percent of the mounds in Minnesota have been destroyed through various means since the mid Nineteenth Century, and Fillmore County is no exception to this startling situation. Site 21FL1, located on a terrace on the south side of the Root River once contained 22 mounds. By 1884, many of these mounds had been destroyed by cultivation or other means and are no longer extant. Site 21FL2 once consisted of nine mounds on a terrace on the north side of the Root River and west of the City. These mounds were also under cultivation by 1884 and they no longer exist. Site 21FL9 contained six mounds on Magelssen Bluff in the western portion of Rushford. Only two of these mounds are visible today and by 1884, at least five of the group had been opened by antiquarians or looters. However, in the 1930s archaeologists from the University of Minnesota conducted excavations at this group and determined that, at minimum, at least one component associated with Oneota groups (ca. AD 900-1500) used or constructed the mounds. Site 21FL49 consists of a lithic scatter at the base of a bluff southwest of the city and site 21FL72 is an artifact scatter on a terrace of Rush Creek north of the city. Outside of their precontact age, little is known about these sites.

4.19 The Walker-Valentine House and the Rushford City Mill are listed on the NRHP and are near the outside work limits of the project area. The Milwaukee Road Railroad Bridge/recreational trail, unevaluated for listing on the NRHP spans Rush Creek in the southern portion of the project area. No archaeological sites have been identified within the project area.

5.00 ENVIRONMENTAL EFFECTS

5.01 An environmental analysis has been conducted for the proposed action, and a discussion of the impacts is presented in the following paragraphs. In accordance with Section 122 of the 1970 River and Harbor Act, the parameters listed in table EA-1 have been reviewed and considered in arriving at the final determinations.

TABLE EA -1

IMPACT ASSESSMENT MATRIX

NAME OF PARAMETER	NO ACTION							SELECTED PLAN							
	MAGNITUDE OF PROBABLE IMPACT							MAGNITUDE OF PROBABLE IMPACT							
	INCREASING BENEFICIAL			INCREASING ADVERSE				INCREASING BENEFICIAL			INCREASING ADVERSE				
	SIGNIFICANT	SUBSTANTIAL	MINOR	NO APPRECIABLE EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT	SIGNIFICANT	SUBSTANTIAL	MINOR	NO APPRECIABLE EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT	
A. SOCIAL EFFECTS															
1. Noise Levels				X									X		
2. Aesthetic Values						X				X					
3. Recreational Opportunities				X							X				
4. Transportation				X									X		
5. Public Health and Safety					X			X							
6. Community Cohesion (Sense of Unity)				X				X							
7. Community Growth & Development				X							X				
8. Business and Home Relocations				X							X				
9. Existing/Potential Land Use				X							X				
10. Controversy					X						X				
B. ECONOMIC EFFECTS															
1. Property Values				X							X				
2. Tax Revenues				X							X				
3. Public Facilities and Services				X							X				
4. Regional Growth				X							X				
5. Employment				X							X				
6. Business Activity				X							X				
7. Farmland/Food Supply				X							X				
8. Commercial Navigation				X							X				
9. Flooding Effects					X			X							
10. Energy Needs and Resources				X							X				
C. NATURAL RESOURCE EFFECTS															
1. Air Quality				X							X				
2. Terrestrial Habitat				X							X				
3. Wetlands				X							X				
4. Aquatic Habitat				X							X				
5. Habitat Diversity and Interspersion				X							X				
6. Biological Productivity				X							X				
7. Surface Water Quality				X								X			
8. Water Supply				X							X				
9. Groundwater				X							X				
10. Soils				X							X				
11. Threatened or Endangered Species				X							X				
D. CULTURAL EFFECTS															
1. Historic Architectural Values				X							X				
2. Pre-Hist & Historic Archeological Values				X							X				

Socio-Economics

5.02 The proposed project at Rushford would have primarily beneficial social effects on the community. There would be no significant social or economic impacts that would result from the rehabilitation and repair of the pre-existing Corps of Engineers built flood control protection at Rushford. Rather, reconstruction would have a positive impact on public health and safety, flooding effects, and community cohesion by restoring the project to its pre-flood condition after the project is complete.

5.03 During debris and sediment removal and riprap placement, short-term negative impacts would likely occur in the following areas: an increase in noise levels and disruption of normal community traffic patterns. These effects would be attenuated through the appropriate placement of construction and safety signage. These effects would be short lived and terminate when construction is complete.

5.04 The no action alternative would entail an increased risk of flooding brought about by the lowering of the level of protection provided by the project. In order for the flood control project to provide the protection it was originally designed for, the damages incurred need to be repaired or corrected. There would likely be some measure of controversy if needed repairs are not completed in a timely manner.

Natural Resources

5.05 There would be no appreciable effects on wildlife or fisheries resources in the project area. There would be no effect on state listed or federally listed threatened or endangered species. Short-term adverse water quality effects may occur during removal of deposited sediment on the overbank area or during the placement of a riprap berm at the toe of the embankment along select reaches. These effects would be temporary increases in suspended sediment and would be minimized through best management practices during construction.

5.06 The Minnesota PCA suggested that the sediments deposited during the flood event be tested for contaminants to determine if special disposal restrictions would be required. The test results indicated that the sediments were fairly clean and that no special disposal restrictions were needed (attachment 2).

Cultural Resources

5.07 It is not anticipated that any cultural resources will be affected by the proposed actions. All of the work associated with the proposed actions along Rush Creek will take place within the previously constructed channel, along existing levees or within otherwise disturbed areas, such as the new channel cut at the north end of the project area and a dry run on the eastern portion of the project area. The Walker-Valentine House and the Rushford City Mill, both listed on the NRHP, are immediately adjacent to the project work limits although they will not be affected. The Milwaukee Road Railroad Bridge/recreation trail crosses Rush Creek at the southern portion of the project area. While the bridge has not been evaluated for listing on the NRHP, the proposed actions will have no impact to the bridge.

5.08 No impact to cultural resources is envisioned at the placement site designated to receive removed sediments from the channel. The placement site is located on a previously cultivated terrace of Rush Creek on the north side of Rushford. Soils along this terrace should not harbor buried horizons. In anticipation for future development, the City of Rushford has modified the

parcel over a number of years. According to City staff, alterations include: the removal of topsoil; removal of farmstead foundations in 2003; storage of sand and other debris; placement of fill in some area; road construction on the south side; and a drainage ditch constructed on the east side. No cultural resources investigations were completed at this parcel. While the terrace setting of this parcel qualifies the area as containing a high probability to harbor cultural resources, its recent land use voids this assessment and the placement site now is judged to have no impact on cultural resources.

5.09 The Corps has determined that the proposed activities will have no effect on cultural resources. This determination has been coordinated with the Minnesota State Historic Preservation Office.

Cumulative Effects

5.10 The proposed actions represent only a few of what have been numerous actions required for recovery efforts at Rushford, Minnesota. Extensive debris and structure cleanup was conducted by state and local authorities as soon as practicable after the flood event. Demolition or cleanup activities of damaged structures, parks and roadways in the city and surrounding area have been extensive. Contracts have been awarded for the removal of woody and other debris over the last several months, and the repair of the electrical panels for the pump stations have been initiated. The Minnesota Department of Natural Resources issued a General Permit for repair or restoration of structures below the ordinary high water mark. The cumulative effect of all these actions is the economic and social recovery of Rushford, Minnesota and the restoration of the flood risk reduction features to the pre-flood event condition. There would be no cumulative effects on natural resources either upstream or downstream of the project area.

6.00 COORDINATION

6.01 Coordination with the public and government agencies has been maintained throughout the planning process. Onsite visits were conducted with the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency and the U.S. Fish and Wildlife Service. The Minnesota DNR and USFWS did not identify any special concerns. Deposited sediments were tested for contaminants as suggested by the Minnesota PCA.

6.02. The Minnesota DNR has issued a General Permit for work in public waters for the repair or restoration of structures below the ordinary high water mark and concur that the proposed actions meet the conditions of the General Permit. The Area Hydrologist will be notified at least 5 days prior to initiating the proposed work at Rushford.

6.03 A letter explaining the project and its effect on National Register sites was sent to the State Historic Preservation Officer (SHPO).

6.04 A press release announcing the availability of the environmental assessment (EA) was distributed and the EA was posted on the St. Paul District Corps of Engineers internet website. In

addition, the EA was sent to interested citizens and the following agencies:

Federal

Environmental Protection Agency
Fish and Wildlife Service

State of Minnesota

Department of Health
State Historic Preservation Officer
Department of Natural Resources
Pollution Control Agency
State Archaeologist
Board of Water and Soil Resources

City of Rushford

Mayor's Office

6.05. On-site evaluations subsequent to the distribution of the EA for public review identified the need to construct a riprap berm along selected reaches of the project to preclude future bank failure. Any minor changes to the footprint associated with the fill are anticipated to total less than one half acre, and therefore would qualify as a maintenance activity in the Corps' Clean Water Act Section 404 Regional General Permit (RGP) 003-MN. As the Section 404(b)(1) analysis was previously performed for RGP-003-MN, a separate Section 404(b)(1) analysis is not required. This determination was coordinated with the MN PCA, MN DNR and U.S. Fish and Wildlife Service. No negative comments were received.

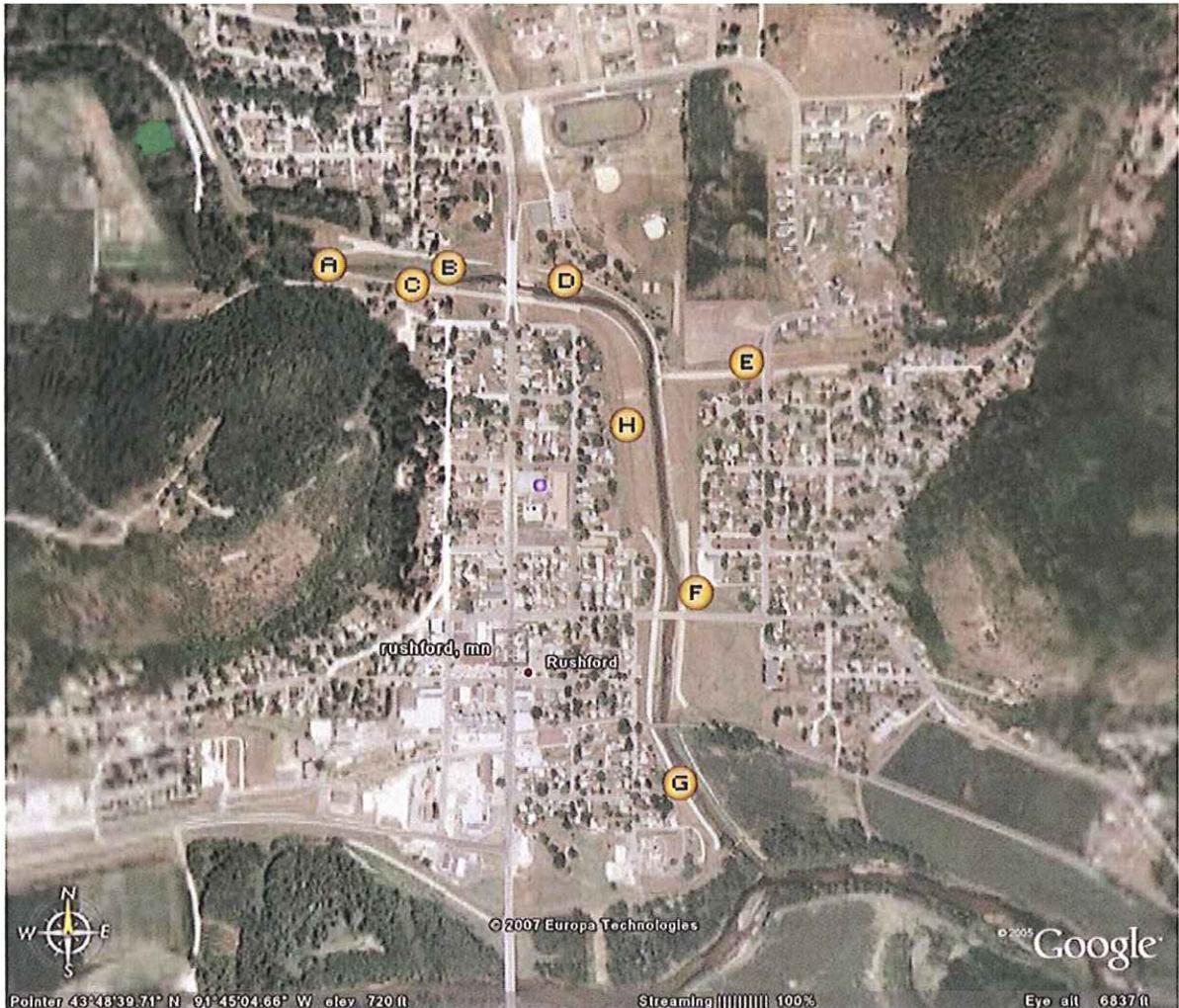
6.06. Limited comments on the EA were received from the MN PCA and the MN DNR concurring with the proposed actions. One private citizen submitted comments during the review period suggesting that an environmental impact statement should be prepared (see Attachment 2).

6.07 The MN SHPO requested clarification on the bank repair being conducted in the vicinity of the historic structures. In response, the requirement to conduct pre and post construction surveys of the two historic structures will be included in the Plans and Specifications. While no construction related damages to these structures is anticipated, this approach will ensure that construction activities do not result in unaddressed damages to these structures. The MN SHPO concurred with this approach.

Attachment 1
SITES REQUIRING REPAIR

Rushford PL 84-99 Project

Aerial photo showing locations of major components of proposed action.



- Site A - Left descending bank, upstream of Highway 43 Bridge. The flow during the flood event began to cut a new channel above Outfall J in Levee "C". Debris deposited in the new cut would be removed, the freshly cut banks would be reshaped to a more stable slope and the drainage swale associated with Outfall J would be repaired.



Photo - Site A

- Site B - Left descending bank, upstream of Highway 43 Bridge. During the flooding and subsequent dewatering of the area behind levee "C", extensive erosion occurred to the channel bank and the built up sediment located between the rock protection and the creek channel leaving unstable, vertical banks along the channel. These banks would be reshaped to a more stable slope and the drainage swale for Outfall K would be re-established.



Photo Site B

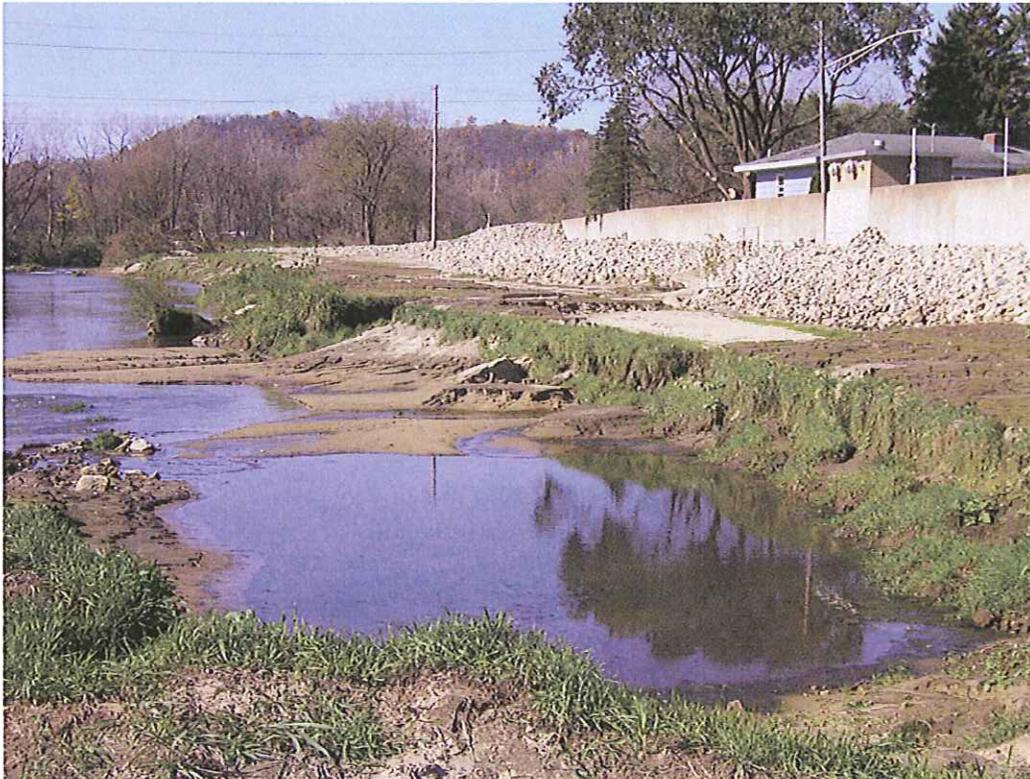


Photo Site B

- Site C - Right descending bank, upstream of Highway 43 Bridge. The erosion to the channel bank would be repaired by placing compacted fill material, riprap replacement, and topsoil.



Photo Site C

- Site D - Left descending bank, downstream of Highway 43 Bridge. Substantial bank erosion occurred at several locations downstream of the Highway 43 Bridge. The repair to the bank would include the placement of compacted fill material and reshaping the bank to a more stable slope. Those areas where the existing riprap protection had been damaged or washed away would be resurfaced with similar rock protection.



Photo Site D

- Site E - Dry Run carrying water from coulee entering from north. Riprap along the run and two culverts passing the water under a road were damaged. It is proposed to salvage any riprap, restore the channel using compacted random fill, placing topsoil, and replacing the riprap. Sediment carried down from higher elevations and deposited in the channel would be removed.

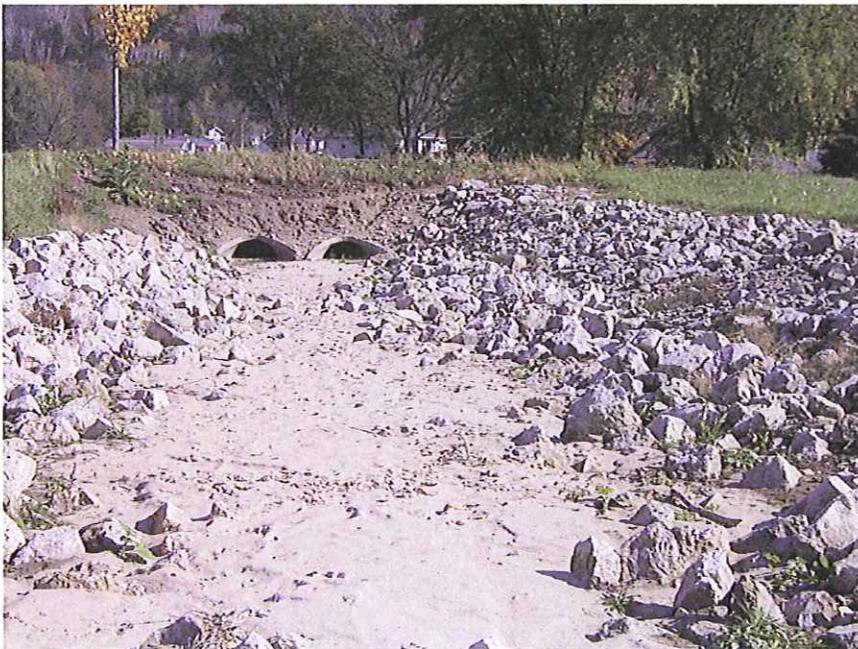


Photo Site E

- Site F - Bank repair near Park Street Bridge. The flood caused some undermining of the abutments of the Park Street bridge. Repairs would entail placing impervious fill material under the abutment, restoration of the bank, and placing bedding material and riprap.
- Site G - Rush Creek Channel/Downstream of DNR Recreational Trail Bridge. This site experienced the most extensive damage of any site along Rush Creek. The combination of diverted flood flows and the channel restriction caused by the bridge increased the velocity within Rush Creek causing extensive scour of the creek bed and right descending bank which is also the wet the side of the levee. The riprap along the entire length of the levee downstream of the railway bridge (approx. 700 feet) would need to be stripped to expose the levee material. The eroded and sloughed areas would then be excavated to stable material and impervious fill would be placed and compacted. Once the slope is re-established bedding material and new riprap would be placed to restore the protection.

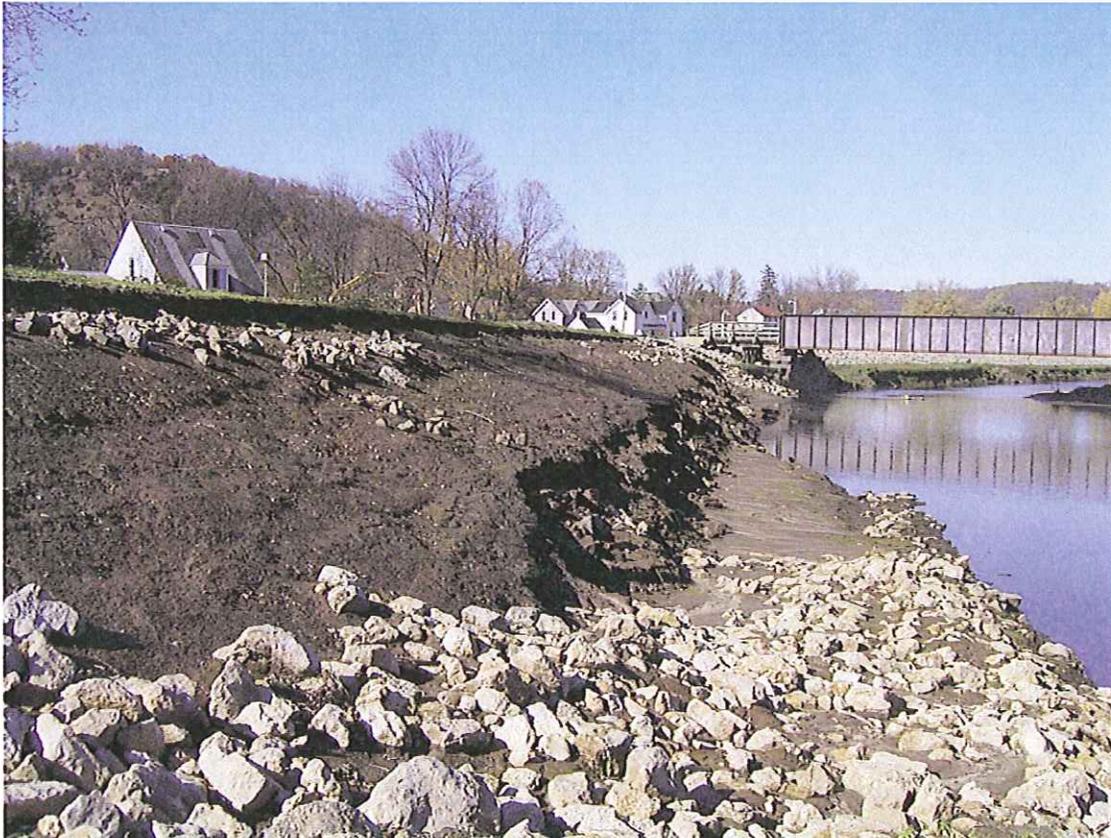


Photo Site G



Photo Site G

- Site H - Right Descending Bank between Highway 43 Bridge and Rushford Avenue Bridge. During the flood event there was an extensive amount of sediment deposited between the levees in this portion of Rush Creek. The amount of sediment varied from a few inches to over 4 feet. The vast majority of sediment accumulated in the flat area on the west side of the creek directly across from the dry run channel. All material deposited by the 2007 flood event would be removed in order to maintain channel capacity.

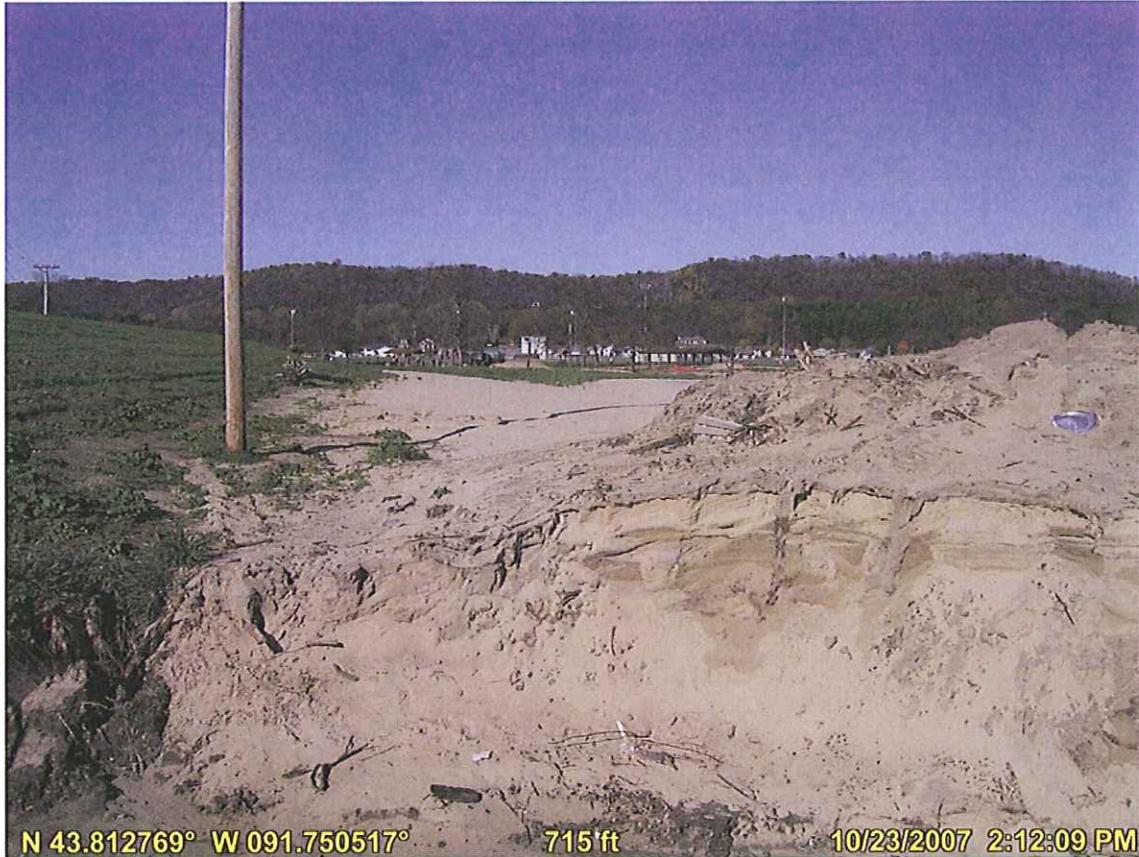


Photo Site H

- Various areas through out project area - Rip Rap Placement in Transition zones. The flood flows within Rush Creek and Dry run channel caused erosion and rock displacement along the transition zones between the earth levee and the riprap protection. The eroded edges of these areas would be squared off with bedding material and riprap added.

Disposal Area



- Excavated Material would be placed at a location being prepared for commercial development (Disposal Site).

Attachment 2

CORRESPONDENCE

CONVERSATION RECORD |Time: 0930 |Date: 8 November 2007

Type: Visit| Conversation| X Telephone | Incoming - X Outgoing

Location:

Name of Person Contacted: Gary Wege

Organization: USFWS – TC Field Office

Telephone No.: 651-725-3548

Subject: Initial Contact on Rehab of Flood Control Project – Rushford, MN

Summary: I informed Mr. Wege of the particulars on the project and invited him to the on-site meetings we were having next week (14-15/Nov/2007). He informed me he was not available for the meetings. He does not foresee any complications with the proposed actions as were described to him. He asked to be kept informed of the progress of the action. I assured him that he would be apprised of our status.

=====
Action Required: None

Name of Documenter: Richard J. Beatty

Signature: signed |**Date:** 19 November 2007

=====
Action Taken:

Signature: |**Date:**

=====

MEMORANDUM FOR RECORD

SUBJECT: Trip Report - Rushford, MN; 14 Nov 2007.

1. A on-site meeting was held on Nov 14, 2007; attendees included Wayne Barsted and Todd Kolander - MNDNR-Ecological Services, David Stadinski - MVP-OP-R; and Roland Hamborg and Richard Beatty - MVP-PM. The visit was held to acquaint the DNR and Regulatory personnel of the proposed rehabilitation proposed for the Rushford, MN flood control project.

2. The attendees met on site. A brief overview was given of the proposed actions. It was explained that all actions would return the project to pre-flood conditions; no improvements from those conditions would be made; the footprint of the proposed repairs would be no greater and in some cases smaller than the original project. Following this discussion, the group visited the following locations of major actions being proposed.

- New channel cut - upstream end of the project. The area would be cleared of downed trees and snags; the shear eroded banks would be shaped to a more stable slope.
- Bench erosion on left descending bank - up-stream of Hwy 43 bridge. The shear eroded banks would be shaped to a more stable slope. Sediment deposited on the bench during the summer flood would be removed.
- Bank erosion - city park and recreation area. Two areas of erosion would be repaired. Fill would be placed to reshape the bank and rock protection would be replaced.
- Out flow of drainage ditch. The gabions at the ditch confluence with Rush Creek would be repaired.
- Sediment deposited on the right descending bench upstream of the Rushford Ave Bridge would be removed. The deposition covers a large area and is up to 3 feet deep.
- The right descending bank below the old railroad bridge would be repaired. Large portions of the protective riprap had been tripped and significant erosion of the earthen levee had occurred. (It was noted that the debris that had been deposited against the upstream side of the bridge and trestle on the left descending had been removed since a previous visit on 9 Nov; it is likely that the MnDNR - Parks and Trails carried out this action.

- The disposal site for the sediment material removed from the bench areas proposed by the city was visited. The site located on the north side of town in a area being developed for commercial use was previously used for agricultural purposes and is currently being hayed.

3. Neither Mr. Barsted nor Mr. Kollander expressed concerns over the proposed action. I informed them of our intended expedited planning process and assured them they would be kept informed of any new pertinent project developments. Mr. Kollander said that it would be proper to use Mr. Barsted as the primary contact for the MnDNR-Ecological Services Group.

Richard Beatty
Project Biologist
Environmental and Economics Analysis Branch
Project Management Division

MEMORANDUM FOR RECORD

SUBJECT: Trip Report - Rushford, MN; 15 Nov 2007.

1. A on-site meeting was held on Nov 1, 2007; attendees included Judy Mader - MPCA and Steve Klotz - MNDNR-Fisheries, Cory Hanson - MnDNR - Area Hydrologist; and Richard Beatty - MVP-PM. The visit was held to acquaint the DNR and PCA personnel of the proposed rehabilitation proposed for the Rushford, MN flood control project.

2. The attendees met on site. A brief overview was given of the proposed actions. It was explained that all actions would return the project to pre-flood conditions; no improvements from those conditions would be made; the footprint of the proposed repairs would be no greater and in some cases smaller than the original project. Following this discussion, the group visited the following locations of major actions being proposed.

- New channel cut - upstream end of the project. The area would be cleared of downed trees and snags; the shear eroded banks would be shaped to a more stable slope.
- Bench erosion on left descending bank - up-stream of Hwy 43 bridge. The shear eroded banks would be shaped to a more stable slope. Sediment deposited on the bench during the summer flood would be removed.
- Bank erosion - city park and recreation area. Two areas of erosion would be repaired. Fill would be placed to reshape the bank and rock protection would be replaced.
- Out flow of drainage ditch. The gabions at the ditch confluence with Rush Creek would be repaired.
- Sediment deposited on the right descending bench upstream of the Rushford Ave Bridge would be removed. The deposition covers a large area and is up to 3 feet deep.
- The right descending bank below the old railroad bridge would be repaired. Large portions of the protective riprap had been tripped and significant erosion of the earthen levee had occurred. (It was noted that the debris that had been deposited against the upstream side of the bridge and trestle on the left descending had been removed since a previous visit on 9 Nov; it is likely that the MnDNR - Parks and Trails carried out this action.

- The disposal site for the sediment material removed from the bench areas proposed by the city was visited. The site located on the north side of town in a area being developed for commercial use was previously used for agricultural purposes and is currently being hayed.

3. None of the attendees expressed concerns over the proposed action. Mr. Hanson informed me that a Protected Waters permit would be needed for the fill that would be placed in that water. He said that an expedited process had been developed for corrective actions to repair damages for the flood event and that he would forward me a link to a DNR webpage that had the form. Ms. Mader said that she would get a clarification on PCA's position on the status of the material excavated from the benches.

Richard Beatty
Project Biologist
Environmental and Economics Analysis Branch
Project Management Division

Devendorf, Randall D MVP

From: Devendorf, Randall D MVP
Sent: Tuesday, January 22, 2008 11:23 AM
To: judy.mader@state.mn.us
Cc: Noren, James B MVP; Hamborg, Roland O MVP
Subject: Analytical Results for Sediment Samples - Rushford, MN

Attachments: Aerial Photo - Sediment Samples.JPG; Analytical Report-64052.pdf



Aerial Photo -
Sediment Sample...eport-64052.pdf (2)



Analytical

Judy:

With Dick Beatty's departure, I am now working on the Rushford project. As you know we will be awarding contracts shortly (this week) for the repair of the electrical panel and the woody debris removal. Our goal is to have a contract awarded for the sediment removal and levee repair the first week in April.

Attached for your review is the Analytical Report for the Sediment samples that were taken in November. Samples were taken from two areas and I've attached an arial photo showing their approximate locations. At the first area: Sample 1 is the approximate top 1 inch dark layer of newly deposited sediment, Sample 2 is approximately 6-8 inches of sandy material between the top layer and "pre-event" material, and sample 3 is a composite sample of 3-4 feet of pre-event river terrace. In the second area: Sample 4 is from the 2-3 foot thick layer if deposited material, and Sample 5 is from the Pre-event layer.

I will forward shortly Jim Noren's evaluation of the results for your information. Overall, I think things look relatively clean and I don't think there should be any disposal issues.

Let me know your thoughts on the matter. I need to know fairly soon if there would be any restrictions on the disposal of the excavated sediment.

Let me know if you have any questions.

Randy

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RUSHFORD - SEDIMENT SAMPLING SITES – Collected 27 Nov 2007



Devendorf, Randall D MVP

From: Noren, James B MVP
Sent: Wednesday, January 09, 2008 3:08 PM
To: Devendorf, Randall D MVP
Subject: RE: Rushford Soil Data

Attachments: Rushford_solids.xls



Rushford_solids.xls
(73 KB)

Randy,

To assess the risk of moving the Rushford materials, I compared the Rushford results with the MPCA SRV tier 1 levels (Soil Reference Value (SRV) A generic health-based criteria for soil and health risk limits that are based on a standard exposure scenario for contaminated sites). All of the results that had comparable SRV tier 1 levels were below the MPCA guidelines. In fact, most of the organic results were non-detect. There were, however, a few analyses that had results with qualifiers, but they should not be an issue since all the other results were so low. I would guess that you shouldn't have any restrictions from the MPCA with moving this material.

Jim

-----Original Message-----

From: Devendorf, Randall D MVP
Sent: Tuesday, January 08, 2008 3:35 PM
To: Noren, James B MVP
Subject: Rushford Soil Data

Jim:

Did Terry Birkenstock send you the Rushford Mn soil data to review?

RDD

Randall D. Devendorf
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Sample ID	Sample Date	Analyte	Result	Tier 1 SRV	Units	LOD	LOQ	Dilution	Qualifier	Analysis Date	Method
1	11/27/2007	#10 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#10 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#10 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#10 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#10 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#100 Sieve	1.51		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#100 Sieve	5.02		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#100 Sieve	32.87		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#100 Sieve	66.72		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	#100 Sieve	87.23		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#20 Sieve	99.67		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#20 Sieve	99.79		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	#20 Sieve	99.98		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#20 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#20 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#200 Sieve	0.39		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#200 Sieve	1.5		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#200 Sieve	23.93		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#200 Sieve	41.7		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	#200 Sieve	79.17		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	#4 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#4 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#4 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#4 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#4 Sieve	100		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#40 Sieve	86.26		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#40 Sieve	95.56		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	#40 Sieve	97		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#40 Sieve	98.18		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#40 Sieve	99.04		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#60 Sieve	33.21		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#60 Sieve	40.98		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#60 Sieve	62.14		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	#60 Sieve	89.33		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#60 Sieve	90.74		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
4	11/27/2007	#80 Sieve	4.11		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
2	11/27/2007	#80 Sieve	10.09		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
5	11/27/2007	#80 Sieve	38.6		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
3	11/27/2007	#80 Sieve	75.34		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	#80 Sieve	87.88		%Passing	N/A	N/A	1		12/7/2007	ASTM C136-84A
1	11/27/2007	2,4'-DDD	<4		ug/kg dry weig		4	1		12/11/2007	8081
2	11/27/2007	2,4'-DDD	<4		ug/kg dry weig		4	1		12/11/2007	8081
3	11/27/2007	2,4'-DDD	<4		ug/kg dry weig		4	1		12/11/2007	8081
4	11/27/2007	2,4'-DDD	<4		ug/kg dry weig		4	1		12/11/2007	8081
5	11/27/2007	2,4'-DDD	<4		ug/kg dry weig		4	1		12/11/2007	8081
1	11/27/2007	2,4'-DDE	<4		ug/kg dry weig		4	1		12/11/2007	8081
2	11/27/2007	2,4'-DDE	<4		ug/kg dry weig		4	1		12/11/2007	8081
3	11/27/2007	2,4'-DDE	<4		ug/kg dry weig		4	1		12/11/2007	8081
4	11/27/2007	2,4'-DDE	<4		ug/kg dry weig		4	1		12/11/2007	8081
5	11/27/2007	2,4'-DDE	<4		ug/kg dry weig		4	1		12/11/2007	8081
1	11/27/2007	2,4'-DDT	<4		ug/kg dry weig		4	1		12/11/2007	8081
2	11/27/2007	2,4'-DDT	<4		ug/kg dry weig		4	1		12/11/2007	8081
3	11/27/2007	2,4'-DDT	<4		ug/kg dry weig		4	1		12/11/2007	8081
4	11/27/2007	2,4'-DDT	<4		ug/kg dry weig		4	1		12/11/2007	8081
5	11/27/2007	2,4'-DDT	<4		ug/kg dry weig		4	1		12/11/2007	8081
1	11/27/2007	4,4'-DDD	<3.7	56000	ug/kg dry weig		3.7	1		12/11/2007	8081
2	11/27/2007	4,4'-DDD	<3.7	56000	ug/kg dry weig		3.7	1		12/11/2007	8081
3	11/27/2007	4,4'-DDD	<3.7	56000	ug/kg dry weig		3.7	1		12/11/2007	8081
4	11/27/2007	4,4'-DDD	<3.7	56000	ug/kg dry weig		3.7	1		12/11/2007	8081
5	11/27/2007	4,4'-DDD	<3.7	56000	ug/kg dry weig		3.7	1		12/11/2007	8081
1	11/27/2007	4,4'-DDE	<3.5	40000	ug/kg dry weig		3.5	1		12/11/2007	8081
2	11/27/2007	4,4'-DDE	<3.5	40000	ug/kg dry weig		3.5	1		12/11/2007	8081
3	11/27/2007	4,4'-DDE	<3.5	40000	ug/kg dry weig		3.5	1		12/11/2007	8081
4	11/27/2007	4,4'-DDE	<3.5	40000	ug/kg dry weig		3.5	1		12/11/2007	8081
5	11/27/2007	4,4'-DDE	<3.5	40000	ug/kg dry weig		3.5	1		12/11/2007	8081
1	11/27/2007	4,4'-DDT	<4.2	15000	ug/kg dry weig		4.2	1		12/11/2007	8081
2	11/27/2007	4,4'-DDT	<4.2	15000	ug/kg dry weig		4.2	1		12/11/2007	8081
3	11/27/2007	4,4'-DDT	<4.2	15000	ug/kg dry weig		4.2	1		12/11/2007	8081
4	11/27/2007	4,4'-DDT	<4.2	15000	ug/kg dry weig		4.2	1		12/11/2007	8081
5	11/27/2007	4,4'-DDT	<4.2	15000	ug/kg dry weig		4.2	1		12/11/2007	8081
1	11/27/2007	a-BHC	<0.75	2000	ug/kg dry weig		0.75	1		12/11/2007	8081
2	11/27/2007	a-BHC	<0.75	2000	ug/kg dry weig		0.75	1		12/11/2007	8081
3	11/27/2007	a-BHC	<0.75	2000	ug/kg dry weig		0.75	1		12/11/2007	8081
4	11/27/2007	a-BHC	<0.75	2000	ug/kg dry weig		0.75	1		12/11/2007	8081
5	11/27/2007	a-BHC	<0.75	2000	ug/kg dry weig		0.75	1		12/11/2007	8081
1	11/27/2007	Acenaphthene	<2.0	1200000	ug/kg		0.62	2	1	12/7/2007	EPA 8270C
2	11/27/2007	Acenaphthene	<2.0	1200000	ug/kg		0.65	2.1	1	12/7/2007	EPA 8270C
3	11/27/2007	Acenaphthene	<2.0	1200000	ug/kg		0.72	2.3	1	12/7/2007	EPA 8270C
4	11/27/2007	Acenaphthene	<2.0	1200000	ug/kg		0.61	1.9	1	12/7/2007	EPA 8270C
5	11/27/2007	Acenaphthene	<2.0	1200000	ug/kg		0.6	1.9	1	12/7/2007	EPA 8270C
1	11/27/2007	Acenaphthylene	<2.5		ug/kg		0.92	2.9	1	12/7/2007	EPA 8270C

2	11/27/2007	Acenaphthylene	<2.5		ug/kg	0.96	3.1	1	12/7/2007	EPA 8270C
3	11/27/2007	Acenaphthylene	<2.5		ug/kg	1.1	3.4	1	12/7/2007	EPA 8270C
4	11/27/2007	Acenaphthylene	<2.5		ug/kg	0.89	2.8	1	12/7/2007	EPA 8270C
5	11/27/2007	Acenaphthylene	<2.5		ug/kg	0.88	2.8	1	12/7/2007	EPA 8270C
1	11/27/2007	a-Chlordane	<1.7	13000	ug/kg dry weig	1.7		1	12/11/2007	8081
2	11/27/2007	a-Chlordane	<1.7	13000	ug/kg dry weig	1.7		1	12/11/2007	8081
3	11/27/2007	a-Chlordane	<1.7	13000	ug/kg dry weig	1.7		1	12/11/2007	8081
4	11/27/2007	a-Chlordane	<1.7	13000	ug/kg dry weig	1.7		1	12/11/2007	8081
5	11/27/2007	a-Chlordane	<1.7	13000	ug/kg dry weig	1.7		1	12/11/2007	8081
5	11/27/2007	Ammonia Nitrogen	<0.90		mg/kg	0.9	2.8	1	12/19/2007	EPA 350.1
4	11/27/2007	Ammonia Nitrogen	<0.92		mg/kg	0.92	2.9	1	12/19/2007	EPA 350.1
1	11/27/2007	Ammonia Nitrogen	<0.94		mg/kg	0.94	2.9	1	12/19/2007	EPA 350.1
2	11/27/2007	Ammonia Nitrogen	<0.99		mg/kg	0.99	3.1	1	12/19/2007	EPA 350.1
3	11/27/2007	Ammonia Nitrogen	<1.1		mg/kg	1.1	3.4	1	12/19/2007	EPA 350.1
1	11/27/2007	Anthracene	<2.0	7880000	ug/kg	0.7	2.2	1	12/7/2007	EPA 8270C
2	11/27/2007	Anthracene	<2.0	7880000	ug/kg	0.73	2.3	1	12/7/2007	EPA 8270C
3	11/27/2007	Anthracene	<2.0	7880000	ug/kg	0.8	2.6	1	12/7/2007	EPA 8270C
4	11/27/2007	Anthracene	<2.0	7880000	ug/kg	0.68	2.2	1	12/7/2007	EPA 8270C
5	11/27/2007	Anthracene	<2.0	7880000	ug/kg	0.67 *	2.1	1	12/7/2007	EPA 8270C
1	11/27/2007	Aroclor-1016	<50		ug/kg	24	60	1	12/10/2007	EPA 8082
2	11/27/2007	Aroclor-1016	<50		ug/kg	25	62	1	12/10/2007	EPA 8082
3	11/27/2007	Aroclor-1016	<50		ug/kg	27	68	1	12/10/2007	EPA 8082
4	11/27/2007	Aroclor-1016	<50		ug/kg	23	57	1	12/10/2007	EPA 8082
5	11/27/2007	Aroclor-1016	<50		ug/kg	22	56	1	12/10/2007	EPA 8082
1	11/27/2007	Aroclor-1248	<40		ug/kg	24	48	1	12/10/2007	EPA 8082
2	11/27/2007	Aroclor-1248	<40		ug/kg	25	49	1	12/10/2007	EPA 8082
3	11/27/2007	Aroclor-1248	<40		ug/kg	27	54	1	12/10/2007	EPA 8082
4	11/27/2007	Aroclor-1248	<40		ug/kg	23	45	1	12/10/2007	EPA 8082
5	11/27/2007	Aroclor-1248	<40		ug/kg	22	45	1	12/10/2007	EPA 8082
1	11/27/2007	Aroclor-1254	<50		ug/kg	24	60	1	12/10/2007	EPA 8082
2	11/27/2007	Aroclor-1254	<50		ug/kg	25	62	1	12/10/2007	EPA 8082
3	11/27/2007	Aroclor-1254	<50		ug/kg	27	68	1	12/10/2007	EPA 8082
4	11/27/2007	Aroclor-1254	<50		ug/kg	23	57	1	12/10/2007	EPA 8082
5	11/27/2007	Aroclor-1254	<50		ug/kg	22	56	1	12/10/2007	EPA 8082
1	11/27/2007	Aroclor-1260	<40		ug/kg	12	48	1	12/10/2007	EPA 8082
2	11/27/2007	Aroclor-1260	<40		ug/kg	12	49	1	12/10/2007	EPA 8082
3	11/27/2007	Aroclor-1260	<40		ug/kg	14	54	1	12/10/2007	EPA 8082
4	11/27/2007	Aroclor-1260	<40		ug/kg	11	45	1	12/10/2007	EPA 8082
5	11/27/2007	Aroclor-1260	<40		ug/kg	11	45	1	12/10/2007	EPA 8082
5	11/27/2007	Arsenic	1.4	10	mg/kg	0.15	0.5	5	12/13/2007	EPA 7060A
3	11/27/2007	Arsenic	1.8	10	mg/kg	0.18	0.6	5	12/13/2007	EPA 7060A
1	11/27/2007	Arsenic	2.8	10	mg/kg	0.31	1	10	12/13/2007	EPA 7060A
2	11/27/2007	Arsenic	<1.0	10	mg/kg	0.032	0.11	1	12/13/2007	EPA 7060A
4	11/27/2007	Arsenic	<1.0	10	mg/kg	0.03	0.1	1	12/13/2007	EPA 7060A
1	11/27/2007	b-BHC	<1.7	2000	ug/kg dry weig	1.7		1	12/11/2007	8081
2	11/27/2007	b-BHC	<1.7	2000	ug/kg dry weig	1.7		1	12/11/2007	8081
3	11/27/2007	b-BHC	<1.7	2000	ug/kg dry weig	1.7		1	12/11/2007	8081
4	11/27/2007	b-BHC	<1.7	2000	ug/kg dry weig	1.7		1	12/11/2007	8081
5	11/27/2007	b-BHC	<1.7	2000	ug/kg dry weig	1.7		1	12/11/2007	8081
5	11/27/2007	Benzo(a)anthracene	2.3		ug/kg	0.81 *	2.6	1	12/7/2007	EPA 8270C
1	11/27/2007	Benzo(a)anthracene	<2.3		ug/kg	0.85 *	2.7	1	12/7/2007	EPA 8270C
2	11/27/2007	Benzo(a)anthracene	<2.3		ug/kg	0.89	2.8	1	12/7/2007	EPA 8270C
3	11/27/2007	Benzo(a)anthracene	<2.3		ug/kg	0.98 *	3.1	1	12/7/2007	EPA 8270C
4	11/27/2007	Benzo(a)anthracene	<2.3		ug/kg	0.82	2.6	1	12/7/2007	EPA 8270C
2	11/27/2007	Benzo(a)pyrene	3.4	2000	ug/kg	1	3.2	1	12/7/2007	EPA 8270C
1	11/27/2007	Benzo(a)pyrene	<2.6	2000	ug/kg	0.95 *	3	1	12/7/2007	EPA 8270C
3	11/27/2007	Benzo(a)pyrene	<2.6	2000	ug/kg	1.1 *	3.5	1	12/7/2007	EPA 8270C
4	11/27/2007	Benzo(a)pyrene	<2.6	2000	ug/kg	0.93	2.9	1	12/7/2007	EPA 8270C
5	11/27/2007	Benzo(a)pyrene	<2.6	2000	ug/kg	0.92 *	2.9	1	12/7/2007	EPA 8270C
3	11/27/2007	Benzo(b)fluoranthene	3		ug/kg	1.1 *	3.6	1	12/7/2007	EPA 8270C
5	11/27/2007	Benzo(b)fluoranthene	3.4		ug/kg	0.94	3	1	12/7/2007	EPA 8270C
1	11/27/2007	Benzo(b)fluoranthene	3.7		ug/kg	0.98	3.1	1	12/7/2007	EPA 8270C
2	11/27/2007	Benzo(b)fluoranthene	<2.7		ug/kg	1	3.3	1	12/7/2007	EPA 8270C
4	11/27/2007	Benzo(b)fluoranthene	<2.7		ug/kg	0.95	3	1	12/7/2007	EPA 8270C
1	11/27/2007	Benzo(g,h,i)perylene	<2.1		ug/kg	0.78 *	2.5	1	12/7/2007	EPA 8270C
2	11/27/2007	Benzo(g,h,i)perylene	<2.1		ug/kg	0.81	2.6	1	12/7/2007	EPA 8270C
3	11/27/2007	Benzo(g,h,i)perylene	<2.1		ug/kg	0.90 *	2.9	1	12/7/2007	EPA 8270C
4	11/27/2007	Benzo(g,h,i)perylene	<2.1		ug/kg	0.76	2.4	1	12/7/2007	EPA 8270C
5	11/27/2007	Benzo(g,h,i)perylene	<2.1		ug/kg	0.75 *	2.4	1	12/7/2007	EPA 8270C
1	11/27/2007	Benzo(k)fluoranthene	<2.0		ug/kg	0.68 *	2.2	1	12/7/2007	EPA 8270C
2	11/27/2007	Benzo(k)fluoranthene	<2.0		ug/kg	0.72	2.3	1	12/7/2007	EPA 8270C
3	11/27/2007	Benzo(k)fluoranthene	<2.0		ug/kg	0.79 *	2.5	1	12/7/2007	EPA 8270C
4	11/27/2007	Benzo(k)fluoranthene	<2.0		ug/kg	0.66	2.1	1	12/7/2007	EPA 8270C
5	11/27/2007	Benzo(k)fluoranthene	<2.0		ug/kg	0.68 *	2.1	1	12/7/2007	EPA 8270C
1	11/27/2007	Cadmium	<1.0	35	mg/kg	0.019	0.075	1	12/21/2007	EPA 6010B
2	11/27/2007	Cadmium	<1.0	35	mg/kg	0.02	0.079	1	12/13/2007	EPA 6010B
3	11/27/2007	Cadmium	<1.0	35	mg/kg	0.022	0.087	1	12/14/2007	EPA 6010B
4	11/27/2007	Cadmium	<1.0	35	mg/kg	0.018	0.073	1	12/13/2007	EPA 6010B
5	11/27/2007	Cadmium	<1.0	35	mg/kg	0.018	0.072	1	12/13/2007	EPA 6010B
5	11/27/2007	Chromium	5.1	34300	mg/kg	0.068	0.23	1	12/13/2007	EPA 6010B
3	11/27/2007	Chromium	7.2	34300	mg/kg	0.082	0.27	1	12/13/2007	EPA 6010B
1	11/27/2007	Chromium	10.1	34300	mg/kg	0.071	0.24	1	12/13/2007	EPA 6010B

2	11/27/2007	Chromium	<2.0	34300 mg/kg	0.074	0.25	1	12/13/2007	EPA 6010B
4	11/27/2007	Chromium	<2.0	34300 mg/kg	0.089	0.23	1	12/13/2007	EPA 6010B
5	11/27/2007	Copper	3.6	100 mg/kg	0.14	0.45	1	12/13/2007	EPA 6010B
3	11/27/2007	Copper	5.5	100 mg/kg	0.16	0.54	1	12/13/2007	EPA 6010B
1	11/27/2007	Copper	9	100 mg/kg	0.14	0.47	1	12/13/2007	EPA 6010B
2	11/27/2007	Copper	<1.0	100 mg/kg	0.15 *	0.49	1	12/13/2007	EPA 6010B
4	11/27/2007	Copper	<1.0	100 mg/kg	0.14	0.46	1	12/13/2007	EPA 6010B
5	11/27/2007	Cyanide	0.36	62 mg/kg	0.15 *	0.5	1 H	12/13/2007	EPA 9012A
3	11/27/2007	Cyanide	0.47	62 mg/kg	0.15 *	0.5	1 H	12/13/2007	EPA 9012A
1	11/27/2007	Cyanide	0.59	62 mg/kg	0.15	0.5	1 H	12/13/2007	EPA 9012A
4	11/27/2007	Cyanide	0.68	62 mg/kg	0.15	0.5	1 H	12/13/2007	EPA 9012A
2	11/27/2007	Cyanide	0.82	62 mg/kg	0.15	0.5	1 H	12/13/2007	EPA 9012A
2	11/27/2007	Decachlorobiphenyl	91.4	%			1	12/11/2007	8081
1	11/27/2007	Decachlorobiphenyl	101	%			1	12/11/2007	8081
5	11/27/2007	Decachlorobiphenyl	101	%			1	12/11/2007	8081
3	11/27/2007	Decachlorobiphenyl	102	%			1	12/11/2007	8081
4	11/27/2007	Decachlorobiphenyl	108	%			1	12/11/2007	8081
1	11/27/2007	Dieldrin	<3.2	800 ug/kg dry weig	3.2		1	12/11/2007	8081
2	11/27/2007	Dieldrin	<3.2	800 ug/kg dry weig	3.2		1	12/11/2007	8081
3	11/27/2007	Dieldrin	<3.2	800 ug/kg dry weig	3.2		1	12/11/2007	8081
4	11/27/2007	Dieldrin	<3.2	800 ug/kg dry weig	3.2		1	12/11/2007	8081
5	11/27/2007	Dieldrin	<3.2	800 ug/kg dry weig	3.2		1	12/11/2007	8081
1	12/3/2007	Fecal Coliform	169	MPN/g_TS	N/A	N/A	1 H	12/6/2007	SM 9221
2	12/3/2007	Fecal Coliform	<10.0	MPN/g_TS	N/A	N/A	1 H	12/6/2007	SM 9221
3	12/3/2007	Fecal Coliform	<10.0	MPN/g_TS	N/A	N/A	1 H	12/6/2007	SM 9221
4	12/3/2007	Fecal Coliform	<10.0	MPN/g_TS	N/A	N/A	1 H	12/6/2007	SM 9221
5	12/3/2007	Fecal Coliform	<10.0	MPN/g_TS	N/A	N/A	1 H	12/6/2007	SM 9221
3	11/27/2007	Fluoranthene	3	1080000 ug/kg	0.86	2.7	1	12/7/2007	EPA 8270C
5	11/27/2007	Fluoranthene	4.3	1080000 ug/kg	0.71	2.2	1	12/7/2007	EPA 8270C
1	11/27/2007	Fluoranthene	4.4	1080000 ug/kg	0.74	2.3	1	12/7/2007	EPA 8270C
2	11/27/2007	Fluoranthene	<2.0	1080000 ug/kg	0.78	2.5	1	12/7/2007	EPA 8270C
4	11/27/2007	Fluoranthene	<2.0	1080000 ug/kg	0.72	2.3	1	12/7/2007	EPA 8270C
1	11/27/2007	Fluorene	<2.0	1440000 ug/kg	0.6	1.9	1	12/7/2007	EPA 8270C
2	11/27/2007	Fluorene	<2.0	1440000 ug/kg	0.63	2	1	12/7/2007	EPA 8270C
3	11/27/2007	Fluorene	<2.0	1440000 ug/kg	0.69	2.2	1	12/7/2007	EPA 8270C
4	11/27/2007	Fluorene	<2.0	1440000 ug/kg	0.58	1.9	1	12/7/2007	EPA 8270C
5	11/27/2007	Fluorene	<2.0	1440000 ug/kg	0.58	1.8	1	12/7/2007	EPA 8270C
1	11/27/2007	g-BHC (Lindane)	<0.85	9000 ug/kg dry weig	0.85		1	12/11/2007	8081
2	11/27/2007	g-BHC (Lindane)	<0.85	9000 ug/kg dry weig	0.85		1	12/11/2007	8081
3	11/27/2007	g-BHC (Lindane)	<0.85	9000 ug/kg dry weig	0.85		1	12/11/2007	8081
4	11/27/2007	g-BHC (Lindane)	<0.85	9000 ug/kg dry weig	0.85		1	12/11/2007	8081
5	11/27/2007	g-BHC (Lindane)	<0.85	9000 ug/kg dry weig	0.85		1	12/11/2007	8081
1	11/27/2007	g-Chlordane	<1.6	13000 ug/kg dry weig	1.6		1	12/11/2007	8081
2	11/27/2007	g-Chlordane	<1.6	13000 ug/kg dry weig	1.6		1	12/11/2007	8081
3	11/27/2007	g-Chlordane	<1.6	13000 ug/kg dry weig	1.6		1	12/11/2007	8081
4	11/27/2007	g-Chlordane	<1.6	13000 ug/kg dry weig	1.6		1	12/11/2007	8081
5	11/27/2007	g-Chlordane	<1.6	13000 ug/kg dry weig	1.6		1	12/11/2007	8081
1	11/27/2007	Heptachlor	<1.4	2000 ug/kg dry weig	1.4		1	12/11/2007	8081
2	11/27/2007	Heptachlor	<1.4	2000 ug/kg dry weig	1.4		1	12/11/2007	8081
3	11/27/2007	Heptachlor	<1.4	2000 ug/kg dry weig	1.4		1	12/11/2007	8081
4	11/27/2007	Heptachlor	<1.4	2000 ug/kg dry weig	1.4		1	12/11/2007	8081
5	11/27/2007	Heptachlor	<1.4	2000 ug/kg dry weig	1.4		1	12/11/2007	8081
1	11/27/2007	Heptachlor epoxide	<1.5	400 ug/kg dry weig	1.5		1	12/11/2007	8081
2	11/27/2007	Heptachlor epoxide	<1.5	400 ug/kg dry weig	1.5		1	12/11/2007	8081
3	11/27/2007	Heptachlor epoxide	<1.5	400 ug/kg dry weig	1.5		1	12/11/2007	8081
4	11/27/2007	Heptachlor epoxide	<1.5	400 ug/kg dry weig	1.5		1	12/11/2007	8081
5	11/27/2007	Heptachlor epoxide	<1.5	400 ug/kg dry weig	1.5		1	12/11/2007	8081
1	11/27/2007	Hexachlorobenzene	<2	ug/kg dry weig	2		1	12/11/2007	8081
2	11/27/2007	Hexachlorobenzene	<2	ug/kg dry weig	2		1	12/11/2007	8081
3	11/27/2007	Hexachlorobenzene	<2	ug/kg dry weig	2		1	12/11/2007	8081
4	11/27/2007	Hexachlorobenzene	<2	ug/kg dry weig	2		1	12/11/2007	8081
5	11/27/2007	Hexachlorobenzene	<2	ug/kg dry weig	2		1	12/11/2007	8081
5	11/27/2007	Hexavalent Chromium	<4.9	71 mg/kg	4.9	16	1	12/12/2007	EPA 3060A/7196A
4	11/27/2007	Hexavalent Chromium	<5.0	71 mg/kg	5	16	1	12/12/2007	EPA 3060A/7196A
1	11/27/2007	Hexavalent Chromium	<5.1	71 mg/kg	5.1	16	1	12/12/2007	EPA 3060A/7196A
2	11/27/2007	Hexavalent Chromium	<5.4	71 mg/kg	5.4	17	1	12/12/2007	EPA 3060A/7196A
3	11/27/2007	Hexavalent Chromium	<5.9	71 mg/kg	5.9	19	1	12/12/2007	EPA 3060A/7196A
2	11/27/2007	Lead	1.4	400 mg/kg	0.12	0.39	1	12/13/2007	EPA 6010B
5	11/27/2007	Lead	3.6	400 mg/kg	0.11	0.36	1	12/13/2007	EPA 6010B
3	11/27/2007	Lead	4.8	400 mg/kg	0.14	0.44	1	12/13/2007	EPA 6010B
1	11/27/2007	Lead	7.1	400 mg/kg	0.12	0.38	1	12/13/2007	EPA 6010B
4	11/27/2007	Lead	<1.0	400 mg/kg	0.11	0.37	1	12/13/2007	EPA 6010B
4	11/27/2007	Manganese	63.5	1400 mg/kg	0.1	0.35	1	12/13/2007	EPA 6010B
2	11/27/2007	Manganese	105	1400 mg/kg	0.11	0.38	1	12/13/2007	EPA 6010B
5	11/27/2007	Manganese	483	1400 mg/kg	1	3.5	10	12/21/2007	EPA 6010B
1	11/27/2007	Manganese	687	1400 mg/kg	1.1	3.7	10 Y	12/21/2007	EPA 6010B
3	11/27/2007	Manganese	734	1400 mg/kg	1.2	4.2	10	12/21/2007	EPA 6010B
1	11/27/2007	Mercury	<0.10	0.7 mg/kg	0.0019	0.0061	1	12/10/2007	EPA 7471A
2	11/27/2007	Mercury	<0.10	0.7 mg/kg	0.002	0.0064	1	12/10/2007	EPA 7471A
3	11/27/2007	Mercury	<0.10	0.7 mg/kg	0.0022	0.0071	1	12/10/2007	EPA 7471A
4	11/27/2007	Mercury	<0.10	0.7 mg/kg	0.0018	0.006	1	12/10/2007	EPA 7471A
5	11/27/2007	Mercury	<0.10	0.7 mg/kg	0.0018 *	0.0059	1	12/10/2007	EPA 7471A

1	11/27/2007	Naphthalene	<2.0	10000 ug/kg	0.47	1.5	1	12/7/2007	EPA 8270C
2	11/27/2007	Naphthalene	<2.0	10000 ug/kg	0.49	1.6	1	12/7/2007	EPA 8270C
3	11/27/2007	Naphthalene	<2.0	10000 ug/kg	0.54	1.7	1	12/7/2007	EPA 8270C
4	11/27/2007	Naphthalene	<2.0	10000 ug/kg	0.46	1.5	1	12/7/2007	EPA 8270C
5	11/27/2007	Naphthalene	<2.0	10000 ug/kg	0.45	1.4	1	12/7/2007	EPA 8270C
2	11/27/2007	Nickel	2	520 mg/kg	0.22	0.73	1	12/21/2007	EPA 6010B
5	11/27/2007	Nickel	4.9	520 mg/kg	0.2	0.67	1	12/21/2007	EPA 6010B
3	11/27/2007	Nickel	6.8	520 mg/kg	0.24	0.8	1	12/21/2007	EPA 6010B
1	11/27/2007	Nickel	11.2	520 mg/kg	0.21	0.7	1	12/21/2007	EPA 6010B
4	11/27/2007	Nickel	<2.0	520 mg/kg	0.21	0.68	1	12/21/2007	EPA 6010B
4	11/27/2007	Nitrogen Kjeldahl	160	mg/kg	24	80	1	12/10/2007	EPA 351.2
2	11/27/2007	Nitrogen Kjeldahl	200	mg/kg	26	86	1	12/10/2007	EPA 351.2
5	11/27/2007	Nitrogen Kjeldahl	540	mg/kg	24	79	1	12/10/2007	EPA 351.2
1	11/27/2007	Nitrogen Kjeldahl	850	mg/kg	25	83	1	12/10/2007	EPA 351.2
3	11/27/2007	Nitrogen Kjeldahl	1400	mg/kg	29	95	1	12/10/2007	EPA 351.2
5	11/27/2007	Percent Moisture	11.5	%	N/A	N/A	1	12/19/2007	SM 2540G
4	11/27/2007	Percent Moisture	12.61	%	N/A	N/A	1	12/19/2007	SM 2540G
1	11/27/2007	Percent Moisture	15.17	%	N/A	N/A	1	12/19/2007	SM 2540G
2	11/27/2007	Percent Moisture	18.97	%	N/A	N/A	1	12/19/2007	SM 2540G
3	11/27/2007	Percent Moisture	26.45	%	N/A	N/A	1	12/19/2007	SM 2540G
2	11/27/2007	Phenolics	0.15	1100 mg/kg	0.074 *	0.23	1 B	12/14/2007	EPA 9066
5	11/27/2007	Phenolics	0.39	1100 mg/kg	0.068	0.21	1 B	12/14/2007	EPA 9066
1	11/27/2007	Phenolics	0.76	1100 mg/kg	0.071	0.22	1 B	12/14/2007	EPA 9066
3	11/27/2007	Phenolics	0.86	1100 mg/kg	0.082	0.26	1 B,M,Y	12/14/2007	EPA 9066
4	11/27/2007	Phenolics	<0.069	1100 mg/kg	0.069	0.22	1	12/14/2007	EPA 9066
4	11/27/2007	Phosphorous	20	mg/kg	18 *	60	1	12/10/2007	EPA 365.4
2	11/27/2007	Phosphorous	28	mg/kg	20 *	64	1	12/10/2007	EPA 365.4
5	11/27/2007	Phosphorous	190	mg/kg	18	59	1	12/10/2007	EPA 365.4
1	11/27/2007	Phosphorous	320	mg/kg	19	61	1	12/10/2007	EPA 365.4
3	11/27/2007	Phosphorous	530	mg/kg	22	71	1	12/10/2007	EPA 365.4
3	11/27/2007	Pyrene	2.2	890000 ug/kg	0.54	1.7	1	12/7/2007	EPA 8270C
5	11/27/2007	Pyrene	3.4	890000 ug/kg	0.45	1.4	1	12/7/2007	EPA 8270C
1	11/27/2007	Pyrene	3.6	890000 ug/kg	0.47	1.5	1	12/7/2007	EPA 8270C
2	11/27/2007	Pyrene	<2.0	890000 ug/kg	0.49	1.6	1	12/7/2007	EPA 8270C
4	11/27/2007	Pyrene	<2.0	890000 ug/kg	0.46	1.5	1	12/7/2007	EPA 8270C
5	12/3/2007	Solids, Percent	69.4	%	N/A	N/A	1	12/10/2007	EPA 8000C
3	11/27/2007	Solids, Percent	73.55	%	N/A	N/A	1	12/5/2007	EPA 8000C
3	12/3/2007	Solids, Percent	77	%	N/A	N/A	1	12/10/2007	EPA 8000C
2	11/27/2007	Solids, Percent	81.03	%	N/A	N/A	1	12/5/2007	EPA 8000C
1	12/3/2007	Solids, Percent	81.1	%	N/A	N/A	1	12/10/2007	EPA 8000C
1	11/27/2007	Solids, Percent	84.83	%	N/A	N/A	1	12/5/2007	EPA 8000C
4	11/27/2007	Solids, Percent	87.39	%	N/A	N/A	1	12/5/2007	EPA 8000C
5	11/27/2007	Solids, Percent	88.5	%	N/A	N/A	1	12/5/2007	EPA 8000C
2	12/3/2007	Solids, Percent	95.5	%	N/A	N/A	1	12/10/2007	EPA 8000C
4	12/3/2007	Solids, Percent	96.8	%	N/A	N/A	1	12/10/2007	EPA 8000C
2	11/27/2007	Tetrachloro-m-xylene	97.4	%	N/A	N/A	1	12/11/2007	8081
1	11/27/2007	Tetrachloro-m-xylene	109	%	N/A	N/A	1	12/11/2007	8081
3	11/27/2007	Tetrachloro-m-xylene	113	%	N/A	N/A	1	12/11/2007	8081
4	11/27/2007	Tetrachloro-m-xylene	113	%	N/A	N/A	1	12/11/2007	8081
5	11/27/2007	Tetrachloro-m-xylene	119	%	N/A	N/A	1	12/11/2007	8081
1	11/27/2007	Total Organic Carbon	790	mg/kg	74	250	1	12/13/2007	LLloyd Kahn
5	11/27/2007	Total Organic Carbon	<71	mg/kg	71	240	1	12/13/2007	LLloyd Kahn
4	11/27/2007	Total Organic Carbon	<72	mg/kg	72	240	1	12/13/2007	LLloyd Kahn
2	11/27/2007	Total Organic Carbon	<78	mg/kg	78	260	1	12/13/2007	LLloyd Kahn
3	11/27/2007	Total Organic Carbon	<86	mg/kg	86	280	1	12/13/2007	LLloyd Kahn
1	11/27/2007	Total Solids	69.2	%			1	12/11/2007	8081
3	11/27/2007	Total Solids	75	%			1	12/11/2007	8081
5	11/27/2007	Total Solids	78	%			1	12/11/2007	8081
2	11/27/2007	Total Solids	81.3	%			1	12/11/2007	8081
4	11/27/2007	Total Solids	82.1	%			1	12/11/2007	8081
2	11/27/2007	Total Volatile Solids	0	gVS/gTS	N/A	N/A	1	12/5/2007	EPA 160.4
4	11/27/2007	Total Volatile Solids	0	gVS/gTS	N/A	N/A	1	12/5/2007	EPA 160.4
5	11/27/2007	Total Volatile Solids	0.02	gVS/gTS	N/A	N/A	1	12/5/2007	EPA 160.4
3	11/27/2007	Total Volatile Solids	0.03	gVS/gTS	N/A	N/A	1	12/5/2007	EPA 160.4
1	11/27/2007	Total Volatile Solids	0.05	gVS/gTS	N/A	N/A	1	12/5/2007	EPA 160.4
1	11/27/2007	Toxaphene	<380	1300 ug/kg dry weig	380		1	12/11/2007	8081
2	11/27/2007	Toxaphene	<380	1300 ug/kg dry weig	380		1	12/11/2007	8081
3	11/27/2007	Toxaphene	<380	1300 ug/kg dry weig	380		1	12/11/2007	8081
4	11/27/2007	Toxaphene	<380	1300 ug/kg dry weig	380		1	12/11/2007	8081
5	11/27/2007	Toxaphene	<380	1300 ug/kg dry weig	380		1	12/11/2007	8081
4	11/27/2007	Zinc	2.5	8700 mg/kg	0.08	0.27	1	12/13/2007	EPA 6010B
2	11/27/2007	Zinc	5	8700 mg/kg	0.086	0.3	1	12/13/2007	EPA 6010B
5	11/27/2007	Zinc	17.4	8700 mg/kg	0.079	0.27	1	12/13/2007	EPA 6010B
3	11/27/2007	Zinc	26.5	8700 mg/kg	0.095	0.33	1	12/13/2007	EPA 6010B
1	11/27/2007	Zinc	42.4	8700 mg/kg	0.083	0.28	1	12/13/2007	EPA 6010B

Devendorf, Randall D MVP

From: Mader, Judy [Judy.Mader@state.mn.us]
Sent: Tuesday, January 29, 2008 1:54 PM
To: Devendorf, Randall D MVP
Subject: Rush Creek sediment

Since it meets the Tier 1 SRV, commercial development should not be a problem. I would have to think about any restrictions on how they handle the stormwater from the site if they were to propose filtration/infiltration (i.e. rain gardens), but it sounded like development of that site was not imminent.

-----Original Message-----

From: Devendorf, Randall D MVP [mailto:randall.d.devendorf@usace.army.mil <mailto:randall.d.devendorf@usace.army.mil>]
Sent: Tuesday, January 29, 2008 1:48 PM
To: Mader, Judy
Subject: RE: Rush Creek sediment

As you may know - the site provided by the city for disposal of excavated material is a site they are developing for commercial use. I interpret your analysis the mean that there would be no restrictions on the use of the excavated material for preparing the disposal site for development.

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District

Phone: 651-290-5267
e-mail: randall.d.devendorf@usace.army.mil

-----Original Message-----

From: Mader, Judy [mailto:Judy.Mader@state.mn.us <mailto:Judy.Mader@state.mn.us>]
Sent: Tuesday, January 29, 2008 1:29 PM
To: Devendorf, Randall D MVP
Subject: Rush Creek sediment

Randy:

I have finished my evaluation of the sediment analyses for Rush Creek in Rushford, MN.

I compared the analytical results to the Ontario Ministry of the Environment's (OME) sediment guidelines and the Minnesota Pollution Control Agency's (MPCA) sediment quality targets (SQTs) for in-water placement and the Tier I Soil Reference Values (SRV) developed for assessing soil/sediment quality in upland settings.

Normally I use the OME's guidelines and the MPCA's SQTs to evaluate what is left behind at the sediment/water interface that could cause problems after a dredging activity has been completed. In this case however, I used them to characterize soils that potentially will be exposed to future flooding events.

Neither OME nor the MPCA have developed guidelines/targets for: cyanide, ammonia nitrogen, hexavalent chromium, anthracene, benzo(b)fluoranthene, alpha Chlordane and gamma Chlordane.

There is no Tier 1 SRV for: Total Kjeldahl Nitrogen, total phosphorus, ammonia nitrogen, acenaphthylene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene,

benzo(g,h,i)perylene, phenanthrene, alpha Chlordane, gamma Chlordane, or Arochlors 1016, 1248, 1254 and 1260.

The LODs (Level/Limit of Detection?) and LOQs (Level/Limit of Quantitation?) were too high for the Arochlors to allow a comparison to the OME's guidelines and the MPCA's SQTs.

The Total Organic Carbon results should have been reported as % for all samples instead of as milligram per kilogram (mg/kg) dry weight.

The analytical results for cadmium for all samples was reported as less than 1.0 mg/kg. This < 1.0 mg/kg result is acceptable for comparison with the Tier 1 SRV, which is 25 mg/kg. However, that result is slightly above OME's low effect level (lel) and the MPCA's SQT Level 1 (0.6 mg/kg and 0.99 mg/kg, respectively).

Samples 1, 2, and 4 represent what was deposited during the flood event in August 2007. Samples 3 and 5 represent what was present in the floodplain prior to that event. (It is expected that the material represented by Samples 1, 2, and 4 will be removed by the Corps. There currently are no known plans to remove the other material.)

Only the parameters mentioned below did not meet OME's lel, the MPCA's SQT Level 1 or the Tier 1 SRV.

Manganese was above OME's lel, but below the severe effect level (sel) in Samples 1, 3, and 5. (There is no MPCA SQT developed for this parameter.)

The Total Kjeldahl Nitrogen was above the lel, but below the sel in Samples 1 and 3. (There is no MPCA SQT developed for this parameter.)

Since the results for all of the samples fell below their respective Tier 1 SRV, the MPCA does not foresee a problem with placement of the material deposited by the flood event in an upland site. The MPCA also does not foresee any problems should the material represented by Samples 3 and 5 remain in place.

Rush Creek is classified as a 1B, 2A, 3B water in the location of the project.

Judy M.

Devendorf, Randall D MVP

From: Devendorf, Randall D MVP
Sent: Thursday, February 07, 2008 9:50 AM
To: Devendorf, Randall D MVP
Subject: RE: Rushford MN, Corps of Engineers proposed repairs

Documentation of Telephone Conversation

Corey Hanson called me on Tuesday, 5 February, to discuss the Rushford Project. He indicated that the General Permit would be applicable for the proposed work. However, their policy for this permit is that the landowner sign the permit notification form. In this case it would be the City of Rushford. He saw no problems with the proposed work at this time.

Mr. Hanson did indicate that he could not find a Waters Permit on file for maintenance activities for the project. He suggested that it may be desirable for City of Rushford to initiate that process for future work that may be required.

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District

Phone: 651-290-5267
e-mail: randall.d.devendorf@usace.army.mil

-----Original Message-----

From: Devendorf, Randall D MVP
Sent: Monday, February 04, 2008 3:12 PM
To: Corey.Hanson@state.mn.us
Subject: Rushford MN, Corps of Engineers proposed repairs

Corey:

I have taken over the Rushford Mn Emergency Repairs project from Dick Beatty. As you are aware, the Corps proposed action at Rushford involves the removal of sediment from the floodway that was deposited by the storm and the replacement of riprap in several areas along the existing project. All of the work would restore the project area to "pre-event" conditions and would not increase the footprint or level of protection provided by the FDR project at Rushford.

The current schedule is to have an Environmental Assessment out for public review within the next week or so, and to have the P&S done within the next few weeks. Our goal is to have a contract awarded by the first week in April.

In going through the files I found that MN DNR re-newed a general waters permit for repair/restoration of structures. I am assuming that this permit is applicable to the proposed action and we will be filling out the information sheet and providing that to your office at least 5 days before initiating construction. However - as matter of policy, the Corps does not usually sign the permit application. I am assuming this will not be an issue in your review/verification of permit applicability at that time.

I am just touching base with you at this time to ensure my perceptions of the permit applicablity and process are correct. Feel free to e-mail or call me if you would like to discuss.

Randy

Devendorf, Randall D MVP

From: Devendorf, Randall D MVP
Sent: Wednesday, February 06, 2008 8:15 AM
To: Corey.Hanson@state.mn.us
Cc: Hamborg, Roland O MVP; judy.mader@state.mn.us; Wayne Barstad (Wayne.Barstad@state.mn.us)
Subject: RUSHFORD X-sections
Attachments: Rushford X-Sections.pdf



Rushford
Sections.pdf (206 K)

Corey:

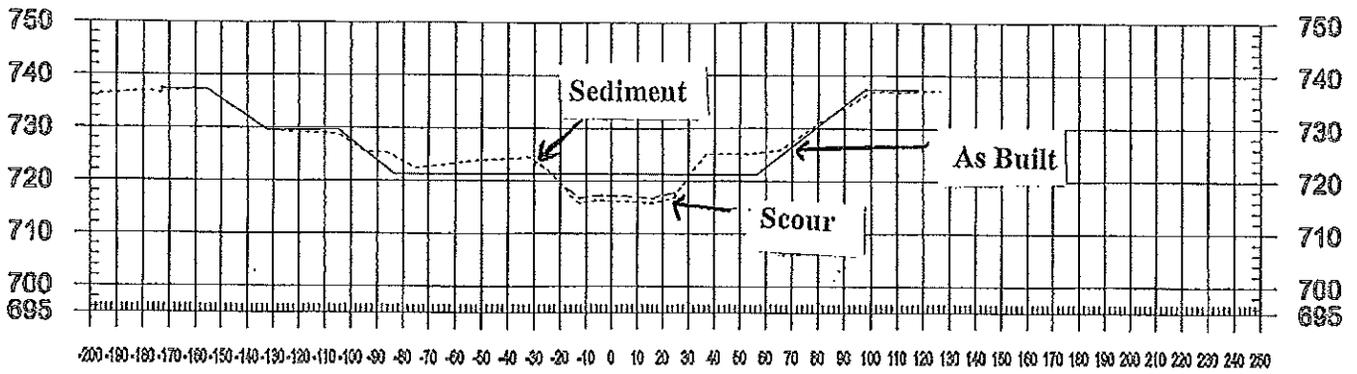
FYI - Attached are some select x-sections showing changes that have occurred at the Rushford Project since it was built. As you can see - Rush Creek established a low-flow channel and there has been deposition in the resulting overbank area. It is estimated that anywhere from 6 inches to 3 feet of material (depending on location) in the over-bank area would need to be removed to restore the area to "pre-flood event" conditions. I would guess that the average amount of material removed through out the reach would be about 1.5 feet. It is uncertain as to whether or not the city will be able to proceed in the near future with additional excavation to restore any of the overbank areas to "as built" elevations.

We are currently working on developing a 3-D model that would better depict the changes that have occurred with the project, but I am not sure when this will be available.

Randy

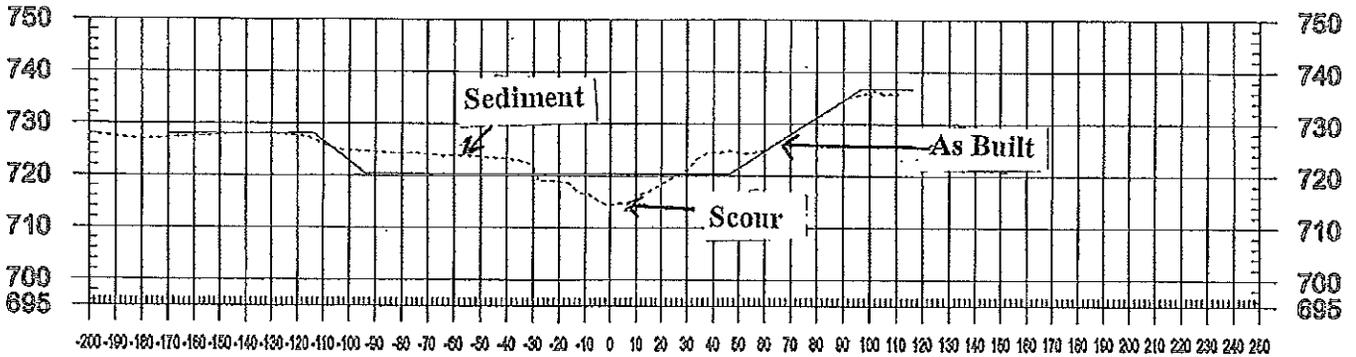
Randall D. Devendorf
Wildlife Biologist
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St. Paul District
190 5th Street East
St. Paul, Mn 55101-1638

Phone: 651-290-5267
Fax: 651-290-5258
e-mail: randall.d.devendorf@usace.army.mil



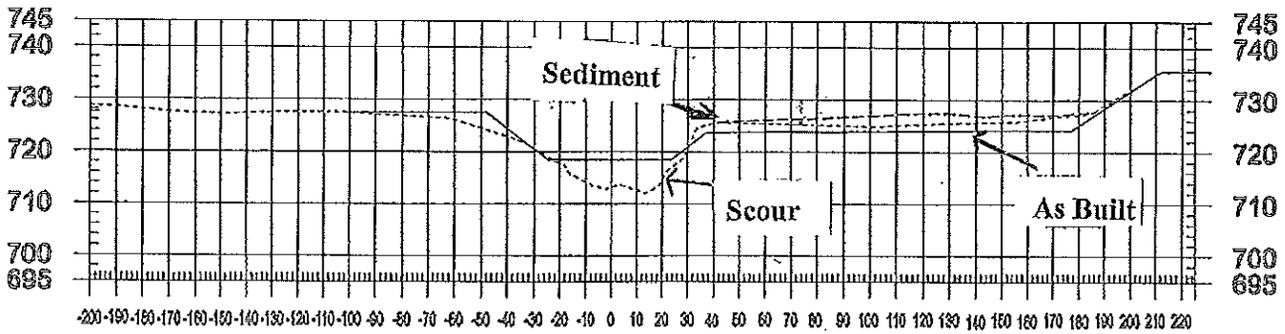
A-A
647 AS-BUILT

43(2)
SOUNDINGS



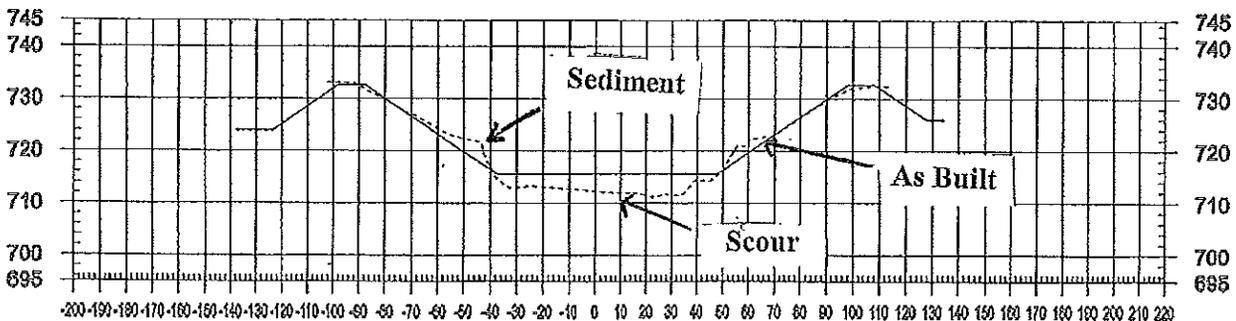
B-B
647 AS-BUILT

33(0)
NO SOUNDING



C-C
647 AS-BUILT
AREA 'M'

23(0)



E-E
64/10 AS-BUILT

10(0)

SELECT X-SECTIONS SHOWING CHANGES FROM AS BUILT



DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

February 13, 2008

Planning, Programs and Project Management Division
Environmental and Economic Analysis Branch

SUBJECT: Rehabilitation and Repair of Rush Creek Flood Control Project at Rushford,
Fillmore County, Minnesota.

Mr. David Mather
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, Minnesota 55102

Dear Mr. Mather:

The U.S. Army Corps of Engineers, St. Paul District (Corps), is proposing to repair existing flood control structures along Rush Creek in the city of Rushford, Fillmore County, Minnesota (Figure 1). All of the work associated with the proposed actions will take place within previously disturbed areas. The Corps has determined that no cultural resources are expected to be affected by the project. This letter reviews the proposed actions and their relationships to cultural resources within the area and substantiates the Corps determination of no adverse effect on cultural resources.

Rushford is located in southeastern Minnesota in Fillmore County, approximately 100 miles southeast of St. Paul, Minnesota, and 25 miles west of La Crosse, Wisconsin. Rush Creek passes through Rushford, entering on the northwest corner of the community and exiting 1.4 miles downstream at the confluence of the creek with the Root River. The Rush Creek watershed above Rushford is approximately 135 square miles. The Root River passes on the south side of the community and continues for approximately 25 miles to where it joins with the Mississippi River. On August 17 and 18, 2007, up to 17 inches of rain fell over southeast Minnesota and the Rush Creek/Root River drainage basin within a 24-hour period. The resulting flooding extensively damaged the existing flood control project at Rushford, originally completed in 1969. Key damages included a new creek channel cut at the upstream end of the project, sediment accumulation in the existing channel at various locations and in a dry run, sloughing of the riverward slope of the levee at various locations, and undercutting of the Park Street bridge abutments. The authorization for the proposed repair of the existing structures is given in Public Law 84-99. This legislation allows the Corps to repair flood control structures that have been damaged during flood events.

The locations of the proposed actions are depicted in Figure 1 and are identified by the letters A through I:

- A. Left descending bank above the Highway 43 bridge, remove sediment in new channel cut, reshape slopes and replace riprap.
- B. Left descending bank above the Highway 43 bridge, remove sediment, reshape slopes and replace riprap.
- C. Right descending bank above the Highway 43 bridge, replace riprap (Figure 2).
- D. Left descending bank below the Highway 43 bridge, remove sediment, reshape slopes and replace riprap.
- E. Dry run from unnamed coulee to northeast, remove sediment, replace riprap.
- F. Bank repair near Park Street Bridge, place impervious fill under abutment, restore bank, replace riprap.
- G. Rush Creek channel below the Milwaukee Road railroad bridge/recreation trail, remove sediment, reshape slope, replace riprap (Figure 3).
- H. Right descending bank between the Highway 43 bridge and Rushford Avenue, remove sediment.
- I. Placement site for removed sediment (Figure 4).

None of the actions proposed would increase the level of protection or the size of the repaired structure's footprint beyond that of the original flood control structures. All of the work associated with the proposed actions outlined above will take place within the previously constructed channel, along existing levees or within otherwise disturbed areas. It is not expected that these actions will impact cultural resources.

A variety of cultural resource sites have been identified within the city of Rushford. No precontact sites have been identified within the project area, although four sites are within 1 mile of the proposed actions: 21FL2, once a group of nine mounds to the west of Rushford; 21FL9, a group of six mounds located on the bluff top on the western edge of the city; 21FL72, a lithic scatter located north of the city; and 21Flap, once a mill located on the Root River south of the city. Historic cultural resources include a number of standing structures that are mostly within the city and out of the project area. The Rushford City Mill, near proposed action C (Figures 1 and 2), and the Walker-Valentine House, near proposed action B (Figure 1), are listed on the National Register of Historic Places. While both of these historic properties are immediately adjacent to proposed actions, they will not be affected. The third historic structure is the Milwaukee Road railroad bridge/recreation trail near proposed action G (Figures 1 and 3). The bridge, unevaluated for listing on the register, is within the project area although no proposed actions would impact the bridge. There is no information regarding cultural resources work completed for the late 1960s flood control project. However, the proposed actions will take place within previously disturbed areas of the channel or along the existing levees and should have no impact on precontact or historic cultural resources. In addition, the proposed actions will restore the existing flood control structures to their

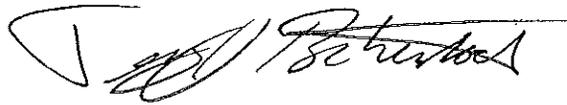
preflood conditions. Therefore, they should have no indirect impacts, such as on visual aesthetics, on the historic standing structures.

For proposed action I, the placement site for the removed sediments from the channel, no impact on cultural resources is envisioned. This parcel, approximately 6 acres in size, is on a previously cultivated terrace of Rush Creek on the north side of Rushford. Soils along this terrace should not harbor buried horizons. In anticipation of future development, the city of Rushford has modified the parcel over a number of years. According to city staff, alterations include the removal of topsoil, removal of farmstead foundations in 2003, storage of sand and other debris, placement of fill in some areas, road construction on the south side, and drainage ditch construction on the east side (Figures 1 and 4). No cultural resources investigations were completed on this parcel. While the terrace setting of this parcel qualifies the area as having a high probability to harbor cultural resources, its recent land use voids this assessment, and the placement site now is judged to have no impact on cultural resources.

In summary, a variety of proposed actions will repair the existing flood control structures along Rush Creek as it passes through the city of Rushford. All of the proposed actions will occur within previously disturbed areas. The Corps has determined that the proposed actions will have no adverse effect on cultural resources.

Please review the above and provide your comments as soon as practicable. If you have any questions, please contact Mr. Bradley Perkl, Corps archaeologist, at 651-290-5370.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry J. Birkenstock". The signature is written in a cursive style with a large initial "T" and "B".

Terry J. Birkenstock
Chief, Environmental and Economic
Analysis Branch

4 Enclosures

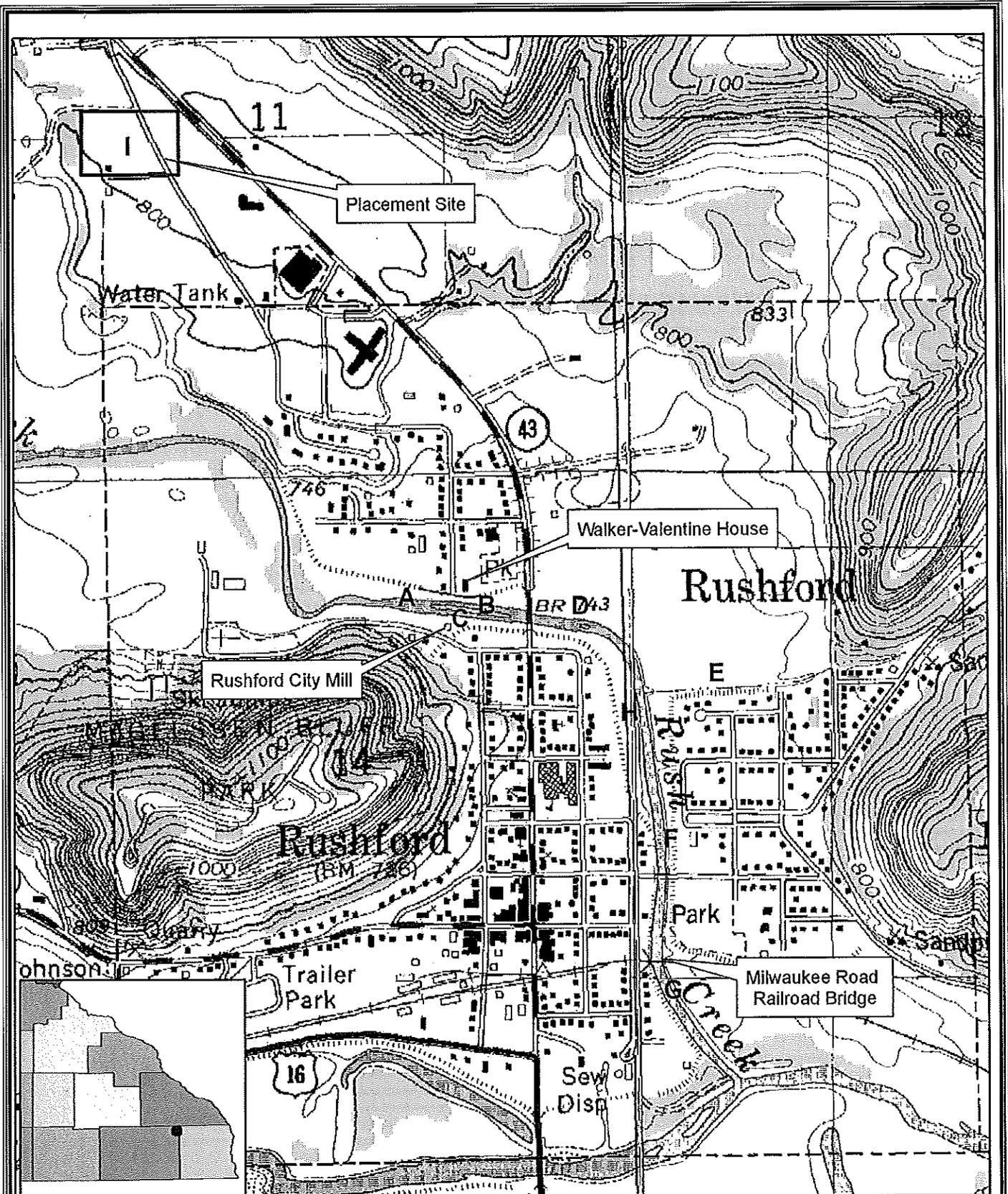
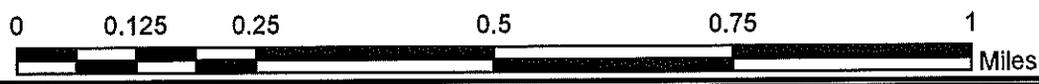


Figure 1. Rushford Flood Control Project: Levee Repair and Cultural Resource Locations


 St. Paul District
 Cultural
 US Army Corps
 of Engineers

Proposed Actions: A-I

Placement Site: 



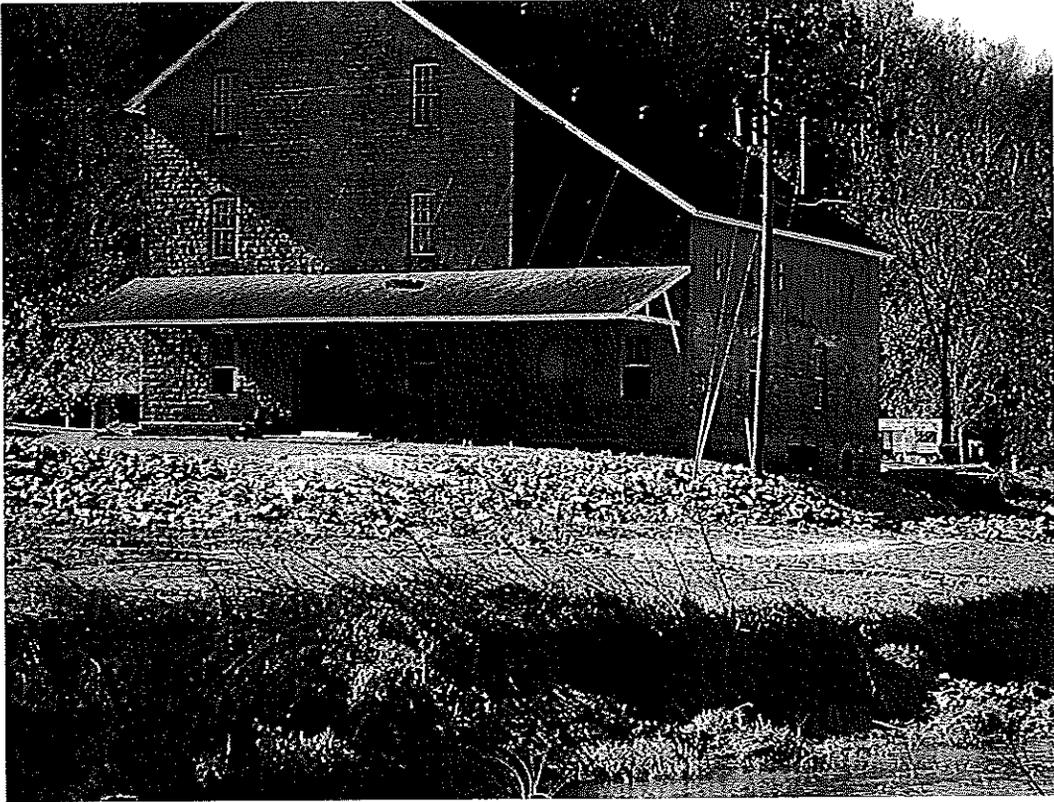


Figure 2. View of proposed riprap repair near the historic Rushford City Mill at proposed action C, looking west.

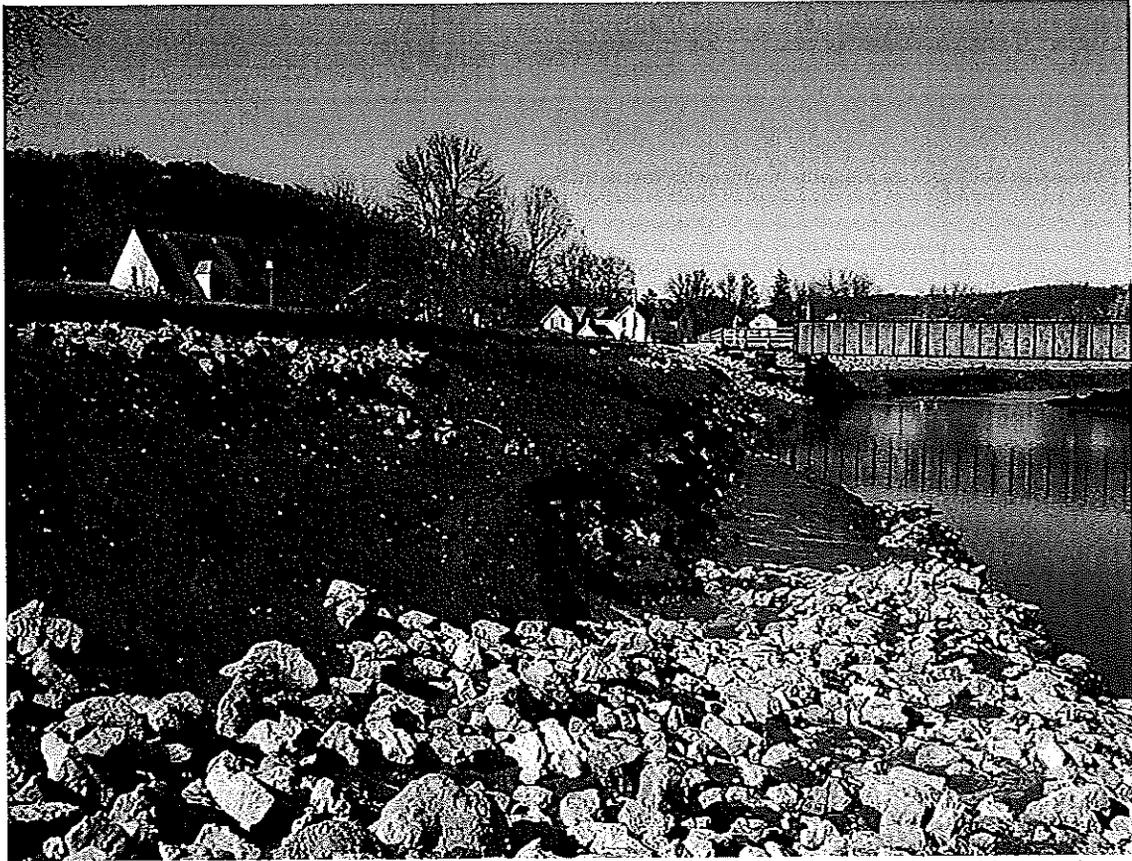
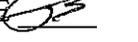


Figure 3. View of proposed riprap repair, sediment removal and reshaping of levee slope at proposed action G, view to north.



Figure 4. View of proposed sediment placement site at proposed action I, view to northwest.

Perkl PM-E 
Birkenstock PM-E 

File name: Rushford levee SHPO consult letter(2).doc

Devendorf, Randall D MVP

From: Gary_Wege@fws.gov
Sent: Tuesday, February 26, 2008 2:37 PM
To: Birkenstock, Terry MVP
Cc: Devendorf, Randall D MVP
Subject: DEA and DFONSI, repairs to Rushford Flood Control Project, MN

Terry:

This responds to your February 20, 2008, letter requesting U.S. Fish and Wildlife Service comments on the proposed repairs to the Rushford Flood Control Project in Houston County, Minnesota. Damages to the original project were caused by extreme flooding this past summer.

There are currently no federally endangered or threatened species known to occur at the above project location. Therefore, this precludes the need for further action on this project as required under section 7 of the Endangered Species Act of 1973, as amended. However, if the project is modified or new information becomes available which indicates that listed species may occur in the affected area, consultation with this office should be reinitiated.

We also do not anticipate substantial adverse impacts to existing fish and wildlife resources in the project area as a result of the proposed repair activities.

We appreciate the opportunity to comment and look forward to working with you in the future. If you have questions regarding our comments, please call me at (612) 725-3548, extension 207.

Sincerely,

Gary Wege

Devendorf, Randall D MVP

From: Devendorf, Randall D MVP
Sent: Monday, March 10, 2008 11:54 AM
To: Corey.Hanson@state.mn.us
Cc: Wayne Barstad (Wayne.Barstad@state.mn.us); Hamborg, Roland O MVP
Subject: Rushford Flood Damage Repair - proposed additional work

Attachments: RUSHFORD_Park_Street_Bridge.pdf; Toe repair.pdf; Rushford_toe_repair_reaches.jpg



RUSHFORD_Park_S Toe repair.pdf (95 KB)
Rushford_toe_repair_reaches.jp...

Cory:

As you know the EA for the Rushford repairs is out for review. For the most part, all of the work proposed involves repairing damaged sections of the project and restoring it to pre-flood event conditions in accordance with the original design. This primarily involves repairing eroded embankments, replacement of riprap and clean out of outfalls/gatewells. I recently received information about additional work that needs to be done in conjunction with the project. Along two reaches of the project (see attached map), the channel has cut down so much that the toe of the riprap is in danger of potentially being undercut during high flow events. Such a situation could result in future embankment failure along reaches of the project if this is not corrected.

The proposed solution is to build a riprap berm along the toe of the existing embankment extending out about 5 feet. This would be done on both sides of the channel on the downstream reach, and long the left descending bank on the upstream reach. The total stream length affected would be about 2000 feet (with a maximum of 3,500-4,000 lineal feet of bank work).

I have done some checking and the proposed work would be in accordance with the COE RGP-3-MN (the foot-print of the additional riprap would be less than .5 acres). As such a separable 404 will not be prepared for this project. My question is - would the additional proposed work be in accordance with the General Waters Permit that has been issued for repairs of structures and facilities damaged by flooding?

I have attached a map showing the approximate location of the work, a general cross-section showing what is being proposed and a few photos showing upstream and downstream of the East Park Street Bridge.

Don't hesitate to call if you have questions.

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District
190 5th Street East
St. Paul, Mn 55101-1638

Phone: 651-290-5267
Fax: 651-290-5258
e-mail: randall.d.devendorf@usace.army.mil



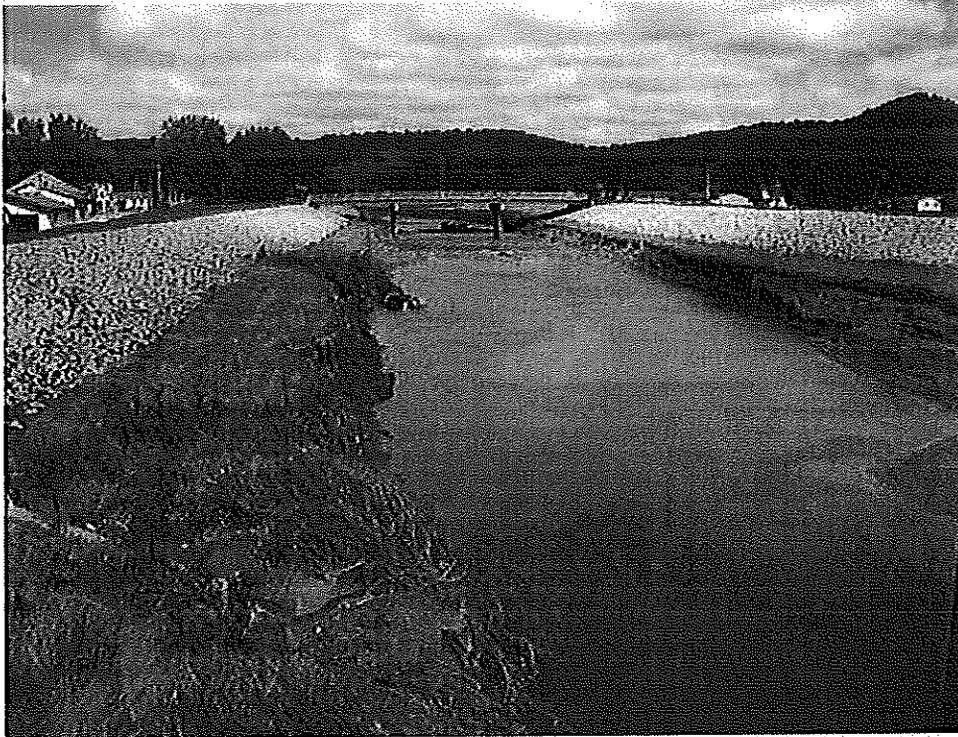
toe repair

toe repair

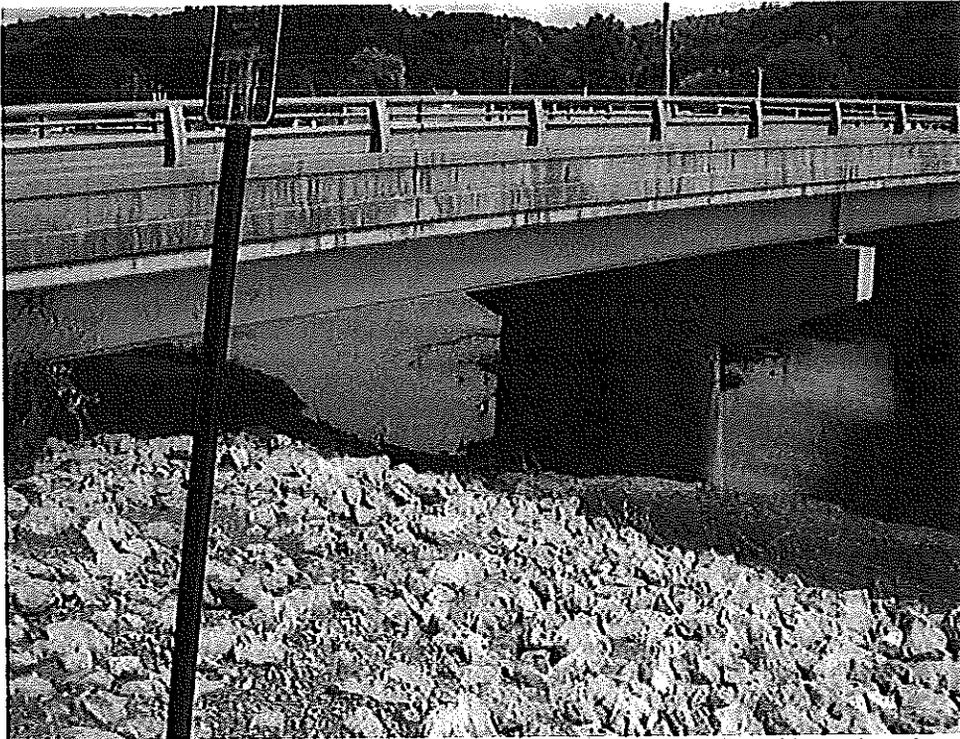
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Google™

Pointer 43°48'35.91" N 91°45'10.01" W elev 729 ft Streaming 100% Eye alt 5525 ft



61. Rush Creek – Photo looking upstream from the railway bridge.



62. Levee "B" – Photo of the Park Street bridge pier, missing riprap under bridge and erosion.

Comment – 1) Note, the height of the graffiti on the bridge pier, gives an idea of how much channel erosion occurred.

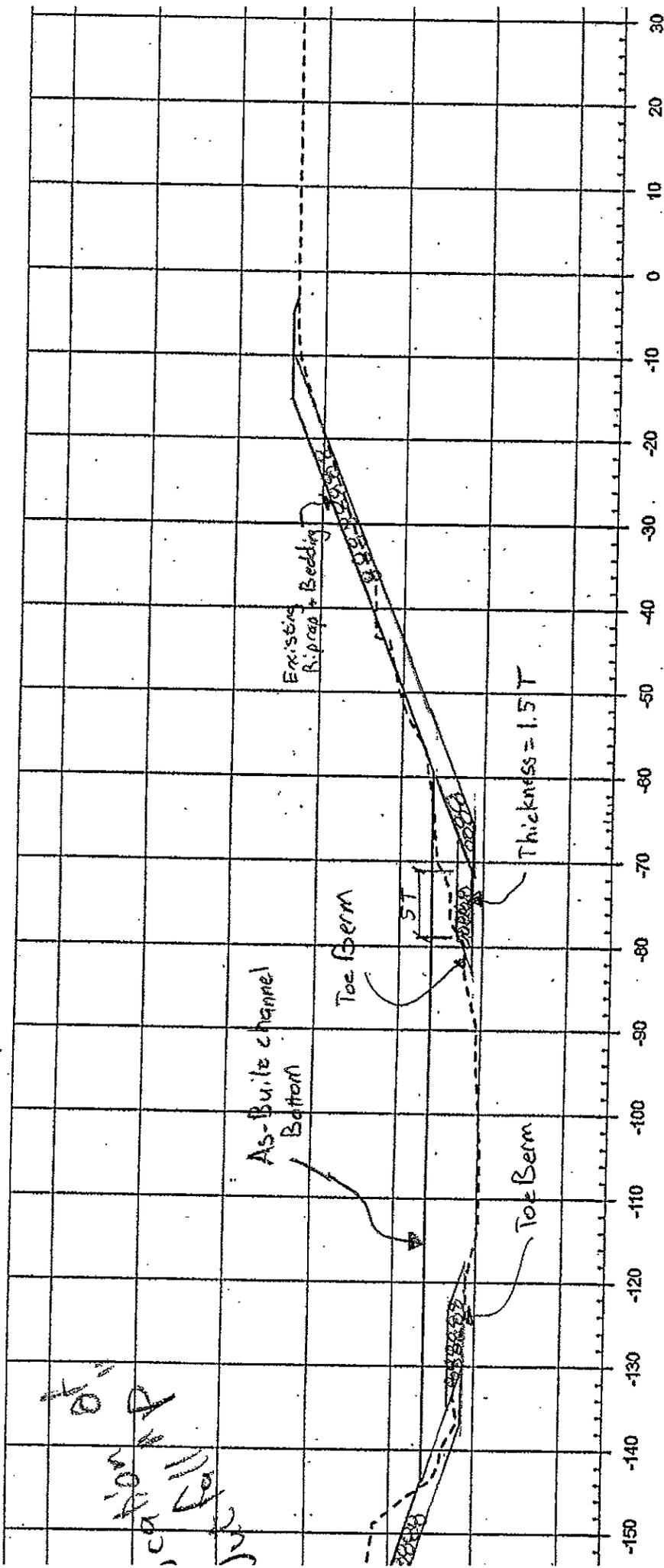
2) Like the left bridge abutment the rock protection was also displaced on the right bank under the bridge



63. Rush Creek – Looking downstream from Park Street Bridge



64. Rush Creek – Looking upstream from the Park Street Bridge.



Typical Riprap Toe Berm

Levee B
CL

D+00

Location of Fall

Difference between center vs recent

Devendorf, Randall D MVP

From: Devendorf, Randall D MVP
Sent: Thursday, April 10, 2008 1:50 PM
To: Hamborg, Roland O MVP
Cc: 'Corey Hanson'
Subject: Rushford Rehabilitation - DNR Waters Review

Roland:

I was able to talk to Corey Hanson of the Mn DNR Waters Office in Rochester. He has told me that he has no comments on the EA. Also - it is his determination that based on the understanding that we are restoring the project to pre-flood conditions and that we not expanding the foot print of the project, the DNR Waters general permit for repair of structures damaged by floods is applicable. He indicated that since he has the EA, all the city needs to do is submit the filled out permit application. No other documentation will be needed. He indicated that the earlier they send this in the better. I suggest we have the City send this in as soon as we get the FONSI signed.

Also - if possible - Corey would like a copy of the as-built drawings. I told him I think we had them scanned and thought we could get it burned onto a CD and sent to him. Let me know if I was wrong on that.

Randy

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District
190 5th Street East
St. Paul, Mn 55101-1638

Phone: 651-290-5267
Fax: 651-290-5258
e-mail: randall.d.devendorf@usace.army.mil

Devendorf, Randall D MVP

From: Devendorf, Randall D MVP
Sent: Monday, March 03, 2008 1:49 PM
To: 'Mader, Judy'
Cc: Birkenstock, Terry MVP; Hamborg, Roland O MVP
Subject: RE: Rushford EA

Judy,

Thanks for your timely comments on the EA. If not already obtained by the city of Rushford for the site, an NPDES/SDS permit for construction will be obtained prior to the placement of material at the disposal site.

Randy

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District

Phone: 651-290-5267
e-mail: randall.d.devendorf@usace.army.mil

-----Original Message-----

From: Mader, Judy [mailto:Judy.Mader@state.mn.us]
Sent: Monday, March 03, 2008 1:36 PM
To: Birkenstock, Terry MVP
Cc: Devendorf, Randall D MVP
Subject: Rushford EA

Terry:

I have reviewed the Environmental Assessment for the Rehabilitation and Repair project on the Root River and Rush Creek Flood Control Project in Rushford, MN and only have a few comments for your consideration.

The first is to reiterate that a National Pollutant Discharge Elimination System/State Disposal System General Permit for construction activities will be needed for the placement site for the sediment removed from the various locations in the project area.

The second is that silt fence is not indicated along Larson Lane on the grading plans sheet, but may be needed in that location. The contractor should not rely solely on the 12/06/2007 plansheet, but should verify conditions in the field for themselves. Roberta Getman in our (MPCA) Rochester office is the construction stormwater inspector for that area of the state.

Judy Mader
Minnesota Pollution Control Agency
520 Lafayette Road N.
St. Paul, MN 55155-4194
phone: (651) 296-7315
FAX: (651) 297-8683

Devendorf, Randall D MVP

From: Mader, Judy [Judy.Mader@state.mn.us]
Sent: Tuesday, March 18, 2008 4:03 PM
To: Devendorf, Randall D MVP
Subject: RE: Rushford Flood Damage Repair - proposed additional work

Randy:

I cannot think of any additional comments or changes to previous comments.

Judy M.

-----Original Message-----

From: Devendorf, Randall D MVP [mailto:randall.d.devendorf@usace.army.mil
<mailto:randall.d.devendorf@usace.army.mil>]
Sent: Monday, March 10, 2008 12:06 PM
To: Mader, Judy
Subject: Rushford Flood Damage Repair - proposed additional work

Judy:

Please see my note below to Cory Hanson of the MN DNR. As I noted in my description to him, the proposed additions would meet the conditions of

RGP-3-MN: A. Maintenance activities. Therefore, a separable 404 evaluation will not be prepared, nor will 401 certification or waiver be requested since PCA already did so for the RGP.

Let me know if these changes result in any changes to previous comments you provided or additional comments on the EA.

Thanks.

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District

Phone: 651-290-5267
e-mail: randall.d.devendorf@usace.army.mil

<< File: RUSHFORD_Park_Street_Bridge.pdf >> << File: Toe repair.pdf >> << File: Rushford_toe_repair_reaches.jpg >>

-----Original Message-----

From: Devendorf, Randall D MVP
Sent: Monday, March 10, 2008 11:54 AM
To: Corey.Hanson@state.mn.us
Cc: Wayne Barstad (Wayne.Barstad@state.mn.us); Hamborg, Roland O MVP
Subject: Rushford Flood Damage Repair - proposed additional work

Cory:

As you know the EA for the Rushford repairs is out for review. For the most part, all of the work proposed involves repairing damaged sections of the project and restoring it to pre-flood event conditions in accordance with the original design. This primarily involves repairing eroded embankments, replacement of riprap and clean out of outfalls/gatewells. I recently received information about additional work that needs to be done in conjunction with the project. Along two reaches of the project (see attached map), the channel has cut down so much that the toe of the riprap is in danger of potentially being undercut during high flow events. Such a situation could result in future embankment failure along reaches

of the project if this is not corrected.

The proposed solution is to build a riprap berm along the toe of the existing embankment extending out about 5 feet. This would be done on both sides of the channel on the downstream reach, and long the left descending bank on the upstream reach. The total stream length affected would be about 2000 feet (with a maximum of 3,500-4,000 lineal feet of bank work).

I have done some checking and the proposed work would be in accordance with the COE RGP-3-MN (the foot-print of the additional riprap would be less than .5 acres). As such a separable 404 will not be prepared for this project. My question is - would the additional proposed work be in accordance with the General Waters Permit that has been issued for repairs of structures and facilities damaged by flooding?

I have attached a map showing the approximate location of the work, a general cross-section showing what is being proposed and a few photos showing upstream and downstream of the East Park Street Bridge.

Don't hesitate to call if you have questions.

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District
190 5th Street East
St. Paul, Mn 55101-1638

Phone: 651-290-5267
Fax: 651-290-5258
e-mail: randall.d.devendorf@usace.army.mil

Devendorf, Randall D MVP

From: Devendorf, Randall D MVP
Sent: Thursday, March 20, 2008 1:41 PM
To: 'James Carlson'
Subject: Acknowledged Receipt - RE: comments on the draft ENVIRONMENTAL ASSESSMENT REHABILITATION AND REPAIR ROOT RIVER AND RUSH CRE

Mr. Carlson,

Thank you for your comments on the draft EA for the Rehabilitation and Repair of the Root River and Rush Creek Flood Control Project at Rushford Minnesota. Your comments, and our responses, will be included in the final environmental document and considered in reaching a final decision.

Sincerely,

Randall D. Devendorf
Wildlife Biologist
U.S. Army, Corps of Engineers
St. Paul District

Phone: 651-290-5267
e-mail: randall.d.devendorf@usace.army.mil

-----Original Message-----

From: James Carlson [mailto:movinmikec@hotmail.com]
Sent: Tuesday, March 18, 2008 10:40 AM
To: Devendorf, Randall D MVP
Subject: FW: comments on the draft ENVIRONMENTAL ASSESSMENT REHABILITATION AND REPAIR ROOT RIVER AND RUSH CRE

I would add to my previous comments that HEC-RAS or other Corps flow analysis is warranted considering the 2007 failure of the dike system. Please acknowledge receipt of these and previous comments. Thank you.

Sincerely,

James Carlson

From: movinmikec@hotmail.com
To: randall.d.devendorf@usace.army.mil
Subject: comments on the draft ENVIRONMENTAL ASSESSMENT REHABILITATION AND REPAIR ROOT RIVER AND RUSH CREEK F
Date: Mon, 10 Mar 2008 15:55:36 -0400

My comments on the draft ENVIRONMENTAL ASSESSMENT REHABILITATION AND REPAIR ROOT RIVER AND RUSH CREEK FLOOD CONTROL PROJECT RUSHFORD, MINNESOTA are as follows:

1) An EIS is warranted in regard to the Corps' intention to authorize, fund, or carry out the proposed action. This project will significantly affect the human environment. The project does have affects that are long-term and not minor, and NEPA shows no favoritism to effects that have differing degrees of probability (referring to the Corps' statement that the "probable" effects are "short-term and minor"). Significant, long-term, or broad-scoping effects that warrant the in-depth analysis of and

EIS include:

- Changes in water temperature, dissolved oxygen, discharge, velocity, turbidity, and other abiotic factors in Rush Creek and the Root River;
 - Changes in vegetation, fish population abundance, fish community structure, bank stability, ponding of water, invertebrate community(ies), and other biotic factors;
 - Unknown forecasts regarding global warming and its effect(s) on catastrophic rainfall events, the intensity and duration of those events, the recurrence interval of those events, and deciding the scope and scale of the event that occurred in 2007.
 - Anticipating economic and societal effects of building a dike/levee system that creates a sense of safety and causes increased investment within the floodplain, an investment of real estate and capital that may otherwise have been built outside of the floodplain but for the Corps construction;
 - Beneficial effects to the human environment;
 - Effects to State and Federally listed (threatened, endangered, candidate, species of special concern) in the action area and up- and down-stream;
- 2) Defining the action area;
 - 3) A broadening of the action area to include areas of incidental impacts or cumulative impacts;
 - 4) An alternative that includes removing the dike system;
 - 5) An analysis of how Rushford's failing to adhere to channel maintenance and dredging at the impact area contributed to the 2007 flooding, and a plan to avoid this if taxpayer dollars are reinvested in the dike.

Sincerely,

James M. Carlson
708 Ridge Road S
Preston, MN 55965
772-321-5871
movinmikec@hotmail.com

RESPONSE TO COMMENTS RECEIVED FROM JAMES CARLSON:

-----Original Message-----

From: James Carlson [mailto:movinmikec@hotmail.com]
Sent: Tuesday, March 18, 2008 10:40 AM
To: Devendorf, Randall D MVP
Subject: FW: comments on the draft ENVIRONMENTAL ASSESSMENT
REHABILITATION AND REPAIR ROOT RIVER AND RUSH CRE

I would add to my previous comments that HEC-RAS or other Corps flow analysis is warranted considering the 2007 failure of the dike system. Please acknowledge receipt of these and previous comments. Thank you.

Sincerely,

James Carlson

RESPONSE: The levees at Rushford did not fail, they were overtopped. The August 2007 flood event at Rushford vastly exceeded the design discharge for the Rush Creek portion of the project. Based on the 1965 General Design Memorandum, the design discharge for Rush Creek was 16,200 cubic feet per second (cfs) which was a 200-year event. The USGS has estimated that the discharge of the August 2007 event was about 38,400 cfs. The discharge-frequency analysis for Rush Creek has been updated based on about 40 years of additional flow data including the August 2007 event. Based on this analysis, the 100-year event now has a discharge of 18,100 cfs.

HEC-RAS modeling of Rush Creek is being developed by the Minnesota DNR Division of Waters in cooperation with the Corps of Engineers. The St. Paul District Corps of Engineers has provided H&H data to the DNR for inclusion in the HEC-RAS modeling. In addition, the Corps' post-flood project surveys incorporated cross sections necessary for the HEC-RAS modeling and were also provided to the DNR.

From: movinmikec@hotmail.com
To: randall.d.devendorf@usace.army.mil
Subject: comments on the draft ENVIRONMENTAL ASSESSMENT
REHABILITATION AND REPAIR ROOT RIVER AND RUSH CREEK F
Date: Mon, 10 Mar 2008 15:55:36 -0400

My comments on the draft ENVIRONMENTAL ASSESSMENT REHABILITATION AND REPAIR ROOT RIVER AND RUSH CREEK FLOOD CONTROL PROJECT RUSHFORD, MINNESOTA are as follows:

1) An EIS is warranted in regard to the Corps' intention to authorize, fund, or carry out the proposed action. This project will significantly affect the human environment. The project does have affects that are long-term and not minor, and NEPA shows no favoritism to effects that have differing degrees of probability (referring to the Corps' statement that the "probable" effects are "short-term and minor"). Significant, long-term, or broad-scoping effects that warrant the in-depth analysis of and EIS include:

- Changes in water temperature, dissolved oxygen, discharge, velocity, turbidity, and other abiotic factors in Rush Creek and the Root River;

RESPONSE: Restoration and repair of the damaged levee areas and removal of sediments deposited in the flood project reach will restore the project reach to pre-flood conditions. In many areas, repair and project restoration will halt or reduce existing or future bank erosion that has occurred as result of the flood. There may have a long-term positive effect on turbidity along some reaches of the project. There would be minimal, if any, permanent effects on water temperature, dissolved oxygen, velocity or other abiotic factors.

- Changes in vegetation, fish population abundance, fish community structure, bank stability, ponding of water, invertebrate community(ies), and other biotic factors;

RESPONSE: Due to the limited in-stream work being proposed, there would be limited or no effects on the majority of the factors listed above. The proposed repair activities would improve bank stability and reduce erosion within the project reach.

- Unknown forecasts regarding global warming and its effect(s) on catastrophic rainfall events, the intensity and duration of those events, the recurrence interval of those events, and deciding the scope and scale of the event that occurred in 2007.

RESPONSE: As noted above, HEC-RAS modeling is currently being completed by the Minnesota DNR Division of Waters in cooperation with the Corps of Engineers.

- Anticipating economic and societal effects of building a dike/levee system that creates a sense of safety and causes increased investment within the floodplain, an investment of real estate and capital that may otherwise have been built outside of the floodplain but for the Corps construction;

RESPONSE: The purpose of the proposed action is to repair/rehabilitate portions of a damaged flood control project. If no action is taken, it is assumed that the local authorities will continue to maintain and operate an authorized project that has functioned successfully for over 35 years.

- Beneficial effects to the human environment;

RESPONSE: The EA identifies that the proposed actions would result in substantial positive effects on the human environment including; community cohesion, public health and safety and flooding effects.

- Effects to State and Federally listed (threatened, endangered, candidate, species of special concern) in the action area and up- and down-stream;

RESPONSE: The EA identifies that Federal and State listed threatened and endangered species are present in Filmore County and in the vicinity of Rushford. There are no listed species in the immediate project reach. The proposed repairs would have no effects on species outside the project reach.

The probable adverse impacts associated with the proposed repairs would be short-term and minor and include effects on noise levels, transportation and surface water quality during construction. There may be some minor long-term improvement in water quality within the project reach due to decreased bank erosion associated with bank repair/stabilization. The proposed actions would not significantly affect the quality of the human environment and an Environmental Impact Statement is not warranted.

2) Defining the action area;

RESPONSE: As noted in the EA the project area is indentified as those area within the existing authorized project area adversely affected by the flood event and the site selected for the placement of excavated sediment.

3) A broadening of the action area to include areas of incidental impacts or cumulative impacts;

RESPONSE: Cumulative effects are discussed in paragraph 5.10 of the EA.

4) An alternative that includes removing the dike system;

RESPONSE: An evaluation of the deauthorization and removal of an existing, functioning flood control project is outside the scope of the proposed repair actions and is not considered to be a reasonable alternative to the proposed repairs.

5 An analysis of how Rushford's failing to adhere to channel maintenance and dredging at the impact area contributed to the 2007 flooding, and a plan to avoid this if taxpayer dollars are reinvested in the dike.

RESPONSE: The flood event at Rushford, and in other areas in the vicinity, was the result of an unusual storm event that occurred over the watershed. There is little evidence that maintenance issues contributed to the flooding that occurred at Rushford.

Sincerely,

James M. Carlson
708 Ridge Road S
Preston, MN 55965
772-321-5871
movinmikec@hotmail.com



MINNESOTA HISTORICAL SOCIETY

State Historic Preservation Office

March 18, 2008

Mr. Terry Birkenstock
Chief, Environmental & Economic Analysis Branch
U.S. Army Corps of Engineers
190 5th Street East
St. Paul, MN 55101-1638

Re: Repair existing flood control structures along Rush Creek
Rushford, Fillmore County
SHPO Number: 2008-1288

Dear Mr. Birkenstock:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the Advisory Council on Historic Preservation (36CFR800).

Your review submittal acknowledges the presence of two National Register listed properties near the project area - the Rushford City Mill and the Walker & Valentine House. Obviously, stabilization activities near these properties will help to protect them. That said, however, the specific means of accomplishing the stabilization should take into account any visual effects on these properties. More information on the specific proposed work in relation to these two buildings is needed.

Contact us at 651-259-3456 with questions or concerns.

Sincerely,

Dennis A. Gimmestad
Government Programs & Compliance Officer



DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

March 28, 2008

Planning, Programs and Project Management Division
Environmental and Economic Analysis Branch

SUBJECT: Rehabilitation and Repair of Rush Creek Flood Control Project at Rushford,
Fillmore County, Minnesota. SHPO Number 2008-1288

Mr. Dennis Gimmestad
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, Minnesota 55102

Dear Mr. Gimmestad:

In your March 18, 2008, letter regarding the above project, you requested more information regarding visual effects from proposed work in relation to the National Register listed properties Rushford City Mill and the Walker-Valentine House that are near the project area. The proposed work near both properties will entail repairing existing levees that were originally constructed in the late 1960s. The repair work will take in place in previously disturbed areas and will not horizontally or vertically change the original design and footprint of the levees or other flood protection features (e.g., floodwall and lift stations). New riprap placed on the levee slopes will conform to the original specifications of 12-inch and 18-inch sizes as designed.

In Area B (Figure 1), near the Walker-Valentine House, extensive erosion occurred to the channel bank and the built-up sediment located between the rock protection and the creek channel leaving unstable, vertical banks along the channel. These banks will be reshaped to the original as-built 1:3 slope and the riprap replaced. However, a short section of existing floodwall is adjacent to the Walker-Valentine House. All the work in this area will occur south of the floodwall; the existing floodwall will not be modified. Figure 2 illustrates the floodwall; a portion of the Walker-Valentine House is visible on the right side of the image.

In Area C (Figure 1), near the Rushford Mill, erosion to the channel bank will be repaired by placing compacted fill material and replacing riprap and topsoil to the existing levee.

Because the repair of the existing levees will not change the as-built design or horizontal and vertical footprint, the Corps believes the work will have no appreciable visual effects on the historic properties. The new riprap may have brighter luster than the

existing or previously placed riprap. However, the previously placed riprap has been "washed" by the flooding, and the blending between existing and "fresh" riprap may not be that apparent. No alteration of the existing floodwall will occur.

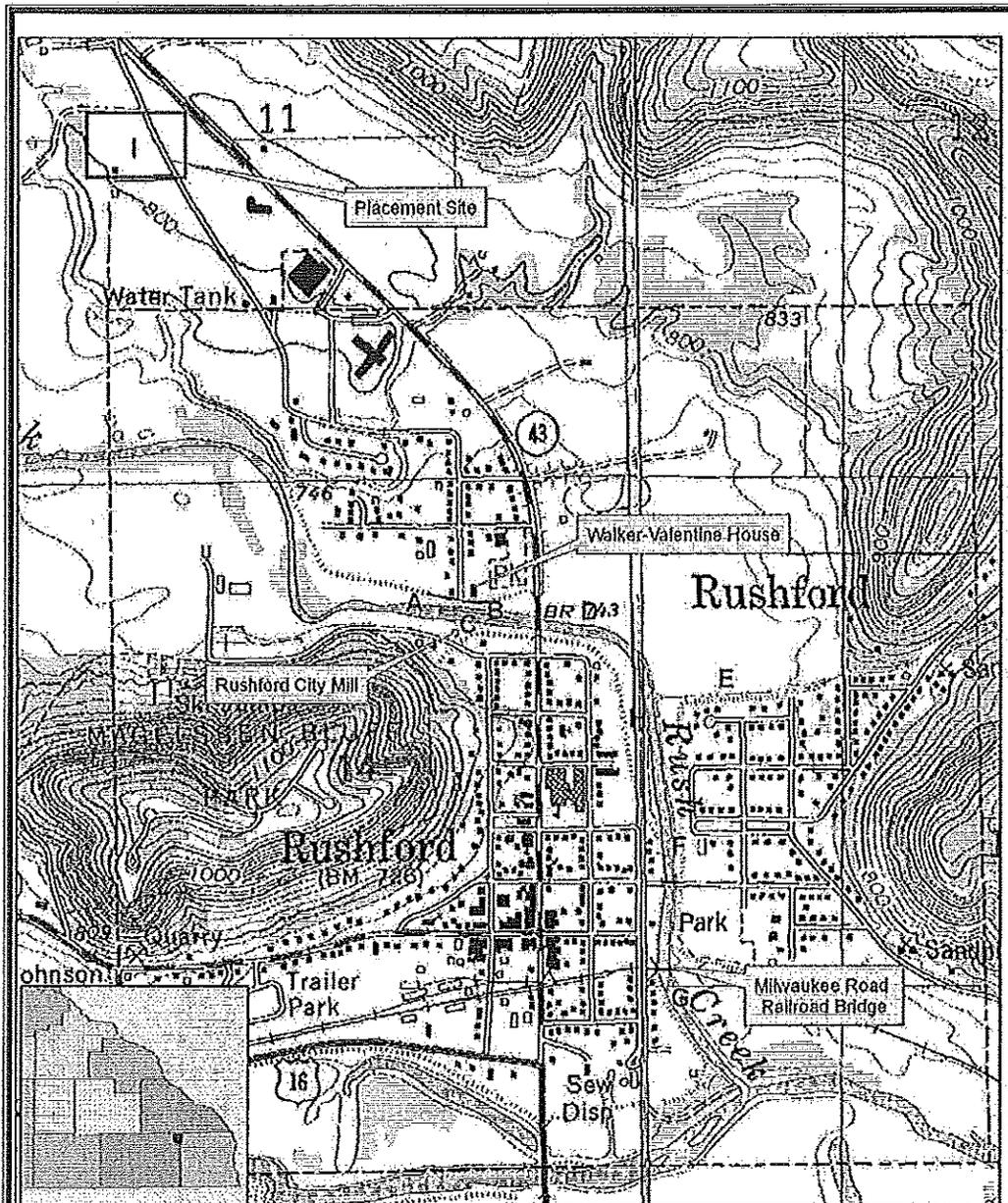
In summary, the proposed actions to repair the existing levees will occur within previously disturbed areas and will not horizontally or vertically change the original design and footprint of the levees or other flood protection features. Therefore, repairing the levees will have no effect on the existing visual aspects of the Rushford City Mill and the Walker-Valentine House.

Please review the above information and provide your comments as soon as practicable. If you have any questions, please contact Mr. Bradley Perkl, Corps archaeologist, at 651-290-5370.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry J. Birkenstock". The signature is fluid and cursive, with a large initial "T" and "B".

Terry J. Birkenstock
Chief, Environmental and Economic
Analysis Branch

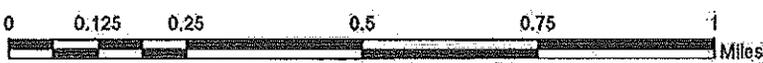



 St. Paul District
 Cultural
 US Army Corps
 of Engineers

Figure 1. Rushford Flood Control Project: Levee Repair and Cultural Resource Locations

Proposed Actions: A-1

Placement Site:



dep 2-11-08

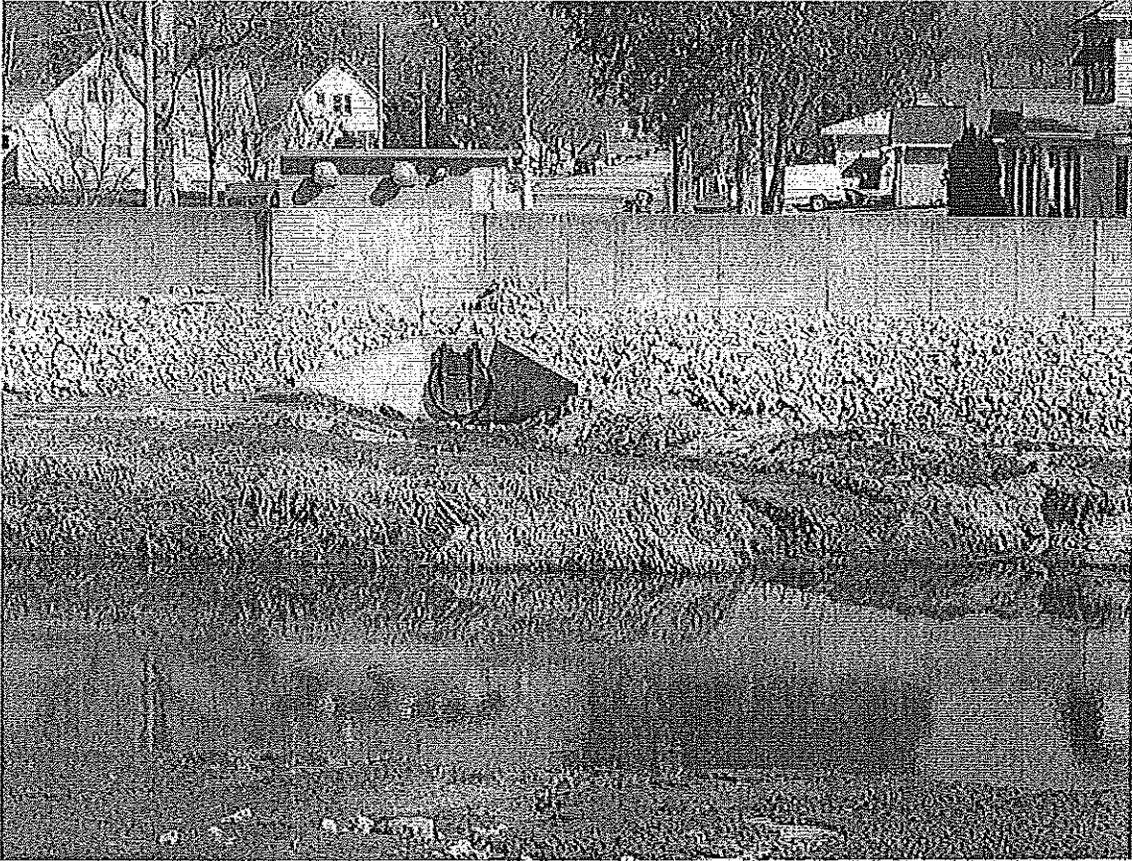


Figure 2. Existing floodwall and portion of Walker-Valentine House to right. View to North.



MINNESOTA HISTORICAL SOCIETY
State Historic Preservation Office

April 9, 2008

Mr. Terry Birkenstock
Chief, Environmental & Economic Analysis Branch
U.S. Army Corps of Engineers
190 5th Street East
St. Paul, MN 55101-1638

Re: ~~Repair existing flood control structures along Rush Creek~~
~~Rushford, Fillmore County~~
SHPO Number: 2008-1288

Dear Mr. Birkenstock:

We wrote you a letter on 18 March 2008 regarding the above referenced project, indicating that more analysis on the visual effects of the proposed work on historic properties needs to be done. We appreciate your response of 28 March 2008. However, it appears that there may be other effects to be considered.

We have now been advised by the owner of one of the buildings that there are potential direct effects that need to be considered. In addition, the house at 300 West Winona Street is located within the area of potential effect, and this property needs to be evaluated as well. Did you consider any other historic properties in the area of potential effect?

We would advise that you inform Mr. Eric Holland of the opportunity to be a consulting party in this review. The owner of the Walker & Valentine House may be interested as well.

We look forward to working with you to complete this review.

Call us at 651-259-3456 with any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dennis A. Gimmestad'.

Dennis A. Gimmestad
Government Programs & Compliance Officer

cc: Eric Holland, 300 West Winona Street, Rushford, MN 55971

Devendorf, Randall D MVP

From: Perki, Bradley E MVP
Sent: Monday, April 14, 2008 12:44 PM
To: Hamborg, Roland O MVP
Cc: Devendorf, Randall D MVP; Birkenstock, Terry MVP
Subject: Rushford-Hoiland/Mill

Rolland:

I just spoke with Mr. Eric Hoiland (cell: 507-273-1005) concerning his issues with the levee repair project and the historic mill. It was apparent that he has not been informed about the project in general and how the project may relate to the historic mill, as well as his nearby residence. Not long ago, he spoke with a representative from the SHPO and asked if the historical society knew about the project-apparently the historical representative was also unawares of the project, prompting the letter (4-9-08) from the SHPO to the Corps.

I described the levee repair project as I understand it and the federal rules for such-i.e., repairing the levee to pre-flood conditions with no alignment, height or other changes. And reviewed the proposed work near the mill-placing fill, rip-rap and topsoil. I also stated that the project, as authorized, and as I perceived it, would not have any visual or direct impact to the mill. He seemed to understand this and mentioned that repairing the bank and gullies would be positive. The mill (and his residence) were damaged during the 2007 flood event-sediment/debris/water in the basement and damage to the first floor flooring. From the sounds of it, he will be receiving monies from the SHPO to repair the mill.

On the whole, it appears that Mr. Hoiland simply desires to know what the Corps is planning on doing in his neighborhood and how any plans he intends for protecting his residence and mill relate to the Corps project, or other flood control features that the city may be pursuing. He has heard various 'rumors' about the levee project, including height raise, etc. I directed Mr. Hoiland to contact the PM for additional information.

Meanwhile, I will talk with Dennis Gimmestad with the SHPO to see what will best satisfy their concerns outlined in their April 9 letter- another reply letter, an email, or a verbal OK/Non-concurrence, ACHP notice, etc., etc. Please contact me with questions. Thank you.

Brad Perkl
District Archaeologist
U.S. Army Corps of Engineers
St. Paul District
CEMVP-PM-E
190 East 5th Street
St. Paul, MN 55101
651-290-5370-Office
651-290-5258-Fax
bradley.e.perkl@usace.army.mil



DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

April 18, 2008

Planning, Programs and Project Management Division
Environmental and Economic Analysis Branch

SUBJECT: Rehabilitation and Repair of Rush Creek Flood Control Project at Rushford,
Fillmore County, Minnesota
SHPO Number 2008-1288

Mr. Dennis Gimmestad
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, Minnesota 55102

Dear Mr. Gimmestad:

In your April 9, 2008, letter regarding the above project, you raised concerns regarding potential *direct* effects that the proposed project may have on historic properties. The following examines the proposed work in the area adjacent to the Rushford City Mill, reviews historic properties in relation to the project's Area of Potential Effect (APE) and reiterates the Corps' previous determination that the proposed project will have no adverse effect on historic properties.

We understand that the owner of the Rushford City Mill, Mr. Eric Hoiland, indicated to a representative of your office that the proposed levee repair work may directly affect the mill. Incidentally, Mr. Hoiland asked the individual if your office was aware of the Corps' levee repair project. At the time, Mr. Hoiland did not know the details of the proposed work and the individual questioned was unaware that your office had already received the Corps initial consultation letter (February 13, 2008) and replied that your office did not have information about the project. Subsequently, on April 14, 2008, Corps representatives spoke with Mr. Hoiland and described details of the proposed repair work of the existing flood control project along Rush Creek in general and specifically for the area adjacent to the mill.

For the area adjacent to the mill (Location C), erosion of the channel bank will be repaired by placing compacted fill material, riprap and topsoil. During the 2007 flood, the pre-existing flood control features in this area (bank slope and riprap) were displaced. While the mill is adjacent to the work area and APE, the repair work will occur between the mill and the creek's bank. The work is not expected to have direct impacts on the mill. For example, no excavation will occur, an activity that could undermine the mill's foundation. Rather, fill will be placed along the bank and riprap and topsoil will be

applied. Restoration of the bank adjacent to the mill will stabilize the eroded area and act to protect the creek bank and the mill. This information was discussed with Mr. Hoiland, and he agreed that the work in this area will be a positive measure. He did not indicate that this work or equipment associated with the repair will have negative impacts on the mill. Therefore, the Corps believes that the proposed project will have no adverse effect on the Rushford City Mill.

Your letter also asked if the Corps considered any other historic properties in the project's APE. Please see our February 13, 2008, letter, which described historic properties in the area and their relation to the project. In summary, the proposed actions to repair the existing levees and other flood control features will occur within previously disturbed areas and will not horizontally or vertically change the original design and footprint of the levees or other flood protection features. Therefore, repairing the levees will have no effect on existing visual aspects or direct effects on historic properties.

Finally, your letter suggests that the owner of the Walker-Valentine House may be interested in what effects the project may have on this property. The Walker-Valentine House is located behind a floodwall. Although bank reshaping (in previously disturbed areas) will occur at the downstream terminus of the floodwall, no work is required in the immediate area of the floodwall near the Walker-Valentine House. Thus, the Corps believes that the proposed project will have no adverse effect on the Walker-Valentine House.

I trust that the above explanation addresses your concerns of potential impacts on historic properties that the repair project may hold. In addition, Corps representative will be in Rushford next week to discuss the project with the city. During their visit, they are planning to meet with Mr. Hoiland. If Mr. Hoiland still has concerns of potential impacts of the project on the mill, we will consult with your office. Please review the above and provide your comments as soon as practicable. If you have any questions, please contact Mr. Bradley Perkl, Corps archaeologist, at 651-290-5370.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry J. Birkenstock". The signature is written in a cursive style with a large initial "T".

Terry J. Birkenstock
Chief, Environmental and Economic
Analysis Branch



| State Historic Preservation Office

May 21, 2008

Mr. Terry Birkenstock
Chief, Environmental & Economic Analysis
U.S. Army Corps of Engineers
190 5th Street East
St. Paul, MN 55101-1638

Re: Rehabilitation and Repair of the Rush Creek Flood Control Project
Rushford, Fillmore County
SHPO Number: 2008-1288

Dear Mr. Birkenstock:

Thank you for your letter of 18 April 2008, responding to the concerns we expressed in our letter of 9 April 2008.

We appreciate your efforts to consult with Mr. Eric Hoiland, owner of the historic Rushford City Mill. Your response, as well as additional information and photos submitted to us by Roland Hamborg of your office, demonstrate your conclusion that the project will not affect two historic homes in the project area – the miller's house at 300 West Winona Street, and the Walker-Valentine House at 504 High Street.

We understand that the final decisions about project design immediately adjacent to the lower level of the mill building are yet to be made. Apparently, fill was placed against the lower level of the building at some point in the past. This fill, some of which was displaced during the flood event, might have had some negative effects on the building. We appreciate your attention to considering an alternative project design that could avoid these effects.

Based on the above considerations, we conclude that your project will have **no adverse effect** on historic properties. This review finding is made with the condition that the final design for the project in the immediate vicinity of the mill be submitted to our office for review and concurrence.

Contact us at 651-259-3456 with questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'Britta L. Bloomberg'.

Britta L. Bloomberg
Deputy State Historic Preservation Officer

cc: Eric Hoiland

Attachment 3

FINDING OF NO SIGNIFICANT IMPACT



DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Environmental and Economic Analysis Branch
Planning, Programs and Project Management Division

FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, the St. Paul District, Corps of Engineers, has determined the environmental impacts of the following project.

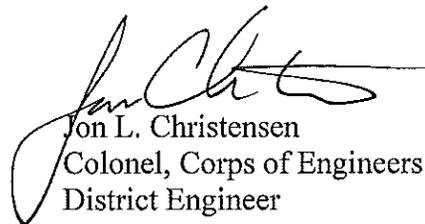
REHABILITATION AND REPAIR
ROOT RIVER AND RUSH CREEK FLOOD CONTROL PROJECT
RUSHFORD, MINNESOTA

The purpose of the project is to repair damaged levees and restore the flow capacity of the project reach to pre-flood event conditions. The proposed action includes the removal or re-grading of storm deposited material throughout the project reach, repair and stabilization of damaged or settled embankments at select locations, and the replacement of displaced riprap at numerous locations throughout the project reach. The alternative to the proposed action is no action.

The Finding of No Significant Impact is based on the following determinations of project impacts: the proposed action would have temporary non-significant adverse impacts to noise levels, transportation, and surface water quality; the proposed action would have permanent non-significant beneficial impacts on public health and safety, community cohesion and flooding effects; the proposed action would have no effect on Cultural Resources.

The environmental review process indicates that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an Environmental Impact Statement will not be prepared.

5/23/08
Date


Jon L. Christensen
Colonel, Corps of Engineers
District Engineer