Attachments

APPENDIX - LD_1_scour_404b1_12_5_14.pdf

SECTION 404(b)(1)
EVALUATION
UPPER MISSISSIPPI RIVER LOCK AND DAM 1 AMBURSEN DAM SCOUR REPAIR HENNEPIN AND RAMSEY COUNTY, MINNESOTA

I. PROJECT DESCRIPTION

A. Location - The fill action is proposed for the Corps of Engineers' (Corps') Lock and Dam 1 facility on the Upper Mississippi River (UMR) (figure 1). LD1 is located on the Upper Mississippi River (UMR) within the 9-foot Navigation Project. The Ambursen Dam is the spillway at LD1 between the lock chambers and the Ford hydropower facility. LD1 is at UMR River Mile 847.5, Minneapolis, Minnesota.

B. General Description - The objective of the proposed project is to protect the lock and Ambursen Dam structure from excessive scouring within the project's original footprint. The plan is to fill scour holes with rock rip rap from immediately downstream of the Amberson Dam spillway to approximately 150 feet downstream (figure 2). The reason rock placement needs to extend beyond the existing footprint is to maintain proper slope of rock to the dam. Rock rip rap material will be brought to the site by barge and most likely offloaded along the western or lock side of the island downstream of the proposed fill area using a front end excavator. The upstream portion of the island may serve as a staging area. The rocky nature of the island will be a good base to drive on and there is no need to disrupt the vegetated part of the island. It is not anticipated that any improvement will be necessary to facilitate hauling on the island, however if required, improvements will not be permanent. If there is rutting or there is a need to improve parts of the haul road the area will be graded to the previous slope. A temporary access road extending approximately 50 feet long by 20 feet wide from the head of the island to the scour area to be repaired will be constructed with rock rip rap material to be used for the repairs. The excavator will use the temporary road to access the scour area to be repaired and spread the rock to specifications. As part of demobilization, the rock rip rap material used for the temporary access road will be removed and placed into the scour area.

C. Authority and Purpose – The Upper Mississippi River 9-Foot Navigation Project was authorized in the Rivers and Harbors Act of 1930, which included upgrades to LD1 to incorporate the 9-foot channel. The proposed fill is necessary to repair scour holes that have developed over time and threaten the structure. These actions would extend the useful life of the structure.

D. General Description of Fill Material

1. Physical Characteristics – For the first 50 feet downstream of the apron, the riprap protective covering would be rock, 10 to 30 inches in diameter (figure 3). Placed under this material would be rock bedding material, 1 to 8 inches in diameter. For the section 50 to 15 feet downstream of the apron, the riprap protective covering would be rock, 6 to 18 inches in diameter (figure 3). Placed under this material would be rock bedding material, ¼ inch to 6 inches in diameter.

2. Chemical Characteristics - The rock would be obtained from Corps approved commercial sources and would be free of contaminants.

3. Quantity of Fill Material – The total in-water footprint for the area would be approximately 2.0 acres and would consist of approximately 14,300 cubic yards or 20,000 tons of rock. The material would be placed and moved mechanically.

E. Description of Proposed Fill Sites - The proposed fill area immediately downstream of the Ambursen Dam is within the 9-foot navigation main channel and adjacent to the lock and dam guide wall along the Hennepin County bank and the Ford hydropower facility along the Ramsey County bank. Water depth at its deepest is 10 feet under normal pool elevation and substrate within the scoured areas consists of existing rip rap rock, natural cobble and boulders that has been scoured interspersed with sand.

F. Timing, Duration and Method of Fill Activities - The proposed fill action would likely be done during mid to late summer 2015 and would be complete within three to four weeks thereafter. The proposed fill materials would be placed and moved mechanically. Rock will be loaded directly on barges and transported to location with a towboat, and unloaded directly from the barge and placed with an excavator or crane from the barge.

II. Factual Determinations

A. Physical Substrate Determinations

1. Substrate Elevation and Slope – The area extending 50 feet downstream of concrete apron at the Ambursen Dam would have rock placed approximately 62 inches thick (54 inches of rip rap, 18 inches of bedding) to a top elevation matching the top of the concrete apron of 692.5 feet and extending downstream at an 8% slope to a top elevation of 688.0 feet (LCP is
687.2) (figures 4 and 5).

The area extending 50 to 150 feet downstream of concrete apron would have rock placed approximately 45 inches thick (30 inches of rip rap, 15 inches of bedding) to a top elevation matching the top elevation of the upstream rock placement top elevation of 688.0 feet and extending downstream varying from no slope near the lock chamber to an 8% slope near the Ford hydroelectric facility to a top elevation of 680.0 feet (LCP is 687.2). Rock would be

placed out another approximately 10 feet at a slope of 1V:3H (1 foot vertical on 3 feet horizontal) and
tie into the existing river bed.

2. Substrate Changes - The substrate at the scour repair area would change from a combination of rock and sand to a rock substrate. Interstitial space would be lessened as a result.

3. Fill Movement - The rock protection covering the areas should prevent further erosion and ensure the structural integrity of the lock chamber and the Ambursen Dam. It is not expected to move as larger rock mixed with wider gradation of rock is being used as compared to previous rock used during construction and repairs. Smaller rock is expected to fill voids in larger rock thus making them more stable.

B. Water Circulation and Fluctuations - The proposed action would have no impact on general water chemistry, current patterns and circulation, and sedimentation patterns.

C. Suspended Particulate/Turbidity Determinations

1. Suspended Particulates and Turbidity - The rock placed would contain minimal amounts of suspendible particulate matter and thus would have little impact on this parameter. The placement of rock may suspend fine sediments, but effects will be temporary. Stabilization of the areas and preventing erosion will result in a long term reduction in suspended particulates and turbidity.

2. Effects on Physical and Chemical Properties of the Water Column - Because of the clean nature of the fill material, the proposed action would not contain toxic metals, pathogens or oxygen consuming compounds. The resuspension of the material within the construction area would reduce light penetration and aesthetic qualities and negatively affect the biota in the immediate construction area but the impacts would be temporary.

D. Contaminant Distribution Determinations - Because of the use of contaminant-free fill material and the contaminant-free nature of the existing substrate, the proposed action should cause no increase in the distribution of contaminants.

E. Aquatic Ecosystem and Organism Determinations

1. Effects on Plankton - The increased suspended solids generated in the construction areas would negatively affect the plankton in this area. Upon completion of construction activities, these impacts would cease.

2. Effects on Benthos - The placement of the fill substrate would eliminate/disturb/displace the benthic organisms currently the areas. After placement of rock, benthic organisms are expected to recolonize.

3. Effects on Fish - The placement of the fill substrate would eliminate/disturb/displace fish currently in the areas. After placement of rock, fish are expected to return. The proposed fill action would have negligible impact on the area's fishery long term.

4. Effects on Wildlife – The placement of the fill substrate would disturb wildlife currently in the area. After placement of rock, wildlife is expected to return. The proposed fill action would have negligible impact on the area's wildlife long term.

5. Effects on Aquatic Food Web - The proposed action would have minimal and temporary impacts on the aquatic food web.

6. Effects on Special Aquatic Sites

a. Sanctuaries and Refuges - The proposed project area is situated in an urban setting adjacent to county parkland. The proposed action should have no impact on sanctuaries or refuges.

b. Wetlands, Mud Flats and Vegetated Shallows - Approximately 2.0 acres of fill would be in water in areas that already generally contain rock fill material. The areas contain no wetlands, mud flats, or vegetated shallows. The proposed project area is a non-vegetated spillway.

7. Threatened and Endangered Species –

8. Actions Taken To Minimize Impacts – Rock to be placed in the scour holes will be temporarily placed close to the scour area at the head of the island. Disturbance of shoreline or shallow water habitat is expected to be minimal. The site will be restored to previous conditions after completion of the project. An exclusion zone has been designated at the downstream end of the island where no shallow water activity will be allowed to avoid impacts to mussels (figure 2).

F. Proposed Fill Site Determinations

1. Mixing Zone - The in-water placement at the sites could produce a mixing zone and suspension of fine material is expected.

2. Compliance with Applicable Water Quality Standards - Water quality standards for contaminants of concern would not be exceeded because of the clean nature of the fill. Water quality standards for other contaminants are also expected to be met. A grant or waiver of Water

Quality Certification under Section 401 of the Clean Water Act has been requested from the State of Minnesota. A Protected Waters Permit from the Minnesota Department of Natural Resources has been requested.

3. Potential Effects on Human Use Characteristics

a. Municipal and Private Water Supply - No municipal or private water supplies would be affected by the proposed fill action.

b. Recreational and Commercial Fisheries - Commercial and recreational fisheries are minimal in the general area because of the close proximity to the dam. Because of the disturbed nature of the affected areas and limited use, the proposed action would have no impact on these resources.

c. Water Related Recreation and Aesthetics - Impacts to these resources would be negligible because of the restricted scope of the proposed action and lack of use in these areas.

d. Cultural Resources - The Corps has determined the project will have no adverse effects to historic properties. The proposed action is being coordinated with the Minnesota State Historic Preservation Office.

G. Cumulative Effects on the Aquatic Ecosystem - The proposed action is needed to replace erosion protection that has either degraded or been lost as a result of scour activity. As such, the proposed work would occur mostly within the original footprint of the project and extend downstream to main proper slope. The extensions of erosion protection downstream of the Ambursen Dam are proposed to ensure the longevity of the repairs and would have no appreciable effect on aquatic habitat in area. Similar work of the same magnitude and scope is being developed for other Upper Mississippi River lock and dam structures and embankments. Because of the extent of repairs, the proposed fill activities, either individually or cumulatively, would have no significant effect on the aquatic ecosystem.

H. Secondary Effects on the Aquatic Ecosystems - No secondary impacts would be associated with the proposed fill actions.

III. Findings of Compliance or Noncompliance with Restrictions on Discharge

The proposed fill activity presently complies with the procedural and substantive requirements of the Section 404(b)(1) guidelines of the Clean Water Act.

No action and the recommended plan were evaluated. The no action alternative is not recommended because of the inability to meet the established objectives. Without action, continued scour at the current locations could lead to structural damages at Lock and Dam 1.

The proposed fill is not expected to exceed water quality standards set by the State of Minnesota. The State of Minnesota is reviewing the District's request for water quality certification for the proposed project under Section 401 of the Clean Water Act. No action would be initiated until a grant or waiver of the water quality certification is received. A Protected Waters Permit from the Minnesota Department of Natural Resources has been requested.

At this point in the review process, the project complies procedurally with Section 307 of the Clean Water Act and with the Threatened and Endangered Species Act of 1973, as amended. The proposed activity would not have significant adverse impacts on human health or welfare, including municipal and private water supplies, and commercial and recreational fishing.

On the basis of this evaluation, therefore, I conclude that the proposed discharge site complies with the requirements and guidelines for the discharge of fill material.

_____
Date

Daniel. C. Koprowski
Colonel, Corps of Engineers
District Engineer

Minnesota Historical Society

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STATE HISTORIC PRESERVATION OFFICE

January 22, 2015

Mr. Terry J. Birkenstock, Deputy Chief
Regional Planning and Environmental Division North
US Army Corps of Engineers
180 5th Street East, Suite 700
St. Paul, MN 22101-1678

Re: Upper Mississippi River Lock and Dam 1 Scour Repair
Hennepin and Ramsey Counties
SHPO Number: 2015-0950

Dear Mr. Birkenstock:

Thank you for the opportunity to 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 implementing federal regulations at 36CFR800.

We have reviewed the project information that was submitted for this project on 23 December 2014. We understand that the Corps is proposing to repair excessive scouring immediately downstream of the Ambursen Dam at Lock and Dam 1 by installing rock riprap downstream and filling scour holes. The riprap will not be visible, as it will be submerged underwater. There are several historic properties located within the area of potential effects for this project, but based on available information, we concur with your determination that this project will have **no adverse effect** on these historic properties.

Please contact our Compliance Section at (651) 259-3455 if you have any questions regarding our review of this project.

Sincerely,

Sarah J. Beimers, Manager
Government Programs and Compliance

cc: Brad Perkl, USACE Archaeologist

Minnesota Department of Natural Resources

PUBLIC WATERS WORK PERMIT

Permit Number

2012-1319

Pursuant to Minnesota Statutes, Chapter 103G, and on the basis of statements and information contained in the permit application, letters, maps, and plans submitted by the applicant and other supporting data, all of which are made a part hereof by reference, PERMISSION IS HEREBY GRANTED to the applicant to perform the work as authorized below:

Public Water Name	County
Mississippi R. (Mile 847.6)	Hennepin (27)
Name of Permittee	**Telephone Number (Include Area Code)**
U.S. Army Corp of Engineers ATTN: Dan Kelner	651-290-5277
Address (No. & Street, RFD, Box No., City, State, Zip Code	
180 Fifth St. E., Suite 700, St. Paul, MN 55101	
Authorized Work:	
Place 1200 cubic yards of riprap in charmel of river to fill large scour hole just below the spillway of Lock and Dam#1. Place 2250 cubic yards of fill for temporary haul road. Install equipment to monitor pore pressures in the foundation of the dam as described in permit application and supporting materials received June 21, 2012, and the Conditions of this permit.	
Purpose of Permit	**Expiration Date of Permit**
Temporary Roadway (158), Charmel Fill (159)	November 30, 2012
Property Described As:	
NE Y. Section 17 T27N-R23W, Hennepin County UTM: Easting: 484111 Northing: 4973556	

This permit is granted subject to the following CONDITIONS:

1. The permittee is not released from any rules, regulations, requirements, or standards of any applicable federal, state, or local agencies; including, but not limited to, the U.S. Army Corps of Engineers, Board of Water and Soil Resources, MN Pollution Control Agency, watershed districts, water management organizations, county, city and township zoning. This permit does not release the permittee of any permit requirement of the St. Paul district, U.S. Army Corps of Engineers, Army Corps of Engineers Centre, 190 Fifth Street East, St. Paul, MN 55101-1638.

2. This permit is not assignable by the permittee except with the written consent of the Commissioner of Natural Resources.

3. The permittee shall notify the Area Hydrologist at least five days in advance of the commencement of the work authorized hereunder and notify him/her of its completion within five days. The Notice of Permit issued by the Commissioner shall be kept securely posted in a conspicuous place at the site of operations.

4. The permittee shall make no changes, without written permission previously obtained from the Commissioner of Natural Resources, in the dimensions, capacity or location of any items of work authorized hereunder.

5. The permittee shall grant access to the site at all reasonable times during and after construction to authorized representatives of the Commissioner of Natural Resources for inspection of the work authorized hereunder.

6. This permit may be terminated by the Commissioner of Natural Resources at any time deemed necessary for the conservation of water resources of the state, or in the interest of public health and welfare, or for violation of any of the conditions or applicable laws, unless otherwise provided in the permit.

7. Construction work authorized under this permit shall be completed on or before the date specified above. The permittee may request an extension of the time to complete the project, stating the reason thereof, upon written request to the Commissioner of Natural Resources.

8. In all cases where the permittee by performing the work authorized by this permit shall involve the taking, using, or damaging of any property rights or interests of any other person or persons, or of any publicly owned lands or

improvements thereon or interests therein,the permittee, before proceeding,shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights, and interests needed for the work.

9. This permit is permissive only. No liability shall be imposed by the State of Minnesota or any of its officers, agents or employees, officially or personally,on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the permittee or any of its agents,employees, or contractors. This permit shall not be construed as stopping or limiting any legalclaims or right of action of any person other than the state against the permittee, its agents, employees, or contractors, for any damage or injury resulting from any such act or omission, or as stopping or limiting any legalclaim or right of action of the state against the permittee, its agents,employees, or contractors for violation of or failure to comply with the pellllit or applicable conditions.

10. Any extension of the surface of public waters from work authorized by this permit shall become public waters and left open and unobstructed for use by the public.

11. V'vtlere the work authorized by this permit involves the draining or filling of wetlands not subject to DNR regulations,the permittee shall not initiate any work under this permit untilthe permittee has obtained officialapprovalfrom the responsible local government unit as required by the Minnesota Wetland Conservation Act.

12. Erosion controlmeasures shall be adequately designed for the site characteristics. They may include staked hay bales, diversion channels, sediment ponds, or sediment fences. They shall be installed in accordance with "State of Minnesota Stormwater Manual" MPCA, November 2005 (and as revised in the future), prior to commencement and maintained throughout the project. All exposed soilshall be stabilized as soon as possible and no later than 72 hours after the completion ofthe project. Topsoilshould be used to re-dress disturbed soilareas and indigenous plant species should be used to revegetate disturbed areas whenever possible.

13. No activity affecting the bed of the protected water may be conducted between April 1 and June 30,to minimize impacts on fish spawning and migration. If work during this time is essential, it shall be done only upon written approval of the Area Fisheries Manager at 952-496-4141 x222.

14. Invasive Species. All equipment intended for use at a project site must be free of prohibited invasive species and aquatic plants *prior* to being transported into or within the state and placed into state waters. All equipment,used in state waters known to contain aquatic invasive species that are designated as infested waters,shall be inspected by contractors and adequately decontaminated *prior* to being transported. The DNR is available to train site inspectors and/or assist in these inspections. A list of designated infested waters can be found at http://files.dnr.state.mn.us/eco/invasiveslinfested waters.pdf. Basic measures to prevent the spread of aquatic invasive species are:
    A. Before transporting equipment from a work site,inspect all equipment that had been in contact with the water and remove all visible aquatic remnants [plants, seeds, mud, soil,and animals]. Powerwashing followed by drying (7 days) is an acceptable method to ensure killing and removal of invasive species.
    B. Before transporting equipment from a work site,drain all water from equipment where water may be trapped, such as tanks, pumps, hoses, silt curtain, and water-retaining components of boats/barges.
    C. After spraying and draining, dry equipment that has been in infested waters for a minimum of 7 days before reuse.
    Should the methods above not be able to be met, contact the DNR Regional Invasive Species Specialist to determine alternative treatments.

15. Maintenance. The Permittee is authorized to maintain the approved work to the dimensions herein described. Prior to commencing any maintenance work,the Permittee shall advise the DNR Area Hydrologist the extent and method of maintenance. Maintenance work shall not be commenced untilpermittee receives written approval from the DNR Area Hydrologist.

ec: Mississippi WMO, Doug Snyder
Hennepin County,Stacey Lijewski,Joel Settles
Qty ofMilllleapolis,Jake Steen,Lois Eberhart
U.S. Army Cmps of Engineers,Melissa Jenny
Mississippi R File (mile 847.6)
DNR Enforceruent, Thor Nelson
DNR EWR,Melissa Doperalski, Jason Boyle
DNR Fisheries, Daryl Ellison
DNR EWR Regional Mgr,Terri Yearwood
DNR EWR Permits Unit
DNR Wildlife,Bryan Lueth

Authorized Signature	Title	Date
John M. Gleason		
John M. Gleason	Area Hydrologist	August 9, 2012

This information is available in an alternative format upon request

Project Details:

Project Name:
Activity: Harbor/Slip/Channel/Ditch Fill
Landowner: US Army Corps of Engineers
County: Hennepin
Legal Description: T27N-R23W-S17 NE
Resource: Stream/River: Mississippi River (MR) (82001a)

This is an application for amendment to existing Permit #2012-1319. The amendment is to place fill at the US Army Corps of Engineers' (Corps') Lock and Dam 1 (LD1) facility in the Upper Mississippi River (UMR). LD1 is located on the UMR within the nine-foot navigation project. The Ambursen Dam is the spillway at LD1 between the lock chambers and the Ford hydropower facility. LD1 is at UMR river mile 847.5, Minneapolis, MN. The government unit is the Corps.

The purpose of this project is to protect LD1 from further erosion, specifically to protect the lock and Ambursen Dam from excessive scouring within the project's original footprint. The proposed fill is necessary to repair scour holes that have developed over time and that threaten the structure. Placement of fill would extend the useful life of the structure. The project would likely be completed during mid- to late-summer 2015 and would take three to four weeks to complete.

The project would fill scour holes with riprap from immediately downstream of the Ambersen Dam spillway to about 150 feet downstream. The size of area to be filled would be three acres with 14,300 cubic yards of fill proposed. This fill would be permanent. The area extending 50 feet downstream of concrete apron at the Ambursen Dam would have rock placed approximately 62 inches thick (54 inches of riprap, 18 inches of bedding) to a top elevation matching the top of the concrete apron of 692.5 feet and extending downstream at an 8 percent slope to a top elevation of 688.0 feet. The area extending 50 to 150 feet downstream of the concrete apron would have rock placed approximately 45 inches thick (30 inches of riprap, 15 inches of bedding) to a top elevation matching the top elevation of the upstream rock placement top elevation of 688.0 feet and extending downstream varying from no slope near the lock chamber to an 8 percent slope near the Ford hydroelectric facility, to a top elevation of 680.0 feet. Rock would be placed out another 10 feet at a slope of 1 foot vertical to 3 feet horizontal and tie into the existing river bed.

Because of the disturbed nature of the affected areas and limited use, the proposed action would have limited impact on the environmental resources at and near the project site. The proposed fill is not expected to exceed water quality standards set by the State of Minnesota. No Federal or State-listed threatened or endangered species are known to be present at the project site. During placement of fill, some minor impacts to water quality and aquatic habitat would occur. Disturbance of sediments during the placement of rock would cause a small increase in turbidity over a short period of time in the immediate project vicinity. The placement of rock during construction would cover existing substrate and associated benthic organisms. The placement of fill would temporarily displace fish currently in the areas. Disturbance of terrestrial habitat by construction equipment in the project area would likely be insignificant and would be restored to previous conditions. Mitigation for the portion of the project that will impact public waters is not planned. Further details regarding anticipated impacts to environmental resources at and near the project site are described in the Section 404(b)(1) Evaluation Form attachment included with this application. At the time that this request for comments was distributed, an EAW need determination had not yet been made.

https://webapps11.dnr.state.mn.us/mpars/review/permit/reviewer_comments?reviewer_key=502ee632ac2844dd1ac9dbb040fb79905d207bf2

If you have questions about this application or how to enter comments via the online system, please contact Area Hydrologist Kate Drewry at kate.drewry@state.mn.us, (651) 259-5753 and/or Jenifer Sorensen at jenifer.sorensen@state.mn.us, 651-259-5754.

*** DO NOT REPLY TO THIS EMAIL ***

From:	Haworth, Brooke (DNR)
To:	Sorensen, Jenifer (DNR)
Subject:	FW: [MPARS] DNR Request for Comments - Harbor/Slip/Channel/Ditch Fill - Hennepin County - Application 2012-1319
Date:	Monday, January 12, 2015 4:42:48 PM

Jen,
This is Lisa's response to our question about potential mussel impacts at Lock+Dam 1 - no concerns

Brooke

-----Original Message-----
From: Joyal, Lisa (DNR)
Sent: Monday, January 12, 2015 1:15 PM
To: Haworth, Brooke (DNR)
Subject: RE: [MPARS] DNR Request for Comments - Harbor/Slip/Channel/Ditch Fill - Hennepin County - Application 2012-1319

No mussel concerns.

-----Original Message-----
From: Haworth, Brooke (DNR)
Sent: Wednesday, December 31, 2014 6:03 PM
To: Joyal, Lisa (DNR)
Cc: Sorensen, Jenifer (DNR); Haworth, Brooke (DNR)
Subject: FW: [MPARS] DNR Request for Comments - Harbor/Slip/Channel/Ditch Fill - Hennepin County - Application 2012-1319

Lisa,
Here is an MPARS for work by the Corps at Lock+Dam 1. Basically, they will put 3 acres of fill in scour holes at the base of the dam. They did similar work in 2012, although with a smaller footprint. Attached are the concurrence from 2012 for no effects to mussels; also a description of the current process. More documents are available at the MPARS link below.

Would you please take a look and see if this current work raises any concerns regarding mussels?

An EAW will have to be done because of the amount of fill in public waters. When the application was submitted, I was involved with helping them figure out EAW issues and forgot to send this on to you for a mussel review - sorry. But the comment period for the water permit is over on Friday, and I'd like to at least get on the record as having asked you about it in a timely manner, even though we know permitting can't go forward until the EAW is resolved.

Thanks,
Brooke

-----Original Message-----
From: *MPARS.DNR (DNR)
Sent: Friday, December 05, 2014 6:30 PM
To: Haworth, Brooke (DNR)
Subject: [MPARS] DNR Request for Comments - Harbor/Slip/Channel/Ditch Fill - Hennepin County - Application 2012-1319

The Minnesota DNR has received a permit application for harbor/slip/channel/ditch fill in Hennepin County. More details are provided below. If you would like to review the application and provide comments, please click on the link below to navigate to our online permitting system. Comments are due by 01/04/2015.

From:	Baker, Richard (DNR)
To:	Kelner, Daniel E MVP
Cc:	Phil_Delphey@fws.gov; Nick_Rowse@fws.gov; Davis, Mike J (DNR)
Subject:	RE: Lock and Dam 1 scour repair and instrument installation (UNCLASSIFIED)
Date:	Wednesday, July 18, 2012 9:13:51 AM

Dan,

I've consulted with Mike, and we agree that the area to be impacted does not support mussels. We have no concerns.

Thanks,

Rich

<><><><><><><><><><><><><><><><><>
Richard J. Baker

Minnesota Endangered Species Coordinator

Division of Ecological and Water Resources

Minnesota Department of Natural Resources

500 Lafayette Rd., Box 25

St. Paul, MN 55155
Phone: 651/259-5073
E-mail: richard.baker@state.mn.us <mailto:richard.baker@dnr.state.mn.us>

http://www.dnr.state.mn.us/eco/nhnrp
<><><><><><><><><><><><><><><><><><>

From: Kelner, Daniel E MVP [mailto:Daniel.E.Kelner@usace.army.mil]
Sent: Tuesday, July 17, 2012 6:08 PM
To: Phil_Delphey@fws.gov; Nick_Rowse@fws.gov; Baker, Richard (DNR); Davis, Mike J (DNR)
Subject: Lock and Dam 1 scour repair and instrument installation (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The St. Paul District, U.S. Army Corps of Engineers (Corps) is planning scour repairs and instrumentation installation at Lock and Dam 1. Detection and evaluation of the extent of scour near dams is necessary in order to assess repair or replacement requirements for the scour protection. Scour repairs are needed because after the extended high water on the Mississippi River some of the scour protection has been displaced and a small scour hole has formed downstream of the spillway. Instrumentation installation refers to the piezometers. Piezometers monitor pore pressure within a structure, pore pressure is correlated to the stability of the structure. By monitoring pore pressure the Corps can evaluate structure stability which can assist in taking preventative measures to protect LD1. Adding the piezometers is necessary because LD1 at the time of completion there was no effective way to monitor pore pressures beneath the structure.

The scour repairs and piezometer installation will take approximately 21 days (this late summer/fall 2012). A temporary access road will need to be constructed for access to LD1 concrete apron (Figure 1 and 2). The road will be constructed from the upstream tip of the existing island to the concrete apron. The road to be built in the water will be about 250 feet long with a 10 foot top width. It will be constructed of the same bedding material used for scour hole repair at LD 1. The material for the temporary road will be loaded directly on barges at the Southport placement site, transported to the placement site with a towboat, and unloaded directly off the barge and placed with a front end loader within the footprint identified in Figure 1. The end loader will unload the rock from the barges and transport it to the dam. The excavator will then spread the rock where needed as indicated in Figure 1 to complete the scour repairs. Once the work is complete some of the bedding material will be removed with a front end loader and placed along Lock and Dam 1 for protection and any excess bedding material will be removed with an excavator, loaded back on the barge, and disposed of at the Fountain City Service Base to be used for filling low spots in the parking areas.

The scoured area to be repaired and the area where the access road will be built frequently are subject to high erosive flows alternating with extremely low flow and often nearly dewatered. Substrate consists almost entirely of large slab rock with smaller rock interspersed within. Although we haven't specifically surveyed for mussels for this project, I've never observed mussels (not even empty shells) within this area or within this close proximity to the spillway. It is my opinion it is highly unlikely there would be adverse impacts to mussels including state and federally endangered species. Do you have any concerns with project impacts to mussels or other resources? A uniform agency response would be appreciated.

We have applied for a MN DNR Protected Waters Permit (POC John Gleason) which is currently out for review.

Thanks

Dan Kelner
Fisheries Biologist
U.S. Army Corps of Engineers, St. Paul District
180 5th street East, Suite 700
St. Paul MN 55101
TELE (651) 290-5277

MOBILE (651) 724-2244
FAX (651) 290-5805

Classification: UNCLASSIFIED
Caveats: NONE