

**DETAILED PROJECT REPORT
WITH ENVIRONMENTAL ASSESSMENT**

SECTION 205 FLOOD DAMAGE REDUCTION STUDY

**MAD CREEK
MUSCATINE, MUSCATINE COUNTY, IOWA**

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Muscatine, Mad Creek
Completed Project, Local Protection
(Rock Island District)

The city of Muscatine lies on the west bank of the Mississippi River in Muscatine County. Mad Creek, a small tributary of the Mississippi River with a drainage area of about 17 square miles, bisects the city. Parts of 17 city blocks, in a roughly triangular area, mainly industrial, lie between the right bank of Mad Creek and the Mississippi River and have been flooded frequently during periods of moderately high water on the latter stream.

A project for flood protection along Mad Creek at Muscatine was authorized in the Flood Control Act of 1954. The plan of improvement consisted of the construction of a system of floodwalls and levees beginning at Mulberry Street and extending northward for about 1,600 feet along the Mississippi River, and then up the right bank of Mad Creek for about 2,700 feet to high ground north of East 6th Street. Appurtenant works included an intercepting sewer and pumping plant.

Construction of the project began in 1958 and was completed in 1960. The federal cost of the project was \$1,169,000; non-federal cost was \$32,000.

The project is operated and maintained by local interests. Since it was completed, it has prevented an estimated \$11,684,700 in damages.

Muscatine, Mad Creek
Completed Project, Section 205
(Rock Island District)

The project is located on the right bank of Mad Creek, a short distance upstream from the confluence of that stream with the Mississippi River at mile 455.8 above the mouth of the Ohio River, in the city of Muscatine, Iowa.

The project provides local protection to a 75-acre industrial area in Muscatine from coincidental floods on Mad Creek and the Mississippi River. The site is upstream from a previous federal flood control project on Mad Creek completed in 1961. The project consists of 1,010 feet of earth levees, 240 feet of concrete flood walls, a ponding area, a street closure, gate-walls, a bridge raise and railroad track modifications. Construction was started in 1977.

Completed in 1983, federal costs for the project were \$1,129,800; non-federal costs, \$50,000.



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004
September 21, 1992

Planning Division

Honorable Tom Harkin
United States Senator
Box 74884
Lindale Mall
Cedar Rapids, Iowa 52407-4884

Dear Senator Harkin:

I am writing in reference to your letter of September 8, 1992, regarding correspondence you received from Mr. Vernon Wilson of Muscatine, Iowa. Mr. Wilson requested assistance in dredging of Mad Creek in Muscatine, Iowa, to reduce the threat of flooding on the creek.

A local flood protection project on Mad Creek was authorized by a resolution of the House of Representatives Committee on Public Works on August 15, 1961. The project was completed in 1982, under authority of Section 205 of the 1948 Flood Control Act, as amended. The completed project consists of levees and floodwalls, which provide a 100-year level of protection from floods on Mad Creek and the Mississippi River.

Based on the Federal Emergency Management Agency floodplain map for the area, Mr. Wilson's home is located in the Mad Creek 100-year floodplain. His home is located slightly upstream of the area protected by the Mad Creek Flood Control Project. The city of Muscatine's operation and maintenance requirements for the Mad Creek Project include only the portion of Mad Creek within the project boundary.

Our records indicate that Mad Creek has experienced flood stages several times during the past five years, due primarily to heavy rainfalls and saturated soil conditions. Measures which could reduce the damages associated with these flood events include: prudent floodplain management; relocation or floodproofing of affected structures; construction of levees or floodwalls; and channel cleanout or modification (e.g., dredging or reshaping the affected stream).

The city of Muscatine also can request the Rock Island District to initiate a Section 205 reconnaissance study for the upstream reaches of Mad Creek in Muscatine, Iowa. Section 205 of the 1948 Flood Control Act, as amended, provides authority for the Corps of Engineers (Corps) to investigate small flood control projects at the request of a prospective sponsoring agency. This authority allows the Corps to develop and construct small flood control projects, if detailed investigation and study clearly show the engineering and environmental feasibility and economic justification of the improvement.

Each project is limited to a Federal cost of not more than \$5 million and requires a local sponsor, who must be fully empowered under State law, to provide local cooperation in the form of cost-sharing; operation and maintenance; and lands, easements, and rights-of-way. In addition, the local sponsor assumes full responsibility for all project costs in excess of the Federal cost limitation.

The initial study would be completed with 100 percent Federal funding. The purpose of the study would be to determine Federal interest in providing additional flood damage reduction measures along Mad Creek. Federal interest primarily is based on the economic costs and benefits, environmental impacts, and engineering feasibility of a proposal.

Subsequent stages of planning and construction, including feasibility phase study, preconstruction engineering and design, and construction, all require cost-sharing by the non-Federal sponsor.

Additional detail regarding non-Federal sponsor cost-sharing requirements is provided in the enclosed Sponsor's Partnership Kit, on pages F1 through F2. This brochure provides general information about the Corps and more detailed information about the Civil Works program. The Continuing Authorities Program brochure, also enclosed, provides additional information about the Section 205 process on pages 4 through 6, including a sample study request letter.

Flood damage reduction projects may require Department of the Army authorization. Therefore, if Mr. Wilson or another party wishes to pursue a project, a permit application should be filed with both the Corps and the State of Iowa. A copy of the permit application form is enclosed for your information.

I trust this information satisfies your present needs. If your staff members have further questions, they may call Mr. Dave Tipple, Chief of our Flood Control and Special Studies Branch, Planning Division, telephone 309/788-6361, extension 6341.

Sincerely,

ORIGINAL SIGNED BY

J. Ayers Fsr

Albert J. Kraus
Colonel, U.S. Army
District Engineer

Enclosures

MFR: Draft letter coordinated with OD-S, ED-HW, and ED-DM.

Copy Furnished:

Honorable Tom Harkin
United States Senate
Washington, DC 20510-1502 ((wo/enclosures))

TOM HARKIN
IOWA

(202) 224-3254
TTY (202) 224-4633
COMMITTEES
AGRICULTURE
APPROPRIATIONS
SMALL BUSINESS
LABOR AND HUMAN
RESOURCES

United States Senate
WASHINGTON, DC 20510-1502

September 8, 1992

Col Albert Kraus, District Engineer
Army Corps of Engineers
Clock Tower Building
Rock Island, IL 61204-2004

Dear Col. Kraus:

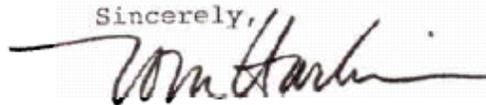
Enclosed is a letter I recently received from Vernon Wilson of Muscatine, IA.

Mr. Wilson is concerned about Mad Creek which flows near his home. Apparently the creek is badly silted in, causing it to flood more frequently. Is it possible to dredge the creek? And if so, whose responsibility is it to take care of the creek?

I would like to express my interest on behalf of Mr. Wilson. Please address the concerns raised in the letter and send your response to me through my Cedar Rapids office at the address listed below.

Thank you, in advance, for your assistance.

Sincerely,



Tom Harkin
United States Senator

TH/baf
Enclosure

210 WALNUT ST.
733 FEDERAL BLDG.
DES MOINES, IA 50309
(515) 284-4574

350 WEST 6TH ST.
315 FEDERAL BLDG.
DUBUQUE, IA 52001
(319) 582-2130

6TH AND BROADWAY, BOX H
317 FEDERAL BLDG.
COUNCIL BLUFFS, IA 51502
(712) 328-0036

BOX 74884
LINDALE MALL
CEDAR RAPIDS, IA 52407-4884
(319) 393-6374

131 E. 4TH ST.
314B FEDERAL BLDG.
DAVENPORT, IA 52801
(319) 322-1338

320 6TH ST.
110 FEDERAL BLDG.
SIOUX CITY, IA 51101
(712) 252-1550

92 SEP -8 AM 8:39

July 27, 1992
Muscatine, Iowa 5276.

Senator Tom Harkin,

Senator, I am writing to both you and
Senator Bradley - I need help!

I live in Muscatine, Iowa - my home
is located next to a creek, which floods
in heavy rains. and my house floods, also.

The city of Muscatine says it cannot do
any thing because it is the Corp of Engineers
responsibility, the Corp doesn't seem to want to
get involved.

The creek needs dredged out, bad,
it is slowly sitting in each rain and
it takes less and less of a rain storm to
bring it out of it's bank.

I realize that I'm a poor citizen and
requests for the pool are probably
discarded as ~~unimportant~~ ^{unimportant}, but please look
in to the matter, and possibly take some
action to help.

Thank you

VERNON WILCO
727 LAKE PARK
MUSCATINE, IOWA



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004
January 11, 1993

Planning Division

Honorable Charles E. Grassley
United States Senator
116 Federal Building
131 East 4th Street
Davenport, Iowa 52801

Dear Senator Grassley:

I am writing in reference to your letter of December 29, 1992, regarding correspondence you received from Mr. Vernon Wilson of Muscatine, Iowa. Mr. Wilson requested assistance in dredging of Mad Creek in Muscatine, Iowa, to reduce the threat of flooding on the creek.

A local flood protection project on Mad Creek was authorized by a resolution of the House of Representatives Committee on Public Works on August 15, 1961. The project was completed in 1982, under authority of Section 205 of the 1948 Flood Control Act, as amended. The completed project consists of levees and floodwalls, which provide a 100-year level of protection from floods on Mad Creek and the Mississippi River. Based on the Federal Emergency Management Agency floodplain map for the area, Mr. Wilson's home is located slightly upstream of the area protected by the Mad Creek Flood Control Project.

Our records indicate that Mad Creek has experienced flood stages several times during the past five years, due primarily to heavy rainfalls and saturated soil conditions. Measures which could reduce the damages associated with these flood events include: prudent floodplain management; relocation or floodproofing of affected structures; construction of levees or floodwalls; and channel cleanout or modification (e.g., dredging or reshaping the affected stream). However, the Rock Island District cannot take any further action in this area unless a request is received from a sponsoring agency empowered under State law to provide local cooperation. For example, the city of Muscatine can ask the Rock Island District to initiate a Section 205 reconnaissance study for the upstream reaches of Mad Creek in Muscatine, Iowa.

Section 205 of the 1948 Flood Control Act, as amended, provides authority for the Corps of Engineers (Corps) to investigate small flood control projects at the request of a prospective sponsoring agency. This authority allows the Corps to develop and construct small flood control projects, if detailed investigation and study clearly show the engineering and environmental feasibility and economic justification of the improvement.

Each project is limited to a Federal cost of not more than \$5 million and requires a local sponsor, who must be fully empowered under State law, to provide local cooperation in the form of cost-sharing; operation and maintenance; and lands, easements, and rights-of-way. In addition, the local sponsor assumes full responsibility for all project costs in excess of the Federal cost limitation.

The initial study would be completed with 100 percent Federal funding. The purpose of the study would be to determine Federal interest in providing additional flood damage reduction measures along Mad Creek. Federal interest primarily is based on the economic costs and benefits, environmental impacts, and engineering feasibility of a proposal.

Subsequent stages of planning and construction, including feasibility phase study, preconstruction engineering and design, and construction, all require cost-sharing by the non-Federal sponsor.

Additional detail regarding non-Federal sponsor cost-sharing requirements is provided in the enclosed Sponsor's Partnership Kit, on pages F1 through F2. This brochure provides general information about the Corps and more detailed information about the Civil Works program. The Continuing Authorities Program brochure, also enclosed, provides additional information about the Section 205 process on pages 4 through 6, including a sample study request letter.

Flood damage reduction projects may require Department of the Army authorization. Therefore, if anyone wishes to pursue a project, a permit application should be filed with both the Corps and the State of Iowa. A copy of the permit application form is enclosed for your information.

I trust this information satisfies your present needs. If your staff members have further questions, they may call Mr. Dave Tipple, Chief of our Flood Control and Special Studies Branch, Planning Division, telephone 309/788-6361, extension 6341.

Sincerely,


Albert J. Kraus
Colonel, U.S. Army
District Engineer

Enclosures

Copy Furnished:

Honorable Charles E. Grassley
United States Senate
135 Hart Senate Office Building
Washington, DC 20510 (wo/enclosures)

MFR: This same letter,
previously sent to Senator
Tom Harkin, dtd 9-21-92,
was coordinated with OD-S,
ED-HW, and ED-DM.

REPLY TO:

- 135 HART SENATE OFFICE BUILDING
WASHINGTON, DC 20510
(202) 224-3744
TTY: (202) 224-4479
- 721 FEDERAL BUILDING
210 WALNUT STREET
DES MOINES, IA 50309
(515) 284-4890
- 206 FEDERAL BUILDING
101 1ST STREET S.E.
CEDAR RAPIDS, IA 52401
(319) 399-2555

United States Senate

CHARLES E. GRASSLEY

REPLY TO:

- 103 FEDERAL COURTHOUSE BUILDING
320 6TH STREET
SIOUX CITY, IA 51101
(712) 233-3331
- 210 WATERLOO BUILDING
531 COMMERCIAL STREET
WATERLOO, IA 50701
(319) 232-6657
- 116 FEDERAL BUILDING
131 E. 4TH STREET
DAVENPORT, IA 52801
(319) 322-4331

December 29, 1992

U.S. Army Corp of Engineers
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-2004

Dear Director:

Enclosed please find a letter from Mr. Vernon Wilson regarding his concerns about a creek he believes needs to be dredged near Muscatine, Iowa.

I would appreciate any information you could provide me pertaining to this matter. You may address your return correspondence to the attention of Penny Horstmann in my Davenport office.

Thank you for your prompt attention to my request.

Sincerely,


CHARLES E. GRASSLEY
United States Senator

CEG/plh

Enclosure

APPROPRIATIONS
BUDGET

Committee Assignments:

JUDICIARY
SMALL BUSINESS

SPECIAL COMMITTEE ON AGING
OFFICE OF TECHNOLOGY ASSESSMENT

July 27, 1992
MUSCATINE, Iowa 52761

92 JUL 30 PM 3:13

Senator Charles Grassley.

Senator, my name is Vernon Wilson I live in Muscatine, Iowa - and I need help. (please)
My home is located next to Mack Creek here in Muscatine, and each heavy rain the creek floods and so does my home.

The city says it is the Corp of Engineers problem and the Corp refuses to do anything.

There must be something that you and Senator Harlan can do to help.

please don't write me off as just another poor fat pig who shouldn't have bought his home by a creek.

The creek needs dredged, (bad) it is slowly silting in each rain.

Thank you

Vernon Wilson
727 LAKE PARK
MUSCATINE, Iowa
52761



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004
April 18, 1997

Planning Division

A. J. Johnson
City Administrator
City of Muscatine
City Hall
215 Sycamore Street
Muscatine, Iowa 52761-3899

Dear A. Johnson:

We are writing in regard to your letter of November 25, 1996, addressed to Mr. Roger Less of our Engineering Division, requesting an update on your previous request for a reconnaissance study on Mad Creek as it flows through the city of Muscatine.

We are sorry we did not respond sooner, but after some research, we believe that your request could be handled under the authority of Section 205 of the U.S. Army Corps of Engineers' Continuing Authorities Program.

Please contact Mr. Martin Hudson of our Flood Control and Special Studies Branch to arrange a meeting to discuss this matter further. You may reach Mr. Hudson by telephoning 309/794/5341, or by writing to our address above, ATTN: Planning Division (Martin Hudson).

Sincerely,

**ORIGINAL SIGNED BY
PATRICK T. BURKE, P.E.**

Dudley M. Hanson, P.E.
Chief, Planning Division

City of Muscatine

City Hall, 215 Sycamore St.
Muscatine, IA 52761-3899
(319)264-1550 Voice/TT
Fax (319)264-0750

CITY ADMINISTRATOR

November 25, 1996

Roger Less
U.S. Army Engineering District
Rock Island Corps of Engineers
Clock Tower Building
Rock Island, Illinois 61201

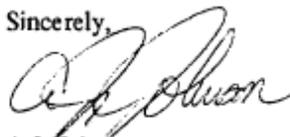
Dear Roger,

Several months ago the Mayor sent you a letter concerning the official request for the City of Muscatine for the Corps of Engineers to do a reconnaissance study on Mad Creek as it flows through the City of Muscatine. Since that letter, we have not received any additional information or update from you. At the request of the Mayor, I am forwarding that request on to you for an update on that project and how we would proceed if Council would choose to do so.

Please let me know at your earliest convenience as to what other action is necessary from the City of Muscatine to initiate this reconnaissance review and study of Mad Creek.

Thank you for your attention on this matter.

Sincerely,



A.J. Johnson
City Administrator

AJJ/fad



REPLY TO
ATTENTION OF:

Planning Division

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004
March 23, 1998

Mr. A. J. Johnson
City Administrator
City of Muscatine
City Hall
215 Sycamore Street
Muscatine, Iowa 52761-3899

Dear Mr. Johnson:

The Rock Island District of the U.S. Army Corps of Engineers has attached a summary of the March 13, 1998, meeting with you and Messrs. Martin Hudson and Dennis Hamilton of our Planning Division's Flood Control and Special Studies Branch.

We are very pleased to be working with you on this feasibility study of the Mad Creek flood control facilities. If you have any questions concerning this study, please call Mr. Hamilton at 309/794-5634.

Sincerely,

ORIGINAL SIGNED BY

Dudley M. Hanson, P.E.
Chief, Planning Division

MEMORANDUM FOR RECORD

SUBJECT: Mad Creek Section 205 Study, Muscatine, Iowa

1. **PURPOSE:** A meeting was held on 13 March 1998 in Muscatine, Iowa, with the City Administrator, Mr. A. J. Johnson, and Rock Island District, Corps of Engineers (CEMVR) representatives to discuss initiation of the Mad Creek Flood Control Facilities Feasibility Study. A copy of the meeting handout is enclosed. The following were in attendance at the meeting:

<u>Name</u>	<u>Organization</u>	<u>Phone</u>
Martin Hudson	CEMVR-PD-F	309-794-5341
Dennis Hamilton	CEMVR-PD-F	309-794-5634
Leo Foley	CEMVR-PP-M	309-794-5791
A. J. Johnson	City of Muscatine	319-264-1550

2. The businesses located within the affected area include Hon Industries, H. J. Heinz, IES and a lumber company. Mr. Johnson will provide names of individuals to contact from each of these companies. The city plans to construct a new crossing of Mad Creek at 5th Street. This will be outside the scope of study. Mr. Johnson said that the Natural Resources Conservation Service is working on a preliminary design for retention ponds in the Mad Creek basin which could affect the flood control facilities. Mr. Ray Childs, the City Engineer, can provide information on this.

3. Mr. Hudson explained the planning process for Continuing Authorities Program projects. Before any project can be constructed, planning studies must be conducted to determine the project's feasibility. In a Section 205 Feasibility Study, the first \$100,000 is fully funded by the Federal Government. All remaining costs of the study are equally shared between the Federal Government and the sponsor.

4. The first phase of the Feasibility Study is usually completed in 12 months or less and accomplishes the following purposes:

- Defines the problems and opportunities and identifies potential solutions;
- Determines whether or not planning should proceed, based on a preliminary appraisal of the Federal interest, costs, benefits, and environmental impacts of the identified potential solutions;
- Estimates the costs of further study and develops a Project Study Plan (PSP) to determine the actual work items to be included in the Detailed Project Report (DPR); and,
- Assesses the support of local interests for continued planning and eventual construction of a project.

CEMVR-PD-F

SUBJECT: Mad Creek Section 205 Study, Muscatine, Iowa

5. A Feasibility Cost-Sharing Agreement (FCSA) must be in place prior to expenditures of funds beyond the first \$100,000 of Federal funds. At least 50 percent of the non-Federal share will be in cash; the remaining 50 percent of the non-Federal or sponsor's share may be contributed as in-kind products or services. The Feasibility Study results in a DPR which provides recommendations to Congress for or against Federal participation in solutions to the water resource problems and opportunities identified in the study.

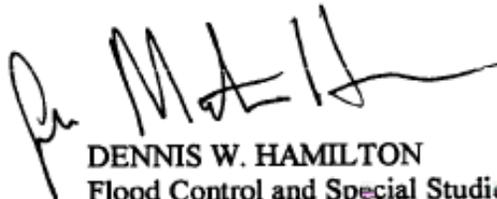
6. A tentative time line of completion dates is as follows:

Initiate Feasibility Study	April 1998
Complete initial planning and PSP	April 1999
Sign FCSA and initiate DPR (when non-Federal cost-share funds are necessary)	May 1999
Complete Feasibility Study and DPR	May 2001

7. After completion of the Feasibility Study, preparation of plans and specifications (P&S) for the selected plan or plans will take approximately 2 years. After P&S are complete, construction contracts are bid. The non-Federal sponsor is responsible for a 35-percent share of the cost of P&S and construction.

8. The point of contact from CEMVR for this study will be Mr. Dennis Hamilton, telephone: 309/794-5634; email address: dennis.w.hamilton@usace.army.mil.

Encl



DENNIS W. HAMILTON
Flood Control and Special Studies Branch
Planning Division



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

CEMVR-PM-MF (1105-2-10b)

16 November 1998

MEMORANDUM FOR Commander, U.S. Army Engineer Division, Mississippi Valley
ATTN: CEMVD-PM-E (Lexine Cool) 1400 Walnut Street,
P.O. Box 80, Vicksburg, Mississippi 39180-0080

SUBJECT: Mad Creek at Muscatine, Iowa, Section 205 Flood Control Study (PWI 150096)

1. Reference Engineer Circular 1105-2-211, 15 February 1996, subject: Continuing Authorities Program Procedures, which requires that for studies conducted under the Continuing Authorities Program an early milestone be established "to assess the scope of the study to determine if further study appears warranted, and, if so, whether study will require cost sharing." The purpose of this memorandum is to fulfill that requirement.
2. Study Area Description:
 - a. The Mad Creek study area is located along the Mississippi River in Muscatine, Iowa. The Mad Creek watershed drains approximately 17.3 square miles in the eastern portion of Muscatine and areas north of Muscatine in Muscatine County. The upstream portion of the watershed north of Muscatine is primarily agricultural land, but is rapidly being converted into residential subdivisions and commercial developments. The lower portion of Mad Creek is within the Muscatine city limits, flowing through an area of mixed commercial, industrial, and residential uses near the downtown area before entering into the Mississippi River. Low-lying areas along Mad Creek and Geneva Creek, its main tributary, are subject to flash flooding.
 - b. In 1960 the Corps of Engineers completed construction of floodwalls and levees along the lower portion of Mad Creek to protect the city from Mississippi River floodwaters backing up the creek. This system was improved and extended in 1983 to protect the city from Mad Creek flooding. The recent commercial and residential development in the upper portion of the watershed, however, appears to have increased the rate of runoff into Mad Creek and the frequency of flooding. In addition, increased commercial and industrial development in downtown Muscatine, and particularly near Mad Creek, has greatly increased the potential for flood damages.
 - c. In 1996, the city of Muscatine requested the assistance of the Corps of Engineers to perform a feasibility study to assess the existing flood control measures along Mad Creek to determine if additional measures are warranted to prevent damages from flooding. We are conducting this study in response to that request. The feasibility study was initiated in July 1998.

3. Study Findings:

a. A 1996 preliminary investigation by the Natural Resources Conservation Service (NRCS) estimated the 100-year discharge in Mad Creek to be 10,300 cubic feet per second at the mouth of the stream. This is approximately the same discharge used for design of the 1983 project at Mad Creek, but is 34 percent above the discharge developed for the July 1977 Flood Insurance Study. The hydraulic model developed for design of the 1983 project, however, does not accurately reflect current conditions and does not appear to provide reliable results. Actual flood levels have appeared to be higher than predicted by the hydraulic modeling. Additional hydraulic modeling using updated topographic and hydrologic data is needed to accurately determine the projected flood profiles.

b. A site tour of the study area has revealed a large degree of industrial development near Mad Creek and a large increase in potential flood damages since the construction of Federal flood protection projects in 1960 and 1983.

c. Preliminary study findings indicate that raising portions of the existing levees and floodwalls and extending the existing flood protection system further upstream is technically feasible and is likely the best alternative to reduce the potential flood damages. Four primary alternatives have been considered for reducing the flooding hazard: 1) raising and extending the existing floodwall and levee system, 2) constructing storm water detention reservoirs, 3) a combination of floodwalls and levees and storm water detention reservoirs, and 4) an enhanced early flood warning system to better react to flash floods.

4. We recommend the subject study be completed as scheduled. Our initial assessment indicates that a viable and implementable plan can be developed that will meet the necessary Federal interest criteria. Local flood protection is necessary to reduce the flash flood hazard to Muscatine businesses and residences along Mad Creek. Implementation of a successful project in Muscatine is likely, and the local sponsor strongly supports this study.

5. The local sponsor for the project is the city of Muscatine, Iowa. They have sponsored previous Corps of Engineers projects and are financially sound and fully capable of fulfilling required cost sharing for project implementation. We anticipate no difficulties in executing a Project Cooperation Agreement with the sponsor should improvements be recommended and approved.

6. We request your concurrence in completing the subject study. We anticipate that cost sharing will be required to complete the study. The total estimated cost of the feasibility study is \$540,000; however a detailed project study plan will be prepared to more accurately determine the study cost. A Quality Control Plan that includes a proposed study schedule is enclosed for your information (See Enclosure 1).

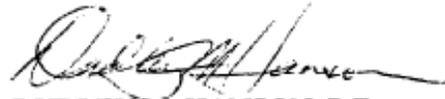
CEMVR-PM-MF

SUBJECT: Mad Creek at Muscatine, Iowa, Section 205 Flood Control Study (PWI 150096)

7. A project location map also is enclosed (See Enclosure 2). An electronic version of this map will be e:mailed to you.

FOR THE COMMANDER:

2 Encls



DUDLEY M. HANSON, P.E.
Chief, Planning, Programs, and
Project Management Division

CEMVD-PM-E (CEMVR-PM-MF/16 Nov 98) (1105-2-10c) 1st End
Mrs. Cool/cdl/5830
SUBJECT: Mad Creek at Muscatine, Iowa, Section 205 Flood
Control Study (PWI 150096)

CDR, Mississippi Valley Division, Vicksburg, MS 39181-0080

04 JAN 1999

For Commander, Rock Island District, ATTN: CEMVR-PM-MF

Based on additional economic information provided by E-mail on
15 Dec 98, concur in continuing subject study. Every effort
should be made to hold study costs down as much as possible.
Keep the level of detail only to that which is necessary.

FOR THE COMMANDER:

Encls
wd

For *Michael R. Hande*
GEORGE H. RHODES, JR.
Chief, Programs Execution
Division

CF: HUDSON/HAMILTON
DAN JOHNSON



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

CEMVR-PM-MF (1105-2-10b)

6 November 1998
(Revised 15 Dec 98)

MEMORANDUM FOR Commander, U.S. Army Engineer Division, Mississippi Valley
ATTN: CEMVD-PM-E (Lexine Cool) 1400 Walnut Street,
P.O. Box 80, Vicksburg, Mississippi 39180-0080

SUBJECT: Mad Creek at Muscatine, Iowa, Section 205 Flood Control Study (PWI 150096)

1. Reference Engineer Circular 1105-2-211, 15 February 1996, subject: Continuing Authorities Program Procedures, which requires that for studies conducted under the Continuing Authorities Program an early milestone be established "to assess the scope of the study to determine if further study appears warranted, and, if so, whether study will require cost sharing." The purpose of this memorandum is to fulfill that requirement.

2. Study Area Description:

a. The Mad Creek study area is located along the Mississippi River in Muscatine, Iowa. The Mad Creek watershed drains approximately 17.3 square miles in the eastern portion of Muscatine and areas north of Muscatine in Muscatine County. The upstream portion of the watershed north of Muscatine is primarily agricultural land, but is rapidly being converted into residential subdivisions and commercial developments. The lower portion of Mad Creek is within the Muscatine city limits, flowing through an area of mixed commercial, industrial, and residential uses near the downtown area before entering into the Mississippi River. Low-lying areas along Mad Creek and Geneva Creek, its main tributary, are subject to flash flooding.

b. In 1960 the Corps of Engineers completed construction of floodwalls and levees along the lower portion of Mad Creek to protect the city from Mississippi River floodwaters backing up the creek. This system was improved and extended in 1983 to protect the city from Mad Creek flooding. The recent commercial and residential development in the upper portion of the watershed, however, appears to have increased the rate of runoff into Mad Creek and the frequency of flooding. In addition, increased commercial and industrial development in downtown Muscatine, and particularly near Mad Creek, has greatly increased the potential for flood damages.

c. In 1996, the city of Muscatine requested the assistance of the Corps of Engineers to perform a feasibility study to assess the existing flood control measures along Mad Creek to determine if additional measures are warranted to prevent damages from flooding. We are conducting this study in response to that request. The feasibility study was initiated in July 1998.

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b. A site tour of the study area has revealed a large degree of industrial development near Mad Creek and a large increase in potential flood damages since the construction of Federal flood protection projects in 1960 and 1983.

c. Preliminary study findings indicate that raising portions of the existing levees and floodwalls and extending the existing flood protection system further upstream is technically feasible and is likely the best alternative to reduce the potential flood damages. Four primary alternatives have been considered for reducing the flooding hazard: 1) raising and extending the existing floodwall and levee system, 2) constructing storm water detention reservoirs, 3) a combination of floodwalls and levees and storm water detention reservoirs, and 4) an enhanced early flood warning system to better react to flash floods.

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5. The local sponsor for the project is the city of Muscatine, Iowa. They have sponsored previous Corps of Engineers projects and are financially sound and fully capable of fulfilling required cost sharing for project implementation. We anticipate no difficulties in executing a Project Cooperation Agreement with the sponsor should improvements be recommended and approved.

6. We request your concurrence in completing the subject study. We anticipate that cost sharing will be required to complete the study. The total estimated cost of the feasibility study is \$540,000; however a detailed project study plan will be prepared to more accurately determine the study cost. A Quality Control Plan that includes a proposed study schedule is enclosed for your information (See Enclosure 1).

CEMVR-PM-MF

SUBJECT: Mad Creek at Muscatine, Iowa, Section 205 Flood Control Study (PWI 150096)

7. A project location map also is enclosed (See Enclosure 2). An electronic version of this map will be e:mailed to you.

FOR THE COMMANDER:

2 Encls



DUDLEY M. HANSON, P.E.
Chief, Planning, Programs, and
Project Management Division

ADDENDUM
TO
16 NOVEMBER 1998 MEMORANDUM
FOR
CORPS OF ENGINEERS' MISSISSIPPI VALLEY DIVISION (CEMVD)

SUBJECT: MAD CREEK AT MUSCATINE, IOWA

Insert the following paragraph in "3. Study Findings":

"d. Preliminary economic investigation indicates that considerable dollars have been invested in new and renovated properties within the Mad Creek watershed. One major industry has invested \$5-6 million in construction activity, some of which is still underway. This activity includes a major plant expansion and a new distribution center. There has also been commercial development in downtown Muscatine since the system was improved and extended in 1983. This increase in capital investments significantly increases the value of the property protected by the existing levee system.

Commercial and residential development has occurred in the upper portion of the watershed, increasing the rate of runoff into Mad Creek and the frequency of flooding. Preliminary hydraulic analysis indicates that the stage-frequency data used in the 1983 assessment does not reflect current conditions and that the existing levee offers a lower level of protection than the original design, placing properties in the protected area at greater risk.

An existing-condition property inventory is not available. Based on information from the 1981 study report (updated to 1998 price levels), damage associated with a Standard Project Flood would be approximately \$22,500,000. The addition of \$6,000,000 for industrial expansion would increase this damage estimate by 27 percent to nearly \$28,500,000. A preliminary cost estimate of the most likely alternative, raising levees and floodwalls, is \$2,000,000. The moderate estimated cost of project improvements, coupled with the additional floodplain capital investment and an increase in risk of flooding, will likely result in a positive benefit-to-cost relationship.

Based upon these preliminary findings, there appears to be a Federal interest in performing a feasibility study to determine if additional flood control measures are warranted."



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

February 24, 1999

Planning, Programs, and
Project Management Division

Mr. A. J. Johnson
City Administrator
City of Muscatine
City Hall
215 Sycamore Street
Muscatine, Iowa 52761-3899

Dear Mr. Johnson:

The Rock Island District of the U.S. Army Corps of Engineers has completed the Initial Assessment of the Mad Creek Section 205 Flood Control Study. This Initial Assessment indicates that further study is warranted. We are enclosing a copy of the approved Initial Assessment memorandum which includes an Addendum dated December 15, 1998 (Enclosure 1).

We are now preparing a draft Project Study Plan that will describe the scope of work and estimated costs for the feasibility study. Feasibility study costs in excess of \$100,000 require a 50-50 cost share between the local sponsor and the Government. The Project Study Plan will be the basis for development of a Feasibility Cost-Sharing Agreement. We are providing a draft copy of the Feasibility Cost-Sharing Agreement for your review (Enclosure 2).

We will be contacting you soon to schedule a meeting to discuss development of the Project Study Plan and the Feasibility Cost-Sharing Agreement.

If you have any questions concerning this study, please call Mr. Dennis Hamilton of this office at 309/794-5634.

Sincerely,

ORIGINAL SIGNED BY

Dudley M. Hanson

Dudley M. Hanson, P.E.
Chief, Planning, Programs and
Project Management Division

Enclosures

QUALITY CONTROL PLAN

Continuing Authorities Program Section 205 of the 1946 Flood Control Act Flood Damage Reduction Project

1. **Date:** 6 July 1999
2. **Reference:** Rock Island District (CEMVR) Quality Management Plan (QMP) dated 30 May 1997.
3. **Project Title:** Mad Creek Section 205 Project, Muscatine, Iowa, PWI 150096
4. **Project Description:** The city of Muscatine is located in eastern Iowa along the Mississippi River. The Mad Creek watershed drains approximately 17.5 square miles. The upstream portion of the watershed north of Muscatine is primarily agricultural land, but is rapidly being converted into residential subdivisions and commercial developments. The lower portion of Mad Creek is within the Muscatine city limits, flowing through an area of mixed commercial, industrial and residential uses before entering into the Mississippi River. Low-lying areas along Mad Creek and Geneva Creek, its main tributary, are subject to flash flooding.

The Corps of Engineers (Corps) constructed floodwalls and levees along the lower portion of Mad Creek in 1961 to protect the city from Mississippi River floodwaters backing up the creek. This system was improved and extended in 1983. The city of Muscatine has requested the assistance of the Corps to perform a feasibility study to assess the existing flood control measures along Mad Creek to determine if additional measures are warranted. This study will be conducted by the Corps' Rock Island District staff.

5. **Product:** The product of the feasibility study is a Detailed Project Report (DPR) currently estimated to cost \$560,000. This product is cost-shared 50% Federal, 50% non-Federal.

6. **Labor Charge Codes:**

Planning, Programs, and Project Management Division (PM)	L07201
Engineering Division (ED)	L07202
Real Estate (RE)	L07461

7. **Product Development Team Members:**

<u>Name</u>	<u>Discipline</u>	<u>Organization</u>
Perry Hubert	Project Manager	PM-M
Clarice Sundeen	Plan Formulation	PM-M
Roger Less	Engineering	ED-DM
George Staley	Hydrology & Hydraulics	ED-HH
Sibte Zaidi	Geotechnical	ED-G
Erika Mark	Environmental Analysis	PM-R
Jim Ross	Cultural Resources	PM-R
Sharryn Jackson	Economic Analysis	PM-A
Karen Grizzle	Real Estate	RE-A

8. **Site Visits:** Product development team members and reviewers will coordinate with the Project Manager to make site visits during preparation of the Detailed Project Report as needed.

9. **Coordination/Communication:** Coordination will be made with Engineering Division for hydraulic and hydrologic data, surveys, geotechnical engineering, environmental engineering, project design, cost engineering, and technical engineering components. Coordination also will be made with Real Estate Division for development of a Real Estate Plan. Within the Planning, Programs, and Project Management Division, coordination will be made for plan formulation, social economic analysis and environmental compliance considerations. External coordination will be maintained with the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the State Historic Preservation Office, and other appropriate Federal, State and local agencies, and special interest groups as necessary. Communication will be maintained via meetings, telephone contact, postal and electronic mail.

Product team members and reviewers are responsible for reading all written documents related to the project and for attending project meetings as appropriate. Regularly scheduled project meetings will be held and used as a forum for discussing issues related to product quality. Individual team members and reviewers are responsible for communicating issues, concerns and problems, especially related to the project schedule and costs, to the Project Manager as soon as they are recognized, so that appropriate solutions can be developed in a timely fashion.

10. **Design Tools:** Pertinent regulations include, but are not limited to, ER 5-1-11, Program and Project Management; ER 1105-2-100, Guidance for Conducting Civil Works Planning Studies; ER 1110-2-1150, Engineering and Design for Civil Works Projects; Chapter 12 of ER 405-1-12 for Real Estate Plans, and EC 1105-2-211, Continuing Authorities Program Procedures, as well as appropriate Engineering Manuals. Plates and drawings will be prepared using CADD. Cost estimates will be prepared using MCACES. The feasibility study will be completed using English units of measure. Use of Metric units is not cost effective for this project since it would require conversion of existing hydrologic and survey data and modeling.

11. **Reviews:**

a. **Environmental:** Coordination with CEMVR's Environmental Analysis Branch (PM-R) regarding environmental statute compliance (i.e., National Environmental Policy Act, Endangered Species Act, Fish and Wildlife Coordination Act, National Historic Preservation Act) and with Engineering Division, Design Branch, Environmental Engineering Section (ED-DN) regarding environmental hazard, safety analysis, and pollution control compliance (i.e., Comprehensive Environmental Response, Compensation, and Liability Act; Resource Conservation and Recovery Act; Clean Air Act; and Clean Water Act) will be initiated as appropriate. The Project Manager will provide such project information to allow appropriate documentation and coordination as necessary.

b. **Internal Product Review:** The product development team is responsible for producing a high quality product to meet the needs of the customer. Technical supervisors will assure that each team member's technical work is checked for completeness, accuracy, and clarity by other experienced technical persons who have been involved with similar work. Internal reviews will be documented through certification of a product development team checklist. Further reviews will not proceed before all checks have been accomplished.

c. Independent Technical Review (ITR). The ITR team will consist of appropriate personnel from the following organizations in the Rock Island District:

Planning, Programs, and Project Management Division:

Project Management Branch	PM-M
Environmental Analysis Branch	PM-R
Economics & Social Analysis Branch	PM-A

Engineering Division:

Cost Engineering Branch	ED-C
Design Branch, Project Management Section	ED-DM
Design Branch, Environmental Engineering Section	ED-DN
Geotechnical Branch	ED-G
Hydrology and Hydraulics Branch	ED-H

Real Estate Division: RE

The ITR Team members will not have been directly involved with development of the DPR. The expertise and technical backgrounds of the team members will qualify the team to provide a comprehensive technical review of this project. An interim ITR will be performed at the 70-percent-complete level and a final ITR will be scheduled at the 95-percent-complete level. All comments resulting from their review will be resolved in accordance with the QMP.

d. Review Documentation. Copies of documentation of all review comments and responses, along with the signed QCP and Technical, and Policy Compliance Checklist will be provided to the Chief of the Project Management Branch and the Assistant Chief of Design Branch.

12. **Approval:** Final approval of the product is accomplished when the Technical and Compliance Checklist is signed by the District Engineer.

13. **Quality Control:** Quality control will be assured by resolution of comments received at the above-listed product reviews.

14. **Schedule:** The timeframe for completing this feasibility study is 3 years from the date of receipt of the initial expenditure of the Headquarters, U.S. Army Corps of Engineers' work allowance. The Project Manager will monitor schedule and costs during formulation and design. Following is a detailed schedule of significant milestones and reviews:

<u>Event:</u>	<u>Date:</u>
Received Initial Work Allowance	1 May 1998
Complete Initial Assessment/CAP Fact Sheet	6 November 1998
Begin Project Study Plan (PSP)	1 December 1998
Complete Preliminary design and cost estimates	1 February 1999
Begin negotiating FCSA	24 February 1999
Complete PSP	15 April 1999
Execute FCSA	1 August 1999
Interim ITR	1 July 2000

Event:

Date:

Draft DPR	15 September 2000
Complete NEPA Coordination and Public Review	20 October 2000
Letter of Assurance from Sponsor	15 November 2000
Final ITR	10 December 2000
Comment Resolution	1 February 2001
Submit DPR and Draft PCA to Mississippi Valley Division	1 April 2001

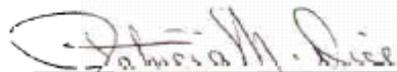
15. **Cost Monitoring and Control:** Schedule and costs during the feasibility study will be monitored by the Project Manager. The Project Manager will be promptly notified of significant cost variations and funding needs.

SIGNATURES:

SUBMITTED BY:  _____ 7/9/99
Project Manager Date

REVIEWED BY:  _____ 7/27/99
Chief, Project Management Branch Date

APPROVED BY:  _____ 7/23/99
Chief, Planning, Programs, and Date
Project Management Division

 _____ 7/16/99
Chief, Real Estate Division Date

 _____ 7/22/99
Chief, Engineering Division Date

CF:
Dist File (PM)
PM-M
Product Development Team Members
ED
ED-D
RE



REPLY TO
ATTENTION OF:

Planning, Programs, and
Project Management Division

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

October 25, 1999

Mr. A. J. Johnson
City Administrator
City of Muscatine
City Hall
215 Sycamore Street
Muscatine, Iowa 52761-3899

Dear Mr. Johnson:

I am writing to request the City of Muscatine to sign the final version of the Feasibility Cost Sharing Agreement (Agreement) for the Mad Creek Section 205 Flood Damage Reduction Feasibility Study, Muscatine, Iowa (Enclosure 1). The Agreement has been revised in accordance with the City's comments furnished during our telephone conversation earlier today.

It is my understanding that Mayor Richard W. O'Brien will be in attendance to sign the Agreement on October 26, 1999, when we meet in your office at 10 a.m. After signature by Mayor O'Brien, I will ask Colonel James Mudd, District Engineer, to sign the Agreement for the Department of the Army, and I will return a fully executed copy of the Agreement to you for your files.

Immediately after the Agreement is fully executed, I will be requesting the initial non-Federal funds from you to allow us to begin the study.

If you have any questions, please feel free to call me at 309/794-5554, or you may write me at the following address:

ATTN: Project Management Branch (Perry Hubert)
District Engineer
U.S. Army Engineer District, Rock Island
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-2004

Sincerely,

ORIGINAL SIGNED BY

Perry A. Hubert, P.E.
Project Manager

Enclosure

**AGREEMENT
BETWEEN THE DEPARTMENT OF THE ARMY
AND
THE CITY OF MUSCATINE, IOWA
FOR THE MAD CREEK SECTION 205 FLOOD CONTROL STUDY**

THIS AGREEMENT is entered into this 26TH day, of OCTOBER, 1999, by and between the Department of the Army (hereinafter the "Government"), represented by the District Engineer executing this Agreement, and the City of Muscatine, Iowa (hereinafter the "Sponsor"),

WITNESSETH, that

WHEREAS, the Congress has authorized the U.S. Army Corps of Engineers, Rock Island District, to conduct studies of Mad Creek at Muscatine, Iowa, pursuant to the authority provided by Section 205, Flood Control Act of 1948 (Public Law [PL] 80-858), as amended; and

WHEREAS, the U.S. Army Corps of Engineers has conducted a reconnaissance study of flooding at Mad Creek in Muscatine, Iowa, pursuant to this authority, and has determined that further study in the nature of a "Feasibility Phase Study" (hereinafter the "Study") is required to fulfill the intent of the study authority and to assess the extent of the Federal interest in participating in a solution to the identified problem; and

WHEREAS, Section 105 of the Water Resources Development Act of 1986 (PL 99-662, as amended) specifies the cost-sharing requirements applicable to the Study; and

WHEREAS, the Sponsor has the authority and capability to furnish the cooperation hereinafter set forth and is willing to participate in study cost sharing and financing in accordance with the terms of this Agreement; and

WHEREAS, the Sponsor and the Government understand that entering into this Agreement in no way obligates either party to implement a project and that whether the Government supports a project authorization and budgets it for implementation depends upon, among other things, the outcome of the Study and whether the proposed solution is consistent with the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and with the budget priorities of the Administration;

NOW THEREFORE, the parties agree as follows:

ARTICLE I - DEFINITIONS

For the purposes of this Agreement:

A. The term "Study Costs" shall mean all disbursements by the Government pursuant to this Agreement, from Federal appropriations or from funds made available to the Government by the Sponsor, and all negotiated costs of work performed by the Sponsor pursuant to this Agreement. Study Costs shall include, but not be limited to: labor charges; direct costs; overhead expenses; supervision and administration costs; the costs of participation in Study Management and Coordination in accordance with Article IV of this Agreement; the costs of contracts with third parties, including termination or suspension charges; and any termination or suspension costs associated with this Agreement (ordinarily defined as those costs necessary to terminate ongoing contracts or obligations and to properly safeguard the work already accomplished).

B. The term "estimated Study Costs" shall mean the estimated cost of performing the Study as of the effective date of this Agreement, as specified in Article III.A. of this Agreement.

C. The term "excess Study Costs" shall mean Study Costs that exceed the estimated Study Costs and that do not result from mutual agreement of the parties, a change in Federal law that increases the cost of the Study, or a change in the scope of the Study requested by the Sponsor.

D. The term "study period" shall mean the time period for conducting the Study, commencing with the release to the U.S. Army Corps of Engineers, Rock Island District, of initial Federal feasibility funds following the execution of this Agreement and ending with the Chief of Engineers' acceptance of the Study.

E. The term "PSP" shall mean the Project Study Plan, which is attached to this Agreement and which shall not be considered binding on either party and is subject to change by the Government, in consultation with the Sponsor.

F. The term "negotiated costs" shall mean the costs of in-kind services to be provided by the Sponsor in accordance with the PSP.

G. The term "fiscal year" shall mean one fiscal year of the Government. The Government fiscal year begins on October 1 and ends on September 30.

ARTICLE II - OBLIGATIONS OF PARTIES

A. The Government, using funds and in-kind services provided by the Sponsor and funds appropriated by the Congress of the United States, shall expeditiously prosecute and complete the Study, in accordance with the provisions of this Agreement and Federal laws, regulations, and policies.

B. In accordance with this Article and Article III.A., III.B. and III.C. of this Agreement, the Sponsor shall contribute cash and in-kind services equal to 50 percent of Study Costs other than excess Study Costs. The Sponsor may, consistent with applicable laws and regulations, contribute up to 25 percent of Study Costs through the provision of in-kind services. The in-kind services to be provided by the Sponsor, the estimated negotiated costs for those services, and the estimated schedule under which those services are to be provided are specified in the PSP. Negotiated costs shall be subject to an audit by the Government to determine reasonableness, allocability, and allowability.

C. The Sponsor shall pay a 50-percent share of excess Study Costs in accordance with Article III.D. of this Agreement.

D. The Sponsor understands that the schedule of work may require the Sponsor to provide cash or in-kind services at a rate that may result in the Sponsor temporarily diverging from the obligations concerning cash and in-kind services specified in paragraph B. of this Article. Such temporary divergences shall be identified in the quarterly reports provided for in Article III.A. of this Agreement and shall not alter the obligations concerning costs and services specified in paragraph B. of this Article or the obligations concerning payment specified in Article III of this Agreement.

E. If, upon the award of any contract or the performance of any in-house work for the Study by the Government or the Sponsor, cumulative financial obligations of the Government and the Sponsor would result in excess Study Costs, the Government and the Sponsor agree to defer award of that and all subsequent contracts, and performance of that and all subsequent in-house work for the Study until the Government and the Sponsor agree to proceed. Should the Government and the sponsor require time to arrive at a decision, the Agreement will be suspended in accordance with Article X., for a period of not to exceed 6 months. In the event the Government and the sponsor have not reached an agreement to proceed by the end of their 6-month period, the Agreement may be subject to termination in accordance with Article X.

F. No Federal funds may be used to meet the Sponsor's share of Study Costs unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

G. The award and management of any contract with a third party in furtherance of this Agreement which obligates Federal appropriations shall be exclusively within the control of the Government. The award and management of any contract by the Sponsor with a third party in furtherance of this Agreement which obligates funds of the Sponsor and does not obligate Federal appropriations shall be exclusively within the control of the Sponsor, but shall be subject to applicable Federal laws and regulations.

ARTICLE III - METHOD OF PAYMENT

A. The Government shall maintain current records of contributions provided by the parties, current projections of Study Costs, current projections of each party's share of Study Costs, and current projections of the amount of Study Costs that will result in excess Study Costs. At least quarterly, the Government shall provide the Sponsor a report setting forth this information. As of the effective date of this Agreement, estimated Study Costs are \$556,000, and the Sponsor's share of estimated Study Costs is \$270,000. In order to meet the Sponsor's cash payment requirements for its share of estimated Study Costs, the Sponsor must provide a cash contribution currently estimated to be \$270,000. The dollar amounts set forth in this Article are based upon the Government's best estimates, which reflect the scope of the study described in the PSP, projected costs, price-level changes, and anticipated inflation. Such cost estimates are subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Sponsor.

B. The Sponsor shall provide its cash contribution required under Article II.B. of this Agreement in accordance with the following provisions:

1. For purposes of budget planning, the Government shall notify the Sponsor by January 1 of each year of the estimated funds that will be required from the Sponsor to meet the Sponsor's share of Study Costs for the upcoming fiscal year.

2. No later than 30 calendar days prior to the scheduled date for the Government's issuance of the solicitation for the first contract for the Study or for the Government's anticipated first significant in-house expenditure for the Study, the Government shall notify the Sponsor in writing of the funds the Government determines to be required from the Sponsor to meet its required share of Study Costs for the first fiscal year of the Study. No later than 21 calendar days thereafter, the Sponsor shall provide the Government the full amount of the required funds by delivering a check payable to "FAO, USAED, Rock Island District" to the District Engineer.

3. For the second and subsequent fiscal years of the Study, the Government shall, no later than 60 calendar days prior to the beginning of the fiscal year, notify the Sponsor in writing of the funds the Government determines to be required from the Sponsor to meet its required share of Study Costs for that fiscal year, taking into account any temporary divergences identified under Article II.C. of this Agreement. No later than 30 calendar days prior to the beginning of the fiscal year, the Sponsor shall make the full amount of the required funds available to the Government through the funding mechanism specified in paragraph B.2. of this Article.

4. The Government shall draw from the funds provided by the Sponsor such sums as the Government deems necessary to cover the Sponsor's share of contractual and in-house fiscal obligations attributable to the Study as they are incurred.

5. In the event the Government determines that the Sponsor must provide additional funds to meet its share of Study Costs, the Government shall so notify the Sponsor in writing. No later than 60 calendar days after receipt of such notice, the Sponsor shall make the full amount of the additional required funds available through the funding mechanism specified in paragraph B.2. of this Article.

C. Within 90 days after the conclusion of the Study Period or termination of this Agreement, the Government shall conduct a final accounting of Study Costs, including disbursements by the Government of Federal funds, cash contributions by the Sponsor, the amount of any excess Study Costs, and credits for the negotiated costs of the Sponsor, and shall furnish the Sponsor with the results of this accounting. Within 30 days thereafter, the Government, subject to the availability of funds, shall reimburse the Sponsor for the excess, if any, of cash contributions and credits given over its required share of Study Costs, other than excess Study Costs, or the Sponsor shall provide the Government any cash contributions required for the Sponsor to meet its required share of Study Costs other than excess Study Costs.

D. The Sponsor shall provide its cash contribution for excess Study Costs as required under Article II.C. of this Agreement by delivering a check payable to "FAO, USAED, Rock Island District" to the District Engineer as follows:

1. After the project that is the subject of this Study has been authorized for construction, no later than the date on which a Project Cooperation Agreement is entered into for the project; or

2. In the event the project that is the subject of this Study is not authorized for construction by a date that is no later than 5 years of the date of the final report of the Chief of Engineers concerning the project, or by a date that is no later than 2 years after the date of the termination of the study, the Sponsor shall pay its share of excess costs on that date (5 years after the date of the Chief of Engineers or 2 years after the date of the termination of the study).

ARTICLE IV - STUDY MANAGEMENT AND COORDINATION

A. To provide for consistent and effective communication, the Sponsor and the Government shall appoint named senior representatives to an Executive Committee. Thereafter, the Executive Committee shall meet regularly until the end of the Study Period.

B. Until the end of the Study Period, the Executive Committee shall generally oversee the Study consistently with the PSP.

C. The Executive Committee may make recommendations that it deems warranted to the District Engineer on matters that it oversees, including suggestions to avoid potential sources of dispute. The Government in good faith shall consider such recommendations. The Government has the discretion to accept, reject, or modify the Executive Committee's recommendations.

D. The Executive Committee shall appoint representatives to serve on a Study Management Team. The Study Management Team shall keep the Executive Committee informed of the progress of the Study and of significant pending issues and actions, and shall prepare periodic reports on the progress of all work items identified in the PSP.

E. The costs of participation in the Executive Committee (including the cost to serve on the Study Management Team) shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

ARTICLE V - DISPUTES

As a condition precedent to a party bringing any suit for breach of this Agreement, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to both parties. The parties shall each pay 50 percent of any costs for the services provided by such a third party as such costs are incurred. Such costs shall not be included in Study Costs. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

ARTICLE VI - MAINTENANCE OF RECORDS

A. Within 60 days of the effective date of this Agreement, the Government and the Sponsor shall develop procedures for keeping books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total Study Costs. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to state and local governments at 32 C.F.R. Section 33.20. The Government and the Sponsor shall maintain such books, records, documents, and other evidence in accordance with these procedures for a minimum of 3 years after completion of the Study and resolution of all relevant claims arising therefrom. To the extent permitted under applicable Federal laws and regulations, the Government and the Sponsor shall each allow the other to inspect such books, documents, records, and other evidence.

B. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the Sponsor is required to conduct under the Single Audit Act of 1984, 31 U.S.C. Sections 7501-7507. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government audits shall be included in total Study Costs and shared in accordance with the provisions of this Agreement.

ARTICLE VII - RELATIONSHIP OF PARTIES

The Government and the Sponsor act in independent capacities in the performance of their respective rights and obligations under this Agreement, and neither is to be considered the officer, agent, or employee of the other.

ARTICLE VIII - OFFICIALS NOT TO BENEFIT

No member or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE IX - FEDERAL AND STATE LAWS

In the exercise of the Sponsor's rights and obligations under this Agreement, the Sponsor agrees to comply with all applicable Federal and State laws and regulations, including Section 601 of Title VI of the Civil Rights Act of 1964 (PL 88-352) and Department of Defense Directive 5500.11 issued pursuant thereto and published in 32 C.F.R. Part 195, as well as Army Regulations 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army."

ARTICLE X - TERMINATION OR SUSPENSION

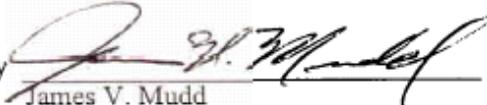
A. This Agreement shall terminate at the conclusion of the Study period, and neither the Government nor the Sponsor shall have any further obligations hereunder, except as provided in Article III.C.; provided, that prior to such time and upon 30 days written notice, either party may terminate or suspend this Agreement. In addition, the Government shall terminate this Agreement immediately upon any failure of the parties to agree to extend the Study under Article II.E. of this agreement, or upon the failure of the sponsor to fulfill its obligation under Article III. of this Agreement. In the event that either party elects to terminate this Agreement, both parties shall conclude their activities relating to the Study and proceed to a final accounting in accordance with Article III.C. and III.D. of this Agreement. Upon termination of this Agreement, all data and information generated as part of the Study shall be made available to both parties.

B. Any termination of this Agreement shall not relieve the parties of liability for any obligations previously incurred, including the costs of closing out or transferring any existing contracts.

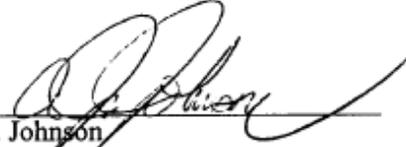
IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the District Engineer for the U.S. Army Corps of Engineers, Rock Island District.

DEPARTMENT OF THE ARMY

CITY OF MUSCATINE, IOWA

By 
James V. Mudd
Colonel, U.S. Army Corps of Engineers
District Engineer
Rock Island District

By 
Richard W. O'Brien
Mayor, City of Muscatine

Attest: 
A. J. Johnson
City Clerk



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004
October 27, 1999

Planning, Programs, and
Project Management Division

Mr. A. J. Johnson
City Administrator
City of Muscatine
City Hall
215 Sycamore Street
Muscatine, Iowa 52761-3899

Dear Mr. Johnson:

The Rock Island District of the U.S. Army Corps of Engineers has enclosed for your use two original executed copies of the Feasibility Cost Sharing Agreement for the Mad Creek Section 205 Flood Damage Reduction Feasibility Study, Muscatine, Iowa (Enclosure 1). In accordance with Article III of the Agreement, you are hereby notified that the amount of the initial cash contribution required to meet your share of study costs for Fiscal Year 2000 is \$100,000. Please provide payment in accordance with Article IIIB.2. of the Agreement.

In accordance with Article IVA of the Agreement, the undersigned is appointed as the Government's senior representative to the Executive Committee. Please let us know who will represent the City of Muscatine on the Executive Committee. Also, please appoint representatives to serve on the Study Management Team. Please refer to pages 50-52 of the Project Study Plan for information regarding the role of the Executive Committee and Study Management Team.

If you have any questions, please feel free to call me at 309/794-5554.

Sincerely,

ORIGINAL SIGNED BY

Perry A. Hubert, P.E.
Project Manager



REPLY TO
ATTENTION GF

**DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004**

January 10, 2000

Planning, Programs, and
Project Management Division

SEE DISTRIBUTION LIST

This letter is to confirm my invitation for you to attend a joint meeting between the U.S. Army Corps of Engineers, the city of Muscatine, Muscatine County, and interested parties on Wednesday, January 19, 2000, at 9 a.m. in the lower level conference room at Muscatine City Hall, 215 Sycamore Street, Muscatine, Iowa. The purpose of the meeting is to discuss the Mad Creek at Muscatine, Iowa, Flood Damage Reduction project. A tentative agenda follows:

0900-0910	Introductions	Attendees
0910-0920	Genesis of the Project	Perry Hubert, Corps of Engineers
0920-0930	Sponsor's Role	A.J. Johnson, City of Muscatine
0930-0945	Feasibility Study Process/Plan of Study	Clarice Sundeen, Corps of Engineers
0945-1000	Discussion on Study Areas	Ray Childs, City Engineer
1000-1015	Discussion on Potential Alternatives	Perry Hubert and A.J. Johnson
1015-1025	Questions	Attendees
1025-1030	Set Next Meeting Date	Perry Hubert, Corps of Engineers
1030-1200	Site Visit to Study Area for those interested (weather permitting)	

The meeting on January 19 will constitute the first meeting of the Executive Committee and Study Management Team for the Feasibility Study for the Mad Creek Flood Damage Reduction project.

Questions can be directed to me at telephone 309/794-5554 or Ms. Clarice Sundeen, Community Planner, at telephone 309/794-5447.

Sincerely,


Perry A. Hubert
Project Manager



1459 Washington St.
Muscatine, IA 52761-5040
(319) 263-8933 Voice/TT
Fax (319) 263-2127

PUBLIC WORKS

City Transit Landfill
263-8152 264-5215

Equipment Maintenance
Roadway Maintenance
Collection & Drainage
Building & Grounds
Refuse Collection
Engineering

March 20, 2000

Mr. Perry Hubert
Project Management Division
U.S. Army, Corps of Engineers
Clock Tower Building - PO Box 2004
Rock Island, IL 61204-2004

RE: Mad and Geneva Creeks
Flood Damage Reduction
Feasibility Study
Muscatine, Iowa

Dear Perry:

Talking recently with Rich Todd, the Project Engineer for the study now underway tripped something that was a blip on the radar and has grown to screaming for attention.

Last year while we were going through the permit process with one of the myriad sections of the Iowa DNR where they insisted on a computer model for a pedestrian/utility bridge we were installing at the mouth of Mad Creek, a point of interest occurred.

Focus of attention was on showing no backwater effect above the new bridge during 100-year storm events on Mad Creek with the Mississippi River in normal, 10 year and 100 year stages.

The Rock Island District's hydraulic folks had just acquired HEC-RAS software and were kind enough to run the program for us. Background data from the old flood insurance program had to be used. (The new study may be quite different).

Anyhow, the blip on the radar was the E. 2nd Street bridge immediately upstream from the subject at hand. Considering the 560 M.S.L. levee crown on Mad Creek and the backwater affect of the E. 2nd Street bridge, it certainly needs a serious look. It may be we are missing an opportunity to eliminate a closure structure at that location.

"I remember Muscatine for its sunsets. I have never seen any on either side of the ocean that equaled them" — Mark Twain

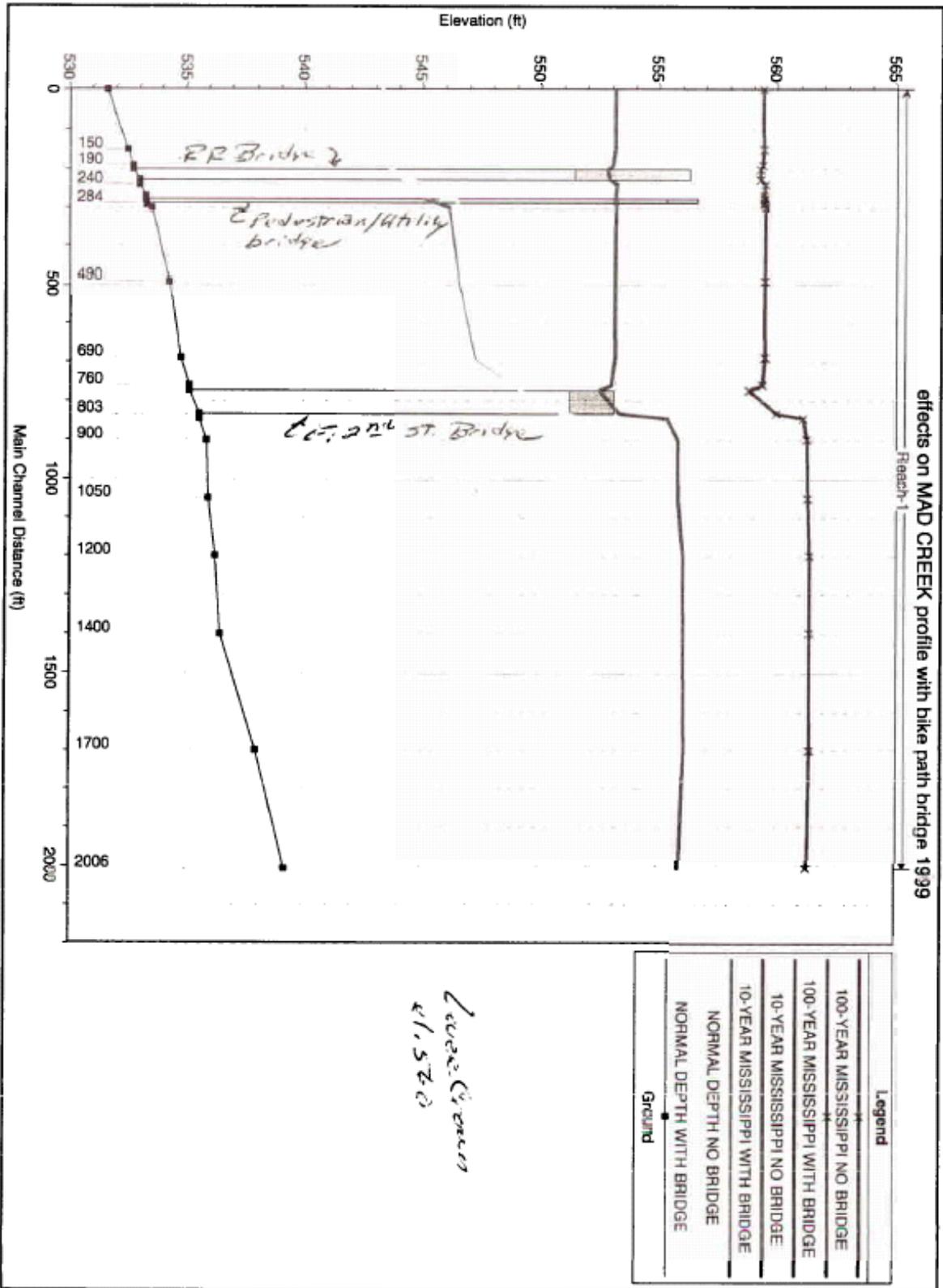
Presently, we are waiting for the study results on the hydraulic portion in order to finalize bridge deck elevations on raising the E. 5th Street bridge. It may very well turn out that a similar approach on E. 2nd Street will become a “no brainer” remedy.

By this correspondence, I want to make sure the idea doesn't get lost, especially since some segments of the study are being contracted out. Room for options is easily lost in implementing the scope in contracting services.

Respectfully yours,

A handwritten signature in black ink, appearing to read "R. L. Childs". The signature is fluid and cursive, with a large initial "R" and "C".

R. L. Childs, P.E.
City Engineer





REPLY TO
ATTENTION OF

Planning, Programs, and
Project Management Division

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

April 20, 2000

Mr. Jeff Fick
HON INDUSTRIES
414 East Third Street
Muscatine, Iowa 52761

Dear Mr. Fick:

Thank you for your interest in the Mad Creek Study process. As discussed briefly by telephone on Monday, April 17, 2000, your assistance in gathering information concerning potential flood impacts on the HON INDUSTRIES operations will be very valuable.

In general, the Corps of Engineers needs to assess the impact of flood events which would breach or overtop the existing levees and floodwalls protecting the west bank of Mad Creek. In order to evaluate this potential situation, much information is needed, including the following:

- a. Listing of all HON INDUSTRIES buildings within the currently protected area to include:
 - Ground and floor elevations (if readily available).
 - Building area (square footage).
 - Age and replacement value of buildings.
 - Equipment, materials, and inventory values.
- b. Type of flood preparation measures taken during high water threat, and associated costs (including labor costs) such as sandbagging, pumping, and removal of inventory.
- c. Estimated business impacts of shutdown due to potential flooding:
 - Extent and duration of production losses.
 - Number of employees idled and amount of lost wages.
 - Indirect associated costs, for example, impact on HON INDUSTRIES facilities which might depend on the Muscatine plant production.

d. Summary of expansion plans within the protected floodplain area to include cost estimate and implementation schedule.

I hope this letter serves as a general guideline for your information gathering. If you have any questions concerning this request, please call Mr. Dan Fetes of our Economic Analysis Section, telephone 309/794-5569. Mr. Fetes will be in contact with you to arrange an on-site visit and to discuss the above information.

Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY

Gary L. Loss, P. E.
Chief, Planning, Programs, and
Project Management Division



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

April 20, 2000

Planning, Programs, and
Project Management Division

Mr. Dick Stone
Engineering Manager
H. J. Heinz Company
1357 Isett Avenue
Muscatine, Iowa 52761

Dear Mr. Stone:

Thank you for attending the Mad Creek Study Open House on Tuesday, April 11, 2000. As discussed briefly during the Open House, your assistance in gathering information concerning potential flood impacts on the H. J. Heinz Company operations will be very valuable.

In general, the Corps of Engineers needs to assess the impact of flood events which would breach or overtop the existing levees and floodwalls protecting the west bank of Mad Creek. In order to evaluate this potential situation, much information is needed, including the following:

- a. Listing of all Heinz Company buildings within the currently protected area to include:
 - Ground and floor elevations (if readily available).
 - Building area (square footage).
 - Age and replacement value of buildings.
 - Equipment, materials, and inventory values.
- b. Type of flood preparation measures taken during high water threat, and associated costs (including labor costs) such as sandbagging, pumping, and removal of inventory.
- c. Estimated business impacts of shutdown due to potential flooding:
 - Extent and duration of production losses.
 - Number of employees idled and amount of lost wages.
 - Indirect associated costs, for example, impact on other Heinz facilities which might depend on the Muscatine plant production.

d. Summary of expansion plans within the protected floodplain area to include cost estimate and implementation schedule.

I hope this letter serves as a general guideline for your information gathering. If you have any questions concerning this request, please call Mr. Dan Fetes of our Economic Analysis Section, telephone 309/794-5569. Mr. Fetes will be in contact with you to arrange an on-site visit and to discuss the above information.

Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY

Gary L. Loss, P. E.
Chief, Planning, Programs, and
Project Management Division

Copy Furnished:

Mr. Dan Poland
Plant Manager
H. J. Heinz Company
1357 Isett Avenue
Muscatine, Iowa 52761



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

October 25, 2000

Planning, Programs, and
Project Management Division

Mr. A. J. Johnson
City Administrator
City of Muscatine
City Hall
215 Sycamore Street
Muscatine, Iowa 52761-3899

Dear Mr. Johnson:

This letter is to provide formal notification that the Rock Island District of the U.S. Army Corps of Engineers requires cost-share funds for the Mad Creek Section 205 Flood Damage Reduction Feasibility Study.

In accordance with Article III of the Feasibility Cost Sharing Agreement for the subject study, you are hereby notified that the amount of cash contribution to meet your share of study costs for Fiscal Year 2001 is \$170,000. Please provide payment in accordance with Article IIIB.2 of the Agreement by delivering a check to the District Engineer made payable to "FAO, USAED, Rock Island District."

If there are any questions, please feel free to contact me or Mr. Scott Estergard of our Project Management Branch, telephone 309/794-5634 and 309/794-5697, respectively.

Sincerely,

ORIGINAL SIGNED BY

Dennis W. Hamilton, P.E.
Project Manager

THE UNIVERSITY OF IOWA



FAXED
JF 3/11/00

November 20, 2000

Jim Ross, Archaeologist
Environmental Analysis Branch
U.S. Army Corps of Engineers
Clock Tower Building, P.O. Box 2004
Rock Island, IL 61201

Via fax: 309/794-5157 (3 pages)
[Original will be mailed]

Re: DACW25-98-D-0015, Delivery Order No. 3
Site File Search 134
COE Permit Application n/a
Sections 13, 25, 26, 27, 34, 35, 36, T77N-R2W
Section 3, T76N-R2W

Dear Jim:

This search request corresponds to an area in Muscatine County, Iowa. It involves flood protection and closures along Mad Creek in the City of Muscatine with a Mad Creek borrow and retention pond to the north in Section 13, a Geneva Creek pond to the west in Section 27, and the Hershey borrow to the southwest in Section 3 (T76N-R2W).

No previously recorded site locations correspond directly to the above listed project areas or in fact any of the listed sections with the exception of Section 3 (T76N-R2W), where previously recorded sites are very close to the specified Hershey borrow. The attached map and list provide details on the local area site distribution. Note the Mad Creek borrow and pond area was excluded as no sites are known in Section 13 or adjoining sections to the east, west or north. In general, a variety of site types are present—these sites were mostly recorded as a result of Hwy 61-related improvements. As this sample shows, the Muscatine area is generally site rich.

Sincerely,

John F. Doershuk, Ph.D., RPA
Director, General Contracts Program



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P. O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

January 3, 2001

Planning, Programs, and
Project Management Division

SEE DISTRIBUTION LIST

The Rock Island District of the U.S. Army Corps of Engineers (Corps) and the City of Muscatine, Iowa, are proposing flood damage reduction measures along Mad Creek in Muscatine County. This flood damage reduction study has been authorized under Section 205 of the 1948 Flood Control Act, as amended (Section 205).

Federal Undertaking

Potential Section 205 project features include levee improvement, floodwall construction, and retention basin construction. The general project location is identified in Exhibit 1.

Area of Potential Effects (APE)

The APE for this undertaking includes the levee improvement and floodwall construction areas, sediment retention basin construction areas, and all associated access, staging, disposal, and borrow areas as identified within the general project area (Exhibit 1). The APE is not on tribal lands [reference 36 CFR 800.15(d); 36 CFR 800.4(a)(1); and 36 CFR 800.4(c)].

Levee improvement and floodwall construction impacts will be limited to the existing levee footprint (Exhibit 2). Sediment retention basin construction impacts will result from dam construction and periodic inundation, as well as from associated access, staging, and disposal. Two potential retention basin sites are identified in Exhibit 3. Borrow excavation impacts will be limited to the excavation area and associated mechanical access and staging areas, if necessary. Two potential borrow sites are identified in Exhibits 4 and 5.

Consulting Parties

The Corps finds the following organizations entitled to be consulting parties as set out in 36 CFR 800.2 and invites them by copy of this letter to participate in the Section 106 consultation process:

- Ho-Chunk Nation
- Governor's Liaison for Indian Affairs
- Iowa of Kansas Executive Committee
- Iowa of Oklahoma Business Committee
- Iowa Tribe of Nebraska and Kansas
- Iowa Tribe of Oklahoma
- Sac and Fox of Oklahoma Business Committee
- Sac and Fox of the Mississippi Tribal Council
- Sac and Fox of the Missouri Tribal Council
- Otoe-Missouria Tribal Council
- Winnebago Tribal Council
- Peoria Indian Tribe of Oklahoma
- Kickapoo Traditional Tribe of Texas
- Kickapoo of Kansas Tribal Council
- Muscatine County Board of Supervisors
- Muscatine County Historical Society
- Iowa State Historic Preservation Officer (SHPO) at the Iowa State Historical Society
- Office of the State Archaeologist Indian Advisory Committee

SHPO Invitation

The Corps invites the SHPO to:

- Identify any other consulting parties as per 36 CFR 800.3(f);
- Comment as per 36 CFR 800.2(d)(3) on the Corps plan to involve the public by utilizing the Corps normal procedures for public involvement under the National Environmental Policy Act; and,
- Comment on or contribute to identification efforts including definition of the APE, all as per 36 CFR 800.4(a-b).

Identification of Historic Properties

Review of Existing Information and Level of Future Identification Efforts:

Pursuant to the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR Part 800, the Corps has determined that this Section 205 project has potential to cause effects to historic properties (36CFR800.3(a)(1)). A review of the archeological site file records by the Office of the State Archaeologist failed to identify any previously recorded sites within the APE; however, numerous sites were documented in proximity to the undertaking (Exhibit 6).

The opinion of the Corps is that levee improvement and floodwall construction will not have the potential to impact significant historic properties, because work will be limited to the existing levee footprint, floodwall, and previously disturbed ground. In addition, the Corps has determined that the retention basin alternatives are unlikely to prove economically feasible. Therefore, the Corps has determined that these project features will not require archeological field investigation.

A determination of effect to undocumented historic properties will be necessary at the potential borrow sites. This determination will require a field investigation consisting of a combination of archival research, surface survey, and shovel test excavations. Deep testing will not be necessary because both borrow sites are situated in upland settings.

Request for Information from Consulting Parties:

The Corps is seeking information from all consulting parties regarding their concerns with issues relating to this undertaking's potential effects on historic properties and, particularly, the tribes' concerns with identifying properties that may be of religious and cultural significance to them and may be eligible for the National Register [36 CFR 800.4(a)(3-4)]. Concerns about confidentiality [36 CFR 800.11(c)] regarding locations of properties can be addressed under Section 304 of the National Historic Preservation Act, which provides withholding from public disclosure the location of properties under several circumstances, including in cases where it would cause a significant invasion of privacy, impede the use of a traditional religious site by practitioners, endanger the site, etc.

We request your written comments on this project within 30 days pursuant to 36 CFR 800.3(c)(4). The Corps has identified the consulting parties for this undertaking as set out in 36 CFR 800.2 and invites them by copy of this letter to participate in the Section 106 process (See Distribution List). Results of all consultation and determination shall be included in an Environmental Assessment for additional public review in 2001.

If you have any questions regarding this matter, please call Mr. Jim Ross of our Environmental Analysis Section, telephone 309/794-5540, or you may write to our address above, ATTN: Planning, Programs, and Project Management Division (Jim Ross).

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth A. Barr". The signature is written in a cursive style with a large, prominent initial "K".

Kenneth A. Barr
Chief, Economic and Environmental
Analysis Branch

Enclosures



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

January 22, 2001

Planning, Programs, and
Project Management Division

SEE DISTRIBUTION LIST

The Rock Island District of the U.S. Army Corps of Engineers is preparing a Definite Project Report (DPR) with Environmental Assessment (EA) to assist in investigating flood damage reduction measures along Mad Creek in Muscatine, Iowa. The Mad Creek at Muscatine, Iowa, flood damage reduction study is undertaken through the Corps of Engineers Continuing Authorities Program. This effort is in response to requests from officials of the City of Muscatine, Iowa, for Federal flood protection assistance. The study is authorized by Section 205 of the 1948 Flood Control Act, as amended.

The Mad Creek study area is located along the Mississippi River in Muscatine, Iowa (see enclosed map). The Mad Creek watershed drains approximately 17.3 square miles in the eastern portion of Muscatine and areas north of Muscatine in Muscatine County. The upstream portion of the watershed north of Muscatine is primarily agricultural land but is rapidly being converted into residential subdivisions and commercial developments. The lower portion of Mad Creek is within the Muscatine city limits, flowing through an area of mixed commercial, industrial, and residential uses near the downtown area before emptying into the Mississippi River. Low-lying areas along Mad Creek and Geneva Creek, its main tributary, are subject to flash flooding.

The DPR and subsequent EA will summarize the results of analyses in the areas of planning, hydrology and hydraulics, foundations and materials, engineering, economics, and natural and cultural resources. The study will be conducted in sufficient detail to determine the economic feasibility of a flood damage reduction plan and will recommend a plan for implementation.

Four primary alternatives have been considered for reducing the flooding hazard:

- a. Raise the existing floodwall and levee system;
- b. Construct stormwater detention reservoirs;
- c. A combination of alternatives a & b, including stormwater detention reservoirs; and,
- d. An enhanced early flood-warning system to better react to flash floods.

At this time, we are requesting your comments regarding any significant resources that might be impacted by the proposed action. Federally endangered species and/or other natural resources are of particular concern.

Please provide your comments and information regarding this proposed action within 30 days of the date of this letter. A timely review of this information and a written response will be greatly appreciated.

Should you have any questions regarding this project, please call Ms. Erika Mark of our Environmental Analysis Section, telephone 309/794-5171. Written responses may be sent to our address above, ATTN: Planning, Programs, and Project Management Division (Erika Mark).

Sincerely,

A handwritten signature in black ink that reads "Kenneth A. Barr". The signature is written in a cursive style with a large, prominent initial "K".

Kenneth A. Barr
Chief, Economic and Environmental
Analysis Branch

Enclosure

STATE HISTORICAL SOCIETY OF IOWA

Where past meets future

January 29, 2001

In reply refer to:
R&C#: 010170032

American Gothic House
Eldon

Mr. Jim Ross, Archeologist
Environmental Analysis Branch
Rock Island Corps of Engineers
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

Blair Run NHL
Larchwood

RE: COE – MUSCATINE COUNTY – CITY OF MUSCATINE – PROPOSED FLOOD DAMAGE
REDUCTION MEASURES ALONG MAD CREEK UNDER SECTION 205 OF THE 1948
FLOOD CONTROL ACT – MULTIPLE LOCATIONS

Centennial Building
Iowa City

Dear Mr. Ross,

Matthew Edell Blacksmith Shop
Haverhill

By this letter, the Iowa State Historic Preservation Office (henceforth SHPO) accepts the Corp's (Rock Island District) invitation to consult on this undertaking. Our comments and recommendations are presented below in the order of their occurrence within the letter dated January 3, 2001 under the heading SEE DISTRIBUTION LIST.

Abbie Gardner Cabin
Arnolds Park

Federal Undertaking

1. The SHPO agrees that the proposed action constitutes a Federal undertaking eliciting review under section 106 of the National Historic Preservation Act of 1966 and its implementing regulations, 36 CFR part 800.

Iowa Historical Building
Des Moines

Consulting Parties

1. At this time, the SHPO knows of no other party with a demonstrated interest in historic properties that may be affected by this undertaking. However, if others do come forward during the review process, the SHPO encourages the Corp to consider their interests and invite their consultation when deemed appropriate per 36 CFR part 800.3(f).
2. In accordance with section 101 (b) (3) the SHPO agrees to assist the Corp in carrying out their section 106 responsibilities for this undertaking.
3. In doing so, the SHPO will act in the best interests of the State of Iowa and its citizens in the preservation of their cultural heritage as mandated by 36 CFR 800.2 (c) (1).

Montauk Governor's Home
Union Sunday School
Clermont Museum
Clermont

Plum Grove Governor's Home
Iowa City

Toolesboro Indian Mounds
Toolesboro

Western Historic Trails Center
Council Bluffs

Area of Potential Effects (APE)

1. The SHPO agrees to comment on and contribute to identification efforts including definition of the project APE as per 36 CFR 800.4(a-b) and stipulates that the APEs defined for the various activities proposed by this undertaking must be defined in three-dimensional terms.

Identification of Historic Properties (Agency Evaluation of Historic Significance, etc.)

1. Upon reviewing the available project documentation, it is the opinion of this office that the project area has high potential to contain significant historic properties that may be eligible for listing on the National Register of Historic Places.
2. The SHPO agrees with the Corp's determination that no historic properties investigations will be necessary at the locations of the existing levee footprints, floodwalls, and previously disturbed

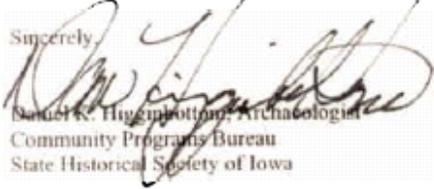
IOWA HISTORICAL BUILDING

600 East Locust • Des Moines, Iowa 50319-0290
Phone: (515) 281-6412 • Fax: (515) 242-6498 or (515) 282-0502
www.state.ia.us/government/dca

grounds situated within the project area of potential effects. The SHPO also concurs that historic properties investigations should be performed at the proposed Mad Creek and Hershey Borrow sites, and that deep site testing will probably not be necessary because of their upland character. *Moreover, it is the opinion of this office that landforms within the Geneva Creek and Mad Creek Retention Basins that will be subject to intermittent inundation and the effects thereof have the potential to contain cultural resources that may be eligible for listing on the National Register. Therefore, the SHPO recommends that the Corp require surface, subsurface, and deep site testing in those areas prior to project implementation.*

Thank you for inviting our consultation on this undertaking. At this time we have no further comments or recommendations. Please forward those stated above to the other consulting parties identified for this undertaking. I look forward to receiving future correspondences from you and await the opportunity to review the results of the proposed historic properties investigations. If you have any questions, or if I can be of further assistance please feel free to contact me at (515) 281-8744.

Sincerely,



Daniel K. Higginbottom, Archaeologist
Community Programs Bureau
State Historical Society of Iowa

La Porte City Ia
Jan 30, 2001

Department of Army
Kenneth A. Barr
Chief Economic + Environmental
Analysis Branch

Dear Sir
Thank you for sending me the map of the Mal
Creek Area in Muscatine in Muscatine Co. I would like
to have come down to visually see the Area, but just
got home from the Hospital.

Of the four primary alternatives, that have been
considered, I would recommend.

A. Raise the existing flood wall & levy system

B. Construct storm water detention reservoirs.

I believe "B" is very important, because of the
agriculture land, that is being converted into residential,
and commercial developments, will prevent the soil
from absorbing rainfall, resulting in more flash floods.

I would also recommend building more detention
reservoirs, to take care of future development.

It is ironic that here in La Porte City, we have a
large creek area that causes 80% of the City, to be
in a flood plain. When I get the watershed size and
other information, I will send it to you.

Sincerely

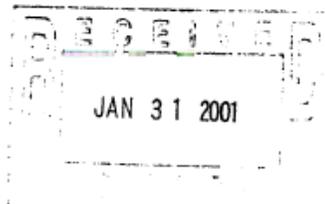
Glenn Burson

405 Iowa St.

La Porte City, Ia

50651

New address



SAC AND FOX NAGPRA CONFEDERACY



"MESKWAKI"

**Sac and Fox of the
Mississippi in Iowa**
349 Meskwaki Rd
Tama, IA 52339-9629
515-484-4678
Fax: 515-484-5358
Contact:
Johnathan L. Buffalo

January 31, 2001

Department of the Army
Rock Island District, Corps of Engineers
Clock Tower Building - P.O. Box 2004
Rock Island, Illinois 61204-2004

Dear Mr. Ross:

Thank you for your letter, which is in compliance with Section 106 of the National Historic Preservation Act, and Section 110.

The main contact group of the Sac and Fox in issues pertaining to the flood damage reduction measures along Mad Creek in Muscatine County project will be Johnathan Buffalo of the Sac and Fox Tribe of Mississippi in Iowa. Mr. Buffalo's number is listed on this letterhead.

Sincerely,

Deanne Bahr
Sac and Fox Nation of Missouri
NAGPRA Contact Representative



**Sac and Fox Nation
of Missouri
in Kansas and Nebraska**
305 N Main
Reserve, KS 66434
785-742-7471
Fax: 785-742-2979
Contact: Deanne Bahr



**Sac and Fox Nation of
Oklahoma**
Rt. 2 Box 246
Stroud, OK 74079
918-968-2353
Fax: 918-968-2353
Contact: Sandra Massey



IN REPLY REFER
TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Rock Island Field Office
4469 48th Avenue Court
Rock Island, Illinois 61201
Tel: 309/793-5800 Fax: 309/793-5804

February 22, 2001

Kenneth A. Barr
Attn: Planning, Programs, and Project
Management Division (Erika Mark)
Department of the Army
Rock Island District, Corps of Engineers
Clock Tower Building, P.O. Box 2004
Rock Island, Illinois 61204-2004

Dear Mr. Barr:

We have reviewed your January 22, 2001, request for comments on the proposed flood damage reduction measures along Mad Creek in Muscatine, Iowa.

To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service information concerning any species, listed or proposed to be listed, which may be present in the area of a proposed action. Therefore, we are furnishing you the following list of species which may be present in the concerned area:

<u>Classification</u>	<u>Common Name (Scientific Name)</u>	<u>Habitat</u>
Threatened	Bald eagle (<i>Haliaeetus leucocephalus</i>)	Breeding, wintering
Endangered	Indiana bat (<i>Myotis sodalis</i>)	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
Endangered	Higgins' eye pearly mussel (<i>Lampsilis higginsii</i>)	Mississippi River

The threatened bald eagle (*Haliaeetus leucocephalus*) is listed as breeding and wintering in Muscatine County, Illinois. The eagle winters along large rivers, lakes and reservoirs. We recommend that a survey of the site be performed prior to placement of the riprap. If eagles are present they may not be harassed, harmed, or disturbed when present nor may nest trees be cleared.

The endangered Indiana bat (*Myotis sodalis*) is listed as occurring in Muscatine County. During the summer, the Indiana bat frequents the corridors of small streams with well developed riparian woods as well as mature upland forests. It forages for insects along the stream corridor, within the canopy of floodplain and upland forests, over clearings with early successional vegetation (old fields), along the borders of croplands, along wooded fencerows, and over farm ponds and in pastures. It has been shown that the foraging range for the bats varies by season, age, and sex and ranges up to 81 acres (33ha). It roosts and rears its young beneath the loose bark of large dead or dying trees. It winters in caves and abandoned mines.

An Indiana bat maternity colony typically consists of a primary roost tree and several alternate roost trees. The use of a particular tree appears to be influenced by weather conditions (temperature and precipitation). For example, dead trees found in more open situations were utilized more often during cooler or drier days while interior live and dead trees were selected during periods of high temperature and/or precipitation. It has been shown that pregnant and neonatal bats do not thermoregulate well and the selection of the roost tree with the appropriate microclimate may be a matter of their survival. The primary roost tree, however, appears to be utilized on all days and during all weather conditions by at least some bats. Indiana bats tend to be philopatric, i.e. they return to the same roosting area year after year.

Suitable summer habitat in Iowa and Illinois is considered to have the following characteristics within a ½ mile radius of the project site:

- 1) forest cover of 15% or greater;
- 2) permanent water;
- 3) one or more of the following tree species 9 inches diameter at breast height (dbh) or greater: shagbark and shellbark hickory that may be dead or alive, and dead bitternut hickory, American elm, slippery elm, eastern cottonwood, silver maple, white oak, red oak, post oak, and shingle oak with slabs or plates of loose bark;
- 4) at least 1 potential roost tree per 2.5 acres;
- 5) potential roost trees must have greater than 10% coverage of loose bark (by visual estimation of peeling bark on trunks and main limbs).

If the project site contains any habitat that fits the above description, it may be necessary to conduct a survey to determine whether the bat is present. If Indiana bats are known to be present, they must not be harmed, harassed, or disturbed when present. [for small tree clearing projects...] Indiana bat habitat may be altered (i.e trees cleared) only between the dates of October 1 and March 31.

Mr. Kenneth A. Barr

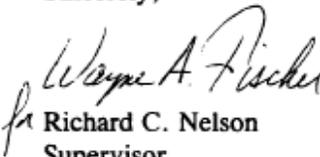
Page 3

The endangered Higgins' eye pearly mussel (*Lampsilis higginsi*) is listed for the Mississippi River north of Lock and Dam 20 which includes Muscatine County, Iowa. This species prefers sand/gravel substrates with a swift current and is most often found in the main channel border or an open, flowing side channel.

This letter provides comments under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.); and the Endangered Species Act of 1973, as amended.

If you have any additional questions or concerns, please contact Heidi Woeber of my staff at (309) 793-5800 X517.

Sincerely,


for Richard C. Nelson
Supervisor

G:\WP_Docs\HEIDI\ecorps2.wpd



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

MAR 13 2001

Erika Mark
Department of the Army
Rock Island District, Corps of Engineers
ATTN: Planning, Programs, and Project Management Division
Clock Tower Building, P.O. Box 2004
Rock Island, Illinois 61204-2004

SUBJECT: Flood Damage Reduction Along Mad Creek, Muscatine, Iowa

Dear Ms. Mark:

This is to inform you that EPA has received your letter dated January 22, 2001 concerning the flood control project mentioned above.

Thank you for keeping us informed early on the proposed project. Your letter suggests that you will be preparing an Environmental Assessment in the near future; we hope to have the opportunity to comment on that document as well.

The USEPA has a great deal of catalogued information that may be of use in preparing the Environmental Assessment. On the world wide web,

<http://www.epa.gov/surf3/locate/index.html>

is a web site of environmental information organized by watershed.

http://www.epa.gov/enviro/index_java.html

Is a web site containing extensive information collected by the USEPA from most departments within the Agency, including hazardous waste sites, superfund sites, toxic release and water discharge permits, and others. We encourage you to access the above sites during the preparation of the Environmental Assessment.

Again, thank you for the opportunity to comment on this project. If you have any questions or require further technical assistance you may contact Stephen Smith of my staff at 913-551-7656.

Sincerely,

Stephen Smith
NEPA REVIEWER
U.S. EPA, Region VII





Iowa Tribe of Oklahoma

R R. 1, Box 721
Perkins, Oklahoma 74059
(405) 547-2402
Fax: (405) 547-5294

March 15, 2001

Kenneth A. Barr, Chief
Economic and Environmental Analysis Branch
Department of the Army
Corps of Engineers, Rock Island District
P.O. Box 2004
Rock Island, IL 61204-2004

Re: Levee Improvement/Flood wall Construction
Mad Creek, Muscatine County, IA

Dear Mr. Barr,

The Iowa Tribe of Oklahoma is in receipt of your letter of 3 January 2001 regarding the proposed levee improvement and floodwall construction along Mad Creek in Muscatine County, Iowa. The Historic Preservation Office has determined that the site falls within the historic lands of the Iowa Tribe, and we wish to enter into the consultation process. If the activity along the creek does not go beyond the zones of previous ground disturbance, an archeological survey is not necessary. However, an archeological survey should be conducted on other sites, such as the borrow areas, prior to any ground disturbance activities. The Iowa Tribe requests that it be provided with copies of these surveys.

Thank you.

Sincerely,

Marianne Long, Director
Tribal Operations



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

May 10, 2001

Planning, Programs, and
Project Management Division

Ms. Maria Pandullo
R&C Coordinator
State Historical Society of Iowa
600 East Locust Street
Des Moines, Iowa 50319-0290

Dear Ms. Pandullo:

The Rock Island District of the U.S. Army Corps of Engineers (Corps) is forwarding a draft report entitled Phase I Cultural Resource Survey of the Proposed Mad Creek Borrow and the Hershey Borrow for the Mad Creek Section 205 Project, Muscatine County, Iowa, dated April 2001. Jeff Straka of Bear Creek Archeology, Inc. of Cresco, Iowa, authored the report. The report was prepared under Contract DACW25-98-D-0001, Delivery Order Number 0025.

The State Historical Society of Iowa (SHSI) commented on the Mad Creek Section 205 Flood Control project by letter dated January 29, 2001 (R&C#: 010170032). In that letter the SHSI concurred with the Corps' determination that historic properties investigations would be necessary at the proposed borrow sites and that these investigations would not require deep testing due to their upland location. In addition, the SHSI identified potential retention basin sites as locations in need of surface, subsurface, and deep site testing. These sites were not included as part of the present investigation; however, they will be evaluated in the event that the retention basin feature is selected as part of a preferred alternative for the Mad Creek Section 205 project.

We concur with the Contractor's observations and recommendations, as presented on Pages 33 through 35 of the draft report. A total of four newly recorded prehistoric archeological sites were documented by this investigation. The Corps has determined that these historic properties are not eligible for listing on the National Register of Historic Places and that further archeological investigation at the Mad Creek and Hershey borrow sites is not warranted.

We request your written comments on this project within 30 days of the date of this letter. If you have any questions, please call Mr. Jim Ross of our Environmental Analysis Section, telephone 309/794-5540, or write to our address above, ATTN: Planning, Programs, and Project Management Division (Jim Ross).

Sincerely,

ORIGINAL SIGNED BY

Kenneth A. Barr
Chief, Economic and Environmental
Analysis Branch

Enclosure

STATE HISTORICAL SOCIETY OF IOWA

Where past meets future

June 11, 2001

In reply refer to:
R&C#: 010170032

American Gothic House
Eldon

Blood Run NHL
Larchwood

Centennial Building
Iowa City

Matthew Edel Blacksmith Shop
Haverhill

Abbie Gardner Cabin
Arnolds Park

Iowa Historical Building
Des Moines

Montauk Governor's Home
Union Sunday School
Clermont Museum
Clermont

Plum Grove Governor's Home
Iowa City

Toolesboro Indian Mounds
Toolesboro

Western Historic Trails Center
Council Bluffs

Jim Ross, Archeologist
Environmental Analysis Branch
Rock Island Corps of Engineers
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

RE: COE – MUSCATINE COUNTY – CITY OF MUSCATINE – USACE ROCK ISLAND DISTRICT AND CITY OF MUSCATINE – PROPOSED FLOOD DAMAGE REDUCTION MEASURES ALONG MAD CREEK UNDER SECTION 205 OF THE 1948 FLOOD CONTROL ACT – MULTIPLE LOCATIONS -- BCA#902 – PHASE I CULTURAL RESOURCE SURVEY – DRAFT

Dear Mr. Ross,

We have received the draft report entitled *Phase I Cultural Resource Survey of the Proposed Mad Creek Borrow and the Hershey Borrow for the Mad Creek Section 205 Project Muscatine County, Iowa* prepared by Messrs. Jeff Straka and David Benn of Bear Creek Archeology, Inc., Cresco, Iowa. We make the following comment and recommendations based on the results of this investigation and in accordance with section 106 of the National Historic Preservation Act of 1966 and its implementing regulations 36 CFR part 800 (revised, effective January 11, 2001).

We understand from the report that four archaeological sites were identified during field investigations of the Mad Creek and Hershey Borrow sites. Site 13MC225, interpreted as an unaffiliated prehistoric lithic scatter, was encountered within the plowzone during subsurface testing at the Mad Creek Borrow location. The consultant has recommended the site as not eligible for listing on the National Register citing poor integrity. The consultant also recommended that no further historic properties investigation should be pursued. We agree with this assessment.

Sites 13MC222, 13MC223, and 13MC224 were identified at the Hershey Borrow site and all are characterized as prehistoric lithic scatters situated along an upland ridge or shoulder slope within the borrow area. Diagnostic artifacts recovered from 13MC222 suggest multiple Early Archaic occupational episodes at that location, while sites 13MC223 and 13MC224 are interpreted as single occupation bivouacs of unknown cultural affiliation. The consultant has recommended that all three be considered as not eligible for listing on the National Register citing poor contextual integrity, absence of sub-plowzone features, and low research potential. No further historic properties investigation is recommended for all three. We agree with this assessment.

Therefore, based on the results of this investigation, the Iowa SHPO concurs that the use of the Mad Creek and Hershey Borrow sites will have no effect on historic properties. However, we recommend that archaeological surveys be conducted of the retention basins that are under consideration, and that further investigation precede construction activities and inundation through impoundment. Refer to our initial comments in the January 29, 2001 letter. We look forward to receiving and reviewing the archaeological reports for the impoundment basins.

If design changes are made for this project which would involve undisturbed new rights-of-way, easements, or undisturbed borrow areas please forward additional information to our office for further comment along

IOWA HISTORICAL BUILDING

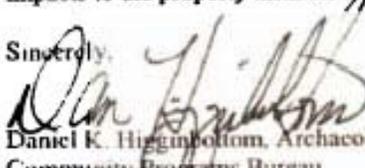
600 East Locust • Des Moines, Iowa 50319-0000

Phone: (515) 281-6412 • Fax: (515) 281-6998 or (515) 281-0511

WWW.SHPO.IA.GOV

with the Agency Official's determination of effect. If project activities uncover an item(s) that might be of archeological, historical or architectural interest, or if important new archeological, historical or architectural data should be encountered in the project APE, you should make reasonable efforts to avoid or minimize impacts to the property until an assessment can be made by a qualified archaeologist.

Sincerely,



Daniel K. Higginbottom, Archaeologist
Community Programs Bureau
State Historical Society of Iowa

Cc: David Stanley, Project Manager, Bear Creek Archeology



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Rock Island Field Office

4469 48th Avenue Court

Rock Island, Illinois 61201

Phone: (309) 793-5800 Fax: (309) 793-5804

IN REPLY REFER
TO:

June 26, 2001

Colonel William J. Bayles
District Engineer
U.S. Army Engineer District
Rock Island
Clock Tower Building, P.O. Box 2004
Rock Island, Illinois 61204-2004

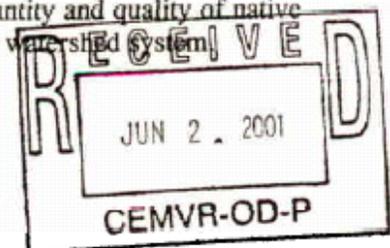
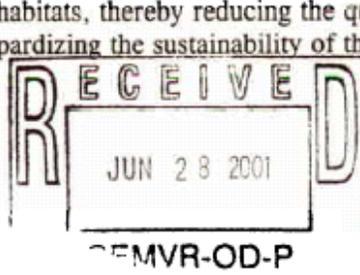
Dear Colonel Bayles:

This letter constitutes our draft Fish and Wildlife Coordination Act (FWCA) report for the Mad Creek flood damage reduction study undertaken through the Corps of Engineer Continuing Authorities Program and authorized by Section 205 of the 1948 Flood Control Act, as amended. It has been prepared under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat.401, as amended; 16 U.S.C. 661 et seq.); the Endangered Species Act of 1973, as amended; and in accordance with the Fish and Wildlife Service's Mitigation Policy.

DESCRIPTION OF THE PROJECT AREA

The Mad Creek study area is located along the Mississippi River in Muscatine, Muscatine County, Iowa. The Mad Creek watershed drains approximately 17.3 square miles in the eastern portion of Muscatine and areas north of Muscatine in Muscatine County. The upstream portion of the watershed north of Muscatine is primarily agricultural land but is rapidly being converted into residential subdivisions and commercial developments. The lower portion of Mad Creek is within the Muscatine city limits, flowing through an area of mixed commercial, industrial, and residential uses near the downtown area before emptying into the Mississippi River. Low-lying areas along Mad Creek and Geneva Creek, its main tributary, are subject to flash flooding.

Development in the watershed and floodplain has altered floodplain hydrology, increasing stormwater runoff and flood stages. The resulting increases in sedimentation have caused degraded aquatic and terrestrial habitats, thereby reducing the quantity and quality of native vegetative communities, and jeopardizing the sustainability of the watershed system.



PROJECT OBJECTIVES

The goals of the Mad Creek flood damage reduction study are to determine the economic feasibility of a flood damage reduction plan and will recommend a plan for implementation. Four primary alternatives have been considered for reducing the flooding hazard:

- a. Raise the existing floodwall and levee system;
- b. Construct stormwater detention reservoirs;
- c. A combination of alternatives a & b, including stormwater detention reservoirs; and,
- d. An enhanced early flood-warning system to better react to flash floods.

FISH AND WILDLIFE RESOURCES

Development of the flood plain for agriculture, commercial and residential purposes is a limiting factor for wildlife resources. Although the project area includes some pasture and several open grassy areas, the vegetation is dominated by introduced grasses. These areas are either mowed or grazed regularly. Wildlife species in the area are a common assemblage of birds and mammals found in agricultural and urban habitats.

We have no site specific information on the fishery resource in the project area, but would expect that the fish community would be composed of species common to eastern Iowa creeks and streams, such as shiners, darters, dace, common stoneroller, and possibly sunfish.

THREATENED AND ENDANGERED SPECIES

To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service information concerning any species, listed or proposed to be listed, which may be present in the area of a proposed action.

Therefore, we are furnishing you the following list of species which may be present in the concerned area:

<u>Classification</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Habitat</u>
Threatened	Bald eagle	<i>Haliaeetus leucocephalus</i>	Breeding, Winters along major rivers and reservoirs
Endangered	Higgins' eye pearly mussel	<i>Lampsilis higginsii</i>	Mississippi River

Endangered	Indiana bat	<i>Myotis sodalis</i>	Caves, mines; small stream corridors with well developed riparian woods; upland forests
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Bald eagles winter along the Mississippi River, including Pool 17. The proposed project would not affect bald eagles or their habitats.

The endangered Higgins' eye pearly mussel (*Lampsilis higginsii*) prefers sand/gravel substrates with a swift current and are most often found in the main channel border or an open, flowing side channel. The project occurs in Muscatine County, but these species are not likely to occur in the project area.

The endangered Indiana bat (*Myotis sodalis*) is listed as occurring in Muscatine County, Iowa. During the summer, the Indiana bat frequents the corridors of small streams with well developed riparian woods as well as mature upland forests. It forages for insects along the stream corridor, and within the canopy of floodplain and upland forests. It has been shown that the foraging range for the bats varies by season, age and sex and ranges up to 81 acres (33ha). It roosts and rears its young beneath the loose bark of large dead or dying trees. Tree clearing for this project should not be conducted during the April 1 - September 30 timeframe. Prohibiting clearing activity during this 6-month time window would avoid potential impacts to summer roosting Indiana bats. If Indiana bats are known to be present, they must not be harmed, harassed, or disturbed when present.

The proposed flood damage reduction measures will not adversely affect endangered species or their habitats. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should this project be modified or new information indicate endangered species may be affected, consultation should be initiated.

FUTURE WITHOUT PROJECT

The No Federal Action alternative is considered the future without the project condition allowing the area to continue to function as is. Without flood reduction measures such as detention basins the area will continue as is, and sedimentation will result in continued degradation of any existing fisheries habitat.

FUTURE WITH PROJECT

Enhancement options for Mad Creek included increasing the quality of existing floodwall and levee protection, constructing stormwater detention systems, thereby reducing flooding potential, as well as, sedimentation levels. Reducing the potential for flooding on Mad Creek would also result in a decrease in property damage. Raising the levee on Mad Creek would have little or no impact on wildlife. The area adjacent to Mad Creek in the area of the levee is commercially developed urban property. Construction of the stormwater detention systems

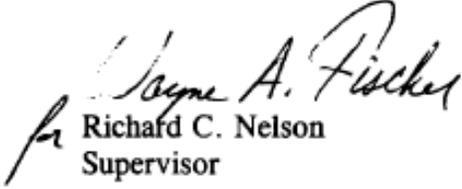
would lower the stormwater related sediment load for Mad Creek and may also reduce the amount of erosion resulting from current agricultural uses and rapid commercial and residential development of the upstream area of Mad Creek.

CONCLUSIONS AND RECOMMENDATIONS

The flood damage reduction measures proposed for Mad Creek, Muscatine, Muscatine County, Iowa, should have no long-term impacts on threatened or endangered species. Although there will be short term loss of habitat and displacement of some wildlife species, the net effect of the project should be beneficial. Any impacts to wetland areas would require a compensatory mitigation plan.

We appreciate the opportunity to provide these comments and look forward to continued coordination on this project. If you have any questions, please contact Ms. Heidi Woeber of my staff at (309) 793-5800, ext. 517.

Sincerely,


Richard C. Nelson
Supervisor

cc: IADNR (Schonhoff)

G:\WP_Docs\HEID\madcreek



DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF:

CEMVR-OD-PE (1145b)

26 July 2001

MEMORANDUM THRU OD-PE

FOR PM-AR (Erika Mark)

SUBJECT: CEMVR-OD-P-413850

1. Our office reviewed all information provided to us concerning the proposed Mad Creek channel improvement in Section 36, Township 77 North, Range 2 West, Muscatine County, Iowa.

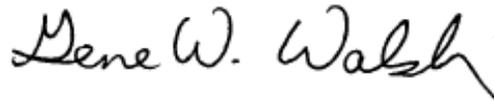
2. Your project is covered under Item 27 of the enclosed Fact Sheet No. 4A(IA), provided you meet the permit conditions for the nationwide permits which are also included in the Fact Sheet. The Corps has also made a determination of no impact on federally threatened and endangered species. We based these determinations on the information furnished us. The Iowa Department of Natural Resources (IDNR) also issued Section 401 Water Quality Certification for this nationwide permit.

3. This verification is valid for two years from the date of this letter, unless the nationwide permit is modified, reissued, or revoked. It is your responsibility to remain informed of changes to the nationwide permit program. We will issue a public notice announcing any changes if and when they occur. Furthermore, if you commence or are under contract to commence this activity before the date the nationwide permit is modified or revoked, you will have twelve months from this date to complete the activity under the present terms and conditions of this nationwide permit.

4. Although an individual Department of the Army permit and individual IDNR 401 Water Quality Certification will not be required for the project, this does not eliminate the requirement that you must still acquire other applicable Federal, state, and local permits. Please contact the Iowa Department of Natural Resources in writing or telephone 515/281-8693 to determine if any other State permits are required.

5. You are required to complete and return the enclosed "Completed Work Certification" upon completion of your project, in accordance with General Condition No. 14 of the enclosed Fact Sheet.

6. Should you have any questions, please contact our Regulatory Branch by letter, or telephone me at 309/794-5674.



GENE W. WALSH
Project Manager
Enforcement Section

Enclosures

Copy Furnished:

Mr. Kelly Stone (2)
Iowa Department of Natural Resources
Flood Plain Section
Henry A. Wallace Building
900 East Grand Avenue
Des Moines, Iowa 50319-0034 (w/o enclosures)



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

August 7, 2001

Planning, Programs, and
Project Management Division

Mr. David G. Stanley
Bear Creek Archeology, Inc.
P.O. Box 347
Cresco, Iowa 52136

Dear Mr. Stanley:

The Rock Island District of the U.S. Army Corps of Engineers (Corps) has reviewed your draft report prepared under Contract DACW25-98-D-0001, Work Order No. 25.

The State Historical Society of Iowa (SHSI) reviewed the draft report and concurred with the findings by letter dated June 11, 2001 (R&C#: 010170032). The SHSI recommended archeological survey of the potential retention basin sites; however, this project feature is not part of this work order and shall not be considered further at this time. Please include an appendix for correspondence that will include this letter and the SHSI letter in the final report.

If you have any questions regarding this matter, please call Mr. Jim Ross of our Economic and Environmental Analysis Branch, telephone 309/794-5540 (FAX 309/794-5157), or write to our address above, ATTN: Planning, Programs, and Project Management Division (Jim Ross).

Sincerely,

ORIGINAL SIGNED BY

Ronald E. Pulcher
Authorized Representative
of the Contracting Officer



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING — P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

January 9, 2002

Planning, Programs and
Project Management Division

Mr. A. J. Johnson
City Administrator
City Hall
215 Sycamore Street
Muscatine, Iowa 52761-3899

Dear Mr. Johnson:

I am writing to ask that you please disregard our letter dated December 21, 2001, requesting additional funds to complete the Mad Creek Section 205 Flood Damage Reduction Feasibility Study in Muscatine, Muscatine County, Iowa.

After further review of actual expenditures to date, the City of Muscatine has contributed adequate non-Federal funds needed to complete the feasibility study. Therefore, no additional funds are required.

I am providing you copies of the updated Fiscal Year Expenditures Summary, updated pages 66-68 of the Mad Creek Project Study Plan (PSP), and the Preliminary Phase IIA Environmental Site Assessment prepared by Missman Stanley & Associates, P.C. (Enclosures 1-3, respectively).

If you have any questions or comments, please call Mr. Dennis Hamilton of our Project Management Branch at 309/794-5634.

Sincerely,

ORIGINAL SIGNED BY

Gary L. Loss, P.E.
Chief, Planning, Programs, and
Project Management Division

Enclosures

Fiscal Year Expenditures Summary
Mad Creek, Muscatine, Muscatine County, Iowa (CWIS 150096)

12/21/2001

Feasibility Study Cost

CEFMS DATA	W#	Estimate	FY98	FY99	FY00	FY01	Est. FY02	TOTALS
Planning, Engr. & Design	001XP6 3121	\$ 100,000.00	\$ 10,170.77	\$ 51,636.21	\$ 38,176.95	\$ 2,656.59	\$ -	\$ 102,840.52
	001XP6 8862	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Project Management	002NF5 3122	\$ 74,710.00	\$ -	\$ -	\$ 27,328.15	\$ 27,415.87	\$ 7,242.48	\$ 61,986.59
	002NF5 8862	\$ -	\$ -	\$ -	\$ 6,053.78	\$ 44,872.50	\$ 757.52	\$ 51,683.89
PM-A-Support	6KGC73 3122	\$ 147,630.00	\$ -	\$ -	\$ -	\$ -	\$ 9,500.00	\$ 9,500.00
	6KGC73 8862	\$ -	\$ -	\$ -	\$ -	\$ 58,979.66	\$ 1,500.00	\$ 60,479.66
Design Management	H62KGC 3122	\$ 92,100.00	\$ -	\$ -	\$ -	\$ 56,972.08	\$ -	\$ 56,972.08
	H62KGC 8862	\$ -	\$ -	\$ -	\$ -	\$ 17,727.71	\$ 23,722.00	\$ 41,449.71
Hydrology and Hydraulics	002NFV 3122	\$ 94,100.00	\$ -	\$ -	\$ 45,613.73	\$ 9,816.26	\$ -	\$ 55,429.99
	002NFV 8862	\$ -	\$ -	\$ -	\$ 63,205.01	\$ 31,221.10	\$ 3,000.00	\$ 97,426.19
Geotech	581JFB 3122	\$ 56,780.00	\$ -	\$ -	\$ -	\$ 24,739.51	\$ -	\$ 24,739.51
	581JFB 8862	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 2,000.00
Cost Estimating	FB62KF 3122	\$ 13,730.00	\$ -	\$ -	\$ -	\$ 11,779.17	\$ -	\$ 11,779.17
	FB62KF 8862	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 2,000.00
Real Estate	002NHF 3122	\$ 37,550.00	\$ -	\$ -	\$ 11,824.94	\$ 19,266.75	\$ 4,000.00	\$ 35,181.69
	002NHF 8862	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,500.00	\$ 3,500.00
CEFMS Totals	ALL	\$ 616,600.00	\$ 10,170.77	\$ 51,636.21	\$ 192,302.56	\$ 305,747.37	\$ 57,222.00	\$ 617,076.91

Total Federal	\$ 10,170.77	\$ 51,636.21	\$ 123,043.77	\$ 152,946.23	\$ 20,742.48	\$ 359,539.46
Total Non-Fed	\$ -	\$ -	\$ 69,258.79	\$ 152,801.14	\$ 36,479.52	\$ 258,539.45
Total	\$ 10,170.77	\$ 51,636.21	\$ 192,302.56	\$ 305,747.37	\$ 57,222.00	\$ 617,076.91

Feasibility Cost Sharing Agreement

3121 = Federal	% =	50%
8862 = Non-Federal	% =	50%

20% Contingency on Remaining FY02 Expenditures	\$ 11,444.40
Less \$100k Fed	\$ 100,000.00
	\$ 528,523.31

An HTRW Phase II analysis was performed at a cost of \$14,722, which was added to the FY 02 estimate of expenditures, cost shared 50/50.

Federal	\$ 284,261.68
Non-Fed	\$ 284,261.68

All other FY 02 estimates of expenditures are based on completing the DPR.

MEMORANDUM TO FILE

PROJECT: Mad Creek Section 205 Flood Damage Reduction Study
Muscatine, Iowa

SUBJECT: Mad Creek channel improvement and associated parking lot impacts
to adjacent apartment building

1. This memorandum outlines the feasibility phase "planning and design intent" for mitigating the real estate impacts associated with the Mad Creek channel improvement. The recommended alternative for flood damage reduction improvements on the subject project include a Mad Creek channel improvement and bridge cleanout at Second Street immediately north of the downtown area of Muscatine. Current conditions result in a significant hydraulic constriction as flood flows pass through this reach. The channel improvements will require project rights-of-way to be acquired by the local sponsor, the City of Muscatine.
2. The additional rights-of-way required will impact on an adjacent apartment building's parking lot located in Lot 007, see attached sketch. The channel improvements will permanently take the parking lot spaces that front the Mad Creek channel, approximately 6 spaces. Additionally, during construction, the access to the apartment building and the parking lot spaces that front to the building will have temporary interference. The planning and design intent is to restrict the construction contractor's operations to approximately a 2-week period of construction. During this 2-week period, access into the construction site will be concurrent with the access to the existing parking spaces. The parking spaces fronting the building can still be used, but short duration access interruptions will likely occur. Immediate access will be provide if any emergency conditions arise at the apartment building.
3. In addition, the planning and design intent is to have the city of Muscatine acquire the interest in Lots 9 and 10 as a part of the project rights-of-way. The portions of Lots 9 and 10 that front the Mad Creek channel will be required for project construction of the channel improvements, approximately a 25-foot width along the existing Mad Creek. The remainder of Lots 9 and 10 along with the platted alleyway adjacent to Lots 9 and 10 will be transferred to the apartment building owner for use as replacement parking for the lost spaces that front the Mad Creek channel in Lot 007. Preliminary estimates indicate that sufficient property will be available to provide in excess of the 6 spaces that will be lost. The city of Muscatine will be responsible for providing the parking lot surfacing improvements to Lots 9 and 10 and the alleyway prior to the construction of the channel improvement work.

4. The rights-of-way costs associated with Lots 9 and 10 and the parking lot improvements thereon will be considered as project costs provided for by the local sponsor. If the city decides that parking lot improvements are best accomplished by the project construction contract, the work will be included under a separate bid item with associated costs provided 100% from the city's cash-contributions to the project. Construction damages repairs (or repaving) of the existing remaining parking lot areas will be paid as a normal project cost.
5. If there are any questions concerning these issues or the planning and design intent, please contact Roger Less, ED-DM, at ext. 5664.



Roger A. Less, P.E.
Project Engineer
Chief, Project Engineering Section

Attachment: Site sketch

- Yellow = Lots 9 and 10
- Green = Lot 007
- Red = Permanent R-O-W required for project



1459 Washington St.
Muscatine, IA 52761-5040
(563) 263-8933 Voice/TT
Fax (563) 263-2127

PUBLIC WORKS

City Transit
263-8152

February 22, 2002

Equipment Maintenance
Roadway Maintenance
Collection & Drainage
Building & Grounds
Engineering

Mr. Dennis Hamilton, Project Manager
Planning, Programs and Project Management Division
Rock Island District, U.S. Army Corps of Engineers
Clock Tower Building – P.O. Box 2004
Rock Island, IL 61204-2004

RE: Mad Creek at Muscatine, Section 205
DPR – Draft Review

Dear Dennis:

Review of the Draft DPR yields four areas for comment. One in particular is very significant operationally. The others are more on the line of proofreading.

1. The abandoned railroad closure adjacent to the proposed vertical lift closure on E. 2nd Street has somehow slipped into removal.

With the replacement of the E. 5th Street bridge completed, the abandoned RR closure becomes the one and only point where equipment and material deliveries can occur at times of need to access the creek side of Mad Creek flood protection works for the entire reach above E. 2nd Street.

Also, at this time, a recreational trail is proposed to be installed along the creek side toe of levee from E. 2nd St. upstream to Washington Street. The panel closure structure will need to be programmed for modifications to accommodate a swing gate. The gate would be closed within minutes during flash floods on Mad Creek. Modifications are also open to raising the sill 1-2 feet to reduce risks.

Please note page 22 of the text, sheet numbers X103, S101, and S402 of the DPR for revision.

"I remember Muscatine for its sunsets. I have never seen any on either side of the ocean that equaled them" — Mark Twain

2. Page 25 of the text, para D-6, Economic Benefits:
“... reduce flood damages by \$820,100 while requiring an annualized cost of only \$190,700. This contributes a net of \$820,100 to the National Economic Development.”

The \$820,100 vs. \$820,100 does not agree with Page B-10 where \$823,000 vs. \$636,140 yields the B/C = 4.40.

3. Page C-3, Para 7, last sentence, refers to 30' of rubble fill on Boring 75. Interpretation of that log was 20' of rubble below base of levee and would have been reduced with the 8' inspection trench during original construction. Personal observations of the several floods over the past two decades confirms no adverse seepage at that location. How rubble that deep occurred is lost in history.
4. At our meeting in Muscatine on February 7th last, I alerted you to our operational personnel's desire to convert the panel closure located on Mississippi Drive near Mulberry Ave. to a swing gate by salvage. The existing swing gate will be removed on E. 5th Street during calendar year 2003 following completion of the west abutment on the new bridge.

Modifications to the existing gate height will be necessary, most likely by attaching an I-beam to the bottom. The landside abutment will need to be extended also to accommodate the narrower closure.

Inclusion of a statement in the DPR indicating the above option will give the detailed design phase opportunity to work out the economics.

That is about all I have on the DPR. My thanks to the roster of district staff that have put together an excellent report.

Respectfully yours,



R. L. Childs, P.E.
City Engineer

cc: A. J. Johnson



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P. O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

April 23, 2002

Planning, Programs, and
Project Management Division

SEE DISTRIBUTION LIST

The Rock Island District of the U.S. Army Corps of Engineers (Corps) and the City of Muscatine, Iowa, are proposing flood damage reduction measures along Mad Creek. This flood damage reduction study has been authorized under Section 205 of the 1948 Flood Control Act, as amended (Section 205).

Federal Undertaking

The project was originally coordinated with parties on the Distribution List by letter dated January 3, 2001 (R&C#: 010170032). However, the Corps has modified the preferred alternative to include new floodwall construction at the location identified in Exhibits 1 and 2. In addition, the retention basins feature as originally coordinated with the Distribution List is no longer part of the preferred alternative. The remaining features of the preferred alternative are unchanged as originally coordinated and will not be discussed further.

Area of Potential Effect (APE)

The revised APE for this undertaking includes the addition of floodwall construction footprint, adjacent historic structures, and associated construction staging and access areas as identified on Exhibits 1 and 2. Other features of the APE remain unchanged as originally coordinated with those on the Distribution List, with the exception that retention basins are no longer included. The APE is not on tribal lands [reference 36 CFR 800.15(d); 36 CFR 800.4(a)(1); and 36 CFR 800.4(c)].

Floodwall construction will result in the destruction of a historic limestone wall and will require ground disturbance over an area measuring 15 feet by 240 feet. Ground disturbance will extend up to, or very close to, the foundations of two 19th-century homes (Exhibit 2). Photographic documentation of the APE is provided in Exhibits 3-10.

Consulting Parties

The Corps finds the organizations identified on the Distribution List entitled to be consulting parties, as set out in 36 CFR 800.2, and invites them by copy of this letter to participate in the Section 106 process.

SHPO Invitation

The Corps invites the SHPO to:

- Identify any other consulting parties as per 36 CFR 800.3(f);
- Comment as per 36 CFR 800.2(d)(3) on the Corps' plan to involve the public by utilizing the Corps' normal procedures for public involvement under the National Environmental Policy Act;
- Comment on or contribute to identification efforts including definition of the APE, all as per 36 CFR 800.4(a-b).

Identification of Historic Properties

Review of Existing Information and Level of Future Identification Efforts:

Two historic structures and associated limestone wall are located in the APE. According to Historic Architecture of Muscatine, Iowa as prepared for the City of Muscatine in 1977 by Environmental Planning and Research, Incorporated, the house located at 501 East Mississippi Drive, referred to as the Judge Woodward House, was constructed in 1848, with additions built in 1874. The second house, located next door at 505 East Mississippi Drive, was built around 1846 and is referred to as the Cornelius Cadel House. It is thought that the limestone wall dates to the mid 1870s with the paving of Mississippi Drive and the construction of the Judge Woodward House improvements. A National Register of Historic Places eligibility determination has not been rendered on any of the standing structures, and the lots surrounding these structures have not been surveyed previously for archeological remains.

Pursuant to the National Historic Preservation Act of 1966, as amended, and its implementing regulations 36 CFR Part 800, the Corps has determined that floodwall construction as proposed for this Section 205 project has potential to cause effects to significant historic properties [36 CFR 800.3(a)(1)] and as a consequence will require a determination of effect to the limestone wall, the Judge Woodward House, the Cornelius Cadel House, and to undocumented archeological historical properties within the area of proposed ground disturbance (Exhibit 2).

The Corps proposes compliance with the National Historic Preservation Act through implementation of a Programmatic Agreement (PA) pursuant to 36 CFR 800.14(b)(1)(ii). The Corps has scheduled to submit a Definite Project Report (DPR), with integrated Environmental Assessment, for public review this summer. Due to the complexity of potential adverse effects to both archeological and architectural historic properties, it is not possible for the Corps to fully determine effects prior to submission of the DPR. With that in mind, the Corps requests your review of the enclosed draft PA (Exhibit 11).

Request for Information from Consulting Parties:

The Corps is seeking information from all consulting parties regarding their concerns with issues relating to this undertaking's potential effects on historic properties and, particularly, the tribes' concerns with identifying properties that may be of religious and cultural significance to them and may be eligible for the National Register [36 CFR 800.4(a)(3-4)]. Concerns about confidentiality [36 CFR 800.11(c)] regarding locations of properties can be addressed under Section 304 of the National Historic Preservation Act, which provides withholding from public disclosure the location of properties under several circumstances, including in cases where it would cause a significant invasion of privacy, impede the use of a traditional religious site by practitioners, endanger the site, etc.

The Corps has identified the consulting parties for this undertaking as set out in 36 CFR 800.2 and invites them by copy of this letter to participate in the Section 106 process (See Distribution List). We request your written comments on this project and draft PA within 30 days pursuant to 36 CFR 800.3(c)(4). Results of all consultation and determination shall be included in the DPR, with integrated Environmental Assessment, for additional public review this summer.

If you have any questions regarding this matter, please call Mr. Jim Ross of our Economic and Environmental Analysis Branch at 309/794-5540, or you may write to our address above, ATTN: Planning, Programs, and Project Management Division (Jim Ross).

Sincerely,



Kenneth A. Barr
Chief, Economic and Environmental
Analysis Branch

Enclosures

DISTRIBUTION LIST

Ho-Chunk Nation
Historic Preservation Department
P.O. Box 667
Highway 54 East
Black River Falls, WI 54615

Mr. Leon Campbell
Chairman
Iowa of Kansas Executive Committee
Route 1, Box 58A
White Cloud, KS 66094

Mr. Donald L. Robidoux
NAGPRA Coordinator
Iowa Tribe of Nebraska and Kansas
Route 1, Box 210
Hiawatha, KS 66434

Chairman
Iowa of Oklahoma Business Committee
Iowa Veterans Hall
P.O. Box 190
Perkins, OK 74059

Ms. Marianne Long
Cultural Preservationist
Iowa Tribe of Oklahoma
Rural Route 1, Box 721
Perkins, OK 74059

Mr. Johnathan Buffalo
Chairman - Meskwaki Tribal Historical
Preservation Coordinator
Sac and Fox Tribal Council
349 Meskwaki Road
Tama, IA 52339-9629

Chairman
Sac and Fox of the Missouri Tribal Council
305 North Main
Reserve, KS 66434-9723

Chairman
Sac and Fox of Oklahoma Business Committee
Route 2, Box 246
Stroud, OK 74079

Chairman
Otoe-Missouria Tribal Council
P.O. Box 68
Red Rock, OK 74651

Ms. Mildred Hudson
NAGPRA Coordinator
Otoe-Missouria Tribe of Oklahoma
Otoe-Missouria Tribal Office
Route 1, Box 62
Red Rock, OK 74651

Mr. David Lee Smith
Cultural Preservation Officer
Winnebago Tribe of Nebraska
P.O. Box 687
Winnebago, NE 68071

Mr. Don E. Giles
Chief
Peoria Indian Tribe of Oklahoma
P.O. Box 1527
Miami, OK 74355

Mr. Raul Garza
Chairman
Kickapoo Traditional Tribe of Texas
P.O. Box 972
Eagle Pass, TX 78853

Ms. Carol Anske
Chairperson
Kickapoo of Kansas Tribal Council
Route 1, Box 157
Horton, KS 66349

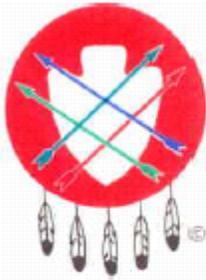
Ms. Maria Pearson
Governor's Liaison for Indian Affairs
1001 North Dakota Avenue
Ames, IA 50010

Ms. Maria Pandullo
State Historical Society of Iowa
R&C Coordinator
600 East Locust
Des Moines, IA 50319-0290

Mr. A.J. Johnson
City Administrator
City of Muscatine
City Hall
215 Sycamore Street
Muscatine, IA 52761

Muscatine Area Heritage Association
2918 Bonnie Drive
Muscatine, IA 52761

Board of Supervisors
Muscatine County Courthouse
401 East 3rd Street
Muscatine, IA 52761



PEORIA TRIBE OF INDIANS OF OKLAHOMA

118 S. Eight Tribes Trail (918) 540-2535 FAX (918) 540-2538
P.O. Box 1527
MIAMI, OKLAHOMA 74355

CHIEF
John P. Froman

SECOND CHIEF
Joe Goforth

May 7, 2002

Kenneth A Barr,
U.S. Army Corps of Engineers
Rock Island District
Clock Tower Building P.O. Box 2004
Rock Island, IL 61204-2004

RE: Modifications to flood damage reduction measures along Mad Creek.

Thank you for notice of the referenced project. The Peoria Tribe of Indians of Oklahoma is currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. In the event any items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction, the Peoria Tribe request notification and further consultation.

The Peoria Tribe has no objection to the proposed construction. However, if any human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, the construction should stop immediately, and the appropriate persons, including state and tribal NAGPRA representatives contacted.

A handwritten signature in blue ink, appearing to read "John P. Froman".

John P. Froman
Chief

xc: Bud Ellis, Repatriation/NAGPRA Committee Chairman

STATE HISTORICAL SOCIETY OF IOWA

Where past meets future

June 11, 2002

In reply refer to:
R&C#: 010170032

American Gothic House
Eldon

Blount Run NHL
Larchwood

Centennial Building
Iowa City

Matthew Edel Blacksmith Shop
Marshalltown

Abbie Gardner Cabin
Arnolds Park

Iowa Historical Building
Des Moines

Montauk Governor's Home
Union Sunday School
Clermont Museum
Clermont

Plum Grove Governor's Home
Iowa City

Toolesboro Indian Mounds
Toolesboro

Western Historic Trails Center
Council Bluffs

Jim Ross, Archeologist
Environmental Analysis Branch
Rock Island Corps of Engineers
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

RE: COE - MUSCATINE COUNTY - CITY OF MUSCATINE - USACE ROCK ISLAND DISTRICT AND CITY OF MUSCATINE - PROPOSED FLOOD DAMAGE REDUCTION MEASURES ALONG MAD CREEK UNDER SECTION 205 OF THE 1948 FLOOD CONTROL ACT - MULTIPLE LOCATIONS -- BCA#902 - PHASE I CULTURAL RESOURCE SURVEY - DRAFT

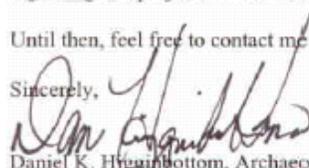
Dear Mr. Ross,

We have received and reviewed the draft programmatic agreement for the above referenced project. Thank you for providing the Iowa State Historic Preservation Office with the opportunity to consult on this matter. We make the following comments and recommendations in accordance with Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations 36 CFR part 800 (revised, effective January 11, 2001).

Apart from the few red line revisions that were returned to you via email on June 10, 2002, we recommend no additional changes. Please forward the finalized draft for our signature and any additional information regarding this project as it comes available.

Until then, feel free to contact me at (515) 281-8744 if you have any questions or require further assistance.

Sincerely,

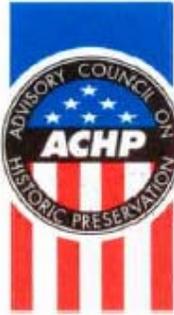

Daniel K. Higginbottom, Archaeologist
Iowa State Historic Preservation Office
Community Programs Bureau
State Historical Society of Iowa

IOWA HISTORICAL BUILDING

600 East Locust • Des Moines, Iowa 50319-0290

Phone: (515) 281-6412 • Fax: (515) 242-6498 or (515) 282-0502

www.uiowa.edu/~shsi/index.htm



JUL 12 2002

Mr. Gary L. Loss, P.E.
Chief, Planning, Programs, and Project Management Division
Rock Island District, Corps of Engineers
Clock Tower Building - P.O. Box 2004
Rock Island, IL 61204-2004

REF: Proposed Mad Creek Flood Protection Project
Muscatine County, Iowa

Dear Mr. Loss:

On July 1, 2002, the Council received your notification and supporting documentation regarding the adverse effects of the referenced project on properties listed on and eligible for listing on the National Register of Historic Places. Based upon the information you provided, we do not believe that our participation in consultation to resolve adverse effects is needed. However, should circumstances change and you determine that our participation is required, please notify us. Pursuant to 36 CFR 800.6(b)(iv), you will need to file the final Memorandum of Agreement and related documentation at the conclusion of the consultation process. The filing of the Agreement with the Council is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require the further assistance of the Council, please contact us at 202-606-8505.

Sincerely,

Raymond V. Wallace
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 809 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov



REPLY TO
ATTENTION OF

Planning, Programs, and
Project Management Division

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P. O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

August 19, 2002

TO ALL INTERESTED PARTIES

A draft Detailed Project Report (DPR) presenting the results of a feasibility study of flooding problems along Mad Creek in the City of Muscatine, Iowa, has been released for public review. The Rock Island District of the U.S. Army Corps of Engineers prepared the report under the authority of Section 205 of the 1948 Flood Control Act, as amended.

The Mad Creek watershed drains approximately 17.3 square miles in the eastern portion of the City of Muscatine and areas to the north in Muscatine County. Due to the nature of the watershed and intensive development in the downtown area, Mad Creek is prone to flash flooding, experiencing flooding events in 1991, 1993, and 1998.

Alternative plans were developed and evaluated based on appropriate engineering, economic, environmental, cultural, and social factors. Major components of the selected plan include raising the height of approximately 2,300 linear feet of existing levees and 1,700 linear feet of existing floodwalls by approximately 2 feet, 230 linear feet of new floodwall, a new bulkhead closure gate to replace the existing panel closure at Mississippi Drive, a new overhead closure gate to replace an existing floodgate at 2nd Street, a new swing gate to replace the panel closure across the abandoned railroad just upstream on 2nd Street and installation of a new closure structure across the railroad south of Washington Street. The selected plan also includes improving a section of the Mad Creek channel upstream of 2nd Street to reduce flood stages and installation of an enhanced flood warning system. The project cost estimate is \$3.45 million and the estimated benefit-cost ratio is 3.4 to 1.

The selected plan complies with United States law including appropriate environmental requirements and meets all Corps of Engineers criteria. Following successful completion of the public review, the District Engineer is expected to recommend that the selected plan be constructed under the authority of Section 205 of the 1948 Flood Control Act, as amended, with such modifications as, in the discretion of the Chief of Engineers, may be advisable.

The draft DPR will be available for public review for 30 days. Copies are available for review at the Muscatine Public Library, Muscatine City Hall, and at the Rock Island District Corps of Engineers office. The document can also be viewed on the internet at www.mvr.usace.army.mil. Comments regarding the draft DPR may be submitted to our address above, ATTN: Planning, Programs, and Project Management Division (Mr. Dennis Hamilton).

Sincerely,

ORIGINAL SIGNED BY

Teresa A. Kincaid, P.E.
Acting Chief, Planning, Programs,
and Project Management Division



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P. O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

November 18, 2002

Planning, Programs, and
Project Management Division

TO ALL INTERESTED PARTIES

— The Rock Island District of the U.S. Army Corps of Engineers has enclosed for your information a copy of the Statement of Findings (SOF) and the Finding of No Significant Impact (FONSI) for the Detailed Project Report (DPR) with Environmental Assessment (EA) for the feasibility study of flooding problems along Mad Creek in the City of Muscatine, Iowa.

The DPR with EA for the Section 205 Flood Damage Reduction Study, dated July 2002, was circulated for public review on August 9, 2002. On August 19, 2002, a notice of document availability and web site (<http://www.mvr.usace.army.mil/MadCreek/>) was also sent to the general public and interested parties. Comments received during the review period for these documents and the Rock Island District's response to those comments have been compiled in the SOF. We determined that no comments were received that altered the determination that no significant environmental impact would result, and the SOF and FONSI were signed on October 31, 2002. All documents are on file at the Rock Island District office.

We thank you for your interest. For additional information about the Rock Island District, please visit our home page at: <http://www.mvr.usace.army.mil>. If you have any questions regarding this project, you may contact Mr. Randy Kraciun by telephoning 309/794-5174, or by writing to our address above, ATTN: Planning, Programs, and Project Management Division (Randy Kraciun).

Sincerely,

Dorene A. Bollman

Dorene A. Bollman
Acting Chief, Economic and
Environmental Analysis Branch

— Enclosure

**Detailed Project Report with
Environmental Assessment**

**Section 205 Flood Damage Reduction Study
Mad Creek
Muscatine, Muscatine County, Iowa**

STATEMENT OF FINDINGS

I. Project Description.

A. This statement concerns a proposal by the Rock Island District of the U.S. Army Corps of Engineers (Corps) to improve the levee along Mad Creek in Muscatine, Iowa and restore a portion of the channel and bankline near the 2nd Street Bridge.

B. A Detailed Project Report (DPR) with Environmental Assessment (EA), Section 205 Flood Damage Reduction Study, Mad Creek, Muscatine County, Iowa, dated July 2002, addressing the results of a feasibility study of flooding problems along Mad Creek in Muscatine, Iowa and probable impacts resulting of the proposed project has been prepared and circulated for public review.

II. Public Interest Review.

A Joint Public Notice was not required for this project, it complies with nationwide permits item 27. Item 27 covers stream and wetland restoration and allows activities in waters of the US associated with the restoration of former waters and riparian areas.

III. Public Review Comments.

The following is a summarized list of the comments received during the public review period. Each is followed by the Rock Island District's response where appropriate. A copy of our coordination letter and response letters follow the SOF, FONSI, and FOC.

Response to EA:

A. The US Fish and Wildlife Service (FWS) responded to the public review by letter dated September 10, 2002. They stated that the proposed project "will not adversely affect endangered species or their habitats. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended." They also stated that while there would "be short term loss of habitat and displacement of some wildlife species, the net effect of the project should be beneficial."

(Enclosure)

B. An e-mail from Mr. Doug White of Lake Park Blvd., Muscatine, Iowa, was received on September 3, 2002. He stated that he had "had problems with the creek in the past." He wanted to know if the project would complicate his problems by backing up the creek. He also asked if we were "going to address the problems" in his neighborhood.

Response: Corps analysis shows that the project would have no appreciable affect on flood levels, either positive or negative, in the vicinity of Lake Park Blvd. While the proposed flood warning system will be of value to all those along Mad Creek by providing earlier warning of impending flood events, there are currently no plans that would "address the problems" of the Lake Park neighborhood.

IV. Summary of Environmental Impact Review.

A. An EA was been prepared for this project. This review has not identified any potentially significant adverse effects resulting from the implementation of the project as proposed. Thus, a Finding of No Significant Impact was prepared and is included in the EA.

B. The activity will comply with the conditions stated in Item 27 of the Nationwide Permits as put forth in Fact Sheet No. 5(IA), Nationwide Permits in Iowa, effective date March 18, 2002, and the guidelines set forth in 40 CFR 230.

V. Summary of Findings.

I find that the implementation of the project, as proposed, and under the conditions set forth and as prescribed by applicable regulations published in 33 CFR Part 230 (Appendix B), 33 CFR Parts 320 to 340, 40 CFR Part 230 (if applicable), and 33 CFR Part 250 (Implementation of Executive Order 11988, Flood Plain Management) is in the public interest.

31 Oct 2002

Date


William J. Bayles
Colonel, U.S. Army
District Engineer

FINDING OF NO SIGNIFICANT IMPACT
SECTION 205 FLOOD DAMAGE REDUCTION STUDY
MAD CREEK
MUSCATINE, MUSCATINE COUNTY, IOWA

I have reviewed the information provided by this Environmental Assessment (EA), along with data obtained from cooperating Federal, State, and local agencies and from the interested public. Based on this review, I find that the preferred alternative for the proposed flood control improvements, to improve the levee along Mad Creek in Muscatine, Iowa, and restore a portion of the channel and bankline near the Second Street Bridge, as proposed in this EA, will not significantly affect the quality of the environment. Therefore, it is my determination that an Environmental Impact Statement (EIS) is not required. This determination will be reevaluated if warranted by later developments.

Alternatives considered along with the preferred action were:

- No Federal action;
- Constructing stormwater detention reservoirs;
- Raising existing floodwall and levee system;
- A combination of floodwalls and levees and stormwater detention reservoirs; and an enhanced early flood-warning system to better react to flash floods.

Preferred Alternative.

Factors considered in making a determination that an EIS was not required are as follows:

- a. The project involves a within-levee upgrade.
- b. Impacts to local wildlife and aquatic communities will be minimal and temporary.
- c. No endangered species, either State or Federal, will be affected by the project action.
- d. No significant environmental, social, economic, or cultural impacts are anticipated as a result of implementing the proposed project.

31 OCT 02

Date



William J. Bayles
Colonel, U.S. Army
District Engineer



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

August 19, 2002

Planning, Programs, and
Project Management Division

TO ALL INTERESTED PARTIES

A draft Detailed Project Report (DPR) presenting the results of a feasibility study of flooding problems along Mad Creek in the City of Muscatine, Iowa, has been released for public review. The Rock Island District of the U.S. Army Corps of Engineers prepared the report under the authority of Section 205 of the 1948 Flood Control Act, as amended.

The Mad Creek watershed drains approximately 17.3 square miles in the eastern portion of the City of Muscatine and areas to the north in Muscatine County. Due to the nature of the watershed and intensive development in the downtown area, Mad Creek is prone to flash flooding, experiencing flooding events in 1991, 1993, and 1998.

Alternative plans were developed and evaluated based on appropriate engineering, economic, environmental, cultural, and social factors. Major components of the selected plan include raising the height of approximately 2,300 linear feet of existing levees and 1,700 linear feet of existing floodwalls by approximately 2 feet, 230 linear feet of new floodwall, a new bulkhead closure gate to replace the existing panel closure at Mississippi Drive, a new overhead closure gate to replace an existing floodgate at 2nd Street, a new swing gate to replace the panel closure across the abandoned railroad just upstream on 2nd Street and installation of a new closure structure across the railroad south of Washington Street. The selected plan also includes improving a section of the Mad Creek channel upstream of 2nd Street to reduce flood stages and installation of an enhanced flood warning system. The project cost estimate is \$3.45 million and the estimated benefit-cost ratio is 3.4 to 1.

The selected plan complies with United States law including appropriate environmental requirements and meets all Corps of Engineers criteria. Following successful completion of the public review, the District Engineer is expected to recommend that the selected plan be constructed under the authority of Section 205 of the 1948 Flood Control Act, as amended, with such modifications as, in the discretion of the Chief of Engineers, may be advisable.

The draft DPR will be available for public review for 30 days. Copies are available for review at the Muscatine Public Library, Muscatine City Hall, and at the Rock Island District Corps of Engineers office. The document can also be viewed on the internet at www.mvr.usace.army.mil. Comments regarding the draft DPR may be submitted to our address above, ATTN: Planning, Programs, and Project Management Division (Mr. Dennis Hamilton).

Sincerely,

ORIGINAL SIGNED BY

Teresa A. Kincaid, P.E.
Acting Chief, Planning, Programs,
and Project Management Division



IN REPLY REFER
TO:

FWS/RIFO

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Rock Island Field Office
4469 48th Avenue Court
Rock Island, Illinois 61201
Phone: (309) 793-5800 Fax: (309) 793-5804



September 10, 2002

Colonel William J. Bayles
District Engineer
U.S. Army Engineer District
Rock Island
Clock Tower Building, P.O. Box 2004
Rock Island, Illinois 61204-2004

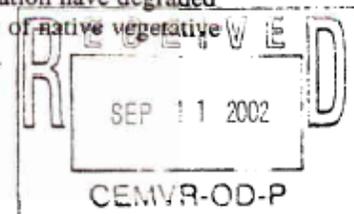
Dear Colonel Bayles:

This letter constitutes our Final Fish and Wildlife Coordination Act (FWCA) report for the Mad Creek flood damage reduction study undertaken through the Corps of Engineer Continuing Authorities Program and authorized by Section 205 of the 1948 Flood Control Act, as amended. It has been prepared under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat.401, as amended; 16 U.S.C. 661 et seq.); the Endangered Species Act of 1973, as amended; and in accordance with the Fish and Wildlife Service's Mitigation Policy.

DESCRIPTION OF THE PROJECT AREA

The Mad Creek study area is located along the Mississippi River in Muscatine, Muscatine County, Iowa. The Mad Creek watershed drains approximately 17.3 square miles in the eastern portion of Muscatine and areas north of Muscatine in Muscatine County. The upstream portion of the watershed north of Muscatine is primarily agricultural land but is rapidly being converted into residential subdivisions and commercial developments. The lower portion of Mad Creek is within the Muscatine city limits, flowing through an area of mixed commercial, industrial, and residential uses near the downtown area before emptying into the Mississippi River. Low-lying areas along Mad Creek and Geneva Creek, its main tributary, are subject to flash flooding.

Development in the watershed and floodplain has altered floodplain hydrology, increasing stormwater runoff and flood stages. The resulting increases in sedimentation have degraded aquatic and terrestrial habitats, thereby reducing the quantity and quality of native vegetative communities and jeopardizing the sustainability of the watershed system.



PROJECT OBJECTIVES

The goals of the Mad Creek flood damage reduction study are to determine the economic feasibility of a flood damage reduction plan and to recommend a plan for implementation. Four primary alternatives have been considered for reducing the flooding hazard:

- a. Raise the existing floodwall and levee system;
- b. Construct stormwater detention reservoirs;
- c. A combination of alternatives a & b, including stormwater detention reservoirs; and,
- d. An enhanced early flood-warning system to better react to flash floods.

FISH AND WILDLIFE RESOURCES

Development of the flood plain for agriculture, commercial and residential purposes is a limiting factor for wildlife resources. Although the project area includes some pasture and several open grassy areas, the vegetation is dominated by introduced grasses. These areas are either mowed or grazed regularly. Wildlife species in the area are a common assemblage of birds and mammals found in agricultural and urban habitats.

We have no site specific information on the fishery resource in the project area, but would expect that the fish community would be composed of species common to eastern Iowa creeks and streams, such as shiners, darters, dace, common stoneroller, and possibly sunfish.

THREATENED AND ENDANGERED SPECIES

To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service information concerning any species, listed or proposed to be listed, which may be present in the area of a proposed action.

Therefore, we are furnishing you the following list of species which may be present in the concerned area:

<u>Classification</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Habitat</u>
Threatened	Bald eagle	<i>Haliaeetus leucocephalus</i>	Breeding, Winters along major rivers and reservoirs
Endangered	Higgins' eye pearly mussel	<i>Lampsilis higginsii</i>	Mississippi River

Endangered	Indiana bat	<i>Myotis sodalis</i>	Caves, mines; small stream corridors with well developed riparian woods; upland forests
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Bald eagles winter along the Mississippi River, including Pool 17. The proposed project would not affect bald eagles or their habitats.

The endangered Higgins' eye pearly mussel (*Lampsilis higginsii*) prefers sand/gravel substrates with a swift current and are most often found in the main channel border or an open, flowing side channel. The species is found in the Mississippi River in Muscatine County, but it is not likely to occur in the project area.

The endangered Indiana bat (*Myotis sodalis*) is listed as occurring in Muscatine County, Iowa. During the summer, the Indiana bat frequents the corridors of small streams with well developed riparian woods as well as mature upland forests. It forages for insects along the stream corridor, and within the canopy of floodplain and upland forests. It has been shown that the foraging range for the bats varies by season, age and sex and ranges up to 81 acres (33ha). It roosts and rears its young beneath the loose bark of large dead or dying trees. Tree clearing for this project should not be conducted during the April 1 - September 30 timeframe. Prohibiting clearing activity during this 6-month time window would avoid potential impacts to summer roosting Indiana bats. If Indiana bats are known to be present, they must not be harmed, harassed, or disturbed when present.

The proposed flood damage reduction measures will not adversely affect endangered species or their habitats. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should this project be modified or new information indicate endangered species may be affected, consultation should be initiated.

FUTURE WITHOUT PROJECT

The No Federal Action alternative is considered the future without the project condition allowing the area to continue to function as is. Without flood reduction measures such as detention basins, sedimentation will continue in the area and will result in continued degradation of fisheries habitat.

FUTURE WITH PROJECT

Enhancement options for Mad Creek include increasing the quality of existing floodwall and levee protection, constructing stormwater detention systems, thereby reducing flooding potential and sedimentation. Reducing the potential for flooding on Mad Creek would also result in a decrease in property damage. Raising the levee on Mad Creek would have little or no impact on wildlife. The area adjacent to Mad Creek in the area of the levee is commercially developed urban property. Construction of the stormwater detention systems

would lower the stormwater related sediment load for Mad Creek and may also reduce the amount of erosion resulting from current agricultural uses and rapid commercial and residential development of the upstream area of Mad Creek.

CONCLUSIONS AND RECOMMENDATIONS

The flood damage reduction measures proposed for Mad Creek, Muscatine, Muscatine County, Iowa, should have no long-term impacts on threatened or endangered species. Although there will be short term loss of habitat and displacement of some wildlife species, the net effect of the project should be beneficial. Any impacts to wetland areas would require a compensatory mitigation plan.

We appreciate the opportunity to provide these comments and look forward to continued coordination on this project. If you have any questions, please contact Ms. Heidi Woeber of my staff at (309) 793-5800, ext. 517.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard C. Nelson".

Richard C. Nelson
Supervisor

cc: IADNR (Schonhoff)

G:\WP_Docs\HEID\madcreek.wpd

Hamilton, Dennis W MVR

From: Hamilton, Dennis W MVR
Sent: Friday, September 06, 2002 10:52 AM
To: 'Doug White'
Subject: RE: Mad Creek

I have been out of the office for a few days and apologize for the delay in responding.

The draft selected alternative includes modifications to the channel of Mad Creek and an enhanced flood warning system, in addition to raising the existing levee. The channel modifications will substantially lower expected flood levels at the lower end of Mad Creek, but will have no appreciable affect on flood levels, either positive or negative, in the vicinity of Lake Park Blvd. The proposed levee modifications will also have no appreciable affects on flood levels at Lake Park Blvd.

Although flood damages to the Lake Park Blvd area can be substantial, because of the relatively small number of residences affected and the high cost of any potential alternatives, there is not an economic justification for providing flood protection to this area. The proposed flood warning system will be of value to all those along Mad Creek by providing earlier warning of impending flood events, although the time available to respond will still be relatively short. I am available to discuss this further by telephone if you wish. Thank you for your interest in this study.

Dennis Hamilton
Project Manager
309-794-5634

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

From: Doug White [<mailto:dougwhite@machlink.com>]
Sent: Tuesday, September 03, 2002 11:57 AM
To: Hamilton, Dennis W
Subject: Mad Creek

I live at 715 Lake Park Blvd. As you know we have had problems with the creek in the past. The improvements you propose seem to be concerned with raising the levee in the lower section of the creek. Will this complicate our problems by backing up the creek? Are you going to address the problems in my neighborhood?

Please feel free to contact me at

563-263-9219
Doug White 715 Lake Park Blvd.



City Hall, 215 Sycamore St.
Muscatine, IA 52761-3840
(563) 264-1550 Voice/TT
Fax (563) 264-0750

MAYOR

November 20, 2002

Colonel William J. Bayles
U.S. Army Engineer District
Clock Tower Building, P.O. Box 2004
Rock Island, Illinois 61204-2004

RE: STATEMENT OF FINANCIAL CAPABILITY, Section 205 Flood Control Project, Mad
Creek, Muscatine, Iowa

Dear Colonel Bayles:

The City of Muscatine, Iowa has the legal authority to enter into the Project Cooperation Agreement and to fulfill all financial obligations for completion of the project. The City understands that the current cost estimate for the entire project is \$3,445,000. Of this, the City's share is \$1,205,750 (\$700,750 cash and \$505,000 for rights-of-way and relocation costs).

It is the City's intention to finance its share of project costs through bond issuance and the levee tax levy. These funding sources will be available to meet the City's requirements as shown on the attached schedule of Estimated Funding Requirements. Enclosed also is a copy of the City's latest Annual Financial Report for the year ended June 30, 2001. The June 30, 2002 report will be available in December.

The City of Muscatine has reviewed the Project Cooperation Agreement (PCA) and has found its provisions acceptable. The City strongly desires to proceed with this flood damage reduction project. If further information is needed, please do not hesitate to contact our office.

Sincerely,

Richard W. O'Brien
Mayor

Enclosure