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**Appendix B**  
**EO 11988 and EO 11990**  
**Eight-Step Planning Process**

**Executive Order 11988 Floodplain Management  
Executive Order 11990 Wetland Protection**

**Eight-Step Planning Process**

<p><b>Step 1:</b> Determine whether the Proposed Action is located in a wetland and/or the 100-year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.</p>	<p><b>Project Analysis:</b> According to the FIRMs for Kent County, the Proposed Action is located within the 100-year floodplain.</p>
<p><b>Step 2:</b> Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making.</p>	<p><b>Project Analysis:</b> Initial publication was provided by FEMA on October 20, 2000 in the <i>Detroit Free Press</i>.</p>
<p><b>Step 3:</b> Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.</p>	<p><b>Project Analysis:</b> The following alternatives were evaluated:</p> <p>Alternative 1: No Action</p> <p>Alternative 2: Proposed Action. This action would involve the construction of berms, enhancement of an existing floodway diversion channel and placement of a pump station within the 100-year floodplain to prevent flooding of the 111 residences located within the 100-year floodplain.</p> <p>Alternative 3: Acquisition and Relocation/Demolition. This action would involve the purchase and removal of approximately 111 homes within the 100-year floodplain.</p>

**EO 11988 & 11990 Eight-Step Planning Process**

<p><b>Step 4:</b> Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.</p>	<p><b>Project Analysis:</b> Under the No Action overland flooding would continue to occur during flooding events with the threat of property damage.</p> <p>Under the Proposed Action, no substantial negative floodplain impacts are expected for areas upstream or downstream of the proposed project area. An H/H hydraulic analysis performed by G&amp;O for all components of the Proposed Action concluded that water surface elevations would have an increase of up to 0.4 feet in the BFE for a portion of the study area. The construction of the levees and floodwall would cause a flow constriction, impacting the floodway and resulting in a slight increase in water surface elevations along the length of the project. Clearing the existing diversion channel would help to increase capacity of the channel and reduce water surface elevations at the upstream end of the project. Although there will be slight increases in the BFE as a result of the project, floodplain widths are not expected to increase by more than 20 to 30 feet on either side of Plaster Creek and will not affect existing development or any privately owned land.</p> <p>Under Alternative 3, the 100-year floodplain would not change and property damages would be eliminated through the removal of the homes and transfer of ownership of the properties to the City of Grand Rapids.</p> <p>No impacts to wetlands would occur under any of the alternatives.</p>
<p><b>Step 5:</b> Minimize the potential adverse impacts to work within floodplains and wetlands to be identified under Step 4, restore and preserve the natural and beneficial values served by floodplains and preserve and enhance the natural beneficial values served by wetlands.</p>	<p><b>Project Analysis:</b> The applicant has obtained permits from the MDEQ under Parts 31 and 301 of the Michigan NREPA. By obtaining these permits and adhering to all conditions required for permitting, no significant effects to floodplains are anticipated.</p>

**Appendix B**  
**EO 11988 & 11990 Eight-Step Planning Process**

<p><b>Step 6:</b> Re-evaluate the Proposed Action to determine 1) if it is still practicable in light of its exposure to flood hazards; 2) the extent to which it will aggravate the hazards to others and; 3) its potential to disrupt floodplain and wetland values.</p>	<p><b>Project Analysis:</b> The Proposed Action remains practicable based on the flood reduction objective. No substantial floodplain impacts are expected upstream or downstream of the proposed project area.</p>
<p><b>Step 7:</b> If the agency decides to take an action in a floodplain or wetland, prepare and provide in the public with a finding and public explanation of any final decision that the floodplain or wetland is the only practicable alternative, and any relevant factors considered in decision making.</p>	<p><b>Project Analysis:</b> A public notice will be made indicating FEMA’s decision to proceed with the Proposed Action. At a minimum, this notice shall state a reason for locating the Proposed Action in the floodplain, a description of all significant facts considered in making the determination, a list of the alternatives considered, a statement indicating whether the action conforms to State and local floodplain protection standards, and a statement indicating how the action affects the floodplain and how mitigation would be achieved.</p>
<p><b>Step 8:</b> Review the implementation and post-implementation phase of the Proposed Action to ensure that the requirements of the EOs are fully implemented. Oversight responsibility shall be integrated into existing processes.</p>	<p><b>Project Analysis:</b> This step is integrated into the NEPA process and FEMA project management and oversight functions.</p>

**Appendix C**  
**Agency Correspondence**

**U.S. Fish and Wildlife Service**



JOHN ENGLER, Governor

## DEPARTMENT OF STATE POLICE

COL. MICHAEL D. ROBINSON, Director

August 29, 2001

Mr. Craig Czarnecki  
Field Supervisor  
U.S. Fish and Wildlife Service  
2651 Coolidge Road  
East Lansing, Michigan 48823

Dear Mr. Czarnecki:

RE: Environmental Review for 1346-DR-MI Hazard Mitigation Grant Program Project

The Hazard Mitigation Grant Program (HMGP) provides funding for measures designed to reduce or eliminate future disaster damage and disaster relief expenditures. Appropriate State and Federal Agencies must review projects proposed under the HMGP for compliance with the National Environmental Policy Act (NEPA) and other applicable Federal and State environmental laws. The U.S. Fish and Wildlife Service has been identified as an appropriate review agency for the following proposed project (project information attached):

Application number A1346.68 is for the City of Grand Rapids. The project is to do the following:

- 1) Increase an existing embankment or floodwall to one foot above the 100-year flood elevation for a distance of about 1500 feet along the south side of Plaster Creek between Division Avenue and Madison Avenue.
- 2) Construct a 700 foot embankment/floodwall east of Madison Avenue and north of Rosemary Street.
- 3) Construct 650 feet of embankment/floodwall North of 28<sup>th</sup> Street and west of Union Avenue.
- 4) Excavate a floodway channel bypass to minimize backwater effects near union Street.
- 5) Install an emergency pump station at the outfall to plaster Creek near the intersection of Ken-O-Sha Drive and Jefferson Avenue. The project will be located in Kent County, City of Grand Rapids, (T.6N – R.11W), Section 7.

Pursuant to the Federal Endangered Species Act, the Natural Heritage Program, the Fish and Wildlife Coordination Act, and other applicable laws, please review the attached project proposal to determine if it would impact rare, threatened, endangered or otherwise significant plant and animal species, natural plant communities, or critical habitat. Upon conclusion of your review, please send a memorandum indicating your findings to me at the following address: MI Department of State Police, Emergency Management Division, Attn: Matt Schnepf, 4000 Collins Road, P.O. Box 30636, Lansing, MI 48909-8136.

If you have questions regarding this matter, please contact me at 336-2040, facsimile 333-4987. Your prompt attention to this request is greatly appreciated!

Sincerely,

MATT SCHNEPP  
Assistant State Hazard Mitigation Officer

Attachment





# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
East Lansing Field Office (ES)  
2651 Coolidge Road, Suite 101  
East Lansing, Michigan 48823-6316

September 19, 2001



IN REPLY REFER TO:

Matt Schnepf  
Michigan Dept. of State Police  
Emergency Management Div.  
4000 Collins Road  
Lansing, MI 48909-8136

Re: Endangered Species List Request, 1346-DR-MI Hazard Mitigation Grant Program Project, #A1346.68, Plaster Creek Flood Mitigation, Grand Rapids, Kent County; #A1346.71, Bear Swamp Drain, 2982 22nd St., Hopkins Twp., Allegan County, Michigan

Dear Mr. Schnepf:

Thank you for your requests of August 29, and 30, 2001 for information on endangered, threatened, proposed, or candidate species, and critical habitat which may be present within the proposed project areas. Your requests and this response are made pursuant to Section 7 of the Endangered Species Act of 1973 (the Act), as amended, (87 Stat. 884, 16 U.S.C. 1531 *et seq.*).

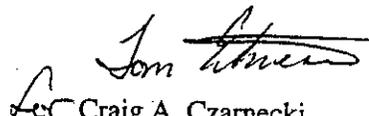
Based on information presently available, there are no endangered, threatened, proposed, or candidate species, or critical habitat occurring within the proposed project areas. This presently precludes the need for further action on these projects as required under Section 7 of the Act.

We advise, however, that should a species become officially listed or proposed before completion of these projects, the Federal action agency for the work would be required to reevaluate its responsibilities under the Act. Further, should new information become available that indicates listed or proposed species may be present and/or affected, consultation should be initiated with us.

Since threatened and endangered species data is continually updated, new information pertaining to these projects may become available which may modify these recommendations. Therefore, we recommend your agency annually request updates to this list. We also suggest you contact the Michigan Department of Natural Resources, Wildlife Division for information regarding state listed species.

We appreciate the opportunity to provide these comments. Please refer any questions directly to Tameka Dandridge of this office at (517) 351-8315 or the above address.

Sincerely,

  
for Craig A. Czarnecki  
Field Supervisor

cc: Michigan Department of Natural Resources, Wildlife Division, Lansing, MI  
(Attn: Lori Sargent)



April 18, 2005

Mr. Craig Czarnecki, Field Supervisor  
U.S. Fish and Wildlife Service  
2651 Coolidge Road  
East Lansing, Michigan 48823

**Subject:** Environmental Review for 1346-DR-MI  
FEMA Application Number A1346.68, Hazard Mitigation Grant Program  
Plaster Creek Flood Protection Project  
City of Grand Rapids, Kent County, Michigan

Dear Mr. Czarnecki:

The Hazard Mitigation Grant Program (HMGP) provides funding for measures designed to reduce or eliminate future disaster damage and disaster relief expenditures. Appropriate State and Federal agencies are required to review projects proposed under the HMGP for compliance with the National Environmental Policy Act (NEPA) and other applicable State and Federal environmental laws under this program. The U.S. Fish and Wildlife Service has been identified as an appropriate review agency for the following proposed project.

The project being proposed is in the City of Grand Rapids, Kent County, Michigan (T6N, R11W, Section 7). Figures showing the project area and the proposed action are enclosed (Figures 1a, 1b, 2, and 3). The project consists of the following four measures designed to protect residential structures from flooding:

1. An existing earthen levee located on the south side of Plaster Creek that ties into existing embankments at Division Avenue and Madison Avenue would be raised to at least 1 foot above the 100-year flood elevation for its entire length of approximately 1,500 feet. This would require increases in the current height of the levee by approximately 1 to 3 feet at various locations along its length. The levee would be raised using earthen material and augmented by modular block walls for stability where required. A pump station would be constructed in this area to pump stormwater (or interior drainage) over the bank and into Plaster Creek during flood events. The pump station would be needed because the flap gate on the existing stormwater outlet to the creek remains closed during flood conditions on Plaster Creek.



Mr. Craig Czarnecki  
U.S. Fish and Wildlife Service  
April 18, 2005  
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2. A 700-foot long steel sheet pile floodwall would be constructed on the south side of Plaster Creek north of Rosemary Street and east of Madison Avenue. The floodwall would be constructed to contain the 100-year flood and would extend at least 1 foot above the 100-year flood elevation along its length to provide freeboard requirements. The existing ground elevation is approximately 644 feet at the location of the proposed levee and the base flood elevation (100-year) ranges from 649 to 651 feet; therefore, the floodwall would be approximately 5 to 7 feet above the existing ground. A supporting levee would be constructed on the south side of the wall to buttress the wall and provide an area on which to install screening landscape.
3. A series of low earthen levees and modular block floodwalls would be constructed to provide protection from the 100-year flood for homes along Union Avenue north of 28th Street. These flood control structures would be constructed along the creek to protect residential structures, most of which have walkout basements, and would be tied into each other or into existing high ground. The type of flood protection structure to be built (low earthen levee or modular block floodwall) would depend on homeowner preference along this reach. The existing ground elevation ranges from approximately 651 to 652.5 feet in the vicinity of the proposed levees/floodwalls, and the base flood elevation in this area ranges from approximately 652.8 to 653.3 feet. Therefore, the levees/floodwalls would be approximately 2 to 3.5 feet above the existing ground.
4. An existing diversion channel, located on the southwest side of Plaster Creek north of 28th Street behind the homes along Union Avenue, would be cleared of vegetation to increase the conveyance of the channel to approximately three times its current capacity. The diversion channel is approximately 22 feet wide with a 14-foot wide channel bottom. It is approximately 1 foot deep with 4:1 sloped sides. Flow is diverted into the channel when flood heights on Plaster Creek reach the elevation of the diversion channel. The diversion channel has become overgrown with shrubs and small trees, impeding the flow of floodwaters through the channel. The current flow rate for channel is approximately 14 cubic feet per second. After clearing the vegetation, the flow rate would be approximately 46 cubic feet per second.

A request was sent to you in 2001 for a review to determine if this project would impact rare, threatened, or endangered flora or fauna, or designated critical habitat, pursuant to the Endangered Species Act, the Natural Heritage Program, the Fish and Wildlife Coordination Act, and other applicable laws. Upon conclusion of your review, you responded with a letter



Mr. Craig Czarnecki  
U.S. Fish and Wildlife Service  
April 18, 2005  
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dated September 19, 2001 (attached), stating that based on available information, no endangered, threatened, proposed, or candidate species or critical habitat occur in the project area. As we are aware that your data is frequently updated, we are requesting that you kindly provide an updated review of this project using the project description above and attached figures. Your prompt response would be greatly appreciated and may be submitted to the letterhead address.

If you have any questions or comments regarding this project, please do not hesitate to contact me by phone at (301) 670-5473, or by fax at (301) 869-8728. Thank you in advance for your attention to this matter.

Sincerely,

**URS Group, Inc.**

A handwritten signature in cursive script that reads 'Kimberly Collini'.

Kimberly Collini  
Environmental Scientist

cc: Ms. Jeanne Millin, FEMA Region V

Attachments



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

East Lansing Field Office (ES)  
2651 Coolidge Road, Suite 101  
East Lansing, Michigan 48823-6316

IN REPLY REFER TO:

May 11, 2005

Ms. Kimberly Collini  
URS Corporation  
200 Orchard Ridge Drive  
Suite 101  
Gaithersburg, MD 20878-1978

Re: Endangered Species List Request, Proposed Plaster Creek Flood Project, Hazard Mitigation Grant Program (HMGP) 1346-DR-MI, FEMA Application No. A13646.68, Grand Rapids (T6N, R11W, Section 7), Kent County, Michigan

Dear Ms. Collini:

Thank you for your April 18, 2005 request for information regarding federally listed and proposed threatened and endangered species, candidate species, or critical habitat near your proposed project. Your request and this response are made pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended (Act).

We understand that this HMGP project, which is funded by FEMA, consists of four measures designed to protect residential structures in the Plaster Creek Floodplain from flooding. Proposed activities consists of the following: 1) raise an existing earthen levee by approximately 1 to 3 feet on the south side of Plaster Creek and construct a pump station within this area; 2) construct a 700-foot long floodwall on the south side of the Creek and a supporting levee on the south side of the floodwall; 3) construct a series of low earthen levees and modular block floodwalls approximately 2 to 3.5 feet above the existing ground, along the creek; and 4) clear the existing diversion channel of shrubs and small trees.

Our records indicate that your proposed project is within the endangered Indiana bat (*Myotis sodalis*) breeding range in Michigan. Although there are no documented records of Indiana bats in the vicinity of the proposed project, survey information for this species is lacking and it is very likely that there are maternity colonies within their breeding range that are yet to be discovered. Thus, for projects within the species breeding range where potential habitat is present, we recommend that project proponents assess potential effects to Indiana bats.

The summer range of Indiana bats in Michigan includes the southern half and most of the western coastal counties of the Lower Peninsula. Although suitable habitat typically consists of highly variable forested landscapes in riparian, bottomland, and upland areas, composed of roosting trees, Indiana bats are often found in palustrine forested wetlands with an open understory. Roost trees generally are large (greater than 9 inches in diameter), dead, dying, or live trees with peeling or exfoliating bark, which allows the bat to roost between the bark and bole of the tree. Favored roost trees are usually exposed to the sun. Female Indiana bats typically form colonies that use several alternate roost trees in addition to primary roosts trees. Individual bats are known to travel up to 7.8 kilometers (4.8 miles) between roosts in a single night and 2 to 4 kilometers while foraging. We have enclosed additional information concerning the distribution, life history, and habitat requirements of the Indiana bat.

Pursuant to section 7 of the Act, FEMA should conduct a biological assessment of the proposed action and determine if there may be effects, positive or negative, to the listed species. If FEMA determines that the

proposed action will have "no effect" on the Indiana bat, please supply a copy of the determination to this office. If FEMA determines that the proposed action "may affect" the Indiana bat, a written request for section 7 consultation must be submitted by FEMA to this office. With the request, FEMA should provide a copy of the biological assessment and any other relevant information which assisted in reaching a determination. Additional information regarding requirements for federal agencies under section 7 can be found in enclosure A (attached) or from this office. Biologists from this office are available to assist you in determining potential effects of the proposed work on listed species.

Although FEMA may designate a non-federal representative to conduct informal consultation or prepare a biological assessment, the ultimate responsibility for compliance with section 7 of the Act remains with FEMA.

For FEMA or its designee to address ESA section 7 obligations described above, we suggest a survey of the proposed project area be conducted by a qualified individual to determine the suitability of the proposed project site for Indiana bat. If suitable habitat is present, we recommend a survey for the species be conducted and we request you provide this office with the results of such surveys. The individual performing the surveys must possess a current U. S. Fish & Wildlife Service issued permit specific to the surveyed species and use approved Indiana bat survey techniques. Additionally, if the best available information indicated that listed species are present within the action area of the proposed project, a biological assessment should be prepared.

Since endangered species data changes continuously, we recommend you contact this office for an updated species list if more than six months passes prior to issuance of a permit for proposed activities. In addition, if the project requires modifications or new information becomes available that indicates the presence of listed species or species proposed for listing, or their critical habitat, you should consult with this office.

The Michigan Department of Natural Resources (MDNR) protects endangered and threatened species through Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994, P.A. 451. For a preliminary check of your project area for any State protected species, please refer to the MDNR Endangered Species Assessment website located at [www.michigan.gov](http://www.michigan.gov). Click on Online Services, scroll down to Business Online Services and select Endangered Species Assessment. Upon completing the website search, contact the Endangered Species Coordinator of the MDNR at 517/373-3337 for information regarding the protection of threatened and endangered species under State law. State law requires a permit in advance of any work that could potentially damage, destroy, or displace State-listed species.

We appreciate the opportunity to provide these comments. Please refer any questions to Tameka Dandridge of this office at [Tameka\\_Dandridge@fws.gov](mailto:Tameka_Dandridge@fws.gov) or 517/351-8315.

Sincerely,



Craig A. Czarnecki  
Field Supervisor

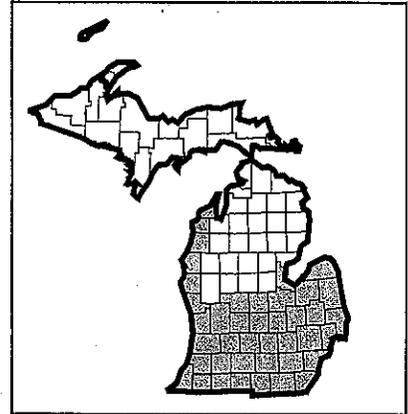
cc: MDNR, Wildlife Division, Lansing, MI (Attn: Todd Hogrefe)  
FEMA, Region V, Chicago, IL (Attn: Jeanne Millin)

g: admin/archives/may05/se list/URS-PlasterCreek.tnd.doc

## Indiana Bat Life History

Since listing as endangered in 1967, the range-wide Indiana bat population has declined by nearly 60%. Several factors have contributed to its decline including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, fragmentation of forest habitat, and loss and degradation of forested habitat, particularly stands of large, mature trees.

In Michigan, summering Indiana bats roost in trees in riparian, bottomland, and upland forests from approximately April 15 to September 15. Indiana bats may summer in a wide range of habitats, from highly altered landscapes to intact forests. Roost trees are typically found in patches of forests of varying size and shape, but have also been found in pastures, hog lots, fence rows, and residential yards.



Indiana bat range in shaded areas.

Male Indiana bats are dispersed throughout the range in the summer, roosting individually or in small groups, but may favor areas near hibernaculum. In contrast, reproductive females form larger groups, referred to as maternity colonies. Female Indiana bats exhibit strong site fidelity to summer roosting and foraging areas, tending to return to the same summer range annually to bear their young. These traditional summer sites are essential to the reproductive success and persistence of local populations.

Indiana bats are known to use a wide variety of tree species for roosting, but structure (i.e., crevices or exfoliating bark) is probably most important in determining if a tree is a suitable roost site. Roost trees generally are dead, dying or live trees (e.g. shagbark hickory and oaks) with peeling or exfoliating bark which allows the bat to roost between the bark and bole of the tree, but Indiana bats will also use narrow cracks, split tree trunks and/or branches as roosting sites. Southern Michigan maternity roost trees are typically in open areas exposed to solar radiation. Roost trees vary considerably in size, but those used by Indiana bat maternity colonies usually are large relative to other trees nearby, typically greater than 9 inches dbh. Male Indiana bats have been observed roosting in trees as small as 3 inches dbh.

Maternity roosts of the Indiana bat can be described as "primary" or "alternate" based upon the proportion of bats in a colony consistently occupying the roost site. Maternity colonies typically use 10–20 different trees each year, but only 1–3 of these are primary roosts used by the majority of bats for some or all of the summer. It is not known how many alternate roosts must be available to assure retention of a colony within a particular area, but large, nearby forest tracts appear important. Although the Indiana bat appears to be adaptable to changes in its roosting habitat, it is essential that a variety of suitable roosting trees exist within a colony's summer area to assure the persistence of the colony.

**FEDERAL AGENCY RESPONSIBILITIES UNDER SECTION 7(a)(2) OF THE  
ENDANGERED SPECIES ACT**

Section 7 of the Endangered Species Act of 1973, as amended (Act) directs Federal agencies in their responsibilities to listed species and critical habitat. Section 7(a)(2) of the Act directs all Federal agencies to consult with the FWS to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of listed species or critical habitat. This process is referred to as "section 7 consultation".

Section 7 consultation is typically initiated by a Federal action agency (action agency) by requesting a list of proposed and listed species and critical habitat that may be present in the action area. Based on this list, the action agency must provide the FWS with an analysis and determination of the effects of proposed actions that *may affect* listed species or critical habitat. Actions that are *not likely to adversely affect* listed species and critical habitat require informal section 7 consultation, while actions that are *likely to adversely affect* listed species and critical habitat require formal section 7 consultation. All decisions made under section 7 require the FWS and action agencies to employ the best available scientific and commercial data in their analysis.

The action agency or its designee must assess the potential effects on listed species and critical habitat. The assessment is called a Biological Assessment (BA). By regulation, a BA is prepared for "major construction activities" as defined under the National Environmental Policy Act (NEPA). Although a BA is technically not required for "non-major" construction activities, the action agency must still supply the FWS with an analysis and determination of effects for all Federal actions that *may affect* listed species or critical habitat. The FWS uses the BA, along with any other available information, to decide if concurrence with the determination of effects as made by the action agency is warranted. The BA should be completed within 180 days after initiation of consultation. If work on the BA has not been initiated within 90 days of receipt of the species list, you should verify the accuracy of the species list with the FWS.

To complete the BA, the action agency or its designee should, at a minimum:

1. determine whether suitable habitat exists if the species is likely to be present, which may include an onsite inspection and of the area to be affected by the proposal (should be documented in BA);
2. review literature and scientific data to determine species distribution, habitat needs, and other biological requirements;
3. consult experts including those within the FWS, state conservation departments, universities, and others who may have information not yet published in scientific literature;
4. review and analyze the effects of the proposal on the species in terms of individuals and populations present in the action area;
5. analyze alternative actions that may provide conservation measures;
6. make a determination of effects as directed by section 7 of the Act; and
7. prepare a report (the BA) documenting the analysis, including a discussion of study methods used, any problems encountered, and other relevant information.

Note that section 7(d) of the Act states action agencies shall not make any irreversible or irretrievable commitment of resources during the consultation process which would result in violation of the requirements under section 7(a)(2). Planning, design, and administrative actions may be taken; however, no irrevocable actions (e.g., construction) may begin.

We strongly encourage coordination with the FWS early and often in the consultation process. Not only will this save time by minimizing re-drafts of BAs, but we may also have the opportunity to work with the action agency in the development of a project that avoids or eliminates adverse effects before final decisions are made.



**FEMA**

June 3, 2005

Mr. Craig A. Czarnecki  
U.S. Fish and Wildlife Service  
East Lansing Field Office (ES)  
2651 Coolidge Road, Suite 101  
East Lansing, Michigan 48823-6316

**RE:** Letter of Determination - Indiana Bat Habitat  
FEMA Application No. A13646.68, Plaster Creek Flood Mitigation Project  
Grand Rapids, Kent County, Michigan

Dear Mr. Czarnecki:

The Federal Emergency Management Agency (FEMA) is considering funding a flood mitigation project in Grand Rapids, Kent County, Michigan, to protect residential structures in the Plaster Creek floodplain. In compliance with the National Environmental Policy Act (NEPA), FEMA contacted the U.S. Fish and Wildlife Service (USFWS) on April 18, 2005, to request information on threatened and endangered species known to occur in the project area. In a response letter dated May 11, 2005, the USFWS stated that the Indiana bat (*Myotis sodalis*), a federally endangered species, may occur in the project area and the proposed area of impact should be surveyed to determine if suitable habitat for this species exists. This letter constitutes FEMA's determination of the proposed project's potential impacts to the Indiana bat and its habitat.

The Proposed Action consists of the following four measures designed to protect residential structures from flooding:

1. An existing earthen levee located on the south side of Plaster Creek that ties into existing embankments at Division Avenue and Madison Avenue would be raised to at least 1 foot above the 100-year flood elevation for its entire length of approximately 1,500 feet. This would require increases in the current height of the levee by approximately 1 to 3 feet at various locations along its length. The levee would be raised using earthen material and augmented by modular block walls for stability where required. A pump station would be constructed in this area to pump stormwater (or interior drainage) over the bank and into Plaster Creek during flood events. The pump station would be needed because the flap gate on the existing stormwater outlet to the creek remains closed during flood conditions on Plaster Creek.

2. A 700-foot long steel sheet pile floodwall would be constructed on the south side of Plaster Creek north of Rosemary Street and east of Madison Avenue. The floodwall would be constructed to contain the 100-year flood and would extend at least 1 foot above the 100-year flood elevation along its length to provide freeboard requirements. The existing ground elevation is approximately 644 feet at the location of the proposed levee and the base flood elevation (100-year) ranges from 649 to 651 feet; therefore, the floodwall would be approximately 5 to 7 feet above the existing ground. A supporting levee would be constructed on the south side of the wall to buttress the wall and provide an area on which to install screening landscape.
3. A series of low earthen levees and modular block floodwalls would be constructed to provide protection from the 100-year flood for homes along Union Avenue north of 28th Street. These flood control structures would be constructed along the creek to protect residential structures, most of which have walkout basements, and would be tied into each other or into existing high ground. The type of flood protection structure to be built (low earthen levee or modular block floodwall) would depend on homeowner preference along this reach. The existing ground elevation ranges from approximately 651 to 652.5 feet in the vicinity of the proposed levees/floodwalls, and the base flood elevation in this area ranges from approximately 652.8 to 653.3 feet. Therefore, the levees/floodwalls would be approximately 2 to 3.5 feet above the existing ground.
4. An existing diversion channel, located on the southwest side of Plaster Creek north of 28th Street behind the homes along Union Avenue, would be cleared of vegetation to increase the conveyance of the channel to approximately three times its current capacity. The diversion channel is approximately 22 feet wide with a 14-foot wide channel bottom. It is approximately 1 foot deep with 4:1 sloped sides. Flow is diverted into the channel when flood heights on Plaster Creek reach the elevation of the diversion channel. The diversion channel has become overgrown with shrubs and small trees, impeding the flow of floodwaters through the channel. The current flow rate for channel is approximately 14 cubic feet per second. After clearing the vegetation, the flow rate would be approximately 46 cubic feet per second.

Biological resources in the project area and immediate vicinity are typical of an urban environmental setting. The project area contains a combination of residential development and forested riparian zone along Plaster Creek. In the residential areas, all of the original native plants have been and replaced by herbaceous and woody species (grasses, shrubs, and trees) planted for landscaping purposes. The majority of native species present, such as red maple (*Acer rubrum*), have also been transplanted for landscaping purposes.

The riparian zone along Plaster Creek contains a mixture of typical lowland hardwood vegetation, such as red maple, silver maple (*Acer saccharinum*), sycamore (*Platanus occidentalis*), eastern cottonwood (*Populus deltoids*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus Americana*). Within the forested areas, the understory is predominantly composed of invasive species such as Japanese honeysuckle (*Lonicera japonica*).

The Proposed Action would result in direct and indirect impacts to vegetation during construction. Some vegetation may be eliminated to construct the berm and enhance the existing floodway channel; however, the majority of the berm would be constructed outside the treeline of Plaster Creek. The disturbance of trees from berm placement along the creek would be minimal, causing little change to the existing canopy cover. The majority of the berm would be located

within a proposed riverside trail; therefore, any additional disturbances to vegetation separate from the trail construction would be minimal. Understory vegetation would be removed within the existing floodway channel to reduce friction, increase conveyance, and allow water to flow and not backup during high water conditions, reducing the extent of flooding to six homes along Union Avenue. This vegetation is primarily composed of invasive honeysuckle and immature canopy species.

As discussed in the May 11, 2005, USFWS letter, the Indiana bat roosts in trees with exfoliating bark in riparian, bottomland, and upland forests, although tree cavities and crevices may also be used. A variety of trees that have appropriate structure (i.e., exfoliating bark or crevices) are known to be utilized for roosting. In Michigan, summering Indiana bats roost from approximately April 15 to September 15.

Few trees will be removed or disturbed as a result of the Proposed Action. To mitigate potential impacts to roosting Indiana bats, FEMA will require that no trees be removed from April 15 through September 15 as a condition in the Environmental Assessment. Based on the minor disturbance to trees and the condition regarding timing of vegetation removal, FEMA has determined that the Proposed Action is not likely to adversely affect the Indiana bat or its critical habitat, or jeopardize the continued existence of this species.

To facilitate FEMA's evaluation of this project, we are requesting your written concurrence of our determination at your earliest convenience. If we do not here from you within 30 days we will assume you concur. Please call me at 312-408-5540 if you have any questions.

Sincerely,



Jeanne Millin  
Regional Environmental Officer



IN REPLY REFER TO:

# United States Department of the Interior

FISH AND WILDLIFE SERVICE

East Lansing Field Office (ES)

2651 Coolidge Road, Suite 101

East Lansing, Michigan 48823-6316

RECEIVED  
JUN 17 2005

June 14, 2005

Ms. Jeanne Millin  
Federal Emergency Management  
Region 5  
536 South Clark Street, Floor 6  
Chicago, IL 60605

Re: Request for Threatened and Endangered Species Clearance, Proposed Plaster Creek Flood Mitigation Project, FEMA Application No. A13646.68, Grand Rapids, Kent County, Michigan

Dear Ms. Millin:

This letter responds to your June 3, 2005 correspondence requesting U. S. Fish and Wildlife Service concurrence that the above referenced project is not likely to adversely affect the endangered Indiana bat (*Myotis sodalis*). Under this project, you propose to construct the following: a 700-foot long floodwall 5 to 7 feet above the existing ground on the south side of the creek, low earthen levees (berm) and modular block floodwalls along the creek, raise an existing earthen levee by 1 to 3 feet and install a pump station on the south side of Plaster Creek, and clear the overgrown shrubs and small trees from the existing diversion channel.

According to your letter, the proposed project area contains a combination of residential development and a forested riparian zone along Plaster Creek. Herbaceous and woody species planted for landscaping purposes have replaced the native vegetation in the residential areas. The riparian zone is composed of a mixture of lowland hardwood vegetation, such as red and silver maple, sycamore, eastern cottonwood, green ash and American elm. Invasive species, such as Japanese honeysuckle, dominate the forested understory vegetation.

Vegetation removal may be required for the proposed berm construction and will occur for floodway channel enhancement. However, the majority of the berm will be constructed outside the treeline of Plaster Creek and will be located within a proposed riverside trail. The proposed trail is not a FEMA funded activity, as advised in a June 9, 2005 telephone conversation between you and Tameka Dandridge, of this office. You further informed in the letter and telephone conversation that the proposed project will not commence until after September 15, 2005, when the bats have left Michigan to begin hibernation.

To mitigate potential impacts to roosting Indiana bats, FEMA requires that no trees be removed from April 15 through September 15. You concluded that few trees will be removed or disturbed as a result of the proposed action and due to the timing of such disturbance; the proposed action is not likely to adversely affect the Indiana bat.

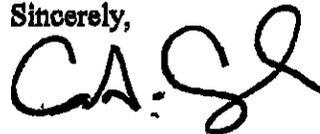
We concur that the proposed project is not likely to adversely affect the Indiana bat. Of the vegetation removal to occur, the majority is composed of small trees and shrubs in the floodway channel. Few large

trees will need to be removed. It is possible that Indiana bats may use the proposed action area for maternity roosting. If tree removal must occur, we recommend doing so in winter (November 1 through March 31). Based on this information, and contingent upon the stated recommendation, we expect any potential effects from this project on Indiana bats to be insignificant. This precludes the need for further action on this project as required under section 7 of the Endangered Species Act of 1973, as amended (Act).

If the project is modified or new information about the project becomes available that indicates listed species or critical habitat may be affected in a manner or to an extent not previously considered, you should reinitiate consultation with this office. Since threatened and endangered species data changes continuously, we recommend you contact this office for an updated federal list of the species that may be present in the project area every six months during the remaining planning and building period.

We appreciate your concern for Michigan's federally listed species. If you have any questions, please contact Tameka Dandridge at [Tameka\\_Dandridge@fws.gov](mailto:Tameka_Dandridge@fws.gov) or (517) 351-8315.

Sincerely,



Craig A. Czarnecki  
Field Supervisor

cc: MDNR, Wildlife Division, Lansing, MI (Attn: Todd Hogrefe)

g: admin/archives/june05/ss llist/FEMA-PlasterCreek-concur.tmd.doc

**Michigan State Historic Preservation Officer**



FEMA

MAR 17 2006

Mr. Bryan D. Conway  
State Historic Preservation Officer  
Michigan Historic Preservation Office  
Michigan Historical Center  
717 West Allegan Street  
Lansing, MI 48918-1800

RE: Construction of floodwall, bypass channel and emergency pump station, City of Grand Rapids, Michigan.

Dear Mr. Conway:

The City of Grand Rapids proposes to 1) increase an existing floodwall to one foot above the 100-year flood elevation for a distance of 1500 feet along the south side of Plaster Creek between Division and Madison Avenues; 2) construct a 700 foot floodwall east of Madison Avenue and north of Rosemary Street; 3) construct 650 feet of floodwall north of 28<sup>th</sup> Street and west of Union Avenue; and 4) excavate a floodway channel bypass to minimize backwater effects near Union Street; and 5) install an emergency pump station at the outfall to Plaster Creek near the intersection of Ken-0-Sha Drive and Jefferson Avenue. The project will be located in Kent County in T.6N, R.11W, Section 7.

Based on information provided by the Michigan State Police Emergency Management Division, FEMA has independently determined that there will be no historic properties affected as a result of this project. This determination has been made to fulfill FEMA's obligation under the process outlined within 36 CFR Part 800 (Section 106).

On January 9, 2006, Vince Parisi of the Mitigation Division spoke with Brian Grennel regarding this project. Mr. Grennel stated that the 'no effects' letters your office issued on October 4, 2001 (copy attached) would only need to be updated provided that the scope of the project has not changed. We are ready to move forward with completing the Environmental Assessment and would like your concurrence. The project has not changed since your 2001 determination.

We are requesting your written concurrence of our determination at your earliest convenience. If we do not hear from you within 30 days, we will assume you concur. Please call me at (312) 408-5540 if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jeanne Millin".

Jeanne Millin  
Region V Environmental Officer

STATE OF MICHIGAN  
DEPARTMENT OF STATE POLICE

DATE: August 29, 2001

TO: Martha MacFarlane-Faes  
Environmental Review Coordinator  
State Historic Preservation Office  
Michigan Department of State

FROM: *MS*  
Matt Schnepf, Assistant State Hazard Mitigation Officer  
Emergency Management Division

SUBJECT: Environmental Review for 1346-DR-MI Hazard Mitigation Grant Program Project

The Hazard Mitigation Grant Program (HMGP) provides funding for measures designed to reduce or eliminate future disaster damage and disaster relief expenditures. Appropriate State and Federal Agencies must review projects proposed under the HMGP for compliance with the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and other applicable Federal and State environmental laws. The Michigan Department of State, State Historic Preservation Office has been identified as an appropriate review agency for the following proposed project (project information attached):

Application number A1346.68 is for the City of Grand Rapids. The project is to do the following:

- 1) Increase an existing embankment or floodwall to one foot above the 100-year flood elevation for a distance of about 1500 feet along the south side of Plaster Creek between Division Avenue and Madison Avenue.
- 2) Construct a 700 foot embankment/floodwall east of Madison Avenue and north of Rosemary Street.
- 3) Construct 650 feet of embankment/floodwall North of 28<sup>th</sup> Street and west of Union Avenue.
- 4) Excavate a floodway channel bypass to minimize backwater effects near union Street.
- 5) Install an emergency pump station at the outfall to plaster Creek near the intersection of Ken-O-Sha Drive and Jefferson Avenue. The project will be located in Kent County, City of Grand Rapids, (T.6N - R.11W), Section 7.

Pursuant to Section 106 of the NHPA, please review the attached project proposal to determine if it would impact historic or archeological resources protected, or proposed for protection, under the NHPA. Upon conclusion of your review, please send a memorandum indicating your findings to me at the following address:

MI Department of State Police  
Emergency Management Division  
Attn: Matt Schnepf  
4000 Collins Road  
P.O. Box 30636  
Lansing, MI 48909-8136

If you have questions regarding this matter, please contact me at 336-2040, facsimile 333-4987.

Your prompt attention to this request is greatly appreciated!

**"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY."**



State of Michigan  
John Engler, Governor

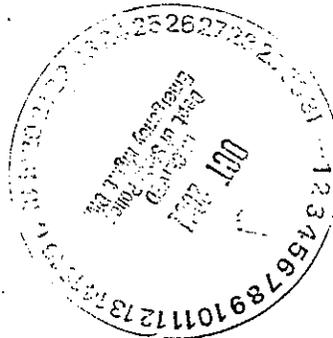
Department of History, Arts and Libraries  
Dr. William M. Anderson, Director

State Historic Preservation Office

Michigan Historical Center  
717 W. Allegan Street  
P.O. Box 30740  
Lansing, MI 48909-8240  
517/373-1630

October 4, 2001

JEANNE MILLIN  
REGIONAL ENVIRONMENTAL OFFICER  
FEMA REGION V  
536 S CLARK 6<sup>TH</sup> FLOOR  
CHICAGO IL 60605



RE: ER-97-416 Hazard Mitigation Project, A1346.68, T6N, R11W, Sec. 7, Grand Rapids, Kent County (FEMA)

Dear Ms. Millin:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that no historic properties are affected within the area of potential effects of this undertaking.

The views of the public are essential to informed decision making in the Section 106 process. Federal Agency Officials or their delegated authorities must plan to involve the public in a manner that reflects the nature and complexity of the undertaking, its effects on historic properties and other provisions per 36 CFR § 800.2(d). We remind you that Federal Agency Officials or their delegated authorities are required to consult with the appropriate Indian tribe and/or Tribal Historic Preservation Officer (THPO) when the undertaking may occur on or affect any historic properties on tribal lands. In all cases, whether the project occurs on tribal lands or not, Federal Agency Officials or their delegated authorities are also required to make a reasonable and good faith effort to identify any Indian tribes or Native Hawaiian organizations that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to be consulting parties per 36 CFR § 800.2(c-f).

This letter evidences Federal Emergency Management Agency's compliance with 36 CFR § 800.4 "Identification of historic properties", and the fulfillment of Federal Emergency Management Agency's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected".

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Martha MacFarlane-Faes, Environmental Review Coordinator, at (517) 335-2721. Please reference our project number in all communication with our office regarding this undertaking. Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Martha MacFarlane Faes  
Environmental Review Coordinator

for Brian D. Conway  
State Historic Preservation Officer

MMF:JRH:AKR:ajh

✓ copy: Matt Schnepf, MI Department of State Police



April 18, 2005

Ms. Martha MacFarlane-Faes  
State Historic Preservation Office  
Michigan Historical Center  
P.O. Box 30740  
Lansing, Michigan 48909-8240

**Subject:** Consultation Number ER-97-416  
Environmental Review for 1346-DR-MI  
FEMA Application Number A1346.68, Hazard Mitigation Grant Program  
Plaster Creek Flood Protection Project  
City of Grand Rapids, Kent County, Michigan

Dear Ms. MacFarlane-Faes:

The Hazard Mitigation Grant Program (HMGP) provides funding for measures designed to reduce or eliminate future disaster damage and disaster relief expenditures. Appropriate State and Federal agencies are required to review projects proposed under the HMGP for compliance with the National Environmental Policy Act (NEPA), National Historic Preservation Act of 1966 (NHPA), and other applicable State and Federal laws under this program. The Michigan State Historic Preservation Office has been identified as an appropriate review agency for the following proposed project.

The project being proposed is in the City of Grand Rapids, Kent County, Michigan (T6N, R11W, Section 7). Figures showing the project area and the proposed action are enclosed (Figures 1a, 1b, 2, and 3). The project consists of the following four measures designed to protect residential structures from flooding:

1. An existing earthen levee located on the south side of Plaster Creek that ties into existing embankments at Division Avenue and Madison Avenue would be raised to at least 1 foot above the 100-year flood elevation for its entire length of approximately 1,500 feet. This would require increases in the current height of the levee by approximately 1 to 3 feet at various locations along its length. The levee would be raised using earthen material and augmented by modular block walls for stability where required. A pump station would be constructed in this area to pump stormwater (or interior drainage) over the bank and into Plaster Creek during flood events. The pump station would be needed because the flap gate on the existing stormwater outlet to the creek remains closed during flood conditions on Plaster Creek.



Ms. Martha MacFarlane-Faes  
Michigan State Historic Preservation Office  
April 18, 2005  
Page 2

2. A 700-foot long steel sheet pile floodwall would be constructed on the south side of Plaster Creek north of Rosemary Street and east of Madison Avenue. The floodwall would be constructed to contain the 100-year flood and would extend at least 1 foot above the 100-year flood elevation along its length to provide freeboard requirements. The existing ground elevation is approximately 644 feet at the location of the proposed levee and the base flood elevation (100-year) ranges from 649 to 651 feet; therefore, the floodwall would be approximately 5 to 7 feet above the existing ground. A supporting levee would be constructed on the south side of the wall to buttress the wall and provide an area on which to install screening landscape.
3. A series of low earthen levees and modular block floodwalls would be constructed to provide protection from the 100-year flood for homes along Union Avenue north of 28th Street. These flood control structures would be constructed along the creek to protect residential structures, most of which have walkout basements, and would be tied into each other or into existing high ground. The type of flood protection structure to be built (low earthen levee or modular block floodwall) would depend on homeowner preference along this reach. The existing ground elevation ranges from approximately 651 to 652.5 feet in the vicinity of the proposed levees/floodwalls, and the base flood elevation in this area ranges from approximately 652.8 to 653.3 feet. Therefore, the levees/floodwalls would be approximately 2 to 3.5 feet above the existing ground.
4. An existing diversion channel, located on the southwest side of Plaster Creek north of 28th Street behind the homes along Union Avenue, would be cleared of vegetation to increase the conveyance of the channel to approximately three times its current capacity. The diversion channel is approximately 22 feet wide with a 14-foot wide channel bottom. It is approximately 1 foot deep with 4:1 sloped sides. Flow is diverted into the channel when flood heights on Plaster Creek reach the elevation of the diversion channel. The diversion channel has become overgrown with shrubs and small trees, impeding the flow of floodwaters through the channel. The current flow rate for channel is approximately 14 cubic feet per second. After clearing the vegetation, the flow rate would be approximately 46 cubic feet per second.

A request was sent to you in 2001 for a review to determine if this undertaking would affect historic or archaeological resources protected, or proposed for protection, under the NHPA. Upon conclusion of your review, you responded with a letter dated October 4, 2001 (attached), stating that based on available information, no historic properties would be



Ms. Martha MacFarlane-Faes  
Michigan State Historic Preservation Office  
April 18, 2005  
Page 3

affected within the area of potential effects for this undertaking. As we are aware that your data is frequently updated, we are requesting that you kindly provide an updated review of this project using the project description above and attached figures. Your prompt response would be greatly appreciated and may be submitted to the letterhead address.

If you have any questions or comments regarding this project, please do not hesitate to contact me by phone at (301) 670-5473, or by fax at (301) 869-8728. Thank you in advance for your attention to this matter.

Sincerely,

**URS Group, Inc.**

A handwritten signature in cursive script that reads 'Kimberly Collini'.

Kimberly Collini  
Environmental Scientist

cc: Ms. Jeanne Millin, FEMA Region V

Attachments



# Telephone Conversation Record

Date:	June 7, 2005	Time:	2:30p.m.
Project:	FEMA Plaster Creek Flood Mitigation Project		
To: _____ From: <u>X</u>	Brian Grennell, Michigan State Historic Preservation Office		
	Telephone <b>517.335.2721</b>	Location <b>Lansing, MI</b>	
Recorded By:	Kim Collini	<b>URS CORPORATION</b>	
SUBJECT:	<b>SHPO Consultation</b>		

## Record (Pertinent Facts & Data):

Mr. Grennell called in response to a coordination letter sent to his office by URS, dated April 18, 2005. The letter requested that the Michigan State Historic Preservation Officer (SHPO) re-review the Plaster Creek flood mitigation project because approximately three and a half years have passed since the SHPO's initial review of the project. In their initial review, the SHPO determined that the proposed project would have no effect on historic properties in the area of potential effects.

Mr. Grennell informed me that in order for his office to re-review the project, FEMA would need to submit the Michigan SHPO's Section 106 application, which would require additional maps, photos, and information on historic properties in the project area. Mr. Grennell suggested that, since probably not much has changed since the SHPO's initial review, FEMA consider whether it is necessary for the SHPO to re-review this project.

I informed Mr. Grennell that I would pass his comments on to FEMA and have them make a decision on whether it is necessary for the SHPO to reevaluate the project. If FEMA decides that it would like the SHPO to reevaluate the project, the Michigan Section 106 application and instructions can be found at [www.michigan.gov/shpo](http://www.michigan.gov/shpo).

**Michigan Department of Natural Resources**

STATE OF MICHIGAN  
DEPARTMENT OF STATE POLICE

DATE: August 29, 2001

TO: Lori Sargent  
Wildlife Division  
Michigan Department of Natural Resources

FROM: *MS*  
Matt Schnepf, Assistant State Hazard Mitigation Officer  
Emergency Management Division

SUBJECT: Environmental Review for 1346-DR-MI Hazard Mitigation Grant Program Project

The Hazard Mitigation Grant Program (HMGP) provides funding for measures designed to reduce or eliminate future disaster damage and disaster relief expenditures. Appropriate State and Federal Agencies must review projects proposed under the HMGP for compliance with the National Environmental Policy Act (NEPA) and other applicable Federal and State environmental laws. The Michigan Department of Natural Resources, Wildlife Division has been identified as an appropriate review agency for the following proposed project (project information attached):

Application number A1346.68 is for the City of Grand Rapids. The project is to do the following:

- 1) Increase an existing embankment or floodwall to one foot above the 100-year flood elevation for a distance of about 1500 feet along the south side of Plaster Creek between Division Avenue and Madison Avenue.
- 2) Construct a 700 foot embankment/floodwall east of Madison Avenue and north of Rosemary Street.
- 3) Construct 650 feet of embankment/floodwall North of 28<sup>th</sup> Street and west of Union Avenue.
- 4) Excavate a floodway channel bypass to minimize backwater effects near union Street.
- 5) Install an emergency pump station at the outfall to plaster Creek near the intersection of Ken-O-Sha Drive and Jefferson Avenue. The project will be located in Kent County, City of Grand Rapids, (T.6N - R.11W), Section 7.

Pursuant to the Federal Endangered Species Act, the Natural Heritage Program and other applicable laws, please review the attached project proposal to determine if it would impact rare, threatened, endangered or otherwise significant plant and animal species, natural plant communities, or critical habitat. Upon conclusion of your review, please send a memorandum indicating your findings to me at the following address:

MI Department of State Police  
Emergency Management Division  
Attn: Matt Schnepf  
4000 Collins Road  
P.O. Box 30636  
Lansing, MI 48909-8136

If you have questions regarding this matter, please contact me at 336-2040, facsimile 333-4987.

Your prompt attention to this request is greatly appreciated!

**NATURAL RESOURCES  
COMMISSION**

KEITH J. CHARTERS, Chair  
JIM CAMPBELL  
NANCY A. DOUGLAS  
PAUL EISELE  
BOB GARNER  
WILLIAM U. PARFET  
FRANK WHEATLAKE

STATE OF MICHIGAN



JOHN ENGLER, Governor

**DEPARTMENT OF NATURAL RESOURCES**

STEVENS T MASON BUILDING, PO BOX 30028, LANSING MI 48909-7528

WEBSITE: [www.michigandnr.com](http://www.michigandnr.com)

K. L. COOL, Director

REPLY TO:

NATURAL HERITAGE  
WILDLIFE DIVISION  
PO BOX 30180  
LANSING MI 48909-7680

October 5, 2001

TO: Matthew Schnepf, Emergency Management Division  
Department of State Police

FROM: Lori G. Sargent, Endangered Species Specialist, Wildlife Division

SUBJECT: Environmental Review for 1346-DR-MI Hazard Mitigation Grant Program Project  
Application No. A1346.68 – City of Grand Rapids

The location of the proposed project was checked against known localities for natural features. Unique natural features are recorded in a statewide database. This continuously updated database is a comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features at a site. The absence of records in the database for a particular site may mean that the site has not been surveyed. Records are not always up-to-date, and may require verification. In some cases, the only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

Under Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection, "a person shall not take, possess, transport, ...fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an Endangered Species Permit from the Department of Natural Resources, Wildlife Division. *Responsibility to protect endangered and threatened species is not limited to the list below. Other species may be present that have not been recorded in the database.*

The presence of threatened or endangered species does not preclude activities or development, but may require alterations in the project plan. Special concern species are not protected under endangered species legislation, but recommendations regarding their protection may be provided. Protection of special concern species will help prevent them from declining to the point of being listed as threatened or endangered in the future.

If the project is located on or adjacent to wetlands, inland lakes, or streams, additional permits may be required. Contact the Michigan Department of Environmental Quality, Land and Water Management Division, P.O. Box 30473, Lansing, MI 48909 (517-373-1170).

The following is a summary of the results for the project in Kent County, T6N R11W section 7:

The project should have no impact on rare or unique natural features at the location specified above if it proceeds according to the plans provided. Please contact me for an evaluation if the project plans are changed.

Thank you for your advance coordination in addressing the protection of Michigan's natural resource heritage. If you have further questions, please call me at 517-373-1263.

*Lori G. Sargent*



April 18, 2005

Ms. Lori Sargent  
Michigan Department of Natural Resources  
Natural Heritage Wildlife Division  
P.O. Box 30444  
Lansing, Michigan 48909-7944

**Subject:** Environmental Review for 1346-DR-MI  
FEMA Application Number A1346.68, Hazard Mitigation Grant Program  
Plaster Creek Flood Protection Project  
City of Grand Rapids, Kent County, Michigan

Dear Ms. Sargent:

The Hazard Mitigation Grant Program (HMGP) provides funding for measures designed to reduce or eliminate future disaster damage and disaster relief expenditures. Appropriate State and Federal agencies are required to review projects proposed under the HMGP for compliance with the National Environmental Policy Act (NEPA) and other applicable State and Federal environmental laws under this program. The State of Michigan Department of Natural Resources has been identified as an appropriate review agency for the following proposed project.

The project being proposed is in the City of Grand Rapids, Kent County, Michigan (T6N, R11W, Section 7). Figures showing the project area and the proposed action are enclosed (Figures 1a, 1b, 2, and 3). The project consists of the following four measures designed to protect residential structures from flooding:

1. An existing earthen levee located on the south side of Plaster Creek that ties into existing embankments at Division Avenue and Madison Avenue would be raised to at least 1 foot above the 100-year flood elevation for its entire length of approximately 1,500 feet. This would require increases in the current height of the levee by approximately 1 to 3 feet at various locations along its length. The levee would be raised using earthen material and augmented by modular block walls for stability where required. A pump station would be constructed in this area to pump stormwater (or interior drainage) over the bank and into Plaster Creek during flood events. The pump station would be needed because the flap gate on the existing stormwater outlet to the creek remains closed during flood conditions on Plaster Creek.



Ms. Lori Sargent  
Michigan Department of Natural Resources  
April 18, 2005  
Page 2

2. A 700-foot long steel sheet pile floodwall would be constructed on the south side of Plaster Creek north of Rosemary Street and east of Madison Avenue. The floodwall would be constructed to contain the 100-year flood and would extend at least 1 foot above the 100-year flood elevation along its length to provide freeboard requirements. The existing ground elevation is approximately 644 feet at the location of the proposed levee and the base flood elevation (100-year) ranges from 649 to 651 feet; therefore, the floodwall would be approximately 5 to 7 feet above the existing ground. A supporting levee would be constructed on the south side of the wall to buttress the wall and provide an area on which to install screening landscape.
3. A series of low earthen levees and modular block floodwalls would be constructed to provide protection from the 100-year flood for homes along Union Avenue north of 28th Street. These flood control structures would be constructed along the creek to protect residential structures, most of which have walkout basements, and would be tied into each other or into existing high ground. The type of flood protection structure to be built (low earthen levee or modular block floodwall) would depend on homeowner preference along this reach. The existing ground elevation ranges from approximately 651 to 652.5 feet in the vicinity of the proposed levees/floodwalls, and the base flood elevation in this area ranges from approximately 652.8 to 653.3 feet. Therefore, the levees/floodwalls would be approximately 2 to 3.5 feet above the existing ground.
4. An existing diversion channel, located on the southwest side of Plaster Creek north of 28th Street behind the homes along Union Avenue, would be cleared of vegetation to increase the conveyance of the channel to approximately three times its current capacity. The diversion channel is approximately 22 feet wide with a 14-foot wide channel bottom. It is approximately 1 foot deep with 4:1 sloped sides. Flow is diverted into the channel when flood heights on Plaster Creek reach the elevation of the diversion channel. The diversion channel has become overgrown with shrubs and small trees, impeding the flow of floodwaters through the channel. The current flow rate for channel is approximately 14 cubic feet per second. After clearing the vegetation, the flow rate would be approximately 46 cubic feet per second.

A request was sent to you in 2001 for a review to determine if this project would impact rare, threatened, or endangered flora or fauna, or designated critical habitat, pursuant to the Endangered Species Act, the Natural Heritage Program, and other applicable laws. Upon conclusion of your review, you responded with a letter dated October 5, 2001 (attached),



Ms. Lori Sargent  
Michigan Department of Natural Resources  
April 18, 2005  
Page 3

stating that based on available information, the project would have no impact on rare or unique natural features in the project area. As we are aware that your data is frequently updated, we are requesting that you kindly provide an updated review of this project using the project description above and attached figures. Your prompt response would be greatly appreciated and may be submitted to the letterhead address.

If you have any questions or comments regarding this project, please do not hesitate to contact me by phone at (301) 670-5473, or by fax at (301) 869-8728. Thank you in advance for your attention to this matter.

Sincerely,

**URS Group, Inc.**

A handwritten signature in cursive script that reads 'Kimberly Collini'.

Kimberly Collini  
Environmental Scientist

cc: Ms. Jeanne Millin, FEMA Region V

Attachments



STATE OF MICHIGAN

DEPARTMENT OF NATURAL RESOURCES  
LANSING

JENNIFER M. GRANHOLM  
GOVERNOR

REBECCA A. HUMPHRIES  
DIRECTOR

May 24, 2005

Ms. Kimberley Collini  
URS Corporation  
200 Orchard Ridge Drive, Suite 101  
Gaithersburg, MD 20878-1978

**RE: Plaster Creek Flood Protection Project**

Dear Ms. Collini:

The location of the proposed project was checked against known localities for rare species and unique natural features, which are recorded in a statewide database. This continuously updated database is a comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features at a site. The absence of records in the database for a particular site may mean that the site has not been surveyed. Records are not always up-to-date, and may require verification. In some cases, the only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

Under Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection, "a person shall not take, possess, transport, ...fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an Endangered Species Permit from the Department of Natural Resources, Wildlife Division. *Responsibility to protect endangered and threatened species is not limited to the list below. Other species may be present that have not been recorded in the database.*

The presence of threatened or endangered species does not preclude activities or development, but may require alterations in the project plan. Special concern species are not protected under endangered species legislation, but recommendations regarding their protection may be provided. Protection of special concern species will help prevent them from declining to the point of being listed as threatened or endangered in the future.

The following is a summary of the results for the project in Kent County, Section 7, T6N R11W :

The project should have no impact on rare or unique natural features at the location specified above if it proceeds according to the plans provided. Please contact me for an evaluation if the project plans are changed.

Thank you in advance for your coordination in addressing the protection of Michigan's natural resource heritage. Responses and correspondence can be sent to: Michigan Department of Natural Resources, Wildlife Division – Natural Heritage Program, PO Box 30180, Lansing, MI 48909. If you have further questions, please call me at 517-373-1263.

Sincerely,

Lori G. Sargent  
Endangered Species Specialist  
Wildlife Division

**Michigan Department of Environmental Quality**

STATE OF MICHIGAN



JOHN ENGLER, Governor

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: [www.deq.state.mi.us](http://www.deq.state.mi.us)

RUSSELL J. HARDING, Director

REPLY TO:

LAND & WATER MANAGEMENT DIVISION  
PO BOX 30458  
LANSING MI 48909-7958

October 1, 2001

TO: Matt Schnepf, HMGP Assistant Grants Manager  
Emergency Management Division  
Michigan Department of State Police

FROM: Bruce Menerey, P.E., Hydrologic Studies Unit  
Land and Water Management Division  
517-335-3181

SUBJECT: Environmental Review for 1346-DR-MI Hazard Mitigation Project  
Project A 1346.68 – City of Grand Rapids, Kent County



This is in follow-up to your memo of August 29, 2001, requesting environmental review comments from the Land and Water Management Division relating to the City of Grand Rapids' proposal seeking funding under the Hazard Mitigation Grant Program. The project is to raise the elevation of an existing floodwall to one foot above the 100-year flood elevation for a distance of approximately 1500 feet along the south side of Plaster Creek; construct a 700-foot floodwall east of Madison Avenue and north of Rosemary Street; construct a 650-foot floodwall north of 28<sup>th</sup> Street and west of Union Street; excavate a floodway bypass near Union Street; and install an emergency pump station, including an outfall to Plaster Creek.

Based on the project description, a permit will be required from the Department of Environmental Quality (DEQ).

Under Part 301, Inland Lakes and Streams, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), a permit is required for the floodwalls, construction of the pump station and outfall, as well as the bypass, or if any work falls below the ordinary high-water mark. Applications can be made to our Permit Consolidation Unit. A stream is defined in Part 301 as a body of water that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water.

The proposed project is located within a federally identified flood hazard area (A4) on panel 25C. The site will require a permit under the State's Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the NREPA.

A cursory review of the wetlands and soils maps indicates that wetlands may exist in the vicinity of the project. We will also review the project under Part 303, Wetlands Protection, of the NREPA.

Matt Schnepf  
Page 2  
October 1, 2001

If there are any questions on the wetland or inland lakes and streams permit requirements, please contact Chuck Dodgers in our Grand Rapids District Office at 616-356-0258. Should you have any questions or require additional information, please feel free to contact me.

BEM:JG:CG

cc: Chuck Dodgers, DEQ

# MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY PERMIT

City of Grand Rapids  
Attn: Rick DeVries PE  
300 Monroe Avenue NW - 5th Floor  
Grand Rapids, MI 49503

Permit No. 07-41-0150-P  
Issued: November 3, 2005  
Extended  
Revised  
Expires: December 31, 2007

Under the provisions of the Natural Resources and Environmental Protection Act 451, PA 1994, as amended and specifically:

- Part 301 Inland Lakes and Streams
- Part 315 Dam Safety
- Part 325 Great Lakes Submerged Lands
- Part 323 Shorelands Protection and Management
- Part 303 Wetland Protection
- Part 353 Sand Dune Protection and Management
- Part 31 Floodplain/Water Resources Protection

Permission is hereby granted, based on permittee assurance of adherence to State requirements and permit conditions to:

Permitted Activity: Construct a pedestrian pathway within the 100-year floodplain and floodway of Plaster Creek. Construct a 764-foot long steel sheetpile wall and a 270-foot long modular block wall within the 100-year floodplain and floodway of Plaster Creek. All construction shall be completed in accordance with the attached plans.

**Water Course Affected:** Plaster Creek

**Property Location:** Kent County, City of Grand Rapids, Section 7

**Subdivision, Lot**                      **Town/Range** 6N, 11W **Property Tax No.**

**Authority granted by this permit is subject to the following limitations:**

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee in exercising the authority granted by this permit shall not cause unlawful pollution as defined by Part 31, Floodplain/Water Resources Protection of the Natural Resources and Environmental Protection Act 451, PA 1994, as amended.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the plans and the specifications attached hereto.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with Act 53 of the Public Act of 1974 and comply with each of the requirements of that act.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify the Department of Environmental Quality within one week after the completion of the activity authorized by this permit, by completing and forwarding the attached, preaddressed post card to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the Department of Environmental Quality.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific State Act, Federal Act and/or Rule under which this permit is granted.
- L. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

City of Grand Rapids

In issuing this permit, the Department of Environmental Quality has relied upon the information and data which permittee has provided in connection with the permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete, or inaccurate, the Department may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.

The property owner, contractor, and any agent in obtaining this permit are held responsible to ensure the project is constructed in accordance with all drawings and specifications contained in this permit.

The proposed fill is located in a mapped portion of a department approved flood delineation report as identified by administrative rule R 323.1314. If the fill is located in a mapped floodway, a conditional letter of map revision based on fill (LOMR-F) must be received from the federal emergency management agency (FEMA) prior to placement of the fill. A LOMR-F must be applied for within 30 days of project completion. The requirements found in Section 65.6(a) of the FEMA's 44CFR Part 65 must be followed. Under this revision process, the local community must determine that the land and any existing or proposed structures are "reasonably safe from flooding." The professional engineer shall utilize the FEMA's Technical Bulletin 10-01 to ensure that structures built on fill in the 100-year floodplain are reasonably safe from flooding. This bulletin can be obtained at [www.fema.gov/mit/techbul.htm](http://www.fema.gov/mit/techbul.htm). The community must keep a record of all analyses and documentation used to make that determination. The community may require that the property owner's professional engineer provide this determination. The community shall assure that a LOMR-F has been obtained prior to issuance of a local building permit.

The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representatives of the permittee, undertaken in connection with this permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.

Steven E. Chester, Director  
Department of Environmental Quality

By Matthew Occhipinti  
Matthew Occhipinti, P.E.  
District Floodplain Engineer  
Land and Water Management Division

cc: Kent CEA  
City of Grand Rapids  
Dan Fredericks, FTCH



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING

Rec'd 8/25/03



STEVEN E. CHESTER  
DIRECTOR

August 13, 2003

Mr. Brian Vilmont  
Fishbeck, Thompson, Carr, and Huber  
1515 Arboretum Drive, SE  
Grand Rapids, Michigan 49546

Dear Mr. Vilmont:

SUBJECT: Hydraulic Review Comments, Plaster Creek Floodplain Mitigation,  
City of Grand Rapids, Kent County, Michigan  
HMGP Project 1346.68

This is in follow-up to our review of the hydraulic analysis submitted by URS/  
Greenhorne & O'Mara for Plaster Creek in the City of Grand Rapids. The analysis was  
prepared as support for a proposed Flood Hazard Mitigation Project within the City of  
Grand Rapids. The purpose of the project is to construct a floodwall adjacent to  
Plaster Creek, to alleviate existing flooding problems. Based upon our review, we have  
several specific comments related to the hydraulic analysis and several general comments  
related to the project.

In regard to the proposed conditions, hydraulic analysis:

**1. Ineffective flow areas - Downstream of Cross section AM  
(River Station 18419)**

The analysis considers the proposed levee eliminating flow area in the left overbank  
upstream of cross section AM. It is suggested that the proposed condition model be  
modified to incorporate ineffective flow areas for the interpolated cross sections  
downstream of cross section AM, as well. The construction of the levee will result in  
a large portion of the left overbank downstream of AM being ineffective.

**2. Ineffective flow areas - Cross section AQ (River Station 21237)**

The construction of a levee in between cross sections AP and AQ will result in a  
portion of the left overbank of cross section AQ being ineffective. It is suggested that  
ineffective flow areas be added at cross section AQ and the interpolated cross  
sections in the vicinity of AQ. The attached sketch shows the approximate limits of  
the ineffective flow areas.

**3. "n" values - Cross sections AR to AS**

The existing technical support data in the vicinity of these cross sections uses an "n"  
value of 0.12 in the overbanks, while the models submitted have used an "n" value of  
0.2. We ask that the "n" values be reviewed. The proposed analysis has redefined  
the channel limits at River Stations 22297 (cross section AR) and 22557; which in  
effect has reduced the roughness coefficients in the left overbank from 0.2 to 0.075  
for a distance of about 75 feet into the overbank. This adjustment results in the

Mr. Brian Vilmont  
Page 2  
August 13, 2003

proposed conditions showing an improvement. If the "n" value will be reduced as a result of the project, we will require a maintenance agreement which states that this area will be maintained in the improved condition. Without a maintenance agreement, the existing and proposed "n" values in the models should remain the same.

The following general comments are provided relating to the project:

#### **4. Floodplain storage volumes**

The construction of the levees will eliminate floodplain storage and potentially increase flood discharge and elevations. Our office will require either the creation of compensating flood storage in the vicinity of the project, or an analysis which demonstrates that this project will not harmfully increase flood discharges or flood elevations.

If the analysis option is chosen, the unsteady state capabilities of HEC-RAS may be used to demonstrate the effects of the floodplain storage reduction. Once the adjustments noted above are made to the proposed conditions model, the unsteady state analysis can be made to compare current and proposed flood discharges and stages. The 10-, 50-, and 100-year flood hydrographs to be used in the analysis can be requested from our office using the online request form found at: <http://www.deq.state.mi.us/eforms/qrecform.shtml>. Be sure to indicate on the form that you need the flood hydrographs.

If it is found that the reduction in storage caused by the project will increase downstream discharges and/or stages, we will require either compensating excavation or project modification to eliminate the increase.

#### **5. Flood elevation increases**

The analysis submitted indicates that the project will result in flood elevations being increased between Division Street and 28<sup>th</sup> Street. The proposed condition model, which incorporates our comments, is to be used to define the increase and the extent of the increase caused by the project. We will require that all affected property owners be notified of the potential increase in flood stages.

The enclosed Damage Assessment Guidelines includes a sample letter to be sent to the affected property owners. The letter may have to be modified to meet your specific case, but it should essentially notify the property owner and solicit input on the proposed increase. The property owners' response will be used in determining if the proposed increase in flood stage can be permitted under the State's Floodplain Regulatory Authority, found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

Mr. Brian Vilmont  
Page 3  
August 13, 2003

**6. Permit Application**

We will require a permit application, detailed plans, and a \$2000 application fee. As a part of the permit process, the project will be public noticed, and adjacent property owners will be notified.

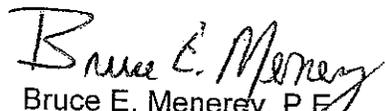
**7. Letter of Map Revision**

Since the project will result in a revision to the floodway delineation and the effective base flood elevation, it will be necessary to obtain a Letter of Map Revision (LOMR) from the Federal Emergency Management Agency (FEMA).

If one of the purposes of the project is to eliminate the flood insurance purchase requirements for the protected area, it will be necessary to meet the FEMA's criteria for a levee exemption found in 44 CFR 65.10. Among the requirements is that a levee must have a minimum freeboard elevation of 3 feet above the base flood (100-year) elevation. From the information that has been submitted, the current proposal does meet the FEMA's minimum freeboard requirement.

We ask that these comments be reviewed. Should you have any questions on the State floodplain permit requirements, please contact Mr. Matthew Occhipinti in our Grand Rapids District Office at 616-365-0207. If you have any other questions or if I can be of further assistance, please feel free to contact me.

Sincerely,



Bruce E. Meneray, P.E.  
Hydrologic Studies Unit  
Geological and Land Management Division  
517-335-3181

Enclosures: Damage Assessment Guidelines, map

cc: Mr. Randel J. Lemoine, City of Grand Rapids  
Mr. Kevin Donnelly, Greenhorne & O'Mara  
Mr. Don Glondys, URS Group  
Mr. Matt Schnepf, Emergency Management Agency, Michigan State Police  
Mr. Matthew Occhipinti, MDEQ, GLMD, Grand Rapids

**Appendix D**  
**Public Notice**

**Federal Emergency Management Agency  
PUBLIC NOTICE**

**Notice of Availability of the Draft Environmental Assessment  
for the Plaster Creek Flood Mitigation Project, Grand Rapids, Michigan**

**FEMA DR-1346-MI**

Interested persons are hereby notified that the Federal Emergency Management Agency (FEMA) is proposing to assist in the funding of flood mitigation measures along Plaster Creek in the City of Grand Rapids, Kent County, Michigan. In accordance with the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations of FEMA, an Environmental Assessment (EA) is being prepared to assess the potential impacts of the proposed action on the human and natural environment. This also provides public notice to invite public comments on the proposed project in accordance with Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands. In addition, this notice and the draft EA provide information to the public on potential impacts to historic and cultural resources from the proposed undertaking, as outlined in the National Historic Preservation Act of 1966.

The alternatives to be evaluated include (1) No Action; (2) Improvements/Additions to Flood Control Structures (Proposed Action), which would involve measures designed to protect residential structures from floodwaters including: raising an existing earthen levee along the south side of Plaster Creek; installing a pump station behind the levee for interior drainage; constructing a 700-foot long steel sheet pile floodwall on the south side of Plaster Creek; constructing a series of low earthen levees and modular block floodwalls along Plaster Creek; and clearing vegetation from an existing diversion channel to restore conveyance capacity; (3) Acquisition and Relocation/Demolition, which would involve acquisition of homes within the Plaster Creek floodplain and demolition of the homes or relocation outside of the 100-year floodplain

The draft EA is available for review between April 17 to May 17, 2006, at the Grand Rapids City Clerk's Office, 300 Monroe NW, Grand Rapids, Michigan, and the Grand Rapids Public Library, 111 Library Street NE, Grand Rapids, Michigan, during normal business hours. The draft EA is also available for review online at the FEMA website [http://www.fema.gov/plan/ehp/Env\\_assessments/EA\\_RegV](http://www.fema.gov/plan/ehp/Env_assessments/EA_RegV).

Written comments regarding this environmental action should be received no later than 5 p.m. on May 17, 2006, by Jeanne Millin, Regional Environmental Officer, 536 Clark Street, 6<sup>th</sup> Floor, Chicago, IL 60605-1521, or at [Jeanne.Millin@fema.gov](mailto:Jeanne.Millin@fema.gov).

If no comments are received by the above deadline, the draft EA will be considered final and a Finding of No Significant Impact will be published by FEMA.

**Appendix E**  
**Public Comments**

To be completed at the conclusion of public comment period.

**Appendix F**  
**City of Grand Rapids Channel Maintenance Agreement**

RECEIVED

MAR 06 2003

EXECUTIVE  
OFFICE



## CITY OF GRAND RAPIDS

March 2, 2006

Ms. Jeanne Millin  
Regional Environmental Officer  
FEMA Region V  
536 South Clark Street, 6<sup>th</sup> Floor  
Chicago, IL 60605

Subject: Hydraulic Review Comments, Plaster Creek Flood Mitigation  
City of Grand Rapids, Kent County, Michigan  
HMGP Project 1346.68

Dear Ms. Millin;

In regards to your concerns outlined in the Michigan Department of Environmental Quality letter of August 13, 2003, and the recent request by FEMA to address the maintenance of the proposed overflow channel, I can assure you that, as one of the standard operating procedures, the maintenance mowing of the overflow channel will be mandated.

Under Title VI, Section 1 and Section 9 of the City Charter, the repair and maintenance of flood protection is included as one of the charges under the supervision and control of the City Manager. (See attached excerpt.)

The list of standard operating procedures shall be coordinated with our existing program for inspection of flood protection measures. I have attached a copy of the standard operating procedures for the Plaster Creek Trail and floodwall embankment.

I hope this answers any concerns FEMA may have for the project's continued maintenance. If you have additional questions, feel free to contact Jay Steffens at 616-456-4234, or Gary Slykhouse at 616-456-3073.

Sincerely,

Kurt Kimball  
City Manager

KK/GS/rw

cc: Jay Steffen  
Rick DeVries  
Gary Slykhouse  
Matt Schnepf

MAYOR: GEORGE K. HEARTWELL

CITY MANAGER: KURT F. KIMBALL

## TITLE VI. APPOINTIVE OFFICERS AND EMPLOYEES

**87. City Manager.** Sec. 1.(a). The City Manager shall have charge of the administration of municipal affairs under the direction and supervision of the City Commission.

**Enforcement of Laws.** (b). He shall see that all laws and ordinances are enforced.

**Heads of Departments.** (c). He shall appoint and have the right to remove the following officers, viz:

- (1) Director of Public Service, who shall have charge of the Department of Public Service;
- (2) Director of Public Welfare, who shall have charge of the Department of Public Welfare;
- (3) Purchasing Agent, who shall have charge of the Purchasing Department;
- (4) (Amended February 21, 1949.) City Assessor, who shall have charge of the Taxation Department; Provided, however, the appointment and removal of the City Assessor shall be subject to the approval of the City Commission.

**Subordinate Officers and Employees.** (d). Except as herein otherwise provided, he shall appoint and may remove all subordinate officers and employees of the City. All such appointments shall be upon merit and fitness only, and in compliance with the classified civil service provisions of the Charter.

**Enforcement of Franchise Provisions.** (e). He shall see that all terms and conditions imposed in favor of the City, or its inhabitants, in any public utility franchise are faithfully kept and performed;

**Other Duties.** (f). He shall perform all other duties prescribed for him by this Charter, by ordinance, and by the City Commission;

(g). He shall be ex-officio Director of Public Safety and perform all the duties and be vested with all the authority herein by this Charter granted to such office.

**95. Director of Public Service.** Sec. 9. (a). Subject to the supervision and control of the City Manager in all matters, the Director of Public Service shall establish and maintain all grade lines subject to the approval of the City Commission and have charge of the making and preservation of all surveys, maps, plans, drawing and estimates of all public works, except as in this Charter otherwise provided.

**Cleaning--Sprinkling--Lighting--Garbage Disposal.** (b). He shall have charge of the cleaning, sprinkling, and lighting of streets and public places, the collection and disposal of garbage and refuse and the preservation of contracts, papers, plans, tools and appliances belonging to the City and pertaining to the Department of Public Service.

**Street Improvements--Sewers--Flood Protection--Comfort Stations, etc.** (c). He shall manage and have charge of the construction, improvements, repair and maintenance of streets, sidewalks, alleys, bridges, viaducts and other public highways; of sewers, drains, ditches, culverts, canals, streams and water courses; of sewage disposal systems and flood protection; of comfort stations and all public buildings and works except as otherwise provided by law or this Charter; of boulevards, squares and other public places and grounds belonging to the City, or dedicated to public use, except parks, cemeteries and playgrounds.

**Water Works--Lighting Plant--City Market, etc.** (d). He shall have charge of and supervise the construction, improvement, repair and maintenance of water works property and service; the electric lighting property and service; the city market property and service, and any other public utility which the City may now own or hereafter acquire except as otherwise in this Charter provided.

## **Standard Operating Procedure for Plaster Creek Trail and Embankment**

Annually and after each significant flooding or rainfall event:

1. Environmental Services Protection Department (EPSD) shall inspect berms for erosion, settlement, cracking, slippage and seepage.
2. EPSD shall inspect sheet piling for corrosion, bending, vertical integrity, settlement, excess moisture retention and seepage.
3. EPSD shall inspect rip-rap for scour, settlement, seepage, integrity, seepage of fines, and slippage.
4. EPSD shall exercise and maintain pump station.
5. EPSD shall inspect flap gate and outlet structures for debris and free and clear operability.
6. Parks and recreation department superintendent shall inspect overflow channel limits for excess growth and mow annually in the fall season.
7. Public works department director shall remove any fallen trees and large debris from overflow channel and creek bed area.
8. EPSD shall inspect outlets and drains to pump station for debris, sediment, and integrity.