



IN REPLY REFER TO:

FWS/R3/ABA-CAD  
30181AJ278

United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Bishop Henry Whipple Federal Building  
1 Federal Drive  
Fort Snelling, MN 55111-4056

August 23, 2010

City of Rochester Hills  
Attn: Mayor Bryan Barnett  
1000 Rochester Hills Drive  
Rochester Hills, MI 48309

Dear Mayor Barnett:

We are pleased to be able to offer the enclosed Cooperative Agreement No. 30181AJ278 to provide Federal assistance to Recipient to restore stream meanders in Avon Creek to reduce sediments entering the stream, restore fish habitat, and reduce water temperatures on non-federal waters/lands located in Rochester Hills, Michigan

This document has been sent in duplicate original format for acceptance through the counter-signature of an authorized individual. To accept its terms, please ensure that both originals are signed. Retain one original set for your records and promptly return the other to me at the address listed above.

Contact me at (612) 713-5193 if you have any questions about this documentation. Other questions should be directed to the Service Project Officer, Andrea Ania at (989) 356-5102 ext. 1020.

Sincerely,

Daniel D. Lovdahl  
Grants Management Specialist

**FOR FWS USE ONLY**  
DCN: 30181AJ278  
AR: 31330-A-A057  
Federal: \$135,000.00 (FY10)  
Account 31330-1913-3GT1  
Matching Recipient Funds: \$178,000.00  
ABC: W4 BOC: 411C  
CFDA No. 15.608 FAADS Type: 02

**COOPERATIVE AGREEMENT  
No. 30181AJ278  
BETWEEN THE  
U.S. FISH AND WILDLIFE SERVICE  
AND THE  
CITY OF ROCHESTER HILLS**

**I. RECIPIENT:**

City of Rochester Hills	EIN: 386006880
1000 Rochester Hills Drive	DUNS: 088758396
Rochester Hills, MI 48309	Phone: (248) 656-4600

**II. STATUTORY ENABLING AUTHORITY:**

This Cooperative Agreement between the U. S. Fish and Wildlife Service (hereinafter referred to as the "Service" or "FWS") and the City of Rochester Hills (hereinafter referred to as the "Recipient") is entered into under general authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661), the Fish and Wildlife Act (16 U.S.C. 742a), and the Fish and Wildlife Conservation Act (16 U.S.C. 2901), Nonindigenous Aquatic Nuisance Prevention and Control Act (16 U.S.C. 4701) and Great Lakes Fish and Wildlife Restoration Act as amended 1998 (16 U.S.C. 941).

**III. APPROPRIATION AUTHORITY & AWARD AMOUNT:**

Contingent upon execution by authorized representatives of the parties hereto, this Cooperative Agreement shall serve as the official obligating instrument for transfer to the Recipient of up to \$135,000.00 in federal Fiscal Year 2010 (FY10) funds from Service account 31330-1913-3GT1, to be used only for the purposes authorized within this agreement. These funds have been appropriated to the Environmental Protection Agency (EPA) under the Department of the Interior, Environment, and Related Agencies Appropriations Act of 2010 (Public Law 111-88), and made available to the Service through Interagency Agreement (IA) DW-14-95775301-0 of 2/5/2010, DW-14-95775301-1 of 2/26/2010, and as further amended.

#### IV. PURPOSE:

This federal assistance is being provided to help the Recipient restore stream meanders in Avon Creek to reduce sediments entering the stream, restore fish habitat, and reduce water temperatures on non-federal waters/lands located in Rochester Hills, Michigan. To accomplish this goal, the Recipient intends to replace stream meanders in an 825 ft linear stretch of Avon Creek, restore 0.1 acres of vernal pools and 0.5 acres of pond, and create 1.0 acre of riparian wetland. These actions will help conserve and protect aquatic species native to the area, not only for their benefit but also for the general public good to be derived from such conservation. This agreement is part of the Great Lakes Restoration Initiative (GLRI) that has identified five principal areas on which to focus efforts.

1. Toxic substances and areas of concern:  
The USFWS, in collaboration with EPA, USACE, and NOAA will directly support remedial action plans and guide specific strategies and actions necessary to advance area of concern (AOCs) toward delisting. To preserve associated aquatic habitats and support implementation of on-the-ground habitat restoration, USFWS will assist in optimizing the design of sediment remediation projects under the Great Lakes Legacy Act. In collaboration with USGS, State and local partners, USFWS will implement an early warning program for emerging Great Lakes contaminants in near shore and tributary areas.
2. Invasive species:  
The USFWS will coordinate with USCG, EPA, and DOT-MARAD on the development of ballast water treatment systems for freshwater ecosystems, including permitting requirements and the verification of treatment technologies. USFWS will establish grant programs for: aquatic invasive species risk assessment, prioritization of integrated pest management methods and new control technologies, and outreach and education. USFWS will also support the development and on-the-ground implementation of state Aquatic Nuisance Species Management Plans and increase oversight of live organism trade in enforcement of the Lacey Act. USFWS will coordinate with EPA, NOAA, and USGS to develop a coordinated monitoring program in high-risk harbors to support the early detection of and rapid response to newly-detected invasive species.
3. Near-shore health and runoff: The Service will not focus on this area.
4. Habitat and wildlife protection and restoration:  
The USFWS will deliver partnership-based on-the-ground habitat restoration to reconnect aquatic habitats, reduce sediment and nutrient inputs, restore natural hydrologic regimes, improve water quality and increase populations of listed and depleted native Great Lakes fish and wildlife populations such as: lake trout, brook trout, lake sturgeon, and piping plover. The USFWS will support coordinated habitat restoration on a regional level through the Great Lakes Basin Candidate Fish Habitat Partnership and the Landscape Conservation Collaboration, and implement actions identified in species recovery and management plans. The USFWS will expand propagation and assessment efforts for lake trout and sturgeon, and will administer an enhanced grant program under

the Great Lakes Fish and Wildlife Restoration Act. The USFWS will also create a common habitat inventory and mapping system through the Service's National Wetlands Inventory that addresses data gaps in our existing knowledge and enhances prediction models. Proposed on-the-ground activities will strengthen resilience within the Great Lakes ecosystem to withstand future stressors, such as climate change.

5. Accountability, monitoring, evaluation, communication and partnerships: Additional Initiative funding will be provided by EPA through an interagency agreement to support participation in planning, coordination, development of measures and outcomes, and reporting on progress pertaining to the Initiative. Activities will include appropriate participation in the Interagency Task Force, Regional Working Group, Binational Executive Committee, Lakewide Management Plan forums, and Remedial Action Plan forums.

## V. SCOPE OF WORK AND RESPONSIBILITIES OF THE PARTIES:

- A. The Great Lakes Initiative uses outcome-oriented performance goals and measures to direct Great Lakes protection and restoration funding to the focus areas.

### PERFORMANCE GOALS

Habitat and Wildlife Protection and Restoration: these efforts are to protect and restore Great Lakes habitat and wildlife include: enhancing wetland protection and restoration; improve aquatic ecosystem resiliency; strategic restoration of native species and habitat; tracking progress on coastal wetlands restoration.

### MEASURES OF PROGRESS:

Habitat and Wildlife Protection and Restoration: GLRI will significantly accelerate Great Lakes habitat and wildlife protection. Federal agencies expect to fund protection or restoration of more than 23,000 acres of coastal, wetland, shoreline, and upland habitats and 1,000 miles of streams for fish passage. The initial set of measures by which progress will be evaluated in this focus area are: number of habitat acres restored to improve Great Lakes ecological function, wildlife recovery accelerated, miles of shoreline with natural coastal and hydrological processes restored, acres of wetlands and forested areas protected, restored and enhanced, and improved population status of species.

- B. For the period hereinafter set forth, the Recipient and the Service agree to cooperatively provide the personnel, materials, services, facilities and allocated and available funds needed to accomplish the purposes of this agreement, as outlined below to the extent that these activities are authorized by current legislation. The Recipient's proposal and budget, dated 07/26/2010, has been accepted by the Service Project Officer named in Article IX below and is hereby incorporated into this Cooperative Agreement as Attachment 1 hereto.

C. In summary, the Recipient will take action to: (see Attachment 1 for details):

1. Coordinate and restore Avon Creek, including regenerating storm water swales, pocket wetlands, pond restoration, outlet reconstruction, and vegetation management.
2. Obtain all state and/or federal permits.
3. Restore 825 ft of incised creek to meandering channel, 0.1 acres of vernal pools, 0.5 acres of pond, and create 1.0 acres of riparian wetland.
4. Provide any additional funding in the form of monetary donation or in-kind services to ensure the project is completed.
5. Recognize the contributions of the Service and other partners in all public relation efforts regarding completed habitat restoration projects.

D. The Service will be substantially involved in this project by:

1. Contribute funding and technical assistance towards the project to ensure the objective of restoring Avon Creek is attained.
2. Ensure that all permits and agreements are filed and fulfilled. This includes Section 7 consultation and NEPA/NHPA requirements.
3. Recognize the contributions of the Recipient and other partners in all public relation efforts regarding completed habitat restoration projects.
4. Conduct on-site inspection(s) of the project.

E. NEPA/NHPA

Activities that take place under federally funded grant programs must comply with National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA). Compliance under NEPA/NHPA must be documented by the Recipient and approved by the Service. Unless otherwise notified by the Service Project Officer, the recipient will refrain from commencing work under this agreement until this documentation has been approved.

## VI. PROJECT PERIOD:

The parties hereto have agreed that the project period of this agreement is from June 1, 2010 through September 30, 2011. To the greatest extent possible, the Recipient must commence work within 60 days of the effective date of the award and in any event shall proceed with due diligence once started.

## VII. REPORTING REQUIREMENTS:

- A. Situation Reports: Recipient shall promptly inform the Service Project Officer of all events that could significantly impact the scope or objectives of the agreement, such as (1) problems, delays, or adverse conditions that could materially impair meeting the objectives of the award; and (2) favorable developments or alternatives that could result in meeting the objectives sooner or at less cost than anticipated.
- B. Performance Reports (Per FWS/EPA IA):

Recipient is to provide the following performance reports to FWS for review in sufficient time to meet the EPA deadlines listed below.

Semi-Annual Progress Reports: The Recipient shall submit progress reports, beginning with the date of cooperative agreement execution, every six (6) months during the life of this agreement. Actual due dates are April 15 and October 15 of each year. The Service Project Officer must be provided adequate time (10 business days) prior to the due dates to review the reported information to be able to determine that all mission support products, services, information or data generation and use, including any technology development and verification is being performed in accordance with this agreement. Recipient's report shall include as a minimum all of the information as identified in **Attachment 2**. The Recipient, upon direction by the Service Project Officer, may be able to input information directly into the Great Lakes Restoration Initiative Accountability System (<http://restore.glnpo.net:8080/GLRI/login.htm> or any future intranet reporting system/site) using specified formats and meeting the above timeframes.

Annual Report: Recipient shall submit to the Service Project Officer a separate annual written performance report within 90 days following the end of each calendar year in which the agreement remains in effect. This report shall succinctly compare actual accomplishments with the objectives established for the period, and will also cite the reason(s) for failure if the objectives were not met.

Final Progress Report: The Recipient shall submit a final report to the USFWS Project Officer upon culmination of this cooperative agreement. This report shall incorporate project outputs and should summarize the nature and extent of the project, methodologies employed, significant events and experiences, and a compilation of the data collected. The final report shall also include analysis of the data as well as conclusions and recommendations. The final report shall incorporate photo documentation of funded projects and environmental progress under the projects at appropriate phases, and appropriate illustrations, diagrams, charts, graphs, and maps to express the data and findings. The draft Final Report will be submitted electronically to the USFWS Project Officer no later than 45 days after the end of the project period for review and comment. Electronic and paper versions of the Final Report shall be submitted no later than 90 days after the end of the project period.

C. Financial Status Reports:

1. Reporting: Quarterly financial reports are to be submitted in writing by Recipient to the Service Project Officer (SPO), using a federal SF 425 "Federal Financial Report," within 30 days following the end of each calendar quarter of the agreement's period of performance. In addition to these periodic reports, Recipient shall submit a final summary SF425 financial report to the SPO within 90 days from the agreement's culmination.

2. Cash or Accrual: For each financial report, the Recipient shall stipulate whether it uses a cash or accrual basis. The Service prefers receiving cash basis reports, but will accept accrual-based reports, if that is the Recipient's regular system of accounting. Once an agreement begins, its financial reporting basis is not to be changed unless pre-approved in writing by the Service's Regional Finance Officer.

3. Recordkeeping: Recipient shall retain financial records related to this agreement in accordance with 43 CFR 12.82.

**VIII. PAYMENT PROVISIONS:**

A. Funding Limits: The Recipient shall not accrue expenditures to be charged to the Service, nor shall the Service be obligated to reimburse the Recipient for, any expenditures in excess of the federally-obligated amount of \$135,000.00 unless authorized to do so by a pre-approved, written revision of the existing federal funding limits.

B. Other Contributions: In-kind services and monetary contributions in the approximate total value of \$178,000.00 will be contributed by the Recipient, third parties to this agreement.

C. Future Funding: The Service may choose voluntarily to add funding to this agreement through written revision. In any event, the Service's decision to add future funding under this Cooperative Agreement will be contingent upon the availability of appropriated or other federal funds for such purposes.

D. Pre-Award Costs: Pre-award costs are hereby authorized under this agreement, and may include indirect as well as direct expenses incurred by the Recipient during the period from June 1, 2010 to the final execution date of the agreement, so long as they are necessary, reasonable, allowable and allocable expenses. These pre-award costs shall not exceed \$13,500, which is included in, rather than in addition to, the total amount obligated by the Service through this document.

E. Sub-awards/Contracts: Recipient shall notify the Service Project Officer in writing of all sub-recipients of this financial assistance (whether the sub-recipient receives money or other property or services in lieu of money). This information shall be included within the reports required under Article VII "Reporting Requirements."

- F. Travel Costs: Travel expenses incurred by the Recipient exclusively in direct performance of this agreement shall be allowable if necessary, fair and reasonable under the circumstances and if otherwise made in accordance with applicable federal travel and expense regulations. No travel expenses of federal employees shall be paid or reimbursed from the federal funds obligated under this agreement.
- G. Advances/Reimbursements: A Recipient, if willing and able to expedite disbursements following receipt of advanced funds, may request an advance of the federal funds obligated under this agreement. Federal Standard Form (SF) SF270 "Request for Advance or Reimbursement" should be used to request advanced funds from the Service Project Officer. Recipient should limit advance payment requests to the amount of capital needed to cover costs payable during its initial disbursement cycle. As an alternative, Recipient may initially or thereafter choose to seek periodic reimbursement for incurred, allowable costs.
- H. Expenditure of Funds: Recipient should expend funds as generally shown in its proposal and budget, but need not be exact in spending or reimbursement per budget category. At completion or termination of this agreement, Recipient shall refund to the Service all federally-advanced funds obligated under this agreement that are not already encumbered by allowable expenses or by non-cancelable legal obligations.
- I. Invoicing: Recipient shall submit a signed and certified original of each request for payment made under this agreement. Each invoice shall be delivered to the Service Project Officer for review and initialed approval, which is a necessary step for further processing of the payment request. Invoicing frequency is at Recipient's discretion, except that it may not occur more frequently than monthly.
- J. Invoicing form: Federal Standard Form (SF) SF270 "Request for Advance or Reimbursement" should be used in requesting payments, whether for an advance of the assistance funding, or for reimbursement. This form can be found at <http://www.whitehouse.gov/omb/cooperatives/sf270.pdf>. Use of a SF270 is not mandatory, however, and Recipient may instead use its own standard invoicing form, provided it includes the following information:
1. Cooperative Agreement number 30181AJ278;
  2. The project period for the costs claimed;
  3. Current and cumulative expenditures by cost categories in the approved budget (when applicable); and
  4. A certification, signed by an authorized representative of the Recipient, that the invoice is correct and that the invoiced request for federal funds is authorized by this Cooperative Agreement.
- K. Payment: Under the Debt Collection Improvement Act (31 U.S.C. 3332), federal payments are made via Electronic Funds Transfer (EFT) directly to recipients' bank accounts. Enrollment in the Automated Clearing House (ACH) database is a prerequisite of EFT from the Service, so no FWS payments can be issued if ACH enrollment is not completed and maintained. If not currently enrolled, Recipient must complete a SF 3881 "ACH Vendor/ Miscellaneous Payment Enrollment

Form" (available from the Service Project Officer's office or in the "Forms Library" at <http://www.gsa.gov/Portal/gsa/ep/home.do?tabId=6>). The completed SF 3881 is to be forwarded to the Service Project Officer for authorization and processing. Recipient must maintain enrollment in ACH until federal payments have been completed or, if the agreement is terminated, until settlement of accounts has occurred.

#### IX. CONTRACTING AND PROJECT OFFICERS:

A. The Service Project Officer is responsible for monitoring the performance of work under this Cooperative Agreement. However, no understanding, agreement, revision, change order or other matter materially deviating from the terms of this agreement shall be effective or binding upon the Service unless formalized by proper documentation executed by a sufficiently warranted Service Contracting Officer. If Recipient disagrees materially as to proper responsibilities under the agreement or as to its scope, Recipient should promptly seek direction from the Service Contracting Officer in writing or via e-mail, because acting outside the authorized terms and conditions of this agreement could result in partial or full rejection of invoiced amounts, or have other adverse effects.

B. Service Contracting Officer:

Cathy Vanatta

USFWS / Region 3/ ABA-CFM

Bishop Whipple Federal Building

1 Federal Drive

Fort Snelling, MN 55111

Phone: (612) 713-5205

Fax: (612) 713-5151

[cathy\\_vanatta@fws.gov](mailto:cathy_vanatta@fws.gov)

Service Contract Administrator is Dan Lovdahl at (612) 713-5193 and [Email@fws.gov](mailto:Email@fws.gov)

C. Service Project Officer:

Andrea Ania

U.S. Fish and Wildlife Service

Alpena Fish and Wildlife Conservation Office

480 W. Fletcher Street

Alpena, MI 49707

Phone: (989) 356-5102 x1020

Fax: (989) 356-4651

[Andrea\\_Ania@fws.gov](mailto:Andrea_Ania@fws.gov)

D. Recipient Project Officer:

Roger Moore

City of Rochester Hills

1000 Rochester Hills Drive

Rochester Hills, MI 48309

Phone: (248) 841-2496

Fax: (248) 656-4758

[moorer@rochesterhills.org](mailto:moorer@rochesterhills.org)

#### X. PROPERTY AND PROCUREMENT STANDARDS:

A. Property Standards: 43 Code of Federal Regulations (CFR) 12.71 (real property), 12.72 (Equipment) and 12.73 (Supplies) set forth uniform standards governing management and disposition of property directly furnished by the Federal

Government or purchased or created/developed with federal funds supplied by this Cooperative Agreement, and whose cost was charged to this project.

- B. Procurement Standards: Recipient and sub-recipients are to conduct their procurement transactions funded under this agreement in a manner that provides, to the maximum extent practical, open and free competition as detailed in 43 CFR 12.76. Recipient and sub-recipients must include certain government provisions in all their contracts and sub-contracts.
- C. Socioeconomic Goals: The Service requests the Recipient to seek at least 8% of its overall Federal funding for prime and subcontractors be awarded to business concerns or other organizations owned or controlled by socially and economically disadvantaged individuals, including historically black colleges and universities and women.

#### **XI. SPECIAL PROVISIONS:**

- A. Tort Liability of the Parties: To the extent allowed by law, it is the intention of the parties to this agreement that each party will be responsible only for its own acts or omissions and the results thereof (whether based in negligence, recklessness or willfulness), and neither party shall be responsible for the negligent, reckless or willful acts or omissions of the other party and the results thereof. Each party will therefore assume all risks and liability to itself, its agents and employees, for any injury to persons or property resulting from actions or operations of itself, its agents or employees and for any loss, cost, damage or expense resulting at any time from any and all causes due to any acts, or negligence, or the failure to exercise proper precautions of or by itself or its own employees or agents to this agreement. It is the further intention of this agreement that where both parties are found to share liability, the degree of each party's liability shall be limited to its degree of culpability. The torts liability of the Federal Government will be determined under the Federal Tort Claims Act (28 U.S.C. 2671) while the liability of the Recipient will be determined by applicable federal and state laws.
- B. Seat Belt Use: Recipients of federal assistance are encouraged to adopt and enforce on-the-job seat belt use policies and programs for their employees operating company-owned, rented, and personally-owned vehicles. These measures may include conducting education and awareness programs for employees about the importance of wearing seat belts and the consequences of not wearing them.
- C. Metric System Use: All progress and final reports, other reports, or publications produced under this award shall employ the metric system of measurements to the maximum extent practicable. Both metric and inch-pound units (dual units) may be used if necessary during any transition period(s). However, the Recipient may use non-metric measurements to the extent that the Recipient has supporting documentation that the use of metric measurements is impracticable or is likely to cause significant inefficiencies or loss of markets to the Recipient, such as when foreign competitors are producing competing products in non-metric units.

D. Printing:

1. Recipients of federal assistance are encouraged to use the federal Government Printing Office (GPO) for printing and publishing needs when paid for directly by, or indirectly payable from, the federal funds obligated under this agreement. If interested in exploring the capabilities of the GPO and how to make use of their many services, contact Donna Cyrwus at (312) 353-3916 ext 14, (312) 519-5381 (mobile) or dcyrwus@gpo.gov.
2. All publications by Recipient, regardless of format, that concern or arise out of this federal assistance shall be subject to prior review and comment by the Service. Recipient shall give the Service Project Officer a reasonable period of time, normally at least 30 days, to review and comment on each proposed publication.
3. All articles, booklets, books and other published documents that the Service has approved for printing shall prominently bear the appropriate Service logo (supplied by the Service Project Officer), generally on the first page inside the cover, complete with the following statement:

Partial funding for this program is supported by a Cooperative Agreement from the U.S. Department of the Interior, Fish and Wildlife Service. Mention of trade names or commercial products does not constitute their endorsement by the U.S. Government.

4. Articles or other publications not approved by the Service shall bear, on the first page inside the cover, the following disclaimer:

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government. Mention of trade names or commercial products does not constitute their endorsement by the U.S. Government.

5. The Recipient shall provide gratis copies of each publication produced under this agreement to the Service Project Officer and the following listed offices. Each copy shall be sent with a cover letter that identifies the sender and the publication. The addresses are:

Two copies:                   U.S. Department of the Interior  
                                      Natural Resources Library  
                                      Interior Service Center  
                                      Gifts and Exchanges Section  
                                      1849 C Street, N. W.  
                                      Washington, D.C. 20240-0002

One copy:                      U.S. Fish and Wildlife

National Conservation Training Center (NCTC)  
Conservation Library  
698 Conservation Way  
Shepherdstown, WV 25443-4024

One copy: U.S. Fish and Wildlife NCTC  
Publications Unit  
698 Conservation Way  
Shepherdstown, WV 25443-4020

6. Copyright and Use Rights:

Per 43 CFR 12.74, the Service reserves a royalty-free, non-exclusive, but irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes:

(a) The copyright in any work developed under a grant, sub-grant, or contract under a grant or sub-grant; and

(b) Any rights of copyright to which a grantee, sub-grantee or a contractor purchases ownership with grant support.

E. Climate Change Emissions Minimization/Reductions:

The USFWS shall encourage (i) minimization and reduction, where possible, of greenhouse gas emissions resulting from activities carried out pursuant to this agreement and (ii) the tracking of the reduction of greenhouse gas emissions through these activities.

F. Healthy, Safety and Environmental Compliance:

All health, lab and field activities conducted for this project must be in accordance and compliance with all applicable health, safety and environmental laws, regulations and guidelines.

**XII. GENERAL PROVISIONS:**

- A. Acceptance of a Federal Financial Assistance award from the Service carries with it the responsibility to be of and comply with the terms and conditions of applicable laws and regulations. See **Attachment A**, which is hereby incorporated into this agreement by this reference.
- B. Recipient's executed SF 424D is a prerequisite to award of this federal assistance and thus is incorporated by reference into this agreement as **Attachment B**. Sub-recipients must complete and abide by this form of assurance, but their certification document will be maintained by the Recipient.

**XIII. REVISIONS:**

Either party may propose changes to the terms of this agreement. With the exception of certain changes based on retained federal unilateral rights, such a revision will become

effective only when mutually memorialized and executed in writing by authorized representatives of both parties hereto. A proposed increase in federal funding, or a request for an extension of the project period, are two examples of material changes requiring formal revision of this agreement.

**XIV. TERMINATION:**

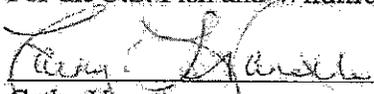
If Recipient fails to comply with the material terms and conditions of this agreement, the Service may exercise any of the remedies listed under 43 CFR 12.83, including the right to unilaterally terminate this award of federal assistance in whole or in part. The Service may also terminate this agreement in whole or in part with consent of the Recipient.

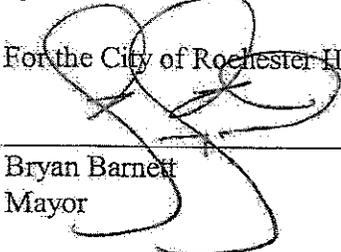
Recipient may terminate this agreement in whole or in part at any time by providing the Service with written notification of the reasons for taking this action, listing the effective date and, in the case of partial termination, the portion to be terminated. In the event of such partial termination, the Service may unilaterally determine that the award purposes cannot be met, in which case the Service may terminate the agreement in whole.

In any event, upon notice of early termination, neither party shall incur any unnecessary obligations under this agreement. The parties shall also mitigate existing obligations to the extent reasonably possible. The parties hereby agree that they will make good faith efforts to agree to termination conditions, including the effective date and, where termination is partial, the portion to be terminated.

**XV. DOCUMENT EXECUTION:**

In witness whereof, the following authorized representatives of the parties hereto have memorialized and executed this Cooperative Agreement No. 30181AJ278:

For the U.S. Fish and Wildlife Service:  
  
\_\_\_\_\_  
Cathy Vanatta  
Contracting Officer, Region 3

For the City of Rochester Hills:  
  
\_\_\_\_\_  
Bryan Barnett  
Mayor

Date:     AUG 20 2010    

Date:     9-2-10

Great Lakes Basin Fish Habitat Partnership  
 Application Template for USFWS Funding Received through GLRI  
 Please submit to pam\_dryer@fws.gov by COB February 12, 2010

**PROJECT NAME:** Avon Creek Restoration – Phases I & II (LE-9/ HEC-2)

**PRIMARY CONTACT:** City of Rochester Hills  
 Roger Moore P.S, Stormwater Manager  
moorer@rochesterhills.org  
 248-656-4640

**PROJECT LOCATION:**

State: Michigan

County: Oakland

Nearest Community: Rochester Hills

Legal Description: 1115 W. Avon Road, Rochester Hills, MI, T3N, R11E, Sec. 21, NE ¼ Sec.  
 Latitude (Decimal degrees, NAD-83): 42.665 Longitude: 83.159

**CHECK THE FOCUS AREA AND SUBAREA(S) YOU ARE APPLYING UNDER:**

1) Fish habitat protection and restoration, specific to one or more of the following:

Tributary stream restoration or protection to improve:

Fish and aquatic species passage

Riparian habitat

Large woody debris

Water temperatures

Natural stream flow functions

Natural stream channel form

Coastal and connecting channel wetland restoration, enhancement and protection

Connecting channel restoration or protection to improve:

Fish and aquatic species passage

Riparian habitat

2)  Inventory and assessment of habitats in local watersheds that will lead directly to future on-the-ground projects. We will limit funding for this focus area to no more than 25 percent of available project funds.

**Explain how the project addresses the above area(s) checked:**

1) **Phase I** – includes restoring 200 ft of Avon Creek, regenerative stormwater swales, two pocket wetlands, pond restoration, outlet re-construction, and vegetation management. It was designed and permitted in 2009 and will be constructed in summer/fall 2010 as local match. **Phase II** - begins downstream of the City hall pond dam which is 1,350 ft upstream of the confluence with the Clinton River. The creek was channelized when the pond was constructed in the early 1980s (G4c channel). The channel bed has continued to erode so that the mean depth has increased from approximately 0.8 ft (before channelization) to 4 ft. Most of the channelized reach flows next to a steep hillslope which is eroding into the channel. Downstream pools are filling in, the banks are beginning to erode, and the riffles are

embedded with sand. Buckthorn and invasive plants are invading the former floodplain area. Restoration will involve restoring up to 600 ft. of Avon Creek to a meandering E4 stream at the original floodplain elevation. A small diversion pipe will be used for passive irrigation until native grasses, forbs, and shrubs become established (1-2 growing seasons). The pond outlet will then be re-routed to the new E4 channel.

- 2) Avon Creek Habitat Assessment (Optional Task B) – An additional 1,200 ft of creek downstream of the Phase I and II reaches to the confluence with the Clinton River has been impacted by sediment, improperly constructed crossings, and minor incision. City staff and their consultant will survey a longitudinal profile from the Phase II - Point of Ending downstream to the confluence and the north tributary from Avon Road downstream to Avon Creek. The measurements will include pool filling, pebble counts, macroinvertebrate surveys, and invasive vegetation inventories. The resulting data will provide a basis for a plan recommending additional habitat restoration measures, estimated costs, and timelines.

**BRIEF PROJECT DESCRIPTION (350 characters maximum for each):**

**Problem to be solved:** 825 feet of Avon Creek was channelized in the early 1980s. Colluvial sediments, bank erosion, lowered groundwater table, invasive plants, and increased temperatures impair creek habitat. Fines and attached nutrients, high temperatures, and reduced groundwater discharge also impact brown trout fishery along main Clinton River further downstream.

**Methods to be used:** Upstream reference reach data will be used to restore a meandering headwater stream hydraulically-connect to the floodplain (Rosgen Priority 1 restoration of incised creek or “pond and plug” method), improve stability, reduce sediment, restore habitat, and reduce temperatures.

**What you will accomplish (include specific outputs from the project, such as miles of stream restored to fish passage, acres of habitat enhanced):**

- 825 ft incised creek restored to meandering channel
- 0.1 ac. vernal pools, 0.5 ac. pond restored, and 1.0 ac. riparian wetlands created
- 2,550 sft pools, pool depth ratio increased
- 3,830 sft riffles
- 24 pcs. woody material
- 12 volunteers monitor benthics
- 1 demonstration project at EEC
- 2 Clinton River AOC.BUIs, project contributes to removal

**LIST PRIMARY FISH SPECIES OR COMMUNITY BENEFITED:**

According to MDNRE-Fisheries, native fish species that would benefit from this project include: striped shiner (*Luxilus chrysocephalus*), golden redhorse (*Moxostoma erythrurum*), fantail darter (*Etheostoma flabellare*), and least darter (*Etheostoma microperca*), all which are listed as Species of Greatest Conservation Need in the USFWS approved Michigan Wildlife Action Plan. [http://dnrintranet/pdfs/divisions/fish/Wildlife-Action-Plan/2\\_3\\_1\\_LFS\\_Erie.pdf](http://dnrintranet/pdfs/divisions/fish/Wildlife-Action-Plan/2_3_1_LFS_Erie.pdf)

Other native fish species that will benefit include: central stoneroller (*Campostoma anomalum*), spotfin shiner (*Cyprinella spiloptera*), northern hog sucker (*Hypentelium nigricans*), stonecat (*Noturus flavus*), greenside darter (*Etheostoma blenniodes*), and rainbow darters (*Etheostoma caeruleum*).

In addition, native crayfish (*Orconectes spp.*), snapping turtles (*Macrochelys temminckii*), damselfly (*Zygoptera spp.*), caddis (*Trichoptera spp.*), midges (*Chironomid spp.*) will benefit directly from restored headwater stream habitat. Amphibians and native vegetation will benefit from raised groundwater elevation, vernal pools, and riparian wetland habitats. Brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), and other fish in the main Clinton River will benefit from improved water quality, reduced water temperatures, and increase in forage.

**DATE OF ANTICIPATED PROJECT COMPLETION:** Start 7/31/2010, construction commences in 2010, plantings in 2011, and final report/total project completion by 6/30/2012.

**PROJECT PARTNERS:** City of Rochester Hills (recipient of GLBFHP funds)  
Rochester Hills Environmental Education Center (site location, public education)  
Clinton River Watershed Council (macroinvertebrate monitoring & public education assistance)

**FUNDING REQUEST FROM GLBFHP:** Total \$145,000  
Task A: Avon Creek Restoration – Phase II = \$140,500  
Task B (optional): Avon Creek Habitat Assessment = \$4,500

**ESTIMATED FUNDING AND IN-KIND PROVIDED BY OTHERS:**

Total Request: \$145,000  
Total Project: \$323,000  
Partner Contribution: \$178,000 (123% of grant request)  
**Contributing Partner:** City of Rochester Hills  
**Partner category:** municipality  
**Project Need Addressed:** construction of Phase I which provides upstream restoration and water quality improvements  
**Cash In-kind Total** \$178,000 (Avon Creek Restoration – Phase I Construction in 2010)  
**Amount:** \$178,000 or 123% (\$210,000 total including 2009 design and permitting)

**GENERAL CRITERIA (Please limit each response to 1,000 characters):**

*How is the project part of a watershed-scale effort that addresses ecological and hydrological processes which result in positive effects on fish habitats and populations?*

The quality of water and forage from headwater tributaries is critical to the restoration of the Clinton River Main as a brown trout fishery. The project will restore floodplain connectivity, raise groundwater levels, and restore natural channel form and ecological functions. Upstream of Rochester Hills Drive and Avon Road, the creek is a small headwater tributary within low density residential land use. The city has committed to the comprehensive restoration of the lower Avon Creek watershed:

- Rochester Hills Dr. to City Hall Pond (400 ft) – Avon Creek Restoration Project Phase I designed in 2009 and construction to be completed in 2010 as grant match
- City Hall Pond to EEC footbridge (600 ft) – Avon Creek Phase II GLBFH Partnership grant

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Application Template for Project Proposals – 2010 Funding

- EEC footbridge to Clinton River confluence (1,250 ft) – optional Task B Habitat Assessment
- Clinton River Main (>1 mile) – 300 ft reach at Avon Creek confluence to be restored in 2011 pending grant funding

*How will the project be monitored/evaluated?*

Monitoring will include:

1. Physical - Survey before and after longitudinal profile of the creek, quantify vegetation cover, and pool depth. Riffle and representative pebble counts of substrate size. Estimate of sediment load reductions using BEHI/NBS. Quantify habitats created (area, lengths, etc.).
2. Fish - Fry trapping for qualitative pre- and post-construction fish survey.
3. Photo-documentation - pre- and post-construction conditions.
4. Temperature – use data loggers to monitor the benefits of the project pre- and post-construction on reducing water temperatures by increasing groundwater recharge.
5. Macroinvertebrates - Clinton River Watershed Council and volunteers conduct pre- and post-construction monitoring.
6. Public Education - city will track response to interpretive sign at the Environmental Education Center.

*Will the project incorporate best management practices that prevent spread of invasive species and/or use most current science/technology? If so, explain.*

Invasive plant species (ex. buckthorn, garlic mustard, poison ivy) will be removed and sprayed with a glyphosate-based product during Phase I of the project (2010). A second herbicide application will be applied in 2011 prior to seeding/planting the floodplain.

Avon Creek will be restored using some of the most current river restoration science which considers channel hydraulics, fluvial geomorphology, sediment transport, and aquatic ecology (see pg. 8). Sacrete weirs will be removed from Avon Creek downstream of Rochester Hills Drive and replaced with natural stone riffles to raise the grade and restore lateral floodplain connectivity to a Bank Height Ratio of 1.0. Runoff will be treated with open step-pool swales and pocket wetlands before discharging to the small City Hall water quality pond. Downstream of the pond, a Priority 1 restoration approach will be used to restore a smaller, meandering stream at the former floodplain elevation using a Rosgen Geomorphic Channel Design.

Budget

<b>Expense Item</b>	<b>Cost</b>
Stream Restoration Design (includes site assessment, geomorphic analysis, plans and specifications) (180 hrs @\$100/hr)	\$18,000
Construction oversight (65 hrs @ \$100/hr)	\$6,500
Monitoring/public education (15 hrs @ \$100/hr; 100 hrs @ \$35/hr)	\$5,000
Earth moving (channel excavation, flow diversion and control)	\$42,000
Stone/gravel work for riffles, grade controls, and flow diversions (4 size classes)	\$20,000
Vegetation plantings and invasives control, mulch, erosion control products	\$34,000
Habitat structures and large woody material	\$8,500
Interpretive signage	<u>\$1,000</u>
<b>TOTAL</b>	<b>\$135,000</b>