Attachment A
Grant Agreement No. 86003-006.33

1. Type of Project (check one):	☐ Coastal Land Acquisition ☐ Coastal Wetland Protection and Habitat Restoration ☐ Nonpoint Source Pollution Control ☐ Coastal Resources and Community Planning **X** Great Lakes Education ☐ Public Access and Historic Preservation
2. Project Title: Stormwater Education	
3. Organization applying: City of Superior Wastewater Treatment Plant	**5. Primary County where project is located:** Douglas
4. Contact Person and Address: Diane R. Thompson, Pretreatment and Safety Coordinator City of Superior Wastewater Treatment Plant 51 East 1st Street, Superior, WI 54880 **Phone:** 715-394-0392 ext. 131 **Fax:** 715-394-0406 **Email**: thompsond@ci.superior.wi.us	**6. Other Counties where project is located:** **7. Congressional District #: 07** **8. State Senate District #: 25** **9. State Assembly District #: 73**
10. Total Project Cost: $60,000	
11. WCMP Share: $30,000	**13. WCMP Percent: 50** %
12. Applicant Share: $30,000	**14. Applicant Percent: 50** %

15. Brief Summary of the Project (300 word maximum, use this page only). Include (1) Project Description and (2) Project Outcomes:

As the largest city in Wisconsin on Lake Superior, the City of Superior is a top priority on the EPA's pollution mitigation list. The WDNR has identified the City of Superior as Wisconsin's primary location for urban pollution reduction to Lake Superior. Wisconsin, like most states, has identified stormwater as the leading cause of water quality impairment. As a major influence in this Priority Watershed, the City of Superior is in a spotlight regarding pollution prevention. We anticipate our Stormwater Management Program will be cited as a model. To educate the inhabitants of Superior about the problems associated with stormwater pollution, stream-bank and beach erosion, non-point source pollution, and other problems affecting the water quality of Lake Superior, City staff will give people of all ages the opportunity to participate in various hands-on stormwater management projects. The City of Superior Wastewater Treatment Plant (SWWTP) will implement a Citizen Waterway Monitoring Program for local residents to collect data on different water quality indicators in local waterways that connect to Lake Superior. Volunteer monitors will get the satisfaction of knowing that their data will be used to make management decisions. SWWTP staff will also provide rain barrel workshops to educate homeowners about stormwater management. A demonstration rain garden will be planted in a tourist area. The SWWTP will partner with Superior Middle School's 6th-grade classes to plant rain gardens on school grounds. Students will design, plant, and care for their gardens until they are in 8th grade. SWWTP staff will take 5th-grade children around Superior to stencil warnings above storm drains that read "Dump NO Waste – Drains to Lake." All of these projects are designed to engage children and adults in learning about stormwater in a way that links the problem to their everyday lives.

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1. Problem: Concisely state the problem or issue that this proposal addresses. Include important background information.

One of the gaps in environmental education arises from the inability of many programs to connect ecology and science to a person's everyday life. Though residents who live near Lake Superior are aware of its presence, they may not know that there are simple ways they can improve water quality in Lake Superior and the surrounding waterways. Superior, Wisconsin, is rich in water resources- with the St. Louis River estuary, Superior Bay, Allouez Bay, the Nemadji River, and Lake Superior as its back yard. These waters are within the St. Louis River Area of Concern (AOC). The shoreline of the St. Louis River estuary that runs along the Wisconsin border includes the wild and protected upper reaches, extends to areas where shoreline development is increasing, and moves down through the industrial and harbor areas in Superior. The AOC in Superior also includes varied waters such as Superior Bay, Allouez Bay, "finger" Bays such as Pokegama and Kimball's, the Nemadji River, and streams flowing through various City neighborhoods. The City would like to increase its working relationship with residents of all ages to raise their awareness about water conservation and stormwater management. By urging citizens to monitor local streams and enjoy the city's rain gardens, or by involving schoolchildren in projects such as stenciling storm drains and planting rain gardens on school grounds, the people of Superior will be able see how their stormwater management efforts can have a direct impact on their community and the coastal integrity of Lake Superior.

Stormwater runoff can lead to stream bank and beach erosion, and the resulting sediment loads can end up in Lake Superior, where they reduce water quality by raising the temperature of the water, reducing its clarity, and decreasing its ability to support aquatic life. A major concern of stormwater management is erosion control, not only at sites during and after construction, but also erosion caused by uncontrolled flooding of surcharged stormwater during major rain events. The St. Louis River Citizens Action Committee (CAC) put together the St. Louis River System Remedial Action Plan (RAP) to work with citizens and agencies to develop delisting criteria for each of 14 beneficial use impairments in the AOC, including eutrophication, which they define as "excess loading of sediment and nutrients to Lake Superior." The St. Louis RAP cites red clay erosion as a clearly documented degradation factor to streams, and red clay is the dominant soil type in the City of Superior. The Lake Superior Basin Plan noted that erosion was a concern for the Lake and its tributary streams. The Lakewide Management Plan (LaMP) for Lake Superior also notes erosion and increased sediment loads as concerns. The proposed citizen monitoring project would help track progress toward delisting goals for eutrophication by identifying target areas sensitive to erosion and sediment loading. A monitoring program would include residents in the City's efforts to determine erosion rates and erosion hazard areas on the soils along the banks, bluffs, and shores of coastal and riverine areas in Superior. Not only would a citizen stream monitoring program provide water quality data to help direct stormwater and nonpoint source abatement projects for the most critical waterways near the city, it would also help develop stewardship among residents for the waters gracing their City.

Though rain gardens can vary in size and depth, they all serve the same purpose. Stormwater has traditionally been directed away from roofs and yards onto the street. On its way to the sewer system, it picks up dirt, lawn clippings, pet waste, salt, lawn chemicals, gas and oil and other pollutants. This untreated water discharges through storm sewers into lakes and river at high velocity, and this can also contribute to erosion. Rain gardens can help prevent these problems by providing an area where stormwater can soak into the ground, recharging ground water supplies and filtering out pollutants that might be present in the water. Since ground water flows into lakes and streams at a slower rate than stormwater sewer systems, it does not contribute to the pollution and erosion problems the way that stormwater sewer systems do. In addition, rain gardens are planted with a suite of water-tolerant native plants that help provide wildlife habitat and enhance the beauty of the neighborhood. By getting 6th-graders in Superior to plant their own rain gardens, they will be able to see the amount of water that can be prevented from becoming polluted stormwater that run directly into Lake Superior. In addition, the city of Superior has plans to construct several demonstration gardens to teach community members about the benefits of rain gardens.

Often there is a mental disconnect for people when they dump waste down the drain or leave pollutants lying around on their driveways or lawns. Most people don't think about where the waste goes, or how it could end up polluting Lake Superior. Recent studies in Wisconsin show that storm drain stenciling works to raise citizen awareness of storm drain connections to local lakes and rivers. Over 75% of people who had seen the stenciled drains knew where their water went, compared to about a third of those who had not seen a stenciled drain. People have appeared to be more likely to change their behavior to prevent pollution once they understood the stormwater runoff destination. Many people unknowingly believe storm drains connect to sewer treatment systems. But even where there are combined sewers, heavy rains cause overflows. In most communities across the country, whatever enters the storm drains is discharged directly into a neighboring body of water without benefit of treatment. That's often a local lake, river, bay or groundwater. Getting the 5th-graders of Superior out to stencil the storm drains will help provide a lasting reminder to everyone that the oil, fertilizer, and pet waste on their property will drain to the lake and cause problems. Storm drain stenciling is also a fun activity that provides a way to teach 5th-graders about stormwater management in their own neighborhoods. The last time storm drain stenciling took place in Superior, it generated media attention in all the local newspapers; children were able to tell the reporters why stormwater management was important and what they could do to prevent stormwater pollution. The previous storm drain stencils have worn off over the last several years, and the City would like to redo the stencils. Stenciling is especially valuable as a tool for ongoing citizen involvement and outreach since stencils need to be refreshed every few years. When it's time to refresh the stencil, the community involvement activity reaches a whole new set of volunteers and yields another opportunity for media attention to spread the message of pollution prevention.

The EPA has determined that over 70% of our surface water pollution comes from stormwater pollution. We can help solve this problem by

keeping stormwater on our property and using it the way nature intended – to sustain the plants in our yards. Minimizing the entry of rain into the sewer system will also help reduce combined sewer overflows. During heavy rainfalls, the volume of stormwater in the combined sewer system can much more than during dry-weather flows. Sewage, sediment and other pollutants can end up in our rivers and lakes. Excess rain volume in the sewer system can also cause basement flooding. Rain barrels catch rain that runs off the roofs of homes or office buildings, preventing it from picking up pollutants and flowing into the storm drain, where it ultimately ends up in local streams and lakes. Most rain barrels are used to water a homeowner's lawn or garden, since it provides a free source of unchlorinated water for plants. If every home in the City of Superior had one 55-gallon rain barrel, over 662,750 gallons of clean and useful rainwater could be kept from becoming polluted wastewater during rain events. The SWWTP received a grant for 2004 from the Duluth Superior Area Community Foundation to help with educate people about the benefits of rain barrels. The workshops and stormwater education provided a perfect avenue to promote rain barrels. The goal was to get 200 rain barrels in use, but public interest was very high and more supplies were ordered. Over 370 barrels have been purchased to date.

2. Project Description: Address all of the issues listed below as they relate to your project.

a. Describe the project for which funding is requested.
b. Describe how this project is part of an integrated effort or approach.

The Stormwater Education Project

To target both adults and children in the City of Superior, several objectives have been put in place to teach them about stormwater management. A Citizen Waterway Monitoring Program will get adults involved in collecting water quality data for local waterways in Superior; the program will teach them about stormwater-related issues while providing important data about erosion and pollution to managers. A demonstration rain garden will be planted at Barker's Island with an informational sign to teach residents how rain gardens can prevent stormwater runoff and provide a beautiful addition to any space where water collects. The rain barrel program provides outreach to the community on stormwater issues and provides an easy way for individuals to prevent pollution of nearby waterways. By building rain gardens and stenciling storm drains, 5th- and 6th-grade children will be able to see that they can make a positive contribution to the environment while learning about stormwater issues.

Objective 1: Citizen Waterway Monitoring Program

City of Superior personnel will design a sampling program to evaluate nonpoint and stormwater impacts to surface waters in the Area of Concern in Superior, WI. The City will design and implement a water quality monitoring program to evaluate concentrations of nutrients, sediments, total suspended solids, oxygen demanding materials, bacteria, metals, and other selected water quality parameters at regular intervals and after storm events. City personnel, with the assistance from the WDNR, will initiate the sampling at various waterways in the City and analyze samples at the Superior Wastewater Treatment Plant (SWWTP) lab or at a contract lab. Using the results of the initial evaluation, the City will develop and implement a Citizen Waterway Monitoring Program to continue surveillance and to publicize information on water quality. The City program will expand upon the University of Wisconsin Extension Water Action Volunteers (WAV) Stream Monitoring Program by gathering data on Total Suspended Solids and other erosion indicators. Water level data from USGS monitoring, available live online, will also be used to pinpoint which areas would benefit from monitoring. Staff will consult with soil science experts to develop sampling protocols and methodology to measure or calculate erosion rates. We anticipate development of monthly, seasonal, and annual erosion rates, as appropriate, particularly focusing on those associated with storms that produce water level surges in City streams. Data and evaluation will be posted on the City's web site, and it will enable the WDNR to rank the city's rivers for stormwater pollution. The City will participate in public events to encourage stewardship for the local waters. As citizens conduct monitoring over time, they will be able to observe how large rain events and the resulting erosion can lead to drastic changes in characteristics such as water clarity and temperature. By participating in a water monitoring program, volunteers will be able to network with professionals and private citizens who are concerned about water quality, and they will gain a sense of satisfaction that their data will be used to help improve water quality in Lake Superior and its tributaries. Staff will host Citizen Water Monitoring training, oversee development of and manage citizen monitoring teams, assemble and manage the collected data in a centralized system, and analyze the implications of the erosion rates on current and potential development. Possible targets for monitoring include the bays St. Louis, Superior, Kelly, Kilner, Kimball's, Woodstock, Howard, and Allouez, the rivers Nemadji and Pokegama, and the creeks Bear, Bluff, Newton, and Faxon. If necessary, Wastewater staff will gather data until volunteers are recruited and trained. Staff will accompany citizen teams during the initial training period, after major storms, and whenever practical. The Nemadji River Basin plan recommends stabilizing runoff volumes and peak discharges. This project is designed to assess flooding due to stormwater runoff in the Nemadji and Lake Superior watersheds. This project will further the work of the Lake Superior Binational Program, in keeping with the goals of the International Joint Commission's Pollution Prevention Strategy. Partners will be sought to participate in this project including the University of Wisconsin-Superior, Wisconsin Sea Grant Program, Wisconsin Coastal Management, Wisconsin Department of Natural Resources, Superior Waterfront Redevelopment Commission, Lake Superior Designation Committee, the Regional Stormwater Protection Team, duluthstreams.org and other local and regional community groups.

Objective 2: Students build rain gardens at Superior Middle School

This project targets 6th-grade students in Superior, Wisconsin, and integrates larger educational topics like non-point source pollution and water quality in the Great Lakes with hands-on skills like mapping out water flow to determine where to put a rain garden; choosing the appropriate native plants for the garden based on their water-tolerance; and restoring an area to provide habitat for wildlife. Several rain gardens have already been successfully planted on site at Superior's Wastewater Treatment Plant (SWWTP), and staff at the plant have experience with planning, planting, and maintaining rain gardens, as well providing guidance to the public to manage stormwater by building their own rain gardens. Staff from SWWTP will act as project leaders for the rain gardens, partnering with teachers from Superior Middle School's six 6th-grade classes to help their students plan and plant their own rain gardens. In the first year, students will choose low-lying areas where water tends to pond on school grounds. Teachers can show their students how to locate these areas by accurately mapping features of the landscape, including where water flows and collects. Each class will then mark out an area of approximately 64 square feet in which they will plant their rain garden. The project leaders from SWWTP will provide students with the guidance needed to plan their rain gardens correctly, as well as how to maintain them successfully. Students will be required to do research on plants that might be suitable for their gardens, based on whether they are native to the area and how well they thrive in wet soil. Targeting 6th graders allows them to tend their garden and watch it develop for the next two years they are in the middle school.

Objective 3: Teach community members about rain gardens

Just off the mainland of Superior in the St. Louis River harbor, Barker's Island is the city's "recreational focal point." Among other amenities, the island has a marina, an inn, a ship museum, gift shops, and a park. Plans are underway to renovate part of the island to update buildings and boardwalks. A new parking lot will also be built, which could potentially contribute a lot of stormwater runoff into the nearby harbor. To prevent the pollution and erosion that could occur as a result, the parking lot will be constructed so it slopes to the center, where a large rain garden will be constructed. This rain garden will be large and deep enough to take all the water that runs off the parking lot during a storm event and let it infiltrate into the ground water supply. Besides preventing stormwater runoff, this garden will be placed in an area that receives many visitors, and so can serve as a demonstration garden for homeowners interested in installing a rain garden. Interpretive signs and placards identifying the different native plants will be erected near the rain gardens; this will help teach community members that rain gardens can prevent flooding and erosion, support wild plants and animals, and improve water quality – all while creating pleasant green spaces. Interpretive rain gardens are already in place at the SWWTP, and though people have visited the site to learn how to plant a rain garden, this new demonstration garden would be in a location where many more people could see the positive impacts they have on water quality in Lake Superior.

Objective 4: Storm Drain Stenciling

Storm drain stenciling is an educational, interactive tool to engage children in community involvement for watershed pollution prevention. Stenciling next to storm drains alerts others to the fate of runoff water and the pollution carried with it from lawns and streets, and will remind the children in the stenciling program that waste doesn't just disappear when the rain washes it down the storm drain. City of Superior personnel will coordinate with elementary schools in Superior to promote a citywide stenciling event. Hundreds of storm drain inlets were stenciled by hundreds of elementary students in 2001 to read "Dump NO Waste – Drains to Lake". The stencils have since worn off and it is time to renew the message that what goes into the storm drains ends up in our lake. Since most of the storm drains and stenciling routes were mapped for the previous stenciling event, most of the work will center on recruiting school groups and organizing a stenciling day. Efforts will also be made to draw media attention to the stenciling event in order to bring stormwater pollution awareness to a larger group of people.

Objective 5: Rain Barrel Program

The SWWTP staff began a rain barrel project in 2003 to help citizens manage stormwater runoff. The City will continue the program since public response was overwhelmingly positive during the first year the rain barrels were sold. To educate people about rain barrels, we advertised in local newspapers and TV stations in an effort to get people attend the City's rain barrel workshops and learn how to prevent stormwater pollution. Cost of the workshops covered just the materials needed to build their own rain barrel. During the spring and fall, several workshops were held per month where interested citizens gathered at the SWWTP site to learn about stormwater pollution and why rain barrels were important. Staff then assisted the citizens in assembling their rain barrels and giving them tips for easy use of their rain barrels. School groups were also brought out to the SWWTP to learn about stormwater pollution and to see how rain barrels were in use at the plant. In October 2004, SWWTP staff had to put together a waiting list because demand for rain barrels exceeded supply. This was seen as an indicator that the program would be successful if it was extended for another year; however, funding for the program had ended. Next year we will also work with the service learning classes at the middle school to have students build barrels for citizens unable to build their own.

Integrated Approach

These projects are part of the developing Stormwater Management Program for Superior. Other facets of the program that address water quality include citizen education regarding dumping waste into sewer inlets, addressing inflow from sump pumps and roof drains, evaluation of street sweeping, proactive inlet cleaning and maintenance schedules, and regulated pesticide and fertilizer use. Superior, Wisconsin, is

located at the western-most tip of Lake Superior immediately across the St. Louis River from Duluth, Minnesota. The City of Superior's wastewater treatment plant operates under regulations outlined in the Great Lakes Water Quality Initiative that includes a Zero Discharge Demonstration Zone, the most stringent water quality permitting standards in the U.S. The Lake Superior Bay and the Nemadji River are major water bodies in the Lake Superior drainage system. About 90 acres of wetlands at the mouth of the Nemadji provide fish habitat and wildlife nursery grounds. The list of Resources of Concern for the Nemadji River and wetlands area includes 7 community types, 28 plant species, 14 bird species, 2 rare macro-invertebrates, as well as important fish, turtle, mammal and dragonfly species. The Nemadji River Basin Plan cites non-point source, urban runoff and streambed erosion as the three major sources of watershed basin degradation. The WDNR has listed the Nemadji as a prime candidate for remedial action. The Stormwater Management Program will mitigate degradation to the Nemadji from stormwater and provide data on the condition of the Nemadji and other local waterways.

3. Impact on Coastal Resources: Address all of the issues listed below as they relate to your project.

a. Describe the extent to which the problem, need or priority will be addressed by the project.
b. Describe how this project addresses a high priority need as identified in state-recognized plans (such as remedial action plans, basin plans, Lakewide Management Plans, State Hazard Mitigation Plan, and county Land and Water Conservation Plans) *or priorities of regional organizations such as the Council of Great Lakes Governors.*
c. Describe the extent to which the project permanently addresses the problem or need.
d. Describe the extent to which the project leverages other technical or financial resources.
e. Describe the measurable results (give estimated benefits for all that apply). Use the suggested indicators listed below, or others as appropriate to your type of project.

Type of Project	Suggested Indicators
Coastal Land Acquisition	• Acres protected • Linear feet of coastline acquired
Wetland Protection and Habitat Restoration	• Acres of habitat restored or protected • Endangered species protected • Type of habitat or ecosystem protected or restored
Nonpoint Source Pollution Control	• Reduction in pounds of P delivery • Reduction in tons of soil erosion/sedimentation • Miles of vegetative buffer
Great Lakes Education	• Students trained • Projected audience
Coastal Resources and Community Planning	• Number of municipalities included in a plan • Population affected by the plan • Land area covered by the plan • Type of coastal resource protected • Ordinances developed
Public Access and Historic Preservation	• Linear feet of coastline made accessible • Population affected

a. Describe the extent to which the problem, need or priority will be addressed by the project.

The main goal of the Stormwater Education Project is to encourage the citizens of Superior to actively participate in programs that will teach them about the problems associated with non-point source pollution, flooding from stormwater runoff, and pollution of Lake Superior and its tributaries. In addition, these programs give Superior residents ways to prevent poor water quality in Lake Superior from stormwater runoff through monitoring, building rain gardens, and stenciling storm drains.

Though the St. Louis CAC has plans underway to improve the beneficial use impairments of the St. Louis River, more needs to be known about the water quality trends of other waterways within Superior, including rivers such as the Nemadji and the Pokegama. By engaging citizens in a fun volunteer project that helps Lake Superior, they will be more aware of the impacts of erosion from flooding than if they simply received information about stormwater runoff, and they will share what they know with others.

The UW Extension's *Educating Young People About Water: A Guide to Program Planning and Evaluation* states that "without some intervention to focus attention on environmental problems in ways that attract children, many who are interested in the environment will be deflected by other pressing issues." Every time they walk past a storm drain that they helped stencil, they will be reminded of the importance of stormwater management and feel proud that they played a role in educating their community. By planning and building their own rain gardens, students will learn that stormwater management can be fun, and that even they can do something to help the Great Lakes environment. Students will feel a sense of ownership and pride about their rain gardens, which will help them connect to the natural world.

Given that the students will be involved with the maintenance and observation of their rain gardens for several years, this project will keep them interested in what they learned in a way that will continually bring Great Lakes environmental issues to the forefront of their minds. Rain gardens can also be used as an educational tool to expand on the environmental problems facing the Great Lakes. As students prepare to map the area where they will plant their rain garden, their teachers can use this opportunity to have them research past land use and how the presence of Lake Superior influenced economic development. As students choose the native plants they want to plant in their gardens, they can also learn about what ecosystems are found in their area. When teachers and SWWTP project leaders talk about stormwater runoff and how it affects Lake Superior, they can also talk about non-point source pollution, problems with mercury bioaccumulation in fish, and the impacts of development on the Great Lakes coasts.

Both the student rain gardens and the demonstration rain garden fulfill the purpose of teaching community members that there are ways individuals can contribute positively to the environment of the Great Lakes. Learning about rain gardens may spur people on to do more to help improve water quality in the Great Lakes, whether through volunteer projects with other environmental groups, planting their own rain gardens, promoting water conservation in their homes, or civic involvement.

b. Describe how this project addresses a high priority need as identified in state-recognized plans (such as remedial action plans, basin plans, Lakewide Management Plans, State Hazard Mitigation Plan, and county Land and Water Conservation Plans) *or priorities of regional organizations such as the Council of Great Lakes Governors*

The Council of Great Lakes Governors has as priorities: Adopt sustainable use practices that protect environmental resources, control pollution from diffuse sources and promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem.
The St. Louis River System Remedial Action Plan (RAP) defines excessive loading of sediment and nutrients to Lake Superior as a beneficial use impairment of the St. Louis AOC.
The Lake Superior Basin Plan noted that erosion was a concern for the Lake and its tributary streams.
The Lakewide Management Plan (LaMP) for Lake Superior also notes erosion and increased sediment loads as concerns.
EPA has required Public Education and Outreach as one of the six required minimum control measures under Phase II Stormwater Management, stating that an informed and knowledgeable community is crucial to the success of a storm water management program.

This project addresses the need for educating and involving the community. Everyone values clean water, yet many people don't understand the threats from nonpoint pollution and stormwater runoff. Nor do they see their contribution to the problem or solution.

c. Describe the extent to which the project permanently addresses the problem or need.

In the initial stages of the Citizen Waterway Monitoring Program project, City staff will build a waterway monitoring infrastructure in Superior that, once in place, can be easily managed, complete with accessible data to show trends in water quality indicators such as turbidity, temperature, and stream flow. Once in place, the monitoring project should be able to run on its own, with periodic efforts to recruit new volunteers and update the waterway database. As more data become available, citizen monitors will be able to see how their efforts contribute to management decisions and erosion control, which will keep them interested in the project over the long term.

Since 6th-graders will be at Superior Middle School until 8th grade, they can watch their rain garden mature and make observations on the kinds of wildlife that that visit their gardens. One goal of this project is for students to see how they can make long-term, positive contributions to the environment. When they see this, they will bring their enthusiasm home and teach their family members and neighbors the importance of stormwater management, and how each person can make a difference. After the first several years of having rain gardens at the middle school, students can gather seeds from existing plants so the rain gardens for future classes will be self-perpetuating.
Even after all the low-lying areas on school grounds have been identified and planted with a rain garden (a minimum of ten years), students can benefit by observing the gardens as they change through the passing of the seasons, and they can observe how it catches rainwater during rainstorms. It may also be possible that students can gather seed or plant seedlings from the existing rain gardens to plant new rain gardens elsewhere in the community, or at home. Once the demonstration rain garden at Barker's Island is in place, it will need to be weeded and thinned periodically to keep it healthy and able to catch stormwater; all the while it will be serving its purpose of educating the public about the benefits of rain gardens. It may also need sediment removal if build up occurs.

Though the storm drain stencils wear off concrete over several years, the memory of the stenciling event will not be forgotten by those who participated in it. They will also remember the lessons they learned about stormwater pollution, and this will help them to be more mindful of the things they leave lying around the yard that might get into the storm sewer.

Once rain barrels are put in place, they will continue to prevent stormwater pollution in Lake Superior for as long as homeowners use them properly. One long-term benefit comes from homeowners who educate their neighbors or children about the advantages of rain barrels, passing on the importance of stormwater management. When used in concert with rain gardens, they can provide a comprehensive way to keep stormwater out of the sewer system and show people that they can help to improve water quality in Lake Superior.

d. Describe the extent to which the project leverages other technical or financial resources.

A grant from the Great Lakes Protection Fund and Great Lakes Areas and Bays will be used as match for the Citizen Waterway Monitoring Program. This grant will run from 1/1/2005 through 6/30/2006. Staff at the SWWTP will use their expertise to design a website so the public can view the citizen monitoring data online.

Several employees at SWWTP have expertise in native plant restoration, so they can provide the technical expertise needed to plan the sites for rain gardens, choose the appropriate native plants, and provide assistance for site maintenance. They will know which plants are appropriate for different soil types, as well as how to choose plants that will bloom during different times of the growing season so there will always be flowers to enjoy. These same employees are also experienced in educating the public about the benefits of rain barrels. They know how to acquire the needed parts for the rain barrels, as well as how to assemble them. A third staff member has the equipment and experience necessary for the stenciling program, including the skills to map out storm drains and provide routes for the children who will do the stenciling. In addition, the SWWTP has many websites, brochures, and scientific literature that they can draw upon for information that will help the rain garden program.

e. Describe the measurable results (give estimated benefits for all that apply). Use the suggested indicators listed below, or others as appropriate to your type of project.

With the Citizen Waterway Monitoring Program, success will be defined by having an organized monitoring program planned and in place by the first year. We will document the number of volunteers in the program each year, as well as the number of different sites that are monitored. Over time, another measure of success will be how continuously a given site is monitored, and how monitoring has resulted in any management decisions or pollution prevention initiatives. We will also document whether the data give a good picture of the water quality trends at different sites. During the first year of the rain garden program, we would educate every 6th-grade student at Superior Middle School about the advantages of a rain garden, as well as how to build one. The City's rain barrel project serves as a jumping-off point to teach students about Great Lakes environmental issues in general. The rain barrel project success will be measured by how many barrels are sold, and whether supply meets demand. We will also assess whether the rain barrel program produces enough citizen interest to be carried into third year. The rain gardens will continue to be built at the school until space or money runs out; after that, students will still be able to learn about rain gardens by observing and maintaining the rain gardens that have already been built, or using the seeds from existing gardens to plant new gardens off site. Measures of success, then, would be the number of students involved in the rain garden program every year, as well as the number of rain gardens planted. Thousands of people will view the demonstration gardens at Barker's Island each year, as they will be in high-visibility areas. Staff at the SWWTP will ask those who call in with questions about rain gardens if they have seen the garden out at Barker's Island and whether that garden influenced their decision to put in their own rain garden. Phone contacts and contacts at public events with stormwater education materials displayed will also be used as measures of success.

4. Methodology and Timetable

a. Provide a task description, including major milestones.
b. Provide a list of work products.
c. Describe how the project will encourage public participation and how the final product will be distributed (as appropriate).
d. For Public Access projects, please describe how the project incorporates planning for lake level changes

Citizen Waterway Monitoring Program

- July 2005 to January 2006: Staff at the SWWTP will partner with the groups listed in Objective 1 above to put together a monitoring program. They will decide which water quality parameters will be used for the monitoring program, and they will pinpoint likely sites throughout Superior that would be good for monitoring. Until volunteers are in place to collect samples, SWWTP will collect them.
- February 2006: Staff will advertise in local newspapers, websites, and in educational fliers to encourage citizens to be volunteer monitors.
- March 2006: Staff will hold meetings to train citizen monitors, organize citizen monitoring teams, and show people their monitoring site. Once the ice has begun to melt in local waterways, monitoring can begin. Staff will assist initially by visiting monitoring sites with volunteers.
- April 2006 – June 2006: Citizens will monitor their site and turn in data at the end of each month.
- June 2006: Staff will assemble and manage the collected data in a centralized system, and analyze the implications of the erosion rates on current and potential development. Staff will make the collected data, as well as water quality trends, available to the public on the City's website. A Volunteer Appreciation Event will be scheduled.

Students build rain gardens at Superior Middle School

- July 2005 – September 2005: SWWTP staff will collect the necessary resources for the rain gardens, including garden implements and handbooks. They will contact native plant suppliers to assure that plants will be available in September and October. Staff will contact Superior Middle School's 6th-grade teachers to plan the rain garden project for the incoming 6th-grade class. Staff will work with teachers to plan classroom-based stormwater education activities around the rain garden project.
- September 2005: Teachers will get students excited about the rain garden project when school starts, and will share the project plan with parents during open houses and parent-teacher conference days.
- September 2005 – October 2005: Students will choose a site for their garden by mapping landscape features. They will choose the correct native plants by doing research. Each class will then dig out and plant a rain garden with assistance of teachers and SWWTP staff. After rain events the class will observe how water collects and soaks into their rain garden.
- October 2005 – March/April 2006: Students will maintain gardens as needed.
- April 2006 – May 2006: Students will make observations in their gardens as plants emerge. They will record which plants bloom and when, and what kinds of wildlife visit their garden.
- May 2006 – June 2006: Student volunteers, teachers, and SWWTP staff will maintain the gardens and collect seeds from existing plants for future rain gardens.

Teach community members about rain gardens

- Time frame dependent on construction variable: Staff will gather necessary supplies for the construction of a rain garden in the parking lot on Barker's Island. They will design the rain garden using up-to-date plans from the City's parking lot construction plans. The interpretive sign and the placards to identify native plants will be written up and ordered. Staff will contact native plant suppliers to make sure there will be enough plants for the rain garden. Once parking lot construction is completed, staff will plant the rain garden and put up signs. Local media will be contacted to alert residents to the City's efforts to manage stormwater. When the grand opening of the new facilities at Barker's Island occurs, staff will make sure to showcase the rain garden.

Storm Drain Stenciling

- July 2005 – March 2006: Staff will assemble stenciling equipment, plan routes, update storm drain maps, and recruit schools to complete stenciling in different parts of the city. Before the stenciling takes place, staff will contact local newspapers, radio stations, and TV stations to alert them to the stenciling project.
- March 2006: Before stenciling takes place, staff will work with teachers to make sure students are learning about stormwater management in the classroom. Students will take home fliers to tell their parents why they will be stenciling storm drains.
- April 2006: Over the course of two weeks, staff will lead school groups as they stencil storm drains throughout the city. Local media will be present to spread the message of stormwater pollution to a wider audience. Students will place door-hangers on local residences that explain the stenciling project and why the students are doing it, helping educate local residents.

Rain Barrel Program

- July 2005 – August 2005: Staff will work on advertising upcoming rain barrel workshops in September. Citizens who call in will be allowed to sign up for several workshops that will occur both during the day and in the evening. Staff will also work on acquiring recycled barrels from wholesale food distributors, and will work with previous contacts to put together the supplies needed to assemble the rain barrels.
- September through June 2006: Multiple rain barrel workshops will take place during the day, evenings and on weekends. Garden clubs will be contacted to offer workshops at their site. The service learning class at the middle school will construct rain barrels and paint them in their art classes for homeowners unable to builds their own barrels.

5. Project Budget

a. Provide a breakdown of the proposed project budget using the following table. WCMP Grant projects totaling $60,000 or less require a 50% match. Projects larger than $60,000 require a 60% match.

Activity	Match	WCMP Request	Total
Personnel	$16,000	$16,000	$32,000
Fringe	$3,000	$3,000	$6,000
Supplies	$6,000	$6,000	$12,000
Equipment	$2,000	$2,000	$4,000

Advertising, Brochures, Web Page	$1,500	$1,500	$3,000
Lab Analysis	$1,500	$1,500	$3,000
Totals	**$30,000**	**$30,000**	**$60,000**

6. Budget Description

a. Describe, in detail, the commitment of nonfederal matching funds.
b. Describe the composition and source of the matching funds.

City of Superior funds will be used as match for the development of the rain garden at Barker's Island and for project administration. A grant from the Great Lakes Protection Fund and Great Lakes Areas and Bays will be used as match for the Citizen Waterway Monitoring Program. This grant will run from 1/1/2005 through 6/30/2006.

7. Bonus objectives. Address all of the issues listed below as they relate to your project.

a. Build partnership alliances with other organizations or agencies
b. Develop exceptional marketing, outreach or education strategies
c. Encourage coast-wide projects

Partnerships

Superior Middle School: The middle school 6th-grade teachers are anxious to incorporate rain gardens into their science curriculum. They have visited the demonstration gardens at the SWWTP for the last two years and feel it would be an excellent addition to their stormwater education program.

Regional Stormwater Protection Team: is a coalition of local governments, state agencies and universities joining together to remind the public that personal pollution matters. Superior is a charter member of the team that strives to educate the public and share resources to prevent duplication of efforts and to be as cost effective as possible.

Western Lake Superior Basin Project NEMO: (Non-point Education for Municipal Officials) is a local chapter of the national NEMO group dedicated to teaching and demonstrating land use and urban development impacts on the natural environment. The proposed project will demonstrate effective and efficient stormwater mitigation techniques.

WDNR: The WDNR is the permitting authority in Wisconsin for surface water rules promulgated by the U.S. EPA. The proposed project will demonstrate to communities throughout the state how municipal/state partnerships can work together in the efforts of environmental compliance.

EPA: The U.S. EPA has recognized the need for pollutant removal and control of urban surface water runoff. We will protect Lake Superior and develop positive municipal environmental stewardship behaviors presentable as an example to other EPA regions.

St. Louis River Citizens Action Committee: This Bi-State (Wisconsin & Minnesota) citizen's group has assumed responsibility for numerous environmental "watchdog" tasks on the lower reaches of the St. Louis River estuary, which feeds into Superior Bay. The St. Louis River defines the border between Duluth, Minnesota and Superior, Wisconsin. The committee has representatives from both sides of the river and concerns itself with the overall health of the entire estuary/bay. The group supports efforts by both Superior and Duluth to control and contain surface water runoff from each respective urban environment.

Outreach

Extensive efforts will be made to involve the public through a series of newspaper ads, notices and stories, mailings, displays, and presentations. Prevention of stormwater pollution will be a major focus, through school and community presentations and activities; continued work with the Water Resource Coordinator to incorporate water pollution prevention information and activities into the curriculum; and presentations and activities geared for specific audiences, such as the inlet stenciling program around schools by students.

Coast wide applications

An important part of our stormwater management program is the sharing of information. Our pollution prevention website can be found at www.ci.superior.wi.us. As projects are developed new pages will be added to highlight our successes.