



**OAKCREEK**  
— WISCONSIN —

# **NR 216**

# **2013 Annual Report**

City of Oak Creek  
WPDES Permit No. WI-S049905-3

## Annual Report Contents

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**A. Status of implementing the storm water management program and compliance with schedules**

**I. City of Oak Creek Management Program**

**(a) Source area controls and structural best management practices.**

**A. Catch Basins**

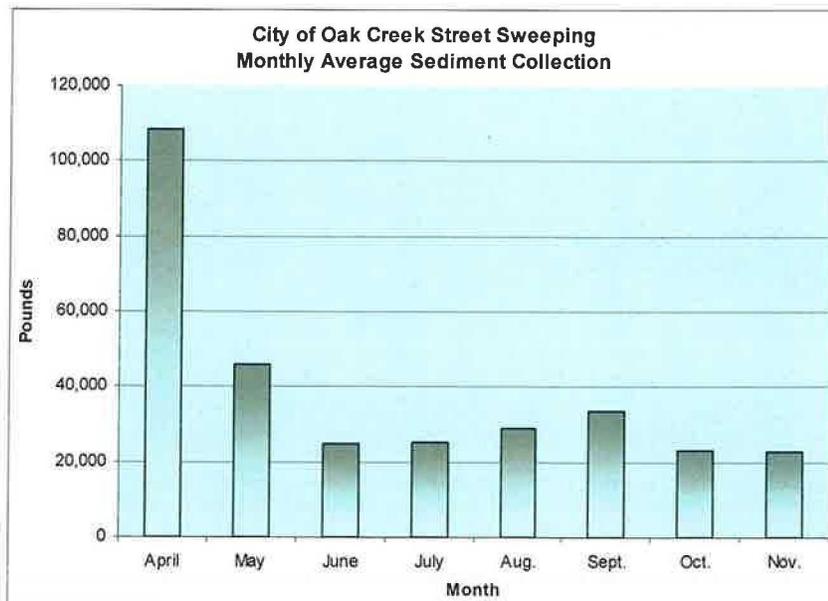
The City's catch basin cleaning program was implemented in March, 2001. City owned inlets and catch basins were inspected in the spring and fall of 2013, both for structural maintenance and cleaning needs. A total of 3,276 catch basin inspections were conducted in the 2013 cleaning program resulting in the removal of 8 tons (16,000 pounds) of sediment. This was a decrease from 2012 (13.3 tons). All removed sediment was disposed of at the Waste Management Metro landfill in Franklin. The 2013 program continued using a GIS based inspection, maintenance and record keeping system.

**B. Sweeping of Streets with Curb**

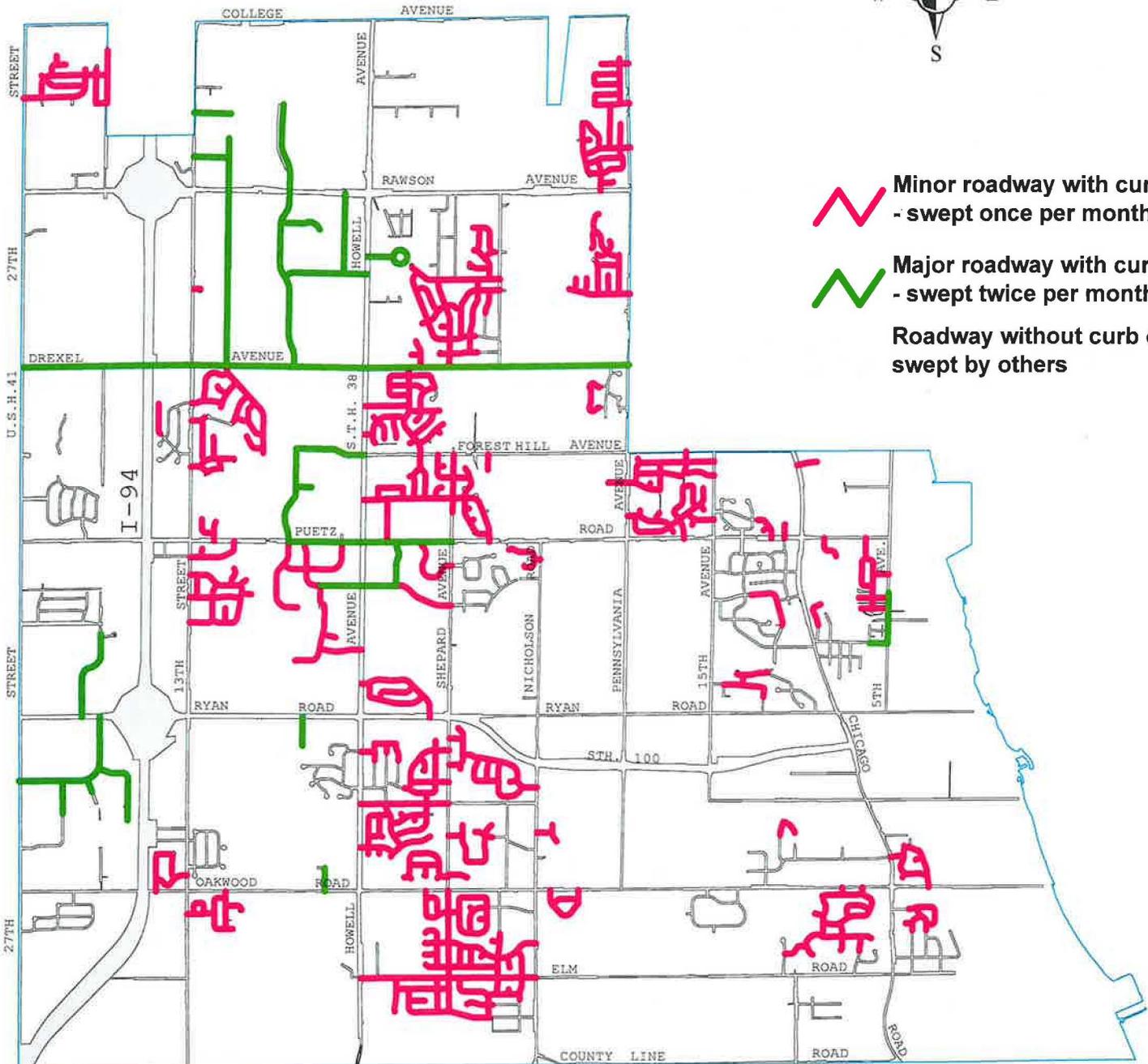
The City continued to follow the approved street sweeping schedule in 2013. Major city curbed roadways were swept twice per month and minor city curbed roadways were swept once per month. Sweeping operations began at the end of March and were suspended in late October for the winter. The figure entitled "City of Oak Creek Street Sweeping" shows the location and proposed schedule for the streets included in the City's street sweeping program.

The frequency of street sweeping remained the same between 2012 and 2013. Between 2012 and 2013 sediment collection increased from 140.00 tons (280,000 pounds) to 197.63 tons (395,260 pounds). Leave collection at the recycling yard totaled 680 cubic yards. The collected sediment and leaves were disposed of at the Waste Management Metro landfill in Franklin.

The following chart shows Oak Creek's historical trend for sweepings collected on a monthly basis.



# CITY OF OAK CREEK 2014 STREET SWEEPING



### C. Structural Control Maintenance

City owned detention basins and swales are mowed three to five times a year depending on conditions. Cut material is removed if there was significant growth between mowing.

The City currently owns eleven detention basins. Three of the detention basins are located at the Oak Creek Street Department (800 W. Puetz Road), two are located at Abendschein Park (1900 E. Drexel Avenue), and the other basins are located at 2309 W. Drexel Avenue, 10101 S. Shepard Avenue (Shepard Hills), 7000 S. 6<sup>th</sup> Street (fire station), 301 W. Ryan Road (police station), 3480 E. Puetz Road (Lake Forest) and David Lane extended (South of Twin Oaks Drive). The basins were inspected three times for proper operation and sediment buildup in 2013.

The City of Oak Creek also inspects the regional detention basin at the southeast corner of I-94 and W. College Avenue in accordance with an intergovernmental agreement between the Wisconsin Department of Transportation, Milwaukee County and Oak Creek.

The basin at 10101 S. Shepard Avenue was converted to a regional storm water quality and quantity facility in 2003. The slopes were planted with native prairie plants which are mowed or burned once annually.

Routine maintenance (mowing, removal of litter and branches, spot reseeding, minor erosion, etc.) was done on all the detention basins and drainage swales. Eighteen cubic yards of sediment were removed in 2013.

### D. Roadway Maintenance

Salt is applied to roadways when they become slippery. A full-scale plow operation will begin if the snow continues. Additional salt will be applied at the conclusion of the plowing operation if there are cold or falling temperatures. All road salt is stored in a fully enclosed storage building located at 800 W. Puetz Rd.

The above normal number of snowfall events in 2013 resulted in more salt being used. Higher sand to salt ratios were used toward the end of December due to the depleted salt supply.

#### (b) Discharges from areas of new development and redevelopment after construction is completed.

The Oak Creek Municipal Code requires an 80% removal of total suspended solids on developments creating 0.5 acres or more of impervious area.

The Oak Creek Municipal Code was amended in September, 2004 to incorporate the performance standards contained in NR 151. Developments creating 0.5 acres or more of impervious area are subject to requirements relating to infiltration, protective areas and fueling and vehicle maintenance areas. A copy of the adopted ordinance was submitted to the DNR in October, 2004.

Four storm water management permits were issued in 2013. These permits covered a total of 260 acres of new development within the City.

#### (c) Assessment of water quality impacts from flood management projects.

Assessments are made on each individual project. Water quality components are implemented into

the designs where it is feasible. The E. Puetz Road to E. Forest Hill Avenue drainage improvement project incorporated some slope stabilization practices. The project was primarily within railroad right-of-way which limited the measures that could be implemented.

- (d) Evaluation of the feasibility of retrofitting City owned structural flood control devices to provide pollutant removal from storm water.

Each of the City owned detention basins were evaluated to determine the feasibility of retrofitting them for water quality purposes. It was previously recommended that the basins located at 10101 S. Shepard Avenue and 3480 E. Puetz Road be retrofitted for water quality. The basin at 10101 S. Shepard Avenue was retrofitted for both water quality and quantity in 2003. Retrofitting the basin located at David Lane Extended is not recommended if the downstream regional wetland treatment system is implemented. Retrofitting the basin at 7000 S. 6<sup>th</sup> Street is not recommended because it would serve a very small tributary area.

- (e) Implementation of a program to promote the management of streambanks and shorelines by riparian landowners to minimize erosion, and restore or enhance the ecological values of waterways.

The City utilizes the Education and Information program described in Section V of this report to promote the management of streambanks and shorelines by riparian landowners to minimize erosion, and restore or enhance the ecological values of waterways. This program includes periodic articles in the local newsletter and provides educational literature available to the public at City Hall and the public library.

The City completed a study in 2013 investigating stabilization alternatives for the Bluffs along Lake Michigan. Implementation of bluff stabilization improvements will be dependent upon securing funding through grants.

## II. Illicit Connection/Discharge Program

The illicit connection/discharge program proposal was approved by the DNR on September 8, 2003. This program includes all storm sewer outfalls 36 inches or larger. Initial field screening for the storm sewer outfalls began in 2004.

The outfalls were screened and categorized as primary (screened every six months), secondary (screened each year) or non-critical (screened every five years). The following table illustrates the criteria used to categorize the outfalls based on the field screening results:

Category:	Non-Critical	Non-Critical	Secondary	Secondary	Secondary	Primary	Primary	Primary	Primary
Visual observations (abnormal vegetation, residue or structural damage present)	No	No	No	Yes	Yes	Yes	No	No	Yes
Dry weather flow present	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Field Screening (odor, turbidity, color or surface scum present)	No	No	Yes	No	No	Yes	No	Yes	Yes
Field analysis (tests positive for detergents, chlorine, copper, phenols or pH)	NA	No	No	NA	No	No	Yes	Yes	Yes



The outfall categories and locations for this program are illustrated in the attached figure. The 2013 screenings resulted in one outfall being categorized as secondary.

The City did not receive any reports of illicit discharges in 2013.

### III. Industrial/High Risk Runoff Program

The proposed Industrial/High Risk Runoff program proposal was approved by the DNR on September 8, 2003. This program includes all storm sewer outfalls larger than 18 inches in critical basins identified in Oak Creek's Storm Water Management Master Plan. Because this program is similar to the illicit connection/discharge program, both programs were combined into one program.

### IV. Construction Site Runoff

The City reduces pollutants in storm water runoff from construction sites by enforcing the City's erosion control ordinance. The building inspection department has enforcement over individual buildings and the engineering division reviews all erosion control plans and has enforcement over subdivisions and public works projects. Building inspection first post the site with a notice of erosion control violations giving the owner a specified time to correct the situation. If the owner does not comply within the specified time period, a stop work order is imposed. Further non-compliance will result in the issuance of a citation. The building inspection department did not issue any citations and one stop work orders in 2013. The engineering department sent out three erosion control compliance related correspondences in 2013.

Oak Creek had erosion control compliance issues on two sites in 2013. As a result the Engineering Department conducted an internal self-evaluation of Oak Creek's erosion control program and made revisions where necessary. The updated erosion control program is contained at the end of this report.

### V. Public Education and Outreach Program

Oak Creek joined the Southeast Wisconsin Clean Water Network in 2009. The Network called Keep Our Waters Clean, is comprised of 17 municipalities and is designed to satisfy the education and outreach activities required by the NR 216 storm water quality permit. This consolidated effort enables a more efficient and effective information and education program.

The 2013 Public Education and Outreach Program included the following components that correspond to the conditions of the reissued NR 216 permit:

The City publishes a local newsletter called the Acorn that is mailed to the city residents three times each year (Winter-Spring, Summer and Fall) and available at City Hall and the public library. The following storm water related articles were published in 2013:

- Water Friendly Landscaping
- Springtime Rain Garden Plants and Workshops
- Want to Save Money on Yard Care?
- Pet Waste and Water Quality

The following summary report from Keeps Our Waters Clean is a synopsis of their 2013 activities.

**Written Report to Southeast Wisconsin Clean Water Network for 2013**

**Report Submitted January 23, 2014 by Susan Greenfield, Root-Pike Watershed Initiative Network**

**SCOPE OF SERVICE**

**Target Audience**—Based on the results from the household survey administered under this PROJECT, we will target male homeowners 35 to 64 years of age who live in the geographic area served by the S.E. Wisconsin Clean Water Network and perform their own yard work, wash their cars as well as owners of dogs.

**Messages we will deliver in news releases, radio interviews, radio spots, workshop presentations, handouts and other venues will discuss stormwater runoff and its impact on our streams, rivers and lakes, how people contribute to it (yard care practices, etc.) and positive actions they can take to reduce the problem. Topics (practices) to be addressed are: rain gardens, rain barrels, stormwater trees and other landscaping, composting, protecting storm drains, use of lawn and garden chemicals, managing pet waste, reducing salt on sidewalks and driveways, car care, role of swales and ditches.**

**OUTCOMES**

**TARGET AUDIENCE OUTCOMES**

**Greener Yards, Cleaner Waters Program**

Six how-to “Greener Yards, Cleaner Waters” workshops targeted to homeowners were held in Oak Creek, Sturtevant, City of Kenosha (2) and New Berlin. (How many) people attended the workshops and we gave away six rain barrels in free drawings.

**Respect Our Waters Campaign**

Primary targets were adult TV viewers, homeowners who perform yard care, pet owners and car owners (see attached ROW report).

**MESSAGE OUTCOMES**

**Greener Yards, Cleaner Waters Program**

With its focus on homeowners, yard care, and stormwater runoff and the main slogan, “actions you can take in your yard to protect our precious waters,” Root-Pike WIN addressed all of the topics (left side) in its E-newsletters (see below), brochure and poster and workshop presentations, website, and exhibitions.

**Respect Our Waters Campaign**, with its slogan, “clean water is a matter of proper training,” and its spokesperson, a sassy Water Spaniel named “Sparkles”, the 2013 campaign focused on the impact of picking up pet waste, using lawn chemical, not sweeping debris into the street, and maintaining autos on the quality of stormwater runoff. In addition to the television spots, messages were carried on a Respect Our Waters Facebook page, Respect Our Waters website, and with “Sparkles” on Milwaukee Journal Sentinel newspaper bags. Further carrying the message were “Sparkles” buttons, “Sparkles” temporary tattoos, and a bookmark listing tips for clean water that were distributed at 47 community events (see attached ROW report).

Topics not addressed by either effort were: role of swales and ditches and protecting storm drains.

**SCOPE OF SERVICE**

**OUTCOMES**

<p><b>Advertising Campaign</b>—Root-Pike WIN will collaborate with the S.E. Wisconsin Watersheds Trust to plan, create and implement a media campaign that will be targeted to our audience and air during between the months of May-October.</p>	<p><b>ADVERTISING OUTCOMES</b></p> <p><b>Respect Our Waters Campaign</b>                  Root-Pike WIN, representing the SE WI Clean Water Network, and Sweet Water (S.E. WI Watersheds Trust), representing 17 Milwaukee area municipalities, joined together to plan and implement an advertising campaign for the Milwaukee TV viewing area. Working with an advisory group that included members of both municipal groups, Eichenbaum &amp; Associates advertising agency was selected to create the campaign, negotiate a media buy and provide publicity. They negotiated the most exposures with WISN TV 12 in an agreement that included TV spots (836) of 0:15 or 0:30 seconds and a website landing page and advertising on the WISN TV 12 website (see ROW report).</p>
<p><b>Media Publicity for Greener Yards Program</b>—                  Through direct contacts with reporters and the distribution of news releases, Root-Pike WIN will attract media publicity to include radio and television interviews, and newspaper and magazine feature stories.</p>	<p><b>MEDIA PUBLICITY OUTCOMES</b></p> <p><u>Greener Yards, Cleaner Waters, 2013</u>                  Journal Times, March 25, 2013 – “Greening Up Your Yard workshops are scheduled throughout April”</p> <p>Kenosha News, April 9, 2013 – “Workshops set to help residents to improve water quality”</p> <p>Kenosha News, June 6, 2013 – “The earth-friendly grass is greener” (Resource list: For Greener Yards, Cleaner Waters workshops and list of sources for native plants: <a href="http://rootpikewin.org">rootpikewin.org</a>)</p> <p>WTMJ-TV, July 1, 12:30 News – Live two-minute interview with Jeff Martinka and Susan Greenfield covering steps the public can take to help protect our waters – rain barrel, native plants and rain gardens.</p> <p>WRJN-AM, “Afternoon News,” July 9, 4:35 p.m. – Live 10-minute interview with Susan Greenfield on rainstorms and how they impact area water, stormwater pollution, actions homeowners can take and actions municipalities have taken.</p> <p>94.5 Lake FM, August 18, 7 a.m. – 13-minute interview with Jeff &amp; Allison discussing water quality and stormwater pollution prevention.</p>

**SCOPE OF SERVICE**

Municipal Newsletters—Root-Pike WIN will provide news releases and articles for municipal newsletters and websites on the topics areas. Materials will be submitted electronically in January (Spring newsletters), April (Summer newsletters), June (Fall newsletters), August (winter newsletters).

Electronic Newsletter—Root-Pike WIN will send monthly electronic newsletters to municipal residents on our topic areas to include articles, announcements of upcoming workshops and grant opportunities. Municipalities will be invited to submit information for the newsletter. Email addresses will be gathered from people who attended workshops and/or applied for grants associated with Root-Pike WIN and from other lists, such as UW-Extension.

Speakers Bureau—Root-Pike WIN will be available to give presentations to service and professional groups about the S.E. WI Clean Water Network and its role in reducing polluted stormwater runoff. A Powerpoint presentation and handout will be created and made available to members of the Network.

**OUTCOMES**

**MUNICIPAL NEWSLETTER OUTCOMES**

February 25, 2013, "Village of Mount Pleasant Website, "Greener Yards, Cleaner Waters Workshops Announced".

**ELECTRONIC NEWSLETTER OUTCOMES**

The Greener Yards, Cleaner Waters electronic newsletter was emailed/published eight times in February, March, April, May, June, July, August, September 2013 to over 1,000 people (email addresses). The list includes people who have attended a workshop or have been awarded a rain garden grant; municipal members of the SE WI Clean Water Network; Root-Pike WIN board members; Resource Group members and grant recipients from our Watershed-based Grant Program; participants in the Pike River and Root River Watershed planning; participants in the annual Root River Paddle; those who visited the Respect Our Waters booth at exhibition/community events and others who asked to be emailed the newsletter. The February and March issues announced tree, shrub and seed programs offered by municipalities and counties in southeast Wisconsin.

**SPEAKERS BUREAU OUTCOMES**

On March 15, 2013, Root-Pike WIN offered a professional landscapers workshop that attracted 37 people.

Greener Yards, Cleaner Waters Workshops

The following workshops held in 2013 attracted 83 people:

Oak Creek, Thursday, April 4, 2013 from 5:30 to 7:30PM at Oak Creek Community Center – 8580 South Howell Ave, Oak Creek, WI

Sturtevant, Saturday, April 13, 2013 from 10:00 to Noon at SCJ iMET Auditorium Room #104 2320 Renaissance Blvd Sturtevant, WI 53177

Kenosha, Saturday April 13, 2013 from 10:00 to Noon at Kenosha Public Museum - 5500 1st Ave, Kenosha WI 53140

**SCOPE OF SERVICE**

**OUTCOMES**

<p>Exhibitions--Root-Pike WIN will participate in fairs and conferences as an exhibitor. We will create new artwork for the display unit and a handout for distribution at the events. The S.E. Wisconsin Clean Water Network will be prominently recognized on these materials. The exhibit will be made available to municipalities for display. A second tabletop display will be purchased if there is a large call from municipalities for the display.</p>	<p>Kenosha, Saturday April 20, 2013 from 10:00 to Noon at Gateway Technical College, Kenosha Campus Technical Building, 3520 30<sup>th</sup> Avenue Room T130. <i>In partnership with GTC's Celebrate Earth Day Fair</i></p> <p>New Berlin, Saturday April 27, 2013 from 10:00AM to Noon at New Berlin - City Hall Council Chambers, 3805 S. Casper Drive, New Berlin, WI 53151</p>
<p>Exhibitions--Root-Pike WIN will participate in fairs and conferences as an exhibitor. We will create new artwork for the display unit and a handout for distribution at the events. The S.E. Wisconsin Clean Water Network will be prominently recognized on these materials. The exhibit will be made available to municipalities for display. A second tabletop display will be purchased if there is a large call from municipalities for the display.</p>	<p><b>EXHIBITIONS OUTCOMES</b></p> <p><b>Greener Yards, Cleaner Waters Fairs &amp; Exhibits</b></p> <p>April 13, 2013, Exhibit at Kenosha Public Museum in conjunction with workshop</p> <p>April 20, 2013, <i>Earth Day Fair</i>, sponsored by Gateway Technical College, Kenosha)</p> <p>May 11, 2013, <i>Bird Day</i>, Kenosha Public Museum</p> <p>August 17, 2013, <i>Camp Lake Annual Meeting</i>, Salem Town Hall</p>
<p>Meetings--Root-Pike WIN will plan and attend quarterly meetings of the Network, scheduled to be held on the third Thursday in March, June, September, December, and will organize one or more additional meeting on a topic of general interest to the group. In addition, RPW will be available to meet with Tony Beyer on issues related to this contract.</p>	<p><b>MEETINGS OUTCOMES</b></p> <p>Root-Pike WIN planned and coordinated the following meetings of the Clean Water Network. January 1, 2013-December 31, 2013:</p> <p>March 21, 2013, 10:00 a.m.-noon, Milwaukee County Sports Complex, Franklin, included a special presentation: Permeable Interlocking Concrete Pavement, Sean Hayes, PE, Environmental Engineer, Milwaukee County</p> <p>June 20, 2013, 10:00 am-noon, The Energy Exchange, Milwaukee, included a special presentation &amp; tour by Bryan Simon: Energy Exchange: Harvesting Rainwater and Reducing Energy Use</p> <p>September 19, 2013, 10:00 am-noon, New Berlin City Hall, 3805 S. Casper Drive, New Berlin, included a presentation &amp; tour: Naturalization of stormwater detention ponds in the Park Central residential development, by Tom Slawski, resident</p> <p>December 19, 2013, 10:00 am-noon, Wisconsin Department of Natural Resources Conference Room, Sturtevant, included a presentation by Chris Litzau, President, Great Lakes Community Conservation Corps and a Respect Our Waters update by Susan Greenfield.</p>

**SCOPE OF SERVICE**

**OUTCOMES**

<p><b>Written Progress Reports</b>—Root-Pike WIN will submit a written report twice a year describing progress of the project. In September RPW will send an email listing the cost share for the following year.</p>	<p><b>WRITTEN PROGRESS REPORTS OUTCOMES</b></p> <p><b>Reports</b>—Root-Pike WIN submitted a final written and financial report to the Village of Mount Pleasant, the 2013 fiscal agent, on January 23, 2014. Root-Pike WIN also prepared a report on the Respect Our Water campaign that was submitted to Tony Beyer of the Village of Mount Pleasant in October 2013.</p>
<p><b>Evaluation</b>—Root-Pike WIN will create and distribute an evaluation instrument to gather input from municipal members about the project for the purpose of improving the program and increasing its effectiveness.</p>	<p><b>EVALUATION</b></p> <p>Root-Pike WIN is working with Andy Yenchu of UW-Extension to develop a web-based survey to evaluate Root-Pike WIN’s Keep Our Waters Clean outreach program. The survey is planned for February 2014.</p>

**2013 RAIN GARDENS & RAIN BARRELS**

**Greener Yards, Cleaner Waters**—While rain gardens and rain barrels were not part of the Scope of Service for the 2013 Program, they were one of the measurable outcomes of the effort. Although Root-Pike WIN was not funded for a rain garden program in 2013, rain gardens funded in 2010, 2011, and 2012 were monitored in the summer of 2013. 40 total gardens were monitored and 4 will be abandoned, leaving 36 functional gardens from 2010-2012. They represent a total of 10,521 square feet of garden space in four counties. Approximately 420,840 gallons of rain and snow-ice melt is held back, infiltrated and evaporated annually by these gardens alone. The majority of the gardens monitored are healthy. Many of the gardens had less than a 3" layer of hardwood mulch at the time of monitoring, allowing weeds to encroach on the garden. Several garden owners had moved water sources away from gardens and were advised to return them; others have added additional water sources and were advised to remove them. All garden owners were provided with a monitoring report and advice on how to better maintain their garden if needed. There was an instance in which a rain garden was moved from its original location to a different location with no water source. That garden will be abandoned and the sign removed.

**Respect Our Waters**—A rain barrel drawing was offered at each of the community outreach events where Sweet Water and Root-Pike WIN set up an exhibit, and 19 people won rain barrels from RPW. One lucky winner received a box of pet waste bags at the GRKC Annual All-Breed AKC Conformation Show in Racine. A list of the winners is below.

**SCOPE OF SERVICE**

**OUTCOMES**

Winner Name	Municipality of Residence	County
Bette Arey	Hales Corners	Milwaukee
Kevin Blunt	Racine	Racine
Monica Coey	Sturtevant	Racine
Sara Eckert	Oak Creek	Milwaukee
Donovan Fannin	Sturtevant	Racine
Linda Fifarek	Kenosha	Kenosha
Ken Flanum	Mukwonago	Waukesha
Vickie Galich and Chantelle Rompre	Silver Lake	Kenosha
Ken and Sue Gauresch	Waterford	Racine
Penny Griffiths	Racine	Racine
Cindy Hapanowicz	Kenosha	Kenosha
Mary Hess	Trevor	Kenosha
Dan Lloyd	Bristol	Kenosha
Gordon and Sandra Oakes	Waukegan	Lake, IL
Marcie Raymond	Trevor	Kenosha
Ed and Marcie Raymond	The Villages	Sumter, FL
Norman Schultz	Racine	Racine
Paul and Christine Uebe	Racine	Racine
Dennis Whyte	Kenosha	Kenosha

## VI. Spills Program

The City of Oak Creek is part of the area served by the Milwaukee County Hazardous Response Team. The Fire Department logged 7 Hazmat incidents in the year 2013 which had the potential to impact storm water quality. None of the incidents resulted in a direct release into surface water. The following is a summary of the reported spills:

- Two spill incidents of diesel fuel totaling approximately 75 gallons.
- Two spill incident of gasoline totaling approximately five gallons.
- One spill incident of oil based paint totaling approximately 300 gallons.
- One spill incident of formalin totaling approximately five gallons.
- One spill incident of mineral oil totaling approximately three gallons.

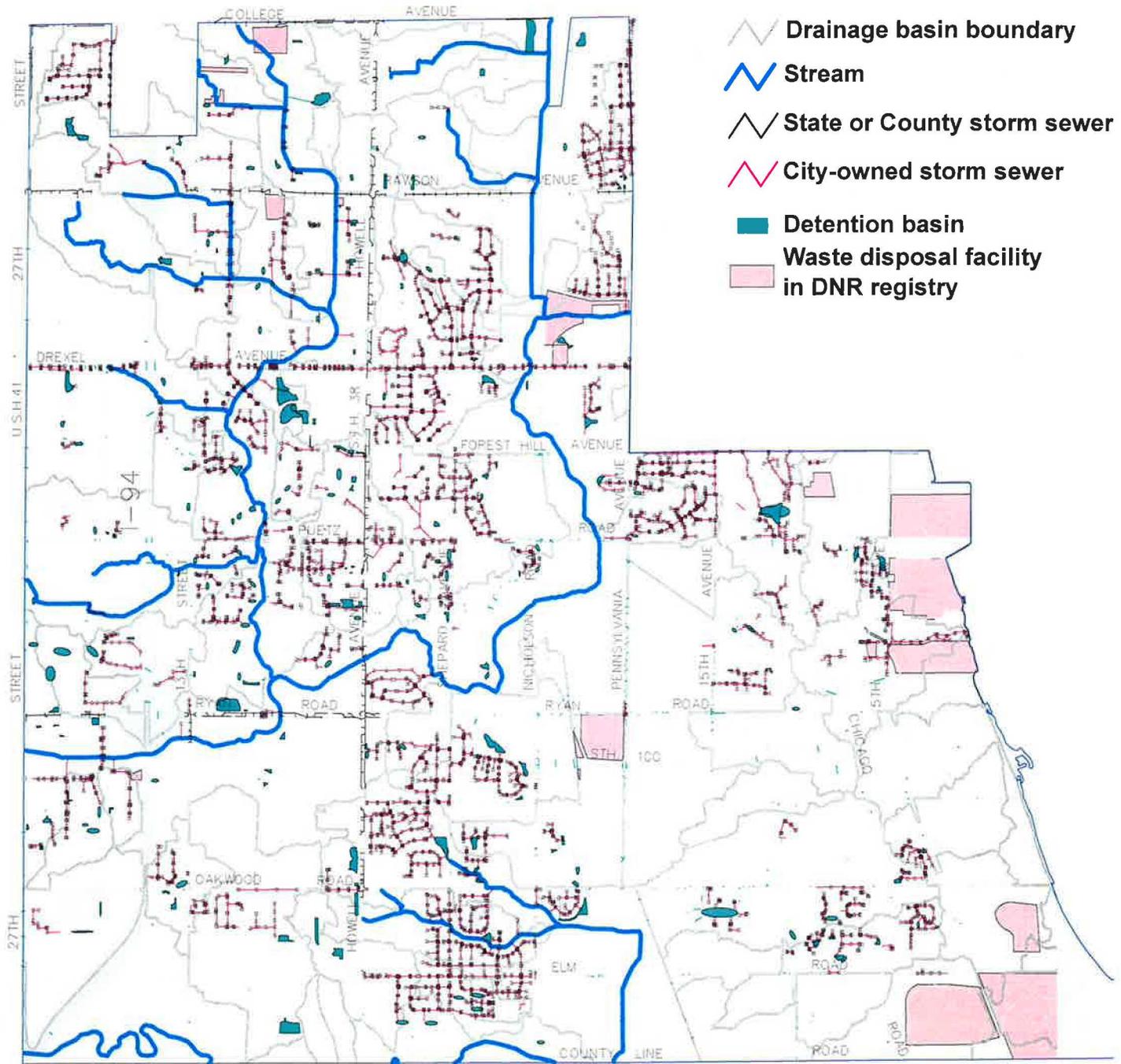
## VII. Program Revisions

None.

### **B. Updated storm sewer system map including new outfalls and structural controls.**

Please see attached maps.

# CITY OF OAK CREEK DRAINAGE MAP



C. Summary describing the number and nature of enforcement actions, inspections, public education programs, spill responses and any other activity in the storm water management program that have measurable results

### C. Summary of Activities in the Storm Water Management Program

Activities	2009	2010	2011	2012	2013
Erosion Control Permits Issued	48	55	68	53	38
Erosion Control Citations Issued	0 <sup>1</sup>				
Erosion Control Ordinance Compliance Letters	4	5	1	1	3
Spills (Hazmat incidents) relating to storm water	5	5	3	4	7
Structural Control Inspections	21	27	27	27	33
Number of Catch Basins Inspected for Cleaning	5,136	3,118	5,258	5,420	2,936
Number of educational activities undertaken	6	6	6	6	6

<sup>1</sup> Note: Citations are issued only if a request for correction or stop work order has not been effective in obtaining the desired corrections to erosion control measures. Approximately 5 stop work orders are issued each year.

**D. Summary of revisions made to the storm water management program.**

Inspection of City-owned detention basins was changed from four to three times annually (spring, summer and fall). This revision was approved by the DNR in July, 2002. No revisions to the program were made in 2013.

**E. Proposed revisions to the storm water management program.**

None.

**F. Summary of monitoring data.**

The Department of Natural Resources approved Oak Creek's monitoring program proposal in November of 2000. The City has previously submitted all of the monitoring data to the DNR.

**G. Proposed revisions to the storm water monitoring program.**

None.

**H. Summary of pollutant loading calculations.**

Pollutant loadings for all 579 subbasins in Oak Creek using the Source Loading and Management Model (SLAMM) were submitted with the City's 2006 Annual Report. The analysis showed a 36% City-wide reduction in total suspended solids. Oak Creek was in compliance with the NR151 requirement of 20% suspended solids reduction by March 10, 2008.

In 2010 the City of Oak Creek contracted with AECOM to field verify swale infiltration rates within the City. The DNR subsequently reviewed and approved the new infiltration rate of 0.35 inches per hour, which is a significant increase over the previously used rate of 0.05 inches per hour.

The City finalized the SLAMM model files in 2012. The results using the new infiltration rate indicate that Oak Creek is over 40% reduction in total suspended solids.

**I. Summary of the assessment of controls required in Section F.**

**I. Summary of the Assessment of Controls**

Part I, Section F(1)(b)

<b>Indirect Measurements</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Number and type of illicit connections found and eliminated	1	1	0	0	0
Number of erosion control permits issued	48	55	68	53	38
Number of enforcement actions taken (citations)	0 <sup>1</sup>				
Number of spills (Hazmat incidents) relating to storm water	5	5	3	4	7
Number of educational activities undertaken	6	6	6	6	6
Number of sewer inlets stenciled	0	0	0	0	0
Volume of used oil collected (gallons)	11,595	10,925	8,290	8,700	8,325
Mass of leaves collected (c.y.)	825	800	825	925	680
Mass of sediment captured from street sweeping	226.98 Tons	202.51 Tons	178.33 Tons	140.0 Tons	197.63 Tons
Mass of sediment removed from catch basins	13 Tons	15 Tons	16 Tons	13.3 Tons	8 Tons
Mass of sediment removed from structural controls	5 c.y.	8 c.y.	7 c.y.	6 c.y.	18 c.y.

<sup>1</sup> Note: Citations are issued only if a request for correction or stop work order has not been effective in obtaining the desired corrections to erosion control measures. Approximately 5 stop work orders are issued each year.

**J. Fiscal analysis.**

Summary of previous year's expenditures and current year's budget of the major elements in the NR 216 storm water management program.

<b>Fund / Department</b>	<b>2010 Actual</b>	<b>2011 Actual</b>	<b>2012 Actual</b>	<b>2013 Budget</b>	<b>2013 Estimate</b>	<b>2014 Budget</b>
<b>Special Revenue Fund - Storm Water Utility - Fund 38</b>						
<b>Beginning Fund Balance</b>	<b>\$48,236</b>	<b>\$85,046</b>	<b>\$182,050</b>	<b>\$434,539</b>	<b>\$434,539</b>	<b>\$537,067</b>
<b>REVENUES</b>						
Charges for Services						
338.20 Storm Water Management Permit	900	0	1,800	900	900	900
346.50 Storm Water Fees	605,072	698,177	702,003	698,000	702,003	735,000
<b>Subtotal</b>	<b>\$605,972</b>	<b>\$698,177</b>	<b>\$703,803</b>	<b>\$698,900</b>	<b>\$702,903</b>	<b>\$735,900</b>
Commercial Revenues						
360.00 Interest Income	0	236	514	500	625	500
<b>Subtotal</b>	<b>\$0</b>	<b>\$236</b>	<b>\$514</b>	<b>\$500</b>	<b>\$625</b>	<b>\$500</b>
<b>Total Revenues</b>	<b>\$605,972</b>	<b>\$698,413</b>	<b>\$704,317</b>	<b>\$699,400</b>	<b>\$703,528</b>	<b>\$736,400</b>
<b>EXPENDITURES</b>						
Direct Employee Costs						
100.00 Salaries, Full Time	337,279	372,380	234,532	306,400	306,400	367,134
110.00 Salaries, Overtime	603	0	184	500	500	500
130.00 Retirement	37,474	37,805	15,547	2,100	2,100	25,699
135.00 Social Security	25,318	26,085	20,653	23,400	23,400	28,086
150.00 Insurance, Active Employees	58,800	70,430	77,600	64,600	64,600	36,500
160.00 Insurance, Work Comp	13,795	12,956	14,712	14,700	14,700	14,700
165.00 Insurance, Disability	1,273	1,077	705	1,200	1,200	1,200
170.00 Insurance, Dental	4,320	4,740	5,100	6,650	6,650	2,702
175.00 Insurance, Group Life	618	716	482	600	600	600
180.00 Longevity	780	780	355	350	350	350
185.00 Section 125 Administration	57	114	115	150	150	150
<b>Subtotal</b>	<b>\$480,317</b>	<b>\$527,083</b>	<b>\$369,984</b>	<b>\$420,650</b>	<b>\$420,650</b>	<b>\$477,621</b>
Indirect Employee						
200.00 Travel/Training	0	0	568	1,200	1,200	1,200
205.00 Recruitmnt/Testng/Physicals	50	89	61	0	0	0
215.00 Uniforms and Clothing	725	856	808	1,000	1,000	1,000
<b>Subtotal</b>	<b>\$775</b>	<b>\$945</b>	<b>\$1,437</b>	<b>\$2,200</b>	<b>\$2,200</b>	<b>\$2,200</b>
Supplies						
400.00 Office Supplies	0	0	0	100	100	100
440.00 Medical and Safety	16	347	449	350	350	350
460.00 Minor Equipment	0	0	0	350	350	350
462.00 Field Supplies	0	0	86	350	350	350
<b>Subtotal</b>	<b>\$16</b>	<b>\$347</b>	<b>\$535</b>	<b>\$1,150</b>	<b>\$1,150</b>	<b>\$1,150</b>

Other Services							
514.00	Consulting	16,286	6,780	0	15,000	5,000	15,000
520.00	Landfill Charges	8,393	7,468	6,766	7,500	7,500	7,500
525.00	Misc. Permits	4,300	4,000	4,000	5,000	5,000	5,000
	<b>Subtotal</b>	<b>\$28,979</b>	<b>\$18,248</b>	<b>\$10,766</b>	<b>\$27,500</b>	<b>\$17,500</b>	<b>\$27,500</b>
Maintenance							
650.00	Storm Drainage System	37,036	34,441	41,394	30,000	30,000	30,000
	<b>Subtotal</b>	<b>\$37,036</b>	<b>\$34,441</b>	<b>\$41,394</b>	<b>\$30,000</b>	<b>\$30,000</b>	<b>\$30,000</b>
Vehicles							
700.00	Vehicle Maintenance	2,463	1,052	2,107	6,500	2,500	6,500
705.00	Equipment Maintenance	8,006	3,428	13,886	12,000	12,000	12,000
710.00	Gas/Oil/Fluids	8,785	12,465	10,869	12,000	12,000	12,000
715.00	Tires	2,785	3,400	850	3,000	3,000	3,000
	<b>Subtotal</b>	<b>\$22,039</b>	<b>\$20,345</b>	<b>\$27,711</b>	<b>\$33,500</b>	<b>\$29,500</b>	<b>\$33,500</b>
	<b>Subtotal Operations</b>	<b>\$569,162</b>	<b>\$601,409</b>	<b>\$451,828</b>	<b>\$515,000</b>	<b>\$501,000</b>	<b>\$571,971</b>
Interfund Transfers							
900.00	To CIP #40	0	0	0	175,000	100,000	500,000
900.00	Reserve for Unsettled Wages	0	0	0	0	0	0
	<b>Subtotal</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$175,000</b>	<b>\$100,000</b>	<b>\$500,000</b>
	<b>Total Expenditures</b>	<b>\$569,162</b>	<b>\$601,409</b>	<b>\$451,828</b>	<b>\$690,000</b>	<b>\$601,000</b>	<b>\$1,071,971</b>
<b>Revenues Over/(Under) Expenditures</b>		<b>36,810</b>	<b>97,004</b>	<b>252,489</b>	<b>9,400</b>	<b>102,528</b>	<b>(335,571)</b>
<b>Ending Fund Balance</b>		<b>\$85,046</b>	<b>\$182,050</b>	<b>\$434,539</b>	<b>\$443,939</b>	<b>\$537,067</b>	<b>\$201,496</b>
<b>Fund Balance Percentage</b>		<b>14.9%</b>	<b>30.3%</b>	<b>96.2%</b>	<b>29.9%</b>	<b>89.4%</b>	<b>18.8%</b>

## **K. Identification of water quality improvements or degradation.**

The City of Oak Creek was issued its NR 216 permit in June of 2000 and subsequently re-issued in April of 2006 and June of 2013. Implementation of water quality improvement programs began in 2001 on a phased basis. The following programs or projects have resulted in water quality improvements:

- The street sweeping and catch basin cleaning programs have resulted in the collection of a significant amount of sediment. Street sweeping has collected 3,457,520 pounds of sediment and catch basin cleaning has removed 193,660 pounds of sediment.
- The Shepard Hills detention basin was retrofitted in 2003 to provide for water quality which should improve the conditions downstream.
- The Arthur Avenue storm sewer project constructed in 2005 diverted the untreated storm sewer runoff from 33 acres of a developed residential area through a wet detention basin.
- Installation of a hydrodynamic separator in the Southbranch Industrial Park in 2006.
- Portions of the Northbranch industrial park (Marquette Ave., 1<sup>st</sup> St. and 10<sup>th</sup> St.) were reconstructed with curb & gutter and inlets were replaced with catch basins in 2007. This enables catch basin cleaning and street sweeping on these roads.
- The regional detention basin at the southeast corner of I-94 and W. College Avenue constructed through an intergovernmental agreement between Wisconsin Department of Transportation, Milwaukee County and Oak Creek, treats about 230 acres of tributary area prior to discharging into the N2 Tributary.

## **L. Program Proposals.**

- New program proposals are not required under the permit for 2014; however the erosion control program was updated and included at the end of the report.

# City of Oak Creek's Construction Site Pollutant Control

## **Proposed Program**

1. The City of Oak Creek's erosion control ordinance is contained in Sections 13.01 through 13.14 of the Oak Creek Municipal Code. Update the grading and erosion control section of the City's Engineering Design Manual. (See attached Chapter 3 draft)
2. The City of Oak Creek issues erosion control permits for construction sites which have more than four thousand square feet of land disturbing activities after review and approval of permit applications and erosion and sediment control plans. City Engineer approved and signed plans for City of Oak Creek (including Sewer and Water Utility) Capital Improvement Projects are considered a permit.
3. The building inspection department has erosion control oversight responsibility for individual building permitted sites and the engineering department has erosion control oversight responsibility for subdivisions, multi-building developments and public works projects.
4. Inspect construction sites within 48 hours after receiving a complaint or other information indicating that land disturbing construction activities are being undertaken without a permit, erosion and sediment control plans are not being implemented or conditions of the permit are not being met.
5. Inspect all active construction sites at least once per month.
6. Document construction site inspections and enforcement actions taken.
  - a. Inspection reports shall include name of individual performing inspection, date and time of inspection, description of the phase of construction, assessment of the condition of erosion control, and description of any erosion control installation or maintenance performed in response to previous inspections.
  - b. Indicate the thoroughness of the inspection (spot checked, general or detailed)
  - c. Document how the deficiencies were conveyed and to who.
7. Ensure City construction staff is adequately trained in erosion control and best management practices.

## **Background**

The Oak Creek Engineering Department recently completed a self-evaluation of Oak Creek's erosion control program. The following points summarize the findings:

- Plan reviews are satisfactory and approved erosion control plans and permits meet regulatory requirements.
- The method of erosion control enforcement used by the building inspection department is generally effective in maintaining compliance. Where erosion control deficiencies are found, the site is posted with a notice of the erosion control violations and gives the responsible party a specified time to correct the situation. If the responsible party does not comply within the specified time period, a stop work order is imposed. Further non-compliance results in the issuance of a citation.
- Closer adherence to approved erosion control staging plans is needed. Revised plans need to be submitted and approved where there are deviations from the approved plans.
- Better erosion control inspection documentation is required.
- Better coordination and communication with contracted construction inspection services is required.
- Better coordination and communication with the contractor is needed.