

Municipal Separate Storm Sewer System 2013 Annual Report



EPA/ NPDES
Environmental Protection Agency
National Pollutant Discharge Elimination System



EPA Number – IA0078891
NPDES Permit Number 78-12-0-00

Prepared by:
City of Carter Lake
950 Locust Street
Carter Lake, Iowa 51510

Reporting Period
October 1, 2012 thru September 30, 2013

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PERMIT INFORMATION:

PERMITTEE:

City of Carter Lake
950 Locust St
Carter Lake, Iowa 51510



IDENTITY AND LOCATION OF FACILITY:

City of Carter Lake MS4
Carter Lake, Iowa 51510

IOWA NPDES PERMIT NUMBER: 78-12-0-00

DATE OF ISSUANCE: July 8, 2011

DATE OF EXPIRATION: July 7, 2016

RECEIVING WATERCOURSES: Missouri River, Carter Lake

EPA NUMBER: IA0078891

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City of Carter Lake, Iowa*

INTRODUCTION:

The following is the Municipal Separate Storm Sewer System Annual Report for the City of Carter Lake, Iowa, prepared in accordance with Part III of the Municipal Separate Storm Water System (MS4) Permit Number 78-12-0-00. This report summarizes storm water compliance activities within the boundaries of the City of Carter Lake.

The City of Carter Lake is committed to the prevention of storm water pollution and has implemented a management program that includes the following areas:

- ❖ Public Education and Outreach on Storm Water Impacts
- ❖ Public Involvement and Participation
- ❖ Illicit Discharge Detection and Elimination
- ❖ Construction Site Storm Water Runoff Control
- ❖ Post-Construction Storm Water Management
- ❖ Pollution Prevention/Good Housekeeping

This permit covers all areas within the boundaries of the City of Carter Lake totaling approximately 2 square miles which is drained by the city's Municipal Separate Storm Sewer System (MS4) and any other areas added while this permit is in effect.

This permit authorizes all existing or new storm water point source discharges to waters of the State from the MS4. This permit also authorizes the discharge of storm water co-mingled with flows contributed by process wastewater, non-process wastewater, or storm water associated with industrial activity provided such discharges are authorized under separate NPDES permits, as required by law. This permit does not authorize discharges to the MS4.



REPORTING REQUIREMENTS:

1.0 Status of implementing the components of the storm water pollution prevention and management program.

The City of Carter Lake has completed all the requirements as stated in Part II of the NPDES permit for fiscal year ending September 30, 2013. Documentation of the Carter Lake Water Quality Management Plan can be found in the 2008 MS4 report.

2.0 Status of compliance with any compliance schedule established by this permit or by any modifications to this permit.

Section A. Public Education and Outreach on Storm Water Impacts.

1. Articles in City Newspaper. Numerous public education articles have been published in the newsletter this reporting year. Articles published between October 1, 2012 and September 30, 2013 can be found in **Appendix A**.
2. Telephone Hotline Number. A telephone number for reporting storm water related problems is published in the ***Inside Carter Lake*** newsletter and can be found on the City of Carter Lake website. ***The number is (712)347-6320 or (712)847-0535.***
3. Storm Drain Labeling. A program was developed to label all storm sewer intakes. All storm sewer intakes have been identified and



mapped and the drains have been labeled. Carter Lake Maintenance periodically will check the inlet markings for legibility. "No Dumping" placards have been installed on all drains and they have

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been marked for ongoing compliance.

4. Storm Water Website. The City of Carter Lake established a website for storm water related issues in 2006. The current website addresses are:

www.cityofcarterlake.com/links.html

www.carterlakelibrary.com/stormwater-information.html

A copy of the Storm Water web pages as of September 30, 2013 can be found in **Appendix B** of this MS4 Annual Report.

5. Educational storm water materials are available to the public. Informational brochures can be found at Owen Memorial Library and City Hall. The 2010 MS4 Annual Report contains copies of the brochures that were available at that time. Copies of the current brochures available to the public in FY2013 can be found in **Appendix C**.
6. In April 2013 educational classes were presented to the public. On April 13, 2013 citizens were invited to participate in construction of a Rain Barrel. Due to space constraints, the class was limited to 10 participants. A total of 30 rain barrels were constructed and given away to citizens. On April 27, 2013 a class was held on "How to Build a Residential Rain Garden". There were 20 participants at this educational seminar. Free rain garden plants were distributed to the participants. Public education fliers for these sessions can be found in **Appendix D**.

Section B. Public Involvement and Participation.

1. The current Storm Water Advisory Committee is actively seeking more public participants for Fiscal Year 2014. During this reporting year the council appointed a City Council and a Planning Board member as liaisons to the Committee. The two new appointees report back to their respective boards on a monthly basis. Minutes for the seven (7) Committee Meetings that were held in FY2013 can be found in **Appendix E**. Quarterly meetings of this committee will be scheduled FYE 2014.

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Section C. Illicit Discharge Detection and Elimination

1. Illicit Discharge Prohibition Ordinance. On February 18, 2013 the Carter Lake City Council adopted an updated Municipal Code book. All prior ordinances were repealed. The updated code book included Chapter 110 – Storm Water Utility and Chapter 136 – Storm Water Control. Since the adoption of the updated code book, ordinance number 633 was adopted, amending Chapter 136. Copies of Chapter 110 and Ordinance # 633 can be found in **Appendix F**.

2. Illicit Discharge Detection and Elimination Program. This program was established in July of 2007. It is based on the document ***Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments***. Center for Watershed Protection and Robert Pitt, October 2004. Components include:
 - Annual dry weather flow inspections of all known outflows
 - Procedures to identify the sources of dry weather flows
 - Procedures for disconnecting illicit connections
 - Documentation of inspectionsFor FYE 9-30-2013 there were no illicit discharges detected or reported.

Section D. Construction Site Storm Water Runoff Control

1. Construction Site Storm Water Runoff Control ordinance was passed and approved by the City Council on May 21, 2007. This ordinance was amended July 15, 2013 with Ordinance #633. (**Appendix F**).

2. Construction Site Review and Inspection Program. A program for inspection and documentation of construction sites was adopted on May 21, 2007. All construction plans are reviewed for compliance. An inspection checklist is used for all construction site inspection activities. Documentation of this program can be found in the 2007 MS4 report. All building permit applications have been updated to

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include information needed for construction site reviews and inspections.

3. BMP Manual. The City of Carter Lake adopted the EPA Storm Water Management for Construction Activities, EPA document no. EPA-833-R-92-001 as our BMP manual on May 21, 2007. The Iowa Construction Site Erosion Control Manual is also used as a reference.

Section E. Post-Construction Storm Water Management

1. A Post-Construction Storm Water Management ordinance was passed and approved by the City Council on May 21, 2007. Documentation of this ordinance can be found in the 2007 MS4 report. This ordinance was amended on July 15, 2013 with Ordinance #633. **(Appendix F)**.
2. Site Plan Review of Post Construction Runoff Controls – Effective May 21, 2012 all developments shall provide engineering documents and calculations that detail the proposed means for accommodating post-construction runoff that meet all requirements found in City Ordinance #633, Storm Water Control of the Code of Ordinances of the City of Carter Lake, Iowa. These documents shall be reviewed by the City Planning Board, City Maintenance Supervisor, and the City Building Inspector. The design of the site sediment and erosion control plan shall conform to the best management practices in the Environmental Protection Agency's (EPA) Storm Water Mgmt. for Construction Activities, EPA Doc. No. EPA-833-R-92-001 Chapter 3.
3. Inspection of Runoff Control Devices - The City of Carter Lake Street Maintenance Department has implemented a program to perform maintenance and needed repairs of all storm water sewers in the City. Maintenance and repairs are also conducted in the MS4 area on an as needed basis. The City of Carter Lake Park and Recreation

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Department performs routine maintenance on all city owned rain gardens, the bio-swale, and the leach field. Citizens are encouraged to telephone in drainage related issues. Drainage service requests typically stem from localized flooding problems caused by clogged grate tops.

4. Watershed Assessment Program - Documentation for the Watershed Assessment Program can be found in the 2008 MS4 report. Both IDNR and NEDQ regularly monitor lake water quality. Results of the Toxic Algae & Bacteria testing along with documentation of Section 319 activities can be found in **Appendix G**.

Section F. Pollution Prevention/Good Housekeeping

1. Operation and Maintenance of MS4. A program for inspection, maintaining and cleaning all components of the MS4 including street sweeping and storm sewer and lift station inspections and maintenance was established and maintained. Documentation of the maintenance programs can be found in **Appendix H**.
2. Pesticide and Fertilizer Management Program. A pesticide and fertilizer management program is currently being utilized by the City of Carter Lake. In FYE September 30, 2012 the Lake Projects Coordinator offered "Free Soil Sampling" to assist homeowners in identifying nutrient levels in their soil. Documentation of results from the soil sampling can be found in the 2012 report.
3. On September 24, 2013 Municipal Employees attended a Rain Garden Class. They were shown several short videos about building and maintaining rain gardens. Employees in attendance were given pre and post-test. Test questions and results can be found in **Appendix I**.

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4. City Facilities BMPs. The City of Carter Lake used Storm Water Funds to install a leach field/French drain system on the ball field located at Hamilton Sports Complex at 17th and Ave. P. Pictures of the drainage field can be found in **Appendix J**. Additionally, funds have been provided by the State of Iowa to construct a parking lot at Mabrey Park. The parking lot was started in September, 2013 and completion is expected by the end of October. The Pave Drain materials used are a “sustainable storm water solution”. This site will be used as an educational and demonstration site for businesses and homeowners. A picture taken at the beginning of the project and information on the product being installed can be found in **Appendix J**. In fiscal year 2012 installation of porous concrete sidewalks at two locations was started. The porous concrete sidewalks were completed in fiscal year 2013. Pictures of the completed sidewalk can also be found in **Appendix J**.

3.0 A summary of all revisions to the approved management program.

No revisions to the approved management program have been made as of this date. The permit was renewed in July 2011.

4.0 A summary of the data, including monitoring data, which is generated within the reporting period, including narrative description of storm water quality improvements or degradation.

In 2011 the City started the process of applying for a Hazard Mitigation grant to fund the design and construction of a storm sewer system and storm water pump station to serve portion of the City of Carter Lake south of Ave. H to the Missouri River. A copy of information pertaining to the application and the application itself can be found in the 2012 report. During fiscal year 2013 the City received preliminary selection for a \$1,000,000.00 grant. Funds were ultimately denied due to the City’s inability to provide required information in a timely manner. The City then hired Terracon Consultants to prepare the required information that included a Phase I Environmental Site Assessment, a Wetland Delineation

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Report, and a report Identifying and Evaluating Cultural Resources. These documents will be used for future grant applications, potential funding and construction of the area south of Ave. H to the Missouri River. A new Preliminary Opinion of Probable Cost for the project was prepared. A new Notice of Intent to apply for grant funding was submitted for the project. The NOI was rejected. Documentation of the grant information and Terrecon's reports can be found in **Appendix K.**

5.0 An estimate of the fiscal year's expenditures for implementation of the management program.

Expenditures for the management program in FYE 9-30-2013 were as follows:

- Terracon – Engineering Studies \$ 7,300.00
 - Leach Field – Ball fields
 - Utility Equipment – Pipe 16,724.94
 - Micklin Lumber – Poly 52.99
 - Mallard Sand & Gravel – Pea gravel 11,374.92
- \$28,152.85
- Misc. Repairs
 - Lake Outlet and Library Rain Garden
 - Heritage Nursery – Plants 119.00
 - Schildberg – Rock 1,741.34
 - Gochanour – Concrete work 702.00
 - Micklin Lumber Co. – Plywood 289.90
 - Storm Pond at Golf Course
 - Backlund – Hydro Jet line 675.00
- \$ 3,527.24
- Total expenditures related to storm water \$38,980.09

Copies of the invoices pertaining to these costs are on file in the office of the City Clerk.

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6.0 A summary describing the number and nature of inspections, enforcement actions, illicit discharges discovered, ordinances adopted, public education programs conducted, components of the MS4 cleaned, meetings held and any other actions taken by the permittee required by this permit during the reporting period.

- Seven meetings of the Storm Water Committee members were held in FYE 9-30-2013. **See Appendix E.**
- MS4 cleaning and maintenance performed. **See Appendix H.**
- No illicit discharges were detected or report by residents or the Citizen's Patrol.
- The City of Carter Lake continues to engage the services of CDM Smith to provide engineering services and to assist in completing grant applications for Hazard Mitigation through FEMA and Iowa Homeland Security. Terracon was hired to provide the required tests and resulting reports for the Ave. H Area storm water drainage improvements. **See Appendix K.**
- The City of Carter Lake was not subject to any storm water enforcement actions during the FYE 9-30-2013 reporting period.
- In the 2012 annual report the City noted that upon inspection of a newly developed subdivision, it was determined that the developer was not compliance with the City's existing storm water requirements. Additional construction was not permitted. The developer was informed that no additional construction could occur until he came into compliance. As of this report date the developer has continued the debate over the necessity of an engineered storm water solution for his development. No additional building permits have been issued. The developer has submitted a new proposal for a detention basin with a sump pump. That documentation will be reviewed by the City's engineer, HGM. We will continue to monitor this situation and will take any additional action necessary for the developer to be in compliance with the storm water requirements. Documentation regarding this issue can be found in **Appendix L.**

REPORT SUMMARY:

This report summarizes required storm water compliance activities completed by the City of Carter Lake, Iowa in FYE 9-30-2013. The FY2013 year was the ninth full year of compliance activity associated with MS4 Permit number 78-12-0-00 issued to the City of Carter Lake by the Iowa Department of Natural Resources on July 8, 2011.

All of the requirements for FYE 2013 have been completed. The MS4 committee is committed to fulfilling all requirements of the permit in a timely and comprehensive manner.

During the period of time covered by this permit, the City of Carter Lake has accomplished the following:

- Updated local storm water ordinances. **Appendix F.**
- Continued working with IDNR and NDEQ to implement portions of the water quality restoration plan on the lake. **Appendix G.**
- Held educational storm water related classes for the community **Appendix D** and municipal employees **Appendix I.**
- Completed construction of a leach field located at the ball diamonds on 17th and Ave. P. **Appendix J.**
- Completed two porous concrete sidewalks for educational and demonstration purposes. **Appendix J.**
- Attempted to get approval for Hazard Mitigation Grant Funding to construct a storm sewer system and storm water pump station to serve portions of the City of Carter Lake south of Avenue H to the Missouri River. **Appendix K.**
- Completed preliminary studies needed to construct the storm sewer system and storm water pump station to serve portions of the City south of Avenue H to the Missouri River. **Appendix K.**
- Repaired rain garden at the Library and the storm inlet on Shoal Drive.
- Began construction of a pave drain project at Mabrey Park. **Appendix J.**

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APPENDIX: A

Inside Carter Lake Newsletter Articles

October 1, 2012 thru September 30, 2013

October 2012

December 2012

February 2013

March 2013

April 2013

May 2013

APPENDIX: B

Storm Water Website Information

October 1, 2012 thru September 30, 2013

APPENDIX: C

Brochures Available to the Public

October 1, 2012 thru September 30, 2013

Bag No More!

Rainscape It! Don't just landscape...Rainscape!

Conservation Strategies for Growing Communities

Wetlands: Vital to Watershed Health

Native Landscaping – Iowa's Prairie Heritage

APPENDIX: D

Public Education

October 1, 2012 thru September 30, 2013

Rain Barrel Construction Class

Residential Rain Garden Class

APPENDIX: E

Storm Water Advisory Committee Meeting Minutes

October 1, 2012 thru September 30, 2013

November 6, 2012
November 12, 2012
December 11, 2012
January 7, 2013
February 11, 2013
March 26, 2013
August 15, 2013

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APPENDIX: F

City Ordinances

October 1, 2012 thru September 30, 2013

Chapter 110 – Storm Water Utility

Ordinance No. 633 – Storm Water Control

APPENDIX: G

Section 319

October 1, 2012 thru September 30, 2013

Sampling results

Field Data

NDEQ – Water Quality Test Results

2012-2013 Carter Lake Restoration Project

Quarterly Reports

October – December 2012

January – March 2013

April – June 2013

APPENDIX: H

Maintenance Documentation

October 1, 2012 thru September 30, 2013

Weekly inspections and maintenance of storm sewers, sewers and lift stations

Street sweeping log for storm water

Manhole inspections

APPENDIX: I

Municipal Employees BMP Training Program

October 1, 2012 to September 30, 2013

Employee Rain Garden Class

Pre Test

Post Test

Class Synopsis

APPENDIX: J

BMPs Installed

October 1, 2012 thru September 30, 2013

Facebook post of pictures of leech field/French drain system installed at Hamilton Sports Complex

Pictures of parking near Mabrey Park at beginning of pave drain project in September

Pave Drain System information

Pictures of porous sidewalk installed at Hamilton Sports Complex

APPENDIX: K

Storm Water Grant Funding

October 1, 2012 thru September 30, 2013

EDA Grant Application – Competitive preliminary selection for \$1,000,000

EDA Grant Application – Letter and emails regarding denial of grant

Preliminary Opinion of Probable Cost

Notice of Interest for Hazard Mitigation Grant Funding

Terracon Consultants Inc.

Phase I Environmental Site Assessment

Wetland Delineation Report

Identification and Evaluation of Cultural Resources

APPENDIX: L

Subdivision Documentation

October 1, 2012 thru September 30, 2013