

Municipal Separate Storm Sewer System 2014 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, 2013 thru September 30, 2014

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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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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, 2014. 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. As in the past, public education articles have been published in the newsletter this reporting year. Articles published between October 1, 2013 and September 30, 2014 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 address is:

www.cityofcarterlake.com/links.html

A copy of the Storm Water web pages as of September 30, 2014 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 City Hall. The 2010 and 2013 MS4 Annual Reports contain copies of the brochures that were available at that time. The Iowa Storm Water Education Program provided the City with pencils and sponges that included educational information on storm water issues. Copies of the current brochures available to the public in FY2014 can be found in **Appendix C**.
6. During FY 2014 the Building Inspector and some of the Storm Water Committee members participated in several on-line course offered by Iowa Storm Water Education Program (ISWEP). On-line training session can be found in **Appendix D**.

There were no educational classes presented to the public in FY2014.

Section B. Public Involvement and Participation.

1. The current Storm Water Advisory Committee is actively seeking more public participants for Fiscal Year 2015. During the FY2013 reporting year the council appointed a City Council member and a Planning Board member as liaisons to the Committee. The two appointees report back to their respective boards on a monthly basis. Agendas and Minutes for the four (4) Committee Meetings that were held in FY2014 can be found in **Appendix E**. Quarterly meetings of this committee will be scheduled in FYE 2015.
2. During 2014 the City of Carter Lake became a member of the Iowa Storm Water Education Program (ISWEP). Membership provides

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storm water education, certification programs, and storm water training. During the current fiscal year ISWEP provided the City of Carter Lake informational materials on storm water. Information on the City's membership with ISWEP can be found in **Appendix F**.

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 the 2013 MS4 Annual Report. On June 16, 2014 Ordinance #639 was adopted amending Chapter 110 of the Code of Ordinances. Effective July 1, 2014 Storm Water Service Charges were repealed. A copy of Ordinance #639 can be found in **Appendix G**.

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 9-30-2014 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

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was amended July 15, 2013 with Ordinance #633. A copy of Ordinance #633 can be found in the 2013 MS4 Annual Report.

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 include information needed for construction site reviews and inspections. Copies of the applications as adopted by the City Council can be found in **Appendix H**.
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. A copy of this ordinance can be found in the 2013 MS4 Annual Report.
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

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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 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. December 2013 was the end of the Carter Lake Water Quality Project. Results of the Toxic Algae & Bacteria testing along with final documentation and synopsis of the Carter Lake Water Quality Project Update can be found in **Appendix I**.

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, manhole and lift station inspections and maintenance was established and maintained. Documentation of the maintenance programs for FY2014 can be found in **Appendix J**.
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

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identifying nutrient levels in their soil. Documentation of results from the soil sampling can be found in the 2012 report.

3. Members of the Storm Water Committee participated in on-line training courses offered by ISWEP. Details are in **Appendix D**. 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 the 2013 MS4 report.
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 the 2013 report. Additionally, funds were provided by the State of Iowa to construct a parking lot at Mabrey Park. The parking lot was started in September, 2013 and completed during the FY 2014 reporting period. 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. Pictures taken of the completed project can be found in **Appendix K**. The remaining pervious pavers from the Mabrey Park project were used to create pads for benches at a community park located at 13th and Ave. Q. Pictures of the completed project can be found in **Appendix K**. 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 FY 2013 report. During the summer of 2014 the City Maintenance Department initiated several upgrades to the City storm drainage system. A list of the projects completed in FY 2014 can be found in **Appendix K**.

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.

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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 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 also prepared at that time. A Notice of Intent to apply for grant funding was submitted for the project. The NOI was rejected. Documentation of the grant information and Terracon's reports can be found in the 2013 MS4 report.

On July 17, 2014 Mayor Gerald Waltrip held an informational meeting to reopen Discussions on the storm water project south of Ave. H in Carter Lake. There were approximately 16 individuals in attendance. The meeting discussed engineering that had been completed to date on the issues, as well as the possibility of running a storm water line to the Gray St. interceptor in Omaha. Property owners were asked to share their experiences – frequency, extent, costs, etc. This project remains a top priority and the City will continue to work with all interested parties and seek out possible funding sources. A copy of the Mayor's letter of invitation can be found in **Appendix L**.

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

Expenditures for the management program in FYE 9-30-2014 were as follows:

•	Membership to ISWEP	\$2,159.00
•	Library – gravel for rain garden repair	846.04
•	Mabrey Park – Pervious Parking Lot	
	Mallard Sand & Gravel	5,780.09
	Bobcat of Omaha	500.00
	ASP	<u>35,916.50</u>
		42,196.59
•	Hgm - Engineering – Blue Sky Town Homes	643.12
•	Misc. projects – French drains, pipes, etc.	
	Utility Equipment – storm drain rings	209.23
	Omaha WinWater – storm drain rings	246.61
	Urban Utilities – pump station repair	160.00
	Utility Equipment – pipe	2,304.00
	Utility Equipment – couplings	244.41
	Asphalt Maintenance – storm drain	1,400.00
	Bomgaars – seawall anchors	266.11
	Micklin Lumber – plywood, plastic	260.89
	Micklin Lumber – cable, clamps, buckle	54.88
	Micklin Lumber – concrete mix	185.54
	Hose & Handling – hose	776.82
	Micklin Lumber – plywood	289.90
	Micklin Lumber – spray foam	53.88
	Kersten Precast – rings & lids	<u>848.00</u>
		<u>7,300.27</u>
•	Total expenditures related to storm water	\$53,145.02

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.

- Four meetings of the Storm Water Committee members were held in FYE 9-30-2014. **See Appendix E.**
- MS4 cleaning and maintenance performed. **See Appendix J.**
- No illicit discharges were detected or report by residents or the Citizen's Patrol.
- The City of Carter Lake continues to have contact with personnel at the Iowa Department of Homeland Security and Emergency Management as for funds to construct a storm water solution for the area south of Ave. H. The City also continues to engage the services of Kyle Tonges with Burns & McDonnell to provide engineering services and to assist in completing grant applications for Hazard Mitigation through FEMA and Iowa Homeland Security. Terracon has completed testing and filed required reports for the Ave. H area storm water drainage improvements. Copies of the Wetland Delineation Report, Cultural Resources Report and the Phase I Environmental Site Assessment reports are on file and were included in the 2013 MS4 report. Periodically meetings are held to engage property owners and other stakeholders in this proposed project.
- The City of Carter Lake was not subject to any storm water enforcement actions during the FYE 9-30-2014 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. In March 2014, HGM completed detention basin sizing for the Blue Sky Townhome Development. The Developer has agreed to follow the proposal submitted by HGM. Addition building permits were issued and construction has progressed. The City will continue to monitor this

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construction and will take any additional action necessary for the developer to remain in compliance with the storm water requirements. Documentation regarding this issue can be found in **Appendix M.**

- During this reporting year the City entered into a development agreement with Owen Industries to expand their business and build a new metals center. As part of the development there are public improvements and infrastructure updates. Lamp Rynearson & Associates was contract by both Owen Industries and the City of Carter Lake for the expansion and the public improvements. The plans include Water Quality Basin Plan, Utility Plan, Grading and Stormwater Pollution Prevention Plan, and a Storm Sewer Plan and Profile. These plans are on file in the office of the Building Inspector and copies can be found in **Appendix N.**
- In July 2014 Lone Mountain Truck Leasing purchased an existing property with buildings in Carter Lake. The exiting property is going to be modifies, remodeled, and constructed to suite the new business' needs. A Stormwater Report was prepared by their engineer hgm Associates Inc. Copies of the Grading Plan, Utility Plan, and Stormwater Report are on file in the office of the Building Inspector. Copies can be found in **Appendix N.**

REPORT SUMMARY:

This report summarizes required storm water compliance activities completed by the City of Carter Lake, Iowa in FYE 9-30-2014. The FY2014 year was the tenth 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 FY2014 have been completed. The MS4 committee is committed to fulfilling all requirements of the permit in a timely and comprehensive manner annually.

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

- Updated local storm water ordinances. **Appendix G.**
- Completed work with IDNR and NDEQ to implement portions of the water quality restoration plan on the lake. **Appendix I.**
- Held educational storm water related classes for the storm water committee members. **Appendix D.**
- Completed construction of a pave drain project in the parking area at Mabrey Park. **Appendix K.**
- Completed several smaller storm water improvements throughout the City. These projects included French drains, storm piping, and pervious pavers. **Appendix K.**
- Continued to work with the stakeholders seek 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 L.**
- Approved two large construction projects in Carter Lake that included both public and private storm water solutions. **Appendix N.**
- Repaired rain garden at the Library.
- Continued to work with local developer to find an acceptable storm water solution for a townhome development. **Appendix M.**

APPENDIX: A

Inside Carter Lake Newsletter Articles

October 1, 2013 thru September 30, 2014

November 2013

December 2013

May 2014

June 2014

July 2014

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APPENDIX: B

Storm Water Website Information

October 1, 2013 thru September 30, 2014

APPENDIX: C

Brochures/Educational Material Available to the Public

October 1, 2013 thru September 30, 2014

Rainscape It! Restore Soil Quality In Your Yard – Steeped Compost Tea

Residential Guide to Pavements – Residential Guide to Capture Rain

Residential Guide to Lawn Maintenance – Residential Guide to Landscaping

Bioretention Cell Installation

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

Native Landscaping – Iowa's Prairie Heritage

Bioswales ... absorb and transport large runoff events

Bioswales For Better Stormwater Management

Milkweed for Monarchs!

Sponges

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APPENDIX: D

Storm Water Committee Members On-Line Education

October 1, 2013 thru September 30, 2014

Unified Sizing	April 8, 2014
Infiltration Practices	May 13, 2014
Conserv Sub-Division	June 10, 2014
Detention Basin	August 12, 2014
Calculate Pollutant	September 9, 2014

APPENDIX: E

Storm Water Advisory Committee Meeting Agenda & Minutes

October 1, 2013 thru September 30, 2014

December 23, 2013

March 18, 2014

June 24, 2014

September 16, 2014

APPENDIX: F

Iowa Storm Water Education Program

October 1, 2013 thru September 30, 2014

ISWEP Brochure

ISWEP Webpage

IAMU Letter regarding ISWEP

APPENDIX: G

City Ordinances

October 1, 2013 thru September 30, 2014

Ordinance No. 639 – Amending Chapter 110 of the Code of Ordinances
Repealing “Storm Water Service Charges”

APPENDIX: H

Construction Site Review and Inspection Program

Building Permit Applications

October 1, 2013 thru December 31, 2013

Commercial Building Permit Application

Residential Building Permit Application

Residential Building Permit Application (Accessory Structures, etc.)

Dirt Hauling Permit

APPENDIX: I

Carter Lake Water Quality Project

Closeout Documentation

October 1, 2013 thru December 31, 2013

Project Update – slideshow printouts

Various articles regarding project

Section 319 – Nonpoint Source Pollution Control Program

Watershed Project Final Report

APPENDIX: J

Maintenance Documentation

October 1, 2013 thru September 30, 2014

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

Street sweeping log for storm water

Manhole inspections

APPENDIX: K

Municipal Storm Water Drainage Projects

October 1, 2013 to September 30, 2014

Pictures

Mabrey Park – pervious parking area

13th & Ave. Q – bench pads – pervious pavers

FY 2014 - Project List

Installed additional drain pipes at the Mabrey Park entrance on Dorene Blvd.

Installed new pipe to improve drainage at 17th and Ave. Q

Installed two (2) French drains at 15th and Ave. P

Replaced a portion of the concrete drain on Key Circle to improve drainage behind the homes

Improved Library rain garden

APPENDIX: L

Storm Water Grant Funding

October 1, 2013 thru September 30, 2014

Letter to Stakeholders

APPENDIX: M

Townhome Development Documentation

October 1, 2013 thru September 30, 2014

Letter from hgm Associates Inc.

Contract with developer

APPENDIX: N

Developments - Documentation

October 1, 2013 thru September 30, 2014

Lamp Rynearson – Owen Metals Center

Hgm Associates Inc. – Lone Mountain Trucking