

City of Ankeny, Iowa
2017 Annual Report
NPDES Permit No. 77-09-0-08

August 22, 2017

The following document summarizes stormwater activities that occurred during fiscal year 2017 (July 1, 2016 through June 30, 2017).

STORMWATER POLLUTION PREVENTION AND MANAGEMENT PROGRAM

A. Public Education and Outreach on Stormwater Impacts

1. General Stormwater Education Articles –

- a. To satisfy the public education article requirement, two different educational articles were distributed to City of Ankeny residents.
 - The first article was a water bill insert entitled “Stormwater Tips for Fall and Winter”. It was included in the four water billing cycles starting the week of October 3, 2016 through the week of October 24, 2016. It was distributed to all households within the City’s limits through a paper insert included in the water bill or an electronic version emailed to electronic billing customers. The insert explained what stormwater is, the importance of keeping grass clippings, leaves and pet waste out of the storm drain, pollution prevention tips for fertilizer use, and shoveling and deicing tips. It also included information about the City of Ankeny’s Stormwater Best Management Practices (BMP) Reimbursement Program and the Water Quality Improvement and Stormwater Education (WISE) Group.
 - The second article was a page-long piece included in the City of Ankeny’s and Ankeny Living Magazine’s “The Ankeny Source” magazine. This 46-page document was sent to all residents within the 50021 and 50023 zip codes which includes areas within and outside of the City’s limits. The article included information on best practices for taking care of your yard while taking water quality into consideration. It included pollution prevention tips for all four seasons. It also included information about the City’s Stormwater BMP Reimbursement Program. This magazine was sent out in February 2017 to approximately 25,000 households.
- b. Press releases issued are described below. In general, there is an educational component describing stormwater within each of our press releases. All press releases are issued and appear in the Des Moines Register. The press releases are also located on the City of Ankeny website and emailed to citizens who sign up for e-notifications.
 - March 15, 2017: to promote a free workshop for residents entitled “Landscaping Trends for 2017 – Create a More Sustainable Backyard”. More details are included in the Educational Activities section.

- April 7, 2017: to promote the City’s Eleventh Annual Stream Cleanup Event and Free Tree Giveaway. More details are included in the Public Involvement and Participation section.
- c. Informational posts were added to the City of Ankeny Facebook page and included the following:
- October 13, 2016: to share stormwater tips for fall and winter.
 - October 15, 2016: to share information about the Water Quality Improvement and Stormwater Education (WISE) Group.
 - October 31, 2016: to advertise for the leaf collection days and remind residents to keep leaves out of the gutter and storm drain.
 - February 10, 2017: to notify residents that controlled burns were to occur on native planted areas on public property.
 - February 28, 2017: to notify residents that controlled burns were to occur on native planted areas on public property.
 - March 6, 2017: to notify residents of a controlled burn that occurred at Otter Creek Golf Course and to share photographs of the burn.
 - March 16, 2017: to notify residents of the free educational course the City was hosting called “Landscaping Trends for 2017: Create a More Sustainable Backyard”.
 - April 20, 2017: to promote the City’s Eleventh Annual Stream Cleanup Event and Free Tree Giveaway.
 - May 13, 2017: to promote the City’s Stormwater Best Management Practices (BMP) Reimbursement Program.
2. Telephone Hotline Number – The Public Works Department general phone number serves as the hotline number for reporting stormwater related problems. This phone number is listed on the City’s website. If someone calls the hotline number after regular business hours, they are directed to contact police dispatch if it is an emergency. Police dispatchers contact appropriate City staff to respond as needed. A hierarchy within the Public Works Department was determined and provided to police dispatch in case a stormwater emergency happens after hours.
3. Stormwater Web Page – The City’s website contains nine pages related to stormwater. Topics covered include stormwater management, public involvement and participation, construction sites/erosion control, public education and outreach, illicit discharge, stormwater utility, post construction stormwater management, pollution prevention/good housekeeping, a page about the stormwater best management practices reimbursement program, a page about the 2015 Public Stormwater Detention Basin Study, and a page including the most recent version of the Annual Report. The website includes a citizen reporting form for reporting stormwater issues, concerns, or comments, and has staff contact information. The website is also used to promote events, such as stream cleanups or public education classes. The website is updated on a regular basis.

4. Sediment and Erosion Control Checklist – The Stormwater Coordinator continues to use checklists for reviewing Stormwater Pollution Prevention Plans and for inspecting construction sites.
5. Iowa Stormwater Education Partnership (ISWEP) – The City of Ankeny is a member of ISWEP. They provide newsletters, talking points, handouts, and fun items to hand out to the public. We utilize their website and the Rainscaping Iowa website to provide additional resources on stormwater BMPs to our residents. In addition, we utilize their educational resources such as DVDs or handouts for internal training purposes.
6. Other –
 - a. The City of Ankeny has written a “Public Education and Outreach Program” to better develop the program and keep track of goals.
 - b. The City of Ankeny had ten staff members who volunteered at the 2017 Iowa Children’s Water Festival, held May 11, 2017, at the Des Moines Area Community College Ankeny campus. The festival provides water-related, including stormwater, education to over 2,000 fifth graders annually. The City of Ankeny is a member of the Iowa Association of Water Agencies, one of the lead sponsors of the event.

B. Public Involvement and Participation

1. Water Quality Monitoring – Two City of Ankeny staff participated in both Polk County Snapshot Monitoring events on October 4, 2016 and May 23, 2017. Fourmile Creek, Saylor Creek, and Rock Creek were all sampled for the snapshot events.

The City of Ankeny monitors water quality at nine sites on a monthly basis on Fourmile Creek, Saylor Creek, and Rock Creek. Sampling is conducted monthly for standard IOWATER testing parameters; pH, dissolved oxygen, chloride, temperature, nitrate, nitrite, phosphate, and transparency.

2. Stream Restoration/Cleanup Activities

- a. The City of Ankeny, in conjunction with the Water Quality Improvement and Stormwater Education (WISE) Group, held the Eleventh Annual Stream Cleanup event. It was held at Vintage Lake, Promenade Lake, and Saylor Creek in the Prairie Trail development on April 22, 2017. The event is held annually in conjunction with Earth Day.

The event was promoted through a press release, on the City of Ankeny website, through flyers/posters located in local businesses and City buildings, on Facebook, on Twitter, and through the Silver Cord volunteer program for Ankeny high school students. Emails were sent to past participants and Boy and Girl Scout troops in Ankeny. Approximately seventy-five volunteers participated in the stream cleanup event. More than fifty bags of trash were collected.

3. Educational Activities

- a. The City's stormwater staff participated in All-City Play Day held on July 6, 2016. At the event, the area around a storm drain was painted while children and families could watch and ask questions. Tips about stormwater pollution prevention were handed out to interested residents. This was done to promote understanding of the connection between our surface water quality and the water that goes into the storm drain.
- b. An educational display was placed in the Kirkendall Public Library during the month of April 2017. The library display theme was 'Make Every Day Earth Day'. It emphasized the importance of picking up litter and pet waste, keeping grass off the streets, recycling rain on homeowner's property, and other ways residents can protect and enhance our natural environment. The display included flyers for adding native landscaping and pollution prevention. There were stormwater-themed magnets, bookmarks, and pens that were provided for residents to take. It also advertised the Eleventh Annual Stream/Watershed Cleanup.
- c. On April 20 and 21, 2017, Amy Bryant presented to the sixth grade science classes at Parkview Middle School. The presentation covered watersheds, aquifers, groundwater, stormwater, history of Iowa as a prairie, details about Iowa soils, information about how changes have impacted the above items and how they relate to each other, and what people can do to help. This information correlated to the sixth grade science standard that reads, "Apply knowledge of the water cycle including consideration of events that impact groundwater quality." Amy presented to approximately 350 students total.
- d. On May 16 and 17, 2017, Amy Bryant presented to the sixth grade science classes at Prairie Ridge Middle School. The presentation covered watersheds, aquifers, groundwater, stormwater, history of Iowa as a prairie, details about Iowa soils, information about how changes have impacted the above items and how they relate to each other, and what people can do to help. This information correlated to the sixth grade science standard that reads, "Apply knowledge of the water cycle including consideration of events that impact groundwater quality." Amy presented to approximately 350 students total.
- e. On June 30, 2017, ten students in the "Youth in Parks" summer camp added approximately sixty storm drain markers on City storm intakes. They primarily focused on the storm intakes that were located near and around three stormwater detention basins on the northwest side of town. Prior to beginning, the students worked with Amy Bryant to learn the purpose of keeping storm intakes clean of debris and litter.
- f. A passive educational display is located at the Public Services Building which houses staff from Public Works, Planning and Building, Parks and Recreation, and Municipal Utilities. It has been in place since the beginning of 2016. It includes a rain barrel and handouts for residents, including Stormwater BMP Reimbursement Program information. A Pet Waste Quiz was also part of the display until the end of 2016. It

had general questions on it regarding pet waste disposal and issues pet waste can cause if it gets into our stormwater. Respondents received a free bone-shaped dog waste bag dispenser. The display now also includes pollution prevention posters and native landscaping and creating habitat. Fish-shaped pens with a clean water message are provided for residents by the display area.

- g. Throughout the year, the City holds several cleanup events which allow residents a place to dispose of their leaves, branches, electronic waste, and oversized items to help deter illegal dumping of these items. This helps protect our stormwater system and natural resources.
3. Establish Stakeholders Group – The Stormwater Stakeholders Group met for ten regular meetings in this last fiscal year. The group participated in the stream/watershed cleanup event in April 2017.
 4. BMP Reimbursement Program – A cost-reimbursement program for residents and business owners was available during fiscal year 2017. The City budgeted \$15,000 for property owners to add BMPs to their properties to aid in stormwater management. Applicants were eligible for a 50% City reimbursement for their projects. For rain barrels, the maximum reimbursement amount was \$75. For other projects, the maximum reimbursement was \$1,800. In fiscal year 2017, the following private BMPs were reimbursed through this program: seven native landscaping projects, two soil quality restoration projects, one rain garden project, and thirty rain barrels.
 5. Other – The City of Ankeny has a written “Public Involvement and Participation Program” to better develop the program and keep track of goals.

C. Illicit Discharge Detection and Elimination

1. Illicit Discharge Prohibition Ordinance – The City of Ankeny adopted an Illicit Discharge to Storm Sewer System Ordinance on June 19, 2006. In July 2010, the City Council approved changes to the illicit discharge ordinance (Ordinance 1661) with revisions to some of the definitions and enforcement language. The changes also provide watercourse protection by prohibiting trash, debris, grass clippings, or other organic wastes and obstacles.
2. Illicit Discharge Detection and Elimination Program – The following potential illicit discharges were investigated.
 - a. City staff was contacted by a resident regarding cooking oil being placed into a dumpster which then leaked onto a concrete parking lot. On August 8, 2016, City staff visited the site and determined that the cooking oil was not being disposed of properly, but was remaining on the parking lot and within a grassed swale on site. City staff contacted the property owner and required the area to be cleaned up and to notify the tenant of proper disposal techniques. City staff visited the site and determined the remediation measures were adequate to abate the potential illicit discharge. No further action was required.

- b. On September 16, 2016, IDNR notified the City that a cleaning vehicle from ServiceMaster was flushing water down a storm drain based on a private complaint. Stormwater staff investigated the site the same day and found no evidence of the illicit discharge that required additional action. The City sent a letter to the company notifying them of the issue and requesting that proper disposal methods be used. No further action was required.
 - c. Three minor occurrences of vehicles leaking oil occurred on November 2, 2016, November 10, 2016, and March 27, 2017. All three were inspected by City staff and it was determined that the mobility of the spill would be limited. All three residents were contacted and required to use an absorbent material and also a degreasing cleaner to remove the oil from the pavement. City staff reinspected the areas after the work was completed. After revisiting the sites, City staff felt measures were adequate to address the illicit discharge. No further action was required.
 - d. On January 23, 2017, a Facebook post from a resident showed stove/oven hoods being degreased into a parking lot that had storm sewer intakes. City stormwater staff investigated the site on January 23, 2017. Staff observed very limited amounts of material that may have been food grease in the private storm intake. The substance was not observed in the detention basin where the storm intake drains to and ties into the City's stormwater management system. City staff notified IDNR and contacted the property owner. No further action was required of the property owner, however, they were notified that they should ensure this did not happen again.
 - e. IDNR forwarded an anonymous complaint on April 28, 2017. The developer was dewatering a large detention/sediment basin by digging a trench from the basin to the nearby tributary to Fourmile Creek. City staff immediately investigated the site and the contractor added rip rap to the trench to provide rock checks. After revisiting the site, City staff felt the measures were not adequate to address the illicit discharge and required additional rock and fabric to filter the sediment-laden water. After these corrective measures were taken, staff felt it was adequate to address the illicit discharge. No further action was required.
 - f. Yard waste illicit discharges – In an area of excess yard waste in the street, City staff will affix door hangers to properties within the area of concern indicating stormwater pollution was found in the area, identifying it as yard waste, and stating the pollutant is prohibited by the City's Municipal Code. This was completed in eight areas during fiscal year 2017. This can be based on visual observation by City staff or based on a resident complaint.
3. Storm Sewer System Map – The City of Ankeny has a comprehensive storm sewer system map that is available in paper copy to City staff, as well as in GIS format through the City's network. All of the City's outfalls, intakes, underground piping, and other structures are mapped. In addition, some private storm sewers, above-ground conveyances, and basins are shown on the maps. Storm sewer outfalls are GPS verified during periodic inspections.

4. Other – The City of Ankeny has a written “Illicit Discharge Detection and Elimination Program” to better develop the program and keep track of goals.

D. Construction Site Stormwater Runoff Control

1. Construction Site Runoff Control Ordinance – The City adopted a Construction Site Erosion and Sediment Control (COSESCO) Ordinance on December 18, 2006, and began issuing COSESCO permits on January 1, 2007.
2. Construction Site Review and Inspection Program – Construction Site Review and Inspection Program – The City requires site plan and Stormwater Pollution Prevention Plans (SWPPP) review and approval prior to issuing construction-related permits for any sites where a National Pollution Discharge Elimination System (NPDES) permit is required. Forty-six COSESCO applications were reviewed and approved during Fiscal Year 2017 for a total of \$16,241. There were 255 COSESCO (development/site plan) inspections. The City conducts inspections of all sites which have obtained coverage under General Permit Number Two (GP#2). The sites are inspected at least once each calendar quarter. In fiscal year 2017, 750 erosion control inspections were completed on single family lots and final stabilization inspections were performed on 718 single family lots. The decrease in the number of erosion control inspections on single family lots compared to fiscal year 2016 can be attributed to a change in the City’s inspection process. We now only provide one warning prior to issuing a stop work order instead of two warnings. Stop work orders were issued on thirty-two sites. The City responded to approximately eighty-five erosion/drainage complaints.
3. Financial Assurance for Erosion Control – The Ankeny Municipal Code requires that a performance bond and/or letter of credit are filed with the City insuring the completion of all required public improvements, including erosion control, as a condition of subdivision approval. The security requirements are referenced in the COSESCO ordinance.
4. Erosion Control Presentation Luncheon – An event was held on February 23, 2017 that updated area developers and contractors on changes to the City’s policy regarding erosion control inspections for private developments and individual building lots. Public Works staff discussed the erosion control inspection process and expectations from building permit issuance through final stabilization. Forty-three builders, developers, and/or contractors attended, as well as six City staff members.

E. Post-Construction Stormwater Management

1. Post-Construction Site Runoff Control Policy Ordinance – The City requires stormwater detention for commercial and multi-family developments. Starting in 2016, the City also now requires detention for single-family residential developments.
2. Site Plan Review of Post-Construction Runoff Controls – The City conducts site plan reviews and works with developers and their engineers to include features in their stormwater detention facilities that will improve water quality in addition to reducing stormwater runoff quantity.

The City is making use of the Iowa Stormwater Management Manual that addresses stormwater quality, in addition to stormwater quantity.

3. Inspection of Runoff Control Devices – The Planning and Building Department and Public Works Department are conducting inspections of sites that have stormwater detention facilities. Prior to issuing a certificate of occupancy or acceptance of public improvements, stormwater features, including orifice plates, must be properly constructed and present. Fifty facilities were inspected during the Fiscal Year 2017 construction period.
4. Inspection of Detention Basins – During Fiscal Year 2017, City staff performed inspections of public and private wet detention basins within the northwest and southeast quadrants of Ankeny. The inspections consisted of reviewing site plans, reviewing site conditions, and field verifying plan details. When performing field reviews on private detention basins all property owners were invited to participate to allow them to raise concerns or provide education on detention basin performance and maintenance. Twenty-one public and sixteen private detention basins were inspected in the northwest and southeast quadrants of the City. After the inspections, any deficiencies found were noted and general comments and recommendations on maintenance procedures were provided to the property owner(s).

F. Pollution Prevention/Good Housekeeping

1. Operation and Maintenance of MS4 – The Public Works Operations staff performs street sweeping throughout Ankeny on a regular basis. In Fiscal Year 2017, the City removed approximately 345 tons of debris from the streets, swept approximately 1,105 miles, and cleaned approximately 360 storm sewer intakes. Four cubic yards of sediment were removed, utilizing the vacuum truck, from a Vortechs stormwater treatment system that is upstream of Vintage Lake in Fall 2016 and Spring 2017.
2. Pesticide and Fertilizer Management Program – The City of Ankeny hires private contractors for the majority of its pesticide application and fertilizing activities. Only phosphorus-free fertilizer is used in City parks. In addition, no pesticide or fertilizer applications are allowed within 40 feet of a water body. Licensed City staff who apply weed and pest control products use the pesticide application forms required by the Department of Agriculture and Land Stewardship. The forms track the chemicals used, the purpose, the application rates, and quantities of chemicals used for each application.
3. Training Program for Municipal Employees – Two employees attended the International Erosion Control Association (IECA) Fall Conference on October 25th and 26th, 2016. Three employees attended the Urban Drainage: Past, Present, and Future event hosted by ISWEP on December 6, 2016. Two employees attended the Stormwater Management, Flexamat, and Profile Products Seminar hosted by Quick supply on February 8, 2017. Three employees attended the 2017 Spring Stormwater Symposium hosted by IECA on March 8, 2017. Two employees attended the MS4 meeting hosted by IDNR on February 2, 2017. Three employees attended the Iowa Water Conference hosted by ISWEP on March 22nd and 23rd, 2017. Three employees attended the ‘What to Expect during an EPA Audit’ presentation hosted by IDNR on April 25, 2017. One employee attended an ISWEP stormwater design training workshop

hosted by ISWEP on May 31, 2017. At least one staff member attended quarterly ISWEP meetings held in September 2016, December 2016, February 2017, and June 2017.

4. Salt Storage Building – The City currently maintains all of its salt storage inside a closed building. In addition, calcium chloride and salt brine storage tanks are within a containment area to prohibit accidental discharges to the storm sewer system.
5. Other – The City of Ankeny has a written “Pollution Prevention/Good Housekeeping Program” to better develop the program and keep track of goals.

The Public Works Department continues to work on improving efficiency during snow and ice removal operations. As City lane miles increase, the amount of salt/brine used has decreased over time. This has been accomplished by modifying the timing of the application and also adjusting the rate of application based upon the type of snow or ice experienced. Sand is not used by Public Works Department in winter maintenance operations.

Additional Information

Previous Fiscal Year Expenditures - The City spent \$398,508 in the fiscal year 2017 operating budget for stormwater activities and administration and \$165,002 for street sweeping. The City collected \$16,241 in revenues from grading permits. The City adopted stormwater utility fees to pay for stormwater expenditures and collected \$1,923,057. The City transferred \$1,241,259 to the debt service fund for debt payments. The debt service fund is stormwater’s share of the general obligation debt. Every year the City issues general obligation bonds for various projects (streets, parks, stormwater, etc.). The stormwater fund has to reimburse the debt service fund for principal and interest payments made on its behalf for its share of the projects.

During 2017, construction work was completed on the third and final phase of the Tributary A to Fourmile Creek channel improvement project. This segment is located between NE Delaware Avenue and Interstate 35. This project addressed the significant stream channel erosion that was occurring. In addition, banks were sloped to a more stable condition and allowing the stream to be reconnected to the floodplain. Native plants were planted along the entire stream corridor to further protect the banks while also enhancing habitat.

In May of 2017, the City began the significant Tradition Park Stormwater Detention Basin Remediation project. The project includes dredging, shoreline stabilization, overflow stabilization between the basins, and removal and replacement of undersized outlet structures within and around the two detention basins in Tradition Park. The basins will also have a native buffer around the banks. There was a significant amount of sediment deposited within the existing basins, which is along a tributary to Saylor Creek. The existing outlet structures were prone to clogging and the basins would overtop causing downstream erosion. The project was designed to remedy these issues. Construction should be complete by the end of 2017.

In the last fiscal year, many other stormwater management or improvement projects have been completed that have impacts on stormwater flow and/or water quality. The projects included

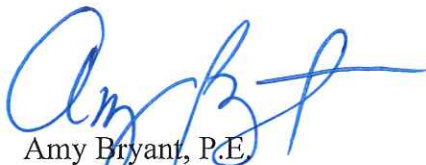
Creekside/Briarwood Area Erosion Repair, Prairie Glen Channel Improvements, and North Creek Erosion Repair.

In an effort to further the establishment and provide greater public acceptance, maintenance of native landscaping on City-owned property is on-going. It includes weeding and treating areas to remove invasive species and routinely mowing newly seeded areas to allow natives the opportunity to become fully established. In addition, management of native landscaped areas is also being conducted by performing controlled burns of the native areas. The City of Ankeny performs controlled burns on approximately 20 acres each year. During fiscal year 2017, three detention basins were converted from turf grass along the banks to native grasses and flowers.

During the summer of 2017, a stormwater summer intern was hired. The intern conducted inspections of stormwater detention facilities, inspected outfall locations, sampled water quality at multiple sites, performed engineering inspections of stream restoration projects, and performed reviews at active construction sites.

The City is beginning the process of drafting a post-construction stormwater control ordinance. We hope to finalize and adopt the ordinance during the next year, prior to the next annual report being submitted.

Respectfully submitted,



Amy Bryant, P.E.
Environmental Engineer



Mark Mueller, P.E.
Director of Public Works