

City of Fairfield NPDES Phase II Storm Water Program

Permit Number 1GQ00020*AG

Annual Report – Year 8



Prepared by

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5350 Pleasant Avenue
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Status of Compliance with Permit Conditions

The City of Fairfield has complied with all applicable conditions of its NPDES Phase II permit during this reporting period.

Assessment of Appropriateness of Identified BMP's

At this time, it is the opinion of City staff that Fairfield's approved Storm Water Quality Management Plan includes best management practices that are effective and appropriate for minimizing storm water pollution.

Progress Toward a Reduction in Pollutants Discharged

Based on the achievement of measurable goals for Permit Years 1-8, it is the opinion of City staff that satisfactory progress has been made towards the overall goal of reducing the discharge of pollutants to the maximum extent practicable.

Measurable Goals for Year 8

Public Education and Outreach

BMP 1.1 Storm Water Web Page – The City developed content for a storm water web page and activated the site in Permit Year 1. The address of this site <http://www.fairfield-city.org/publicworks/stormwater.cfm> Approximately 884 visits were estimated at this site during the 2010 calendar year.

The City **surpassed** its measurable goal of 200 visits to the web site each year.

BMP 1.2 Newsletter Articles – The City of Fairfield placed articles in the City newsletter. In compliance with the requirements of Fairfield's storm water plan, newsletter articles were most recently published in the February 2006, February 2007, May 2007, February 2008, August 2008, and May 2010 editions of the *Fairfield Flyer*.

The City **surpassed** its measurable goal of publishing at least three (3) articles in the *Fairfield Flyer* and *Fairfield Business Booster* during a 5-year period.

BMP 1.3 Public Education Display – In 2003, the City purchased materials and developed an educational display for use at the Fairfield Municipal Building, Fairfield Library, and other locations (see Figure 1). The display was presented in Year 8 at the Fairfield Public Library from April 16-26, 2010 (the week in which Earth Day falls) and the City of Fairfield Public Works Building from October 4-12, 2010. Materials were also passed out by the Groundwater Consortium at Fairfield's Water Fest on September 18, 2010 and throughout the year. During those times, 460 items were distributed to the public (post-it note pads, flying discs, key chains, flyers, coloring books, and refrigerator magnets). Another 150

items were distributed throughout the year at other locations (Fire Department Headquarters, the City Municipal Building, the Community Arts Center, and the Public Works Facility).

In 2008, the City of Fairfield supplied the Groundwater Consortium (which Fairfield is a member) with 3,500 items to distribute to City of Fairfield students and teachers as part of the Consortium's efforts to educate the public on storm water and ground water pollution prevention.

The City **met** its measurable goal of presenting the storm water display twice annually and **surpassed** its measurable goal of distributing 200 promotional items per year.



Figure 1. Public Education Display.

BMP 1.4 Storm Water Quality Flyer – The City developed and printed 5,000 copies of a flyer describing storm water pollution prevention measures. Approximately 100 flyers were distributed in Year 8 by making them available at a number of City buildings (Public Works Facility, Parks Department, Municipal Building, Fire Department Headquarters), and the Fairfield Public Library. An electronic version of the flyer is also featured at the City's storm water web page (BMP 1.1).

The City **met** its measurable goal of distributing at least 100 flyers annually.

BMP 1.5 Educational Video – The City coordinated with the local cable company, Time Warner, to present a public service announcement (PSA) on storm water pollution. The PSA, "Protecting Our Communities from Storm Water Pollution," was produced by the US EPA and was shown in Year 6 in its 4-minute format on local public access channel 18. Weekly presentations included two showings each on Monday, Wednesday, Friday, Saturday, and Sunday. Another

EPA sponsored video was also shown intermittently. We also have a link on our web-site to the EPA and Weather Channel video “After the Storm”.

The City **surpassed** its measurable goal of monthly presentations of PSA’s.

BMP 1.6 School Program –The City had a representative from the Groundwater Consortium speak to over 500 Fairfield students about storm water and ground water pollution prevention. Fairfield also sponsors teacher education where the Butler County Soil and Water Conservation District trains intermediate school teachers on storm water protection by paying the cost of substitute teachers while the everyday teachers attend the training. The City **surpassed** its measurable goal of making a presentation to at least two (2) intermediate school classes annually.

BMP 1.7 Pet Waste Collection Stations – In years 1-5, the City maintained ten (10) “Dogipot Jr” pet waste collection stations at various City parks (see Figure 2). In year 7, the City purchased ten (10) additional “Dogipot Jr” pet waste collection stations for installation at various City park locations.



Figure 2 Gilbert Park on Ross Road

The City **met** its measurable goal of installing at least two pet waste collections stations annually.

Public Involvement and Participation

BMP 2.1 Public Hearings –The City has held one public hearing during the first 5-year permit cycle and had proposed a change to the plan’s measurable goals from two public hearings to one public hearing during Permit Year 4.

The City **met** its revised measurable goal of holding one public hearing during the first 5-year permit cycle.

BMP 2.2 Formal Adoption of Plan by City Council - The City **met** its measurable goal of having City Council formally adopt the storm water quality management plan that was submitted to the Ohio EPA.

BMP 2.3 Storm Drain Marking – The City installed storm drain markers on curb inlets in Fairfield’s public storm sewer system during Year 8.

The City **met** its measurable goal of installing 250 curb inlet markers annually.

BMP 2.4 Tree Planting Program – The City coordinated with a volunteer group to plant approximately 140 trees on public property in 2010. These trees were donated by the Izaak Walton League and planted by City of Fairfield elementary school students.

The City **surpassed** its measurable goal of planting at least 50 trees annually.

BMP 2.5 Storm Water Hotline – To encourage participation from the public, the City has designated and publicized the central Public Works Department phone number as a “storm water hotline.” This phone number is featured at the City’s web site, and on the storm water flyer and “post-it” note pads that are being distributed through the Public Education program. The majority of calls received have concerned flooding and/or drainage problems. Each complaint is responded to either through a telephone conversation or a site visit. Follow-up letters were sent as needed.

The City **met** its measurable goal of responding to all reported problems and keeping records of site visits.

Illicit Discharge Detection and Elimination

BMP 3.1 Storm Sewer Mapping – The City developed a geographic information system (GIS) map of the storm sewer system in Permit Year 1 that included all publicly-owned components, outfalls that discharge to surface waters of the State, and the names and location of surface waters of the State.

The City **met** its measurable goal of verifying outfall locations and inspecting all HSTS by the end of the first permit cycle.

BMP 3.2 Prohibiting Illicit Discharges – There were no incidents reported within the City of Fairfield during Year 8 that involved potential illicit discharges. In past years, the City’s response in these types of cases has involved site visits and follow-up letters from the Public Utilities, Public Works, and Development Departments.

The City **met** its measurable goal of using City Code to respond to illicit discharge / illegal dumping reports.

BMP 3.3 Field Program to Detect and Address Illicit Discharges – In Permit Year 1, the City developed a program for the detection and elimination of illicit discharges. This program includes field inspection of outfalls, limited water quality analysis, and source identification. This work was conducted as part of the survey work for the GIS map development (see BMP 3.1).

The City **met** its measurable goal of performing the outfall inspections over 100% of Fairfield's designated streams by the end of the first permit cycle.

BMP 3.4 Educate Public Employees – In accordance with Fairfield's storm water plan, select staff attended training activity in Year 6. No staff training was required for 2010.

The City **met** its measurable goal of having at least one representative from each of the Public Works, Development Services, Public Utilities, Police, and Fire Departments attend three (3) training sessions during the first 5-year permit cycle.

BMP 3.5 Educate Businesses and the General Public – The Public Education and Outreach program includes information on the hazards of illegal discharges and improper waste disposal. This information is presented at the storm water web page (BMP 1.1), the newsletter articles (BMP 1.2), the storm water flyer (BMP 1.4), and in the school program (BMP 1.6).

The City **met** its measurable goals for BMP's 1.1, 1.2, 1.4, and 1.6.

BMP 3.6 Spill Response Program – The City of Fairfield Fire Department responded to 2 reported material spills in 2010. Past spills have typically involved vehicle crashes where absorbent material was used to collect vehicle fluids (antifreeze, oil, transmission fluid, etc.).

The City **met** its measurable goal of responding to all reported material spills using the resources of the Fairfield Fire Department and Greater Cincinnati Hazardous Materials Unit, when necessary.

Construction Site Storm Water Runoff Control

BMP 4.1 Erosion and Sediment Control Ordinance – Approximately 38 project site plans were reviewed by City staff through the staff technical review (STR) committee in 2010. Erosion control measures were required for all projects that involved ground disturbance. Two (2) of the projects involved the disturbance of at least 1 acre of ground and, in that case, it is required that verification be provided to the City that they were also covered under an Ohio EPA construction site NPDES permit.

The City **met** its measurable goal of requiring all new development / redevelopment projects to provide sediment and erosion control measures on-site.

BMP 4.2 Adoption of Erosion Control Manual – The Ohio DNR’s “Rainwater and Land Development” manual was officially adopted in Permit Year 1 as the official erosion and sediment control reference through the revised language of City Ordinance 1117.06. This document currently serves as the City’s standard reference for erosion and sediment control practices in Fairfield.

The City **met** its measurable goal of establishing “Rainwater and Land Development” as its standard erosion control reference document used for plan review and field inspection.

BMP 4.3 City Staff Training – The City staff training presentation described in BMP 3.4 includes an erosion control component. No City staff training was required for 2010.

The City **met** its measurable goal of having select City staff from the Public Works and Development Services Departments attend at least 3 training sessions that include information on sediment and erosion control during the first 5-year permit cycle.

Post-Construction Storm Water Management

BMP 5.1 Storm Water Detention – Approximately 36 project site plans were reviewed by City staff through the staff technical review (STR) committee in 2010. Due to the construction of additional impervious surface, 1 of these site plans included the installation of new detention facilities or expansion of existing facilities. No detention waivers were requested due to site constrictions. The remainder of the projects did not require detention facilities because there was no increase in impervious surface

The City **met** its measurable goal of reviewing all new development / redevelopment projects for compliance with detention ordinance 1182.

BMP 5.2 Wellhead Protection Program – The Hamilton to New Baltimore Groundwater Consortium has taken the lead in groundwater monitoring and clean-up in the past. In 2007, the Consortium contracted with URS to re-delineate the one, five, and ten-year times of travel zones within the wellfield study area. The original delineation study was conducted in 1993 by CH2M-Hill and included a computerized model for the hydro-geological analysis of a 43 square mile area in southern Butler County. The purpose of the analysis was to determine the general hydraulic gradient of groundwater resources within the Great Miami Buried Valley Aquifer (Aquifer), in relation to raw water production wells owned and operated by members of the Hamilton to New Baltimore

Groundwater Consortium (Consortium). The Consortium members (cities of Cincinnati, Hamilton and Fairfield, Southwest Regional Water District, Southwest Ohio Water Association, Butler County Water District and Miller Brewery) produce and distribute approximately 65 million gallons of water per day. Groundwater is the sole supply of this water. By delineating the Aquifer we can establish general flow and recharge patterns, and identify areas that are more susceptible to contamination. We can also determine if contamination could serve to threaten wells owned by Consortium members.

In addition, the Consortium has developed a contingency response plan to respond to certain types of emergencies that could ultimately affect groundwater quality. The Consortium has a registration process which identifies businesses with certain activities that could jeopardize water quality.

The City **met** its measurable goal of applying wellhead protection Ordinance 1192 to applicable development / redevelopment projects within the City.

BMP 5.3 Maintenance of Regional Basins – In Year 8, City staff performed routine inspections at Fairfield’s two regional basins quarterly. Additional inspections were made following large storm events to verify the working condition of the basins and their components. City staff continued mowing each site in accordance with ODNR requirements.

The City **met** its measurable goal of inspecting, maintaining, and repairing both of the City’s two regional detention basins.

BMP 5.4 Inspection of Residential Subdivision Detention Basins – In Permit Year 7, City staff inspected 21 detention / retention basins located in the following residential subdivisions:

Subdivision Name	Number of Basins
Augusta Hills	1
Benchway Court	3
Carousel Estates	1
Emerald Lake	1
Fenwick Place	1
Gilmore Reserve	1
Hannah’s Farm	4
Hunter Woods	1
Indian Meadows	1
Lake Manor	2
Miller’s Run	2
The Monastery	1
Rolling Meadows	1
Stockton Station (Section 2)	1

Table 1. Detention / retention basins in residential areas.

The City is **met** its measurable goal of inspecting all retention / basins located in residential subdivisions on a two-year cycle.

BMP 5.5 Stamped Curb Inlets – In 2010, 16 curb inlets and drywells were re-constructed through the City’s Vinnedge-Walter Drainage Project to include a new grate stamped with a fish logo and the text “DUMP NO WASTE” (see Figures 5 and 6). City work crews similarly retrofitted approximately 15 other inlets as part of the street overlay program.

The City **surpassed** its measurable goal of installing at least 15 stamped curb inlets annually.



Figure 5. Curb inlet repair site – before.



Figure 6. Curb inlet repair site – after.

BMP 5.6 Post-Construction BMP’s – Based on review comments from the Ohio EPA, this BMP was added to Fairfield’s storm water plan. It involves a verification of compliance with part III.G.2.e of the Ohio EPA’s general NPDES permit for construction. This verification will take place as part of the City’s routine site plan review process. Ohio EPA staff approved the addition of this plan element and the updated plan was formally adopted by City Council.

By law, the post-construction BMP plan update takes effect 30 days following its February 14, 2005 passage by City Council. Therefore, the application of this BMP to new project plans began at the beginning of Permit Year 3.

Approximately 38 project site plans were reviewed by City staff through the staff technical review (STR) committee in 2010.

The City **met** its measurable goal of ensuring compliance with part III.G.2.e of the Ohio EPA’s general NPDES construction permit.

Pollution Prevention / Good Housekeeping

BMP 6.1 Drainage Crew Operations – In 2010, the City’s drainage crew inspected 560 catch basins / drywells, cleaned 560 total structures, and repaired 78 units. Vactor truck cleanings were performed on storm sewer pipe as needed for a total of 5,980 feet of pipe cleaning. The crew also completed dozens of other drainage projects (structure replacements, swale re-grading, etc.) in 2010. As part of their regular operations, the crew checked culverts and bridges for flow blockages and removed fallen trees from the main branch of the Pleasant Run Creek, as needed. In 2009, the City purchased a rover-type camera and greatly increased the amount of existing storm sewer that was videoed for condition and operation.

The City **surpassed** its measurable goal of inspecting at least 150 catchbasins annually and addressing maintenance-related storm sewer system problems as needed.

BMP 6.2 Street Sweeping Program – An outside vendor, Contract Sweepers and Equipment, provided \$74,667.82 in street-sweeping services to Fairfield in 2010. This figure translates into approximately 1,056 curb miles of street sweeping based on a cost of \$ \$0.01339 per linear foot. An additional 329 miles of sweeping (approximately 71 hours) was performed by Public Works staff using the City’s Tennant Centurion street sweeper. The City of Fairfield has approximately 256 curb miles of public roadways to be swept.

The City **met** its measurable goal of having street sweeping performed in accordance with the schedule specified in the City’s contract with Contract Sweepers and Equipment.

BMP 6.3 Leaf / Brush Pickup Programs – In the fall of 2010, work crews from the Public Works Department picked up approximately 4,396 cubic yards of leaves. Brush was picked up at 2,230 residences through the curbside brush pick-up program in 2009. Another yard waste collection program, Operation Dump Truck, was utilized by 493 residents during 2010.

The City **met** its measurable goal of providing leaf and brush removal services to the public in accordance with the City’s program guidelines.

BMP 6.4 Fleet Maintenance Program – In 2010, the City’s fleet maintenance staff recycled (through an outside vendor) approximately 1,000 gallons of oil, re-used (as heating oil for the shop facility) approximately 1,500 gallons of oil in the waste oil furnace, and recorded approximately 1,000 washes in the enclosed truck wash. Maintenance staff also continued the use of the other pollution prevention measures cited in Fairfield’s submitted storm water quality management plan (all work performed in an enclosed garage, spills cleaned up using appropriate equipment, etc.).

The City **met** its measurable goal of conducting all fleet maintenance activities in accordance with the storm water pollution prevention measures cited in the City's storm water plan.

BMP 6.5 Snow Removal Program – In 2010, 8,146 tons of salt and 25,538 gallons of calcium chloride were used as part of the City's snow removal program. As cited in the City's storm water plan, the salt was stored in a 4,500-ton capacity salt barn and the calcium chloride was stored in three tanks with a combined 16,000-gallon capacity.

The City **met** its measurable goal of storing all salt and calcium chloride in the salt barn and tank, respectively.

BMP 6.6 City Staff Training – In accordance with Fairfield's storm water plan, City Staff attended three (3) training sessions during the first 5-year permit cycle.

The City **met** its measurable goal of having select City staff attend three (3) training sessions during the first 5-year permit cycle.

Activities Planned for Next Reporting Cycle

A summary of the activities planned for Year 9 is presented in Table 2 (See Page 11).

Proposed Changes to SWMP

No changes / additions were made to Fairfield's storm water program for Year 8.

Table 2. Planned Storm Water Program Activities - Year 9

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Public Education and Outreach		
1.1	Storm Water Web Page	Monitor activity at site and update content, as needed.
1.2	Newsletter Articles	Include storm water articles in the Fairfield Flyer (Optional)
1.3	Public Education Display	Present storm water display at least twice and distribute 200 storm water items (flyers, magnets, coloring books, keychains, post-it notes).
1.4	Storm Water Quality Flyer	Distribute at least 100 flyers
1.5	Educational Video	Continue presentation of videos on public access television station
1.6	School Program	Sponsor at least two (2) intermediate school teachers to attend training provided by Butler County Soil and Water Conservation District.
1.7	Pet Waste Collection Stations	Install ten pet waste collection stations on Fairfield City Park property over years 6-10.
Public Involvement and Participation		
2.1	Public Hearing	No activity planned.
2.2	Adoption of Plan by City Council	No activity planned.
2.3	Storm Drain Marking	Install at least 250 storm drain markers.
2.4	Tree Planting Program	Plant at least 50 trees through volunteer tree planting program.
2.5	Storm Water Hotline	Continue use of storm water hotline and respond to all calls.
Illicit Discharge Detection and Elimination		
3.1	Storm Sewer Mapping	Update storm sewer system map as needed.
3.2	Prohibiting Illicit Discharges	Enforce City Ordinances 925.07 and 521.08 with respect to illicit discharges.
3.3	Field Inspection Program	No activity planned.
3.4	Educate Public Employees	Hold at least one training session for public employees.
3.5	Educate Businesses and Public	See activity plans for Public Education and Outreach BMP's.
3.6	Spill Response Program	Through the Fire Department, continue implementation of current spill response and control measures.
Construction Site Storm Water Runoff		
4.1	Erosion and Sediment Control Ordinance	Continue enforcement of City Ordinances 1117.06 and 1309.15 with respect to erosion and sediment control issues. Continue existing plan review and site inspection practices.
4.2	Adoption of Erosion Control Manual	Continue use of "Rainwater and Land Development" as standard erosion and sediment control reference document for City.
4.3	City Staff Training	Hold at least one training session for public employees.
Post-Construction Storm Water Management		
5.1	Storm Water Detention	Continue enforcement of City Ordinance 1182 with respect to review and approval of detention / retention facilities for new and redevelopment projects.
5.2	Wellhead Protection Program	Continue enforcement of City Ordinance 1192.
5.3	Maintenance of Regional Basins	Continue inspection and maintenance of City's two regional detention basins in accordance with ODNR requirements.
5.4	Subdivision Basin Inspection	Inspect at least 50% of detention / retention basins located in residential subdivisions. Complete or schedule repairs for any damaged structural components.
5.5	Stamped Curb Inlets	Install at least 15 stamped curb inlets.
5.6	Post-Construction BMP's	Ensure compliance with part III.G.2.e of the Ohio EPA general NPDES permit for construction activity. This will apply to projects involving disturbance of at least 1 acre.
Pollution Prevention / Good Housekeeping		
6.1	Drainage Crew Operations	Continue implementation of current storm sewer maintenance program through City's drainage crew. Inspect at least 150 catchbasins.
6.2	Street Sweeping Program	Continue implementation of current street sweeping program, document work performed.
6.3	Leaf / Brush Pick-up Programs	Continue implementation of current leaf / brush pick-up programs, document work performed.
6.4	Fleet Maintenance Program	Continue implementation of current fleet maintenance procedures.
6.5	Snow Removal Program	Continue implementation of current snow removal program.
6.6	City Staff Training	Hold at least one training session for public employees.