Rule 13 - MS4 ANNUAL REPORT

State Form 51278 (R6 / 7-12)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NOTE:

- Annual reports must be submitted to the Indiana Department of Environmental Management. **Failure to submit the annual report is considered noncompliance with your permit.**
- For the **first five** (5)-year permit term, this completed form must be submitted by 1 year from the SWQMP – Part C submittal date and, thereafter, 1 year from the previous report (i.e., in years two (2) through five (5) of permit coverage).
- In the **second and subsequent** five (5)-year permit terms, this completed form must be submitted in years two (2) and four (4) of permit coverage.
- **Please type or print in ink.**
- Please answer all questions thoroughly and return the form by the due date.
- Return this form and any required attachments to the IDEM Storm Water Program, MS4 Coordinator at the address listed in the box on the upper-right.

For questions regarding this form, contact:

IDEM Office of Water Quality , Storm Water Program
MS4 Coordinator
100 North Senate Avenue, Room 1255
MC 65-42
Indianapolis, IN 46204-2251

Telephone: (317) 234-1601 or
(800) 451-6027, ext. 41601 (within Indiana)

Web Access: http://www.IN.gov/idem/4900

Five Year Permit Term	Reporting Year
☐ 1st Permit Term ☒ Second and subsequent five (5) Year Permit Terms	**Permit Year** 2022 ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 MS4s in their first permit term must submit reports annually. MS4s that are in subsequent permit terms must submit in years 2 and 4 of the permit term.

PART A: GENERAL INFORMATION – MS4 OPERATOR

1. Permit Number:	**INR 0 4 0 014**	**Type of MS4:** ☐ City ☒ Town ☐ County ☐ Non-traditional
2. MS4 Entity:	Town of Pendleton *(Name of permit holder)*	
3. MS4 Operator:	Marissa Skaggs	
4. Mailing Address:	100 West State Street Pendleton, IN ZIP: 46064 County: Madison	
5. Email Address:		

PART B: GENERAL INFORMATION – MS4 COORDINATOR

6. MS4 Coordinator (*please print*):	Scott Reske
7. Person's Title:	Town Manager
8. Mailing Address:	100 W State Street P.O. Box 230 Pendelton, IN ZIP: 46064
9. Telephone Number:	(765) 778-2173
10. E-mail Address:	sreske@town.pendleton.us

PART C: GENERAL INFORMATION – REPORT PREPARER

11. Name: Andrew Utz
(*Provide this information if someone other than MS4 Operator or Coordinator completed this report.*)

12. Affiliation with the MS4:	MS4 Consultant	
13. Mailing Address:	6325 Digital Way Indianapolis, IN ZIP: 46278	
14. Telephone Number:	(463) 900-1177	Extension:
15. E-mail Address:	autz@contactcei.com	

PART D: PROGRAM MANAGEMENT
327 IAC 15-13-18

16. Provide a summary of the following program management activities performed during the reporting period:

a) If this is a co-permit, list all permittees and operators responsible for permit implementation for each entity.

The Town of Pendleton does not have a co-permittee.

b) Identify changes to the MS4 area boundaries, including areas added to or lost to the MS4 area via annexation or other similar means. Provide a current map (8.5" X 11" or 8.5" X 14")

The Town of Pendleton has expanded its corporate boundaries during the reporting period. Please see the attached Town of Pendleton Corporate Limits Map (Attachment 1)

c) Identify follow-up or additional water quality characterizations completed during the reporting period if applicable.

A Water Quality Characterization Report was prepared as required under the MS4 General Permit. The WQCR is available upon request.

d) Provide updated receiving water information completed during the reporting period if applicable.

Receiving waters were reviewed as part of the MS4 General Permit Notice of Intent and subsequent WQCR. The primary receiving water is Fall Creek.

e) Identify funding sources (utility fees, grants, enforcement fines etc) utilized for MS4 program implementation during this reporting period.

All program funding is provided through the Town's stormwater fee.

f) Provide a list of new active industrial sites identified during this reporting period.

There are no new active industrial sites within the corporate boundaries of the Town of Pendleton. There are two (2) industrial permit sites within the Town of Pendleton: Pendleton Correctional Facility (INRM01876) and Newco Metals Incorporated (INRM00275).

g) Provide a list of facilities owned and operated by the MS4 that require Rule 6 (industrial storm water) permits.

There is one town-owned facility requiring a Rule 6 permit: Fall Creek Wastewater Treatment Plant (INRM01246).

h) Provide a summary of complaints received and follow-up investigation results related to storm water quality issues during this reporting period.

No complaints were received during the reporting period.

i) Other:

N/A

PART E: PUBLIC EDUCATION AND OUTREACH - MINIMUM CONTROL MEASURE

17. Identify the best management practices (BMPs) for public education and outreach included in your Storm Water Quality Management Plan (SWQMP) Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this minimum control measure (MCM) including timetables and measurable goals during this reporting period.

The Town of Pendleton's SWQMP was revised and submitted to IDEM December 2022. The Town of Pendleton is a member of the Madison County Stormwater Quality Partnership (MCSWQP), a county-wide group of MS4 communities and interested parties which implement the Public Education and Outreach BMPs on behalf of the member entities.

The MCSWQP sponsored and participated in the White River Watchers Clean Up event in August 2022. Please see the attached photo documentation and public education and outreach materials that were distributed at this event (Attachment 2).

The MCSWQP distributed educational brochures and fliers at every event they attended. Examples of these materials can be found in Attachment 3.

b) Describe implementation problems encountered and changes made due to ineffectiveness or infeasibility during this reporting period.

The Town of Pendleton updated the SWQMP and submitted the SWQMP to IDEM OWQ in December 2022. because of the revisions to the SWQMP for all partnership entities, BMPs and measurable goals were evaluated for the remaineder of the MS4 General Permit term. The BMPs submitted within the SWQMP have been selected to maximize outreach while considering budgetary limitations, faculty changes, and departmental preferences.

c) Describe program BMPs that went beyond those identified in the SWQMP.

None.

d) Identify storm water BMPs installed or initiated for this MCM during this reporting period.

No BMPs were installed for the Outreach MCM. The MCSWQP participated in the White River Watchers Clean Up event for the first time in August 2022.

e) Describe program implementation partnerships and explain successes and barriers during this reporting period.

The Town of Pendleton is a member of the Madison County Stormwater Quality Partnership, which includes the Anderson University, the City of Alexandria, the City of Anderson, the Town of Chesterfield, East Central Indiana Solid Waste District, the Town of Ingalls, Madison County, the Madison County Council of Governments, Madison County Soil and Water Conservation District, the Town of Pendleton, and the White River Watchers of Madison County.

Successes by this partnership include:

1. Participation and sponsorship of the White River Watchers Clean Up event
2. Renewal of the MCSWQP Memorandum of Understanding.

Barriers for the partnership include:

1. Conflicting Schedules among partner entities;
2. Budget and time restraints; and
3. Proper implmentation of the MS4 General Permit across the Partnership entities.

f) Other:

N/A

PART F: PUBLIC PARTICIPATION AND INVOLVEMENT - MINIMUM CONTROL MEASURE

18. Identify the best management practices for public participation and involvement included in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this MCM including timetables and measurable goals during this reporting period.

The Town of Pendleton is a member of the Madison County Stormwater Quality Partnership, which includes the Anderson University, the City of Alexandria, the City of Anderson, the Town of Chesterfield, East Central Indiana Solid Waste District, the Town of Ingalls, Madison County, Madison County Council of Governments, Madison County Soil and Water Conservation District, the Town of Pendleton, and the White River Watchers of Madison County.

The Partnership sponsored and participated in the White River Watchers Clean Up event in August 2022. Please refer to Attachment 2 for documentation of this participation.

b) Describe implementation problems encountered and changes made due to ineffectiveness or infeasibility during this reporting period.

The Town of Pendleton updated the SWQMP and submitted the SWQMP to IDEM OWQ in December 2022. because of the revisions to the SWQMP for all partnership entities, BMPs and measurable goals were evaluated for the remaineder of the MS4 General Permit term. The BMPs submitted within the SWQMP have been selected to maximize outreach while considering budgetary limitations, faculty changes, and departmental preferences.

c) Describe program BMPs that went beyond those identified in the SWQMP.

The MCSWQP regularly updates its Facebook page with new storm water pollution prevention information.

d) Identify storm water BMPs installed or initiated for this MCM during this reporting period.

No new stormwater BMPs were installed or initiated during this reporting period.

e) Describe program implementation partnerships and explain successes and barriers during this reporting period.

The Town of Pendleton is a member of the Madison County Storm Water Quality Partnership, which includes the Anderson University, the City of Alexandria, the City of Anderson, the Town of Chesterfield, East central Indiana Solid Waste District, the Town of Ingalls, Madison County, Madison County Council of Governments, Madison County Soil and Water Conservation District, the Town of Pendleton, and the White River Watchers of Madison County. Successes include, but are not limited to the following:

Quarterly, collaborative Storm Water Partnership Meetings; and

White River Clean-up, hosted by the White River Watchers.

Barriers include:

Conflicting schedules;

Budget and time constraints; and

SWQMP implementation across all Partnership entities.

f) Other:

N/A

PART G: ILLICIT DISCHARGE DETECTION AND ELIMINATION - MINIMUM CONTROL MEASURE

19. Identify the best management practices for illicit discharge detection and elimination (IDDE) included in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this MCM including timetables and measurable goals during this reporting period (mapping, screening, etc.).

The Town of Pendleton has developed a Stormwater Map for use in the MS4 Program. Screening was conducted and no problems were observed. Please refer to the attached Stormwater Map.

b) Describe implementation problems or challenges encountered, particularly as it relates to mapping and screening of outfalls during this reporting period.

There were no significant problems or changes during the reporting period.

c) Identify changes made to the IDDE Plan during this reporting period if applicable.

No changes were made to the IDDE Plan during this reporting period. The IDDE Plan was reviewed for its effectiveness under the MS4 General Permit, and revisions are planned as part of the implementation of the SWQMP.

d) Identify updates or revisions to IDDE ordinance or other regulatory mechanism made during this reporting period.

The Town of Pendleton Stormwater Ordinance was codified February 2021 and established the Department of Stormwater Management. All ordinances in the Town of Pendleton are to be reviewed and updated to be in compliance with the MS4 General Permit requirements.

e) Describe level of mapping and screening completed to date. If there are unmapped or unscreened outfalls, provide a plan and a timetable for completion.

The current Town of Pendleton MS4 Map includes outfalls, conveyances 24' and greater, storm mains, and storm structures. In order to meet compliance with the MS4 General Permit, the Town plans to update the MS4 map with the following by the end of the permit term:

Latitude and Longitude of all outfalls to 5 decimal degrees.

Receiving waters, including water quality characteristics such as inclusion on the 303(d) Impaired Waters List or having a TMDL.

f) Other:

N/A

PART H: CONSTRUCTION SITE STORM WATER RUN-OFF CONTROL - MINIMUM CONTROL MEASURE

20. List the best management practices for the construction site storm water run-off program identified in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this MCM including timetables and measurable goals during this reporting period.

The Town of Pendleton reviewed its Construction Site Stormwater Run-Off program as part of the development of the SWQMP submitted in December 2022. Implementation of the 2022 SWQMP through the permit term will include review of the Construction Ordinance, implementing a Permit Inventory, and reviewing and updating the Stormwater Technical Standards.

b) Describe program implementation partnerships and explain successes and barriers during this reporting period.

The Town of Pendleton is a member of the Madison County Storm Water Quality Partnership, which includes Anderson University, the City of Alexandria, the City of Anderson, the Town of Chesterfield, East central Indiana Solid Waste District, the Town of Ingalls, Madison County, Madison County Council of Governments, Madison County Soil and Water Conservation District (SWCD), the Town of Pendleton, and the White River Watchers of Madison County.

The town contracts its construction site run off control permitting with the Madison County SWCD.

c) Identify the number of construction sites permitted during this reporting period and identify the number and type of enforcement actions taken against construction site operators during the same period.

The Town of Pendleton permitted a total of 388 construction permits during this permit period. The Town coordinates its inspections with the Madison County SWCD.

There were no written warnings and/or citations issued in 2022. Numerous verbal warnings were given throughout the year.

d) Identify the number and types of training opportunities that were provided to contractors, developers, and builders during this permit period.

Permitted developers are to undergo training when projects are accepted by the Town of Pendleton. Training is to be administered via the Madison County Soil and Water Conservation District. In addition, the Madison County SWCD is to perform inspections of sites in addition to the Town’s inspections.

e) MS4 personnel responsible for plan review, inspection, and enforcement of construction activities shall receive, at a minimum, annual training addressing appropriate control measures, inspection protocol, and enforcement procedures. Identify training provided to MS4 personnel responsible for these activities during this reporting period.

Projects within the MS4 will be reviewed and inspected by qualified Madison County SWCD personnel. The Madison County SWCD will be responsible for training plan reviewers annually. The MS4 Coordinator will also undergo training related to the MS4 Construction Site Stormwater Run-Off program annually to meet the requirements of the MS4 General Permit.

f) Identify updates or revisions to the storm water construction ordinance or other regulatory mechanism made during this reporting period.

The Town of Pendleton's Construction ordinance was codified on March 11, 2021. The ordinance was not updated during the reporting period. As part of the MS4 General Permit and stated in the SWQMP, the Town of Pendleton is reviewing its current ordinances and will provide any updates as required.

g) Other:

N/A

PART I: POST-CONSTRUCTION STORM WATER RUN-OFF CONTROL - MINIMUM CONTROL MEASURE

21. List the best management practices for post-construction storm water run-off control identified in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP in the SWQMP including timetables and measurable goals during this reporting period.

The Town of Pendleton owns and operates two structural BMPs: The McCarty Storm Drain and Pond and the Falls Park "Lighthouse" Pond.

The Town of Pendleton performed a total of 85 post-construction inspections in 2022.

The Town of Pendleton conducts post-construction inspections of subdivisions. Five (5) such inspections were conducted in 2022.

Three (3) post-construction inspections were conducted for Town-owned projects.

b) Describe implementation problems encountered and changes due to ineffectiveness or infeasibility during this reporting period.

Neither implementation problems nor changes were encountered due to ineffectiveness or infeasibility during this reporting period.

c) Describe program implementation partnerships and explain successes and barriers.

The Town of Pendelton is a member of the Madison County Storm Water Quality Partnership, which includes Anderson University, the City of Alexandria, the City of Anderson, the Town of Chesterfield, East central Indiana Solid Waste District, the Town of Ingalls, Madison County, Madison County Council of Governments, Madison County Soil and Water Conservation District, the Town of Pendleton, and the White River Watchers of Madison County.

d) MS4 area personnel responsible for implementation of the post-construction minimum control measure shall receive, at a minimum, annual training. Identify training provided for this minimum control measure during this reporting period.

Construction training has taken place annually in the event a construction project is to take place within the MS4 boundary. Training was attended by MS4 employees in 2022. Projects within the MS4 will be reviewed and inspected by qualified Madison County Soil and Water Conservation District (SWCD) personnel. The Madison County SWCD will be responsible for training plan reviewers annually. The MS4 Coordinator will also undergo training related to the MS4 Construction Site Stormwater Run-Off program annually to meet the requirements of the MS4 General Permit.

e) Identify updates or revisions to the post-construction storm water ordinance or other regulatory mechanism made during this reporting period.

The Town of Pendleton's Post-Construction ordinance was codified on March 11, 2021. The ordinance was not updated during the reporting period. As part of the MS4 General Permit and stated in the SWQMP, the Town of Pendleton is reviewing its current ordinances and will provide any updates as required.

f) Other:

N/A

PART J: MUNICIPAL OPERATIONS POLLUTION PREVENTION AND GOOD HOUSEKEEPING - MINIMUM CONTROL MEASURE

22. List the best management practices for municipal operations pollution prevention and good housekeeping identified in your SWQMP Part C and respond to the following:

a) Identify progress made towards development and implementation of each BMP in the SWQMP including timetables and measurable goals during this reporting period.

The Town of Pendleton participated in the White River Watchers River Clean Up Days. Documentation of participating in the event can be seen in Attachment 3. Please refer to Attachment 3 for full details of waste removed from the White River in 2022.

Stormwater outfalls and drains/mains have been cleaned annually. Major cleaning has occurred at Tile Street, Main Street, and the Fox Run Subdivision. Outfalls at Falls Park Pond, along Falls Park Drive, State Street and Adams Street, Reformatory Road, the Fall Creek Golf Course, and Foster's Branch.

Street sweeping is performed April through November, and litter pickup near run-off areas is conducted annually. The Town of Pendleton Street Department collected 950 cubic yards of leaves in 2022, and picked up a total of 140 yards of trash from street sweeping.

The Town departments collect paper, metals, and other recyclables. Used oil is collected in designated drains in maintenance garages.

The municipal areas are under the continual observation of a full-time supervisor. Issues related to good housekeeping are addressed immediately as they arise.

The East Central Indiana Solid Waste Distric has collected household hazardous materials, totalling 12,842 pounds of material in 2022. Additional solid hazardous waste collection information can be found in Attachment 4.

b) Describe implementation problems encountered and changes due to ineffectiveness or infeasibility as it relates to pollution prevention and good housekeeping at MS4 owned and operated facilities during this reporting period.

None.

c) Identify storm water BMPs installed or initiated at MS4 owned and operated facilities.

Overall, municipal facilities are clean and well organized. Existing storm water BMPs were maintained during this reporting period.

Three (3) major culvert installations occurred in 2022, including the following:

1. North Pendleton Avenue
2. 1400 linear feet starting from Franklin Street at Taylor Street and running north to State Street, then heading west on State Street to property at 502 W State Street (Parcel ID 48-14-20-100-134.000-013) to outfall at Fall Creek.
3. Major reconstruction of culvert and Pendleton Legal Drain at Main Street

Storm Drains were repaired, including the following:

1. Minor stormwater system installation at 800 block of Broadway Street
2. Minor stormwater system installation on High Street at John Street in cooperation with non-profit institutional property
3. Major reconstruction of medium-sized channel flow project on 200 block of East State Street
4. Minor stormwater system installation of medium-sized surface at the corner of Main Street and Water Street

d) Identify and describe appropriate storm water training provided to MS4 employees. Employees are required to have a minimum training once per year.

The MS4 Coordinator will receive annual stormwater training as required by the MS4 General Permit. The Town of Pendleton typically conducts storm water training on an annual basis. All applicable BMPs are addressed at training sessions and during annual storm water planning team meetings. Training sessions include the following topics as appropriate: street sweeping procedures; maintenance of roadside vegetation and ditch stabilization; litter pick-up; catch basin cleaning procedures; outfall inspection; outfall scouring repair; road salt storage and application; designated snow stockpile area; chemical storage practices; vehicle and equipment maintenance; spill prevention and clean-up practices; fertilizer/pesticide use; recycling and waste disposal.

e) Other:

N/A.

PART K: CERTIFICATION AND SIGNATURE

The individual listed in "PART A: GENERAL INFORMATION – MS4 OPERATOR" must sign the following certification statement:

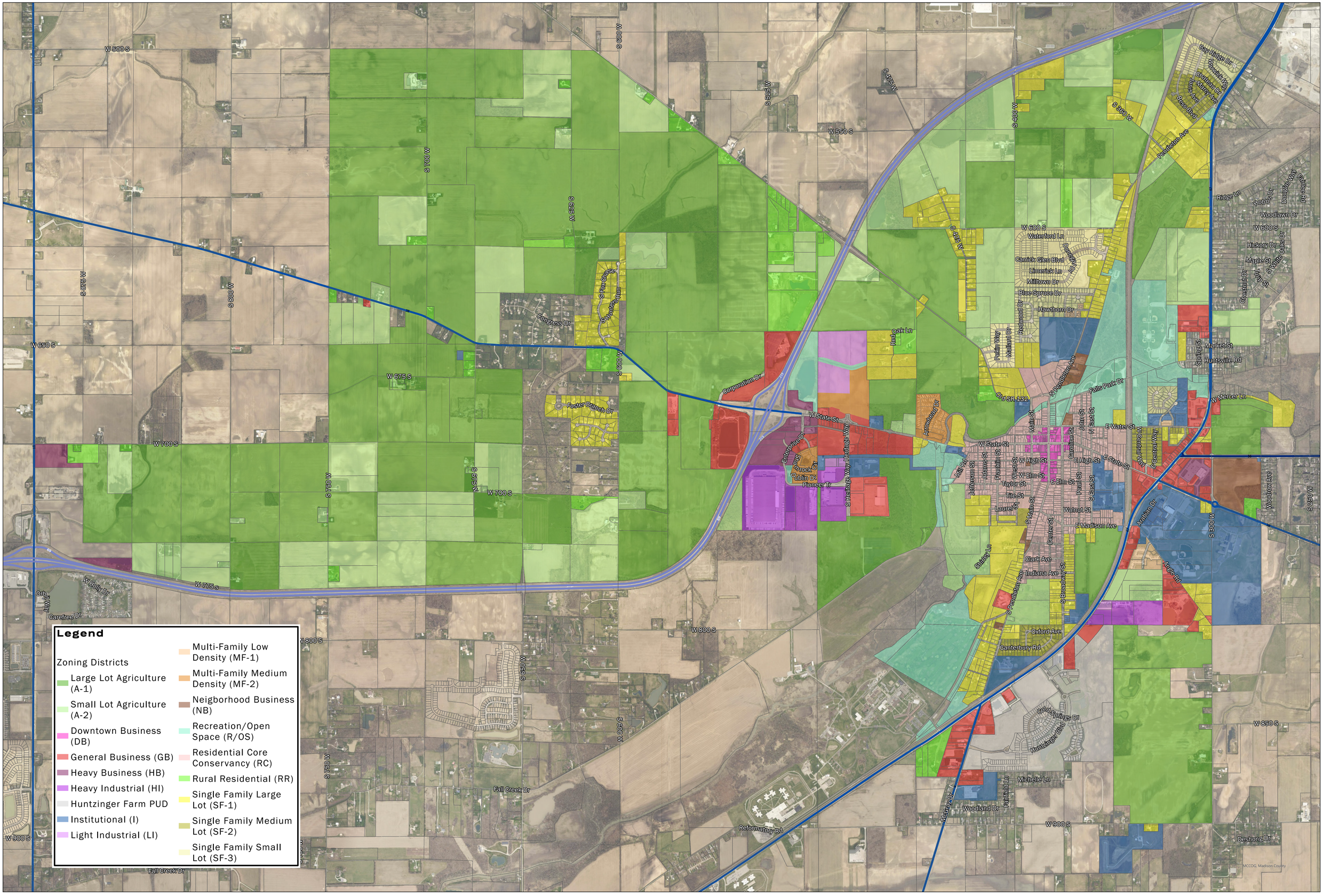
"By signing this annual report, I hereby certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Type or Print Name: Marissa Skaggs, Town Council President

Signature: _____ _____
(mm/dd/yyyy)

Attachment 1

Town of Pendleton MS4 Boundary Map



Legend

Zoning Districts

- Large Lot Agriculture (A-1)
- Small Lot Agriculture (A-2)
- Downtown Business (DB)
- General Business (GB)
- Heavy Business (HB)
- Heavy Industrial (HI)
- Huntzinger Farm PUD
- Institutional (I)
- Light Industrial (LI)
- Multi-Family Low Density (MF-1)
- Multi-Family Medium Density (MF-2)
- Neigborhood Business (NB)
- Recreation/Open Space (R/OS)
- Residential Core Conservancy (RC)
- Rural Residential (RR)
- Single Family Large Lot (SF-1)
- Single Family Medium Lot (SF-2)
- Single Family Small Lot (SF-3)

TOWN OF PENDLETON INDIANA

N

0 0.15 0.3 0.6 0.9 1.2 Miles

Town Boundary & Zoning Districts

Date: 5/2/2022

Attachment 2

Madison County Stormwater Quality Partnership
Public Outreach Participation Documentation

2022 White River Watchers Clean Up Summary

April 23rd (Earth Day) Walkway Cleanup from Derby Downs to the western trail head near 8th Street and Raible Ave. with Anderson City Parks Dept.
20 yard dumpster filled and 31 tires removed.

June 11th Scout Troup 262 of Pendleton cleaning from Priest Ford to Canoe Country.
Almost a half ton of trash and 13 tires removed. This scout group of six girls and three scout leaders did a marvelous job on their first ever river clean up.

Aug. 13th Lapel Football team cleaning from Priest Ford to Canoe Country.
Nearly a ton of trash and 16 tires removed.

Aug. 20th White River Watchers Cleanup from 40&8 to Edgewater Park.
70 volunteers in 37 boats. 30 Yard dumpster full of trash. And 25 tires removed.

Sept. 27th Cross Street Christian School cleanup. 12 kids and 2 leaders … cleaned up about 1500 pounds of trash from the north bank under and near the Scatterfield bridge in an hour and a half. So impressive!

Totals: 85 tires, 2 Dumpsters totaling 50 cubic yards of trash plus an additional 2¼ tons of trash in five cleanups.

White River Watchers Clean Up Event August 2022 Photographs

Photo 1

Photo 2

White River Watchers Clean Up Event August 2022 Photographs

Photo 3

Photo 4

White River Watchers Clean Up Event August 2022 Photographs

Photo 5

Photo 6

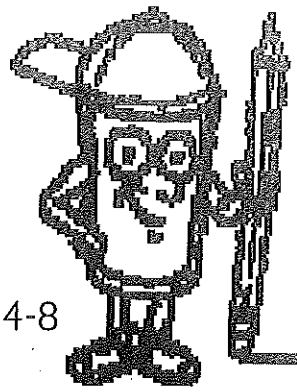
White River Watchers Clean Up Event August 2022 Photographs

Photo 7

Photo 8

Attachment 3

Madison County Stormwater Quality Partnership
Educational Handouts



4-8

Matching Game
How Much Water?

Draw a line matching the items on the left to the amount of water on the right.

1. Taking a shower ❑
2. Watering the lawn ❑
3. Washing the dishes ❑
4. Washing clothes ❑
5. Flushing the toilet ❑
6. Brushing teeth ❑
7. Drinking ❑
8. Needed to produce one ton of steel ❑
9. Needed to process one can of fruit or vegetables ❑
10. Needed to manufacture a new car and its four tires ❑

A. 30 gallons

B. 180 gallons

C. 4-7 gallons

D. 1/2 gallon

E. 39,090 gallons

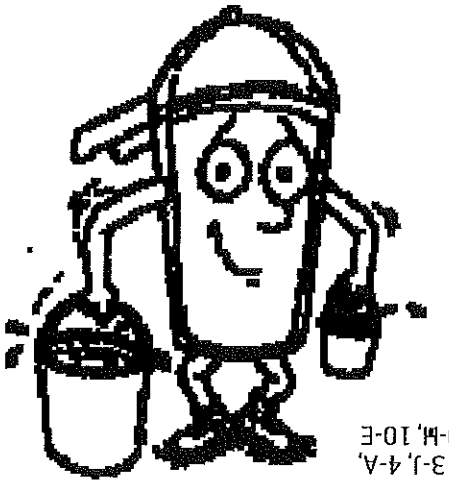
F. 62,600 gallons

G. 15-30 gallons

H. 9.3 gallons

I. 1 gallon

J. 9-20 gallons



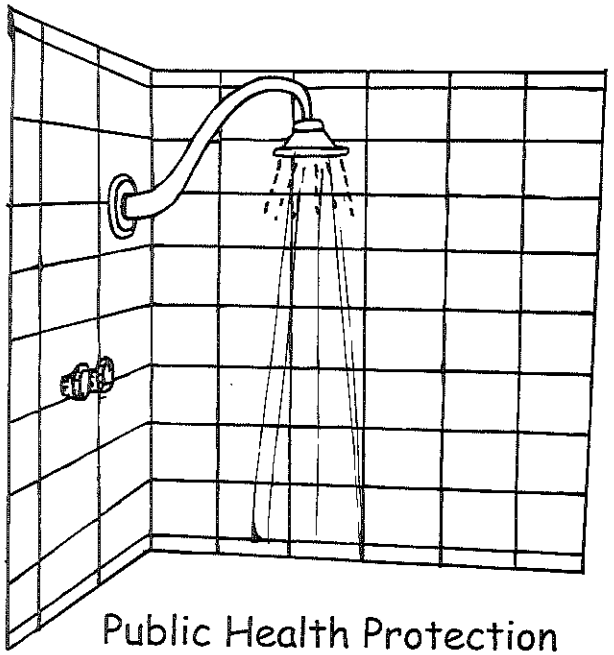
Answers: 1-G, 2-B, 3-J, 4-A, 5-C, 6-I, 7-D, 8-F, 9-H, 10-E

Office of Water (4606M) • EPA 816-F-04-024 • 06/2004 • www.epa.gov/safewater

Only Tap Water
Delivers

COLOR SHEET

Color these examples of ways we use water daily. Can you think of more ways that tap water delivers?



Public Health Protection

Support for the Economy

Quality of Life

Fire Protection

American Water Works Association

Madison County Storm Water Quality Partnership

http://www.mcstormwater.org/

The Environmental Protection Agency estimates that the single biggest factor affecting water quality today is the pollution that comes from stormwater runoff. When pollutants are carelessly spilled onto hard surfaces and washed away by rains into storm drains, the contaminants eventually enter our rivers and streams where much of our drinking water comes. Making this polluted water safe for consumption is expensive to treat and results in higher water bills for all of us.

Did you know...
Polluted stormwater is the #1 cause of water pollution in the United States.

Look inside to learn about what you can do to help!

Image and Publication Credit: Approved for use by Middle Tennessee State University's WaterWorks Program. Altered for use from original design by MTSU. Funding from TN Dept. of Agriculture's Nonpoint Source Program and US Environmental Protection Agency under Agreement #C9994674-03-0. Image and publication cannot be used, revised or modified without consent from www.MTSU.edu/WaterWorks.

This project is funded by the Madison County Stormwater Quality Partnership, which consists of 12 members who implement activities of public education, outreach, participation, and involvement; detection and elimination of illicit discharges; controlling construction site and post-construction stormwater runoff; and municipal operations pollution prevention and good housekeeping.

Please contact your local stormwater manager for questions or to report a violation or concern:

Anderson University, Physical Plant
1100 E. 5th St., Anderson, IN 46012 • (765) 641-4240

City of Alexandria, Storm Water Superintendent
125 North Wayne St., Alexandria, IN 46001 • (765) 724-4633

City of Anderson
120 E. Eighth St., Anderson, IN 46016 • (765) 648-6118

Madison County, Drainage Board
16 East 9th St., Anderson, IN 46016 • (765) 641-9687

Town of Chesterfield
17 Veterans Blvd, Chesterfield, IN 46017 • (765) 378-3331

Town of Edgewood
3405 Nichol Ave., Edgewood, IN 46011 • (765) 649-5534

Town of Ingalls
308 N. Meridian St., Ingalls IN 46048 • (317) 485-4321

Town of Pendleton, Public Works Department
100 West State St., Pendleton, IN 46064 • (765) 778-4100

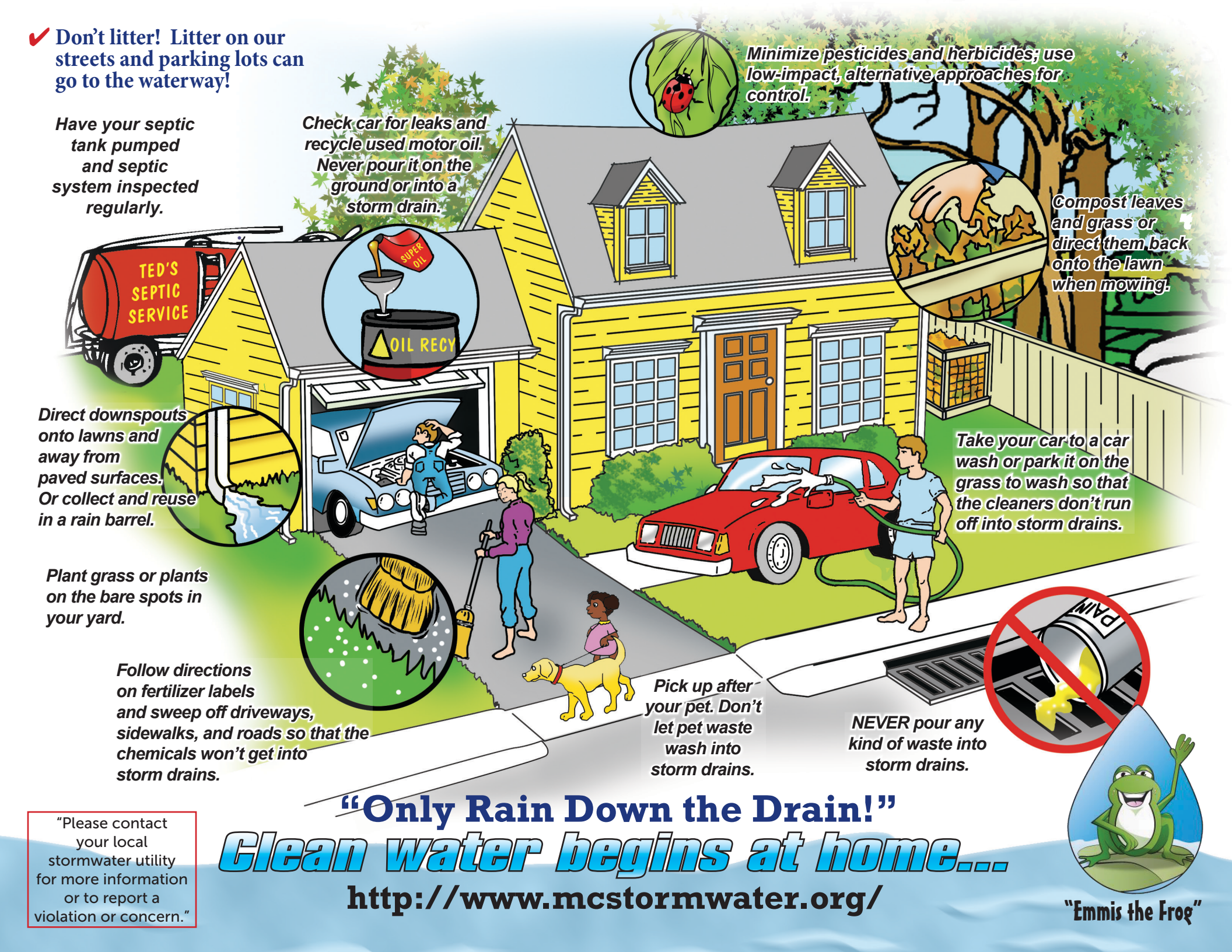
Other Partnership members include:

White River Watchers
P.O. Box 84, Anderson, IN 46017
whiteriverwatchers@comcast.net

Madison County Soil and Water Conservation District
182 W 300 N, Anderson, IN 46012 • (765) 644-4249 ext. 3

Madison County Council of Governments
739 Main St, Anderson, IN 46016 • (765) 641-9482

East Central Indiana Solid Waste District
2031 Mounds Rd, Anderson, IN 46016 • (765) 640-2535


✔ Don't litter! Litter on our streets and parking lots can go to the waterway!
Have your septic tank pumped and septic system inspected regularly.
Check car for leaks and recycle used motor oil. Never pour it on the ground or into a storm drain.
Minimize pesticides and herbicides; use low-impact, alternative approaches for control.
Compost leaves and grass or direct them back onto the lawn when mowing.
TED'S SEPTIC SERVICE
SUPER OIL
OIL RECY
Direct downspouts onto lawns and away from paved surfaces. Or collect and reuse in a rain barrel.
Take your car to a car wash or park it on the grass to wash so that the cleaners don't run off into storm drains.
Plant grass or plants on the bare spots in your yard.
Follow directions on fertilizer labels and sweep off driveways, sidewalks, and roads so that the chemicals won't get into storm drains.
Pick up after your pet. Don't let pet waste wash into storm drains.
NEVER pour any kind of waste into storm drains.
"Please contact your local stormwater utility for more information or to report a violation or concern."
"Only Rain Down the Drain!"
Clean water begins at home...
http://www.mcstormwater.org/
"Emmis the Frog"

Tips for Erosion & Sediment Control

Fit the development to the existing terrain.
Assess the physical characteristics of the site, including topography, soils, and drainage, to determine how best to develop it with minimal environmental damage. Utilize the existing topography to minimize grading. Utilize the natural drainage patterns where possible. Preserve any existing wetland in accordance with the applicable law.

Develop an erosion and sediment control plan before land-disturbing activities begin, then follow it.
If necessary, get professional help in developing such a plan. The plan should identify the areas where erosion and sedimentation problems are apt to occur on the construction site and specify the measures to reduce those problems.

Retain existing vegetation.
If existing vegetation must be cleared, retain and protect it until the area must be disturbed. Maintain a buffer strip of existing vegetation around the perimeter of the site to reduce off-site erosion and sedimentation.

Minimize the exposure of bare soil.
Use staged clearing and grading (scheduling) to reduce the amount of bare soil and other disturbed area. Use stabilizing measures, such as seeding temporary or permanent vegetation, sod, mulching, sediment basins, erosion control blankets, or other protective practices after the land has been disturbed.

Keep sediment on the construction site.
Retain sediment from unavoidable erosion onsite by trapping it with sediment basins or by filtering it out of runoff with vegetative or manmade barriers. Install any needed sediment traps and basins before construction activities begin.

If possible, divert off-site runoff.
Use diversions, perimeter dikes, and waterways to intercept offsite run-off and divert it away from the construction site. Install these measures before clearing and grading to reduce the potential for erosion.

Minimize length and steepness of slopes.
Use stair-step grading, diversions, and sediment barriers to break up long, steep slopes. Design measures to slow run-off and allow deposition of sediment.

Keep runoff velocity low.
Reduce runoff velocity by maintaining vegetative cover, preserving a vegetated buffer strip around the lower perimeter of the land disturbance, and installing perimeter controls.

Inspect and maintain erosion control measures.
Inspect all measures for damage after each storm event, or once every seven calendar days. Repair any damaged measure, such as sediment barriers, silt fences, filters, dikes, or sediment traps.

ADDITONAL INFORMATION:

Madison County Soil and Water Conservation District: (765) 644-4249 Ext. 3, or,
http://www.madisonswcd.org/rule5.html

City of Anderson Department of Storm Water Management: (765) 648-6129

IDEM's Storm Water Quality Manual:
http://www.in.gov/idem/4899.htm

IDEM Storm Water Quality Manual exhibits and worksheets:
http://www.in.gov/idem/4899.htm

Basic Construction Site Operator's Guide to Erosion and Sediment Control Requirements

Your Work Site May Need Coverage Under Indiana's Rule 5 Permit

Prepared by Madison County Soil & Water Conservation District, Madison County, and the City of Anderson

Does my construction site require a Rule 5 Permit?

-Does your construction project site disturb one acre or more of land through removing vegetative cover, clearing, grading, excavating, or stockpiling of fill material? Remember to count the entire acreage within the project limits.

-Is your construction project less than one acre, but part of a larger common plan of development or sale?

If you answered yes to either of these Questions, you will need permit coverage.

Why do I have to get permit coverage?

327 IAC 15-5 (Rule 5) is an Indiana State regulation administered by the Indiana Department of Environmental Management (IDEM) and is designed to reduce pollutants that are associated with construction and/or land disturbing activities. The requirements of Rule 5 apply to all persons who are involved in construction activity that includes clearing, grading, excavation and other land disturbing activities. The purpose of this regulation is to establish requirements for storm water discharges from construction activities so public health, existing water uses and aquatic life are protected.

If I need a Rule 5 permit, what should I do?

1. Determine the reviewing entity in the area where your project will take place. The reviewer in Madison County is the Madison County Soil and Water Conservation District (MCSWCD).

2. Develop Erosion and Sediment Control and Storm Water Pollution Prevention Plans and submit to the MCSWCD. Some private consulting firms provide the type of assistance needed to prepare these plans.

3. Submit the required Erosion and Sediment Control Plans to the MCSWCD and the City/Town/County.
.
4. After approval by the MCSWCD, submit your Notice of Intent, Proof of Publication and fees to IDEM. Submit copies of these documents to the MCSWCD.

5. Implement the Erosion and Sediment Control Plans on your site. Conduct regular inspections as required ensuring erosion control practices are functioning properly.

6. After completion of your project, stabilize the areas and remove Erosion and Sediment Control Measures no longer needed.

7. Submit a Notice of Termination to the MCSWCD.

Am I required to install erosion and sediment control measures if my land-disturbing activity does not require a Rule 5 permit?

YES – Contact the City/Town/County where the work is being done to get their regulations for Erosion and Sediment Control.

For projects in the City of Anderson, go to the City of Anderson Operation MS4 website:

http://www.operationms4.com/cityofanderson/

Click on **Packet C** to submit a wavier and to obtain a copy of the City's Erosion and Sediment Control Requirements.

Why is storm water runoff an issue?

Runoff from rainstorms and snowmelt picks up pollutants like sediment, oil and grease, pesticides, herbicides and other pollutants and carries them into storm drains or directly into bodies of water. Because most storm drain systems do not provide any treatment to the water they collect, preventing contamination of stormwater is critically important, or polluted runoff will be discharged untreated into the bodies of water we use for swimming, fishing, and drinking water.

Why is sediment harmful to a body of water?

Too much sediment in a body of water can cloud the water and make it difficult or impossible for aquatic plants to receive the sunlight they need to grow. Excess sediment also smothers aquatic habitat, clogs fish gills, and impedes navigation in our waterways, which can lead to expensive dredging.

Madison County Soil &
Water Conservation District

Proper Disposal of Prescription Drugs

Office of National Drug Control Policy 2009

Federal Guidelines:

- Do not flush prescription drugs down the toilet or drain unless the label or accompanying patient information specifically instructs you to do so. For information on drugs that should be flushed visit the FDA's website.

- To dispose of prescription drugs not labeled to be flushed, you may be able to take advantage of community drug take-back programs or other programs, such as household hazardous waste collection events, that collect drugs at a central location for proper disposal. Call your city or county government's household trash and recycling service and ask if a drug take-back program is available in your community.

- If a drug take-back or collection program is not available:

1. Take your prescription drugs out of their original containers.
2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.
3. Put this mixture into a disposable container with a lid, such as an empty margarine tub, or into a sealable bag.
4. Conceal or remove any personal information, including Rx number, on the empty containers by covering it with black permanent marker or duct tape, or by scratching it off.
5. Place the sealed container with the mixture, and the empty drug containers, in the trash.

Office of National Drug Control Policy
750 17th St. NW, Washington, D.C. 20503
p (202) 395-6618 f (202) 395-6730

CONTRACTORS

the problem

Residential and commercial construction sites are the leading cause of soil erosion and sediment runoff. Pollutants found in construction site runoff include sediment, pesticides, fertilizers, petroleum products, construction chemicals, contaminated soils, paints, debris and sanitary waste. Contractors can minimize the amount of pollutants that enter our waterways by implementing erosion control measures both during and after construction.

"RESIDENTIAL AND COMMERCIAL CONSTRUCTION SITES ARE THE LEADING CAUSE OF SOIL EROSION AND SEDIMENT RUNOFF."

the solution

IMPLEMENT EROSION CONTROL PRACTICES

Preparing erosion and sediment control plans before construction starts can reduce soil erosion and contain runoff. Plans should include soil stabilization measures, perimeter controls, and runoff treatment practices that will be implemented and maintained before and during construction activities.

- Phase in construction to limit soil exposure
- Temporarily seed disturbed soils as soon as possible
- Prepare entrances and exits with materials that reduce tracking soils off site
- Install perimeter controls to filter sediments
- Keep sites clean by properly disposing of trash and litter

PUT TOGETHER A POST-CONSTRUCTION PLAN

What happens after construction is complete is as important as what happens during construction. Runoff from areas of new development or redevelopment significantly affects receiving waterways. Post-construction control measures should:

- Comply with engineering plans
- Implement management practices to prevent, reduce or treat stormwater runoff
- Establish storage or detention controls to collect stormwater
- Incorporate vegetation

"IMPACTS OF DEVELOPMENT: ONE ACRE OF LAND CLEARED FOR DEVELOPMENT = 10 TONS OF ERODED SEDIMENT."

take action

PERIMETER PROTECTION

- Perimeter protection to filter sediment for sheetwash should be located downslope of all disturbed areas and properly installed prior to upslope grading.

TRAFFIC AREA STABILIZATION

- Unsurfaced driveway entrances, access roads, and parking areas used by construction traffic should be stabilized to minimize erosion.
- Stabilized construction entrances should be installed as the first step of clearing and grading.
- Roads and parking areas should be stabilized immediately after the initial grading.
- Any sediment that is tracked onto pavement should be removed immediately by sweeping.
- The pavement should not be cleaned by washing/flushing streets.

SEDIMENT RETENTION

- Sediment retention facilities should be installed before grading.
- If sediment retention facilities need to be removed for grading, additional ponds/traps/systems to accommodate storage capacity should be installed on site. -This should be done prior to removal of existing facility.
- Catch basin inserts should be used to prevent sediments from entering drainage system.

DUST CONTROL

- Dust should be controlled on construction site.
- Water truck should only drop enough water to control the dust or reach the optimum moisture content of the soil for compaction. No run-off should be generated.

MORE INFORMATION AVAILABLE AT **WWW.MCSTORMWATER.ORG**

Madison County

EDUCATORS

the problem

Our drinking water supplies, fishing and recreational waters are fouled by uncontrolled pollution when rainwater and snowmelt wash over streets, parking lots, and lawns, picking up toxic chemicals, disease-causing organisms (from pet waste), dirt and trash. This problem is called urban stormwater pollution. This creates pollution in our waterways. Stormwater rivals and in some cases exceeds sewage plants and large factories as a source of damaging pollutants.

"CLASSROOM EDUCATION PLAYS AN INTEGRAL ROLE IN ANY STORMWATER POLLUTION OUTREACH PROGRAM."

educating students

INTEGRATE WATER EDUCATION INTO YOUR CURRICULUM.
Solutions start with better informed youth. Great lesson plans are available at:

- http://www.danewaters.com/private/curriculum.aspx
- http://www.stormwater.kytc.ky.gov/MCM1/mcm1_targetaudiences_schools.html
- http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=8

WORK IN PARTNERSHIP WITH LOCAL EXPERTS.
Forge links with community partners and identify community or school-ground natural settings where students can practices and reinforces skills taught in the classroom. Ask community partners to be guest speakers.

DEVELOP A STRATEGY APPROPRIATE TO YOUR SITUATION.
Water education is not only for the classroom. Consider creating after school service clubs, summer programs, or campaign to apply concepts learned or implement projects.

ENCOURAGE STUDENTS TO EDUCATE OTHERS.
Students who learn interesting and important information often share that knowledge with parents and peers. Get parents involved in your curriculum by having students take home informational brochures and incorporating projects that require parental assistance.

MAKE IT EXCITING AND INTERESTING.
Students are better able to complete projects and assignments that they find interesting and worthwhile. Don't develop lesson plans that require lots of paper homework or "busy work". Incorporate plenty of hands-on exercises that require active participation. Take field trips to local waterways to show the importance of successful stormwater quality management programs.

"REMEMBER: IF IT'S ON THE GROUND IT'S IN OUR WATER"

importance of education

Classroom education plays an integral role in any stormwater pollution outreach program. Providing stormwater education through schools conveys the message not only to students but to their parents. Many municipal stormwater programs partner with educators and experts to develop storm water-related programs for the classroom.

MORE INFORMATION AVAILABLE AT **WWW.MCSTORMWATER.ORG**

Madison County

HOMEOWNERS

the problem

As stormwater flows over driveways, lawns, and sidewalks, it picks up debris, chemicals, dirt, and other pollutants. Stormwater can flow into a storm sewer system or directly into a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water. Polluted runoff is the nation's greatest threat to clean water.

> "POLLUTED RUNOFF IS THE NATION'S GREATEST THREAT TO CLEAN WATER."

the solution (FROM HTTP://WWW.EPA.GOV)

VEHICLE AND GARAGE

- Use a commercial car wash or wash your car on the lawn or other unpaved surface to minimize the amount of dirty, soapy water flowing into the storm drain and eventually into your local waterbody.
- Check your car, boat, motorcycle, and other machinery for leaks and spills. Make repairs as soon as possible. Clean up spilled fluids with an absorbent material like kitty liter or sand.
- Recycle used oil and other automotive fluids at participating service stations. Don't dump these chemicals down the storm drain or dispose of them in your trash.

LAWN AND GARDEN

- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Avoid application if the forecast calls for rain.
- Select native plants and grasses that are drought- and pest-resistant. Native plants require less fertilizer, water, and pesticides.
- Sweep up yard debris, rather than hosing down areas. Compost or recycle yard waste when possible.
- Don't overwater your lawn. Water during the cool times of the day, and don't let water run off into the storm drain.
- Cover piles of dirt and mulch being used in landscaping projects to prevent these pollutants from blowing or washing off your yard and into local waterways. Vegetate bare spots in your yard to prevent soil erosion.

HOME REPAIR AND IMPROVEMENT

- Before beginning an outdoor project, locate the nearest storm drains and protect them from debris and other material.
- Sweep up and properly dispose of construction debris such as concrete and mortar.
- Follow the directions when using hazardous substances like paints, solvents, and cleaners. Clean up spills immediately, and dispose of the waste safely. Store substances properly to avoid spills.
- Purchase and use nontoxic, biodegradable, recycled, and recyclable products.
- Clean paint brushes in a sink and not outdoors. Filter and reuse paint thinner when using oil-based paints. Properly dispose of excess paints through a household hazardous waste collection program.
- Reduce the amount of paved area and increase the amount of vegetated area in your yard.
- Construct a rain garden or add rain barrels to your home to catch stormwater runoff.

> "ANYTHING THAT ENTERS A STORM SEWER SYSTEM IS DISCHARGED UNTREATED INTO THE WATERBODIES WE USE FOR SWIMMING, FISHING, AND PROVIDING DRINKING WATER."

PET CARE

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method.

SEPTIC SYSTEM USE AND MAINTENANCE

- Have your septic system inspected by a professional at least every 3 years, and have the septic tank pumped as necessary (usually every 3 to 5 years).
- Care for the septic system drainfield by not driving or parking vehicles on top of it.
- Flush responsibly. Flushing household chemicals like paint, pesticides, oil, and antifreeze can destroy the biological treatment taking place in the system. Other items like diapers, paper towels, and cat litter can clog the system and damage components.

MORE INFORMATION AVAILABLE AT **WWW.MCSTORMWATER.ORG**

MS4 PROGRAM

what is an MS4?

MS4 stands for: Municipal Separate Storm Sewer System...
...as defined by the Environmental Protection Agency. Under the Clean Water Act, EPA developed a program called the National Pollution Discharge Elimination System (NPDES). Because there is no Federal or State money allocated to the program, funding must come from the local level of government. The Madison County Stormwater Quality Partnership allows each entity in the partnership to cost share certain aspects of the program, which lessens the burden on tax payers.

"THE MS4 PROGRAM IS ACCOMPLISHED THROUGH SIX MINIMUM CONTROL MEASURES (MCMS)."

PURPOSE OF THE PROGRAM
The Madison County Stormwater Quality Partnership is designed to promote the health, safety, and welfare of the Madison County watersheds by minimizing harmful pollutants that are carried into waterways by stormwater runoff. They accomplish this by managing pollution at its source.

why is it important?

When it rains, or when snow and ice melt, the water flows from rooftops, driveways, streets and parking lots into our lakes, rivers, and streams, carrying with it various pollutants. The goal of the MS4 federal mandate is to improve water quality in those lakes, rivers, & streams. The cost to taxpayers for compliance can be minimized by public participation in the program.

the six MCMs

I. PUBLIC EDUCATION AND OUTREACH:
Teach the general public about the importance of not polluting storm water and the negative impact daily activities can have on lakes, rivers and streams.

II. PUBLIC PARTICIPATION AND INVOLVEMENT:
Include the public in the development and implementation of our community MS4 Program.

III. ILLICIT DISCHARGE DETECTION AND ELIMINATION:
Identify and eliminate illegal discharges into storm sewers, lakes, rivers and streams from homes, businesses and industry.

IV. CONSTRUCTION SITE RUN-OFF CONTROL:
Ensure that developers, builders, and others implement suitable plans to prevent soil and pollutants from running off construction sites into storm sewers, rivers, lakes and streams.

V. POST-CONSTRUCTION STORM WATER MANAGEMENT:
Design long-term Best Management Practices (BMPs) and control measures that reduce or eliminate polluted stormwater run-off from newly developed or redeveloped areas and make sure that they are maintained to function over time.

VI. POLLUTION PREVENTION & GOOD HOUSEKEEPING OF MUNICIPAL OPERATIONS:
Reduce storm water pollution from local government facilities and activities, such as fuel storage, pesticide & herbicide use, vehicle maintenance and street sweeping.

"PARTNERS:
-ANDERSON UNIVERSITY
-CITY OF ALEXANDRIA
-CITY OF ANDERSON
-TOWN OF CHESTERFIELD
-TOWN OF EDGEWOOD
-TOWN OF INGALLS
-TOWN OF PENDLETON
-MADISON COUNTY
-MADISON COUNTY SOIL & WATER CONSERVATION DISTRICT
-MADISON COUNTY COUNCIL OF GOVERNMENTS
-WHITE RIVER WATCHERS"

take steps to help

- Control stormwater around your house
- Report sediment-laden water leaving construction sites and dirt tracked onto roadways
- Dispose of chemicals, fuel, and other pollutants properly
- Use biodegradable products when washing vehicles & was over the grass
- Contact Madison County or your local entity if you have questions

MORE INFORMATION AVAILABLE AT **WWW.MCSTORMWATER.ORG**

PHOSPHORUS FACT SHEET

Phosphorus is a nutrient essential to both plant and animal life. Aquatic plants, by a magnitude of thousands, require less phosphorus than terrestrial plants to grow. Excess amounts of phosphorus and nitrogen cause rapid growth of phytoplankton, or algae, creating dense populations, or blooms. These blooms become so dense that they reduce the amount of sunlight available to submerged aquatic vegetation (SAV). Without sufficient light, plants cannot photosynthesize and produce the food they need to survive. The loss of sunlight can kill aquatic grasses. Algae may also grow directly on the surface of SAV. Unconsumed algae will ultimately sink and be decomposed by bacteria in a process that depletes bottom waters of oxygen. Like humans, most aquatic species require oxygen. When oxygen in deep water is depleted, fish and other species will die unless they move to other areas of suitable habitat. To summarize, phosphorus pollution accelerates a process called eutrophication, which is essentially the process of a lake's biological death due to depleted bio-available oxygen.

Negative Impacts of Phosphorus Pollution

- Phosphorus is the nutrient that "limits" aquatic plant growth. This means that, if aquatic plants, such as algae, have excess phosphorus to adsorb, they can grow out of control.
- One pound of phosphorus can result in the growth 350-700 lbs. of green algae.
- Algal blooms and excessive submerged aquatic vegetation (SAV) growth can lead to the biological death, or eutrophication, of a body of fresh water.
- Blooms of blue-green algae produce neurotoxins (affecting the nervous system) and hepatoxins (affecting the liver), and can cause a serious public health problem as well as damage aquatic habitats.
- On the economic side, excessive SAV and algal growth due to phosphorus pollution increases water treatment costs, degrades fishing and boating activities, and impacts tourism and property values.
- Phosphorus pollution needs to be remediated 70-90% before a lake can recover from eutrophication.

The Lawn Fertilizer Myth

- Regular applications of lawn fertilizer are not needed to keep grass healthy, in most cases, and adding excess fertilizer can burn (remove water from) the grass.
- A simple soil test will indicate whether or not your lawn needs fertilizer.
- Healthy turf grass leaf tissue has a phosphorus concentration of about 0.3%.
- Lawn clippings contain about 0.13 pounds phosphorus per 1000 square feet during growing season, which makes them an excellent natural fertilizer.

Residential Stormwater

When rain falls on your house, a portion of it goes into either a combined sanitary and stormwater sewer or a seperate stormwater sewer.

- Combined sewer overflow (CSO) usually releases untreated hazardous materials and human waste into our waterways almost every time it rains. These are the same waterways we use for recreation and drinking water.
- Seperate storm sewers are directly drained to our waterways carrying Non-Point Source pollution (NPS). Non-Point Source pollution is:

- Vehicle fluids such as oil, antifreeze, and transmission fluid
- Road salts and street sediments
- Pesticides, fertilizers, and herbicides from your lawn
- Increased water temperature from heated surfaces runoff
- Litter such as cigarette filters, styrofoam cups, etc....

The average rainfall for Madison County is 40 inches per year. That means a 1000 sq. ft. roof top would collect aproximately 22,500 gallons of water annually.

22,500 gallons =

2100 X  or 400 X  or 3.75 X 

water bottles (12oz.) | rain barrels | semi-tanker trucks

Why install a rain barrel or a rain garden?

- Installing a rain barrel or rain garden can decrease the loads on stormwater infrastructure which save money, prevent pollution (CSO & NPS), and make Madison County a better place to live for everyone.

- Properly placed rain gardens and rain barrels can help prevent CSO and NPS pollution.

- In the summer outdoor water use can make up almost 40% of a homes total water usage. Rain barrels can reduce your water bill by filling this need.

Source:
(www.epa.gov/Region3/p2/what-is rainbarrel.pdf)

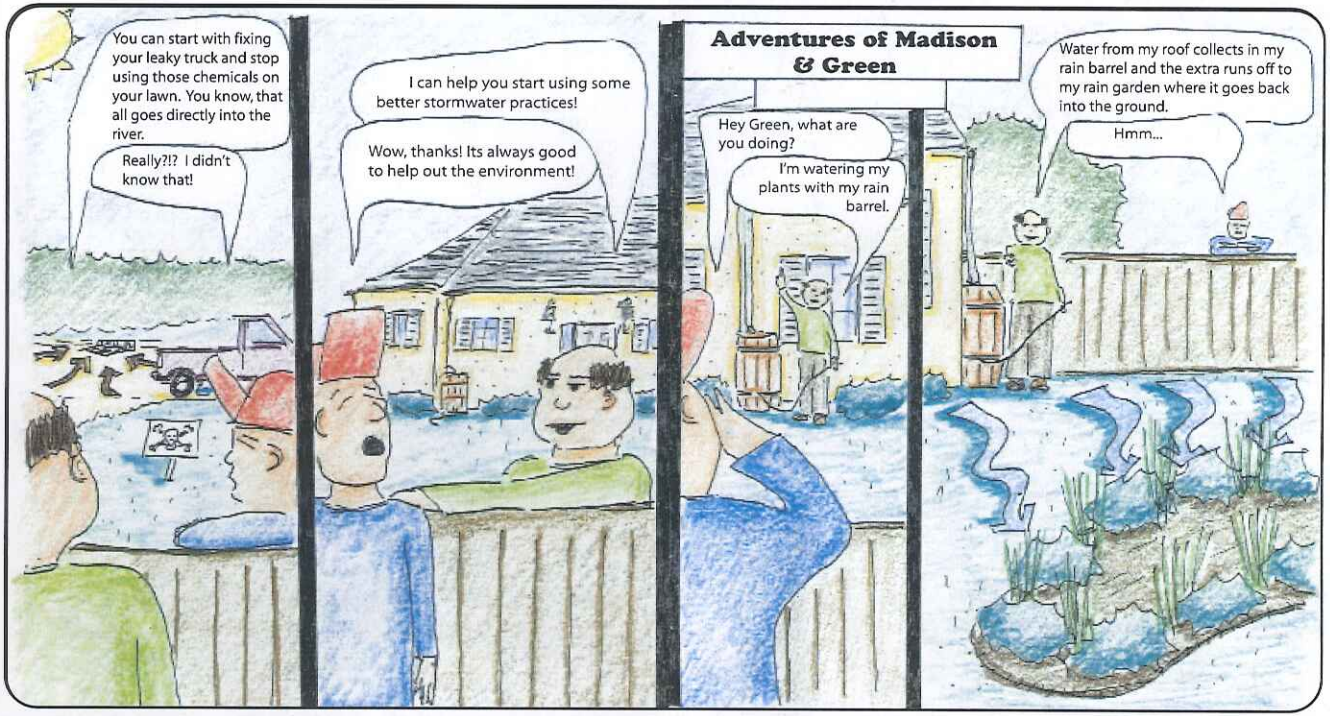
Where can I get a rain barrel?

- Rain barrels can be purchased already made or you can construct your own. A few places were you purchase a rain barrel are:

Pendleton True Value
103 W. High St. Pendleton, IN
(765) 778-2411
(Not in stock but they can order)

GUIDE TO RESIDENTIAL STORMWATER

RAIN BARRELS & RAIN GARDENS



What is the Madison County Community Tool Kit?

The Madison County Council of Governments envisions Madison County designed to provide healthy and safe places to live, work, and play that is also economically prosperous. Achieving that goal will require informed elected officials and citizens doing their part and working together to make sound planning choices. The Madison County Community toolkit will provide the framework through a series of cumulative, dynamic and informative tools to carry out sound planning choices at the community and household scale. We invite you to become more involved in creating this vision for your community.

a series in the...

Madison County COMMUNITY TOOLKIT

...for more information www.mccog.net

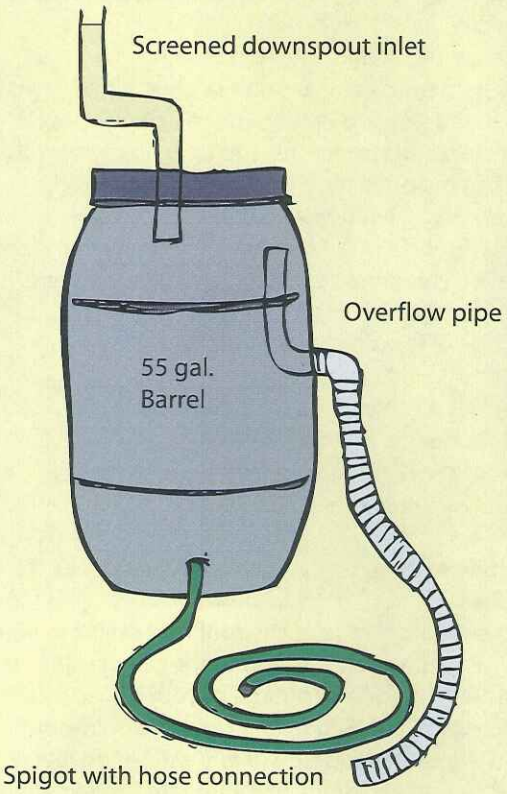
Madison County Council of Governments MCCOG

Rain Barrels

What is a rain barrel?

A rain barrel collects water from your downspouts and saves it until you are ready to use it. This water is free of chlorine, lime, or calcium and could be used outdoors for garden and landscape watering, or car and window washing to name a few uses.

General rain barrel components are:



What are the rain barrel basics?

- Do not use collected water for drinking, cooking, or bathing.
- Keep lid secure so children or animals cannot fall in.
- Disconnect the rain barrel for a couple weeks if any chemicals or coatings have been put on your roof (ex. Moss killer or roof patching)
- Make sure to screen your rain inlet to prevent mosquitoes and other insects from breeding. Mosquitoes take 10 days to reproduce so empty your barrel at least every 10 days to prevent the spread of disease or viruses.
- If making your own rain barrels use food-grade quality barrels that are well cleaned.
- Place the rain barrel on a level spot and secure it so it will not tip. A full 55 gallon barrel of water can weigh approximately 460 lbs.
- Do not use a rain barrel if you have an old tar and gravel, asbestos, or treated wood roof. Also, make sure your gutters do not have any lead paints or soldering.
- Speak with local government to make sure your rain water is safe to harvest if you live in a region with heavy industrial air pollution.
- Disconnect and store rain barrels upside down in winter months with freezing temperatures.
- Make sure your rain barrel overflow is kept at least 10 feet away from your home foundation.

Rain barrel basics courtesy of : www.rainbarrelguide.com/
www.cwp.org/Community_Watershed/brochure.pdf
www.cityofbremerton.com/content/sw_makeyourownrainbarrel.html
www.lid-stormwater.net/raincist_construct.htm

How do I build a rain barrel?

Tool and supplies you'll need:
•Drill •3/4" Brass Faucet •Teflon Tape or All Purpose Caulk •3/4" Hose Adapter •6" Hole Saw •29/32" Drill Bit •Plumbers Pipe Strap and Deck Screws •3/4" Pipe Tap •Louvered Screen

Step 1

1. Use a 6" hole saw, a saber saw, a keyhole saw or a drywall saw to cut a perfectly round 6" hole on the top of your barrel.
2. Drill two holes with a 29/32" drill bit, one towards the top for an overflow and one towards the bottom of the barrel for the faucet.
3. Next use a 3/4" NPT pipe tap and twist it into the upper 29/32" hole, then untwist the tap and back it out of the hole, then repeat the same process for the lower 29/32" hole.
4. Rinse barrel out thoroughly

Step 2

1. Twist threaded side of hose adapter into 3/4" threaded hole towards top of the barrel.
2. Prepare threaded side of brass faucet; wrap tightly with teflon tape, make 4 or 5 rotations until all threads are covered; or apply a thin ribbon of Kitchen and Bath All Purpose Adhesive Caulk, or similar sealant.
3. Twist the threaded, prepared end of the faucet into 3/4" threaded hole at bottom of barrel.

Step 3

1. Cover 6" hole in the top by placing 6" louvered screen onto the barrel with louvered side up and screen side down.
2. Slide a hose onto hose adapter at top of barrel to direct overflow water away from your home.
3. Place 2 concrete blocks under selected down-spout as a raised base.
4. Cut your downspout about 4" above the top of the barrel, add an elbow, and make any final adjustments to the base and barrel.
5. Add a hose on the faucet or keep it available to fill a watering can.
6. Secure your rain barrel to the house with aluminum banding & screws.
7. Enjoy your rain barrel!

Directions courtesy of : City of Bremerton
http://www.cityofbremerton.com/content/sw_makeyour ownrainbarrel.html

Rain Gardens

What is a rain garden?

- A rain garden is a constructed depression that retains water and allows it to infiltrate into the soil. Usually, rain gardens are planted with native plants that can handle some standing water.

What can rain gardens do?

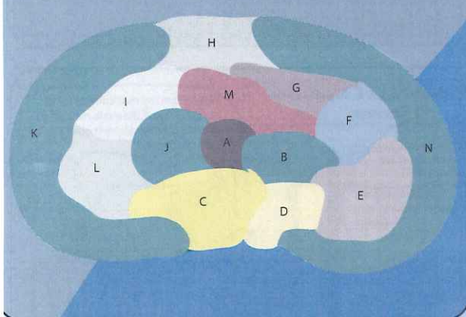
- Restore our groundwater reserves and stream base flows to prevent drought conditions.
- Create a natural habitat at your home and attract wildlife. Natural river habitat is also protected from NPS pollution.
- Save you money with reduced water utility bills because rain water is free.
- Rain garden landscaping adds curb appeal and increases the value of your home.
- Reduce the stresses on your cities waste and water infrastructure. This slows your tax increases for a larger system that will eventually need to be replaced to handle more development runoff.

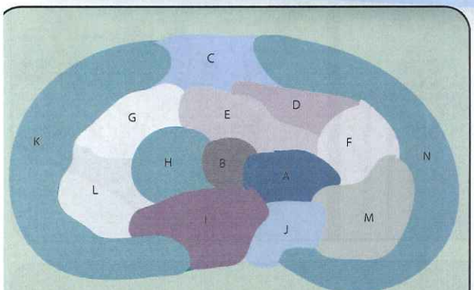
How do I maintain my rain garden?

- Weeding will be necessary the first few years like any garden. Eventually the garden should out compete any weeds
- Leave plants standing until spring for aesthetics and wildlife habitat.
- Once spring growth begins mow or cut the rain garden down to 6-8 inches.
- Re-mulching is optional
- Rain gardens need no fertilizers, herbicides, or insecticides

Bird and butterfly rain garden

A 3 New England Aster
B 3 Swithchgrass
C 3 Show Black-Eyed Susan
D 5 Golden Alexanders
E 5 Purple Coneflowers
F 5 Blue Flag Iris
G 5 Dense Blazing Star
H 5 Smooth Aster
I 5 Mountain Mint
J 5 Yellow Fox Sedge
K 8 Prairie Dropseed
L 9 Smooth Penstemon
M 9 Cardinal Flower
N 11 Prairie Dropseed





Pink and purple rain garden

A 3 Swithchgrass
B 3 Spotted Joe Pye Weed
C 5 Smooth Aster
D 5 Dense Blazing Star
E 5 Marsh Milkweed
F 5 Queen of the Prairie
G 5 White Turtlehead
H 5 Fox Sedge
I 5 Bottle Gentian
J 5 Great Blue Lobelia
K 8 Little Bluestem
L 9 Smooth Penstemon
M 9 Monkey Flowers
N 11 Prairie Dropseed

How do I select plants for my rain garden?

Use native emergent wetland plants (they are water tolerant but drought resistant making them hearty) a few examples are:

- Forbs and Wildflowers
  - Swamp Milkweed
  - New England Aster
  - Sneeze weed
  - Boneset
  - Sweet Flag
  - Queen of the Prairie
  - Rose Mallow
  - Southern Blue Flag
  - Swamp Rose
- Grasses and Sedges
  - Bottlebrush Sedge
  - Fox Sedge
  - Fowl Manna Grass
  - Shade

Keep in mind:

- Sun exposure
  - Sun
  - Sun-partial sun
  - Sun-Shade
- Soil moisture
  - Moist soil
  - Moist well drained
  - Wet soil
  - Wet mucky
  - Loamy soil
- Plant Habits
  - Heights
  - Form
  - Nutrient needs (nitrogen needing vs. fixing)
- Tips
  - Mix perennials with sedges for support and nutrient uptake
  - Use annuals to add color
  - Create habitat for birds, butterflies, bees or anything else you want to attract.
  - Use deep Rooted plants they: Increases water infiltration need no water once established

Plant selections and prices available at:
http://www.indianawildlife.org/documents/NativePlantsforYourHabitat2007.pdf
http://spencenursery.com/home.html

How do I site and size my rain garden?

Where do I place my rain garden?

- Conduct a drainage inventory to see where water flows from for best placement. This can be done during or just after a decent size rain event. Draw your property and place arrows in the direction of the water flows. Keep in mind roof, street, drive way or your neighbors runoff. This will tell you the best place for your rain garden. You can also place your rain garden in a low lying area where water usually stands.
- Place at least 10 feet away from any foundation
- Do not place directly over septic systems or under large shade trees
- Best if placed in full or partial sun
- Try to place in a level spot to minimize digging and within 30' of the runoff source to collect the water

What tips and factors influence size and shape?

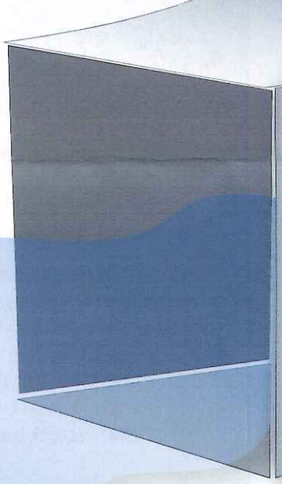
- Average 100 to 300 square feet.
- Rain gardens can be any size or shape it all depends on what design you are trying to achieve, your particular site conditions, and how hard you want to work to maintain it.
- Depth of garden (typ. 4 to 8 in.)
  - It is important to keep the base of the rain garden level. This allows even water depth for plants and infiltration success.
  - Slope of lawn determines depth
  - Slope% =rise/run X 100
  - Slopes > 4% = 3-5in. depth
  - Slopes 5-7% = 6-7 in. depth
  - Slopes 8-12% = 8 in. depth
  - Avoid lawn slopes <12%

What is the square footage of water to be handled?

- Find the percentage of the roof that drains to your downspout which will lead to the rain garden. Then multiply the square footage of your house by the percentage handled by the chosen downspout.
- Find the square footage of any yard or driveway surface that will drain into your rain garden and add that to your downspout calculation.

What is the soil texture/type Sandy, Silty, or Clayey?

- Sandy soil will not stick together when squeezed in your hand
- Clayey soil will stick together when squeezed in your hand and take some handling before breaking up.
- Silty soil will hold together when squeezed in your hand but it is fragile and will break when handled.



How do I calculate the size of the rain garden?

- Multiply the size factor according to your slope and soil by your sq. ft. of drainage area to get the recommended rain garden square footage.

Rain Garden Size Factor Table

Rain gardens less than 30 feet from downspout.

	3-5 in. deep	6-7 in. deep	8 in. deep
Sandy soil	0.19	0.15	0.08
Silty soil	0.34	0.25	0.16
Clayey soil	0.43	0.32	0.20

Rain gardens more than 30 feet from downspout

	Size factor for all depths
Sandy soil	0.03
Silty soil	0.06
Clayey soil	0.10

- If you do not want to get that technical you could just take your total square footage being drained and divide it by 5 to get a basic square footage.

- Divide the square footage by the desired width to get your length (Keep in mind your rain gardens do not have to be rectangles)

How should I position my rain garden?

- Put longest side of garden perpendicular to slope
- Rule of thumb (Length twice the width) (Max width 15')

How do I construct and plant my rain garden?

Tools you need:
•Tape Measure •Shovels
•Rakes•Trowels
•Carpenter's level
•Wood sakes at least 2 ft. long •String

1. Find the high point of your rain garden and set a string level across the width measure down from the string to get the correct depth.

2. Excavate the soil and place it around the perimeter of the rain garden starting on the down side slope and work your way around level to the high point until no soil is needed. This creates a berm to retain the water for infiltration.

3. Compact the berm using a tamper or stomp on it.

4. Lay your plants out where they will be planted. Keep them in their pots until you're ready to plant each one.

5. Dig the holes twice as wide as the pot and deep enough that the plant level with established grade.

6. Place the plant, replace the soil, and tamp the soil to eliminate air voids.

7. Place a 2 inch layer of mulch and keep away from the stalk of the plant to prevent rot. After the plants are established a second mulching is not necessary unless desired.

8. Identify your plants to assist in weeding.

9. Water immediately after planting and make sure plants get at least 1 inch of water per week until well established. After plants are established they will not need watered.

10. Extra planting can be carried out anytime during the growing season.

References:

How to install a rain garden instructions provided by City of Madison, Wisconsin for more detail visit:

- http://www.cityofmadison.com/engineering/stormwater/documents/HowToManual.pdf
- http://spencenursery.com/home.html
- www.epa.gov/Region3/p2/what-is-rainbarrel.pdf

Rain barrel directions courtesy of : City of Bremerton

- http://www.cityofbremerton.com/content/sw_makeyourownrainbarrel.html

Special thanks to Myrene Brown of Myrenes Gardens. Contact for consultation or rain garden designs.

- myrenesgarden.com or (317) 873-2790

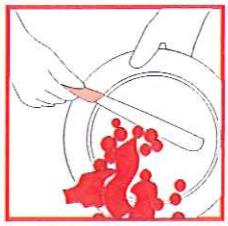
¡Combatamos la grasa en esta cocina!

¿Por qué tengo que ayudar?

- Para evitar acumulaciones de grasa que obstruyan las tuberías de desagüe.
- Para impedir los desbordamientos del sistema de alcantarillado.
- Para ahorrar dinero que se gastaría en limpiezas costosas de derrames dealcantarillas.
- Para reducir la frecuencia con que se tienen que limpiar las trampas de grasa (servicio de alimentos).
- Para proteger la calidad de nuestra agua.

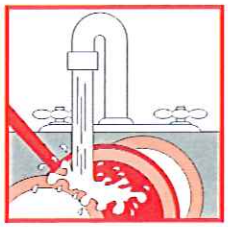
¡HACER!

✓ Poner el aceite y la grasa en recipientes cerrados para su recolección.

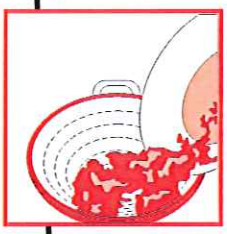


✓ Quitar las sobras de comida de los trastes, tirarlas en bolsas de basura y desecharlas de la forma debida. Evitar usar el triturador de basura.

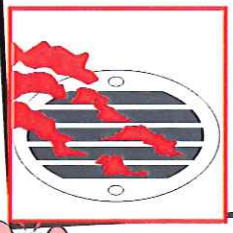
✓ Quitar el aceite y la grasa de los platos, ollas, sartenes y planchas. Primero enfriar antes de tallar o limpiar el exceso de grasa.



✓ Enjuagar los platos y ollas con agua fría antes de ponerlos en el lavaplatos.



✓ Colocar en el fregadero de la cocina una canasta para depositar los desechos y vaciarla en el bote de basura conforme sea necesario.

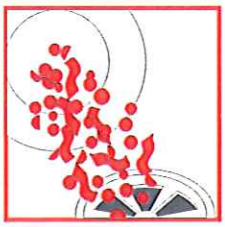


✓ Cubrir el desagüe del piso con un cedazo fino y tirarlo en el bote de basura conforme sea necesario.

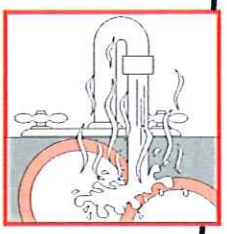
¡NO HACER!

No verter aceite ni grasa por el desagüe. ✗

No tirar sobras de comida por el desagüe. ✗



No enjuagar platos, ollas, sartenes ni planchas con agua para verter el aceite y la grasa en el desagüe. No enjuagar el aceite ni la grasa con agua caliente. ✗



Más maneras de combatir la grasa

- Use productos de limpieza seguros para el medio ambiente en lugar de detergentes o limpiadores abrasivos que puedan dañar las tuberías de desagüe.
- Si genera grandes cantidades de aceite comestible usado, recíclelo. Si desea encontrar un centro de reciclaje, busque en el directorio telefónico bajo "reciclaje".
- Si genera pequeñas cantidades de aceite comestible usado, luego viértalo en un recipiente que pueda tirar. No lo vierta nunca en el desagüe.
- Empiece a hacer abono en su casa con sobras de alimentos que no contengan carne.

GI-290

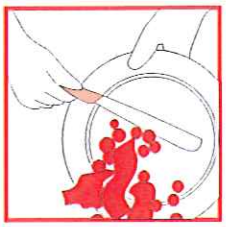
Let's Tackle the Grease in This Kitchen!

Why should I help?

- Prevent grease buildups from blocking sewer lines.
- Stop sewer overflows into streets and storm drains.
- Save money spent on costly cleanups of sewage spills.
- Reduce the number of times you have to clean your grease trap (food services).
- Protect the quality of our water.

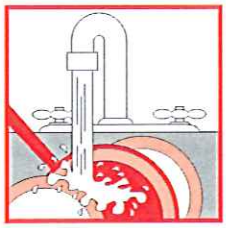
DO!

✓ Put oil and grease in covered collection containers.

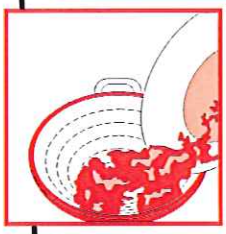


✓ Scrape food scraps from dishes into trash cans and garbage bags and dispose of properly. Avoid using your garbage disposal.

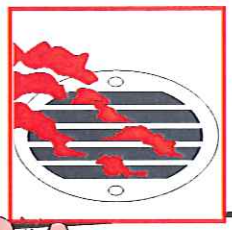
✓ Remove oil and grease from dishes, pans, fryers, and griddles. Cool first before you skim, scrape, or wipe off excess grease.



✓ Prewash dishes and pans with cold water before putting them in the dishwasher.



✓ Cover kitchen sink with catch basket and empty into garbage can as needed.

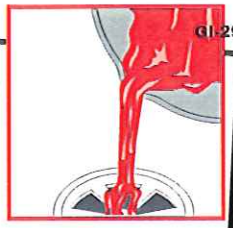


✓ Cover floor drain with fine screen and empty into garbage can as needed.

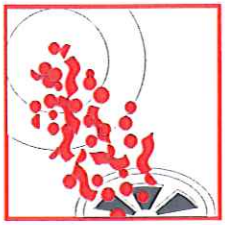
DON'T!

GI-290

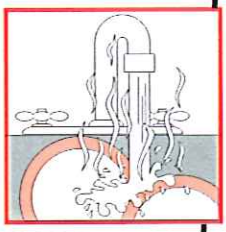
Don't pour oil and grease down the drain. ✗



Don't put food scraps down the drain. ✗



Don't run water over dishes, pans, fryers,and griddles to wash oil and grease down the drain. Don't rinse off oil and grease with hot water. ✗



More Ways to Tackle Grease

- Use environmentally safe cleaning products instead of harsh detergents or cleaners that can damage sewer lines.
- If you generate large amounts of used cooking oil, recycle it. To find a recycler, check the phone book under "recyclers" or "rendering companies."
- If you generate small amounts of used cooking oil, pour it into a container you can throw away. Never pour it down the drain.
- Start a compost pile at your home with scraps that are not meat.

Attachment 4

East Central Indiana Solid Waste District
2022 Materials Amounts Report

2022 EAST CENTRAL INDIANA SOLID WASTE DISTRICT

MATERIAL	MADISON	GRANT	DELAWARE	TOTAL
GLASS	0	43.73	186.66	230.39
PLASTIC	0	29.127	731.89	761.02
STEEL/TIN/COPPER	1.84	30.602	166.24	198.682
ALUMINUM	0	3.3965	41.14	44.54
PAPER	0	56.537	967.39	1023.93
CARDBOARD	36.2	77.555	3163.82	3277.58
APPLIANCES	18.68	10.04	NA	28.72
ELECTRONICS	50.44	28.77	91.95	171.16
TIRES	22	45	78.38	145.38
HHW	6.42	2.84	67.02*	76.28
BULBS	.9165	.524	.41	1.85
YARD WASTE	-	41.25	4129.28	4170.53
COMMINGLED	131.19	0	0	131.19

2022 TOTAL =10,261.25

* HHW tonnage calculated from 2022 recycling center report.

** Weight conversion used.

ASSUMED WEIGHTS

TIRES (source https://fortress.wa.gov/ecy/publications/publications/0707014.pdf)

Passenger Car Tire = 20 pounds

Light Truck Tire = 35 pounds

Truck Tire = 100 pounds

Ag Tire = 500 pounds

Semi Load = 22,000 pounds

BULBS (source Lighting Resources)

F-12 = .25 lb., F-20 = .30 lb., F-30 = .45 lb., F-40 = .60 lb.,

F-60 = .75 lb., F-72 = .90 lb., F-96 = 1.2 lb., 4' Shattershield = 1.2 lb,

Circular = .30 lb, HID = .80 lb., Compact Fluorescent = .20 lb.,

Halogen = .20 lb.

APPLIANCES (source web search for average weights)

Refrigerator = 300 lbs

Freezer = 100 lbs

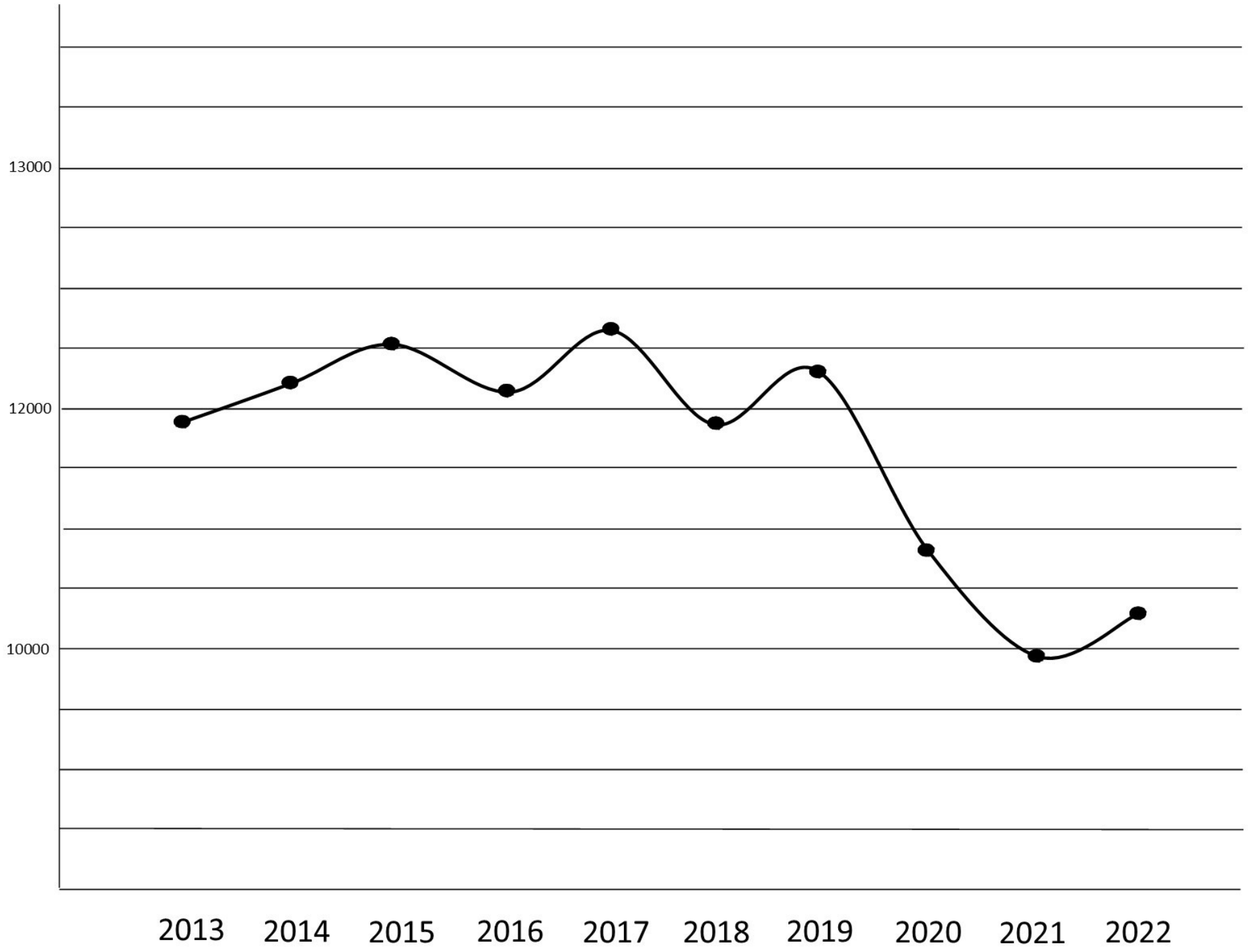
Air Conditioning Unit = 75 lbs

Dehumidifier = 30 lbs

Water Cooler = 20 lbs

BRUSH (source New Jersey Division of Solid and Hazardous Waste)

One load = one cubic yard = 250 lbs


13000
12000
10000
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022

Madison County Recycling Center

Household Hazardous Waste

Aerosol Cans	1,255 lb.
Flammable Liquids	2,966 lb.
Antifreeze	0 lb.
Pesticide, Herbicide, Insecticide	891 lb.
Acids	454 lb.
Bases	240 lb.
Liquid Fuels	810 lb.
Misc. Chemical	19 lb.
Refrigerant	0 lb.
Alkaline Battery	665 lb.
NiCAD Battery	411 lb.
Lithium Battery	212 lb.
NiMH Battery	0 lb.
Lead Acid Battery	4919 lb.
Mercury	0 lb.
TOTALS	**12,842 lb.**

All numbers in pounds, unless otherwise noted. These numbers are based on invoices received by ECISWD and may not match numbers