

**POST FALLS HIGHWAY DISTRICT
STORM WATER MANAGEMENT PROGRAM**



2019 ANNUAL REPORT

Storm Water Discharges from Small Municipal Separate Storm Sewer Systems

Permit Effective Dates: January 1, 2009 - December 31, 2013
Currently Operating Under an Administrative Extension

Prepared by:

**Ruen-Yeager & Associates, Inc.
3201 N. Huetter Road, Suite 102
Coeur d'Alene, Idaho 83814**

A. PERMITTEE INFORMATION

Permit Number: IDS-028193

Permittee: Post Falls Highway District (PFHD)

Mailing Address: East 5629 Seltice Way

City, State, and Zip Code: Post Falls, Idaho 83854

Phone Number: (208) 765-3717

Have any areas been added to the MS4 due to annexation or other legal means? YES **NO**
(If yes, include updated map.)

B. REPORTING PERIOD: January 1, 2019 to December 31, 2019

C. STATUS OF STORM WATER MANAGEMENT PROGRAM

1. **Public Education and Outreach:**

a. *General summary of accomplishments to date:*

A mail out was distributed in 2019 to residents who front District rights-of-way where the MS4 is present. A revised mail out was developed in 2015 to attract new interest from the recipients. This mail out contained information about Healthy Household Habits for Clean Water and was produced specifically for the District's MS4. A total of 111 flyers were mailed. A copy of the flyer and the mailing list are attached in Appendix A.

The PFHD has a partnership with the Panhandle Stormwater & Erosion Education Program (SEEP). The PFHD has contributed \$1900 to SEEP to date. The PFHD displays SEEP brochures at its office and the SEEP trailer is periodically located at its office to serve as an advertisement for the program. SEEP field manuals are distributed with utility permits and PFHD maintenance staff members maintain a SEEP certification. The PFHD has 19 maintenance staff that are SEEP certified. See Appendix A for PFHD Staff Seep Certification List.

The NPDES MS4 Permit and Annual Reports are posted to the PFHD's website. The website received 3,188 total hits in 2019, with 118 hits for the NPDES Reports.

The PFHD, Lakes Highway District, and East Side Highway District joined with the University of Idaho through the Cleaner.Water.Faster. grant to develop a PSA and an interpretive trail sign to be placed along the Centennial Trail in Coeur d'Alene. The PSA focused on the Highway Districts' efforts at reducing stormwater pollution through maintenance activities. The PSA video was filmed on September 19, 2017 and in October of 2018 the video was completed and published on YouTube and linked by the University of Idaho website. The PFHD has placed a link to view the video on their website. The interpretive sign also focuses on Highway Districts' maintenance efforts at reducing pollution in stormwater runoff. The interpretive sign was installed by the City of Coeur

d’Alene’s Parks Department along the Centennial Trail in the Spring of 2019. A copy of the interpretive sign is included in Appendix A.

The PFHD joined the City of Coeur d’Alene, Lakes Highway District, and East Side Highway District in supporting “Earth Day 2019” on April 28, 2019. This open to the public forum provided exhibits in a fun, educational, and informational setting to educate local residents and visitors how to protect and preserve the environment 365 days per year. This public outreach effort included storm water demonstrations, “Get Involved Booths”, crafts and egg hunts, and outreach events for adults and children. An effort to collect data concerning the effectiveness of our Public Education Outreach was implemented this year. For the Earth Day event, a questionnaire with four questions was used to gather the public’s knowledge concerning stormwater and pollution prevention. This questionnaire was then used to raffle off a hanging flower basket (see Earth Day advertisement, pics, questionnaire, and results in Appendix A).

The PFHD also supported the multi-jurisdictional Silverwood Physics and Science Day on May 22 & 23, 2019 at Silverwood Theme Park in Athol, Idaho. This is an event focused on middle and high school students and incorporates educational competitions including learning about the aquifer, storm water to ground water connections, environmental science, engineering, and construction skills. This event included IDEQ, the City of Coeur d’Alene, Post Falls Highway District, Lakes Highway District, and East Side Highway District. See Appendix A for the photos of this event.

The PFHD also supported the City of Coeur d’Alene’s efforts to distribute the “Storm Drain Dan” coloring book to children to foster an awareness of the connection between storm water and waters of the US. In addition, this year we also began distributing to students the literature “Discover Storm Water” and “Healthy Water, Healthy People”. These can be seen in Appendix A.

The PFHD in cooperation with the City of Coeur d’Alene, Lakes Highway District, and East Side Highway District participated in two daylong storm water presentations on May 7 & 8, 2019 during “Idaho Water Awareness Week” to Ramsey Elementary Students at the City of Coeur d’Alene Wastewater Treatment Plant. A stormwater pollution prevention awareness discussion was accompanied with the presentation of the “Only Rain Down the Drain” website game. Afterwards, the students were given a ten-question quiz to collect data on the effectiveness of our public education outreach. Photos of the event, the quiz, answers and an analysis are included in Appendix A.

To supplement our Public Outreach Stormwater Demonstrations, the three Highway Districts along with the City of Coeur d’Alene designed and had produced two large banner displays for stormwater and pollution prevention education purposes. These banners can be seen in Appendix A.

The PFHD involvement has ceased with the Regional Water Quality Public Educators Work Group as the group did not schedule any additional meeting in 2019.

b. An evaluation of compliance with the requirements of this permit, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals of the SWMP:

Prior to receiving Notice of Violation from EPA sent March 14, 2012, the PFHD believed its partnership with SEEP was the most efficient and effective way of implementing a public education and outreach program. The Notice recommended “a more targeted outreach to specific audiences (e.g. residences along PFHD’s storm sewer system)”. The PFHD participated in the local storm water coalition meeting and sent engineering representatives to work on joint alternative storm water treatment demonstration project concepts. PFHD believes the “Healthy Household Habits for Clean Water” mail out (in Appendix A) completes our requirements and brings us into compliance.

c. Results of information collected and analyzed during the previous 12-month reporting period, including storm water discharge data, surface water monitoring data, and any other information used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable:

Six (6) pieces of storm water related literature were distributed to the general public at the District’s office in 2011.

Fifteen (15) pieces of storm water related literature were distributed to the general public at the District’s office in 2012.

Ten (10) pieces of storm water related literature were distributed to the general public at the District’s office in 2013.

Ten (10) pieces of storm water related literature were distributed to the general public at the District’s office in 2014.

Six (6) pieces of storm water related literature were distributed to the general public at the District’s office in 2015.

Five (5) pieces of storm water related literature were distributed to the general public at the District’s office in 2016.

Seven (7) pieces of storm water related literature were distributed to the general public at the District’s office in 2017.

Three (3) pieces of storm water related literature were distributed to the general public at the District’s office in 2018.

Zero (0) pieces of storm water related literature were distributed to the general public at the District’s office in 2019.

A summary of the number and nature of inspections and formal enforcement actions performed:

Not applicable for this control measure.

d. A general summary of the activities the permittee will undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure:

The PFHD will do the following during the 2020 calendar year:

- Continue staff training for illicit discharge detection and reporting, and proper maintenance procedures.

- Approve Associated Highway District Standard changes to support working with partners to jointly address MS4/NPDES issues through implementation of District Standard policies.
- Mail a storm water-related flyer or provide similar information to residences along the MS4.
- Make additional contributions to SEEP if needed and continue to participate in SEEP sponsored events.
- Continue to participate in additional educational open houses, school presentations, and teacher presentations regarding storm water pollution prevention and other related topics with local agencies and the general public.
- Continue to distribute SEEP BMP field manuals with utility permits.
- Maintain and continue to update the display of relevant storm water literature at its office and keep track of how many of each piece of literature is distributed. Include educational information regarding illicit discharge.
- Update links to its SWMP information and other sources of storm water related information on its web site.

e. Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals for any minimum control measures since previous report or permit application:

The SWMP was reviewed and no changes were proposed or implemented in 2019.

f. Notice if the permittee is relying on another entity to satisfy some of the permit obligations, if applicable.

Not applicable.

2. Public Involvement/Participation:

a. General summary of accomplishments to date:

The PFHD has not held any meetings for the specific purpose of discussing storm water management but continues to hold its regular public meetings. The PFHD has attended MS4 coordination meetings for the Coeur d'Alene Urbanized Area on the following dates:

- 2/9/11
- 3/29/11
- 3/29/12

Attendees for these meeting have included representatives from Lakes Highway District, City of Coeur d'Alene, City of Post Falls, ITD, and EPA.

The PFHD's website has been updated to include all relevant SWMP documents and will post the 2019 Annual Report.

b. *An evaluation of compliance with the requirements of this permit, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals of the SWMP:*

PFHD has provided applicable public notice requirements and web site updates to achieve compliance with permit requirement II.B.2.b.

c. *Results of information collected and analyzed during the previous 12-month reporting period, including storm water discharge data, surface water monitoring data, and any other information used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable:*

No information collected.

d. *A summary of the number and nature of inspections and formal enforcement actions performed:*

Not applicable for this control measure.

e. *A general summary of the activities the permittee will undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure:*

The PFHD will do the following during the 2020 calendar year:

- Continue to attend any MS4 coordination meetings.
- Participate in the SEEP Partnership with the University of Idaho.
- Update its website with information relevant to the SWMP as it becomes available.
- Participate in and/or sponsor one multi-jurisdictional Environmental Open House, Earth Day Celebration and/or Science and Physics Fair.

f. *Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals for any minimum control measures since previous report or permit application:*

None.

g. *Notice if the permittee is relying on another entity to satisfy some of the permit obligations, if applicable.*

Not applicable.

3. Illicit Discharge Detection and Elimination:

a. *General summary of accomplishments to date:*

The PFHD has a MS4 Outfall Map identifying outfalls that are point source discharges to waters of the US. The MS4 Outfall Map can be found in Appendix B. The PFHD has also completed a Spill Response Plan as part of its SWMP. An EPA flier regarding illicit discharge has been made available to the public at the District office. PFHD maintenance staff attended a joint training session that included illicit discharge and best management

practice education with Lakes Highway District and East Side Highway District on December 18, 2019. The training session included a presentation by the District’s consulting engineer, Laura Winter, regarding MS4 areas, BMPs, and Illicit Discharge Detection and Elimination. This included an interactive Power Point presentation on outfall protection, maintenance, and good housekeeping.

No illicit discharges were detected. In addition, the Road Supervisor and his assistant continue to monitor the MS4 for illicit discharge during their routine maintenance rounds.

2019 Dry Weather Screening Activities

Dry weather screening was conducted by Ruen-Yeager & Associates, Inc. Engineering Staff on July 23, 2019 on all the District’s outfalls. We noted the following as provided in the “Dry Weather Monitoring Report” Field Report in Appendix B:

1. One (1) Outfall presented an active flow
 - Outfall Number 7 had a flow described as less than 10 gallons per minute with clean water and without any unusual deposits, vegetation, or conditions.
2. No observations of illicit discharges were noted.
3. Photos were taken of all outfalls, either at their inlets or outlets, depending on accessibility or clarity of field conditions.

It has been determined that there are no industrial facilities that discharge into the District’s MS4.

b. An evaluation of compliance with the requirements of this permit, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals of the SWMP:

The PFHD believes that it is in compliance to the best of its ability. The PFHD is not able to adopt an illicit discharge ordinance because it does not have authority to do so, but will work with Kootenai County, EPA, and IDEQ for correction of observed illicit discharges.

c. Results of information collected and analyzed during the previous 12-month reporting period, including storm water discharge data, surface water monitoring data, and any other information used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable:

See “Dry Weather Monitoring Report” in Appendix B.

d. A summary of the number and nature of inspections and formal enforcement actions performed:

Nothing to report.

e. A general summary of the activities the permittee will undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure:

The PFHD will do the following during the 2020 calendar year:

- Visually monitor the MS4 area during routine maintenance rounds.
- Screen all outfalls during July-October in accordance with the Dry Weather Screening Plan. Conduct additional screening in spring and fall during maintenance and monitoring.
- Document and report detected illicit discharges to Kootenai County, EPA and IDEQ in accordance with the Spill Response Plan.

f. Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals for any minimum control measures since previous report or permit application:

No changes.

g. Notice if the permittee is relying on another entity to satisfy some of the permit obligations, if applicable.

Not applicable.

4. Construction Site Storm Water Runoff Control:

a. General summary of accomplishments to date:

The PFHD is aware of the NPDES Construction General Permit and complies with permit requirements for its own projects. The PFHD will also assist with review & monitoring of private construction projects that discharge to its MS4. The PFHD continues its public education and outreach program through a partnership with SEEP in order to meet its requirements for distributing information to local construction site operators.

b. An evaluation of compliance with the requirements of this permit, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals of the SWMP:

The PFHD believes it is in compliance to the best of the District's ability. The PFHD does not have ordinance authority but will notify Kootenai County and EPA if it becomes aware of potential violations of the Construction General Permit and/or the Kootenai County Site Disturbance Ordinance.

c. Results of information collected and analyzed during the previous 12-month reporting period, including storm water discharge data, surface water monitoring data, and any other information used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable:

See "Dry Weather Monitoring Report" in Appendix B. There were no suspect flows.

d. A summary of the number and nature of inspections and formal enforcement actions performed:

Nothing to report.

e. A general summary of the activities the permittee will undertake during the next

reporting cycle (including an implementation schedule) for each minimum control measure:

The PFHD will do the following during the 2020 calendar year:

- Continue to develop, discuss with the Associated Highway District supervisors and commissioners, and adopt when finalized the NPDES related standards approved for inclusion in the next Associated Highway Districts of Kootenai County Highway Standards.
- Comply with CGP requirements for PFHD constructed projects.
- Review erosion control plans as part of its review process for private projects under PFHD jurisdiction.
- As part of the road inspection process for new private projects, ensure that the appropriate level of erosion control is in place during construction.
- Educate staff on construction storm water discharges and direct staff to keep an eye on construction storm water discharges from private projects during road maintenance activities and maintenance rounds.
- Document and report to EPA and Kootenai County any detected illegal construction storm water discharges.
- The District will track approach and utility permits within the MS4 and at the time of permit issuance will distribute information regarding storm water BMPs to those projects located in the MS4.

f. Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals for any minimum control measures since previous report or permit application:

No changes to the SWMP are anticipated.

Notice if the permittee is relying on another entity to satisfy some of the permit obligations, if applicable.

Not applicable.

5. Post-Construction Storm Water Management in New Development and Redevelopment:

a. General summary of accomplishments to date:

Ordinances are already in place through Kootenai County, the City of Post Falls and the City of Coeur d'Alene that require post-construction storm water controls for significant private construction projects in the PFHD's jurisdiction. PFHD design and construction practices have historically followed the principals of the ordinances. The PFHD maintains all drainage facilities within its right-of-way and provides plan review of post-construction storm water designs for projects within its jurisdiction.

b. An evaluation of compliance with the requirements of this permit, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals of the SWMP:

The PFHD developed and implemented storm water erosion control Best Management Practices in the execution of PFHD projects in the area. The PFHD has made every effort to maintain compliance through the placement, planning, and maintenance of these BMPs which has resulted in no erosion, no sedimentation and no impact conditions.

c. Results of information collected and analyzed during the previous 12-month reporting period, including storm water discharge data, surface water monitoring data, and any other information used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable:

Nothing to report.

d. A summary of the number and nature of inspections and formal enforcement actions performed:

Nothing to report.

e. A general summary of the activities the permittee will undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure:

The PFHD will do the following during the 2020 calendar year:

- Continue efforts to advocate NPDES standards to be included in the Associated Highway Districts Highway Standards.
- Continue to follow local storm water management design principles for PFHD constructed projects.
- Provide installation inspection of storm water controls for private projects within the right-of-way and those facilities off the right-of-way that discharge to the MS4.
- Continue maintaining all drainage facilities within the right-of-way.
- Monitor private storm water facilities off the right-of-way that discharge to the MS4. Notify the owner and/or appropriate regulatory entity if the facility is not being maintained or is not functioning properly.

f. Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals for any minimum control measures since previous report or permit application:

None.

g. Notice if the permittee is relying on another entity to satisfy some of the permit obligations, if applicable.

Not applicable.

6. Pollution Prevention and Good Housekeeping for Municipal Operations:

a. General summary of accomplishments to date:

Operation and Maintenance procedures to protect storm water runoff have been formalized into a text document as part of the SWMP. PFHD maintenance staff attended a training session on February 1, 2012, December 4, 2013, December 22, 2014, December 11, 2015, and November 29, 2016, December 14, 2017, December 7, 2018, and December 18, 2019. Included in Appendix C are the sign-in attendance sheets for the training and a copy of the presentation.

The District O&M has been improved through constant training on the Highway District's winter maintenance and snow removal policy. The District will continue to sweep the gutters in the MS4 area this winter as weather permits.

b. An evaluation of compliance with the requirements of this permit, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals of the SWMP:

The O&M procedures have been developed and the District believes this is adequate to cover the requirement for a Stormwater Pollution Prevention Plan for its maintenance facility. The training session fulfills requirement II.B.6.b.

c. Results of information collected and analyzed during the previous 12-month reporting period, including storm water discharge data, surface water monitoring data, and any other information used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable:

Nothing to report.

d. A summary of the number and nature of inspections and formal enforcement actions performed:

Nothing to report.

e. A general summary of the activities the permittee will undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure:

The PFHD will do the following during the 2020 calendar year:

- Conduct another training session for PFHD employees in 2020 on good housekeeping, bmps, and illicit discharge detection.
- Send additional staff members to SEEP certification classes.

f. Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals for any minimum control measures since previous report or permit application:

None.

g. Notice if the permittee is relying on another entity to satisfy some of the permit obligations, if applicable.

Not applicable.

D. REQUIRED DOCUMENTS AND REPORTS

1. Storm Water Management Plan is posted on the website.
2. MS4 Map is posted on the website.
3. Public Education & Outreach Documents are attached in Appendix A.
4. MS4 Outfall Map & 2019 Dry Weather Screening Report is attached in Appendix B.
5. Record of attendance and copy of presentation for PFHD Staff Training is included in Appendix C.

E. CERTIFICATION

“I 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 gathered and evaluated 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.”

Michael C. Lenz
Signature of Permittee (legally responsible person)

02/07/2020
Date Signed

Michael C. Lenz Director of Highways
Name & Title (printed)

Appendix A

Healthy Household Habits for Clean Water

Flyer and Mailing List



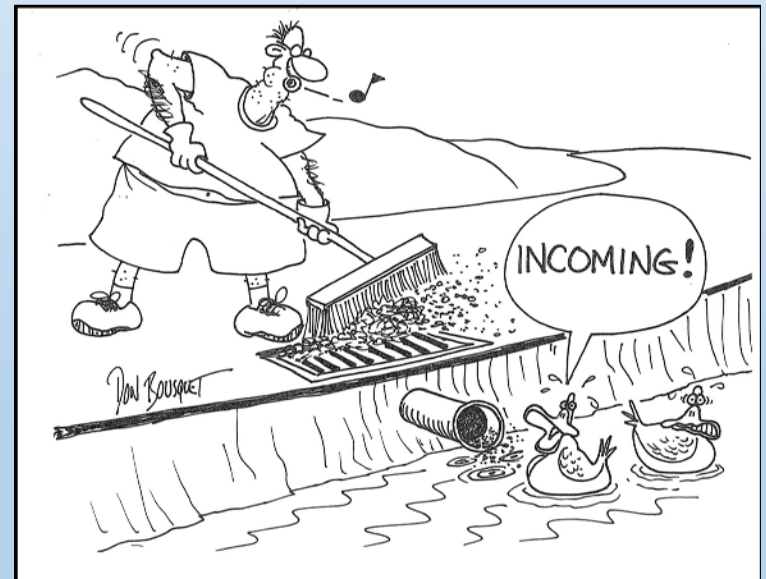
Post Falls Highway District
5629 E. Seltice Way
Post Falls, Idaho 83854

Did you know?

The United States Environmental Protection Agency regulates the Post Falls Highway District's stormwater discharges through a permit.

The permit requires the District to inform the public about stormwater pollution and how to prevent it.

The Permit also requires the District to monitor discharges from roadside ditches and storm drains.



For more information, visit www.postfallshd.com

HOW CAN YOU HELP PREVENT STORMWATER POLLUTION?

As stormwater flows over driveways, lawns, and roadways, it picks up debris, chemicals, dirt, and other pollutants. Polluted runoff is the nation's greatest threat to clean water.



***STORMWATER
FROM YOUR AREA
FLOWS INTO THE
SPOKANE RIVER
UNTREATED.***

By practicing healthy household habits, homeowners can keep common pollutants like pesticides, pet waste, grass clippings, and automotive fluids off the ground and out of stormwater.



HEALTHY HOUSEHOLD HABITS FOR CLEAN WATER

Vehicle and Garage

- Use a commercial car wash or wash your car on your lawn to minimize the amount of dirty, soapy water flowing into the river.
- Check your car, boat, and lawn equipment for leaks and spills. Clean up spilled fluids with an absorbent material like kitty litter or sand, and don't rinse the spills into a storm drain.
- Recycle used oil and other automotive fluids. Don't dump these chemicals down the storm drain or dispose of them in your trash. Visit kcgov.us/departments/solid_waste or call 208-446-1430 for disposal information.



Lawn and Garden

- Use pesticides and fertilizers sparingly. Avoid application before rain.
- Sweep up yard debris, rather than hosing down areas.
- Don't overwater your lawn.

Home Improvement

- Sweep up and properly dispose of construction debris such as concrete and mortar.
- Use hazardous substances like paints, solvents, and cautiously. Clean up spills immediately, and dispose of the waste safely.
- Clean paint brushes in a sink, not outdoors.



Pet Care

- When walking your pet, remember to pick up the waste and dispose of it properly.

WILHELM FAMILY TRUST
OR CURRENT RESIDENT
12021 W RIVERVIEW DR
POST FALLS ID 83854

FISHER, JAMES
OR CURRENT RESIDENT
11947 W RIVERVIEW DR
POST FALLS ID 83854

METCALF, KEITH A
OR CURRENT RESIDENT
11917 W RIVERVIEW DR
POST FALLS, ID 83854

DECKER FAMILY TRUST
OR CURRENT RESIDENT
PO BOX 2127
SPOKANE, WA 99210

ROCCA, JAMES
OR CURRENT RESIDENT
11843 W RIVERVIEW DR
POST FALLS ID 83854

STIGER, ROBERT
OR CURRENT RESIDENT
11831 W RIVERVIEW DR
POST FALLS ID 83854

FOWLER, CECIL
OR CURRENT RESIDENT
PO BOX 2127
POST FALLS, ID 83877

NELSON, EARL
OR CURRENT RESIDENT
11755 W RIVERVIEW DR
POST FALLS, ID 83854

RIVERVIEW GROUP LLC
OR CURRENT RESIDENT
11745 W RIVERVIEW DR
POST FALLS, ID 83854

FOWLER, GARRY
OR CURRENT RESIDENT
11717 W RIVERVIEW DR
POST FALLS ID 83854

HILL, DEBBIE S
OR CURRENT RESIDENT
11663 W RIVERVIEW DR
POST FALLS, ID 83854

JARA, FRANCISCO
OR CURRENT RESIDENT
11637 W RIVERVIEW DR
POST FALLS, ID 83854

PHILMAR CORPORATION
OR CURRENT RESIDENT
11607 W RIVERVIEW DR
POST FALLS ID 83854

GROLLMUS, JOHN
OR CURRENT RESIDENT
11593 W RIVERVIEW DR
POST FALLS ID 83854

SAMMY AND RAMONA STEPHENS
LIVING TRUST
OR CURRENT RESIDENT
11573 N RIVERVIEW DR
POST FALLS ID 83854

WILLAMETTE VALLEY REAL
PROPERTY LLC
OR CURRENT RESIDENT
11555 W RIVERVIEW DR
POST FALLS, ID 83854

PAULL, SHARON
OR CURRENT RESIDENT
11523 W RIVERVIEW DR
POST FALLS, ID 83854

BINGHAM, DWIGHT
OR CURRENT RESIDENT
11483 W RIVERVIEW DR
POST FALLS ID 83854

WALTER AND GRACE SINGER
TRUST
OR CURRENT RESIDENT
11463 W RIVERVIEW DR
POST FALLS ID 83854

WILLIAMS, MICHAEL PAUL
OR CURRENT RESIDENT
11437 W RIVERVIEW DR
POST FALLS, ID 83854

ROSTIE, CHRISTOPHER
OR CURRENT RESIDENT
11385 W RIVERVIEW DR
POST FALLS ID 83854

MELTON, JUDSON
OR CURRENT RESIDENT
11361 W RIVERVIEW DR
POST FALLS ID 83854

TEFFT, LURENE M
OR CURRENT RESIDENT
11309 W RIVERVIEW DR
POST FALLS ID 83854

MATTIODA, SUZANNE
OR CURRENT RESIDENT
PO BOX 361
POST FALLS, ID 83877

VAN DYKE, STEVEN E
OR CURRENT RESIDENT
11251 W RIVERVIEW DR
POST FALLS, ID 83854
PO BOX 315
ROSALIA, WA 99170

BARTON, TIMOTHY W
OR CURRENT RESIDENT 11013 W
RIVERVIEW DR
POST FALLS ID 83854

RON AND KATHY ANDERSON
FAMILY TRUST
OR CURRENT RESIDENT
11189 W RIVERVIEW DR
POST FALLS ID 83854

SILBERBERGER, CHARLES
OR CURRENT RESIDENT
11171 W RIVERVIEW DR
POST FALLS ID 83854

MAYFIELD, KENNETH G
OR CURRENT RESIDENT
11151 W RIVERVIEW DR
POST FALLS ID 83854

NECHANICKY, ROBERT
OR CURRENT RESIDENT
11113 W RIVERVIEW DR
POST FALLS ID 83854

WILKINSON, KENNETH A
OR CURRENT RESIDENT
3680 W SELTICE WAY # B
POST FALLS, ID 83854

DETAR, THOMAS
OR CURRENT RESIDENT
3135 S SCHILLING LOOP
POST FALLS ID 83854

DETAR, THOMAS
OR CURRENT RESIDENT
994 S PENNY LN
POST FALLS, ID 83854

OR CURRENT RESIDENT
BASSLER, RAYMOND
1031 S PENNY LN
POST FALLS ID 83854

PROCK, ARTHUR
OR CURRENT RESIDENT
1079 S PENNY LN
POST FALLS ID 83854

HANKES, MATTHEW BEIER
OR CURRENT RESIDENT
4273 S SCHILLING LOOP
POST FALLS ID 83854

EVANS, STEPHEN
OR CURRENT RESIDENT
943 S PENNY LN
POST FALLS ID 83854

SNIDER, LYLE
OR CURRENT RESIDENT
962 S PENNY LN
POST FALLS ID 83854

COLLINS, TRACY
OR CURRENT RESIDENT
887 S PENNY LN
POST FALLS ID 83854

WHEELER DENNIS E
OR CURRENT RESIDENT
4289 S SCHILLING LOOP
POST FALLS ID 83854

SULLIVAN ERRIN M
OR CURRENT RESIDENT
4375 S SCHILLING LOOP
POST FALLS ID 83854

KLEMO, KEITH
OR CURRENT RESIDENT
927 S PENNY LN
POST FALLS ID 83854

STEINER MICHAEL D
OR CURRENT RESIDENT
847 S PENNY LN
POST FALLS ID 83854

MAYO, R
OR CURRENT RESIDENT
825 S PENNY LN
POST FALLS ID 83854

BRONSTEIN, CHERIE
OR CURRENT RESIDENT
4419 S SCHILLING LOOP
POST FALLS ID 83854

COHEN, CODY
OR CURRENT RESIDENT
787 S PENNY LN
POST FALLS ID 83854

MATTHEW AND ANDREA SMITH OR
CURRENT RESIDENT
LIVING TRUST
2346 S COMET TRL
POST FALLS ID 83854

TOWNE, ROBIN
OR CURRENT RESIDENT
767 S PENNY LN
POST FALLS ID 83854

SLCK COMMERCIAL PROPERTIES
LLC
OR CURRENT RESIDENT
737 S PENNY LN
POST FALLS ID 83854

WALSH, JASON D
OR CURRENT RESIDENT
2322 S COMET TRL
POST FALLS ID 83854

GRANT, PAMELA
OR CURRENT RESIDENT
691 S PENNY LN
POST FALLS ID 83854

RICHARDS, DONALD E
OR CURRENT RESIDENT
2253 S COMET TRL
POST FALLS ID 83854

READ, LEONARD W
OR CURRENT RESIDENT
525 S PENNY LN
POST FALLS ID 83854

PAULITZ, GREGORY
OR CURRENT RESIDENT
547 S PENNY LN
POST FALLS ID 83854

HAWLEY, STACY L
OR CURRENT RESIDENT
567 S PENNY LN
POST FALLS ID 83854

MONTY R AND DEANNA L MURPHY
OR CURRENT RESIDENT
655 S PENNY LN
POST FALLS ID 83854

GOECKNER, CHRIS
OR CURRENT RESIDENT
808 S PENNY LN
POST FALLS ID 83854

CONRAD, GEORGE
OR CURRENT RESIDENT
752 S PENNY LN
POST FALLS ID 83854

DALE THOMAS AND GAIL M OR
CURRENT RESIDENT
WORDEN LIVING TRUST
706 S PENNY LN
POST FALLS ID 83854

MUSCH, BRAD
OR CURRENT RESIDENT
678 S PENNY LN
POST FALLS ID 83854

LEWIS, JAMES
OR CURRENT RESIDENT
652 S PENNY LN
POST FALLS, ID 83854

HUNDRUP, JARED C
OR CURRENT RESIDENT
622 S PENNY LN
POST FALLS, ID 83854

IRELAT LLC
OR CURRENT RESIDENT
608 S PENNY LN
POST FALLS ID 83854

COLEMAN, PENELOPE
OR CURRENT RESIDENT
594 S PENNY LN
POST FALLS ID 83854

QUINCY, GARY J
OR CURRENT RESIDENT
572 S PENNY LN
POST FALLS ID 83854

LYBARGER, JUANITA
OR CURRENT RESIDENT
562 S PENNY LN
POST FALLS ID 83854

STAPLETON, RICHARD E
OR CURRENT RESIDENT
14332 W RIVERVIEW DR
POST FALLS ID 83854

JACOBS, CYNTHIA
OR CURRENT RESIDENT
14104 W RIVERVIEW DR
POST FALLS ID 83854

HINTHORNE, DEBORAH L
OR CURRENT RESIDENT
12465 W RIO VISTA PL
POST FALLS ID 83854

KARWOSKI, TIMOTHY
OR CURRENT RESIDENT
12456 W RIO VISTA PL
POST FALLS ID 83854

ROBERT AND GALENDA FRANKLIN
LIVING TRUST
OR CURRENT RESIDENT
12413 W RIO VISTA PL
POST FALLS ID 83854

GALE, KEVIN L
OR CURRENT RESIDENT
12383 W RIO VISTA PL
POST FALLS ID 83854

GRACE INVESTMENTS LLC
OR CURRENT RESIDENT
12355 W RIO VISTA PL
POST FALLS, ID 83854

ELTON AND PATRICIA WEEKS
LIVING TRUST
OR CURRENT RESIDENT
14195 W RIVERVIEW DR
POST FALLS ID 83854

RINKAVAGE, THOMAS
OR CURRENT RESIDENT
14155 W RIVERVIEW DR
POST FALLS, ID 83854

LEBO, MICHAELE
OR CURRENT RESIDENT
PO BOX 2494
POST FALLS, ID 83877

HYATT, REX A
OR CURRENT RESIDENT
1099 S SPOKANE ST
POST FALLS ID 83854

BROWNLEE, VICKIE
OR CURRENT RESIDENT
1063 S SPOKANE ST
POST FALLS ID 83854

ELLISON, WILLIAM J
OR CURRENT RESIDENT
11992 W SPAN WAY
POST FALLS ID 83854

JOHNSON, RICHARD
OR CURRENT RESIDENT
PO BOX 2288
POST FALLS, ID 83877

BOOKAMER, KENNETH
OR CURRENT RESIDENT
12524 W HUGHES LN
POST FALLS ID 83854

GINGRICH, HEATHER L
OR CURRENT RESIDENT
12174 W HUGHES LN
POST FALLS, ID 83854

BARNETT, JEFFREY
OR CURRENT RESIDENT
12173 W HUGHES LN
POST FALLS ID 83854

CUSACK, RUTH A
OR CURRENT RESIDENT
11102 W RIVERVIEW DR
POST FALLS, ID 83854

SEVERANCE, MARK
OR CURRENT RESIDENT
12190 W PARKVIEW DR
POST FALLS ID 83854

GETCHIUS, THOMAS H
OR CURRENT RESIDENT
12191 W PARKVIEW DR
POST FALLS ID 83854

HUNTER, RONALD
OR CURRENT RESIDENT
12190 W PARK LN
POST FALLS ID 83854

DENNIS 2004 TRUST
OR CURRENT RESIDENT
740 S SPOKANE ST
POST FALLS, ID 83854

DILLON, MARGIE L
OR CURRENT RESIDENT
12189 W PARK LN
POST FALLS ID 83854

HOFFMAN, ROBERT C
OR CURRENT RESIDENT
12259 W SPAN WAY
POST FALLS ID 83854

HUMPHREY, JEFFERY C
OR CURRENT RESIDENT
3839 E 17TH AVENUE
SPOKANE, WA 99223

SCHAEFER, RICHARD JAMES
OR CURRENT RESIDENT
311 S LOWER CRYSTAL BAY RD
POST FALLS ID 83854

SUSAN LONGDEN SURVIVORS
TRUST
OR CURRENT RESIDENT
361 S LOWER CRYSTAL BAY RD
POST FALLS, ID 83854

CARLSON, NATALIE L
OR CURRENT RESIDENT
459 S LOWER CRYSTAL BAY RD
POST FALLS ID 83854

CAYKO, ROD
OR CURRENT RESIDENT
475 S LOWER CRYSTAL BAY RD
POST FALLS, ID 83854

HOAG, CHARLES
OR CURRENT RESIDENT
527 S LOWER CRYSTAL BAY RD
POST FALLS ID 83854

MCKITTRICK, WALLIS
OR CURRENT RESIDENT
500 S LOWER CRYSTAL BAY RD
POST FALLS, ID 83854

JAMES C GEORGE AND VALERIE J
GEORGE
OR CURRENT RESIDENT
11309 W CRYSTAL BAY RD
POST FALLS ID 83854

LITSCHESKI, MICHAEL
OR CURRENT RESIDENT
11351 W CRYSTAL BAY RD
POST FALLS ID 83854

PALMER, ANN M
OR CURRENT RESIDENT
11381 W CRYSTAL BAY RD
POST FALLS ID 83854

BOURASSA, CRAIG A
OR CURRENT RESIDENT
11417 W CRYSTAL BAY RD
POST FALLS ID 83854

LYON, JERRY C
OR CURRENT RESIDENT
11142 W RIVERVIEW DR
POST FALLS ID 83854

SPRUTE, GAYLE M
OR CURRENT RESIDENT
246 S LOWER CRYSTAL BAY RD
POST FALLS ID 83854

CMF 323 NORTH OAK FAMILY
PTSHP
OR CURRENT RESIDENT
547 S LOWER CRYSTAL BAY RD
POST FALLS, ID 83854

BOWEN, AIMEE
OR CURRENT RESIDENT
11074 W RIVERVIEW DR
POST FALLS ID 83854

PETER AND VALERIE STOHL
OR CURRENT RESIDENT
10982 W RIVERVIEW DR
POST FALLS ID 83854

ZHONG, RUINIAN
OR CURRENT RESIDENT
PO BOX 3115
POST FALLS, ID 83877

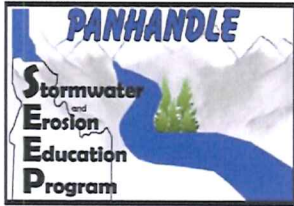
LEWIS, J
OR CURRENT RESIDENT
11124 W RIVERVIEW DR
POST FALLS ID 83854

SCOGGIN, JEFF D
OR CURRENT RESIDENT
11024 W RIVERVIEW DR
POST FALLS ID 83854

PATTERSON, JEAN
OR CURRENT RESIDENT
10967 W RIVERVIEW DR
POST FALLS, ID 83854

HARMON FAMILY TRUST
OR CURRENT RESIDENT
11075 W RIVERVIEW DR
POST FALLS ID 83854

SEEP Certified Staff

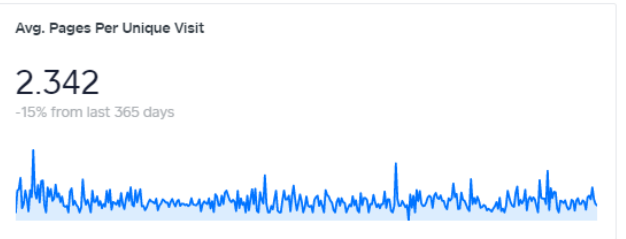
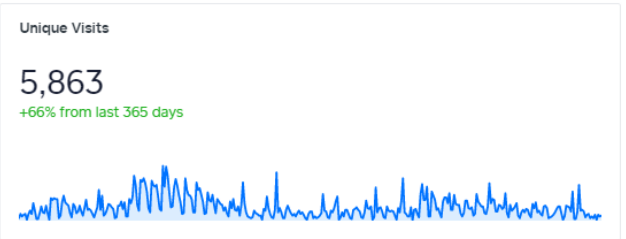


POST FALLS HIGHWAY DISTRICT

5629 E SELTICE WAY, POST FALLS ID
208-765-3717

Last Name	First Name	Expires	Dates of Last Certifications
Crumb	Brian	12/31/2020	2007, 2010, 2014, 2017
Brownsberger	Kelly	12/31/2021	2016, 2018
Hall	Travis	12/31/2021	
Hauck	Ron	12/31/2021	March 20-21, 2018
Howell	Larry	12/31/2019	2013, 2016 *
Ketchum	Michael	12/31/2021	2018
Kruger	Korrei		only needed to get T2 Classes *
Likes	Les	12/31/2019	2016 *
Mael	Ed	12/31/2020	2012, 2014, 2017
Mitley	Travis	12/31/2021	Fall 2018,2015; 2007, 2012
Neal	Randy	12/31/2019	Apr, 2008; 2016 *
Peterson	Dan	12/31/2021	March 2015; May 2011, 2018
Prestegaard	Eric	12/31/2020	2008, 2014, 2017
Roberts	Mark	12/31/2021	March 2015; May 2012, 2018
Stevens	Darrel	12/31/2022	Fall 2019
Werner	Terry	12/31/2021	May 8-9, 2018
Wines	James	12/31/2021	Fall 2018, 2015; 2007, 2010
Wood	Taylor	12/31/2022	Fall 2019
Yerian	Dave	12/31/2020	2014, 2017

Website Data



Top Active Pages this Month

Page Name	Views	vs Previous
/financial-965723.html	6	+50%
/financial.html	1	+11.11%
/forms.html	8	+38.1%
/info.html	9	+40.91%
/jobs.html	13	+28.89%
/links.html	2	+13.33%
/loadlimits.html	11	+55%
/meetings.html	11	+29.73%
/nydes.html	8	+36.36%
/projects-456424.html	2	+20%

10 25 50

< 2 v >

Interpretive Trail Sign

Stormwater Runoff

DECREASING POLLUTION THROUGH ROAD MAINTENANCE

YOU ARE HERE

CLEANER.
WATER.
FASTER.



EFFORTS TO KEEP STORMWATER CLEAN

ENVIRONMENTAL IMPACTS

The Highway Districts work year round using multiple methods to keep roadways, storm systems, and ditches clean from pollutants. By decreasing the amount of pollution entering the water system through stormwater runoff, the Highway Districts are taking preventative measures to help keep urban water systems clean.

MINIMIZING POLLUTION

The Highway Districts street sweep their jurisdictions several times a year to remove road surface debris and other pollutants that could end up in stormwater runoff.

Volunteers and staff members of the Highway Districts regularly perform litter control pick up to remove debris from the roads and surrounding areas.

Catch basin cleaning is another important component of the Highway Districts efforts to keep stormwater runoff clean. The Highway Districts regularly vacuum out accumulated silt, debris, and pollutants from catch basins, manholes, and inlets, to prevent stormwater runoff from flushing these pollutants into local lakes and rivers.

Did You Know?

Lakes are full of tiny creatures called zooplankton. They eat algae before fish eat them. Plankton easily mistake micro-plastics for algae. Plastics continually break down into smaller pieces, becoming microscopic beads or filaments. Micro-plastics act like sponges to absorb toxic chemicals. Once ingested, plastic moves up in the food web, increasing exposure to PCBs and toxins.

Learn More!



You Can Help!

Don't throw litter on roadways. Make sure litter ends up in a trash can. Volunteer for local litter pick up events. Maintain vehicles to prevent leaking. Never place pollutant into a catch basin or inlet, including leaves and grass clippings

“The Pollution” & “The Solution” Banners for Public Outreach & Education



Earth Day

April 28, 2019



EARTH DAY

BE A SHINING EXAMPLE FOR OTHERS TO FOLLOW

APRIL 28, 2019

NOON TO 4PM

COEUR D'ALENE LIBRARY

702 E. FRONT AVE. COEUR D'ALENE, ID

EDUCATIONAL BOOTHS INCLUDE:

From 10:00am - 3:00pm Environmental Education:
 Coeur D'Alene Library - featuring an interactive
 environmental education program, Earth Day
 Bulletin, The American Forest, and a variety of
 activities. State and local waste banks, city and
 Forest of the future information resources,
 and more. Contact your local waste bank for
 participation. Call us at 208-765-2100 or visit
 www.coeurvalleylibrary.org for more information.
 Contact your local waste bank for more information.
 Contact us at 208-765-2100 or visit
 www.coeurvalleylibrary.org for more information.

ENTERTAINMENT

ALL DAY: RISE STATION, THE BOOKMILL &
 TENACITY (Presents Book Inspection with
 STEVEN KING) 11:00 - 12:00
 "THE NINE OFF" 12:00 - 1:00
 FISHING 1:00 - 2:00
 FISHING 2:00 - 3:00
 FISHING 3:00 - 4:00
 YOGA 4:00 - 5:00
 THE GREAT BOOKS

Earth Day Celebration 2019

April 28, 2019



Earth Day Presentation with New Banners “The Pollution” and “The Solution”,
The Stormwater Runoff Demonstration, and Stormwater Plinko Game.



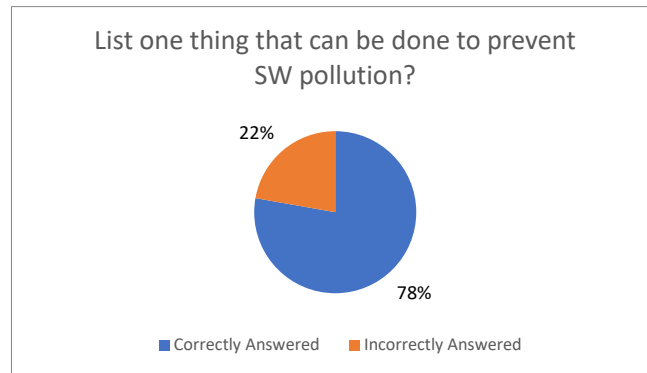
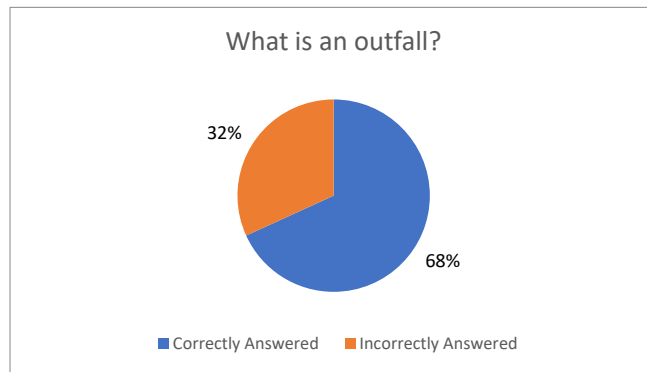
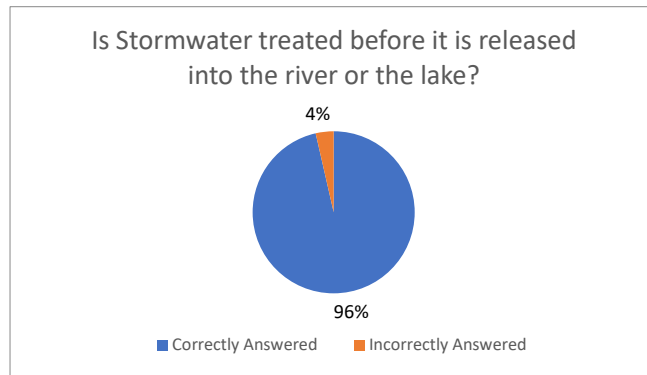
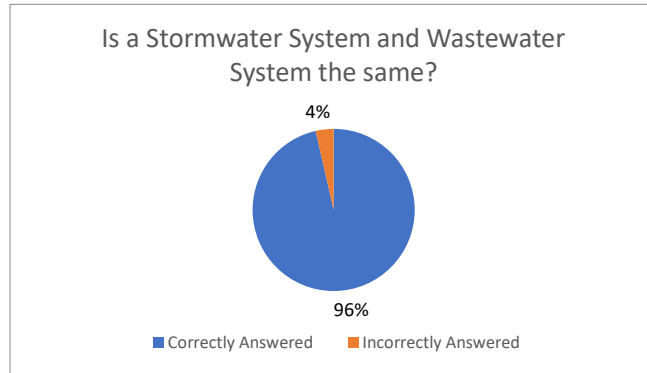
Earth Day Questionnaire with Flower Drawing



Winner of Flower Basket Drawing

Earth Day 2019 Questionnaire Results

The goal with this survey was to determine the current public understanding of storm water (SW) and then use this information to compare to future years.





**Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same? Yes No

Is storm water treated before it is released into the river or the lake? Yes No

What is an outfall?

?

List one thing you can do to help prevent storm water pollution?

Do not let oil spills leak into the storm system. Use Kitty litter to absorb the oil

Name: MARY ANN Landers

Phone: 208-661-4113

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? **Yes or No**

Yes or No

Is storm water treated before it is released into the river or the lake? **Yes or No**

Yes or No

What is an outfall?

where garbage etc. discharges into lake through a drain/tube

List one thing you can do to help prevent storm water pollution?

plant more grass

Name: Zosha

Phone: 6994411

(need not be present to win)



**Tell Us.....
 What do YOU know
 about Storm Water
 to enter the Drawing !!**

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

water dumps out of
 Culvert

List one thing you can do to help prevent storm water pollution?

Don't wash your car

Name: Misha Seguin

Phone: 510 520 9787

(need not be present to win)



**Tell Us.....
 What do YOU know
 about Storm Water
 to enter the Drawing !!**

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

The point where water discharges before it goes into the river or lake

List one thing you can do to help prevent storm water pollution?

Plant grass

Name: Melissa Henbest

Phone: 208-660-8257

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? **Yes or No**

No

Is storm water treated before it is released into the river or the lake? **Yes or No**

No

What is an outfall?

[Empty text box for answer]

List one thing you can do to help prevent storm water pollution?

Clean up oil spills

Name: Abby Fremoux

Phone: 425-770-2682

(need not be present to win)



**Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same?

Yes or No

Is storm water treated before it is released into the river or the lake?

Yes or No

What is an outfall?

Water treatment overflows

List one thing you can do to help prevent storm water pollution?

Do not wash car and let soap etc flow into drains

Name: Barbara Fillmore

Phone: 208 964-0088

(need not be present to win)



**Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

The point where water from gutters enters the stream

List one thing you can do to help prevent storm water pollution?

Don't put trash in the gutter

Name: Fawn

Phone: 208 704-1995

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes No

Is storm water treated before it is released into the river or the lake? Yes No

What is an outfall?

Point where water enters river etc from storm drainage

List one thing you can do to help prevent storm water pollution?

Do not Sanitize lawn

Name: *Russ Starnel*
 Phone: *208 771 2422*
 (need not be present to win)



**Tell Us.....
 What do YOU know
 about Storm Water
 to enter the Drawing !!**

Is a storm water system and a wastewater system the same? **Yes or No**

Is storm water treated before it is released into the river or the lake? **Yes or No**

What is an outfall?

[Empty text box for answer]

List one thing you can do to help prevent storm water pollution?

Pick up PET WASTE

Name: *Annalise Turner*
 Phone: *(208) 619-9392*

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes No

Is storm water treated before it is released into the river or the lake? Yes No

What is an outfall?

? An area to store snow or other debris?

List one thing you can do to help prevent storm water pollution?

Don't use fertilizers.

Name: Lisa Schaff

Phone: 208 610 7123

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

[Empty text box for answer]

List one thing you can do to help prevent storm water pollution?

don't flush old prescriptions

Name: Kalco Brockhoff

Phone: 208 755-7786

(need not be present to win)



**Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same?

Yes or No

Is storm water treated before it is released into the river or the lake?

Yes or No

What is an outfall?

Where the storm water drains out

List one thing you can do to help prevent storm water pollution?

Clean your household waste properly.

Name: Rooney Waters

Phone: 208 215 8148

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

Gross stuff
to River

List one thing you can do to help prevent storm water pollution?

Garbage placed
appropriately

Name: Michael + Winona

Phone: 208-699-7106

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? **Yes or No**

No

Is storm water treated before it is released into the river or the lake? **Yes or No**

No

What is an outfall?

Where stormwater is ~~is~~ flows into the lake

List one thing you can do to help prevent storm water pollution?

Use environmentally friendly fertilizer

Name: Sadie Sundahl

Phone: 208-625-7135

(need not be present to win)



**Tell Us.....
 What do YOU know
 about Storm Water
 to enter the Drawing !!**

Is a storm water system and a wastewater system the same? **Yes or No**

Is storm water treated before it is released into the river or the lake? **Yes or No**

What is an outfall?

output into the US waterways

List one thing you can do to help prevent storm water pollution?

Wash car on a lawn not in the driveway

Name: Joan Atkins

Phone: 208-340-8586

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? **Yes or No**

Is storm water treated before it is released into the river or the lake? **Yes or No**

What is an outfall?

AN AREA WHERE STORMWATER NATURALLY DRAINS

List one thing you can do to help prevent storm water pollution?

DONT POUR CHEMICALS DOWN THE DRAIN!

Name: NASH

Phone: 208 416 9266

(need not be present to win)



**Tell Us.....
 What do YOU know
 about Storm Water
 to enter the Drawing !!**

Is a storm water system and a wastewater system the same? **Yes or No**

No

Is storm water treated before it is released into the river or the lake? **Yes or No**

No

What is an outfall?

over flow

List one thing you can do to help prevent storm water pollution?

Keep storm drains open

Name:

Kathy

Phone:

208 627 3523

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

The end of a pipe that discharges liquid.

List one thing you can do to help prevent storm water pollution?

Repair oil leaks on car.

Name: *Elaine Morpen*

Phone: *(208) 664-2538*

(need not be present to win)



**Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same? Yes No

Is storm water treated before it is released into the river or the lake? Yes No

What is an outfall?

Where the stormwater enters the lake, river

List one thing you can do to help prevent storm water pollution?

Don't discharge chemicals in to the street.

Name: Robert Nelson

Phone: 208 772-1868

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

??

List one thing you can do to help prevent storm water pollution?

No dumpily trash
 storm drain

Name: Molly Jacobs

Phone: 208-699-3632

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

Flooding?

List one thing you can do to help prevent storm water pollution?

Not wash cars on the road or pour pollutants on road or driveways

Name: Merritt Mitchell

Phone: 208-661-0964

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? Yes No

Is storm water treated before it is released into the river or the lake? Yes No

What is an outfall?

collects water from storms

List one thing you can do to help prevent storm water pollution?

Name: Jacey Brockhoff

Phone: 208 661 5514

(need not be present to win)



**Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same? **Yes or No**

Is storm water treated before it is released into the river or the lake? **Yes or No**

What is an outfall?

DRAIN INTO LAKE OR STREAM

List one thing you can do to help prevent storm water pollution?

Don't wash your car in the driveway!

Name: Vickie Locken

Phone: 208 660 0699

(need not be present to win)



**Tell Us.....
 What do YOU know
 about Storm Water
 to enter the Drawing !!**

Is a storm water system and a wastewater system the same? **Yes or No**

No

Is storm water treated before it is released into the river or the lake? **Yes or No**

No

What is an outfall?

When the stormwater meets the freshwater.

List one thing you can do to help prevent storm water pollution?

Pick up trash

Name: Ira

Phone: 208-755-3653

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? **Yes or No**

Yes or No

Is storm water treated before it is released into the river or the lake? **Yes or No**

Yes or No

What is an outfall?

runoff from storms

List one thing you can do to help prevent storm water pollution?

~~reduce~~ pick up pet waste

Name: Megan Loomis

Phone: (208) 755-3653

(need not be present to win)



Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!

Is a storm water system and a wastewater system the same? **Yes or No**

Is storm water treated before it is released into the river or the lake? **Yes or No**

What is an outfall?

The large pipe(s) where storm water reaches our lake/river.

List one thing you can do to help prevent storm water pollution?

Wash my truck on the lawn!

Name: Jamie Esler

Phone: 277-8432

(need not be present to win)



Tell Us.....

**What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same? Yes or No

Is storm water treated before it is released into the river or the lake? Yes or No

What is an outfall?

Where water dumps into surface water (lake/river)

List one thing you can do to help prevent storm water pollution?

don't over-fertilize

Name: Sarah McCracken
Phone: 208.651.3131
(need not be present to win)



**Tell Us.....
What do YOU know
about Storm Water
to enter the Drawing !!**

Is a storm water system and a wastewater system the same? **Yes or No**

No

Is storm water treated before it is released into the river or the lake? **Yes or No**

No

What is an outfall?

[Empty text box for answer]

List one thing you can do to help prevent storm water pollution?

Wash car on lawn

Name: *Audra Holm*

Phone: *208 667 7306*

(need not be present to win)

Winner

Silverwood Physics & Science Days

May 22 & 23, 2019

Silverwood Physics & Science Days 2019

May 22 & 23, 2019



Silverwood Physics & Science Day Presentations with New Banners “The Pollution” and “The Solution”,
The Stormwater Runoff Demonstration, and Stormwater Plinko Game.







Ramsey Elementary Days

May 7 & 8, 2019

Ramsey Elementary 2019

May 7th & 8th, 2019



Ramsey Elementary Presentation with New Banners “The Pollution” and “The Solution” and the “Only Rain Down the Drain” presentation and quiz. Photo is from one of the eight groups we gave the presentation to over two days.

1. Storm water is water that falls from the sky as rain or snow. T/F
2. Storm water runoff can contain pollutants. T/F
3. Storm water can soak in, run off, and _____.
4. Pets can contribute to storm water pollution. T/F
5. Storm water Pollution can harm fish, birds, and wetlands. T/F

6. It is important to repair automobile gas or oil leaks promptly. T/F

7. Excess fertilizer has no affect on aquatic plants and animals. T/F

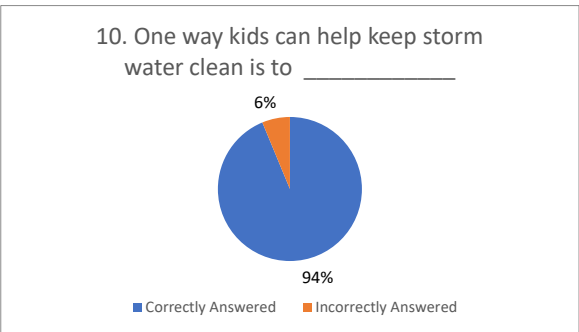
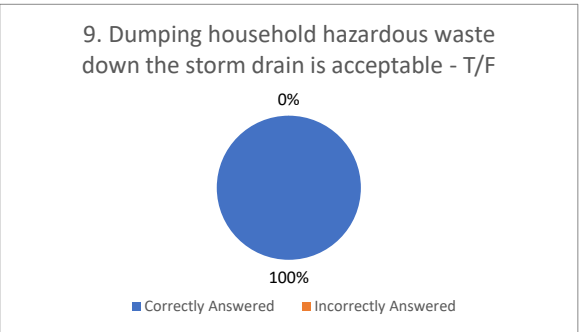
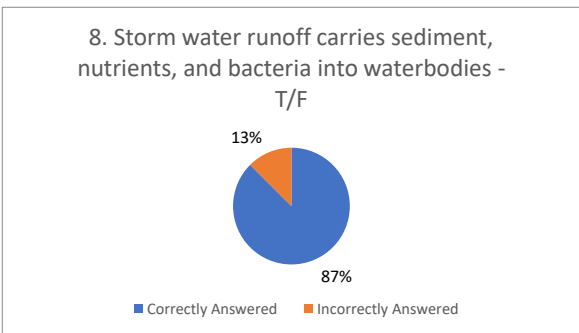
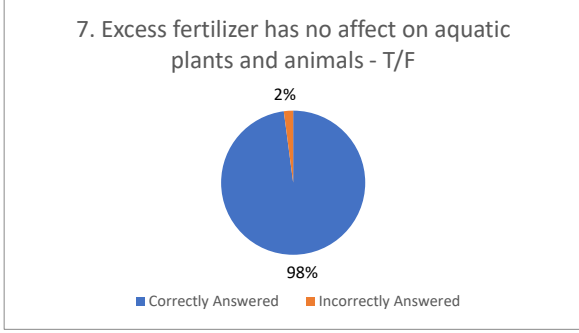
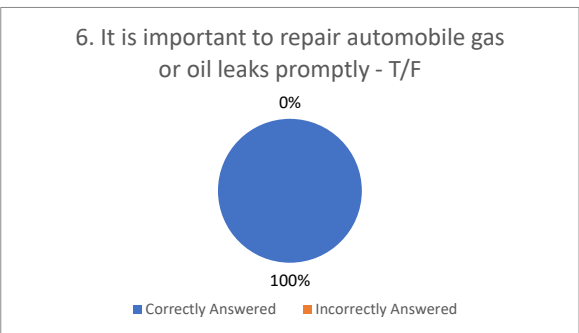
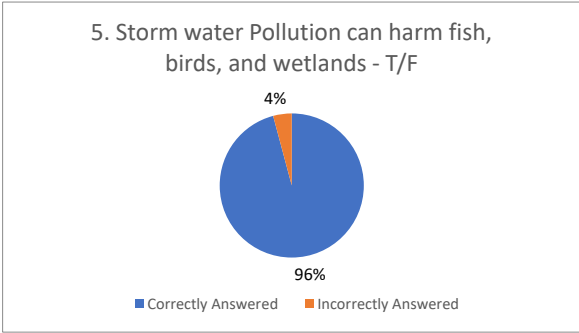
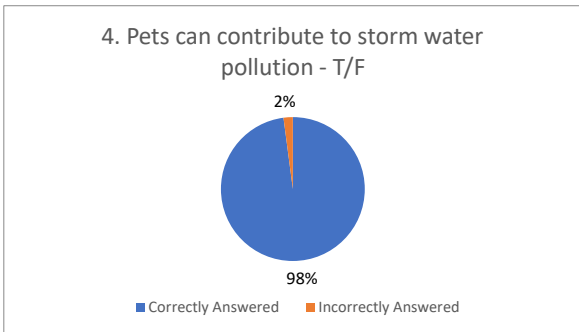
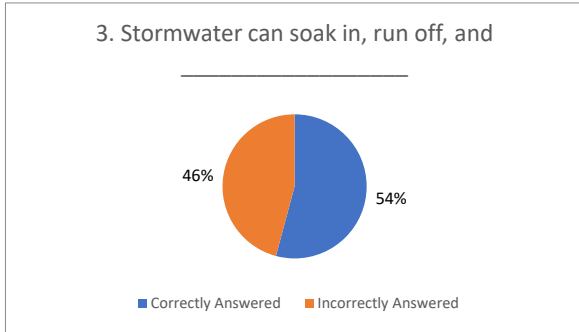
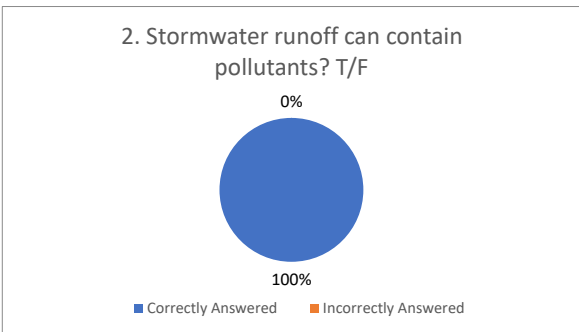
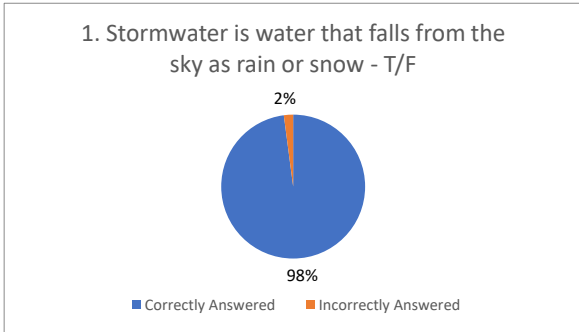
8. Storm water runoff carries sediment, nutrients, and bacteria into waterbodies. T/F

9. Dumping household hazardous waste down the storm drain is acceptable. T/F

10. One way kids can help keep storm water clean is to _____.

Ramsey Elementary 2019 Quiz

The goal with this survey was to determine the current public understanding of storm water (SW) and then use this information to compare to future years.



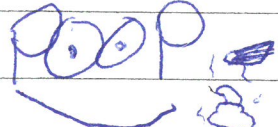
Kindy and Cade and Chase
 "Rainbows don't go in Drains"
 Ramsey Elementary

- 1 T-yes
- 2 T-yes
- 3 Pollute or Pointe
- 4 T-yes
- 5 T-yes
- 6 T-yes
- 7 T-yes
- 8 T-yes
- 9 F-NOOOO!
- 10 Recycle properly -
 Not pollute -

Ramsey Elementary

- 1 True *
- 2 True *
- 3 Pollute we don't know?
- 4 true *
- 5 True *
- 6 ~~True~~ ~~True~~ true *
- 7 false / false *
- 8 true / true *
- 9 False *
- 10 recycle more / throw
 away trash

Ramsey Elementary

- 1 T
- 2 T
- 3 Pollute
- 4 T
- 5 T
- 6 T
- 7 F
- 8 T
- 9 F
- 10 Pick up POOP 

Ramsey Elementary

- 1 ~~T~~ T
- 2 T
- 3 garbage
- 4 T
- 5 T
- 6 F
- 7 F
- 8 F
- 9 F
- 10 pick it up



Ramsey Elementary

- 1 T
- 2 T
- 3 pollute
- 4 T
- 5 T!
- 6 T
- 7 F
- 8 T
- 9 F
- 10 ~~NO~~ + pollute

Ramsey Elementary

- 1 T
- 2 T
- 3 pollute
- 4 T
- 5 T
- 6 T
- 7 F
- 8 T
- 9 F
- 10 pesticide probably

Trinity

Ramsey Elementary

- 1 True
- 2 True
- 3 pollute/get chemicals in drain
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Tell my parents to wash their car on the lawn or at a carwash.

Jackson & Trevlin

Ramsey Elementary

- 1 True
- 2 True
- 3 ~~fall~~ collect chemicals
- 4 True
- 5 True
- 6 True
- 7 ~~True~~ False
- 8 True
- 9 False
- 10 ~~Pick~~ Pick up trash

Ramsey Elementary

- 1 True
- 2 True
- 3 pollute
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Pick up trash, and pick up dog/animal
poop

naughty
sister

Ramsey Elementary

- 1 T
- 2 T
- 3 can go in your lakes
- 4 T
- 5 T
- 6 T
- 7 f
- 8 T
- 9 F
- 10 pick up dog poop

Ramsey Elementary are we right?

- 1 True
- 2 True
- 3 Polute
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Pick up trash

Ramsey Elementary

- 1 T
- 2 T
- 3 pollute
- 4 T
- 5 F T
- 6 T
- 7 F
- 8 T
- 9 F
- 10 pick up trash

Sam and Ella

Ramsey Elementary

- 1 True ✓
- 2 True ✓
- 3 Contaminate ✓
- 4 True ✓
- 5 True ✓
- 6 True ✓
- 7 False ✓
- 8 True ✓
- 9 False ✓
- 10 Pick up dog poop! ✓

Ramsey Elementary

Carys,
Carter,
Whitlee

- 1 True
- 2 True
- 3 Pollute Lakes
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Pick up Pet Waste

Ramsey Elementary

Bailey
+
Jaden

- 1 True
- 2 True
- 3 Pollute rivers/lakes
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Pick up our pet's waste
Recycle/put trash in trash can

Ramsey Elementary

Hambrya +
Haiya

- 1 True
- 2 True
- 3 Contaminate
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Pick up dog poop / pick up garbage

Ramsey Elementary

- 1 True
- 2 True
- 3 Fertilizer contaminates
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Wash cars in the car wash.
Be Responsible

Ramsey Elementary

- 1 True
- 2 True
- 3 Fill up the lakes/pollute
- 4 True
- 5 ~~True~~ False
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Pick up dog poop/do all your chores "mom"

Ramsey Elementary

- 1 T
- 2 T
- 3 Contaminate water ways
- 4 T
- 5 T
- 6 T
- 7 F
- 8 T
- 9 ~~T~~ F pick up ^{dog} poop
- 10

Ramsey Elementary

- 1 true
- 2 True
- 3 Go in to the lake
- 4 true
- 5 true
- 6 true
- 7 False
- 8 true
- 9 false
- 10 PICK UP DOG WASTE

Ramsey Elementary

- 1 True
- 2 True
- 3 points
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 pick up your pets defication

Ramsey Elementary

- 1 True
- 2 True
- 3 into the lake
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Pickup trash.

Ramsey Elementary

Josh
Lilly
Kansie

- 1 True
 - 2 True
 - 3 go into stuff
 - 4 true
 - 5 True
 - 6 True
 - 7 False
 - 8 True
 - 9 False
 - 10 Pick up dog poop
- 10/10 ★

Ramsey Elementary

- 1 True ✓
- 2 True ✓
- 3 point @ the lake ✓
- 4 True ✓
- 5 T ✓
- 6 T ✓
- 7 false ✓
- 8 T ✓
- 9 false ✓
- 10 Pick up poop ✓

Isabella
Payten



Ramsey Elementary

- 1 T
- 2 T
- 3 wash your cars
- 4 T
- 5 T
- 6 T
- 7 F
- 8 T
- 9 F
- 10 clean up dogs droppings
clean up trash

Ramsey Elementary

- 1 t
- 2 t
- 3 go in a lake
- 4 ~~st~~
- 5 t
- 6 t
- 7 f
- 8 t
- 9 f
- 10 pick up trash

Ramsey Elementary

- 1 True
- 2 True
- 3 ~~False~~
- 4 True
- 5 True
- 6 true
- 7 False
- 8 True
- 9 False
- 10 pick up ^{dog} poop

Ramsey Elementary

- 1 True
- 2 True
- 3 Plate
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 not liter

Gwen

Naomi Ramsey Elementary

- ① True
- ② True
- ③ pollute
- ④ True
- ⑤ True
- ⑥ True
- ⑦ False
- ⑧ True
- ⑨ False
- ⑩ Wash your dog and clean up dog poop

Markrom B.

Ramsey Elementary

- ✓ 1 True
- ✓ 2 True
- 3 ~~can be treated~~ going to water with pollution
- ✓ 4 True
- ✓ 5 True
- ✓ 6 True
- ✓ 7 False
- ✓ 8 True
- 9 False
- 10 Clean dog waste

Ramsey Elementary

- 1 T
- 2 T
- 3 go in to the lakes and water pollution T
- 4 T
- 5 T
- 6 T
- 7 F
- 8 T
- 9 F
- 10 Pick up poop

Camden + Matt
Ramsey Elementary

- 1 True ✓
- 2 True ✓
- 3 Can carry pollutants ✓
- 4 True ✓
- 5 True ✓
- 6 True ✓
- 7 False ✓
- 8 ~~False~~ True ✓
- 9 False ✓
- 10 Pick up dog poop ✓

Ramsey Elementary

Ava
Gretchen
Chloe

- 1 True
- 2 True
- 3 evaporate
- 4 True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 pick up litter

Triple J

Ramsey Elementary

- 1 True
- 2 True
- 3 ~~grass~~ Lawn
- 4 true
- 5 Triple
- 6 Triple
- 7 False
- 8 true
- 9 False
- 10 ~~to litter~~ pick up
doge poo

Ramsey Elementary

- 1 True ✓
- 2 True ✓
- 3 Pollute ✓
- 4 True ✓
- 5 True ✓
- 6 True ✓
- 7 False ✓
- 8 ~~False~~ True X
- 9 False
- 10 Pick up pet Poop

Ramsey Elementary

- 1 ~~tree~~ tree
- 2 True
- 3 Pollute
- 4 true
- 5 tree
- 6 true
- 7 False
- 8 true
- 9 False
- 10 pick up Dog Poop

Ramsey Elementary

- 1 True
- 2 True
- 3 go into bodies of water
- 4 True
- 5 True
- 6 True
- 7 False
- 8 False
- 9 False
- 10 pick up trash, dog poop, and be careful while using fertilizer.

Addie, Karingtin, Shianne
 Ramsey Elementary

- ★ True
- ★ True
- ★ Trash
- ★ True
- ★ True
- ★ True
- ★ False
- ★ True
- ★ False
- ★ Wash you car in your lawn ~~or~~ car-wash

Grady/Son, Taylor,
 Conner

Ramsey Elementary

- 1 true
- 2 true
- 3 ~~cannot~~ evaporate Poulbot
- 4 true
- 5 tree
- 6 true
- 7 ~~false~~ faults
- 8 true
- 9 faults
- 10 Pick up dog poop
 dont pee on the lawn
 and dont ~~poop~~ poop on the
 dive way.

Ryland
 Ramsey Elementary

- ✓ 1 True
- ✓ 2 True
- ✓ 3 go into lakes
- ✓ 4 True
- ✓ 5 True
- ✓ 6 True
- ✓ 7 False
- ✗ 8 False
- ✗ 9 True
- ✓ 10 not litter

vera e h
horan
acubD,

Ramsey Elementary

- X₁ ~~false~~
- 2 true
- 3 go into a drain or evaporator
- 4 ~~true~~
- 5 true
- 6 true
- 7 False
- X₈ ~~False~~
- 9 ~~False~~ false
- 10 not litter

Addie
Neighja

Ramsey Elementary

- 1 T
- 2 T
- 3 evaporate or rain
- 4 T
- 5 T
- 6 T
- 7 F
- 8 ~~T~~ T
- 9 F
- 10 pickup poop, pick up trash, and make sure the world is clean.

7

Ramsey Elementary

- 1 True
- 2 True
- 3 ~~fall from the sky~~ (correct)
- 4 ~~True~~ True
- 5 True
- 6 True
- 7 False
- 8 True
- 9 False
- 10 Clean up trash/recycling

10

Ramsey Elementary

- ✓ true
- ✓ true
- ✓ potato
- ✓ true
- ✓ true
- ✓ true
- ✓ false
- ✓ true
- ✓ false
- 10 ✓ pick up dog poop

Ramsey Elementary



- 1 True
- 2 True
- 3 collect trash and g
- 4 false
- 5 True
- 6 True
- 7 false
- 8 True
- 9 false
- 10 pick up trash

Ramsey Elementary

- 1 True
- 2 True
- 3 freeze
- 4 True
- 5 True
- 6 True
- 7 false
- 8 True
- 9 false
- 10 pick up pet poop

Madi maylynn



Ramsey Elementary

- 1 True
- 2 True
- 3 Sewers - a not say it wa
- 4 True
- 5 True
- 6 ~~True~~ True
- 7 False
- 8 False True
- 9 False
- 10 pick up dog poop

Ramsey Elementary

- ✓ 1 ~~True~~
- ✓ 2 T
- ✓ 3 evaporate
- ✓ 4 f
- ✓ 5 f
- ✓ 6 T
- ✓ 7 f
- ✓ 8 f
- ✓ 9 f
- 10 collect trash



Public Education & Outreach Handouts

STORM DRAIN DAN



Adventures in Water Pollution Prevention!



This book belongs to:

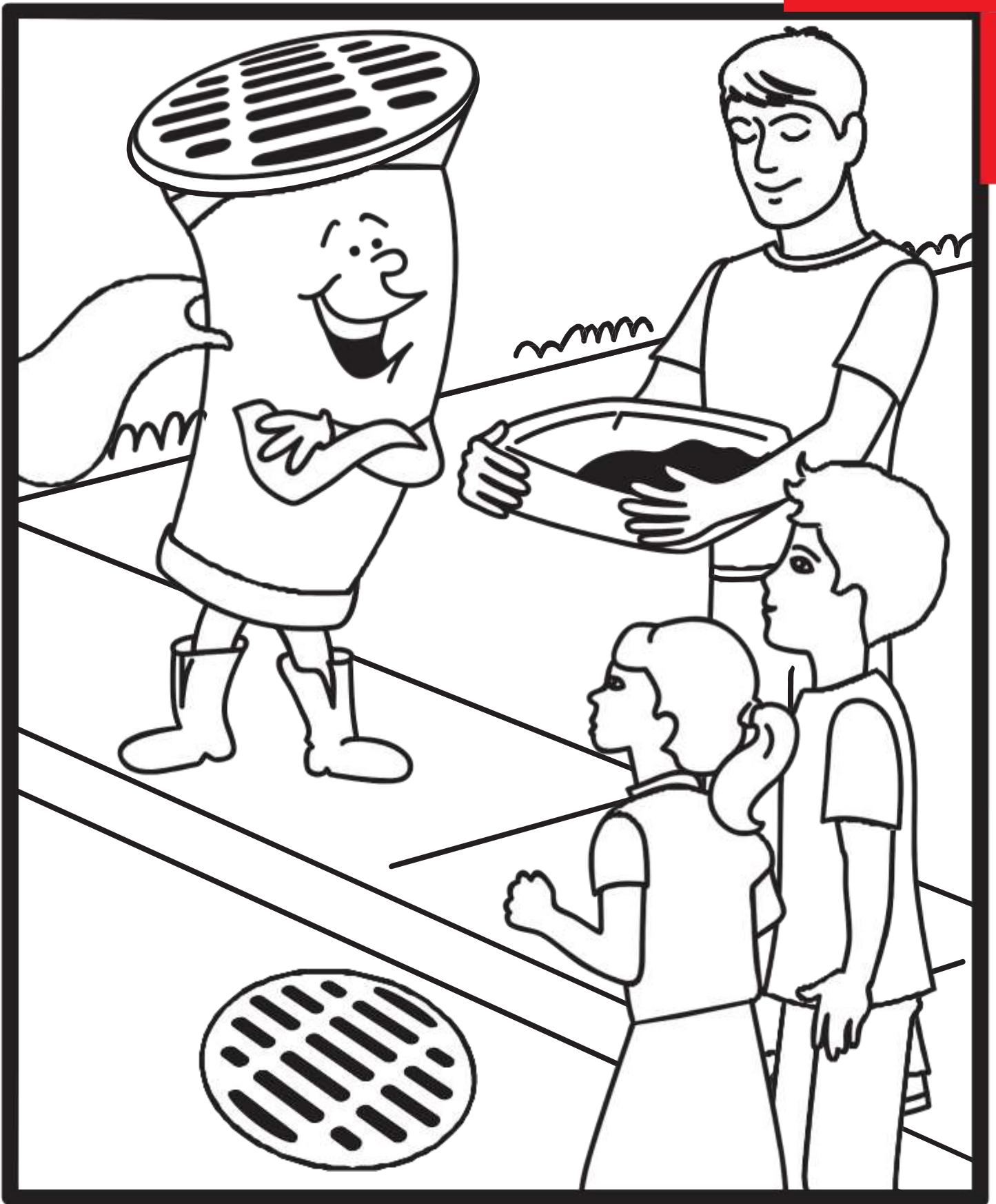


As Storm Drain Dan flies over a neighborhood, he spots a man changing the oil in his car.

“Boy, I sure hope he knows what to do with the used oil!” says Dan.

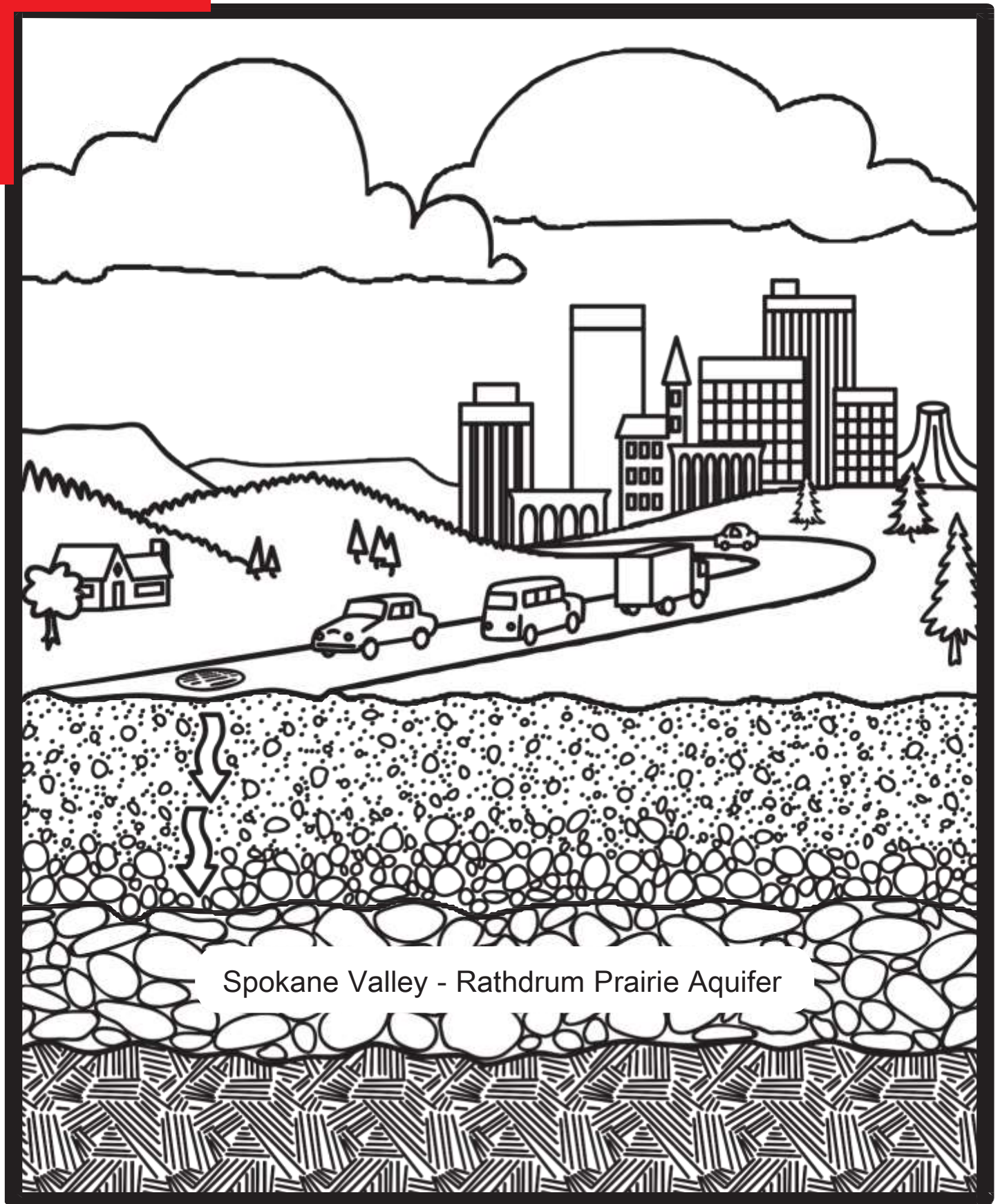


Cruising in for a landing, Storm Drain Dan says,
“Excuse me, Sir. Please don’t pour that used oil into the storm drain.”



“Hi, Jody and Johnny!” says Dan.

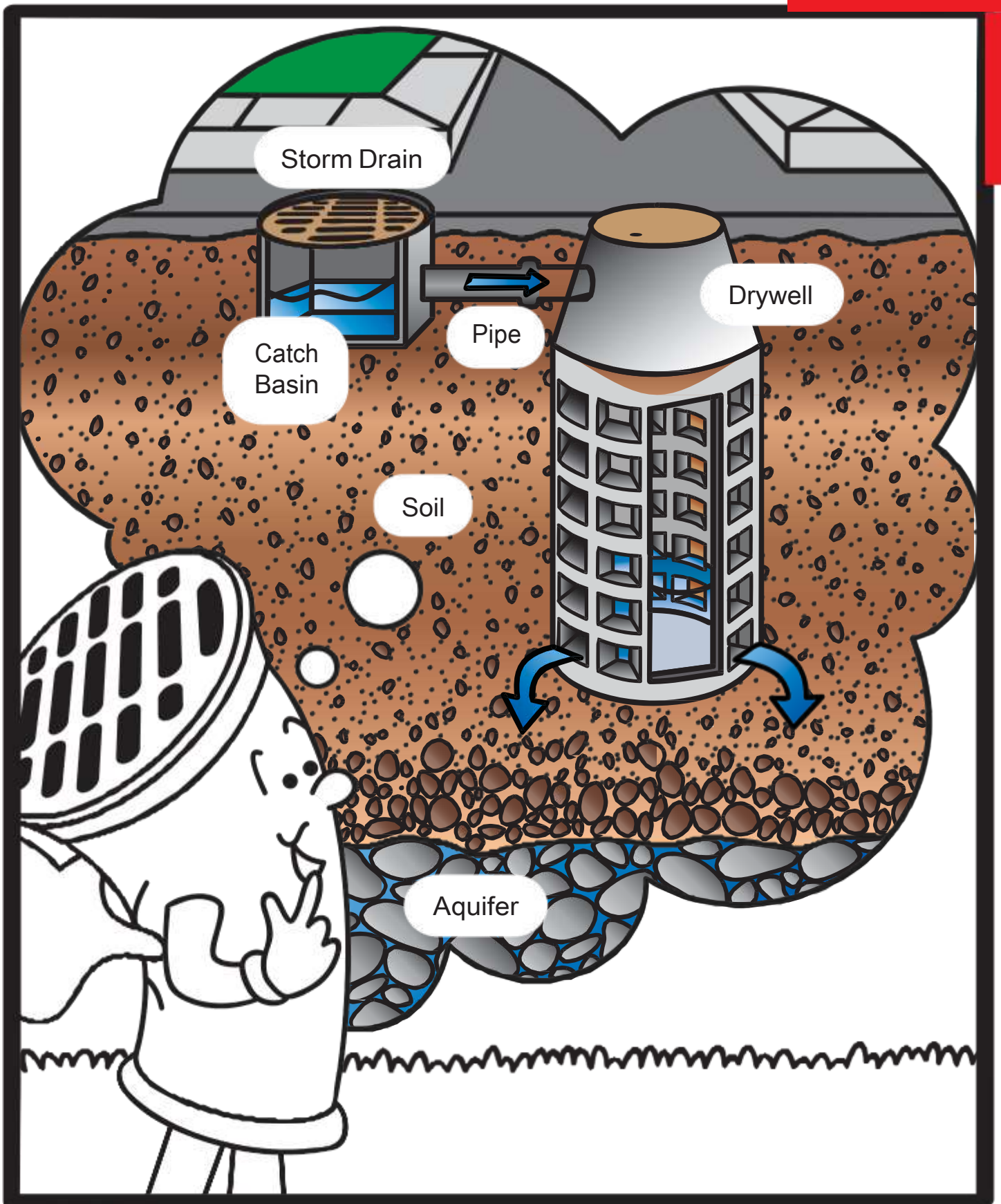
“I was just going to tell your Dad about recycling that motor oil. Do either of you know what happens when things like used oil are dumped into a storm drain?”



Spokane Valley - Rathdrum Prairie Aquifer

“Sure,” says Jody.

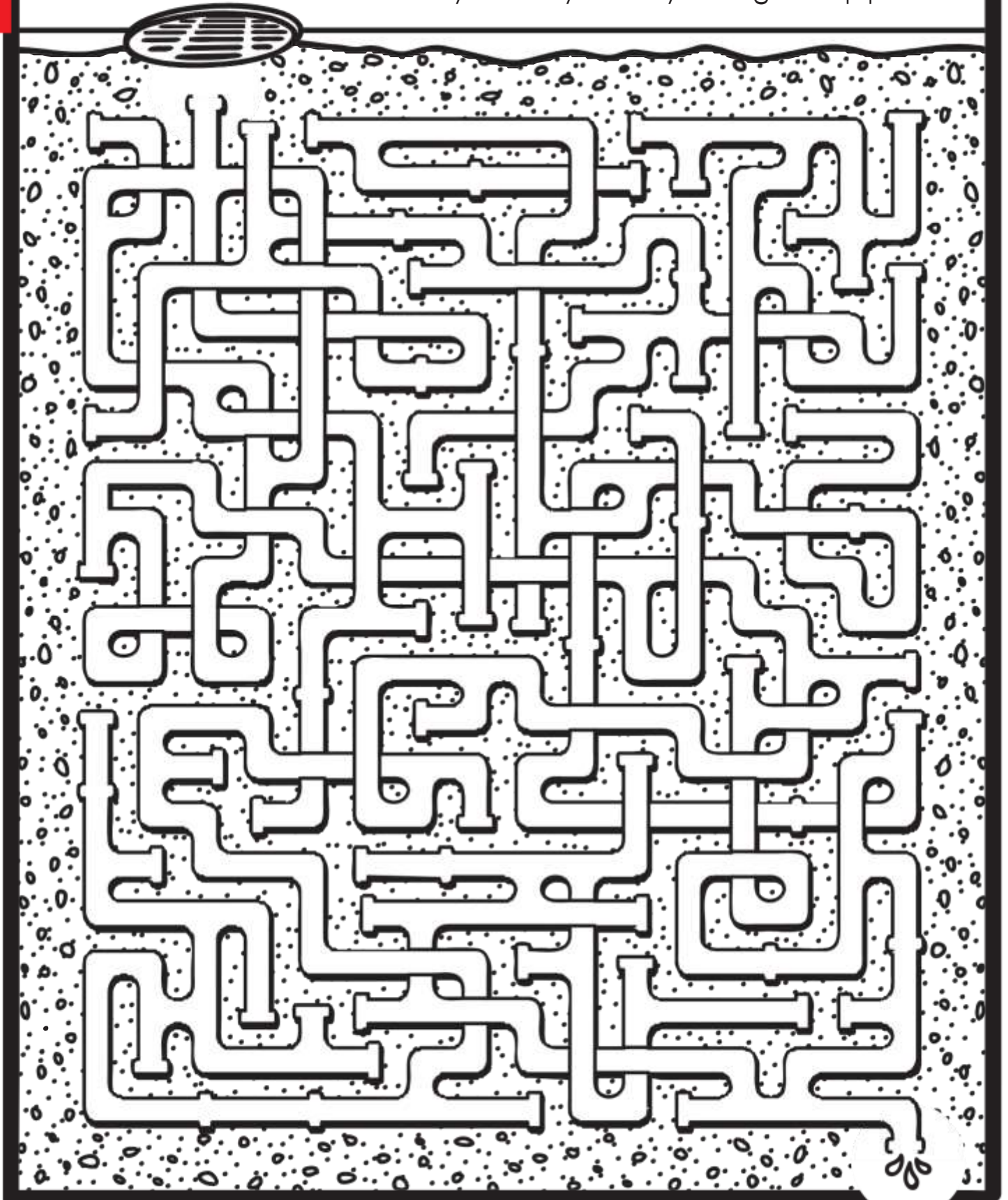
“Most storm drains infiltrate stormwater right into the ground to recharge the aquifer, and some drain right to our lakes and rivers.”



“Jody, you are absolutely right,” says Storm Drain Dan.

“This storm drain definitely isn’t connected to the sewer. Instead, the stormwater travels through pipes, drywells, and the soil before reaching the aquifer or a waterbody.”

Storm Drain Dan's
A-maze-ing Stormwater Maze
Can you find your way through the pipes?





“The pollution can infiltrate along with the stormwater to the aquifer and contaminate our drinking water,” Dan continues.

“Did you know it only takes 4 quarts of motor oil to pollute 1 MILLION gallons of water?”

Storm Drains are for Rainwater Only - Pure and Simple.

Hidden in the puzzle below are words having to do with water or common types of water pollution, including motor oil. Remember to look up, down, across, backwards, and diagonally!

H	S	A	R	T	S	I	B	I	M	S	E	U	P	J
T	S	T	O	R	M	W	A	T	E	R	L	A	E	V
M	U	N	O	I	T	U	L	L	O	P	P	V	T	T
E	Z	E	E	R	F	I	T	N	A	U	M	L	W	C
H	T	U	W	E	M	O	T	O	R	O	I	L	A	F
Y	H	N	F	U	O	D	N	E	P	L	S	E	S	F
R	E	Z	I	L	I	T	R	E	F	G	P	W	T	O
C	A	R	W	A	S	H	W	A	T	E	R	Y	E	N
S	E	C	Y	P	P	A	Q	U	I	F	E	R	C	U
	T	Q	N	V	A	G	R	U	N	F	D	Q	R	



WORD LIST

Storm Drain

Drywell

Aquifer

Stormwater

Runoff

Pollution

Motor Oil

Antifreeze

Car Wash Water

Trash

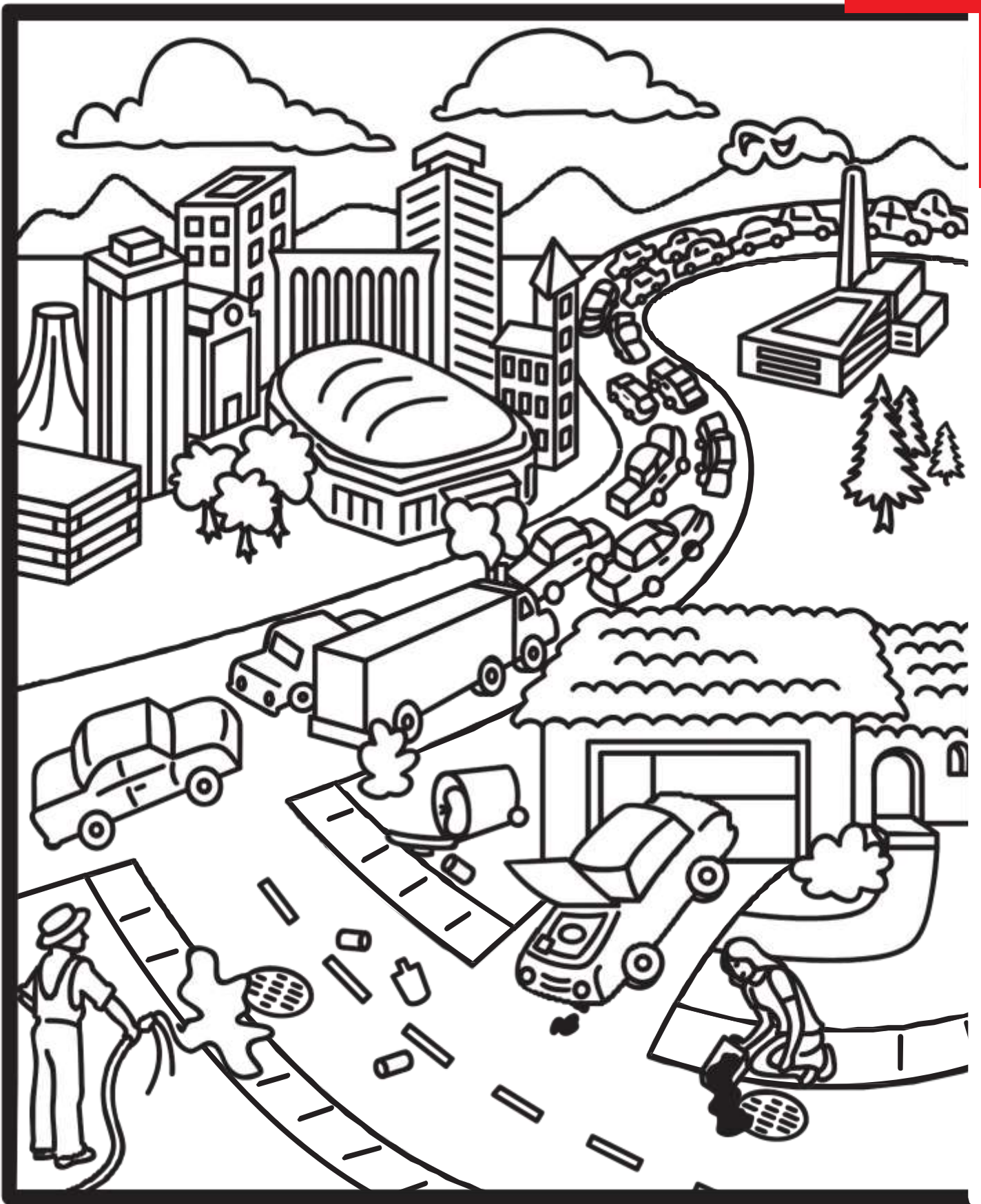
Pet Waste

Paint

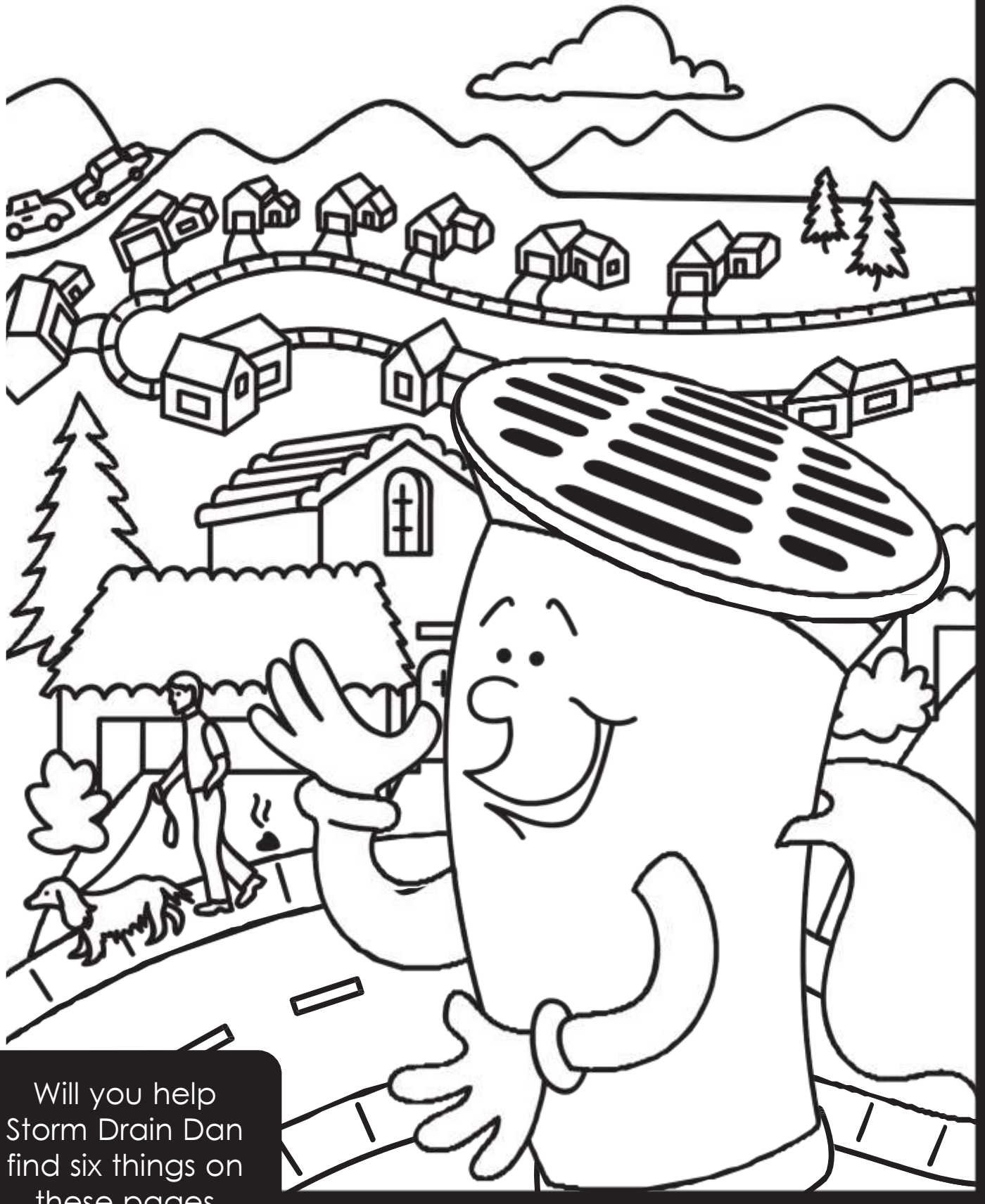
Fertilizer

Pure

Simple



“It’s very important that we remember to keep our city clean!” Johnny says.



Will you help Storm Drain Dan find six things on these pages that can pollute water or air?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____



“Now I know that recycling our used motor oil, antifreeze, and other chemicals will help keep them from polluting the environment and our aquifer,” says Dad.



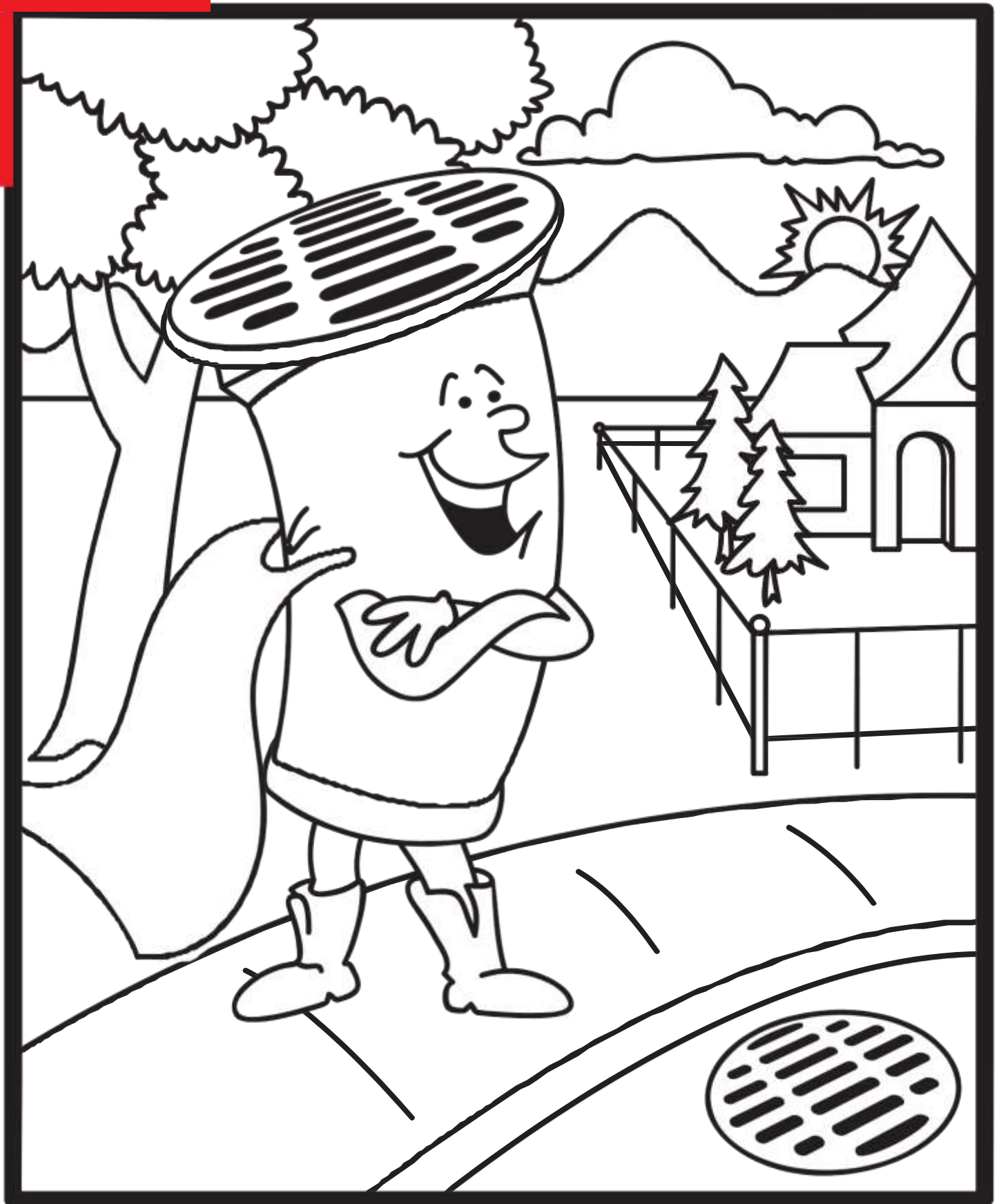
“Hey, kids, let’s take the used oil to the auto parts store to be recycled!”

“After that, I’ll treat you both to some ice cream. Storm Drain Dan is right, we can make a difference just by changing simple behaviors at our own home.”



"Thanks for the ice cream, Dad!" says Jody.

"Storm Drain Dan is the protector of our storm drain system, and he sure is great."

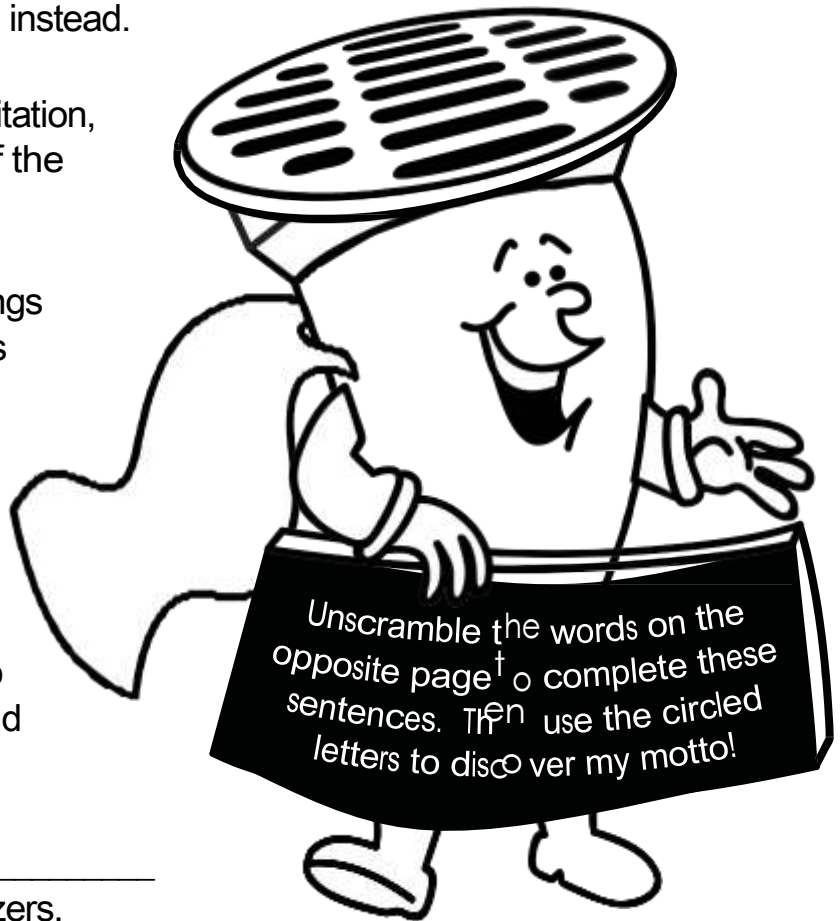


“Even one person can make a difference,” says Storm Drain Dan.
“Remember, every living thing needs clean water. So, let’s all work together
to keep the environment clean, especially stormwater, the aquifer and our
lakes and rivers !

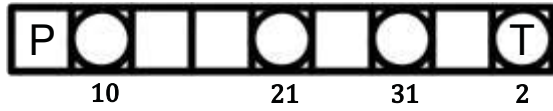
Storm Drain Dan's

WORD JUMBLE

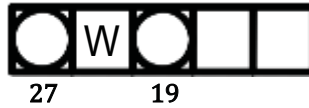
1. A substance that contaminates water is called a _____.
2. Instead of hosing down the driveway when it gets dirty, we should _____ instead.
3. Evaporation, condensation, precipitation, runoff, and infiltration are all parts of the water _____.
4. It's important to _____ things like motor oil, paint, and car batteries rather than throwing them away.
5. A natural fertilizer made up of decaying leaves, grass, and food scraps is called _____.
6. Stormwater that does not soak into the ground, but instead flows over land and roads is called _____.
7. Leaving grass clippings on the _____ reduces the need for chemical fertilizers.
8. An underground layer of rock, sand, or gravel that holds water.
9. Only rain should go down the storm _____.
10. Rainwater, snowmelt, or runoff from sprinklers that flows to a storm drain system.
11. "Even one person can make a _____."
12. Water that falls from the sky to the earth is called _____.
13. Drinking water is pumped up from our aquifer through one of these.



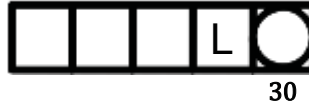
1. ANUTTLLLOP



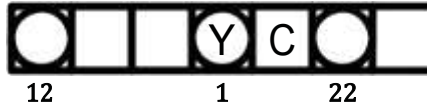
2. EPSEW



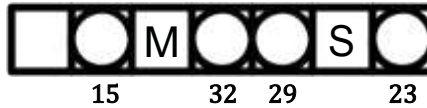
3. LCEYC



4. CCELERY



5. MTCOOSP



6. NFFUOR



7. WNLA



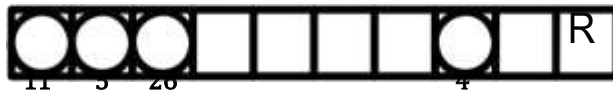
8. QFIUARE



9. INRAD



10. TOSRWTREMA



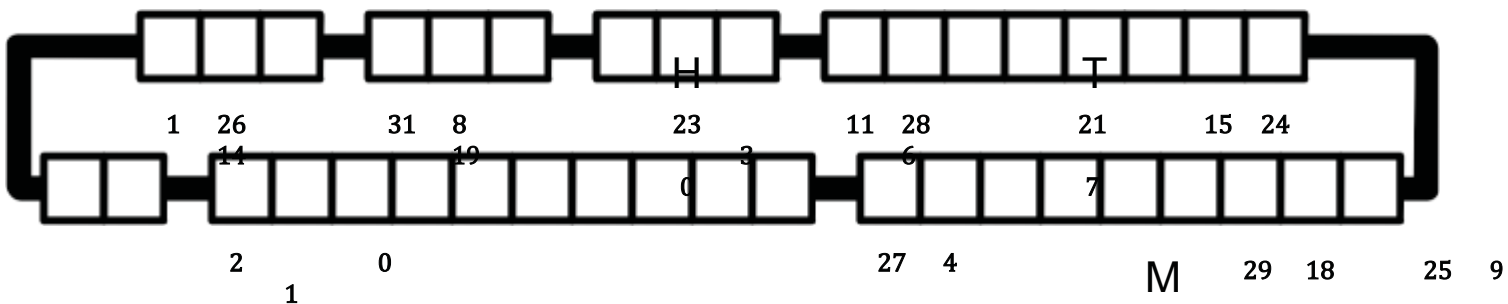
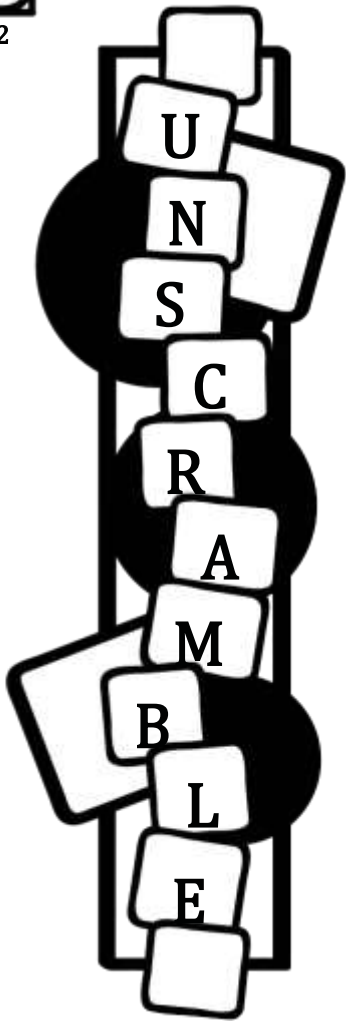
11. DEFEENRFIC



12. ARNI



13. LELW



O

5 20 12 32

~~27~~ ~~28~~

16 26 13



“Storm Drain Dan, I know how I can make a difference!” says Johnny.
“I’m going to stencil this storm drain to remind our neighbors that anything dumped in the street can end up polluting the aquifer.”

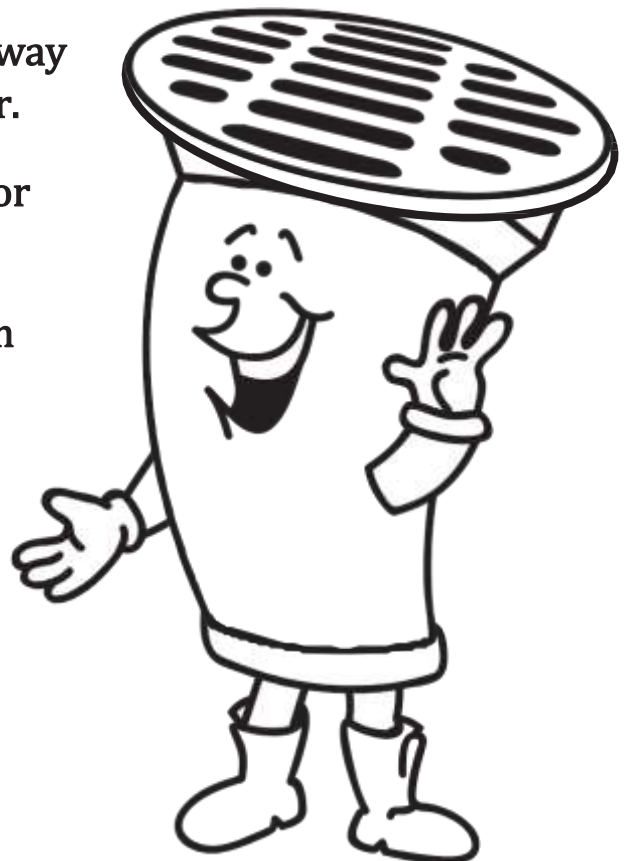
Think You Can't Make a Difference Like Johnny? You Can!

Just Take the Storm Drain Dan Clean Water Pledge.



Check at least one of the boxes that you will pledge to do in the next month that will help protect the environment and aquifer. When you've decided, sign and date the pledge at the bottom.

- I will not litter. I will put paper cups, cans, bottles, food wrappers, papers and all other trash into garbage cans or recycling bins.
- I will always carry a bag to clean up my dog's waste when I take him/her for walks at the park or around the neighborhood.
- When I help wash the family car at home, I will make sure the soapy water flows to my yard and not down the driveway into the street.
- I will pick up any grass clippings or leaves that fall into the street when I'm helping with yard work.
- I will use a broom to clean my driveway instead of hosing it down with water.
- I will use a refillable bottle or cup for my drinks whenever I can.
- I will turn off the faucet while I'm brushing my teeth.
- I will remember that only rain should go down storm drains.



My Signature

Date



Storm Drain Dan is a concrete storm drain pipe who magically came to life one day. He wants to help everyone in Spokane County understand how important it is to keep our storm drains, aquifer, and environment clean.

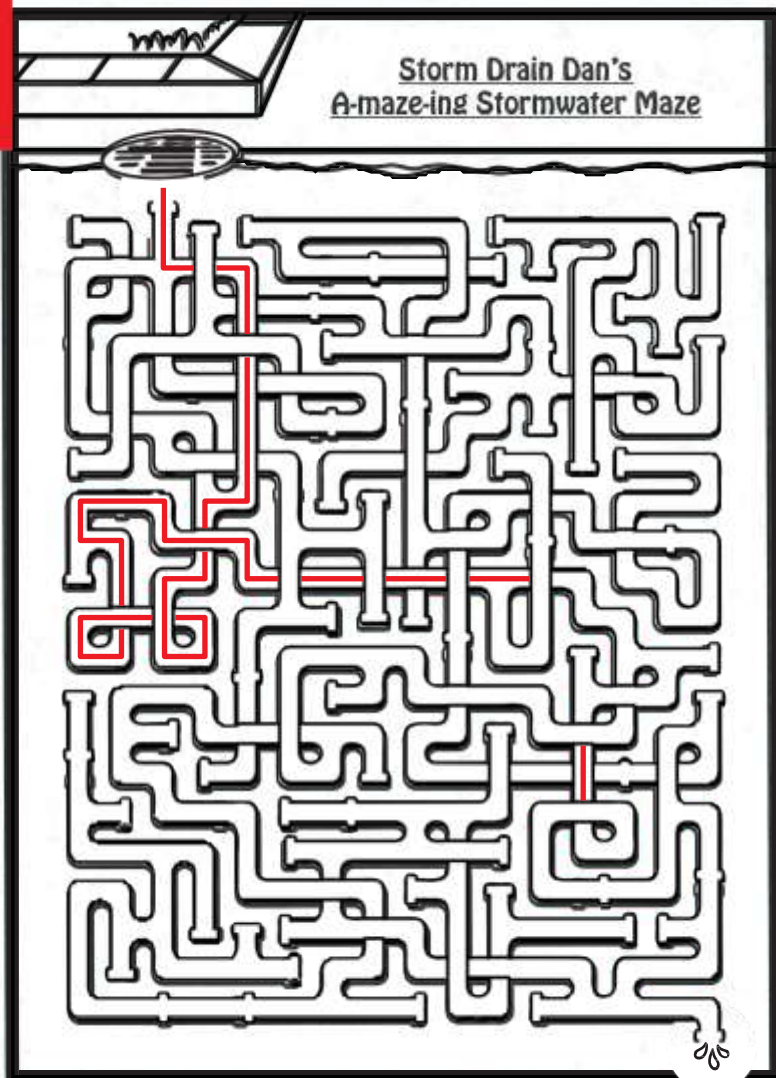
As Storm Drain Dan flies overhead, his telescopic vision (binoculars) allows him to keep an eye on the things you and I do every day. He looks for people who dump trash or oil into the street, don't clean up after their pets, don't use fertilizer or weed killers the proper way, and lots more!

Please help Storm Drain Dan plug up polluters by doing your part to keep trash and chemicals out of streets and storm drains.

Remember, Storm Drain Dan says...

“You are the solution to stormwater pollution!”

Answer Key:



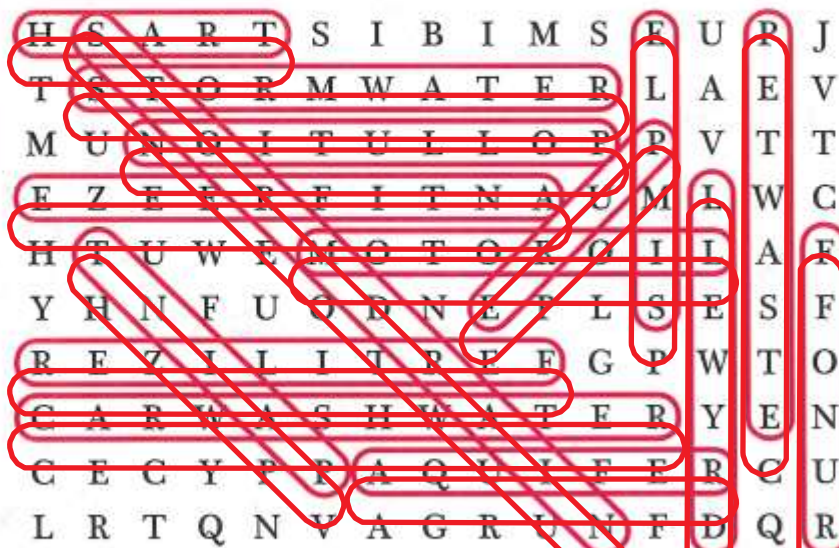
Word Jumble

1. A substance that contaminates water is called a **pollutant**.
2. Instead of hosing down the driveway when it gets dirty, we should **sweep** instead.
3. Evaporation, condensation, precipitation, runoff, and infiltration are all parts of the water **cycle**.
4. It's important to **recycle** things like motor oil, paint, and car batteries rather than throwing them away.
5. A natural fertilizer made up of decaying leaves, grass, and food scraps is called **compost**.
6. Stormwater that does not soak into the ground, but instead flows over land and roads is called **runoff**.
7. Leaving grass clippings on the **lawn** reduces the need for chemical fertilizers.
8. An underground layer of rock, sand, or gravel that holds water. **Aquifer**
9. Only rain should go down the storm **drain**.
10. Rainwater, snowmelt, or runoff from sprinklers that flows to a storm drain system. **Stormwater**
11. "Even one person can make a **difference**."
12. Water that falls to the earth is called **rain**.
13. Drinking water is pumped up from our aquifer through one of these. **Well**

Storm Drain Dan's Motto

YOU ARE THE SOLUTION
TO STORMWATER POLLUTION!

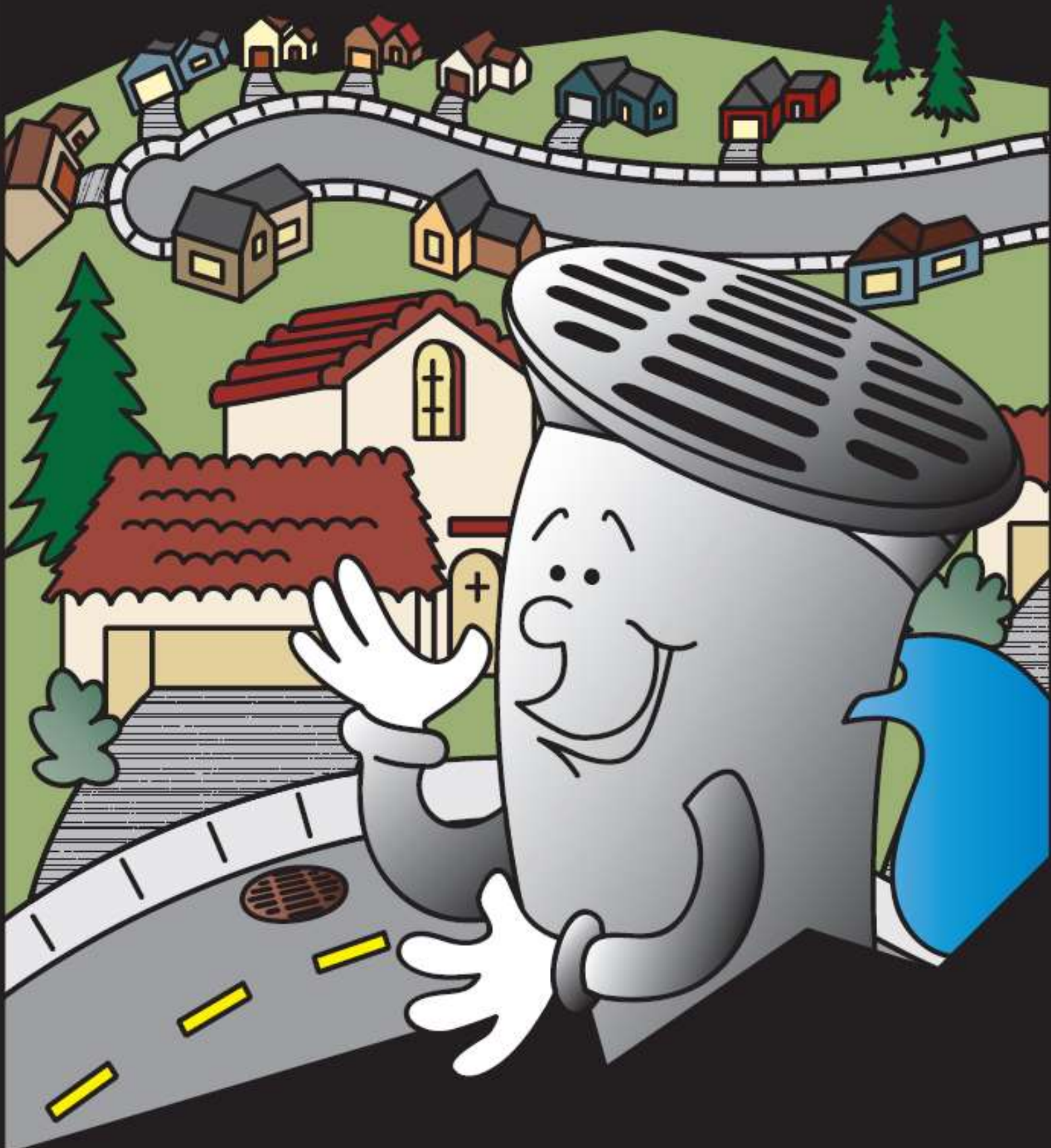
Storm Drain Dan's Word Search



Find the Pollution

1. Man washing the sidewalk instead of sweeping it;
2. Lady dumping container of liquid into the storm drain;
3. Car leaking oil or antifreeze into the street;
4. Garbage in the street;
5. Garbage can tipped over with garbage spilling out (garbage should be tied up in a bag!);
6. Factory smokestack polluting the air;
7. Too much traffic/car exhaust; and
8. Man not carrying a pooper-scooper to pick up after his dog.

Visit our website for more information! www.cdavid.org
To report someone dumping trash or chemicals into a storm drain,
street, or swale, contact the City of Coeur d'Alene at:
769-2300 or City Hotline 676-7405.



Discover Storm Water

ILLUSTRATIONS BY PETER GROSSHAUSER

WHAT IS STORM WATER?

STORM WATER: WHERE DOES IT COME FROM? WHERE DOES IT GO?

STORM WATER MANAGEMENT

WHAT IS IN STORM WATER?

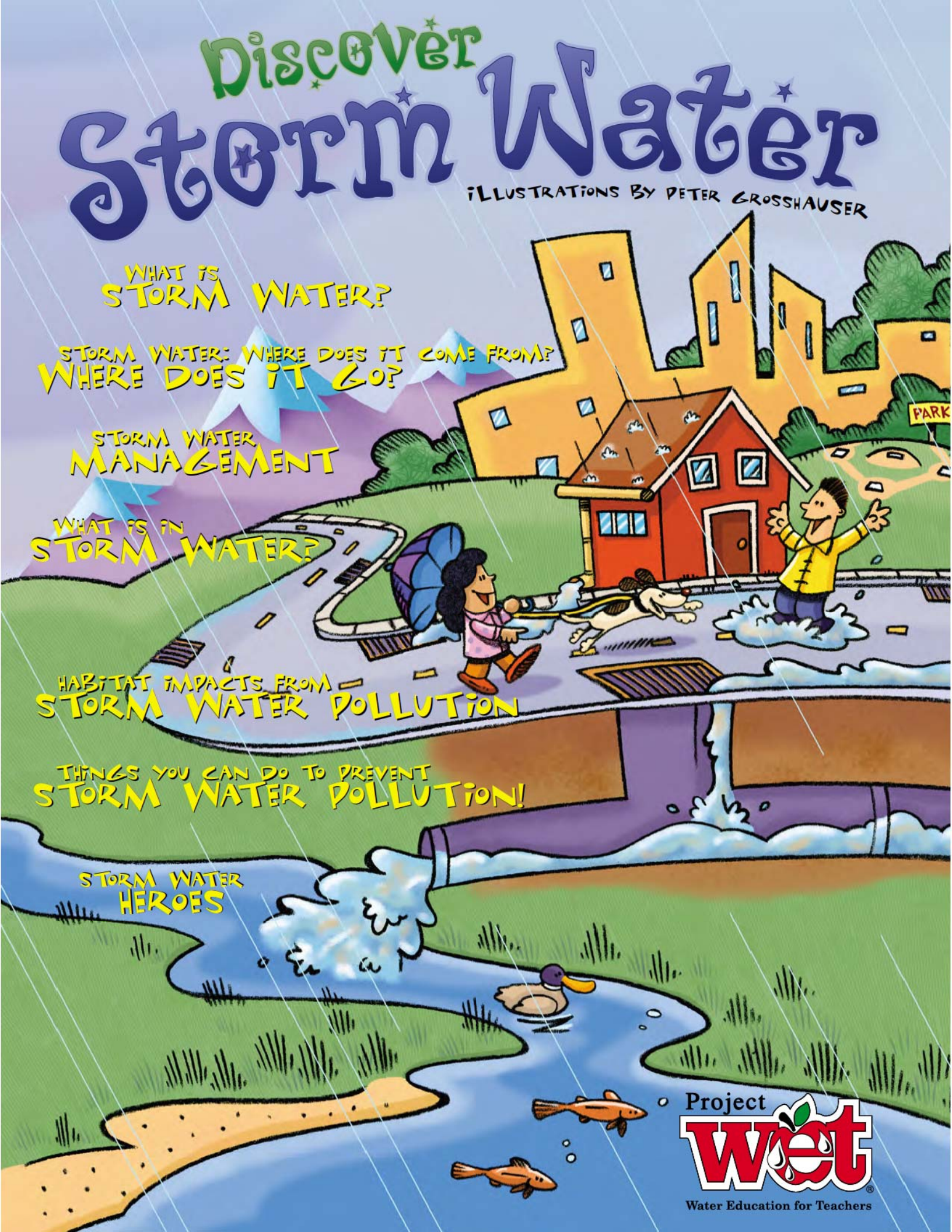
HABITAT IMPACTS FROM STORM WATER POLLUTION

THINGS YOU CAN DO TO PREVENT STORM WATER POLLUTION!

STORM WATER HEROES

Project **wet**

Water Education for Teachers



WHAT IS STORM WATER?

Storm water is water that falls from the sky as rain or snow. Wherever you live, whether it's a very wet or very arid climate, storm water occurs. When water falls to earth as rain or snow, most of it seeps into the ground. If the ground is **saturated**, frozen, or covered with **impermeable surfaces** like a concrete sidewalk or a paved parking lot, the water flows over the land, creating what's known as storm water **runoff**.

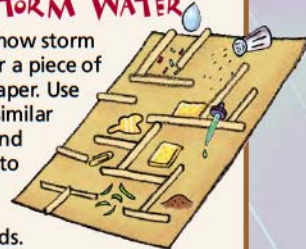
Maybe you've heard people say that rain washes the streets clean, but have you ever thought about where that water ends up?

Storm water runoff can add needed water to streams, lakes, and wetlands, but it can also cause flooding, erosion, and pollution problems. Storm water by itself is necessary and good, but when it passes through urban areas like cities or towns it can pick up pollution, and this can become a big problem.

Storm water **discharges** are generated by runoff from land and impermeable areas such as paved streets, parking lots, and building rooftops during rain and snowfall. These surfaces often contain **pollutants** that are picked up by the flow of storm water and can adversely affect the water quality.

A-MAZE-ING STORM WATER

Try this activity to see how storm water can travel. Cover a piece of cardboard with wax paper. Use clay to create a maze similar to city streets, parks, and streams. Add sponges to represent permeable areas, such as wetlands or soccer fields. Place a large drop of water at the start of your maze and tilt the cardboard until the water travels to the end. As it moves, you can have it travel through spots containing ingredients that represent pollution. How does the appearance of the water change? Would you want to swim in this water? How much water stayed in the sponges?



POLLUTION

- | | | |
|----------------------------|---|---------------------|
| powdered cocoa | = | sediment or soil |
| green food coloring | = | fertilizers |
| candy sprinkles | = | pet waste |
| paper clips | = | litter |
| grass clippings | = | grass |
| vegetable oil or soy sauce | = | oil & gas from cars |
| salt | = | road salt |

TRY THIS

Here is a math problem to show how storm water runs off different surfaces. Imagine a 3-hour rainstorm. Each hour, 1/2 inch of rain falls to the earth. On a soccer field, 60% of the rain soaks into the ground. On a parking lot, only 1% of the water soaks into the concrete. At the end of three hours, how much rain (in inches) has run off from both surfaces? Check the back for the answer.

Look for these corner boxes throughout this booklet. On one side you'll find fascinating facts about storm water, and on the other side you'll find questions to help you learn more about your nearest storm drain.



In AD 47, the Romans brought their skill of water collection to England and helped build drains all over the country.

Storm Water Dictionary:
discharges: releases of water into lakes, rivers, oceans, or soil
impermeable surfaces: surfaces that don't absorb water or let it pass through
permeable: allows water to soak in
pollutant: a material that harms the given use of the water
runoff: water that flows over the land after a rainstorm
saturated: to fill or soak something completely

How far apart are the grates on your neighborhood storm drain? Observe carefully and write the answer in here.
 _____ (Note: Some storm drains have large openings. Always use care, and NEVER reach any body parts into a storm drain. Stay on the sidewalk, wear bright colors, and go with a buddy.)



STORM WATER

WHERE DOES IT COME FROM? WHERE DOES IT GO?

Just as gravity pulls water from the sky toward Earth, it moves storm water continually downhill from high points to low points. When it rains, or snow melts, the water naturally soaks down into the ground. But if the ground is covered with an impermeable surface such as pavement or a rooftop, the water can't soak in and will continue flowing downhill. Usually storm water runoff from impermeable surfaces flows into a storm drain

or a ditch leading into a wetland, lake, river, or ocean. Sometimes it is channeled into a man-made storm water pond so the pollutants can be removed from the water and water can seep back into the ground. In a few towns, storm drains may go to sewer treatment plants, but sometimes a big storm can result in overflows to rivers or lakes.

Storm water can move in one of three ways. In areas with open ground, such as parks, gardens, fields, lawns, and forests, storm water can soak in, and help recharge the ground water.

On paved or hardened surfaces, storm water must run off. A small amount of storm water can also evaporate back into the air. The third way storm water can move is to flow into storm drains, rivers, wetlands, and estuaries.

See if you can match the places that water soaks in, runs off, or flows into on the picture. Find the raindrops labeled A, B, C, and D. Draw a path to show the journey each raindrop takes from where it lands to where it ends up, using a different colored pencil for each raindrop. Which drop travels the farthest across an impermeable surface? Which drop do you think could pick up the most pollutants? Which drop travels the least and probably has fewer pollutants?

Look at the water drops and determine if they will soak in, run off, or flow into. Write your answers below.

A _____

B _____

C _____

D _____



Storm Water Dictionary:
 ground water: underground water that helps supply wells, springs, and wetlands
 recharge: refill with water



Find the closest storm drain to your house or school and draw it here.



The watershed surrounding the Washington, D.C. area (the Four Mile Run Watershed), a 20-square-mile watershed, is littered with 5,000 pounds of pet waste every day!

STORM WATER MANAGEMENT



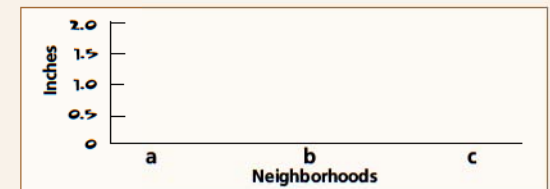
ACTIVITY

Now it's your turn to be the manager. Imagine the same rainstorm from page 2, with 1/2 inch of rain falling each hour for three hours, but this time it's falling on three different neighborhoods, each with a different management plan in place. Fill in the graph to see why storm water management is important. Graph the amount of storm water (in inches) remaining in each neighborhood two hours after the storm event. Which neighborhood would you prefer to live in?

Neighborhood A: Has no storm water management in place, and all of the rain forms a giant puddle, flooding the mall parking lot. Two hours after the storm, 85% of the storm water remains.

Neighborhood B: Has three storm drains, but none are located at the lowest part of the neighborhood. The storm drains catch a lot of the water, but two hours after the storm, 35% of the storm water remains.

Neighborhood C: Has an extensive series of storm drains in place, and all storm drains are placed in well-designed spots, like the bottom of hills. It also has more surface area left unpaved so rainwater can soak into the ground. Two hours after the storm, only 5% of the storm water remains on the streets.



storm water management goes hand in hand with the development of towns and cities.

to streams in 1870. More and more cities developed similar systems as cities grew and streets were paved.

such as permeable asphalt and wetland storm water ponds. See pages 12 and 13 for things you can do.

Pull on your rain boots and try to imagine what your town would be like without storm drains. Storm water managers have the tough job of keeping our cities from flooding and keeping storm water clean. The term **storm water management** means controlling storm water and where it goes. In our history,

Early settlements had no system of storm water management. Dirt streets turned into mud streets after rainstorms because water couldn't drain and pooled in low places. This led to towns developing wooden walkways on main streets, so people could avoid the muddy mess caused by storm water. The city of Minneapolis was a pioneer in storm water management when it installed storm drains and built an underground network of pipes to channel storm water

While early efforts were aimed at primarily removing storm water from towns and urban areas, today storm water management also means keeping the storm water free of pollutants. As our human environment changes, so do our approaches to storm water management. Today storm water managers have many tools and options available to keep cities from flooding and to help keep storm water clean. New technology and methods continue to be developed

Part of a storm water manager's job is looking ahead to the future. Can you think of some ways your town's storm water management needs could change in the future? What happens when towns grow and new neighborhoods are built? Remember, the amount of storm water is part of nature's cycle throughout history, but the amount of runoff changes when we change the way we use the land.

Storm Water Dictionary:
storm water management: controlling what's in storm water and where it goes



A typical city block generates nine times more runoff than a forested area of the same size.



What could happen if there weren't ANY grates on a storm drain? _____

WHAT IS IN STORM WATER?

You've learned about the three ways storm water can move (soak in, run off, flow into). Let's learn more about its journey. It's possible for storm water to pick up many different pollutants as it flows over the land. This produces a **cumulative** effect and can greatly decrease water quality. The pollutants in storm water can make it unsafe for humans, plants, and animals. The pollution in storm water is considered **nonpoint source** pollution.

So where does all this storm water pollution come from? Lots of places. Travel through the maze to see some examples. You'll see why storm water management is important and it's up to all of us to do our part to keep it clean. On page 13 you'll learn ways to prevent pollution, called **Best Management Practices**, or **BMPs**. Fill one in under each type of pollutant.



Now try to unscramble the names of the pollutants you traveled through in the maze to learn how they enter storm water and why they are harmful.

1. **lois/isit** _____

Can enter storm water from construction sites or cleared land. Can block sunlight in streams and fill in waterways. BMP? _____

2. **ador slta** _____

Used in icy conditions; it stays on the road until a storm washes it down a storm drain. Can change the **salinity**, making it hard for many plants and animals to live. BMP? _____

3. **eirttl** _____

Enters storm water through careless actions by humans. It's an eyesore and it can harm animals, dog pipes, and degrade water quality. BMP? _____

4. **tep ewsat** _____

Enters storm water when owners don't clean up after their animals. It can cause algae growth, which hurts lakes and can make people sick. BMP? _____

5. **ferretzil** _____

Many people use too much of this on their lawns, and it can run off after a storm. It can cause breathing difficulties in people, and algae growth in water, which can lower the amount of oxygen in the water. BMP? _____

6. **lio/sga** _____

Drips from cars and stays on roadways until a storm washes it down a storm drain. It can make people and animals sick. BMP? _____

7. **spesdtici** _____

Used on agricultural crops, but also used in residential areas to control pests. It gets washed off of crops or lawns and can enter storm water. It can make people and animals sick. BMP? _____

Storm Water Dictionary:

algae: simple plants without roots that grow in water and can worsen the water quality
cumulative: increasing with each addition
nonpoint source pollution: pollution that comes from many different sources, making it difficult to pinpoint one specific source
salinity: saltiness of water



One gallon of used oil can ruin 1,000,000 gallons of fresh water, enough to supply 50 people with water for a year.



What could happen if the holes in a storm drain were tiny?

HABITAT IMPACTS FROM STORM WATER POLLUTION

Choose from the following words to fill in the blanks (some of the words may be used more than once):

- flow into
- habitat
- sediment
- water
- streams
- birds
- fish
- homes
- migrating
- animals
- human
- nonpoint
- impermeable
- pollution
- filtering
- runs off
- storm water
- wetlands
- bays
- urban
- recharge
- mixing
- environments

So far you've learned what storm water is, how it flows and where it goes, and why _____ can be such a problem with storm water. Storm water also has a big impact on habitats, including human, plant, and animal habitats. Habitats are the places where plants or _____ naturally make their _____. Our human habitat may include a house, school, and all the places in between, but for a duck, _____ may include a few acres of wetland.

All living things need _____, and storm water is one way habitats acquire water. Storm water can help _____ wetlands and keep _____ flowing at a healthy level. However, as you already know, pollution can be a major problem in _____, especially storm water that _____ surfaces. If storm water carries pollution with it, it can have many harmful effects on plant and animal habitats. Storm water can also harm habitats if it

carries too much water with it. This can upset the delicate balance of nature.

Wetlands are important _____ for many reasons. They provide food and protection for _____ birds, homes for many wildlife and fish species, and protection from floods. Wetlands are also able to increase water quality by _____ out many pollutants. However, _____ have limits on how much _____ they can absorb. If human

impacts such as storm water carry too much pollution into a wetland, the entire habitat can change. This can eventually kill fish and plants, **degrade** the water quality, and destroy wildlife habitat.

Streams and rivers can also be affected by storm water. Storm water can benefit streams by keeping streamflow levels healthy. Storm water can also harm streams if too many pollutants and sediments _____ the river. If

this happens, the water can become **turbid**. This can prevent _____ and other organisms from receiving the sunlight they require.

_____ can cover fish spawning beds, clog fish gills, and slowly fill in our waterways.

Bays and estuaries can also be affected by _____. Bays and estuaries are known as _____ zones, because they are located where fresh-water rivers meet salty oceans. There are many plants and animals that are **adapted** to this unique environment. If there is too much freshwater in bays or estuaries, the salinity can change, and the types of animals can be altered. If _____ from storm water can cover seagrass beds and disrupt important aquatic nursery areas.

And finally, our urban habitats can be affected by storm water. Most people don't think of urban areas as wildlife habitats, but many animals, especially _____, are adapted to living in populated environments. Cities are also important for people, and we can be affected by storm water pollution, just like wetlands, streams, and _____ and estuaries. Can you think of a way our _____ habitat can be damaged by storm water pollution?

Storm Water Dictionary:
 adapted: adjusted to a particular environment
 degrade: worsen
 habitats: the places where plants or animals naturally make their home
 turbid: cloudy because of sediment like soil



Cities as diverse as Portland, Oregon; Ottawa, Ontario; Chicago, Illinois; and Tokyo, Japan are reducing storm water runoff by an average of 54% by creating "green roofs"—roofs planted with grass and flowers.



Where is the creek, river, or stream closest to the storm drain you're observing? Write in the approximate distance. _____

STORM WATER HEROES

Storm water is an issue no matter where you live, if it's in a big city, small town, near a wetland, or in the desert. All areas must manage storm water. Kids all over the country are learning how they can help prevent storm water pollution. Check out some storm water heroes from around the country!



HERO STORY #2

We're heroes in Indiana. High school students in Allen County, Indiana, worked with the Allen County Partnership for Water Quality to design a student activity booklet. At the Three Rivers Festival, 1,000 elementary school students received a copy.

HERO STORY #1

We're heroes in Tennessee.

Students in Nashville, Tennessee, are protecting their watershed by labeling the city's thousands of storm drains. More than 50 students are working with the Cumberland River Compact and Metrowater services to protect the Cumberland River through this ongoing project. The labels help remind people to prevent pollution because storm drains flow directly to streams.



HERO STORY #3

We're heroes in South Dakota. Sixth-grade students in Sturgis, South Dakota, have labeled over 300 storm drains to help keep streams, rivers, lakes and wetlands clean and healthy.

HERO STORY #4

We're heroes in Georgia. A Girl Scout troop in Woodstock, Georgia, has adopted Rose Creek and regularly monitors its health. By monitoring, or checking, the stream regularly, the Scouts can make sure the stream stays healthy, and take action if they notice the health of the stream changing.



We can all be heroes. If you know storm water heroes, we'd like to hear about them!

ACTIVITY

Take this quiz to see what you've learned about storm water!

1. Storm water is water that falls from the sky as rain or snow. True/False
2. Storm water runoff can contain pollutants. True/False
3. Storm water can soak in, run off, and _____.
4. Pets can contribute to storm water pollution. True/False
5. BMP stands for _____.
6. Storm water pollution can harm fish, birds, and wetlands. True/False
7. One way kids can help keep storm water clean is to _____.



Stream monitoring can help regulate the health of local streams. Today, 1,000 streams and rivers and 2,800 ponds, lakes, and wetlands are monitored by local groups.



Next time it rains, watch the water on the sidewalks, streets, and parking lots. Do puddles form or does all the water flow into storm drains? How many storm drains are in your neighborhood?

ANSWER KEY

What Is Storm Water? p. 2-3

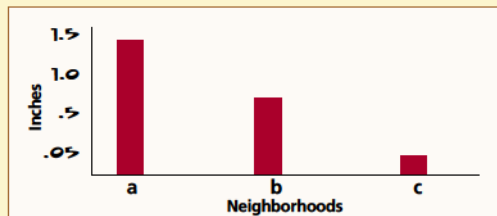
After the rainstorm, 0.6 inches have run off from the soccer field, and 1.485 inches have run off from the concrete.

Storm Water, Where Does It Come from?

Where Does It Go? p. 4-5

- flows into
- runs off
- soaks in
- runs off and flows into

Storm Water Management, p. 6-7



What Is In Storm Water? p. 8-9



Answers to word scramble:

soil/silt, road salt, litter, pet waste, fertilizer, oil/gas, pesticides

Habitat Impacts from Storm Water Pollution, p. 10-11

Correct answers, in order: pollution, animals, homes, habitat, water, recharge, streams, storm water, runs off, habitats, migrating, filtering, wetlands, pollution, flow into, fish, sediment, storm water, mixing, sediment, birds, bays, human

Things You Can Do to Prevent Storm Water Pollution, p. 12-13



Storm Water Heroes, p. 14-15

Quiz answers:

- true
- true
- flow into
- true
- best management practice
- true
- any answer from the list on page 13

DISCOVER STORM WATER BROUGHT TO YOU BY:



Project WET Foundation

Vision: Every child understands and values water through action-oriented education, ensuring a sustainable future.
www.projectwet.org

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Maryland Department of Natural Resources
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www.dnr.state.md.us/



St. Johns River Water Management District
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Healthy Water, Healthy People

illustrations by Peter Grosshauser

HEALTHY WATER FOR
HEALTHY PEOPLE

WATER QUALITY
MONITORING

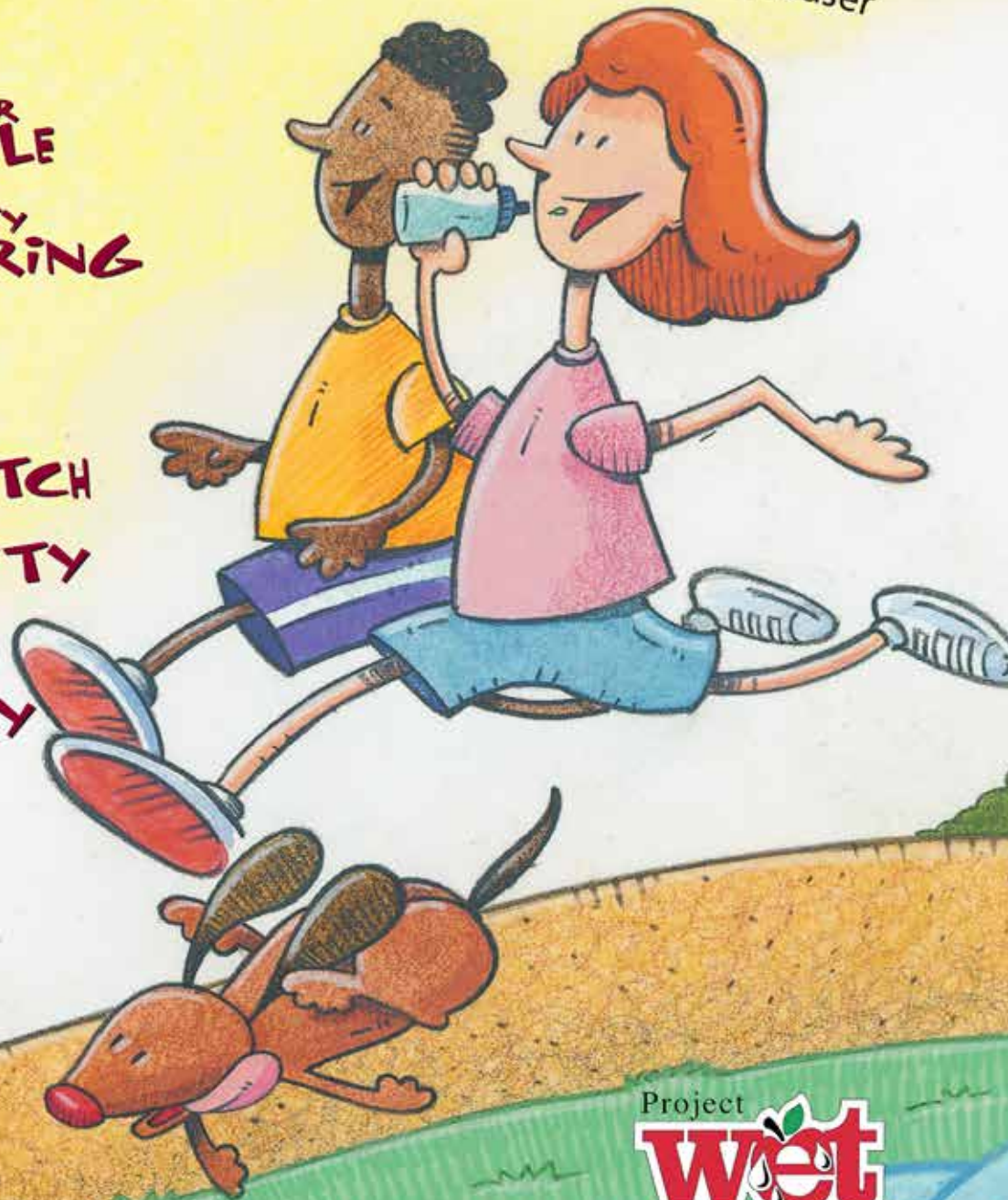
WHAT IS YOUR
POINT?

HEALTHY WATER
HOPSCOTCH

WATER QUALITY
BELIEVE IT OR NOT

WINDOWS INTO
WATER QUALITY

RESTORING
WATERS



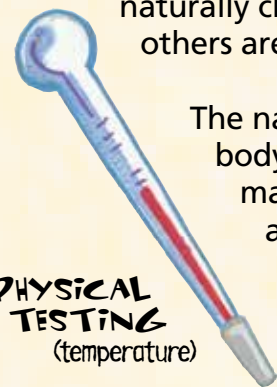
Project
wet
Water Education for Teachers

Healthy Water for Healthy People

Healthy water is water that supports and sustains life. It is water of sufficiently high quality to meet users' needs.

All water has a quality – good, poor, or somewhere in between. The quality of water is affected by a variety of factors, both natural and human-related.

Natural factors that can influence water quality involve soil type, dissolved minerals, rock formations, and vegetation. Human related activities include runoff from cities, houses, factories, and farms. Some sources of water are naturally clean; others are not.



The name of a body of water may give us a clue to

PHYSICAL TESTING
(temperature)

Follow the story boxes in the lower corners of each page to find out how we make water safe to drink!



I wonder if this water is safe to drink?

its quality. Bad River, Muddy Creek, and the Dead Sea make us think of poor water quality. What does the name Crystal Springs or Clearwater River bring to mind?

There is a direct relationship between healthy water and healthy people. People need large supplies of healthy water to live. We also need it to grow food, establish cities, and manufacture goods like cars and clothes.

Many years ago, people used water and returned it to streams, rivers, or oceans without cleaning (waste-water treatment). This resulted in polluted waters. Today, we have learned the importance of protecting water quality, and we take extraordinary steps to clean water before and after it is used.

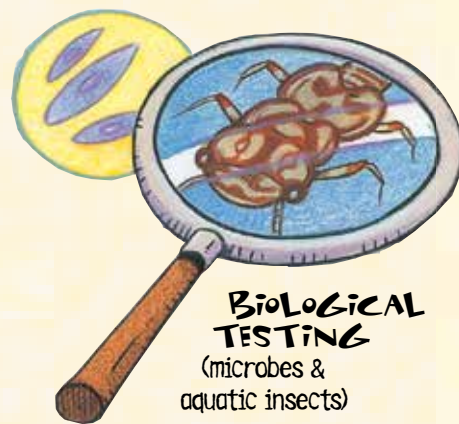


CHEMICAL TESTING
(dissolved oxygen)

One of the major breakthroughs in protecting water was learning to accurately test it. Scientists have created amazing equipment that can tell us the physical, chemical, and biological quality of water.

Physical **parameters** (pa-RAM-a-ters) include temperature, clearness or cloudiness (called **turbidity**-tur-BID-a-tee), and water flow. Among several chemical parameters are pH, chlorine, and dissolved oxygen. Examples of biological parameters are aquatic insects, bacteria and viruses.

For drinking water, governments set acceptable levels for all physical, chemical, and biological parameters. These are called Drinking Water Standards.



BIOLOGICAL TESTING
(microbes & aquatic insects)

To stay on top of your game, doctors say that you should drink at least eight glasses of water every day. If you are exercising hard or if you are sick, you may need to drink

even more water. Sometimes when we feel tired, it can be caused by not drinking enough water to stay properly hydrated.

HEALTHY WATER, HEALTHY PEOPLE FACTS did you know...



Water is a part of a healthy diet. It helps digest food for energy.

Water in special fluids in joints helps bones slide more smoothly.

Your brain is 75% water. Water keeps the brain active and alert.

In the kidneys and large intestine, water helps remove waste materials.

Water helps maintain muscle tone and keeps the skin supple.

When we exhale, we lose carbon dioxide and water; both by-products of respiration.

Water helps control body temperature and moves waste out of the skin.

Water in body fluids, such as blood, carries essential nutrients throughout the body.



"Let's investigate this river to answer our questions."

Water Quality Monitoring

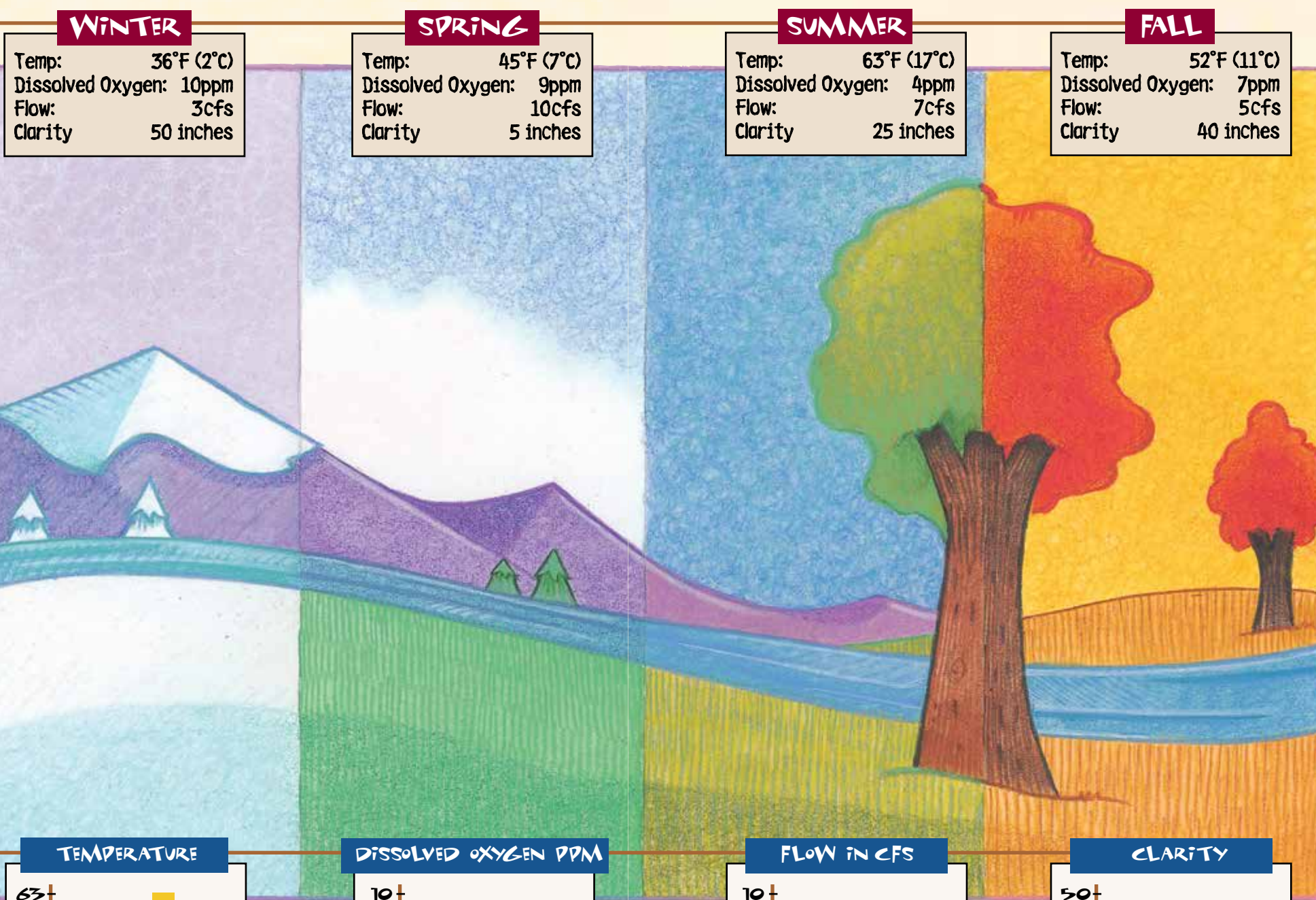
DATA

We test water to find out what chemical, physical, and biological conditions it has. A water quality test is a snapshot of water at one time, and the result is a picture of what the water contained at that moment. Water quality monitoring is testing that is repeated over time. There may be one or several testing sites along a stream.

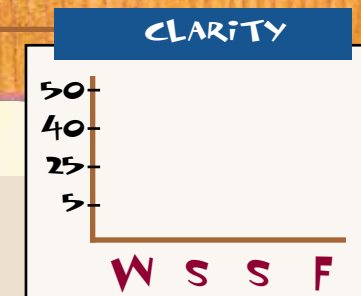
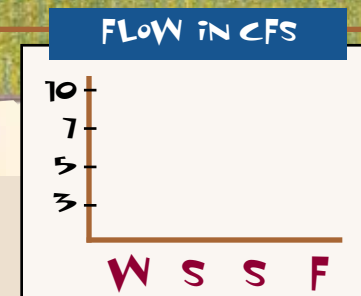
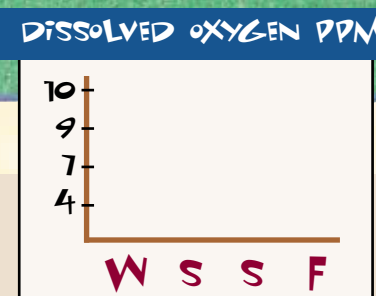
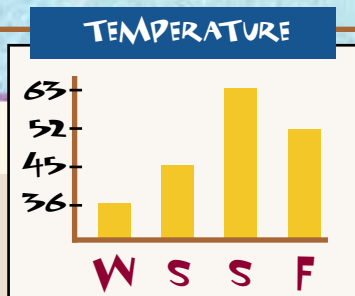
TRY THIS SIMPLE ACTIVITY

Conduct your own stream monitoring, and use the Monitoring Toolkit to help explain the tests and measurements. Water quality tests have been conducted and the data recorded for each season along the stream. For each season, record the data on the correct graphs. The temperature graph has been completed for you as a sample.

GRAPHS



It looked like this 200 years ago.



What season of the year is the river the warmest?
 What season does the river have the least dissolved oxygen?
 Do dissolved oxygen levels get higher or lower when the river warms?
 (Answers on back page.)

When does the river have the highest flow?
 When does the river have the lowest clarity?
 Are they the same season? What can cause this low clarity?
 (Answers on back page.)

MONITORING TOOLKIT:

TEMPERATURE

Dissolved oxygen is a measure of how much oxygen is available to plants and animals living in the water. The higher the water temperature, the lower the dissolved oxygen.

DISSOLVED OXYGEN

We breathe oxygen from the air, and fish take dissolved oxygen from the water through their gills. Dissolved oxygen is measured in parts per million, or ppm, which is a very small amount of a substance. One grain of salt in a liter of water represents one ppm of salt.

WATER FLOW

Stream flow can be used with other parameters in determining water quality. Streams with low flows may have high temperatures. Flow is measured in cubic feet per second, or cfs (how many cubic feet a stream flows in one second).

CLARITY OR CLOUDINESS

Clarity is a measure of how clear or cloudy a body of water is. Sediment, or soil that is suspended in water, can affect water clarity. The farther down you can see into a stream, the higher the clarity.



Cities expanded and farms grew to meet the increasing need for food.

What Is Your Point?

When water managers look for land uses that might affect water quality, they are concerned with two sources of pollution—point and nonpoint. **Point source pollution** can be traced to a known source or point; for example, a pipe from a factory or a sewage treatment plant that flows directly into a stream.

Nonpoint source pollution comes from many different sources. As water flows over land, it picks up natural and people-made pollutants, which can be deposited into lakes, streams, and rivers. These pollutants include fertilizers from residential areas and farms, oil and gas from roads, and sediment from eroded stream banks.

Look at the river and the pollution sources A, B, C, and D. Identify point source pollution, which is pollution from a single source such as a discharge pipe. Identify nonpoint source pollution, for example, runoff from a large area. (Answers on back page.)

Best management practices, or BMPs, are used to reduce nonpoint pollution. Look at the BMP chart below. Draw the BMPs on the illustration to show how water quality can be improved.



Land Use	Best Management Practice
Roads and Streets	Construct a pond to catch storm water runoff
City	Plant trees and other plants to reduce sediment from construction sites
Farm	Build a wetland pond to slow runoff water and allow sediments to settle out



The river became polluted.



Long ago, people wanted to keep water healthy but needed ways to do it.

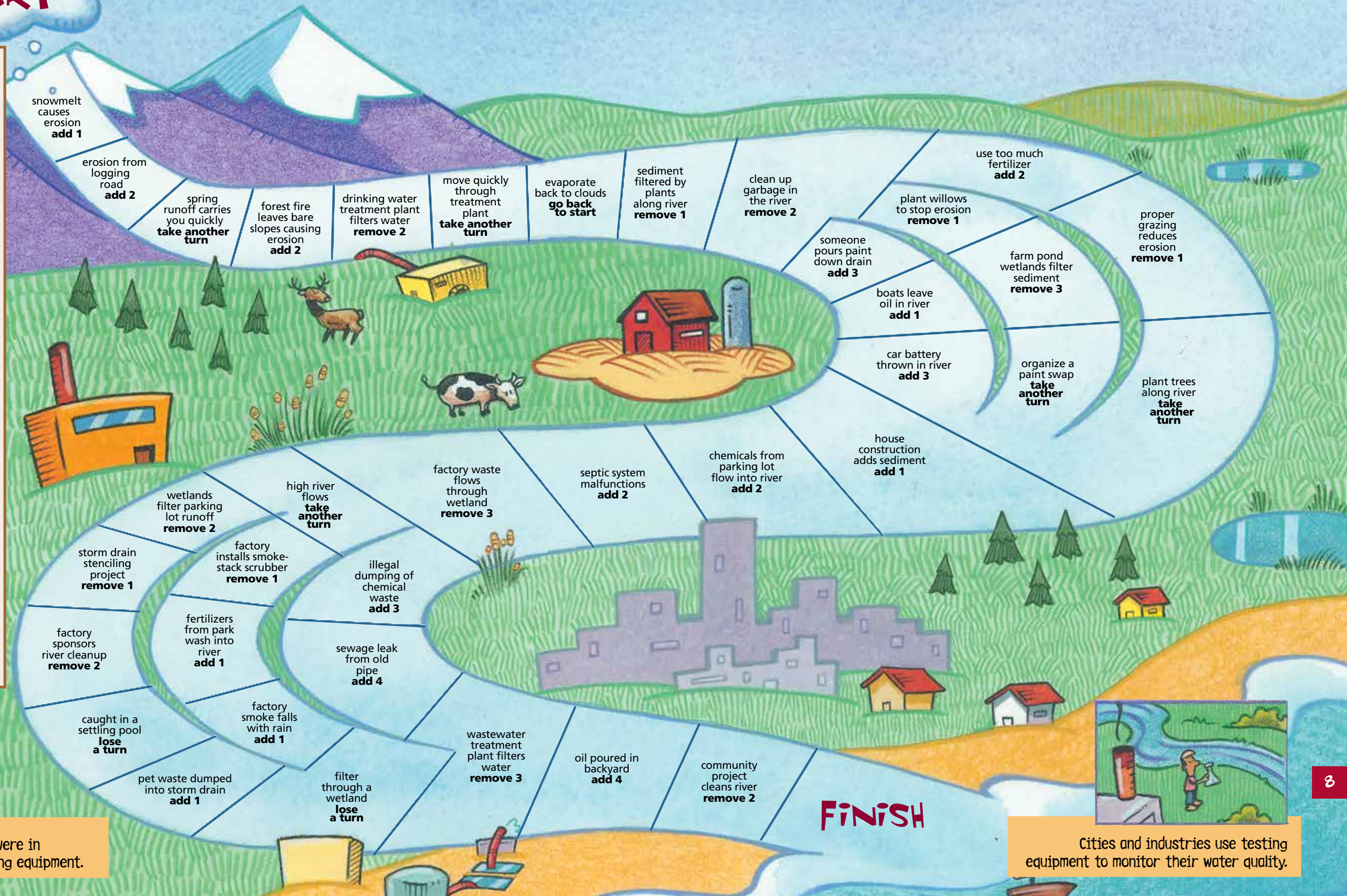
Healthy Water Hopscotch

START

Water both collects and loses pollution as it moves down a river or through a watershed. Play this board game and see how clean your water can be when you finish!

HOW TO PLAY

1. Use a small bottle cap as a token, and a cup as your watershed.
2. Have 25 paperclips, coins, or beads to serve as pollution.
3. Write the numbers 1-4 on small slips of paper.
4. Place the numbers in a paper bag.
5. Draw a number from the bag and move that many spaces.
6. Follow the instructions on the space where you land.
7. Some spaces require you to collect pollution in your cup.
8. Other spaces allow you to remove or clean up pollution just as in a real watershed.
9. The winner is the one with the fewest pollutants in his or her cup at the end of the game!



They needed to know what pollutants were in the water, so scientists created testing equipment.

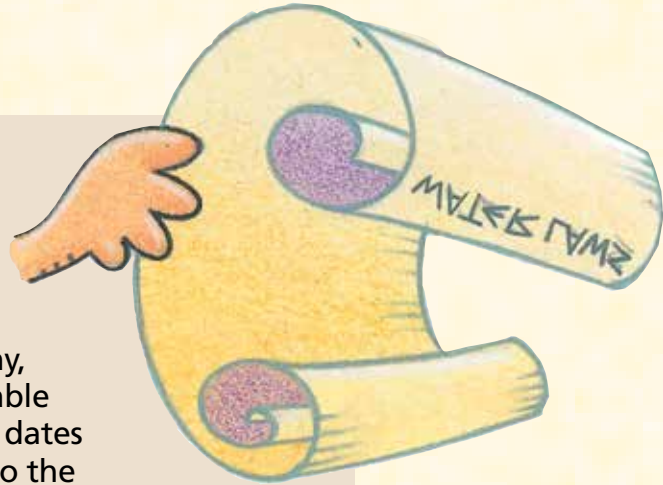


Cities and industries use testing equipment to monitor their water quality.

FINISH

Water Quality Believe It or Not

The effort to keep clean, healthy, drinkable water dates back to the Roman Empire. The Romans had laws to keep garbage out of rainwater basins. It was also illegal to have a furnace, tannery, slaughterhouse, or cemetery within 75 feet (25 m) of a well.



Particles of pesticides and herbicides are one hundred times smaller than particles of smoke.



Humans can survive for a month without food but only a week without fresh water to drink.



In Mexico, the Cueva de Villa Luz (Cave of the Lighted House) contains springs that are naturally high in hydrogen sulfide – a toxic acid. The fish, aquatic insects, and microbes survive here with special adaptations.



Thermophilic bacteria, which live in the hot springs of Yellowstone National Park, can live and reproduce at temperatures near the boiling point.

All water naturally contains certain types of bacteria – most of them harmless. Drinking water is tested and monitored continuously to make sure it is free of all harmful bacteria.



Grizzly and black bears do not drink, eat, or eliminate wastes during their five to seven months of winter hibernation. These amazing animals do not dehydrate because they are able to produce water from their body's fat reserves. Scientists believe that humans and other mammals are unable to do this!



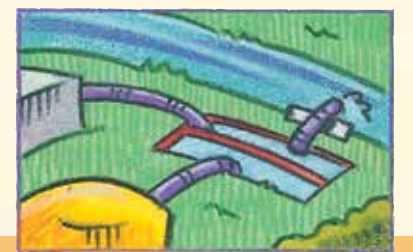
The acids in your stomach play an important role in food digestion. One of them, hydrochloric acid, has a pH of less than one, almost as strong as battery acid.



Whales and dolphins are mammals that live their entire lives in seawater, but this saltwater home cannot quench humans' thirst – we need fresh water.



Cities use a large amount of water, and it is treated and tested before it is used.



And after it is used.

Windows into Water Quality

Many animals and plants have different water quality requirements. Brook trout need cold, clean streams to live in while carp can live in warm rivers and ponds. Mammals and plants also have many different water quality requirements.

Match the water quality data and habitats in the illustration with the animal or plant that fits in that "Water Quality Window." Animals and plants may appear in more than one habitat. Check out the Monitoring Toolkit on page 4 if needed. (Answers on back page.)



SMALLMOUTH BASS

Habitat: Medium range dissolved oxygen and temperature
Temperature: From 65-75° F (18-24° C)
Dissolved Oxygen: From 7-12 ppm
pH: Between 6.5 and 7.5

HUMANS

Habitat: Most habitats
Temperature: Broad range
pH: Between 6.5 and 7.5



BROOK TROUT

Habitat: Cold, clean rivers
Temperature: Less than 65° F (18° C)
Dissolved Oxygen: Greater than 12 ppm
pH: Between 6.5 and 7.5

THERMOPHYLIC BACTERIA

Habitat: Hot springs in Yellowstone National Park
Temperature: Well over 100° F to boiling (38 – 100° C)



CARP

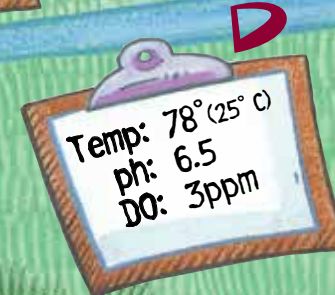
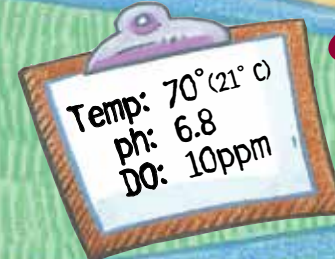
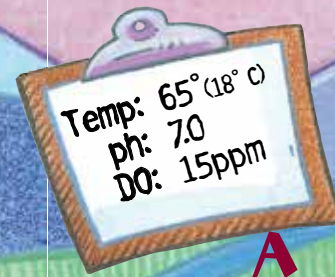
Habitat: Warm rivers, low dissolved oxygen, high temperatures
Temperature: Can be above 75° F (24° C)
Dissolved Oxygen: Can be below 7 ppm
pH: Between 6.5 and 7.5

SALT GRASS

Habitat: Salt marshes along the ocean
Temperature: Broad range



Each of us plays an important role in protecting water quality.



PH AT HOME!

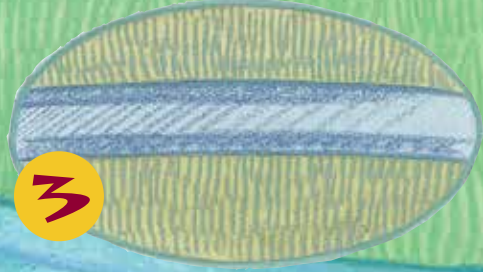
PH is an example of a chemical measurement. PH is important because most organisms, including humans, fish, and most plants, need a neutral pH to live – in the middle between an acid and a base (6.5 to 7.5 on a scale of 0-14).

Conduct the following experiment to learn the pH of liquids in your refrigerator. Have a parent cut up a red cabbage and boil it for 20 minutes. Save the purple cabbage water and cool it in the fridge. Fill one glass with lemon-lime soda. Fill a second with water and add 3 tablespoons of baking soda. Add the cabbage water to the lemon-lime soda drop by drop, recording the number of drops it takes to turn the liquid a different color. Repeat for the baking soda water. Liquids that turn red when cabbage water is added are acidic while bases turn green. See if other liquids in your refrigerator are acids or bases.



You can help maintain healthy water for healthy people by not littering or dumping pollutants down the drain.

Restoring Waters



Once water becomes polluted, all is not lost. There are natural and technological ways to clean water and restore rivers and lakes.

There are several examples of how to restore a river in the illustration to the right. The circles above show how the river looked before it was restored. Match the circles above with the restorations in the illustrations to see how a river can be restored. (Answers on back page.)

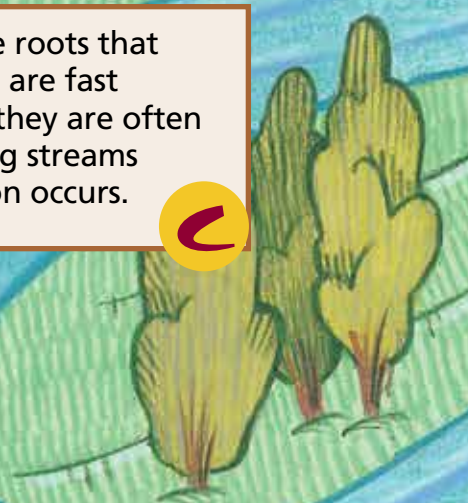
A Leave strips of vegetation between rivers and farmed fields to filter fertilizers and reduce runoff.



B Allowing for natural wetlands helps reduce pollution and restore habitat.



C Willows have roots that hold soil and are fast growing, so they are often planted along streams where erosion occurs.



D Allowing nature to create natural meanders rather than straight channels reduces erosion and increases habitat in a river.



THINGS YOU CAN DO!

Substitute safer non-toxic cleaning products such as baking soda for scrubbing, and vinegar and water for cleaning windows.

Don't pour motor oil, leftover paint, household cleaners, or pesticides down the drain or on the ground. Ask if your community recycles these substances.

Participate in a river, pond, or highway cleanup project.

Clean up after your pets so the waste does not run into nearby streams or storm drains.

Follow the instructions carefully when using lawn fertilizers or pesticides; excess lawn chemicals can flow into ground water and streams.

Plant shrubbery along waterways to filter sediment and lawn chemicals.

Wash your car on the grass so soap doesn't enter the storm drain.



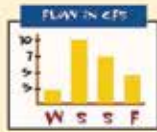
Healthy Water for Healthy People.



"Through pollution prevention, water quality testing, and water treatment, we can have healthy water to drink."

Answer Key

WATER QUALITY MONITORING, P. 3-4



Summer, Summer, Lower, Spring, Spring
Yes, Sediments that erode into the river during high flows.

WHAT IS YOUR POINT?, P. 5-6

Farm – nonpoint source
Roadway – nonpoint source
Factory – point source
City – nonpoint source

WINDOWS INTO WATER QUALITY, P. 11-12

1. Carp - D
2. Brook Trout - A
3. Humans - A, C, D, E
4. Thermophilic Bacteria - B
5. Salt Grass - E
6. Smallmouth Bass - C

RESTORING WATERS, P. 13-14

1-C; 2-A; 3-D; 4-B

HEALTHY WATER, HEALTHY PEOPLE IS BROUGHT TO YOU BY:



Project WET Foundation

Vision: Every child understands and values water through action-oriented education, ensuring a sustainable future. www.projectwet.org

In Partnership With:



Nestlé Waters North America Inc.

Mission: To support Project WET's efforts to make learning about water resources, conservation and the environment fun and scientifically sound for kids and teachers. www.nestle-watersna.com

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Dennis L. Nelson, President and CEO

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Reviewers:

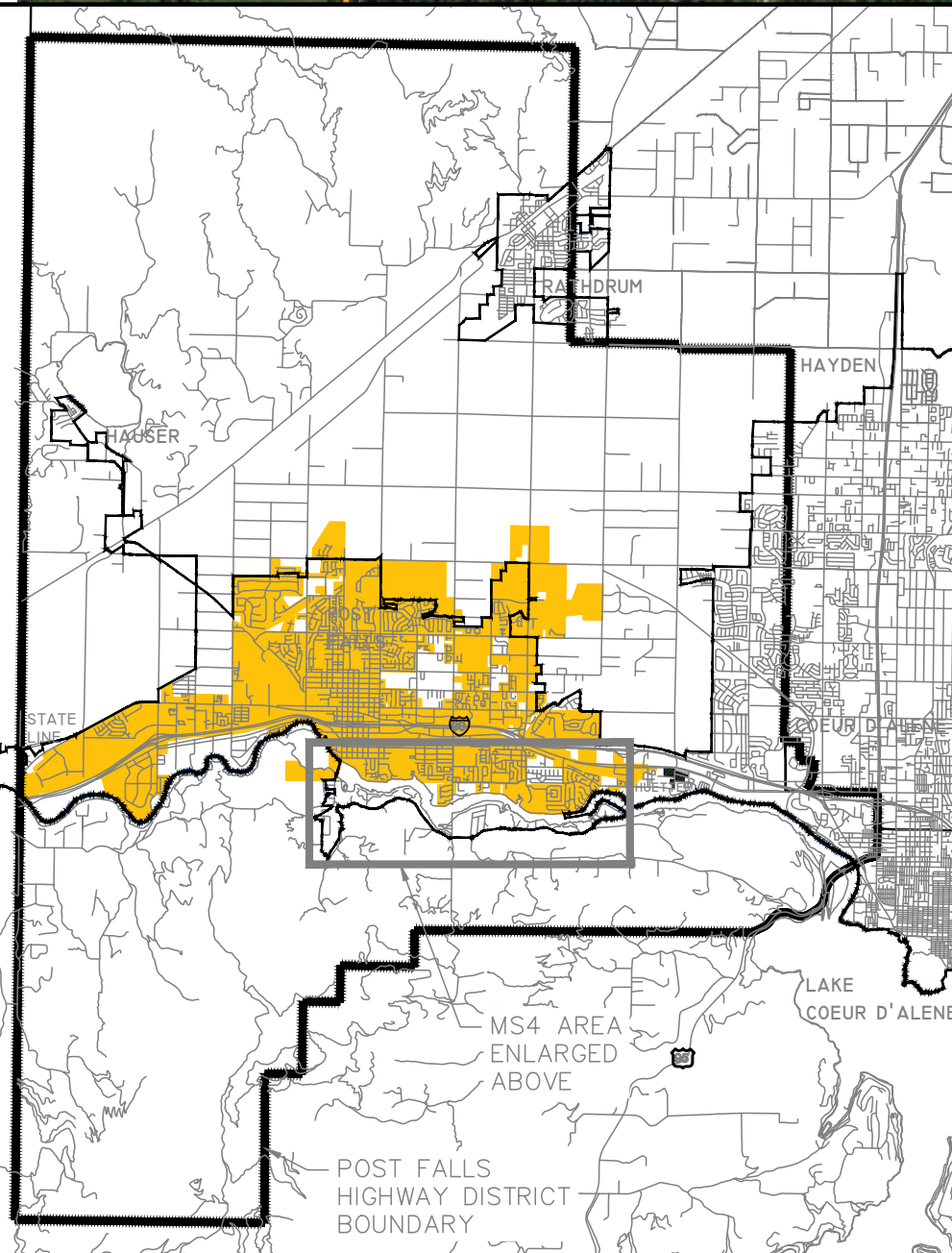
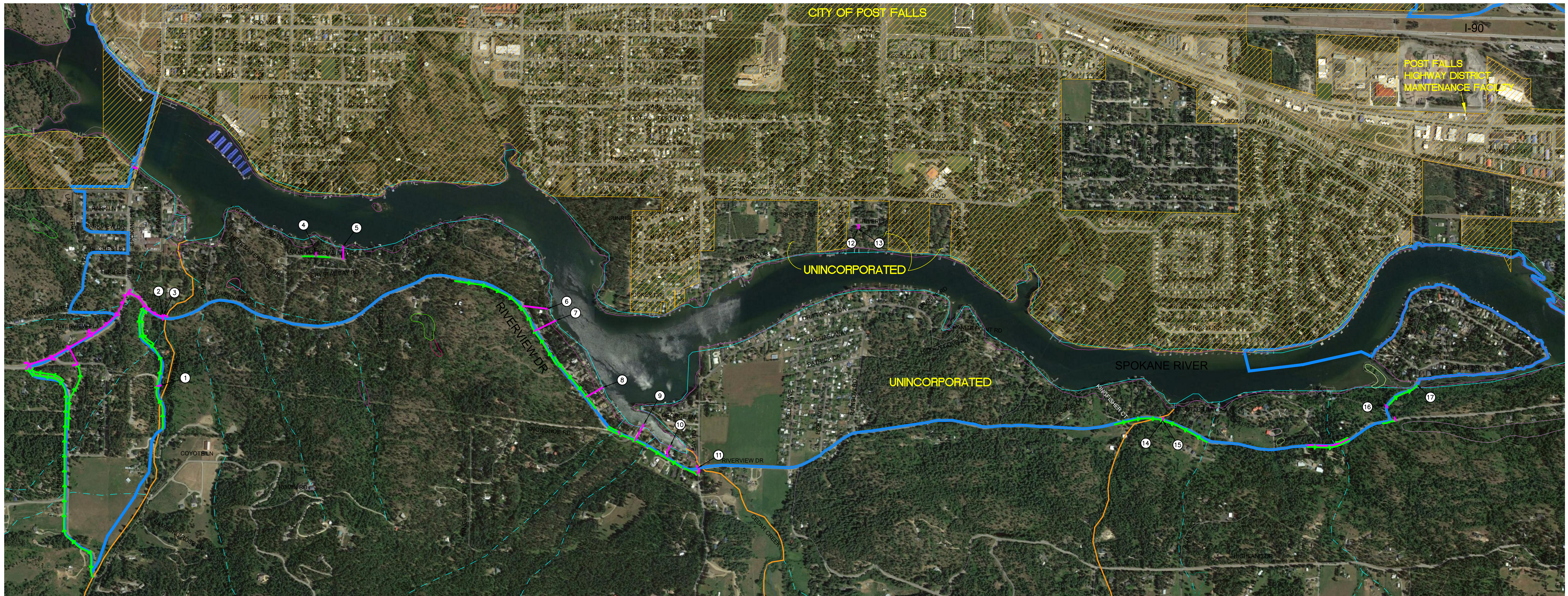
Heidi Paul, Lisa Slovacek, Linda Hveem, Stephanie Ouren, Erynne Dues, Denton Slovacek.

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Appendix B

**POST FALLS HIGHWAY DISTRICT
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MAP
USEPA NPDES PERMIT NO. IDS-028193**



LEGEND:

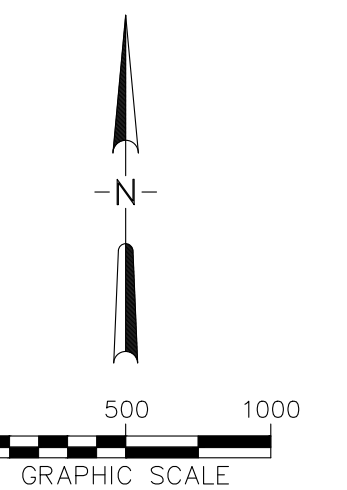
-  COEUR D'ALENE URBANIZED AREA
-  DRAINAGES PER NATIONAL HYDROGRAPHY DATASET
-  STREAMS (TRIBUTARIES) PER IDEQ
-  CORPORATE BOUNDARIES
-  PFHD ROADSIDE DITCHES
-  PFHD STORM PIPING, CULVERTS, CATCH BASINS & MANHOLES
-  ① OUTFALL POINTS (SEE TABLE)
-  CITY OF POST FALLS, ID
-  WETLANDS BY NATIONAL WETLANDS INVENTORY


THIS MAP SHOWS THE 2010 URBANIZED AREA BOUNDARY WHICH VARIES FROM THE 2000 URBANIZED AREA TO WHICH THE CURRENT PERMIT PERTAINS. HOWEVER, THERE IS NO SIGNIFICANT VARIATION WITHIN THE ENLARGED AREA SHOWN ON THIS MAP.

OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	N047° 41' 36.83"	W116° 56' 52.63"	18" CMP TO SPRING CREEK FROM SCHILLING LP DITCH
2	N047° 41' 47.60"	W116° 56' 48.2"	36" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
3	N047° 41' 47.60"	W116° 56' 48.2"	12" PVC TO SPRING CREEK FROM CURB INLET ON RIVERVIEW
4	N047° 41' 57.14"	W116° 56' 15.47"	12" CMP TO TREES FROM L CRYSTAL BAY RD
5	N047° 41' 58.11"	W116° 56' 09.64"	8" HDPE TO SPOKANE RIVER FROM L CRYSTAL BAY RD CATCH BASIN
6	N047° 41' 49.43"	W116° 55' 25.47"	18" HDPE TO SPOKANE RIVER FROM RIVERVIEW DITCH
7	N047° 41' 47.77"	W116° 55' 23.52"	18" CMP TO SPOKANE RIVER FROM RIVERVIEW DITCH
8	N047° 41' 38.12"	W116° 55' 13.25"	18" CMP TO SPOKANE RIVER FROM LOWER RIVERVIEW DITCH
9	N047° 41' 32.87"	W116° 55' 04.28"	18" CMP TO GREEN FERRY BAY (SR) FROM RIVERVIEW DITCH
10	N047° 41' 29.80"	W116° 54' 58.50"	18" HDPE TO GREEN FERRY BAY (SR) FROM RIVERVIEW DITCH
11	N047° 41' 26.21"	W116° 54' 52.12"	18" CMP TO CEDAR CK (ABOVE STREAM CULVERT) FROM RIVERVIEW DITCH
12	N047° 42' 02.42"	W116° 54' 18.69"	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
13	N047° 42' 02.42"	W116° 54' 18.69"	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
14	N047° 41' 34.47"	W116° 53' 12.59"	WEST DITCH OUTFALL TO SEASONAL CREEK ABOVE 36" CULVERT
15	N047° 41' 34.47"	W116° 53' 12.59"	EAST DITCH OUTFALL TO SEASONAL CREEK ABOVE 36" CULVERT
16	N047° 41' 37.00"	W116° 52' 27.00"	24" CMP FROM HARBOR DRIVE DITCH
17	N047° 41' 40.18"	W116° 52' 17.80"	HARBOR DRIVE DITCH OUTFALL TO HARBOR ISLAND CHANNEL (SR)

NOTE: LATITUDE & LONGITUDE INFORMATION WAS COLLECTED WITH A HANDHELD GPS & MAY REFERENCE ROADWAY CENTERLINES WHERE PIPES AND DITCHES ARE NOT EASILY ACCESSIBLE. THE DATA IS USEFUL TO GET IN THE GENERAL AREA OF THE OUTFALL.



PROJECT: P090104		RUEN-YEAGER & ASSOCIATES, INC. CONSULTING ENGINEERS - LAND SURVEYORS - PLANNERS
FILE NAME: 2018-0919_MS4_MAP.dwg		3201 N. HUETTER, STE. 102 COEUR D'ALENE, IDAHO 83814 (208)292-0820
PLOT DATE: 9/19/18		219 PINE ST. SANDPOINT, IDAHO 83864 (208)255-4628
DRAWN BY: ZAW		



RUEN-YEAGER & ASSOCIATES, INC.
ENGINEERS ♦ PLANNERS ♦ SURVEYORS

July 23, 2019

Kelly Brownsberger
Road Supervisor
Post Falls Highway District
5629 E. Seltice Way
Post Falls, Idaho 83854

**Re: Dry Weather Monitoring Report - Post Falls Highway District NPDES MS4
Project No.: 090104**

Dear Kelly:

RYA has performed dry weather monitoring for 17 outfalls in Post Falls Highway District jurisdiction on July 23th. There was one outfall with flow that appeared to be groundwater:

- Outfall Number 7 had a flow described as less than 10 GPM with clean water and without any unusual deposits or unusual vegetation. It should also be noted that the 18" CMP is damaged causing a majority of the flow to discharge prior to the end of the pipe.

Photos were taken of all outfalls, either at their inlets or their outlets, depending on accessibility or clarity of field conditions.

The above information together with the Field Report Outfall Observation sheets and photographs taken of the outfalls will be compiled with the other required information for inclusion in the 2019 Annual Report.

Sincerely,

RUEN-YEAGER & ASSOCIATES, INC.

Laura Winter, P.E.

Laura Winter, P.E.



Outfall #1



Outfall #2



Outfall #3



Outfall #4



Outfall #5



Outfall #6



Outfall #7



Outfall #8



Outfall #9



Outfall #10



Outfall #11



Outfall #12



Outfall #13



Outfall #14



Outfall #15



Outfall #16



Appendix C



RUEN-YEAGER & ASSOCIATES, INC.
ENGINEERS ♦ PLANNERS ♦ SURVEYORS

SIGN-IN SHEET

2019 MS4 ANNUAL TRAINING
Wednesday, December 18, 2019

Print Name:	Signature:	Highway District:
Cody Kraack	<i>Cody Kraack</i>	ESH/D
PETER WESKE	<i>Peter Weske</i>	ESH/D
CHAD THOMSON	<i>Chad Thomson</i>	ESH/D
SHANE COOK	<i>Shane Cook</i>	ESH/D
Tom Christensen	<i>Tom Christensen</i>	ESH/D
LOREN HORNING	<i>for him</i>	ESH/D
JOHN PARRIATE	<i>John Parriate</i>	ESH/D
WIL BEWING	<i>Wil Bewing</i>	ESH/D
ANDY PARRIS	<i>andy Parris</i>	ESH/D
KEVIN RENNER	<i>Kevin Renner</i>	ESH/D
Rick Stewart	<i>Rick Stewart</i>	ESH/D
Bill McCorkle	<i>Bill McCorkle</i>	ESH/D
Leslie Likes	<i>Leslie Likes</i>	PFHD
Ed Mael	<i>Ed Mael</i>	PFHD
Larry Howell	<i>Larry Howell</i>	PFHD
Dave Yorian	<i>Dave Yorian</i>	PFHD



RUEN-YEAGER & ASSOCIATES, INC.
ENGINEERS ♦ PLANNERS ♦ SURVEYORS

SIGN-IN SHEET

2019 MS4 ANNUAL TRAINING
Wednesday, December 18, 2019

Print Name:	Signature:	Highway District:
Eric Prestegard		PFHD
Travis Hall		PFHD
Travis Wisley		PFHD
DAVID CARPENTER		LHD
Aaron C Syth		LHD
Taylor Wood		PFHD
Tuekota Tate-Vandever		PFHD
Michael Ketchum		PFHD
Jim Wines		PFHD
Brian Coomb		PFHD
Mark Roberts		PFHD
Kelly Brownsberger		PFHD
Megan Peterson		LHD
Dylan Jensen		LHD
Darrel Stevens		PHD
Jim Grisson		LHD



RUEN-YEAGER & ASSOCIATES, INC.
ENGINEERS ♦ PLANNERS ♦ SURVEYORS

SIGN-IN SHEET

2019 MS4 ANNUAL TRAINING
Wednesday, December 18, 2019


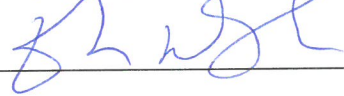
Print Name:	Signature:	Highway District:
Mark Debraatt		Lakes Highway
Marv Esser		Lakes HWY
Randy Neal		P.F.H.D
John Arnold		East side Hwy.
BEN WESKE		EAST SIDE HWY
Tyrell Corson		East side Hwy
David Stoddard		Lake S Highway Dist
Weldon Shannon		LHD
Travis Benson		LHD
Chris Lyons		LHD
Joe Mitchell		LHD
Kevin Cooper		LHD
Rex Lutes		LHD
Chris Schenck		LHD
Chad Jones		LHD
MIKE HORTON		LHD

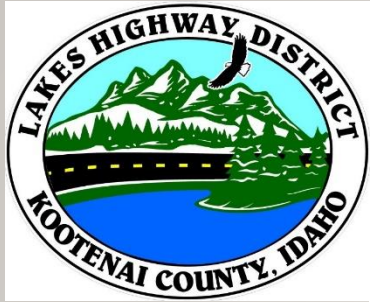


RUEN-YEAGER & ASSOCIATES, INC.
ENGINEERS ♦ PLANNERS ♦ SURVEYORS

SIGN-IN SHEET

2019 MS4 ANNUAL TRAINING
Wednesday, December 18, 2019

Print Name:	Signature:	Highway District:
RIK VAN GELDER		LHD
ERIC SHANLEY		LHA



2019 MS4 PERMIT --- ANNUAL TRAINING

WHY ARE WE HERE?

Annual Training is required by the District's MS4 permit:

"...the permittee must develop and conduct appropriate training for municipal personnel related to optimum maintenance practices for the protection of water quality. This training must be conducted at least once annually..."





OUR ANNUAL TRAINING WILL REVIEW...

- We will talk about what an MS4 Permit is.
- We will go over some Pollution Prevention and Good Housekeeping Practices.



WHAT IS A MS4?

A **municipal separate storm sewer system** (MS4) is:

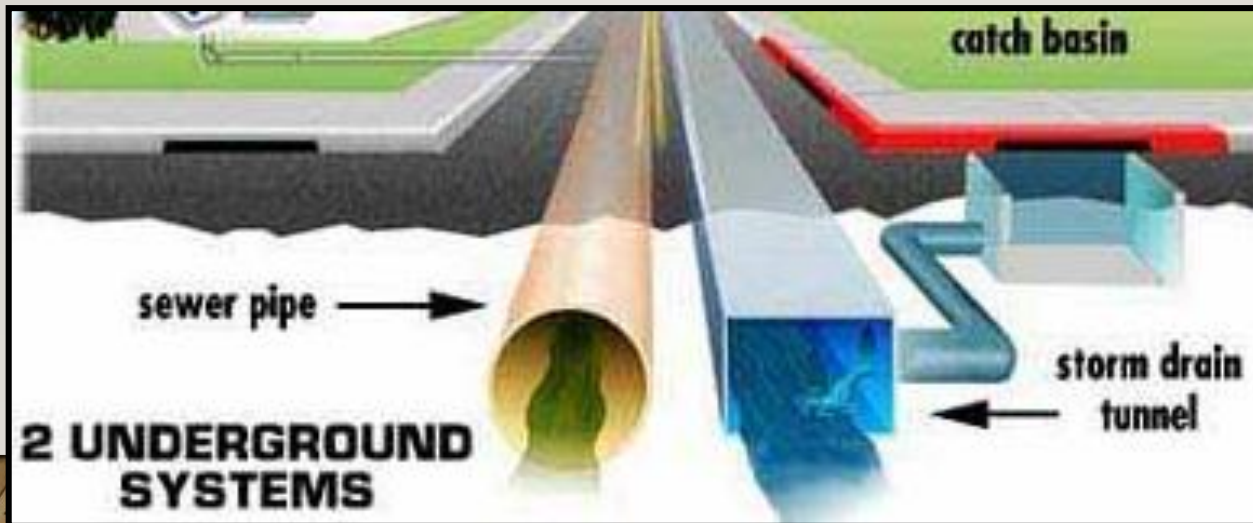
A conveyance or system of conveyances...

owned by a State, city, town, or other public entity, ...

which discharges to waters of the U.S., and is:

- designed or used for collecting or conveying storm water
- not a combined sewer; and
- not part of a Publicly Owned Treatment Works (POTW).

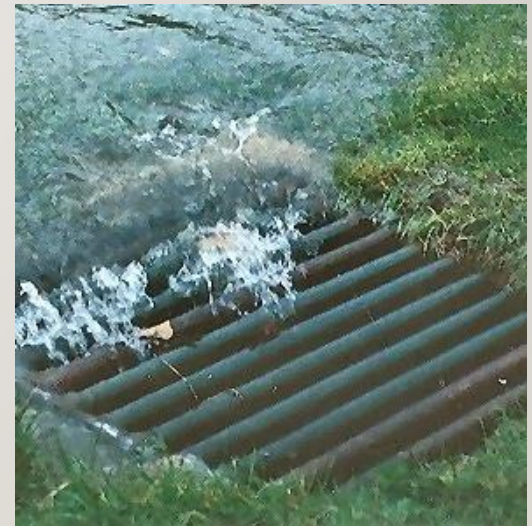
[See: 40 CFR 122.26(b)(4), (b)(7),(b)(8) and (b)(16)]



MS4' S CONSIST OF
ROADS WITH
DRAINAGE SYSTEMS
INCLUDING:

CATCH BASINS,
DITCHES,
CURB & GUTTER,
CULVERTS,
DRAINAGE
SWALES,& SNOW
STORAGE

THAT DRAIN TO A
WATERS OF THE
US....



BASICALLY,
ANYTHING IN OUR
RIGHT-OF-WAY,

WITHIN THE MS4
BOUNDARY
(URBANIZED AREA)

THAT COLLECTS
STORMWATER,

AND OUTFALLS TO A
WATER OF THE US



WHAT ABOUT THE MS4 PERMIT?

Issued by the EPA

Allows MS4's to discharge stormwater to water of the US

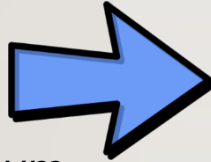
It was developed as a result of the Clean Water Act

Must be clear, specific, measurable, enforceable

Helps keep our waters clean

WHAT DOES A MS4 PERMIT REQUIRE?

All Operators of Regulated MS4s must implement a **Storm Water Management Program (SWMP)** designed to:



- Reduce pollutants to the *maximum extent practicable*;
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

The SWMP must address the “Six Minimum Measures:”

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

SO WHAT ARE
SOME GOOD
POLLUTION
PREVENTION &
HOUSEKEEPING
PRACTICES?



FLEET VEHICLE WASHING

Washing Fleet Vehicles generates oil, grease, sediment and metals, as well as cleaning solvents into the wash water.



Perform a dry debris removal, collect and dispose as solid waste.

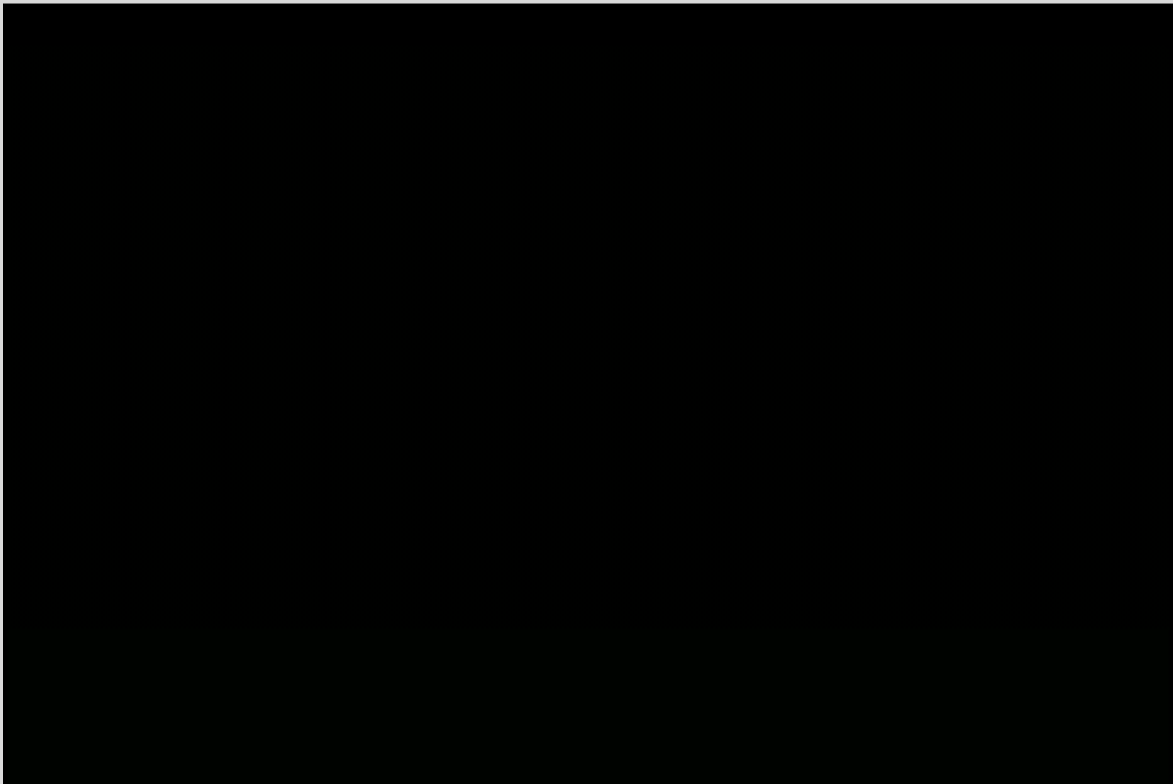
Wash vehicles in a designated WASH area.

Collect wash water if possible.

Use a power washer avoiding detergents.



VEHICLE & EQUIPMENT WASHING



SNOW REMOVAL & SNOW DISPOSAL



SNOW REMOVAL & SNOW DISPOSAL

- **Use Upland Areas for Storage and Disposal of Snow**
- **Choose flat pervious areas where melting snow can infiltrate**
- **Keep snow storage at least 100 feet away from water bodies, wetlands, and public or private drinking water wells**
- **Remove sediment and debris from dumping areas each spring**



PROPER MATERIAL STORAGE

Maintaining Order in your Shop



The Best Spill Protection is Proper Containment.



MATERIALS STORAGE

Store

- Store oil, grease, chemicals and other hazardous materials in containers on spill pallets

Stockpile Placement

Do not stockpile sediment, aggregate, sand, or asphalt near drainage systems

Covered Areas

- Store materials in covered areas where possible

Double Containment

Make sure that storage areas for chemicals and fuels have double containment

MATERIAL STORAGE





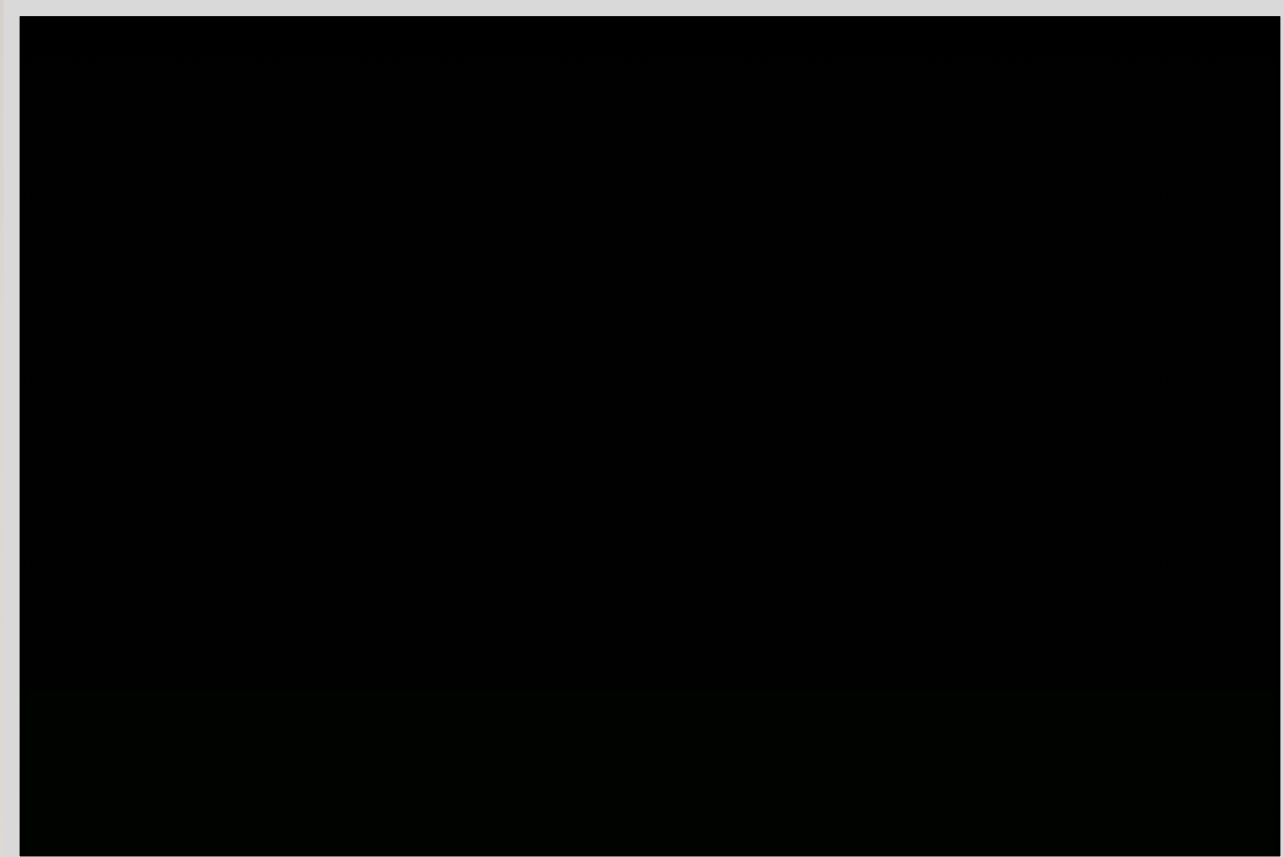
STREET MAINTENANCE

- Certain Streets that discharge to receiving waters should have priority in street sweeping and debris removal.



- Connected Streets with a higher pollution loading should be prioritized and cleaned more frequently.

STORM DRAIN SYSTEM CLEANING





Sherman Avenue





Alley Behind Sherman Avenue





Saunders Beach





Saunders Beach Outfall





PARKING LOT & STREET CLEANING

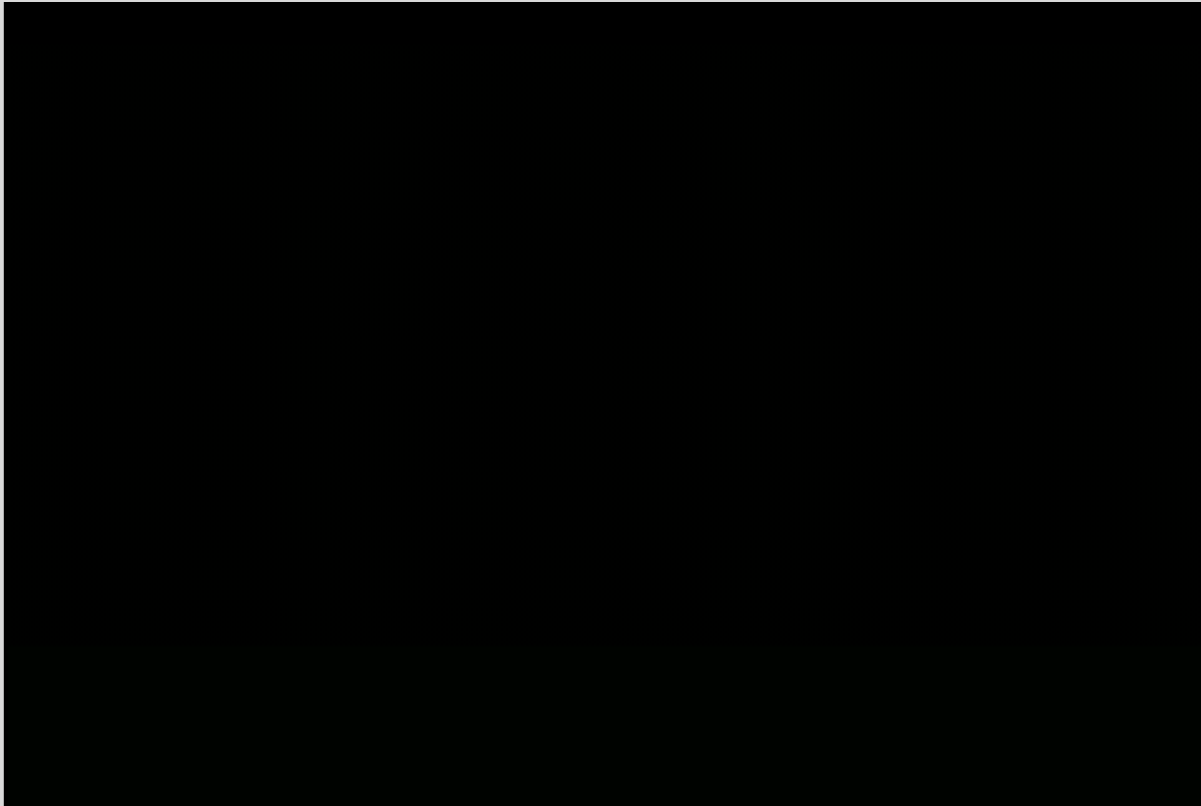


SPILL CONTROL & RESPONSE

- Everyone should be familiar with spill control response actions:
- What to do
- Who to call
- Where is spill equipment



SPILL CONTROL & RESPONSE



BUILDING AND GROUNDS MAINTENANCE

- Clean up after yourself
- Keep solid waste in containers away from drainage systems
- Perform Periodic brooming of the maintenance yard



BUILDING & GROUND MAINTENANCE





Behind Crickets









THE BOTTOM LINE.....



Is Keeping our Waters Clean!



ANY QUESTIONS?



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