

Stormwater Pollution Prevention Training



Arlington Public Schools
August 24, 2022

Department of Environmental Services
Office of Sustainability and Environmental Management



GOOD MORNING!

- Introduction to Arlington's storm drain system
- What goes to our streams
- What we can do to prevent pollution
- What to do when we see something



MS4 permit requirement



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

General Permit No.: VAR040127

Effective Date: November 1, 2018
Expiration Date: October 31, 2023

**GENERAL VPDES PERMIT FOR DISCHARGES OF STORMWATER FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

**AUTHORIZATION TO DISCHARGE
UNDER THE VIRGINIA STORMWATER MANAGEMENT PROGRAM REGULATIONS, VIRGINIA
POLLUTANT DISCHARGE ELIMINATION SYSTEM REGULATIONS, AND THE VIRGINIA STATE
WATER CONTROL LAW**

In compliance with the provisions of the Clean Water Act, as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, permittees of small municipal separate storm sewer systems are authorized to discharge to surface waters within the boundaries of the Commonwealth of Virginia, except those waters specifically named in State Water Control Board regulations which prohibit such discharges.

The authorized discharge shall be in accordance with the registration statement filed with the department, this cover page, Part I - Discharge Authorization and Special Conditions, Part II - TMDL Special Conditions, and Part III - Conditions Applicable to All State and VPDES Permits, as set forth in this general permit.

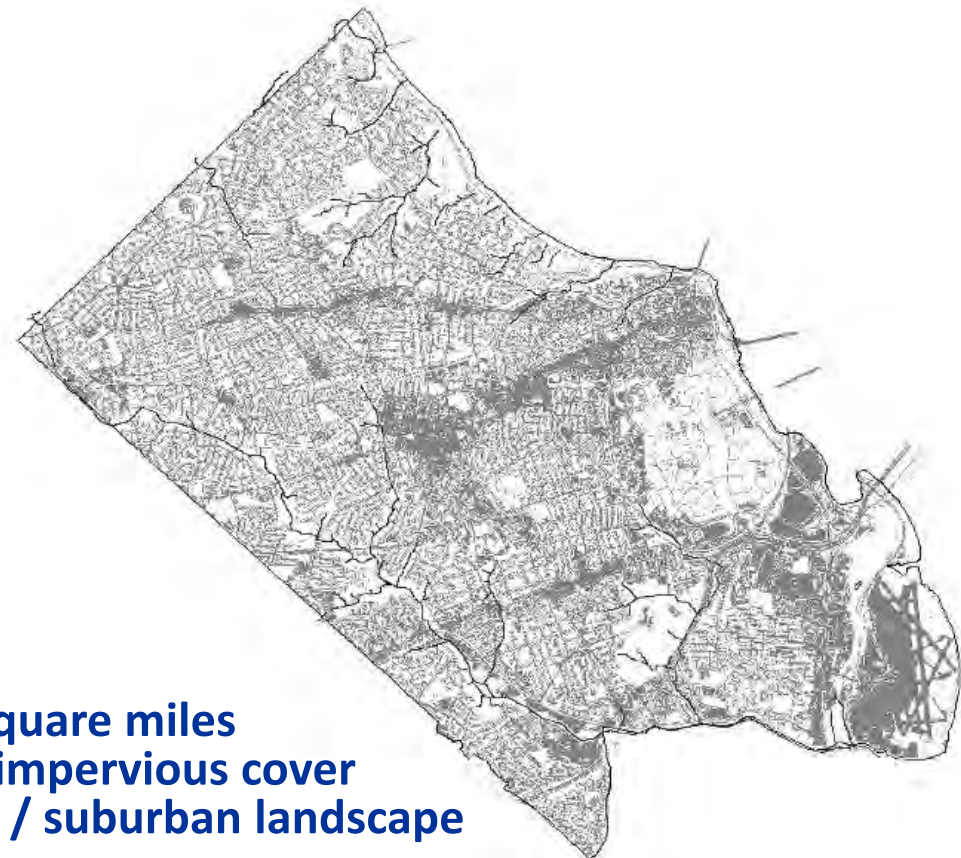


- personnel receive training in the recognition and reporting of illicit discharges
- Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities

**We all have a job to do:
Keep pollution out of our streams**



Arlington's Watersheds



- 25.8 square miles
- ~42% impervious cover
- Urban / suburban landscape

All of the streams in Arlington County flow to the Potomac River



What is this?



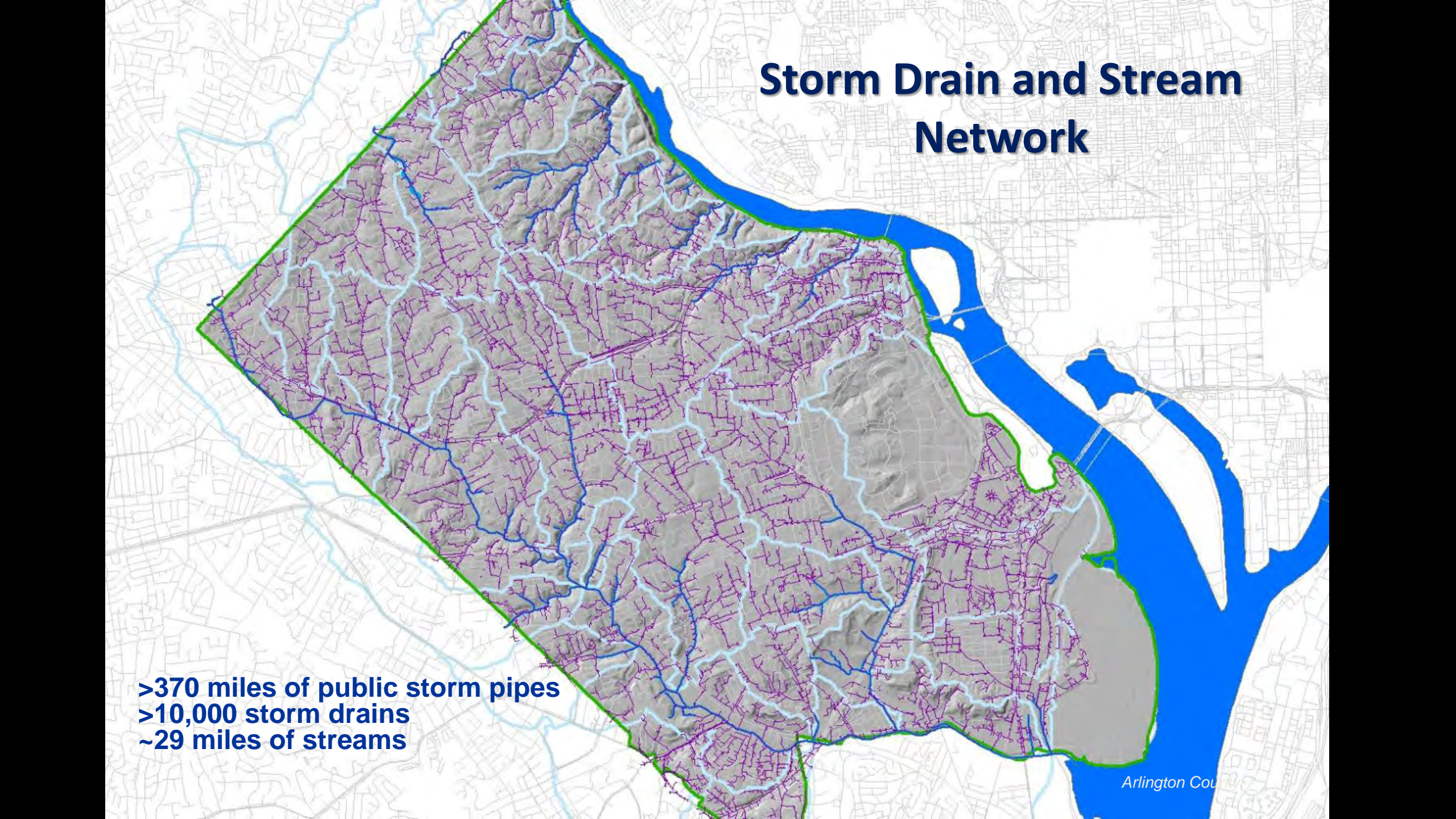
Storm drains come in many shapes and sizes...but all lead to a stream



Storm Drain and Stream Network

>370 miles of public storm pipes
>10,000 storm drains
~29 miles of streams

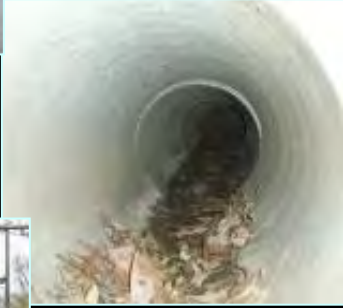
Arlington Cou



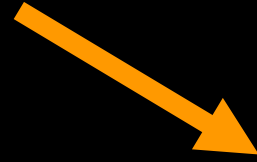
Understanding Where it Goes



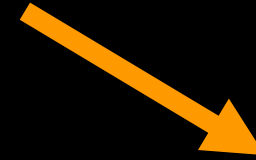
Storm drain to pipe to local stream



Four Mile Run



To the Potomac River



Water in storm drains does not go to a treatment plant...

On to the Chesapeake Bay....



What goes to our streams?



RAIN WATER
SURFACE WATER
SNOW MELT
GROUNDWATER



OTHER STUFF

What do we want to keep out of our streams?



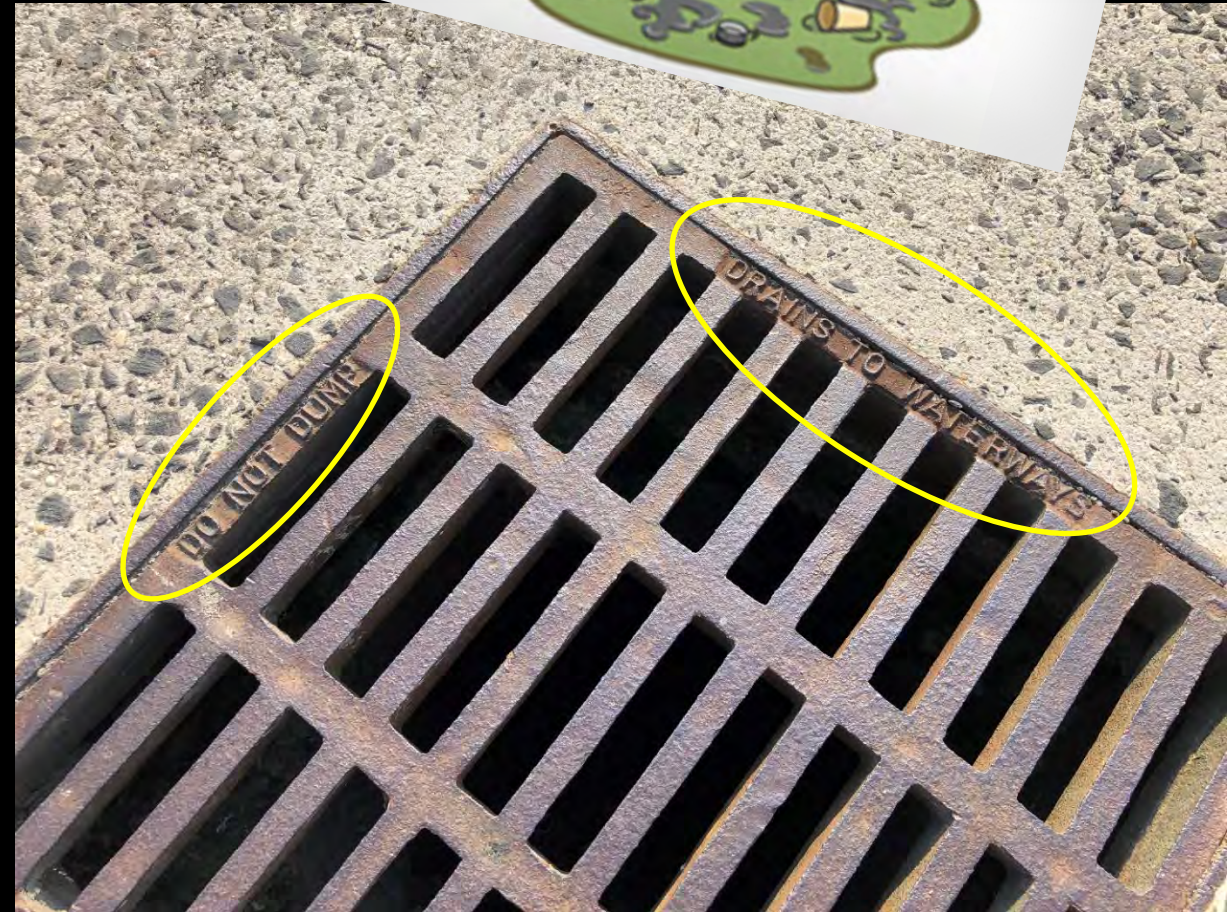
Dirt, Gas, Oil, Paint, Concrete, Soap, Chemicals, Trash

We Impact Our Streams

- Urban area (lots of roads, parking lots)
- >10,000 storm drains across County
- Everyday activities can impact streams

What goes into a storm drain...

....shows up in a stream

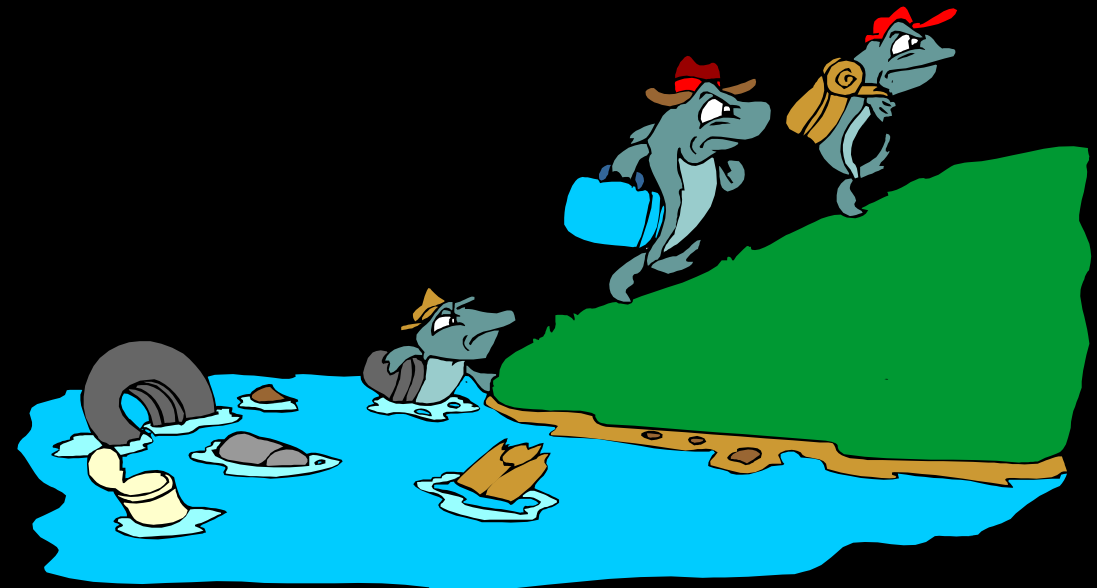


Impacts

- Environmental impacts
- Water quality
- Wildlife
 - fish kills
- Public health & safety
- Impacts to recreation

Residents urged to avoid Four Mile Run stream after chemical spill

Residents and pets should avoid the creek for the next 24 to 48 hours.



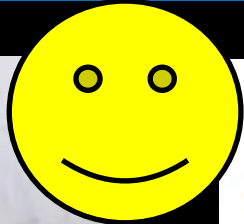
Our "Water Cycle"



We All Need Clean Water



Yes, there are fish in Arlington's streams!



Fishes of Four Mile Run

Summer 2009 study by Virginia Dept. of Game and Inland Fisheries and Fairfax County Department of Public Works and Environmental Services. Prepared by the Northern Virginia Regional Commission.

	▲ Blacknose Dace			
	▲ Banded Killifish			
	▲ Bluegill Sunfish			
	▲ Redbreast Sunfish			
	▲ White Catfish			
	▲ Common Carp			

IMAGE SOURCE: Webb, C.E., G.M. Carlson, and M. Carlson. 2006. Inland Fishes of New York (Ontario). Version A.0. Department of Natural Resources, Cornell University, and the New York State Department of Environmental Conservation. <http://ondemand Cornell.edu/fishlib/ntny/>. 2006. Issues and 100 to 1000.



**What can we do to prevent
pollution and minimize impacts?**

Mindfulness & Knowledge



Situational Awareness –
What's going on around me?

- Safety
- Pollution Prevention
- Response / Action

Things happen....



...and impacts can happen fast!



Every day things occur that can cause stream pollution...

Spills



Accidents



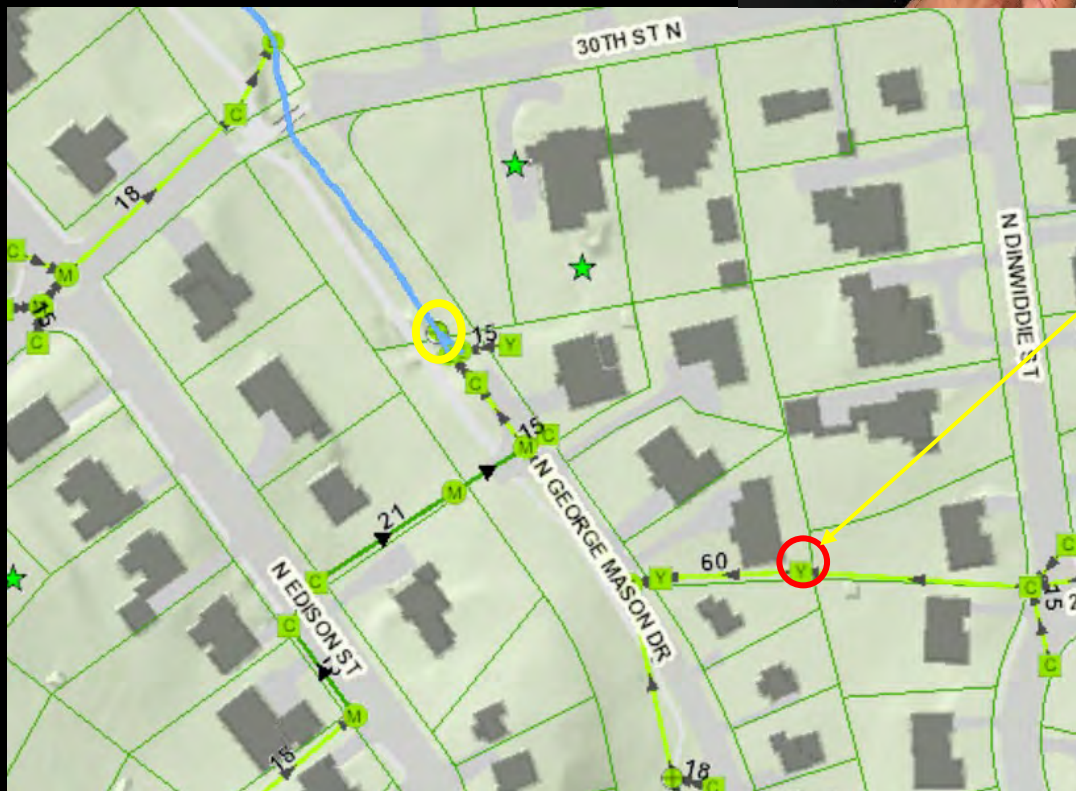
Petroleum releases



Washing or Dumping



Photos courtesy of ACFD





Fish Kills

**Wash water /
chemicals went
into storm drain**



Arlington Co. warns residents, pets stay out of Four Mile Run after oil tank spill

Residents urged to avoid Four Mile Run stream after chemical spill

Residents and pets should avoid the creek for the next 24 to 48 hours.



UPDATED: ACFD Urges People, Pets to Avoid Four Mile Run

NEWS

by [ARLnow.com](#) — October 31, 2019 at 9:45 am

27 Comments



Local News

Comment 5 Share 4 Tweet 5 Print Email RSS Feeds

Spill pollutes Four Mile Run water

Recommended

Thursday - 12/22/2011, 12:21pm ET

Hank Silverberg, wtop.com

WASHINGTON — Arlington residents are being advised to steer clear of the water near Four Mile Run downstream from Interstate 395 and the Potomac River.

There has been some kind of petroleum release into the stream from an unknown source. There are also reports of fuel odor.

Booms have been placed in the water to collect spillage.

People are advised to keep pets away from the water. Officials also warn against fishing and wading.

A spokeswoman for Arlington County says officials don't believe it is a big spill, but they are taking precautions.

Be in the Know

- Know what activities can be potential pollution sources
- Know what to do to prevent pollution
- Know where storm drains are located
- Know where spill kits are located
- Know how to dispose of waste
- Know who to ask or notify
- Know how to report pollution

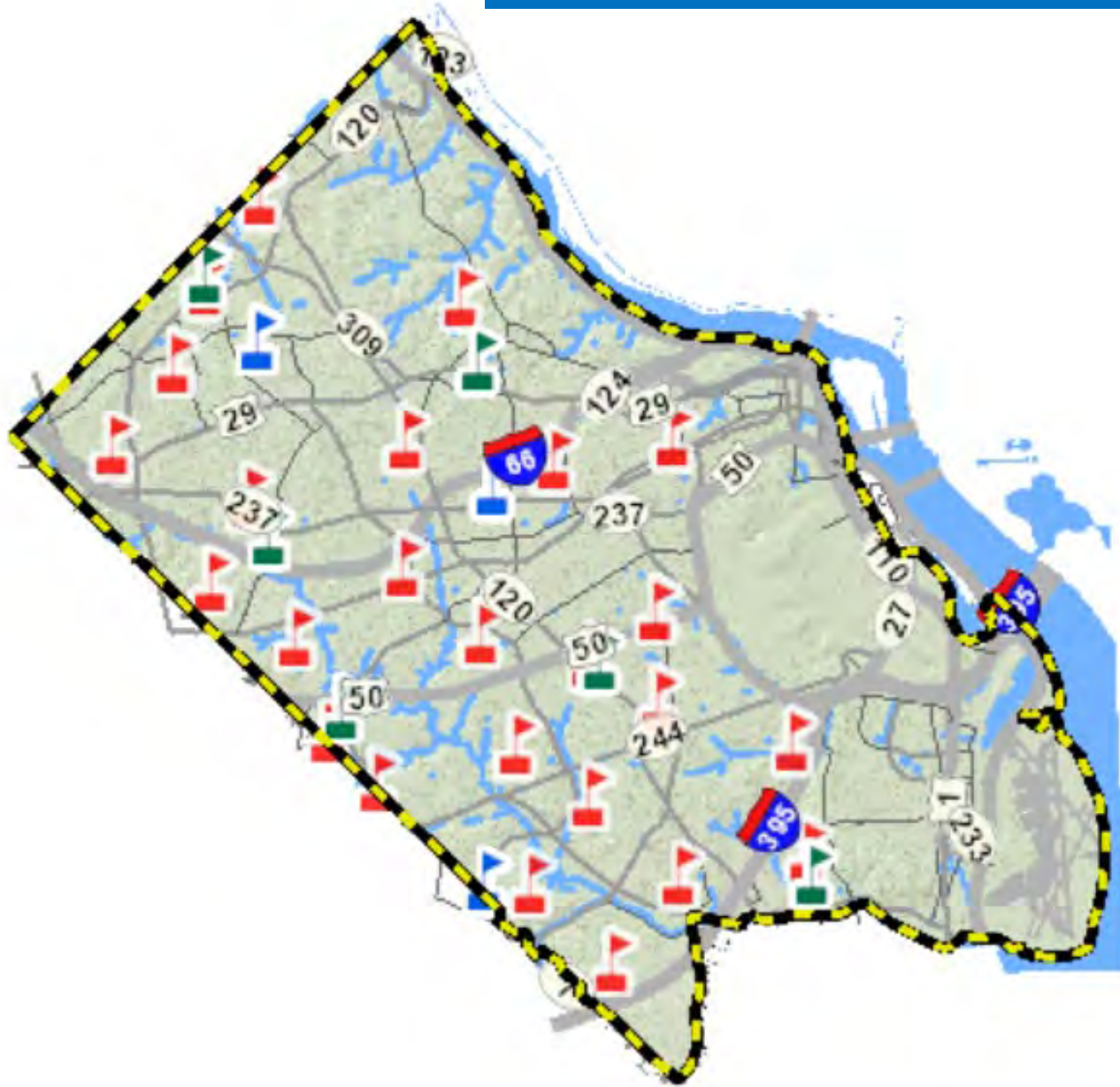


APS – a lot going on... at Trades Center

- ~6 acres
- Fleet of 240 buses, vans, pickups, sedans, trailers, and portable equipment
- Outside storage



APS – a lot going on... throughout the County



Managing and maintaining:

- Approximately 5 million square feet of space
 - 44 facilities
 - > 350 acres of land

**Driving throughout the County
Hundreds of miles!**

Pollution Potential?

- Many vehicles
 - Many activities
 - A lot of pavement
 - Numerous storm drains
- = High potential for pollution release



Potential Pollution Sources

- **Parking & Storage areas**
 - Vehicles
 - Equipment
 - Containers
 - Stockpiles
- Trash / recycling receptacles
- Loading docks



Potential Pollutants

- Sediment
- Trash
- Leaks (fuel, oil, vehicle fluids)
- Dumpster juice
- Wash water



Storm Drains at APS F&O



Important to know where storm drains are located

They made be hard to see...



Storm Drains at Trades

- Curb inlets
- Grate inlets
- Trench drains



Four Mile Run is Really Close



What can go to Four Mile Run?



STORMWATER SURVEY

The most common “pollutants” observed on the ground at the Trades Center

SEDIMENT / DIRT

PLASTIC BOTTLES

FUEL / OIL

PACKAGING MATERIALS

FOOD WRAPPERS

ABSORBENT MATERIAL

CIGARETTE ENDS

GLOVES / MASKS

Pollution Prevention

Most effective ways to prevent pollution:

1. Keep sites clean (**good housekeeping**)
2. Keep stuff out of storm drains
3. Report spills / leaks / improper disposal

Arlington County Trades Center Stormwater Pollution Prevention Plan



Revised May 2022

PREVENT POLLUTION: IT'S EVERYONE'S JOB

Protect Our Streams
Keep us in compliance:

- KEEP OUTDOOR AREAS CLEAN
- SWEEP UP DIRT AND DEBRIS
- COVER AND CONTAIN STOCKPILES
- STORE MATERIALS INDOORS OR UNDER COVER
- WASH WATER ONLY TO THE SANITARY SEWER (NEVER TO A STORM DRAIN)

PUT TRASH IN DUMPSTERS OR TRASH CANS

PUT RECYCLABLES IN RECYCLING BINS

KEEP DUMPSTER LIDS AND DOORS CLOSED

REPORT LEAKING DUMPSTERS

PUT CIGARETTES IN DISPOSAL BINS

KNOW WHERE THE NEAREST SPILL KIT IS

USE DRIP PADS/PANS TO CAPTURE ANY LEAKS

REPORT LEAKING EQUIPMENT / VEHICLES

CLEAN UP SPILLS

KEEP DEBRIS & SPILLS OUT OF STORM DRAINS

REPORT IT
703-558-2222
Call to report illegal dumping or stream pollution.

BE IN THE KNOW
Make sure you and your team know what to do.
Spill Plan & Stormwater Pollution Prevention Plan on site and on Trades Center Work Group page.

THANK YOU
www.arlingtonva.org

Proper Disposal of Waste



- Dispose of trash/litter in trash cans and dumpsters
- Keep lids and doors closed
- Report leaking or damaged containers

Prevent pollution from getting to storms drains

Identify and respond to leaks and spills:

- Clean up spills using materials in spill kits
- Let your supervisor know if you see a vehicle or container leaking



Report & Address Spills

Spills can get to a storm drain quickly



THE RACE IS ON!

Protect your drains before spills reach them

SPILL Impacts

Product enters stream



Fish kill



Product enters storm drain system

Know where spill kits are located

Look for the yellow bins / boxes...

- Storage areas
- Parking lots
- Loading docks
- 1st level of parking garage
- Fuel station

Spill kits should be accessible and checked frequently to ensure they are stocked and materials are not damaged



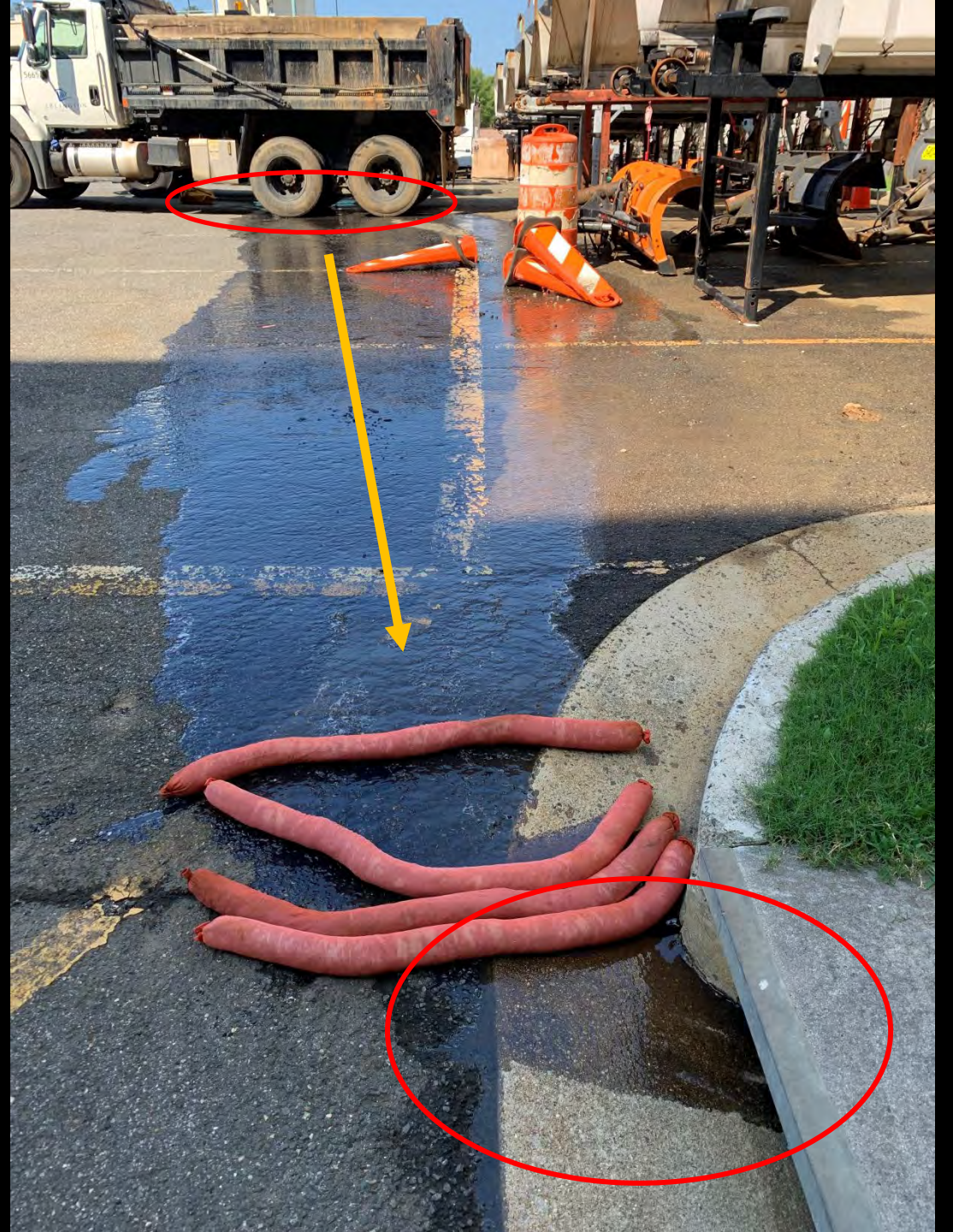
What's in a spill kit?

- Spill pads
- Booms / socks
- Bags
- Loose absorbent material





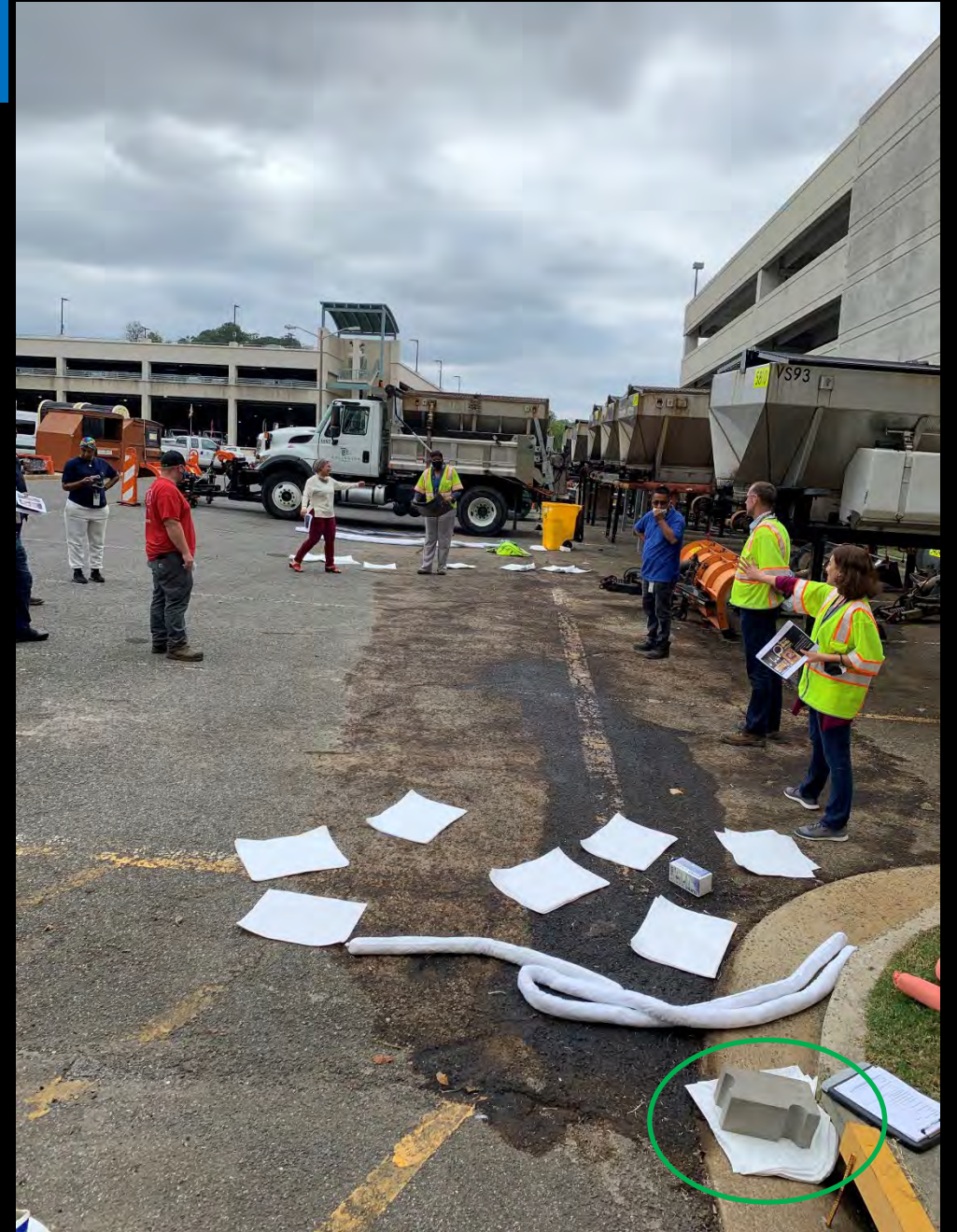
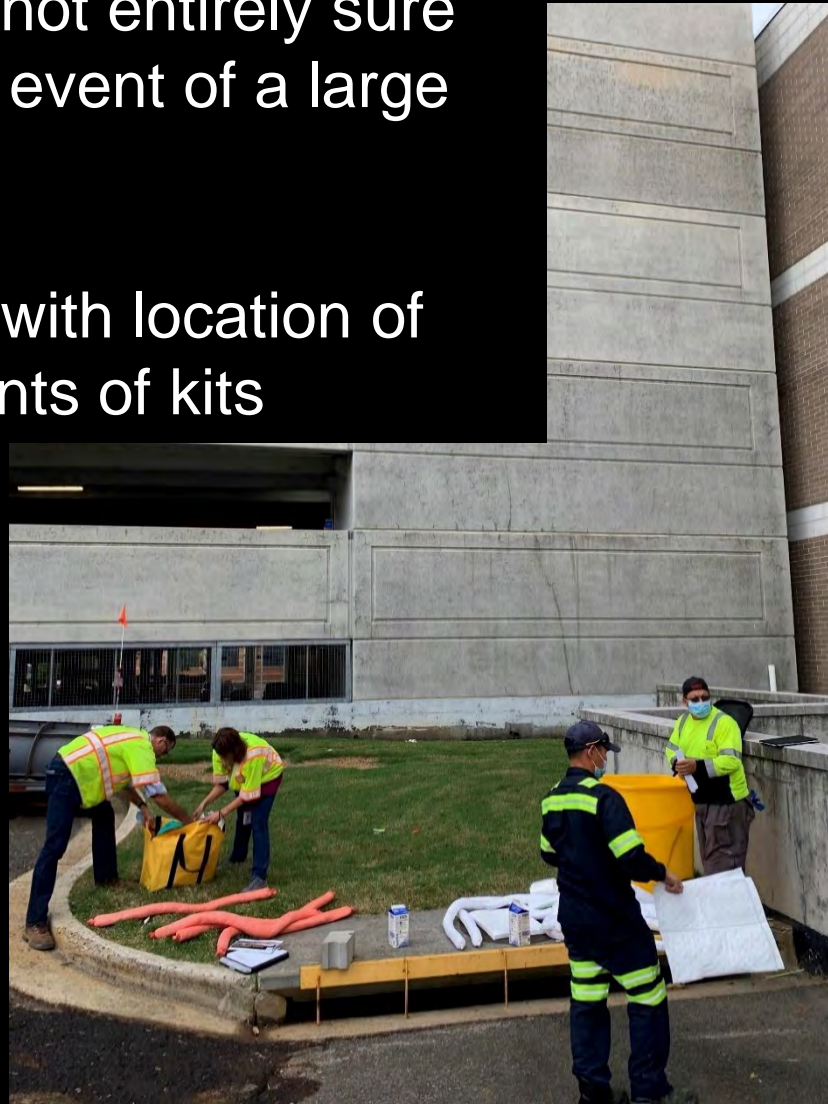
Leak of hydraulic fluid from dump truck





Follow-up / Lessons Learned

- Some staff were not entirely sure what to do in the event of a large spill
- Staff not familiar with location of spill kits or contents of kits



Response / What to do

- **CALL 911 or direct someone else to call 911 (know your location)**
- **Get help - Let people around know**
- **Get materials out nearest spill kit**
- **Stop source if possible (*turn off vehicle, close valve, upright drum*)**
- **Place materials around spill and down slope from spill**
- **You might need to weigh down booms / socks to prevent spill from going underneath**

Goal: contain spill as close as possible to source and prevent spill from entering a storm drain

Fueling

- Pay attention when fueling – stay at the pump
- Be careful when fueling – do not top off your tank
- Clean up spills
- Report problems
- Get help if needed



Spill Clean up at fueling Station

Spill!?

Turn off the fuel pump. Locate the spill kit.

1. Soak it up

Spread absorbent material on spill, press it into spill



2. Sweep it up



Use broom and shovel to sweep and scoop up material

3. Dispose of it



Put material in used absorbent bin or bag and place in trash receptacle

Large Spill?/Need Help with Clean Up? Call 703-228-7862
Spill Going into a Storm Drain? Call 911



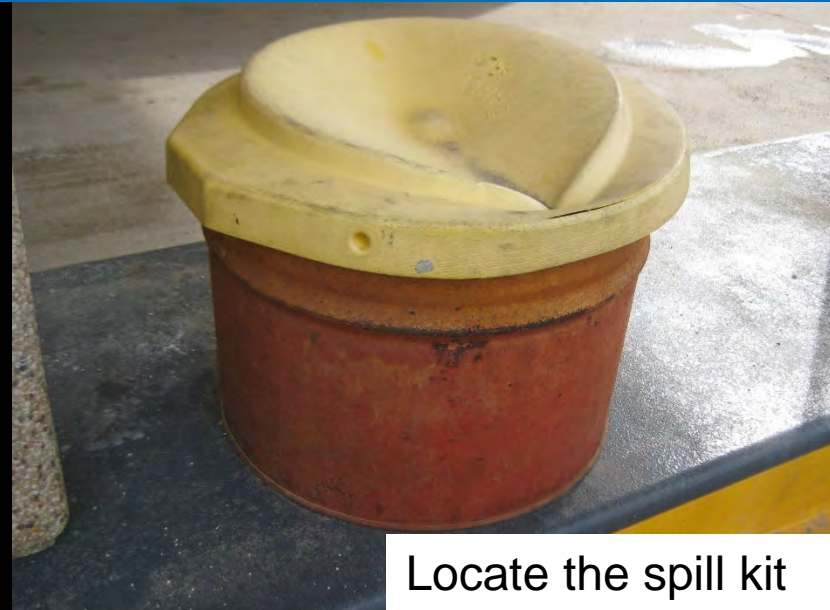
Tools / materials provided at Fuel Station



Cleaning up a spill using absorbent material - Fuel Station at Trades Center



A spill occurs



Locate the spill kit



Scoop up some absorbent



Pour / spread absorbent on spill

Locate the spill kit tools



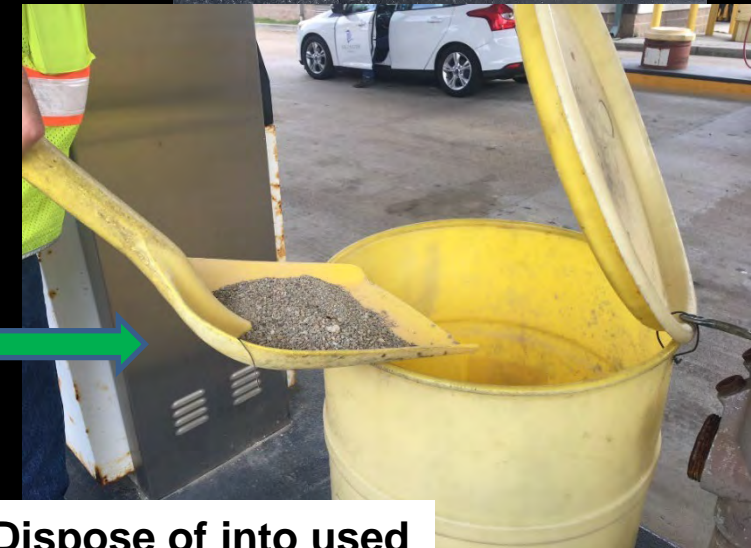
Work the absorbent material into the spill



Sweep up the used absorbent



Dispose of into used absorbents drum



OR put the material in a trash bag and dispose of bag in trash can or dumpster



Cleaning up a spill using spill pads



Locate the spill kit



Grab a spill pad



Place pad on spill and press the pad into the spill



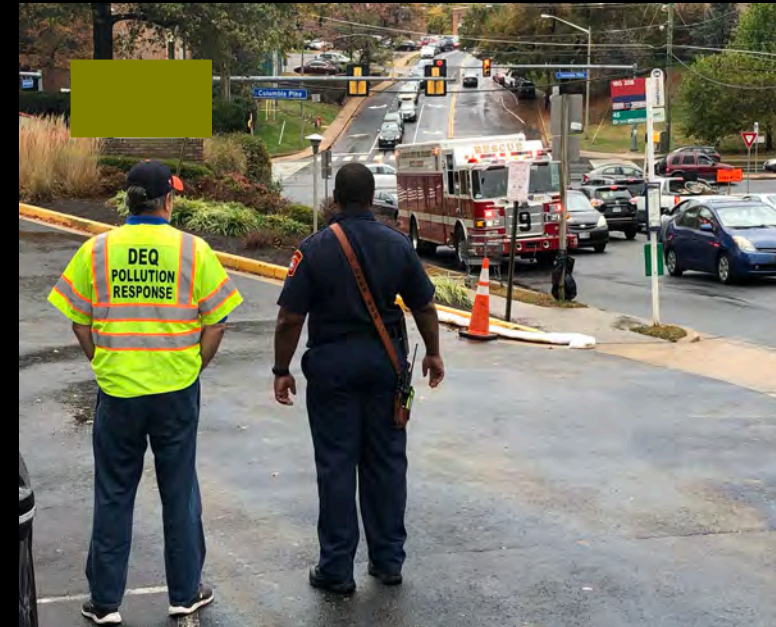
Bag the pad and put the bag in the trash can

Large Spill? / Spill went in a Storm Drain?

Notify Someone & Get Help!

Assist if you are able and it is safe to do

- Safety (notify people, keep people away from area)





Examples of successful spill response



Why successful?

Before you go...

- Pre-trip check
- Check vehicle or equipment for signs of leaks or spills
 - Let someone know if there is a leak
 - Take action to contain leak / spill
- Know where a spill kit is located
- Check to see if it is accessible and stocked
- Let someone know if a spill kit is missing or not stocked

Out and About in the County



- Report discharges



WHEN TO CALL

- Use best judgment
- Call as soon as you see it
- Take photos if possible

WHO TO CALL?

Emergency: 911

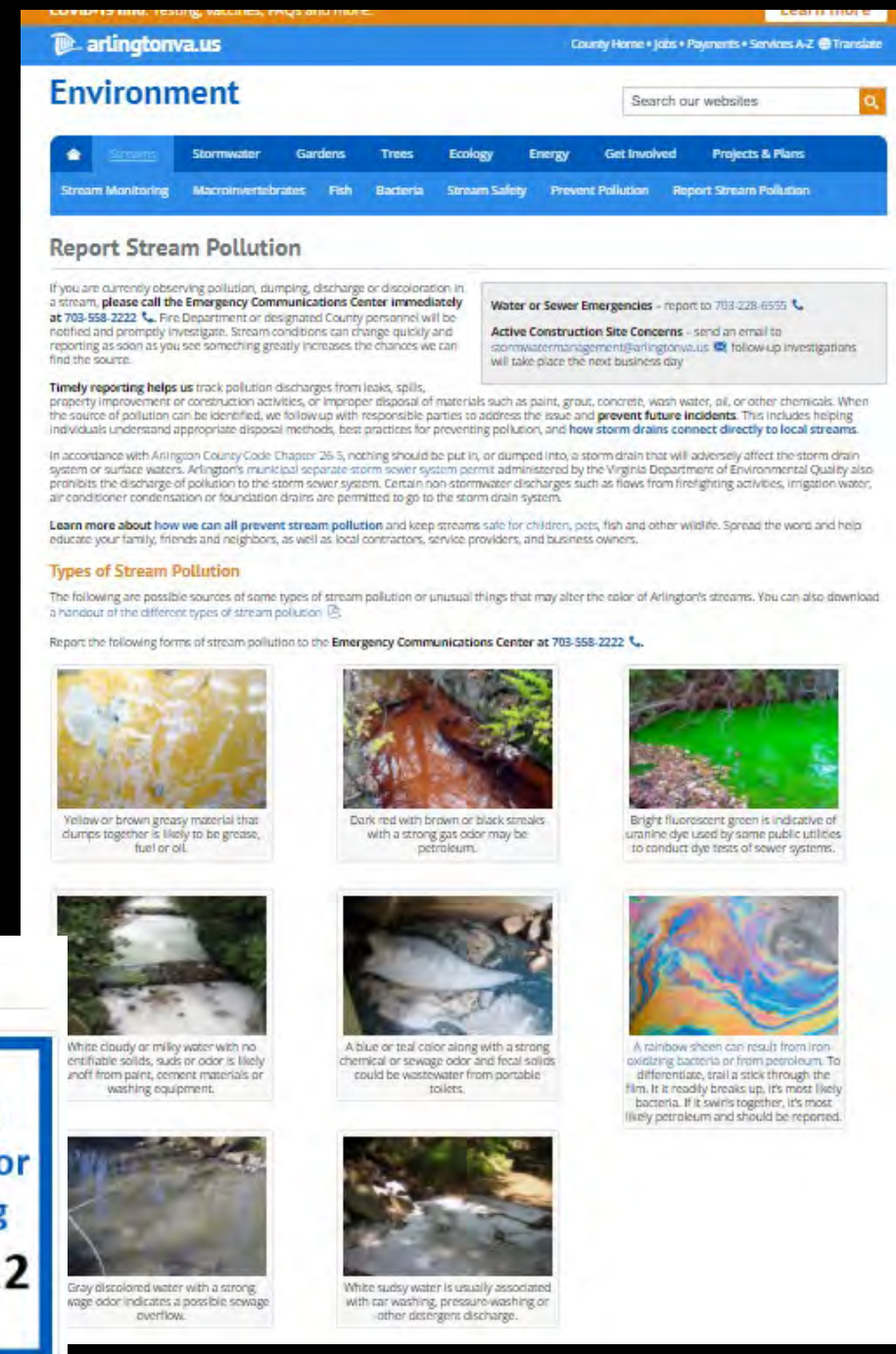
Non-emergency: 703-558-2222

DES OSEM: x0772, x3979

Report Stream Pollution



A graphic with a blue border and a white background. It features a stylized orange telephone handset icon on the left. To the right of the icon, the text reads: "Report Stream Pollution, Spills or Illegal Dumping" in blue, and "703-558-2222" in black below it.



A screenshot of the Arlingtonva.us website's "Environment" section. The page has a blue header with the Arlingtonva.us logo and navigation links for "County Home", "Jobs", "Payments", "Services A-Z", and "Translate". Below the header is a search bar and a navigation menu with tabs for "Streams", "Stormwater", "Gardens", "Trees", "Ecology", "Energy", "Get Involved", and "Projects & Plans". Under the "Streams" tab, there are sub-links for "Stream Monitoring", "Macroinvertebrates", "Fish", "Bacteria", "Stream Safety", "Prevent Pollution", and "Report Stream Pollution". The main content area is titled "Report Stream Pollution" and contains several paragraphs of text, including instructions on how to report pollution, a list of "Types of Stream Pollution" with corresponding photos and descriptions, and contact information for the Emergency Communications Center. The "Types of Stream Pollution" section includes photos and descriptions for: yellow or brown greasy material, dark mud with brown or black streaks, bright fluorescent green, white cloudy or milky water, a blue or teal color, a rainbow sheen, gray discolored water, and white sudsy water.

Reaction Time

The sooner we know about something...

- Faster response
- Better chance we can identify / stop the source
- Communicate information / issue advisories
- Clean up
- Education
- Enforcement



This is an important message from ARLINGTON A

[Please click here to acknowledge receipt of this message.](#)



LOCATION: Four Mile Run from Bon Air Memorial Rose Garden to Potomac River

INCIDENT: Sewage Release

IMPACT: ADVISORY: People and pets should avoid entering Four Mile Run from the Bon Air Memorial Rose Garden near Wilson Boulevard downstream to the Potomac for at least 48 hours due to a sewage release. Crews are investigating.

Enforcement - Arlington County Code §26-7

B. It shall be unlawful for any person to deposit into any open watercourse or gutter or pipe or other drainage structure any rocks, logs, dirt, paper, branches, leaves, grass, or any other material capable of causing a stoppage or disrupting the flow of storm or rain water or otherwise adversely affecting the hydraulic capacity of the watercourse or drainage structure.

C. It shall be unlawful for any person to discharge directly or indirectly into the storm sewer system or state waters, any substance likely, in the opinion of the County Manager, to have an adverse effect on the storm sewer system or state waters.



Report things that
don't look right...



Let someone know...





What do you do?

Public education & outreach is important!



**Clean outdoor areas, good controls, fast response
= less pollution in our streams**



**Pollution prevention is everyone's job...
...know what you can do to help.**

Thank you for your attention and all that you do to help protect Arlington's streams!



Applause!



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