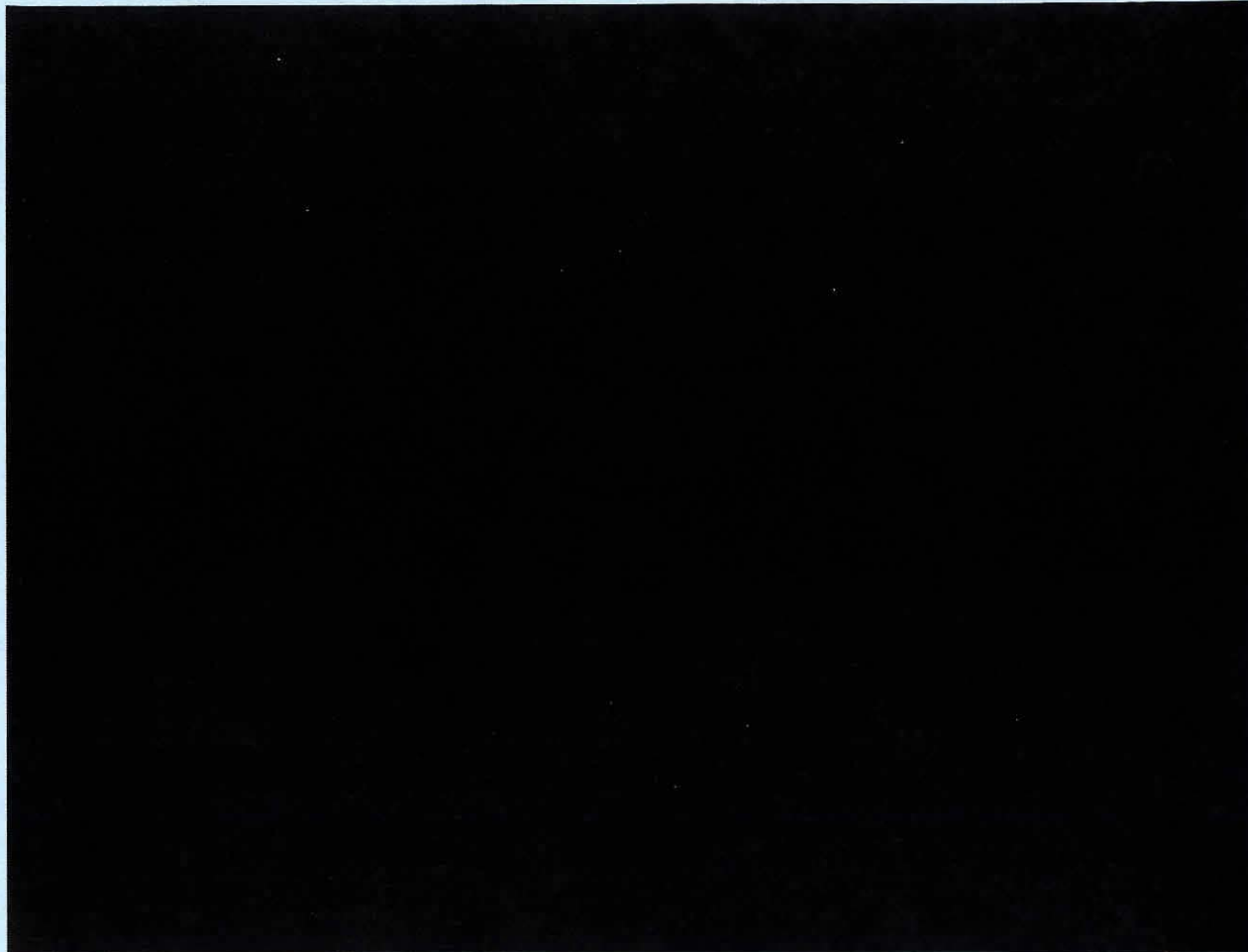




IDENTIFICATION AND ELIMINATION OF *ILLICIT* *DISCHARGES*

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
NPDES STORMWATER SECTION

Opening Video – Click to begin



PURPOSE...

- Educate staff and contractors to recognize, report, and stop illicit discharges.
- Create a culture of Pollution Prevention (P²) within OUR agency and community to prevent “pointless personal pollution.”



WHY AM I HERE?

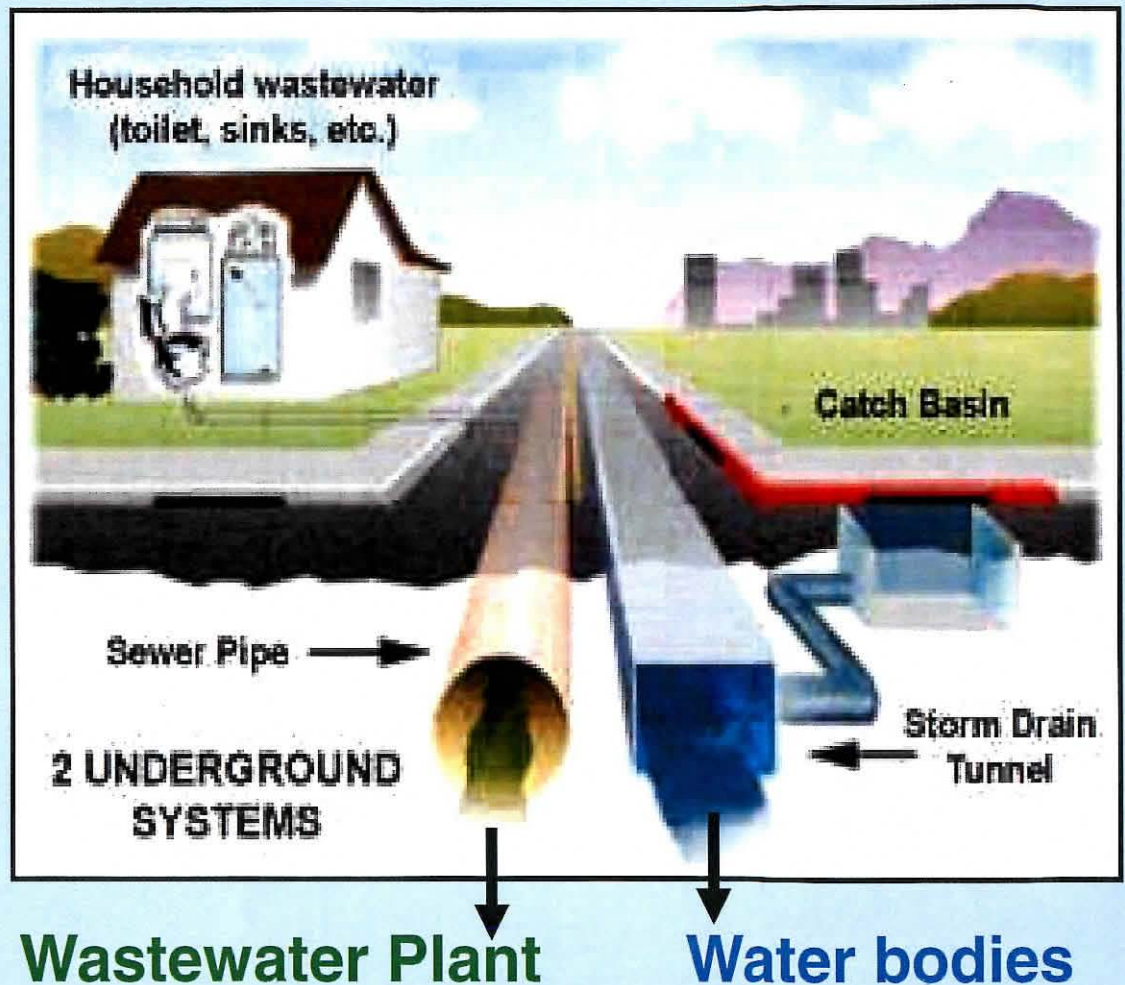
- **YOU are in the field as part of your job**
- **YOU are the “eyes” of our local government or agency**
- **YOU are part of the front lines in preventing illicit discharges**
- **YOU need to know what to look for and what to do if you see illicit discharges**

WHAT IS THE MS4?

- **“Municipal Separate Storm Sewer System”**
- **It is your “Master Drainage System”**
- **The “system” includes road drainage, catch basins, channels, detention ponds, swales, ditches, pipes, etc.**
- **Owned by local governments, WCDs, special districts**
- **Ultimately discharges to surface waters (lakes, rivers, bays, ocean, wetlands)**

HOW STORMWATER REACHES SURFACE WATER

- Sanitary sewer
- Storm sewer



WHAT IS A NPDES MS4 PERMIT?

- **Required by Federal Clean Water Act and by 403.0885, Florida Statutes**
- **NPDES = “National Pollutant Discharge Elimination System”**
 - **Implement Stormwater Management Program (SWMP) to minimize stormwater pollutant loadings.**
 - **Prohibit non-stormwater discharge to the MS4 through education, rules, policies, and inspections.**
 - **Improve and restore impaired waters by reducing stormwater loads.**

ALLOWABLE DISCHARGES INCLUDE...

- **Flows from emergency fire fighting activities.**
- **Water line flushing.**
- **Irrigation from lawn watering.**
- **Air conditioning condensate**
- **Rising ground waters.**
- **Dechlorinated/desalinated swimming pool water.**
- **Residential car washing.**



WHO IS RESPONSIBLE?

- *Everyone is!*
- We have a permit and moral obligation to future generations.
- Contact your MS4 staff for assistance in identifying a possible illicit discharge you have observed and how to prevent it.



WHY BE CONCERNED WITH ILLICIT DISCHARGES?



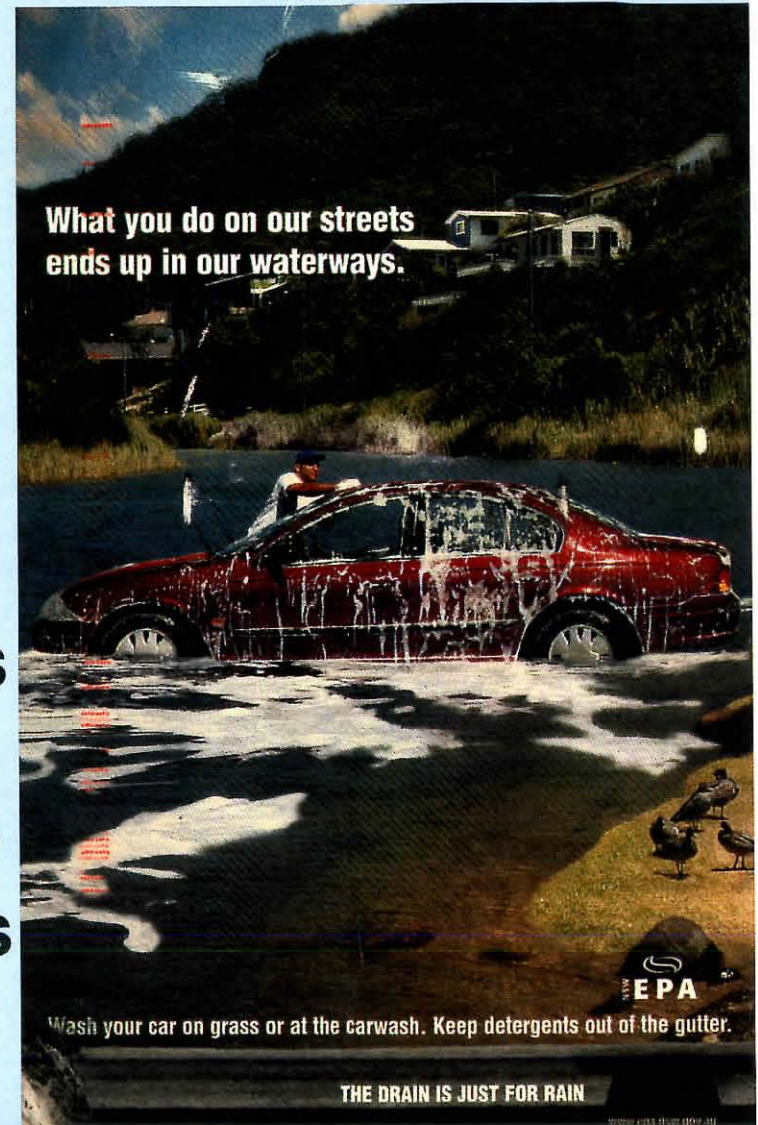
- **To ensure that only stormwater goes into our MS4.**
- **To protect our lakes, rivers, estuaries, and wetlands from pollution.**

ILLICIT DISCHARGES ARE...

- **Any discharge to an MS4, surface water, or ground water that is not composed entirely of stormwater runoff.**
- **Illicit Discharges may include:**
 - **Deliberate discharges or dumping**
 - **Incidental runoff from sites with chemicals, raw materials, or bare soil.**

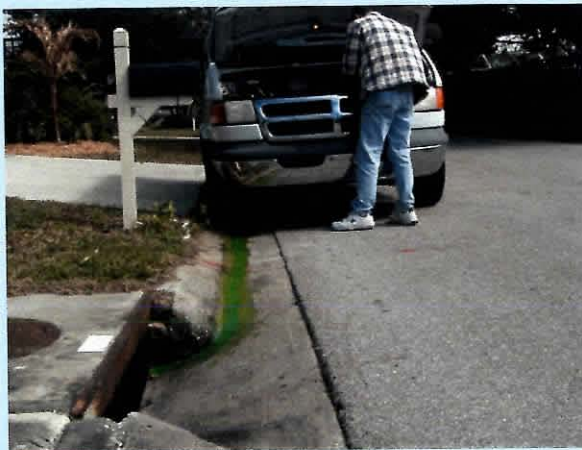
What are Examples of Illicit Discharges?

- Raw Sewage/ Septic Effluent
- Washing machine wastewater
- Car wash wastewater
- Improper oil or household toxics disposal
- Improper radiator flushing
- Paints, pesticides, herbicides
- Construction and other debris
- Pressure washing with soaps
- Grass clippings or yard waste
- Spills from roadway accidents



Types of Illicit Discharges

- **Illegal Dumping**
- **Illicit Connections**
- **Construction-related Discharges**
- **Pipe Defects (sanitary sewer)**
- **Accidental Discharge or Spills**



Illegal Dumping

Discharge of pollutants or non-stormwater materials into the storm sewer system



REPORT IMMEDIATELY

Illicit Connection

An improper physical connection to the stormwater system which can include non-permitted connection(s) to our MS4.

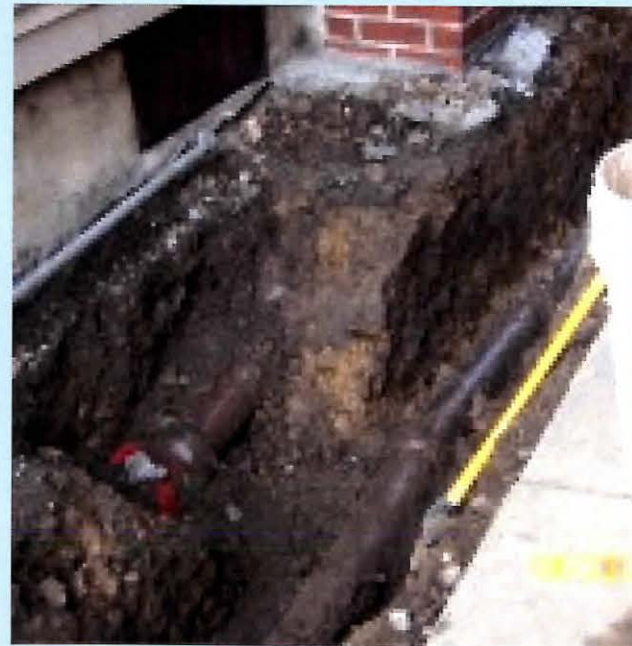
Direct Connection

- Wastewater piping
- Sewage from residential property
- Washing machine discharge
- Pipes to a stormwater drain



Indirect Connection

- Cracked sanitary systems
- Spills collected by drain outlets
- Paint or used oil dumped into drainage systems



Construction-Related Discharges

These are discharges into the MS4 or right-of-way from adjacent construction projects.

Some examples are:

- **Turbid water from dewatering and other construction activities.**
- **Contamination from discharges associated with remediation projects.**
- **Non-permitted dewatering discharges**



Sanitary Sewage

- Sanitary sewage may be present if there is black staining inside the drainage pipe; visible evidence of sanitary waste, floating debris, or opaque or gray water.
- Sewage may originate from septic tank overflow pipes or improperly dumped travel trailer waste.

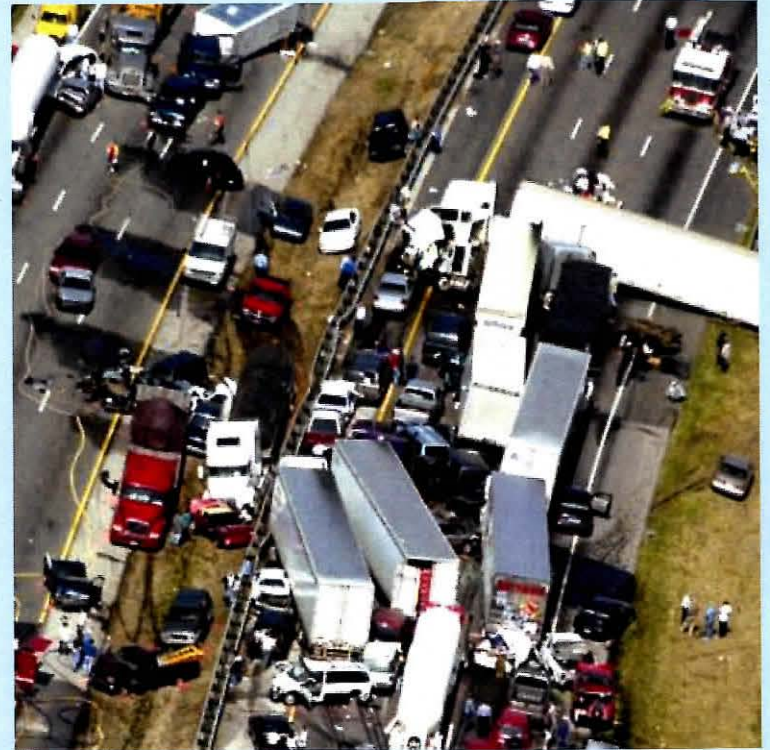


Failing septic tank

Accidental Discharge or Spills

Reporting a discharge or spill

- The reporting requirements for spills are 25 gallons or more of petroleum or petroleum based products.



Florida State Warning Point 1-800-320-0519

DOCUMENTING & REPORTING ILLICIT DISCHARGES

- Each MS4 has it's own SOPs – Part 2 of training
- Typically use inspection checklist
- Need to know to whom and how to report possible illicit discharge

**FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE
ILLICIT DISCHARGE DETECTION INSPECTION REPORT
NPDES MS4 STORMWATER PROGRAM**

Date: _____ Time: _____ Current Weather Condition: _____
 Firm or Agency: _____ Name: _____ Phone #: _____
 Illicit Discharge Location (Address/Location): _____
 _____ Mile Post: _____ (or) Station #: _____
 Receiving Water Body: _____ Ultimate Receiving Water Body (if known): _____

Physical Hydrologic/Hydraulic Data
 Time since last rain event: ☐ > 72 hours ☐ < 72 hours Quantity of last rain event: _____ inches
 Connection Type: ☐ Circular ☐ Elliptical ☐ Ditch or Swale ☐ Weir ☐ Culvert ☐ Arched ☐ Canal ☐ Unknown
 Description: _____
 Connection Material: ☐ RCP (Reinforced Concrete Pipe) ☐ CMP (Corrugated Metal Pipe) ☐ PVC (Polyvinyl Chloride Pipe)
 and/or: ☐ Concrete ☐ Earthen ☐ Ductile Iron (DIP) ☐ Fiberglass ☐ Asphalt ☐ Unknown ☐ Other
 Description: _____
 Connection/Outfall Size/Diameter: _____ feet and/or _____ inches

General Observation of Illicit Discharge
 Water Present: ☐ Yes ☐ No Abandoned Drums/Containers or Material Present: ☐ Yes ☐ No (If Yes Describe Below)
 Water Color: ☐ Clear ☐ Red ☐ Yellow ☐ Brown ☐ Green ☐ Grey ☐ Dark ☐ Tannin ☐ Other _____
 Odor: ☐ None ☐ Musty ☐ Sewage ☐ Sulfur/Rotten Eggs ☐ Sour Milk ☐ Fishy ☐ Other _____
 Floatables: ☐ None ☐ Oil ☐ Sheen ☐ Garbage/Trash ☐ Sewage/Milk ☐ Other _____
 Sedimentation: ☐ None ☐ Slight ☐ Moderate ☐ Heavy ☐ Suspended Solids ☐ Other _____
 Turbidity: ☐ Clear ☐ Slightly Turbid ☐ Moderately Turbid ☐ Heavily Turbid ☐ Other _____
 Incident Description/Observation: _____

Source: Ownership/Area Characteristics (Illicit connections only)
 Municipality (City/County), if known: _____
 Immediate upstream property owner's name and/or address: _____
 Type of Facility/Operated or Property Description: _____
 CC: () D5: Patrick Muench P.E. (386) 943-5434 Fax: (386) 736-5302

***** This section to be completed by Environmental Permitting Engineer *****
 Follow-up inspection required? ☐ Yes ☐ No Date Scheduled: _____ Time: _____
 Referred to _____ for further ☐ Investigation only, and/or ☐ Corrective action, by _____
 Comments/Instructions: _____

FOR YOUR SAFETY ALWAYS REMEMBER: NEVER INHALE, TOUCH OR COME IN CONTACT WITH ANY UNKNOWN SUBSTANCES
 Revised 5/12/2008

Spill Response Procedures

Information needed when reporting a spill

- **Name, address and phone number of person reporting the spill**
- **Name, address and phone number of responsible party for the discharge (if known)**
- **Date and time of the spill and status of spill (ongoing or ceased)**
- **Estimated amount of the spill**
- **Location or address of the spill**
- **Source or cause of the spill**
- **Description of area affected by the spill**
- **Provide as much information as possible**

What to look for – common signs of illicit discharges



Common Signs of Discharges

- Staining from paints or solvents on outfalls pipes, inlets and grates, and around pond bank
- Turbidity, oil/gas sheen, foam and/or suds
- Abandoned oil and gas containers, barrels, and paint cans
- Discoloration of water or vegetation
- Floatables and debris
- Pungent odors or other smells



Oil / Gas

- Recognized as a sheen on the water = rainbow
- Natural sheens may be differentiated from an oil/gas sheen by swirling the sheen around in the water. If it re-attaches, the sheen is oil/gas.



Foams / Detergents

- Products used to wash boats/vehicles/buildings may include chlorine, phosphates and ammonia.
- These products often enter lakes and streams as a result of improperly connected car washes or washing machines.



Examples of Previous Illicit Connections and Discharges



Unknown pipe into storm sewer inlet



Water by nature is not green!

Examples of Previous Illicit Connections and Discharges



Washing machine discharge



Unknown pipe to inlet

Examples of Illicit Connections and Discharges





Stains lead to storm sewer inlet



2008/07/29

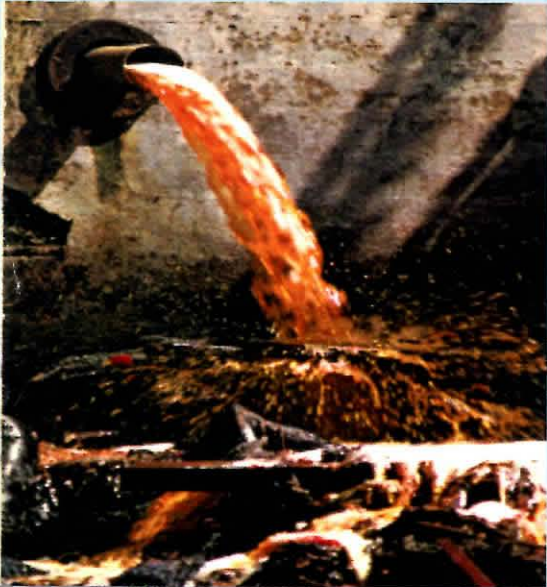


MORE INDICATIONS...



- A person emptying a drum or bucket of waste
- A tank or vactor truck draining its contents through a hose in a manhole
- A hose running out the back door of an industrial site into a ditch or a wooded lot

Even More Clues



- Unauthorized pipe which has been connected to the storm sewer
- Discoloration of channels and pipes
- Flow where there shouldn't be any



WHEN YOU FIND AN ILLICIT DISCHARGE...

- **On a property under your control...**
 - **Stop the discharge.**
 - **Notify supervisor and/or safety officer.**
 - **Cleanup discharge or spill.**
 - **Implement strategy to prevent illicit discharges in the future.**

WHEN YOU OBSERVE AN ILLICIT DISCHARGE...

- **On a property not under your control...**
 - Take picture and/or note location, characteristics, date, and time.
 - Identifying marks
 - Commercial vehicle?
 - Any ID on the door?
 - License Number
 - Report to MS4 immediately.



CREATING A CULTURE OF POLLUTION PREVENTION (P²)...

- **Administration and Communication**
 - **Create a plan of action/SOPs to manage illicit discharges.**
 - **Stormwater Pollution Prevention Plan**
 - **Spill Cleanup Plan and Spill Cleanup Kits**
 - **Create channels of communication of reporting potential or observed illicit discharges.**
 - **These channels should go up and down the Org. Chart.**
 - **Like safety, P² is everyone's responsibility.**



WE MUST SET AN EXAMPLE

CREATING A CULTURE OF POLLUTION PREVENTION (P²)...

- **Housekeeping and Materials Management**
 - **Vehicle Washing/Maintenance**
 - **Wash water should never discharge to storm sewer or surface waters.**
 - **Maintenance should be performed indoors.**



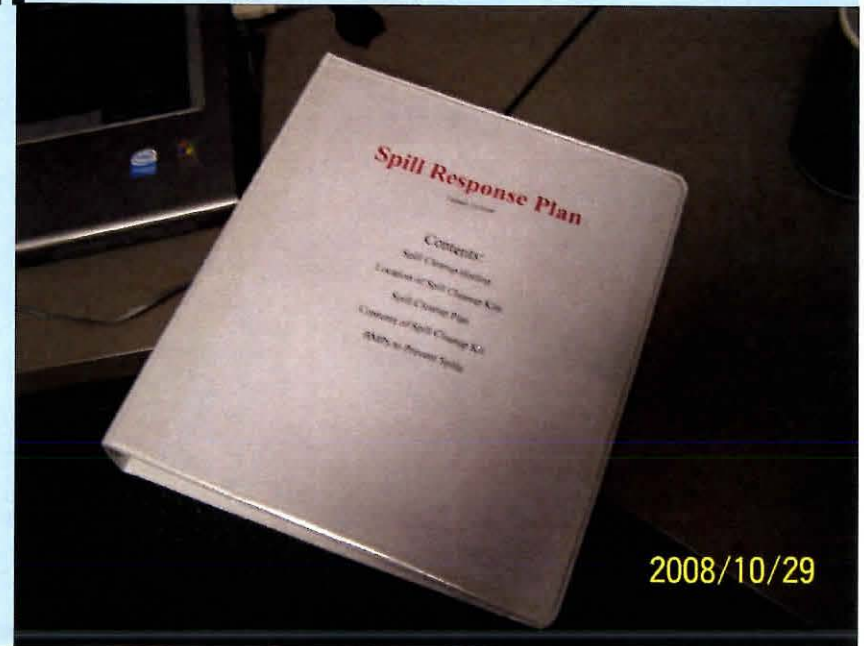
CREATING A CULTURE OF POLLUTION PREVENTION (P²)...

- Housekeeping and Materials Management
 - Spill Prevention
 - Use drop cloths, drip pans, and secondary containment.



CREATING A CULTURE OF POLLUTION PREVENTION (P²)...

- Housekeeping and Materials Management
 - Spill Reporting and Response
 - Spill reporting hotline.
 - Spill Cleanup Plan.
 - Spill Cleanup Kit.



2008/10/29

CREATING A CULTURE OF POLLUTION PREVENTION (P²)...

- Housekeeping and Materials Management
 - Street and Yard Maintenance
 - Street sweeping.
 - Inlet protection.



CREATING A CULTURE OF POLLUTION PREVENTION (P²)...

- Housekeeping and Materials Management
 - Material Storage
 - Cover stockpiles, drums, and other containers.
 - Know manufacturers storage guidelines.



CREATING A CULTURE OF POLLUTION PREVENTION (P²)...

- **Housekeeping and Materials Management**
 - **Landscaping and Lawn care**
 - Keep clippings out of street and stormwater inlets.
 - Sweep up spills and reuse the fertilizer.
 - Use Florida-friendly fertilizers = low or no phosphorus and slow release nitrogen.
 - Know manufacturers application rates.
 - Keep pesticides and fertilizers away from lakes, rivers, wetlands, streets, and stormwater inlets.



GUARANTEED ANALYSIS

Total Nitrogen (N).....	35.0%
35% Urea Nitrogen*	
Soluble Potash (K ₂ O).....	5.00%
Boron (B).....	0.03%
Copper (Cu).....	0.05%
Iron (Fe).....	5.00%
0.10% Water Soluble Iron (Fe)	
Manganese (Mn).....	0.05%
Molybdenum (Mo).....	0.0006%
Zinc (Zn).....	0.05%

Derived from: Polymer-coated Urea, Urea, Muriate of Potash, Sodium Borate, Copper Oxide, Ferric Oxide, Ferrous Sulfate, Manganese Oxide, Molybdic Oxide and Zinc Oxide.

* Contains 15% slowly available Nitrogen from coated Urea.

F1074



THE CONSEQUENCES...

- Florida DEP and the US EPA can levy very hefty fines...

FOR IMMEDIATE RELEASE: September 29, 2008
CONTACTS: Amy Graham, (850) 245-2112 or (850) 778-7258

DEP AGENTS CRACK DOWN ON WASTE VIOLATIONS STATEWIDE

-Two arrests triggered by citizen calls to State Warning Point-

TALLAHASSEE- Florida Department of Environmental Protection (DEP) law enforcement agents made three separate arrests last week for waste violations, including one for storing, processing or disposing of solid waste within 200 feet of a natural body of water, a first degree misdemeanor punishable by up to six months in jail and/or a fine up to \$10,000.

FOR IMMEDIATE RELEASE: October 17, 2008
CONTACTS: Amy Graham, (850) 245-2112 or (850) 778-7258

DEP SLEUTHS SOLVE WETLANDS CRIME

~Suspect arrested after destroying 10 acres of wetlands~

BAY COUNTY- After a three month investigation, Florida Department of Environmental Protection (DEP) law enforcement agents last week arrested a man with causing pollution, a third degree felony punishable by up to five years in prison and a fine of up to \$10,000. Thomas Bodie, who was arrested after clearing and filling approximately 10 acres of state jurisdictional wetlands, was also charged with failing to obtain a permit, a misdemeanor punishable by up to one year in jail and a fine of up to \$1,000.



Four Of The Nation's Largest Home Builders Settle Storm Water Violations

June 12, 2008

Washington, D.C. — Four of the nation's largest home builders have agreed to pay civil penalties totaling \$4.3 million to resolve alleged violations of the Clean Water Act, the Justice Department and Environmental Protection Agency announced recently. The companies also have agreed to implement company-wide compliance programs that go beyond current regulatory requirements and put controls in place that will keep 1.2 billion pounds of sediment from polluting our nation's waterways each year.

The home builders are Centex Homes, based in Dallas; KB Home, based in Los Angeles; Pulte Homes, based in Bloomfield Hills, Mich.; and Richmond American Homes, based in Denver. The four separate settlements resolve alleged violations of storm water run-off regulations at construction sites in 34 states and the District of Columbia. Each company will pay the following penalties:

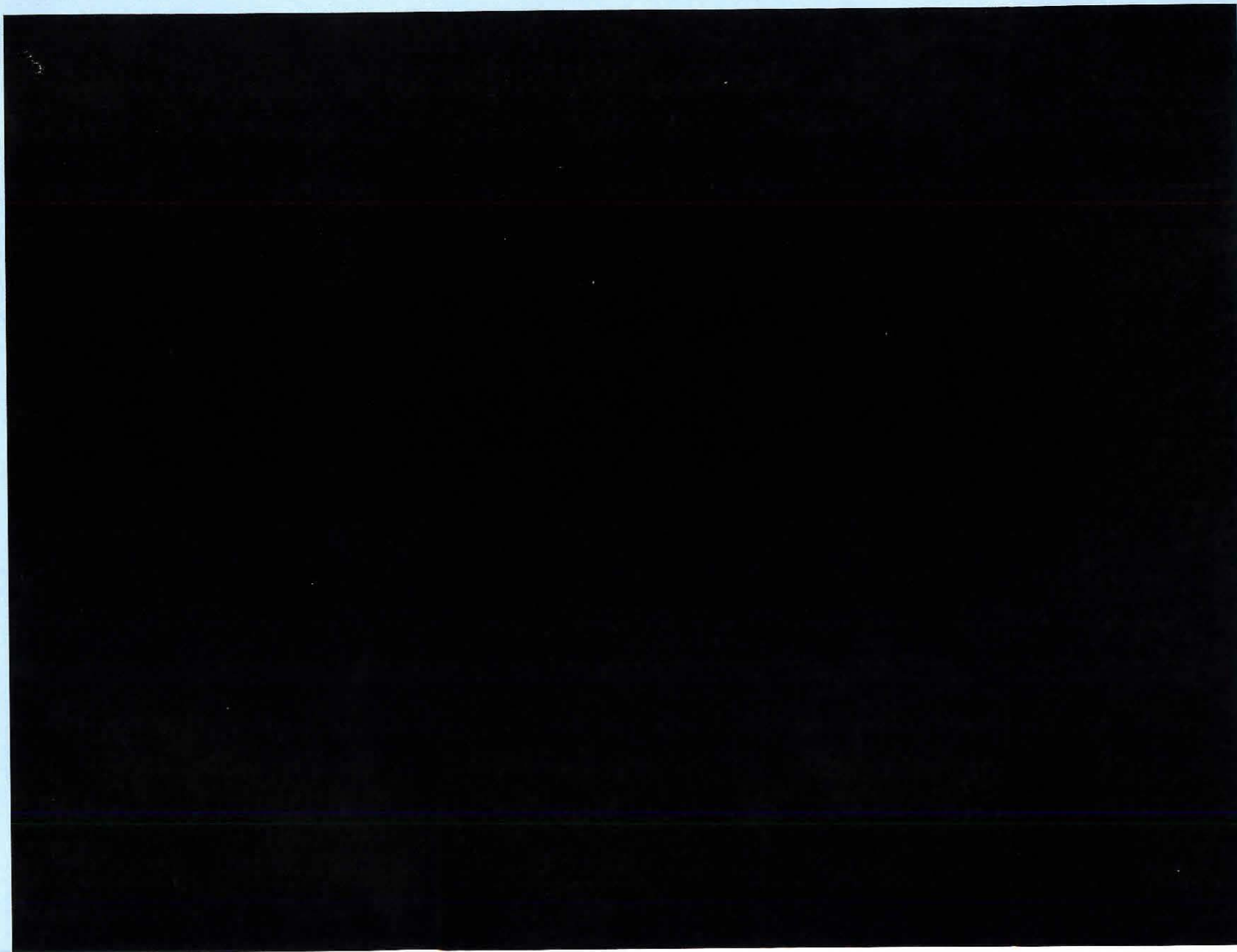
Centex: \$1,485,000

KB Home: \$1,185,000

Pulte: \$877,000

Richmond: \$795,000

CLOSING VIDEO



QUESTIONS?

