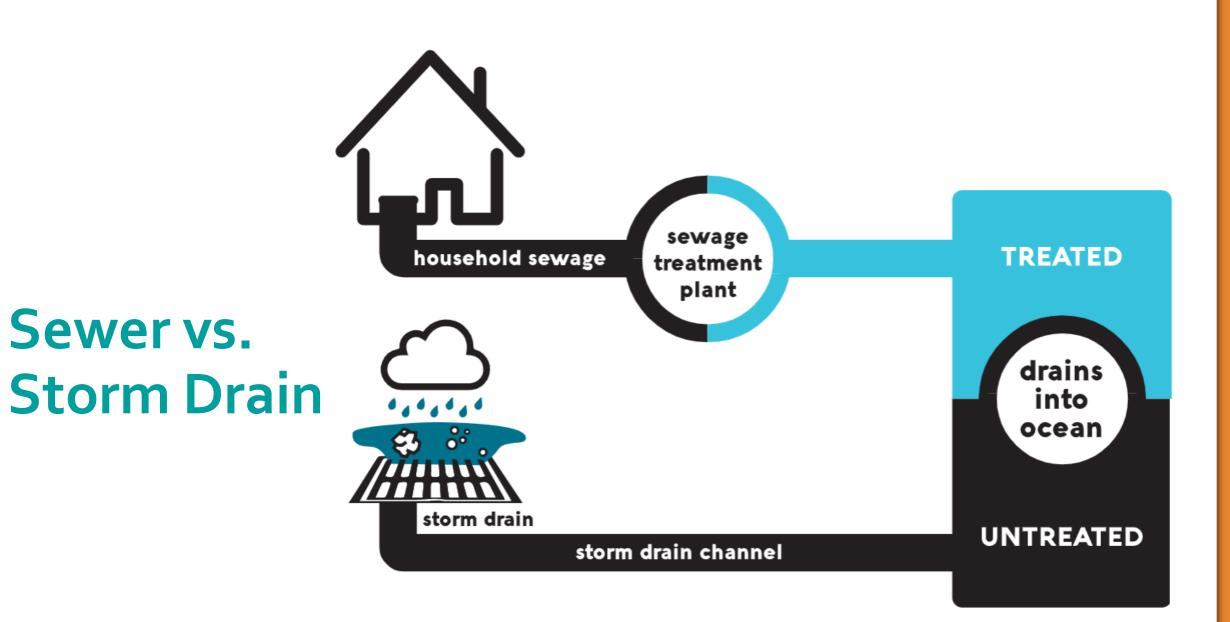


## H2O for HOAs Workshop: Protecting Your Watershed

Presented by: Amber Shah, P.E. Associate Civil Engineer, City of Laguna Hills

October 29, 2019



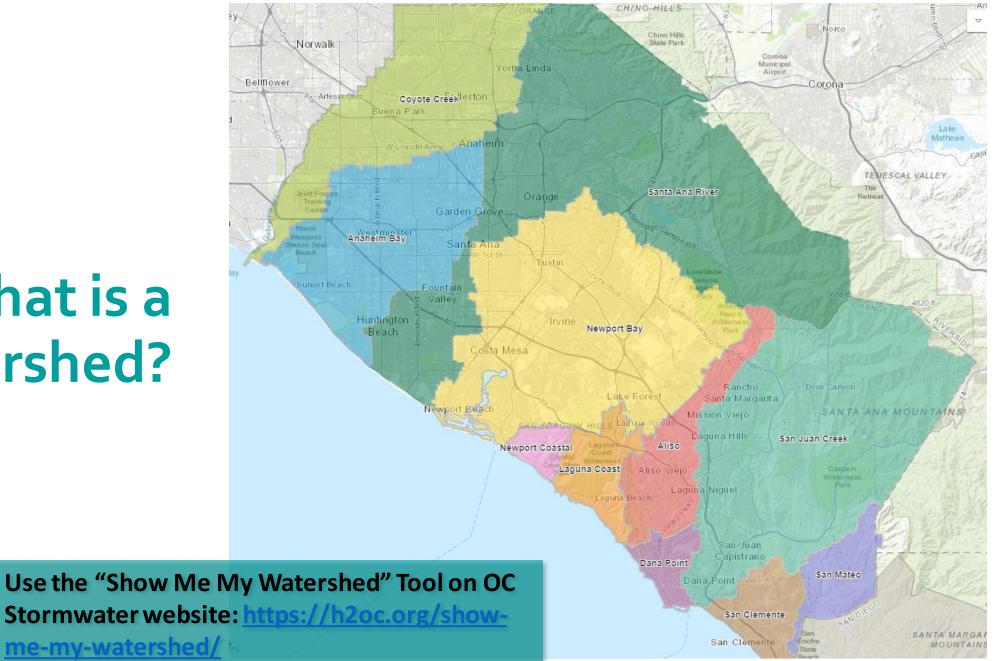


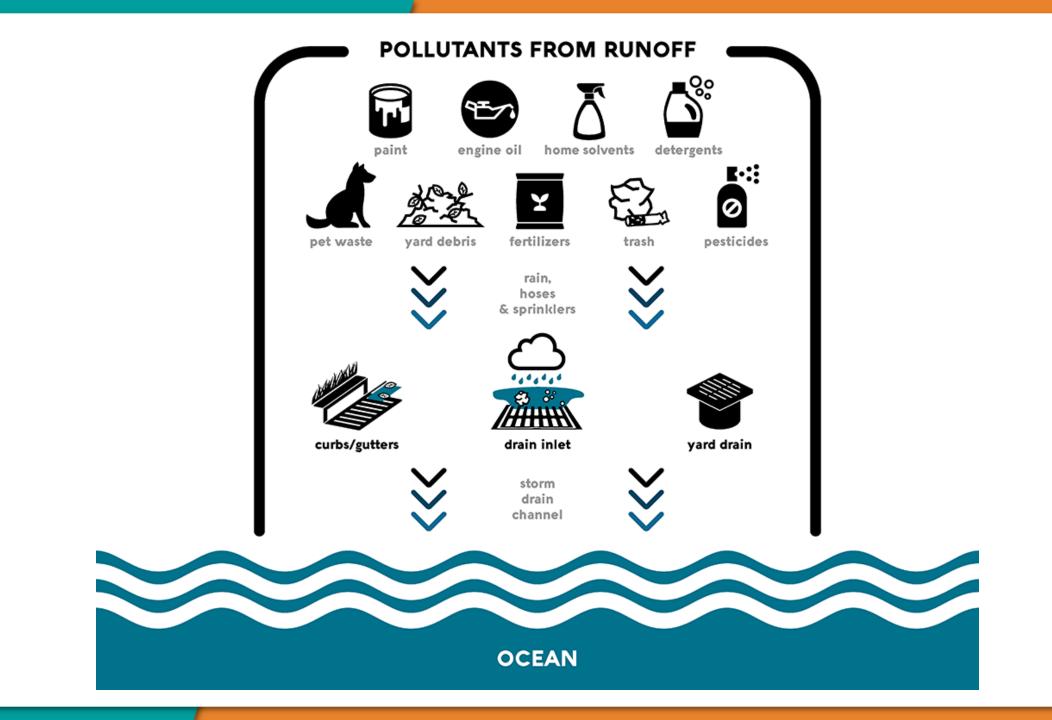
# What is a Watershed?

A watershed is the land area that channels rainfall to creeks, streams, rivers, and eventually to reservoirs, bays, and the Pacific Ocean.

All the land in Orange County drains to at least one body of water; so no matter where you stand, you are in a watershed!

### What is a Watershed?





## What Can You Do to Help?

## Implement Best Management Practices (BMPs):

Practices or devices that help control, treat, or prevent runoff pollution.



# CIA/HOA Program

## Program Goal

Increase understanding and implementation of BMPs to prevent pollutants from reaching waterways and the Pacific Ocean

## • Common Interest Community with the power to encourage change.

## Why CIA/HOAs • Enforcing rules and regulations that are waterwise.

• Properly maintaining and developing your community.





## BMPs

## Resources: BMP Fact Sheets

Fact sheets provide more detailed guidance. Fact sheets include:

- Pollution prevention
- BMPs
- Training
- References



#### IC16. POOL AND FOUNTAIN CLEANING

#### **BEST MANAGEMENT PRACTICES (BMP)**

A BMP is a technique, measure, or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost-effective manner.<sup>1</sup> The minimum required BMPs for thi activity are outlined in the box to the right Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

TARGETED CONSTITUENTS				
$\checkmark$	Sediment			
V	Nutrients			
$\checkmark$	Floatable Materials	1		
	Metals	1		
V	Bacteria			
	Oil and Grease			
M	Organics and Toxicants			
$\checkmark$	Pesticides	]		
	Oxygen Demanding			
-		-		

#### MINIMUM BEST MANAGEMENT PRACTICES

#### Pollution Prevention/Good Housekeeping

- Prevent algae problems with regular cleaning, consistent adequate chlorine levels, and well-maintained water filtration and circulation systems.
- Discharge pool and fountain water properly.
- Stencil storm drains.

#### Training

- Train employees on these BMPs, stormwater discharge prohibitions, and wastewater discharge requirements.
- Provide ongoing employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium- and high-priority facilities, the owners/operators must select, install, and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### 1. Prevent algae problems with regular cleaning, consistent adequate chlorine levels, and wellmaintained water filtration and circulation systems.

- Do not use copper-based algaecides.
- Control algae with chlorine or other alternatives, such as sodium bromide.
- 2. Manage pH and water hardness to minimize corrosion of copper pipes.
- 3. Discharge pool and fountain water properly.

Consider hiring a professional pool-draining service to collect all pool water for off-site disposal. If this is not feasible, adhere to the following:

 When draining pools or fountains, never discharge water to a street or storm drain; discharge to the sanitary sewer if permitted to do so.

### County Stormwater Program "OC Watersheds"

#### C (i) Not secure | www.ocwatersheds.com/documents/bmp

C Public	Works		OCgov.com	quick access Current Agency O Entire County	AAA   Low Graphics	s Version
OC PUBLIC WORK	WATER POLLUTION S HOTLINE	PUBLIC EDUCATION	WATER SHED PROGRAMS	RAIN / WATER QUALITY DATA	DOCUMENTS	CONTACT US
A OC Watersheds	Documents and Data	Resources Best Mana	gement Practices (BMP)			Email Print

#### BEST MANAGEMENT PRACTICES (BMP)

- » Best Management Practices (BMP) Home
- » Construction Activities
- » New Development / Significant Redevelopment
- » Industrial/Commercial Businesses Activities
- » Residential Activities
- Common Interest Area/Homeowner Assoc. Activities
- » Municipal Activity





☆

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A Best Management Practice is defined by the EPA as a technique, measure or structural control that is used for a given set of conditions to manage the quantity and improve the quality of stormwater runoff in a cost effective manner.

The Orange County Stormwater Program offers a number of BMP fact sheets associated with the various program elements of the 2003 Drainage Area Management Plan (DAMP). The DAMP is designed to help businesses, contractors, and residents prevent and control the introduction of pollutants to the stormdrain system, receiving waters, and eventually, the ocean. While a great place to start, the fact sheets offered below do not represent a complete list of BMP information. For more available resources on BMPs please visit the Resources Links page of this website.

## The Basics of Pollution Prevention

- Use Non-hazardous Cleaning Products
- Recycle and Reuse
- Reduce Exposure
- Use Dry Cleanup Methods (e.g., Sweeping)
- Properly Store and Label Materials



# Common BMPs for all HOAs

Low Impact Development for Residents

### Problem:

Runoff from homes can pick up pollutants and flush them into our waterways, impacting our beaches



### Solutions:

Low Impact Development (LID) techniques reduce runoff flowing from homes

- Install a Rain Garden
- Install a Rain Barrel
- Install a Downspout Disconnection/ Redirection

## Home Hardscapes



### Problem:

Runoff from impermeable surfaces, like driveways, can pick up pollutants and flush them into our waterways, impacting our beaches

### Solutions:

Permeable surfaces allow water to be absorbed into the ground

- Install Steppingstone
- Replace Pavement with Gravel
- Install Intermittent Pavers

### Hardscape Maintenance



#### Problem:

Pressure washing washes concentrated pollutants into the storm drain system

- Use absorbents to address wet spills
- Sweep, blow, or rake
- Block storm drain inlets and recover wash water

## Vehicle Parking



### Problem:

Vehicles leak motor oil, and block street sweepers from picking up trash and leaf debris

#### Solutions:

• Remove vehicles from street during street sweeping/cleaning times

## Vehicle Washing



#### Problem:

Washing cars on impervious surfaces can wash chemicals and concentrated metals into the storm drain system

- Wash your car on permeable surfaces, like your lawn or gravel to allow water to infiltrate instead of running off your property
- Prohibit car washing (and take car to a car wash)

## **Vehicle Repairs**



#### **Problem:**

Vehicles can leak motor oil or repairs can lead to fluid spills

- Work on water resistant surfaces while repairing your car
- Water resistant surfaces like concrete make it easier to clean up spills and stop pollutants from leaving your worksite

## **Vehicle Repairs**



### More Solutions for Vehicle Repairs:

- Conduct auto repair activities at a commercial repair facility
- Keep kitty litter or other absorbent material on hand to clean up spills
- Place drip pans underneath leaking vehicles

## Household Hazards



#### Problem:

Household hazardous waste that is not disposed of properly can seep into our ground water or wash into our storm drain system

- Encourage residents to use Household Hazardous Waste Collection Centers (HHWCC)
- Use the Material Exchange Program



#### Problem:

Organic waste, fertilizer, and pesticides can migrate into storm drain system

- Collect and dispose of green waste properly
- Sweep up green waste on driveways and sidewalks and dispose of in a green waste container.



#### Problem:

If improperly applied, fertilizers can wash into our waterways and cause ecological problems

- Don't over fertilize
- Always follow the manufacturer's directions
- Only fertilize when plants are actively growing



### More Solutions for Fertilizer Use:

- Keep fertilizer off impervious surfaces and sweep it back onto the lawn
- Maintain a buffer zone around surface water bodies
- Stop applying fertilizer 48 hours before a forecasted rain event



#### **Pesticide Selection**

Before selecting and applying a pesticide:

- \* Know the pest
- Know federal, state and local pesticide regulations
- Know how to properly use application equipment

# READ

Read the Label!



If pesticides enter our waterways, they can be dangerous to human health and aquatic life

### Solutions:

- Don't overuse
- Follow the directions on the label, the "label is the law" for pesticides
- Verify the pesticide fits the pest
- Keep off impervious surfaces

Know what PPE is required.



#### **Pesticide Selection**

Before selecting and applying a pesticide:

- \* Know the pest
- Know federal, state and local pesticide regulations
- \* Know how to properly use application equipment

#### Read the Label!

Know what PPE is required.

#### More Solutions for Pesticide Use:

- Maintain a buffer zone around wells and surface waterbodies
- Utilize Integrated Pest Management (IPM) practices
- Properly store and dispose of pesticides
- Promptly clean up spills
- Do not apply pesticides 48 hours before a forecasted rain event





#### Problem:

Activities such as over-irrigation and landscape maintenance can discharge pollutants to the storm drain system **Solutions:** 

- Utilize drought and insect resistant landscaping
- Remove weeds, which require additional irrigation
- Use mulch in your landscaping

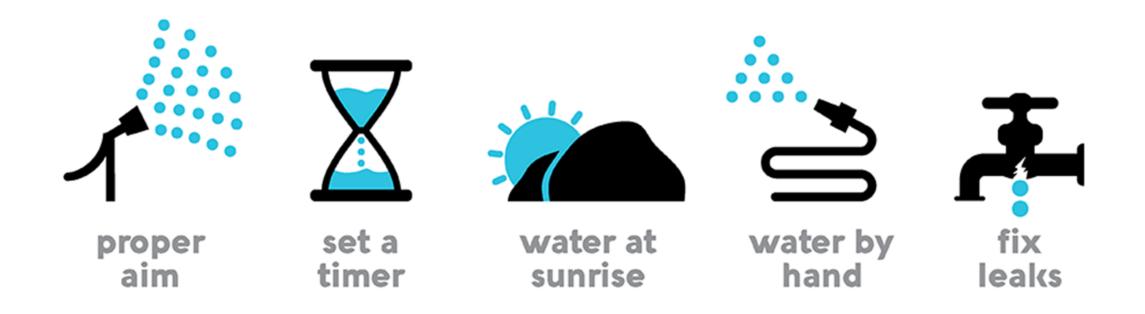


**Problem:** Irrigation runoff is a prohibited discharge

- Reduce outdoor water usage
- Adjust sprinkler heads
- Use a smart irrigation timer

### **Irrigation System Maintenance**

### **SMART IRRIGATION**



Seasonal Watering: Watering according to seasonal variations helps to reduce unnecessary watering

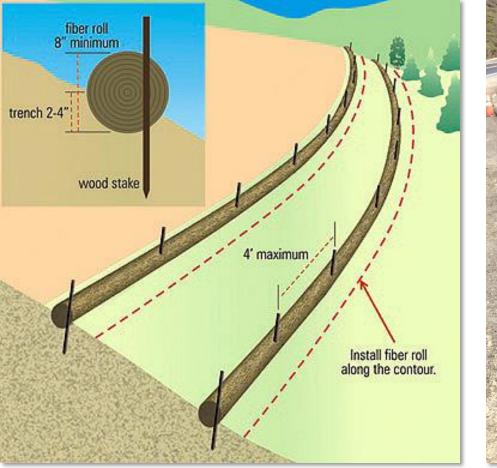
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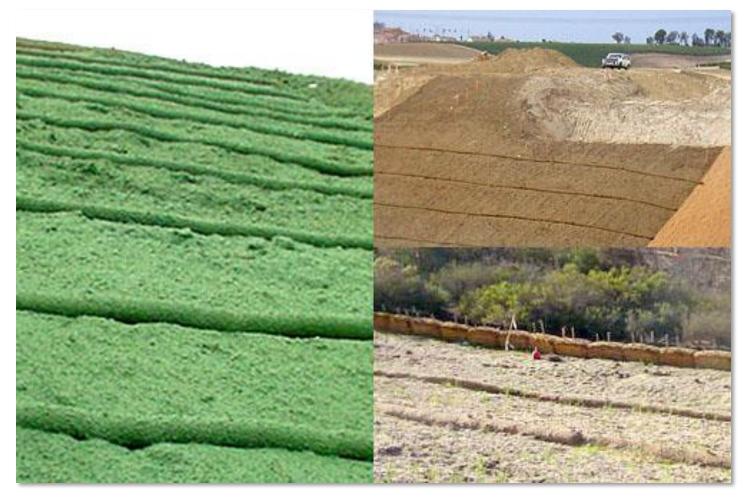
**Slope Maintenance** What is wrong with this picture?





### **Slope Maintenance**

Temporary fiber rolls used on a slope



## **Slope Maintenance**

Temporary fiber rolls used on a slope in combination with hydro-seeding, but permanent vegetation is best!



## **Slope Maintenance**

Weeds? Mowing (NOT discing) is the correct abatement method!

# Community Pool Operation & Maintenance



## Problem:

Pool water and maintenance materials can find its way to the storm drain system if proper drainage is not in place.

- Discharge to sanitary sewer preferred
- Last resort to storm drain (must dechlorinate and remove other pollutants)
- Do not discharge diatomaceous earth

# Common Area Maintenance



### **Problem: Pet Waste**

Bacteria from pet waste can wash into our storm drain system creating human and environmental health risks.

- Properly dispose of pet waste (includes stabled animals)
- Implement pet stations
- Restrict animal access to creeks and streams

# Common Area Maintenance



### Problem: Green Waste

Improper disposal of green waste clog storm drains, causing flooding, and can harm our waterways

- Do not dispose of green waste in streets or catch basins
- Use a green waste collection service
- Place temporary stockpiles away from storm drain inlets and watercourses

# Material Storage, Handling & Disposal



## Problem:

Improper care of materials can lead to chemicals or objects washing into our storm drain system

- Store materials indoors or under cover if possible
- Keep storage areas clean and dry
- Provide secondary containment for stored liquids
- Regularly inspect storage areas for spills or leaks

# Trash Collection, Recycling & Disposal



### **Problem:**

Trash and Recycling bins that are left uncovered or improperly cared for can lead to trash into our waterways

- Cover dumpsters and other waste containers
- Frequently pick up debris around the dumpsters

# Trash Collection, Recycling & Disposal



## More Solutions For Trash & Recycling

- Regularly inspect trash containers for damage and repair or replace as needed
- Contact waste hauler for replacement cans and bins:
  - CR&R: (877) 728-0446
  - WM: (949) 642-1191



# BMPs for HOAs with Privately-Owned and Maintained Streets and Storm Drains (In addition to those already detailed)

# **Street Sweeping**



## Problem:

Overtime, brake dust, trash and organics build up on our roads, where they can easily wash into our storm drains

- Maintain a consistent sweeping schedule
- Sweep streets at least once per month (recommended minimum)
- Avoid street cleaning during wet weather
- Don't flush down streets

# Storm Drain Maintenance





### Problem:

Storm drain catch basins collect trash and organics **Solutions:** 

- Annually inspect and clean drainage facilities
- Eliminate any discharges that may occur while maintaining drainage facilities
- Implement a storm drain stenciling program
- Report all illicit connections and discharges to the 24-hour water pollution problem hotline (877) 89-SPILL or to the City.

## **Construction & Maintenance Projects**









## **Construction Site Common Pollutants**



sediment/dirt



concrete & grout



paint, lacquers, & primers





soaps & detergents



wood preservatives

fuels, lubricants, coolants, & fluids



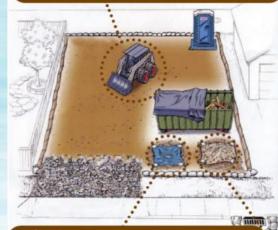
pesticides

## **Construction & Maintenance Projects**

### Best Management Practices for Construction Sites

#### **Earthmoving Equipment**

All earthmoving equipment must be stored onsite. Drip pans must be placed under equipment not in use, and maintenance must be conducted onsite instead of in the street. Any leaks should be cleaned up and repaired immediately.



#### Washout Areas

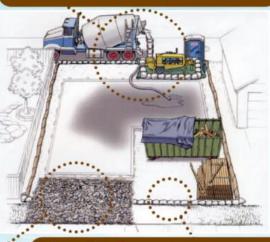
Disposal of "wet" construction materials should be handled in the washout area. This includes paint, stucco, and concrete. Use a plastic-lined pit to collect and contain liquids and prevent runoff into the street and gutter. The washout area must be checked and maintained daily to ensure compliance. Washout material must be disposed of properly.

### Dirt and Grading

Stockpiled dirt and gravel must be stored onsite and covered. Dust control shall be maintained throughout all phases of construction. During the rainy season (October 1 – April 30) additional gravel, bags, tarps, and visqueen must be stored onsite for emergency repair.

#### Concrete Trucks/Pumpers

Pumpers must be surrounded by perimeter controls, such as gravel bags, sandbags, and straw wattles. Tarps also must be placed beneath concrete pumpers at all times to prevent spills into the street and sidewalk. Residual materials must be cleaned up as well. Trucks and pumpers are required to clean out in the washout area, not in the street, catch basin or a wheelbarrow.



#### Perimeter Controls

Gravel bags, silt fences and straw wattles are acceptable perimeter controls and must be used to control site run-on and runoff. Avoid running over perimeter controls with vehicles or heavy equipment, as they can damage the materials. Keep extra absorbent materials and/or a wet/dry vacuum onsite to quickly pick up spills. Sites must be checked and maintained daily.

#### **Tracking Controls**

All entrances/exits on the site must have coarse gravel (1" to 3" angular material) and/or steel shaker plates to limit offsite sediment tracking. Hand or mechanical sweeping must also be used as needed to clean up any material that gets tracked offsite.

#### Dumpsters and Portable Toilets

Dumpsters must be covered with a tarp at the end of each work day and area around dumpster must be kept clean. Dumpsters must be located onsite unless an Encroachment Permit is obtained for placement in street. Portable toilets must have drip pans and be placed onsite so that any spills do not discharge offsite.

### **Building Materials/Staging Areas**

Construction materials (including landscape materials) must be stored onsite. Building materials must be covered when not in use to prevent runoff caused by wind or rain.

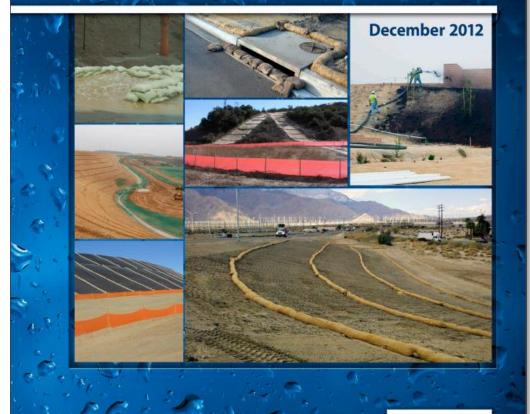


### Liquid Storage

Paints, solvents, fuel and other liquids stored onsite must be contained and covered. It is illegal for contractors to wash out or dump liquid waste or residue in the street, storm drain or sewer. Use washouts or hazardous material drums to contain liquid waste and residue and dispose of this material properly.

# **Construction &** Maintenance **Projects**

### **Construction Runoff** Guidance Manual for Contractors, Project Owners, and Developers



Orange County Stormwater Program: A Cooperative Project of the County of Orange, Cities of Orange County and Orange County Flood Control District



# Training & Education by CIA/HOAs

- 1) Incorporate requirements into contract documents. Your local stormwater program manager can give samples
- 2) Train and Retrain Employees & Contractors
  - Safety
  - BMPs
  - Water Prohibitions and Requirements
  - Chemical Management
- 3) Educate Residents
  - Association Newsletter
  - Association Webpage
  - Other Mailings

# **REPORT POLLUTION**

In Orange County, federal, state, and local laws prohibit the dumping or discharge of anything, including water runoff, to the storm drain system, with only a few exceptions\*.

Each city has their own ordinances and exceptions. Contact your city for more information.

To report pollution, please either visit <u>https://myOCeServices.ocgov.com</u> I to submit a <u>Service Request</u> I under Water Pollution, or call the 24-Hour pollution reporting hotline at **1-877-89-SPILL (77455)**.

Both options allow you to request service updates or to report anonymously. If this is an emergency, call 911. Any report submitted through MyOCeServices will notify the pollution response team via email.

To learn more about the work Orange County is doing to prevent harmful runoff, visit our FAQs page.

24-Hour pollution reporting hotline: (877) 89-SPILL(77455)

24-Hour reporting website: https://myOCeServices.ocgov.com

\*In South Orange County, landscape irrigation runoff is prohibited.

# Conclusions

- Countywide program has been developed to improve water quality
- CIA/HOA maintenance activities
  IMPACT our water quality
- CIAs/HOAs can prevent watershed pollution through BMPs
- BMP fact sheets provide guidance

## Resources

**For more information:** Visit h2oc.org or Visit your local city's environmental website

# **City Contacts**

Aliso Viejo	<b>Dana Point</b>
Moy Yahya	Lisa Zawaski
949/425-2538	949/248-3584
<u>myahya@avcity.com</u>	Izawaski@danapoint.org
Laguna Beach	<b>Laguna Niguel</b>
Mary Vondrak	Hal Ghafari
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<b>Laguna Hills</b>	Lake Forest
Amber Shah	Devin Slaven
949/707-2657	949/461-3436
<u>ashah@lagunahillsca.gov</u>	<u>dslaven@lakeforestca.gov</u>

# **City Contacts**

Mission Viejo	Rancho Santa Margarita
Joe Ames	Hazel McIntosh
949/470-8419	949/635-1800 x 6503
james@cityofmissionviejo.org	hmcintosh@cityofrsm.org
San Clemente	San Juan Capistrano
Cynthia Mallett	Joe Mankawich
949/366-1553	949/487-4313
<u>MallettC@san-clemente.org</u>	jmankawich@sanjuancapistrano.org



## **THANK YOU**

Thank you for attending and learning how you can help!