

# BEST MANAGEMENT PRACTICES FOR THE PRESSURE WASHING INDUSTRY

Today's Presenter

Doug Dowden Stormwater City of SLO

# INTRODUCTION

- I. REGULATION OVERVIEW & PURPOSE – I & II
- II. REGULATION GOALS
- III. ENFORCEMENT 24/7
- IV. PENALTIES & FINES
- V. CERTIFICATE OF TRAINING - City of SLO Only
- VI. ONLY RAIN DOWN THE STORM DRAIN
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- IX. PRESSURE WASHING POLLUTANTS – I & II
- X. ENVIRONMENTAL PRACTICES
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- XII. EQUIPMENT OPTIONS I, II & III
- XIII. ONLY RAIN DOWN THE STORM DRAIN
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# INTRODUCTION

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# REGULATION OVERVIEW & PURPOSE - I

- **Clean Water Act 1972**
  - Federal and State regulations
  - Phase II Communities & Like Communities
  - Most local jurisdictions under state permit- Phase II
    - SWMP – Prohibits discharge of pollutants into a SCS
    - Polluted Water Prohibited
    - Discharges either direct or indirect to local waterways
    - Local Ordinances – some jurisdictions
- **Fish & Game Regulations 5650 - 5656**
- Assist in the implementation of **routines into daily work activities** to prevent the pollution of our local water table, creeks, rivers and ocean





# REGULATION OVERVIEW & PURPOSE II

- Compliance with the CWA, Porter Cologne Act, Local Regulations
- Protect local water quality (303 listed waterways)
- Compliance through education, public outreach and enforcement activities
- Please do your part and become a part of the solution to storm water pollution





# REGULATION GOALS

- To improve the quality of water we fish and swim in, not to mention drink
- **Partner up with local business to achieve compliance with the Clean Water Act**
- Compliance through education, public outreach and enforcement activities
- Please do your part and become a part of the solution to storm water pollution

***REMEMBER, You are the Solution to Stormwater Pollution!***





# ENFORCEMENT 24/7



Enforcement

If a violation occurs a **Notice of Violation (NOV) or Citation** may be issued to:

- The company - business
- The contractor or employee performing the work
- The property owner

**Primary Objective** – *Voluntary Compliance, by working together we can all achieve compliance with the Clean Water Act!*



# PENALTIES & FINES

## LOCAL PENALTIES VARY

- Citations, business license revocation, etcetera
- Fines and enforcement measures typically increase with continued violations

## OTHER PENALTIES, FINES & ISSUES

- Central Coast RWQCB - \$37,500 per day per occurrence (CWA)
- Porter Cologne Act - \$25,000 & \$25.00 / gal / occurrence
- Criminal Prosecution
- Facility Closure
- Public Health Department – Penalties vary
- Department of Fish & Game – Penalties vary
- US EPA – Penalties vary



# CERTIFICATE OF TRAINING

## City of San Luis Obispo only

- Trained in Best Management Practices for Pressure Washing Service Industry
- Certificate Valid for Two (2) Years
- Can be used to promote business – *“Certified in Stormwater Green Business Practices!”*
- Must have a local agency business license
- A Pretreatment discharge permit may be required
- Program Participants shall be listed on local Agency Website as having completed the Stormwater BMP Program
- Can be revoked for non-compliance

***AGAIN, You are the Solution to Stormwater Pollution!***





# ONLY RAIN DOWN THE STORM DRAIN



- **What Are Storm Drains?** Storm Drains are open drains on streets, parking lots, loading docks, roofs, and any other surfaces that receive rain water
- **Purpose of Storm Drains** - To facilitate the movement of water from urbanized areas to local creeks, rivers and lakes
- **Common Source of Pollutants in Storm Drains** - Human activities



# PRESSURE WASHING DEFINED

Power or Pressure Washing – is any activity that uses water to clean the exterior of buildings, decks, driveways, dumpsters, general equipment, parking lots, patios, shopping carts, sidewalks, vehicles, windows and etc.

- Use of a garden hose
- Use of a water pressure system
- Use of a steam cleaning system
- Use of exterior scrubbing device





# PRESSURE WASHING & POLLUTANTS

- Storm drains are **NOT connected to sanitary sewer systems**
  - All wash water flows into our local creeks via the storm drain system
  - Wash water from pressure washing activities contains significant pollutants – oil, grease, chemicals, dirt, detergents, treated water that can **end up in the creeks, rivers, lakes, and the ocean untreated causing harm to local aquatic life!**
  - Allowing residual wash water to flow into local storm drains is Prohibited by Law.
- Common source of pollutants in storm drains - **human activities**



# PRESSURE WASHING & POLLUTANTS - II





# PRESSURE WASHING POLLUTANTS - I

## Regulated pollutants from the pressure washing industry

- Biochemical Oxygen Demand (BOD) – oxygen used by biological organisms
- Chemical Oxygen Demand (COD) – organic compounds in H<sub>2</sub>O that use up oxygen
- Total Suspended Solids (TSS) - inorganic and organic suspended particles
- Oil and Grease (O&G)
- Total Kjeldahl Nitrogen {TKN - nitrogen; ammonia and ammonium}
- High or low pH (Acidity) - Pure water is said to be neutral (7)
- Ammonia Nitrogen
- Phosphorus – plant decay (i.e. leaves, etc) which attaches to soil
- Pathogens & Pathogenic Bacteria (i.e. salmonella)
- Surfactants – in general dislodged during pressure washing activities



# PRESSURE WASHING POLLUTANTS - II

## Deleterious Effects of Pollutants Discharged During Pressure Washing Activities

- Increase oxygen demand in creeks (BOD / COD)
- Increase volume of TSS in creeks – thus photo reactivity and increased water temperature = algae & aquatic life die
- Increased Nutrient Load Factor (TKN - nitrogen; ammonia and ammonium)
- Increase or decrease in water pH (Acidity) = aquatic imbalance
- Phosphorus – plant decay (i.e. leaves, etc) which attaches to soil
- Pathogens & Pathogenic Bacteria (i.e. salmonella)

Creates a discharge slug into local waterways.





# ENVIRONMENTAL PRACTICES

- Many of the daily activities, even seemingly innocuous ones that are performed within the pressure washing industry significantly contribute to a **degradation of the quality of the water in our local creeks and rivers**
- Assist in the implementation of **routines into daily work activities** to prevent the pollution of our local water table, creeks, rivers and ocean



***AGAIN, You are the Solution to Stormwater Pollution!***



# BEST MANAGEMENT PRACTICES - I

- Procedures and practices to incorporate into daily routines to help prevent pollutants from entering our storm drains. **Two main categories** of BMP's
  - **SOURCE CONTROL BMP'S** keep pollutants from entering runoff. Examples include using dry clean methods (A walk behind sidewalk vacuum), thus not creating wash water,
  - **TREATMENT CONTROL BMP'S** preventing all wash water from reaching the storm drain system. Common examples include a wash water reclaim system, a shop vacuum strategically placed to capture all wash water before reaching a storm drain or simply directing all wash water to a vegetated landscape area.
- Many types of BMP's to implement



# BEST MANAGEMENT PRACTICES - II

1. Train employees
2. Use dry clean methods
3. Employ pre-wash measures
4. Alternative cleaning agents
5. Use just enough for the job
6. Recapture all wash water
  - Dispose of wash water properly – (SSS)
  - Direct wash water to a vegetated area
7. Sweep up residual materials after cleaning
8. Maintain all equipment
9. Check equipment for leaks
10. Spill management
11. Special considerations
12. Get involved





# BMP – Train Employees - 1

On proper pollution prevention measures

Quarterly

- Document training
- Keep a log of all training
- Use sign in sheets



**Note: Documentation is your best demonstration of compliance**



## BMP – Dry Clean Methods - 2

- Mops & buckets,
- Brooms
- **Note: Sweeping debris off the sidewalk into the gutter is prohibited by law**
- Walk behind **Vacuums**
- Remember to use water wisely, so be conservative





# BMP – Pre-Wash Measures - 3

Locate all storm drains down gradient of work site before starting cleaning work

Place all “**control measures**” in proper position to intercept run-off to streets and storm drains

- **Install secondary preventative measures – drain mats or curb drain inlet berms**
- **Use all wash water containment, recapture or reclaim equipment**
- Make sure this practice does not flood the area or adversely affect vehicle or pedestrian traffic

Do a preliminary brush-sweep and dispose of the trash before power washing

**Plan how wash water will be trapped and collected to avoid discharging into the streets and entering the storm drains**

Plan on how to dispose of all wash water

Start the vacuum system, and check to make sure it is functioning properly

PPE



# BMP – Alternative Cleaning Agents - 4

1. **Be an informed consumer**
2. **Biodegradable**
  - Popular marketing term that can be misleading
  - Doesn't mean that it is non-toxic
  - **The key - proper, use, storage and disposal of these materials**
3. **Consider the following:**
  - Use dry clean methods,
  - Use only water,
  - Use aqueous cleaning solutions,
  - Use vegetable and citrus-based products,
  - Use less toxic substances, or
  - Use products labeled “non-toxic,” “phosphate free,” or “biodegradable,”
  - Use products without dyes and phenols.





# BMP – Use Just Enough for the Job 5

## Minimize water use

- Use high pressure, low volume nozzles
- Use equipment with low flow devices
- Use equipment with automatic shutoff devices
- Maintain the equipment

Use only the amount of cleaning solution necessary to get the job done

Use a mop or rags to clean heavily soiled areas before power washing

*Water waste is a violation of local rules and regulations*





# BMP – Recapture All Wash Water - 6

Plan how to handle all wash water before you start

1. Proper Disposal of Wash Water

- If discharging to Sanitary Sewer System check with the local Sewer Department for restrictions and limitations

2. Direct Wash Water to a Vegetated Area

- 1<sup>st</sup> - Get property owners permission
- 2<sup>nd</sup> - Negative effect upon plants
- 3<sup>rd</sup> - Complete infiltration within 24 hours
- 4<sup>th</sup> - Never discharge, if a rain event is predicted within 24 hours
- 5<sup>th</sup> - Final considerations – Odor & Vector Control





# BMP – Sweep Afterwards - 7

After washing is complete, continue vacuum operations

- To capture all wash water for proper disposal

Sweep up residual materials after cleaning

- Power washing activities dislodge numerous pollutants that if not cleaned up will create a “slug” discharge during the next rain event





# BMP – Maintain All Equipment - 8

## Daily Maintenance Chores:

- Flush and clean outer surfaces of all tools,
- For vacuum tanks, empty legally and clean: screen, air filters, sump pump,
- Clean outside brush assembly,
- Check engine lubrication,
- Check engine oil, grease supply,

## Bi-Monthly:

- Follow manufacturers service schedules,
- Remove and clean check valve outlet of pump.



# BMP Check Equipment for Leaks - 9

## During cleaning activities

Routinely check equipment for:

- Leaks
- Blockages
- Malfunctions
- Ineffectiveness of DI Protection Devices



# BMP – Spill Management - 10

- **Spill Kit:** Keep a spill kit on all trucks – absorbents, PPE, Emergency Contact Numbers, Location of Medical Care, Spill Report Form
- **Spill Cleanup:** Clean up immediately
- **Spill Management**
- **Spill Reporting – Reportable Quantities** – depends on type of material and quantity
- **Document**
- An effective stormwater management training program promotes employee ownership of problems and solutions



# BMP – Special Considerations - 11

- **Never** discharge wash water to a landscape area when cleaning trash storage areas or restaurant equipment.





# BMP – Get Involved - 12

**Get Involved** – join trade unions, subscribe to industry journals to stay abreast of changes in regulations and technological changes within the industry.





# EQUIPMENT OPTIONS I

## Source Control Options

- Sump Pumps – to landscape area or tank
- Wet / Dry Vacuums with Internal Sump Pumps – to ldp or tank
- Vacuum Pumps – requires tank or hose to ldp area
- Vacuum Berms – very flexible, inexpensive and practical
- Vacuum Booms – better option, flexible, inexpensive and practical
- Portable Plastic Wash Mats and Pits (Equipment / Vehicle Washing)
- Containment Pools (Equipment Washing)
- Complete Wash Water Recycling System – Reclaim
- Tarps and Hand Equipment – Mop, scrub brush and buckets

## Secondary Preventative Devices

- Drain Covers – to cover grate drains
- Inflatable Pipe Plug – The Pig – private property only – **CAUTION!**
- Portable Dams – Used to block off curb drain inlets



# EQUIPMENT OPTIONS II

Sump Pumps



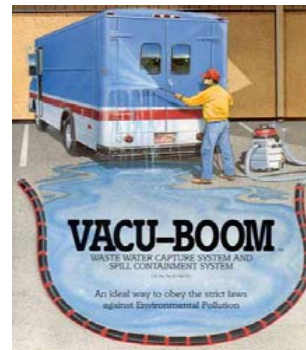
Wet Dry Vacuum w/ Internal Sump Pump



Vacuum Pumps



Vacuum Booms



Portable Dams





# EQUIPMENT OPTIONS III

## Purchasing Tips & Thoughts

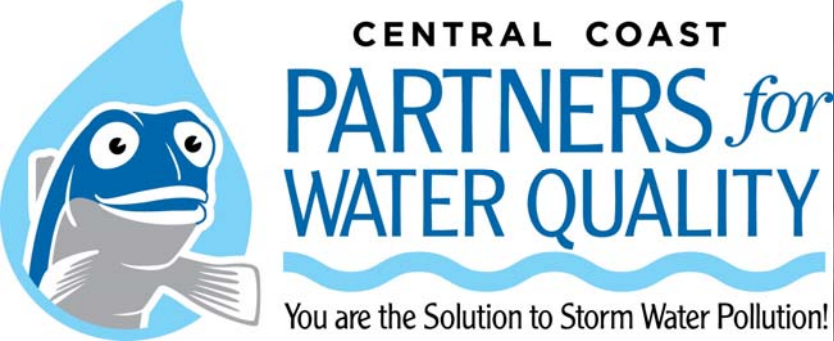
- Vacuum Berms – Requires the use of an interceptor (pre-cleaning measures must be employed)
- Vacuum Pumps – Not recommended for production line cleaning work (i.e. not for the professional, but for home use is okay)
- Vacuum Surface Cleaners – industry choice
- Hand-Held Vacuum Devices
- Oil – Water Separators – are important when cleaning oil ridden surfaces – i.e. restaurant hoods, etc.



# ONLY RAIN DOWN THE STORM DRAIN



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# PARTNERS FOR WATER QUALITY

**BREAK TIME  
(10 MINUTES)**

**Today's Presenter**

**Doug Dowden**

**Stormwater Code Enforcement**



CENTRAL COAST  
**PARTNERS** *for*  
**WATER QUALITY**

You are the Solution to Storm Water Pollution!



**DEMONSTRATION TIME**  
**(10 MINUTES)**



# DEMONSTRATION PICTURES I

Brandan's Pressure Washing  
San Luis Obispo Workshop

Advanced Pressure Washing &  
Brandan's Pressure Washing  
Arroyo Grande Workshop





# DEMONSTRATION PICTURES II

Advanced Pressure Washing & Brandan's Pressure Washing  
Arroyo Grande Workshop





# DEMONSTRATION PICTURES III

## Brandan's Pressure Washing San Luis Obispo Workshop



# OVERVIEW



XVI. SEWER DISCHARGE CONSIDERATIONS

XVII. SPECIAL CONSIDERATIONS

XVIII. ONLY RAIN DOWN THE STORM DRAIN

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# SEWER DISCHARGE CONSIDERATIONS

- Eliminate unauthorized stormwater discharges
- Comply with Sewer discharge restrictions
- Sanitary Sewer Overflow (SSO)



# SPECIAL CONSIDERATIONS

**Restaurants** - When cleaning restaurant facilities consider the following:

- Floor Mats – **never** wash off floor mats outside
- Hood Units – all wash water must be reclaimed
- Grease Traps – must be routinely inspected and cleaned
- FOG Containment Devices – must always be kept securely closed except when in use

**Trash Enclosure Areas** - When cleaning trash & FOG storage areas:

- **Never** discharge wash water to a SCS
- Always reclaim all wash water



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# BROCHURES & FACT SHEETS

- **Brochure – BMP for Power Washing**
- **Fact Sheet – Mobile Cleaners – Partners Fact Sheets**
- **Fact Sheet – City of SLO BMP for Pressure Washing**

# WRAP UP - I



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# WRAP UP - II



- I. ENVIRONMENTAL PRACTICES
- II. BEST MANAGEMENT PRACTICES – I & II (1 – 12)
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# EMERGENCIES OR SPILLS

- To report a discharge or spill of **OTHER LIQUID MATERIALS** (Non-hazardous, non-sewage) call your local agency's stormwater personnel.
- To report a discharge or spill of **HAZARDOUS MATERIALS**, call 911 immediately.
- To report a discharge or spill of **SEWAGE (Known or suspected)**, call your local agency's waste water collection department asap.
- For **OTHER EMERGENCIES** or **AFTER NORMAL BUSINESS HOURS**, call 911.



# QUESTION & ANSWER SESSION

## Presenter

- Doug Dowden, Stormwater Code Enforcement Officer (805) 781-7530 or [ddowden@slocity.org](mailto:ddowden@slocity.org)

## Partners Group

- |                             |              |                 |
|-----------------------------|--------------|-----------------|
| - City of Arroyo Grande     | 805-476-5400 | Kelly Hefferon  |
| - City of Atascadero        | 805-461-5000 | Kelly Gleason   |
| - City of Grover Beach      | 805-473-4550 | Greg Ray        |
| - City of Morro Bay         | 805-772-6200 | Damaris Hanson  |
| - City of Paso Robles       | 805-227-1654 | Patti Gwathmey  |
| - City of Pismo Beach       | 805-773-4656 | Jamie Lipe      |
| - City of San Luis Obispo   | 805-781-7530 | Doug Dowden     |
| - County of San Luis Obispo | 805-781-5544 | Mark Davis      |
| - Cal Poly San Luis Obispo  | 805-756-6664 | Kim Busby       |
| - City of Santa Maria       | 805-925-0951 | Ellen Pritchett |



# EXAM

- Key BMP's for pressure washing include?
- The first BMP's to employ before cleaning begins are?
- Never discharge wash water to where?
- During cleaning always check the following?
- After cleaning be sure to?
- If a spill occurs be sure to do the following?



# THANK YOU

Be sure to have signed in

Issuance of certificates via mail