"San Diego Pressure Washing, Windows & Property Maintenance"

"San Diego P.W.P."

Best Management Practices "BMP"

This packet was put together by "San Diego Pressure Washing Professionals Plus" for the purpose of assuring the Property Owner and the Property Manager that we strictly adhere to the City's storm-water rules and regulations, through our ***Best Management Practices (B.M.P)****. Essentially, removing all chances of legal issues. The second half serves as an informational guide for our services.*

The City of San Diego has implemented a Storm Water Program in order to reduce or eliminate the pollutants that enter our waterways from both storm water and non-storm water flows.

Materials swept, blown, or washed into the storm drains end up in the waterways where they degrade water quality, harm aquatic life, and flow untreated to the ocean and bays.

Mobile cleaning activities can generate significant quantity of wastewater as a result of their washing operations at various sites. Wastewater can contain dirt, debris, soap, oil, grease, acid solution, solvents, paint chips, metals, and/or food waste. In general, wastewater from mobile cleaning services that is discharged to the storm drains is illegal.

Complying with Legal Rules and Restrictions...

Local laws identify "Storm Water Conveyance Systems", by which it is meant the roads, streets (even the gutters), or any other means of storm-water flow into lakes, rivers, or the sea. With minor exceptions, it has become unlawful to discharge any type of non-storm water into the Storm Water Conveyance System.

Storm-water drains usually flow directly into the nearby ocean and bays, without any treatment whatsoever.

Anything other than "precipitation" (rain) might contain pollutants adversely affecting the receiving waters, and based on environmental concerns, and following Federal and State mandates, many cities and towns have enacted laws prohibiting discharge of any type of non-storm water into the storm-water system. And the "Storm Water Conveyance System", as it is typically called, includes roads, streets, and even the gutters. Washing say, a grocery parking lot, requires the operator to prevent wash water from entering streets or gutters leading to storm drains. Disregarding these regulations can lead to substantial fines and legal hassles. The rules are clear: "no water down the storm drains!"

The City's regulations come with still penalties. Violations of the no-discharge rules can be classed as misdemeanors and (in San Diego) are subject to fines of up to $10,000 per day per violation. I am obliged to train my operators and personnel in the proper use of water recovery as well as washing techniques through these *(B.M.P's).*

All contractors and individuals who perform cleaning operations must apply common sense practices to minimize or eliminate their contribution to storm water pollution. This brochure describes some of the Best Management Practices (BMPs) for "San Diego pressure Washing Pro's *Plus* Property Maintenance."

Planning for waste-water capture- Before starting washing operations, plan how the waste-water will be collected, avoiding storm drains and discharge into streets. Plan what shall be done with the collected water. Arrange water barriers, cover storm drains and set-up vacuuming system, so as to minimize the possibility of an improper or accidental discharge into the storm drain.

Methods of Collecting Wastewater...

The following are examples of devices that may be used to contain and collect wastewater during cleaning activities. The collection devices described, adhere to the City's mandate for waste-water recovery and disposal methods.

a) Berms- Berms or booms consist of plastic tubes of various diameter, filled with sand which can be laid on the ground to divert run-off to a collecting point. Occasionally they are used to form a collection area, which can then be drained using sump pump or a Vacu-Berm.

b) Storm Drain Covers/Mats- These devices are placed on top of the storm drain cover grate, creating a quick-seal, thus preventing wastewater from entering the storm drain system. Storm drain covers/mats (magnetic vinyl mats, polyurethane mats, and others) allow wastewater to accumulate on top of it until the pressure washing activity is complete and the wash water can be collected for proper disposal. Storm drain covers/mats are frequently used along with a vacuum device that diverts wastewater into the sanitary sewer.

c) Vacuum hoses /Pumps- Devices such as vacuum pumps, vacuums and sump pumps may be used to collect and dispose of wash water during and after pressure washing. Vacuum devices typically have an extension (vacuum boom) which allows the water to be collected efficiently. In addition, many vacuum devices are equipped with a hose that can run from the pump to the sanitary sewer.

d) Puddle Sucker- A short version of the vacu-berm is the puddle sucker; its name gives away its purpose, draining puddles. This is an amazing attachment capable of sucking 25 Gallons of water per minute.

e) Hand-Held Vacuum Wand- A Hand-held vacuum wands is another way to vacuum water that has accumulated in small puddles on flat/level surfaces. Where the water doesn't drain or form in a larger puddle, the Hand-Held Vacuum Wand is the ideal tool.

Wastewater Disposal...

The best disposal method of the wastewater from cleaning operations depends on what is being cleaned, the products used in the cleaning process, and the pollutants cleaned off of the surface.

a) Sanitary Sewer- The most ideal method is to use the onsite Sanitary sewer connection (clean-out, sink, toilet, etc.) this method may be used if the flow rate does not exceed (typically) 20 gpm. Other fairly common restrictions include a maximum discharge (without a permit) of 2,500 gallons per day from exterior mobile power washing, and 25 gallons per day (after suitable treatment) from engine washing.

b) Landscaping- Discharging to landscaping or a dirt area should only be done when the amount of wastewater can easily be absorbed, does not create any runoff, and there is no debris or residue that will be left on the surface. Wastewater may adversely affect landscaping; therefore, permission to discharge to the landscaping should be obtained from the property owner.

Our Wash-Water Run-Off Control Equipment...

VacuBerm & suction hose - Our VacuBerm & suction hose is the primary collection tool for the recovery of wash-water runoff. The hose is 200 feet long and can be split-up for several vacuuming locations at the job site. The berm is located at appropriate collection points, it functions both as a dam, preventing run-off from going any further, and as a vacuum source to suck up and remove the impinging water. The following photo shows a VacuBerm in operation, connected by hose to a vacuum source. The rather simple external appearance conceals a sophisticated design. These are clever tools in the water-collection aspect, are be able to withstand a car running over it. Vacuum Berms are four feet in length and extremely efficient.

Vacuum & Pump- The heart of the wash-water recovery system is a powerful vacuum & pump. Our powerful unit consist of a 18 hp gasoline engine with belt drive to a positive-displacement blower style air mover, providing water lifts from 14 to 18 feet, and airflow rates at 650 cu.ft./min. This powerful unit allows multiple operators to use the system simultaneously.

Vacuum Recovery Tanks and Sand Filter- When using the Vacu-berm or other wash-water recovery tools, TWO interceptor tank are used to prevent water and debris from entering the vacuum pump. The first is a "sand filter" to capture sand and large debris. Secondly, is the "Vacuum Recovery Tank." These two tank separate the recovered water and debris from the air entering the vacuum pump. Water and air are filtered by the debris screen. The air component passes through another, finer-mesh filter and then exits to the vacuum pump. The recovered water is picked up by a rugged sump pump, having an automatic float control, and is pumped to a disposal area.

Vacuuming Surface Cleaners- The vacuuming surface cleaner is an important tool when cleaning sidewalks, driveways or parking lots, where runoff to storm drains must be avoided. They are also useful indoors, avoiding the extra step of mopping up the used wash-water. Attached to the vacuum system in place of, or in addition to, the VacuBerm, they provide a valuable time-saving, surface cleaning capability.

Our surface cleaner has a round housing enclosing a 22" rotating bar, driven by water jets inclined at a slight angle to the surface to be cleaned. The reaction from the water jets spins the rotating bar at up to 2000 rpm, while at the same time, a powerful cleaning action is exerted on the surface being washed. The entire assembly, mounted on wheels, is pushed around like a lawnmower. These are very efficient cleaners, however, the wash water left behind, typically about 5-7 gpm, means run-off to storm drains must be controlled,. The vacuuming surface cleaner solves these problems.

The rotating bar of a standard surface cleaner is surrounded by an annular vacuum chamber, which is connected to a vacuum system. The result is a surface-cleaner which not only cleans, but leaves behind a surface which is only moist, not wet. Not having to go back and rinse, because it all got sucked up, means a great saving in time and labor. This added efficiency pays for becoming environmentally friendly very quickly. Indoors or outdoors., "instant capture" is clearly the best tool for the job.

Checklist for on-site BMP'S...

1) Study the "Site agreement." the contract you have with the customer; In order to have a "complete contract" with the customer, you have to have a plan for WHERE the wash water is to be directed, and where debris, trash, and any sludge is dumped.

2) Cover Storm drain: Use a rubber Drain mat, a water proof mat and/or Absorbent mat. Use sand filled berms to completely seal the storm drain so that no water can leak past the seal.

3) Sand Bags: Coordinate them and absorbent booms right before the storm drain. Secondary containment is important. Things happen, and your back-up plan has to work!

4) Trash Detail: Remove ALL trash and debris, cigarette butts and larger. Even if the wash water does not get to the storm drain, all debris in the area will go there, in the next rainstorm.

5) Vacuum or Sweep: Remove all debris you don't want in your reclaim system. Don't blow it!

6) Set Up Vacuum: Place a VacuBerm or PuddleSucker at the low-spot of the area, well ahead of the storm drain. Use SiltFilter as needed to keep debris from stopping up the suction tool. Set up Surface cleaner or other tools as required for the jobsite.

7) Start the Reclaim System: Cross-Check all the above, prove it is ALL functionally complete, and ready to go !

8) Prepare the pressure Washer: Don't forget eye and ear-protection! Make sure all fuels are good, pull hoses for efficient management, Make sure quick coupler O-rings are good.

9) Start the Pressure Washer: With the site and system ready, you can start the pressure washer, and clean.

10) At the first break: Recheck the reclaim system. Check the generator and pump-outs. Check the Sand trap and filtration. Check the secondary containment.

11) After job is Complete: Clean-up the wash equipment before you "disable" the reclaim system. Capture ALL wash water as the hoses are draining.

12) Police the area: Leave **NO debris** of any kind. **No water, nothing.** Lastly, take pictures if the Owner or Property Manager request it.

Our Pressure washing Services...

Professional power washing is much more than spraying pressurized water on surfaces to wash away unwanted layers of dirt, oil, mold or grime. "San Diego Pressure Washing Pro's *plus* Property Maintenance" uses specialized equipment and nozzles for each surface.

For example, different wood types require nozzle and pressure adjustments for optimum results and to minimize damage to the surface and texture of the wood. A wide variety of specialized enviro friendly cleaning products are used, not just for various surface types, but also based on each site's particular needs. Every type of grime or soil requires its own process to be removed, removing algae or mildew from a roof or a deck is much different than removing oil stains from parking lots and driveways.

Our service includes expert cleaning of:

- Parking lots, parking garages and sidewalks.
- Single family homes, Apartments & condominiums.
- Low Rise Industrial Properties and commercial shopping Centers.
- Plus much more.

Parking lots, parking garages and sidewalks...

Parking lots, parking garages and sidewalks oftentimes are overlooked in regards to property Maintenance. Oil, grease and dirt often are tracked from the parking lot, up to the sidewalks and into the residence or businesses. Allow "San Diego Pressure Washing Pro's *plus* Property Maintenance" clean these areas to ensure a safe and attractive community.

Single family homes, Apartments & condominiums...

During the damp winter months mildew and moss develops on external surfaces and trees provide the perfect shade for it to grow. Cleaning the exterior of a residence is a huge chore, especially if you don't have the proper pressure washing equipment; We do the work for you. Cleaning a large number of buildings, which experience heavy usage from the occupants, and keeping them clean, can be a daunting task. Mildew, dust and cobwebs build up on the outside walls, and walkways quickly become unsightly with moss and algae. Regular power washing ensures that your buildings always look their best and homeowners looking to sell their property know that clean exteriors will draw prospective buyers into their home.

- Decks/ patio.
- Siding - brick, aluminum, vinyl and stucco.
- Driveway, parking lots and sidewalks.
- Roofs and gutters.
- Windows.
- Walls and fences.
- Pool area.

Low Rise Industrial Properties and commercial shopping Centers...

Power washing is the most cost effective method of restoring and maintaining a property over time, it's also good for your business image. "San Diego Pressure Washing Professionals" can safely power washing, clean and restores almost any commercial surface using our efficient enviro friendly cleaning products and our state of the art cleaning equipment.

We suggest regularly power washing of surfaces which renews, cleans and restores surfaces, making your business stand out.

Our commercial and industrial cleaning service includes:

- Store fronts & Sidewalks.
- Parking lots.
- Parking garages.
- Walls and fences.

- Trash-bin areas.

Cleaning the Tough Stuff...

Graffiti- Having your walls defaced with graffiti can be frustrating, knowing that it could damage the image of your business is annoying. Let use quickly remove all traces of any graffiti issues.

Chewing gum- Chewing gum is another hard to remove substance commonly dropped on walkways used by the public. Chewing gum is one of the hardest items to remove through normal cleaning. Let us use our tested methods to get rid of it for you. To keep your premises in top shape why not let us quote on regular power washing of your business.

Unusual Jobs...

There are some cleaning situations where power washing may not be the first solution that comes to mind. These include:

- cleaning of vehicle fleets such as trucks, trailers and even boats
- new concrete tag removal – making buildings move in ready
- preparation of exterior surfaces before painting.

Facilities Maintenance...

"San Diego Pressure Washing Pro's *plus* Property Maintenance" has a "B" license, "*General Building Contractors license*." we are capable of mostly all facilities maintenance. Let our skilled tradesman help with any or all repairs, such as:

- General handyman services
- Replace light bulbs
- Light plumbing
- Electrical repairs
- Carpentry
- Light Painting

Concrete Sealing...

San Diego Pressure Washing Professionals "Plus" provides concrete sealing as part of its *"PLUS"* Services. We offer a variety of sealers for concrete; they are:

- Water based or Silicone based sealers
- Natural look Sealers
- Low Gloss Sealers
- Wet look Sealers

Our cleaner and sealers may be applied to new or old concrete. The Cleaner offers a powerful detergent which flushes out oil and dirt from concrete, for a clean look and good adhesion for the sealer.

New Concrete Applications...

New concrete will do most of its curing in the first few weeks, as the capillary network and bleed holes show their development. We recommend waiting at least this time to seal your cement. *The strength of concrete slowly continues to increase over the next few years, as a microscopic crystalline network develops*. For this reason, we recommend that the application of the sealer to new concrete be repeated a year or two later.

Old Concrete Applications...

Old concrete is chemically stable and its porosity fully developed. The typical age at which chemical stability is attained depends on average annual temperature. All chemical reactions go faster in warmer weather. Attaining this minimum degree of chemical stability typically takes two years in the latitude of San Diego, CA. Such concrete does not develop further porosity with age, and is chemically stable. One series of treatments can completely seal the concrete.

Old concrete which may have absorbed food spills, grease or oil, antifreeze, brake fluid or hydraulic fluid will not stick if not chemically cleaned. this is why a pre-cleaner along with pressure washing is generally required.

Efflorescence...

With a proper seal, *efflorescence of old concrete surfaces can be stopped entirely:*

Efflorescence is a crystaline deposit on surfaces of masonry, stucco or concrete. It is whitish in appearance, and is sometimes referred to as "whiskers". Efflorescence has been a problem for many years. *Efflorescence,* for the most part, are water-soluble salts that come from many possible sources to mar and detract from an otherwise beautiful and serviceable structure. Groundwater is often the cause of efflorescence. For water to carry or move the salts to the surface, there must be channels through which to move and migrate. The more dense the material, whether it be brick, stone, stucco or concrete, the more difficult for the water to transport salts to the surface. Conversely, the more porous the material, the greater the ease with which salts are transported and deposited. Salt-bearing water, on reaching the surface of a structure, air evaporates to deposit the salt. When the humidity is high, water evaporation is slower allowing more opportunity for whisker growth.

The solution is simple; all you need to do is have your concrete floor or walls sealed with one of our water sealers...

Rust Stain Removal..

Rust is one of the most difficult stains to remove from concrete, we have found several products that, used in conjunction with our pressure washing, we can remove mostly all rust stains.

Window Washing...

Where glass is found, there you will find window cleaners. We offer several methods to best suit your needs:

Traditional Method...

We offer the traditional method using bio-degradable soaps, squeegees, extension poles, ladders and many other tools for the trade.

Water-fed poles and "*pure water*" window cleaning...
(The future in Window Cleaning)

What is pure Water? Pure water is the state in which minerals such as Calcium, Sodium, Iron, Copper and Chloride, etc have been removed and has zero parts per million of dissolved solids. The safest (usually no ladders) most pure and environmentally friendly way to clean windows.

This process started to be used for window cleaning in the 1990s. **The process is the safest, most environmentally friendly, and fastest growing method used.** What happens is that by using pure water to rinse down glass, after agitation of the surface to loosen the dust and grit, this leaves the glass clean and "spot-free". There are two main ways of producing *"pure water,"* reverse osmosis and deionization. Our equipment has taken this a step further and added a Carbon filter.
A *(Three stage water filtration system).*

Water quality and purity is measured by its Total Dissolved Solids. Water will leave marks on glass from 30–40 parts per million (ppm). Often tap water will have a reading of 700 ppm. In window cleaning, pure water is generally applied through a brush on a pole. All of the surface of the glass is agitated with the brush, which is then lifted from the glass, allowing the pure water only to rinse the glass, carrying all the grit down and off the glass. The glass is then allowed to dry "spot-free".

These extension poles can be made of "aircraft-type" aluminum, fiberglass or carbon fiber. *Safety* is another major benefit of water-fed pole work as the operators rarely leave the ground. Often, there is no need for detergents to be used, increasing the Green Factor. Pure water cleaning is rapidly gaining popularity within the window cleaning community because of its time saving over ladder use and the associated safety factors from OHS.

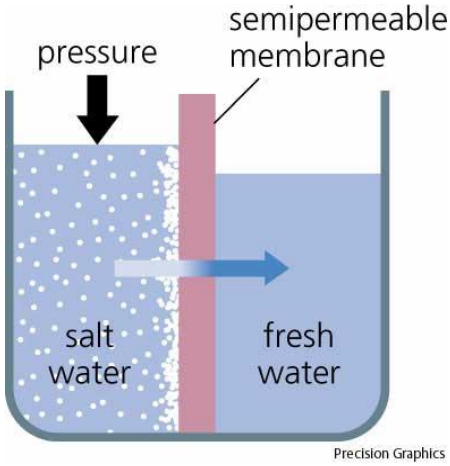
1) Stage one- Carbon filter...

Carbon filtering is a method of filtering that uses a piece of activated carbon to remove contaminants and impurities, using chemical adsorption.

This carbon is generally activated with a positive charge and is designed to attract negatively charged water contaminants.

Carbon filters are most effective at removing chlorine, sediment, and volatile organic compounds (VOCs) from water. They are not effective at removing minerals, salts, and dissolved inorganic compounds. This is where Step Two come in to play.

2) Stage two- Reverse Osmosis...



Reverse osmosis (RO) is a membrane-technology filtration method that removes many types of large molecules and ions from water by applying pressure to the water when it is on one side of a selective membrane. The result is that the impurities are retained on the pressurized side of the membrane and the pure water is allowed to pass to the other side. To be "selective," this membrane does not allow large molecules or ions through the pores (holes

3) Stage three- deionized water filter...

Deionized water, also known as *demineralized water,* is water that has had its mineral ions removed, such as sodium, calcium, iron, copper, chloride and sulfate. Deionization is a chemical process that uses specially manufactured ion-exchange resins which exchange hydrogen ion and hydroxide ion for dissolved minerals, which then recombine to form water.

All told, this three stage filtration system is the finest in the industry. It cleans the water to *ZERO* parts per Million; "*PURE WATER*" for a clean spot free environmentally friendly shine.