Wash Water Control

"How to Profit from New Environmental Laws & Drive Your Competitors Crazy"

By Jerry McMillen

Increasingly complex legislation for discharging wash-water into storm drains means pressure washer operators and cleaning contractors are now facing new challenges in performing what used to be routine washing tasks. The problem: Storm drains discharge directly into lakes, rivers, or the sea without any treatment whatsoever and thus pose an environmental threat should polluted water (wash water) enter the system. Strict Federal, State and Local ordinances are being enacted which forbid anything but "precipitation water" (rain and snow) from entering storm sewers and also provide heavy penalties to those found violating these rules. Pressure washer operators and, for that matter, anyone generating wash water, are becoming the object of intense municipal scrutiny as these new regulations are enforced with more regularity.

Some Typical Municipal Regulations

Regulatory laws identify "Storm Water Conveyance Systems" as roads, streets, gutters or any other means of carrying storm-water into lakes, rivers, or the sea. With very few exceptions, it has become unlawful to discharge any type of non-storm water into the "Storm Water Conveyance System". Depending on the locality, some of the exceptions are: individuals washing their cars; excess lawn watering which flows into streets and, those water flows resulting from fire-fighting. Pressure-washing operations are definitely not among the exceptions. Moreover, we are aware of pressure washer operators being cited and fined merely for leaving small residual traces of water on the ground with none of it flowing away anywhere!

While the above incident is an example of enthusiastic over-interpretation of the regulations, the implications for the industry are clear. Waste-water must be controlled and operators must be trained in the basics in order to avoid bad publicity and steep fines. With the concerns of residents and tourists alike at stake, cities and towns are understandably nervous at the prospect of polluted water from storm drains adversely affecting the aesthetics of their river and beach areas. As an example of municipal interest in the pressure-washing industry, the city of San Diego, California has issued a set of laminated instruction cards giving a synopsis of the regulations. These list and explain regulator defined "Best Management Practices" which may help in carrying out the intention of the law. The cards are free to local owners and operators of commercial pressure-washing equipment.

The San Diego "Best Management Practices" for prevention of storm water pollution give a summary view of what will be required nationwide in the industry in the very near future. These recommended practices can be summarized as follows:

Planning for waste-water capture – Before starting washing operations, plan how waste-water will be trapped and collected to avoid entering storm drains and discharge into streets. Plan what will be done with the collected water. Arrange water barriers and covers so as to minimize the possibility of an accidental discharge into storm drains.

Cleaning and washing activities -- Use dry methods to pre-clean and remove soil residues to approved containers if deemed hazardous. Minimize amount of water used during washing. If

hazardous wastes are created during washing operations, avoid mixing with non-hazardous wash water, to reduce disposal costs.

Wash water collection and disposal -- Recovered wash water may be recycled or otherwise disposed of in the proper manner. The captured waste-water (if no hazardous pollutants are present) may usually be discharged onto landscaped areas with the owner's permission and, as long as there is no runoff to storm drains. However, some beach communities located in regions of steep cliffs forbid this disposal method. Also, some desert localities prohibit ground discharge as it might harm native plants. Otherwise the property-owners sewer connection (sink, toilet, etc.) 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. Some communities require (and charge for) a discharge permit regardless of flow quantity. Many local codes are available over the internet or by contacting your local city hall directly.

Enforcement

Beware, the regulations come with teeth. 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, up to a maximum of $100,000 for any related series of violations. Other localities may have lesser penalties but fines approaching this magnitude are scary enough to oblige operators to outfit themselves with the proper equipment and train their personnel in water recovery as well as washing techniques.

Complying with Wash-Water Control Laws

While the rules, regulations, and enforcement codes are available and definite, a real dilemma for the average operator is ***how*** to comply. Commercially available techniques make up a fairly short list:

Sump pumps
Wet/dry vacuums with internal sump pump (pump out systems)
Vacuum pumps
Vacuum berms
Portable dams, booms, and berms
Portable plastic wash mats and pits
Drain covers.
Tarps and hand equipment

Sump pumps - For wash-water control use, these are small units, typically completely submersible, which have the pump inlet at or near the base, so as to remove standing water. Typical submersible sump pumps have fractional horsepower motors operating on power cords and will pump 30-40 gallons per minute at low head. If a low spot or an area created by portable dams or booms can be arranged, water can then be pumped into a separate holding tank or septic system (toilet, sink etc.). This type of system is inexpensive though generally not effective and, is adequate only if septic systems are close by.

Wet/dry vacuum with internal sump pump – Vacuums of this type are especially useful for sweeping up standing water from floors, walks etc, and are typically much more rugged than the

"shop-vacs" sold to homeowners. In addition to having more powerful motors for applying suction (up to 2 hp, typically), the vacuum tank includes a sump pump to remove and discharge accumulated water to the sanitary sewer (or other approved discharge area). The maximum suction lift obtainable with these vacuums however, is quite low for constant working conditions and pump out capabilities are limited, at best.

Vacuum pumps - Positive-displacement Roots-blower type vacuum pumps are a giant step up in power and capacity and, are advantageous in that they have the additional power to screen and filter the recovered water as it is picked up, thus reducing the need for additional equipment. The higher power also permits multiples of 50 ft hose lengths to the water recovery site. Engine-driven versions are also independent of possibly limited power supplies required by electrically powered systems. Typical units feature a 5 to 7.5 hp engine driving the blower and are rated at a minimum of 12" mercury suction at 200 cfm air-water flow. Larger capacity units are also available. Units complete with vacuum berm, screen and filter tank with automatic pump-out, hoses, etc, rated at waste-water recoveries up to 40 gpm, are most appropriate for professional cleaning contractors.

Vacuum berms - These are flexible dams of around 4-6 inches height, which can be arranged to intercept ground water resulting from washing operations. Hooked to a vacuum system, they employ rows of holes at the ground surface to suck up the water which has been corralled by the berm. The best designs trap and collect every bit of the water flowing against the berm; a dry surface on the lee side of the berm is common. Available in various lengths, these devices are inexpensive, very effective and the most practical method for the professional cleaner.

Portable dams - These are 5-6 inch diameter soft plastic tubes of various lengths (typically 4-5 ft.) which are then filled with a heavy substance, either sand, a mixture of sand and styrofoam pellets, or water, and arranged to block, corral, or deflect running waste water into collection areas. The weight and flexibility of these plastic tubes form a tight seal against the ground surface, thus controlling runoff. These tools are inexpensive, indispensable and two or more should be on every contractor's work truck.

Portable plastic wash mats and pits - These are used principally to control waste-water when washing vehicles, although many other applications come to mind. They consist of heavy plastic watertight sheeting arranged with foam or inflatable berms all around, thus forming a catchments area. Typically, vehicles are driven onto the wash mat with double berms at each end to reduce the likelihood of water loss upon entering or leaving the pit. After vehicles are washed, the waste water on the pit is removed with a sump pump or vacuum. For the general pressure-washing contractor, versions are available to catch water from interior or exterior wall washing, for example. Prices vary according to size and function.

Drain covers - These are plastic sheeting arrangements designed to cover storm-drain openings as a precaution against failure of other waste-water collection devices. Several versions are available. For horizontal openings, a small version of the "wash-mat" can be filled with water; the weight thus seals off the area surrounding the storm-sewer grate. A version containing magnetic material can be used where steel grating is present. However, it should be stressed that water approaching a storm drain is already in the "Storm Water Conveyance System" so drain covers are a precautionary measure or last resort.

Tarps and hand equipment - Traditional, but not to be forgotten. Include mops, buckets, and grease absorbers to use before washing.

Complete Water Recycling

For optimum efficiency, power wash operators can incorporate complete recycling systems to reuse the water originating from the cleaning process. Basically these systems consist of a portable storage tank of 50 gallons or so which feeds the pressure washer. Waste water is then diverted by suitable dams or booms to the entrance of a vacuum berm. The waste water is then conveyed by vacuum pumps to a tank or series of tanks where it is then screened and filtered. The resulting fluid is then pumped out of the final tank and, through more filters, by a sump pump in the tank to the storage tank for reuse. A complete recycling is thus achieved.

The scheme is certainly environmentally correct, and may be essential in locations where water must be hauled to the site. Two considerations involved here are perhaps minor: due to evaporation, not all the water used in washing can be recovered and, allowance for this loss, which may amount to 20% or so, may increase the volume of storage tank required. Another factor seems to be that the recycled water gradually looses quality in spite of filtering, due to bacterial contamination.

Training, Certification, and Documentation

Since, in most states, the property owner is also the legal owner of the waste water produced at his property, actions to prevent citation for violation of discharge rules by the cleaning contractor or power washing operator should yield significant competitive advantages. These actions would include not only the use of proper equipment, but also workmen who are trained in how best to use the equipment to meet the requirements of the laws. This training should be passed on to all front-line personnel in a structured way, complete with hand-outs and documentation. While this may cover the rules and regulations, training on the job in the proper use of the waste-water control equipment is essential. Certifying that employees / operators have this training may be just the competitive edge you need to win that next big contract! (A comprehensive training course covering the topics of this article will soon be available from the authors – call for more information).

Commitment to proper procedures and, awareness of local environmental ordinances should also impress your local regulatory authorities. In fact, many municipalities have issued “Letters of Approval of Environmental Power Wash Procedures”. Undeniably, approval such as this provides a significant competitive advantage for the contractor who has planned ahead and invested in his future. Also, a “Letter of Acceptance of Environmental Waste Water”, or similar documents for operators discharging only to the sanitary sewer system, is another competitive benefit.

The Opportunities

While the rules, regulations, and equipment necessary to meet new environmental standards may seem burdensome, there’s no sense trying to “Beat City Hall”! Operators who gear up and prepare for these changes will not only avoid painful fines and stressful regulatory harassment, they’ll also be the ones who enjoy the most profitable business opportunities in their respective markets.

As mentioned earlier, we operate in Southern California where environmental regulations have become a serious consideration for all cleaning contractors and pressure washer operators.

In just the past twelve months, we've seen how these new policies have quickly changed the competitive landscape in our market. For those business owners who have accepted the changing laws and adapted, business opportunities appear to be growing and, more importantly, improving in quality and profitability.

Allow Me to Explain…

In San Diego, there are a large number of pressure washer operators. Many are contract cleaners, some are auto detailers, others are painters and trades people who use pressure washing equipment in their daily work.

We serve most of these businesses through chemical or equipment sales or, by providing service and repair work for their machinery. Regardless of why they come to us, we've noticed a trend. Those contractors who are adapting to new environmental regulations are doing more business than those who aren't.

The reasons are simple. Those business owners who have adapted to the new laws are providing better service and better value to their customers. Also, they are taking the time to explain to their customers why it is beneficial to choose contractors who are compliant with environmental regulations over those who aren't.

Quality Service Pays

When property managers and owners are given greater assurances they will not be involved in legal disputes triggered by untrained or poorly equipped power washing operations, they are generally more willing to hire those companies capable of providing these protections over those who are not.

Moreover, we've noticed that the higher quality customers don't object to paying more for services that are more professionally delivered, environmentally sensitive and, legally compliant.

In sum, it is our observation that those contractors who adapt to this new era of environmental sensitivity and regulation can expect to have greater opportunities available to them than their competitors, enjoy greater respect from their peers and customers and, not the least of which, get paid better money per manpower hour.

Undeniably, professional cleaning is a respectable trade. Rather than lament these new laws, we feel they will improve the industry as a whole. Less committed operators will be winnowed out and the industry will be improved and on the cutting edge of professionalism and quality service. Those who adapt will prosper, those who don't will fade away.

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