



Description

Concrete washouts are used to contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed at the construction site after delivery. The washout facilities consolidate solids for easier disposal and prevent runoff of liquids. The wash water is typically alkaline and contains high levels of chromium, which could contaminate surface and groundwater harm aquatic life. Solids that are improperly disposed of can clog storm drainpipes and cause flooding. Installing concrete washout facilities not only prevents pollution but also is a matter of good housekeeping at your construction site.

This guideline describes the different types of concrete washout facilities that can be used at your site and outlines how they should be sited, designed, and maintained.

Selection Criteria

Types of Concrete Washout Facilities

Prefabricated Washout Containers

A growing number of companies offer sturdy, prefabricated concrete washout containers that are delivered to the site. Some services provide the containers alone without providing maintenance and disposal of materials, while other companies offer complete service that includes delivery of containers and regular pickups of solid and liquid waste materials. The prefabricated containers resist damage and protect against spills and leaks, and the full-service option relieves the site superintendent of the burden of disposing of materials. To prevent leaks on the jobsite, ensure that prefabricated washout containers are watertight. Additionally, some companies offer prefabricated washout containers with ramps to accommodate concrete pump trucks.

When selecting a company to handle concrete waste, ensure that they are properly disposing of all materials and give preference to companies that recycle collected materials.

Self-installed Concrete Washouts

A concrete washout facility can be built onsite. There are many design options for the washout, but they are preferably built below-grade to prevent breaches and reduce the likelihood of runoff. Above-grade structures can also be used if they are sized and constructed correctly are leak proof and are diligently maintained. One of the most common problems with self-installed concrete washout facilities is that they can leak or be breached as a result of constant use, so care should be taken to use quality materials and inspect the facilities on a daily basis.

Washouts should be sized to handle solids, wash water, and rainfall to prevent overflow. Concrete Washout Systems, Inc., (2006) estimates that 7 gallons of wash water are used to wash one truck chute and 50 gallons are used to wash out the hopper of a concrete pump truck.

For larger sites, a below-grade washout should be at least 10 feet wide and sized to contain all liquid and solid waste you expect to generate in between cleanout periods (CASQA, 2003). Washouts at smaller sites, such as a single-family residential lot, should be sized to accommodate the expected load and can be smaller than 10 feet wide. Include a minimum 12-inch freeboard in the sizing calculations. Line the pit with plastic sheeting of at least 10-mil thickness that has no holes or tears to prevent leaching of liquids into the ground (CASQA, 2003). **Concrete wash water should never be placed in a pit that is connected to the storm drain system or that drains to nearby waterways.**

Washouts at smaller sites can be smaller according to the expected capacity needed. Include a 4-inch freeboard in the sizing calculations (CASQA, 2003). Structures can be made from sandbags double- or triple-lined with plastic sheeting of at least 10-mil thickness that has no holes or tears.

Design Considerations

According to CASQA (2003), you should not place concrete washout facilities within 50 feet of storm drains, open ditches, or waterbodies. Concrete washout facilities need to be located in an area that allows convenient access for concrete trucks, preferably near the area where the concrete is being poured. Appropriate gravel or rock should cover paths to concrete washout facilities if the facilities are located on undeveloped property. These areas should be far enough away from other construction traffic to reduce the likelihood of accidental damage and spills. The number of facilities you install should depend on the expected demand for storage capacity. On large sites with extensive concrete work, concrete truck drivers should place washouts in multiple locations for ease of use.

Maintenance

Material Removal

Check all concrete washout facilities daily to determine if they have been filled to 75 percent capacity, which is when materials need to be removed. Both above- and below- ground self-installed washouts should be inspected daily to ensure that plastic linings are intact and sidewalls have not been damaged by construction activities. Prefabricated washout containers should be inspected daily as well to ensure the container is not leaking or nearing 75 percent capacity. Inspectors should note whether the facilities are being used regularly; if drivers wash out their chutes or hoppers in other locations, the site superintendent may need to provide more education, install additional signage, or place additional washouts in more convenient locations.

Inspection

Concrete washouts are designed to to promote evaporation where feasible. However, if stored liquids have not evaporated and the washout is nearing capacity, vacuum and dispose of them in an approved manner - check with the local sanitary sewer authority to determine if there are special disposal requirements for concrete wash water. Remove liquids or cover the structures before predicted rainstorms to prevent overflows. Companies that offer prefabricated and watertight washout containers generally offer a vacuum service to remove the liquid material.

Hardened solids can be removed while whole or can be broken up first depending on the type of equipment available at your site. Solids can be reused onsite or haul them away for recycling - crushed concrete makes excellent aggregate for roadbeds and other building applications. Check with the local recycling agency to identify opportunities for concrete recycling. When materials are removed from the concrete washout, build a new structure or, if the previous structure is still intact, inspect the structure for signs of weakening or damage and make any necessary repairs. Line the structure with new plastic that is free of holes or tears and replace signage if necessary. It is very important that new plastic is used after every cleaning because pumps and concrete removal equipment can damage the

existing liner.

Contractor Education

An important factor that dictates the success of concrete washout facilities is whether or not concrete truck drivers use concrete washouts. The site superintendent needs to make drivers aware of the presence of these facilities. The site superintendent can educate concrete subcontractors, post signage indicating the location and designated use of these areas, and provide careful oversight to inspect for evidence of improper dumping of concrete waste and wash water. Include requirements in contracts with concrete delivery companies that drivers must use designated concrete washout facilities.

Photo 1

Prefabricated Washout Container



Photos 2 & 3
Self-Installed Washout Containers



Note: It is recommended to use sand bags instead of Straw Bales

References

California Stormwater Quality Association (CASQA). 2003. *Stormwater Best Management Practice Handbook: Construction*. <http://www.cabmphandbooks.com/Construction.asp>. Accessed May 8, 2006.

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