



Concrete Washout Area

Best Management Practice

from Ecology's Water Quality Program

Reminder: The Construction Stormwater General Permit does not allow operators to discharge concrete wash water to waterways, storm drains or groundwater. Operators must manage and contain this water to prevent spills, leaks or discharges.

Description: Concrete wash water is generated from washing out ready-mix trucks, drums and pumps; it also includes the water from rinsing off chutes, equipment, and concrete truck exteriors. Concrete wash water is toxic to fish and aquatic life and can contaminate drinking water supplies. Improper disposal can clog storm drain pipes and cause flooding. Operators must prevent concrete wash water from entering waterways, storm drains and groundwater. If possible, all concrete waste and wash water should be returned with each concrete truck for disposal at the concrete batch plant. If this is not possible, operators can install an on-site **concrete washout area**. This best management practice can prevent water pollution and comply with state and federal laws.

Education for Concrete Contractors: The success of your on-site concrete washout area depends on whether or not concrete truck drivers use your designated concrete washout areas. Bring attention to the designated washout area with signs, and provide careful oversight to prevent improper dumping of concrete wash water. Operators should ensure that concrete contracts include requirements that concrete truck drivers use designated concrete washout areas.

Types of Concrete Washout Areas

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. Full-service option relieves the site superintendent of the burden of disposing of materials. Some companies offer prefabricated washout containers with ramps to accommodate concrete pump trucks.

Self-installed concrete washouts: You can also build your own concrete washout facility - although self-installed structures are much less reliable than prefabricated containers and are prone to leaks.

- **Below-grade washouts** will prevent breaches and reduce the likelihood of spills and contaminated stormwater runoff.
- **Above-grade washouts** must be carefully sized, inspected and maintained to prevent leaks and spills.

Sizing Self-Installed Concrete Washout Areas

Refer to [Ecology BMP C154](#) for detailed design standards. You must size your washouts to handle solids, wash water, and rainfall to prevent overflow.



- Approximately 7 gallons of wash water are used to wash one truck chute.
- Approximately 50 gallons are used to wash out the hopper of a concrete pump truck.

Below-grade washouts on must be sized to contain all liquid and solid waste you expect to generate in between cleanout periods. On larger sites, the pit should be at least 10 feet wide by 10 feet long and accommodate a minimum 12 inch freeboard (safety margin) 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.

Above-grade washouts on larger sites must be at least 10 feet wide by 10 feet long and sized to contain all liquid and solid waste you expect to generate in between cleanout periods. Washouts at smaller sites can be smaller according to the expected capacity needed. Include a minimum of 12 inch freeboard in the sizing calculations. You can make the structures from staked straw bales or sandbags double- or triple-lined with plastic sheeting of at least 10-mil thickness that has no holes or tears.

Placement of Concrete Washout Areas

You should not place concrete washout facilities within 50 feet of storm drains, open ditches, or water bodies. Consider multiple areas based upon demand for storage capacity. Allow convenient access for concrete trucks, preferably near the area where the concrete is being poured. If trucks need to leave a paved area to access washout, prevent track-out with a pad of rock or quarry spalls ([see Ecology BMP C105](#)). These areas should be far enough away from other construction traffic to reduce the likelihood of accidental damage and spills.

Operation

Inspection: Check all concrete washout facilities daily to determine if they have been filled to 75% capacity. The facility needs to be cleaned or changed when 75% full. Inspect self-installed washouts daily to ensure that plastic linings are intact and sidewalls have not been damaged by construction activities. If contractors have washed out chutes or hoppers in other unapproved locations, you may need to provide more education, install additional signage, or place additional washouts in more convenient locations.

Material Removal: If the washout is nearing capacity, vacuum and dispose of the waste material in an approved manner. Do not discharge liquids to waterways, storm drains or directly onto ground. Do not use sanitary sewer without local approval. Remove liquids or cover the structures before predicted storms to prevent overflows.

You can remove hardened concrete whole or you can break it up first, depending on the type of equipment available at your site. You can then reuse the concrete onsite or haul it away for disposal or recycling.

When you remove materials from the concrete washout, inspect for signs of weakening or damage, and rebuild structure or make necessary repairs. Install a new plastic liner after every cleaning.

Resources

Ecology's Stormwater Management Manuals:

<http://www.ecy.wa.gov/programs/wq/stormwater/construction/#More%20Stormwater%20Guidance%20Information%20>

For more information, please contact:

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(360) 407-6127 or jkil461@ecy.wa.gov

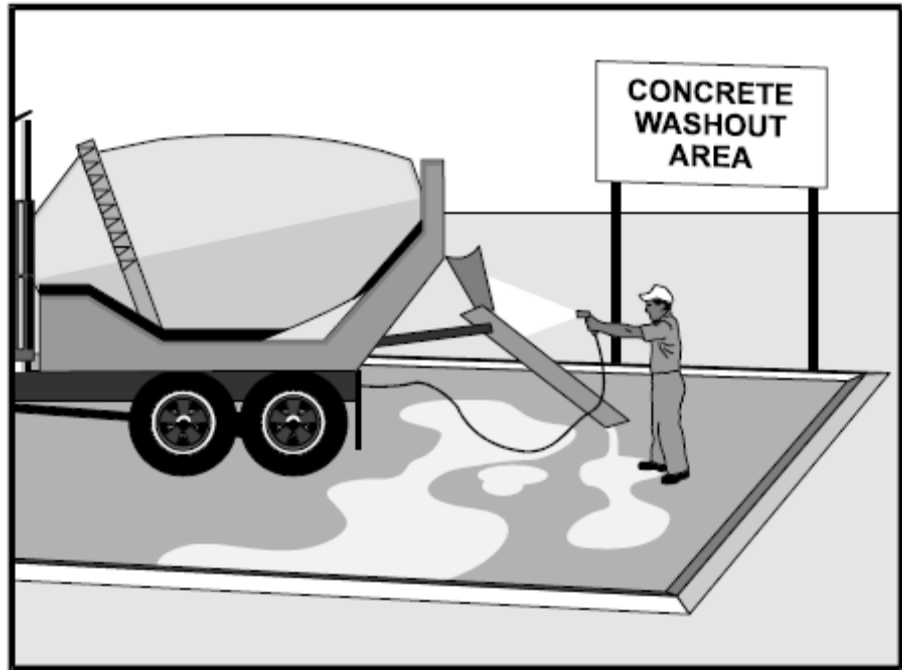
Visit Ecology's Construction Stormwater Website: <http://www.ecy.wa.gov/programs/wq/stormwater/construction>

If you need this information in an alternate format, please call the Program Development Services Section Secretary at 360-407-6401. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

BMP C154: Concrete Washout Area

Purpose

Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, or performing onsite washout in a designated area to prevent pollutants from entering surface waters or groundwater.



Conditions of Use

Concrete washout area best management practices are implemented on construction projects where:

- Concrete is used as a construction material
- It is not possible to dispose of all concrete wastewater and washout offsite (ready mix plant, etc.).
- Concrete trucks, pumpers, or other concrete coated equipment are washed onsite.

Design and Installation Specifications

Implementation

The following steps will help reduce stormwater pollution from concrete wastes:

- Perform washout of concrete trucks offsite or in designated concrete washout areas only.
- Do not wash out concrete trucks onto the ground, or into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated concrete washout areas.

- Concrete washout areas may be prefabricated concrete washout containers, or self-installed structures (above-grade or below-grade).
 - Prefabricated containers are most resistant to damage and protect against spills and leaks. Companies may offer delivery service and provide regular maintenance and disposal of solid and liquid waste.
 - If self-installed concrete washout areas are used, below-grade structures are preferred over above-grade structures because they are less prone to spills and leaks.
 - Self-installed above-grade structures should only be used if excavation is not practical.

Education

- Discuss the concrete management techniques described in this BMP with the ready-mix concrete supplier before any deliveries are made.
- Educate employees and subcontractors on the concrete waste management techniques described in this BMP.
- Arrange for contractor's superintendent or Certified Erosion and Sediment Control Lead (CESCL) to oversee and enforce concrete waste management procedures.
- A sign should be installed adjacent to each temporary concrete washout facility to inform concrete equipment operators to utilize the proper facilities.

Contracts

- Incorporate requirements for concrete waste management into concrete supplier and subcontractor agreements.

Location and Placement

- Locate washout area at least 50 feet from sensitive areas such as storm drains, open ditches, or water bodies, including wetlands.
- Allow convenient access for concrete trucks, preferably near the area where the concrete is being poured.
- If trucks need to leave a paved area to access washout, prevent track-out with a pad of rock or quarry spalls ([see Ecology BMP C105](#)). 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, washouts should be placed in multiple locations for ease of use by concrete truck drivers.

Onsite Temporary Concrete Washout Facility, Transit Truck Washout Procedures:

- Temporary concrete washout facilities shall be located a minimum of 50 ft from sensitive areas including storm drain inlets, open drainage facilities, and watercourses.
- Concrete washout facilities shall be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.
 - Approximately 7 gallons of wash water are used to wash one truck chute.
 - Approximately 50 gallons are used to wash out the hopper of a concrete pump truck
- Washout of concrete trucks shall be performed in designated areas only.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per applicable solid waste regulations. Dispose of hardened concrete on a regular basis.

- Temporary Above-Grade Concrete Washout Facility
 - Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft, but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
 - Straw bales and staking materials shall conform to the provisions in [BMP C230: Straw Bale Barrier](#).
 - Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

- Temporary Below-Grade Concrete Washout Facility
 - Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
 - Lath and flagging should be commercial type.
 - Plastic lining material shall be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears,

or other defects that compromise the impermeability of the material.

- Liner seams shall be installed in accordance with manufacturers' recommendations.
- Soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.

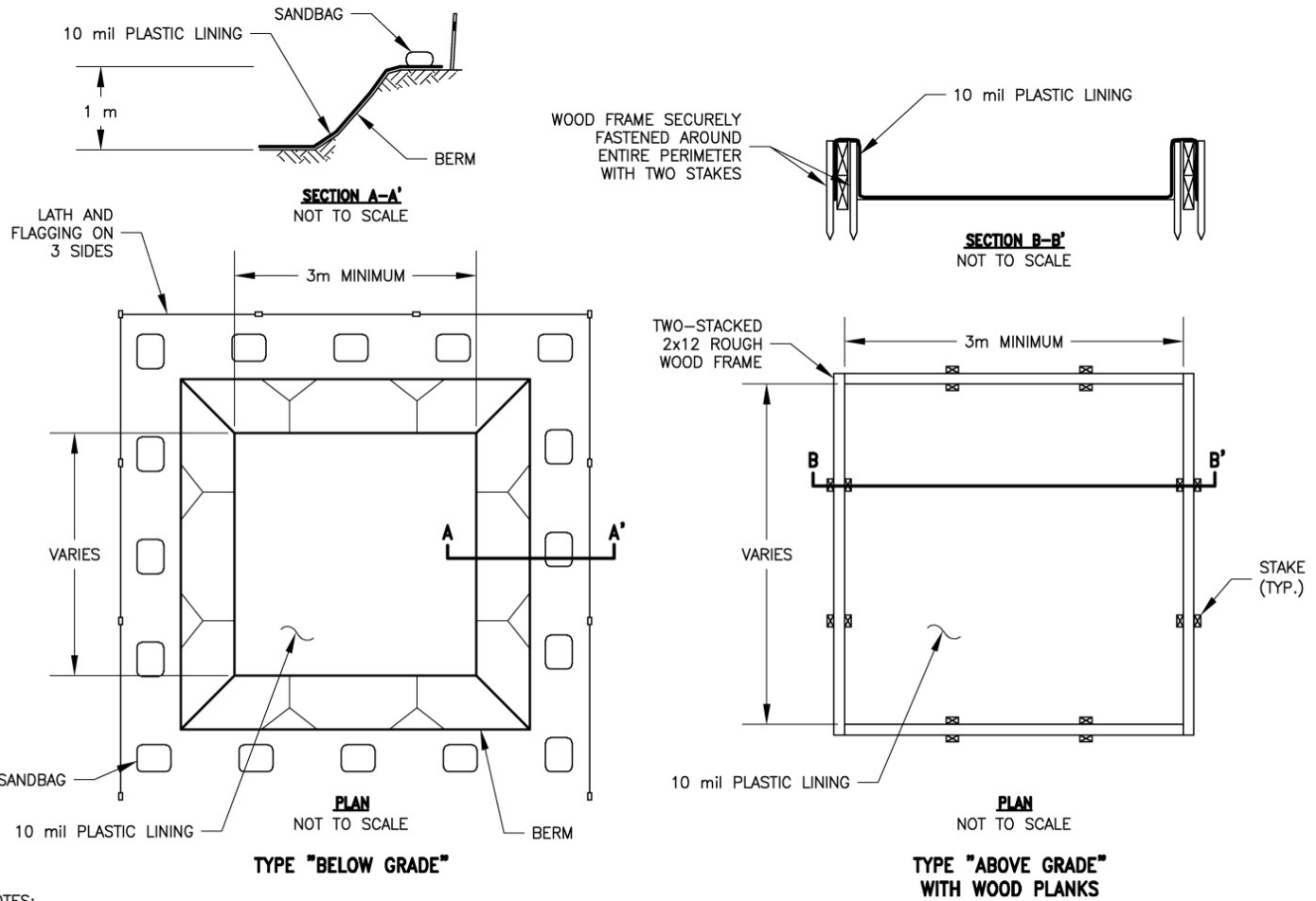
Inspection and Maintenance

- Inspect and verify that concrete washout BMPs are in place prior to the commencement of concrete work.
- During periods of concrete work, inspect daily to verify continued performance.
 - Check overall condition and performance.
 - Check remaining capacity (% full).
 - If using self-installed washout facilities, verify plastic liners are intact and sidewalls are not damaged.
 - If using prefabricated containers, check for leaks.
- Washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 12 inches.
- Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.
- If the washout is nearing capacity, vacuum and dispose of the waste material in an approved manner.
 - Do not discharge liquid or slurry to waterways, storm drains or directly onto ground.
 - Do not use sanitary sewer without local approval.
 - Place a secure, non-collapsing, non-water collecting cover over the concrete washout facility prior to predicted wet weather to prevent accumulation and overflow of precipitation.
 - Remove and dispose of hardened concrete and return the structure to a functional condition. Concrete may be reused onsite or hauled away for disposal or recycling.
- When you remove materials from the self-installed concrete washout, build a new structure; or, if the previous structure is still intact, inspect for signs of weakening or damage, and make any necessary repairs. Re-line the structure with new plastic after each cleaning.

Removal of Temporary Concrete Washout Facilities

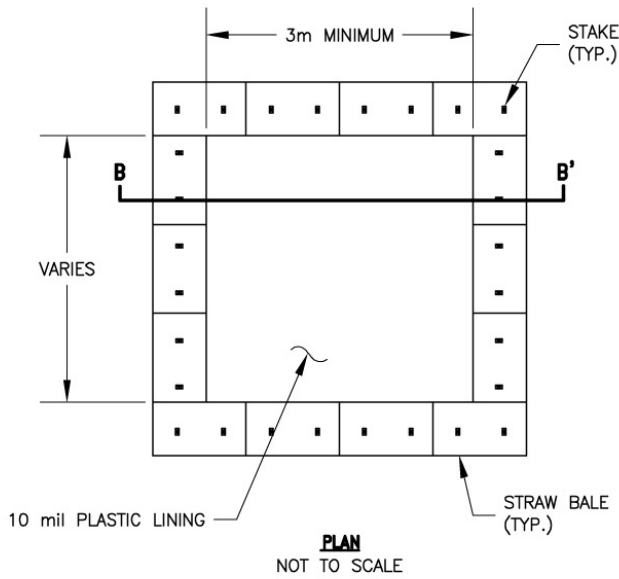
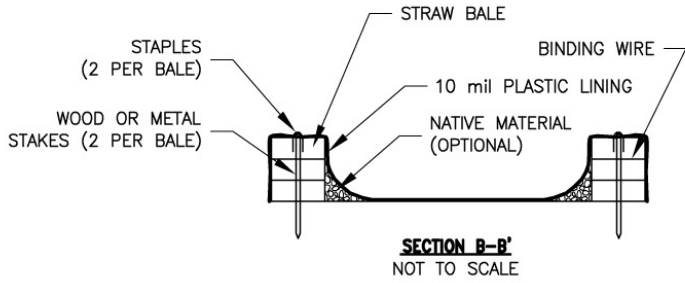
- When temporary concrete washout facilities are no longer required for the work, the hardened concrete, slurries and liquids shall be removed and properly disposed of.

- Materials used to construct temporary concrete washout facilities shall be removed from the site of the work and disposed of or recycled.
- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled, repaired, and stabilized to prevent erosion.

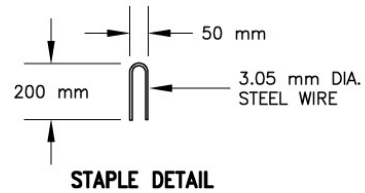
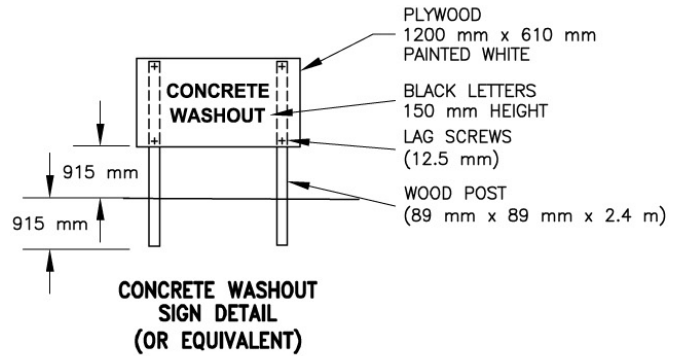


NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE PAGE 6) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

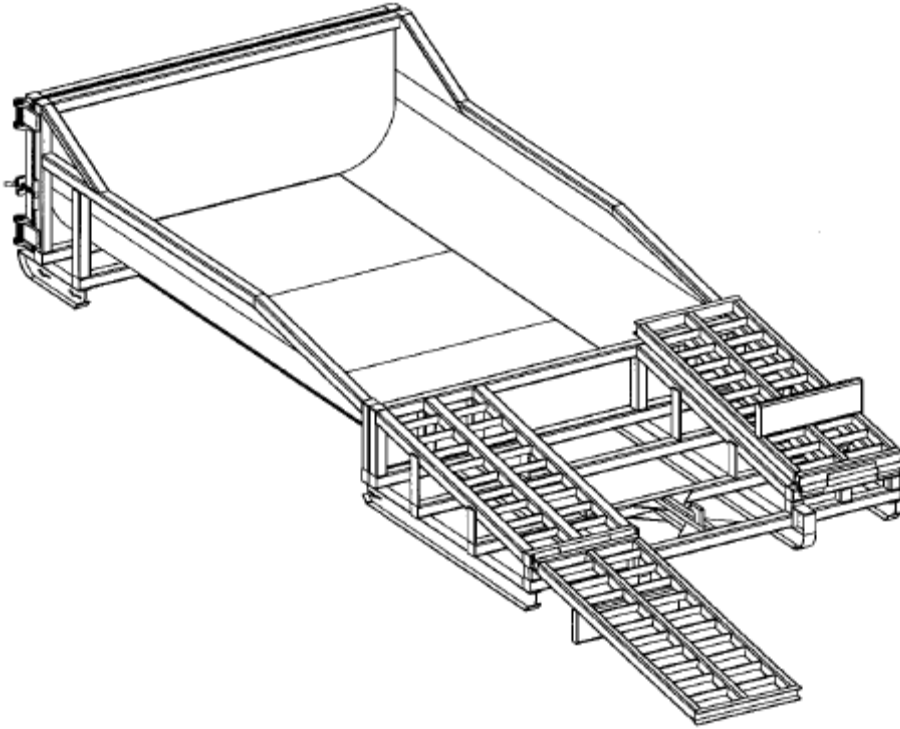


**TYPE "ABOVE GRADE"
WITH STRAW BALES**



NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE FIG. 4-15) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.



Prefabricated Concrete Washout Container w/Ramp