CHAPTER 4 TEMPORARY WASTE MANAGEMENT AND MATERIALS STORAGE

4.1 Introduction

Temporary waste management and materials storage best management practices (BMPs), like non-stormwater management BMPs, are source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source before they come in contact with stormwater. These BMPs also involve day-to-day management or operations of the construction site, are under the control of the Contractor, and are additional "good housekeeping practices," which involve keeping a clean, orderly construction site.

4.2 Temporary Waste Management and Materials Storage Goals

Temporary waste management and materials storage goals consist of:

1. **Perimeter Controls**
    a. Ensure that no waste or materials, or only a minimal amount, enters or leaves the project area.
    b. Filter waste and materials from discharge waters, as many times as possible needed to meet standards, before leaving the project area.
2. **Controls within the Project**
    a. Divert waste and materials away from the project, especially disturbed areas.
    b. Protect all bodies of water (ponds, streams, wetlands, etc.).
    c. Store only the materials needed to complete the job onsite.

Best Management Practices (BMPs)

Waste management and materials storage involves the use of the following BMPs:

	Typical Highway Construction Activities																										
Temporary Sediment Control Management **Best Management Practices**	Demolish	Clear and Grub	Construct Access Road	Grading (inc. cut and fill slopes)	Channel Excavation	Channel Paving	Trenching/Underground	Underground Drainage Facility Installation	Drainage Inlet Modification	Utility Trenching	Utility Installation	Subgrade Preparation	Base Paving	AC Paving	Concrete Paving	Saw Cutting	Joint Sealing	Grind/Groove	Structure Excavation	Erect Falsework	Bridge/Structure Construction	Remove Falsework	Striping	Miscellaneous Concrete Work	Sound Walls/Retaining Walls	Planting and Irrigation	Contractor Activities	Treatment BMP Construction
WM-1 Staging and Materials Site Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WM-2 Material Delivery and Storage	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WM-3 Material Use	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WM-4 Stockpile Management	X		X					X		X	X		X	X	X			X										
WM-5 Spill Prevention and Control	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WM-6 Solid Waste Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WM-7 Hazardous Waste Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WM-8 Contaminated Soil Management	X	X		X			X	X		X	X									X								
WM-9 Concrete Waste Management	X		X			X		X			X		X		X	X		X	X		X			X	X	X	X	X
WM-10 Sanitary/Septic Waste Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Temporary Sediment Control Management Best Management Practices	Typical Highway Construction Activities																										
	Demolish	Clear and Grub	Construct Access Road	Grading (inc. cut and fill slopes)	Channel Excavation	Channel Paving	Trenching/Underground	Underground Drainage Facility Installation	Drainage Inlet Modification	Utility Trenching	Utility Installation	Subgrade Preparation	Base Paving	AC Paving	Concrete Paving	Saw Cutting	Joint Sealing	Grind/Groove	Structure Excavation	Erect Falsework	Bridge/Structure Construction	Remove Falsework	Striping	Miscellaneous Concrete Work	Sound Walls/Retaining Walls	Planting and Irrigation	Contractor Activities	Treatment BMP Construction
WM-11 Liquid Waste Management														X		X	X		X		X		X				X	X
WM-12 Fertilizer Management		X	X																							X		X

WM-1 STAGING AND MATERIALS SITE MANAGEMENT

Refer to: ITD Standard Specifications, Sections 107.11, 107.17.
ITD Standard Drawings P-1-D, P-3-E, P-5-A.

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☒ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☒ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

Staging and storage areas within or adjacent to construction sites can be significant sources of pollution. Areas will be located, constructed, and maintained so that no contaminated stormwater, solid waste, trash or debris, or dust is discharged or released from the site.

Considerations

- Preventative and control measures may include diverting non-contaminated runoff, as well as collecting, conveying, impounding, storing, treating, and containing contaminated stormwater within or adjacent to construction sites.
- A wash station may be required to prevent transporting noxious weeds and contaminated soils off-site, or to address track out onto paved surfaces.
- An excavated containment area or similar space or device may be needed to capture material from leaks, spills or wash-down water.
- Prevent stormwater from coming into contact with the equipment or materials through the use of enclosures or covers over equipment, material sites, or hazardous material storage areas.
- Preventative measures to control dust may need to be employed.

Appropriate Applications

Various control measures include:

- **Stormwater conveyances**, such as channels, ditches, dikes, berms, drains, gutters, or sediment traps that can be constructed or lined with different materials such as concrete, asphalt, aggregate, riprap, or geosynthetics to control and direct stormwater.

- **Equipment wash station(s)** to contain and dispose of mud, dust, and noxious weeds that otherwise would be transported off-site.
- **Containment dikes, berms, curbing, collection basins, sumps, or drip pans** to capture and dispose of chemical or hazardous material leaks or spills.
- **Enclosures, covers, or soil binders** to protect staging and maintenance areas and materials such as topsoil, waste stockpiles, aggregate, sand, salts, liquids, solids, compost, or hazardous materials from stormwater contamination and movement due to wind or runoff.

Limitations

- Stormwater conveyance systems concentrate runoff and require maintenance. They can be expensive to install and space requirements may limit their practicality.
- Dikes or berms may not be suitable for large drainage areas. In addition, dikes, berms, curbs, collection basins, sumps, and liners used for leak and spill containment may require constant maintenance to ensure proper operation.
- Graded or paved areas will increase runoff flows and require special attention during heavy precipitation.
- Wash stations generate pollutants that must be contained and disposed of properly. Discharge of wash water into Waters of the U.S. requires specific treatment and must meet receiving water quality standards.
- A lack of understanding and poor assessment of the potential problems associated with handling and disposing hazardous materials may result in soil or water contamination and jeopardize worker safety.
- The cover or enclosure that is built or installed over certain activities or materials may pose health or safety problems.

Design Parameters

- Install conveyance systems during initial phases of construction.
- Construct dikes, berms, ditches, channels, and sediment traps of sufficient size, depth, or height to handle anticipated runoff.
- Incorporate graded or paved areas as control and containment measures to direct runoff to treatment facilities.
- Wash stations should be installed in isolated areas and shall be at least 300 feet from streams and wetlands, and at least 500 feet from private or public wells.
- Design leak and spill containment sites large enough to hold an amount equal to 110 percent of the storage tank capacity at the particular site. Materials used to construct the dike should be of sufficient quality and strength to safely hold any spilled material.
- Isolate hazardous material sites, for either waste or storage, out of the way of main traffic areas. If possible, provide cover and secure the area.

- When installing a cover or enclosure, evaluate the strength and longevity of the covering materials, as well as compatibility and safety with the materials being enclosed or covered. Allow for adequate access for loading, handling, and transfer. Ensure proper ventilation.

Construction Guidelines

- The Contractor shall construct staging and storage areas prior to project construction and following the Standard Specifications, and as approved by the Engineer.
- Wastewater shall be collected or directed from vehicle or equipment wash stations to a containment or treatment system. An impermeable liner may be required with pollutants such as oil, grease, fuel, asphalt, etc. If noxious weeds are present, an extensive vehicle and undercarriage wash will be required.
- Specific construction requirements shall be used for hazardous materials storage and leak/spill containment facilities. Construct per the contract specifications or other permitting requirements.
- Special care shall be given to avoid contamination of stormwater with outside storage materials by preventing precipitation from coming in contact with the materials. This can be accomplished by covering the area or by covering the material itself with protective roofing or a temporary flexible covering. Installing curbs or berms around the material also helps prevent contact from runoff water.
- Roofs, sheds, or buildings shall be constructed according to plans and drawings in accordance with current building codes and departmental standards. Securely anchor and, if necessary, ventilate temporary coverings or plastic sheets. All material shall be secured.

Regulatory Notes

- Water used to wash vehicles must be specifically identified in the SWPPP as a potential non-stormwater discharge.
- Leak and spill containment systems may require local authorization and inspection.
- In the event of a reported spill (40 CFR, Section 302.5), the Contractor shall notify the Engineer immediately. The Engineer shall notify the ITD Hazardous Materials Coordinator who shall notify the National Response Center hotline at (800) 424-8802 to report the type of material spilled and quantity. If the ITD Hazardous Materials Coordinator is not available, State Communications 800-632-8000 shall be notified.
- If runoff is discharged into an off-site sewer or treatment facility, the Contractor shall consult with the operator of the facility to see if there are any special requirements, restrictions, or permits.
- Noncompliance with regulations may result in regulatory enforcement, including fines or shutdown of the operation.
- No fill material shall be discharged into waters of the United States, unless authorized by the Clean Water Act (CWA) and Section 404 permit.

- Local authorities may have stricter requirements. These authorities shall be checked with for area/site specific concerns.

Maintenance and Inspection

- Conduct inspections as required by the NPDES permit or contract specifications.
- Repair eroded unpaved graded areas to ensure they are draining properly and that the discharge point is not clogged. Remove debris that may clog the system and repair any damage.
- Remove sediments from sediment traps and dispose of properly.
- Clean up and properly dispose of any mud or sediments that may be considered trackout by the end of the work day.
- Repair and stabilize dikes and curbs immediately.
- Repair or replace structural and flexible coverings as needed.
- Pick up all garbage and waste material, and dispose of it properly.
- Assign an employee to be responsible for hazardous materials and keep the inventory up-to-date. Label all containers with proper identification of the contents. Keep Material Safety Data Sheets (MSDSs) and spill and containment kits at the site. Review safety procedures for each hazardous material stored on-site.

WM-2 MATERIAL DELIVERY AND STORAGE

Refer to: ITD Standard Drawings P-1-D, P-5-A.

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☒ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☐ **Stream Protection**
- ☒ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

These are procedures and practices for use of construction material in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or watercourses.

Appropriate Applications

This BMP applies to all construction projects. These procedures apply when the following materials are used or prepared on-site:

- Hazardous chemicals, such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Soil stabilizers and binders
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, lubricants and grease
- Asphalt and concrete compounds
- Pesticides and herbicides
- Other materials that may be harmful to the environment

Limitations

- Space limitation may preclude indoor storage.
- Storage sheds must meet building and fire code requirements.

General Considerations

- Train employees and subcontractors on the proper material delivery and storage practices.
- Ensure all material storage areas are documented on SWPPP plan sheets or maps.
- Temporary storage areas shall be located away from vehicular traffic.
- Material Safety Data Sheets (MSDS) shall be left onsite and available to the Engineer upon request.

Material Storage Areas and Practices

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall be placed in temporary containment facilities for storage.
- Throughout the rainy season, each temporary containment facility shall have a permanent cover and side wind protection or be covered during nonworking days and during rain events.
- A temporary containment facility shall provide for a spill containment volume able to contain 110 percent of the capacity of the largest container within its boundary.
- A temporary containment facility shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous.
- All collected liquids shall be sent to an approved disposal site.
- Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Stockpiles shall be protected in accordance with WM-4 (Stockpile Management).
- The amount of material stored on-site shall be kept to a minimum.
- Proper storage instructions shall be posted at all times in an open and conspicuous location.
- Hazardous chemicals, drums, or bagged materials shall not be stored directly on the ground. These items shall be placed on a pallet and, when possible, under cover in secondary containment.
- An ample supply of appropriate spill cleanup material shall be kept near storage areas.

- WM-7 (Hazardous Waste Management) has additional information for storing of hazardous materials and wastes.

Material Delivery Practices

- An accurate, up-to-date inventory of material delivered and stored on-site shall be kept.
- Employees trained in emergency spill cleanup procedures shall be present when dangerous materials or liquid chemicals are unloaded.

Spill Clean Up

- Contain and clean up any spill immediately.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose any hazardous materials or contaminated soil.
- See WM-5 (Spill Prevention and Control), for spills of chemicals and/or hazardous materials.

Maintenance and Inspection

- Inspections shall be conducted as required by the NPDES permit or contract specifications.
- Storage areas shall be kept clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored.
- Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.

WM-3 MATERIAL USE

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

These are procedures and practices for use of construction material in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to watercourses.

Appropriate Applications

This BMP applies to all construction projects. These procedures apply when the following materials are used or prepared on-site:

- Hazardous chemicals, such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Soil stabilizers and binders
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease
- Asphalt and concrete compounds
- Pesticides and herbicides
- Other materials that may be hazardous to the environment

Limitations

Safer alternative building and construction products may not be available or suitable in every instance.

Design Parameters

- Material Safety Data Sheets (MSDSs) shall be supplied to the Engineer for all materials.
- Latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and no longer hazardous, may be disposed of with other construction debris.
- The original product labels shall not be removed; they contain important safety and disposal information. The entire product shall be used before disposing of the container.
- Paint shall be mixed indoors, or in a containment area. Paintbrushes shall never be cleaned and paint containers shall never be rinsed into a street, gutter, storm drain, or watercourse.
- Paint thinners, residue, and sludge(s) that cannot be recycled shall be disposed of as hazardous waste.
- For water-based paint, brushes shall be cleaned to the extent practical and rinsed to a drain leading to a sanitary sewer where permitted, or into a concrete washout pit. For oil-based paints, brushes shall be cleaned to the extent practical, and thinners and solvents shall be filtered and reused.
- Recycled and less hazardous products shall be used when practical. Residual paints, solvents, non-treated lumber, and other materials shall be recycled.
- Materials shall be used only where and when needed to complete the construction activity. Safer alternative materials shall be used as much as possible. The use of hazardous materials on-site shall be reduced or eliminated when practical.
- Fertilizers and pesticides shall not be over-applied. Only the amount needed shall be prepared. Also see WM-12, Fertilizer Storage and Discharge Management.
- The recommended usage instructions shall be followed strictly. Surface dressings shall be applied in smaller applications, as opposed to large applications, to allow time for it to work in and to avoid excess materials being carried off-site by runoff.
- Application of herbicides and pesticides shall be performed by a licensed applicator.
- An ample supply of spill cleanup material shall be kept near use areas. Employees shall be trained in spill cleanup procedures.
- Applied materials shall not be exposed to rainfall and runoff unless sufficient time has been allowed for them to dry.

Maintenance and Inspection

Conduct inspections as required by the NPDES permit or contract specifications.

WM-4 STOCKPILE MANAGEMENT

BMP Objectives

- ☒ **Perimeter Control**
- ☐ **Slope Protection**
- ☒ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☒ **Sediment Trapping**
- ☒ **Stream Protection**
- ☒ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, as well as paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), AC rubble, aggregate base, aggregate subbase or pre-mixed aggregate, asphalt binder (i.e., “cold mix” asphalt), and pressure treated wood.

Appropriate Applications

This BMP shall be implemented for all projects that stockpile soil and other materials.

Limitations

Procedures and practices presented in this BMP are general. The Contractor must identify appropriate practices for the specific materials used or stored on-site and comply with all federal, state, and local regulations.

Design Parameters

- Protection of stockpiles is a year-round requirement.
- Stockpiles shall be located a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets.
- Wind erosion control practices shall be implemented as appropriate on all stockpiled material. Specific information is provided in EC-14 (Wind Erosion Control).
- Stockpiles of contaminated soil shall be managed in accordance with WM-8 (Contaminated Soil Management).
- Bagged materials should be placed on pallets and under cover.

Protection of Non-Active Stockpiles

Non-active stockpiles of the identified materials shall be protected further as follows:

- Soil stockpiles
  - Locate the stockpile outside of any natural buffers.
  - Protect with a temporary perimeter sediment barriers.
  - Where practicable, provide cover or appropriate temporary stabilization to avoid direct contact with precipitation or to minimize sediment discharge.
  - Where possible, preserve native topsoil on site for use during revegetation efforts.
  - Unless infeasible, contain and securely protect from wind.
- Stockpiles of PCC rubble, AC, AC rubble, aggregate base, or aggregate subbase
  - During the rainy season, the stockpiles shall be covered or protected with a temporary perimeter sediment barrier at all times.
  - During the non-rainy season, the stockpiles shall be covered or protected with a temporary perimeter sediment barrier prior to the onset of precipitation.
- Stockpiles of "cold mix"
  - During the rainy season, cold mix stockpiles shall be placed on and covered with plastic or comparable material at all times.
  - During the non-rainy season, cold mix stockpiles shall be placed on and covered with plastic or comparable material prior to the onset of precipitation.
- Stockpiles/storage of pressure treated wood with copper, chromium, and arsenic or ammonical, copper, zinc, and arsenate
  - During the rainy season, treated wood shall be covered with plastic or comparable material and shall be placed on pallets at all times.
  - During the non-rainy season, treated wood shall be covered with plastic or comparable material and shall be placed on pallets prior to the onset of precipitation.

Protection of Active Stockpiles

Active stockpiles of the identified materials shall be protected further as follows:

- All stockpiles shall be covered, stabilized, or protected with a temporary sediment barrier prior to the onset of precipitation.
- Stockpiles of "cold mix" shall be placed on and covered with plastic or comparable material prior to the onset of precipitation.

Maintenance and Inspection

- Conduct inspections as required by the NPDES permit or contract specifications.
- Repair and/or replace perimeter controls and covers as needed, or as directed by the Engineer, to keep them functioning properly.

WM-5 SPILL PREVENTION AND CONTROL

BMP Objectives

- ☒ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

These procedures and practices are implemented to prevent and control spills in a manner that minimizes or prevents the discharge of spilled material to the drainage system or watercourses.

Appropriate Applications

This BMP applies to all construction projects. Spill control procedures are implemented any time chemicals, fuels, and/or hazardous substances are used or stored on a site. Substances may include, but are not limited to:

- Soil stabilizers/binders
- Dust palliatives
- Herbicides
- Growth inhibitors
- Fertilizers
- Deicing/anti-icing chemicals
- Fuels
- Lubricants
- Other petroleum distillates

To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes shall be contained and cleaned up immediately.

Limitations

- Procedures and practices presented in this BMP are general. The Contractor shall identify appropriate practices for the specific materials used or stored on-site

Design Parameters

- Contractor shall develop a site specific Spill Plan on all projects.
- Contact the District Hazardous Waste Coordinator in the event of a spill.
- Fulfill all state, local or federal Emergency Spill Notification Requirements.
- If spills are not cleaned up prior to a storm event, they shall be covered and protected from stormwater run-on and runoff.
- Spills shall not be buried or hosed off with water.
- Used cleanup materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose shall be stored and disposed of in conformance with the special provisions.
- Water used for cleaning and decontamination shall not be allowed to enter storm drains or watercourses and shall be collected and disposed of in accordance with WM-11 (Liquid Waste Management).
- Water overflow or minor water spillage shall be contained and shall not be allowed to discharge into drainage facilities or watercourses unless first treated by appropriate controls.
- Proper storage, cleanup, and spill reporting instruction for hazardous materials stored or used on the project site shall be posted at all times in an open, conspicuous and accessible location.
- Waste storage areas shall be kept clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Dispose of wastes at a rate necessary to avoid excessive waste storage onsite.
- Perimeter controls, containment structures, covers and liners shall be repaired or replaced as needed to maintain proper function.

Education

- Educate employees and subcontractors on what a “significant spill” is for each material they use and what is the appropriate response for “significant” and “insignificant” spills.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Educate employees on appropriate spill notification procedures.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program.

- The Contractor's Water Pollution Control Manager (WPCM) shall oversee and enforce proper spill prevention, cleanup, notification and control measures.

Cleanup and Storage Procedures

- Minor Spills
  - Minor spills typically involve small quantities of oil, gasoline, paint, etc., which can be controlled by the first responder at the discovery of the spill.
  - Absorbent materials shall be used on small spills.
  - The absorbent materials shall be removed promptly and dispose of properly.
  - The practice commonly followed for a minor spill is:
    - Contain the spread of the spill.
    - Recover spilled materials.
    - Clean the contaminated area and/or properly dispose of contaminated materials.
- Semi-Significant Spills
  - Semi-significant spills still can be controlled by the first responder along with the aid of other personnel. This type response may require the cessation of all other activities.
  - Clean up spills immediately.
    - Notify the project foreman immediately. The foreman shall notify the Engineer.
    - Contain spread of the spill.
    - Contact the District Hazardous Waste Coordinator.
    - If the spill occurs on paved or impermeable surfaces, contain the spill by encircling it with absorbent materials and clean it up using "dry" methods (absorbent materials, cat litter, and/or rags).
    - If the spill occurs in unpaved areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
    - If the spill occurs during rain, cover spill with tarps or other material to prevent contamination of run-on or runoff.
- For significant or hazardous spills or releases, the following steps shall be taken:
  - The Engineer shall be notified immediately.
  - The local emergency response shall be notified by dialing 911. In addition to 911, notify the proper county officials.
  - All emergency phone numbers must be available at the construction site at all times.

- The Idaho Emergency Response Center shall be notified at (800) 632-8000.
- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the Contractor shall notify the National Response Center at (800) 424-8802.
- Notification shall first be made by telephone and followed up with a written report.
- The services of a spills contractor or a hazardous materials team shall be obtained immediately. Construction personnel shall not attempt to clean up the spill until the appropriate and qualified staff has arrived at the job site.

Maintenance and Inspection

- Conduct inspections as required by the NPDES permit or contract specifications.
- Update spill prevention and control plans, and stock appropriate cleanup materials whenever changes occur in the types of chemicals used or stored on-site.
- Report discharges to Engineer as required by permits on project.

WM-6 SOLID WASTE MANAGEMENT

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

Solid waste management procedures and practices are designed to minimize or eliminate the discharge of pollutants to the drainage system or to watercourses as a result of the creation, stockpiling, or removal of construction site and domestic wastes.

Appropriate Applications

Solid waste management procedures and practices are implemented on all construction projects that generate solid wastes.

Solid wastes include but are not limited to:

- Construction wastes including brick, mortar, timber, steel and metal scraps, sawdust, pipe and electrical cuttings, non-hazardous equipment parts, and Styrofoam and other materials used to transport and package construction materials.
- Highway planting wastes, including vegetative material, plant containers, and packaging materials.
- Litter, including food containers, beverage cans, coffee cups, paper bags, plastic wrappers, and smoking materials, including litter generated by the public.

Limitations

It may be difficult to schedule waste disposal at projects located in remote areas.

General Considerations

The Contractor's Water Pollution Control Manager (WPCM) shall oversee, schedule, and enforce proper solid waste procedures and practices.

Education

- Instruct employees and subcontractors on identification of solid and hazardous waste.
- Educate employees and subcontractors on solid waste storage and disposal procedures.
- Hold regular meetings (or incorporate into regular safety meetings) to discuss and reinforce disposal procedures.

- Require that employees and subcontractors follow solid waste handling and storage procedures.
- Prohibit littering by employees, subcontractors, and visitors.
- Promote good housekeeping practices on all sites.
- Wherever possible, minimize production of solid waste materials.

Collection, Storage, and Disposal

- Dumpsters of sufficient size and number shall be provided to contain the solid waste generated by the project and properly serviced.
- Littering is prohibited.
- To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines shall be a priority.
- Trash receptacles shall be provided in the Contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Construction debris and litter from work areas within the construction limits of the project site shall be collected and placed in dumpsters at least weekly regardless of whether the litter was generated by the Contractor, the public, or others. Collected litter and debris shall not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.
- Full dumpsters shall be removed from the project site and the contents shall be disposed of properly. Clean up immediately if containers overflow.
- Litter stored in collection areas and containers shall be handled and disposed of by trash-hauling contractors.
- Construction debris and non-hazardous waste shall be removed from the site regularly or as directed by the Engineer.
- Construction material visible to the public shall be stored or stacked in an orderly manner to the satisfaction of the Engineer.
- Stormwater run-on shall be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
- Solid waste storage areas shall be located at least 50 feet from drainage facilities and watercourses and shall not be located in areas prone to flooding or ponding.
- Except during fair weather, construction and highway planting waste not stored in dumpsters shall be securely covered with tarps or plastic sheeting. .
- Dumpster washout on the project site is not allowed.
- Trash-hauling contractors shall be notified that only dumpsters are acceptable for use on-site.

- Additional containers and more frequent pickups will likely be needed during the demolition phase of construction.
- Construction waste shall be stored in a designated area approved by the Engineer.
- Potentially hazardous waste shall be segregated from non-hazardous construction site waste.
- The site shall be kept clean of litter debris through good housekeeping practices.
- Toxic liquid wastes (e.g., used oils, solvents, and paints) and chemicals (e.g., acids, pesticides, additives, and curing compounds) shall not be disposed of in dumpsters designated for construction debris.
- WM-7 (Hazardous Waste Management) contains information on disposal of hazardous waste. Hazardous waste shall be removed to an appropriate disposal and/or recycling facility by a licensed contractor.
- Useful vegetation debris, packaging, and/or surplus building materials shall be salvaged or recycled when practical. For example, trees and shrubs from land clearing can be converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.

Maintenance and Inspection

- Inspections shall be conducted as required by the NPDES permit or contract specifications.
- The WPCM shall monitor on-site solid waste storage and disposal procedures.
- The site shall be policed for litter and debris.

WM-7 HAZARDOUS WASTE MANAGEMENT

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

These are procedures and practices to minimize or eliminate the discharge of pollutants from construction site hazardous waste to the storm drain systems or to watercourses.

Appropriate Applications

This BMP applies to all construction projects. Hazardous waste management practices are implemented on construction projects that generate waste from the use of the following:

- Petroleum Products
- Asphalt Products
- Concrete Curing Compounds
- Pesticides or fertilizers
- Acids
- Paints
- Stains
- Solvents
- Wood Preservatives
- Roofing Tar
- Any materials deemed as a hazardous waste in Idaho

Limitations

- Nothing in this BMP relieves the Contractor from responsibility for compliance with federal, state, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.

General Considerations

The Contractor's Water Pollution Control Manager (WPCM) shall oversee and enforce proper hazardous waste management procedures and practices.

Education

- Educate employees and subcontractors on hazardous waste storage and disposal procedures.
- Educate employees and subcontractors on potential dangers to humans and the environment from hazardous wastes.
- Instruct employees and subcontractors on safety procedures for common construction site hazardous wastes.

- Instruct employees and subcontractors in identification of hazardous and solid waste.
- Hold regular meetings (or incorporate into regular safety meetings) to discuss and reinforce hazardous waste management procedures.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.

Storage Procedures

- Wastes shall be stored in sealed containers constructed of a suitable material and shall be labeled as required by federal regulations.
- All hazardous waste shall be stored, transported, and disposed as required by federal regulations.
- Waste containers shall be stored in temporary containment facilities that shall comply with the following requirements:
    - Throughout the rainy season, temporary containment facilities shall be covered to prevent exposure to stormwater. Covered facilities may include use of plastic tarps for small facilities or constructed roofs with overhangs. A storage facility having a solid cover and sides is preferred to a temporary tarp. Storage facilities shall be equipped with adequate ventilation.
    - Temporary containment facility shall provide for a spill containment volume able to contain precipitation from a 2-year, 24-hour storm, event, plus 110% of the total volume stored within its boundary.
    - Temporary containment facility shall be impervious to the materials stored there for a minimum contact time of 72 hours.
    - Temporary containment facilities shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be placed into drums after each rainfall. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous. Non-hazardous liquids shall be sent to an approved disposal site.
    - Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
    - Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Drums shall not be overfilled, and wastes shall not be mixed.
- Unless watertight, containers of dry waste shall be stored on pallets.
- Paint brushes and equipment for water- and oil-based paints shall be cleaned within a contained area and shall not be allowed to contaminate site soils, watercourses, or drainage systems. Waste paints, thinners, solvents, residues, and sludges that cannot be recycled or reused shall be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths shall be disposed of as solid waste.

- Hazardous waste collection containers shall be conveniently located.
- Hazardous waste storage areas on-site shall be designated and located away from storm drains or watercourses and away from moving vehicles and equipment to prevent accidental spills.
- Production or generation of hazardous waste on the job site shall be minimized.
- Potentially hazardous waste shall be segregated from non-hazardous construction site debris.
- Liquid or semi-liquid hazardous waste shall be kept in appropriate containers (closed drums or similar) and under cover.
- All hazardous waste containers shall be clearly labeled with the waste being stored and the date of accumulation.
- Hazardous waste containers shall be placed in secondary containment.
- Potentially hazardous waste materials shall not be allowed to accumulate on the ground.

Disposal Procedures

- Waste shall be properly disposed of outside the highway right-of-way within 90 days of being generated, or as directed by the Engineer.
- Waste shall be disposed of by a licensed hazardous waste transporter at an authorized and licensed disposal facility or recycling facility utilizing properly completed Uniform Hazardous Waste Manifest forms.
- A certified laboratory shall sample waste and classify it to determine the appropriate disposal facility.
- Toxic liquid wastes (e.g., used oils, solvents, and paints) and chemicals (e.g., acids, pesticides, additives, and curing compounds) shall NOT be disposed of in dumpsters designated for solid waste construction debris.
- Recycle material such as used oil or water-based paint when practical.

Maintenance and Inspection

- Inspections shall be conducted as required by the NPDES permit or contract specifications.
- A foreman and/or construction supervisor shall monitor on-site hazardous waste storage and disposal procedures.
- Waste storage areas shall be kept clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored.
- Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.
- Hazardous spills shall be cleaned up and reported in conformance with the applicable Material Safety Data Sheet (MSDS) and the instructions posted at the project site.

- The Idaho Emergency Response Center, at (800) 632-8000, shall be notified of spills of reportable quantities.
- A copy of the hazardous waste manifests shall be provided to the Engineer.

WM-8 CONTAMINATED SOIL MANAGEMENT

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☒ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

These are procedures and practices to minimize or eliminate the discharges of pollutants to the drainage system or to watercourses from contaminated soil.

Appropriate Applications

- Contaminated soil management is implemented on construction projects where soil contamination may have occurred due to spills, illicit discharges, and leaks from underground storage tanks. Limitations

The procedures and practices presented in this BMP are general. The Contractor shall identify appropriate practices and procedures for the specific contaminants known to exist or discovered on-site.

General Considerations

Identifying Contaminated Areas

- Contaminated soils are often identified during project planning and development, with known locations identified in the plans and specifications.
- The Contractor shall review applicable reports and investigate appropriate callouts in the plans and specifications.
- The Contractor may further identify contaminated soils by investigating the following:
  - Past site uses and activities.
  - Spills and leaks.
  - Look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris.

- Test suspected soils at a certified laboratory.

Education

- Prior to performing any excavation work at the locations containing material classified as hazardous, employees and subcontractors shall complete a safety training program which meets 29 CFR 1910.120 covering the potential hazards as identified.
- Employees and subcontractors shall be educated in identification of contaminated soil and on contaminated soil handling and disposal procedures.
- Regular meetings shall be held (or incorporated into regular safety meetings) to discuss and reinforce disposal procedures.

Handling Procedures for Contaminated Soils

- Minimize the on-site storage time by disposing of the contaminated soil regularly and properly in accordance with all applicable regulations.
- Test suspected soils at a certified laboratory.
- If the soil is contaminated, work with the state regulatory agencies to develop options for treatment and/or disposal.
- Avoid temporary stockpiling of contaminated soils or hazardous material. If temporary stockpiling is necessary:
  - Cover the stockpile with plastic sheeting or tarps.
  - Install a berm around the stockpile to prevent runoff from leaving the area.
  - Do not stockpile in or near storm drains or watercourses.
- Remove contaminated material and hazardous material on exteriors of transport vehicles prior to the vehicle leaving the exclusion zone.
- Monitor the air quality continuously during excavation operations at all locations containing hazardous material.
- Procure all permits and licenses, and give all notices necessary and incident to the work, including registration for transporting vehicles carrying the contaminated material and the hazardous material.
- Collect water from decontamination procedures and treat and/or dispose of it at an appropriate disposal site.
- Collect non-reusable protective equipment, once used by any personnel, and dispose of at an appropriate disposal site.
- Install temporary security fence around the exclusion zone. Remove fencing when no longer needed.
- Excavate, transport, and dispose of contaminated material and hazardous material in accordance with the rules and regulations of the following agencies (the specifications of these agencies supersede the procedures outlined in this BMP):
  - United States Department of Transportation.

- United States Environmental Protection Agency.
- Occupational Safety and Health Administration.
- State or Local regulatory agencies.

Procedures for Underground Storage Tank Removals

- Prior to commencing tank removal operations, obtain the required underground storage tank removal permits and approval from the federal, state, and local agencies, which have jurisdiction over such work.
- Arrange to have tested, as directed by the Engineer, any liquid or sludge found in the underground tank prior to its removal to determine if it contains hazardous substances.
- Following the tank removal, take soil samples beneath the excavated tank and perform analysis as required by the local agency representative(s).
- Remove the underground storage tank, any liquid and/or sludge found within the tank, and all contaminated/hazardous substances and/or soils during the tank removal, and transport to disposal facilities permitted to accept such waste.

Water Control

- All necessary precautions and preventive measures shall be taken to prevent the flow of water, including groundwater, from mixing with hazardous substances or underground storage tank excavations. Such preventative measures may consist of, but are not limited to: berms, cofferdams, grout curtains, or any combination thereof.
- If water does enter an excavation and becomes contaminated it must be treated as a hazardous waste. If necessary to proceed with the work, the water shall be dewatered consistent with NS-2 (Dewatering Operations).

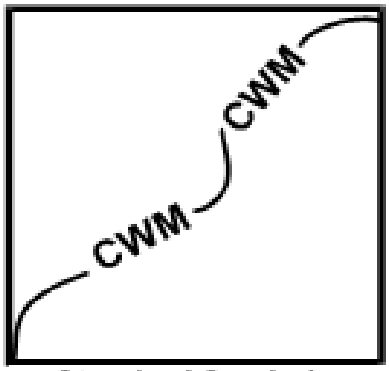
Maintenance and Inspection

- Inspections shall be conducted as required by the NPDES permit or contract specifications.
- The Contractor's Water Pollution Control Manager, foreman, and/or construction supervisor shall monitor on-site contaminated soil storage and disposal procedures.
- Air quality shall be monitored continuously during excavation operations at all locations containing hazardous material.
- Contaminated soils and hazardous substances/waste management shall be coordinated with the appropriate federal, state, and local agencies.

WM-9 CONCRETE WASTE MANAGEMENT

Refer to: ITD Standards and Specifications for Highway Construction, Section 720.01 and 502.03.

Refer to: ITD Standard Drawing P-5-B.



Standard Symbol

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

These procedures and practices are designed to minimize or eliminate the discharge of concrete waste materials to the storm drain systems or to watercourses.

Appropriate Applications

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete or mortar is used as a construction material or where concrete dust and debris result from demolition activities.
- Slurries containing portland cement concrete (PCC) or asphalt concrete (AC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.
- Concrete trucks and other concrete-coated equipment are washed on-site.
- Where mortar-mixing stations exist.

Limitations

- Site conditions may constrain location of an appropriate washout area or areas.
- Cleanout areas must be routinely monitored, maintained, and emptied.

General Considerations

- Employees, subcontractors, and suppliers shall be educated on the concrete waste management techniques described herein.
- Designate areas to be used for concrete waste handling and to the extent practical conduct such activities only in these areas.
- The Contractor's WPCM shall oversee and enforce concrete waste management procedures.

Concrete Slurry Wastes

- PCC and AC slurry waste shall not be allowed to enter storm drains or watercourses.
- PCC and AC waste shall be collected and properly disposed of outside the highway right-of-way or placed in a temporary concrete washout facility. See also NS-3 (Paving and Grinding Operations)
- Disposal of hardened PCC and AC waste shall be in conformance with construction and domestic waste disposal requirements.
- A sign shall be installed adjacent to each temporary concrete washout facility to inform concrete equipment operators and material testers to utilize the proper facilities.
- A foreman and/or construction supervisor shall monitor on-site concrete working tasks, such as saw cutting, coring, grinding, and grooving to ensure proper methods are implemented.
- Saw-cut PCC slurry shall not be allowed to enter storm drains or watercourses. See also NS-3 (Paving and Grinding Operations) and WM-11 (Liquid Waste Management). Residue from grinding operations shall be picked up by means of a vacuum attachment to the grinding machine. Saw cutting residue shall not be allowed to flow across the pavement and shall not be left on the surface of the pavement.
- Slurry residue shall be vacuumed, disposed in a temporary facility (as described in On-Site Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below), and allowed to dry. Dry slurry residue shall be disposed in accordance with WM-6 (Solid Waste Management.
- Residue from grooving and grinding operations shall be collected and disposed in accordance with the Standard Specifications.

On-Site Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures

- Temporary concrete washout facilities shall be located a minimum of 50 feet from storm drain inlets, open drainage facilities, and watercourses, unless determined infeasible by the Engineer. Each facility shall be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign shall be installed adjacent to each washout facility to inform concrete equipment operators and material testers to utilize the proper facilities.

- Temporary concrete washout facilities shall be constructed above grade or below grade at the option of the Contractor. Temporary concrete washout facilities shall be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.
- Temporary washout facilities shall have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures. Multiple areas can be used to accommodate the predicted volume of waste.
- Washout of concrete mixer trucks shall be performed in designated areas only.
- Concrete shall be washed only from mixer truck chutes into an approved concrete washout facility.
- Excess concrete shall be pumped from concrete pump bin back into concrete mixer truck.
- Concrete washout from concrete pumper bins can be discharged into designated washout area.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete shall be broken up, removed, and disposed of per WM-6 (Solid Waste Management) or used as fill material as approved by the Engineer.

Temporary Concrete Washout Facility Type "Above Grade"

- Temporary concrete washout facility Type "Above Grade" shall be constructed, with a recommended minimum length and minimum width of 10 feet, but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. The length and width of a facility may be increased, at the Contractor's expense, upon approval from the Engineer.
- Plastic lining material shall be a minimum of **10-millimeter** polyethylene sheeting and shall be free of holes, tears, or other defects that compromise the impermeability of the material.
- Refer to ITD Standard Drawing.

Temporary Concrete Washout Facility Type "Below Grade"

- Temporary concrete washout facility Type "Below Grade" shall be constructed, with a recommended minimum length and minimum width of 10 feet. The quantity and volume shall be sufficient to contain all liquid and concrete waste generated by washout operations. The length and width of a facility may be increased, at the Contractor's expense, upon approval of the Engineer.
- Plastic lining material shall be a minimum of **10-millimeter** polyethylene sheeting and shall be free of holes, tears or other defects that compromise the impermeability of the material.
- The soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.
- Refer to ITD Standard Drawing.

Removal of Temporary Concrete Washout Facilities

- Materials used to construct temporary concrete washout facilities shall become the property of the Contractor, shall be removed from the site of the work, and shall be disposed of as construction or domestic waste.
- Holes, depressions, or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled and repaired.

Maintenance and Inspection

Conduct inspections as required by the NPDES permit or contract specifications.

WM-10 SANITARY/ SEPTIC WASTE MANAGEMENT

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☒ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

Procedures and practices to minimize or eliminate the discharge of construction site sanitary/septic waste materials to the storm drain system or to watercourses by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

Appropriate Applications

Sanitary/septic waste management practices are implemented on all construction sites that use temporary or portable sanitary/septic waste systems.

Limitations

- Must provide regular access for service contractor.
- Must provide sufficient number of units to accommodate all personnel on site.

Education

- Educate employees, subcontractors, and suppliers on sanitary/septic waste storage and disposal procedures.
- Educate employees, subcontractors, and suppliers of potential dangers to humans and the environment from sanitary/septic wastes.
- Instruct employees, subcontractors, and suppliers in identification of sanitary/septic waste.
- Hold regular meetings, or incorporate into regular safety meetings the requirement to utilize sanitary facilities.
- Establish a continuing education program.

Storage and Disposal Procedures

- Temporary sanitary facilities shall be located as far away as practicable from drainage facilities given site/traffic conditions and watercourses, but still conveniently located for personnel.
- Temporary sanitary facilities shall be positioned to be secure to prevent overturning.
- Wastewater shall not be discharged or buried within the highway right-of-way.
- If an on-site disposal system, such as a septic system, is used, local health agency requirements shall be complied with.
- Temporary sanitary facilities that discharge to the sanitary sewer system shall be properly connected to avoid illicit discharges.
- Sanitary/septic facilities shall be maintained in good working order and serviced by a licensed provider.
-

Maintenance and Inspection

- Conduct inspections as required by the NPDES permit or contract specifications.
- Arrange for regular waste collection.

WM-11 LIQUID WASTE MANAGEMENT

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

Procedures and practices to prevent discharge of pollutants to the storm drain system or to watercourses as a result of the creation, collection, and disposal of non-hazardous liquid materials.

Appropriate Applications

This BMP is applicable to construction projects that generate any of the following non-hazardous byproducts, residuals, or wastes:

- Drilling slurries and drilling fluids
- Grease-free and oil-free wastewater and rinse water
- Dredged materials
- Other non-stormwater liquid discharges not permitted by separate permits

Limitations

- Disposal of some liquids may be subject to specific laws and regulations, or to requirements of other permits secured for the construction project (e.g., National Pollutant Discharge Elimination System [NPDES] permits, Army Corps of Engineers permits, etc.).
- This BMP does not apply to dewatering operations (see NS-2 [Dewatering Operations]), solid waste management (WM-6 [Solid Waste Management]), hazardous wastes (see WM-7 [Hazardous Waste Management]), or concrete slurry residue (see WM-9 [Concrete Waste Management]).
- This BMP does not apply to non-stormwater discharges permitted by any NPDES permit held by ITD. Typical permitted non-stormwater discharges can include: water line flushing, landscape irrigation, diverted stream flows, rising groundwater, pumped groundwater, discharges from potable water sources, foundation drains, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, flows from riparian habitats and wetlands, and discharges or flows from emergency firefighting activities.

General Practices

The Contractor's Water Pollution Control Manager shall oversee and enforce proper liquid waste management procedures and practices including the following:

- Follow all applicable federal, state, and local regulations.
- Instruct employees and subcontractors how to safely differentiate between non-hazardous liquids and potential or known hazardous liquids.
- Instruct employees, subcontractors, and suppliers that it is unacceptable for any sediment-laden liquid to enter any storm drainage device, waterway, or receiving water without treatment to meet Idaho water quality standards.
- Educate employees and subcontractors on the proper handling procedures for all liquids generated during construction activities by holding regular meetings (or incorporate into regular safety meetings) to discuss and reinforce disposal procedures.
- Verify which non-stormwater discharges are permitted by the CGP. Some listed discharges may require pre-treatment or treatment prior to leaving the site.
- Manage wash water and rinse water from vehicle and equipment cleaning operations (see NS-8 [Vehicle and Equipment Cleaning]).

Containing Liquid Wastes

- Drilling residue and drilling fluids shall not be allowed to enter storm drains and watercourses and shall be disposed of outside the highway right-of-way in conformance with any project special provisions.
- If an appropriate location is available, drilling residue and drilling fluids may be dried in a containment facility constructed in conformance with the provisions detailed in WM-9 (Concrete Waste Management).
- Liquids generated as part of an operational procedure, such as water-laden dredged material and drilling mud shall be contained and not allowed to flow into drainage channels or receiving waters prior to treatment.
- All liquids generated during construction shall be contained in a controlled area, such as a holding pit, sediment basin, roll-off bin, or portable tank.
- Containment devices must be structurally-sound and leak-free.
- Containment devices must be of sufficient quantity or volume to completely contain the liquid wastes generated.
- Precautions shall be taken to avoid spills or accidental releases of contained liquids. The education measures and spill response procedures outlined in WM-5 (Spill Prevention and Control) shall be applied.

  Containment areas or devices shall not be located where accidental release of the contained liquid can threaten health or safety, or discharge to water bodies, channels, or storm drains.

- If the liquid is sediment-laden, use a sediment trap (see SC-10 [Sediment Trap]) for capturing and treating the liquid stream, or capture in a containment device and allow sediment to settle.Disposing of Liquid Materials
- The typical method is to dewater the contained liquid waste, using procedures such as those described in NS-2 (Dewatering Operations) and SC-9 (Sediment/Desilting Basin), and dispose of resulting solids per WM-6 (Solid Waste Management).
- Some liquids may require special disposal methods prescribed in the NPDES permits, 401/404 permits, Biological Assessment/Opinions, or defined elsewhere in the Special Provisions.
- Some liquids, such as those generated from dredged material, may require testing and/or review to determine whether it is hazardous before a disposal method can be determined.
- Disposal of hazardous waste is discussed in the Standard Specifications.
- If necessary, non-hazardous liquid materials shall be treated prior to disposal. Treatment may include, though is not limited to, sedimentation, filtration, and chemical neutralization.

Maintenance and Inspection

- Conduct inspections as required by the NPDES permit or contract specifications.
- Remove deposited solids in containment areas and capturing devices as needed and at the completion of the task. Dispose of any solids as described in WM-6 (Solid Waste Management).
- Repair containment areas and capturing devices as needed.

WM-12 FERTILIZER STORAGE AND DISCHARGE MANAGEMENT

For assistance, contact the District Environmental Planners, District Maintenance Engineer, or the Roadside Program Administrator at ITD Headquarters Maintenance Section.

Refer to: ITD Standards and Specifications for Highway Construction, Sections 620 and 621.

BMP Objectives

- ☐ **Perimeter Control**
- ☐ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☐ **Drainage Areas**
- ☐ **Sediment Trapping**
- ☒ **Stream Protection**
- ☐ **Temporary Stabilizing**
- ☐ **Permanent Stabilizing**

Definition and Purpose

These are procedures and practices for storage and use of fertilizer in a manner that minimizes or eliminates the discharge of nutrients to the storm drain system or other watercourses.

Appropriate Applications

This BMP applies to all construction or maintenance projects when fertilizer is stored, mixed, or applied to aid in the growth and establishment of vegetative cover.

Fertilizer Storage and Application Limitations

- Space limitation may preclude indoor or covered storage of fertilizer.
- Material used to cover fertilizer or build a temporary enclosure may result in future waste management or housekeeping issues at the project.
- On-site storage sheds or structures built must meet local building and fire code requirements.
- Variables including soil types, climate, vegetation types, timing of application, and terrain are all potential limiting factors for effective fertilizer application and uptake and minimization of nutrient runoff.

Fertilizer Storage Practices

- Train employees and subcontractors on proper storage and application practices.
- Storage area shall be located at least 150 feet away from receiving waters or storm drain inlets, unless otherwise directed by the Engineer.
- Time delivery of fertilizer to minimize onsite storage time.

- Safety Data Sheets (SDS) shall be supplied to the Engineer for fertilizers.
- Fertilizers shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to storm events, and shall be maintained free of accumulated rainwater and spills.

Fertilizer Application and Discharge Considerations

- Fertilizer application rates are site specific and vary by region depending on soil types, climate, vegetation or crop uptake, and other factors.
- Follow manufacturer's recommendations, ITD specifications or contract requirements for fertilizer applications.
- Use organic or non-toxic fertilizers.
- Minimize nutrient loss or offsite transport from applied area by:
    - Apply at a rate consistent with manufacturer's specifications, or document departures from manufacturer's specified rates.
    - Apply at the appropriate time of year for your location, and timed to coincide as closely as possible to the period of maximum vegetation uptake and growth.
    - Avoid applying before heavy rains that could cause excess nutrient runoff.
    - Do not apply to frozen ground.
    - Do not apply directly to stormwater conveyance channels or channels of intermittent water ways, or directly to surface waters.
    - Work fertilizers into the soil, if possible, instead of letting them lie on the ground exposed to the next rainstorm.

Fertilizer Clean Up Practices

- Contain and clean up any fertilizer spills immediately using dry cleanup methods.
- See WM-5 (Spill Prevention and Control), for additional spill control guidance.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose any excess materials or contaminated soil.

Maintenance and Inspection

- Inspections shall be conducted as required by the NPDES permit or contract specifications.
- Storage areas shall be kept clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored.
- Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.