



NPCC

Precast ... The Concrete Solution

Supplemental Best Management Practices (BMPs) for Pipe & Precast Facilities

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INTRODUCTION

This Supplemental Best Management Practices (BMPs) for Pipe & Precast facilities is supplied to provide additional BMPs for the operation of National Precast Concrete Association member facilities. These operations are typically non-point sources of pollution. Non-point source pollution is caused by rainfall and snowmelt moving over and through the ground. As the runoff travels, it picks up and transports natural and man-made pollutants which are finally deposited into lakes, rivers, wet lands, coastal waters, and underground sources of drinking water. The United States EPA has estimated that 60% of water quality problems in the nation are caused by non-point sources. By incorporating practices that reduce or eliminate identified potential sources of pollution to storm water, the water quality of the nation can be greatly improved. Each of the BMPs listed within the document are designed to reduce those pollutants from both Stormwater and Snow Melt. The development of adequate BMPs are important; however, the effectiveness of BMPs is entirely dependent on the proper implementation by the facility staff. A commitment of the implementation of BMPs at your facility is an essential element in the success of the plan. This Supplemental BMP document is based on the best practices of the EPA Multisector Generic Permit, site specific conditions and regulations may vary based local regulations.

BEST MANAGEMENT PRACTICES (BMPs)

1.1. BMP CATEGORIES

- **Source Control BMPs (SC-BMP)** - are practices that prevent pollutants from being generated and/or released at their potential source and include items such as good housekeeping and preventive maintenance.
- **Containment/Diversion BMPs (C/D-BMP)** - are structural components that keep the pollutants from contacting rain and snow melt by segregating, separating, covering or containing pollutant source, or diverting stormwater flow and snow melt..
- **Treatment BMPs (T-BMP)** - are structural components that treat rain and snow melt once it has become contaminated with pollutants.
- **Maintenance BMPs (M-BMP)** – are practices that keep the BMPs operating at levels to obtain an efficient control of pollution prevention.

SC-BMPs are typically the easiest and most effective for controlling stormwater and snow melt pollution and are the least expensive to implement. However, in the case the fact that many of the industrial activities, generally exposed to rain and snow melt, are conducted within the confinements of a manufacturing plant building the C/D-BMPs play a huge roll in rain and snow melt pollution prevention. Still some of the industrial activities such as outside production, product storage and aggregate storage are exposed, and T-BMPs are also relied upon to remove pollutants from stormwater and snow melt prior to discharge. To maintain effectiveness the BMPs need to be maintained these practices are listed as M-BMPs.

The following sections identify and describe Best Management Practices (BMPs) that eliminate or minimize contact of potential pollutants with stormwater and snow melt, and reduce pollutant loadings in the discharge prior to discharge. BMPs are structural components or managerial practices that exist or can be implemented to reduce or eliminate stormwater and snow melt pollution.

1.2. ACTIVITY/AREA SPECIFIC BMPs

Sections 1.2.1 through 1.2.15 identify specific BMPs that the facility has or should implement as a means of minimizing rain and snow melt contamination resulting from the specific source activities and areas at the facility.

1.2.1. Raw Materials Storage

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from material storage:

SC-BMP

- Store dry goods under roof or tarps to avoid potential of rain and snow melt run-off.
- Paved areas in and around the outside aggregate bins-storage pile system and paved areas around the silos pneumatic fill pipe connections should be dry swept at least once per week, and spilled materials removed.
- Air pollution equipment associated with material storage silos should be regularly maintained.
- Dumpsters should have lids and remain closed.
- Exposed secondary containment structures for liquid containing ASTs should be frequently inspected for signs of free product or non-contaminated rain and snow melt. Non-contaminated rain and snow melt shall be drained from the secondary containment structures, and documented in the SWPPP and SPCC.
- Housekeeping Activities.

C/D-BMP

- Displaced air from material storage silos during product transfer is filtered with a bin-vent filter or bag-house.
- The discharge (bottom) end of the silos is within the manufacturing plant building.
- Lids on dumpsters should remain closed when refuse or recycled materials are not being transferred.

T-BMP

- Install sediment barrier(s). (ie: Silt Fence, Filter Socks, Check Dams, Diversion Berms, Storm Drain Inlet Protection, etc.)
- Rain and snow melt retention pond(s) and associated conveyance ditches.

M-BMP

- All filters, containments and barriers should be cleaned well before they reach 50% of their capacity.
- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP forms as applicable.

1.2.2.Raw Materials Handling

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from materials handling:

SC-BMP

- Paved areas in and around the concrete batch plant shall be dry swept at least once per week, and spilled materials removed.
- Cement or cement supplement transfer to storage silos from tanker should only be performed in the continuous presence of tanker operator.
- Cement or cement supplement pumping limited to 8 to 10 PSI.
- Sensors (including but not limited to silo capacity indicator and pressure regulator) associated with the pneumatic transfer of cement or cement supplement to material storage silos from enclosed tanker trucks should be maintained on a regular basis and not bypassed or circumvented.
- The main aggregate covered inclined belt conveyor (conveyor that transports sands and aggregates from the outside aggregate bins-storage pile system to the elevated distribution bins within the manufacturing plant) should be regularly maintained.
- Regulated and hazardous waste shall be managed, stored, and disposed of in accordance with applicable State or federal rules and regulations.

C/D-BMP

- Displaced air from material weigh hopper and central mixer during product transfer is filtered with a bin-vent filter or bag-house.
- The maintenance-shop area and manufacturing plant building provide shelter and potentially some degree of secondary containment for various materials handling operations.
- The main aggregate inclined belt conveyor is improved with a cover.

T-BMP

- Install sediment barrier(s). (ie: Silt Fence, Filter Socks, Check Dams, Diversion Berms, Storm Drain Inlet Protection, etc.)
- Stormwater retention pond(s) and associated conveyance ditches.

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP forms as applicable.
- All filters, containments and barriers should be cleaned well before they reach 50% of there capacity.
- Stormwater retention pond(s) and associated conveyance ditches should be maintained (mowed/dredged) to provide unobstructed flow.

1.2.3. Concrete Form Use and Storage

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from concrete form usage and storage:

SC-BMP

- Forms including pipe jackets, cores, headers and pallets should be stored in a way as not to degrade rain and snow melt quality.
- Forms should be stored above grade on dunnage to reduce rain and snow melt runoff and runoff.
- Form release oils should only be applied indoors or on impervious surfaces.
- When practical dry clean forms before storing outdoors.

C/D-BMP

- The manufacturing plant building provides shelter to prevent impact to the environment from form storage.
- Spills of form release oils should be cleaned up immediately using spill kits or absorbent materials.
- Spent cleanup supplies should be containerized for proper disposal of oily waste.

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T-BMP

- **Form release oils cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP forms as applicable.
- Forms should be maintained as not to be potential pollutant sources of iron (rust) or oil.

1.2.4. Concrete Mixing, Casting and Forming

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from mixing concrete and casting/forming concrete products:

SC-BMP

- Paved areas in and around the concrete batch plant shall be swept at least once per week, and spilled materials removed.
- Central mixer(s) should only be operated when mixer door and door seal are in good repair and closed.
- When practical clean product forms/molds before storing outdoors.
- Casting and Forming Operations are conducted under roof.
- Casting and Forming is conducted on impervious surfaces.
- Casting slabs are cleaned of pouring debris on a regular interval.
- Regulated and hazardous waste shall be managed, stored, and disposed of in accordance with applicable State or federal rules and regulations.

C/D-BMP

- The manufacturing plant building provides shelter to concrete batching, concrete pouring, and curing concrete products.
- Dried waste concrete should be placed in designated storage areas for proper disposal.

T-BMP

- **Waste water from concrete cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP forms as applicable.
- Spilled Materials including washout, waste concrete and other items should be placed in waste locations as to not effect stormwater quality.

1.2.5. Concrete Mixer Washing / Wet Saw / Coring

The BMPs listed below should be implemented and followed to prevent discharge of process water to the facility's storm water system:

SC-BMP

- Washing, wet sawing and/or coring should not be conducted outside of an Industrial Waste Water Treatment or Recycle System.
- If a waste water system is not available washing should only be conducted on impervious ground and waste waters must be retained. Waste water may be allowed to evaporate or be properly disposed of in a sanitary sewer (not a septic field) or removed by a licensed waste hauler.
- Sludges and solids from these system should be profiled for proper waste disposal.
- Following use of sawing or coring machine area and concrete pad should be cleaned into the pit system.

C/D-BMP

- The washing, wet saw and core drill waste water is retained in a treatment or recycle system
- If allowed by local regulation washwater can be recycled as dust control

T-BMP

- **Waste water cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP forms as applicable.
- Recycle systems should be maintained and cleaned well before they reach 50% of capacity to reduce the chance of discharge.
- Solids should be allowed to dry before proper disposal.

1.2.6. Manufacturing Equipment Washing

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from forms, jackets, molds and manufacturing equipment washing:

SC-BMP

- Wastewater generated from washing of forms, jackets, molds, and manufacturing equipment washing must be retained and properly disposed of or allowed to evaporate.
- Wastewater generated from washing of production equipment such as concrete mixer, concrete conveyor belts, etc. must be retained or allowed to evaporate.
- Front-end loaders, forklifts, etc should only be washed off within the confinements of a vehicle wash system, if not available no on-site washing is permitted.
- Settled solids and floating oils need to be removed from the system on a periodic basis.

C/D-BMP

- Waste water generated from washing of forms, jackets, molds, and manufacturing equipment is retained.

T-BMP

- **Waste water cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP forms as applicable.
- Waste water basins levels should be cleaned well before they reach 50% of there capacity.
- Settled solids, wash water and floating oils shall be removed on a routine basis by a licesence or regulated waste company (i.e. Safety Kleen, Krystal Kleen) in accordance with applicable State or federal requirements.

1.2.7. Equipment Washing for Maintenance Purposes

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from maintenance related equipment washing:

SC-BMP

- Equipment such as forklifts and front-end loaders should be washed off within the confinements of the vehicle wash system if applicable. At facilities where a vehicle wash system is not available no equipment washing is to take place onsite.

C/D-BMP

- Wastewater generated from washing of equipment is retained.

T-BMP

- **Waste water cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP forms as applicable.
- Vehicle wash water (waste water) basin levels should be cleaned well before they reach 50% of there capacity.
- Settled solids, wash water and floating oils shall be removed on a routine basis by a licesence or regulated waste company (i.e. Safety Kleen, Krystal Kleen) in accordance with applicable State or federal requirements.

1.2.8. Equipment/Vehicle Maintenance & Repairs

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from equipment/vehicle maintenance and repairs:

SC-BMP

- When practical equipment/vehicle maintenance and repairs should be conducted within a covered maintenance-shop area.
- Sweep the floors within the shop area on a regular basis. Floor sweepings should be disposed of in a manner that prevents contact with precipitation or snow melt.
- Used vehicular batteries should not be stored outside or discarded, but are required to be recycled.
- Vehicular and equipment fluids and waste generated from maintenance and repair, such as new and used motor oil, grease, antifreeze, transmission fluid, hydraulic oil, used fuel and oil filters, and oily rags should be stored, managed and disposed in general accordance with applicable State or federal rules and regulations.
- Outside contractors should be supervised to verify they are not conducting maintenance activities on your site.
- Outside contractors are responsible for clean up of any all spills or wastes on your site.

C/D-BMP

- The maintenance-shop area is under roof.
- Maintenance activities are conducted on impervious surfaces,
- Vehicular fluids and regulated wastes are stored under roof and in containment.

T-BMP

- **Vehicle fluids and waste cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP and/or SPCC forms as applicable.
- Vehicular and equipment fluids and the regulated and hazardous waste generated from maintenance and repair shall be removed on a routine basis by a license or regulated waste company (i.e. Safety Kleen, Krystal Kleen) in accordance with applicable State or federal requirements.

1.2.9. Fueling Operations and Liquid Material Storage

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from equipment/vehicle fueling and liquid material storage:

SC-BMP

- **Spills are cleanup immediately.**
- Fuel/oil transfer to/from a fuel/oil tanker should only be performed in the continuous presence of tanker operator.
- Equipment/vehicle fueling should be performed in the continuous presence of the equipment/vehicle operator.
- A drip pan should be utilized to collect any spilt fuel/oil during transfer operations.
- The fuel hose and fuel nozzle should be returned to its proper and secured in-place after use.
- Fuel released into the secondary containment area/structure shall be recovered in a timely manner, and recycled or disposed of in accordance with State or federal rules and regulations.
- Regulated and hazardous waste shall be managed, stored, and disposed of in accordance with applicable State or federal requirements.

C/D-BMP

- The facility ASTs are double-walled or within secondary containment.
- The maintenance-shop area and manufacturing building provide shelter and potentially some degree of containment for various liquid materials storage.
- The facility stores vehicular fluids such as new and used antifreeze, gear oils, etc. and other hazardous materials within the Maintenance Area.
- Secondary containment requirements for oil and oil-byproducts as established by the SPCC Rule, as summarized in the facility's SPCC Plan, should be followed.

1.2.9. Fueling Operations and Liquid Material Storage (Continued)

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from equipment/vehicle fueling and liquid material storage:

T-BMP

- **Fuels and oils cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP and/or SPCC forms as applicable.
- The visual level gauge, leak detection, overfill alarm, and fill/overfill catch pan associated with the facility's storage tanks shall be regularly maintained.
- Non-contaminated rain and snow melt shall be drained from the secondary containment structures, and documented in the site specific SWPPP and/or SPCC after each rain/snow event .
- Contaminated rain and snow melt from secondary containment shall be removed on a routine basis by a licesence or regulated waste company (i.e. Safety Kleen, Krystal Kleen) in accordance with site specific SWPPP and/or SPCC and applicable State or federal requirements.

1.2.10. Admixture Storage & Use

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from admixture storage & use:

SC-BMP

- Admixture transfer to/from a tanker should only be performed in the continuous presence of tanker operator.
- Transfer of admixture from/or to an AST from a secondary container or IBC Tote should only be performed in the continuous presence of the operator.
- A drip pan should be utilized to collect any spilt admixture during transfer operations.
- Fill and/or drain caps and valves should be returned to the closed position and secured after use.
- Admixture released shall be recovered in a timely manner, and recycled or disposed of in accordance with State or federal rules and regulations.
- Admix delivery contractors need to clean up all spills and wastes before leaving the site.

C/D-BMP

- The facility admixture ASTs are within the production building or within secondary containment near the batch plant.

T-BMP

- **Admixture cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP and/or SPCC forms as applicable.
- If the admix tanks are opaque a visual level gauge, or overflow alarm shall be regularly maintained.
- Non-contaminated rain and snow melt shall be drained from the secondary containment structures where applicable, and documented on site specific SWPPP forms.
- Contaminated rain and snow melt from secondary containment shall be removed on a routine basis by a license or regulated waste company (i.e. Safety Kleen, Krystal Kleen) in accordance with site specific SWPPP and/or SPCC and applicable State or federal requirements.
- Admixture tanks shall be replaced when cracked, leaking and when they exceed the tank manufacturers service life.

1.2.11. Concrete Product Coating (If applicable)

Concrete products are not typically coated. However, per job requirements some painting in addition to typical painting or ink rolling of company logo, etc may be conducted on the product. The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from product coating:

SC-BMP

- Painting equipment should be maintained and kept in good repair.
- Storage of solvents, inks and paints should not be exposed to rain and snow melt.
- Containers of coating not in use should be securely closed and stored under shelter.
- Coating operations should be conducted under roof and on impervious surfaces.
- Exposed coating operations should not be conducted during a storm events.
- Coating operations shall use a tarp to protect impervious surfaces from over-spray and spill materials.
- Over-spray and Spilled coating materials should be cleaned up and removed immediately.
- Coating application tools (rollers and brushes) should be stored under shelter and not left out for exposure.

C/D-BMP

- Storage of paints and inks should not be exposed to rain and snow melt.
- Dry storage containers provide shelter and potentially some degree of secondary containment for stored, containerized coating materials.

T-BMP

- **Solvents, inks and paints cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP and/or SPCC forms as applicable.
- Regulated and hazardous waste shall be managed, stored, and disposed of in accordance with applicable State or federal requirements.

1.2.12. Concrete Pigment Usage (If applicable)

Concrete pipe and precast are not typically pigmented. However, the use of both liquid and/or dry specialty admixtures and/or pigments may be requested. The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from the use of pigments:

SC-BMP

- Storage of liquid or dry pigments should not be exposed to rain and snow melt.
- Containers of pigments not in use should be securely closed and stored under shelter.
- Spilled pigment materials should be cleaned up and removed immediately.
- Pigment application device should be stored under shelter and not left out for exposure.

C/D-BMP

- Storage of pigments should not be exposed to rain and snow melt.
- Dry storage containers provide shelter and potentially some degree of secondary containment for stored, containerized pigment materials.

T-BMP

- **Pigments cannot be discharged to the stormwater system.**

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP and/or SPCC forms as applicable.

1.2.13. Off Specification Concrete Product

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from off specification concrete mix and products:

SC-BMP

- Off-spec concrete is reduced using good quality control of raw materials and mix design management.
- The facility has a dedicated area for off-spec concrete and products away from stormwater ditches, ponds and outfalls.
- The maximum limits of the off specification concrete products and washout stockpile(s) should be established (using bins or off-spec product) such that there is an adequate buffer between the stockpiles and stormwater management features.
- To reduce waste of off-spec or over produced concrete, the material is utilized to build non-crucial products such as bin-blocks and yard dunnage.
- Off-spec concrete or over produced concrete is recycled not disposed of in landfills.
- Excess off-spec concrete or over produced concrete is placed in ribbons instead of large piles to ease management.
- Concrete waste water is not to be placed in off-spec concrete storage areas.

C/D-BMP

- The off-spec concrete and/or over produced concrete area is graded to reduce rain and snow melt from entering the area.
- Off-spec concrete or over produced concrete should be stored within bins to reduce exposure to rain and snow melt.
- Off-spec concrete or over produced concrete products or blocks are used to create containment areas.

T-BMP

- Install sediment barrier(s). (ie: Silt Fence, Filter Socks, Check Dams, Diversion Berms, Storm Drain Inlet Protection, etc.)
- Stormwater retention pond(s) and associated conveyance ditches.

M-BMP

- Monthly visual inspections of designated equipment, activities, material storage areas, and BMPs shall be conducted and documented with corrective actions as needed on appropriate site specific SPCC and SWPPP forms as applicable.
- Off-spec concrete or over produced concrete is routine recycled.

1.2.14. Steel, Wire, Rebar and Iron Castings Storage

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from the storage of steel, wire, rebar and iron castings:

SC-BMP

- All steel, wire, rebar and iron castings should be stored in such a manner to minimize runoff and run-on of rain and snow melt.
- All delivered castings should be on pallets and remain on pallets until used in production or shipped off site.

C/D-BMP

- Dry storage of steel, wire, rebar and iron castings is recommended.

T-BMP

- Install sediment barrier(s). (ie: Silt Fence, Filter Socks, Check Dams, Diversion Berms, Storm Drain Inlet Protection, etc.) to reduce iron from entering stormwater system.

M-BMP

- Monthly visual inspections of storage and production areas designated shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP and/or BMP forms as applicable.

1.2.15. Wood, Styrofoam Storage and Use

The BMPs listed below should be implemented and followed to minimize potential rain and snow melt quality impacts from the storage and use of wood and styrofoam in the making of form block-outs.

SC-BMP

- Steel block-outs are preferred.
- Styrofoam is cut using a “Hot-Knife” instead of a saw.
- All styrofoam waste and sawdust are cleaned up immediately and placed in appropriate waste containers.
- Styrofoam waste is segregated in large plastic bags.
- Clean Styrofoam is recycled when possible.
- Styrofoam is wrapped/coated to reduce breakage during removal.

C/D-BMP

- All wood and styrofoam is stored under roof.
- All wood and styrofoam waste is cleaned up immediately when removed from forms.
- All wood and styrofoam waste is placed in appropriate waste containers.

T-BMP

- Install trash screens or barrier(s) in areas where styrofoam may become transported to the rain and snow melt system.

M-BMP

- Monthly visual inspections of storage and production areas designated shall be conducted and documented with corrective actions as needed on appropriate site specific SWPPP and/or BMP forms as applicable.

1.3. BASELINE BEST MANAGEMENT PRACTICES

In addition to the activity-specific BMPs described in the previous sections, the facility operator shall also implement, when practical, the baseline BMPs outlined below. Baseline BMPs are a broad class of measures (such as good housekeeping, preventive maintenance and visual inspections) that can be used throughout a facility to reduce potential rain and snow melt contamination.

1.3.1. Good Housekeeping

The Stormwater permit requires good housekeeping (clean and orderly manner) of areas that may contribute pollutants to rain and snow melt. Facility operators shall prevent or minimize the discharge of spilled cement, cement supplement, aggregate, and settled dust in stormwater and snow melt from paved portions of the site, which are exposed to rain and snow melt. Good housekeeping practices minimize the potential for release of pollutants into the stormwater drainage system and may include, but are not limited to, the following:

- The stormwater permit requires regular sweeping (or other equivalent measure) of paved plant surfaces exposed to rain and snow melt. Exposed paved areas of greatest concern are: below cement or cement supplement silo, around batch plants and supporting equipment, aggregate bins, aggregate conveyors, and aggregate stockpiles. Other paved areas of specific concern include exposed equipment maintenance pads, metals/cage storage areas, and product storage and loading areas. Sweepings should be disposed of in a manner that prevents contact with precipitation or snow melt.
- Ensure proper management of solid, regulated and hazardous wastes, and hazardous materials to prevent them from coming into contact with precipitation or snow melt runoff.
- Bulk cement and cement supplement, and cement and cement supplement collected during product transfers shall continue to be stored in enclosed silos and/or hoppers.

1.3.2. Preventive Maintenance

The objective of routine inspection and maintenance is to minimize the potential for equipment failures resulting in discharge of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems. Preventative maintenance shall included routine inspection and maintenance of stormwater management devices (e.g., IWWT/RS, stormwater clarifiers, stormwater inlets/drains, secondary containment structures and

associated drain valves, material transfer equipment, and air pollution control equipment associated with the silo(s) and batch plant. Additionally, ASTs, associated leak and overflow protection, associated dispensers and transfer piping should be included in the routine inspection and maintenance.

Periodically, stormwater drainage ditches, ponds, earthen berms and swales should be maintained to prevent overgrowth and improved where necessary to prevent erosion.

Routine preventative maintenance inspections shall be conducted by qualified individual(s) and documented.

1.3.3. Erosion & Sediment Control

Although most of our sites are developed, the potential for erosion is still possible.

During routine inspections areas of potential erosion such as pond banks, conveyance ditches, perimeter berms where installed, and outfall structures will be inspected and repaired as needed.

Aggregates and waste materials will be stored in a manner as to not contribute sediment to rain and snow melt run-off.

Dust and sediments commonly found on your facility is a rain and snow melt pollutant. Install sediment control measures to reduce solids from entering the stormwater system. Examples of these measures include but are not limited to: Silt Fence, Filter Socks, Check Dams, Diversion Berms, Storm Drain Inlet Protection.

Collected sediments around these control measures should be removed on a routine basis to be determined during inspections. But at no time should the control measures be allowed to accumulate more than 50% of the original height of such measures.

1.3.4. Sweeping Activities

No dry sweeping will be conducted, only wet sweeping and/or the use of sweeping compound should be allowed. At facilities where powered sweeping equipment is used, the facility will at a minimum sweep around the paved areas including driveways and areas around the batch plant. Material collected in the sweeper will be disposed in accordance with proper disposal methods.

In addition, sweeping will be conducted on an as needed basis to prevent comingling with potential stormwater discharge.

1.4. FACILITY MANAGEMENT ACKNOWLEDGEMENT

I certify receipt of the Supplemental Best Management Practices for Pipe & Precast facilities and will review at a minimum the applicable practices with my facility personnel at least once per year or as needed.

Facility Representative