Procedures for Dry Weather Screening of Outfalls

Definition: Dry weather screening is described as monitoring done in the absence of storm events to discharges representing, as much as possible, the entire storm drainage system for the purpose of obtaining information about illicit connections and improper dumping.

Procedures:

1. Dry weather screening of outfalls should be performed before or after the water season when flows in outfall flows should be at their minimums.
2. The minimum requirement for screening outfalls is to inspect at least 20% of all outfalls per year. Higher priority sites shall be inspected more frequently.
3. The inspector shall use a camera, measuring tape, and clear container. The camera will be used to take pictures and document the condition of the outfall and water. The measuring tape will be used to measure the size of the pipe or channel being inspected. The clear container will be used to take a sample of the water, if any, and visually monitor the water condition.
4. A record of the inspection must be kept. Use the EPA form *Outfall Reconnaissance Inventory/Sample Collection Field Sheet.* Fill out all applicable information.
5. If any water contamination or irregularities are observed use the *Procedures for Tracing and Removing Illicit Discharges.*
6. Keep a record of all inspections performed.

STORMWATER MANAGEMENT PROGRAM

ILLICIT DISCHARGES

Dry Weather Screening of Outfalls

Inspection Performed By: _____ Date: _____

Purpose of Inspection: Inspecting storm water outfalls help locate and identify harmful and illegal discharges to a storm water system.

Location of Inspection:_____

Description of Outfall: _____

- Is this stream on the 303(d) list? (yes or no) _____ or otherwise designated impaired by the Department?
- Does this stream have published TMDL's? (yes or no)_____
- If yes to either of the previous questions, provide supporting data and a physical sample of surface water for lab analysis. Results of any lab tests must be included with a completed SOP form for Dry Weather Screening. If no to the previous two questions, proceed to the following SOP and complete accordingly.

Standard Operating Procedures

- Physical sampling and testing are required for any stream on the 303(d) list and for streams with published TMDL's. Streams which are not identified as previously described shall be visually inspected for the following:

  Answer Yes or No

  1) _____ Foam: indicator of upstream vehicle washing activities, or an illicit discharge.

  2) _____ Oil Sheen: Result of a leak or spill.

  3) _____ Cloudiness: indicator of suspended solids such as dust ash, powdered chemicals and ground up materials.

  4) _____ color or odor: Indicator of raw materials, chemicals, or sewage.

  5) _____ Excessive sediment: Indicator of disturbed earth or other unpaved areas lacking adequate erosion control measures.

  6) _____ Sanitary waste and optical enhancers (fluorescent dyes added to laundry detergent) : indicators of illicit discharge.

  7) _____ Orange staining: indicator of high mineral concentrations

STORMWATER MANAGEMENT PROGRAM

CONSTRUTION STORMWATER RUNOFF CONTROL

SOP For: Preconstruction Site Plan Review, Inspection of Construction Site, and Corrective Actions (if required)

Purpose of SOP: To minimize occurrences of erosion and sediment transfer at construction sites by verification of acquisition of proper permits, preparation of appropriate Construction Best Management Practices Plan (CBMPP) prior to ground breaking, inspection of implementation of CBMPP as per the design engineers plans and details and in compliance with latest version of the Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas. This SOP also includes inspections of BMP's installed, provide additional guidance and education, issue warnings, or assess penalties.

Location of SOP: All Construction Sites

Standard Operating Procedures

- Will the project disturb an area equal to or greater than one (1) acre? _____ (yes or no)

  a) If yes, make sure the project site has obtained an ADEM issued NPDES NOI permit, and a CBMPP signed and sealed by a licensed engineer prior to ground breaking.
  b) If no, make sure the project plans and construction documents include the construction of a site-specific BMP plan in compliance with JSU's Stormwater Plan, prior to ground breaking with notes and details signed and sealed by a licensed engineer.

- Verify that a copy of the ADEM NOI permit is posted on site along with a rain gauge. The contractor is responsible for maintaining postings, the rain gauge and recording daily rainfall.

- Site inspection under this SOP during construction includes verification that the contractor is disposing of all garbage.

- Any portion of a construction site where soil will be exposed for more than 13 days without further disturbance shall be seeded with an appropriate mix.

- The JSU inspector may provide additional guidance and education. The inspector may also issue warnings, and/or assess penalties.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Maintenance of Buildings, Facilities and Fixed Structures

Purpose of SOP: Establish procedures to reduce and eliminate the entry of pollutants into the storm sewer system.

Standard Operating Procedures

- Maintain the storm drain system including ditches, inlets, culverts, channels, etc.
- Do not allow wastewater containing soap or chemicals to enter the storm drain.
- Do not over irrigate with sprinkler systems.
- If paving or applying, a sealant do not allow material to enter the storm drain system.
- All wastewater should be sent to the sanitary sewer.
- Discharges from chemical fire suppression systems should not be allowed to enter the storm sewer system.
- Discharges from certain line tests, fire pumps and hydrant flushing may be discharged to the storm sewer system under the following conditions.
    - No chemicals have been added.
    - Discharge water has not been used for another process such as washing, heat exchange or manufacturing.
    - Discharge does not cause erosion.
    - Discharge does not contain solids.
    - Discharge does not contain residual chlorine.
- Floor drains and elevator sump pumps must not enter the storm sewer system.
- Hydraulic fluid leaks from elevators or lifts must be repaired and cleaned upon discovery.
- Mop water and cleaning water should be disposed of by way of the sanitary sewer never by the storm drains.
- Materials should not be poured, transferred or handled outdoors near a storm drain.
- Use a ground cloth or secondary container for paint opening, mixing and tool cleaning.
- Enclose spray painting operations to minimize wind drift and overspray.
- Do not lean paintbrushes or tools near a storm drain.
- Promptly clean any spills of paints, cleaners, solvents or chemicals.

Training

- Employees should receive training regarding pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Outdoor Material Storage

Purpose of SOP: To establish stormwater pollution prevention procedures for outdoor material storage.

Standard Operating Procedures

- If possible, materials stored outdoors should be stored under cover of a permanent structure.
- If a permanent cover is not feasible, materials should be covered with a tarp or similar waterproof durable covering when the material is not being actively worked.
- Storage areas must not be located adjacent to or within 50 feet of storm drain inlet or water conveyance.
- When covering storage piles is not feasible the storage area should be sloped to prevent runoff.
- Material handling areas should be cleaned at the end of loading activities to prevent spilled material from entering the storm sewer.
- Liquid materials must be stored with secondary containment to prevent unintended leaks or spills from entering the storm sewer system.

Training

- Employees should be trained regarding proper storage practices for each type of material stored outdoors and the principles of pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Vehicle Fueling

Purpose of SOP: Establish procedures that will prevent fuel spills when fueling vehicles.

Standard Operating Procedures

- Minimize drips to the ground surface as much as possible.
- When fuel spills occur immediately use dry cleanup methods.
- Regularly inspect fuel equipment and secondary containment for corrosion, leaks, and structural failure.
- Protect storm drains from fueling areas using berms, dikes and covers.
- Know the location of emergency shutoff mechanisms.
- Spill containment and cleanup supplies should be stored on site and available for use.
- Do not top off fuel tanks.
- Do not hose down a fuel spill.

Training

- Employees should receive training regarding pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Vehicle Maintenance

Purpose of SOP: Provide procedures that minimize the potential for the release of pollutants into the storm sewer system.

Standard Operating Procedures

- Move leaking vehicles indoors or under cover.
- Use drip pans for leaking vehicles.
- Clean parts in the appropriate parts washer.
- Clean all spills and leaks promptly with dry methods.
- Maintain separators according to manufacturer recommendations.
- Develop a routine maintenance schedule for all vehicles.
- Inspect vehicle parking areas regularly for spills, trash and debris.
- Keep all work areas clean and organized.
- All containers should be closed when not in use and clearly labeled.
- Drain fluids from leaking or wrecked vehicles as soon as possible.
- Do not mix waste fluids unless approved to do so.

Training

- Employees should receive training regarding pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Vehicle Washing

Purpose of SOP: Establish vehicle washing procedures that will support the Stormwater Management Program.

Standard Operating Procedures

- Vehicles should only be washed in designated areas.
- Wash areas shall be clearly marked.
- Plumbing, separators and racks shall be regularly maintained.
- Spills and leaks of vehicle fluids and chemicals shall be cleaned as soon as discovered and not allowed to enter the drain System.

Training

- Employees should receive training regarding pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Equipment Maintenance

Purpose of SOP: To establish equipment maintenance procedures which will prevent the introduction of fluids and waste materials into the storm sewer system.

Standard Operating Procedures

- If possible, maintenance activities should be done indoors or under appropriate cover.
- A designated area should be established for equipment awaiting maintenance.
- The awaiting maintenance area should be located away from storm drain inlets and conveyances.
- Drip pans or secondary containment should be placed under leaking equipment.
- Fluids shall be closed and properly stored when not in use.
- Waste oil and other waste fluids shall be covered, contained in tightly closed containers and properly labeled.
- Spills and leaks should be cleaned immediately using dry methods.
- Parts shall only be washed in designated areas such as a parts washer.
- Wash water must be collected and not discharged.
- Clean parts without using solvents when possible.

Training

- Employees should receive training regarding pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Fuel and Oil Handling

Purpose of SOP: To establish clear methods for handling fuel and oil to prevent their entry into the storm sewer system.

Standard Operating Procedures

- There is no smoking or open flame while fuel is being handled or managed.
- No flammable liquid shall be transferred while the engine is running unless the vehicle engine is required for pump operation.
- Spills or leaks must be immediately addressed, absorbed with dry material and disposed of properly.
- If bulk deliveries are received, spill cleanup supplies shall be on hand.
- Bulk delivery drivers must remain at the truck during the entire delivery process.
- Drums shall be unloaded and handled carefully to prevent damage.
- Following unloading drums, drums shall be inspected for damage and leaks.
- Damaged drums shall not be accepted for use and any leaks or spills immediately remediated.
- Waste oil vendors must be permitted in order to pick up, haul and recycle waste oil.
- The facility representative shall collect a receipt from the waste oil hauler.

Training

- Employees should receive training regarding pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Bulk Liquid Storage

Purpose of SOP: Development of management procedures for storage of bulk liquids designed to prevent pollutants from entering the storm sewer system.

Standard Operating Procedures

- The contents of a bulk liquid storage vessel should be clearly marked.
- Above ground, storage tanks (ASTs) should have secondary containment.
- All ASTs should be inspected quarterly for integrity, leaks, damage, etc.
- If secondary containment is equipped with drain valves, they should be in the closed position at all times.
- Any spills, leaks or discharges must be cleaned immediately.
- Bollards should be provided to prevent damage by vehicles.
- Storage vessels should not be located within 50 feet of a storm drain inlet.

Training

- All applicable employees should be trained regarding AST management.
- Employees should receive training regarding the principals of pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Underground Storage Tanks

Purpose of SOP: Establish procedures for underground storage tanks (USTs) that will help to prevent the entry of pollutants into the storm sewer system.

Standard Operating Procedures

- USTs should be equipped with an automatic leak detection and inventory system.
- Overfill protection devices shall be in place.
- If applicable corrosion protection shall be installed on the tank and piping.
- Only permitted haulers shall attempt to fill a UST with product.
- There shall be a Class A and B certified operator for each UST.
- Any leaks or spills must be remediated as soon as discovered.
- A UST response plan shall be developed and in place.

Training

- Appropriate personnel shall receive UST operator training.
- Employees should receive training regarding the principles of pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Management of Pesticides, Herbicides and Fertilizers

Purpose of SOP: Minimize and prevent discharges of pesticides, herbicides and fertilizers into the storm sewer system.

Standard Operating Procedures

- Manual and/or mechanical methods of weed and pest control shall be used whenever possible rather than chemical methods.
- When chemicals are required use the least toxic method to control pests or plants.
- When chemicals are utilized, use the most biodegradable product that will accomplish the desired results.
- When possible limit pesticide, and herbicide applications to the problem area only.
- Establish a 50 feet no spray zone around water features.
- Materials should be stored under cover, within a secondary containment and tightly sealed.
- All materials must be properly labeled.
- Containment should be utilized prior to a heavy rain that could cause runoff.
- Do not apply products during strong winds.
- Spills and leaks should be immediately cleaned using dry cleanup methods.
- Water should not be used to remediate spills.
- Sweep pavement or sidewalks where fertilizers or other solid products have fallen.
- Triple rinse all pesticide and herbicide containers prior to disposal and dispose of excess chemicals by contacting EHS.

Training

- Employees should be trained regarding handling, storage and use of pesticides, herbicides and fertilizers and the basic principles of pollution prevention and stormwater management.
- All personnel who apply pesticides or herbicides shall be trained regarding their specific use limitations.
- Safety data sheets will be maintained for all applicable material used and stored on site.
- Personnel shall review safety data sheets, which pertain to the products they are using.

STORMWATER MANAGEMENT PROGRAM

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: Landscaping and Ground Maintenance

Purpose of SOP: To establish stormwater pollution prevention procedures for landscaping and grounds maintenance which will prevent the addition of pollutants into the sewer system as a result of these activities.

Standard Operating Procedures

- Vegetation should be periodically managed to minimize the amount of waste or debris generated at one time.
- Removed vegetation should be disposed of at least daily.
- Avoid disturbing underlying soil when removing vegetation if possible.
- If soil is disturbed when removing vegetation, assess the area for the need for erosion and sediment control.
- Use mulch or other appropriate erosion control measures on exposed soils.
- If possible, mow when the area is dry.
- Inspect sidewalks, streets and other hard surface areas for grass clippings following mowing or trimming. If clippings have been dispersed, use a blower to collect and remove them.
- Grass chippings should be mulched in placed whenever possible.
- Equipment should be periodically cleaned to prevent the buildup of material that could become dislodged and enter the storm sewer system.
- Pesticide and herbicide application should only be done by trained knowledgeable personnel.
- Pesticide and herbicide use should be limited as much as possible
- Timers should be used with sprinklers to minimize runoff.
- Inspect the irrigation system periodically to ensure the right amount of water is being used, excessive runoff is not occurring and to ensure proper function.
- Clean up minor fuel drips and leaks immediately.

Training

- Employees shall be trained on proper preventative practices for landscaping and grounds maintenance and handling of waste materials.
- Employees shall be trained on the principles of pollution prevention and stormwater management.

STORMWATER MANAGEMENT PROGRAM

STORM CLEANUP TYPE OPERATIONS

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SOP For: JSU Storm Cleanup

Purpose of SOP: To establish stormwater pollution prevention procedures for all which will prevent the addition of pollutants into the sewer system as a result of these activities.

Standard Operating Procedures

- Hazardous objects should be avoided and dealt with accordingly.
- Plastics should be accumulated and disposed of in a proper manner early and continuous to avoid impacting surface waters.
- Standing trees should remain standing while fallen objects are collected and removed.
- Recyclables should be sorted and stacked in various materials types for collection.
- All disturbed areas should be seeded immediately after clean-up and regraded.
- All known or observed changes to campus infrastructure should be noted on the JSU Campus Mapping Database at the Physical Plant.
- Underground utilities and drainage infrastructure encountered during storm cleanup should be indicated in sufficient detail so as to map the utility or verify the location by referring to the JSU Underground Infrastructure Mapping at the Physical Plant. The location of the underground infrastructure can be shown by providing measurements from buildings, streets, etc.
- Vegetation should be periodically managed to minimize the amount of waste or debris generated at one time.
- Removed vegetation should be disposed of at least daily.
- Avoid disturbing underlying soil when removing vegetation if possible.
- If soil is disturbed when removing vegetation, assess the area for the need for erosion and sediment control.
- Use mulch or other appropriate erosion control measures on exposed soils.
- If possible, mow when the area is dry.
- Inspect sidewalks, streets and other hard surface areas for grass clippings following mowing or trimming. If clippings have been dispersed, use a blower to collect and remove them.
- Grass clippings should be mulched in placed whenever possible.
- Equipment should be periodically cleaned to prevent the buildup of material that could become dislodged and enter the storm sewer system.
- Pesticide and herbicide application should only be done by trained knowledgeable personnel.
- Pesticide and herbicide use should be limited as much as possible
- Timers should be used with sprinklers to minimize runoff.
- Inspect the irrigation system periodically to ensure the right amount of water is being used, excessive runoff is not occurring and to ensure proper function.
- Clean up minor fuel drips and leaks immediately.

Training

- Employees shall be trained on the principles of pollution prevention and storm water management.
- Employees shall be trained on proper preventative practices for landscaping and grounds maintenance and handling of waste materials.

BUILDINGS – Dumpsters/Garbage Storage

1. Preparation.

   a. Train employees on proper trash disposal.

   b. Locate dumpsters and trash cans in convenient, easily observable areas.

   c. Provide properly-labeled recycling bins to reduce the amount of garbage disposed.

   d. Install berms, curbing, or vegetation strips around storage areas to control water entering/ leaving storage areas.

   e. Whenever possible store garbage containers beneath a covered structure or inside to prevent contact with storm water.

2. Process.

   a. Inspect garbage bins for leaks regularly, and have repairs made immediately by responsible party.

   b. Request/use dumpsters, and trash cans with lids and without drain holes.

   c. Locate dumpsters on a flat, hard surface that does not slope or drain directly into the storm drain system.

3. Clean-up.

   a. Keep areas around dumpsters clean of all garbage.

   b. Have garbage bins emptied regularly to keep from overfilling.

   c. Wash out bins or dumpsters as needed to keep odors from becoming a problem.

4. Documentation

   a. Document training of employees

IDDE - Call-in Inspections

1. Preparation

    a. Have a system in place to receive phone calls and collect information regarding suspected illicit discharges.

2. Process

    a. Use the Incident Tracking Sheet to collect the appropriate information from the caller. Then, transfer the Incident Tracking Sheet to the proper authority (ie. department head, stormwater specialist, construction inspector, code enforcement officer, or other assigned personnel).

    b. Promptly investigate reported incidents.

    c. If an illicit discharge of unknown source is confirmed, follow the procedure of SOP IDDE - Tracing Illicit Discharges.

    d. If an illicit discharge known source is confirmed, follow the procedure of SOP IDDE - Removing Illicit Discharges.

3. Clean up

    a. Clean catch basin, clean storm drain, or initiate spill response, as applicable. Follow relevant SOPs.

4. Documentation

    a. File all completed forms (ie. incident tracking, catch basins cleaning, storm drain cleaning.

    b. Document any further action taken.

    c. Review incidents reported by citizens on an annual basis to look for patterns of illicit discharges and to evaluate the call-in inspection program.

IDDE - Opportunistic Illicit Discharge Observation

1. Preparation

   a. Be alert for potential illicit discharges to the municipal storm water system while going about normal work activities.

2. Process

   a. Call the appropriate authority (ie. department head, stormwater specialist, construction inspector, code enforcement officer or a supervisor) if you see evidence of an illicit discharge.

   b. Assess the general area of the illicit discharge to see if you can identify its source.

   c. Whenever possible, take photographs of the suspected illicit discharge.

   d. Responding stormwater department personnel or code enforcement officer will complete the following:

      1. Use the IDDE Incident Tracking Sheet to document observations.
      2. Obtain sample for visual observation and complete an Outfall Inspection Form, if applicable.
      3. Follow the procedure of SOP IDDE - Tracing Illicit Discharges.

3. Clean-up

   a. Clean catch basin, clean storm drain, or initiate spill response, as needed. Follow relevant SOPs.

4. Documentation

   a. File all completed forms (ie. Incident Tracking Form, Outfall Inspection Form, Catch Basin Cleaning Form, and Storm Drain Cleaning Log).

   b. Document any further action taken.

PARKS – Pet Waste

1. Preparation

    a. Adopt and enforce ordinances that require pet owners to clean up pet wastes and use leashes in public areas. If public off-leash areas are designated, make sure they are clearly defined. Avoid designating public off-leash areas near streams and water bodies.

    b. Whenever practical and cost effective, install dispensers for pet waste bags and provide disposal containers at locations such as trail heads or parks where pet waste has been a problem. Provide signs with instructions for proper cleanup and disposal.

2. Process

    a. Check parks and trails for pet waste as needed.

    b. Check public open space for pet waste prior to mowing and watering.

    c. Provide ordinance enforcement as needed.

3. Clean up

    a. Remove all pet waste, provide temporary storage in a covered waste container, and dispose of properly. Preferred method of disposal is at a solid waste disposal facility.

4. Documentation

    a. Document problem areas for possible increased enforcement and/or public education signs.

STREETS/STORM DRAIN – Catch Basin Cleaning

1. Preparation:

   a. Clean sediment and trash off grate.

   b. Do visual inspection on outside of grate.

   c. Make sure nothing needs to be replaced.

   d. Do inside visual inspection to see what needs to be cleaned.

2. Process

   a. Clean using a high powered vacuum truck to start sucking out standing water and sediment.

   b. Use a high pressure washer to clean any remaining material out of catch basin, while capturing the slurry with the vacuum.

   c. After catch basin is clean, send the rodder of the vacuum truck downstream to clean pipe and pull back sediment that might have gotten down stream of pipe.

   d. Move truck downstream of pipe to next catch basin.

3. Clean-up

   a. When vacuum truck is full of sediment take it to the designated location to dump all the sediment out of truck into a drying bed.

   b. When it evaporates, clean it up with a backhoe, put it into a dump truck and take it to the landfill.

4. Documentation

   a. Keep logs of number of catch basins cleaned.

   b. Record the amount of waste collected.

   c. Keep any notes or comments of any problems.

STREETS/STORM DRAIN – Curb Painting

1. Preparation

    a. Calculate the amount of paint required for the job

    b. Use water based paints if possible.

    c. Determine whether the wastes will be hazardous or not and the required proper disposal of said wastes

    d. Determine locations of storm drain inlets and sewer inlets that may need to be protected

    e. Prepare surfaces to be painted without generating wastewater by sandblasting and/or scraping.

    f. Thoroughly sweep up all sand, blastings, and/or paint scrapings

    g. If paint stripping is needed, use a citrus-based paint remover whenever possible, which is less toxic than chemical strippers

    h. If wastewater will be generated, use curb, dyke, etc. around the activity to collect the filter and collect the debris.

2. Process

    a. Paint curb.

    b. Prevent over-spraying of paints and/or excessive sandblasting

    c. Use drip pans and drop clothes in areas of mixing paints and painting

    d. Store latex paint rollers and brushes in air tight bags to be reused later with the same color.

    e. Have available absorbent material and other BMP's ready for an accidental paint spill.

3. Clean-up

    a. Paint out brushes and rollers as much as possible. Squeeze excess paint from brushes and rollers back into the containers prior to cleaning them.

    b. Pour excess paint from trays and buckets back into the paint can containers and wipe with cloth or paper towels. Dispose of the towels according to the recommendations on the paint being used.

    c. Rinse water-based paint brushes in the sink after pre-cleaning. Never pour excess paint or wastewater from cleanup of paint in the storm drain.

    d. Cleanup oil based paints with paint thinner. Never clean oil based brushes in a sink or over a storm drain. Filter solvents for reuse if possible and/or store in approved drum for recycling.

    e. Dispose of waste collected by placing it in a garbage container. Left-over paint and solvents should be stored for later use (do not place these liquids in the garbage).

STREETS/STORM DRAIN – Detention Pond Cleaning

1. Preparation:

   a. Schedule the Pond cleaning work for a time when dry weather is expected.

   b. Remove any sediment and trash from grates, placing it in a truck for disposal.

   c. Do a visual inspection to make sure any grates, structures, manholes, boxes, and pipes are in good working order. Remove manhole covers and grates as necessary for inspecting.

2. Process

   a. Provide outlet protection where feasible to minimize the amount of debris that might leave basin during cleaning process.

   b. Start cleaning basin by using backhoe to remove debris and sediment off the bottom.

   c. Continue cleaning structures and pond bottom as necessary by sweeping and shoveling.

   d. Put all material removed from the pond into a dump truck.

   e. Some structures may require use of a vactor truck. If so use the same procedures described for cleaning catch basins.

3. Clean-up

   a. After cleaning basins, clean off the concrete pads using dry methods (sweeping and shoveling).

   b. Make sure they are swept up and clean.

   c. Take the material that was removed to the landfill for final disposal.

4. Documentation

   a. Keep a logs of each detention basins/pond cleaned including date, individuals involved in cleaning, and a description of the type of debris removed.

   b. Record the amount of waste collected.

   c. Keep any notes or comments of any problems.

STREETS/STORM DRAIN – Creek Management

1. Preparation

   a. Monitor streams on a regular basis (Suggested interval?).

   b. Check culverts and crossings after every storm.

   c. Maintain access to stream channels wherever possible.

   d. Identify areas requiring maintenance

   e. Determine what manpower or equipment will be required.

   f. Identify access and easements to area requiring maintenance.

   g. Determine method of maintenance that will be least damaging to the channel.

   h. Obtain Stream Alteration Permit.

2. Process

   a. Remove unwanted material (debris, branches, soil) from the creek channel and place it in a truck to be hauled away

3. Clean-up

   a. Stabilize all disturbed soils.

   b. Remove all tracking from paved surfaces near maintenance site, if applicable.

   c. Haul all debris or sediment removed from area to approved dumping site.

4. Documentation

   a. Keep log of actions performed including date and individuals involved.

   b. Record the amount of materials removed or imported.

   c. Keep any notes or comments of any problems.

   d. Use "before" and "after" photographs to document activities as applicable.

STREETS/STORM DRAIN – Ditch Management

1. Preparation

   a. Monitor ditches on a regular basis (Suggested interval?).

   b. Maintain access to ditch channels wherever possible.

   c. Contact affected property owners and utility owners.

2. Process

   a. Identify areas requiring maintenance

   b. Determine what manpower or equipment will be required.

   c. Identify access and easements to area requiring maintenance.

   d. Determine method of maintenance that will be least damaging to the channel and adjacent properties or utilities.

3. Clean-up

   a. Stabilize all disturbed soils.

   b. Remove all tracking from paved surfaces near maintenance site, if applicable.

   c. Haul all debris or sediment removed from area to approved dumping site.

4. Documentation

   a. Keep log of actions performed including date and individuals involved.

   b. Record the amount of materials removed or imported.

   c. Keep any notes or comments of any problems.

   d. Use "before" and "after" photographs to document activities as applicable.

STREETS/STORM DRAIN – Overlays and Patching

1. Preparation

   a. Measure and mark locations of manholes and valves on the curb

   b. Manholes and catch basins are covered as needed to prevent oil and materials from getting inside the structures or system.

   c. Cracks should be properly sealed. Alligator cracks and potholes should be removed and patched. Rutting should be milled.

   d. Surface should be clean and dry.

   e. Uniform tack coat applied and cured prior to placement of overlay.

   f. If milling is required, install inlet protection as needed.

2. Process

   a. Check hot asphalt mix for proper temperature, percentage asphalt, gradation, air voids and any other agency requirements.

   b. Raise manhole lids and valves to elevation of new asphalt surface with riser rings.

   c. Surface texture should be uniform, no tearing or scuffing.

   d. Rolling should be done to achieve proper in-place air void specification.

3. Clean-up

   a. Covering should be removed as soon as the threat of imported materials entering the system is reduced and prior to a storm event.

   b. After pavement has cooled, sweep gutters to remove loose aggregate.

4. Documentation

   a. Record location and date on the maintenance database and map

STREETS/STORM DRAIN – Crack Seal

1. Preparation

   a. Cover Manholes and catch basins to prevent oil and materials from getting inside the structures or system.

   b. Remove weeds from the road

   c. Air-blast the cracks to remove sediments from the crack to allow for proper adhesion.

   d. Ensure that surface is clean and dry.

2. Process

   a. Proper temperature of material should be maintained.

   b. Sufficient material is applied to form the specified configuration.

3. Clean-up

   a. Excessive sealant application or spills are removed.

   b. Sweep all loose debris from the pavement and dispose of it in the local landfill.

4. Documentation

   a. Record location and date on the maintenance database and map

STREETS/STORM DRAIN – Secondary Road Maintenance

1. Preparation

   a. Determine length amount and type of roadbase or gravel that will be needed.

   b. Determine proper equipment to be used and or any safety hazards.

   c. Design proper drainage: slopes, berms etc.

2. Process

   a. Have truck drivers follow a designated route for hauling in the soil (See SOP for transporting Soil and Gravel).

   b. If soil is too dry to achieve compaction, loosen surface material and moisture condition.

   c. Smooth or grade soil with the desired crown or cross-slope.

   d. Compact soil.

3. Clean-up

   a. Replace filter fabric with washed rock (if necessary) on monthly maintenance.

   b. Clean up equipment according to the SOP for Cleaning Equipment

   c. Clean up any debris on traveled roads, and dispose of it in the landfill.

4. Documentation

   a. Fill out daily activity report in log book or journal. Include Date, time, personnel, and location.

STREETS/STORM DRAIN – Concrete Work

1. Preparation

   a. Train employees and contractors in proper concrete waste management.

   b. Store dry and wet materials under cover, away from drainage areas

   c. Remove any damaged concrete that may need to be replaced.

   d. Prepare and compact sub-base.

   e. Set forms and place any reinforcing steel that may be required.

   f. Determine how much new concrete will be needed.

   g. Locate or construct approved concrete washout facility.

2. Process

   a. Install inlet protection as needed.

   a. Avoid mixing excess amounts of fresh concrete on-site.

   b. Moisten subbase just prior to placing new concrete. This helps keep the soil from wicking moisture out of the concrete into the ground.

   c. Place new concrete in forms.

   d. Consolidate new concrete

   e. Screed off surface

   f. Let concrete obtain its initial set

   g. Apply appropriate surface finish

   h. Remove forms when concrete will not slump

3. Clean-up

   a. Perform washout of concrete trucks and equipmet in designated areas only

   b. Do not washout concrete trucks or equipment into stormdrains, open ditches, streets or streams

   c. Cement and concrete dust from grinding activities is swept up and removed from the site.

   d. Remove dirt or debris from street and gutter.

STREETS/STORM DRAIN – Transporting Soil and Gravel

1. Preparation

   a. Dry out wet materials before transporting.

   b. Spray down dusty materials to keep from blowing.

   c. Make sure you know and understand the SWPPP requirements for the site you will be working at.

   d. Determine the location that the truck and other equipment will be cleaned afterwards

2. Process

   a. Use a stabilized construction entrance to access or leave the site where materials are being transported to/from.

   b. Cover truck bed with a secured tarp before transporting.

   c. Follow the SWPPP requirements for the specific site to/from which the materials are being hauled.

   d. Make sure not to overfill materials when loading trucks.

3. Clean up

   a. Use sweeper to clean up any materials tracked out on the roads from site.

   b. Wash out truck and other equipment when needed in properly designated areas.

4. Documentation

   a. Keep records of any material that is tracked out of site and what was done to clean it up and how long it took to clean up and what the weather conditions were at the time.

WATER – Planned Waterline Excavation Repair/Replacement

1. Preparation
    a. Determine where discharge flow will go
    b. Place inlet protection at nearest downstream storm drain inlet
    c. Clean Gutters leading to inlet
    d. Isolate waterline to be worked on
    e. Neutralize any chlorine residual before discharging water

2. Process
    a. Make efforts to keep water from pipeline from entering the excavation
    b. Direct any discharge to pre-determined area
    c. Backfill and compact excavation
    d. Haul of excavated material or stock pile nearby

3. Clean up
    a. Clear gutter/waterway where water flowed
    b. Clean up all areas around excavation
    c. Clean up travel path of trucked material

4. Documentation
    a. Complete paperwork

WATER – Unplanned Waterline Excavation Repair/Replacement

1. Preparation

   a. Make sure service trucks have wattles, gravel bags, or other materials for inlet protection.

2. Process

   a. Slow the discharge.

   b. Inspect flow path of discharged water

   c. Protect water inlet areas

   d. Follow planned repair procedures.

   e. Haul off spoils of excavation

   f. Consider use of silt filter bags on pumps

3. Clean-up

   a. Repair eroded areas as needed

   b. Follow planned repair procedures

   c. Clean up the travel path of trucked excavated material

WATER – Transporting Dry Excavated Materials & Spoils

1. Preparation
   a. Utilize truck with proper containment of materials
   b. Determine disposal site of excavated materials

2. Process
   a. Load
   b. Check truck after loading for possible spillage
   c. Transport in manner to eliminate spillage & tracking
   d. Utilize one route for transporting

3. Clean-up
   a. Clean loading area
   b. Clean transporting route
   c. Wash off truck and other equipment in a designated equipment cleaning area

WATER – Transporting Wet Excavated Materials & Spoils

1. Preparation
    a. Utilize truck with containment for material
    b. Determine disposal site of excavated material

2. Process
    a. Load and Transport in manner to minimize spillage & tracking of material
    b. Check truck for spillage
    c. Utilize one route of transport

3. Clean-up
    a. Clean route of transport to provide cleaning of any spilled material
    b. Wash out equipment truck and other equipment in designated wash area

WATER – Waterline Flushing for Routine Maintenance

1. Preparation
    a. Determine flow path of discharge to inlet of waterway.
    b. Determine chlorine residual
    c. Neutralize chlorine residual

2. Process
    a. Clean flow path.
    b. Protect inlet structures.
    c. Use diffuser to dissipate pressure to reduce erosion possibilities.

3. Clean-up
    a. Clean flow path
    b. Remove inlet protection .

4. Documentation
    a. Residual tests of discharge water.

WATER – Waterline Flushing after Construction/System Disinfection with Discharge to Storm Drain

1. Preparation

   a. Determine chlorine content of discharged water, and select de-chlorination equipment to be used.

   b. Determine flow path of discharge.

2. Process

   a. Protect inlets in flow path

   b. Install de-chlorination equipment

   c. Sweep and clean flow path

   d. Use diffuser to reduce velocities

3. Clean-up

   a. Pick up inlet protection

   b. Clean flow paths

   c. Remove equipment from flush point

4. Documentation

   a. Residual test of discharged water

WATER – Waterline Flushing after Construction/System Disinfection with Discharge with Haul Off (Used for Dust Control/Compaction)

1. Preparation

   a. Determine chlorine content of discharged water

   b. Determine appropriate construction activity for treatment

2. Process

   a. Flush to tanker for disposal on unpaved construction activity for dust control or compaction

   b. Conform that application of water is in appropriate location

3. Clean-up

   a. Remove equipment from flush point

4. Documentation

   a. Residual test of discharged water

   b. Location of water discharged