


**Facilities Management
 Stormwater Program Standard Operating Procedures**

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1. PURPOSE

The campus of Colorado State University-Pueblo is located in the northeast portion of the City of Pueblo and incorporates many varied activities. The University is situated on top of one of the high points in Pueblo, Colorado. Stormwater runoff from the University makes its way into either the Fountain Creek drainage or several large arroyos which all eventually empty into the Arkansas River. What we do here on campus has the ability to affect water quality downstream of us. Many of our day to day operations put us at risk of contaminating stormwater. That is why it is important for us to observe some Standard Operating Procedures (SOP's) which limit our impact on water quality. The purpose of this manual is to set out those standard operating procedures.

2. RESPONSIBILITIES

2.A. Environmental Health and Safety will be responsible for:

2.A.1. Administration of the Stormwater Program including the development and periodic updating of the written program.

2.A.2. Assisting in the development of training programs and providing technical information in response to queries.

3. DEFINITIONS

3.A. RUNOFF – refers to the draining of stormwater and all substances carried in it.

3.B. STORMWATER – refers to all surface water resulting from rainfall or snow.

4. PROCEDURES

4.A. Fertilizer, Herbicide, and Pesticide Application

4.A.1. In an effort to maintain the high quality of Colorado State University-Pueblo's facilities it is sometimes necessary to use fertilizers, herbicides, and pesticides. If not used properly, these chemicals can cause significant water pollution.

4.A.2. General

4.A.2.a. All employees understand that they have a right to know what chemicals they are using and what effects those chemicals might have through supplied Material Safety Data Sheets.

4.A.2.b. Instructions on the label must ALWAYS be followed when applying, storing, handling, mixing, recycling, and disposing of chemicals and empty containers.

4.A.2.c. Care should always be used when transferring, mixing, or disposing of chemicals. These activities should NEVER be carried out near storm drains.

4.A.2.d. Spill cleanup materials should always be available in case a spill occurs.

4.A.3. Application

4.A.3.a. Employees performing chemical applications must wear all appropriate protective garments.

4.A.3.b. All chemicals shall be used strictly in accordance with their labels and all applicable federal, state, and local laws, regulations, and ordinances.

4.A.3.c. Always follow the manufacturer's recommendation on handling and applying the chemicals.

4.A.3.d. Many chemicals should not be applied right before or during rain storms or while the area is being irrigated.

4.A.3.e. Many chemicals should not be applied right before or during high-wind events.

4.A.3.f. Apply only the recommended amounts of chemicals. Over-applying chemicals may “burn” leaves and could lead to thatch buildup and excessive mowing.

4.A.3.g. Be careful not to overspray chemicals onto an impervious surface, such as a sidewalk or roadway. These chemicals will wash into the storm drain inlet during the next rainstorm.

4.A.3.h. Do not apply landscape chemicals to frozen ground.

4.A.4. Chemical Storage

4.A.4.a. Materials shall be stored in accordance with all current federal, state and local laws, regulations and ordinances.

4.A.4.b. Chemicals shall be stored in an enclosed, secure building.

4.A.4.c. Recycle or dispose of all spent or excess chemicals properly and promptly.

4.A.4.d. Establish chemical inventory controls to minimize storage and disposal of excess chemicals.

4.A.5. Application Equipment

4.A.5.a. Sprayers shall be used to apply only materials that are suitable for spraying.

4.A.5.b. Spreaders shall be used to apply only materials that are available in granular forms.

4.A.5.c. Fertilizers and pesticides should be loaded into application equipment over impervious surfaces, so that any spills can be easily cleaned.

4.A.5.d. Properly calibrate application equipment to ensure the proper amount of chemical is applied.

4.A.5.e. Keep application equipment clean; do not allow a buildup of chemicals.

4.A.5.f. Fuel all equipment following the Vehicle Fueling procedure.

4.A.5.g. Maintain (including washing) all equipment by following the Heavy Equipment and Vehicle Maintenance procedure.

4.A.6. Employee Training

4.A.6.a. Train applicable employees who are involved with fertilizer, herbicide, and pesticide application on this written procedure. Information regarding proper storage practices and how to prevent and report spills will be presented during the training.

4.A.6.b. Periodically conduct refresher training on the SOP for applicable employees who are involved with fertilizer, herbicide, and pesticide application activities.

4.B. Heavy Equipment and Vehicle Maintenance

4.B.1. Regular maintenance of Colorado State University-Pueblo's vehicles and equipment prolongs the life of our assets and prevents leaking of hazardous fluids commonly associated with normal wear and tear of vehicles and equipment. Some potential pollutants are generated during this process and include oil, antifreeze, brake fluid, cleaner, solvents, batteries, and fuels. It is important that during maintenance the following Standard Operating Procedures are observed.

4.B.2. Maintenance activities should be performed inside a maintenance building unless the equipment is too large to fit inside or temporary repairs need to be made before the equipment can be moved to the maintenance building. Consult the Outdoor Fleet Maintenance procedure when it is necessary to perform repairs outside of the facility.

4.B.3. Vehicle Storage

4.B.3.a. Monitor vehicles and equipment closely for leaks and use drip pans as needed until repairs can be performed.

4.B.3.b. When drip pans are used, check frequently to avoid overtopping and properly dispose of fluids.

4.B.3.c. Drain fluids from leaking or wrecked vehicles and from motor parts as soon as possible. Dispose of fluids properly.

4.B.4. Vehicle Maintenance

4.B.4.a. Conduct routine inspections of heavy equipment and vehicles to proactively identify potential maintenance needs.

4.B.4.b. Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.

4.B.4.c. Recycle or dispose of all wastes properly and promptly.

4.B.4.d. Do not dump any liquids or other materials outside, especially near or in storm drains or ditches. Sweep and pick up trash and debris as needed.

4.B.5. Material Management

4.B.5.a. Store maintenance materials and waste containers (e.g., used oil and antifreeze) in labeled containers under cover or in secondary containment (e.g., double-walled tanks). Chemicals should not be combined in containers.

4.B.5.b. All hazardous wastes must be labeled and stored according to hazardous waste regulations.

4.B.5.c. Carefully transfer fluids from collection devices to designated storage areas as soon as possible. Do not store the transferred fluids adjacent to the containers (for example, oil drip pans with used oil in them should not be placed next to the used oil tank).

4.B.5.d. Store new batteries securely to avoid breakage and acid spills.

4.B.5.e. Store used batteries indoors or in secondary containment to contain potential leaks. Recycle used batteries.

4.B.5.f. Conduct periodic inspections of storage areas to detect possible leaks.

4.B.5.g. Do not wash or hose down storage areas except where wash water will enter the sanitary sewer as an approved discharge. Use dry clean-up methods whenever possible.

4.B.5.h. Keep lids on waste barrels and containers, and store them indoors or under cover to reduce exposure to rain.

4.B.5.i. Periodically inspect and maintain all pretreatment equipment, including sumps, separators, and grease traps to ensure proper functioning.

4.B.6. Parts Cleaning

4.B.6.a. Use designated equipment for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, use drip pans or other containment to capture parts cleaning fluids.

4.B.6.b. Use steam cleaning or pressure washing of parts whenever possible instead of solvent cleaning.

4.B.6.c. When steam cleaning or pressure washing, only discharge wastewater to an oil/water separator connected to the sanitary sewer.

4.B.6.d. When using solvents to clean parts, rinse and drain parts over the designated solvent tank so that fluids will not drip or spill onto the floor. Use drip boards or pans to catch excess solutions and divert them back to the tank. Allow parts to dry over the hot tank.

4.B.6.e. Recycle cleaning solution when it becomes too dirty to use. Never discharge cleaning waste to the sanitary sewer or storm sewer.

4.B.7. Vehicle and Equipment Washing

4.B.7.a. Vehicles should be washed in the vehicle and equipment wash area or taken to a commercial car wash.

4.B.8. Employee Training

4.B.8.a. Train applicable employees who perform heavy equipment and vehicle maintenance on this written procedure. Information regarding how to avoid and report spills will be presented during the training.

4.C. Large Outdoor Events and Festivals

4.C.1. Colorado State University-Pueblo operates a number of large outdoor events and festivals every year. Large events can be in the form of large sporting events like football games or festivals held on campus. The potential for contamination from trash, septage, and organic matter exists with an outdoor event or festival. The following things are generally included in a large event:

4.C.1.a. Portable toilets

4.C.1.b. Trash receptacles

4.C.1.c. Food and beverage vendors

4.C.2. Trash Collection and Removal

4.C.2.a. Provide adequate trash receptacles for vendors and guests.

4.C.2.b. Monitor and respond to leaking waste containers.

4.C.2.c. Empty trash receptacles to prevent overflow.

4.C.2.d. Store waste containers under cover or on grassy areas, if possible.

4.C.2.e. Do not wash out trash receptacles unless wash water will be discharged to the sanitary sewer.

4.C.2.f. Walk the outdoor festival and event area during and after every large event to pick up loose trash and debris. Properly dispose of this material.

4.C.2.g. Follow the Spill Prevention and Response procedures. Have spill kits available and ensure that vendors understand that it is prohibited to dump any pollutants into the storm sewer system.

4.C.3. Portable toilets are used at most large outdoor festivals and events. All portable toilet waste is classified as septage. Colorado State University-Pueblo will use a licensed waste hauler to dispose of their waste for any large outdoor festival or event that has portable toilets. The units will be removed as soon as the festival or event is completed so that they do not become a nuisance or vandalized.

4.C.4. Waste generated by food and beverage vendors is regulated by the Colorado Retail Food Rules and Regulations.

4.C.5. Employee Training

4.C.5.a. Train applicable employees who perform trash collection and street sweeping and issue leases/permits for large outdoor festivals and events on this written procedure. Information on how to respond to spills will be presented during the training.

4.D. New Construction Activities

4.D.1. Construction activities that disturb less than one acre and are not subject to another construction permit, are covered by this standard operating procedure. This could include small construction projects conducted by Colorado State University-Pueblo employees. Some examples could be sidewalks, restrooms, and structures.

4.D.2. Obtain all applicable federal, state, and local permits.

4.D.2.a. The Colorado Stormwater Construction General Permit applies to construction sites disturbing one acre or more, or less than one acre but part of a larger common plan of development.

4.D.2.b. A larger common plan of development is defined as a contiguous area where multiple separate and distinct construction activities may be taking place.

4.D.2.c. A dewatering permit may be required if construction activities require the removal and discharge of groundwater.

4.D.2.d. A U.S. Army Corp of Engineers Section 404 permit may be required if any waters of the United States are affected including wetlands, washes, drainages, ditches, creeks, streams, and rivers.

4.D.3. Applicable sediment and erosion controls should be installed, such as inlet protection, silt fence, sediment traps, erosion control logs, and check dams. Sediment and erosion controls will be installed and maintained in accordance with approved design criteria and/or industry standards.

4.D.4. Material stockpiles will not be stored in stormwater flow lines. Temporary sediment control will be used during temporary, short-term placement while work is actively occurring.

4.D.5. When feasible, grading activities should be scheduled during dry weather.

4.D.6. Best management practices will be periodically inspected and maintained as necessary.

4.D.7. Waste containment for concrete washout, masonry, paint, trash and other potential pollutants will be available when these activities are being conducted.

4.D.8. Where practicable, non-structural controls will be used, such as phased construction, dust control, good housekeeping practices, and spill prevention and response.

4.D.9. Train applicable employees who perform new construction activities on this written procedure. Information regarding how to avoid and report spills will be presented during the training.

4.E. Outdoor Fleet Maintenance

4.E.1. Although it is recommended that fleet maintenance activities be conducted indoors or under cover, it is sometimes necessary to perform fleet maintenance outdoors. This could occur if the equipment is too large to fit inside, or field repairs are necessary. When this happens there is the potential of pollution from oil, antifreeze, brake fluid, solvent, batteries, and fuels.

4.E.2. Fleet maintenance should be performed inside whenever possible.

4.E.3. If indoor maintenance is not possible, ensure maintenance is performed in a location where contact with stormwater is minimized, through berms and appropriate routing of drainage.

4.E.4. Provide inlet protection (berms, weighted inlet covers, etc.) for all adjacent inlets when work is occurring in close proximity to a storm drain inlet.

4.E.5. Have absorbent pads and drip pans accessible to capture leaks and spills during maintenance activities.

4.E.6. Keep equipment clean and do not allow excessive build-up of oil and grease.

4.E.7. Perform regular preventative maintenance to minimize the occurrence of leaks and major repairs.

4.E.8. Recycle and/or dispose of all wastes properly and promptly.

4.E.9. NEVER dump liquids or other materials outside, especially near or in storm drains or ditches. Sweep and pick up trash and debris as needed.

4.E.10. ALWAYS clean up spills promptly using dry methods (do not hose down). Consult the Spill Prevention and Response procedure for more information. Cleanup is completed only after absorbent and rags are disposed of properly.

4.E.11. Material Management

4.E.11.a. Store maintenance materials and waste containers (e.g., used oil and antifreeze) in labeled containers under cover or in secondary containment (e.g., double-walled tanks). Chemicals should not be combined in containers.

4.E.11.b. All hazardous wastes must be labeled and stored according to hazardous waste regulations.

4.E.11.c. Carefully transfer fluids from collection devices to designated storage areas as soon as possible. Do not store the transferred fluids adjacent to the containers.

4.E.11.d. Store new batteries securely to avoid breakage and acid spills.

4.E.11.e. Store used batteries indoors or in secondary containment to contain potential leaks. Recycle used batteries.

4.E.11.f. Conduct periodic inspections of storage areas to detect possible leaks.

4.E.12. Parts Cleaning

4.E.12.a. Use designated equipment for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, use drip pans or other containment to capture parts cleaning fluids.

4.E.12.b. Use steam cleaning or pressure washing of parts whenever possible instead of solvent cleaning.

4.E.12.c. When steam cleaning or pressure washing is used, only discharge wastewater to an oil/water separator connected to the sanitary sewer.

4.E.12.d. When using solvents, rinse and drain parts over the designated solvent tank so that fluids will not drip or spill onto the floor. Use drip boards or pans to catch excess solutions and divert them back to the tank. Allow parts to dry over the hot tank.

4.E.12.e. Recycle cleaning solution when it becomes too dirty to use. Never discharge cleaning waste to the storm or sanitary sewer systems.

4.F. Parks and Open Space Management

4.F.1. Colorado State University-Pueblo has an abundance of open space and park like areas. Maintaining these spaces requires mowers, tractors, disposal of waste, application of pesticides, herbicides and fertilizers.

4.F.2. Repair damage to landscaped areas or mulch or vegetate bare areas to minimize erosion.

4.F.3. Remove materials such as soil, mulch and grass clippings from parking lots, streets, curbs, gutters and sidewalks.

4.F.4. Collect and dispose of trash.

4.F.5. Do not attempt to clean up unidentified or possibly hazardous materials found on or around landscaped areas during maintenance; notify the supervisor immediately upon discovery of hazardous materials.

4.F.6. Maintenance

4.F.6.a. Wastewater from power washing signs, structures, or bleachers cannot be discharged into the storm sewer system. Refer to the Power Washing procedure for more information.

4.F.6.b. A Permit must be obtained from the Colorado Department of Public Health and Environment for washing outdoor structures including stadium seating and bleachers.

4.F.6.c. When painting outdoor equipment, use a drop cloth and clean up any spills immediately. Do not leave open containers on the ground where they may accidentally tip over.

4.F.6.d. Sweep parking lots with a street sweeper, or if using a hand sweeper, collect the sweeping debris and dispose of it in the trash. Never wash ambient dust from parking lots into the storm drain.

4.F.7. Mowing

4.F.7.a. Remove paper, debris, and trash from the landscaped and surrounding areas prior to mowing.

4.F.7.b. Do not blow or wash them into the street, gutter or drainage ways.

4.F.7.c. Properly recycle or dispose of organic wastes after mowing, weeding, and trimming.

4.F.8. Irrigation

4.F.8.a. Repair broken sprinkler heads as soon as possible.

4.F.8.b. Only irrigate at a rate that can infiltrate into the soil to limit run-off.

4.F.9. Landscape Equipment

4.F.9.a. Brush off mowers (reels and decks) and tractors over grassy areas or in the cleaning bay.

4.F.9.b. Leave clippings on grassy areas or dispose of in trash or by composting. Do not hose off mowers over paved areas that drain to the storm drain system.

4.F.9.c. Fuel all equipment following the Vehicle Fueling procedure.

4.F.9.d. Maintain (including washing) all equipment by following the Heavy Equipment and Vehicle Maintenance procedure.

4.F.9.e. Do not allow grease from mowers to fall onto areas where they can be washed into the storm drain.

4.F.10. Snow Removal

4.F.10.a. Conduct snow and ice removal operations using the Snow and Ice Control procedure.

4.F.10.b. Store all salt or sand that will be used on walks inside or under a roof or in a covered container.

4.F.11. Other Activities

4.F.11.a. Utilize pet waste stations with bags and trash receptacles.

4.F.11.b. All portable toilets should be staked down in flat, secure locations where they are less likely to be knocked or blown over. Whenever possible all portable toilets should be in a location that would retain any spillage opposed to washing into storm sewer or waterway. Ensure routine maintenance and cleaning is conducted.

4.F.12. Employee Training

4.F.12.a. Train applicable employees who are involved with parks and open space maintenance activities on this written procedure. Information regarding proper storage practices and how to prevent and report spills will be presented during the training.

4.G. Salt and Sand Storage

4.G.1. Colorado State University-Pueblo being located in southern Colorado has to deal with snow removal and mitigation activities. Improper handling of deicers, salt and sand can contribute pollutants to waterways.

4.G.2. Solid Deicer Storage

4.G.2.a. Deicers should be stored under cover, such as inside a covered structure or under a tarp.

4.G.2.b. Containment barriers should be placed to prevent transport of material beyond the storage area.

4.G.2.c. Storage areas should be outside of any floodplains.

4.G.2.d. Any temporary salt and sand storage areas should be protected from wind and water erosion.

4.G.2.e. DO NOT overload material spreaders.

4.G.2.f. ALWAYS clean up area after loading and unloading.

4.G.3. Liquid Deicer Storage

4.G.3.a. Establish liquid deicer inventory controls to minimize the amount of deicer used and stored.

4.G.3.b. Store tanks/containers in a location where they will not be accidentally damaged by equipment or vehicles.

4.G.3.c. Periodically inspect condition of storage tank and report any deficiencies that may lead to a leak.

4.G.3.d. Clean the tank/container periodically using DRY clean up methods.

4.G.3.e. When receiving bulk deliveries or when loading liquid deicers into truck mounted tanks minimize leaks and clean up spills as soon as they occur.

4.G.4. Train applicable employees who are involved in salt and sand storage activities on the Standard Operating Procedures.

4.H. Snow and Ice Control

4.H.1. Deicers can contaminate surface and ground water and damage vegetation. Sand and salt can also contaminate waterways. When sand and salt are used at Colorado State University-Pueblo for snow and ice control the following will mitigate water pollution caused.

4.H.2. Plowing

4.H.2.a. Inspect plowing equipment for leaks prior to use. Follow the Heavy Equipment and Vehicle Maintenance procedure for responding to leaking vehicles.

4.H.2.b. Clean up any hydraulic fluid that may leak on to pavement IMMEDIATELY.

4.H.2.c. Follow Outdoor Vehicle Maintenance procedure when cleaning snow removal equipment.

4.H.2.d. Do not pile snow in front of storm sewer inlets.

4.H.3. Deicer Application

4.H.3.a. Apply only the recommended amount of deicer. NEVER apply more than designated by the label.

4.H.3.b. Spreaders should be calibrated every season and checked prior to use.

4.H.4. Train applicable employees who are involved in snow and ice removal on Standard Operating Procedures.

4.I. Spill Prevention and Response

4.I.1. Due to the type of work and the materials involved, many activities carried out by Colorado State University-Pueblo have the potential for accidental spills. The following standard operating procedures apply to spill prevention and response. **CONTACT ENVIRONMENTAL HEALTH AND SAFETY AT 334-5013, ANYTIME A SPILL OCCURS**

4.I.2. Spill Prevention

4.I.2.a. Keep work areas neat and well organized.

4.I.2.b. Maintain Material Safety Data Sheet (MSDS) for each hazardous chemical.

4.I.2.c. Provide tight fitting lids for all containers.

4.I.2.d. Keep containers clearly labeled according to Colorado State University-Pueblo hazardous chemical labeling requirements.

4.I.2.e. Store containers, drums, and bags away from major traffic routes.

4.I.2.f. Inspect storage containers regularly for signs of leaking or deterioration.

4.I.2.g. **IMMEDIATELY** replace or repair leaking storage containers.

4.I.2.h. Use care when transferring from one container to another.

4.I.2.i. Use powered equipment or get assistance when moving materials to and from a storage area. Use care to prevent puncturing containers with the equipment.

4.I.2.j. Do not wash down or hose down any outdoor work areas or trash/waste container storage areas except where wash water is captured and discharged into the sanitary sewer (if approved).

4.I.2.k. Conduct periodic inspections to ensure that materials and equipment are being handled, disposed/recycled, and stored correctly.

4.I.2.l. Provide adequate spill kits or lockers with sufficient equipment and supplies necessary for each work area where the potential for spills or leaks exists.

4.I.2.m. Inspect each spill kit or locker regularly and after each spill response. Replace any spent supplies or repair any equipment that is worn or not suitable for service.

4.I.2.n. Stock adequate personal protective equipment.

4.I.3. Spill Response

4.I.3.a. In the event of a spill please contact environmental health and safety immediately at (719)334-5013.

4.I.4. Safety

4.I.4.a. Consider safety at all times. Anticipate and avoid all likely hazards. Never approach, contact, or sample an unknown substance. If a highly toxic or flammable substance is discovered, staff should leave the immediate area and contact Environmental Health and Safety. If there is any question about a substance, contact the appropriate identified response authority or other designated representative.

4.I.5. Stop the leading edge of the spill. Block or divert the spill to avoid discharge to the storm sewer system and to minimize the area requiring cleanup.

4.I.6. Determine the source of the spill and stop the spill at its source by closing a valve, plugging a leak, or setting a container upright. Transfer material from a damaged container.

4.I.7. Identify the material and volume spilled. Contact the appropriate identified response authority or other designated representative if you cannot identify the material and its properties.

4.I.8. Refer to the MSDS to determine appropriate personal protective equipment, such as gloves and safety glasses and appropriate cleanup methods.

4.I.9. Clean up spills immediately to prevent spreading of wastes by wind, rain, and vehicle traffic and potential safety hazards.

4.I.10. Use sand absorbents, socks, pillows, or pads to quickly capture spilled liquid and properly dispose of all clean-up materials. Use dry clean-up methods only.

4.I.11. Complete all necessary reports.

4.I.12. Spill Reporting

4.I.12.a. A spill of any chemical, oil, petroleum product, or sewage that enters waters of the state of Colorado (that include surface water, ground water, and dry gullies and storm sewers leading to surface water) must be reported immediately to the Colorado Department of Public Health and Environment.

4.I.12.b. Release of a substance into a storm drain, or onto a parking lot or roadway as part of a storm sewer leading to surface water, is reportable. However, if the material can be contained and cleaned within the storm sewer system to the degree that a subsequent flow in the storm sewer will not flush the substance to waters of the State, it may not need to be reported.

4.I.12.c. Contact Environmental Health and Safety 334-5013 (cell) who will handle the reporting.

4.I.13. Train applicable employees who perform spill prevention and response on this written procedure. Information regarding how to avoid and report spills will be presented during the training.

4.J. Street Curb and Gutter Maintenance

4.J.1. Street, curb, and gutter activities including concrete and asphalt installation, maintenance, repair, replacement, striping, and painting. All of the above have the potential to impact stormwater quality. The following standard operating procedures can be used to mitigate this hazard.

4.J.2. Protect storm drain inlets and drains with curb socks, rock berms, inlet protection, or drain covers prior to any maintenance activity.

4.J.3. When saw cutting ensure that no slurry enters the storm drain. Allow the slurry to dry and sweep it up.

4.J.4. DO NOT perform asphalt or concrete patching in wet conditions.

4.J.5. Leaking material containers should either be repaired or discarded properly.

4.J.6. Store materials in containers under cover when not in use, and away from storm drains.

4.J.7. Monitor equipment for leaks and use drip pans as necessary.

4.J.8. Sweep or vacuum the roadway when maintenance activities are complete.

4.J.9. Concrete Maintenance

4.J.9.a. Minimize the drift of chemical cure on windy days by using the curing compound sparingly and applying it close to the concrete surface.

4.J.9.b. Ensure there is a concrete truck washout area available or require the contractor to wash out at the batch plant.

4.J.9.c. Whenever possible, recycle concrete rubble; otherwise, dispose of it as solid waste.

4.J.10. Asphalt Maintenance

4.J.10.a. Sweep to minimize sand and gravel from new asphalt from getting into storm drains, streets, and creeks.

4.J.10.b. Do not allow asphaltic concrete grindings, pieces, or chunks used in embankments or shoulder backing to enter any storm drain or watercourses. Apply temporary perimeter controls. Install silt fence until the structure is stabilized or permanent controls are in place.

4.J.10.c. Whenever possible, recycle broken asphalt. If impossible, dispose of as solid waste.

4.J.10.d. Drainage inlet structures shall be covered with inlet protection during application of seal coat, tack coat, slurry seal, and/or fog seal.

4.J.11. Painting and Striping

4.J.11.a. If possible, schedule painting and striping projects during dry weather.

4.J.12. Train applicable employees who perform street, curb, and gutter maintenance on this written procedure. Information regarding how to avoid and report spills will be presented during the training.

4.K. Street, Curb and Gutter Replacement and Construction

4.K.1. Procedures involving the replacement and construction of streets, curbs, and gutters have the potential to impact stormwater quality. Colorado State University-Pueblo has many locations with streets, curbs, and gutters. Usually replacement of these structures is contracted. Contractors as well as Colorado State University-Pueblo employees must follow the standard operating procedures below in order to mitigate potential stormwater pollution.

4.K.2. Obtain all applicable federal, state, and local permits for construction projects.

4.K.2.a. The Colorado Stormwater Construction General permit applies to construction sites disturbing one acre or more, or less than one acre but part of a larger common plan of development.

4.K.2.b. A larger common plan of development is defined as a contiguous area where multiple separate and distinct construction activities may be taking place at different time on different schedules under one plan.

4.K.2.c. A dewatering permit may be required if construction activities require the removal and discharge of groundwater offsite.

4.K.2.d. A U.S. Army Corp of Engineers (USACE) Section 404 Permit may be needed if the work will be conducted in or impact water of the United States, including wetlands, washes, drainages, ditches, creeks, streams, and rivers.

4.K.2.e. Applicable sediment and erosion controls may be installed, such as inlet protection, silt fence, sediment traps, erosion control logs, check dams, and vehicle tracking control. Sediment and erosion controls will be installed and maintained in accordance with approved design criteria and/or industry standards.

4.K.2.f. When saw cutting, ensure that no slurry enters the storm drain. Let the slurry dry, sweep it up, and properly dispose of the sweepings or vacuum while saw cutting.

4.K.2.g. Do not perform concrete or asphalt paving work during wet conditions whenever possible.

4.K.2.h. Monitor construction equipment for leaks and use drip pans as necessary.

4.K.2.i. Leaking material containers should be properly discarded and replaced.

4.K.2.j. Store materials in containers under cover when not in use and away from any storm drain inlet.

4.K.2.k. Wash out mixers, delivery trucks, or other equipment in the designated concrete washout area only.

4.K.2.l. Locate concrete washout, portable toilets, and material storage away from storm drain inlets.

4.K.2.m. Material stockpiles will not be stored in stormwater flow lines. Temporary sediment control will be used during temporary, short-term placement while work is actively occurring.

4.K.2.n. Sweep or vacuum the roadway as needed, during construction and once construction is complete.

4.K.2.o. Best management practices will be periodically inspected and maintained as necessary.

4.K.2.p. Where practicable, non-structural controls will be used, such as phased construction, dust control, good housekeeping practices, and spill prevention and response procedures.

4.K.3. Concrete Work

4.K.3.a. Minimize the drift of chemical cure on windy days by using the curing compound sparingly and applying it close to the concrete surface.

4.K.3.b. Ensure there is a concrete truck washout area available or require the contractor to wash out at the batch plant.

4.K.3.c. Whenever possible, recycle concrete rubble; otherwise, dispose of it as solid waste.

4.K.4. Asphalt Work

4.K.4.a. Control the placement of road base or asphalt used in embankments or shoulder backing; do not allow these materials to fall into any storm drain or watercourses.

4.K.4.b. Whenever possible, recycle asphalt. If recycling is not possible, dispose of as solid waste.

4.K.5. Painting and Striping

4.K.5.a. If possible, schedule painting and striping projects during dry weather.

4.K.5.b. Use care to prevent splashing or spilling of any liquid material. Follow the Spill Prevention and Response procedure should a spill occur.

4.K.6. Train applicable employees who perform street, curb, and gutter construction on this written procedure. Information regarding how to avoid and report spills will be presented during the training.

4.L. Utility and Storm Sewer System Replacement and Construction

4.L.1. Colorado State University-Pueblo utilizes several different types of utility lines including power, IT, storm sewer, sanitary sewer, natural gas, and potable water. When these lines are replaced or constructed there is the possibility for stormwater contamination through sediment, chemicals, organics, and trash. Colorado State University-Pueblo employees and contractors must adhere to the best practices listed below to mitigate this potential contamination.

4.L.2. Obtain all applicable federal, state, and local permits for construction projects.

4.L.2.a. The Colorado Stormwater Construction General permit applies to construction sites disturbing one acre or more, or less than one acre but part of a larger common plan of development.

4.L.2.b. A larger common plan of development is defined as a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

4.L.2.c. A dewatering permit may be required if construction activities require the removal and discharge of groundwater offsite.

4.L.2.d. A U.S. Army Corp of Engineers (USACE) Section 404 Permit may be needed if the work will be conducted in or impact water of the United States, including wetlands, washes, drainages, ditches, creeks, streams, and rivers.

4.L.2.e. Applicable sediment and erosion controls may be installed, such as inlet protection, silt fence, sediment traps, sediment control logs, check dams and vehicle tracking control. Sediment and erosion controls will be installed and maintained in accordance with approved design criteria and / or industry standards.

4.L.2.f. When saw cutting, ensure that no slurry enters the storm drain. Let the slurry dry, sweep it up, and properly dispose of the sweepings or vacuum while saw cutting.

- 4.L.2.g. Where feasible, grading activities will be scheduled during dry weather.
 - 4.L.2.h. Do not perform concrete or asphalt paving work during wet conditions whenever possible.
 - 4.L.2.i. Monitor construction equipment for leaks and use drip pans as necessary.
 - 4.L.2.j. Leaking material containers should be properly discarded and replaced.
 - 4.L.2.k. Store materials in containers under cover when not in use and away from any storm drain inlet.
 - 4.L.2.l. Wash out mixers, delivery trucks, or other equipment in the designated concrete washout area only.
 - 4.L.2.m. Locate concrete washout, portable toilets, and material storage away from storm drain inlets.
 - 4.L.2.n. Material stockpiles will not be stored in stormwater flow lines. Temporary sediment control will be used during temporary, short-term placement while work is actively occurring.
 - 4.L.2.o. Sweep or vacuum the roadway as needed, during construction and once construction is complete.
 - 4.L.2.p. Best management practices will be periodically inspected and maintained as necessary.
 - 4.L.2.q. Where practicable, non-structural controls will be used, such as phased construction, dust control, good housekeeping practices, and spill prevention and response procedures.
- 4.L.3. Emergency Discharges are defined as situations in which it is not possible to implement all of the available BMPs due to the uncontrolled nature of the discharge. The primary focus during these events is to identify and mitigate the cause as soon as possible. Clean up of resulting sediment or other pollutants will be performed as soon as practicable following the emergency. Refer to the Spill Prevention and Response procedure for reporting requirements.
- 4.L.4. Train applicable employees who perform utility replacement and construction activities on this written procedure. Information regarding how to avoid and report spills will be presented during the training.

4.M. Vehicle Fueling

4.M.1. Spills of gasoline and diesel fuel on the ground or on vehicles during fueling can wash off and pollute surface water. The standard operating procedures listed below must be followed by Colorado State University-Pueblo employees and contractors to help mitigate the potential for pollution while fueling a vehicle.

4.M.2. Fuel vehicles at approved location (fuel station).

4.M.3. Provide spill kits near approved fueling locations.

4.M.4. Fuel stored above ground must be stored in enclosed, covered tanks with secondary containment.

4.M.5. All fuel tanks will be inspected per State and Federal regulations.

4.M.6. Periodically inspect fueling locations for the following:

4.M.6.a. For above ground tanks inspect tank foundations, connections, coatings, tank walls, and piping systems. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank.

4.M.6.b. Check for spills and fuel tank overfills due to operator error.

4.M.7. Clean up any leaks or drips. Clean up is not completed until the absorbent is swept up and disposed of properly.

4.M.8. Report leaking vehicles immediately.

4.M.9. Vehicle Fueling

4.M.9.a. Follow all posted warnings.

4.M.9.b. Ensure that the nozzle is properly inserted in the filler neck of the vehicle before dispensing any fuel.

4.M.9.c. Remain by the fill nozzle while fueling to ensure the nozzle stays in place.

4.M.9.d. Do not top off the tank of the vehicle once the nozzle has shut off the fuel.

4.M.9.e. Follow the procedures outlined in the Spill Prevention and Response Procedure to respond to any leaks or spills.

4.M.9.f. Clean fuel dispensing areas with absorbent material.

4.M.9.g. Never use water to clean up a spill.

4.M.10. Train applicable employees who fuel vehicles on this written procedure. Information regarding how to avoid and report spills will be presented during the training.

4.N. Waste Management

4.N.1. At Colorado State University-Pueblo we deal with many types of solid and liquid wastes. All wastes must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection, and improper disposal of solid and liquid wastes. Colorado State University-Pueblo employees and contractors must adhere to the best management practices listed below to help mitigate the potential for pollution related to waste management.

4.N.2. Provide cover, if feasible, for all waste storage areas, including keeping dumpster lids closed.

4.N.3. Provide a low containment berm, if feasible, around waste storage areas.

4.N.4. Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.

4.N.5. Follow Spill Prevention and Response procedure to respond to and clean up any spills or leaks.

4.N.6. Clean storage areas when necessary using dry up methods, do not wash contaminants into the stormwater system.

4.N.7. Return leaking dumpsters to the supplier.

4.N.8. Hazardous waste should not be disposed of in the dumpster.

4.N.9. Solid waste that cannot be recycled should be disposed of in a trash dumpster. Recycled solid wastes include the following:

4.N.9.a. Plastic

4.N.9.b. Cardboard and paper

4.N.9.c. Scrap metal

4.N.9.d. Used batteries

4.N.9.e. Used oil

4.N.9.f. Light bulbs

4.N.10. Liquid Waste

4.N.10.a. Never place liquids in a dumpster.

4.N.10.b. If unable to recycle, old latex paints should be mixed with floor dry or other adsorbent material to solidify prior to disposal in the trash.

4.N.10.c. If unable to recycle, enamels and other oil-based paints should be applied to cardboard, newspaper, or similar materials and allowed to dry prior to disposal in the trash.

4.N.11. Recycle liquid wastes, including the following:

4.N.11.a. Used oil

4.N.11.b. Used antifreeze

4.N.11.c. Used solvents

4.N.12. Train applicable employees who dispose of wastes on this written procedure. Information on how to avoid and report spills will be presented during the training.

5. SOURCES

5.A. *City of Pueblo SOP: Stormwater*

5.B. *City of Centennial SOP: Good Housekeeping, August 2007.*

5.C. *City of Centennial SOP: Materials Storage, August 2007.*

5.D. *Mesa County, Municipal Operation and Maintenance Program, July 4, 2005.*

5.E. *USEPA Menu of BMP: Materials Management, cfpub.epa.gov/npdes/stormwater/menuofbmps/, accessed July 1, 2009.*