APPENDIX 09

Environmental Guidelines

DEN Environmental Guidelines

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ENVIRONMENTAL GUIDELINES

Welcome to the Environmental Guidelines (EGs). We hope that this will provide you with appropriate guidance for the various activities and aspects related to your daily work at DEN.

If you are not quite sure which EGs apply to your operation, the table on the next page has been included to assist you. The row across the top of the table lists many common activities. If your operation includes one or more of these activities, then follow the column down to identify the corresponding EGs marked with Xs. You'll notice some EGs are recommended to all for review; these EGs have been checked for you. As always, don't hesitate to contact us for any questions: DEN Environmental Services (Main Line) @ (303)342-2730.

ES-301-1.01 Fueling Aircraft, Vehicles, and Auxiliary Equipment
ES-301-1.02 Cleaning/Washing Aircraft, Vehicles and Equipment
ES-301-1.03 Cargo Loading and Offloading
ES-301-1.04 Management of Aircraft Lavatory Water and Waste
ES-301-1.05 Maintenance of Aircraft, Vehicles and Equipment
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ES-301-4.01 Management of Pesticides and Herbicides
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ES-301-4.10 Cathodic Protection Corrosion Prevention on Buried Tanks and Piping
ES-301-4.11 Storage, Handling and Management of Hazardous Materials
ES-301-5.01 Abandoned Material Response
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ES-301-6.03 Management of Recycle and Reusable Materials
ES-301-6.04 Management of Hazardous Waste
ES-301-6.05 Management of Universal Waste
ES-301-6.06 Management of Special Waste

Table B-1: Targeted Activities and Corresponding Environmental Guidelines (EGs) Matrix

Recommended EGs:

Look across the row of potential activities to the right. If the activity is performed at your facility, then go down that column to the Xs and check the box in that row next to the EGs below for review. You'll notice some EGs are recommended to all for review. These boxes have been checked for you.

Potential Activities

	Aircraft Deicing/Anti-icing	Aircraft Fueling	Aircraft Maintenance	Aircraft Painting/Striping	Aircraft Lavatory Service	Aircraft Washing	Building & Grounds Maintenance	Buried Tanks & Pipes	Cargo Handling	Cleaning Indoor Industrial Surfaces	Chemical Storage	Construction	Contaminated Soil Remediation	Equipment Fueling	Equipment Degreasing/Washing	Equipment Maintenance	Equipment Storage	Fire Fighting Equipment Testing	Fuel Storage	Garbage Collection	HVAC Maintenance & Operations	Incinerator Operations	Janitorial Activities	Materials Storage	Outdoor Ramp Washdown	Ozone Depleting Compound Use	Pavement Deicing	Pesticide/Herbicide Storage/Usage	Petroleum Exploration/Production	Potable Water Municipal Activities	Power Generation	Pretreatment/Oil-Water Separation	Procurement	Relocation or Closeout	Steam Cleaning	Vehicle Fueling	Vehicle Maintenance	Vehicle Painting/Striping	Vehicle Storage	Vehicle Washing	Waste Storage
ES-301-1.01 Fueling Aircraft, Vehicles, and Auxiliary Equipment		X											X														X					X						
ES-301-1.02 Cleaning/Washing - Aircraft, Vehicles and Equipment						X								X																	X		X			X	
ES-301-1.03 Cargo Loading and Offloading									X		X					X							X																X
ES-301-1.04 Management of Aircraft Lavatory Water and Waste					X						X																												
ES-301-1.05 Maintenance of Aircraft, Vehicles and Equipment			X	X										X	X					X									X				X	X	X	X	X	
ES-301-1.06 Aircraft Deicing	X																																						
ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals	X	X	X		X				X		X				X	X		X					X		X	X			X						X			
ES-301-2.01 Incinerator Operations																					X																		
ES-301-2.02A Ozone Depleting Compound Management Guidelines										X												X		X															
ES-301-2.02B Heating, Venting, and Air Conditioning (HVAC) Operations							X			X				X	X					X	X		X					X										
ES-301-2.03 Power Generation																													X										
ES-301-2.04 Painting and Paint Removal				X			X				X												X												X				X
ES-301-2.05 Cleaning/Washing - Indoor Industrial Surfaces							X			X	X											X										X							
ES-301-2.06 Maintenance - Janitorial							X			X	X							X				X										X							X
ES-301-2.07 Maintenance of Pretreatment Devices						X	X			X			X										X						X				X	X			X		
ES-301-2.08 Metal Finishing, Coating, Machining, and Cooling			X	X			X				X			X	X																			X	X			X
ES-301-2.09 Parts Washing			X								X			X																					X				X
ES-301-3.01 Construction							X	X				X																											
ES-301-3.02 Planning and Design							X	X				X																											
ES-301-3.03 Procurement	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-3.04 Tenant Operating Guidance	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-3.05 Tenant Relocation or Closeout	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-4.01 Management of Pesticides and Herbicides							X				X																	X											X
ES-301-4.02 Petroleum Exploration and Production Activities								X				X																	X										
ES-301-4.03 Cleaning/Washing - Outdoor Areas and Structures							X																X									X						
ES-301-4.04 Management of Fire Control Agents							X				X						X																						
ES-301-4.05 Remediation of Contaminated Soils												X																											
ES-301-4.06 Pavement Deicing							X																				X											
ES-301-4.07 Potable Water-Using Municipal Activities																														X								
ES-301-4.08 Inspection and Maintenance of MS4 Structural Controls							X																								X							
ES-301-4.09 Management of Petroleum Storage Tanks and Containers		X					X	X			X			X		X	X		X					X				X						X	X		X		
ES-301-4.10 Cathodic Protection Corrosion Prevention (Tanks and Piping)							X	X				X			X			X										X											
ES-301-4.11 Storage, Handling, and Management of Hazardous Materials	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-5.01 Abandoned Material Response	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-5.02 Spill Response	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-6.01 General Waste Management	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-6.03 Management of Recycle and Reusable Materials	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ES-301-6.04 Management of Hazardous Wastes		X	X	X			X		X		X		X	X	X	X			X	X	X					X		X				X	X					X
ES-301-6.05 Management of Universal Wastes			X	X			X				X				X					X												X			X				X
ES-301-6.06 Management of Special Wastes		X	X	X	X		X				X		X	X	X	X			X	X										X	X	X			X				X

ES-301-1.01 Fueling Aircraft, Vehicles, and Auxiliary Equipment	
Document Identification Number	ES-301-1.01
Version:	3.02
Date:	December 29, 2015
Document Owner:	John Hambright

1) Activity Description: Fueling Aircraft, Vehicles, and Auxiliary Equipment

The Department of Aviation dispenses fuel to aircraft, using the hydrant fueling system or a fueling truck. Vehicles and equipment are fueled from the stationary fueling system or from mobile sources, including fueling from fuel trucks and portable fuel cans. Auxiliary power generation equipment is fueled from mobile sources. In addition, fuel is sometimes removed from vehicles ("defueling") for transport or maintenance purposes.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Fuel spills
   ii) Fire and health hazards
   iii) Air pollution and odors
   iv) Disposal of contaminated spill response media
   v) Contamination of soils
   vi) Contamination of groundwater
   vii) Contamination of surface water
   viii) Contamination of stormwater runoff

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, damage to the environment, and potentially expensive site remediation
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Operating fueling systems without applicable regulatory permits, plans, and required training.
   ii) Disconnection or faulting of deadman switches or other spill control or countermeasure equipment for convenience.
   iii) Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.
   iv) Fueling of aircraft, vehicles, or equipment outside of designated fueling areas.
   v) Filling portable containers in or on a vehicle.
   vi) Dispensing fuel into vehicles or equipment whose engine is running.

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting fueling activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.

ii) Fueling and defueling operations are typically associated with a petroleum storage system; therefore, refer to Environmental Guideline ES-301-4.09 Management of Petroleum Storage Tanks and Containers.
iii) Fueling and defueling must occur in designated areas. The "areas" are specific for each type of fueling; remote vehicles, permanent vehicle locations, aircraft at gates and/or hangars, auxiliary generators, etc.
iv) Follow fueling procedures focused on prevention of fire, overfills, and spills, and use appropriate spill prevention and containment equipment during fueling activities, including fueling from the hydrant system.
v) Be aware of posted warning signs and follow all posted instructions in fuel dispensing areas.
vi) Applicable emissions control equipment will be installed, inspected, and maintained.
vii) Follow proper operational procedures, including company policies, for:
    - Fueling aircraft,
    - Filling fuel trucks from fuel storage and then transporting fuel to remote locations and dispensing fuel to vehicles and equipment,
    - Fueling vehicles at fueling stations,
    - Fueling auxiliary power generation equipment to prevent spills and other releases, and
    - Transferring fuels between any container system(s).
viii) Stay with the vehicle or equipment while fuel is being dispensed or the equipment is being defueled; never leave a dispensing pump unattended.
ix) Know the location of all automatic shut-off devices or controls, fire extinguishers, and spill response materials in the vicinity of the fuel dispensing/defueling area.
x) Contaminated spill response material must be disposed of in accordance with Environmental Guideline ES-301-6.06 Management of Special Wastes (e.g., for diesel or Jet A spills). Spill response materials from gasoline spills are considered hazardous because gasoline contains benzene, and must, therefore, be disposed of in accordance with Environmental Guideline ES-301-6.04 Management of Hazardous Wastes.

C. Training Requirements
i) All operators of aircraft fueling equipment must be adequately trained in proper fueling procedures (DEN Rules and Regulations Part 150 – Aircraft Fueling and Defueling Regulations).
ii) Training on Spill Prevention, Control, and Countermeasure (SPCC) Plan requirements will be provided to all oil-handling personnel if they conduct operations with SPCC-regulated containers and activities.
iii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater pollution prevention (SWPP) training shall address topics such as spill response, good housekeeping, and material management practices.
iv) Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements
i) Maintain legible labels and markings on, and required signage around, all containers and tanks as well as at fuel dispensing system locations.

ii) Ensure that secondary containment and other fuel-related equipment are adequate and in good operating condition. This includes storage units, receiving units, dispensing units, and ancillary monitoring and safety equipment.
   - Refer to the appropriate SPCC Plan for guidance on specific requirements.

iii) Ensure that mobile storage tanks (such as fueling trucks) are operated and stored in compliance with the applicable Spill Prevention, Control, and Countermeasure (SPCC) Plan.

iv) Ensure that spill response equipment is adequately stocked and maintained.

4) Planning Requirements

A. As applicable, prepare an SPCC Plan. See Environmental Guideline ES-301-4.09 Management of Petroleum Storage Tanks and Containers. Submit SPCC Plan to DEN Environmental Services (ES) for review.

B. Review air permit requirements associated with fueling, HAPs, and APENs – Contact CDPHE AQCD for permitting information. File any required Air Pollutant Emission Notices (APENs) or other required permits prior to conducting any fueling activities.

C. Review equipment and devices for spill control and countermeasures (e.g., deadman switches, valves, overfill alarms).

D. Complete the Stormwater Management Plan (SWMP) survey/matrix to assist in determining the Environmental Guideline(s) applicable to the activity.
   - This document is available in Appendix B of the SWMP and also at DEN Environmental Services.
   - If applicable, the operator will need to decide whether to operate under the DEN SWMP or generate their own SWMP for review by DEN ES.

E. Prepare and maintain a training program and a preventative maintenance plan for all fueling and related equipment, including tanks, support facilities, buried piping, and mobile fueling equipment.
   - All personnel should be trained in appropriate spill prevention and response procedures in accordance with workplace safety and emergency response plans, whether or not an SPCC Plan is required.
   - Operating procedures should be written, communicated, and available.
   - Maintain adequate supplies of spill response equipment and materials in locations where spills are likely to occur.
   - Maintain a spill response equipment inventory.

5) Critical Tasks

A. Conduct training for all staff involved in fueling activities prior to conducting fueling activities, in accordance with plans and procedures for spill prevention and response requirements. This training **is required** for SPCC-regulated containers.

B. Demonstrate compliance with the on-site SPCC Plan prior to conducting any fueling activities.

C. Demonstrate compliance with applicable air permitting requirements.

D. Demonstrate compliance with the SWMP (e.g., stormwater pollution prevention training) prior to conducting any fueling activities. Maintain a copy of the SWMP on site.

E. Visually inspect fueling hoses, valves, and piping for leaks and tears. Notify facility operations personnel immediately of spills, leaks, broken/damaged equipment, or any other hazardous condition.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

B. Use absorbent materials to manage spills. Contain used materials in an appropriate container and dispose off site at an approved and permitted facility.

C. Use barriers or blocking devices to prevent petroleum contamination from entering any sewer, drainage, waterway, or soils.

D. Control spills to eliminate risk to human health and the environment and to minimize property damage.

7) Inspection and Maintenance Requirements

A. Monitor and maintain all spill and release control systems, including vapor collection systems, leak detection systems, overfill and release prevention systems, and secondary containment systems.

B. Document all maintenance activities, especially on spill and release control and containment systems.

C. During every use, visually inspect fueling hoses, valves, and piping for leaks and tears. Notify facility operations personnel immediately of spills, leaks, broken/damaged equipment, or any other hazardous condition.

D. Conduct documented inspections on SPCC-regulated containers (as required by the applicable SPCC Plan).

8) Expected Records and Outputs

A. Plans and procedures for fueling operations, spill prevention and control, and training
   i) In accordance with operator requirements

B. Spill and release records for any spills
   i) Responsible party (for the spill) notifies DEN Communications Center.
   ii) Verbal or written reporting to regulatory agencies as required by their specific guidance is the responsibility of the operator.

C. Operator records of fuel farm and aircraft fueling operations relating to equipment operation, preventative maintenance, and repair
   i) Operator must maintain these records at their facility.

D. DEN Stormwater Management Plan (SWMP) survey/matrix.
   i) Obtain a copy of this document from DEN Environmental Services (ES) or Appendix B of the SWMP.
   ii) Complete form and return to DEN ES for evaluation.
   iii) Maintain survey/matrix on file after review by DEN ES.

E. Evidence of training on SWMP, SPCC Plan, and operator SOPs.
   i) While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

F. SPCC Plan and compliance records, as applicable (e.g., monthly inspections, fueling and defueling operations, witnessing).
   i) Operator must maintain SPCC Plan-related inspection and compliance records at their facility.

G. Waste management records (profiles, manifests, sample results, etc.).
   i) Based on the disposal profile, manifests and related forms may be required. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous wastes).
   ii) Operator must maintain waste management records at their facility for a minimum of 3 years.

H. Air permits, notifications, compliance data, reports, and certifications.
   i) Notification forms can be obtained from the Colorado Department of Public Health and Environment (CDPHE).
   ii) Operator must maintain these records at their facility.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	John Hambright (DEN Environmental Services)	(303) 342-2759

B. Guidance Materials (list is not limited to the following)
   i) DOT Labeling and Placarding Guidance
   ii) Metro Wastewater Contribution Permit
   iii) CDPS Industrial Stormwater Permit / Stormwater Management Plan
   iv) Leak Detection System Design and Operation Information
   v) DEN Cathodic Protection Specification – Section 16642 (Buried Piping)
   vi) DEN Manager's Bulletins
   vii) Ramp drainage design (as-builts)

viii) Colorado Water Quality Control Division "Guidance for Reporting Spills under the Colorado Water Quality Control Act and Colorado Discharge Permits"
ix) NFPA requirements

C. Training Materials (list is not limited to the following)
i) Operational procedures training (on-the-job)
ii) Operator standard operating procedures for fueling activities (if available)

D. Related Environmental Documents (list is not limited to the following)
i) ES-301-4.05 Remediation of Contaminated Soils
ii) ES-301-4.09 Management of Petroleum Storage Tanks and Containers
iii) ES-301-5.01 Abandoned Material Response
iv) ES-301-5.02 Spill Response
v) ES-301-6.01 General Waste Management
vi) ES-301-6.04 Management of Hazardous Waste
vii) ES-301-6.06 Management of Special Wastes
viii) ES-306 Notification Handbook for Spills and Releases to the Environment

E. Applicable Regulations (list is not limited to the following)
i) 40 CFR 50 – 95 Clean Air Act Regulations
ii) 40 CFR 110.3 Discharge of Oil
iii) 40 CFR 112 Oil Pollution Prevention (SPCC/FR Plans)
iv) 40 CFR 240 – 299 RCRA hazardous waste regulations
v) 49 CFR 100 – 185 DOT Regulations
vi) 6 CCR 1007 Colorado hazardous waste regulations
vii) 7 CCR 1101 – 14 Colorado storage tank regulations
viii) NFPA 30, Flammable and Combustible Liquids Code
ix) Denver Fire Department Codes
x) DEN Rules and Regulations Part 150 - Aircraft Fueling and Defueling Regulations

F. Other Documents (list is not limited to the following)
i) Air permit applications
ii) Air Pollutant Emission Notice (APEN) forms
iii) SPCC Plan
iv) UST registration/upgrade/closure documentation
v) Land Disposal Restrictions (LDRs) for waste materials
vi) Shipping manifests/papers
vii) Any Incident Report forms utilized by the operator
viii) Operator standard operating procedures for equipment operations, aircraft servicing, and spill prevention, control, and countermeasure activities

ES-301-1.02 Cleaning/Washing - Aircraft, Vehicles and Equipment	
Document Identification Number	ES-301-1.02
Version:	3.01
Date:	December 30, 2015
Document Owner:	Keith Pass

1) Activity Description:

The following guideline outlines aircraft, ground access vehicle (e.g., car, pickup truck, van, bus, shuttle) and ground service equipment (e.g., baggage tug, pushback tractor, belt loader, fire truck, deicer truck, catering truck, sweeper, power units) washing requirements and management of materials associated with washing and cleaning (e.g., detergents, wash water) of this equipment.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   1. Release of contaminants in wash fluids to storm sewer, waterways, or soils, such as:
      i) Oil and Grease
      ii) Fuels
      iii) Solvents
      iv) Soaps and Detergents
      v) Propylene Glycol/Aircraft Deicing Fluid
      vi) Ethylene Glycol/Radiator Coolant (Antifreeze)
      vii) Pavement Deicers
      viii) Sediments
      ix) Hydraulic Fluids or other maintenance materials
      x) Chlorine

B. Potential consequences from performing the activity incorrectly are:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory non-compliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Outdoor washing of aircraft, vehicles, and equipment is prohibited at DEN, except as outlined in this document.
   ii) Discharge of wash water from aircraft, vehicle, and equipment washing to the storm sewer, waterways, or soil is prohibited at DEN.
   iii) Discharge of any chemical into the sanitary sewer without DEN ES approval is prohibited at DEN.

B. General Considerations
   i) Each tenant/operator or employee conducting cleaning/washing activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

ii) Use dry washing techniques as feasible, such as sweeping, vacuuming, wiping, air blasting, or using dry absorbents or cleaners.
iii) Use only cleaning solutions that comply with Metro Wastewater Reclamation District and Denver Wastewater requirements. Contact DEN ES for product approval.
iv) Minimize mixing of wash water with stormwater through the use of berms, sloping, overhead cover, vacuum truck, and other appropriate means.
v) Practice good housekeeping procedures to keep the wash area clean and free of waste.
vi) "Truck and car wash units" are exempt from Air Pollutant Emission Notice requirements (APENs) and Operating Permit requirements under Colorado air quality regulations (5 CCR 1001-5).

Indoor Washing Requirements

Use designated wash facility indoors. The wash facility should:

- Filter and recycle water where practical.
- For wash water that cannot be recycled, utilize appropriate pretreatment device(s) for separation of oils and grease and the settling of solids (e.g., oil/water separator, sand trap) prior to discharge to the sanitary sewer.

Outdoor Washing Requirements

Outdoor washing is prohibited unless approved in writing by DEN Environmental Services OR one of the following requirements is met:

- A dry washing method is employed.
- Washing is performed on a relatively impervious surface (e.g., concrete, plastic) and wash water is collected. Collected wash water must be profiled, manifested, and transported off site for appropriate disposal at a permitted facility, or appropriately pretreated prior to discharge to the sanitary sewer.
- Washing of aircraft, vehicles, and equipment is performed within a DEN dirty water (DIW) collection area with prior approval by DEN Environmental Services.

C. Training Requirements

i) Employees should be trained in company aircraft, vehicle, and/or equipment washing/cleaning procedures as well as in spill response, which may include on-the-job training.
ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements

i) Preferably, cleaning solutions should be stored indoors utilizing secondary containment if there is a drain in the vicinity. If cleaning solutions must be stored outdoors, secondary containment and cover must be used.
ii) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container, an associated contact telephone number, an appropriate hazard warning, and must clearly indicate the contents. In addition, the name on the label must match the name on the corresponding MSDS. More complete labeling instructions are in ES-301-4.11.

4) Planning Requirements

A. Complete the DEN Stormwater Management Plan (SWMP) Industrial Activities Survey/Matrix in Appendix B of the plan to assist in determining other potentially relevant environmental guidelines and whether coverage under a SWMP is required.
   - This document is available at http://business.flydenver.com/environmental.
   - If applicable, the operator will need to decide whether to use the DEN SWMP or generate their own SWMP for review by DEN Environmental Services.

B. Prior to use, obtain approval from DEN Environmental Services for cleaning solutions used in wet washing methods in which wash water will be discharged to the sanitary sewer.

C. Maintain adequate supplies of spill response equipment and materials near areas where cleaning/washing occurs and cleaning/washing solutions are stored, and where spills are likely to occur.

5) Critical Tasks

A. All aircraft, vehicle, and equipment washing activities utilizing wet methods must capture and contain wash fluids prior to disposal unless prior arrangements have been made with DEN Environmental Services.

B. Check with Environmental Services for any questions.

6) Emergency Response

A. Call DEN Communications Center immediately at 303-342-4200 for all spills regardless of whether any media was impacted. .
   - See Environmental Guideline *ES–301-5.02: Spill Response*

B. Spills/releases should be contained and cleaned up as soon as possible using either manual (e.g., absorbents, shovel) or mechanical (e.g., vacuum, sweeper) means to minimize potential stormwater impacts. Containerized wastes should be properly labeled, stored, and disposed.

C. Spills of any kind shall not be washed into any storm sewer or waterway, or onto any soils.

7) Inspection and Maintenance Requirements

A. Pretreatment devices and sumps utilized in the collection of wash fluids should be included in a routine inspection and maintenance program.
   - See Environmental Guideline *ES-301-2.07: Maintenance of Pretreatment Devices*

8) Expected Records and Outputs

A. Completed SWMP Industrial Activities Survey/Matrix (Appendix B of SWMP)
   - Obtain a copy of this document at http://business.flydenver.com/environmental.
   - http://business.flydenver.com/environmental.
   - Complete and return to ES for evaluation.

B. Spill and release records for any spills
   - Responsible party (for the spill) notifies DEN Communications Center.
   - Verbal or written reporting to regulatory agencies as required by their specific guidance is the responsibility of the operator.

C. Evidence of training
   - While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

D. MSDSs for cleaning solutions/products
   - Manufacturers of cleaning products will supply these documents on demand. MSDSs for cleaning products should be made available to employees engaged in cleaning/washing activities and maintained on file by the Operator at the facility.

E. Evidence of approval of any cleaning solutions used for wet methods
   - Metro Wastewater or DEN ES will issue a letter of approval for cleaning products on request, after review of product information provided by the Operator.

F. Disposal profile, manifests and shipping forms
   - If off-site disposal of wash water occurs, a profile will be required by the disposal facility prior to shipping.
   - Based on the disposal profile, manifests and related forms (e.g., invoice) may be required. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests are required for hazardous waste).
   - All documents should be maintained on file by the Operator for at least three years.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Keith Pass (DEN Environmental Services)	(303) 342-2689
iii)	Kim Ohlson (DEN Environmental Services)	(303) 342-2637
iv)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) Metro Wastewater Contribution Permit
   ii) City and County of Denver Municipal Separate Storm Sewer System (MS4) Permit
   iii) DEN Industrial Stormwater Permit
   iv) DEN Stormwater Management Plan (SWMP), including SWMP Industrial Activities Survey/Matrix and Instructions (Appendix B)

C. Training Materials (list is not limited to the following)
   i) Company Standard Operating Procedures and/or On-the-Job Training materials
   ii) Stormwater Pollution Prevention Training (DEN SWMP)

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-2.07 Maintenance of Pretreatment Devices
   ii) ES-301-4.07 Potable Water-Using Municipal Activities
   iii) ES-301-5.02 Spill Response

E. Applicable Regulations (list is not limited to the following)
   i) Metro Wastewater Reclamation District Rules and Regulations, Sections 6.17-6.18
   ii) Denver Wastewater Management Division Rules and Regulations, Chapter 7
   iii) Denver Revised Municipal Code, Section 56-102
   iv) State Water Quality Regulations (Regulations 38, 61, and 65)
   v) 40 CFR 110.3 Discharge of Oil
   vi) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
   vii) 40 CFR 122-124 NPDES Regulations for Stormwater Discharges
   viii) DEN Rules and Regulations, Section 180
   ix) State Air Quality Control Commission Regulation No. 3 (5 CCR 1001-5)

F. Other Documents (list is not limited to the following)
   i) Sewer system as-built diagrams

ES-301-1.03 Cargo Loading and Offloading	
Document Identification Number	ES-301-1.03
Version:	3.01
Date:	January 12, 2016
Document Owner:	Kimberly Ohlson

1) Activity Description: Cargo Loading and Offloading

The following guideline outlines the general operating requirements involved in cargo loading and offloading.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air emissions
   ii) Hazardous materials spills
   iii) Oil & Grease spills
   iv) Hydraulic fluid spills

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.

B. General Considerations
   i) Each operator and tenant conducting cargo loading and offloading activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) Turn off diesel or gasoline powered equipment if uncertain of expected idle time.
   iii) Do not block or otherwise restrict the flow of air through any ventilation equipment within the baggage/cargo handling areas, especially in the tunnel.
   iv) Check the equipment for oil and hydraulic fluid leaks before use.

C. Training Requirements
   i) Ensure employees are trained in spill reporting procedures (call DIA Communications Center immediately at 303-342-4200 for all spills).
   ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact Stormwater runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

4) Planning Requirements

A. Maintain adequate supplies of spill response equipment and materials in accessible locations where spills are likely to occur.
B. Complete the Stormwater Management Plan (SWMP) survey/matrix to assist in determining if a SWMP is required for the activity.
   i) This document is available at http://business.flydenver.com/environmental.
   ii) If applicable, the operator will need to decide whether to use the DIA SWMP or generate their own SWMP for review by DIA ES.

5) Critical Tasks

None

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DIA Communications Center immediately at 303-342-4200 for all spills.
   ii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
   iii) Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.
   iv) Containerize all collected wastes and evaluate for labeling, storage and disposal.

7) Inspection and Maintenance Requirements

A. Follow all applicable cargo company requirements.

8) Expected Records and Outputs

A. Spill and release records for any spills
   i) Responsible party (for the spill) notifies DIA Communications Center and completes spill report.
   ii) Verbal or written reporting to regulatory agencies as required by their specific guidance is the responsibility of the operator.

B. Waste management records (profiles, manifests, sample results, etc.)
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years.

C. Evidence of training on SWMP, SPCC Plan, and Operator SOPs, as applicable
   i) While formal certifications are not always necessary, some form of “proof of training” (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

D. DIA Stormwater Management Plan (SWMP) survey/matrix.

i) Obtain a copy of this document at http://business.flydenver.com/environmental.
ii) Complete form and return to DIA ES for evaluation
iii) Maintain survey/matrix on file after review by DIA ES.

9) References

A. Phone Numbers

i) DIA Communications Center (for spill reporting)	(303) 342-4200
ii) DIA Environmental Services (Main Line)	(303) 342-2730
iii) Kimberly Ohlson (DIA Environmental Services)	(303) 342-2637

B. Related Environmental Documents (list is not limited to the following)
i) ES-301-5.02 Spill Response

C. Applicable Regulations (list is not limited to the following)
i) 49 CFR 100 – 185 DOT
ii) 29 CFR 1910.146 Permit Required Confined Space Entry
iii) DIA rules and regulations

D. Guidance Materials (list is not limited to the following)
i) CDPS Permit / Stormwater Management Plan

ES-301-1.04 Management of Aircraft Lavatory Water and Waste

Document Identification Number	ES-301-1.04
Version:	3.01
Date:	February 3, 2016
Document Owner:	Craig Schillinger

1) Activity Description:

The following guideline outlines the management of "blue water" and "blue water" waste from aircraft lavatory servicing activities (i.e.. sanitary sewage collection/disposal and associated rinse water produced during servicing).

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Odors
   ii) Sanitary System Spills
   iii) Improper or inappropriate disposal of aircraft lavatory wastes

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory noncompliance, notices of violation, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Do not discharge lavatory waste to sanitary sewer connections other than at triturator (pulverizing) facilities.
   ii) Do not perform lavatory truck clean out/backflushing at any location other than at triturator facilities.
   iii) Do not wash lavatory waste into the trench drains. (See Emergency Response Section below.)
   iv) Do not dispose of used absorbent in the triturator facilities. (See Emergency Response Section below.)

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting incineration operations is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
   ii) Practice good housekeeping techniques and follow company lavatory service and triturator use procedures.

iii) Keep the equipment in good working order through preventative maintenance; replace worn equipment before leaks develop.
iv) Each operator or tenant conducting aircraft lavatory servicing must have spill response equipment readily available in proximity of the activity.
v) MSDSs for surfactant/disinfectant solutions shall be available for all personnel conducting these activities.

C. Training Requirements
i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.
ii) Employees should be trained in company lavatory service and triturator use procedures as well as in spill response, which may include on-the-job training.

D. Storage and Materials Management Requirements
i) Lavatory service equipment should be emptied of waste prior to parking for any extended period of time.
ii) Use of drip pans is encouraged in case leaks develop while equipment is parked for an extended period of time.
iii) Perform surfactant/disinfectant mixing and transfers in the triturator area. This will allow the residues generated from such activities to enter the sanitary sewer system.

4) Planning Requirements

A. Complete the DEN Stormwater Management Plan (SWMP) Industrial Activities Survey/Matrix to assist in determining other potentially relevant environmental guidelines and whether a SWMP is required.
i) This document is available at on line at www.flydenver.com/environmental.
ii) If applicable, the operator will need to decide whether to use the DEN SWMP or generate their own for approval by DEN ES.
B. Maintain absorbent, drip pans, and other spill response equipment with the lavatory service equipment.

5) Critical Tasks

A. Follow company lavatory service and triturator use procedures.
B. Drain the aircraft connecting hose as completely as possible into the storage tank after servicing an aircraft. Properly secure all hoses, valves, and equipment when transporting or transferring wastes to eliminate leakage or spills.

6) Emergency Response

A. If a spill occurs, call DEN Communications Center immediately at 303-342-4200 regardless of whether a drain is reached or any media (e.g., soil, water) was impacted.

i) See Environmental Guideline ES-301-5.02 Spill Response

B. Lavatory spills should be contained and cleaned up as soon as possible using either manual (e.g, absorbents, shovel) or mechanical (e.g., vacuum, sweeper) means to minimize potential stormwater impacts and biological hazards.

C. Care must be taken to prevent wastes from reaching any drains at any location other than triturator facilities.

D. Solids and liquids, to the extent possible, should be collected, returned to the lavatory truck, and transported to the DEN trituators for disposal. Small amounts of absorbent materials (approximately 5 gallons or less) used for containment and cleanup of any residual liquids can be placed in the commercial compactor or dumpsters for disposal at the municipal solid waste landfill. Large volumes of lavatory waste spill cleanup materials (greater than approximately 5 gallons) are classified as special waste and must be segregated, profiled, and manifested for disposal. The generator of the waste is responsible for completing this paperwork and arranging for the disposal.

E. Disinfectants can be used to treat the affected pavement/worker work area. If disinfectants are used, the MSDS must be provided to DEN ES for review and approval for compliance with Metro Wastewater Rules and Regulations. In addition, the residual materials should be cleaned up with a sweeper and the disposed in the triturator rooms or other interior sanitary sewer drain.

7) Inspection and Maintenance Requirements

A. Perform routine preventative maintenance of equipment, including hoses and fittings used for transferring lavatory waste, as necessary.

B. Lavatory service equipment should be inspected daily for evidence of leaking fluids. Where evidence of a leak is observed, use a drip pan, report to supervisor, and repair the equipment as soon as practical.

8) Expected Records and Outputs

A. Spill and release records for any spills
   i) Responsible party (for the spill) notifies DEN Communications Center.

B. Evidence of training
   i) While formal certifications are not always necessary, some "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

C. Completed SWMP Survey/Matrix
   i) Obtain a copy of this document on line at www.flydenver.com/environmental

D. MSDSs
   i) Manufacturers of products will supply these documents on demand. MSDSs for products should be made available to employees engaged in lavatory servicing activities and maintained on file by the Operator at the facility.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834
iii)	John Surette (DEN Environmental Services)	(303) 342-2633
iv)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) Metro Wastewater Contribution Permit
   ii) DEN Industrial Stormwater Permit
   iii) DEN Stormwater Management Plan (SWMP), including SWMP Industrial Activities Survey/Matrix and Instructions
   iv) DEN Materials Management Plan (Addendum Number 5)

C. Training Materials (list is not limited to the following)
   i) Company Standard Operating Procedures and/or On-the-Job Training materials
   ii) Stormwater Pollution Prevention Training (DEN SWMP)

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.06 Management of Special Wastes

E. Applicable Regulations (list is not limited to the following)
   i) Metro Wastewater Reclamation District Rules and Regulations, Sections 6.17-6.18
   ii) Denver Wastewater Management Division Rules and Regulations, Chapter 7
   iii) Denver Revised Municipal Code, Section 56-102
   iv) State Water Quality Regulations (Regulations 38, 61, and 65)
   v) DEN Rules and Regulations, Section 180
   vi) State Solid Waste Regulations (6 CCR 1007-2)

F. Other Documents (list is not limited to the following)
   i) N/A

ES-301-1.05 Maintenance of Aircraft, Vehicles, and Equipment	
Document Identification Number	ES-301-1.05
Version:	3.01
Date:	January 12, 2016
Document Owner:	Kimberly Ohlson

1) Activity Description: Maintenance of Aircraft, Vehicles, and Equipement

The action of draining, changing, or adding maintenance fluids such as oil, hydraulic fluid, or antifreeze in the course of routine maintenance of airplanes, vehicles, and equipment. Includes the use of grease guns, pressurized gases (such as CFCs), and miscellaneous maintenance equipment such as air conditioning recharge equipment and wheel-balancing dynamometers.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Fuel and oil spills
   ii) Fire hazard
   iii) Air pollution and odors
   iv) Inappropriate disposal of maintenance fluids into storm or sanitary sewer system drains
   v) Inappropriate disposal of waste materials

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Performing this activity in areas not designed and/or authorized for this activity.
   ii) Spills of any kind shall not be washed into any storm sewer system or waterway, or onto any soils.
   iii) Any discharge to the sanitary sewer that violates Metro Wastewater Rules and Regulations.

B. General Considerations
   i) Each operator and tenant conducting maintenance activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) Drain and properly dispose of all spent fluids such as greases, oils, antifreezes, brake fluids, solvents or cleaning solutions, blast media, paints, hydraulic fluids, battery electrolyte, transmission fluids, and filters.
   iii) Perform maintenance activities indoors or under covered areas whenever possible. When performing maintenance in an uncovered area, block storm drains from leaks or spills.
   iv) Activities such as painting, stripping, battery charging, and welding may require air permitting.

C. Training Requirements
   i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact Stormwater runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

4) Planning Requirements

A. Maintain adequate supplies of spill response equipment and materials in accessible locations where spills are likely to occur.
B. Complete the Stormwater Management Plan (SWMP) survey/matrix to assist in determining if a SWMP is required for the activity.
   i) This document is available at http://business.flydenver.com/environmental.
   ii) If applicable, the operator will need to decide whether to use the DIA SWMP or generate their own SWMP for review by DIA ES.
   iii) Plan space within maintenance areas accordingly; notify Environmental Services if significant maintenance activities will be performed outside.

5) Critical Tasks

A. Do not hose down work areas to any sewer system or drain. As an alternative, use mops or dry sweeping compound. Dispose of wastewater from mops and dispose of dry sweeping compounds appropriately.

B. Maintain clean equipment by eliminating excessive amounts of external oil and grease buildup. Dispose of rags properly or picked up and cleaned with a contracted qualified launderer.

C. Maintain legible labels and markings on all containers and tanks.

D. Store chemicals and waste generated from maintenance activities in containers that are in good condition and in secondary containment (e.g. on a spill pallet).

E. Store chemicals in a manner that will minimize impact to stormwater (e.g. indoors).

F. "Oil" (as defined in 40 CFR Part 112) stored in containers of the capacity of 55 gallons or more, must be managed in accordance with an SPCC plan prepared by the container owner (e.g. secondary containment). Storage requirements must be included in the plan.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DIA Communications Center immediately at 303-342-4200 for all spills.
   ii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.

iii) Utilize drip pans and absorbent materials at maintenance areas where incidental spillage is possible.
iv) Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.
v) Containerize all collected wastes and evaluate for proper labeling, storage, and disposal. Refer to ES-301-6.01 through 6.06 for guidance on waste management.

7) Inspection and Maintenance Requirements

A. Routinely inspect pavement in maintenance areas for the presence of spills and leaks. Immediately clean up any spills.

B. Routinely inspect sumps, pretreatment devices, and other collection/treatment systems in the maintenance area. Clean and maintain as necessary as per ES-301-2.07 Maintenance of Pretreatment Devices.

C. Conduct inspections in accordance with SPCC (if an SPCC plan is required).

8) Expected Records and Outputs

A. Waste management records (profiles, manifests, sample results, etc.)
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years.
   iii) Operator must maintain appropriate documentation for disposed wastes at the facility.
   iv) See ES-301-6.01 for additional guidance on waste classification and disposal requirements.

B. Evidence of training on SWMP, SPCC Plan, and Operator SOPs, as applicable
   i) While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

C. DIA Stormwater Management Plan (SWMP) survey/matrix.
   i) Obtain a copy of this document at http://business.flydenver.com/environmental.
   ii) Complete form and return to DIA ES for evaluation
   iii) Maintain survey/matrix on file after review by DIA ES.

D. Maintenance Log
   i) Operator/tenant should maintain maintenance records at the facility documenting maintenance and waste management activities.

9) References

A. Phone Numbers

i) DIA Communications Center (for spill reporting)	(303) 342-4200
ii) DIA Environmental Services (Main Line)	(303) 342-2730
iii) Kimberly Ohlson (DIA Environmental Services)	(303) 342-2637

B. Related Environmental Documents (list is not limited to the following)
   i) ES-301-2.04 Painting and Paint Removal
   ii) ES-301-2.08 Metal Finishing, Coating, Machining, and Cooling
   iii) ES-301-5.02 Spill Response
   iv) ES-301-6.01 General Waste Management
   v) ES-301-4.03 Cleaning/Washing – Outdoor Areas and Structures
   vi) ES-301-1.02 Cleaning/Washing Aircraft, Vehicles and Equipment

C. Other Documents (list is not limited to the following)
   i) DIA Rules and Regulations
   ii) DIA Stormwater Management Plan
   iii) CDPHE Compliance Bulletin, Hazardous Waste, Contaminated Shop Towels and Reusable Absorbents

D. Training Materials (list is not limited to the following)
   i) Operational procedures training (On-the-Job)
   ii) Operator/Tenant Standard Operating Procedures

ES-301-1.06 Aircraft Deicing	
Document Identification Number	ES-301-1.06
Version:	3.01
Date:	December 30, 2015
Document Owner:	Keith Pass

1) Activity Description:

Aircraft deicing is the application of aircraft deicing fluid (ADF) to an aircraft for the purpose of ground movement or flight. The following guideline outlines environmental requirements of aircraft deicing and of the associated activities listed below.

- Management of Virgin ADF Product
  - Storage
  - Delivery/distribution
  - Application
- Management of Spent ADF
  - Collection
  - Conveyance
  - Storage
  - Disposal/Recycling

There are several parties to which this document is applicable, including City and County of Denver Department of Aviation (Airport), Airlines (i.e., self-deicers), Recycling Contractor (RC) and Deicing Companies (DC). Unless otherwise specified, ALL of these parties are responsible for compliance with the entire document.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Unpermitted, improper, or inappropriate discharge of ADF

B. Potential consequences from performing the activity incorrectly:
   ii) Property damage, personal injury or damage to the environment
   iii) Regulatory non-compliance, notices of violation and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) The application of ADF in an unauthorized manner or location. For approved deicing locations and application methods, see DEN Rules and Regulations, Part 190: Aircraft Deicing Regulations.
   ii) The use of unauthorized ADF. For approved aircraft deicing fluids, see DEN Rules and Regulations, Part 190: Aircraft Deicing Regulations or current year's DEN Snow and Ice Control Plan.
   iii) Unauthorized discharge of ADF to the clean or Deicing Waste (DIW) sewer system without prior notification of and approval from DEN Operations Division, DEN Environmental Services (ES), and the RC.

iv) Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.

B. General Considerations
i) The Airport, Airlines, DCs and RC are responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
ii) Airlines and DCs will not waste ADF. Care will be taken to ensure that the amount of the deicing agent applied is appropriate to the need. For safety reasons, the actual quantity of ADF applied is at the discretion of the Airline.
iii) The Airport, Airlines, DCs and RC will comply with the most current versions of documents listed in the References section below.

C. Training Requirements
i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.
ii) DEN's Industrial Stormwater Permit (COS-000008), Part I.A.2.b(4) specifically *"Require[s] annual training for personnel that conduct aircraft deicing and defrosting. The training must include a description of the actions required by those applying ADF (e.g., notifications, proper disposal of spent and out-of-spec fluids)."*
iii) See *DEN Rules and Regulations, Part 190: Aircraft Deicing Regulations* for other applicable training requirements.

D. Storage and Materials Management Requirements
i) Operators of bulk storage structures shall have adequate protection so as to be able to contain spills and prevent any spilled material from entering State waters.
ii) Loading/transfer of ADF will occur in areas with containment and the operator will be in control of transfer nozzle and have access to shut off valves during the entire operation.

4) Planning Requirements

A. Airlines, DCs and RC will complete the Stormwater Management Plan (SWMP) Industrial Activities Survey/Matrix (Appendix B) to assist in identifying the Environmental Guidelines applicable to the industrial activities being conducted.
- The SWMP (including Appendix B) is available at http://business.flydenver.com/environmental..
- If applicable, the operator must decide whether to operate under the DEN SWMP or generate their own SWMP for review by DEN Environmental Services.

B. An Aircraft Deicing Authorization (ADA) application must be submitted on an annual basis by each deicer (Self-deicing Airline or DC) prior to performing any aircraft deicing. The ADA application is obtained from and approved by the Operations Division.

C. Airlines, DCs and RC will maintain adequate supplies of spill response equipment and materials, and are responsible for clean up as needed.

D. Airlines and/or DCs will develop and implement an effective inspection and preventative maintenance (PM) program to minimize leakage of or spillage from deicing equipment.

E. The Airport will follow design standards for development of new deicing areas to ensure proper collection, conveyance, storage and treatment of spent ADF.

F. The Airport has implemented best management practices (BMPs) regarding management of the spent ADF management system as required by Part I.A.2.b of DEN's Industrial Stormwater Permit. The BMPs are found in Section 5 below.

5) Critical Tasks

A. The Airline and/or DC will coordinate with the DEN Ramp Tower Supervisor (RTS) and follow proper operating procedures, as required in *DEN Rules and Regulations, Part 190: Aircraft Deicing Regulations.* Specifically, but not limited to, the notification to and approval from the RTS **prior** to conducting any aircraft deicing operation at any time of year is required. The following information must be provided: date, time, location, and type of deicing to be performed (limited vs. full).

B. Per *DEN Rules and Regulations, Part 190: Aircraft Deicing Regulations,* the Airline and/or DC shall ensure aircraft is properly positioned on pad and at gates such that it is within trench drain collection in all runoff directions.

C. The Airline and/or DC will dispose of unused or off-specification ADF appropriately as outlined in *DEN Rules and Regulations, Part 190: Aircraft Deicing Regulations*.

D. The Airport and RC, where appropriate, will follow these BMPs for operation of the spent ADF management system.
   i) Capture stormwater containing spent ADF generated within deicing areas when aircraft deicing occurs. Ensure that valves controlling runoff from deicing areas are positioned in deice capture mode before aircraft deicing is authorized. See *ES-308-02.03: Spent ADF Management System Valve Positioning Work Instruction* for guidelines on how valve positioning decisions are made. Operational procedures for ensuring that valves are properly positioned prior to authorizing deicing are contained in Ramp Tower Operating Instruction #60-4: Deice Operations.
   ii) Optimize use of spent ADF management system infrastructure for capture of stormwater containing spent ADF by following these guidelines:
      a. Recycle spent ADF to the extent practicable to reduce the load to the sanitary sewer system. Criteria for determining what fluids can be sent to storage ponds for discharge to the sanitary sewer system, in lieu of being recycled, are contained in City Contract No. 201209071.
      b. Actively discharge captured fluids to the sanitary sewer system to free up available storage. Discharges to the sanitary sewer system should be consistent with DEN's Wastewater Contribution Permit and agreements with the Metro Wastewater Reclamation District (Metro). Decisions regarding which pond or ponds to discharge from, and at what rates, are made based on professional judgment, in consideration of factors such as the BOD limits contained in the Metro permit, operational procedures attached to the permit, the capacity of the discharge pumps and/or

conveyance lines, volumes and concentrations of spent fluid, total storage capacity, and climatic conditions.

c. As appropriate and feasible, divert stormwater generated during non-deicing events to the clean stormwater system if spent ADF is not expected to be present in significant quantities. See *ES-308-02.03: Spent ADF Management System Valve Positioning Work Instruction* for guidelines on how valve positioning decisions are made.

d. Protect infrastructure from damage by preventing pond overflows. See *ES-308-02.03: Spent ADF Management System Valve Positioning Work Instruction* for guidelines on how decisions are made to avoid pond overflows.

iii) Collect stormwater from non-deicing areas (fugitive areas) when ADF is likely to be present in significant quantities within the spent ADF collection system. See *ES-308-02.03: Spent ADF Management System Valve Positioning Work Instruction* for guidelines on how to position valves within the West Airfield Diversion System (WADS) and Runway 16R/34L collection system.

E. Check with Environmental Services for any questions.

6) Emergency Response

A. Call DEN Communications Center immediately at 303-342-4200 for all spills regardless of whether any media was impacted. .

- See Environmental Guideline *ES–301-5.02: Spill Response*

B. Spills/releases should be contained and cleaned up as soon as possible using either manual (e.g., absorbents, shovel) or mechanical (e.g., vacuum, sweeper) means to minimize potential stormwater impacts. Containerized wastes should be properly labeled, stored, and disposed.

C. Spills of any kind shall not be washed into any storm sewer or waterway, or onto any soils.

7) Inspection and Maintenance Requirements

A. Airlines and/or DCs will develop and implement inspection and PM programs to minimize leakage of or spillage from deicing equipment and storage.

B. The Airport will follow *ES-308-03.01: Operations Manual: Deicer Contaminated Stormwater System* for the operation and maintenance of the spent ADF system.

C. Operators of bulk storage structures will inspect implemented protective measures, as necessary.

D. The Airport will follow *ES-308-03.03: Maintenance of Sewer System Work Instruction*. DEN Environmental Services will conduct annual inspections of the trench drains and ponds associated with the spent aircraft deicing fluid collection system (i.e., DIW system) in order to determine what, if any, maintenance activities are required.

8) Expected Records and Outputs

A. Aircraft Deicing Authorization (ADA)
- An ADA must be obtained by each deicer prior to performing aircraft deicing, and must be renewed annually. ADAs are issued by the Operations Division, with copies of approved ADA applications sent to DEN ES.

B. Evidence of training
- While formal certifications are not necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file.

C. ADF usage reports
- These reports are generated by the DEN Operations Division, Airlines and/or DC.

D. ADF recycling reports
- These reports are generated by the RC.

E. Completed SWMP Industrial Activities Survey/Matrix (Appendix B)
- The SWMP (including Appendix B) is available at http://business.flydenver.com/environmental..
- Complete and return to ES for evaluation. Retain a copy in user's SWMP-related files.

F. Disposal profile and manifests for old, used or off-spec ADF that cannot be accepted by the Recycling Contractor
- A disposal profile will be required by the disposal facility prior to shipping.
- Profile and Manifest forms can be obtained from the disposal facility.
- All disposal documents should be maintained on file by the Airline and/or DC for at least three years.

G. Pond level and volumes
- Inventories of pond contents will be maintained per the Metro permit.
- These inventories are also used for management of the spent ADF management system and to support valve positioning.

H. Valve positions
- Records of all influent valve positions must be maintained to document various capture and non-capture modes (e.g., deice mode, non-deice mode, diversion mode).

I. CDPS permit reports
- Reporting requirements include upsets, bypass, diversion mode sampling, wet weather monitoring, mass balance of ADF used annually, and annual report.

J. Inspection and General Maintenance records for the DIW system
- Inspections are recorded on the Pond Inspection Checklist form. The form template is located on the EMS portal; ES Data Files; Recordkeeping Forms folder.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Keith Pass (DEN Environmental Services)	(303) 342-2689
iii)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)

i) Metro Wastewater Contribution Permit
ii) City and County of Denver Municipal Separate Storm Sewer System (MS4) Permit
iii) DEN Industrial Stormwater Permit
iv) ES-308-02.01: DEN Stormwater Management Plan
v) ES-308-02.03: Spent ADF Management System Valve Positioning Work Instruction
vi) ES-308-03.01: Operations Manual: Deicer Contaminated Stormwater System
vii) ES-308-03.03 Maintenance of Sewer Systems Work Instruction
viii) DEN Snow and Ice Control Plan, Section 6: Airport Deice Program (developed by Operations Division)
ix) Ramp Tower Operating Instruction #60-4: Deice Operations (developed by Operations Division)
x) Deicing Standard Operating Procedures per Airline and/or DC
xi) SAE (Society of Automotive Engineers) glycol specifications

C. Training Materials (list is not limited to the following)

i) Stormwater Pollution Prevention Training (To include discussion of pertinent portions of applicable "Guidance Materials" and all appropriate infrastructure, equipment and practices.)

D. Related Environmental Documents (list is not limited to the following)

i) ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
ii) ES-301-5.02 Spill Response

E. Applicable Regulations (list is not limited to the following)

i) 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
ii) DEN Rules and Regulations, Part 190: Aircraft Deicing Regulations

F. Other Documents (list is not limited to the following)

i) Map Example (used in preparation of site-specific map for SWMP)
ii) Aircraft Deicing Fluid (ADF) Material Safety Data Sheets (MSDSs)
iii) City Contract No. CE45008: Aircraft Deicing System Maintenance, Operation and Management Services Agreement
iv) Disposal Manifest
v) Communications Center SOP 80-05 HAZMAT, Fuel, Glycol Spills/Failure

ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals	
Document Identification Number	ES-301-1.07
Version:	3.01
Date:	January 12, 2016
Document Owner:	Kimberly Ohlson

1) Activity Description: Storage of Vehicles and Equipment Containing Chemicals

The activity of storing vehicles and equipment containing chemicals, such as deicing fluids and fuels.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Leaking fuels
   ii) Leaking oil
   iii) Air pollution and odors
   iv) Leaking chemicals
   v) Leaking pressurized gasses (such as Freon)

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Disposal of any chemicals contained in vehicles or equipment, or that may have leaked or spilled onto surfaces within a storage area, into any sort of drain is prohibited. This includes wash water that may have been generated during any cleaning of the storage area. These liquids must be collected and disposed of appropriately. Prohibited discharges include, but are not limited to, the following:
      a) Any oils and greases
      b) Pesticides, insecticides, and herbicides
      c) Solvents and fuels
   ii) Disposal of any solid chemicals or residues contained in vehicles or equipment, or that may have leaked or spilled onto surfaces in the storage area, must be disposed of off-site unless alternate disposal practices are approved by DIA ES.
   iii) Disposal of out-of-spec Aircraft Deicing Fluid (ADF) through the airport's glycol recycling facility is permitted, but only when coordinated with the recycling facility's operator.

B. General Considerations
   i) Each operator and tenant conducting chemical storage activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) Perform routine preventative maintenance on equipment in an effort to reduce the probability of leaks.

iii) Do not allow equipment to leak onto outdoor pavements. Such leaks should be contained in drip pans or onto absorbent materials and disposed of appropriately.
iv) Dispose of materials used for clean-up of spills or leaks in accordance with all regulations and requirements.

C. Training Requirements
i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact Stormwater runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.
ii) All applicable personnel should complete general environmental awareness training, either in the new employee orientation training, from the Environmental Focal Point, or from their appropriate company representative. Training should cover the following items:
a) All applicable MSDSs
b) Waste management practices
c) Spill response for chemicals handled in this activity

D. Storage and Materials Management Requirements
i) Locate storage areas away from storm drains. Do not allow any waste materials or contaminated water to enter storm drains.
ii) Dispose of any used spill response materials in accordance with all regulations and requirements.

4) Planning Requirements

A. Maintain adequate supplies of spill response equipment and materials in accessible locations where spills are likely to occur.

B. Review Environmental Guideline ES-301-1.05 Maintenance of Aircraft, Vehicles and Equipment prior to performing any maintenance on equipment within the storage areas**.**

C. Complete the Stormwater Management Plan (SWMP) survey/matrix to assist in determining if a SWMP is required for the activity.
i) This document is available at http://business.flydenver.com/environmental.
ii) If applicable, the operator will need to decide whether to use the DIA SWMP or generate their own SWMP for review by DIA ES

5) Critical Tasks

None

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
i) Call DIA Communications Center immediately at 303-342-4200 for all spills.

ii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iii) Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.
iv) Containerize all collected wastes and evaluate for proper labeling, storage, and disposal. Refer to ES-301-6.01 through 6.06 for guidance on waste management.

7) Inspection and Maintenance Requirements

A. Routinely inspect pavement in maintenance and storage areas for the presence of spills and leaks. Immediately clean up any spills.

B. Routinely inspect sumps, pretreatment devices, and other collection/treatment systems in the maintenance area. Clean and maintain as necessary as per ES-301-2.07 Maintenance of Pretreatment Devices.

C. Conduct inspections in accordance with SPCC (if an SPCC plan is required).

8) Expected Records and Outputs

A. Waste management records (profiles, manifests, sample results, etc.)
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years.
   iii) Operator must maintain appropriate documentation for disposed wastes at the facility.
   iv) See ES-301-6.01 for additional guidance on waste classification and disposal requirements.

B. Evidence of training on SWMP, SPCC Plan, and Operator SOPs, as applicable
   i) While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

C. DIA Stormwater Management Plan (SWMP) survey/matrix.
   i) Obtain a copy of this document at http://business.flydenver.com/environmental.
   ii) Complete form and return to DIA ES for evaluation.
   iii) Maintain survey/matrix on file after review by DIA ES.

D. Spill and release records for any spills
   i) Responsible party (for the spill) notifies DIA Communications Center.

9) References

A. Phone Numbers

i) DIA Communications Center (for spill reporting)	(303) 342-4200
ii) DIA Environmental Services (Main Line)	(303) 342-2730
iii) Kimberly Ohlson (DIA Environmental Services)	(303) 342-2637

B. Related Environmental Documents (list is not limited to the following)

i) ES-301-1.05 Maintenance of Aircraft, Vehicles and Equipment
ii) ES-301-2.07 Maintenance of Pretreatment Devices
iii) ES-301-5.02 Spill Response
iv) ES-301-6.01 General Waste Management

C. Guidance Materials (list is not limited to the following)
   i) Industrial Wastewater Discharge Permit
   ii) CDPS Permit / Stormwater Management Plan
   iii) DIA Managers Bulletins

D. Training Materials (list is not limited to the following)
   i) Operational procedures training (On-the-Job)

E. Applicable Regulations (list is not limited to the following)
   ii) 40 CFR 110.3 Discharge of Oil
   iii) 40 CFR 261-282 Federal RCRA Regulations
   iv) 40 CFR 401 Effluent Limitation Guidelines
   v) 6 CCR 1007-3, Part 261 State RCRA Regulations
   vi) DIA Rules and Regulations

ES-301-2.01 Incinerator Operations	
Document Identification Number	ES-301-2.01
Version:	3.01
Date:	March 17, 2015
Document Owner:	Jeff Arneson

1) Activity Description: Incinerator Operations

The Department of Aviation operates two natural gas-fired, batch incinerators in Building B of the airport's Maintenance Support Center, located at 27500 E. 80th Avenue. The incinerators are located in a locked room commonly known as "the burnhouse." The incinerators are operated by the airport's Facilities Maintenance HVAC staff.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air pollution
   ii) Incineration of unapproved wastes
   iii) Improper management of incinerator wastes
   iv) Improper operation of the incineration facility

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) The airport's environmental permits prohibit incineration of any materials except international flight waste and contraband or prohibited goods.
   ii) Conducting activities that are not in compliance with the DEN Air Permit or the Certificate of Designation for the facility.
   iii) Delivering waste to the burnhouse without first making an appointment is prohibited. Waste materials should never be abandoned at or near the incineration facility.

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting incineration operations is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
   ii) All incinerators in the State of Colorado must have an air quality permit.
   iii) All incinerators owned by a local government must have a solid waste certificate of designation.
   iv) The Department of Aviation is authorized to burn two kinds of waste in the incinerators: international flight waste and contraband or prohibited goods. Federal pest control regulations require that waste deplaned from international flights arriving in the United States be sent "to an approved facility for incineration, sterilization, or grinding into an

approved sewage system." The Department of Aviation chooses to comply with these regulations by offering incineration services to airport tenants, which are the primary source of international flight waste. Law enforcement agencies are the source of contraband drugs. In this document, airport tenants and law enforcement agencies are collectively referred to as "incinerator users."

v) All companies utilizing the DEN incinerators for destruction of international flight waste must obtain a permit from the USDA Incinerator Compliance Agreement.

C. Training Requirements
   i) Environmental Services and Facilities Maintenance personnel will conduct annual incinerator training in accordance with the state air quality Operating and Maintenance (O&M) Plan, the solid waste certificate of designation (CD), and the compliance agreement with USDA.

D. Storage and Materials Management Requirements
   i) Facilities Maintenance will manage incinerator ash in accordance with the state air quality O&M Plan and the solid waste CD.

4) Planning Requirements

A. Prior to delivering waste to the burnhouse for incineration, an incinerator user must make an appointment through the DEN Maintenance Control Center (MCC) at 303-342-2800.

5) Critical Tasks

A. Facilities Maintenance will conduct waste receiving (delivery and manifesting), incinerator operations, and incinerator monitoring and recordkeeping in accordance with the state air quality O&M Plan and the solid waste CD.

6) Emergency Response

A. In the event of a malfunction of the incinerators, the incinerator thermocouples, the incinerator Honeywell controllers, the incinerator Yokogawa recorders, or the incinerator strip charts, the HVAC operator must:
   i) Call the HVAC Supervisor and the MCC immediately. MCC will then notify the Director of Environmental Programs.
   ii) Lock out the incinerator from use until the malfunction is corrected.

7) Inspection and Maintenance Requirements

A. Facilities Maintenance will conduct incinerator inspections and maintenance in accordance with the state air quality O&M Plan and the solid waste CD.

8) Expected Records and Outputs

A. Incinerator Waste Manifest (Revised Dec. 2002)
   i) This form is required to burn any wastes at the incinerator facility and is available at the burnhouse. Completed forms are retained at the burnhouse.

B. Burnhouse Maintenance Records
   i) These records are maintained by Facilities Maintenance.

C. Incinerator Waste Tracking Sheet
   i) Completed forms are submitted to Finance, with a copy submitted to Environmental Services and a second copy retained by Facilities Maintenance.

D. Training records
   i) These records are maintained by Environmental Services.

E. Temperature strip charts
   i) These records are maintained by Environmental Services.

F. Incinerator user invoices
   i) These records are maintained by Finance.

G. Incinerator user payment records
   i) These records are maintained by Finance.

H. Ash profiles
   i) These records are maintained by Environmental Services.

I. Calculation of CDPHE Annual User Fees [for the CD facility (incinerator)] based on waste disposed in calendar year
   i) User fees are calculated by DEN ES and reported and paid to CDPHE SWD on Division-supplied forms. Copies of the submittals are maintained in ES file09.23.01.02.03.02. Waste calculations are in the ES Data Files under Waste /DEN Incinerator Annual Solid Waste User Fees in the EMS portal.

J. Emissions calculations
   i) These records are maintained by Environmental Services (ES data files in the EMS portal)

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Maintenance Control Center (for appointments and malfunctions)	(303) 342-2800
iii)	DEN Environmental Services (Main Line)	(303) 342-2730
iv)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834

B. Guidance Materials (list is not limited to the following)
   i) Manufacturer's operating and maintenance (O&M) manual for the incinerators
   ii) Manufacturer's operating and maintenance (O&M) manual for the Honeywell controllers
   iii) Manufacturer's operating and maintenance (O&M) manual for the Yokogawa recorders

C. Training Materials (list is not limited to the following)

i) ES-303-1.03: Microsoft PowerPoint presentation provided by Environmental Services – EMS Data Files – Training Presentations – International Incinerator Operator Training Module - DVD

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management
   iii) ES-308-01.03: Incinerator Invoicing and Rates Work Instruction
   iv) ES Data Files/Waste – USDA Incinerator Compliance Agreement

E. Applicable Regulations (list is not limited to the following)
   i) State air quality regulations (5 CCR 1001-2, -3, -5, and -8)
   ii) State air quality permit (Permit No. 99DE0142)
   iii) State air quality Operating and Maintenance (O&M) Plan
   iv) Local air quality regulations (D.R.M.C. Title II, Chapter 4, Article III)
   v) State solid waste use fee statute (C.R.S. 25-16-104.5)
   vi) State solid waste regulations (6 CCR 1007-2)
   vii) State solid waste regulations (6 CCR 1007-1.7.2)
   viii) Local solid waste regulations (D.R.M.C. Title II, Chapter 48, Article VII)
   ix) Local solid waste Certificate of Designation (City and County of Denver Ordinance No. 696, Series of 2000)
   x) Local solid waste Facility Operating Plan
   xi) Local solid waste Facility Screening and Ash Sampling Plan
   xii) Federal pest control regulations APHIS –USDA (7 CFR 330.400 and 9 CFR 94.5)

F. Other Documents (list is not limited to the following)
   i) DEN Drug Burning Procedures
   ii) Forms required by the state air quality O&M Plan
      - Incinerator Waste Manifest (Revised Dec. 2002)
      - Burnhouse Record
      - Incinerator Waste Tracking Sheet

***ES-301*-2.02A Ozone-depleting Compounds Management**	
Document Identification Number	ES-301-2.02A
Version:	3.02
Date:	December 29, 2015
Document Owner:	John Hambright

1) Activity Description: Ozone-depleting Compounds Management

The storage, use, release, and disposal of ozone-depleting compounds (ODCs), including chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs or HFCs), associated with:

- Centralized and point-of-use heating, ventilation, and air conditioning (HVAC) systems and equipment;
- Commercial refrigeration equipment;
- Motor vehicle air conditioning (MVAC) equipment; and
- Halon-based fire suppression systems.

Section 608 of the Clean Air Act (CAA) prohibits the intentional release into the atmosphere of CFC-12 (a/k/a R-12) or HCFCs such as R-22 (a/k/a HCFC-22), R-142b, and R-124. R-12 is a Class I controlled substance per 40 CFR Part 82 Subpart A. R-22 is a Class II controlled substance per 40 CFR Part 82 Subpart A Appendix B. Section 609 of the CAA and Colorado Air Quality Regulation No. 15 establish standards for recovering and recycling CFC-12 refrigerant from MVACs, training and certification requirements for technicians handling this equipment, and recordkeeping and notification requirements for service facilities.

Units with 100 compressor horsepower or more are required to be registered with the CDPHE. Units that have a greater than 50-pound refrigerant charge are regulated by EPA and CDPHE such that a leak rate calculation must be performed and a record kept whenever refrigerant is added to the regulated equipment. Whenever the calculated leak rate exceeds EPA's acceptable leak rate threshold, maintenance must be performed within 30 days to restore an operational condition that complies with the acceptable leak rate.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air pollution
   ii) Improper management of refrigerant

B. Potential consequences from performing the activity incorrectly:
   i) Intentional and unintentional releases of ODCs to the environment
   ii) Property damage, personal injury, or damage to the environment
   iii) Regulatory and judicial enforcement actions and related [financial and non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Intentional venting of ODC-containing refrigerants or other ODCs to the atmosphere.

ii) Failure to comply with technician training requirements.
iii) Failure to comply with ODC leak-rate calculation and recordkeeping requirements.
iv) Operation of unregistered stationary equipment over 100 compressor horsepower or stationary commercial food refrigeration units containing over 300 pounds of CFCs or HCFCs.
v) Failure to perform and record a leak rate calculation for equipment with over a 50-pound ODC charge.
vi) Improper disposal of appliances containing regulated ODC refrigerants.

B. General Considerations
i) Each airport tenant, contractor, and operator that owns, maintains, services, or repairs stationary or mobile equipment containing regulated charges of ODC refrigerants is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
ii) Technicians that install or remove refrigerants, or that maintain or repair stationary or mobile air conditioning or refrigeration equipment must have the proper training certification from an EPA-approved training provider.
iii) Records must be kept for maintenance activities on regulated equipment and ODC refrigerant consumption. Records must be kept on site at the facility for a minimum of 3 years.
iv) For any equipment with more than 50 pounds of ODC capacity, leak rate calculations must be performed for regulated stationary equipment each time ODCs are added to the equipment charge. Leak rate records must be kept and used as a maintenance decision point.
v) Equipment losses of ODCs above regulatory thresholds trigger leak repairs that must be performed within the applicable regulatory timetable - 30 days - or the equipment must be drained of ODCs and mothballed until repair is completed. Additional time for repairs may be available under certain circumstances. *See "Compliance Guidance For Industrial Process Refrigeration Leak Repair Regulations Under Section 608 Of The Clean Air Act," CMA/EPA October, 1995; available at: http://www.epa.gov/ozone/title6/608/compguid/guidance.pdf*

C. Training Requirements
i) Technicians who repair or service ODCs (CFC-12 and HFC 134a) on HVAC and MVACs must be trained and certified by an EPA-approved organization. Training programs must include information on the proper use of equipment, the regulatory requirements, the importance of refrigerant recovery, and the effects of ozone depletion. A test is required.

D. Storage and Materials Management Requirements
i) HVAC owners and operators should evaluate their system's emissions for regulation under the Clean Air Act.
ii) HVAC refrigerants should be stored so as to prevent releases and emissions.
iii) HVAC owners and operators should manage used oil in accordance with federal and state used oil regulations.
iv) HVAC operators should manage new and used refrigerant in accordance with federal and state ODC regulations.

4) Planning Requirements

A. Properly select equipment and systems that will utilize lower impact HCFCs and that will reduce leakage by design. Equipment and systems should allow addition and removal of refrigerant while minimizing loss.

B. Emphasize the recovery, recycling, and reuse of CFC/HCFC refrigerants. The operator should institute management systems that will emphasize recovery of refrigeration fluids that become contaminated. This includes using agents who in turn use self-certified equipment for refrigerant recovery that complies with USEPA standards pursuant to 40 CFR Part 82.

C. Provide capability to measure CFC/HCFC refrigerant weights as added and removed from refrigeration systems. Perform leak rate calculations as required.

D. Record EPA certificates for each technician and institute measures to ensure that these are the only personnel who work on applicable systems (i.e., stationary and MVAC and MVAC-like systems).

E. A recordkeeping system should be instituted to organize and maintain applicable records.

F. Currently, there is no halon-based fire extinguishing equipment owned by DEN. If halon-based equipment is contemplated, DEN Life Safety and DEN Environmental Services should be contacted.

5) Critical Tasks

A. Registration with CDPHE of stationary equipment over 100 horsepower or stationary commercial food refrigeration units containing over 300 pounds of CFCs or HCFCs is required. Go to http://www.cdphe.state.co.us/ap/down/sser.pdf for registration form. Facilities that service mobile and stationary air conditioning and refrigeration equipment are also required to notify CDPHE of their ODC activities. The facility notification form can be obtained at http://www.cdphe.state.co.us/ap/down/fn.pdf.

B. Demonstrate compliance with technician certification requirements prior to conducting maintenance or repair activities on stationary or mobile equipment containing regulated ODC charges.

C. Demonstrate compliance with leak rate calculation requirements each time ODCs are added to regulated stationary equipment or systems with over a 50-pound refrigerant capacity.

D. Demonstrate compliance with leak repair timetable when leak rate thresholds are exceeded for regulated stationary equipment.

E. Demonstrate compliance with pre-disposal ODC removal/recovery and related documentation requirements prior to disposal of regulated ODC-containing equipment.

F. Store refrigeration fluid containers in such a manner so as to prevent or minimize the possibility of leaks (e.g., cylinders should have plugs in their outlets to back up valves).

6) Emergency Response

A. There are no specific emergency response requirements associated with the release of ODCs. However, there is a requirement to repair systems with more than 50 pounds of ODC refrigerant capacity that have lost a significant percentage of their charge (15% for comfort cooling and 35% for industrial applications) prorated per one-year period since the last addition of ODC to the equipment OR one year, whichever is shorter. Leaking equipment should be shut down for repairs or maintenance to reduce the leakage rate below the applicable threshold level. If the leak rate cannot be repaired within the 30-day time frame, the equipment should be removed until the equipment can be replaced.

B. There is the possibility that the release of ODC materials in a closed area can reduce oxygen levels. This is a safety issue and would need to be reported to the DEN Communications Center.

C. An R-12 (CAS No. 75-71-8) release at or above certain thresholds (RQ ≥ 5,000 pounds) are reportable pursuant to the EPA List of Lists. There are no reportable quantities for R-22, R-414 or R-134a.

7) Inspection and Maintenance Requirements

A. Weigh and record amounts of ODCs added to systems or equipment during maintenance or as "trim" charges. Perform leak rate calculations every time ODCs are added to systems or equipment.

B. Monitor and inspect regulated equipment performance problems that could lead to releases. The use of automated release detection equipment may assist in identifying releases during periods between leak rate calculations.

C. Document all maintenance activities including leak rate calculations and weights of ODCs sent for disposal, recycle, or reclamation.

8) Expected Records and Outputs

A. Registration of applicable systems
   i) Complete registration form and submit to CDPHE. Operator to maintain records.

B. Maintenance records with leak rate calculations for equipment with over 50 pounds ODC refrigerant capacity
   i) Operator to maintain records – minimum of 3 years.

C. Technician Training Records
- Stationary Systems
  - Type I – Servicing small appliances
  - Type II – Servicing and disposal of high or very high pressure systems other than small appliances and MVAC (motor vehicle air conditioning) systems
  - Type III – Servicing or disposing of low-pressure appliances
  - Universal – Servicing all types of equipment

i) Operator to maintain records – minimum of 3 years.

- MVAC or MVAC-like Systems
  - Training by USEPA-certified program per 40 CFR Part 82.40

ii) Operator to maintain records – minimum of 3 years.

D. Refrigerant purchasing, recovery, recycle, and disposal records
   i) Operator to maintain records – minimum of 3 years

E. Disposal records for discarded appliances using ODCs
   i) Operator to maintain records – minimum of 3 years.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	John Hambright (DEN Environmental Services)	(303) 342-2759

B. Guidance Materials (list is not limited to the following)
   i) CMA/EPA Compliance Guidance For Industrial Process Refrigeration Leak Repair Regulations Under Section 608 of the Clean Air Act, October, 1995; available at http://www.epa.gov/ozone/title6/608/compguid/guidance.pdf
   ii) U.S. EPA Fact Sheets on Stationary Air Conditioning: http://www.epa.gov/ozone/title6/608/general/index.html
   iii) U.S. EPA Fact Sheets on Motor Vehicle Air Conditioning: http://www.epa.gov/ozone/title6/609/index.html

C. Training Materials (list is not limited to the following)
   i) For Motor Vehicle Air Conditioning Service technicians
   ii) For Stationary ODC-containing Refrigeration and Air Conditioning Equipment Technicians

D. Related Environmental Documents (list is not limited to the following)
   i) ES-306 Notification Handbook for Spills and Releases to the Environment
   ii) ES-301-2.02 Heating, Ventilation, and Air Conditioning (HVAC) Operations
   iii) ES–301-6.03 Management of Recyclable and Reusable Materials
   iv) ES-308-01.2A HVAC Work Instruction for Ozone-depleting Compounds
   v) ES-308-01.2B Fleet Maintenance Work Instruction for Ozone-depleting Compounds

E. Applicable Regulations (list is not limited to the following)
   i) Federal air quality regulations for refrigerants in mobile and stationary equipment Sections 608 and 609 of the Clean Air Act (40 CFR Part 82)
   ii) State air quality regulations (5 CCR 1001-2, -3, -5, -8, -9, and -19). The program was authorized by the state legislature in 1992 and the working statute can be found at 25-7-105(11)(a-h), C.R.S.
   iii) CDPHE Air Quality Control Regulation Number 15 “Regulation to Control Emissions of Ozone Depleting Chemicals”
   iv) Local air quality regulations (D.R.M.C. Title II, Chapter 4, Article III)

F. Other Documents (list is not limited to the following)
   i) Air Conditioning and Refrigeration Institute, ARI 700-1993 or most recent issue
   ii) ARI 740-1993 or most recent issue

ES-301-2.02B Heating, Ventilation, and Air Conditioning (HVAC) Operations	
Document Identification Number	ES-301-2.02B
Version:	3.02
Date:	December 29, 2015
Document Owner:	John Hambright

1) Activity Description: Heating, Ventilation, and Air Conditioning (HVAC) Operations

The Department of Aviation operates a large HVAC system from the airport's Central Plant, located at 26920 E. 86th Avenue. The purpose of the Central Plant is to provide the terminal building and concourses with hot and cold water and heated and air-conditioned air. The Central Plant includes one Bryan boiler, three IBW boilers, an HCFC-based chilled water system, and a cooling tower. The four boilers can burn either natural gas or Jet A fuel. The Central Plant is operated by the airport's Facilities Maintenance HVAC staff. There are several refrigeration and air conditioning systems within the City and County of Denver's DEN operations that contain regulated refrigerant charges and require registration and/or maintenance recordkeeping, such as leak rate calculations. See 3.01-2.02A Ozone Depleting Compound (ODC) Management.

Various DEN tenants also operate HVAC systems whose ODC emissions may be regulated by the federal Clean Air Act regulations.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air pollution – ODC emissions
   ii) Improper management of used refrigerant

B. Potential consequences from performing the activity incorrectly:
   i) Damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial and non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Operating equipment without applicable permits.
   ii) Intentional venting of refrigerants is illegal under federal and state law.

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting HVAC operations is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
   ii) Technicians who install or remove refrigerants, or maintain or repair stationary or mobile air conditioning or refrigeration equipment, must have the proper training certification.
   iii) HVAC equipment must be considered for CDPHE registration if over 100 compressor horsepower, and leak rate calculations and maintenance records must be kept for units with more than 50 pounds of ODC refrigerant capacity.

iv) Records must be kept on site for three years for maintenance activities on regulated equipment and ODC refrigerant consumption.
v) Leak rate calculations must be performed for regulated stationary equipment each time ODCs are added to the equipment charge.
vi) Equipment losses of ODCs above regulatory thresholds trigger leak repairs that must be performed within the applicable regulatory timetable.

C. Training Requirements
i) Technicians who repair or service ODCs on HVAC equipment (CFC-12 and HFC 134a) must be trained and certified (referred to as Section 608 technician certification) by an EPA-approved organization. Training programs must include information on the proper use of equipment, the regulatory requirements, the importance of refrigerant recovery, and the effects of ozone depletion. A test is required.

D. Storage and Materials Management Requirements
i) HVAC owners and operators should evaluate their system's emissions for possible regulation under the Clean Air Act.
ii) HVAC chemicals should be stored so as to prevent releases and emissions.
iii) HVAC operators should manage new and used refrigerant in accordance with federal and state ODC regulations.
iv) Used oils should be evaluated for halogenated contaminants and handled according to appropriate federal and state regulations. Process knowledge is recognized as a potential basis for this determination.

4) Planning Requirements

A. Properly select equipment and systems that will utilize lower impact HCFCs and that will reduce leakage by design. Equipment and systems should allow addition and removal of refrigerant while minimizing loss.

B. Emphasize the recovery, recycling, and reuse of CFC/HCFC refrigerants. The operator should institute management systems that will emphasize recovery of refrigeration fluids that become contaminated. This includes using agents who in turn use self-certified equipment for refrigerant recovery that comply with USEPA standards pursuant to 40 CFR Part 82.

C. Provide capability to measure CFC/HCFC refrigerant weights as added and removed from refrigeration systems. Perform leak rate calculations as required.

D. Record training completion certificates for each technician and institute measures to ensure these are the only personnel who work on applicable systems (i.e., stationary and MVAC and MVAC-like systems).

E. A recordkeeping system should be instituted to organize and maintain applicable records.

5) Critical Tasks

A. The operator will conduct HVAC operations, monitoring, and recordkeeping in accordance with the state Air Quality O&M Plan and federal and state ODC regulations.

B. The operator will operate and maintain the equipment to assure compliance with any applicable CAA laws, regulations, guidance, and permits.

C. Registration with CDPHE of equipment over 100 horsepower. Facilities that service mobile and stationary air conditioning and refrigeration equipment are also required to notify CDPHE of their ODC activities. The facility notification form can be obtained at http://www.cdphe.state.co.us/ap/down/fn.pdf.

D. Demonstrate compliance with technician training and certification requirements prior to conducting maintenance or repair activities on stationary or mobile equipment containing regulated ODC charges.

E. Demonstrate compliance with leak rate calculation requirements each time ODCs are added to regulated stationary equipment or systems.

F. Demonstrate compliance with leak repair timetable when leak rate thresholds are exceeded for regulated stationary equipment.

G. Demonstrate compliance with pre-disposal ODC removal/recovery and related documentation requirements prior to disposal of regulated ODC-containing equipment.

H. Store refrigeration fluid containers in such a manner as to prevent or minimize the possibility of leaks (e.g., cylinders should have plugs in their outlets to back up valves).

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response. Call DEN Communications Center immediately at 303-342-4200 for all spills.

B. There are no specific emergency response requirements associated with the release of ODCs. However, there is a requirement to repair systems with more than 50 pounds of CFC and HCFC refrigerant capacity and that are determined to have lost a significant percentage of their charge (15% for comfort cooling and 35% for industrial applications) over a prorated annual rate since the last refrigerant addition or one year, whichever is shorter. Leaking equipment should be shut down for repairs or maintenance as soon as possible to reduce the leakage rate below the applicable threshold level. If the leak cannot be repaired within 30 days of discovery, the equipment should be permanently taken out of service until it can be either repaired or replaced.

C. There is the possibility that the release of ODC materials in a closed area can reduce oxygen levels. This is a safety issue and should be reported to the DEN Communications Center.

D. An R-12 (CAS No. 75-71-8) release at or above certain thresholds (RQ ≥ 5,000 pounds) is reportable pursuant to the EPA List of Lists. There are no reportable quantities for R-22, R-414, or R-134a.

7) Inspection and Maintenance Requirements

A. Owner/operator will conduct HVAC inspections and maintenance in accordance with the state Air Quality O&M Plan, and federal and state ODC regulations.

8) Expected Records and Outputs

A. Air permit records
   i) Operator files

B. ODC training, management and maintenance records
   i) Operator files

C. Any records for used oil generation
   i) Operator files

D. POTW discharge records
   i) Operator files

E. Training records for all operators/technicians
   i) Operator files

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Maintenance Control Center (for malfunctions)	(303) 342-2800
iii)	DEN Environmental Services (Main Line)	(303) 342-2730
iv)	John Hambright (DEN Environmental Services)	(303) 342-2759

B. Guidance Materials (list is not limited to the following)
   i) Owner/Operator operating and maintenance (O&M) manual for all boilers.
   ii) Manufacturer's operating and maintenance (O&M) manual for all refrigeration systems and associated cooling water systems.

C. Training Materials (list is not limited to the following)
   i) Plans and records for operators to comply with all applicable constraints.

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-4.09 Management of Petroleum Storage Tanks and Containers
   ii) ES-301-4.11 Storage, Handling and Management of Hazardous Materials
   iii) ES-301-2.02A Ozone-depleting Compounds Management
   iv) ES-308-1.02A HVAC Work Instruction for Ozone-depleting Compounds
   v) ES -308-1.02B Fleet Maintenance Work Instruction for Ozone-depleting Compounds

E. Applicable Regulations (list is not limited to the following)
   i) Federal air quality regulations for boilers (40 CFR Part 60, Subpart Dc)

ii) Federal air quality regulations for refrigerants in stationary equipment (40 CFR Part 82, Subpart F)
iii) State air quality regulations (5 CCR 1001-2, -3, -5, -8, -9, and -19)
iv) State air quality Operating and Maintenance (O&M) Plan as applicable
v) Local air quality ordinances (D.R.M.C. Title II, Chapter 4, Article III)
vi) Federal used oil regulations (40 CFR Part 279, Subpart C)
vii) State used oil regulations (6 CCR 1007-3, Part 279, Subpart C)
viii) DEN rules and regulations

F. Other Documents (list is not limited to the following)
i) None

ES-301-2.03 Power Generation	
Document Identification Number	ES-301-2.03
Version:	3.02
Date:	December 29, 2015
Document Owner:	John Hambright

1) Activity Description: Power Generation

The Department of Aviation operates a number of emergency power generators and auxiliary fire pump power units at the airport. These generators can be either fixed (i.e., bolted to the ground) or portable (i.e., on wheels or a trailer). The generators are tested on a regular basis by DEN Technical Maintenance staff in order to ensure their proper operation in the event of a power failure. The Department of Aviation owns and operates fixed generators at the following locations:

- West Airfield Electrical Vault (8529 Irvington Way);
- East Airfield Electrical Vault (8732 Allium Street);
- Taxiway WC Electrical Vault (9775 Kewaunee Street);
- Maintenance Support Center, Building A (27500 E. 80th Avenue, Building A);
- Vehicle Maintenance Building;
- A Concourse North and West External;
- All ARFF Stations – Two diesel and two natural gas (NG);
- Paint Vehicle Storage Building (NG);
- Lift Station #1;
- Airport Office Building (AOB) (8500 Peña Boulevard), outside the loading dock on the west side;
- Antenna Farm, Tower No. 1 (8713 Quincy Street);
- Antenna Farm, Tower No. 2 (8877 Shawnee Street);
- Pikes Peak Parking Lot (3 units); and
- Fire pump auxiliary power units in AOB, Terminal, and at each Concourse

In addition, portable generators are present throughout DEN but are not assigned an address, because they can be relocated at any time.

Each of the diesel-powered fixed and portable generators has a fuel storage container associated with the generator.

Airport operators, tenants, and contractors may also operate generators such as emergency power generators or auxiliary power units (APUs).

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air pollution
   ii) Fuel spills
   iii) Contamination of soils
   iv) Contamination of surface water
   v) Contamination of groundwater
   vi) Contamination of sanitary sewer system

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, or damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) <u>Critical Operating Requirements</u>

A. Prohibited Activities
   i) For the City-operated generators at the East Airfield Electrical Vault and West Airfield Electrical Vault, do not burn more than 20,000 gallons of diesel total per rolling twelve months. This limit is set by the City's air quality emissions permit from the State of Colorado. This limit can be changed, but a 6-month lead time is required.
   ii) For the City-operated generator outside the AOB loading dock, do not burn more than 28,000 gallons of diesel fuel per rolling twelve months. This limit is set by the City's air quality emissions permit from the State of Colorado. This limit can be changed, but a 6-month lead time is required.
   iii) Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting power generation operations is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
   ii) Under State of Colorado air quality regulations, the following types of generators are exempt from reporting and permitting requirements:
      - Emergency power generators that have a rated horsepower less than 260;
      - Emergency power generators that have a rated horsepower less than 737 and operate less than 250 hours per year; or
      - Emergency power generators that have a rated horsepower less than 1840 and operate less than 100 hours per year.

      For any generator that does not meet the criteria above, the generator's operator should contact DEN Environmental Services and may be required to prepare and submit an Air Pollutant Emissions Notice (APEN) to the state Air Pollution Control Division.
   iii) Each generator operator must submit a tank registration to the State Division of Oil and Public Safety for each generator fuel tank that has a capacity between 660 gallons and 39,999 gallons (see EG ES-301-4.09 Management of Petroleum Storage Tanks & Containers).
   iv) Each generator operator must prepare a Spill Prevention, Control, and Countermeasure (SPCC) Plan if total petroleum aboveground storage capacity (including generator fuel tanks) exceeds 1,320 gallons. A copy of any such SPCC Plan must be submitted to DEN Environmental Services for review (see EG ES-301-4.09 Management of Petroleum Storage Tanks & Containers).

C. Training Requirements
   i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Training shall address topics such as spill response, good housekeeping, and material management practices.

Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements
   i) For City-operated generators, the Department of Aviation stores generator fuel according to its SPCC Plan (see EG ES-301-4.09 Management of Petroleum Storage Tanks & Containers).

4) Planning Requirements

A. None.

5) Critical Tasks

A. For City-operated generators, the Department of Aviation will conduct generator monitoring and recordkeeping according to Section 4.3 of the state air quality Operating and Maintenance (O&M) Plan.

B. For City-operated generator tanks, the Department of Aviation will conduct generator monitoring, inspections, and recordkeeping according to the SPCC Plan.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

7) Inspection and Maintenance Requirements

A. For City-operated generators, the Department of Aviation will conduct generator inspection and maintenance according to Section 4.4 (Maintenance and Operational Testing) of the state air quality O&M Plan.

8) Expected Records and Outputs

A. APEN
   i) The form covers City-operated generators that are regulated under the City's air quality emissions permit. Each airport operator, tenant, and contractor with a regulated generator should develop its own APEN.

B. Monthly Rolling Annual Emissions for (current month)
   i) Generator operations (duration of operation and quantity of fuel used) are tracked using this spreadsheet to ensure compliance with state air permit. The spreadsheet is located in the EMS Documents Portal: ES Data Files/Air folder.

C. Spill and release records for any spills
   i) Responsible party (for the spill) notifies DEN Communications Center and completes spill report.
   ii) Spill reporting forms are available through the DEN Communications Center.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	John Hambright (DEN Environmental Services)	(303) 342-2759

B. Guidance Materials (list is not limited to the following)
   i) Manufacturer's operating and maintenance (O&M) manuals

C. Related Environmental Documents (list is not limited to the following)
   i) ES-301-4.09 Management of Petroleum Storage Tanks & Containers
   ii) ES-301-5.02 Spill Response

D. Applicable Regulations (list is not limited to the following)
   i) State air quality permit (Permit No. 99DE0142)
   ii) State air quality regulations (5 CCR 1001-2, -3, and -5)
   iii) State air quality Operating and Maintenance (O&M) Plan, Section 4 (Emergency Generators)
   iv) Local air quality regulations (D.R.M.C. Title II, Chapter 4 (Air Pollution Control), Article III)
   v) DEN rules and regulations

E. Other Documents (list is not limited to the following)
   i) DEN Electrical Vault Fuel Calculator and AOB Emergency Generator Worksheets (contained within the workbook titled "Monthly Rolling Annual Emissions for (current month)" located in the EMS Documents Portal/ES Data Files/Air folder)

ES-301-2.04 Painting and Paint Removal	
Document Identification Number	ES-301-2.04
Version:	3.01
Date:	March 17, 2015
Document Owner:	Jeff Arneson

1) Activity Description:

The management of any materials generated during painting or paint removal and cleanup activities, including hazardous and non-hazardous wastes, solvents, pigments, and debris.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air pollution and odors
   ii) Releases to sanitary sewer and the environment
   iii) Improper or inappropriate disposal of waste pain
   iv) Improper or inappropriate disposal of paint thinners and solvents
   v) Improper or inappropriate disposal of used paint materials (filters, brushes, etc.)

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Possible regulatory non-compliance, Notice of Violation and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Disposal of hazardous paint waste is prohibited without the following:
      - EPA Generator Identification Number
      - Completed Land Disposal Restrictions (LDR) form
      - Hazardous Waste Profile and receiving facility acceptance forms
      - Hazardous Waste Manifest
   ii) Disposal of used paint booth filters and paint rags and other paint activity related wastes in the trash is restricted or prohibited. These materials may be considered hazardous waste and must be handled and disposed of with all proper considerations. If non-hazardous, the materials may still require evaluation as a special waste.
   iii) Do not dispose of paint wastes or solvents into any drain.
   iv) **Use of VOC or solvent-based paints at DEN is discouraged. Use of non-volatile or aqueous (water-based) coatings wherever possible is expected.** VOC or solvent-based paints are acceptable only where technical substitution is not available or practicable.
   v) Vehicle Painting – Vehicle painting is prohibited except in DEN-approved vehicle painting facilities.

B. General Considerations
   i) Every entity conducting <u>any</u> painting activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guideline only and does not supersede any regulations.

ii) Reasonable efforts should be made to continually increase the utility and efficiency of paint container systems and reduce waste generation volumes and toxicity.
   - Research available paint container systems to increase ease of handling and management of painting materials
   - Use recyclable or returnable paint containers whenever possible
   - Research available coating products for reduced waste and air emission characteristics
   - Reuse grit blast material whenever practical; when it is no longer usable, dispose of properly

iii) When removing paint, collect and dispose of all removed paint, grit, and any other related wastes properly
   - When removing paint outdoors, use protective barriers to control overspray from unnecessarily contaminating the air and/or stormwater collection system. Specify the use of non-solvent paint removal practices

iv) When cleaning painting equipment, containerize and control all generated wastes for proper disposal
   - Strategize to segregate waste materials for cost-efficient disposal
   - Avoid contaminating sanitary and stormwater drainages with cleanup debris, solvents, and other waste materials

v) Properly characterize and dispose of paint-related wastes, such as paint rags and paint booth filters. See ES-301-6.01 General Waste Management for additional guidance.

C. Training Requirements
   i) Formal training and certification may be required depending on generator status
   ii) Employee training programs shall inform personnel at all levels of responbility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spill from occurring.

D. Storage and Materials Management Requirements
   i) Properly label all paint and paint removal supplies and store in areas with secondary containment and proper signage and support systems.

4) <u>Planning Requirements</u>

A. Purchase and use paints without lead, chromium, and other heavy metals, as well as paints with low volatile organic compound (VOC) content whenever possible. Continually investigate low VOC and lower toxicity replacement coating materials.
B. Confirm that an MSDS for any new paint and/or painting materials has been received and made available to employees. Periodically review and update MSDSs for all products in use. The formulations for specific products may change over time. Send any new or updated MSDSs to DEN Environmental Services (ES).
C. Review air permitting regulations before beginning any painting operations to determine if an Air Pollutant Emission Notice (APEN) is required.
D. Maintain adequate supplies of spill response equipment and materials in locations where spills of paint and solvent materials are likely to occur. Use good painting and coating spill prevention and control practices.

E. Painting personnel shall be trained in all environmental impacts resulting from their operations, including waste minimization and management, materials selection, and materials cleanup procedures.

F. Any entity conducting work at DEN must obtain prior written approval from DEN ES for the use of any non-aqueous paint and associated solvents or additives to be used in airfield markings or any other application. The entity shall provide in its request for use: the MSDS for the proposed product, its plan for the management of all wastes to be generated from the activity, and proposed disposal sites for the waste.

5) Critical Tasks

A. Review painting operations for environmental regulatory processes with an emphasis on air permitting, waste characterization, and subsequent compliance management.
B. Review material handling to minimize hazardous waste generation and to determine recordkeeping requirements.
C. A waste profile must be completed and accepted by the disposal facility before any hazardous waste materials can be shipped.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES-301-5.02 Spill Response.
    - Call DEN Communications Center immediately at 303-342-4200 for all spills

7) Inspection and Maintenance Requirements

A. Hazardous paint waste storage areas must conform to regulatory requirements per ES-301-6.04 Management of Hazardous Wastes
B. Operators are expected to inspect their procedures, operations, and records for inventory quality, efficient and safe work practices, materials handling, storage and disposal to assure knowledge of compliance results.
C. Properly maintain equipment

8) Expected Records and Outputs

A. Waste generation inspection reports
    i) Inspections should be documented and maintained on file by the operator. This pertains to locations where product is converted into wastes. This includes product storage, preparation, application, and cleanup areas.

B. Waste accumulation and storage area inspection reports
    i) Pertains to waste accumulation and storage areas
    ii) Generators are responsible for adequate inspection reports. Inspection forms should be maintained on site by the generator

C. MSDSs
    i) Manufacturers of coating products will supply these documents on demand. MSDSs for coating products should be made available to all employees engaged in painting activities and maintained on file by the Operator at the facility.

D. Air permits (as required)
   i) An APEN may be required for paint booth operations
   ii) Operators are responsible for acquiring and maintaining applicable air permits and maintaining records

E. Air emissions reporting data (paint usage volumes)
   i) Paint usage data from the DEN Paint Booth is generated on site and submitted to DEN ES monthly.
   ii) Operators are responsible for maintaining applicable records on air permitting requirements

F. Disposal Manifest(s), LDR and Shipping documentation
   i) Based on the disposal profile, manifests and related forms may be required. Manifests, LDR and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
   ii) The Operator should maintain all disposal documents on file for at least 3 years.

G. Evidence of training
   i) While formal certifications are not always necessary, depending on generator status, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator

H. Waste Management Plan
   i) DEN policy requires for the use of any non-aqueous paints or products. Plan must be approved by DEN ES prior to its use.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834

B. Training Materials (list is not limited to the following)
   i) RCRA Waste Management Training
   ii) Stormwater Management Plan
   iii) Manufacturer's MSDS information and Equipment Specifications

C. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management
   iii) ES-301-6.04 Management of Hazardous Wastes
   iv) ES-301-6.05 Management of Universal Wastes

D. Applicable Regulations (list is not limited to the following)

- 40 CFR 260-279, RCRA Hazardous Waste Regulations
- 6 CCR 1007-3, Colorado Hazardous Waste Regulations
- 5 CCR 1001-2,-3, and -5, Colorado Air Quality Regulations
- Colorado State Air Permit, 99DE0142 (City Facilities only)
- (DEN) Air Permit Compliance Plan, EMS Work Instruction ES-308-01.01 (DEN Facilities only)
- D.R.M.C Title II, Chapter 4, Air Pollution Control, Article III
- 29 CFR Part 1910 OSHA
- 49 CFR 100 – 185 DOT Regulations
- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- 40 CFR 122-124, NPDES Regulations for Storm Water Discharges
- 40 CFR 401 Effluent Limitation Guidelines
- Denver Wastewater Management Division Rules and Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DEN Rules and Regulations

E. Other Documents (list is not limited to the following)
- DEN Tenant Policy on Aircraft Parking Position Painting
- Materials of Selection MSDS sheets and other manufacturer specification information
- APEN Forms
- Purchase Orders and Inventory reports
- Inventory distribution reports and daily painting logs
- DEN Materials Management Plan
- DEN Manager's Bulletins

ES-301-2.05 Cleaning/Washing – Indoor Industrial Surfaces

Document Identification Number	ES-301-2.05
Version:	3.01
Date:	February 3, 2016
Document Owner:	Craig Schillinger

1) Activity Description:

The cleaning and washing of indoor industrial surfaces (e.g., floors, walls) in places such as maintenance areas, etc., and management of materials associated with the activity, including proper storage, handling, and disposal. Wastewater pretreatment regulations prohibit discharges from Heating, Ventilation, and Air-conditioning systems that contain molybdenum. In addition, these regulations limit discharges containing pH of less than 5 or greater than 9.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Improper or inappropriate disposal of cleaning/washing fluids.
   ii) Odors
   iii) Improper or inappropriate discharge of contaminants in washing/cleaning fluids.

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Noncompliance, Notices of Violation from Regulators, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Discharge of cleaning/washing water from indoor industrial surfaces to the stormwater system is prohibited. These discharges must go to the sanitary sewer, after going through a pretreatment device whenever possible.
   ii) Do not wash any solids/greases/oils/etc. into any drain Cleanup all spills before discharging any wash water into the sanitary. The floor and sink drains typically discharge to a wastewater pretreatment device, avoid discharges of chemicals and excessive solids, oils, and grease, etc. to this system. (Not all pretreatment systems are intended to collect these types of contaminants; they may bypass or pass through the pretreatment systems.)
   iii) Disposal of hazardous waste or special waste in the municipal solid waste dumpsters, see ES-301-6.04 Management of Hazardous Waste or ES-301-6.06 Management of Special Waste.

B. General Considerations
   i) Each operator and tenant conducting cleaning/washing activities is responsible for understanding the applicable regulations and managing their activities accordingly; this

Environmental Guideline is meant as guidance only and does not supersede any regulations.

ii) Ensure proper disposal of materials generated.

C. Training Requirements
   i) All employees engaged in cleaning activities must be aware of the proper techniques, requirements, and pollution prevention aspects of washing/cleaning of indoor industrial areas.

D. Storage and Materials Management Requirements
   i) Store chemicals and other cleaning products in appropriate containers in good condition (i.e. original containers that are labeled and don't pose risk to leakage) and utilize secondary containment when appropriate.
      - For proper storage techniques of petroleum products, refer to ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals

4) Planning Requirements

A. Use only cleaning solutions that comply with Metro Wastewater Reclamation District and Denver Wastewater regulations. Contact DEN Environmental Services for confirmation. If practicable, environmentally friendly cleaning products are encouraged. See ES-310-2.06 Maintenance- Janitorial "Request For Change or Addition of Chemical"

B. Maintain adequate supplies of spill response equipment and materials in locations where spills are likely to occur.

C. A dry method of cleaning floors is preferred (e.g., vacuuming or sweeping) and should always be used prior to any wet methods.

D. Confirm that the drains connect to the sanitary sewer system prior to allowing the discharge.

E. Fluids generated in the cleaning and washing of indoor industrial surfaces should drain into a pretreatment device (such as an oil/water separator and/or sand filter), or be collected for transfer to a pretreatment device, prior to discharge to the sanitary sewer system.

F. Good housekeeping procedures should be followed to keep the washing area clean and free of debris.

5) Critical Tasks

A. In the event that granular absorbent is used to remove bulk liquid materials from floor prior to cleaning. Remove all other residue using vacuum or sweeping methods before cleaning with liquids. Dispose of granular absorbents, based on what liquid is being absorbed, in accordance with all federal, state and local regulations.
   i) Reference ES-301-6.04 and ES-301-6.06 Management of Hazardous Waste and Special Waste respectively, if applicable.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

B. Control spills to minimize property damage and eliminate imminent risk to human health and the environment.

C. Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.

D. Containerize all collected wastes and evaluate for labeling, storage, and disposal. It is the generators responsibility to characterize the waste, and then dispose in accordance with all federal, state and local regulations.

7) Inspection and Maintenance Requirements

A. Pretreatment devices and sumps should be included in a routine inspection and maintenance program.
   i) Reference ES-301-2.07 Maintenance of Pretreatment Devices

8) Expected Records and Outputs

A. Waste management records (profiles, manifests, sample results, etc.)
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years.

B. Evidence of training
   i) While formal certifications are not always necessary, some "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834
iii)	Keith Pass (DEN Environmental Services)	(303) 342-2689
iv)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) Metro Wastewater Contribution Permit
   ii) Building and site drainage design [as-built drawings]

C. Training Materials (list is not limited to the following)
   i) Operational procedures training (including On-the-Job)

D. Related Environmental Documents (list is not limited to the following)

i) ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
ii) ES-301-5.02 Spill Response
iii) ES-301-6.01 General Waste Management
iv) ES-301-2.06 Maintenance - Janitorial

E. Applicable Regulations (list is not limited to the following)
i) 40 CFR 110.3 Discharge of Oil
ii) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
iii) 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
iv) 40 CFR 401 Effluent Limitation Guidelines
v) Denver Wastewater Management Division rules & Regulations
vi) Metro Wastewater Reclamation District Rules and Regulations
vii) DEN Rules and Regulations

F. Other Documents (list is not limited to the following)
i) N/A

ES-301-2.06 Maintenance - Janitorial

Document Identification Number	ES-301-2.06
Version:	3.01
Date:	April 14, 2014
Document Owner:	Craig Schillinger

1) Activity Description:

The activity of cleaning non-industrial interiors of buildings, including the use of cleaning chemicals, waste collection, and disposal/recycling.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air pollution and odors
   ii) Improper or inappropriate disposal of cleaning and other janitorial wastes
   iii) Spills of cleaning solutions

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Noncompliance, Notices of Violation from Regulators, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Discharge of the following materials down any drain is prohibited:
      - Any oils or grease
      - Pesticides, insecticides, or herbicides
      - Solvents
      - Generally prohibited discharges as specified by Metro Wastewater and the City and County of Denver Wastewater Management Division
   ii) Disposal of aerosol cans requires special management procedures. These items should not be disposed of in the trash. See Environmental Guidelines ES-301-6.01 General Waste Management and ES-301-6.05 Management of Universal Wastes.

B. General Considerations
   i) Each operator and tenant conducting janitorial activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) Ensure that Material Safety Data Sheets (MSDSs) are available for all chemicals used during janitorial activities. MSDSs for materials no longer in use should be routinely removed from active notebooks and placed in an archive.

C. Training Requirements

i) All employees engaged in janitorial activities must be aware of the proper techniques, requirements, and pollution prevention aspects associated with their activities.

D. Storage and Materials Management Requirements
   i) See the following environmental guidelines:
      - ES-301-6.01 General Waste Management

4) Planning Requirements

A. Ensure that janitorial carts and/or closets are stocked with appropriate spill response materials at all times.

B. Properly segregate material for recycling where appropriate.

5) Critical Tasks

A. None

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

B. Control spills to minimize property damage and eliminate imminent risk to human health and the environment.

C. Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.

D. Containerize all collected wastes and evaluate for labeling, storage, and disposal.

7) Inspection and Maintenance Requirements

A. None

8) Expected Records and Outputs

A. Waste management records (profiles, manifests, sample results, etc.)
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years.

B. Evidence of training
   i) While formal certifications are not always necessary, some “proof of training” (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

C. MSDSs for janitorial products

i) Manufacturers of products will supply these documents on request. MSDSs for all products should be made available to all employees engaged in janitorial activities and maintained on file by the Operator at the facility.

D. Request for product substitution
   i) In the event that a vendor wishes to change a cleaning product they shall make a request to Contract Maintenance and submit a MSDS sheet for the requested product. Contract Maintenance shall fill out the Request for Change or Addition of Chemical form and route through Environmental Services and Risk and Safety for approval. A copy of the Request for Change or Addition of Chemical form is attached to this guidance.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834
iii)	Keith Pass (DEN Environmental Services)	(303) 342-2689
iv)	DEN Environmental Services (Main Line)	(303) 342-2730
v)	Ron Patterson (DEN Contract Maintenance Manager)	(303) 342-2898

B. Guidance Materials (list is not limited to the following)
   i) Metro Wastewater Contribution Permit
   ii) MSDSs

C. Training Materials (list is not limited to the following)
   i) Operational procedures training (including On-the-Job)

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-1.02 Cleaning/Washing - Aircraft, Vehicles and Equipment
   ii) ES-301-4.03 Cleaning/Washing – Outdoor Areas and Structures
   iii) ES-301-2.05 Cleaning/Washing- Indoor Industrial Surfaces
   iv) ES-301-5.02 Spill Response
   v) ES-301-6.01 General Waste Management
   vi) ES-301-6.05 Management of Universal Wastes

E. Applicable Regulations (list is not limited to the following)
   i) Metro Wastewater Reclamation District Rules and Regulations
   ii) Denver Wastewater Management Division Rules and Regulations

F. Other Documents (list is not limited to the following)
   i) N/A

REQUEST FOR CHANGE OR ADDITION OF CHEMICAL

This form is needed when:

- A request for a change or addition of a chemical is requested by a Contractor doing business at Denver International Airport with the Contract Maintenance Department in accordance with their contract.

- Material Safety Data Sheets (MSDS) shall be provided to the DEN on-site designee prior to the application of chemicals. Further, MSDS sheets shall be provided whenever a new batch or revised formulation of chemicals is utilized.

No application of said chemical will occur until the attached form is completed and signed by Risk Safety, Environmental and the Contract Administrator.

The contractor is aware that they are not allowed to use, test, or store any proposed chemicals on Denver International Airport property until the chemicals are approved.

Upon approval:

The product shall be used, handled and disposed of according to manufacturer's recommendations and all federal, state and local regulations. Personnel must wear proper personal protective equipment and protect the public from exposure.

All services and chemicals must comply with appropriate OSHA, Colorado Department of Agriculture regulations (for use of Pesticides). All chemicals must be EPA registered and used in accordance with approved applications and label directions. Chemical and non-chemical treatments must be within Federal, State, and Municipal guidelines.

All services and chemicals must be environmentally compliant consistent with DEN'S Environmental guidelines that can be found at www.flydenver.com/environmental.

REQUEST FOR CHANGE OR ADDITION OF CHEMICAL

DATE:

REQUESTING CONTRACTOR'S NAME:

PRODUCT NAME:

PRODUCT USE:

MANUFACTURER'S NAME:

ADDRESS:

CITY, STATE AND ZIP CODE

☐ **This chemical will replace for the following reason(s):**

Or

☐ **This chemical will be added to the list for the following reason(s):**

I, ☐, certify that our company and our constituents will comply with the product standards and prohibitions cited in our contract.
I, ☐, certify that this product is Green Seal certified. (If applicable)

_____

Signature of Requesting Contractor **Date:**

Attachments:
☐ **Product Brochure**
☐ **Product MSDS**
☐ **Technical Data Sheet**
☐ **Chemical Container/Sample**

Approval or Denial
☐ **This request is approved and is an authorized product per the contract**.
☐ **This request is approved with the following exception(s):**
☐ **This request is denied for the following reason(s):**

COMMENTS:

_____
_____
_____
_____

Product shall be used, handled and disposed of according to manufacturer's recommendations and all Federal, state and local regulations. Personnel must wear proper personal protective equipment and protect the public from exposure.

_____

Environmental Signature **Date:**

_____

Risk & Safety Signature **Date:**

_____

Contract Administrator Signature **Date:**

ES-301-2.07 MAINTENANCE OF PRETREATMENT DEVICES	
Document Identification Number	ES-301-2.07
Version:	3.01
Date:	October 29, 2015
Document Owner:	Tom Somers

1) Activity Description: Maintenance of Pretreatment Devices

Maintenance of pretreatment devices - includes all devices used to alter the characteristics of water prior to discharge to either the sanitary or storm sewer systems. These devices include oil water separators, sand traps, grease traps, grit chambers, and sand filters. DEN tenants are responsible for providing maintenance and documenting maintenance activities for devices treating water connected with their operations. DEN is responsible for providing maintenance and documentation for City owned devices treating common use areas (e.g., main terminal and parking structures, concourses) and non-common use areas (e.g., Maintenance Center).

***** This EG is one of several specifically identified procedures for activities/facilities that are required by the Pollution Prevention/Good Housekeeping section of CCD's MS4 permit. Related procedures not specially addressed in this EG include, but not limited to, those identified in the Reference section of this document.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:

- Fuel spills
- Air pollution & odors
- Improper or inappropriate disposal of Wastes
- Sanitary sewer overflow
- Disposal of contaminated spill response media
- Contamination of soils
- Contamination of surface water
- Contamination of ground water
- Collection of wash water

B. Potential consequences from performing the activity incorrectly:

- Personal injury, property damage, or long-term damage to the environment
- Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Requirements and Tasks

A. Prohibited Activities

i) Sand/oil/grease and other waste material removed from the trap/interceptor should not be introduced into any drain, sewer, storm drain or natural body of water.
ii) Do not decant water back into the trap/interceptor after removing the waste material.
iii) Do not use hot water, acids, caustics, solvents, or emulsifying agents when cleaning grease traps and interceptors.
iv) Do not utilize biological agents for grease remediation.

B. General Considerations

i) The frequency of cleaning of is determined based on inspection.
ii) The cleaning and waste removal frequency is dependent upon the capacity of the trap/interceptor and the loading rate of sand, oil or grease in the effluent.
iii) Schedule cleanout of pretreatment devices using contractors approved by the City and County of Denver (CCOD) Department of Public Works Wastewater Management Division (WMD) in order to comply with the agreed-on device maintenance schedule. ES-308-03.02 *Obtaining Department of Public Works Wastewater Management Approval of Pretreatment Device Maintenance Contractors* provides guidance for obtaining WMD approval for vendors/service companies.
iv) Protect storm drain inlets and drains with curb socks, rock berms, inlet protection, or drain covers/mats prior to any activity.
v) Leaking material containers should be properly discarded and replaced.
vi) Monitor equipment for leaks and use drip pans as necessary.
vii) If necessary, sweep or vacuum area once activities are complete.

B. Employee Training

i) Training will be conducted as necessary to conduct the Activity as described herein and to inform employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations.
ii) Records of on-the-job training are not required. Records of formal employee training, if provided, shall be retained.
iii) If maintenance activities are performed under DEN's Industrial Stormwater Management Plan, evidence of stormwater training is expected.
- While formal certifications are not necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file.

C. Storage & Material Handling Requirements

i) Maintain legible labels and markings on all containers and tanks.
ii) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.
iii) Tenants, operators, and contractors must dispose of all wastes collected from pretreatment devices according to all applicable local, state and federal regulations.

D. Emergency Response

i) Call DEN Communications Center immediately at 303-342-4200 for all spills.
ii) If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
iii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iv) Containerize all collected wastes and evaluate for labeling, storage and disposal.

4) Inspection and Maintenance Requirements for Tenant Owned and Operated Devices

A tenant, operator, or owner representative should be present when any pumping is being performed so that proper cleanout procedures by the contractor are ensured and the device is not damaged. Pumping companies are not allowed to decant water back into the device after removing the solids without approval from DEN Environmental Services (ES). These fluids must be disposed of appropriately with the collected wastes and disposed off-site at an appropriately permitted facility.

Visually inspect pretreatment devices on a routine basis and do not allow the equipment to overflow. Devices should be kept on a regular cleaning schedule (typically monthly depending on usage) or when the device meets the following criteria:

- Pump out the grease/oil cap when it reaches 12" cap and/or 9" of solids on the bottom of the trap.
- Pump out the sand trap when 9"+ of solids accumulate on the bottom of the trap or 4" or more of oil is observed in the trap.
- Review the attached Pretreatment Device Inspection Checklist for further instruction.

Visually inspect pretreatment devices after cleanout for any damage to the system. If any damage is noted, notify the DEN Director of Environmental Programs immediately.

Expected Records / Outputs:

- If the facility is not on a regular cleaning schedule, the Tenant Pretreatment Device Measurement Record (or other similar record of inspection) should be completed at least once a month to demonstrate that the device does not need cleaning.
- For tenant and operator facilities, invoices should be maintained on file at the tenant / operator site and available for review by DEN ES.
- If maintenance activities are performed under DEN's Industrial Stormwater Management Plan, complete the SWMP Industrial Activities Survey/Matrix (Appendix B).
  - Obtain a copy of this document from DEN ES or from Appendix B of the SWMP.
  - Complete and return to ES for evaluation. Retain a copy with user's SWMP.

5) Inspection and Maintenance Requirements for DEN Owned and Operated Devices

The DEN Contract Maintenance Section provides maintenance and documentation for City owned pretreatment devices treating common use areas and non-common use areas. These include pretreatment devices located in following areas; A, B, and C concourses, ARFF stations, CRON East and West, terminal parking structures, terminal baggage tunnels, DEN facilities including the Fleet Maintenance Center, Paint Shop, and Building Maintenance Shop.

Due to the potential of spills entering the clean water system, DEN ES will conduct additional inspections of pretreatment devices located at the following areas; monthly inspections at the DEN Maintenance Center fuel island and the 78th Ave Bus Facility fuel island, and annual inspections of the terminal parking structure (sand traps only) and DS RON east and west (oil water separators). These inspections are in addition to the DEN Contract Maintenance scheduled inspections of these devices. Contract Maintenance will be notified and is responsible for providing maintenance activities if required.

- Results of these inspections are kept electronically in the EMS Portal/ES Data Files/Water/Pretreatment Device/ES Pretreatment Device Inspections. The form template is stored at ES Data Files/Recordkeeping Forms/ES Pretreatment Device Inspection Form.

Expected Records / Outputs:

- Records for devices maintained by DEN are maintained by DEN Contract Maintenance Section.
- Annual yellow grease collection totals shall be submitted to DEN ES for inclusion into the DEN Environmental Annual Report.

6) References

A. Phone Numbers

DEN Communications Center (for Spill Reporting)…….. (303) 342-4200
Tom Somers (DEN Environmental Services)…… (303) 342-2733
DEN Environmental Services (Main Line)…… (303) 342-2730

B. Guidance Materials (list not limited to the following)

- MSDSs
- DEN Stormwater Management Plan (SWMP)
- DOT Labeling and Placarding Guidance
- SPCC Plan

C. Related Environmental Guidelines (list not limited to the following):

Note: The following list identifies procedures related to MS4 Operations and Maintenance Procedures but may not be all-inclusive. The following procedures are considered primary documents for purposes of compliance with the MS4 permit.

- ES-301-1.02 Cleaning/Washing – Aircraft, Vehicles, and Equipment
- ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
- ES-301-2.05 Cleaning/Washing – Indoor Industrial Surfaces
- ES-301-3.01 Construction
- ES-301-3.02 Planning and Design
- ES-301-4.01 Management of Pesticides and Herbicides
- ES-301-4.03 Cleaning/Washing – Outdoor Areas and Structures
- ES-301-4.06 Pavement Deicing
- ES-301-4.08 Inspection and Maintenance of MS4 Structural Controls
- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management

D. Applicable Regulations (list not limited to the following)

- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance

- 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
- 40 CFR 260-262-273 Federal RCRA Regulations
- 40 CFR 150-189 Federal Insecticide, Fungicide and Rodenticide Act Regulations
- 6 CCR 1007-3, Part 261 State RCRA Regulations
- City and County of Denver Municipal Separate Storm Sewer System (MS4) Permit
- City and County of Denver Pesticide Discharge Management Plan
- CCoD Ordinances
- Denver Wastewater Management Division Rules and Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DEN Rules and Regulations
- City and County of Denver Mayor's Executive Orders

E. Other Documents

- DEN Managers Bulletins
- CCoD Executive Orders

Denver International Airport
Environmental Services - AOB
8500 Pena Blvd.
Denver CO 80249

Tom Somers – DEN Environmental Services 303/342-2733
Fax 303/342-2677

TENANT PRETREATMENT DEVICE UPDATE FORM

Note: To be completed when changes occur with pumping schedule or device status. Submit completed forms to DEN Environmental Services using the fax number provided above or email to: tom.somers@flydenver.com

Business Information

Name of Business _____

Address of Business _____
(Street Address)

_____
(City, State & Zip)

Manager Name _____

Phone Number _____

Email Address _____

Device Information

Capacity and type of pretreatment device(s): **NOTE:** OWS are connected the clean water system. SOG's and sand traps are connected to the sanitary sewer system. Continue on back if necessary.

#1 _____ #2 _____ #3 _____

#4 _____ #5 _____ #6 _____

Include updated location drawings to DEN Environmental Services with this form.

Service Information

Name of company who cleans your pretreatment devices: _____

How often do you clean your pretreatment devices? _____

Date last cleaned: _____

Your Name _____
(Printed)

Signature _____

Date _____

File Code for DEN maintained devices: 09.18.03.05.01.01.02

Denver International Airport
Environmental Services - AOB
8500 Pena Blvd.
Denver CO 80249

TENANT PRETREATMENT DEVICE MEASUREMENT RECORD

Note: Complete this form, or similar, monthly for each device not on a set pumping schedule. Inspection records and invoices should be maintained on file at the tenant / operator site and available for review by DEN ES.

Name of business: _____
Contact Name: _____
Address: _____
_____
Phone Number: _____

Pretreatment Device Type[1,2]	Location[3]	Date Checked	Thickness of Sediment[4,5,6,7]	Oil Thickness

[1] SOG – sand, oil, or grease trap (to sanitary)
[2] O/W – oil/water separator (to storm sewer)
[3] For example – NE/C of building (northeast corner)
[4] Describe method of measurement – Pump out the grease/oil cap when it reaches 12” and/or 9” of solids on the bottom of the trap.
[5] Describe method of measurement – Pump out the sand trap when 9”+ of solids accumulate on the bottom of the trap or 4” or more of oil is observed in the trap.
[6] Grease traps should be pumped at least annually.
[7] All traps to be inspected at least annually.

PRETREATMENT DEVICE INSPECTION CHECKLIST

Materials and Supplies:

1) Gloves
2) 3' – 4' wooden sticks
3) Kolor Kut (water finding paste)
4) Mirror/flashlight
5) Manhole hook w/pry bar
6) Duct or masking tape

Inspection:

1) Remove manhole cover.
2) Inspect interceptor: Make sure sweeps are intact, clean-out caps in place, and check for any irregularities.
3) Check oil and grease concentration either visually or with color paste.
4) Measure solids with wooden sticks (oil and grease will stain the paint job on a vehicle – dispose of properly).
5) If needed, schedule pumping of interceptor.

NOTE: Keep accurate records of who cleans the interceptors and when the interceptors are pumped. Tenants should submit cleaning records to DEN Environmental Services after each cleaning. Maintain monthly monitoring form and file at facility - must be readily available for investigator review.
Definitely be present when any pumping is being performed. You want to verify that the pumping company is doing their job correctly. Some pumping companies might decant the water back into your interceptor after removing the solids. This activity is not permitted on DEN without prior approval from DEN Environmental Services. This activity increases the potential for spills to occur and could also break a sweep in the interceptor. Also, when the interceptor is empty you can visually inspect the interceptor without any debris obstructing your view.

If you have any questions, please do not hesitate to call.

Zeke Zarco, Chief Inspector (WMD) 303/446-3668

Frances Wisner, Water Quality Investigator (WMD) 303/446-3672

Environmental Services (DEN) 303/342-2730

Tom Somers, Environmental Services (DEN) 303/342-2733

ES-301-2.08 Metal Finishing, Coating, Machining, and Cooling	
Document Identification Number	ES-301-2.08
Version:	3.02
Date:	January 05, 2016
Document Owner:	Tracy Schilz

1) Activity Description:

Metal Finishing processes are used to prepare the surface of a part for better adhesion, improved surface hardness, and improved corrosion resistance. Typical metal finishing operations include chemical conversion coating, anodizing, electroplating, and any operation that chemically affects the surface layer of a part.

Coating Applications involves a material being applied to the surface of a part to form a decorative or functional solid film. The most common coatings are primers and topcoats. Facilities can apply coatings to aircraft components using several methods of application, which include spraying, brushing, brushing rolling, and dipping. Nearly all coatings used contain a mixture of organic solvents.

Metal Machining and Parts Cooling involve the use of cutting oils, lubricating oils, greases, machine coolants, and degreasing solvents to build or modify parts.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
- Air pollution and odors
- Improper or inappropriate disposal of metal scraps from cutting operations.
- Improper or inappropriate disposal of wastes
- Contamination of the sewer system
- Contamination of soil
- Solvent and oil spills

B. Potential consequences from performing the activity incorrectly:
- Personal injury, property damage, or long-term damage to the environment
- Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Requirements and Tasks

A. Prohibited Activities

i) Conducting metal finishing, coating, machining, and cooling application activities outdoors is prohibited unless DIA Environmental Services is contacted (see contact information) and a Stormwater Management Plan (SWMP) Industrial Activities Survey/Matrix Questionnaire is completed and submitted for approval. It is recommended that these activities be conducted in a booth whenever possible.

ii) Discharge to any floor drain, sewer drain, or storm water drain.

iii) Controlled or uncontrolled release of any kind to outside air, water or soil.

iv) Improper disposal of hazardous wastes generated in metal finishing, coating, machining, and cooling activities is strictly prohibited.

B. General Considerations

i) Each operator and tenant conducting metal finishing, coating, machining, and cooling activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
ii) To avoid dangerous accidents, fire, or explosions, special care must be taken in handling ignitable, reactive, or incompatible materials and wastes.
iii) Owner/operator/tenants handling ignitable and reactive wastes must be able to demonstrate that these wastes are protected from ignition sources. Such protection includes "NO SMOKING" signs placed where ignitable and reactive wastes are stored, designation of separate smoking areas, and additional handling requirements.
iv) Owner/operator/tenants must take precautions against the combined storage of materials and/or wastes that might react dangerously with one another, or with the unit in which they are stored. Such a reaction might cause a fire or explosion, or the release of toxic gases or fumes.
v) To determine if particular wastes or storage units are compatible, the RCRA regulations list some common potentially incompatible wastes (40 CFR 264, Appendix V). For compatibility of wastes not listed in the regulations, the owner/operator/tenant may need to test the waste and/or the storage unit for compatibility.
vi) Develop procedures for the various recordkeeping requirements that apply to airports as a part of your hazardous waste management programs. A filing system must be in place for the uniform hazardous waste manifest forms as well as training and inspection information. These records must be kept for at least 3 years.

C. Employee Training

i) Train all employees in the proper handling of hazardous materials, hazardous wastes, and spill response procedures.
ii) Make all MSDSs and chemical hygiene plans available to all employees.
iii) Conduct additional site-specific training as required.
iv) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact Stormwater runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.
v) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage & Material Handling Requirements

i) Employees handling hazardous wastes must receive site-specific training.

ii) Provide employees with the proper equipment to store and label hazardous wastes.
iii) Maintain legible labels and markings on all containers and tanks.
iv) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.
v) Use ES-301-6.01 General Waste Management to facilitate waste classification.

E. Emergency Response

i) Call DIA Communications Center immediately at 303-342-4200 for all spills.
ii) If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
iii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iv) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
v) Containerize all collected wastes and evaluate for labeling, storage and disposal.

4) Inspection and Maintenance Requirements:

To make sure the facility is operating properly, the owner/operator must visually inspect the facility for malfunction, deterioration, operator errors, and leaks.

i) Inspections should follow a written inspection schedule developed and followed by the owner/operator / tenant.
ii) The schedule identifies the types of issues to be inspected and frequency inspections should be conducted.
iii) Unit-specific inspections or requirements also must be included in the schedule. The owner/operator must record inspections in a log or summary and must remedy any problems identified during inspections.

Areas where spills are more likely to occur, such as loading and unloading areas should be inspected daily when in use.

Expected Records / Outputs:

- Equipment inspection reports
  - The inspections should follow a written inspection schedule developed and followed by the owner/operator/tenant.
  - These inspections will ensure the proper maintenance and operation of critical equipment used for these activities.

- Equipment maintenance records
  - Will be maintained by tenant.
  - The owner/operator/tenant must record equipment inspections in a log or summary and must remedy any problems identified during inspections.

- Waste Management Plan (including generation locations and waste determinations).
  - While this plan is not required, it is highly recommended to predetermine the generation, control, and storage of industrial and potentially hazardous wastes.

- Waste Analysis and Profiles- MSDSs and Generator Knowledge
  - All non-municipal wastes must be profiled by the landfill for disposal. This frequently requires chemical analysis be performed by an EPA-certified analytical laboratory.

- Disposal manifest(s), LDR & shipping forms
  - Originating shipping and disposal forms must be developed and kept on site.
  - Manifests and LDR forms must be obtained from the disposal facility in a timely fashion or notifications to USEPA must be made. (Manifest forms can be obtained from the Colorado Department of Public Health & Environment)
  - All manifests should be maintained on file by the generator for at least three years.

- Inspection records
  - Waste storage area inspection records must be maintained on site by the operator for a minimum of 3 years.

- Evidence of training
  - Employees involved in the handling of hazardous wastes may need to receive site-specific training per RCRA guidance.
  - Site-specific hazardous waste training records for employees may need to be maintained on site by the generator for a minimum of three years.
  - While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

- MSDSs
  - Manufacturers will supply these documents on demand. MSDSs should be made available to all employees and maintained on file by the Generator at the facility. Generator knowledge documentation must be kept on site.

5) References

A. Phone Numbers

DIA Communications Center (for Spill Reporting)…….. (303) 342-4200
DIA Environmental Services (Main Line)…… (303) 342-2730
Keith Pass (DIA Environmental Services)…… (303) 342-2689
Craig Schillinger (DIA Environmental Services)…… (303) 342-2834

B. Guidance Materials (list not limited to the following)

- Operator site-specific training materials for handling hazardous wastes MSDSs
- DIA Stormwater Management Plan (SWMP)
- DOT Labeling and Placarding Guidance
- SPCC Plan

C. Related Environmental Guidelines (list not limited to the following):

- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management
- ES-301-6.04 Management of Hazardous Wastes
- ES–301-6.06 Management of Special Wastes

D. Applicable Regulations (list not limited to the following)

- 40 CFR 50, 51, 53 and 58 National Ambient Air Quality Standards
- 40 CFR 63 NESHAP for Aerospace Manufacturing and Rework Facilities
- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- 40 CFR 261-282 Federal RCRA Regulations
- 40 CFR 401 Effluent Limitation Guidelines
- 40 CFR 433 Effluent Guidelines and Standards for Metal Finishing
- C.R.S. 25-8-101 through 703 Colorado Wastewater Quality Control Act
- 5 CCR 1002-61 Colorado Discharge Permit System (CDPS) Regulations
- Metro Wastewater Rules and Regulations
- Denver Wastewater Management Division Rules and Regulations
- DIA Rules and Regulations Section 180.01 through 180.03-5
- Article II Section 56-16, 56-17, 56-102 of the City and County of Denver Municipal Code.

E. Other Documents

- DIA Managers Bulletins
- City and County of Denver Executive Orders

ES-301-2.09 Parts Washing	
Document Identification Number	ES-301-2.09
Version:	3.01
Date:	March 17, 2015
Document Owner:	Jeff Arneson

1) Activity Description:

The washing of machine parts to remove grease and oils using closed system equipment provided by a contractor, which includes fluid replacement. DEN uses a closed system for parts washing which contains all the parts washing fluids. A contractor then collects the fluid for recycling. If other systems are in use, compliance with regulations must still be met.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Improper or inappropriate handling of hazardous chemicals or materials
   ii) Employee exposure to hazardous chemicals or materials.
   iii) Spills of hazardous chemicals & materials
   iv) Contamination of wastewater discharged to the municipal sewer system.

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory non-compliance, Notices of Violation from Regulators, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Removal or discharge of the fluids contained in the self-contained parts washing equipment is prohibited; these fluids are routinely replaced by the contractor and should never be removed from the closed parts washing system for any reason

B. General Considerations
   i) Each operator and tenant conducting activities utilizing parts washing equipment and fluids is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations. As noted, DEN facilities use a closed system in which the contracted vendor warrants to process and reuse the contaminated solvent. This type of process is just one choice available to DEN tenants.
   ii) Wear proper personal protective equipment (PPE) when utilizing parts washing equipment, per OSHA regulations.
   iii) The contractor is generally responsible for maintenance of the parts washing equipment and changing the parts washing fluid regularly.

C. Training Requirements
   i) Train all staff [on-the-job] on general awareness regarding the proper operation of parts washers and the appropriate PPE to use.
   ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

4) Planning Requirements

A. Maintain adequate supplies of spill response equipment and materials in locations where spills are likely to occur.

B. The contractor is responsible for maintaining parts washing equipment and replacing the parts washing fluid regularly. If an increased frequency is required to change the parts washing fluid, the contractor must be contacted.

5) Critical Tasks

A. Maintain a receipt fluid change-out log to document contractor visits and the replacement of parts washing fluids.

B. Check with Environmental Services for any questions.

6) Emergency Response

A. Call DEN Communications Center immediately at 303-342-4200 for all spills regardless of whether any media was impacted. .
   - See Environmental Guideline *ES–301-5.02: Spill Response*

B. Control spills to minimize property damage and eliminate imminent risk to human health and the environment.

C. Spills/releases should be contained and cleaned up as soon as possible using the appropriate method(s) and material(s) for the media spilled/released. Containerized wastes should be properly labeled, stored, and disposed.

D. Spills of any kind shall not be washed into any sanitary sewer, storm sewer or waterway, or onto any soils.

7) Inspection and Maintenance Requirements

A. Inspect part washing areas regularly, paying attention to drum/container integrity. Plug any leaks and clean up spills immediately. Notify the contractor if equipment is damaged.

8) Expected Records and Outputs

A. Certification of Reuse and Recycle
   i) Obtain a letter from the equipment service contractor certifying that they recover, reuse, and recycle the cleaning fluids. Otherwise the shipping weight of the contaminated fluids must be counted against the hazardous waste generation by the user/shipper if the fluids qualify as hazardous listed or characteristic wastes.

B. Maintenance and fluid change-out log
   i) A log of parts washing equipment contractor visits should be maintained on site by the Owner, Tenant, or Operator contracting the equipment use.
   ii) Receipts of contractor visits should also be maintained on site, documenting the removal and replacement of parts washing fluids.

C. MSDSs
   i) Manufacturers of products will supply these documents on demand. MSDSs for all products in use should be made available to all employees engaged in handling and management activities and maintained on file by the Tenant, Operator, or Owner at the facility.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) MSDSs

C. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management

D. Applicable Regulations (list is not limited to the following)
   i) 40 CFR 260 to 263 for hazardous waste generation and management
   ii) 6 CCR 1007
   iii) DEN rules and regulations

*ES-301-3.01 Construction**	
Document Identification Number	ES-301-3.01
Version:	3.01
Date:	April 23, 2014
Document Owner:	Kim Ohlson

1) Activity Description: MS4 Maintenance and Operations Procedures for DIA

This guideline addresses environmental concerns associated with construction activities taking place on DIA property. Planning and design requirements for construction projects are located in Environmental Guideline ES-301-3.02 Planning and Design.

Each airport tenant, contractor, or operator conducting construction activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

***** This EG is one of several specifically identified procedures for activities/facilities that are required by the Pollution Prevention/Good Housekeeping section of CCD's MS4 permit. Related procedures not specially addressed in this EG include, but not limited to, those identified in the Reference section of this document.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:

- Fuel spills
- Air pollution & odors
- Improper or inappropriate disposal of Wastes
- Sanitary sewer overflow
- Contamination of ground water
- Collection of wash water
- Improper or inappropriate disposal of pesticides and herbicides
- Disposal of contaminated spill response media
- Sediment & erosion
- Contamination of soils
- Contamination of surface water
- Adverse impacts to Wildlife/Protected Species
- Adverse impacts to non-target organisms
- Adverse impacts to wetlands

B. Potential consequences from performing the activity incorrectly:

- Personal injury, property damage, or damage to the environment
- Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties
- Inability to obtain federal funding
- Bad press for the airport
- Delays to project schedule and increased project cost

3) General Critical Requirements and Tasks

A. Prohibited Activities

i) Construction activities shall not commence on any project until all FAA approvals have been received, applicable permits have been issued to and signed by the permitee, and all inspection requirements have been satisfied in accordance with State and local permitting requirements.
ii) Abandonment or disposal of construction debris, spoils, and/or waste on municipal airport property is strictly prohibited by State and local law. Placement of concrete spoils and asphalt spoils is permitted at designated areas ONLY with the prior approval of the DIA Project Manager (PM).
iii) Concrete washout activities are prohibited anywhere on DIA property unless: a) the activity is specifically authorized under a CDPS permit and included in the SWMP, or b) the washwater is collected and hauled off site for disposal at an appropriately permitted facility.
iv) Concrete washout activities, authorized by permit, are only allowed at a designated concrete washout area as indicated in the approved Construction Activities Stormwater Management Plan (CASMP) and include the washing of the chute and tools ONLY. Concrete washout spoils are eligible for recycling once the washout has been segregated and allowed to dry and harden in accordance with permitted methods.
v) Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.

B. General Considerations

i) Obtain all applicable federal, state, and local permits for construction projects
   (1) Either one or both the Colorado Stormwater Construction General permit and/or the Denver Construction Activities Stormwater Discharge Permit apply to construction sites meet one or more of the following criteria:
      (a) Disturbing one acre or more, or less than one acre but part of a larger common plan of development,
      (b) Are part of 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,
      (c) The site has been identified as having a significant potential for erosion, based on site characteristics including steep topography,
      (d) The site is not known to contain contaminated soils or pre-existing environmental impairment, and
      (e) The site is not directly adjacent to receiving waters (i.e. creek, stream, river, pond, lake, etc.).
   (2) A dewatering permit may be required if construction activities require the removal and discharge of groundwater offsite.
   (3) A U.S. Army Corp of Engineers (USACE) Section 404 Permit may be needed if the work will be conducted in or impact waters of the United States, including wetlands, washes, drainages, ditches, creeks, streams, and rivers.
ii) In most cases, the contractor is responsible for applying for and obtaining all environmental permits at the direction of the DIA PM. Actual permit needs are identified through the planning and design process (see Environmental Guideline ES-301-3.02 Planning and Design).
iii) Environmental permitting requirements are identified in the planning and design phases of a project so that permits can be secured in a timely and cost-effective manner. Some

environmental permits and approvals can be secured in a matter of days, while others can take months to obtain.

iv) All contractor waste must be sent to the Denver Arapahoe Disposal Site (DADS) per Mayor's Executive Order 115.

v) All airport tenants shall comply with the airport's Tenant Development Guidelines (TDGs).

vi) Applicable sediment and erosion controls shall be installed to prevent illegal discharges to the storm sewer or waterways, 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.

vii) Where practicable, non-structural controls will be used, such as phased construction, dust control, good housekeeping practices (daily sweeping), and spill prevention and response procedures.

viii) Protect storm drain inlets and drains with curb socks, rock berms, inlet protection, or drain covers/mats prior to any activity.

ix) Where feasible, schedule maintenance activities during dry weather.

x) Obtain any required waste profile acceptance for each waste stream at proper disposal sites prior to initiating work. Refer to ES-301-6.01 General Waste Management.

xi) Leaking material containers should be properly discarded and replaced.

xii) Store materials in containers under cover when not in use and away from any storm drain inlet.

xiii) Monitor equipment for leaks and use drip pans as necessary.

C. Employee Training

i) Develop training programs to inform personnel, at all levels of responsibility, who are involved in construction activities that may impact stormwater runoff. Training should include topics such as permit requirements, inspection procedures, spill response, good housekeeping, and material management practices.

ii) DIA Field Maintenance Staff receive waste management training from DIA Environmental Services (ES) on an annual basis. DIA Construction Engineering is responsible for ensuring that Contractors comply with Technical Specification 01566.

D. Storage & Material Handling Requirements

i) Soil stockpiles are allowed with prior approval by the DIA PM. Soil stockpiles must contain only "clean" soils, i.e. stockpile cannot contain mixed materials such as concrete, trash, rebar, or other construction debris. Soil stockpiles are considered a potential pollutant source and must be managed in accordance with State and City permit requirements.

ii) Store materials per RCRA-approved methods.

iii) Maintain legible labels and markings on all containers and tanks.
- Label all cans and containers with product information, 24/7/365 contact information (name and number), put in a fire department-approved cabinet, and locked.
- Label all drums; label empty drums with the words "EMPTY." Place all drums under cover. Replace damaged drums. Use containers that are compatible with the material stored in them.

iv) Cover and routinely empty waste containers (e.g., roll-off dumpsters).

v) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.
vi) Whenever possible, recycle concrete and asphalt rubble; otherwise, dispose of it as solid waste

E. Emergency Response

i) Call DIA Communications Center immediately at 303-342-4200 for all spills.
ii) If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
iii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iv) Containerize all collected wastes and evaluate for labeling, storage and disposal.

4) Planning Critical Requirements and Tasks:

i) The DIA PM should obtain a copy of the "Facility Development/Redevelopment Environmental Checklist" for the project from DIA ES. Normally, this checklist is completed during design; however, the checklist details environmental requirements during both the design and construction phases of each project.

5) Construction Activities Critical Requirements and Tasks:

i) For all construction sites requiring a City construction permit, prior to any earth disturbance operations, conduct an Initial Inspection when the first level of temporary erosion and sediment control BMPs have been installed. The contractor shall schedule the Initial Inspection with the assigned City and County of Denver Public Works Wastewater Department (DPW) National Pollutant Discharge Elimination System (NPDES) Inspector once initial BMPs have been installed. The DIA PM or a designated representative should be present during the Initial Inspection.

ii) For construction projects conducted by DIA Field Maintenance, the Director of Field Maintenance shall assign an acting Project Manager. This individual is responsible for compliance with all applicable permit and program requirements. Responsibilities include all duties assigned to the "contractor" and the DIA PM as stated herein.

- Perform work in accordance with contract documents and permits obtained for the project.
- Stabilize all areas of disturbance including but not limited to, staging areas, laydown area, and contractor yards in accordance with State and local permit requirements, airport rules and regulations, and or restore the site to the condition that the City initially provided the site.
- In accordance with Technical Specification 01500, a final inspection of all temporary contractor facilities shall be conducted by the DIA PM or representative. These areas include, but are not limited to, staging areas, laydown areas, borrow areas, and contractor yards and offices. The DIA PM will ensure these areas have been properly stabilized in accordance with DIA contract agreements and restored to the condition in which the City initially provided them to the contractor. A DIA representative should be present during the final walk through.

- In accordance with Airport Rule and Regulation 180, restore any area on DIA property that becomes contaminated as a result of contractor operations. Restoration shall be in accordance with federal and state regulations, as well as applicable standards or to such other levels as may be required by the Manager of Aviation, at the Manager's sole discretion.
- If questionable materials are encountered during construction activities, immediately notify the DIA Communications Center at (303) 342-4200 and the DIA PM.
- Submit final as-built drawings to the DIA PM and DPW, if required.

BMP Inspection and Maintenance

For construction projects conducted by contractors, the contractor is responsible for performance of all Self-Monitoring Inspections pursuant to State and City issued permits.

For a construction project conducted by DIA Field Maintenance, the Director of Field Maintenance or designee will assign a site inspector to the project. The inspector's duties include performance of all Self-Monitoring Inspections pursuant to State and City issued permits.

Conduct inspections in accordance with State CDPS permit requirements and the City and County of Denver Public Works Construction Sites Program (pursuant to the MS4 permit and the Denver Revised Municipal Code).

The assigned DPW NPDES Inspector is responsible for performance of all MS4 Compliance Inspections in accordance with the City and County of Denver's Construction Sites Program.

Schedule a Final Inspection with the DPW NPDES Inspector when final stabilization has been achieved. After site stabilization has been inspected and accepted by the DPW NPDES Inspector, close all applicable environmental permits.

Expected Records / Outputs:

- Document all inspections in accordance with applicable permit requirements. A copy of these inspections should be submitted to the PM assigned to the project. All inspection documentation shall be readily available for State, City, and DIA ES inspectors.

- Contractors must submit all permit inactivation and/or termination documentation to the DIA PM.

- Facility Development/Redevelopment Environmental Checklist should be on file with DIA ES and DIA PM for the project design and construction.

- The DIA PM will send copies of all environmental related submittals (permit applications, final permits, plans, etc.) to DIA ES for review and comment. Keep the DIA PM files in PM's own project file. DIA ES files in File 09.29.03.

6) Concrete and Asphalt Recycling Yards:

- North Recycle Yard located at 110th Ave. and Queensburg St.

- South Recycle Yard located at 71st Ave and Jacksons Gap St.

DIA maintains two dry concrete and asphalt recycling yards used for the accumulation and crushing/recycling of these materials. The use of these yards is only allowed with the DIA PM's approval.

The only allowable materials at the recycle yards are dry concrete and asphalt materials generated from construction activities occurring on DIA property. The following are NOT permitted at the recycle yards:

- Rejected concrete and asphalt loads
  - Rejected loads shall be returned to point of origin.
- Unused portions of delivered loads
  - Return to point of origin.
- Concrete washout from chutes, tools, and drums
  - Washing of equipment, chutes, and tools must be conducted within a designated concrete washout area.
- Trash, wood, or other construction-related debris
  - Dispose of offsite per 01566 at DADS

Expected Records / Outputs:

- A Recycle Materials Manifest is required for each load of concrete or asphalt placed in these areas. Submit completed manifests weekly to the responsible DIA PM (see Technical Specification 01566 for details).

- A copy of the Recycled Materials Manifest form is available from the DIA PM. A copy of all manifests must be turned in on a weekly basis to the Director of Construction (Michael Steffens).

7) Soil Stockpile Areas:

- North Soil Stockpile Area located at 110th Ave. and Queensburg St.
- South Soil Stockpile Area located at 73rd Ave. and Gun Club Road (south of Pikes Peak Parking)

With permission from the DIA PM, the north and south soil stockpile areas may be utilized for stockpiling clean soil materials only. Acceptable clean soil materials include non-contaminated excavated soils and native rock generated during construction activities occurring on DIA property.

Unacceptable materials include soils contaminated with the following:

- Trash/debris/incidental construction materials (formwork, construction fencing, etc.)
  - Dispose of offsite per 01566 at DADS
- Oil or other regulated/hazardous material contaminant spills
  - Dispose of offsite per 01566 in accordance with applicable State & Federal regulations
- Erosion and sediment control materials (silt fence, ECBs, ECLs, VTC rock, etc.)
  - Dispose of offsite per 01566 at DADS
- Metals (pipe/flashing/rebar/etc.)

    - Recycle per 01566 and metal salvage requirements
- Concrete in any form (rejected loads, truck rinse, demo'd material, recycled crushed concrete, etc.)
    - Rejected loads shall be returned to point of origin.
    - Washing of equipment, chutes, and tools must be conducted within a designated concrete washout area.
- Concrete with rebar
    - Dispose of offsite per 01566 at DADS.
    - Concrete without rebar shall be recycled at the north or south concrete and asphalt recycle yards.
- Asphalt/rotomillings/bituminous materials
    - Liquid bitumen shall be returned to point of origin.
    - Collect equipment rinse from asphalt paving operations and dispose of at properly permitted facility.
    - Demo'd asphaltic materials shall be recycled at the north or south concrete and asphalt recycle yards.
- Free-flowing liquids including excessive water (no slurries)
    - Unless otherwise approved in writing by DIA ES, oversaturated soils that emit free-flowing water (cannot pass paint filter test per SW-846) shall be contained and disposed of offsite at a facility permitted to accept liquid wastes.

8) References

A. Phone Numbers

DIA Communications Center (for Spill Reporting)…….. (303) 342-4200
Kim Ohlson (DIA Environmental Services)…… (303) 342-2637
Mark Kunugi (DIA Environmental Services)……(303) 342-2629
DIA Environmental Services (Main Line)…… (303) 342-2730

B. Guidance Materials (list not limited to the following)

- Facility Development/Redevelopment Environmental Checklist
- City and County of Denver Construction Sites Program
- City and County of Denver Construction Activities Stormwater Management Plans Information Guide
- Urban Storm Drainage Criteria Manual Vol. 3
- MSDSs
- SPCC Plan

C. Related Environmental Guidelines (list not limited to the following):

- ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
- ES-301-3.02 Planning and Design
- ES-301-4.03 Cleaning/Washing – Outdoor Areas and Structures
- ES-301-4.08 Inspection and Maintenance of MS4 Structural Controls

- ES-301-4.09 Management of Petroleum Storage Tanks & Containers
- ES-301-4.11 Storage, Handling, and Management of Hazardous Materials
- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management
- ES-301-6.03 Management of Recyclable and Reusable Materials
- ES-301-6.04 Management of Hazardous Wastes
- ES-301-6.06 Management of Special Wastes

D. Applicable Regulations (list not limited to the following)

- 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
- 6 CCR 1007-3, Part 261 State RCRA Regulations
- Federal hazardous waste regulations (40 CFR Parts 260-279)
- State hazardous waste regulations (6 CCR 1007-3, Parts 260-279)
- For DIA projects on Denver land, Denver illegal dumping ordinances (D.R.M.C. Title II, Chapter 48, Articles IV and VI)
- For DIA projects on Aurora land, Aurora illegal dumping ordinances (Aurora Code of Ordinances, Chapter 114, Article II)
- Mayor's Executive Order 115 Required Use of Denver Arapahoe Disposal Site (Landfill)
- Municipal separate storm sewer system (MS4) permit for the City and County of Denver (Permit No. COS-000001)
- Project Stormwater Management Plan
- DIA Tenant Development Guidelines
- DIA Technical Specifications – Section 01500
- DIA Technical Specifications – Section 01566
- City and County of Denver Ordinances
- DIA Rules and Regulations
- City and County of Denver Mayor's Executive Orders

E. Other Documents

- Construction-related inspection records
- Project permits and plans

ES-301-3.02 Planning and Environmental Review	
Document Identification Number	ES-301-3.02
Version:	3.03
Date:	December 22, 2015
Document Owner:	Mark Kunugi

1) Activity Description: New Development, Redevelopment, and Expansion

New development, redevelopment, and expansion projects at DEN can include Capital Improvement Program (CIP), tenant, and maintenance projects. For each of these, it is important to consider environmental issues during the planning and design phases in order to minimize potential environmental impacts, minimize potential regulatory liabilities, obtain federal funding, prevent increases to project cost, and prevent delays to project schedule.

The first step in the process is for the DEN Project Manager to complete and submit a DEN Environmental Project Review (EPR) form (ES-01) to Environmental Services (ES). This form provides ES with basic information that helps determine whether the project is a federal action subject to requirements under the National Environmental Policy Act (NEPA). A federal action is any project that is federally funded, utilizes Passenger Facility Charges (PFC) funding, or involves a change to the airport layout plan (ALP). Other actions may not be subject to NEPA requirements, but may require other environmental permitting.

Next, ES will conduct an environmental review using the Facility Development/Redevelopment Environmental Checklist (ES-02). This review considers all environmental requirements relating to air quality; water issues for stormwater, groundwater, and process wastewater, including drainage, flood control, water quality control, wetlands, and spill control; wildlife impacts and threatened and endangered species; historical properties; storage containers for fuels and chemicals; waste management; and corrosion prevention of tank and pipeline systems.

Upon completion of the environmental review, the Environmental Checklist is sent back to the PM. For NEPA projects, appropriate documentation is sent to the FAA and the project can be assigned one of three categories by them: Categorical Exclusion (CatEx), Environmental Assessment (EA), and Environmental Impact Statement (EIS). CatEx projects can take on average 90 days for FAA approval; EA projects 4-12 months, and EIS projects 3 years or more. For non-NEPA projects, other environmental permits, such as stormwater or air, may be required. The DEN Project Manager is responsible for ensuring that the airport tenant, contractor, or operator obtains all environmental permits and approvals prior to work commencement. Pursuant to Technical Specification 01 57 00, these permits and approvals should be incorporated into contracts as required submittals.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Non-compliance with NEPA and other environmental permitting requirements
   ii) Increased operation and/or maintenance costs

B. Potential consequences from not performing the activity or performing incorrectly:
   i) Damage to airport property, persons, and/or the environment

ii) Legal action from environmental regulators, including Cease and Desist Orders, Notices of Violation, and/or fines
iii) Legal action from outside parties
iv) Negative press for the airport
v) Delays to project schedule
vi) Increases to project cost
vii) Inability or delay for obtaining federal funding
viii) Increases to lifetime maintenance costs

3) Critical Operating Requirements

A. Prohibited Activities
   i) Work commencement without securing proper approvals and permits.
   ii) "Piece-mealing" of projects (the division of a larger project into tasks, phases, or "mini-projects") should be avoided with regard to environmental planning. This practice is not lawful for federally funded projects and is not recommended for other projects. Piece-mealing can lead to delays and errors in the environmental permitting process, which can lead to schedule delays and cost increases.
   iii) Failure to comply with the New Development Planning and permitting requirements in the City and County of Denver (CCD) Municipal Separate Storm Sewer System (MS4) permit.

B. General Considerations
   i) Environmental permitting requirements should be identified early in the planning and design phases of a project. Because some permits require long lead times, early identification of these issues by the PM and ES can help secure permits in a timely manner.
   ii) Each airport tenant, contractor, or operator conducting planning and design activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   iii) All airport tenants must comply with the airport's Tenant Development Guidelines (TDG). http://business.flydenver.com/bizops/bizRequirements.asp

C. NEPA Considerations
   i) NEPA documentation required for projects subject to federal actions as defined in FAA Order entitled National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.
   ii) Will the project likely be controversial on environmental grounds?
   iii) Air Quality General Conformity Evaluation: required to ensure that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans (State Implementation Plan) to meet national standards for air quality.
   iv) Coastal Resources: required if the project occurs in or affects a coastal zone.
   v) Compatible Land Use: evaluates project for consistency with local plans, goals, policies or controls.
   vi) Construction Impacts: required if project will produce construction impacts, such as localized noise, reduce air quality, produce erosion or pollutant runoff, or disrupt local traffic patterns.

vii) Section 4(f) Impacts: required if project will impact DOT Section 4(f) resources such as public parks, recreation areas or waterfowl refuge of national, state or local significance, or of a historic site of national, state or local significance.
viii) Farmlands: required if project will impact prime or unique farmlands.
ix) Endangered and Threatened Species: potential to impact federal or state endangered or threatened species or their habitat.
x) Essential Fish Habitat: potential impacts to fish habitat protected under the Magnuson-Stevens Act.
xi) Migratory Bird Act: potential to adversely impact birds protected by the Migratory Bird Act.
xii) Floodplains: project located in, encroaches upon, or otherwise impacts a floodplain.
xiii) Solid Waste Impacts: proposed project produces solid wastes.
xiv) Hazardous Materials: project constructed in an area that contains hazardous materials.
xv) Historical, Architectural, Archaeological and Cultural Resources: project involves an activity that has the potential to affect historic structures.
xvi) Light Emissions and Visual Impacts: light emission impacts.
xvii) Natural Resources, Energy Supply and Sustainable Design: impacts to the energy supply or natural resources in a detrimental manner.
xviii) Noise
xix) Secondary (Induced) Impacts: shifts in patterns of population movement and growth, public service demand; or changes in business and economic activity.
xx) Socio-Economic Impacts, Environmental Justice and Children's Environmental, Health and Safety Risks: relocation of residents or businesses; alter surface transportation patterns or cause degradation of service levels; disproportionate impacts on minority or low-income populations.
xxi) Water Quality: water quality impacts to ground water, surface water, public water supplies, or violate Federal, State, or Tribal water quality standards.
xxii) Wetlands: impacts to wetlands.
xxiii) Wild and Scenic Rivers: effects on any portion of Wild and Scenic River or a Study River or any adjacent areas that are part of such rivers, listed on the Wild and Scenic Rivers inventory.
xxiv) Cumulative Impacts: project would produce a significant cumulative effect on any environmental impact category when considered with past, present, and reasonably foreseeable future development projects.

D. Other Permitting Considerations
   i) Air
      - Construction Air Permit for new or modified existing regulated sources. Examples are emergency generators, tanks, boilers, etc. CDPHE requires a dust control permit (Land Development Air Pollutant Emission Notice - APEN) for projects where the disturbed acreage will exceed 25 acres or for projects where earthmoving activities will exceed 6 months in duration. For air quality purposes, earthmoving includes excavation (including topsoil removal), backfill, embankment work, grading, trenching, drilling, and boring.

   ii) Stormwater and Drainage
      - The Colorado Department of Public Health and Environment (CDPHE) issued a Municipal Separate Storm Sewer System (MS4) permit to the entire City and County of Denver, including DEN. To ensure permit compliance, the Department of Aviation

follows the New Development Planning process managed by the Department of Public Works. Failure to comply with provisions in the MS4 permit and associated programs is a violation of the Colorado Discharge Permit System (CDPS).

- The Department of Public Works can require stormwater detention (for flood control purposes) for each development or redevelopment over 0.5 acres. For these projects, Public Works will require a drainage report (or drainage study for larger projects). The drainage report may include a simple grading plan, while a drainage study may include discussion of grading, sheet flow and proposed corrections to areas with standing water, roof drains for buildings and canopies, and hydraulics.
- The Department of Public Works can require water quality control for each development or redevelopment over 1.0 acre.
- The Department of Public Works requires a Construction Activities Stormwater Discharge Permit (CASDP) for each development or redevelopment over 1.0 acre. The CASDP was formerly called an erosion and sediment control permit.
- CDPHE requires a stormwater permit for construction activities for each development or redevelopment over 1.0 acre.

iii) Sewer Use and Drainage

- The Department of Public Works requires a sewer use and drainage (SUD) permit for each new building. SUD permits cover new hookups to the sanitary sewer system and storm sewer, water quality pretreatment devices (e.g. sand traps, grit chambers, sand/oil interceptors, oil/water separators, and grease traps), sewer abandonment, and individual sewage disposal systems (e.g. privy vaults or septic systems).

iv) Dewatering

- CDPHE requires a dewatering permit for construction activities where groundwater has seeped up into an excavation and the project team proposes to put the groundwater in a surface water drainage (e.g., dewater the groundwater and place it in a stormwater drain, swale, or pond) they must have prior approval from the MS4 permit manager.

v) Tanks

- The Denver Fire Department – Fire Prevention Bureau requires a permit for the installation of new petroleum storage tanks and a separate permit for the removal of petroleum storage tanks.
- The state Division of Oil and Public Safety (OPS) requires an application and registration for the installation of new petroleum underground storage tanks above 110 gallons and above ground storage tanks with capacities between 660 and 39,999 gallons. The OPS also requires an application and registration for the installation of new LPG tanks above a certain capacity.

vi) Cathodic Protection

- Cathodic protection for buried tanks, piping, and above ground storage tanks and other structures in contact with corrosive soils.

E. Training Requirements

i) All DEN Project Managers should be familiar with this process.

4) Critical Planning Requirements

A. Identify projects or activities that require an environmental review. Examples of projects requiring an environmental review include but are not limited to the following:
   i) Roadway improvements, widening, expansion, etc.
   ii) Parking lot construction
   iii) Concourse expansions
   iv) Runway construction
   v) New/temporary building construction, expansion
   vi) Lighting projects
   vii) Solar projects

B. Project Managers gather project information and submit to ES using the DEN environmental Project Review form (ES-01). Required information includes:
   i) Project purpose and need;
   ii) Project description/scope of work
   iii) Project location
   iv) Project schedule
   v) Project sponsor
   vi) Arial extent of scraping/grading for the project and asphalt paving for the project
   vii) Basic project drawings or sketches.

C. Environmental Services will:
   i) Review the project using the "Facility Development/Redevelopment Environmental Checklist" (ES-02).
   ii) Return a copy of the "Facility Development/Redevelopment Environmental Checklist" to the DEN Project Manager and provide assistance as requested.
   iii) Review the current list of significant environmental aspects at DEN, determine if the project will introduce any new significant aspects, and revise the aspects list as necessary.

D. If applicable, conduct an MS4 pre-application meeting. The meeting should take place at the beginning of the design phase.
   i) Meeting attendees should include representatives from the DEN Planning and Development Section, the project sponsor, the designer of record, and Public Works.
   ii) In addition to discussing the items listed in B2 above, other discussion items may include:
      - Stormwater drainage
      - Flood control and water quality control
      - Best Management Practices
      - Sewer upgrades
      - Water quality pretreatment devices
      - Stormwater quality control plan requirements
      - Permit requirements.

5) Expected Records and Outputs

A. PM provides project information (purpose and need, description/scope of work, drawings, etc.) using the Environmental Project Review Form
   i) Send to DEN ES.

ii) DEN PM files in own project file; DEN ES files in File 09.29.03.

B. ES Completes the Facility Development/Redevelopment Environmental Checklist
   i) DEN ES sends this to the DEN PM after completion.
   ii) DEN PM files in own project file; DEN ES files in 09.29.03.

C. Required submittals (such as copies of applications and permits) as discussed in the Facility Development/Redevelopment Environmental Checklist
   i) DEN PM will send copies of all submittals (including correspondence) to DEN ES.
   ii) DEN PM files in 09.29.03. (or other files if cross-referenced in the 09.29.03 files).

6) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	Mark Kunugi (DEN Environmental Services)	(303) 342-2629
iv)	Tom Somers (DEN Environmental Services)	(303) 342-2733

B. Guidance Materials (list is not limited to the following)
   i) FAA Orders 1050.1E and 5050.4B
   ii) FAA Advisory Circulars if applicable
   iii) City and County of Denver Department of Public Works MS4 Permit Program documents

C. Training Materials
   i) None

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-3.01 Construction
   ii) ES-301-6.01 General Waste Management
   iii) ES-301-4.10 Cathodic Protection Corrosion Prevention on Buried Tanks and Piping

E. Applicable Regulations (list is not limited to the following)
   i) Federal environmental planning regulations (40 CFR 1500 – 1508)
   ii) FAA Order 1050.1E
   iii) FAA Order 5050.4B (“Airport Environmental Handbook”)
   iv) CDPS MS4 Permit (Permit No. COS-000001, Part I.B.1.a.2)
   v) City and County of Denver Sanitary Sewer Design Technical Manual
   vi) City and County of Denver Storm Drainage Design & Technical Criteria
   vii) UDFCD Urban Storm Drainage Criteria Manual – Volume 3
   viii) DEN Technical Specifications – Sections 01566, 16642, 01500
   ix) DEN Tenant Development Guidelines

F. Other Documents (list is not limited to the following)
   i) FAA Northwest Mountain Region Categorical Exclusion Form (a.k.a. CATEX Form).

ES-301-3.03 Procurement	
Document Identification Number	ES-301-3.03
Version:	3.00
Date:	February 26, 2016
Document Owner:	Sue Davidson

1) Activity Description

Procurement (information gathering, supplier contact, background review, negotiation, fulfillment, consumption, maintenance, disposal, and renewal) of goods and services that meet environmentally preferable purchasing criteria by tenants, operators, contractors, and City and County of Denver employees at DIA.

Environmentally Preferable Purchasing Criteria: Product or service a lesser that minimizes the impact on human health and the environment when compared with competing products or services that serve the same purpose. Buyer and/or agency conducts research on environmentally preferable alternatives, includes required environmental attributes in bid documents, and includes in award criteria and/or master purchase order or one time purchase. Examples include but are not limited to: goods and services that are energy efficient or durable, can be recycled or reused, contain recycled materials, are free of toxic substances, pose minimal chemical hazard, pollution potential, or regulatory liability and save natural resources.

See lists below which specify for procurement products and services that are:

1) Environmentally preferable attributes
2) Favored
3) Discouraged
4) Prohibited

The purchasing guidelines contained in this Environmental Guideline (EG) are strongly encouraged for all entities making purchases on behalf of DIA.

2) Potential Environmental Risks

The following environmental concerns are associated with this activity:

- Impact to the environment from the use of products that contain hazardous constituents.
- Use of non-renewable resources.
- Generation of hazardous wastes.
- Generation of solid waste.
- Impacts to natural resources

Potential consequences from performing the activity incorrectly:

- Property damage, personal injury, damage to the environment.
- Possible regulatory non-compliance, Notice of Violation and related [financial & non-financial] penalties.

3) Critical Operating Requirements

A. Prohibited Activities
   i) Purchase of products or services that contain chemicals or compounds listed in the Prohibited Chemicals and Compounds list (see Table 1)
B. General Considerations
   i) Each person conducting procurement for goods and services is responsible for understanding the applicable regulations and managing their activities accordingly. This Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) Any person(s) performing centralized or delegated procurement for DIA or on its behalf that have the potential to cause any environmental impact and must be aware of the City's Environmental Preferable Purchasing Policy, know which significant environmental aspects are related to the products, goods, and/or services they are purchasing.
   iii) City purchasers of products and services should always utilize existing City bids and contracts whenever possible. The City bids and contracts have already been screened by City Purchasing for environmentally preferable purchasing criteria.
C. Training Requirements
   i) Procurement Card (PCard) Training – conducted by Purchasing for all individuals authorized to perform delegated purchasing with a PCard.
   ii) Environmental Awareness Training
D. Storage and Materials Management Requirements
   i) None.

4) Planning Requirements

A. Sufficient and reasonable time should be allocated within the procurement process to allow for the identification of cost-competitive procurement options that provide the highest probability of achieving the City's environmental and other goals.

5) Critical Tasks

A. Consider the environmental impacts and benefits (reduced toxicity, composition of recycled materials, reduced packaging, disposal requirements, future liability, etc.) of each product being evaluated as heavily as other "value added" factors, such as cost and performance.
B. Include suitable environmental provisions for constituents of concern and desired attributes in procurement and contract documents where appropriate. Reference Greenprint Denver, Greenprint EMS, or other environmental requirement where necessary.

6) Emergency Response

A. None.

7) Inspection and Maintenance Requirements

A. None.

8) Expected Records and Outputs

A. GS Purchasing Report Card for EPP (downtown Purchasing)
B. Training records for pCard training/refresher (DIA pCard Administrator)
C. Training records for Environmental Awareness Training

9) References

A. Phone Numbers
   i) DIA Environmental Services Main Line (303) 342-2730
   ii) Glenn Dupper (DIA Purchasing Administrator) (303) 342-2133
   iii) CCoD Director of Purchasing (720) 913-8121
   iv) Liz Treviño (DIA PCard Administrator) (303) 342-2208

B. Guidance Materials (list is not limited to the following)
   i) Greenprint Denver Action Agenda
   ii) General Guidance for Environmentally Preferable Purchasing

C. Training Materials (list is not limited to the following)
   i) pCard training/refresher – conducted by the DIA pCard Administrator

D. Related Environmental Documents (list is not limited to the following)
   i) None

E. Applicable Regulations (list is not limited to the following)
   i) Purchasing Policies and Procedures
   ii) Fiscal Rule 8.1 - Procurement
   iii) Mayor's Executive order No. 123 (XO 123) Greenprint Denver Office and Sustainability Policy
   iv) Denver Revised Municipal Code (D.R.M.C.)
   v) DIA Rules and Regulations
   vi) DIA Policies and Procedures

F. Other Documents (list is not limited to the following)
   i) City of Denver Environmental Public Health Policy
   ii) DIA's Environmental Policy

Favored Products and Services

- Green Seal approved products and services
- Energy Star certified equipment
- EPEAT Registry for Greener Electronics
- Specific Conformance to Green Seal GS-11 and GS-37 standards
- Conformance with California Code of Regulations for maximum allowable VOC content
- Conformance with emission limits in SCAQMD Rule #1168, or BAAQMD Regulation 8, Rule 51
- Conformance with Carpet and Rug Institute Green Label/Green Label Plus Programs
- Product listing with the Western Regional Pollution Prevention Network
- Product listed with the Center for the New American Dream
- Disposable janitorial products conformance with USEPA Comprehensive Procurement Guidelines

- Products supplied in concentrate
- Products dispensed through automatic metering and mixing equipment
- Products with high recycled material and post-consumer waste content
- Products with minimal petrochemical content
- Highly durable / long-lasting products and applicators
- Products shipped in bulk
- Neutral pH products
- Non-flammable products
- Fragrance and dyes free products
- Proven rapid bio-, photo-, or chemical degradation
- Non-aerosol products
- Locally reusable / locally recyclable packaging
- Other characteristics that can be shown to:
    - Minimize waste
    - Minimize consumption of energy and resources
    - Minimize release of toxic compounds
    - Minimize exposure of workers and the public to pollutants

Discouraged Products and Services

- Combination cleaner-disinfectants
- Products which liberate ammonia (CAS 7664-41-7)
- Products containing the following substances, except in trace amounts (< 0.1%):
    - alkylphenol ethoxylates
    - 1,4-dioxane (CAS 123-91-1)
    - Nitrilotriacetic acid (CAS 139-13-9)
    - Sodium ethylenediamine tetraacetic acid (CAS 60-00-4)
    - 2-butoxyethanol or 2-butoxyethanol acetate (CAS 111-76-2, and CAS 112-07-2)
    - ethanolamine (CAS 141-43-5)
- Products containing phosphates or phosphonates in excess of 0.5% phosphorous by weight
- Products with a Flashpoint of less than 140°F
- Products with a pH of less than 2.0 or greater or than 12.5 at their least dilute working strength
- Products containing more than 20% VOCs by weight
- Products having RCRA Hazardous waste characteristics in their least dilute working strength
- Practices resulting in the air-borne dispersal of dusts and soils
- Practices which rely on volatilization of organic solvents or result in the significant generation of chemical fumes or vapors.
- Practices which prevent the capture and collection of wastewater and water-borne pollutants.
- Products whose principal ingredients are readily absorbed through skin, or cause dermal irritation or sensitization on contact, or rapidly destroy skin tissue or the mucous membranes.
- Products supplied without clearly readable labels that describe product hazards, precautions, and instructions on use and disposal.
- Products for the safe use of which workers must don specialized respiratory protection or general splash protection equipment.

Prohibited Products and Services

- Products containing persistent bio-accumulative toxics
- Products containing Asbestos
- Products containing known carcinogens, mutagens and teratogens

- USDOT Inhalation Hazard rated materials
- Halogenated compounds with an Ozone Depletion Potential greater than 0.01
- Products which have a high risk of causing spontaneous combustion
- Strong chemical oxidizers
- Products containing the chemical elements or compounds listed in Table 1
- Products containing chemical compounds deemed by the Denver Department of Environmental Health to present an undue of risk to human health or the environment in their use or disposal.

Upon request, the vendor must submit documentation proving that all procured products and services meet the prohibitions listed above.

Table 1: Prohibited Chemicals and Compounds

	Chemical Name	**CAS Number**	**Comments**
1	Arsenic	7440-38-2	
2	Arsenic, compounds of	various	
3	Barium, compounds of	various	not including alloys
4	Cadmium, compounds of	various	not including alloys
5	Carbon tetrachloride	56-23-5	
6	Chlorobenzene	108-90-7	
7	Chloroform	67-66-3	
8	Chromium, compounds of	various	not including alloys
9	1,2-Dichlorobenzene	95-50-1	
10	1,4-Dichlorobenzene	106-46-7	
11	1,2-Dichloroethane	107-06-2	
12	1,1-Dichloroethylene	75-35-4	
13	Hexachlorobenzene	118-74-11	
14	Hexachloroethane	67-72-1	
15	Hydrofluoric Acid	7664-39-3	
16	Lead, compounds of	various	not including alloys
17	Mercury, elemental	7439-97-6	not including amalgams
18	Mercury, compounds of	various	
19	Methylene chloride	75-09-2	
20	Nitrobenzene	98-95-3	
21	Pentachlorophenol	87-86-5	
22	Selenium, compounds of	various	
23	Silver, compounds of	various	not including alloys
24	Tetrachloroethylene	127-18-4	
25	1,1,1-Trichoroethane	71-55-6	
26	1,1,2-Trichloroethane	79-00-5	
27	Trichloroethylene	79-01-6	
28	2,4,5-Trichlorophenol	95-95-4	
29	2,4,6-Trichlorophenol	88-06-2	
30	Vinyl chloride	75-01-4	

General Guidance for Environmentally Preferable Purchasing

Environmentally Preferable Purchasing (EPP)

Incorporating EPP into the Procurement Process

Environmentally preferable means "products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose." This comparison applies to raw materials, manufacturing, packaging, distribution, use, reuse, operation, maintenance, and disposal.

Incorporating environmental considerations into the City purchasing process does not require any significant changes to the traditional process. The only real difference with EPP is that you will incorporate environmental concerns into each step of the purchasing process, along with price and performance considerations. As with other purchasing considerations, EPP is most effective when it considered from the very beginning of the purchasing process. Keep in mind that the attention given to environmental considerations may vary widely from product to product or service to service. The extent to which environmental considerations are examined will depend on the function, cost, available timeframe to make the purchase, and the quantity of the product or service being procured.

The procurement process typically involves these steps:

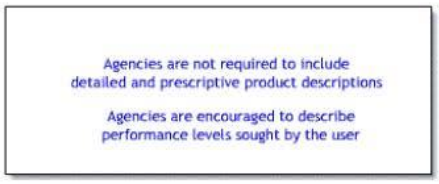
- Determining your needs and the product or service characteristics required to meet the need
- Conducting some preliminary market research
- Determining the procurement method
- Determining the most appropriate source for obtaining the product or service
- Evaluating the overall quality and value
- Making the final selection of the product or service and monitoring the progress

In each of these steps, you should involve people with the appropriate expertise. For example, if you are in a City agency and want to implement EPP, involve the procurement and environmental experts in the City. With the appropriate expertise, it will be easier to include environmental considerations in the purchasing process.

Now let's see where considerations for environmental performance could fit into each of these steps. With any City purchase, you will first:

Determine your needs and the product or service characteristics required to meet the need. What product or service is needed to accomplish the job? What should it be capable of doing? How much or how many of a product or service is needed to meet the need?

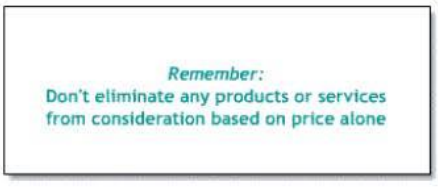
Work in this stage establishes a valid need for the product or service, the justification for purchase, and the authority for seeking the item. The environmental and human health considerations can and should be reflected as part of the need. When developing product requirements, include relevant environmental attributes such as maximum Volatile Organic Compound, or VOC standards, minimum recycled-content requirements, energy-efficiency standards, or lists of prohibited toxic materials.



With the City moving toward performance-based contracting, agencies are not required to include detailed and prescriptive product descriptions. Instead, they are encouraged to describe performance level sought by the user. Past performance should also be considered if historical information on a particular product or service is available. Within this context, remember that good environmental performance often reflects good overall performance of products and services.

Conduct some preliminary market research. Is the product or service available commercially? Is it available from multiple suppliers or manufacturers? What is a reasonable price?

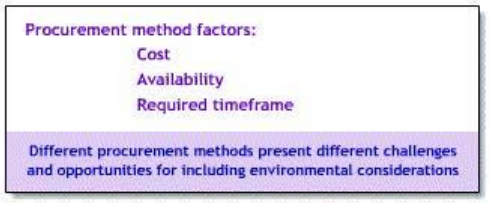
In conducting market research, include questions about the environmental aspects of the product or service. What are the distinguishing environmental attributes? Is it available containing recycled content? Are there any indoor air quality concerns with the product? How durable is the product? Can it be upgraded in the future? Are there any associated disposal hazards? Also, work with environmental experts in the City to help tailor the questions. In addition, check the EPP Database (http://www.epa.gov/cpg/products.htm) of Environmental Information for Products and Services to find information about environmental attributes others have deemed important for a particular product or service category. The database is organized as a giant, searchable shopping mall of product and service-specific environmental information. This information is derived from domestic and international programs that have developed environmental standards, specifications, and guidelines.



Remember not to eliminate any products or services from consideration at this point based on price alone. A product or service with a lower initial price might cost more overall than an alternative product with a higher initial price when lifecycle costs such as maintenance or disposal costs are considered.

Determine the procurement method. Can I purchase the product or service using Delegated Purchasing? Do I need to develop a contract? Should it be a negotiated best-value procurement or a sealed-bid procurement? Should the Statement of Work be performance-based?

The procurement method depends on numerous factors such as cost, availability, and required timeframe. Different procurement methods present different challenges and opportunities for including environmental considerations. For example, a negotiated contract might provide greater flexibility in incorporating environmental considerations, whereas a sealed-bid procurement needs to express environmental attributes as a mandatory requirement. Where appropriate, it's important to build in evaluation criteria reflecting environmental performance of the product or service being purchased.



The type of procurement method also determines who is involved in making the purchasing decision and, in the case of EPP, who is involved in incorporating the environmental concerns. It's generally a good idea to involve pertinent procurement and environmental staff throughout the procurement process.

Although use of the City Pcard has streamlined the purchasing process, Pcard users are not exempt from EPP requirements.

Determine the most appropriate source for obtaining the product or service. Can I get it from City Surplus? Do I need to purchase it new? Is this item available on existing city contracts? Can Purchasing locate the product or service in which I'm interested?

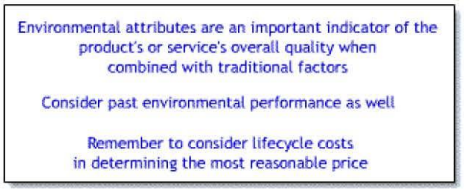
The Purchasing Division is the procurement agency for the City. Purchasing acquires different kinds of products and services from a variety of supply sources, including mandatory source suppliers.

Once the need is established and marketplace availability determined, the item can be acquired (or reused) from existing City sources or through new purchases. As reuse is both environmentally sound and cost-effective, City Surplus should always be the first source of supply. Maximizing use of agency-owned property minimizes new purchases, which saves agency money and the earth's resources.

Evaluate the overall quality and value. Which product or service reflects the highest quality for the most reasonable price?

Building environmental factors into the evaluation criteria in the previous stage, makes it easier to compare products and services based on environmental performance. Now it is just a matter of applying the criteria. In doing so, you may need to rely on the City's environmental experts to help interpret the product or service providers' responses to propose requests. Environmental attributes are an important indicator of the product's or service's overall quality when combined with more traditional factors such as product safety, price, and performance. Past environmental performance can be considered here as well if information is available. This should include a company's environmental track record. Remember to consider lifecycle costs in determining the most reasonable price.

Make the final selection of the product or service, and monitor the progress.



Selection of a preferred product, based on a best-value concept rather than the least initial cost, can and should include environmental considerations. The ultimate goal of any City purchase is to obtain the highest quality product or service at the most reasonable price.

Environmental considerations simply become an important part of the product's or service's overall quality. Post purchase monitoring is always important to ensure that the product or service provider is meeting the product's environmental claims.

ES-301-3.04 Tenant Operating Guidance	
Document Identification Number	ES-301-3.04
Version:	3.01
Date:	January 21, 2016
Document Owner:	Kim Ohlson

1) Activity Description:

This Environmental Guideline outlines the fundamental environmental requirements for tenant operations at DIA.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Air pollution and odors
   ii) Improper or inappropriate disposal of wastes
   iii) Improper storage of products and/or wastes
   iv) Sanitary Sewer overflow
   v) Release of maintenance fluids to sewer
   vi) Sediment and erosion control
   vii) Contamination of soil
   viii) Contamination of surface water
   ix) Contamination of groundwater

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Possible regulatory non-compliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Discharge Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils without Environmental Services approval.
   ii) Discharge to State Waters without a permit
   iii) Discharge of any of the following materials down any sanitary sewer system is prohibited:
      - Any oils or grease
      - Pesticides, insecticides or herbicides
      - Solvents
      - Sediments/solids
      - Generally prohibited discharges as specified by Metro Wastewater & Denver Wastewater Management Division
   iv) Improper disposal of solid waste (includes hazardous, special, and municipal wastes). See Environmental Guideline ES-301-6.01 General Waste Management.

B. General Considerations
   i) Each tenant operating at DIA is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as

guidance only and does not supersede any regulations nor is it encompassing of all regulatory requirements.

ii) Ensure that Material Safety Data Sheets (MSDSs) are available for all chemicals used by employees. MSDSs for materials no longer in use should be routinely removed and placed in an archive.

iii) Properly characterize and dispose of all wastes. See ES-301-6.01 General Waste Management for additional guidance.

iv) Welding for maintenance purposes, parking lot striping, battery recharging areas, and truck and carwash units are exempt from reporting and permitting under Colorado Air Quality Regulations (5 CCR 1001-5)

v) Properly maintain all pretreatment devices (e.g., oil/water separators; grease traps; sand, oil and grease traps; grit chambers).

vi) Painting activities may require air permitting. Tenant shall contact CDPHE APCD if any indoor painting is being contemplated. Outdoor painting of vehicles is prohibited. Any other outdoor painting activities shall be approved by DIA.

vii) Do not block or otherwise restrict the flow of air through any ventilation equipment.

viii) All tenant operations must be conducted in strict accordance with the environmental provisions and requirements set forth in their lease agreement(s) with DIA.

ix) Each tenant shall comply with Metro Wastewater Reclamation District Rules and Regulations. This includes the completion of the Industrial Waste Questionnaire upon request by Metro and/or DIA Environmental Services (ES).

x) Tenants are responsible for all hazardous chemical inventory tracking and reporting as required by SARA Title III for tenant-operated facilities.

xi) Tenants conducting industrial activities at DIA that are regulated under DIA's Industrial Stormwater Permit must comply with DIA's Stormwater Management Plan (SWMP). Alternatively, tenants that conduct industrial activities can opt to prepare their own SWMP. These plans must be submitted to DIA ES and must be at least as stringent as DIA's Plan.

xii) Tenants that have onsite petroleum storage are responsible for demonstrating compliance with Spill Prevention Control and Countermeasure (SPCC) Plan regulations pursuant to 40 CFR Part 112.

xiii) Tenants shall comply with all CDPHE APCD regulations with respect to Air Permitting, CFCs, APENs, etc.

xiv) DIA implements an extensive recycling program. Tenants are encouraged to participate in this program to reduce the wastes disposed in landfills and to reduce overall airport operating costs. DIA can assess charges pursuant to Rule and Regulation 40 for waste services if recycling is not performed.

xv) Any person(s) performing tasks for DIA or on its behalf that have the potential to cause an environmental impact must be aware of DIA's Environmental Policy and know what, if any, significant environmental aspects are related to the products, goods, and/or services they will be providing.

xvi) Persons performing maintenance on Motor Vehicle Air Conditioning Systems or HVAC systems must do so in accordance with Colorado APCD regulatory requirements.

xvii) All tenant activities shall be conducted in compliance with DIA Rules and Regulations and federal, state, and local laws and regulations.

C. Training Requirements

i) All operators of fueling equipment must be adequately trained in the proper fueling procedures and their SPCC Plan.

ii) Individuals that handle or manage hazardous wastes should receive site-specific training in accordance with all applicable state and federal requirements.
iii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements
i) Maintain legible labels and markings on all containers and tanks.
ii) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.
- Refer to the appropriate SPCC Plan for guidance on specific requirements

4) Planning Requirements

A. All development of DIA properties requires review by DIA ES prior to being initiated. Refer to ES-301-3.02 Planning and Design for additional guidance. In addition, all new development or alterations to existing facilities shall comply with DIA's Tenant Development Guidelines (TDGs).

B. Tenants that generate hazardous wastes in excess of certain monthly limits are required to obtain an EPA Hazardous Waste Activity Identification Number and prepare a contingency plan in accordance with RCRA Generator Requirements. Tenants must track hazardous waste generation quantities in order to determine generator status.

C. Tenant relocation and closeout is subject to the requirements of ES-301-3.05 Tenant Relocation or Closeout. Refer to that Environmental Guideline for further guidance.

D. All DIA tenants are required to complete a SWMP Survey/Matrix prior to commencing operations. Contact DIA ES if this has not been completed.

E. DIA tenants are required to acquire all required permits from local or state regulatory agencies in support of their activities prior to operating the regulated units or conducting the permittable activities (e.g., stationary air sources, construction stormwater permits).

F. All DIA tenants are required to submit a Pretreatment Device Maintenance Plan, if required. Refer to ES-301-2.07 Maintenance of Pretreatment Devices for additional guidance.

5) Critical Tasks

A. Comply with all federal, state, and local environmental laws, regulations, and guidance.
B. Comply with all lease requirements.
C. Comply with the TDGs for any alteration to the facility.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
i) Call DIA Communications Center immediately at 303-342-4200 for all spills.

ii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iii) Spills of any kind shall not be washed into any sewer or any waterway, or onto any soil.
iv) Containerize all collected wastes and evaluate for labeling, storage, and disposal.

7) Inspection and Maintenance Requirements

A. Tenant is responsible for ensuring compliance with all permits and plans prepared for the facility. The tenant is responsible for conducting the inspections defined in the SWMP, hazardous waste generator requirements, Sewer Use and Drainage Permits, Construction SWMPs and permits, and/or SPCC plan for the site.

8) Expected Records and Outputs

A. Completed SWMP survey/matrix
   i) Obtain a copy of this document on line at http://www.flydenver.com/sites/default/files/environmental/stormWaterMP.pdf
   ii) Maintain survey/matrix on file after review by DIA Environmental Services

B. Waste management records (profiles, LDR forms, manifests, sample results, etc.)
   i) Manifests, LDRs & profile forms can be obtained from the disposal facility.
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years.

C. Evidence of training
   i) While formal certifications are not always necessary, some "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

D. Pretreatment Device Maintenance Records
   i) Tenants must complete a Pretreatment Device Update Form detailing monitoring and maintenance requirements. The Pretreatment Device Measurement Record Form can be used to record measurement results. These forms are included in EG ES-301-2.07. Completed forms shall be submitted to DIA ES.
   ii) Copies of all maintenance records for each device must be kept in your files and completed in accordance with the approved schedule provided in the monitoring form.

E. Motor Vehicle Air Conditioning System Repair Records
   i) Records for air conditioning system repair must be kept on site and made available to DIA inspectors upon request.

F. Hazardous waste documents
   i) Tenants that generate sufficient hazardous waste to be classified as a Small Quantity Generator (220 pounds in a month) are required to obtain an EPA Hazardous Waste Identification Number. The EPA designation must be submitted to DIA ES.
   ii) All manifests and supporting documentation for the generation, storage, and disposal of hazardous waste must be kept onsite at the facility and made available to DIA inspectors upon request.

G. Inspections
   i) SPCC inspections must be performed in accordance with the requirements and frequency identified in the individual SPCC Plan for the site. The records must be kept on file at the local facility and must be made available to DIA inspectors upon request.

H. Industrial Waste Questionnaire
   i) Must be completed at the request of Metro Wastewater Reclamation District or DIA ES. A copy of the completed document must be submitted to DIA ES and a copy shall remain onsite at the facility.

I. Hazardous Materials
   i) Current copies of hazardous chemical inventories must be kept onsite at all times. In the event that the tenant exceeds threshold planning quantities or reportable quantities for any chemical, the tenant shall make the required notifications to the LEPC, SERC, EPA, DFD, and DIA ES.

9) References

A. Phone Numbers

i)	DIA Communications Center (for spill reporting)	(303) 342-4200
ii)	John Hambright (DIA Environmental Services)	(303) 342-2759
iii)	Keith Pass (DIA Environmental Services)	(303) 342-2689
iv)	DIA Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) MSDSs
   ii) DIA Stormwater Management Plan (SWMP)
   iii) SPCC Plan for the facility

C. Training Materials (list is not limited to the following)
   i) Operating procedures training (On-the-Job)
   ii) Operator site-specific training materials for handling hazardous wastes
   iii) Operator site-specific training materials for SPCC Plan
   iv) SWMP training materials

D. Related Environmental Documents (list is not limited to the following)
   i) Environmental Guidelines (EGs) apply to DIA tenants, if the tenant is conducting the activities described in the Guideline. Tenants can access the EGs at www.flydenver.com/sites/default/files/environmental/es301.pdf

E. Applicable Regulations (list is not limited to the following)
   i) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
   ii) 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
   iii) 40 CFR Part 112 Oil Pollution Prevention (SPCC OPA/Plans)
   iv) 6 CCR 1007-3, Parts 260-262, 273, 279 State RCRA Regulations
   v) 5 CCR 1001-1 through 19, State Air Pollution Control Regulations

- Particles, Smokes, Carbon Monoxide and Sulfur Oxides, Regulation No.1
- Odor Control, Regulation No.2
- Air Pollution Emission Notices-Permits, Regulation No.3
- Woodburning Controls, Regulation No.4
- Emissions Trading Program, Regulation No.5
- New Source Performance Standards, Regulation No.6
- Volatile Organic Compounds Control, Regulation No.7
- Hazardous Air Pollutants Control, Regulation No.8
- Open Burning, Prescribed Fire and Permitting, Regulation No.9
- Transportation Conformity, Regulation No. 10
- Motor Vehicle Inspection Program, Regulation No. 11
- Diesel Vehicle Inspection Program, Regulation No. 12
- Oxygenated Fuels Program, Regulating No. 13
- Reduction of Motor Vehicle Air Pollution from Alternative Fueled Vehicles, Regulation No.14
- Chlorofluorocarbons, Regulation No.15
- Street Sanding and Sweeping, Regulation No.16
- Clean Fuels Fleet Program, Regulation No.17
- Acid Rain Control, Regulation No.18
- Lead Based Paint, Regulation No.19

vi) CCoD Ordinances
vii) Denver Wastewater Management Division Rules & Regulations
viii) Metro Wastewater Reclamation District Rules & Regulations
ix) DIA Rules and Regulations
x) Denver Fire Department Regulations (International Fire Code)

F. Other Documents (list is not limited to the following)
i) SWMP Industrial Activities Survey/Matrix & instructions
ii) Air Pollution Emission Notification (APEN) forms
iii) DIA Managers Bulletins
iv) CCoD Executive Orders

ES-301-3.05 Tenant Relocation or Closeout

Document Identification Number	ES-301-3.05
Version:	3.01
Date:	February 3, 2016
Document Owner:	Craig Schillinger

1) Activity Description

The closure of tenant activities at any DIA tenant site, for either of the following reasons:

i) Relocation to another tenant site within the DIA property boundary, or
ii) Cessation of activities within the DIA property boundary.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Improper closure of above- or below-ground tanks
   ii) Incomplete removal of hazardous materials and/or hazardous or universal wastes
   iii) Release of maintenance or other fluids to sewer
   iv) Improper maintenance or closure of pretreatment device
   v) Contamination of site (soil, surface water, ground water) from tank operations or other facility activities

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Possible regulatory non-compliance, Notice of Violation, and related [financial & non-financial] penalties
   iii) Costly remediation of site
   iv) Continued responsibility for lease payments & utilities until all environmental closeout requirements are met.

3) Critical Operating Requirements

A. General Considerations
   i) Each operator and tenant conducting facility closeout or relocation activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant only as guidance and does not supersede any regulations.
   ii) Based on the type of activities performed at the tenant site, DIA reserves the right to require that an environmental assessment be performed on the property by a third-party consultant prior to final closeout. DIA may also require more extensive assessment(s) and/or remedial activities as warranted.
   iii) Prior to final closeout of any DIA lease, the tenant must provide sufficient information/data to DIA Property Management Section indicating that all environmental issues have been addressed and that there are no outstanding concerns. The tenant must arrange for the removal and disposal of all waste including trash, empty containers, drums, stained soil, etc. at their expense.

4) Planning Requirements

A. DIA will require the following information to evaluate the petroleum storage system and fuel distribution systems (if any) prior to final closeout:
   - All approved permit applications
   - Most recent storage tank registration systems
   - All change in service forms
   - SPCC Plan (if not previously provided to DIA)
   - As-built diagrams for the petroleum storage and distribution systems
   - Any release reports
   - Leak detection monitoring data
   - Any onsite sampling results, and
   - Correspondence with OPS and/or CDPHE including any confirmation of site closure (if applicable)

B. Parties interested in leasing properties at DIA will have access to any site assessment data or reports for consideration prior to leasing. Those parties may collect additional information as deemed necessary to accept responsibility for future environmental concerns. If an interested party opts to conduct additional investigation activities, a Work Plan must be prepared and submitted to DIA Environmental Services (ES) Section for review and approval.

C. Tenants are responsible for notifying all applicable local, state and federal agencies of the intent to vacate a DIA leasehold site and closing or (in the case of relocations) revising any permits or other agreements with those agencies. A list of commonly encountered permits/agreements includes [but is not limited to] the following:
   - Denver Fire Department Permits
   - Tank Registrations
   - Air Pollutant Emission Notices (APENs)/Permits
   - Wastewater permits
   - Stormwater permits
   - Universal and Hazardous waste identification numbers

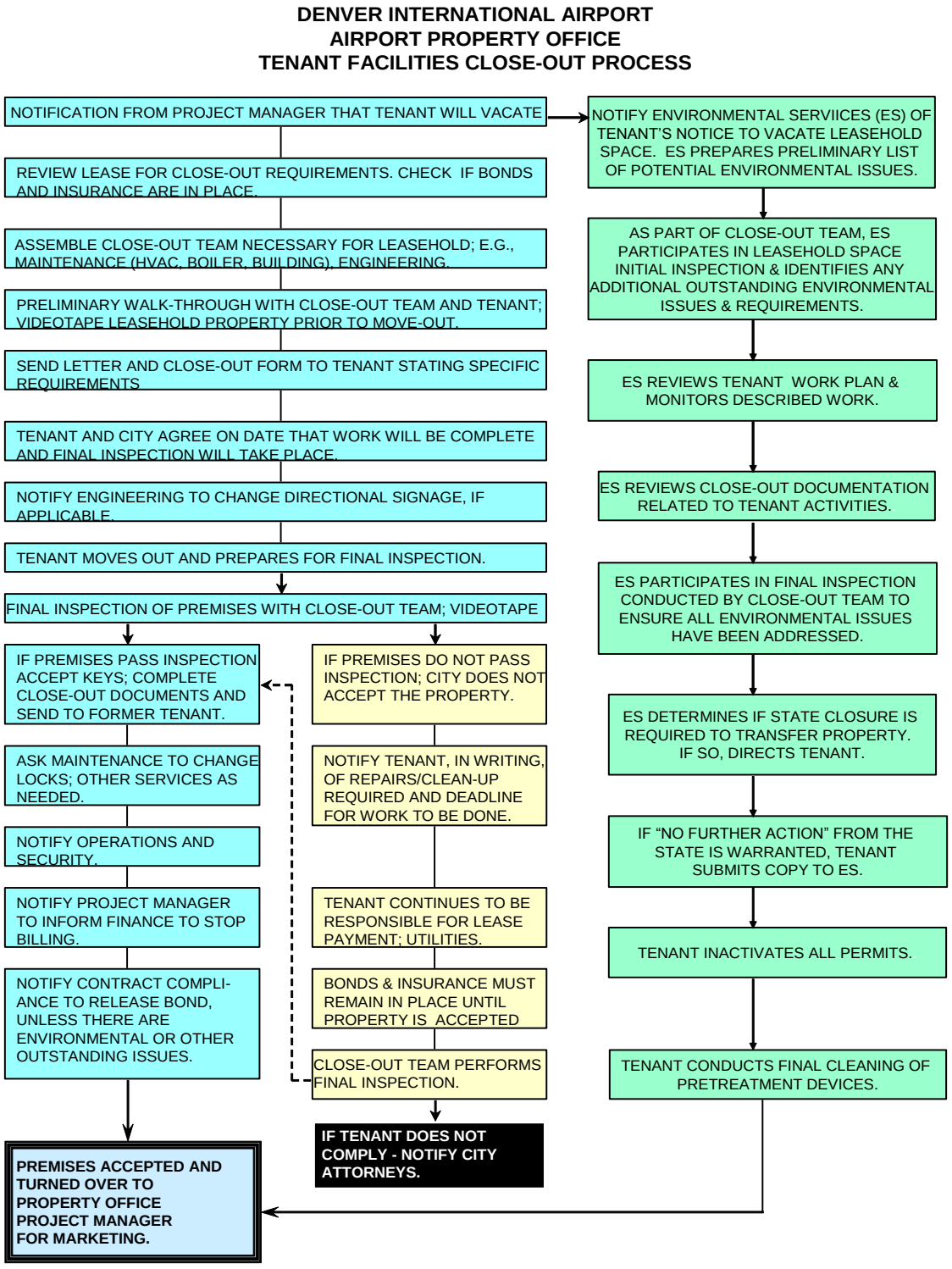
D. Tenants are responsible for all closeout requirements contained in the DIA lease, including a share of pond rehabilitation/maintenance costs.

E. Tenants may be responsible for upgrading site infrastructure to meet current regulatory requirements prior to finalizing closeout or relocation to a new site.

F. Industrial tenants vacating DIA must return their DIA Stormwater Management Plan(s) (SWMP) to ES. If relinquishing only a portion of DIA leasehold area or relocating to a new area on DIA property, tenant must revise and submit the SWMP survey/matrix, business activities narration and site-specific SWMP map to ES, as applicable.

G. Tenants relocating to a new site on DIA property must prepare a Spill Prevention, Control, and Countermeasure (SPCC) Plan if any petroleum products or fuels will be stored on site, per Environmental Guideline ES-301-4.09 management of Petroleum Storage Tanks & Containers.

5) Critical Tasks



6) Emergency Response

A. If a spill occurs, refer to Environmental guideline ES-301-5.02 Spill Response.

i) Call DIA Communications Center immediately at 303-342-4200 for all spills.

7) Inspection and Maintenance Requirements

A. Perform and document all DIA, EPA, OPS, and CDPHE required inspections.

8) Expected Records and Outputs

A. DIA SWMP(s) returned or revised SWMP Survey/Matrix, business activities narration and site-specific SWMP map, as applicable
   i) Return DIA SWMP(s) if vacating DIA
   ii) If relocating or relinquishing only a portion of leasehold area at DIA
   iii) Obtain a blank copy of SWMP Survey/matrix from DIA Environmental Services (ES), or in Appendix B of the SWMP
   iv) Complete form and return to ES along with revised business activities narration and site-specific SWMP map
   v) Maintain all site-specific SWMP information on file after review by DIA Environmental Services

B. Pretreatment Device Maintenance Plan and Records
   i) Only required if there is a Pretreatment Device on the property to be vacated
   ii) Consult with DIA Environmental Services for guidance on how to develop this plan
   iii) Refer to Environmental Guideline ES-301-2.07 Maintenance of Pretreatment Devices for additional guidance

C. Spill Prevention, Control, and Countermeasure (SPCC) Plan
   i) Only required if the facility stores petroleum products above thresholds on lease properties or in containers greater than 55 gallons outside of leased area
   ii) Contact DIA ES for guidance on SPCC planning
   iii) Maintain all inspection, testing, monitoring data pursuant to the facility's SPCC plan
   iv) Refer to Environmental Guideline ES-301-4.09 Management of Petroleum Storage Tanks and Containers for additional guidance

D. Closeout documentation for APENs (if required)
   i) Submit cancellation or transfer of ownership to APCD and DIA ES

E. Closeout documentation for Tanks (if required)
   i) Submit storage tank closure documentation to OPS and DIA ES

F. Waste disposal records (profiles, LDR forms, manifests, sample results, etc.)
   i) Manifests, LDRs and profile forms can be obtained from the disposal facility
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years

G. Site Assessment Data/Reports, including "No Further Action" notification (if required)
   i) Request site access from Airport Legal Services and DIA ES to conduct assessment
   ii) Submit all data/reports to DIA ES upon completion of site assessment

iii) If any contamination is encountered, tenant/operator must obtain a NFA from OPS and provide a copy to DIA ES

9) References

A. Phone Numbers

i)	DIA Communications Center (for spill reporting)	(303) 342-4200
ii)	DIA Environmental Services (main line)	(303) 342-2730
iii)	Keith Pass (DIA Environmental Services)	(303) 342-2689
iv)	John Hambright (DIA Environmental Services)	(303) 342-2759

B. Guidance Materials (list is not limited to the following)
   i) DIA Stormwater Management Plan (SWMP)
   ii) DOT Labeling and Placarding Guidance
   iii) SPCC Plan

C. Training Materials (list is not limited to the following)
   i) Not applicable

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management
   iii) ES-301-2.07 Maintenance of Pretreatment Devices
   iv) ES-301-3.01 Construction
   v) ES-301-3.02 Planning and Design
   vi) ES-301-4.09 Management of Petroleum Storage Tanks & Containers

E. Applicable Regulations (list is not limited to the following)
   i) 40 CFR Part 112 Oil Pollution Prevention (SPCC OPA/Plans)
   ii) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
   iii) 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
   iv) 6 CCR 1007-3, Parts 260-262 State RCRA Regulations
   v) 7 CCR 1101-14 State Storage Tank Regulation
   vi) 5 CCR 1001-3 through -23 State Air Pollution Regulations
   vii) Denver Wastewater Management Division Rules & Regulations
   viii) Metro Wastewater Reclamation District Rules & Regulations
   ix) DIA Rules & Regulations
   x) Denver Fire Department Regulations (International Fire Code)

F. Other Documents (list is not limited to the following)
   i) SWMP Industrial Activities Survey/Matrix & Instructions
   ii) Air Pollutant Emission Notice (APEN) forms
   iii) DIA Manager's Bulletins

*ES-301-4.01 MANAGEMENT OF PESTICIDES AND HERBICIDES**	
Document Identification Number	ES-301-4.01
Version:	3.01
Date:	September 23, 2015
Document Owner:	Tom Somers

1) Activity Description: Management of Pesticides and Herbicides

This activity covers the proper storage, handling, transportation, and disposal of all pesticides, herbicides, rodenticides, insecticides, and larvicides (hereinafter referred to pesticides). For application instruction, read labeling instructions on the container and/or speak to a supervisor.

***** This EG is one of several specifically identified procedures for activities/facilities that are required by the Pollution Prevention/Good Housekeeping section of CCD's MS4 permit. Related procedures not specially addressed in this EG include, but not limited to, those identified in the Reference section of this document.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:

- Improper or inappropriate use of pesticides and herbicides
- Contamination of soils
- Contamination of surface water
- Contamination of groundwater
- Destruction of wildlife/protected species
- Destruction of wetlands
- Improper or inappropriate disposal of pesticides and herbicides

B. Potential consequences from performing the activity incorrectly:

- Personal injury, property damage, or long-term damage to the environment
- Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Requirements and Tasks

A. Prohibited Activities

i) Disposal of any unused pesticides in the storm sewer system or anywhere on DEN property is prohibited.
   - Unused, recalled, or waste pesticides may require special handling as hazardous (universal) waste.

ii) Disposal of pesticide containers without triple rinsing to remove residues is prohibited.
   - Triple rinse all pesticide containers prior to sending them off for disposal. Rinse water shall be applied to an area for treatment.

iii) Application of pesticides classified as "restricted use" by an unlicensed applicator is prohibited.
   - These activities must employ an applicator licensed with the Colorado Department of Agriculture.

iv) Washing spills into the stormwater sewer system is prohibited.

v) Discharges to surface waters of the State without a permit are prohibited.
   - See CDPS General Permit "Discharges from Applications of Pesticides" for specific eligibility requirements.

B. General Considerations

i) Each operator and tenant conducting activities utilizing a pesticide or herbicide is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
ii) Follow application instructions exactly as described on the container label.
iii) Take care not to breathe chemicals. Wear appropriate personal protection equipment (PPE) during application and handling of materials. Prior to usage, read the container labeling for PPE requirements.
iv) Pesticide MSDSs and product information must be made available at the facility to all employees that utilize the chemicals.
v) Minimize use of pesticides. Seek less harmful/toxic pesticides to replace ones currently in use.
vi) Have adequate first aid materials near application area in case of emergency. Read container label for first aid requirements.
vii) Maintain adequate supplies of spill response equipment and materials in locations where spills are likely to occur.
viii) If waste materials are handled as universal waste, the material can only be stored on site for one year. For more information see ES-301-6.05 Management of Universal Wastes.
ix) Maintain inventories of pesticide materials stored on site. When possible, pesticide inventory should be minimized to amounts required for intended use.

C. Employee Training

i) Contractors engaged in the application of restricted use pesticides must be qualified and licensed as Commercial Pesticide Applicators by the Colorado Department of Agriculture.
ii) Employees using pesticides shall be trained by their Supervisor on proper use, handling, and disposal.
   - Training will be conducted as necessary to conduct the Activity as described herein and to inform employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations.
   - Records of on-the-job training are not required. Records of formal employee training, if provided, shall be retained.

D. Storage & Material Handling Requirements

i) Store materials per FIFRA-approved methods.
ii) Maintain legible labels and markings on all containers and tanks.
iii) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.

E. Emergency Response

i) Call DEN Communications Center immediately at 303-342-4200 for all spills.
ii) If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
iii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iv) Containerize all collected wastes and evaluate for labeling, storage and disposal.

Expected Records / Outputs:

- Usage Records
  - For DEN applications, pursuant to XO 127A, the CCoD Department/Agency applying mosquito control larvicides shall record the location and frequency of application as well as the amount applied. This information shall be submitted to the CCoD Animal Control Division on a monthly basis during the application season. Copies are kept in ES files (09.18.03.05.01.05).
  - The department responsible for the deployment of mosquito control larvicides must complete the attached Larvicide Usage Report or similar document when lavicide is applied. Completed reports shall be submitted to DEN Environmental Services (ES). DEN ES will submit the report to the CCoD Animal Control Division (Diane Milholin) on a monthly basis during the application season. Tenants should utilize the "Pond Inspection Checklist" (provided at end of this EG) or similar document to record inspection and maintenance activities.
  - Contractors applying pesticides, including larvicides, on DEN are responsible for maintaining usage records.

- Waste management records (profiles, manifests, sample results, etc.).
  - Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests are required for hazardous, special and universal waste).
  - Operator must maintain waste management records at the facility for a minimum of 3 years.

- MSDSs for pesticides and herbicides
  - Manufacturers of these products will supply MSDS documents on demand. MSDSs for all pesticides/ herbicides/larvicides should be made available to all employees engaged in application activities. MSDSs should be maintained on file at the maintenance center facility.
  - Contractors that apply herbicides and pesticides are responsible for making MSDSs available to employees and for training on proper use.

4) Inspection Requirements:

Chemical storage areas should be reviewed for proper storage and general housekeeping. Inspections of chemical storage areas are recommended weekly for correct materials management, containment, security, cleanliness, access, correct labeling, storage duration, spills, and leaks.

Expected Records / Outputs:

- MS4 related maintenance activities conducted by DEN Field Maintenance shall be recorded in the DEN Maximo system. Recorded information should include costs incurred and total hours for the activity. This information will be incorporated into the CCD MS4 Annual Report.

5) References

A. Phone Numbers

DEN Communications Center (for Spill Reporting)…….. (303) 342-4200
Tom Somers (DEN Environmental Services)…….. (303) 342-2733
DEN Environmental Services (Main Line)…… (303) 342-2730

B. Guidance Materials (list not limited to the following)

- Product label
- City and County of Denver Noxious and Invasive Weeds Management Guidelines
- MSDSs

C. Related Environmental Guidelines (list not limited to the following)

- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management
- ES- 301-6.05 Management of Universal Waste
- ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
- ES-301-4.01 Management of Pesticides and Herbicides
- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management
- ES-301-6.05 Management of Universal Waste

D. Applicable Regulations (list not limited to the following)

- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
- 40 CFR 260-262-273 Federal RCRA Regulations
- 6 CCR 1007-3, Part 261 State RCRA Regulations
- CCD MS4 Permit
- CCD Ordinances
- Denver Wastewater Management Division Rules and Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DEN Rules and Regulations
- CCD Mayor's Executive Orders

E. Other Documents

- DEN Managers Bulletins

ES-301-4.02 Petroleum Exploration & Production Activities	
Document Identification Number	ES-301-4.02
Version:	3.01
Date:	December 31, 2015
Document Owner:	Jerry Williams

1) Activity Description:

2) Potential Environmental Risks

A. The following environmental concerns are associated with this activity:
   i) Disposal of spent spill absorbents
   ii) Air pollution and odors
   iii) Improper or inappropriate disposal of petroleum-contaminated wastes
   iv) Contamination of soils
   v) Contamination of surface water
   vi) Contamination of groundwater
   vii) Remediation of contaminated media

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, or long-term damage to the environment
   ii) Regulatory non-compliance, Notices of Violation, and related [financial and non-financial] penalties

3) Critical Requirements

A. General Considerations
   i) Each operator and/or tenant conducting petroleum exploration and/or production activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

B. Training Requirements
   i) Spill Prevention, Control, and Countermeasure (SPCC) Plan training may be required for employees engaged in petroleum production and storage activities.
   ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact Storm-water runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

C. Storage & Material Handling Requirements
   i) Maintain an inventory of production, storage, and transmission of crude oil, condensate, and natural gas.
   ii) Implement an SPCC Plan for the site, per Oil Pollution Act (OPA) requirements.

4) Planning Requirements

i) Review the Colorado Oil and Gas Conservation Commission (COGCC) Rules and Regulations with regard to petroleum exploration and production prior to initiating exploration or production activities.
ii) Complete the Stormwater Management Plan (SWMP) Survey/Matrix to assist in determining if a SWMP is required.
    - This document is available at DIA Environmental Services.
iii) Conduct environmental review (refer to ES-301-3.02 Planning and Design)
iv) Prepare and implement an SPCC Plan prior to initiating petroleum storage activities.
v) Inventory materials in storage
vi) For any new well drilling/development, refer to ES-301-3.02 Planning and Design and ES-301-3.01 Construction.

5) Critical Tasks

i) Maintain an inventory of all petroleum storage.
ii) Site closure must be performed in accordance with the "1000 Series Reclamation Regulations" set forth by Colorado Oil and Gas Conservation Commission (COGCC).

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
    i) For all reportable spills, call DIA Communications Center immediately at 303-342-4200**.**
B. If a spill/release occurs, follow COGCC Rules and Regulations, specifically Exploration and Production Waste Management (900 Series) and Reclamation Regulations (1100 Series).

7) Inspection & Maintenance Requirements

A. Inspect production and storage systems regularly and maintain as necessary, per COGCC and SPCC Plan requirements.

8) Expected Records and Outputs

A. MSDS
    i) Manufacturers of products are required to supply these documents on demand. MSDSs for all products should be made available to employees engaged in petroleum exploration and/or production and maintained on file by the operator at the facility.
B. Inventory throughput and storage inspection reports
    i) These records are required by the COGCC and must be maintained by the operator on site.
C. SPCC Plan and Compliance Records
    i) The operator must maintain this plan on site (if attended 4 hours per day); otherwise, at the nearest field office.
D. Completed SWMP Industrial Activities Survey/Matrix
    i) Obtain a copy of this document business.flydenver.com/environmental. Complete and return to ES for evaluation.
E. Air Pollutant Emission Notice (APEN) forms (if required) and compliance records

i) APEN forms are required by CDPHE if certain production requirements are met. Production thresholds should be evaluated on a per well basis.
ii) The operator must maintain these forms on site.

F. Completed COGCC Forms and Reports (including lab analysis, disposal manifests, inspections, etc.)
i) The COGCC requires the operator to maintain these documents on site.

G. Permits and Plans
i) Copies of all permits and plans must be submitted to DIA ES for filing.

H. Waste and Wastewater Disposal Compliance Records
i) Disposal manifests are required for disposal of fluids from vaults and Exploration & Production (E&P) wastes.
ii) These records must be maintained on site by the operator.

9) References

A. Phone Numbers
i) DIA Communications Center (for Spill Reporting) ..... (303) 342-4200
ii) DIA Environmental Services (Main Line)..... (303) 342-2730
iii) Neil Maxfield (DIA Property Management).....(303) 342- 2568
iv) Jerry Williams (DIA Environmental Services) ..... (303) 342-2087
v) Keith Pass (DIA Industrial Stormwater Permit Manager……(303) 342-2689

B. Guidance Materials (list not limited to the following)
i) Stormwater Management Plans (SWMP)
ii) SPCC Plan for DIA Oil and Gas Properties
iii) Tenant/operator SPCC plans for oil and gas production facilities (e.g. Petro Canada)
a. DIA Manager's Bulletins

C. Training Materials (list not limited to the following)
i) SPCC Plan

D. Related Environmental Guidelines (list not limited to the following):
i) ES-301-3.01 Planning and Design
ii) ES-301-3.02 Construction
iii) ES-301-5.02 Spill Response
iv) ES-301-4.09 Management of Petroleum Storage Tanks & Containers (SPCC Plan)

E. Applicable Regulations (list not limited to the following)
i) 40 CFR Part 112 Oil Pollution Prevention Regulations
ii) Federal water quality permitting regulations (40 CFR 122-124)
iii) State water quality statutes (CRS 25-8-101 et seq)
iv) State water quality permitting regulations (5 CCR 1002-61 and -65)
v) DIA MS4 Permit, No. COS-000001
vi) Colorado Oil and Gas Conservation Act Title 34 - Article 60 Rules and Regulations
vii) Colorado Oil and Gas Conservation Commission Regulations, 2 CCR 404-1
viii) DIA Rules and Regulations

ES-301-4.03 Cleaning/Washing - Outdoor Areas and Structures	
Document Identification Number	ES-301-4.03
Version:	3.01
Date:	December 30, 2015
Document Owner:	Keith Pass

1) Activity Description:

Routine maintenance and cleaning of outdoor pavement, structures, buildings, and facilities to ensure efficient operation of this public facility as well as to ensure public safety. This activity includes sweeping, scrubbing, power washing, etc. of building exteriors including roof tops, windows, and walls, parking lots and structures, parking kiosks/enclosures, runways/taxiways and other pavement areas, concrete islands, signs, ramp areas, sidewalks, etc. both "landside" and on the "airside". These areas are delineated by a security fence.

Discharges to the storm sewer system without a permit are prohibited by State regulation (Regulation 65). However, it is allowable for wash waters from power washing activities to migrate onto landscaping with vegetated cover without having to obtain a permit provided the chemicals used are not harmful to the vegetation, the material being removed is not harmful to vegetation, there is no ponding, and there is no runoff from the site into a storm water conveyance or Waters of the State (www.cdphe.state.co.us/wq/PermitsUnit/POLICYGUIDANCEFACTSHEET/powerwash.pdf). This is allowable at DEN only in compliance with the above guidance and upon review and approval of the proposed chemicals by DEN Environmental Services.

Discharges to the industrial stormwater (DIW) sewer system from cleaning operations on the airside are conditionally allowable (permitted) discharges under the Department of Aviation's Wastewater Contribution Permit following review and approval of MSDSs for proposed products by DEN Environmental Services.

This guideline serves as the BMP document that will be followed for discharges from outdoor washing of buildings and structures on City and County of Denver, Department of Aviation property.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   1. Release of contaminants in wash fluids to sewer, waterways, or soils, such as:
      i) Oil and Grease
      ii) Fuels
      iii) Solvents, Soaps, and Detergents
      iv) Propylene Glycol/Aircraft Deicing Fluid
      v) Ethylene Glycol/Radiator Coolant (Antifreeze)
      vi) Hydraulic Fluids or other maintenance materials
      vii) Pavement Deicers
      viii) Animal Droppings
      ix) Sediments

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, or long-term damage to the environment

ii) Regulatory non-compliance, Notices of Violation, and related [financial & non-financial] penalties

3) <u>Critical Operating Requirements</u>

A. Prohibited Activities

i) Transporting waste liquids and solids contained in equipment and originating off site onto DEN property is strictly prohibited (e.g., fluids in scrubbers).
ii) Washing spills of any kind into the stormwater collection system is prohibited.
iii) Washing spills of any kind into the industrial stormwater (DIW) sewer system is not allowed without prior approval by DEN Environmental Services.
iv) Washing spills of any kind into the sanitary sewer collection system is not allowed without prior approval by DEN Environmental Services.
v) Disposal of solid waste materials into any drain is prohibited.
vi) Discharge/disposal of liquid wastes into any sewer system is prohibited without a permit.
vii) The discharge must not: contain floating or solid materials, have a visible sheen, be harmful to vegetation, or cause erosion of a land surface.

B. General Considerations

i) Each operator, tenant, and/or vendor conducting outdoor maintenance and/or cleaning activities for the City and County of Denver at DEN is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
ii) Consolidate solid waste materials into appropriate containers (i.e., dumpsters, trash cans, tanks, drums, etc.).
    - Refer to *ES-301-6.01 General Waste Management* for guidance on waste handling & disposal.
iii) For all cleaning/maintenance activities for outdoor areas and structures, the following options exist for disposal/discharge of the effluent under the following requirements/conditions:
    - If chemicals are used for outdoor washing or maintenance activities, MSDSs must be submitted and approved by DEN Environmental Services.
    - If environmentally friendly (contains no toxic or hazardous constituents), the effluent from power washing activities can be land applied onto grassy or unpaved areas at a rate that it will not cause erosion or discharge to a storm water conveyance (refer to the policy identified in the Activity Description above), including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains designed or used for collecting or conveying stormwater. No CDPS permit is required for this approach.
    - Collect the fluid and discharge to the sanitary sewer system through a pretreatment device. This approach requires approval by DEN Environmental Services and may require additional approvals from Department of Public Works and/or Metro Wastewater Reclamation District.
    - Utilize drain covers, straw bales, etc. to protect the storm sewer system from discharges due to washing activities.
    - Offsite disposal in an appropriately permitted facility. No CDPS permit required for this approach; however, approval from the permitted facility is required.

- Conduct the work in an area that will allow for complete evaporation of the wash water (zero discharge). No CDPS permit is required for this activity; however, prior approval by DEN Environmental Services is required.
- If cleaning an area with visible animal droppings/waste, apply Best Management Practices (BMPs) to prevent or control the presence of solids in the discharge through sweeping, berming, filtering, etc.

C. Training Requirements
   i) Staff performing such outdoor cleaning/washing activities must be trained in appropriate disposal/discharge procedures for the wastes generated.
   ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements
   i) Store chemicals used for washing in containers in good condition and utilize secondary containment when appropriate (e.g., if stored indoors and in close proximity to a drain; if stored outdoors, containers must be in/on secondary containment and covered).

4) Planning Requirements

A. All detergents used must be pre-approved in advance by the airport's Contract Administrator and Environmental Services Section. If any additives are to be used for outdoor cleaning activities, DEN Environmental Services must be contacted immediately to determine permit coverage, and the sampling and reporting requirements. Additional approval and/or permitting by CDPHE may be required depending on the scope of the activity and chemical usage.
B. The following BMPs should be followed for discharging power washing wastewater to land with vegetated cover:
   i) All BMPs must be selected, installed, implemented and maintained according to good engineering, hydrologic and pollution control practices. The BMPs must be adequately designed to provide control for all potential pollutant sources associated with the discharge.
   ii) Solids and any pooled liquids other than stormwater should be removed from the area prior to power washing.
   iii) A filter bag or similar filtration device should be used to remove suspended solids. This device should be used and maintained in accordance with the manufacturer's specifications.
   iv) An absorbent oil pad, boom or similar device should be used to eliminate any oil from the discharge water.
   v) The discharge should be applied at a rate to minimize ponding so there is no potential for the water to flow to a storm sewer or other conveyance to surface waters.

5) Critical Tasks

A. Contact DEN Environmental Services prior to conducting outdoor cleaning operations to ensure compliance for the proposed activity, that proper disposal will occur, and if collection of discharge data are required.
B. Check with Environmental Services for any questions.

6) Emergency Response

A. Call DEN Communications Center immediately at 303-342-4200 for all spills regardless of whether any media was impacted. .
   - See Environmental Guideline *ES–301-5.02: Spill Response*

B. Spills/releases should be contained and cleaned up as soon as possible using either manual (e.g., absorbents, shovel) or mechanical (e.g., vacuum, sweeper) means to minimize potential stormwater impacts. Use absorbent materials for spot cleaning of small spills. Place used materials in an appropriate labeled container and dispose off-site in an approved, permitted facility. Contact DEN Environmental Services for assistance.

C. Spills of any kind shall not be washed into any storm sewer or waterway, or onto any soils.

7) Inspection and Maintenance Requirements

A. Inspect pretreatment devices and sumps regularly and maintain as necessary.
   - Refer to Environmental Guideline- *ES-301-2.07 Maintenance of Pretreatment Devices*

8) Expected Records and Outputs

A. Waste management records (profiles, manifests, sample results, etc.).
   - Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).
   - Operator must maintain waste management records at the facility for a minimum of 3 years.

B. Evidence of training
   - While formal certifications are not necessary, some form of "proof of training" (such as sign-in logs and handouts) is expected & should be maintained on file by the Operator.

C. Discharge Monitoring Reports
   - Required for discharges of wash water under CDPS permit(s). Reports are prepared by DEN Environmental Services (ES) and copies are maintained in the DEN ES central files. Provide discharge data to DEN ES.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Keith Pass (DEN Environmental Services)	(303) 342-2689
iii)	Kim Ohlson (DEN Environmental Services)	(303) 342-2637
iv)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) DEN Stormwater Management Plan

ii) CDPHE Power Washing Guidance
iii) CDPHE WQCD permit fact sheets, rationales, and general permits

C. Training Materials (list is not limited to the following)
i) ES-303-1.01 Stormwater Pollution Prevention Training

D. Related Environmental Documents (list is not limited to the following)
i) ES-301-2.07 Maintenance of Pretreatment Devices
ii) ES-301-5.02 Spill Response
iii) ES-301-6.01 General Waste Management

E. Applicable Regulations (list is not limited to the following)
i) 40 CFR 110.3 Discharge of Oil
ii) 40 CFR 112 Oil Pollution Prevention (SPCC Plans)
iii) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
iv) 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
v) 40 CFR 401 Effluent Limitation Guidelines
vi) Denver Wastewater Management Division Rules and Regulations
vii) Metro Wastewater Reclamation District Rules and Regulations
viii) City and County of Denver Mayor's Executive Order No. 115
ix) DEN Industrial Stormwater Permit
x) DEN Metro Wastewater Contribution Permit
xi) CDPHE Regulation 65
xii) CDPHE Regulation 61
xiii) Colorado Water Quality Control Act
xiv) DEN rules and regulations

ES-301-4.04 Management of Fire Control Agents

Document Identification Number	ES-301-4.04
Version:	3.01
Date:	February 3, 2016
Document Owner:	Craig Schillinger

1) Activity Description:

The activity of properly storing, handling, transporting, dispensing, and disposing of fire control agents such as Aqueous Film Forming Foam (AFFF) and dry chemicals. Includes fire truck testing and training activities.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Contamination of surface water
   ii) Contamination of sanitary sewer
   iii) Improper or inappropriate disposal of fire control agents

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Noncompliance, Notices of Violation from Regulators, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Except with events associated with a firefighting event, discharge of fire control agents into State Waters (i.e. stormwater system or waterway) is prohibited.
   ii) DEN DFD will perform Best Management Practices (BMPs) during any training exercises utilizing AFFF to minimize the potential for impacts to surface water quality.

B. General Considerations
   i) Each operator and tenant conducting activities with fire control agents is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

C. Training Requirements
   i) All applicable employees should be trained in appropriate procedures for use of fire control agents.

D. Storage and Materials Management Requirements
   i) Store chemicals and other cleaning products in appropriate containers in good condition (i.e. original containers that are labeled and don't pose risk to leakage) and utilize secondary containment when appropriate.

- For proper storage techniques of petroleum products, refer to ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals

4) Planning Requirements

A. Train all responsible personnel in the use, calibration, testing, and disposal of fire control agents.

5) Critical Tasks

A. When AFFF is used for training or calibration of equipment, it must be managed properly. Training for the use of AFFF must be conducted in accordance with the following:
   i) DEN DFD will conduct training exercises in an area on DEN property that is not in close proximity or directly connected to DEN's receiving waters and/or tributaries.
   ii) Care will be taken to ensure that the quantities of AFFF utilized and the manner in which they are sprayed minimize the threat of AFFF entering DEN's receiving waters or tributaries.
   iii) Care will be taken to ensure that the AFFF does not enter any storm drains, inlets, or culverts.
   iv) Material usage will be monitored.
   v) Disposal of AFFF into one of the lined retention ponds is allowed subject to Metro Wastewater Reclamation District (Metro) approval. At any time, Metro has the right to require DEN to cease discharge if they believe there is a potential for the discharge to disrupt treatment processes. Any introduction of AFFF into the lined retention ponds **must** be coordinated with DEN Environmental Services.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

B. Disposal of Spill cleanup materials generated from cleanup of spills of AFFF or Purple K (dry chemical) must be handled in accordance with ES-301-6.01. Small amounts (less than 5 gallons) can be placed in a municipal solid waste dumpster or commercial compactor. Larger volumes of spill cleanup material must be handled as Special Waste (see ES-301-6.06)

7) Inspection and Maintenance Requirements

A. Inspect the local area for impacts after AFFF use; notify DEN Environmental Services if significant erosion is noted or fire control agents have been released to a storm sewer or a waterway.

8) Expected Records and Outputs

A. Waste management records (profiles, manifests, sample results, etc.)
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous, special and universal waste).

ii) Operator must maintain waste management records at the facility for a minimum of 3 years.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834
iii)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) DEN Stormwater Management Plan
   ii) MSDSs

C. Training Materials (list is not limited to the following)
   i) DEN DFD Standard Operational Procedures (SOPs)

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management

E. Applicable Regulations (list is not limited to the following)
   i) 40 CFR 260-262 Federal RCRA Regulations
   ii) 40 CFR 401 Effluent Limitation Guidelines
   iii) 6 CCR 1007-3, Parts 260-262 State RCRA Regulations
   iv) CDPHE WQCC Regulation No. 61: Colorado Discharge Permit System Regulations
   v) Metro Wastewater Reclamation District Rules and Regulations
   vi) DEN Rules and Regulations

F. Other Documents (list is not limited to the following)
   i) N/A

ES-301-4.05 Remediation of Contaminated Soils	
Document Identification Number	ES-301-4.05
Version:	3.02
Date:	December 29, 2015
Document Owner:	John Hambright

1) Activity Description: Remediation of Contaminated Soils

This environmental guideline addresses activities to be considered prior to, during, and at the conclusion of the remediation of contaminated media generated by activities or otherwise encountered on DEN property.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Contamination of clean soils
   ii) Contamination of surface water
   iii) Contamination of groundwater
   iv) Air pollution and odors
   v) Improper or inappropriate disposal of contaminated media

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, or damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial and non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Disposing of contaminated soils on DEN property.
   ii) Washing any soils into any drain.

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting remediation activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
   ii) As possible, separate clean from contaminated materials to minimize the volume of material requiring remediation and/or disposal. Cover staged contaminated materials to prevent off-site transport by wind or runoff.
   iii) Ensure that the site is remediated in accordance with applicable regulations. The regulatory authority/jurisdiction is based on the source of the contamination (e.g., cleanup of contamination resulting from a state-regulated underground or aboveground storage tank is regulated by CDLE/OPS; cleanup of a site with contamination caused by oil and gas exploration activities is regulated by COGCC). It is the responsibility of the operator of the site or regulated unit to ensure that the remediation is completed in accordance with applicable regulations.

C. Training Requirements
   i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater pollution prevention (SWPP) training shall address topics such as spill response, good housekeeping, and material management practices.
   ii) Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements
   i) None.

4) Planning Requirements

A. Develop a plan for identifying materials needing remediation, remediation approach to take regarding the contaminated materials, and method(s) of confirmation of remediation results prior to conducting any remediation activities.

B. Ensure that all required permits, regulatory approvals, utility clearances, access agreements, and FAA approval (if required) are obtained prior to conducting any remediation activities.

C. A DEN Access Permit and Work Plan are required for any intrusive work (other than construction projects) performed by tenants, contractors, or their representatives on DEN property. See Environmental Guideline ES-301-3.01 Construction for construction-related planning requirements.

5) Critical Tasks

A. All proposed remediation systems and plans should be reviewed by DEN Environmental Services (ES) prior to initiation. This includes work plans, designs, and permit applications. Plans and permits approved by regulatory authorities should be copied to DEN ES.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

7) Inspection and Maintenance Requirements

A. DEN Access Permits contain provisions for notifying DEN ES prior to initiating field work. DEN ES may perform site inspections and oversight during remediation activities at their discretion.

8) Expected Records and Outputs

A. Remediation plan reviewed by DEN ES and approved by appropriate regulatory agency
   i) These plans should be submitted to DEN ES for review before submittal to the appropriate agency.
   ii) Finalized plans should be copied to DEN ES following approval by the appropriate agency.

B. A DEN Access Permit and Work Plan for use of DEN property and instructions from Airport Legal Services
   i) Access Permits and Work Plans are required of tenants, contractors, or their representatives prior to performing intrusive work on DEN property.
   ii) Additional instructions on specific site use will be prepared on a case-by-case basis by Airport Legal Services.

C. Waste management records (profiles, manifests, sample results, etc.)
   i) A waste profile will be required by the disposal facility prior to shipping to them.
   ii) Based on the disposal profile, manifests and related forms may be required. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous waste).
   iii) Operator must maintain certain waste management records at the facility for a minimum of 3 years.

D. Analytical results and monitoring reports
   i) Copies of final laboratory analyses must be provided to DEN ES.

E. Clean closure certification documents
   i) These documents may be required by the applicable regulatory agency.
   ii) These documents may be required in the DEN Access Permit.
   iii) These documents should be copied to DEN ES upon receipt.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	John Hambright (DEN Environmental Services)	(303) 342-2759

B. Guidance Materials (list is not limited to the following)
   i) Colorado Division of Oil and Public Safety (OPS) Petroleum Storage Tank Owner/Operator Guidance Document
   ii) DEN Manager's Bulletins
   iii) USEPA and CDPHE guidance on remediation criteria and solid waste handling

C. Training Materials (list is not limited to the following)
   i) None

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management

E. Applicable Regulations (list is not limited to the following)
   i) Colorado OPS Storage Tank Regulations 7 CCR 1101-14
   ii) Colorado Oil and Gas Conservation Commission (COGCC) Regulations, 2 CCR 404-1 (900 and 1100 Series)
   iii) DEN Rules and Regulations

iv) CDPHE Soil Remediation Objectives Policy Document, 12/31/1997 (Note: the table values in this document [Table 1 – Soil Cleanup Table Value Standards] were replaced with table values in the December 2007 document [Table 1 - Colorado Soil Evaluation Values (CSEV)] cited below)

v) CDPHE/HMWMD Table 1 - Colorado Soil Evaluation Values (CSEV), December 2007 (Note: the table values presented in this document replace the outdated table values presented in the 12/31/97 Soil Remediation Objectives [SRO] policy document cited above)

vi) CDPHE/HMWMD Booklet titled "Information Regarding the Management of Petroleum-contaminated Soil" – October 2003

F. Other Documents (list is not limited to the following)

i) None

ES-301-4.06 Pavement Deicing	
Document Identification Number	ES-301-4.06
Version:	3.01
Date:	January 12, 2016
Document Owner:	Kimberly Ohlson

1) Activity Description: Pavement Deicing

Application of deicing and anti-icing materials to pavements.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Overuse and/or inappropriate application of deicing fluids
   ii) Improper or inappropriate disposal of off-specification or waste deicing fluids
   iii) Odors
   iv) Contamination of soil
   v) Contamination of surface water
   vi) Contamination of groundwater
   vii) Air pollution (from sand)

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Improper disposal of deicing or anti-icing fluids.
   ii) Overuse or improper use of deicing chemicals.
   iii) Noncompliance with the Stormwater Management Plan (SWMP).
   iv) Use of organic-based fluids on landside.
   v) Use of chloride-based fluids on airside.
   vi) Use of urea.

B. Approved Products
   i) The only approved products for application on airside surfaces at DIA are Glycol-based fluids, potassium acetate, potassium formate, sodium acetate, and sodium formate.
   ii) The only approved products for application on landside surfaces at DIA are chloride based products.

C. General Considerations
   i) Each operator and tenant conducting chemical storage activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

ii) Use appropriate deicing and anti-icing products for the application and understand the specifications for choosing an appropriate deicing product.
iii) Stormwater contaminated with pavement deicers used on landside are covered under the City's MS4 permit. Stormwater contaminated with pavement deicers used on airside (for industrial activities) are regulated under DIA's Industrial Stormwater Permit. Neither permit allows the discharge of pavement deicers to the MS4 or State Waters unless it is associated with a precipitation event.

D. Training Requirements
   i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact Stormwater runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

E. Storage and Materials Management Requirements
   i) Utilize appropriate spill prevention equipment for containers, vessels, hoses, transfer areas, etc. Store all deicing and anti-icing fluids in containers in good condition, and indoors if possible. When stored outdoors, storage areas should be managed to minimize the potential for spills/leaks or exposure to precipitation resulting in a discharge to State waters.
   ii) Do not waste fluid:
      a) The amount of the deicing agent applied should be appropriate to the need and not excessive. The actual quantity and mix of deicing agent applied is at the discretion of the operator.

4) Planning Requirements

A. Develop and implement a training program to train deicing staff in the proper use and application of deicing and anti-icing materials.

B. Maintain adequate supplies of spill response equipment and materials in accessible locations where spills are likely to occur.

C. All airside deicing staff should be trained on the requirements of the Stormwater Management Plan (SWMP) prior to conducting any airside anti-icing or deicing activities**.**

D. Complete the Stormwater Management Plan (SWMP) survey/matrix to assist in determining if a SWMP is required for the activity. This document is available at: http://www.flydenver.com/sites/default/files/environmental/stormWaterMP.pdf. If applicable, the operator will need to decide whether to use the DIA SWMP or generate their own SWMP for review by DIA ES

5) Critical Tasks

A. Tenants shall comply with pavement deice material requirements in DIA Rules and Regulations, Part 40.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DIA Communications Center immediately at 303-342-4200 for all spills.
   ii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
   iii) Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.
   iv) Containerize all collected wastes and evaluate for proper labeling, storage, and disposal. Refer to ES-301-6.01 through 6.06 for guidance on waste management.

7) Inspection and Maintenance Requirements

A. Maintain equipment according to the manufacturer's recommended maintenance schedule.

B. Routinely inspect sumps, catchment basins, trench drains, and pretreatment devices that potentially receive fluids from pavement deicing; clean/maintain as necessary.

8) Expected Records and Outputs

A. MSDSs and Chemical Use Records
   i) Purchase and use records for deicing fluids should be maintained at Field Maintenance.
   ii) Purchase and use records for deicing fluids should be maintained at each tenant facility.

B. Evidence of training on SWMP, SPCC Plan, and Operator SOPs, as applicable
   i) While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

C. DIA Stormwater Management Plan (SWMP) survey/matrix.
   i) Obtain a copy of this document at: http://www.flydenver.com/sites/default/files/environmental/stormWaterMP.pdf.
   ii) Complete form and return to DIA ES for evaluation.
   iii) Maintain survey/matrix on file after review by DIA ES.

D. Spill and release records for any spills
   i) Responsible party (for the spill) notifies DIA Communications Center.

9) References

A. Phone Numbers

i) DIA Communications Center (for spill reporting)	(303) 342-4200
ii) DIA Environmental Services (Main Line)	(303) 342-2730
iii) Kimberly Ohlson (DIA Environmental Services)	(303) 342-2637
iv) Keith Pass (DIA Environmental Services)	(303) 342-2689
v) Craig Schillinger (DIA Environmental Services)	(303) 342-2834
vi) FAA Weather Contractors (B-Tower)	(303) 348-4177

B. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management

C. Guidance Materials (list is not limited to the following)
   i) DIA Stormwater Management Plan
   ii) Deicing fluid and application equipment manufacturers specs
   iii) FAA Advisory Circular No. AC 150/5200-30A Airport Winter Safety and Operations
   iv) DIA Operations Snow Plan
   v) DIA Manager's Bulletins

D. Training Materials (list is not limited to the following)
   i) ES-303-1.01 Stormwater Pollution Prevention Training

E. Applicable Regulations (list is not limited to the following)
   ii) DIA Rules and Regulations, Part 40 – Conduct of Tenants Using the Airport
   iii) 40 CFR 122-124 NPDES Regulations for Stormwater Discharges

ES-301-4.07 Potable Water-Using Municipal Activities

Document Identification Number	ES-301-4.07
Version:	3.01
Date:	February 3, 2016
Document Owner:	Craig Schillinger

1) Activity Description:

Discharges of potable water are a type of industrial activity with short term infrequent discharges that with proper management are not expected to contain pollutants in concentrations that are toxic or in concentrations that would cause or contribute to a violation of a water quality standard. Discharges of potable water to State Waters may require a permit; however, the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD) has determined these types of discharges to be "low risk" discharges that may be addressed through policy rather than permit. In accordance with the Water Quality Control Division's (WQCD) Low Risk Discharges policy WQP-27: Discharges Of Potable Water revised August 2009), DEN has developed this Best Management Practice (Environmental Guideline (EG)) to describe the procedures to be followed when discharging potable water to the ground surface, stormwater sewer system, or to surface waters on DEN property.

The types of activities conducted at DEN that may be allowed under this guidance include fire hose nozzle testing, water arches, testing of fire protection and life safety system, and other training or safety testing using only potable stored in containers that have only stored potable water. For example, water used for equipment testing that is stored in a tank that once held anything OTHER than potable water would not be an allowable discharge under this guidance and guideline. In addition, this guideline does not cover the commercial washing of buildings or other outdoor structures, washing of heat transfer equipment, deicing training activities (unless the water used is potable water from a potable water source stored only in potable water storage equipment), or the discharge of water generated during any other process.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Sediment & erosion
   ii) Total Residual Chlorine
   iii) Discharging potable water to State Waters without a permit or not in compliance with WQCD's Low Risk Discharges policy leading to a violation
   iv) Land disposal of potable water without a permit or not in compliance with WQCD's Low Risk Discharges policy

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Possible regulatory non-compliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) The discharge of cleaning materials or chemicals, including dyes, is strictly prohibited, and should be sent to the sanitary sewer, with the permission of DEN Environmental Services, or otherwise collected and disposed of.
   ii) The discharge shall not cause erosion of the land surface.
   iii) Discharge of potable water from a non-potable water storage or distribution system.
   iv) Discharge of potable water used in an additional process such as washing, heat exchange, manufacturing, and hydrostatic testing of pipelines not associated with treated water distribution systems.
   v) The discharge shall not contain solid materials in concentrations that can settle to form bottom deposits detrimental to the beneficial uses of the state water or form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses.
   vi) Discharges of potable water directly to a State surface water (any stream, creek, gully, whether dry or flowing), must not contain residual chlorine.
   vii) Discharges to the ground must not cause any toxicity to vegetation.

B. General Considerations
   i) Each operator and tenant using potable water in its activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) There is no discharge if the water is directed to an impervious surface and allowed to evaporate.
   iii) For discharges to land, route the discharge to landscaped areas and allow infiltration. Control the rate of potable water discharge to allow for effective infiltration and to control erosion.
   iv) For discharges to any drainage, utilize appropriate erosion BMPs or control the rate of the discharge to reduce sedimentation or erosion.
   v) For discharges to the MS4, select discharge locations upstream of pretreatment devices or water quality ponds if possible.
   vi) Discharges of potable water to the sanitary sewer are allowed with the approval of DEN Environmental Services.
   vii) The discharge must be diverted from building foundations or other areas that may be damaged from ground settling or swelling.
   viii) The discharge must be visibly clear and not contain floating or solid materials.
   ix) A visible sheen must not be evident in the discharge. When possible, an absorbent oil pad or boom or similar device should be used to eliminate oil from the discharge.
   x) If the discharge is directly to a State surface water (any stream, creek, gully, whether dry or flowing), it must not contain any residual chlorine. If the discharge is to a storm sewer, which has adequate travel time to allow for any chlorine to dissipate (generally ½ mile), dechlorination may not be necessary. If the discharge is to a ditch, chlorine content may be limited by the owner of the ditch. However, if the ditch returns flow to state water, it must not contain any residual chlorine, unless travel time will be sufficient for removal of the chlorine.

4) Planning Requirements

A. Plan activities such that excessive volumes of potable water will not cause significant erosion and carry sediments in runoff.

B. Coordinate with DEN Environmental Services on the discharge locations to ensure that the assumptions about the infrastructure are correct.

5) Critical Tasks

A. Notify Environmental Services before conducting activities involving the discharge of potable water.

B. Notify Environmental Services if any significant erosion takes place during these activities. This is particularly important when stormwater structures are located in the immediate area.

C. Ensure that ponding of the water does not occur as it can interfere with aircraft and equipment movement areas.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

7) Inspection and Maintenance Requirements

A. Operator should visually inspect the area prior to and during water-generating activities to ensure BMP's are correctly installed and are functioning as required.

B. Operator should visually inspect the area after water-generating activities to ensure that significant erosion damage has not occurred.

C. Pretreatment devices and structural controls are to be inspected and maintained to ensure proper operation. Refer to ES-301-4.08.

8) Expected Records and Outputs

A. None; there are no expected records for this activity.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834
iii)	Keith Pass (DEN Environmental Services)	(303) 342-2689
iv)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) DEN Municipal Separate Storm Sewer System (MS4) Permit

ii) CDPHE WQCD WQP-27 “Low Risk Discharges” policy
iii) CDPHE Low Risk Discharge Guidance: Discharges of Potable Water (revised August 2009 or most current version)
iv) CDPHE Industrial Stormwater Permit # COS-000008

C. Related Environmental Documents (list is not limited to the following)
i) ES-301-5.02 Spill Response
ii) ES-301-2.07 Maintenance of Pretreatment Devices
iii) ES-301-4.08 Maintenance of Ponds and Channels

D. Applicable Regulations (list is not limited to the following)
i) 40 CFR 123 State Program Requirements
ii) 5 CCR 1002-61: Colorado Discharge Permit System Regulations
iii) 5 CCR 1002-65: Regulation Controlling Discharges to Storm Sewers
iv) Denver International Airport Rules and Regulations
v) 2006 International Fire Code (Section 913.5 Testing and maintenance *of fire pumps*)
vi) 2008 National Fire Protection Association (section 8.3.3 Annual Tests *of fire pumps*)
vii) 2008 Denver Building Code and Amendments

E. Other Documents (list is not limited to the following)
i) N/A

*ES-301-4.08 Inspection and Maintenance of MS4 Structural Controls**	
Document Identification Number	ES-301-4.08
Version:	3.00
Date:	May 14, 2015
Document Owner:	Kim Ohlson

1) Activity Description: MS4 Maintenance and Operations Procedures for DIA

Stormwater control structures in the City and County of Denver (CCD) are maintained pursuant to the requirements of Colorado Discharge Permit System (CDPS) Permit No. COS-000001 for stormwater discharges from CCD's Municipal Separate Storm Sewer System (MS4). At DIA, structural controls are maintained under two separate sets of requirements. Ponds and conveyances associated with the stormwater system are managed pursuant to the requirements in the CCD MS4 permit. Ponds and conveyances associated with industrial systems [such as the spent ADF collection system] are managed in accordance with ES-308-03.03 Maintenance of Sewer System Work Instruction.

This document applies to MS4 structures used in the conveyance of stormwater flows through DIA to receiving waters of the State. These structures include, but are not limited to, storm sewer inlets, detention ponds, improved and unimproved channels, the storm sewer collection system, catch basins, and siphons.

Each operator and tenant conducting the inspection and maintenance of MS4 structural controls is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

Municipally owned structural controls should be inspected on a periodic basis to reduce pollutants in discharges from the MS4, ensure protection of the City's MS4 system and State receiving waters, and ensure proper functioning of the MS4 system. Improper operation as a result of lack of inspection and maintenance can lead to storm sewer overflows (flooding) and excessive debris build up, which leads to other environmental concerns.

Regional drainage ways at DIA are maintained by the Urban Drainage and Flood Control District (UDFCD). Pond T-239 is maintained by UDFCD. In addition, the Peña Boulevard Ponds will be inspected and maintained as detailed in the MOU between the City and County of Denver Department of Public Works and the developers.

Maintenance of structural controls shall, at a minimum, meet or exceed recommendations outlined in the most recent version of the Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual's Volume 3 – Best Management Practices.

***** This EG is one of several specifically identified procedures for activities/facilities that are required by the Pollution Prevention/Good Housekeeping section of CCD's MS4 permit. Related procedures not specially addressed in this EG include, but not limited to, those identified in the Reference section of this document.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
- Uncontrolled releases
- Storm sewer overflow
- Plugging of outlet structures
- Contamination of soil and/or groundwater
- Flooding
- Odors
- Contamination of surface water
- Aesthetics (trash, mowing)
- Illegal dumping & discharge
- Sediment & erosion control
- Nuisance control (pests, odor)

B. Potential consequences from performing the activity incorrectly:
- Personal injury, property damage, or long-term damage to the environment
- Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Requirements and Tasks

A. Prohibited Activities

i) Washing spills into the sewer system is prohibited.
ii) Discharges to State Waters without a permit.
iii) Discharge of the following materials down any drain is prohibited:
- Any oils or grease
- Pesticides, insecticides, or herbicides
- Solvents
- Solids of any kind, including soils
- Generally prohibited discharges as specified by Metro Wastewater and Denver Wastewater rules and regulations

iv) Disposal/discharge of wastewater into any storm drain, inlet, etc. or waterway is prohibited.
v) Transporting waste liquids and solids contained in equipment and originating from off-site onto DIA property is prohibited without prior approval from DIA Environmental Services (ES).
vi) Disposal of materials into the deicing waste (DIW) system (e.g., slot drains, ponds) without prior approval from DIA ES is prohibited.

B. General Considerations

i) Obtain all applicable federal, state, and local permits for construction projects
- Either one or both the Colorado Stormwater Construction General permit and/or the Denver Construction Activities Stormwater Discharge Permit apply to construction sites meet one or more of the following criteria:
  - Disturbing one acre or more, or less than one acre but part of a larger common plan of development,
  - Are part of 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,

- The site has been identified as having a significant potential for erosion, based on site characteristics including steep topography,
- The site is not known to contain contaminated soils or pre-existing environmental impairment, and
- The site is not directly adjacent to receiving waters (i.e. creek, stream, river, pond, lake, etc.).

  - A dewatering permit may be required if construction activities require the removal and discharge of groundwater offsite.
  - A U.S. Army Corp of Engineers (USACE) Section 404 Permit may be needed if the work will be conducted in or impact waters of the United States, including wetlands, washes, drainages, ditches, creeks, streams, and rivers.

ii) Applicable sediment and erosion controls shall be installed to prevent illegal discharges to the storm sewer or waterways, 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.

iii) Protect storm drain inlets and drains with curb socks, rock berms, inlet protection, or drain covers/mats prior to any activity.

iv) Sediment, debris, and litter removed from structures will be disposed of in accordance with regulatory requirements. Disposal of solid waste on DIA property is prohibited without prior DIA ES approval. Manage wastes generated during maintenance activities in accordance with ES-301-6.01: General Waste Management.

v) Where feasible, schedule maintenance activities during dry weather.

vi) Stay alert for any signs of illicit discharges. This includes “dry weather” flows or pipes or hoses emptying directly into waterways or the storm sewer system.

vii) Leaking material containers should be properly discarded and replaced.

viii) Store materials in containers under cover when not in use and away from any storm drain inlet.

ix) Sweep roadways once activities are complete.

C. Employee Training

i) Training will be conducted as necessary to conduct the Activity as described herein and to inform employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations.

ii) Records of on-the-job training are not required. Records of formal employee training, if provided, shall be retained.

D. Storage & Material Handling Requirements

i) Store materials per RCRA-approved methods.

ii) Maintain legible labels and markings on all containers and tanks.

iii) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.

E. Emergency Response

i) Call DIA Communications Center immediately at 303-342-4200 for all spills.
ii) If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
iii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iv) Containerize all collected wastes and evaluate for labeling, storage and disposal.

4) Tenant Inspection and Maintenance Requirements:

Private tenants are responsible for the maintenance of structural controls on or that service leased property pursuant to agreements signed with DIA. Tenants should periodically inspect structural controls and remove sediment, trash, and debris when observed.

DIA ES performs periodic inspections of tenant-operated structural controls. The Pond Inspection Checklist located in ES Data Files/Recordkeeping Forms can be utilized to document the DIA ES inspections; however, there is no required field documentation necessary for the field inspection. The inspector makes visual observations and compiles a report summarizing these observations. If proper maintenance activities are not occurring as required, a report will be compiled submitted to the DIA Properties Department for evaluation and compliance with applicable agreements signed with DIA.

Expected Records / Outputs:

- Tenants should utilize the "Pond Inspection Checklist" (provided at end of this EG) or similar document to record inspection and maintenance activities.

- Results DIA ES inspections will be recorded on the Maintenance of Structural Controls Reporting Form (ES Data Files/Recordkeeping Forms) for incorporation into the CCD MS4 Annual Report.

5) DIA Inspection and Maintenance Requirements:

Maintenance activities are initiated by FAA requirements, field observations made during normal daily activities, or based on the results of the DIA ES inspection. Depending on the level of maintenance required, DIA Field Maintenance or a contractor will provide maintenance activities for the municipally owned and operated MS4 system. These activities include but are not limited to, mowing operations to limit unwanted vegetation and to improve aesthetics, removal of debris and litter to minimize inlet/outlet clogging, repair and re-vegetation of eroded areas, and remove accumulated sediment near culverts, in channels, and pond bottoms to maintain flow capacity.

DIA ES performs an annual inspection of municipally owned and operated structural controls to identify issues and ensure that proper maintenance activities are occurring. The Pond Inspection Checklist located in ES Data Files/Recordkeeping Forms can be utilized to document the DIA ES inspections; however, there is no required field documentation necessary for the field inspection. The inspector makes visual observations and compiles a report summarizing these observations. If maintenance is required a report will be submitted to the Director of Field Maintenance for evaluation to determine the level of maintenance required.

Detention Facilities

A detention facility is a sedimentation basin designed to totally drain dry sometime, usually within 40 hours, after stormwater runoff ends. The ponds are considered to be "dry" because they are designed not to have a significant permanent pool of water remaining between storm runoff events. Therefore, standing or pooling water during dry periods is an indication that maintenance may be required.

- Debris and litter removal will be conducted based on visual inspection.
- Mowing operations will be conducted on an as needed basis.
- Non-irrigated native grasses should be 4 to 6 inches tall.
- Erosion and sediment control issues will be addressed as necessary based on visual inspection.
- Sediment removal from the fore bay, micro-pool, and the pond bottom will take place based on visual inspection.
- Repair and revegetation of eroded areas of basins and channels will take place on an as needed basis.

Improved and Unimproved Drainage Ways and Storm Sewer System

Improved channels consist of engineered channels that are lined with riprap, concrete, or other materials that afford protection and / or improve flows. Unimproved channels are vegetated or un-vegetated drainage ways with low pitched side slopes that collect and slowly convey runoff. The Storm Sewer System includes inlets, catch basins, siphon sets, mainline pipe and associated fittings. Standing or ponding water during dry periods is an indication that maintenance may be required.

- Improved channels require periodic maintenance including debris and sediment removal, patching, joint repair, riprap adjustment, and other such activities.
- Mowing operations will be conducted on an as needed basis.
- Debris, litter, and sediment removal will be conducted as needed based on visual inspection.
- Erosion and sediment control issues will be addressed as necessary based on visual inspection.
- Sediment in the channel should not reach a depth of 6 inches or impede the intended flow.

Expected Records / Outputs:

- MS4 related maintenance activities conducted by DIA Field Maintenance shall be recorded in the DIA Maximo system. Recorded information should include costs incurred and total hours for the activity. This information will be incorporated into the CCD MS4 Annual Report.

- Results of the annual DIA ES inspection will be recorded on the Maintenance of Structural Controls Reporting Form (ES Data Files/Recordkeeping Forms) for incorporation into the CCD MS4 Annual Report.

6) References

A. Phone Numbers

DIA Communications Center (for Spill Reporting)…….. (303) 342-4200
Kim Ohlson (DIA Environmental Services)…… (303) 342-2637
DIA Environmental Services (Main Line)…… (303) 342-2730

B. Guidance Materials (list not limited to the following)

- MSDSs
- DIA Stormwater Management Plan (SWMP)
- DOT Labeling and Placarding Guidance
- SPCC Plan
- Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual Volume 3 – Best Management Practices

C. Related Environmental Guidelines (list not limited to the following)

Note: The following list identifies procedures related to MS4 Operations and Maintenance Procedures but may not be all-inclusive. The following procedures are considered primary documents for purposes of compliance with the MS4 permit.

- ES-301-1.02 Cleaning/Washing – Aircraft, Vehicles, and Equipment
- ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
- ES-301-2.05 Cleaning/Washing – Indoor Industrial Surfaces
- ES-301-2.07 Maintenance of Pretreatment Devices
- ES-301-3.01 Construction
- ES-301-3.02 Planning and Design
- ES-301-4.01 Management of Pesticides and Herbicides
- ES-301-4.03 Cleaning/Washing – Outdoor Areas and Structures
- ES-301-4.06 Pavement Deicing
- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management

D. Applicable Regulations (list not limited to the following)

- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
- 40 CFR 260-262-273 Federal RCRA Regulations
- 6 CCR 1007-3, Part 261 State RCRA Regulations
- CCD MS4 Permit
- CCD Ordinances
- Denver Wastewater Management Division Rules and Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DIA Rules and Regulations
- CCD Mayor's Executive Orders

E. Other Documents

- DIA Managers Bulletins

ES-301-4.09 Management of Petroleum Storage Tanks and Containers	
Document Identification Number	ES-301-4.09
Version:	3.02
Date:	December 29, 2015
Document Owner:	John Hambright

1) Activity Description: Management of Petroleum Storage Tanks and Containers

This environmental guideline describes the management of underground and aboveground petroleum storage tanks and containers. Both underground storage tanks (USTs) and aboveground storage tanks (ASTs) are utilized at DEN for the storage of petroleum products related to vehicle and equipment fueling and maintenance, as well as for product storage associated with oil and gas production wells. In addition, numerous smaller and portable containers are used to store petroleum products in support of fueling and maintenance activities for vehicles and other equipment. This guideline addresses compliance with federal regulations at 40 CFR 112 (SPCC regulation) and 40 CFR 280/281 (UST regulation), as well as relevant or counterpart state requirements located in Colorado Oil & Gas Conservation Commission regulations, Colorado Division of Oil and Public Safety (OPS) regulations, and locally applicable International Fire Code (IFC) requirements.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Oil and petroleum product spills, leaks, and other accidental discharges
   ii) Contamination of groundwater, surface water, and soil
   iii) Air emissions
   iv) Fire

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, or damage to the environment
   ii) Remediation costs
   iii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities (dependent on tank/container size and use)
   i) Installing and operating an UST/AST without a state application and state registration.
   ii) Operating an UST/AST not in accordance with regulatory requirements.
   iii) Removal of an UST/AST without taking proper closure-related actions.
   iv) Installing, changing the use of, or removing a tank system at DEN without notifying the state Division of Oil and Public Safety (OPS) and DEN Environmental Services.

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting petroleum storage operations is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
   ii) Every potentially applicable facility must be evaluated for compliance requirements.

iii) Petroleum storage facilities with containers 55 gallons and larger should be evaluated for 40 CFR 112 requirements and the need to prepare a Spill Prevention, Control, and Countermeasure (SPCC) Plan or a Facility Response Plan.
iv) Owners/operators of regulated UST systems are subject to additional requirements, effective January 1, 2010, that mandate certification of UST operations personnel, monthly inspections of UST systems, and annual compliance verification. (see below)

C. Training Requirements
i) Training on SPCC Plan requirements is required for all oil-handling personnel at SPCC-qualifying facilities if they conduct operations with SPCC-regulated containers and activities. See ES-303-1.04 DEN Spill Prevention, Control, and Countermeasure (SPCC) Plan Training for DEN-owned and -operated SPCC-regulated facilities.
ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater pollution prevention (SWPP) training shall address topics such as spill response, good housekeeping, and material management practices.
iii) Certification as either a Class A, Class B, or Class C operator is required for UST operations personnel. Certification must occur through a state-approved provider (for Class A and B) and, for Class C, can be provided by a certified A or B operator. Certification is due by January 1, 2010, or within 30 days of an employee assuming responsibilities related to UST operations.

D. Storage and Materials Management Requirements (Indoor/Outdoor)
i) Transfer petroleum products in paved areas where feasible; areas paved in concrete should be utilized if the liquid is asphalt reactive.
ii) Avoid entirely or minimize the transfer of petroleum products in areas near drain inlets; use temporary covers on storm drains when handling petroleum products outside to prevent spills from reaching the stormwater system.
iii) Store drums/containers on pallets or within berms or secondary containment devices to prevent leaks and spills from entering stormwater runoff and to enable easier inspection and detection of leaks.
iv) Utilize methods to contain and absorb petroleum products from leaks, spills, and hose disconnects that occur during transfers; dispose of spill cleanup residue properly.
v) Ensure adequate spill cleanup supplies are stocked in the areas where petroleum product transfers take place.
vi) Ensure MSDSs are readily available to employees who handle, transfer, or are otherwise involved in the management of petroleum products.
vii) Protect petroleum products stored outside from exposure that could compromise containers; use overhead cover, storage cabinets, etc.
viii) Provide safeguards against accidental or intentional releases by restricting access to storage areas, implementing an inspection and maintenance program, practicing good housekeeping procedures, and using covered bins or dumpsters specifically dedicated for petroleum product spill residue. Note: for gasoline spills, cleanup residues must be handled as hazardous waste (see EG 301-6.04 Management of Hazardous Waste).
ix) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container, an associated contact telephone number, an appropriate hazard warning, and must clearly indicate the contents. In addition, the name on the label must match the name on the corresponding MSDS.

x) Ensure that there is adequate secondary containment for all bulk storage containers, and that all containers, secondary containment, and berms are in good operating condition.
   - Refer to the appropriate SPCC Plan for guidance on specific requirements, if applicable.

xi) Outdoor storage and handling of hazardous materials shall be in accordance with procedures established in any stormwater permit and stormwater management plan that is applicable to the facility

4) Planning Requirements

A. Construct and operate tank systems pursuant to applicable regulatory requirements and industry standards (e.g., OPS and IFC requirements, Steel Tank Institute standards). Ensure that Professional Engineer (PE)-required systems and controls described in SPCC Plans are in place.

B. Maintain adequate supplies of spill response equipment and materials in locations where spills or accidental releases are likely to occur.

C. Install and maintain adequate secondary containment around all bulk oil storage containers. Secondary containment design must consider precipitation impacts. Locations where tanks store fuel and where fuel is transferred to or from other equipment (such as generators or vehicles) are considered "loading areas" and may require general secondary containment during the fueling transfer to and from these tanks. (Note: A vehicle defueling operational area, where fuel is removed from a vehicle and often returned to an on-site AST or UST, is also considered a "loading area" and would be subject to the general secondary containment requirements of 40 CFR 112.7(c) if the facility is an SPCC-qualifying facility.)

D. Fueling and fuel storage areas should be designed and operated to prevent the uncontrolled accumulation and runoff of precipitation and associated contamination (e.g., berms, overhead covers). Process or procedural controls are required to prevent uncontrolled discharges to stormwater or to any sewer.

E. Provide protection (e.g., traffic bollards, adequate lighting, fencing) from physical damage and vandalism to petroleum transfer or storage areas.

F. Petroleum storage areas should be designed and have mechanisms or procedures in place to determine whether a spill or release from a petroleum storage tank has occurred and to prevent loss of spilled or released materials.

G. Cathodic protection of coated and bare steel systems in contact with soils must be addressed. This pertains to buried tanks, AST bottoms in contact with soils, and buried piping. (See ES-301-4.10 Cathodic Protection Corrosion Prevention on Buried Tanks and Piping.)

H. Evaluate container vents and dispensers for air permit requirements per Colorado Department of Public Health and Environment - Air Quality Control Division - Air Pollutant Emission Notice (APEN) submission program.

5) Storage Tank Requirements – Aboveground

A. Use absorbent materials and spot cleaning for small spills; collect and properly dispose of all material used to clean up a spill or leak.
   - Refer to ES-301-5.02 Spill Response

B. Maintain records of inventories of the types of substances and quantities stored and used, and leak or spill reports per federal, state, and local regulations.

C. Notify DEN Environmental Services of any petroleum storage containers/tanks installed with volumes over 50 gallons. Maintain an inventory of applicable petroleum containers on site, categorized by petroleum type, capacity, and location.

6) Storage Tank Requirements – Underground

A. Maintain active underground storage tanks in compliance with all applicable regulations. Removal/closure shall be conducted in compliance with applicable regulations (refer to 7 CCR 1101-14).

B. Maintain records of inventories of the types of substances and quantities stored and used, leak testing results, and spill reports.

7) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

8) Inspection and Maintenance Requirements

A. Periodically inspect storage tanks, connecting piping, valves, and associated pumping equipment in accordance with manufacturer's specifications and other requirements that are codified in regulation, site plans, or guidance documents. For example, monthly inspections and ullage recording are required for OPS-regulated ASTs, monthly inspections are required for all SPCC-regulated ASTs, and buried lines associated with ASTs are required to be tightness-tested annually. For USTs, monthly and annual inspections by a certified operator are required (effective January 1, 2010), annual testing is required for underground pipelines associated with certain USTs, and cathodic protection systems must be in proper operation.

B. Prior to releasing accumulated precipitation from a secondary containment area, the water must be inspected for signs of oil contamination (e.g., sheen). If none exists, the water can be removed from the secondary containment area and allowed to discharge to the ground surface. For SPCC-regulated bulk storage AST systems, written records documenting this inspection and discharge procedure must be maintained at the facility.

9) Expected Records and Outputs

A. Petroleum Storage Tank Installation Plans

i) Installation applications are prepared, submitted, and maintained by the installation contractor. Submit copies of plans and drawings to DEN Environmental Services.

B. UST and AST registration records and permits
   i) Operators are required to maintain applicable registrations on site for the life of the tank(s).

C. APEN submittals and required air permit(s)
   i) Operators are required to maintain all air permit records on site (may require data gathering and management).

D. Inspection records
   i) Inspect storage tanks in accordance with manufacturer, regulatory, and plan requirements.
   ii) Operators are required to maintain inspection records for three years (under SPCC Plan requirement).

E. Tank inventory records
   i) Operators should maintain records on tank inventories at all times.

F. SPCC Plan
   i) As applicable, operator must maintain the SPCC Plan on site.
   ii) SPCC Plans must be reviewed and updated every five years, or sooner, if a change in operations or equipment materially affects spill potential.

G. SPCC Plan records
   i) Operator should maintain records as described in their site-specific SPCC Plan.

H. Evidence of training on SPCC Plan, SWPP Plan, and Operator SOPs, as applicable
   i) While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

I. Cathodic protection records
   i) Operator should maintain records for the life of protected systems
   ii) Installation design reports
   iii) Annual test reports

J. Facility Response Plan
   i) Facilities with over one million gallons of petroleum storage and with the potential to contaminate navigable waterways.

10) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	John Hambright (DEN Environmental Services)	(303) 342-2759

B. Guidance Materials (list is not limited to the following)
   i) USEPA SPCC Guidance documents
   ii) DEN Stormwater Management Plan

C. Training Materials (list is not limited to the following)
   i) None

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-303-1.04 DEN Spill Prevention, Control, and Countermeasure (SPCC) Plan Training
   iii) ES-308-2.01 Stormwater Management Plan
   iv) ES-308-4.01 DEN Spill Prevention, Control, and Countermeasure Plan
   v) ES-308-4.02 DEN SPCC Compliance Work Instruction
   vi) ES-308-4.03 Spill Prevention, Control, and Countermeasure Plan – Oil and Gas Operations
   vii) ES-402-6.01 Storage Tank Monitoring

E. Applicable Regulations (list is not limited to the following)
   i) 40 CFR 110.3 Discharge of Oil
   ii) 40 CFR 112 Oil Pollution Prevention (SPCC OPA/Plans)
   iii) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
   iv) 40 CFR 280/281 RCRA Underground Storage Tank Regulations
   v) 40 CFR 122-124 NPDES Regulations for Storm Water Discharge
   vi) 5 CCR 1001-5 and 1001-9 State Air Quality Regulations
   vii) 7 CCR 1101-14 State storage tanks regulations (AST and UST)
   viii) 40 CFR 401 Effluent Limitation Guidelines
   ix) Denver International Airport Rules and Regulations
   x) Denver Wastewater Management Division Rules and Regulations

F. Other Documents (list is not limited to the following)
   i) None

ES-301-4.10 *Cathodic Protection Corrosion Prevention on Buried Tanks and Piping*	
Document Identification Number	ES-301-4.10
Version:	3.04
Date:	December 29, 2015
Document Owner:	John Hambright

1) Activity Description:

Maintaining the programmatic corrosion protection for buried steel piping and USTs as well as protection of AST systems in contact with corrosive surfaces. This includes use of coatings and cathodic protection according to National Association of Corrosion Engineers (NACE) standards.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Release of regulated materials to surface soils or State waters
   ii) Fuel or other releases
   iii) Loss of materials
   iv) Air emissions

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, or damage to the environment
   ii) Regulatory non-compliance, Notices of Violation, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Steel piping, tanks, and other steel devices will not be buried without engineering considerations for protection from corrosion pursuant to referenced industrial and DEN specifications and standards.
   ii) Steel equipment and piping in contact with corrosive soils will not be allowed to operate out of parameters dictated by specifications.
   iii) **Galvanic corrosion protection systems are the preferred** method of providing electrochemical protection to buried or soil contacting steel tank and piping systems.
   iv) Impressed current cathodic protection systems will **not** be preferred; they will be installed only upon approval by the DEN Cathodic Protection Program Manager.
   v) Water supply piping shall be protected by cathodic protection up to the first flange inside the building. Thereafter the water piping shall be continuous with the building electrical ground.

B. General Considerations
   i) Buried steel systems will be designed with applicable corrosion protection systems including coatings and cathodic protection.
   ii) Except in extenuating circumstances, galvanic corrosion protection methods will be used in place of impressed current systems.

iii) Systems with cathodic protection will be supplied with appropriate test stations that will allow testing of system voltage potentials relative to reference electrodes.
iv) The system operators will test cathodic protection for proper protection according to appropriate National Association of Corrosion Engineers standards on a minimum annual basis.
v) The reports will be forwarded to the DEN Director of Environmental Programs.
vi) Systems that fail test standards will be immediately repaired and brought up to standards.
vii) Cathodic protection system designers shall be professional engineers with a corrosion engineering specialization.
viii) System owners and operators will maintain records on cathodic protection system design.

C. Training Requirements
i) System operators shall use NACE-trained and -qualified personnel to test the systems on an annual basis.

4) Planning Requirements

A. All new construction should be reviewed for applicable systems by the DEN project manager and the DEN ES planning coordinator. The project manager should route applicable design information to the cathodic protection program manager as designated by the DEN Director of Environmental Programs. Refer to DEN Design Standard 16642, Cathodic Protection.

B. Systems shall be installed and tested by expert and knowledgeable personnel, whether a construction contracted installation or a maintenance function.

5) Critical Tasks

A. Ensure that the systems are properly designed and installed with careful review early in design and field inspected by vendors and DEN-designated Cathodic Protection Manager twice annually.

B. Operators shall have their cathodic systems tested at least annually or whenever the system appears to be malfunctioning.

C. Check with DEN Environmental Services (ES) for any questions.

6) Response to Loss of Protection

A. Should a system fail a test for corrosion protection, a plan must be immediately formulated to identify the problem and re-establish protection.

7) Inspection and Maintenance Requirements

A. Cathodic protection systems should be a part of every visual inspection of the systems.

B. All cathodic protection systems should be inspected for compliance with applicable NACE standards for system-to-soil voltage relative to reference electrodes. The inspections should, at

a minimum, be conducted on an annual frequency. Depending on the system characteristics or sensitivity, the surveys may need to occur more frequently. In the case of tank bottoms over containment systems with impressed current, the test may be for an adequate current density.

C. Equipment associated with generating impressed direct current voltage should be monitored quarterly, at a minimum, or as needed to ensure adequate voltage and current.

D. Records should be kept of all inspections and monitoring. Records of non-compliant measurements and system malfunctions and repairs should be kept by the operator for the life of the system concerned.

8) Expected Records and Outputs

A. Original system review
   i) Copy of submission to DEN ES of review and recommendations by same
   ii) Maintain survey/matrix on file after review by DEN ES

B. Construction Records
   i) Vendor data on all coatings and cathodic protection components – one set to DEN ES
   ii) Completion and startup testing records – one set provided to DEN ES

C. Inspection and Maintenance Records
   i) Maintained for life of the system
   ii) Vendor information as installed
   iii) Installation startup records
   iv) Inspection records
   v) Outage and repair records
   vi) Updated drawings and sketches after improvements and alterations

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730

B. Guidance Materials (list is not limited to the following)
   i) National Association of Corrosion Engineers (NACE) Standards
      - RP-0169-96 or latest – Recommended Practice of External Corrosion Protection on Underground Metallic Piping Systems
      - RP-0193-93 or latest – Recommended Practice – External Cathodic Protection of On-Grade Metallic Storage Tank Bottoms
      - RP-0285 – 95 or latest - Recommended Practice – Corrosion Control of Underground Storage Tank Systems by Cathodic Protection
      - RP-0572-85 or latest – Design, Installation, Operation and Maintenance of Impressed Current Deep Ground Beds
      - RP- 0286-86 or latest – The Electrical Isolation of Cathodically Protected Structures
   ii) DEN Construction Standard 16642 – Cathodic Protection

iii) DEN Construction Standard 16452 - Electrical Grounding

C. Training Materials (list is not limited to the following)
   i) NACE Basic Corrosion Technician Training
   ii) Previous inspection reports and as-built drawings

D. Related Environmental Documents (list is not limited to the following)
   i) ES 301-3.01 Construction
   ii) ES 301-3.02 Planning and Environmental Review
   iii) ES 301-4.09 Management of Petroleum Storage Tanks and Containers

E. Applicable Regulations (list is not limited to the following)
   i) 40 CFR Part 112 Spill Prevention, Control, and Countermeasure Plans
   ii) 6 CCR 1007-3, Part 280/281 State RCRA Regulations
   iii) Colorado Petroleum Storage Tank Regulations – 7 CCR 1101-14
   iv) DEN Rules and Regulations

ES-301-4.11 Storage, Handling, and Management of Hazardous Materials	
Document Identification Number	ES-301-4.11
Version:	3.00
Date:	December 8, 2015
Document Owner:	Debe Loya

1) Activity Description: Storage, Handling, and Management of Hazardous Materials

A hazardous material is any gas, liquid, or solid the exposure to which may cause harm to people, other living organisms, property, or the environment. A hazardous material may be flammable, explosive, toxic, reactive, corrosive, radioactive, bio hazardous, asphyxiating (causes suffocation), pathogenic, allergic, or may have other characteristics that render it hazardous in specific circumstances.

The handling and storage of hazardous chemicals/materials used on a regular basis must be done in a way that prevents the release and discharge of pollutants from indoor or outdoor storage areas to storm water or other media. Examples of activities that are covered by this guideline include: cargo handling; fueling; chemical storage and handling of painting or cleaning supplies; storage of materials, equipment, and vehicles; and pesticide/herbicide storage and use.

In addition, inventories of hazardous chemicals should be kept by each facility and may need to be reported to the local fire department and other emergency planning entities, depending on the quantities and hazardous nature of the materials being stored. See Emergency Planning and Community Right-to-Know Act (EPCRA) Threshold Planning Quantities.

This Environmental Guideline addresses procedures related to usable hazardous chemicals and materials. Reference ES-301-6.01 General Waste Management for proper waste handling procedures for materials that can no longer be used for their intended purpose.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Fuel or chemical spills reaching the storm water system
   ii) Air pollution and odors, both indoors and outdoors
   iii) Improper or inappropriate disposal of hazardous materials or their derived wastes
   iv) Improper disposal of contaminated spill response media
   v) Contamination of soils
   vi) Contamination of surface water
   vii) Contamination of ground water

B. Potential consequences from performing the activity incorrectly:
   i) Personal injury to workers handling or exposed to the hazardous materials, damage to property, damage to the environment
   ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. Prohibited Activities
   i) Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.
   ii) Discharge of any material down a storm drain, inlet, etc. or to a waterway without a CDPS permit is prohibited
   iii) Discharge of the following materials down sanitary sewer drains is prohibited:
      - Any fuels, oils or grease, or other maintenance/cleaning fluids
      - Pesticides, insecticides, or herbicides
      - Solvents
      - Paints
      - Battery acids
      - Deicing/Anti-icing fluids
      - Fire-fighting chemicals (except during fire-fighting activities)
   iv) Use and disposal of aerosol cans may require certain management procedures specific to universal waste. These items should not be disposed of in the trash. See Environmental Guideline ES-301-6.01 General Waste Management.
   v) Disposal of any hazardous materials that are expired or that have been spilled, leaked, or otherwise handled improperly must be done in accordance with the appropriate "Waste" guideline(s). See ES-301-6.01 General Waste Management for further direction.

B. General Considerations
   i) Each airport tenant, contractor, and operator conducting hazardous material handling/storage activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
   ii) It is recommended that each facility that handles and stores hazardous materials (in any quantity) develop a management plan that identifies each hazardous material, its storage location, and its proper handling during use. The plan should identify procedures to respond to any spill, leak, or other release that could reach any drains, harm employees, or contaminate any environmental media such as water, soil, or air.
   iii) Ensure that Material Safety Data Sheets (MSDSs) are readily available to all employees for all chemicals and products used. MSDSs for materials no longer in use should be removed from active notebooks and placed in an archive.
   iv) Do not block or otherwise restrict the flow of air through any ventilation equipment within storage or work areas.

C. Training Requirements
   i) Each employee who is involved with the handling, storage, or use of hazardous materials should receive site-specific training in accordance with all applicable regulations. This includes:
      - Discussion of the materials that are considered hazardous in each work area
      - Discussion of methods of containment and safe storage
      - Discussion of prohibited activities
      - Discussion of appropriate or required personal protective equipment (PPE)
      - Storage and handling requirements
      - Response procedures for any spills or leaks
   ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact storm water runoff. Storm water training

shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

iii) Appropriate OSHA training is required for non-City employees who handle hazardous chemicals in the course of their jobs.

iv) City employees who handle hazardous chemicals in the course of their jobs must complete the City-required hazard communication training program, as directed by DEN's Risk and Safety Services Unit.

D. Storage and Materials Management Requirements

i) Store materials indoors or protect materials stored outside from exposure that could compromise containers or allow contact with storm water; use overhead cover, storage cabinets, etc.

ii) Transfer liquids at paved areas where possible; areas paved in concrete should be utilized if the material is asphalt reactive.

iii) Avoid entirely or minimize the transfer of materials in areas near drain inlets; use temporary covers on storm drains when handling materials outside to prevent spills from reaching the storm water system.

iv) Store hazardous material drums and containers on pallets or within berms or secondary containment systems to prevent leaks and spills from entering storm water runoff and to enable easier inspection and detection of leaks.

v) Utilize methods to contain and absorb materials from leaks, spills, and hose disconnects that occur during material transfers; dispose of spill cleanup residue properly.

vi) Ensure adequate spill cleanup supplies are stocked in the areas where material transfers take place.

vii) Ensure that MSDSs are readily available to employees who handle, transfer, or are otherwise involved in the management of hazardous materials.

viii) Provide safeguards against accidental or intentional releases by restricting access to storage areas, implementing an inspection and maintenance program, practicing good housekeeping procedures, and using covered bins or dumpsters specifically dedicated to hazardous materials disposal.

ix) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container, an associated contact telephone number, an appropriate hazard warning, and must clearly indicate the contents. In addition, the name on the label must match the name on the corresponding MSDS.

x) Ensure adequate secondary containment for all bulk storage containers, and ensure that all containers, secondary containment, and berms are in good operating condition.

- Refer to the appropriate SPCC Plan for guidance on specific requirements, if applicable.

xi) Outdoor storage and handling of hazardous materials shall be in accordance with procedures established in any storm water permit and storm water management plan that is applicable to the facility.

4) Planning Requirements

A. Ensure that all storage and handling areas are stocked with appropriate spill response materials at all times.

B. Obtain appropriate hazardous materials storage permit(s) from the Denver Fire Department.

C. An inventory of all hazardous chemicals/materials, or products containing hazardous chemicals, must be kept by the facility in accordance with the Emergency Planning and Community Right-to-Know Act (EPCRA). This inventory must be kept in such a way that notification can be made to the Colorado Emergency Planning Commission (CEPC) and Local Emergency Planning Committee (LEPC) within 60 days of exceeding Threshold Planning Quantities (TPQs) established in the EPA's List of Lists or Denver's LEPC threshold quantities.

D. The Denver Fire Department (DFD) requires that an inventory of hazardous chemicals/materials, or products containing hazardous chemicals be kept and reported under the DFD's Hazardous Materials Inventory System (HMIS) and submitted annually to the DFD by March 31.

E. Facilities that store chemicals in certain quantities are to provide specific information about the chemicals on site to the CEPC, LEPC, and local FD in the form of what is referred to as a Tier II report. This report is due annually by March 1, covering the preceding calendar year. The report should contain information on every chemical for which an EPCRA Section 302 threshold planning quantity (TPQ) is exceeded or for any hazardous substance present on site in excess of 10,000 pounds at one time. (Note: This requirement is applicable to facilities that must comply with OSHA's Hazard Communication Standard to have MSDSs available on site; City facilities are exempt from OSHA requirements.}

F. Complete the Storm water Management Plan (SWMP) survey/matrix to assist in determining the Environmental Guideline(s) applicable to the activity.
   - This document is available at http://business.flydenver.com/environmental.
   - If applicable, the operator will need to decide whether to operate under the DEN SWMP or generate their own SWMP for review by DEN ES.

5) Critical Tasks

A. Ensure that materials are stored and handled on containment pallets, paving, or other impervious surface in areas away from storm water inlets, trench drains, or any other drains that route to the storm water system.

B. Properly secure all hoses, valves, and equipment when transporting materials, to eliminate leakage or spills.

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

7) Inspection and Maintenance Requirements

A. Perform and document all inspections of storage areas or materials handling events.

B. Inspections of hazardous materials storage areas are recommended weekly for correct materials management, containment, security, cleanliness, access, correct labeling, storage duration, spills, and leaks.

8) Expected Records and Outputs

A. Completed SWMP survey/matrix
   i) Obtain a blank copy of this document from http://business.flydenver.com/environmental.

B. EPCRA and Hazardous Materials Inventory records/reports
   i) City facility records of quantities of hazardous materials and copies of Reports to Denver's LEPC, the Colorado Emergency Planning Commission, and the DFD shall be kept in the DEN Environmental Services file under ES 09.33.

C. Hazardous materials storage and handling records (weekly inspections of storage areas and containers, etc.)
   i) Operator should maintain inspection records at the facility for a minimum of 3 years.

D. Waste management records (profiles, manifests, sample results, etc.)
   i) Based on the disposal profile, manifests and related forms may be required. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous waste).
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years

E. Evidence of training
   i) While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator.

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	Debe Loya (DEN Environmental Services)	(303) 342-2858
iv)	Keith Williams (DEN Safety Manager)	(303) 342-2132

B. Guidance Materials (list is not limited to the following)
   i) DEN Storm water Management Plan (SWMP)
   ii) MSDSs
   iii) DOT Labeling and Placarding Guidance

C. Training Materials (list is not limited to the following)

i) Operating procedures training (on-the-job)
ii) Operator site-specific training materials for handling hazardous materials
iii) Annual Industrial Storm water Pollution Prevention training

D. Related Environmental Documents (list is not limited to the following)
i) ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
ii) ES-301-5.02 Spill Response
iii) ES-301-6.01 General Waste Management

E. Applicable Regulations (list is not limited to the following)
i) 40 CFR 355 Emergency Planning and Notification
ii) 40 CFR 370 Hazardous Chemical Reporting: Right to Know
iii) 40 CFR 110.3 Discharge of Oil
iv) 40 CFR 112 Oil Pollution Prevention (SPCC/FR Plans)
v) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
vi) 40 CFR 122-124 NPDES Regulations for Storm water Discharges
vii) 40 CFR 401 Effluent Limitation Guidelines
viii) 6 CCR 1007-3, Part 261 State RCRA Regulations
ix) RCRA Subtitle D Storage Requirements
x) State Air Quality Regulations (5 CCR 1001-5)
xi) Denver Fire Department Hazardous Materials requirements
xii) DEN Rules & Regulations

F. Other Documents (list is not limited to the following)
i) SWMP Industrial Activities Survey/Matrix & Instructions

ES-301-5.01 Abandoned Material Response	
Document Identification Number	ES-301-5.01
Version:	3.00
Date:	December 8, 2015
Document Owner:	Debra Loya

1) Activity Description: Maintenance of Pretreatment Devices

The following outlines response guidelines for abandoned materials located at DEN, including notification, identification, collection, disposal, and reporting/recordkeeping.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Abandoned material response
   ii) Improper or inappropriate disposal of hazardous materials
   iii) Hazardous material spills/releases
   iv) Environmental compliance risk
B. Potential consequences from performing the activity incorrectly:
   i) Personal injury, property damage, or long-term damage to the environment
   ii) Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties

3) General Considerations

A. Prohibited Activities

   i) Abandonment of material on DEN property is prohibited.
   ii) Opening of unknown or suspicious containers and packages to inspect or determine the contents without appropriate response training is prohibited.

B. General Considerations

   A. Report abandoned materials to the Airport Communications Center at 303-342-4200 immediately.
   B. The Airport Communications Center will coordinate response resources and notification requirements.
   C. Each owner and operator is responsible for understanding applicable regulations and managing their materials accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations. See ES-301-6.01 General Waste Management for more information.

4) Critical Tasks

A. Report abandoned materials to the Airport Communications Center at 303-342-4200 immediately.

B. Airport Security Considerations – If you suspect there may be a security threat from the abandoned material, immediately notify the Airport Communications Center at 303-342-4200. Personnel safety is of primary importance in dealing with an unknown or abandoned material. Consider the possible linkage to terrorism in approaching and dealing with an abandoned material.

C. If feasible and safe to do so, identify and assess material(s) and ownership.

D. Inspect external markings or labeling on the material/package

E. Note the location relative to potential waste generators in the area (i.e. tenants/contractors)

F. Interview nearby personnel

G. Note signage in the immediate vicinity

H. Use the Abandoned Materials Incident Report (Appendix A) as a guide

I. If the material is suspected to be dangerous or can't be identified, notify Emergency Response Teams (i.e., Fire department) via the Airport Communications Center.

J. Properly contain, manage and dispose of the material (if possible).

K. Control spills or releases of materials, limit access and maintain security in the area. If a spill occurs see Environmental Guideline ES-301-5.02 Spill Response

L. Handle material properly; assume a conservative approach in managing the material until it is positively identified

M. Owner, if identified, shall submit an Abandoned Materials Incident Report (See Appendix A) to DEN Environmental Services (ES) (DEN.Environmental@flydenver.com), as well as DEN Operations and be responsible for disposal of materials.

N. If the material owner is not identified, DEN (ES) will arrange for the proper disposal of the abandoned materials using one of the cities approved HAZMAT contractors. Call ES for additional information at 303-342-2730.

O. Completed shipping and disposal papers/records shall be maintained by material owner, and be available for DEN upon request.

P. Place all collected wastes in appropriately labeled containers for proper storage and disposal. The Maintenance Stockroom and Grainger have 55 gallon steel drums. Materials can be stored in the locked 180 day storage locker at the Maintenance Center Paint Building (Appendix B). Key is available in the Maintenance Control Center.

5) Denver Fire Department/DEN Emergency Response Plan

A. If object is verified as no hazard, turn over to Incident Commander (IC)/Ops.

B. If substance in question is in a sealed container which poses no hazard in its current condition, DFD will turn over to I.C./Ops after it is no longer deemed to be a hazard. *(I.C. should decide and document disposition of product, ie. disposal, send to law enforcement, send to lab for identification, turn over to airline for disposal, etc…)*

C. If there is an identified hazard, DFD will mitigate the immediate life-safety hazard, then turn over to I.C./Ops for oversight or delegation of investigation and clean-up.

6) Training Requirements

A. Personnel involved in actual handling of unknown materials must be properly trained for hazardous material response. See OSHA regulation 29 CFR 1910.120.

B. Employee training programs shall inform personnel at all levels of responsibility who are involved in abandoned material response activities that may impact the environment. This training shall address topics such as spill response, housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

7) Inspection and Maintenance Requirements

A. Once stored, abandoned materials will be inspected and maintained by ES to prevent release and assure compliance with environmental, health and safety regulations. Containers must have legible labels and markings with the name of the owner, contact telephone number, and container contents. Containers will be labeled by DEN ES and labels can be found in the 180 day storage locker (Appendix C).

8) Expected Records and Outputs

A. Incident Report
   i) The Incident Report for (Appendix A) will be completed by owner/custodian and maintained on file by DEN Environmental Services.

B. Waste management records (profiles, manifests, LDRs, analytical results, etc.).
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests are required for hazardous, special and universal waste).
   ii) DEN ES will maintain waste management records at the facility for a minimum of 3 years.
   iii) See DEN EMS Guidance ES-301-6.01

9) References

A. Phone Numbers
   i) Airport Communications Center (spill reporting & emergency response) (303) 342-4200
   ii) DEN Environmental Services (303) 342-2730
   iii) Craig Schillinger (DEN Environmental Services) (303) 342-2730

B. Guidance Materials (list not limited to the following)
   i) MSDSs
   ii) NIOSH Pocket Guide to Chemical Hazards (NPG)
   iii) DOT Emergency Response Guidebook
   iv) EPA Office of Solid Waste and Emergency Response
   v) OSHA Emergency Preparedness and Response guidance

C. Related Environmental Guidelines (list not limited to the following):
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management
   iii) http://business.flydenver.com/community/enviro/documents/es301.pdf For a complete list of DEN Environmental Guidelines.

D. Other Documents (list not limited to the following)
   i) Abandoned Materials Incident Report
   ii) Spill Notification Document
   iii) Disposal Manifests
   iv) DEN Environmental Services and Operations Closure Documents
   v) DEN Operations Reports
   vi) DEN Rules and Regulations

Appendix A: Abandoned Materials Incident Report:

DENVER INTERNATIONAL AIRPORT
TOGETHER WE SOAR

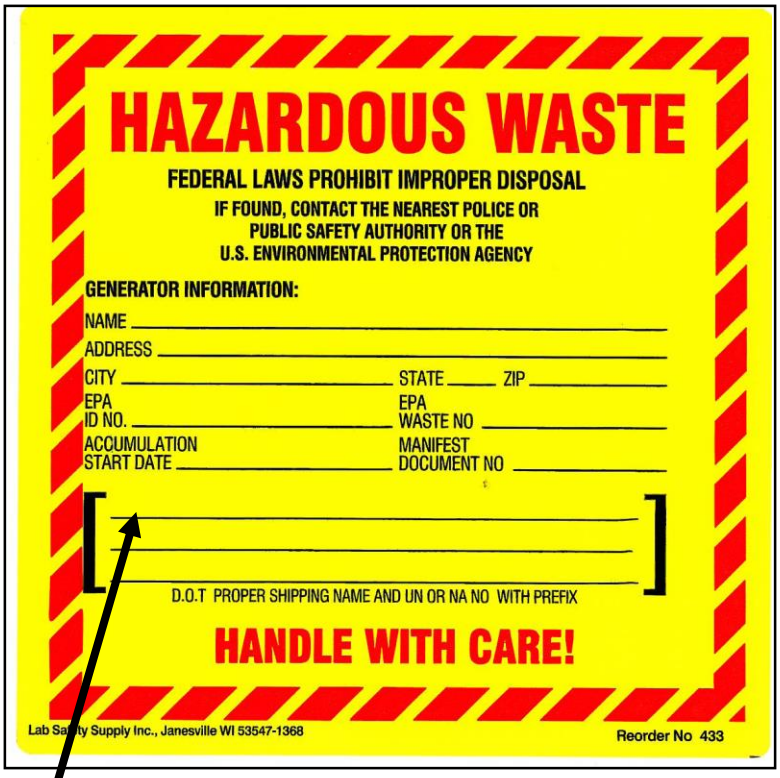
Abandoned Materials Incident Report

Date	**Time**
Reported By	**Phone Number**

Date/Time Material Discovered	
Suspected Responsible Party	
Suspected Responsible Party Contact Number	
Location of Material	
Description of Material: 1. Liquid/Solid/Gas 2. Color 3. Other	
Amount of Material	
Container Description (drum, aerosol can, steel drum, plastic drum, size, etc.)	
How was material discovered?	
Was material spilled?	
If spilled, medium Affected	Pavement / Soil / Water/Groundwater / Air
How Cleaned Up	
Who Cleaned Up	
Injuries/Fatalities/Property Damage	
Date/Time Incident Secured	
Comments	

Appendix B: Abandoned Materials Storage Locker
Maintenance Center Paint Building 27500-C E. 80th Ave.

Appendix C: Hazardous Waste Labels



Write item description here. Fill out Name/Address/City/State/Zip and Accumulation Start Date in appropriate fields (to be filled out by DEN ES).

Appendix D: Map of Abandoned Materials Storage Locker (180-Day Storage Area)

1. PaintShop - Maintenance Center Paint Building 27500-C E. 80th Ave.
2. 180-Day Storage Area - Maintenance Center Paint Building 27500-C E. 80th Ave.
3. Fleet – Maintenance Center 27500-A E. 80th Ave.

ES-301-5.02 Spill Response	
Document Identification Number	ES-301-5.02
Version:	3.1
Date:	February 16, 2016
Document Owner:	Director of Environmental Programs

1) Activity Description:

The activity of making correct notifications and the application of resources to detect, contain, control, and manage spilled material. Eliminate or minimize the discharge of pollutants to sewers and stormwater drainages resulting from material spills. Mitigate potential impacts by responding quickly with trained personnel and appropriate materials.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Improper or inappropriate disposal of used spill response media
   ii) Air emissions
   iii) Odors
   iv) Contamination of soil
   v) Contamination of surface water
   vi) Contamination of groundwater

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury, or damage to the environment
   ii) Noncompliance, Notices of Violation from regulators, and related [financial & non-financial] penalties

3) Critical Operating Requirements

A. General Considerations
   i) Immediately notify the DEN Communications Center (303-342-4200) of any spill
   ii) Each operator (City employee, tenant, contractor, vendor, etc.) conducting any activity that could result in a spill or discharge of pollutants is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   iii) Each operator is responsible for implementing engineering controls and practices for preventing, containing, and controlling spills and releases.
   iv) Each operator is responsible for detecting, initial notification (DEN Communications Center), and responding to spills and leaks as rapidly and safely as possible.
   v) Each operator is responsible for determining the appropriate notifications to regulatory agencies and for making these notifications. The ES section is available to assist the operator in evaluating the need to make notifications; however, it is the responsibility of the operator to make all appropriate notifications.
   vi) Assess site for safety; protect personnel if material is unknown or known to be dangerous. As personnel safety allows, contain and control spill as soon as it is deemed safe to do so.

B. Training Requirements
   i) Personnel involved in activities that have a reasonable potential to result in a spill or release should be trained in proper management and spill reporting procedures.
   ii) Personnel that respond to spills and/or releases must be trained in proper management and spill reporting procedures.
   iii) Annual stormwater pollution prevention training shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.
   iv) Personnel involved with fueling activities for systems regulated under 40 CFR Part 112 shall be trained pursuant to the requirements identified in the site's Spill Prevention, Control, and Countermeasure (SPCC) Plan prior to conducting any fueling activities. See Environmental Guideline ES 301-1.01 Fueling Aircraft, Vehicles, and Auxiliary Equipment.

C. Storage and Materials Management Requirements
   i) Spill response materials should be stored in areas where spills are probable, such as product or waste storage, or fueling or maintenance areas
   ii) Spill response materials should be stored in accessible containers with proper signage
   iii) Ensure that spill kits contain appropriate resource materials (e.g., containment booms, granular absorbent, disposal bags, drain cover mats, brooms, shovels, and personal protective equipment)
   iv) Containment for spill cleanup debris should be made available to all employees that would assist in a response action

4) Planning Requirements

A. Develop site-specific spill response procedures or plans to address the prevention, control, and countermeasures for spills, leaks, or discharges of substances that can impact the environment
   i) Train all employees on basic knowledge of spill control procedures
   ii) Key personnel should receive formal training in plan execution with additional training to first responder level (29 CFR 1910.120) as required
   iii) For SPCC-regulated facilities/activities, provide training to all appropriate employees pursuant to 40 CFR Part 112
B. Facilities should also evaluate the need for signage on a case-by-case basis for identifying response procedures, spill notification phone numbers, locations of spill cleanup materials, etc.

5) Critical Tasks

A. Identify the spilled material and potential media impacts. In a safe manner, take appropriate actions to mitigate, stop, and/or control the spill to prevent impacts to soil or water (e.g., drains, inlets, waterways, sewers).
B. Notify DEN Communications Center immediately at 303-342-4200. Provide the following information:
   i) Material and amount spilled
   ii) Location and threat to drains and/or soils
   iii) Containment or response needs and cleanup progress

C. Control and collect spilled materials using appropriate materials from the spill kit. Spills of any kind and spill cleanup materials shall not be washed into any sewer system or waterway, or onto any soils.
D. Properly contain and dispose of used spill containment and cleanup materials. Refer to ES-301-6.01 through 6.06 for guidance on waste management.
E. Spill cleanup materials must be collected immediately in order to avoid any potential stormwater contamination issues.
F. Provide proper spill notifications to regulators in coordination with DEN Environmental Services.

6) Emergency Response

A. Notify DEN Communications Center immediately at 303-342-4200
B. This is the emergency response guideline. In the event of a catastrophic event, make the required notification to DEN Communications Center and act to minimize imminent danger to human health and the environment

7) Inspection and Maintenance Requirements

A. Facilities Maintenance will conduct incinerator inspections and maintenance in accordance with the state air quality O&M Plan and the solid waste CD.

8) Expected Records and Outputs

A. Operations Incident Electronic Log Entry
   i) These forms will be completed and maintained on file by DEN Operations
B. Disposal profile, LDR, manifests & shipping forms
   i) Manifests and other forms can be obtained from the disposal facility or disposal contractor/broker
   ii) All manifests should be maintained on file by the operator for at least three years
C. Operations Spill/Release Report
   i) Send all relevant information to DEN ES for filing
D. Evidence of training
   i) While formal certifications are not always necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file by the operator

9) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834
iv)	Keith Pass (DEN Industrial Stormwater Permit Manager)	(303) 342-2689

B. Guidance Materials (list is not limited to the following)
   i) NIOSH Pocket Guide to Chemical Hazards (NPG)
   ii) DOT Emergency Response Guidebook
   iii) EPA Office of Solid Waste and Emergency Response guidance
   iv) OSHA Emergency Preparedness and Response guidance

v) DEN Stormwater Management Plan (SWMP)
vi) Operator SWMP
vii) DEN SPCC Plan
viii) CDPS permits (DEN's and Operator's)
ix) APCD permits
x) Operator's SPCC Plan
xi) DEN Manager's Bulletins
xii) Colorado Water Quality Control Division "Guidance for Reporting Spills under the Colorado Water Quality Control Act and Colorado Discharge Permits"

C. Training Materials (list is not limited to the following)
i) 29 CFR 1910.120 (OSHA requirements)
ii) 40 CFR Part 112 (SPCC requirements)

D. Related Environmental Documents (list is not limited to the following)
i) ES-306-1.03 Notification Handbook for Spills and Releases to the Environment
ii) ES-301-6.01 General Waste Management

E. Applicable Regulations (list is not limited to the following)
i) 40 CFR 110.3 Discharge of Oil
ii) 40 CFR 112 Oil Pollution Prevention (SPCC/FR Plan)
iii) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
iv) 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
v) 40 CFR 260-282 Federal RCRA Regulations
vi) 5 CCR 1001-3 through -23 State Air Pollution Regulations
vii) 6 CCR 1007-3, Part 261 State RCRA Regulations
viii) Colorado Water Quality Control Act
ix) CDPHE Water Quality Control Commission Regulation No. 61, Colorado Discharge Permit System Regulations
x) Denver Wastewater Management Division Rules and Regulations
xi) Metro Wastewater Reclamation District Rules and Regulations
xii) DEN Rules and Regulations

F. Other Documents (list is not limited to the following)
i) Disposal Manifest
ii) Maintenance Control Center Standard Operating Procedure 60-05 HAZMAT and Non-HAZMAT Spills and Releases
iii) Communications Center Standard Operating Procedure 80-05 HAZMAT and Non-HAZMAT Spills and Releases

ES-301-6.01 General Waste Management	
Document Identification Number	ES-301-6.01
Version:	3.01
Date:	April 10, 2015
Document Owner:	Jerry Williams

1) Activity Description:

This guideline describes the general classification process to direct the reader to more specific guidelines for the type of waste generated. It is critical to understand the various types of wastes and the associated management practices required to prevent environmental impact, regulatory violations, and unnecessary costs.

NOTE: This Environmental Guideline serves primarily to direct the reader to the appropriate guidelines for the waste types generated.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Illegal handling and disposal of waste materials.
   ii) Improper or inappropriate management and disposal of wastes.

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Noncompliance, Notices of Violations from Regulators, and related [financial and non-financial] penalties

3) Critical Operating Requirements

A. **Prohibited Activities**
   i) Disposal of waste on DEN property is prohibited.
   ii) Casual disposal or recycle, or offering for disposal or recycle, of wastes without identification of classification, material handling, recordkeeping, and final disposal requirements is prohibited.

B. **General Considerations**
   i) Each generator of waste is responsible for understanding waste management regulations and managing their waste accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) Small amounts of spill cleanup materials (less than approximately 5 gallons) for diesel, jet fuel, lavatory waste, oils, antifreeze, deicers, firefighting agents, etc. can be placed in the MSW compactor or commercial dumpster. THIS IS NOT TRUE of gasoline or AvGas spill cleanup or any other potentially hazardous material cleanup. Spill cleanup material in excess of approximately 5 gallons must be handled as “Special Waste” (see ES-301-6.06).
   iii) Occasional small animals can also be placed in the commercial waste dumpster or MSW compactors unless there is evidence of disease. The proper disposal of large or

diseased animals should be coordinated with the US Department of Agriculture, Wildlife Services representative at DEN.

4) Critical Operating Requirements

A. Training Requirements

i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

B. Storage & Materials Management Requirements

i) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container and an associated contact telephone number, and must clearly indicate the contents.

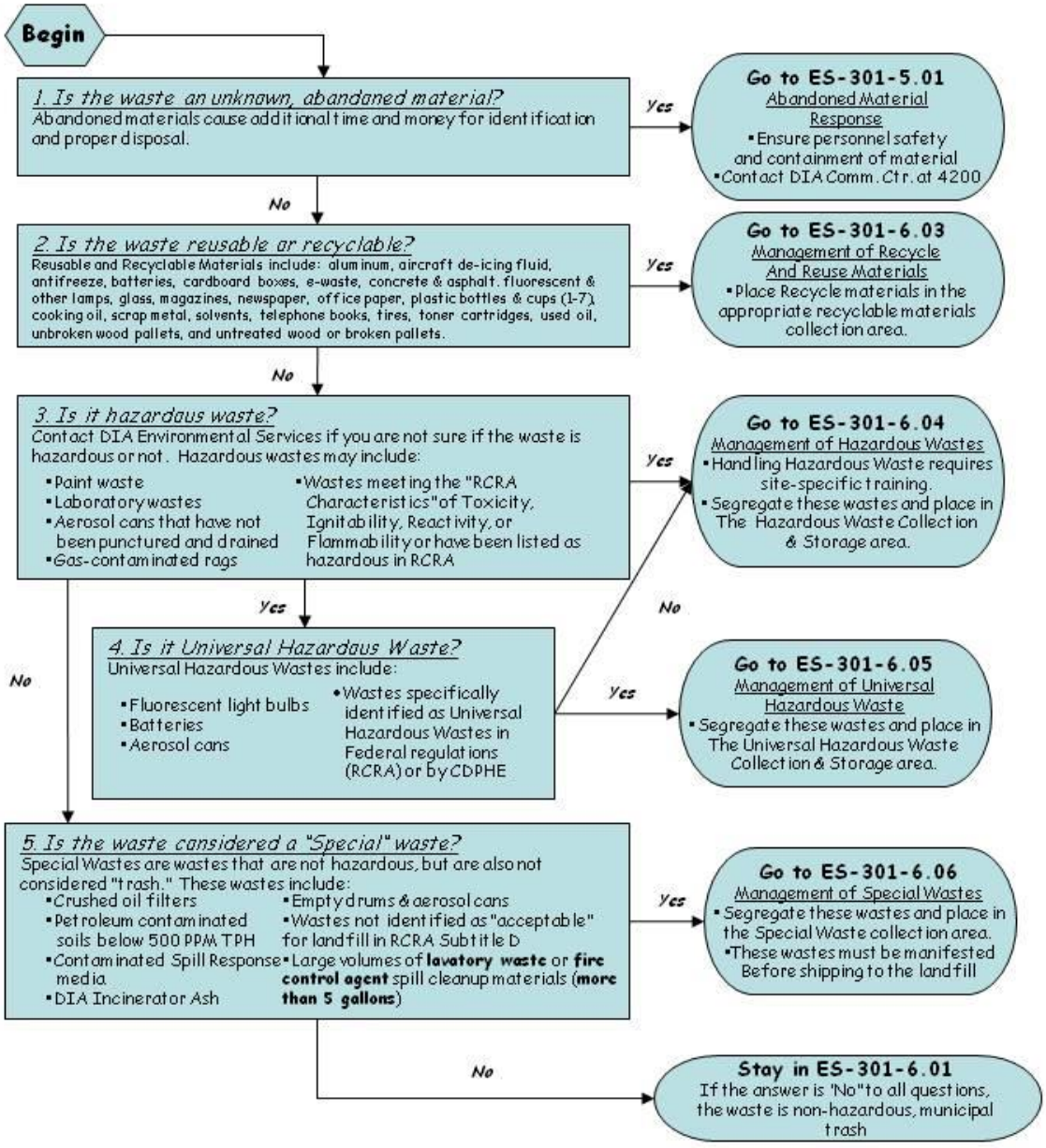
5) Planning Requirements (Responsible: Generator)

A. Prior to generation of waste, use process knowledge to classify the waste and determine proper handling and disposal requirements. The classification scheme shown in the following section provides direction to relevant Environmental Guidelines for each waste type. Upon request, DEN Environmental Services will assist generators with determination of waste types.

B. Consider the preparation of a Waste Management Plan – this document is not required but highly recommended for fully understanding and controlling the waste generation and disposal implications for wastes generated by the operator's activities. The plan should cover the wastes being generated, process knowledge, waste characterization and classification, waste management practices, and disposal selection process and plans. It is recommended that wastes be identified and segregated as early in the process as possible to avoid problems associated with co-mingling and additional waste generation.

6) Critical Tasks (Responsible: Generator)

*Flow Chart located on next page



7) Emergency Response (Responsible: Generator)

A. If a spill occurs, refer to Environmental Guidance ES-301-5.02 Spill Response.
   - Call DEN Communications Center immediately at 303-4200 for all spills.

B. Control spills to minimize property damage and eliminate imminent risk to human health and the environment.

C. Spills of any kind shall not be washed into any sewer or waterway, or onto any soils. If a spill reaches any of these, the situation should be immediately communicated to the DEN Communications Center.

8) Inspection and Maintenance Requirements (Responsible: Generator)

A. Maintain good recordkeeping of inspection and maintenance activities.

9) Expected Records and Outputs

A. Waste Management Plan (Recommended by DEN Environmental Services)
   i) This guidance document serves to direct the reader to more specific guidelines oriented towards the waste type addressed therein.

B. Waste management records (profiles, manifests, sample results, etc.).
   i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests are required for hazardous waste).
   ii) Operator must maintain waste management records at the facility for a minimum of 3 years.

10) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834

B. Guidance Materials (list is not limited to the following)
   i) MSDSs
   ii) DEN Manager's Bulletins

C. Training Materials (list is not limited to the following)
   i) DEN Waste Management training materials

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-2.01 Incinerator Operations
   ii) ES-301-5.02 Spill Response
   iii) ES-301-6.03 Management of Recyclable and Reusable Materials
   iv) ES-301-6.04 Management of Hazardous Wastes
   v) ES-301-6.05 Management of Universal Wastes
   vi) ES-301-6.06 Management of Special Wastes
   vii) ES-308-6.02 Hazardous, Universal, and Special Waste Work Instruction

viii) ES-308-6.03 Municipal and Special Solid Waste Administrative Management Work Instruction

E. Applicable Regulations (list is not limited to the following)
   i) DEN rules and regulations
   ii) State of Colorado CDPHE Solid Waste Division regulations and guidance.

ES-301-6.03 Management of Recyclable and Reusable Materials	
Document Identification Number	ES-301-6-03
Version:	3.01
Date:	April 10, 2015
Document Owner:	Jerry Williams

1) Activity Description:

The activity of properly identifying, collecting, segregating, storing, handling, transporting, reusing, and recovering reusable and recyclable materials. Reusable and recyclable materials include, but are not limited to:

- Aluminum cans
- Aircraft deicing fluid
- Antifreeze
- Batteries
- Cardboard boxes
- Packaging Peanuts
- CD/DVDs
- Computers and other electronic waste
- Construction debris (concrete and asphalt spoils)
- Fluorescent lamps and high-intensity discharge lamps
- Glass bottles
- Magazines
- Newspaper
- Office paper
- Organics
- Plastic bottles and cups (#1 through #7)
- Restaurant cooking oil
- Scrap metal
- Solvents
- Telephone books
- Tires
- Toner cartridges
- Used oil – JetA/Diesel/hydraulic fluids and minimal amounts of unleaded gasoline
- Unbroken wood pallets
- Other yard wastes and untreated wood as well as broken pallets

2) Potential Environmental Risks

A. The following environmental concerns are associated with this activity:
   i) Improper or inappropriate handling and/or disposal of recyclable or reusable materials.
B. Potential consequences from performing the activity incorrectly:
   i) Excessive waste generation
   ii) Loss of useful materials, or their recycling revenues, that are beneficial to DIA
   iii) Property damage, personal injury, or damage to the environment
   iv) Noncompliance, Notices of Violation from regulators, and related [financial & non-financial] penalties

3) Critical Requirements

A. General Requirements
   i) Prohibited Activities
      - Stockpiling of construction/demolition materials for reuse purposes at any location without approval from the DIA Project Manager is prohibited.

B. General Considerations
   i) Each operator or tenant conducting recycling and reuse activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
   ii) Properly identify and characterize recyclable or reusable wastes using generator process knowledge or analytical information.
   iii) Segregate and track the inventory of recyclable or reusable wastes, and reuse and recycle these materials as appropriate.

C. Training Requirements
   i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact Storm-water runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage & Materials Management Requirements
   i) Maintain appropriate storage location(s) for recyclable or reusable materials, including considerations for access, segregation, control, and removal of materials for processing.

4) Planning Requirements

A. Ensure the quality of the recyclable or reusable materials stream by segregating materials and storing them in a location where they will not be mixed with other, unacceptable materials.
B. If possible, identify recyclable or reusable materials before generation (as in construction/ demolition projects) and determine how they will be segregated and where they will be stored. Materials placed in one of the DIA recycle yards MUST be manifested through the construction DIA Project Manager.
C. Consider preparing a Waste Management Plan – this document is not required but is highly recommended in order to fully understand the generation, control, and storage implications for reusable or recyclable wastes generated as part of the operator's activities. In Tech Spec 01566 it states that this is initially waived but DIA ES may require the plan after consultation with the PM.

5) Critical Tasks

A. None

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
   i) For all spills, call DIA Communications Center immediately at 303-342-4200**.**
B. Control spills to minimize property damage and eliminate imminent risk to human health and the environment
C. Spills of any kind shall not be washed into any sewer, waterway, or storm drains, or onto any soils.
D. Containerize all collected wastes and evaluate for proper labeling, storage, and disposal

7) Inspection & Maintenance Requirements

A. Maintain good housekeeping practices in waste collection areas.

8) Expected Records and Outputs

A. Waste Management Plan
   i) While this plan is not required, it is highly recommended in order to fully understand the generation, control, and storage of recyclable or reusable materials.
B. DIA Reuse Yard Manifest
   i) These forms are available from DIA Construction.
   ii) All materials placed in the DIA Reuse Yard MUST be manifested through DIA Construction.
   iii) The operator should maintain these documents on file as long as the materials remain in the DIA Reuse Yard.
C. Recycle or Reuse Documentation
   i) It is recommended that operators maintain any documents generated in the recycling or reuse of materials (such as invoices or bills of lading).
D. Evidence of training
   i) While formal certifications are not necessary, some form of “proof of training” (such as attendee sign-in sheets) is recommended and should be maintained on file by the operator.
E. Material Safety Data Sheets (MSDSs)
   i) Manufacturers will supply these documents on demand. MSDSs should be made available to all employees and maintained on file by the operator at the facility.

9) References

A. Phone Numbers (DIA)
   i) DIA Communications Center (for Spill Reporting) ..... (303) 342-4200
   ii) DIA Environmental Services (Main Line) ..... (303) 342-2730
   iii) Jerry Williams (DIA Environmental Services) ..... (303) 342-2087
B. Guidance Materials (list is not limited to the following)
   i) CDPHE Compliance Bulletins
   ii) MSDSs

C. Training Materials (list is not limited to the following)
   i) DIA waste management training materials
   ii) Site-specific waste management materials (if any)
D. Related Environmental Guidelines (list is not limited to the following)
   i) ES-301-5.02 Spill Response
   ii) ES-301-6.01 General Waste Management
   iii) ES-301-6.04 Management of Hazardous Wastes
   iv) ES-301-6.05 Management of Universal Wastes
   v) ES-301-6.06 Management of Special Wastes
E. Applicable Regulations (list is not limited to the following)
   i) USEPA 40 CFR, Parts 239 through 259
   ii) CDPHE 6 CCR 1007-2, Part 1
   iii) DIA Rules and Regulations

ES-301-6.04 Management of Hazardous Wastes	
Document Identification Number	ES-301-6.04
Version:	3.00
Date:	December 8, 2015
Document Owner:	Debra Loya

1) Activity Description:

The activity of properly identifying, storing, handling and offering for transportation, and disposing of hazardous waste.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Legal management of hazardous waste
   ii) Improper handling and disposal of hazardous waste, both listed and characteristic
   iii) Improper identification, handling and disposal of unknown potential hazardous wastes
   iv) Protection of Airport property

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Noncompliance, Notices of Violations from Regulators, and related financial penalties

NOTE: The following guidance applies only to Hazardous Waste.
Use ES-301-6.01 (General Waste Management) to facilitate waste classification.

3) Critical Operating Requirements

A. **Prohibited Activities**
   i) Individuals are not allowed to handle or manage hazardous waste unless they have appropriate training and personal protective equipment.
   ii) Hazardous waste cannot be left unidentified, unclassified, and inadequately managed due to lack of knowledge of regulatory requirements.

B. **General Considerations**
   i) Hazardous waste must be properly managed according to all legal requirements.
   ii) In general, wastes generated from the cleanup of spills at DEN are considered non-hazardous (diesel, jet fuel, deicers, lavatory wastes). However, cleanup materials from spills of gasoline or aviation gas must be handled as hazardous waste until such time as they are determined to be non-hazardous (e.g., sampled for toxicity and/or exempt from regulation as a hazardous waste due to regulated UST release source).
   iii) The generator must be aware of their generator status, i.e. “large”, “small” or “conditionally exempt”.
   iv) The generator must know the hazardous waste codes and amounts of all generated hazardous wastes.
   v) Each generator of waste is specifically responsible for understanding waste management regulations and managing their waste accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

vi) All generators shall properly identify and characterize hazardous wastes using generator process knowledge or analytical testing, and available regulatory guidance.
vii) Segregate, handle, store, and track inventory of hazardous wastes as per regulatory guidance.
viii) Containerize, label, and transport hazardous waste according to DOT, RCRA, and State regulations.
ix) Generate and maintain a profile with the disposal facility for all hazardous wastes.

4) Critical Operating Requirements

A. Registration Requirements

i) Mangers of facilities who manage hazardous wastes shall submit the Colorado Department of Public Health and the Environment equivalent to the EPA Identification Number using form USEPA 8700-12 (i.e., the Colorado Notification of Regulatory Waste Activity Form) and pay stipulated management fees to the same (6 CCR 1007-3), if required by regulation.
ii) The USEPA has delegated responsibility for implementing RCRA regulations to the State of Colorado, Department of Public Health and Environmental Hazardous Materials and Waste Management Division.
iii) Note that in 2007, F waste code waste generation triggered more rigorous notification requirements for CDPHE (6CCR 1007-3). Refer to the CDPHE website for access to a Fact Sheet summarizing the requirements.

B. Training Requirements

i) HAZWOPER OSHA training for companies/employees subject to OSHA regulations.
ii) Personal who handle or manage hazardous wastes are required to receive site-specific training in accordance with all applicable State and Federal requirements. This includes the following.
- Discussion of waste characteristics and safe handling practices
- Describing methods of containment, and
- Generation and storage requirements and their safety and spill response

C. Storage & Materials Management Requirements

i) Store the hazardous waste according to all RCRA and CDPHE HMWMD requirements.
ii) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container and an associated contact telephone number, and must clearly indicate the contents.
iii) Per OSHA, DOT, RCRA, Local, and State and Federal requirements:
- Inspect and maintain hazardous waste generation (suggested), satellite accumulation, and waste storage areas;
- Provide appropriate secondary containment and spill control;
- Label hazardous waste appropriately. The labeling shall conform to CDPHE HMWMD requirements including the owner, the owner USEPA ID Code, RCRA description of waste and applicable codes, facility address, and for storage in a satellite accumulation area, the start date for when the container is first used for accumulation.
- Place appropriate signage in generation and satellite accumulation areas; and
- Record amounts of materials along with dates and locations.

5) Planning Requirements (Responsible: Generator)

i) Maintain adequate resources to assure correct management, storage, and disposal of hazardous wastes, including physical resources, and management and training resources. This includes but is not limited to containers, transfers equipment, personal protective equipment, and emergency response equipment.

ii) When appropriate, implement hazardous waste source control programs that divert applicable materials to recycle or universal waste streams while demonstrating full compliance with hazardous waste regulations.

iii) Comply with all emergency response requirements of applicable hazardous waste requirements including maintaining a communication and response plan to protect human health and the environment during emergencies.

iv) Consider the preparation of a Waste Management Plan – this document is not required but highly recommended for fully understanding the generation, control, and storage implications for hazardous wastes generated in the operator's activities. Use the plan to avoid commingling wastes and to develop generator knowledge for waste determinations.

6) Critical Tasks (Responsible: Generator)

i) Records must be kept on waste identification and determinations. This includes analytical results. Material Safety Data Sheets (MSDSs), and any other records used in waste characterization. Any process knowledge determinations to include or exclude a waste as hazardous should be kept as long as the waste is being generated or managed.

ii) Hazardous waste generators are required to maintain all records related to hazardous waste storage area inspections and waste shipping and disposal for a minimum of three years. This requirement can be extended if the records are under investigation.

iii) Storage locations require rigorous supervision for compliance with general housekeeping, access, emergency response, inspection and recordkeeping, secondary containment, and spill control, as well as time limitation for storage.

iv) Generators of hazardous waste must label all hazardous wastes appropriately (per DOT guidance) before shipping. Waste must be offered for shipping and disposal in compliance with RCRA and state regulations. Special care should be taken in preparation of manifests, Land Disposal Regulations (LDRs), and disposal site notification of receipt.

7) Emergency Response (Responsible: Generator)

i) If a spill occurs, refer to Environmental Guidance ES-301-5.02 Spill Response.

- Call DEN Communications Center immediately at 303-4200 for all spills.

ii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.

iii) Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.

iv) Containerize all collected spillage and cross contaminated wastes and evaluate for proper labeling, storage, and disposal.

8) Inspection and Maintenance Requirements (Responsible: Generator)

i) Hazardous waste satellite and storage areas must be inspected every week for RCRA-complaint containment, emergency response items, labeling, and waste hold times.

ii) Maintain good housekeeping practices in waste collection areas.

9) Expected Records and Outputs

A. Waste Management Plan (including generation locations and waste determinations)

i) While this plan is not required, it is highly recommended to fully understand the generation, control, and storage of hazardous wastes.

B. Waste Analysis and Profiles- MSDSs and Generator Knowledge

i) All hazardous wastes must be profiled by the landfill for disposal. This frequently requires chemical analyses be performed by an EPA-certified analytical laboratory, or equivalent.

ii) MSDSs should be made available to all employees and maintained on file by the Generator at the facility. Manufacturers will supply these documents on demand. Generator knowledge documentation must be kept on site.

C. Colorado Notification of Regulated Waste Activity Form

i) All hazardous waste generators must complete and submit this form to the Colorado Department of Public Health and Environment prior to operation.

ii) In 2007, CDPHE required additional notification requirements for specific F code waste generation. This information must be provided on the Hazardous Waste Notification Form.

iii) At this point, the impact of managing hazardous wastes as universal wastes or recycle options should be considered.

D. Disposal manifest(s), LDR & shipping forms

i) Originating shipping and disposal forms must be developed and kept on site.

ii) Manifests and LDR forms must be obtained from the disposal facility in a timely fashion or notifications to USEPA must be made.

iii) All manifests must be maintained on file by the generator for at least three years.

iv) MSDSs should be made available to all employees and maintained on file by the Generator at the facility. Manufacturers will supply these documents on demand. Generator knowledge documentation must be kept on site.

E. Inspection records

i) Waste storage area inspection records must be maintained on site by the operator for a minimum of 3 years.

F. Evidence of training

i) Employees involved in the handling of hazardous wastes must receive site-specific training per RCRA guidance.

ii) Site-specific hazardous waste training records for employees must be maintained on site by the generator for a minimum of three years.

10) References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730
iii)	Craig Schillinger (DEN Environmental Services)	(303) 342-2834

B. Guidance Materials (list is not limited to the following)
- i) MSDSs (for raw material)
- ii) Waste Management Plan (if prepared)
- iii) CDPHE Compliance Bulletins

C. Training Materials (list is not limited to the following)
- i) DEN hazardous waste management training materials
- ii) Site–specific hazardous waste generation, management, and shipping information.
- iii) OSHA HAZWOPER training materials, if subject to OSHA.

D. Related Environmental Documents (list is not limited to the following)
- i) ES-301-5.02 Spill Response
- ii) ES-301-6.01 General Waste Management
- iii) ES-301-6.05 Universal Waste Management

E. Applicable Regulations (list is not limited to the following)
- i) 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- ii) 40 CFR 261-279 Federal RCRA Regulations
- iii) 40 CFR 100-185 DOT Regulations
- iv) 6 CCR 1007-3, Part 261-279 State RCRA Regulations
- v) DEN rules and regulations
- vi) Denver Wastewater Management Division Rules and Regulations
- vii) Metro Wastewater Reclamation District Rules and Regulations

ES-301-6.05 Management of Universal Waste	
Document Identification Number	ES-301-6.05
Version:	3.00
Date:	December 8, 2015
Document Owner:	Debe Loya

1) Activity Description: Incinerator Operations

The activity of properly identifying, storing, handling, transporting, and disposing of universal waste. Although universal waste is a subset of hazardous waste, universal waste consists mainly of everyday items in widespread use. Universal waste includes:

- Batteries;
- Aerosol cans;
- Pesticides;
- Mercury-containing devices (such as mercury thermostats);
- Mercury-containing lighting (such as fluorescent bulbs); and
- Electronic devices and components (such as computers and monitors).

In order to be classified as a universal waste, a waste must first be classified as a hazardous waste. The Department of Aviation assumes all of the above waste streams meet definitions of hazardous waste and chooses to manage those waste streams under the less-stringent universal waste regulations, instead of the more-stringent hazardous waste regulations, as allowed by federal and state law. The Department of Aviation believes it does not purchase new mercury-containing devices, and therefore does not generate waste mercury-containing devices.

Classifying and managing the above waste streams as universal wastes is intended to encourage their recycling. Economical recycling options exist for most of these wastes. In addition, classifying material as universal waste means that they are subject to less stringent management requirements than those for hazardous waste.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Improper storage, handling, or disposal of universal waste

B. Potential consequences from performing the activity incorrectly:
   i) Property damages, personal injury, or damage to the environment
   ii) Noncompliance, Notices of Violation from the regulators, and related (financial and non-financial) penalties.

NOTE: The following guidance applies only to Universal Waste.
Use ES-301-6.01 (General Waste Management) to facilitate waste classification.

3) Critical Operating Requirements

A. **Prohibited Activities**

i) Do not dispose of waste batteries, waste aerosol cans, waste pesticides, waste lamps, or waste electronic devices and components in a trash can or trash dumpster unless generator knowledge or other information confirms that the waste is not a hazardous or universal waste.

B. **General Considerations**

i) Each airport operator, tenant, or contractor conducting universal waste management activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.
ii) A generator of universal waste is called either a "large quantity handler (LQH)" or a "small quantity handler (SQH)" of universal waste. This document will use LQH and SQH when referring to those who generate or accumulate universal waste.
iii) Identify materials requiring universal waste management.
iv) Characterize and properly manage universal waste.
v) Segregate universal waste as appropriate.
vi) Generate and maintain a profile with the recycling/disposal facility for all universal waste.

C. **Training Requirements**

i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact storm water runoff. Storm water training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. **Storage and Materials Management Requirements**

i) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container and an associated contact telephone number, and must clearly indicate the contents; The labeling shall conform to CDPHE HMWMD requirements including the owner, the owner USEPA ID Code, RCRA description of waste and applicable codes, facility address, the start date for when the container is first used for accumulation.
ii) Waste accumulation – manage to prevent releases; one-year accumulation time limit;
iii) Waste shipment – no manifest required; other evidence of shipping recommended;
iv) Notification – SQH not required to notify the Colorado Department of Public Health and Environment (CDPHE); LQH must notify CDPHE and obtain an EPA Id. Number;
v) Training – SQH employees must be informed of proper handling and emergency procedures; LQH employees must be thoroughly familiar with universal waste management requirements and emergency response appropriate to their level;
vi) Spills – immediately containerize and appropriately manage any spills, residues, or releases of universal wastes; be aware of the need to determine if a hazardous waste has been newly generated;
vii) Records – SQH not required to maintain records, but should document waste management activities to evidence SQH status; LQH must keep written records of types and quantities of universal waste shipped and received for 3 years; no training records are required.

4) Planning Requirements

A. Maintain adequate resources to ensure correct management of universal waste.

5) Critical Tasks

A. None

6) Emergency Response

A. If a spill occurs, refer to Environmental Guideline ES-301-5.02 Spill Response.
   i) For all spills, call DEN Communications Center immediately at 303-342-4200.

B. Spills of any kind shall not be washed into any sewer, storm drains, or water way, or onto any soil.

7) Inspection and Maintenance Requirements

A. Maintain good housekeeping practices in universal waste storage areas.
B. Arrange for immediate recycling/disposal when universal waste storage areas/containers become nearly full.

8) Expected Records and Outputs

Record/Output

- Evidence of training

Instruction

- While formal certifications are not necessary, some form of "proof of training" (such as sign-in sheets and handouts) is recommended and should be maintained on file by the operator.

Record/Output

- Waste profiles and land disposal restriction profiles

Instruction

- Obtain waste profiles and land disposal restriction profiles prior to recycling/disposal of universal waste. Try to recycle universal waste whenever possible.

Record/Output

- Shipping documentation

Instruction

- Records of shipments, such as invoices or bills of lading, are required for LQHs (recommended for SQHs).
- All LQH shipping records must be maintained on file for at least three years.

References

A. Phone Numbers

i)	DEN Communications Center (for spill reporting)	(303) 342-4200
ii)	DEN Environmental Services (Main Line)	(303) 342-2730

iii) Debe Loya (DEN Environmental Services) (303) 342-2858

B. Guidance Materials (list is not limited to the following)
   i) CDPHE Compliance Bulletins on Universal Waste
      - Universal Waste Rule
      - Aerosol cans
      - Batteries
      - Electronics (computers, etc.)
      - Lighting Waste
      - Mercury containing Devices
   ii) ES-308-06.02 Universal Waste Work Instruction
   iii) Material Safety Data Sheets (MSDS)
   iv) E-waste recycling procedure (fix name and sat where to find)

C. Training Materials (list is not limited to the following)
   i) DEN hazardous and universal waste management training
   ii) Site specific waste management materials (if any)

D. Related Environmental Documents (list is not limited to the following)
   i) ES-301-4.01 Management of Pesticides and Herbicides
   ii) ES-301-5.02 Spill Response
   iii) ES-301-6.01 General Waste Management
   iv) ES-301-6.03 Management of Recyclable and Reusable Materials
   v) ES-301-6.04 Management of Hazardous Waste
   vi) ES-301-6.06 Management of Special Waste

E. Applicable Regulations (list is not limited to the following)
   i) USEPA 40 CFR 273 (Federal universal waste regulations)
   ii) US DOT 49 CFR 171-180 (Battery Shipping Instructions
   iii) CDPHE 6 CCR 1007-3, Part 273 (State universal waste regulations)
   iv) DEN Rules and Regulations
   v) State solid waste use fee statute (C.R.S. 25-16-104.5)

ES-301-6.06 Management of Special Wastes	
Document Identification Number	ES-301-6.06
Version:	3.01
Date:	December, 2015
Document Owner:	Manager of Facility Compliance

1) Activity Description:

The activity of properly identifying, storing, handling, transporting, and disposing of Special Wastes. Special Waste consists of Construction, Industrial and Remedial rubbish and debris which can require special handling. Specific Special Wastes are wastes for which the receiving non-hazardous landfill may require a waste profile and manifests prior to acceptance. Its actual specification is driven by directive from the disposal site. Special Wastes include, but are not limited to:

- Construction debris- does not need to be manifested
    - Non-hazardous contaminated spill response media and/or soils and other agglomerations of atypical solids for which receiving landfill acceptance does not exist and the receiving landfill requires one.
    - Sand/oil trap wastes
    - Asbestos-containing materials
    - Non-hazardous cleanout wastes from drums, vaults, containments, tanks, and other containers
    - Any other material upon which a receiving landfill sets receiving quality control standards
    - Generally, any waste that is different from normal landfill trash
    - For DIA specifically:
        - DIA Petroleum Exploration and Production (E&P) Waste – WMI Profile #1007017; Expires 7/17/2012.
        - DIA International Incinerator Ash - WMI Profile # 1007018; Expires 7/18/2012.
        - DIA Absorbent Waste - WMI Profile #1007019; Expires 10/6/2014.
        - DIA Central Plant Chilled Water Sand Media - WMI Profile#1007426; Expires 8/12/2014.
        - DIA Sanitary Sewer Spills – WMI Profile #110128CO; Expires 9/22/2012
        - Glycol Spills /cleanup in soil – WMI Profile #102958CO; Expires 1/05/2014
        - Glycol Spills/cleanup in soil – 2nd WMI Profile #106066; Expires 10/20/2015

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
   i) Segregation, inventory, and profiling of specific “special” wastes for disposal
   ii) Improper or inappropriate management and disposal of non-hazardous special wastes.

B. Potential consequences from performing the activity incorrectly:
   i) Property damage, personal injury or damage to the environment
   ii) Noncompliance, Notices of Violations from Regulators, and related [financial and non-financial] penalties

NOTE: The following guidance applies only to Special Wastes.
Use ES-301-6.01 (General Waste Management) to facilitate waste classification.

3) Critical Operating Requirements

A. **Prohibited Activities**

i) "Special wastes," per RCRA– "Subtitle C Landfill permit requirements", must be managed according to requirements set by the receiving landfills and may require special recordkeeping, analysis, characterization, handling, control and disposal. They should not be managed and disposed in non-compliance with these requirements.

B. **General Considerations**

i) Each generator of waste is responsible for understanding waste management regulations and managing their waste accordingly; this Environmental Guideline is meant as guidance only and does not supersede any regulations.

ii) All waste generators must properly identify and characterize all special wastes using generator process knowledge.

iii) Segregate and track inventory of recyclable or reusable wastes, and reuse and recycle these materials as appropriate.

iv) Each generator of special waste must maintain an approved profile with the disposal facility for all special wastes.

v) Small amounts of spill cleanup materials (less than approximately 5 gallons) for diesel, jet fuel, lavatory waste, oils, antifreeze, deicers, firefighting agents, etc. can be placed in the MSW compactor or commercial dumpster. THIS IS NOT TRUE of gasoline or AvGas spill cleanup or any other potentially hazardous material cleanup. Spill cleanup material in excess of approximately 5 gallons must be handled as "Special Waste."

vi) Occasional small animals can also be placed in the commercial waste dumpster or MSW compactors unless there is evidence of disease. The proper disposal of large or diseased animals should be coordinated with the US Fish and Wildlife representative at DIA.

vii) Control of manifest distribution. Manifests are ordered by WM Contract Manager and signed by same or Project Manager. Project Manager is responsible for control and inventory of manifests. PM provides contractor with signed manifests. Any unused manifests shall be returned to WM Contract Manager.

4) Critical Operating Requirements

A. Training Requirements

i) All employees involved in handling and shipping special waste should receive training to a basic level of awareness regarding the origin, handling, and disposal of special wastes.

ii) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

B. Storage & Materials Management Requirements

i) Maintain appropriate storage area(s) for special wastes, including considerations for access, segregation, control, and pickup for disposal.

ii) Maintain legible labels and markings on all containers and tanks; labels on all containers must have the name of the owner of the container and an associated contact telephone number, and must clearly indicate the contents.

5) Planning Requirements (Responsible: Operator)

A. Consider the preparation of a Waste Management Plan – this document is not required but highly recommended for fully understand the generation, control, storage and disposal implications for special wastes generated in the operators activities. In Tech Spec 01566 it states that this is initially waived but DIA ES may require the plan after consultation with the PM.

6) Critical Tasks (Responsible: Operator)

A. Retain all records related to special waste collection and disposal. These records should be maintained on file (not required) by the operator for three years and commonly consist of:

i) Waste profiles and disposal facility acceptance forms or letters, including analytical data

ii) Waste manifests

iii) Invoices from the disposal facility

7) Emergency Response (Responsible: Operator)

A. If a spill occurs, refer to Environmental Guidance ES-301-5.02 Spill Response.

- Call DIA Communications Center immediately at 303-4200 for all spills.

B. Control spills to minimize property damage and eliminate imminent risk to human health and the environment.

C. Spills of any kind shall not be washed into any sewer or waterway, or onto any soils.

D. Containerize all collected wastes and evaluate for proper labeling, storage, and disposal.

8) Inspection and Maintenance Requirements (Responsible: Operator)

A. Maintain good housekeeping practices in waste collection areas. Area supervision should inspect containments for proper materials.

9) Expected Records and Outputs

A. Waste management records (profiles, manifests, sample results, etc.).

i) Based on the disposal profile, manifests and related forms may be required. Manifests & profile forms can be obtained from the disposal facility for off-site disposal activities (manifests are required for hazardous waste).
ii) Operator must maintain waste management records at the facility for a minimum of 3 years.

B. Evidence of Training
i) While formal certifications are not necessary, some form of "proof of training" (such as attendee sign-in sheets) is expected & should be maintained on file by the Operator.

C. MSDSs
i) Manufacturers will supply these documents on demand. MSDSs should be made available to all employees and maintained on file by the Operator at the facility.

10) <u>References</u>

A. Phone Numbers

i)	DIA Communications Center (for spill reporting)	(303) 342-4200
ii)	DIA Environmental Services (Main Line)	(303) 342-2730
iii)	Craig Schillinger (DIA Environmental Services)	(303) 342-2834

B. Guidance Materials (list is not limited to the following)
i) MSDSs on raw materials
ii) 40 CFR Subtitle "C" and "D"
iii) Disposal Site limitations and conditional acceptances

C. Training Materials (list is not limited to the following)
i) DIA Waste Management training materials

D. Related Environmental Documents (list is not limited to the following)
i) ES-301-5.02 Spill Response
ii) ES-301-6.01 General Waste Management

E. Applicable Regulations (list is not limited to the following)
i) DIA 40 CFR Subtitle "C" and "D" Landfill Regulations
ii) 49 CFR 100 – 185 DOT Regulations
iii) 6 CCR 1007-3, Part 261-279 State RCRA Regulations
iv) DIA Rules and Regulations

*ES-301-7.01 MS4 Operations and Maintenance Procedures for DEN**	
Document Identification Number	ES-301-7.01
Version:	3.01
Date:	December 30, 2015
Document Owner:	Kim Ohlson

1) Activity Description: MS4 Maintenance and Operations Procedures for DEN

This Environmental Guideline (EG) applies to MS4 related operations and maintenance activities as described in the City and County of Denver's MS4 Permit (Part I.B.1.e) conducted by DEN employees. This EG describes the Best Management Practices (BMPs) developed, adopted, and implemented by DEN to primarily prevent or reduce pollutants in runoff from the following activities;

- New Municipal Building and Facility Construction
- Street Maintenance, Replacement, Construction
- Snow Removal
- Street Sweeping
- Large Outdoor Festivals and Events
- Parks and Open Space Maintenance

* This EG is one of several specifically identified procedures for activities/facilities that are required by the Pollution Prevention/Good Housekeeping section of CCD's MS4 permit. Related procedures not specially addressed in this EG include, but not limited to, those identified in the Reference section of this document.

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:
- Fuel spills
- Air pollution & odors
- Improper or inappropriate disposal of Wastes
- Sanitary sewer overflow
- Contamination of ground water
- Collection of wash water
- Improper or inappropriate disposal of pesticides and herbicides
- Disposal of contaminated spill response media
- Sediment & erosion
- Contamination of soils
- Contamination of surface water
- Adverse impacts to Wildlife/Protected Species
- Adverse impacts to non-target organisms
- Adverse impacts to wetlands

B. Potential consequences from performing the activity incorrectly:
- Personal injury, property damage, or long-term damage to the environment
- Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties

3) Activity Descriptions:

New Municipal Building and Facility Construction:

New construction includes, but is not limited to buildings, structures, capital improvements, roadways, and recreational components such as trails, restrooms, and other structures. Procedures provided are general in nature and may apply to any scale or type of municipal construction.

Street Maintenance, Replacement, Construction:

Street, curb, and gutter activities include concrete and asphalt installation, maintenance, repair, replacement, and construction; bridge maintenance; and painting and striping. All of these activities have the potential to impact stormwater quality.

Snow Removal:

Deicers are commonly used during snow removal activities. Improper handling of deicers can contribute pollutants to waterways. Deicers can contaminate surface and ground water and damage vegetation adjacent to roadways. Deicers will change the chemical balance of local waterways and can be picked up by stormwater resulting in higher dissolved and suspended sediment loads in waterways. Deicers also present an air quality concern. Snow may have to be stored during major winter storms to increase accessibility. It is possible for pollutants such as sediment, organics, oil, and grease to be concentrated at snow storage locations and to impact stormwater quality.

Street Sweeping:

Street sweeping can prevent pollutants such as sediment particles, organics, oil, grease, trash, road salt, and trace metals from entering and plugging the storm sewer system. The operation and maintenance of street sweepers, if not conducted properly, can contribute to stormwater pollution.

Large Outdoor Festivals and Events:

Although these activities are not typically held at DEN, large outdoor festivals have the potential to impact stormwater quality. A "large" event is generally defined as having all of the following: portable toilets, trash receptacles, prepared food and beverage vendors, and street closures.

Parks and Open Space Maintenance:

These maintenance activities are conducted by various agencies at DEN and involve the operation of equipment such as mowers and tractors; disposal of waste from mowing, planting, weeding, raking, pruning and trash collection; and application of pesticides, herbicides and fertilizers.

4) Critical Requirements and Tasks for MS4 Operations and Maintenance Procedures

A. General Considerations

i) Obtain all applicable federal, state, and local permits for construction projects

(1) Either one or both the Colorado Stormwater Construction General permit and/or the Denver Construction Activities Stormwater Discharge Permit apply to construction sites meet one or more of the following criteria:
    (a) Disturbing one acre or more, or less than one acre but part of a larger common plan of development,
    (b) Are part of 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,
    (c) The site has been identified as having a significant potential for erosion, based on site characteristics including steep topography,
    (d) The site is not known to contain contaminated soils or pre-existing environmental impairment, and
    (e) The site is not directly adjacent to receiving waters (i.e. creek, stream, river, pond, lake, etc.).
(2) A dewatering permit may be required if construction activities require the removal and discharge of groundwater offsite.
(3) A U.S. Army Corp of Engineers (USACE) Section 404 Permit may be needed if the work will be conducted in or impact waters of the United States, including wetlands, washes, drainages, ditches, creeks, streams, and rivers.

ii) Applicable sediment and erosion controls shall be installed to prevent illegal discharges to the storm sewer or waterways, 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.

iii) Where practicable, non-structural controls will be used, such as phased construction, dust control, good housekeeping practices (daily sweeping), and spill prevention and response procedures.

iv) Protect storm drain inlets and drains with curb socks, rock berms, inlet protection, or drain covers/mats prior to any activity.

v) Where feasible, schedule maintenance activities during dry weather.

vi) Stay alert for any signs of illicit discharges. This includes “dry weather” flows or pipes or hoses emptying directly into waterways or the storm sewer system.

vii) Leaking material containers should be properly discarded and replaced.

viii) Store materials in containers under cover when not in use and away from any storm drain inlet.

ix) Monitor equipment for leaks and use drip pans as necessary.

x) Sweep or vacuum the roadway once activities are complete.

B. Employee Training

i) Training will be conducted as necessary to conduct the Activity as described herein and to inform employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations.

ii) Records of on-the-job training are not required. Records of formal employee training, if provided, shall be retained.

C. Storage & Material Handling Requirements

i) Store materials per RCRA-approved methods.
ii) Maintain legible labels and markings on all containers and tanks.
iii) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.

D. Emergency Response

i) Call DEN Communications Center immediately at 303-342-4200 for all spills.
ii) If a spill occurs, refer to Environmental Guideline ES–301-5.02 Spill Response.
iii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
iv) Containerize all collected wastes and evaluate for labeling, storage and disposal.

5) Specific Operating Requirements for:

- New Municipal Building and Facility Construction
- Street Maintenance, Replacement, Construction

Expected Records / Outputs: None.

Concrete and Asphalt Work

- Minimize the drift of chemical cure on windy days by using the curing compound sparingly and applying it close to the concrete surface.
- Ensure there is a concrete truck washout area available. Wash out mixers, delivery trucks, or other equipment in the designated concrete washout area only.
- Whenever possible, recycle concrete and asphalt rubble; otherwise, dispose of it as solid waste.
- When saw cutting concrete, ensure that no slurry enters the storm drain. Vacuum wet materials and allow too dry in a separate container, which can then be disposed of properly as solid waste. Alternatively, let the slurry dry on the surface, sweep it up, and properly dispose of the sweepings as solid waste.
- Whenever possible recycle concrete and asphalt. If impossible, dispose of as solid waste.

Roadway Milling and Overlay

- Sweep to minimize sand and gravel from new asphalt from getting into storm drains, streets, and creeks.
- 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.
- Whenever possible recycle concrete and asphalt. If impossible, dispose of as solid waste.
- Drainage inlet structures should be covered with inlet protection during application of seal coat, tack coat, slurry seal, and/or fog seal.
- 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.

Bridge Work

- Do not transfer or load any materials directly over waterways.
- Secure lids and caps on all containers when on bridges.

- Suspend drop cloths or nets below any bridgework where wastes, scraps, or drips might be spilled into a waterway.

Painting and Striping

- If possible, schedule painting and striping projects during dry weather.
- Use thermoplastic or epoxy markings in place of paint whenever feasible.
- The pre-heater for thermoplastic striping and the melting tanks used during pavement marking should be filled carefully to prevent splashing or spilling of materials. When feasible leave 6 inches at the top of pre-heater and the melting tanks to allow room for material to move and splash when vehicles are deadheaded.

6) Specific Operating Requirements for:

- Snow Removal

Expected Records / Outputs:

- The following shall be reported to DEN ES annually for inclusion into the MS4 Annual Report per Reg. 16 street sanding data.
  - Number of full deployments
  - Number of line miles treated
  - Tons of Squeegee and salt used
  - Tons of Meltdown 20™ used
  - Gallons of Apex liquid pavement deicer used

Plowing

- Inspect plowing equipment for leaks prior to use and respond these and other spills per the Spill Response procedures listed in “References” section below.
- Take care when connecting or releasing plow shovels and clean up any hydraulic fluid that may leak onto the pavement.
- Wash snow removal equipment only at approved washing stations.
- Do not pile snow in front of storm sewer inlets to allow inflow of snowmelt runoff.

Deicer Application

- Apply only the recommended amount of deicer to roadways.
- Spreaders should be calibrated at the beginning of each season and inspections for maintenance or repair should be conducted after each storm.
- As soon as weather conditions allow, follow-up with street sweeping to remove remaining deicer from roadways.

Ice Cutting

- Gutters and storm sewer inlets should be cleared of ice to allow drainage of snowmelt or ice-melt.

Solid Deicer Storage

- Deicers should be stored under cover, such as inside a covered structure or under a tarp.
- Containment barriers should be placed to prevent transport of the material beyond the storage area unless stored inside a structure.

- Any temporary salt and sand storage areas should be protected from erosive forces of wind and rain.
- Do not overload material spreaders.
- Sweep the area outside of the material storage area after loading and unloading.

Liquid Deicer Storage

- Utilize liquid deicer inventory controls to minimize the amount of deicer used and stored.
- Store tanks/containers in a location where they will not be accidentally damaged by equipment or vehicles.
- Periodically inspect storage tanks/containers to ensure that all materials are being stored properly when not in use.
- Clean the storage tank/container area when necessary using dry cleanup methods.
- Follow all State and Federal storage tank requirements
- When receiving bulk deliveries or when loading liquid deicers into truck mounted tanks, minimize leaks and clean up spills as soon as they occur.

Snow Storage

- Snow should be stored away from storm sewer inlets and waterways.
- When possible, snow should be stored on a pervious surface to allow infiltration.
- Snowmelt runoff should be routed through a best management practice (e.g., stormceptor, extended detention basin, oil/water separator, vegetated buffer) prior to reaching a waterbody.
- Sweep or vacuum impervious snow storage areas once snow has melted.

7) Specific Operating Requirements for:

- Street Sweeping

Expected Records/Outputs:

- The following records could be used to document activities performed:
  - Log of the number of curb-miles swept each year.

Use of Wash Bay Facilities

- Whenever possible, equipment shall be cleaned in an approved wash facility with appropriate drains and runoff protection.
- This should include the daily cleaning of street sweepers, post-snow event cleaning of plows and spreaders, and cleaning of light vehicles.

Field Flushing of Sweepers

- Operation of most types of street sweepers requires flushing of the belt during the day.
- Flushing in the field may be performed only when appropriate curb inlet protection is provided to keep sediment from entering the storm drainage system.
- Operators should have approved inlet protection devices and clean up residual sediment.

Heavy Equipment Cleanup in the Field. Equipment cleanup practices include the following measures

- Use of approved cleaners on all equipment;

- Daily cleaning of equipment will be done in as protected a location as is practical on-site, and appropriate monitoring and containment measures will be implemented to protect water sources.
- The standard practice will be to clean equipment on the prepared site for the following day's work, using limited cleaning materials so that not runoff occurs.

Sweeper Debris Disposal

- Do not empty sweeper hoppers, even temporarily, onto areas near storm drains or surface water bodies or where wind or rain could wash the debris into the storm sewer system or scatter the debris.
- Temporary storage areas for debris need to be protected from wind, rain, and surface runoff (when applicable).
- Dispose of sweeper debris at a designated dump site or at the designated area at the municipal facility.
- If unusual sweeping materials are identified, bring the issue to the attention of a supervisor for evaluation and proper disposal.
- If dirt or traffic accident debris is swept up, it must be disposed of properly.

8) Specific Operating Requirements for:

- Large Outdoor Festivals & Events

Expected Records / Outputs: None.

Storm Sewer System

- Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
- Provide and adequately maintain trash receptacles for vendors and guests.
- Store waste containers under cover or on grassy areas, if possible.
- Do not wash out trash receptacles unless wash water will be discharged to the sanitary sewer.
- 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.
- Sweep the roadway and parking lots after the large festival or event.
- Follow the Power Washing procedure for clean-up procedures, see "References" below.
- Follow the Spill Response procedures, see "References" below. Have spill kits available and ensure that vendors understand that it is prohibited to dump any pollutants into the storm sewer system.

Portable Toilet Service

- Portable toilets are required at most large outdoor festivals and events. All portable toilet waste is classified as "septage."
- Units should be removed as soon as the festival or event is completed so that they do not become a nuisance or vandalized.

Food and Beverage Vendor Waste

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

9) Specific Operating Requirements for:

- Parks and Open Space Maintenance

Expected Records / Outputs: None.

Pesticide and Herbicide Application

- Apply pesticide and herbicides in accordance with the manufactures instruction and applicable rules and regulations, including FIFRA, Colorado Department of Agriculture, and the City and County of Denver's Pesticides Discharge Management Plan.

Equipment

- Clean and store equipment at approved areas only.

Waste from mowing, planting, weeding, raking, pruning and trash collection

- Wastes (trash) generated from these activities should be disposed of an acceptable waste receptacle.
- Wood materials can be disposed of at one of the following wood recycling containers:
  - Two containers located at Joint Use Cargo
  - One contain located at 88th Ave near the sand shed

10) References

A. Phone Numbers

DEN Communications Center (for Spill Reporting)…….. (303) 342-4200
Kim Ohlson (DEN Environmental Services)…… (303) 342-2637
DEN Environmental Services (Main Line)…… (303) 342-2730

B. Guidance Materials (list not limited to the following)

- MSDSs
- DEN Stormwater Management Plan (SWMP)
- DOT Labeling and Placarding Guidance
- SPCC Plan

C. Related Environmental Guidelines (list not limited to the following):

Note: The following list identifies procedures related to MS4 Operations and Maintenance Procedures but may not be all-inclusive. The following procedures are considered primary documents for purposes of compliance with the MS4 permit.

- ES-301-1.02 Cleaning/Washing – Aircraft, Vehicles, and Equipment
- ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
- ES-301-2.05 Cleaning/Washing – Indoor Industrial Surfaces

- ES-301-2.07 Maintenance of Pretreatment Devices
- ES-301-3.01 Construction
- ES-301-3.02 Planning and Design
- ES-301-4.01 Management of Pesticides and Herbicides
- ES-301-4.03 Cleaning/Washing – Outdoor Areas and Structures
- ES-301-4.06 Pavement Deicing
- ES-301-4.08 Inspection and Maintenance of MS4 Structural Controls
- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management

D. Applicable Regulations (list not limited to the following)

- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
- 40 CFR 260-262-273 Federal RCRA Regulations
- 40 CFR 150-189 Federal Insecticide, Fungicide and Rodenticide Act Regulations
- 6 CCR 1007-3, Part 261 State RCRA Regulations
- City and County of Denver Municipal Separate Storm Sewer System (MS4) Permit
- City and County of Denver Pesticide Discharge Management Plan
- CCoD Ordinances
- Denver Wastewater Management Division Rules and Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DEN Rules and Regulations
- City and County of Denver Mayor's Executive Orders

E. Other Documents

- DEN Managers Bulletins
- CCoD Executive Orders