

SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment

Introduction

Regular maintenance of both municipal and contracted vehicles and heavy equipment not only prolongs the life of municipal assets but also helps reduce the potential for leaking of fluids associated with normal wear and tear. Potential pollutants include fuels, oil, antifreeze, brake fluid, solvents, and battery acid. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees to help reduce the discharge of pollutants from the MS4 as a result of leaks from vehicles and equipment. If services are contracted with respect to vehicles and equipment, this SOP should be provided to the contractor. The contract should also specify that the contractor is responsible for compliance with all applicable laws.

The Town of Rowley undertakes various procedures in regard to its municipal vehicles and equipment.

The Highway Department maintains three large six wheel dump trucks, two one ton dump trucks, two three quarter ton pickup trucks, one loader and one backhoe. Vehicle and equipment maintenance is performed inside the Highway Department facility located at 40 Independent Street. Any major repairs are typically performed off site. Any fluid leaks are cleaned with speedy dry and disposed of properly. Fueling is performed off site. Vehicle and equipment washing is performed outdoors when necessary. Fueling of vehicles is performed off site for all departments. Vehicle and equipment washing is performed outdoors when necessary. The Fire/Police Safety Departments also conduct maintenance off-site. The building is equipped with a tight tank and oil water separator. Infrequent vehicle washing is conducted outside and drains to an infiltration basin in an upland area. Spill control materials are available on-site. The Municipal Light Department also subcontracts out all vehicle maintenance. Spill kits are available in all commercial Light Department vehicles. Commercial vehicles are garaged overnight.

Within two years of the effective date of the MS4 Permit, the Town of Rowley will create an inventory of all municipal vehicles and equipment and update this inventory annually (refer to the attached vehicles and equipment inventory template).

Procedures

The Town of Rowley will implement the following procedures for municipally owned and operated vehicles and equipment to reduce the discharge of pollutants from the MS4:

Vehicle and Equipment Maintenance

Vehicle Storage

- Monitor vehicles and equipment for leaks and use drip pans as needed until repairs can be performed.
- When drip pans are used, avoid overtopping.
- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids



- Store and park vehicles on impervious surfaces and/or under cover or indoors whenever possible.

Vehicle Maintenance

- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.
- Sweep and pick up trash and debris as needed
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.

Body Repair and Painting

- Conduct all body repair and painting work indoors.
- Minimize waste from paints and thinners. Calculate paint needs based on surface area.
- Use dry cleanup methods (vacuum, sweep) to clean up metal filings and dust and paint chips from grinding, shaving and sanding. Sweep debris from wet sanding after allowing it to dry overnight on the shop floor. Dispose of waste properly; never dump waste into storm or sanitary sewers.
- Use sanding tools equipped with vacuum capability to pick up debris and dust.

Fueling

- Fueling areas owned or operated by the municipality should be covered.
- Fueling areas should be evaluated to ensure that pollutants (e.g., gasoline or oil) do not enter the MS4. Follow the procedures in SOP 7: Fuel and Oil Handling.

Material Management

- Store materials and waste in labeled containers under cover and in secondary containment.
- Chemicals should not be combined in containers.
- Hazardous waste must be labeled and stored according to hazardous waste regulations. Follow the procedures in SOP 17: Hazardous Materials Storage and Handling.
- Carefully transfer collected fluids from containers into designated storage areas as soon as possible.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.
- Conduct periodic inspections of storage areas to detect possible leaks.
- Do not wash or hose down storage areas unless there is prior approval to collect and discharge the water into the sanitary sewer. Use dry cleanup methods whenever possible.
- Keep lids on containers. Store them indoors or under cover to reduce exposure to rain.
- Inspect and maintain all pretreatment equipment, including interceptors, according to the manufacturer's maintenance schedule and at least once per year.
- Proper spill protocol should be followed to prevent chemicals from entering the stormwater system. Follow the procedures in SOP 4: Spill Response and Cleanup.



Parts Cleaning

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, then capture parts cleaning fluids.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.
- Use steam cleaning or pressure washing of parts instead of solvent cleaning. Cleaning equipment must be connected to an oil/water interceptor prior entering the sanitary sewer.
- When using solvents for cleaning, drain parts over the solvent tank to avoid drips to the floor. Catch excess solutions and divert them back to tank. Allow parts to dry over the hot tank.

Vehicle and Equipment Washing

Vehicle washing can result in the discharge of nutrients, sediment, petroleum products, and other contaminants to a surface water body or to a stormwater system. The MS4 Permit does not authorize the discharge of municipal vehicle washing byproducts into the MS4.

Outdoor Vehicle Washing Procedures

Outdoor washing of municipal vehicles should be avoided unless wash water is contained in a tight tank or similar structure. Where no alternative wash system is available, and full containment of wash water cannot be achieved, adhere to the following procedures:

- Avoid discharge of any wash water directly to the storm drainage system or surface water (e.g., stream, pond, or drainage swale)
- Minimize the use of water to the extent practicable.
- Where the use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of a biodegradable, phosphate-free detergent is preferred.
- Do not use solvents except in dedicated solvent parts washer systems or in areas not connected to a sanitary sewer.
- Do not power wash, steam clean, or perform engine or undercarriage cleaning.
- Grassy and pervious (porous) surfaces may be used to promote direct infiltration of wash water, providing treatment before recharging groundwater and minimizing runoff to an adjacent stormwater system. Pervious surfaces or other infiltration-based systems should not be used within wellhead protection areas or within other protected resources.
- Impervious surfaces discharging to the storm drainage system should not discharge directly to a surface water unless treatment is provided. The treatment device should be positioned such that all drainage must flow through the device, preventing bypassing or short-circuiting.
- Periodic sweeping and/or cleaning should be completed to prevent accumulation from forming on the washing area.
- Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities. Follow the procedures in SOP 4: Spill Response and Cleanup.
- Heavily soiled vehicles or vehicles dirtied from salting or snow removal efforts should follow the SOPs in the “Heavy Equipment Washing Procedures” below.



Indoor Vehicle Washing Procedures

- Vehicles and equipment should be washed inside whenever possible to reduce runoff to the stormwater system.
- Where the use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of biodegradable, phosphate-free detergent is preferred.
- Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.
- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.

Designate separate areas for routine maintenance and vehicle cleaning. This helps prevent contamination of wash water by motor oils, hydraulic lubricants, greases, or other chemicals.

- Dry cleanup methods are recommended within garage facilities. Do not wash down floors and work areas with water.
- Bring smaller vehicles to commercial washing stations.
- Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities. Follow the procedures in SOP 4: Spill Response and Cleanup.

Heavy Equipment Washing Procedures

- Mud and heavy debris removal should occur on impervious surfaces or within a retention area.
- Maintain these areas with frequent mechanical removal and proper disposal of waste.
- Impervious surfaces with engineered storm drain systems should not discharge directly to a surface water.
- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
- Where the use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of biodegradable, phosphate-free detergent is preferred.
- Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.
- Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities. Follow the procedures in SOP 4: Spill Response and Cleanup.

Engine and Steam Washing Procedures

- Do not wash parts outdoors.
- Maintain drip pans and smaller containers to contain motor oils, hydraulic lubricants, greases, etc. and to capture and collect spills or noticeable leaks observed during washing activities, to the extent practicable. Follow the procedures in SOP 4: Spill Response and Cleanup.
- Where use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of a biodegradable, phosphate-free detergent is preferred.
- Avoid cleaning with solvents except in dedicated solvent parts washer systems. Make use of pressure washing and steam cleaning.
- Recycle clean solutions and rinse water to the extent practicable.
- Wash water should discharge to a tight tank or a sanitary sewer via an oil/water separator.



Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.

Employee Training

- Employees who perform work on/with municipal vehicles or equipment are trained at least once per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Inventory of Municipal Vehicles and Equipment

Related Standard Operating Procedures

1. SOP 4: Spill Response and Cleanup
2. SOP 7: Fuel and Oil Handling
3. SOP 17: Hazardous Material Storage and Handling





Inventory of Municipal Vehicles and Equipment Town of Rowley, Massachusetts

Vehicle/Equipment	Department/Location	Contact – Name, Position, Department, Phone Number	Date of Last Inspection/Calibration
2000 Ford – F450	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019
2003 Caterpillar – 4200 Loader	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019
2009 Ford – F350	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019
2012 Ford – F150	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019
2016 Ford – F350	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019
2017 Ford – F650	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019
2018 Toyota Tacoma	Water Department / 401 Central St.	Bob Gray – Superintendent, Water Department, 978-948-2640	7/1/2019
2019 Ford – F350	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019
2017 Arising - Trailer	Water Department / 401 Central St.	Bob Gray, Superintendent, Water Department, 978-948-2640	7/1/2019

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2001 International Truck	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019
2007 International Truck	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019
2008 Toyota Tacoma	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019
2011 Chevrolet Silverado	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019
2012 Ford Explorer	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019
2012 International Bucket Truck	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019
2014 Ford Explorer	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019
2016 International Bucket Truck	Municipal Light Plant / 47 Summer St.	Matt Brown, Manager, Municipal Light Plant, 978-948-3992	7/1/2019



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2015 Ford Taurus	Police Department / 477 Haverhill St.	Scott Dumas, Chief, Police Department, 978-948-7644	7/1/2019
2016 Ford Explorer	Police Department / 477 Haverhill St.	Scott Dumas, Chief, Police Department, 978-948-7644	7/1/2019
2017 Ford Explorer	Police Department / 477 Haverhill St.	Scott Dumas, Chief, Police Department, 978-948-7644	7/1/2019
2018 Ford Fusion	Police Department / 477 Haverhill St.	Scott Dumas, Chief, Police Department, 978-948-7644	7/1/2019
2018 Ford Explorer	Police Department / 477 Haverhill St.	Scott Dumas, Chief, Police Department, 978-948-7644	7/1/2019
2018 Ford Explorer	Police Department / 477 Haverhill St.	Scott Dumas, Chief, Police Department, 978-948-7644	7/1/2019
2019 Ford Explorer	Police Department/ 477 Haverhill St.	Scott Dumas, Chief, Police Department, 978-948-7644	7/1/2019



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2019 Chevrolet 2500	Highway Department / 40 Independent Street	Patrick Snow – Highway Surveyor, 978- 948-2441	June 2019
2013 Chevrolet 2500	Highway Department / 40 Independent Street	Patrick Snow – Highway Surveyor, 978- 948-2441	June 2019
2012 Chevrolet 3500	Highway Department / 40 Independent Street	Patrick Snow – Highway Surveyor, 978- 948-2441	June 2019
2010 Ford F-450	Highway Department / 40 Independent Street	Patrick Snow – Highway Surveyor, 978- 948-2441	June 2019
1999 Caterpillar 928G	Highway Department / 40 Independent Street	Patrick Snow – Highway Surveyor, 978- 948-2441	June 2019
2013 John Deere 410K	Highway Department / 40 Independent Street	Patrick Snow – Highway Surveyor, 978- 948-2441	June 2019
2020 Western Star 4700SB	Highway Department / 40 Independent St.	Patrick Snow – Highway Surveyor, 978- 948-2441	June 2020



2006 International 7300	Highway Department / 40 Independent St.	Patrick Snow – Highway Surveyor, 978-948-2441	June 2020
2015 Peterbilt 348	Highway Department / 40 Independent St.	Patrick Snow – Highway Surveyor, 978-948-2441	June 2020
1998 Bobcat Skid Steer	Highway Department / 40 Independent St.	Patrick Snow – Highway Surveyor, 978-948-2441	
2007 Spaulding – Utility Trailer Asphalt Box	Highway Department / 40 Independent St.	Patrick Snow – Highway Surveyor, 978-948-2441	
2014 Sullair – Portable Compressor	Highway Department / 40 Independent St.	Patrick Snow – Highway Surveyor, 978-948-2441	
2006 Brush – Bandit Chipper	Highway Department / 40 Independent St.	Patrick Snow, Highway Surveyor, Highway Department, 978-948-2441	7/1/2019



June 2020

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1987 Hahn – Fire Truck	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019
2002 E One Fire Truck – Rescue Pumper	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019
2004 S&S – Attack Patrol Truck	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019
2009 E One – Typhoon Pumper	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019
2010 Ford F250 Pickup	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019
2012 Chevrolet - Tahoe	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019
2005 Magnum – Light Tower Trailer	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019
2010 Indersoll Rand – Light Tower Trailer	Fire Department / 465 Haverhill St.	James Broderick, Chief, Fire Department, 978-948-3812	7/1/2019



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2018 Nissan Frontier	Animal Control / 477 Haverhill St.	Reed Wilson, Animal Inspector/Officer, Animal Control, 978-948-7644	7/1/2019
2010 Ford Escape	Health Department / 39 Central St.	Frank Marchegiani, Coordinator of Health Services, Health Department, 978-948-2231	7/1/2019
2007 Chevrolet 2500	Cemetery Department / 40 Independent St.	Matthew Nadeau, Cemetery/Highway Dept. Supervisor/Heavy Equipment Operator, 978-948-2885	7/1/2019
2012 E-350	Council on Aging / 39 Central St.	Brienne Walsh, Director, Council on Aging, 978-948-7637	7/1/2019
2014 Ford Escape	Council on Aging / 39 Central St.	Brienne Walsh, Director, Council on Aging, 978-948-7637	7/1/2019

