Task	Staff Responsible
Intake of the fee and paperwork	Public Works Engineering
Review and approval of erosion control plans	Public Works Engineering
Issuance of erosion control permit	Public Works Engineering
Inspection of erosion control	Public Works Engineering
Enforcement	Public Works Engineering

For projects above a certain size (perhaps subdivisions), daily inspections would be required to be performed by the private engineer overseeing the construction project and then reported to Public Works Engineering on a weekly basis. Public Works staff would inspect the erosion control in the course of the typical inspections for a road construction project.

3. Other Ground Disturbance

Ground disturbance that requires an erosion control permit but does not fall in either category above will be considered on a case-by-case basis and put into one of the two categories for purposes of procedure and responsibility.

Examples could include constructing a driveway unrelated to a building permit, or landscaping a large area, or creating a sports field.

Pollution Prevention Plan Implementation Process

The purpose of this program is to provide maintenance managers and operation crews a description to prevent or minimize stormwater pollution from operation and maintenance activities conducted by Benton County through the utilization of our Best Management Practices (BMP's). BMP's are reviewed and evaluated annually by Division Mangers. Maintenance activities that are contracted with other public agencies will follow their own BMP for their jurisdiction. Benton County personnel will receive initial training. Changes to the County's BMP's will be covered at quarterly departmental meetings and staff will have access to the manual via computer and/or paper document.

Stormwater Inlet (catch basin) Cleaning

Benton County will conduct a cleaning of all mapped/known road right of way and county facility catch basins during 2012.

In addition Benton County Public Works and support staff will complete the following:

- Benton County will establish and authorize pertinent cities with vactor truck equipment (Corvallis, Philomath, Albany) to begin vactoring catch basins that are within the jurisdiction of county stormwater system area on a 1-2 yr cycle.

- Applicable City BMPs will be adhered to, tracked, and submitted to Benton County by all cities completing catch basin vactoring including: location, date, and inspection report for all catch basins.

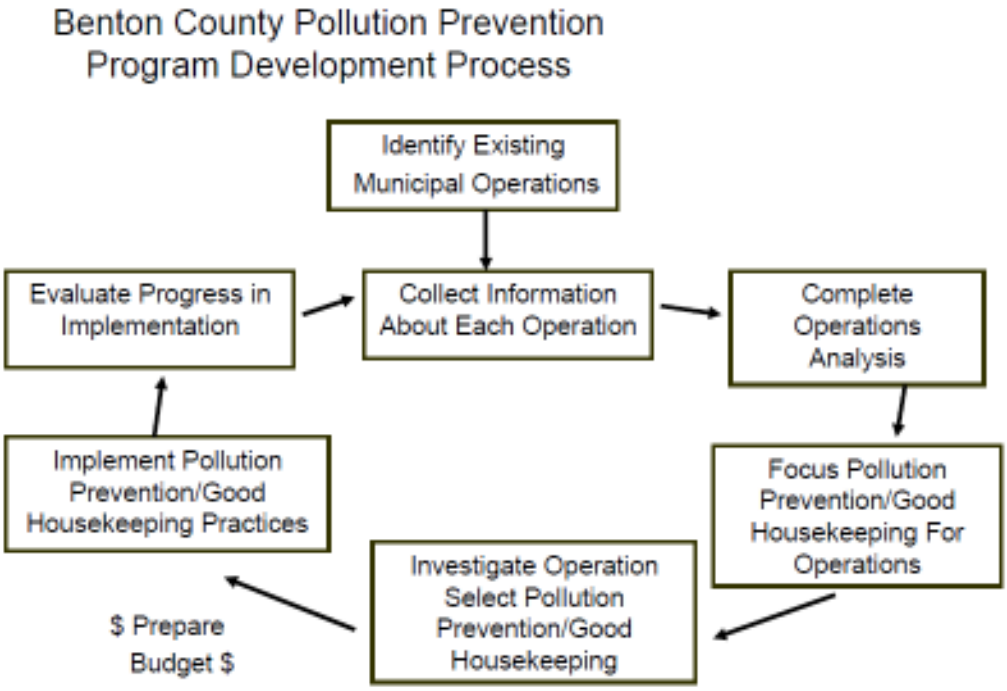
- Updates of catch basin maps and related stormwater infrastructure by Benton County Public works and support staff will continue to occur, to provide up to date locations to contracted city departments completing catch basin management.

Curb and Gutter Sweeping

Benton County contracts with the City of Corvallis Public Works to sweep and vactor all curb and gutters within Benton County 6 times per year. This reduces the amount of pollutants that get washed into the stormwater conveyance systems and necessary catch basin cleanings. The location and timing of sweeping is tracked in the County's cost accounting system.

In addition Benton County Public Works and support staff will complete the following:

- Updates of curb and gutter maps and related stormwater infrastructure by Benton County Public works and support staff will continue to occur, to provide up to date locations to contracted city departments completing street sweeping.



Adopted Benton County Stormwater Related Best Management Practices (BMPs)

DEPARTMENT: **Public Works**

DIVISION: **Road**

BMP: **Brush Cutting, Mowing and Tree Removal**

DATE REVISED: **January 1, 2010**

Description: Hand cutting, mechanical mowing, removing and disposing of brush, trees and other undesirable vegetation on County right-of-way to maintain sight distance, vertical and horizontal vehicle clearance, and general public safety. Issue include disposal of brush and loss of shade in riparian areas.

Mitigation, Avoidance and BMPs:

- Limited mowing (3-6 feet) from edge of pavement will occur from April 1 through October 1. Mechanical brush cutting of backslope and low hanging limbs will occur from October 1 through March 31st.

- Remove vegetation up to 10 feet beyond guardrails to maintain visibility.
- Maintain shade trees along watercourses, when possible
- EXCEPTION: Consider any trees or snags, on or near a roadway/bridge, that are found to be weakened, unsound, undermined, leaning, or exposed so that they may fall across a roadway/bridge as exceptions to the above BMP. Trees determined to be such will be removed to insure public safety.
- If trees providing shade or bank stabilization within 50 feet of watercourses are determined to be a risk to public safety as defined above, the trees will be removed. Mature trees (greater than 12 in. diameter at breast height) that are removed will be replaced at a 2:1 ration within the same watershed.
- Cut brush will be left in place whenever possible if doing so does not interfere with sight distance, creates a safety issue or obstructs proper drainage. Alternative option include haul off to a pre-approved site.

DEPARTMENT: **Public Works**

DIVISION: **Road**

BMP: **Chip Sealing/Oil Mat**

DATE REVISED: **January 1, 2010**

Description: Applying a single or multiple layer each of liquid asphaltic material and aggregate to a paved roadway to seal the surface, restore surface life, flexibility and skid resistance. Excess gravel is later swept onto the shoulders.

Mitigation, Avoidance and BMPs:

- Use environmentally sensitive releasing and cleaning agents (No diesel).
- Use any practical means to prevent rock from entering streams.
- Chip seal in dry weather only.
- Cover scuppers and drains prior to chip sealing on or near bridge decks.
- Sweep up and remove excess gravel on bridge decks.
- Pick-up or sweep gravel away from salmon habitat and other flowing streams when within 25 feet of them, when possible.

DEPARTMENT: Public Works

DIVISION: **Road**

BMP: **Ditch Shaping and Cleaning**

DATE REVISED: January 1, 2010

Description: The use of equipment for cleaning and reshaping of ditches to maintain or improve drainage including loading, hauling and disposing of excess materials (vegetation/soil). This activity may be performed in all types of weather.

Mitigation, Avoidance and BMPs:

- When possible, work will be performed during optimum weather (late Spring) to minimize environmental impact and may consult with ODFW if silt devices are inadequate to filter water prior to draining to watercourses.
- Where feasible and appropriate, the County will evaluate and modify existing ditch slopes to trap sediments and support development of vegetation.
- Minimize amount of material removed and disturbance to side slopes to protect existing vegetation.
- Work will be performed when water flow in the ditch is low and not directly flowing into a waterway, except in cases of emergency where public safety issues occur. Example: water backing up onto the roadway or adjacent property.
- The County will use erosion control devices such as check dams, silt fences, biofilters and other acceptable techniques.
- When ditching to a waterway, the County will leave a 25 foot buffer zone and an erosion control device at the start of the zone.
- Cleaning a ditch with a 10% slope will have check dams installed every 300 feet or skip ditching will be uses.
- When back slope cover is removed, hydroseeding or handseeding will be used to replace ground cover. Vegetation will be established before winter conditions begin.
- Material will be disposed above the bank line and not in any waterway or wetland.
- When feasible, excavated material will be recycled.

DEPARTMENT: Public Works

DIVISION: Road

BMP: Dust Abatement

DATE REVISED: January 1, 2010

Description: Dust abatement involves application of a dust palliative to non-paved road surfaces to temporarily stabilize surface soils, leading to a reduction of dust during the dry season. Dust palliatives are applied in liquid form at a maximum rate of one half gallon per square yard of surface. The rate is adjusted to be less as required to prevent any puddling of the liquid solution or runoff from the road surface immediately after its

application. To prevent the loss of any dust palliative from the road surface the following mitigation and avoidance is practiced.

Mitigation, Avoidance and BMPs:

- During preparation for application of dust palliatives, gravel roads will be

tight bladed or processed (cut 2" and watered, then laid gravel back to grade and roll) to bring fines to the surface.

- Dust palliatives will not be applied while raining. (3 day forecast of sunny Weather following application).

- Methods or materials shall be applied in a manner that is not detrimental to

either water or vegetation.

- Where practicable, 1' buffer zone on the edge of gravel will be used if the road width allows.

- Applicator will carry adequate spill protection.

- Using environmentally sensitive cleaning agents.

- Disposing of excess materials at appropriate sites.

- Where practicable, a 25' buffer zone near waterways or a reduce rate of application will be used to ensure that runoff will not occur.

DEPARTMENT: Public Works

DIVISION: Fleet

BMP: Fueling Area and Fueling Equipment

DATE REVISED: January 1, 2010

Description: Diesel and gasoline fueling station located at Avery Maintenance Yard utilized by multi-agencies and refueling equipment out in the field.

Mitigation, Avoidance and BMPs:

- Stay next to the vehicle/equipment while fueling.
- Make sure the pump nozzle is places all of the way inside the neck of the fuel tank. The automatic shut-off will engage prior to a spill.
- Do not top off tank.
- Report spills in the yard immediately to shop personnel.
- In the event of a major release in the yard, activate alarm system located on the shop exterior wall, north of the fuel island.
- Refuel equipment in the field at least 25 feet from watercourses.
- Report spills out in the field to a supervisor.

DEPARTMENT: Public Works

DIVISION: Road and Fleet

BMP: Spill Prevention and Cleanup

DATE REVISED: January 1, 2010

Description: Spill prevention and cleanup can be required during routine maintenance activities, the operation of equipment and fleet vehicles, event that may occur at the maintenance yard and encountered along the roadways.

Mitigation, Avoidance and BMPs:

- Have absorbents and/or emergency response equipment on-site to clean spills.
- The maintenance yard has two blue barrels marked "Spill Kits". One is located by the Fueling Island, the other at the south-west side of the yard near the storage bays.
- Provide spill prevention training to all staff employees. Include containment, clean-up and reporting requirements.
- Clean-up spills as quickly as possible.

DEPARTMENT: Public Works

DIVISION: Road

BMP: Stockpiling

DATE REVISED: January 1, 2010

Description: Loading, hauling, mixing or stockpiling materials used for routine maintenance activities.

Mitigation, Avoidance and BMPs:

- Select permanent stockpiling sites that do not carry a high risk for erosion and are out of the flood plain.
- Take appropriate preventative measures if the potential exist for runoff of sediments (ex. Berms).
- Temporary stockpiling sites may be located within the flood plain. Material in those sites will not be stored over the winter.

DEPARTMENT: Public Works

DIVISION: Fleet

BMP: Vehicle Washing

DATE REVISED: January 1, 2010

Description: Equipment washing to ensure proper operation, function and safety of equipment and fleet vehicles.

Mitigation, Avoidance and BMPs:

- Equipment will be washed in the covered wash rack area that contains an oil/water separator and settling vault. Water is discharged to a municipal sanitary sewer.
- Sediment in vault is cleaned out quarterly, or as needed.
- If any equipment must be washed outside of wash rack due to size restrictions, clean only the exterior (no engines or undercarriages) and use only clean water, no soap.

DEPARTMENT: Public Works

DIVISION: Road

BMP: **Herbicide Use – Broadleaf Application**

DATE REVISED: **July 2010**

Description: Activity consists of applying a broad based foliar-active herbicide to eliminate noxious weeds (as defined by the Oregon Dept. of Agriculture) and undesirable vegetation between the road shoulder and edge of right-of-way. Application is made using a truck with a boom sprayer unit, hand/backpack or small tank mix unit. Management objectives include:

- Control the spread of State listed noxious weeds.
- Preserve sight distance requirements.

Mitigation, Avoidance and BMPs:

- Herbicide application will be spot treatment only with the focus on noxious weed control.
- Application of herbicides will cease 25' prior to crossing over a listed stream to protect water resources and sensitive fish species.
- Herbicides will be used in accordance with EPA labels (this includes weather criteria and disposal of empty container).
- No herbicides will be applied in front of schools or designated bus stop waiting areas when persons are present, driveways, or permitted no-spray areas.
- Handspraying herbicide is allowed within 25' of bridges if 1) removal of vegetation is critical to the function of the structure 2) rain is not forecasted in the timeframe outline in the herbicide label 3) an aquatic approved herbicide is used.
- Any application on or over waterways will be with an aquatic approve herbicide only.
- Herbicide truck will carry current Material Safety Data Sheets (MSDS) and labels of herbicides used in operation.
- A record-keeping system will be maintained that documents the date, amount of pesticide applied, location of application, temperature and wind-speed at the beginning and end of application.
- Application will occur between May and October 15th.
- Vegetation control in Special Management Areas will be addressed in a separate BMP.

DEPARTMENT: **Public Works**

DIVISION: **Road**

BMP: **Herbicide Use – Shoulders**

DATE REVISED: **July 2010**

Description: Activity consists of applying foliar-active and/or soil residual herbicide to eliminate undesirable vegetation within the defined road shoulders. Application is made

using a truck with a boom sprayer unit. Management objectives for maintaining a shoulder free of vegetation include:

- Preserve the sub-structure of the road base thus extending the life of the road surface.
- Allow water to shed from the paved surface of the road reducing potential for hydroplaning.
- Create a fire barrier between the road and adjacent vegetation.
- Provide a vehicle recovery area.
- Maintain sight distance.

Mitigation, Avoidance and BMPs:

- 2'- 6' of rock shoulders will be kept free of vegetation through the use of a foliar-active and/or soil residual herbicide. Typically this will be 2' for local roads, 4' for collector roads and 6' for arterial roads or depending on shoulder width.
- Under and around guardrails will be treated to minimize vegetation growth.
- Application of herbicides will cease 25' prior to crossing over a listed stream to protect water resources and sensitive fish species.
- Herbicides will be used in accordance with EPA labels (this includes weather criteria and disposal of empty container).
- No herbicides will be applied in front of schools, designated bus stop waiting areas, driveways, field entrances or permitted no-spray areas.
- Herbicide truck will carry current Material Safety Data Sheets (MSDS) and labels of herbicides used in operation.
- A record-keeping system will be maintained that documents the date, amount of pesticide applied, location of application, temperature and wind-speed at the beginning and end of application. This information will meet or exceed Oregon Department of Agriculture requirements.
- Application will occur starting in April and ending by June 30th.
- EXCEPTION: Identified test areas that are being evaluated for impacts associated with vegetative shoulders
- Vegetation control in Special Management Areas will be addressed in a separate BMP.

Benton County Natural Areas and Parks
Stormwater Best Management Practices (BMPs)

- Over-seeding after restoration burns

- Spread bark mulch, gravel, bare areas, tree wells

- Silt fences used on construction sites according to silt fence manufacturers directions

- Maintain instream large wood

- Maintain beaver dams for sediment capture; utilized beaver bafflers where appropriate

- Design recreation trails with contour of landscape, with a focus on low areas

- Re-vegetate bare/exposed trail banks

- Regulate access to areas with high erosion/sediment problems, caused by general public

- Armor culvert (e.g. rocks) inlets and outlets to decrease sediment suspended in culverts.

Stormwater Related Training completed by Benton County Staff

- Erosion Prevention and Sediment Control Certification through ODOT - (10 employees since 2003) Road Maintenance for Bridge and Drainage
- Oregon Road Scholar Program - All Road Maintenance Employee's (14) are enrolled in the program. 2 of the 10 required classes are Environmental BMP's focusing on minimizing impact to water quality from road maintenance activities and erosion control methods.
- 1st Responders Hazardous Materials Awareness Training - All Road Maintenance Employees
- Spill Prevention Training - All Road Maintenance and Fleet Employees
- DEQ's Hazardous Waste Training

General Public Stormwater Flyer/Handout