Activity Name: Ditch Cleanout & Check Dam Maintenance **Activity #: 1230**

Methods:

1) Ditch Clean-Out
2) Check Dam Maintenance

Description/Purpose: Roadside Ditch Clean-Out includes the removal and disposal of debris to ensure proper drainage. Check Dam Maintenance consists of inspecting and removing accumulated sedimentation to maintain proper functioning of permanent structures.

Recommended Crew Size

5 (2 traffic regulators included)

Material

Follow SESC Manual

Average Daily Production

2000 lineal feet (gradall/excavator)
500 lineal feet (tractor/backhoe)
2000 lineal feet (grader/dozer)

Measurement

Lineal Feet Cleaned

Calculation

Lineal Feet Cleaned = (Total Hours ÷ 8) x ADP

Equipment

Qty	Code	Description
1	02/03	Pickup
3	04	Trucks (see table below)
1	12	Flashing arrow
1	26	Gradall (if available) or
1	05	Tractor/backhoe/extendahoe (alternate)
		Optional
1	32	Grader
1	05	Bulldozer
1	12	Flashing Arrow
1	38	Loader
1	67	Trailer

Equipment may vary depending on availability and operational need.

All MDOT Traffic and Safety policies shall be followed for equipment and personnel.

Additional equipment and personnel will increase the cost to perform this activity.

Recommended Work Method: Ditch Clean-Out

Caution: Check with utility companies for buried gas lines, telephone, or electric cables, etc. Call MISS DIG.

Contact your resource staff or appointed region representative if questions arise regarding storm water or soil erosion control to determine if an earth change plan, inspections, or Part 301 and Part 303 permits are required.

If required, complete MDOT forms 1126 (National Pollutant Discharge Elimination System Inspection Report) and 0408 (Work Schedule) when performing this operation (MDOT Forms Repository).

1. Review environmental, training, and safety precautions. Also see 1a: Notifications, 1b: Inspections, and 1c: SESC Plan below.
2. Establish the ditch flow line (use appropriate measuring device).
3. Determine the location where the water will outlet.
4. If spoils are left on site, remove all debris, grade properly, and prepare spoils for seeding.
5. If spoils cannot be left at the ditching site, find an appropriate use on the right-of-way (i.e. slope flattening behind guardrail, washout repair, or filling ruts from runoffs). Refer to Maintenance Advisory 2018-03 “Environmental Requirements for the Disposal of Surplus and Unsuitable Soils”.
6. Remove spoils and load into trucks with minimum interference with traffic.
7. Avoid creating a "V" bottom ditch; a 2-foot round-bottom ditch is the minimum requirement. 3 feet or wider ditches are desirable for drainage and snow storage.
8. As required, dress, mulch, and seed and/or sod slopes to prevent erosion. See sections 816 and 917 of the standard specifications.

Equipment Requirements

Crew Size	Round Trip Distance Stockpile to Dumpsite	Number of 04 Trucks Needed
4	0 - 5 miles	2
5	6 - 10 miles	3
6	11 - 15 miles	4

Recommended Work Method: Ditch Clean Out (continued)

1a. Notifications: If the operation disturbs less than five acres of earth and is to restore the ditch to original grades (match inlet and outlet grades) a National Pollutant Discharge Elimination System (NPDES) Notice of Coverage (NOC) is not required. If the project disturbs five acres or more of earth and alters the original ditch grade (new outlet or inlet grade) a NOC is required. Regardless of size of earth disturbance, notification of the municipal enforcing agency (MEA) or county enforcing agency (CEA) is required.

1b. Inspections: A certified storm water operator (SWO) will inspect the project after installation of the SESC measures and at the completion of the ditching operation. For ditching operations that create an earth disturbance 1 acre or greater a SWO will inspect the project once every seven days or within 24 hours of a precipitation event that results in a discharge from the right-of-way until the project is stabilized. NPDES Inspection Report (Form 1126) will be used to document these inspections. Any deficiencies or corrective actions will be recorded on the form and will be brought to the attention of the Contractor or maintenance staff performing the work. The SWO is responsible for ensuring that corrective actions are completed within the time allotted. A log of the inspections will be maintained on file for review and retained for a period of three years from the date of the inspection or the date corrective actions were complete, whichever is longer.

Non-emergency corrective actions will be completed by those doing the ditch clean out, or by others if necessary, within five calendar days. If the SWO determines that an emergency condition exists for a discharge to waters of the state, corrective actions will be completed by those doing the work within 24 hours of the inspection. Emergency conditions include sediment entering drainage structures or the waters of the state and erosion that affects the support of the roadbed or the safety of the public. Emergency action will be documented as such on Form 1126.

1c. SESC Plan: The following soil erosion and sedimentation control (SESC) procedure has been reviewed by the Michigan Department of Environment, Great Lakes and Energy (EGLE) and is approved for this activity. This procedure is intended to minimize soil erosion and off right-of-way sedimentation during ditch clean out activities. If this procedure is not followed, a site-specific SESC plan meeting the requirements of rule R323.1703, promulgated in accordance with Part 91 of Act 451, is required.

Every effort should be made to avoid off right-of-way disposal, however if spoils are taken to an off-right-of-way location, the Standard Specifications for Construction controls the disposal of the surplus material. The property owner or easement holder where the material is to be placed must obtain a SESC permit from the appropriate enforcing agency if the placement covers one acre or more or if the material is placed within 500 feet of the waters of the state. If excess materials will be transported off the right-of-way for disposal, notify the appointed maintenance representative or region resource staff prior to beginning the ditch clean out operation and request that they contact the enforcing agency to determine if a permit is required. If a permit is required, the permit must be obtained prior to beginning this work.

If the ditch slope is one percent or more, install sediment traps (E&S-20) in the ditch bottom, spaced approximately 300 feet apart (± 50 feet).

Maintain a vegetative buffer (E&S-6) between the lower limit of the ditch clean out operation and the outfall to the watercourse. If the vegetative buffer cannot be left in place while the disturbed area upstream stabilizes, place high velocity mulch blanket (E&S-33) on the ditch bottom a minimum of 150 feet upstream from the lower limit of the ditch clean out operation.

If the ditch carries water continuously, install a check dam (E&S-37) and sediment trap (E&S - 20) at the downstream end of the ditch.

- Begin ditching operation at the highest elevation and progress downstream.
- Remove the vegetative buffer only after the disturbed area has been stabilized. After removing the vegetative buffer, stabilize that area with high velocity mulch blanket.
- Within five days of completing the work, seed and mulch (E&S-3; E&S-28) all exposed areas resulting from the ditch cleanout activities. If the work is completed outside of the seasonal limitations for seeding, place high velocity mulch blanket over the entire disturbed area. Contact appropriate region resource staff for alternative restoration recommendations.

Recommended Work Method: Check Dam Maintenance

Contact your resource staff or appointed region representative if questions arise regarding storm water or soil erosion control and to determine if any permits are required.

1. Review environmental, training, and safety precautions.
2. Inspect check dams for piping under structure or around banks. Correct all damage. If severe erosion is evident consider other stabilization options.
3. Sedimentation should be removed when built up to one-half the height of the check dam. This allows water to flow through check dam properly in the event of large flows.
4. Spoils may be left on site. Remove all debris and grade properly.
5. As required, dress mulch and seed slopes and any spoils left on site to prevent erosion. See sections 816 and 917 of the standard specifications.
6. Inspect culverts and other structures below the check dams for damage or blockage due to displaced stones.