

Soil Erosion and Sedimentation Control

Authorized Public Agency Procedures Manual



_____ County Drain Commissioner

Insert name of Commissioner

February 2006

FOREWORD

This manual has been prepared to give information and guidance to the Drain Commissioner's personnel and their consultants and contractors who are responsible for soil erosion and sedimentation control during earth change activities conducted under their direction as an Authorized Public Agency (APA) under Section 324.9110 of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. If a Drain Commissioner is not an APA, he/she must submit an SESC plan and apply for an SESC permit from the appropriate county or municipal enforcing agent regardless of whether he/she is following the guidelines set forth in the manual. The manual incorporates changes brought about by new technologies, new or revised legislation, and improved materials and processes.

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The document was developed under the direction of a MACDC Special Task Force consisting of the following people:

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PART 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended

For an official printer friendly version of the statute all in one document, go to the legislative link below and click on the printer icon on the upper right hand corner of the screen. A new window will appear--click on the “PDF Version” icon.

[www.legislature.mi.gov/\(5cwjy0u0cpxld2u0prdn5pvv\)/mileg.aspx?page=GetMCLDocument&objectname=mcl-451-1994-II-2-Soil-Conservation-Erosion-and-sedimentation-Control-91](http://www.legislature.mi.gov/(5cwjy0u0cpxld2u0prdn5pvv)/mileg.aspx?page=GetMCLDocument&objectname=mcl-451-1994-II-2-Soil-Conservation-Erosion-and-sedimentation-Control-91)

ADMINISTRATIVE RULES

http://www.state.mi.us/orr/emi/admincode.asp?AdminCode=Single&Admin_Num=32301701

DEQ Soil Erosion and Sedimentation Control Program Website

http://www.mi.gov/deq/0,1607,7-135-3311_4113---,00.html

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SECTION 1

Program Guidelines

INTRODUCTION

The goal of the Drain Commissioner is to implement SESC measures that are cost effective; will effectively minimize erosion and off-site sedimentation; and will protect the soil, water, and other natural resources when earth change activities are conducted under their authority. Achieving this goal is fundamental to the efficiency and economical service life of drainage and stormwater facilities, and lake level control structures.

A copy of this manual, which includes Part 91, Soil Erosion and Sedimentation Control (SESC), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Part 91), and the associated administrative rules (Rules) promulgated under Part 91 will be made available to the Drain Commissioner's staff and their contracted personnel who are expected to understand and implement the contents of this manual. This SESC Procedures Manual is adopted by the Drain Commissioner and details the SESC measures that will be utilized during all earth change activities, including maintenance, construction, and restoration activities as an Authorized Public Agency (APA).

Individual Part 91 permits are not required for designated APAs. However, all earth change activities must meet Part 91 and Rule requirements. To maintain this APA status, earth change activities regardless of size or location must be conducted in accordance with these approved SESC procedures unless a variance is requested by the APA and granted by the Michigan Department of Environmental Quality (MDEQ). As standards and/or techniques for SESC evolve, this manual will require modifications that must be approved by the MDEQ prior to formal adoption. Having the APA designation does not exempt the Drain Commissioner from obtaining all other applicable federal, state, and local permits.

COMMITMENT

To maintain the APA designation, the Drain Commissioner is committed to comply with the SESC Procedures while undertaking all earth change activities. This manual presents procedures for conducting earth change activities and implementing SESC measures that fulfill this commitment through stabilization of disturbed soils and preventing off-site sedimentation (downstream of the project limits or outside of the drain easement). Part 91 defines stabilization as the establishment of vegetation or the proper placement, grading, or covering of soil to ensure its resistance to soil erosion, sliding, or other earth movement. The following basic principals will be included in the planning, design, specification, construction, and inspection of drain maintenance and improvement projects that include earth change activities:

1. Inspect and maintain drains, prioritizing maintenance activities that emphasize preventive measures and procedures that will minimize soil erosion and the resulting sedimentation, including but not limited to:
 - (a) Disturbing the least amount of soil for the shortest period of time.
 - (b) Encourage and maintain vegetated buffer strips whenever possible.
 - (c) Repair blowouts, seeps and slumped areas along a drain as soon as possible.

- (d) Evaluate if dredging only specific reaches of a drain would provide effective drainage rather than dredging the entire drain.
 - (e) Remove obstructions and sediment which are causing scouring and other erosive forces.
 - (f) Establish stable streambank slopes that can withstand anticipated flow at non erosive velocities.
2. In non-emergency situations, conduct earth change activities during the time of year and flow conditions that will minimize erosion and the resulting sedimentation.
 3. Provide control measures that will effectively control erosion of, and sediment from, the exposed area, and stabilize disturbed areas, except for actively cultivated agricultural fields, either temporarily or permanently, as soon as possible. Seed, apply mulch when necessary, or otherwise stabilize disturbed drain banks daily. During hydraulic or mechanical dredging, spread spoils to prevent erosion and ditch bank surcharge and seed or otherwise stabilize spread spoils within five days unless spoils are being spread in actively cultivated agricultural fields. If spoils will be spread at a later date either place spoils where surface runoff from the spoil piles will drain away from the drain; or seed, apply mulch when necessary, or otherwise stabilize spoil piles within five days.
 4. During the non-growing season when vegetation cannot be established, additional control measures will be implemented to ensure the prevention of soil erosion and off-site sedimentation. These measures may include, but are not limited to, silt fence, erosion control blankets, various geosynthetic products, polyacrylamides, and/or other BMP's that will ensure the temporary stabilization of the soil until the next growing season when permanent vegetation can be established. The increased need and cost for additional soil erosion and sedimentation control measures during the non-growing season will be considered in planning for projects that start or finish in late fall or winter.
 5. Install and maintain adequate, temporary or permanent, SESC measures prior to commencing other earth change activities. Temporary SESC measures shall be installed and functioning prior to commencement of earth change activities and shall be removed only after permanent SESC measures are in place, functioning, and the site has been stabilized.
 6. Where feasible, design channel and drain bank slopes that will be easily stabilized for the site specific soil types and anticipated flow velocities.
 7. Select a route and course for new drains that will achieve project objectives while minimizing soil erosion, taking into consideration areas with unstable soils and wetland complexes. Establish adequate right-of-ways for construction and future maintenance operations.
 8. Minimize erosion and control sediment at points of concentrated flow or grade changes utilizing appropriately designed and installed SESC measures.

NOTIFICATION OF PROPOSED EARTH CHANGE

As an APA, individual permits are not required from the applicable County or Municipal Enforcing Agency. However, Part 91 requires an APA to notify the applicable county or municipal enforcing agency of each proposed earth change that would have required a SESC permit [See Rule 323.1706 (4)]. The complete list of County and Municipal Enforcing Agencies is available on the MDEQ website. *(Each county should develop a mutually agreeable method of notification with their county and municipal enforcing agencies that will meet this requirement.)*

SESC CERTIFICATE OF TRAINING

Section 324.9110 (4) (b) of Part 91 requires those individuals with decision-making authority who are responsible for administering the Drain Commissioner’s SESC Program have current certificates of training under section 324.9123. Therefore, all Drain Commissioner personnel who make decisions regarding the design, inspection, or implementation of SESC measures must have a valid Certificate of Training. A certificate can be obtained by completing the MDEQ's SESC training class or the self study training and passing the final exam. This requirement applies to the following positions that have decision-making authority: *(Each County APA should list the specific positions that require a SESC Certificate of Training for their county drain office here).*

PLANNING PHASE

Effective erosion and sediment control begins with planning, including designing and locating projects to best meet each project objective while minimizing the potential for erosion and avoiding sensitive and high erosion potential areas when feasible. Installation and maintenance of properly designed SESC measures and conducting routine maintenance activities prevent erosion and control sediment. This manual provides procedures for the design, implementation, and maintenance of individual SESC measures, as well as information for developing SESC plans.

Per the guidelines provided in this manual, some Routine Maintenance Activities in Section 6 require a SESC plan when the earth disturbance exceeds 100 linear feet. The specific activities include: 81. Sediment Removal; 84. Vegetation Removal with Selective Grubbing; and 85. Slope and Streambank Stabilization. All Construction and Restoration Activities in Section 7 require a SESC plan. See the specific procedures for further guidance.

In addition, several of the SESC measures identified in Sections 3, 4, and 5 of this manual involve earthwork that would normally require a SESC plan prior to implementation. However, a SESC plan is not required for those SESC measures involving earthwork if they are installed in accordance with this manual’s guidelines identified under the “How” for each SESC measure and the total earthwork associated with implementing one or more measures does not exceed 100 linear feet of disturbance. Any deviation from the manual guidelines or earthwork resulting in a disturbance in excess of 100 linear feet will require that a SESC plan be developed prior to initiating the earthwork.

When a drain activity or SESC measure requires a SESC plan, a plan shall be developed to effectively reduce accelerated soil erosion and sedimentation. The plan shall identify factors that may contribute to soil erosion or sedimentation or both. The plan shall include, but not be limited to, the following:

1. A map or maps at an adequate scale to illustrate the:
 - (a) Extent of the earth change activities;
 - (b) Existing and any proposed drain locations;
 - (c) Proximity of proposed earth change to lakes, streams or drains;
 - (d) Predominant land features; and
 - (e) Contour intervals or slope descriptions.

2. A soils survey and the associated soil types or a written description of the general soil types of the exposed land area contemplated for the earth change.
3. Details for proposed earth changes including all of the following:
 - (a) A description and the location of the physical limits of each proposed earth change.
 - (b) A description and the location of all existing and proposed on site drainage and dewatering facilities.
 - (c) The timing and sequence of each proposed earth change.
 - (d) The location and description for installing and removing all proposed temporary SESC measures.
 - (e) A description and the location of all proposed permanent SESC measures.
 - (f) Proposal for continued maintenance of all permanent SESC measures.

DESIGN PHASE

It is the responsibility of the Drain Commissioner to ensure that a project is designed correctly. A staff engineer or engineering consultant and/or qualified professionals shall be utilized during the design phase when required in the details for a specific SESC measure. The project design should minimize adverse impacts to areas with high erodible soils or areas next to lakes, streams, or wetlands while incorporating project specific permit requirements. Those responsible for recommending SESC measures need to specify control measures that are practical, reasonable and effective during the construction phase of a project to achieve adequate SESC. The design plans, included as part of the contract documents, must clearly indicate the location and installation details for all appropriate SESC measures.

CONTRACT DOCUMENTS

(Each County should review this section with their corporate counsel and adjust accordingly.)

As an APA, the Drain Commissioner is ultimately responsible for conducting and documenting SESC inspections and assuring that all earth change activities undertaken by their staff or contractors working under their APA designation meet the requirements of Part 91, the Rules, and this Manual. Therefore, the Drain Commissioner shall ensure that all contract documents include a clear description of the contractor's responsibilities including: compliance with this manual, by reference; installation, and ongoing monitoring and maintenance of site specific SESC measures by the contractor until all disturbed areas are stabilized and temporary SESC measures are removed. The contract document must provide the ability to adapt, adjust and add SESC measures necessary to maintain a level of SESC required to comply with Part 91, the Rules, this manual, and other project specific permit requirements.

Contract documents must clearly state the authority of the Drain Commissioner to enforce compliance with Part 91, the Rules, and this manual, and the consequences for noncompliance. To assist with contractor compliance, contract documents should also include, but not be limited to, the following:

1. Acquisition of cash, a certified check, an irrevocable bank letter of credit or a surety bond acceptable to the county in the amount sufficient to assure the installation and completion of such protective or corrective measures, and/or site restoration, as may be required by the Drain Commissioner to assure compliance with Part 91, the Rules, and this manual.

2. The ability of the Drain Commissioner to expend these funds if, in the opinion of the Drain Commissioner, the site may result in or contribute to soil erosion or sedimentation of adjacent properties or to the waters of the state, if the SESC measures required in the SESC plan are not properly installed or maintained, or if the site is not in compliance with Part 91, the Rules or this manual.
3. The ability of the Drain Commissioner to assess costs for site restoration, site stabilization, and/or restore or repair off-site damages if the contractor does not comply with their contract or Part 91, the Rules or this manual.

INSPECTION AND WRITTEN DOCUMENTATION

Inspections and written documentation are not required for an earth change activity of a minor nature that is stabilized within 24 hours of the initial earth disturbance. However, inspections and written documentation are required for all other earth change activities.

Adequate inspections and follow-up maintenance provide the APA with the tools necessary to meet their ultimate responsibility to minimize soil erosion and off-site sedimentation. The inspection frequency is outlined in the Maintenance Category of each individual procedure and uses terms such as routinely or periodically. These generalized terms provides the needed flexibility in determination of an adequate inspection schedule based on site conditions such as soil types and moisture content; time of year; flow conditions; anticipated weather, etc.

Routine inspections are required until the site is stabilized with permanent SESC measures. The frequency of routine inspections must consider factors such as seed germination period; weather conditions including wind and precipitation; and anticipated vehicular and pedestrian traffic. Periodic inspections would be required for permanent SESC measures that were stabilized when installed but may need to be monitored occasionally to assure continued functionality as designed. High traffic areas that may be susceptible to vandalism or vegetation removal in an area where flow may be constricted resulting in flooding of adjacent properties are examples of areas needing periodic inspections.

Required inspections will be conducted by the Drain Commissioner’s personnel, or their contracted inspector, at an adequate frequency to assure minimization of soil erosion and off-site sedimentation and will be coordinated with the contractor’s work schedule to assure timeliness and to obtain maximum inspection benefits. All inspections will be conducted and documented by a person with a valid SESC Certificate of Training from the MDEQ. The completed Inspection Form, provided in Section 1.6, will document at a minimum the following:

1. Date of inspection.
2. Name of inspector.
3. Name of engineer, project manager, and contractor or responsible APA personnel.
4. General weather conditions during inspection and previous 48 hours.
5. Are SESC measures installed and/or stabilized per plan and SESC details?
6. Are SESC measures effectively controlling erosion and sediment?
7. Note deficiencies such as a SESC measure is ineffective, needs maintenance or has failed or a slope stabilization failure has occurred.
8. Other relevant information such as photographs.

If no deficiencies are found, a report is still required to be completed and placed on file. If deficiencies are found, the inspector will initiate the following actions to correct the deficiencies:

1. Note the deficiencies, including maintenance requirements and corrective actions, on the Inspection Form being specific about the type and location of the deficiencies.
2. Advise the contractor or responsible Drain Commissioner personnel of the deficiencies and provide sufficient verbal or written instructions to ensure a complete understanding of the deficiencies and the necessary corrective actions. These instructions may include a work order, a revised SESC plan, or reference to specific SESC measures.
3. Specify an appropriate time frame with which to complete the corrective actions. Deficiencies which are determined to be of an emergency nature must be corrected within 24 hours. Examples of deficiencies deemed an emergency are sedimentation of the waters of the state and erosion of or sediment on a roadway which could jeopardize public safety. Deficiencies which are not considered an emergency should be corrected within five days.

CORRECTIVE ACTIONS

Contracted Projects

In the event that the Drain Commissioner's personnel or their contracted inspector, is unsuccessful in getting a contractor to perform corrective actions, the Drain Commissioner will assume responsibility for ensuring that SESC corrective actions are implemented. The following progressive steps shall be taken if a contractor fails to comply with their contract or Part 91 regulations. *(Each County should review the following list with their corporate counsel and adjust accordingly.)*

1. Issue or reissue a work order describing the work to be completed by the contractor specifying a completion date.
2. Issue a Notice of Non-Compliance with Contract Requirements for failure to respond to SESC corrective actions in a timely manner.
3. Contract with another specialty contractor to complete the required corrective actions to ensure compliance with regulations.
4. Prepare and place on file a Contractor Evaluation to document the contractor's inability to meet contract obligations and implementation of required SESC measures.

In-House Projects

SESC corrective actions will be implemented and, when necessary, the appropriate disciplinary action will be taken.

FORMS

The following forms shall be used for the administration of the SESC Program.

1. SESC Inspection Log
2. SESC Plan Checklist

(Each County should add to the above list standard forms used to administer their SESC Program and include a copy of the forms following this page. Each form should include your county seal, office name, address, and phone number.)