

# Stormwater Management Program

MS4 Permit #MO-R040015

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City of Grandview, Missouri

WATER PROTECTION PROGRAM



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Project No. 72373

prepared by

**Burns & McDonnell Engineering Company, Inc.**

**Kansas City, Missouri**

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## 1. INTRODUCTION

This Stormwater Management Program (SWMP) has been developed in accordance with the Stormwater Phase II Final Rule requirements specified in the site-specific permit MO-R040015 (Permit) for discharges from a regulated small municipal separate storm sewer system (MS4) as well as Missouri regulation 10 CSR 20-6.200. The permittee, City of Grandview, Missouri (City), has developed and implemented this SWMP to protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy the appropriate water quality requirements of the Missouri Clean Water Act. The City will be responsible for implementation of all Minimum Control Measures (MCM), and SWMP success will be evaluated based on the effective reduction of pollutants into receiving waters from the City's MS4.

This SWMP contains Best Management Practices (BMPs) and Measurable Goals (MGs) for the six MCMs described in Section 4.2 of the Permit. MGs were selected to track the progress of SWMP implementation and the performance of BMPs in reducing pollutants to the City's MS4 to the maximum extent practicable.

## 2. BACKGROUND INFORMATION

The following sections describe the climatological and hydrological characteristics and critical areas in and around the City.

### Climate

According to weather data from the Weather Underground,<sup>1</sup> the City and surrounding area typically experiences an average high summer temperature of approximately 90 °F and an average low summer temperature of approximately 72 °F. The average high winter temperature is approximately 37 °F, and the average low winter temperature is approximately 20 °F. The total annual precipitation is approximately 43 inches.

### Hydrology

The City is located in the Little Blue River and Blue River Watersheds, and the major receiving waters in the area include the Blue River, Little Blue River, and Longview Lake. The portions of the Blue River and Little Blue River which pass through or adjacent to the City of Grandview are not on the list of impaired waters contained in the 2012 *EPA Approved 303(d) List* from the Missouri Department of Natural Resources. However, segments of the Blue River and Little Blue River located downstream from the City are on the 303(d) list of impaired waters for *Escherichia coli* due to runoff from a number of sources, including forest and grassland areas; parks; rural, residential, and urban areas; and storm sewers. In streams where bacteria are the identified pollutant, the likely sources include leaky septic systems, sanitary sewer overflows, cross-connected pipes in the suburban areas, and livestock in the rural areas. The impaired Blue River and Little Blue River stream segments are located in excess of two miles downstream of the City's MS4 discharges to these waters. Additionally, Longview Lake is listed as impaired for mercury in fish tissue due to atmospheric deposition. Stormwater discharges from the City's MS4 are not likely to contribute to the mercury impairment in Longview Lake.

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<sup>1</sup> Weather Underground. Accessed on March 26, 2013. Grandview, Missouri. Available <[www.wunderground.com](http://www.wunderground.com)>.

## Critical Areas

According to the National Register of Historic Places, the only historic property located in the City is the Solomon Young Farm – Harry S. Truman Farm at 12121 and 12301 Blue Ridge Extension, Grandview, MO. The City has met eligibility criteria for the protection of historic properties.

According to the 2012 *County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species*, provided by the U.S. Fish & Wildlife Service, those species and their respective habitats listed for Jackson County, Missouri are provided in Table 1 below. None of these species or their habitats are found within the City limits. The City has met eligibility criteria for protection of threatened and endangered species.

**Table 1. Threatened and Endangered Species in Jackson County, MO**

Name	Scientific Name	Federal Listing	Habitat
Gray bat	<i>Myotis grisescens</i>	Endangered	Caves
Indiana bat	<i>Myotis sodalis</i>	Endangered	Caves and mines, stream corridors, upland forests
Arkansas darter	<i>Etheostoma cragini</i>	Candidate	Rivers
Neosho madtom	<i>Noturus placidus</i>	Threatened	Rivers
Ozark cavefish	<i>Amblyopsis rosae</i>	Threatened	Caves
Neosho mucket	<i>Lampsilis rafinesqueana</i>	Proposed Endangered and Critical habitat	Rivers
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Proposed Threatened and Critical habitat	Rivers
Geocarpon	<i>Geocarpon minimum</i>	Threatened	Moist soils in exposed sandstone glades
Running buffalo clover	<i>Trifolium stoloniferum</i>	Endangered	Disturbed bottomland meadows
Western prairie fringed orchid	<i>Platantera praeclara</i>	Threatened	Wet prairies and sedge meadows

### 3. MCM 1: PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

**Permit Requirement:** The City must *implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and steps the public can take to reduce pollutants in stormwater runoff.*

The Public Works Director is responsible for overall management and implementation of the City's public education and outreach program. Others may be involved in the execution of each of the following activities in the program.

**BMP:** Distribute educational materials to the community and post information to the City website:

**MG:** Identify the target pollutant sources to address (construction activities; trash, debris, and illegal dumping; snow removal; large connected impervious areas; stream bank erosion) – **COMPLETED**

**MG:** Identify target audience [citizens (homeowners), developers, business owners, elected officials, City staff, and Homeowner's Associations] – **COMPLETED**

**MG:** Select educational topics and develop and distribute materials, including brochures addressing stormwater runoff related to lawn and garden activities, water conservation, hazardous waste disposal, trash management, and illicit discharges – **ONGOING**

**BMP:** Conduct outreach activities to address the impacts of stormwater runoff in partnership with local community groups and regional planning organizations (Mid-America Regional Council) and to inform individuals and groups on how to become involved in the SWMP. The City plans to reach 5,000 people per year:

**MG:** Select topics to be presented at outreach activities – **ONGOING**

**MG:** Post stormwater quality signs in public buildings regarding possible pollutant sources to the City's MS4 – **ONGOING**

**MG:** Set up a booth at the City fall and spring festivals to share and distribute brochures and other materials related to erosion control and stormwater management and development – **YEARS 1 THROUGH 5**

**Program Evaluation:** The City will evaluate the effectiveness of MCM 1 by tracking the number of visitors to the City's stormwater webpages and the number of citizens who visit the City booth at the fall and spring festivals from year to year.

#### 4. MCM 2: PUBLIC INVOLVEMENT AND PARTICIPATION

**Permit Requirement:** The City must *implement a public involvement/participation program that complies with State and local public notice requirements and involve the public in the development and oversight of the SWMP policies and procedures.*

The Public Works Director will be responsible for the overall management and implementation of the City's stormwater public involvement and participation program. Others may be involved in the execution of each of following activities in the program.

**BMP:** Involve the public in the development and submittal of the City's SWMP:

**MG:** Identify target audience [citizens (homeowners), mass media, local elected officials, business leaders, and Homeowner's Associations] – **COMPLETED**

**MG:** Adhere to all public notice requirements – **COMPLETED**

**MG:** Present informational material on the City website regarding the development and oversight of the SWMP – **COMPLETED**

**MG:** Present the proposed SWMP at a City public open house – **COMPLETED**

**MG:** Provide comment forms on the City website and at City offices to allow citizens to participate in the development of the SWMP and the MS4 program – **COMPLETED**

**BMP:** Create a volunteer committee to discuss stormwater issues, provide regular input to the MS4 program, and develop future stormwater management projects:

**MG:** Advertise opportunity to become involved with the volunteer committee on the City website and at City festivals and public meetings and schedule inaugural meeting – **YEAR 2**

**MG:** Hold volunteer committee meetings depending on interest at inaugural meeting – **YEARS 2 THROUGH 5**

**Program Evaluation:** The City will evaluate the effectiveness of MCM 2 by tracking the number of visitors to the City's stormwater webpages from year to year and the public response to efforts to create a volunteer committee.

## 5. MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

**Permit Requirement:** The City must *develop, implement, and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into the City's regulated small MS4.* As defined by 10 CSR 20-6.200, an illicit discharge is any discharge to a MS4 that is not entirely composed of stormwater, except discharges authorized under an NPDES permit and discharges resulting from emergency firefighting activities.

The Public Works Director will be responsible for the overall management and implementation of the City's stormwater illicit discharge detection and elimination program. Others will be involved in the execution of each of the following activities in the program.

**BMP:** Develop and maintain a storm sewer system map showing the locations of all stormwater outfalls and the names and locations of all waters of the State that receive discharges from these outfalls:

**MG:** Develop a storm sewer system map through informational sources including storm sewer mapping, piping schematic review, aerial photography, sewer maintenance records, and public complaints - **COMPLETED**

**MG:** Update storm sewer system map, as necessary, based on development plans, proposed building plans, and capital project plans – **ONGOING**

**BMP:** Effectively prohibit, through City ordinance, illicit discharges into the storm sewer system:

**MG:** Develop illicit discharge ordinance – **YEAR 2**

**MG:** Implement illicit discharge ordinance through complaint-driven inspections of the MS4 and provide contact information on the City website to allow citizens to report illegal dumping and suspicious discharges – **YEARS 2 THROUGH 5**

**MG:** Enforce illicit discharge ordinance through civil penalties – **YEARS 2 THROUGH 5**

**BMP:** Locate priority areas with higher likelihood of illicit connections:

**MG:** Use the storm sewer system map to identify priority areas with likelihood of illicit connections – **ONGOING**

**BMP:** Implement a sanitary sewer infiltration/inflow study to detect points of interconnection between the City's MS4 and the public sanitary sewer system through smoke testing:

**MG:** Investigate at least 60 percent of the 114-mile MS4 for sanitary sewer interconnections by 2020. At the end of the third year, the City had investigated 144,008 feet of the storm sewer system encompassing 1,207 acres and servicing a population of 7,400 people. To date, no direct interconnections between the two City systems have been discovered – **ONGOING**

**BMP:** Develop procedures for tracing the source of an illicit discharge:

**MG:** Implement the adopted ordinance and the tracing procedures detailed in the ordinance, including manhole and pipe inspections to trace discharges through the MS4 to the point of origin – **YEARS 2 THROUGH 5**

**BMP:** Develop procedures for removing the source of the illicit discharge:

**MG:** Implement the adopted ordinance and the enforcement mechanisms detailed in the ordinance, including legal actions, to enforce the removal of an identified illicit discharge – **YEARS 2 THROUGH 5**

**BMP:** Provide City staff training about the illicit discharge program:

**MG:** Schedule training session with City staff – **YEARS 2 THROUGH 5**

**BMP:** Inform public employees, businesses, and the general public about the City recycling program for household hazardous wastes:

**MG:** Distribute literature and provide program information on the City website and at the City's fall and spring festivals – **ONGOING**

**BMP:** Address certain categories of non-storm water discharges or flows only if the City identifies them as significant contributors of pollutants to the MS4:

**MG:** Evaluate occasional incidental non-stormwater discharges on a case-by-case basis to determine whether such discharges may appropriately be directed to the MS4. The City has not identified any of the non-stormwater discharges or flows listed in Section 4.2.3.1.4 of the Permit as significant contributors to the regulated MS4 – **ONGOING**

**Program Evaluation:** The City will evaluate the effectiveness of MCM 3 by annually analyzing the number of illicit connections discovered and eliminated from year to year.

## 6. MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

**Permit Requirement:** *The City must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to their regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.*

The Public Works Director will be responsible for overall management and implementation of the City's construction site stormwater runoff control program. Others will be involved in the execution of each of the following activities in the program.

**BMP:** Implement and enforce an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law:

**MG:** Develop erosion and sediment control ordinance; see Chapter 25A Soil Erosion and Sediment Control Ordinance in Appendix A – **COMPLETED**

**MG:** Implement erosion and sediment control ordinance (City Chapter 25A Soil Erosion and Sediment Control Ordinance) – **ONGOING**

**MG:** Enforce erosion and sediment control ordinance through fines and non-monetary penalties, such as stop work orders – **ONGOING**

**BMP:** Require construction site operators to implement appropriate erosion and sediment control BMPs:

**MG:** Require construction site operators to obtain a Site Development Permit and develop an Erosion and Sediment Control Plan – **ONGOING**

**MG:** Adopt the Kansas City Metro American Public Works Association (APWA)'s Erosion and Sediment Control Specifications and Design Criteria – **COMPLETED**

**MG:** Provide links to APWA and MARC manuals and BMP fact sheets on City website  
– **YEAR 1**

**BMP:** Require construction site operators to control wastes, including discarded building materials, sediment, concrete truck washout, litter, and sanitary waste that may cause adverse impacts to water quality; implement procedures for site plan review which incorporate consideration of potential water quality impacts:

**MG:** Require and review Erosion and Sediment Control Plans prior to start of construction project– **ONGOING**

**BMP:** Implement procedures for the City to receive and consider information submitted by the public, including coordination with the City’s public education program:

**MG:** Provide contact information on the City website to allow the public to submit information regarding erosion control and stormwater management to the Public Works Director – **ONGOING**

**BMP:** Implement and maintain procedures for site inspection and enforcement of erosion and sediment control measures:

**MG:** Conduct site inspections using a priority rating system. The site with the most potential risk to the community will top the priority list – **ONGOING**

**Program Evaluation:** The City will evaluate the effectiveness of MCM 4 by tracking the number of site inspections and enforcement actions that occur as a result of the Soil Erosion and Sediment Control Ordinance from year to year.

## 7. MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

**Permit Requirement:** The City must *develop, implement, and enforce a program to address the quality of long-term stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge into the City's regulated small MS4.*

The Public Works Director will be responsible for the overall management and implementation of the City's post-construction stormwater management program. Others will be involved in the execution of each of the following activities in the program.

**BMP:** Develop and implement strategies combining structural and/or non-structural BMPs to improve the quality of stormwater runoff:

**MG:** Identify and implement structural and non-structural strategies for development and redevelopment projects including the M-150 Sustainable Development Corridor Plan and the I-49/US-71 Sustainable Redevelopment Corridor Plan; see additional details on Page 7-2 – **ONGOING** – *need a firm date – then it's ongoing for formal code*

**BMP:** Implement an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law: *– need to include standards for mimic in new dev. + improvement in code*

**MG:** Develop and implement a post-construction stormwater management ordinance based on APWA and MARC guidelines – **YEAR 3**

**MG:** Enforce a post-construction stormwater management ordinance through fines and non-monetary penalties, such as stop work orders – **YEARS 3 THROUGH 5**

**BMP:** Ensure adequate long-term operation and maintenance of BMPs:

**MG:** Create inventory of existing structural runoff controls, including a map showing BMP locations – **YEAR 3**

**M-150 Sustainable Development Corridor Plan**  
**and**  
**I-49/US-71 Sustainable Redevelopment Corridor Plan**

The M-150 Sustainable Development Corridor Plan (M-150 Plan) proposes to transform a two-mile, undeveloped corridor in the southern part of the City to include retail, light industrial business, and residential development. The corridor extends east from the MO-150 Highway interchange with US Highway 71/Interstate 49 to the City limits. The M-150 Plan includes stormwater management and low-impact development components, including detention ponds, bioswales, infiltration trenches, and pervious pavements.

The I-49/US-71 Sustainable Redevelopment Corridor Plan (I-49/US-71 Plan) proposes to transform a 4.5-mile portion of Interstate 49/US Highway 71 from an automobile-oriented corridor into livable, walkable, and interconnected centers. The I-49/US-71 Plan includes a stormwater management component that addresses enhanced water quality features and methods to capture and treat stormwater.

The M-150 and I-49/US-71 Plans are in the initial, conceptual phases. Table 2 lists the dates on which public meetings were held to discuss these projects.

**Table 2. Public Meeting/Work Session Dates**

<b>M-150 Sustainable Development Corridor Plan</b>	<b>I-49/US-71 Sustainable Redevelopment Corridor Plan</b>
May 16, 2011	January 15, 2013
July 27, 2011	February 19, 2013
September 26/27, 2011	February 20/22, 2013
November 3, 2011	March 4/5, 2013
June 5, 2012	April 16, 2013
July 11, 2012	
September 18, 2012	
October 3, 2012	
October 9, 2012	

**BMP:** Identify priority areas to be addressed by the post-construction stormwater management program:

**MG:** Implement regulatory procedures to address stormwater runoff from new development and redevelopment projects. No areas have been identified as a priority for regulatory procedures – **ONGOING** *make a date.*

### **Non-Structural BMPs**

**BMP:** Develop and implement policies and ordinances that provide requirements and standards related to non-structural BMPs:

**MG:** Implement policies as part of the post-construction stormwater management ordinance that will help minimize water quality impacts, including policies to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, and maintain and/or increase open space – **YEAR 3** *earlier - was required by March 2008 / June 2013*

**BMP:** Implement policies that encourage infill development in higher density urban areas and areas with existing storm sewer infrastructure and encourage redevelopment of brownfield or grayfield sites.

**MG:** Implement policies as part of the City zoning and subdivision ordinances that encourage infill development – **ONGOING** *make a date for formal ident.*

**BMP:** Implement education programs for developers and the public about project designs that minimize water quality impacts:

**MG:** Identify specific areas of discussion and distribute information through the City website – **YEARS 3 THROUGH 5** *now and as you go*

**BMP:** Implement other measures, such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, site designs that provide for integration of a variety of infiltration practices, and source control measures often thought of as good housekeeping, preventive maintenance, and spill prevention.

**MG:** The City will continue to look for ways to incorporate methods of infiltration practices to minimize directly connected impervious areas in future site design and development – **YEARS 3 THROUGH 5** *Earlier*

*regulation - not just policy.*  
**MG:** Implement a policy as part of the post-construction stormwater management ordinance that requires the capture and treatment of the 90<sup>th</sup> percentile storm event (90 percent of the annual rainfall from those rainfall events that produce runoff) for new development and redevelopment projects – **YEARS 3 THROUGH 5** *now year 1-1.5*

**Structural BMPS**

**BMP:** Implement structural practices that provide infiltration, evapotranspiration, or re-use of stormwater:

**MG:** Maintain existing detention/retention basins and implement new structural practices in areas of new development and redevelopment – **ONGOING** *Schedule*

**Program Evaluation:** The City will evaluate the effectiveness of MCM 5 by tracking the percentage of impervious areas maintained or created through the post-construction stormwater management ordinance from year to year.

*Plan review, training  
task accomplished*

## 8. MCM 6: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

**Permit Requirement:** *The City must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing and reducing pollutant runoff from municipal operations.*

The Public Works Director will be responsible for the overall management and implementation of the City's pollution prevention and good housekeeping program. Others will be involved in the execution of each of the following activities in the program.

**BMP:** Develop and implement an operation and maintenance program with the ultimate goal of preventing pollutant runoff related to activities performed by the City Public Works Department, including street sweeping, recycling, pesticide use, and the disposal of waste from the MS4:

**MG:** Establish operation and maintenance schedule and procedures – **ONGOING**

**BMP:** Implement maintenance BMPs, schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the City's MS4:

**MG:** Inspect City maintenance equipment and implement street sweeping on a regular basis to reduce floatables and other pollutants in the MS4 - **ONGOING**

**BMP:** Implement controls to reduce or eliminate the discharge of pollutants from streets, municipal parking lots, and fleet or maintenance shops with outdoor storage areas:

**MG:** Conduct employee training, properly dispose of waste from the MS4, minimize the use of pesticides, and adhere to the recycling program – **ONGOING**

**BMP:** Implement controls to reduce or eliminate the discharge of solid waste, pollutants from fueling facilities, substances regulated under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and other substances including paint, solvents, and petroleum waste products:

**MG:** Adhere to applicable federal and State regulations regarding the storage and disposal of these substances and the Material Safety Data Sheet (MSDS) of a specific product – **ONGOING**

**BMP:** Implement procedures for the proper disposal of waste removed from the City's MS4, including dredged material, accumulated sediments, floatables, and other debris:

**MG:** Define disposal procedures and implement training program for existing and new City employees - **ONGOING**

**BMP:** Implement procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices and practices:

**MG:** Review current floodplain management regulations to ensure they allow for the assessment and implementation of solutions that address impacts to water quality for new projects and the review of existing projects for inclusion of water quality aspects – **YEAR 2**

**BMP:** Develop an employee training component:

**MG:** Develop a training presentation for employees of the City's Public Works Department based on materials made available by the U.S. Environmental Protection Agency, State, and other organizations – **ONGOING**

**MG:** Schedule and conduct training on topics including street maintenance, fleet and building maintenance, new construction and land disturbances, park and open space maintenance, and snow removal operations – **ONGOING**

**Program Evaluation:** The City will evaluate the effectiveness of MCM 6 by tracking the progress of each MG against the implementation schedule.

**APPENDIX A – SOIL EROSION AND SEDIMENT CONTROL ORDINANCE**

## **Chapter 25A - SOIL EROSION AND SEDIMENT CONTROL**

Sec. 25A-1. - Introduction/purpose.

Sec. 25A-2. - Definitions.

Sec. 25A-3. - Permits.

Sec. 25A-4. - Erosion and Sediment Control Plan.

Sec. 25A-5. - Design requirements.

Sec. 25A-6. - Mud, material or debris on City streets.

Sec. 25A-7. - Inspection.

Sec. 25A-8. - Enforcement and penalties.

### **Sec. 25A-1. - Introduction/purpose.**

The purpose of this local regulation is to safeguard persons, protect property, prevent damage to the environment and promote the public welfare by effectively minimizing soil erosion and sedimentation during land development, building, landscaping or any other type of land disturbance in the City of Grandview. Further, it provides builders, developers and property owners with soil erosion and sedimentation control standards and regulations.

Facilitation of the regulations and standards contained herein shall accomplish the following:

1. Establish standards for soil erosion and sediment control.
2. Minimize soil erosion and sedimentation during land development, building, landscaping or other land disturbing activities.
3. Minimize pollution of streams, ponds and lakes.
4. Encourage management of natural resources.
5. Preserve the beauty of the community and the value of land.
6. Reduce maintenance costs of public and private improvements and services.
7. Promote and protect the public's health, safety, comfort and welfare.

(Ord. No. 6198, § I, 6-10-08)

### **Sec. 25A-2. - Definitions.**

*Applicant:* Any person requesting approval of any application pursuant to this chapter and the Erosion and Sediment Control Manual.

*APWA:* American Public Works Association.

*APWA Erosion and Sediment Control Specifications and Design Criteria:* Sections 2100, 2150, 3100 and 5100 of the Kansas City Metropolitan Chapter of the APWA Standards, Specifications and Design Criteria manual, adopted in 2003.

*Clearing:* Any activity which removes the vegetative surface cover.

*Director:* The Director of Public Works of the City of Grandview.

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*Drainageway:* Any channel that conveys surface runoff throughout the site.

*Erosion:* The wearing away of the land surface by the action of wind, water or gravity.

*Erosion and Sediment Control Plan:* A set of plans prepared by or under the direction of a licensed professional engineer or a certified professional in erosion and sediment control indicating the specific measures and sequencing to be used controlling sediment and erosion on a development site before, during and after construction.

*Erosion Control:* Measures that prevent erosion.

*Governing Body:* The Board of Aldermen of the City of Grandview.

*Grading:* Excavation or fill of material, including the resulting conditions thereof.

*Permanent Vegetation:* Grass, sod or ground cover sufficient to prevent erosion.

*Phasing:* Clearing a parcel of land in distinct phases, with the stabilization of each phase before the clearing of the next.

*Sediment:* Solid material moved by erosion and deposited away from its point of origin.

*Sediment Control:* Measures that prevent eroded sediment from leaving the site.

*Site:* A parcel of land, or a contiguous combination thereof, where grading work is performed as a single unified operation.

*Site Development:* Altering terrain, vegetation and/or constructing improvements.

*Site Development Permit:* A permit issued by the Director or his designee for the construction or alteration of ground, including improvements and structures for the control of erosion, runoff and grading.

*Stabilization:* The use of practices that prevent exposed soil from eroding.

*Start of Construction:* The first land disturbing activity associated with a development, including land preparation such as clearing, grading and filling; installation of streets and walkways; excavation for basements, footings, piers or foundations; erection of temporary forms; and installation of accessory buildings such as garages.

*Streambank:* The top of the natural incline bordering a stream.

*Stripping:* Any activity by which the vegetative cover is removed or significantly disturbed, including tree removal, clearing, grubbing and storage, or removal of topsoil.

*Vegetative Cover:* Any grasses, shrubs, trees and other vegetation that protects and stabilizes soils.

*Watercourse:* Any body of water, including, but not limited to lakes, ponds, rivers, streams, and bodies of water which are delineated by the Director.

*Waterway:* A channel that directs surface runoff to a watercourse, or to the public storm drain.

(Ord. No. 6198, § II, 6-10-08)

### **Sec. 25A-3. - Permits.**

- A. No person, firm or corporation may develop, landscape or disturb land in excess of one (1) acre without the issuance of a site development permit and the approval of an Erosion and Sediment Control Plan by the Director.
- B. No site development permit is required for the following activities:
  1. Any land disturbance activity that:
    - a. Involves less than one hundred (100) cubic yards of earth movement; or
    - b. Disturbs less than one (1) acre of surface area;

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2. Existing nursery and agricultural operations conducted as a permitted main or accessory use;
  3. Landscaping or home gardening;
  4. Reestablishment of lawn areas; or
  5. Any emergency activity that is immediately necessary for the protection of life, property or natural resources.
- C. Each application shall bear the name(s) and address(es) of the owner or developer of the site, and of any consulting firm retained by the applicant together with the name of the applicant's principal contact at such firm, and shall be accompanied by a filing fee of five hundred dollars (\$500.00).
- D. The issuance of a permit shall constitute authorization to do only that work described or shown on the approved plan. Each application shall include a statement that any land clearing, construction, or development involving the movement of earth shall be in accordance with the Erosion and Sediment Control Plan.

The permit shall be valid from the time that it is issued until a final certificate of occupancy or completion certificate has been issued. A completion certificate will not be issued until the site is stabilized and erosion and sediment control measures are no longer necessary. A site can be considered finally stabilized when all soil disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of seventy (70) per cent for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been employed.

- E. If the permittee sells the property before the expiration of the permit, the permit may be assigned to the new owner of the site if the assignment is approved in writing by the Director.
- F. If the permittee sells any portion of the property before the expiration of the permit, the permittee will remain responsible for that portion of the property until the new owners of the property, with respect to property covered by a permit, make all submissions required to obtain a new site development permit.
- G. Review and approval.
1. The Director will review each application for a site development permit to determine its conformance with the provisions of this local regulation. Within thirty (30) days after receiving an application, the Director shall, in writing:
    - a. Approve the permit application;
    - b. Approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this regulation, and issue the permit subject to these conditions; or
    - c. Disapprove the permit application, indicating the deficiencies and the procedure for submitting a revised application and/or submission.
  2. Failure of the Director to act on original or revised applications within thirty (30) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed unless such time is extended by agreement between the applicant and the City of Grandview. Pending preparation and approval of a revised plan, development activities shall be allowed to proceed in accordance with conditions established by the City of Grandview.
- H. Permit Fee. The City of Grandview shall charge a filing fee of five hundred dollars (\$500.00).  
(Ord. No. 6198, § III, 6-10-08)

**Sec. 25A-4. - Erosion and Sediment Control Plan.**

- A. The erosion and sediment control plan must be prepared and certified by a Professional Engineer or a certified professional in erosion and sediment control on behalf of the developer and must outline the measures he/she will take to ensure soil and sediment is contained on the development site.
- B. The Erosion and Sediment Control Plan shall include:
  - 1. The property owner's name, address and telephone number.
  - 2. A natural resources map, at a scale no smaller than one (1) inch equals one hundred (100) feet, identifying the location; soils; forest cover; the surrounding area's watercourses, water bodies and other significant geographic and natural features; and resources protected under other chapters of this Code.
  - 3. A one (1) inch equals fifty (50) feet scale map of the site showing proposed excavation, grading or filling.
  - 4. Existing and proposed contours at two-foot intervals on USGS datum, clearing limits, and delineation of 100-year floodplain and floodway.
  - 5. A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; final grading and landscaping; and removal of temporary erosion control devices. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, and the sequence of clearing, installation of temporary erosion and sediment measures, installation of storm drainage, paving of streets and parking areas, and establishment of permanent vegetation.
  - 6. All erosion and sediment control measures necessary to meet the objectives of this local regulation throughout all phases of construction and permanently, after completion of development of the site. Depending upon the complexity of the project, the drafting of intermediate plans may be required at the close of each season.
  - 7. Seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.
  - 8. Provisions for maintenance of control facilities, including easements and estimates of the cost of maintenance.
  - 9. Location of proposed and existing utility lines.
  - 10. Details of temporary drainage system to direct stormwater runoff from graded portions of the site and details of the permanent drainage plan.
  - 11. Temporary access routes.
  - 12. Any additional items indicated in the APWA Erosion and Sediment Control Specifications and Design Criteria.
  - 13. The signature and seal of a Professional Engineer or a certified professional in erosion and sediment control.
- C. Additional information or data may be required as deemed appropriate by the Director. Requirements for maps, plans, reports or drawings may be waived if the Director finds that the otherwise-submitted information is sufficient to show that the proposed work will conform to the erosion and sediment control requirements.
- D. Additional erosion and sedimentation control measures may be imposed by the Director.
- E. Modifications to the plan.

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1. Major amendments of the erosion and sediment control plan shall be submitted to the Director and shall be processed and approved, or disapproved, in the same manner as the original plans.
2. Field modifications of a minor nature may be authorized by the Director by written authorization to the permittee.

(Ord. No. 6198, § IV, 6-10-08)

### **Sec. 25A-5. - Design requirements.**

- A. Grading, erosion control practices, sediment control practices, waterway crossings and construction site access shall meet the design criteria set forth in the most recent version of the APWA Erosion and Sediment Control Specifications and Design Criteria, as adopted by resolution by the Governing Body, and shall be adequate to prevent transportation of sediment from the site to the satisfaction of the City of Grandview.
- B. Clearing and grading.
  1. Clearing and grading of natural resources, such as forests and wetlands, shall not be permitted, except when in compliance with all other chapters of this Code or the Zoning Ordinance of the City of Grandview.
  2. Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control devices have been installed and have been stabilized.
- C. Erosion control.
  1. Where natural vegetation is removed during grading, revegetation of the site shall be initiated immediately following the initiation of grading work. Vegetation in sufficient density to provide effective erosion control must be reestablished within thirty (30) days following completion of grading work.
  2. If vegetative erosion control methods, such as seeding, have not become established within thirty (30) days, the Director may require that the site be reseeded, or that a non-vegetative option be employed.
- D. Sediment controls.
  1. Erosion and sediment control measures shall be initiated prior to any land disturbance and shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
- E. Waterways and watercourses.
  1. Buildings, decks, patios, parking lots and other improvements shall be set back a minimum of fifty (50) feet from the top of existing streambanks.
  2. When a wet watercourse must be crossed regularly during construction, a temporary stream crossing shall be provided, and an approval obtained from the Director.

(Ord. No. 6198, § V, 6-10-08)

### **Sec. 25A-6. - Mud, material or debris on City streets.**

- A. No activities are permitted that cause mud, soil, earth, sand, gravel, rock, stone, concrete, building materials or other materials to be deposited on public streets. Trucks and other construction equipment should be cleaned on site to prevent mud from being deposited on public streets. Other measures may be required at the discretion of the Director in order to ensure that sediment is not tracked onto public streets by construction vehicles, or washed into storm drains.

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- B. If mud, material or debris is deposited on a public or private street, the responsible party shall abate the violation immediately.
- C. If the violation is not abated within four (4) hours, a stop work order shall be posted and the City of Grandview will cause the violation to be abated at property owner's expense. The City of Grandview may also initiate legal action in Municipal Court.

(Ord. No. 6198, § VI, 6-10-08)

### **Sec. 25A-7. - Inspection.**

- A. By submitting a development plan or applying for a building permit, the applicant consents to inspections of the proposed development site and all work in progress. The Director or designated agent shall enter the property of the applicant as deemed necessary to make regular inspections to ensure the validity of the reports filed.
- B. A copy of the permit must be available on the site for inspection by authorized representatives of the City of Grandview.
- C. The Director or designated agent shall make inspection at its discretion and shall notify the permittee wherein the work fails to comply with the erosion and sediment control plan as approved. Plans for grading, stripping, excavating, and filling work bearing the stamp of approval of the City of Grandview shall be maintained at the site during the progress of the work. In order to obtain inspections, the permittee shall notify the Director at least two (2) working days before the following:
  - 1. Start of construction.
  - 2. Erosion and sediment control measures are in place and stabilized.
  - 3. Site clearing has been completed.
  - 4. Rough grading has been completed.
  - 5. Final grading has been completed.
  - 6. Close of the construction season.
  - 7. Removal or substantial modification of any erosion and sediment control measure or practice.
  - 8. Final landscaping.
- D. The permittee or his/her agent shall make regular inspections of all control measures in accordance with the inspection schedule outlined on the approved erosion and sediment control plan(s). The purpose of such inspections will be to determine the overall effectiveness of the control plan, and the need for additional control measures. All inspections shall be documented in written form and submitted to the Director at the time interval specified in the approved permit.
- E. In the event work does not conform to the permit or conditions of approval or to the approved plan or to any instructions of the Director, notice to comply shall be given to the permittee. After a notice to comply is given, the permittee or the permittee's contractor(s) shall be required to make the corrections within the time period determined by the Director. If an imminent hazard exists, the Director shall require that the corrective work begin immediately.

(Ord. No. 6198, § VII, 6-10-08)

### **Sec. 25A-8. - Enforcement and penalties.**

- A. *Stop work order; revocation of permit.*
  - 1. In the event that any person holding a site development permit pursuant to this chapter violates the terms of the permit, or implements site development in such a manner as to materially adversely affect the health, welfare, or safety of persons residing or working in the

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neighborhood or development site so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, the Director may suspend or revoke the site development permit and issue a stop work order.

2. For the purposes of this section, a stop work order is validly posted by posting a copy of the stop work order on the site of the land disturbance activity in reasonable proximity to a location where the land disturbance activity is taking place. A copy of the order, in the case of work for which there is a permit, shall be mailed by first class mail, postage prepaid, to the address listed by the permittee on the permit. In the case of work for which there is no permit, a copy of the order shall be mailed to the person listed as the owner of the property on records filed with Jackson County, Missouri.
  3. No person is permitted to continue or permit the continuance of work in an area covered by a stop work order, except work required to correct deficiencies with respect to an erosion or sediment control measure.
  4. Ten (10) working days after posting a stop work order, the City of Grandview, if the conditions specified in the stop work order to resume work have not been satisfied, may issue a notice to the permittee, owner, or land user of the City of Grandview's intent to perform work necessary to comply with this regulation. The City of Grandview may go on the land and commence work after fourteen (14) working days from issuing the notice of intent. The costs incurred by the City of Grandview to perform this work shall be paid by the owner or permittee.
- B. *Violation and penalties.* No person shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, contrary to or in violation of any terms of this chapter. Any violation of any provision of this chapter by any person, partnership, corporation, or other entity shall be punishable by a fine of not more than one hundred dollars (\$100.00) per violation per day not to exceed five hundred dollars (\$500.00) and/or ninety (90) days in jail. Each day during which any such violation is committed, continued, or permitted, shall constitute a separate offense. In addition to any other penalty authorized by this section, any person, partnership, or corporation convicted of violating any of the provisions of this chapter shall be required to bear the expense of such restoration. The City of Grandview reserves the right to revoke the building permit for serious and/or repeated violations.

(Ord. No. 6198, § VIII, 6-10-08)