

CHAPTER 53: STORM WATER POLLUTION CONTROL

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CHAPTER 53: STORM WATER POLLUTION CONTROL

SECTION 53.01 PURPOSE.

The purpose of this ordinance is to control or eliminate storm water pollution along with soil erosion and sedimentation within the City. It establishes standards and specifications for conservation practices and planning activities, which minimize storm water pollution, soil erosion and sedimentation.

SECTION 53.02 SCOPE.

Except where a variance is granted, any person, firm, sole proprietorship, partnership, corporation, state agency, or political subdivision proposing a land disturbance activity within the City shall apply to the City for approval of the storm water pollution control plan. No land shall be disturbed until the plan is approved by the City and conforms to the standards set forth herein.

SECTION 53.03 DEFINITIONS.

These definitions apply to this ordinance. Unless specifically defined below, the words or phrases used in this ordinance shall have the same meaning as they have in common usage. When not inconsistent with the context, words used in the present tense include the future tense, words in the plural number include the singular number, and words in the singular number include the plural number. The words “shall” and “must” are always mandatory and not merely directive.

3.010 Applicant Any person or group that applies for a building permit, subdivision approval, or a permit to allow land disturbing activities. Applicant also means that person’s agents, employees, and others acting under this person’s or group’s direction.

The term “applicant” also refers to the permit holder or holders and the permit holder’s agents, employees, and others acting under this person’s or group’s direction.

3.011 Best Management Practices (BMPs) Erosion and sediment control and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing the degradation of surface water, including construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies. (Examples of BMP’s can be found in the current versions of the Minnesota Pollution Control Agency’s publications, “Protecting Water Quality in Urban Areas,” and, “Storm-Water and Wetlands: Planning and Evaluation Guidelines for Addressing Potential Impacts of Urban Storm-Water and Snow-Melt Runoff on Wetlands,” the Metropolitan Council’s “Minnesota Urban Small Sites BMP Manual” (available as a compact disc or on the Internet world wide web under the address: www.metrocouncil.org/environment/environment.htm), the United States Environmental Protection Agency’s “Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices,” (as a reference for BMP’s) and the Minnesota Department of Transportation’s “Erosion Control Design Manual.”)

3.012 Buffer A protective vegetated zone located adjacent to a natural resource, such as a water of the state, that is subject to direct or indirect human alteration. Such a buffer strip is an integral part of protecting an aquatic ecosystem through trapping sheet erosion, filtering pollutants, reducing channel erosion and providing adjacent habitat.

The buffer strip begins at the “ordinary high water mark” for wetlands and the top of the bank of the channel for rivers and streams. This start point corresponds to the Minnesota Department of Natural Resources’ definition of a “shoreline” in Minnesota Rules 6115.0030. Therefore a stream with a width of 30 feet between banks and 100 foot buffer strips has a total protected width of 230 feet.

Acceptable buffer vegetation includes preserving existing predevelopment vegetation and/or planting locally distributed native Minnesota trees, shrubs and grassy vegetation. Alteration of buffers is strictly limited. Buffer areas are designated with permanent markers. *(Commentary: These permanent markers can be in a form that compliments the natural landscape. An example is permanent signs, attached to large artificial or natural boulder, orientated so that the signs face toward the water body.*

A guide of what plant species not to plant is found in the Minnesota Department of Natural Resources’ Minnesota Rules chapter 6216’s list of exotic prohibited, regulated, unlisted and unregulated plant species.)

3.013 Common Plan of Development or Sale A contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, or on different schedules, but under one proposed plan. This item is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land disturbing activities may occur.

3.014 Developer Any person, group, firm, corporation, sole proprietorship, partnership, state agency, or political subdivision thereof engaged in a land disturbance activity.

3.015 Development Any land disturbance activity that changes the site's runoff characteristics in conjunction with residential, commercial, industrial or institutional construction or alteration.

3.016 Discharge The release, conveyance, channeling, runoff, or drainage, of storm water, including snowmelt, from a construction site.

3.017 Energy Dissipation This refers to methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to; aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

3.018 Erosion Any process that wears away the surface of the land by the action of water, wind, ice, or gravity. Erosion can be accelerated by the activities of people and nature.

3.019 Erosion Control Refers to methods employed to prevent erosion control. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.

3.020 Erosion and Sediment Practice Specification or Practice The management procedures, techniques, and methods to control soil erosion and sedimentation as officially adopted by either the state, county, city or local watershed group, whichever is more stringent.

3.021 Exposed Soil Areas All areas of the construction site where the vegetation (trees, shrubs, brush, grasses, etc.) or impervious surface has been removed, thus rendering the soil more prone to erosion. This includes topsoil stockpile areas, borrow areas and disposal areas within the construction site. It does not include temporary stockpiles or surcharge areas of clean sand, gravel, concrete or bituminous, which have less stringent protection. Once soil is exposed, it is considered "exposed soil," until it meets the definition of "final stabilization."

3.022 Filter Strips A vegetated section of land designed to treat runoff as overland sheet flow. They may be designed in any natural vegetated form from a grassy meadow to a small forest. Their dense vegetated cover facilitates pollutant removal and infiltration. *(Commentary: Storm water controls using infiltration need protection against silt plugging, such as settling basins and manhole silt pumps. Otherwise silt plugging can result in failure rates as high as 80-90% in only five years.)*

3.023 Final Stabilization Means that all soil disturbing activities at the site have been completed, and that a uniform (evenly distributed, e.g., without large bare areas) perennial vegetative cover with a density of seventy-five (75) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures have been employed. Simply sowing grass seed is not considered final stabilization. Where agricultural land is involved, such as when pipelines are built on crop or range land, final stabilization constitutes returning the land to its preconstruction agricultural use. (Examples of vegetative cover practices can be found in the current version of the Minnesota Department of Transportation's

publication, “Supplemental Specifications to the (*year of the latest update*) Standard Specification for Construction.”)

3.024 Hydric Soils Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.

3.025 Hydrophytic Vegetation Macrophytic (large enough to be observed by the naked eye) plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

3.026 Impervious Surface A constructed hard surface that either prevents or retards the entry of water into the soil, and causes water to run off the surface in greater quantities and at an increased rate of flow than existed prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads. (*Commentary: The movement of heavy equipment compacts soil and can significantly increase imperviousness. This problem is not corrected by covering the compacted soil with a lawn. Such compaction problems can cause an under estimate of a development’s impervious nature.*)

3.027 Land Disturbance Activity Any land change that may result in soil erosion from water or wind and the movement of sediments into or upon waters or lands within this government’s jurisdiction, including construction, clearing & grubbing, grading, excavating, transporting and filling of land. Within the context of this rule, land disturbance activity does not mean:

- A.) Minor land disturbance activities such as home gardens and an individual’s home landscaping, repairs, and maintenance work.
- B.) Additions or modifications to existing single family structures that which result in creating under five thousand(5,000) square feet of exposed soil or impervious surface and/or is part of a larger common development plan.
- C.) Construction, installation, and maintenance of fences, signs, posts, poles, and electric, telephone, cable television, utility lines or individual service connections to these utilities, which result in creating under five thousand (5,000) square feet of exposed soil or impervious surface.
- D.) Tilling, planting, or harvesting of agricultural, horticultural, or silvicultural (forestry) crops.
- E.) Emergency work to protect life, limb, or property and emergency repairs, unless the land disturbing activity would have otherwise required an approved erosion and sediment control plan, except for the emergency. If such a plan would have been required, then the disturbed land area shall be shaped and stabilized in accordance with the City’s requirements as soon as possible.

3.028 Native Vegetation The presettlement (Already existing in Minnesota at the time of statehood in 1858) group of plant species native to the local region, that were not introduced as a result of European settlement or subsequent human introduction.

3.029 Ordinary High Water Mark This is generally the boundary elevation where the

vegetation changes from predominantly aquatic (Where “aquatic” broadly means that the vegetation can survive moist conditions.) to terrestrial. This elevation delineates the highest water level, which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. Water often reaches this elevation in spring. For rivers and streams the ordinary high water mark is usually the top of the bank. It is less well defined for lakes and wetlands. The definition in Minnesota Statute 103G.005, subdivision 14 says that the “...Ordinary high water level...” means the boundary of waterbasins, watercourses, public waters, and public waters wetlands, and:

- (1) the ordinary high water level is an elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial;
- (2) for watercourses, the ordinary high water level is the elevation of the top of the bank of the channel; and
- (3) for reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool.

The term “ordinary high water mark” is further defined in Minnesota Rule 6120.2500, subpart 11. Ordinary high water marks are determined by the Minnesota Department of Natural Resources’ area hydrologist.

3.030 Outstanding Resource Value Waters (ORVW) Minnesota rule 7050.0180, subpart defines ORVW’s as, “...waters within the Boundary Waters Canoe Area Wilderness, Voyageur’s National Park, and Department of Natural Resources designated scientific and natural areas, wild, scenic, and recreational river segments, Lake Superior, those portions of the Mississippi River from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981, and other waters of the state with high water quality, wilderness characteristics, unique scientific or ecological significance, exceptional recreational value, or other special qualities which warrant stringent protection from pollution.”

3.031 Paved Surface A constructed, hard, smooth surface made of asphalt, concrete or other pavement material. Examples include, but are not limited to, roads, sidewalks, driveways and parking lots.

3.032 Permanent Cover Means “final stabilization.” Examples include grass, gravel, asphalt, and concrete. See also the definition of “final stabilization.”

3.033 Permit Within the context of this rule a “permit” is a written warrant or license granted for construction, subdivision approval, or to allow land disturbing activities.

3.034 Phased Project or Development Clearing a parcel of land in distinct phases, with at least fifty percent (50%) of the project’s preceding phase meeting the definition of “final stabilization” and the remainder proceeding toward completion, before beginning

the next phase of clearing.

3.035 Runoff Coefficient The fraction of total precipitation that is not infiltrated into or otherwise retained by the soil, concrete, asphalt or other surface upon which it falls, that will appear at the conveyance as runoff. This coefficient is usually estimated for an event or on an average annual basis.

3.036 Sediment The product of an erosion process; solid material both mineral and organic, this is in suspension, is being transported, or has been moved by water, wind, or ice, and has come to rest on the earth's surface either above or below water level.

3.037 Sedimentation The process or action of depositing sediment.

3.038 Sediment Control The methods employed to prevent sediment from leaving the development site. Examples of sediment control practices are silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

3.039 Significant Redevelopment Alterations of a property that changes the "footprint" of a site or building in such a way that results in the disturbance of over one (1) acre of land. This term is not intended to include activities, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls, such as exterior remodeling.

3.040 Soil The unconsolidated mineral and organic material on the immediate surface of the earth. For the purposes of this document temporary stockpiles of clean sand, gravel, aggregate, concrete or bituminous materials (which have less stringent protection) are not considered "soil" stockpiles.

3.041 Stabilized The exposed ground surface after it has been covered by sod, erosion control blanket, riprap, pavement or other material that prevents erosion. Simply sowing grass seed is not considered stabilization.

3.042 Steep Slope Any slope steeper than fifteen (15) percent (Fifteen (15) feet of rise for every one hundred (100) feet horizontal run).

3.043 Storm Water Under Minnesota Rule 7077.0105, subpart 41b storm water, "means precipitation runoff, storm water runoff, snow melt runoff, and any other surface runoff and drainage." (According to the Code of Federal Regulations (CFR) under 40 CFR 122.26 [b] [13], "Storm water means storm water runoff, snow melt runoff and surface and drainage.") Storm water does not include construction site dewatering.

3.044 Storm Water Pollution Control Plan A joint storm water and erosion and sediment control plan that is a document containing the requirements of Section 4, that when implemented will decrease soil erosion on a parcel of land and off-site nonpoint pollution. It involves both temporary and permanent controls.

3.045 Structure Anything manufactured, constructed or erected which is normally

attached to or positioned on land, including portable structures, earthen structures, roads, parking lots, and paved storage areas.

3.046 Subdivision Any tract of land divided into building lots for private, public, commercial, industrial, etc. development. Minnesota Rule 6120.2500, subpart 17 defines subdivision as, "...land that is divided for the purpose of sale, rent, or lease, including planned unit development."

3.047 Temporary Protection Short-term methods employed to prevent erosion. Examples of such protection are straw, mulch, erosion control blankets, wood chips, and erosion netting.

3.048 Urban Of, relating to, characteristic of, constituting a city.

3.049 Vegetated or Grassy Swale A vegetated earthen channel that conveys storm water, while treating the storm water by biofiltration. Such swales remove pollutants by both filtration and infiltration. (*Commentary: Storm water controls using infiltration need protection against silt plugging, such as settling basins and manhole silt sumps. Otherwise silt plugging can result in failure rates as high as 80-90% in only five years.*)

3.050 Very Steep Slope Any slope steeper than one foot of rise for each three feet of horizontal run (Thirty-three (33) percent slope). *Commentary: This is about the steepest slope that is safe to operate heavy equipment on.)*

3.051 Waters of the State As defined in Minnesota Statutes section 115.01, subdivision 22 the term "...waters of the state' means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof." (*Commentary: According to Minnesota Rules 7050.0130, subpart A, disposal systems or treatment works operated under either a Minnesota Pollution Control Agency permit or an agency certificate of compliance are not considered "waters of the state." Under Minnesota Rules 7050.0130, subpart F, constructed wetlands designed for wastewater treatment are not "waters of the state." Also see the definition of "wetlands."*)

3.052 Wet Detention Facility A permanent man-made structure, containing a permanent pool of water, used for the temporary storage of runoff.

3.053 Wet Retention Facility The same as a wet detention facility.

3.054 Wetlands As defined in Minnesota Rules 7050.0130, subpartF, "...wetlands' are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:

- A.) A predominance of hydric soils;
- B.) Inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and
- C.) Under normal circumstances support a prevalence of such vegetation.”

(Commentary: Two quick references of what is an existing identified wetland are the National Wetlands Inventory maps distributed by the U.S. Department of the Interior’s Fish and Wildlife Service and the Minnesota Department of Natural Resources’ maps of protected and public waters and wetlands.)

SECTION 53.04 STORM WATER POLLUTION CONTROL PLAN.

Every applicant for a building permit, subdivision approval, or a permit to allow land disturbing activities must submit a storm water pollution control plan to the City Engineer. No building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until the City approves this plan. At a minimum these pollution abatement control practices must conform to those in the current version of the Minnesota Pollution Control Agency’s publication, “Protecting Water Quality in Urban Areas.”

4.1 General Policy on Storm Water Runoff Rates. Release rates from storm water treatment basins shall not increase over the predevelopment twenty-four (24) hour two (2) year, ten (10) year and one hundred (100) year peak storm discharge rates, based on the last ten (10) years of how that land was used. Also accelerated channel erosion must not occur as a result of the proposed activity.

For discharges to wetlands volume control is generally more important than discharge rate control.

4.2 The Storm Water Pollution Control Plan and the Grading Plan. The storm water pollution control plan’s measures, the limit of disturbed surface and the location of buffer areas shall be marked on the approved grading plan, and identified with flags, stakes, signs, etc. on the development site before work begins.

4.3 Inspections of the Storm Water Pollution Control Plan’s Measures. At a minimum, such inspections shall be done weekly by either the City, developer or the developer’s designated representative, and within twenty-four (24) hours after every storm or snow melt event large enough to result in runoff from the site (approximately 0.25 inches or more in twenty-four (24) hours). At a minimum, these inspections shall be done during active construction.

4.4 Minimum Requirements of the Storm Water Pollution Control Plan. The plan shall contain or consider:

- A.) The name and address of the applicant and the location of the activity.

- B.) Project description: the nature and purpose of the land disturbing activity and the amount of grading, utilities, and building construction involved.
- C.) Phasing of construction: time frames and schedules for the project's various aspects.
- D.) A map of the existing site conditions: existing topography, property information, steep and very slopes, existing drainage systems/patterns, type of soils, waterways, wetlands, vegetative cover, one hundred (100) year flood plain boundaries, locations of existing and future buffer strips and labeling the portions of the site that are within trout streams or state outstanding resource value water watersheds.
- E.) A site construction plan that includes the location of the proposed land disturbing activities, stockpile locations, erosion and sediment control plan, construction schedule, and the plan for the maintenance and inspections of the storm water pollution control measures.
- F.) Adjacent areas: neighboring streams, lakes, residential areas, roads, etc., which might be affected by the land disturbing activity.
- G.) Designate the site's areas that have the potential for serious erosion problems.
- H.) Erosion and sediment control measures: the methods that will be used to control erosion and sedimentation on the site, both during and after the construction process.
- I.) Permanent stabilization: how the site will be stabilized after construction is completed, including specifications, time frames or schedules.
- J.) Calculations: any that were made for the design of such items as sediment basins, wet detention basins, diversions, waterways, infiltration zones and other applicable practices.

4.5 General Storm Water Pollution Control Plan Criteria. The plan shall address the following:

- A.) Stabilizing all exposed soils and soil stockpiles and the related time frame or schedule.
- B.) Establishing permanent vegetation and the related time frame or schedule.
- C.) Preventing sediment damage to adjacent properties and other designated areas such as streams, wetlands, lakes and unique vegetation (Oak groves, rare and endangered species habitats, etc.)
- D.) Scheduling for erosion and sediment control practices.

- E.) Where permanent and temporary sedimentation basins will be located.
- F.) Engineering the construction and stabilization of steep and very steep slopes.
- G.) Measures for controlling the quality and quantity of storm water leaving a site.
- H.) Stabilizing all waterways and outlets.
- I.) Protecting storm sewers from the entrance of sediment.
- J.) What precautions will be taken to contain sediment, when working in or crossing water bodies.
- K.) Restabilizing utility construction areas as soon as possible.
- L.) Protecting paved roads from sediment and mud brought in from access routes.
- M.) The eventual disposing of temporary erosion and sediment control measures.
- N.) How the temporary and permanent erosion and sediment controls will be maintained.
- O.) The disposal of collected sediment and floating debris.

4.6 Minimum Storm Water Pollution Control Measures and Related Inspections.

These minimum control measures are required where bare soil is exposed. Due to the diversity of individual construction sites, each site will be individually evaluated. Where additional control measures are needed, they will be specified at the discretion of the City Engineer. The City will determine what action is necessary.

A.) All grading plans and building site surveys must be reviewed by the City for the effectiveness of erosion control measures in the context of site topography and drainage.

B.) Sediment control measures must be properly installed by the builder before construction activity begins. Such structures may be adjusted during the dry weather to accommodate short term activities, such as those allowing the passage of very large vehicles. As soon as this activity is finished or before the next runoff event, the erosion and sediment control structures must be returned to the configuration specified by the City. A sediment control inspection must then be scheduled, and passed before a footing inspection will be done.

C.) Diversion of channeled runoff around disturbed areas, if practical, or the protection of the channel.

D.) Easements. If a storm water management plan involves directing some or all of the site's runoff, the applicant or his designated representative shall obtain from adjacent property owners any necessary easements or other property interests concerning the

flowing of such water.

E.) The scheduling of the site's activities to lessen their impact on erosion and sediment creation, so as to minimize the amount of exposed soil.

F.) Control runoff as follows (Either 1 and 2 or 1 and 3):

1.) Unless precluded by moderate or heavy snow cover (Mulching can still occur if a light snow cover is present.), stabilize all exposed inactive disturbed soil areas within two hundred (200) feet of any water of the state, or within two hundred (200) feet of any conveyance (curb, gutter storm sewer inlet, drainage ditch, etc.) with sod, seed or weed-free mulch. This must be done, if the applicant will not work the area for seven (7) days on slopes greater than three (3) feet horizontal to one (1) foot vertical (3:1), fourteen (14) days on slopes ranging from 3:1 to 10:1 and twenty-one (21) days for slopes flatter than 10:1.

2.) For disturbed areas greater than five (5) acres construct temporary or permanent sedimentation basins. Sedimentation basins must have a minimum surface area equal of at least 1% of the area draining to basin, and be constructed in accordance with accepted design specifications including access for operations and maintenance. Basin discharge rates must also be controlled to prevent erosion in the discharge channel.

3.) For disturbed areas less than five (5) acres sedimentation basins are encouraged, but not required, unless required by the City Engineer. The applicant shall install erosion and sediment controls at locations directed by the City. Minimum requirements include silt fences, rock check dams, or other equivalent control measures along slopes. Silt fences are required along channel edges to reduce the amount of sediment reaching the channel. Silt fences, rock check dams, etc. must be regularly inspected and maintained. *(Commentary: From the year 2003 on the applicant is required to obtain a National Pollution Discharge Elimination System/State Disposal System (NPDES/SES) construction storm water permit from the Minnesota Pollution Control Agency for any project that disturbs one (1) acre or more of land. This one acre value also applies to a common plan of development or sale.)*

G.) Sediment basins related to impervious surface area. Where a project's ultimate development replaces surface vegetation with one (1) or more acres of cumulative impervious surface, and all runoff has not been accounted for in a local unit of government's existing storm water management plan or practice, the runoff must be discharged to a wet sedimentation basin prior to entering waters of the state.

1.) At a minimum the work shall conform with the current version of the Minnesota Pollution Control Agency's publication, "Protecting Water Quality in Urban Areas," and the current requirements found in the same agency's NPDES/SDS permits for storm water associated with construction activities.

H.) Generally, sufficient silt fence shall be required to hold all sheet flow runoff generated at an individual site, until it can either infiltrate or seep through silt fence's pores.

I.) Temporary stockpiling of fifty (50) or more cubic yards of excess soil on any lot or other vacant area shall not be allowed without issuance of a grading permit for the earth moving activity in question.

J.) For soil stockpiles greater than ten (10) cubic yards the toe of the pile must be more than twenty-five (25) feet from a road, drainage channel or storm water inlet. If such stockpiles will be left for more than seven (7) days, they must be stabilized with mulch, vegetation, tarps or other means. If left for less than seven (7) days, erosion from stockpiles must be controlled with silt fences or rock check dams.

1.) If for any reason a soil or non-soil stockpile of any size is located closer than twenty-five (25) feet from a road, drainage channel or storm water inlet, and will be left for more than seven (7) days, it must be covered with tarps or controlled in some other manner.

2.) All non-soil (clean sand, gravel, concrete or bituminous) must as a minimum have a silt fencing or other effective sediment control measures installed.

K.) All sand, gravel or other mining operations taking place on the development site shall apply for a Minnesota Pollution Control Agency National Pollutant Discharge Elimination System General Storm Water permit for industrial activities and all required Minnesota Department of Natural Resources permits.

L.) Temporary rock construction entrances, or equally effective means of preventing vehicles from tracking sediment from the site, may be required wherever vehicles enter and exit a site.

1.) Vehicle tracking of sediment from the site must be minimized by BMP's such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such BMP's are not adequate.

M.) Parking is prohibited on all bare lots and all temporary construction entrances, except where street parking is not available. Gravel entrances are to be used for deliveries only as per the development contract.

N.) Streets must be cleaned and swept whenever tracking of sediments occurs and before the site is left idle for weekends and holidays. A regular sweeping schedule should be established.

O.) Water (impacted by the construction activity) removed from the site by pumping must be treated by temporary sedimentation basins, geotextile filters, grit chambers, sand filters, up-flow chambers, hydro-cyclones, swirl concentrators or other appropriate controls. Such water shall not be discharged in a manner that causes erosion or flooding of the site, receiving channels, adjacent property or a wetland.

P.) All storm drain inlets must be protected during construction until control measures are in place with either silt fence or an equivalent barrier that meets accepted design

criteria, standards and specifications as contained in the latest version of the Minnesota Pollution Control Agency's publication, "Protecting Water Quality in Urban Areas."

Q.) Catch basins. All newly installed and rehabilitated catch basins must be provided with a sump area for collecting coarse-grained material. Such basins must be cleaned when they are half filled with material.

R.) Roof drain leaders. All newly constructed and reconstructed buildings must route roof drain leaders to pervious (not natural wetlands) where the runoff can infiltrate. The discharge rate shall be controlled so that no erosion occurs in the pervious areas.

S.) Removal from the project's site of more than one (1) acre of topsoil shall not be done, unless written permission is given by the City Engineer. Excessive removal of topsoil from the project's site can cause significant current and future soil erosion problems.

T.) Inspection and maintenance. All storm water pollution control management facilities must be designed to minimize the need of maintenance, to provide easy vehicle (typically eight (8) feet or wider) and personnel access for maintenance purposes and be structurally sound. These facilities must have a plan of operation and maintenance that ensures continued effective removal of the pollutants carried in storm water runoff. The City or its designated representative shall inspect all storm water management facilities during construction, during the first year of operation and at least once **every year** thereafter. The City will keep all inspection records on file for a period of **three (3) years**.

1.) Inspection and maintenance easements. It shall be the responsibility of the applicant to obtain any necessary easements or other property interests to allow access to the storm water management facilities for inspection and maintenance purpose.

U.) Follow-up inspections must be performed by the City on a regular basis to ensure that erosion and sediment control measures are properly installed and maintained. In all cases the inspectors will attempt to work with the applicant and/or builder to maintain proper erosion and sediment control at all sites.

1.) In cases where cooperation is withheld, construction stop orders may be issued by the City, until all erosion and sediment control measures meet specifications. A second erosion and sediment control/grading inspection must then be scheduled and passed before the final inspection will be done.

V.) All infiltration areas must be inspected to ensure that sediment from ongoing construction activities is not reaching infiltration areas, and that these areas are also being protected from soil compaction from the movement of construction equipment.

4.7 Permanent Storm Water Pollution Controls.

A.) The applicant shall install, construct, or pay the City fees for all permanent storm water management facilities necessary to manage increased runoff, so that the discharge rates from storm water treatment basins, such that the predevelopment

twenty-four (24) hour two (2) year, ten (10) year, and one hundred (100) year peak storm discharge rates are not increased. These predevelopment rates shall be based on the last ten (10) years of how that land was used. Accelerated channel erosion must not occur as a result of the proposed land disturbing or development activity. An applicant may also make an in-kind or a monetary contribution to the development and maintenance of community storm water management facilities designed to serve multiple land disturbing and development activities undertaken by one of more persons, including the applicant.

1.) All calculations and information used in determining these peak storm discharge rates shall be submitted along with the storm water pollution control plan.

B.) The applicant shall consider reducing the need for permanent storm water management facilities by incorporating the use of natural topography and land cover such as natural swales and depressions as they exist before development to the degree that they can accommodate the additional flow of treated (e.g., settled) water without compromising the integrity or quality of the wetland or pond. *(Commentary: The sensitivity of a wetland to degradation varies with the wetland's dominant vegetation. Sedge meadows, open bogs and swamps, coniferous bogs, calcareous fens, low prairies, lowland hardwood swamps, and seasonally flooded basins are highly sensitive to degradation. Flood plain forests, reed canary grass meadows, shallow (reed canary grass, cattail, giant reed or purple loosestrife) marshes are only slightly sensitive to degradation. See the current version of the Minnesota Pollution Control Agency's publication "Storm-Water and Wetlands: Planning and Evaluation Guidelines for Addressing Potential Impacts of Urban Storm-Water and Snow-Melt Runoff on Wetlands" for details.)*

C.) The following permanent storm water management practices must be investigated in developing the storm water management part of the storm water pollution control plan in the following descending order of preference:

1.) Protect and preserve as much natural or vegetated area on the site as possible, minimizing impervious surfaces. Direct runoff to vegetated areas rather than to adjoining streets, storm sewers and ditches.

2.) Flow attenuation of treated storm water by the use of open vegetated swales and natural depressions.

3.) Storm water wet detention facilities (including percolation facilities); and

4.) A combination of successive practices may be used to achieve the applicable minimum control requirements specified in subsection (C) above. The applicant shall provide justification for the method selected.

4.8 Minimum Design Standards for Storm Water Wet Detention Facilities. At a minimum these facilities must conform to the most current technology as reflected in the current version of the Minnesota Pollution Control Agency's publication. "Protecting Water Quality in Urban Areas" and the current requirements found in the same agency's

NPDES permits for storm water associated with construction activities.

4.9 Minimum Protection for Natural Wetlands.

A.) Runoff must not be discharged directly into wetlands without appropriate quality (e.i., treated) and quantity runoff control, depending on the individual wetland's vegetation sensitivity. See the current version of the Minnesota Pollution Control Agency's publication, "Storm-Water and Wetlands: Planning and Evaluation Guidelines for Addressing Potential Impacts of Urban Storm-Melt Runoff on Wetlands" for guidance. *(Commentary: The sensitivity of a wetland to degradation varies with vegetation type. Sedge meadows, open bogs and swamps, coniferous bogs, calcareous fens, low prairies, lowland hardwood swamps, and seasonally flooded basins are highly sensitive to degradation, while flood plain forests, reed canary grass meadows, shallow (reed canary grass, cattail, giant reed or purple loosestrife) marshes are only slightly sensitive to degradation.)*

B.) Wetlands must not be drained or filled, wholly or partially, unless replaced by either restoring or creating wetland areas of at least equal public value. Compensation, including the replacement ratio and quality of replacement should be consistent with the requirements outlined in the Board of Water and Soil Resources rules that implement the Minnesota Wetland Conservation Act of 1991 including any and all amendments to it.

C.) Work in and around wetlands must be guided by the following principles in descending order of priority:

- 1.) Avoid both the direct and indirect impact of the activity that may destroy or diminish the wetland.
- 2.) Minimize the impact by limiting the degree or magnitude of the wetland related activity.
- 3.) Rectify the impact by repairing, rehabilitating, or restoring the affected wetland environment with one of at least equal public value.
- 4.) Reduce or eliminate the adverse impact over time by preservation and maintenance operations during the life of the activity.

4.10 Vegetated Buffer Protection for Rivers, Streams and Wetlands.

A.) At the minimum a vegetated buffer strip on each bank the width of one hundred (100) feet (forty (40) feet for most wetlands) or rivers, streams and outstanding resource value wetlands, shall be provided. If possible, such a buffer strip shall consist of predevelopment native vegetation. Ideally for rivers or streams, a shade tree canopy in the part of the buffer zone closest to the stream channel should be established. Buffer width shall be increased at least two (2) feet (four (4) feet for all wetlands) for every one (1) percent of slope of the surrounding land. Natural wetlands adjacent to rivers and streams are not counted as buffer strips. They are considered a natural resource worthy of protection in their own right. Therefore the widths of natural wetlands are not counted

as part of the river or stream's buffer strip. Such wetlands rate their own forty-foot (40) plus vegetated buffer strip. *(Commentary: When new buffer vegetation is planted, "native" vegetation is preferred, since some non-native plant species can out compete native species and create an undesirable mono-culture of decreased environmental value. Useful references are the Minnesota Pollution Control Agency's publications "Buffer Zones" and "Soil Bioengineering.")*

1.) Detailed buffer design is usually site specific. Therefore the City Engineer can require a larger buffer than the minimum.

2.) For newly constructed buffer sites the design criteria should follow common principles and the example of nearby natural slopes. The site should be examined for existing buffer zones and mimic that slope structure and vegetation as much as possible. Buffer design and protection during construction should do any or all of the following: slow water runoff, trap sediment, enhance water infiltration, trap fertilizers, pesticides, pathogens, heavy metals, trap blowing snow and soil, and act as corridors for wildlife. How much stress is put on these functions will determine the buffer zone's final configuration. *(Commentary: Native Minnesota plant species have root systems and growth characteristics that are well suited to buffer functions. By way of comparison, deep-rooted native grasses have a root system that can be ten times greater than either soybeans or corn. Useful guides for species selection includes the Minnesota Department of Transportation's seeding manual, and their "Plant Selection Matrix" CD ROM. The local Minnesota Department of Natural Resources office is also a good source of guidance. Good plant species selection stresses diversity and allows plant succession and zoning of species from those with a wet soil preference to drier upland species.)*

The Minnesota Department of Natural Resources requires permits when vegetation is introduced downgrade of a water's "ordinary high water mark." The Minnesota Department of Natural Resources' area hydrologist defines the ordinary high water mark. Planting permits are obtained from the Minnesota Department of Natural Resources regional fisheries offices.)

3.) The applicant or a designated representative shall maintain the buffer strip for the first year. After that the City, or a party designated by the City, shall maintain the buffer strip. *(Commentary: Even after a buffer strip is established it will require periodic inspection and possibly maintenance to ensure that it is functioning properly. Otherwise siltation and channeling may short-circuit the strip's function. Good maintenance is essential)*

4.) If a drain tile will short-circuit the benefits of vegetated buffer strips the drain tile should be rendered inoperable.

5.) Buffer strips can be made into perpetual conservation easements.

6.) Buffer strips shall be marked as such with permanent markers. *(Commentary: These markers can be in a form that compliments the natural landscape. An example is permanent signs that face toward the water body that are attached to a large artificial or natural bounders.)*

7.) The City Engineer may allow buffer area averaging in cases where averaging will provide additional protection to either the resource or environmentally valuable adjacent upland habitat, provided that the resource's total buffer area remains the same. This means that some sections of the buffer will be wider than normal. Care should be taken in averaging so that the buffer's usefulness is not short-circuited.

B.) Water courses used solely for drainage, such as road side ditches, are exempt from this provision. Minnesota Pollution Control Agency Class 7 limited resource (Waters not protected for aquatic habitat or recreational use) value waters are also exempt from this provision, unless the Class 7 water is directly tributary to either a Minnesota Department of Natural Resources designated trout stream or a state designated Outstanding Resource Value Water.

C.) Minimal width public recreational and educational trails in vegetated buffer strips are exempt from this provision provided that the buffer strip's width is increased by the width of the trail (i.e. A 10 foot wide trail in a 100 foot buffer strip increases the true width of the strip plus the trail to 110 feet.)

4.11) Models/Methodologies/Computations. Hydrologic models and design methodologies used for the determining runoff characteristics and analyzing storm water management structures must be approved by the City Engineer. Plans, specifications and computations for storm water management facilities submitted for review must be sealed and signed by a registered professional engineer. All computations must appear in the plans submitted for review, unless otherwise approved by the City Engineer.

SECTION 53.05 REVIEW.

The City Engineer shall review the storm water pollution control plan. This review must be completed **within twenty (20) days** of receiving the plan from the applicant.

5.1 Permit Required. If the City determines that the storm water pollution control plan meets the requirements of this ordinance, the City shall issue a permit valid for a specified period of time, that authorizes the land disturbance activity contingent on the implementation and completion of the storm water pollution control plan.

5.2 Permit Denial. If the City determines that the storm water pollution control plan does not meet the requirements of this ordinance, the City shall not issue a permit for the land disturbance activity.

A.) All land use and building permits for the site in question must be suspended until the applicant has an approved storm water pollution control plan.

5.3 Permit Suspension and Revocation. If the storm water pollution control plan is not being implemented the City can suspend or revoke the permit authorizing the land disturbance activity.

SECTION 53.06 MODIFICATION OF PLAN.

An approved storm water pollution control plan may be modified on submission of a written application for modification to the City, and after written approval by the City Engineer. In reviewing such an application, the City Engineer may require additional reports and data.

6.1 Records Retention. The City shall retain the written records of such modifications for at least **three (3) years**.

SECTION 53.07 FINANCIAL SECURITIES.

The applicant shall provide a financial security for the performance of the work described and delineated on the approved grading plan involving the storm water pollution control plan and any storm water and pollution control plan related remedial work in at a rate of three thousand dollars (\$3,000) per acre for the maximum acreage of soil that will be in simultaneously exposed to erosion during the project's construction. (See the definition's of "exposed soil area" and "final stabilization" for clarification.) This security must be available prior to commencing the project. The form of the security must be:

7.011 By cash security deposited to the City **for one hundred percent (100%)** of the total financial security in Section 7.0, when less than five (5) acres of soil will be simultaneously exposed. When over five (5) acres of soil will be simultaneously exposed to erosion, then the cash security increases to the **first 3,000 thousand dollars (\$3,000) or 100cent (100%)** of the total financial security in Section 7.0, whichever is greater.

7.012 The remainder of the financial security shall be placed either with the City, a responsible escrow agent, or trust company, at the option of the City, money, an irrevocable letter of credit, negotiable bonds of the kind approved for securing deposits of public money or other instruments of credit from one or more financial institutions, subject to regulation by the state and federal government wherein said financial institution pledges that the funds are on deposit and guaranteed for payment. This security shall save the City free and harmless from all suits or claims for damages resulting from the negligent grading, removal, placement or storage of rock, sand, gravel, soil or other like material within the City. The type of security must be of a type acceptable to the City.

7.013 The City may request a greater financial security, if the City considers that the development site is especially prone to erosion, or the resource to be protected is especially valuable.

7.014 If more soil is simultaneously exposed to erosion than originally planned, the amount of the security shall increase in relation to this additional exposure.

7.1 Maintaining the Financial Security. If at anytime during the course of the work this amount falls below 50% of the required deposit, the applicant shall make

another deposit in the amount necessary to restore the deposit to the required amount **within Ten (10) days**. Otherwise the City may:

- A.) Withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.
- B.) Revoke any permit issued by the City to the applicant for the site in question and any other of the applicant's sites within the City's jurisdiction.

7.2 Proportional Reduction of the Financial Security. When more than one-third of the applicant's maximum exposed soil area achieves final stabilization, the City can reduce the total required amount of the financial security by one-third, if recommended in writing by the City Engineer. When more than two-thirds of the applicant's maximum exposed soil area achieves final stabilization, the City can reduce the total required amount of the financial security to two-thirds of the initial amount, if recommended in writing by the City Engineer.

7.3 Action Against the Financial Security. The City may act against the financial security, if any of the conditions listed below exist. The City shall use funds from this security to finance any corrective or remedial work undertaken by the City or a contractor under contract to the City and to reimburse the City for all direct cost incurred in the process of remedial work including, but not limited to, staff time and attorney's fees.

- A.) The applicant ceases land disturbing activities and/or filling and abandons the work site prior to completion of the City approved grading plan.
- B.) The applicant fails to conform to any City approved grading plan and/or the storm water pollution control plan as approved by the City, or related supplementary instructions.
- C.) The techniques utilized under the storm water pollution control plan fail within one (1) year of installation.
- D.) The applicant fails to reimburse the City for corrective action taken under Section 8.
- E.) Emergency action under either part 7.4 or any part of Section 8.

7.4 Emergency Action. If circumstances exist such that noncompliance with this ordinance poses an immediate danger to the public health, safety and welfare, as determined by the City Engineer, the City may take emergency preventative action. The City shall also take every reasonable action possible to contact and direct the applicant to take any necessary action. Any cost to the City may be recovered from the applicant's financial security.

7.5 Returning the Financial Security. Any unspent amount of the financial security deposited with the City for faithful performance of the storm water pollution control plan and any storm water and pollution control plan related remedial work must be released not more than one (1) full year after the completion of the installation of all such measures and the establishment of final stabilization.

SECTION 53.08 NOTIFICATION OF FAILURE OF THE STORM WATER POLLUTION CONTROL PLAN.

The City shall notify the applicant, when the City is going to act on the financial securities part of this ordinance.

8.1 Notification by the City. The initial contact will be to the party or parties listed on the application and/or the storm water pollution control plan as contacts. Except during an emergency action under Section 7.4, forty-eight (48) hours after notification by the City or seventy-two (72) hours after the failure of erosion control measures, whichever is less, the City at its discretion, may begin corrective work. Such notification should be in writing, but if it is verbal, a written notification should follow as quickly as practical. If after making a good faith effort to notify the responsible party or parties, the City has been unable to establish contact, the City may proceed with the corrective work

- A.) There are conditions when time is of the essence in controlling erosion. During such a condition the City may take immediate action, and then notify the applicant as soon as possible.

8.2 Erosion Off-Site. If erosion breaches the perimeter of the site, the applicant shall immediately develop a cleanup and restoration plan, obtain the right-of-way entry from the adjoining property owner, and implement the cleanup and restoration plan within forty- eight (48) hours of obtaining the adjoining property owner's permission. In no case, unless written approval is received from the City, the applicant does not repair the damage caused by the erosion, the City may do the remedial work required and charge the cost to the applicant.

8.3 Erosion into Streets, Wetlands or Water Bodies. If eroded soils (including tracked soils from construction activities) enter or appear likely to enter streets, wetlands, or other water bodies, prevention strategies, cleanup and repair must be immediate. The applicant shall provide all traffic control and flagging required to protect the traveling public during the cleanup operations.

8.4 Failure to Do Corrective Work. When an applicant fails to conform to any provision of this Sections 7 or 8 within the time stipulated, the City may take the following actions:

- A.) Withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.
- B.) Suspend or revoke any permit issued by the City to the applicant for the site in question or any other of the applicant's sites within the City's jurisdiction.
- C.) Direct the correction of the deficiency by City forces or by a separate contract. The issuance of a permit for land disturbance activity constitutes a right-of-entry for the City or its contractor to enter upon the construction site for the purpose of correcting erosion control

deficiencies.

- D.) All costs incurred by the City in correcting storm water pollution control deficiencies must be reimbursed by the applicant. If payment is not made within thirty (30) days after costs are incurred by the City, payment will be made from the applicant's financial securities as described in Section 7.
- E.) If there is an insufficient financial amount in the applicant's financial securities as described in Section 7, to cover the costs incurred by the City, then the City may assess the remaining amount against the property. As a condition of the permit for land disturbance activities, the owner shall waive notice of any assessment hearing to be conducted by the City, concur that the benefit to the property exceeds the amount of the proposed assessment, and waive all rights by virtue of Minnesota Statute 429.081 to challenge the amount or validity of the assessment.

SECTION 53.09 VARIANCE.

In any case where, upon application of the responsible person or persons, the City finds that by reason of exceptional circumstances, strict conformity with this ordinance would be unreasonable, impractical, or not feasible under the circumstances; the City in its discretion may grant a variance therefrom upon such conditions as it may prescribe for prevention, control or abatement of pollution in harmony with the general purposes of this ordinance. The public shall be given the opportunity for comment.

9.1) Variance Request. The variance request must be in writing in a form acceptable to the City.

9.2) Variance Public Notice. The variance request shall be public noticed in the normal manner used for City Council meeting items, to allow the public an opportunity for comment.

9.3) Variance Determination. After the public has been given the right to comment, the variance shall either be approved or disapproved by a vote of the City Council.

9.4) Variance Response. The variance response must be in writing, and include the justification for either granting or denying the requested variance. A favorable response shall also include any special conditions imposed by the City.

9.5) Time Limit. The variance shall become void not more than one (1) year after being granted, unless used.

9.6) Revocation. If any of the variance's conditions are violated, the City may revoke the variance.

SECTION 53.10 ENFORCEMENT.

10.1) Penalties. Any person, firm, corporation failing to comply with or violating any of these regulations, shall be deemed guilty of a misdemeanor and be subject to a fine or imprisonment or both. All land use and building permits shall be suspended until the applicant has corrected the violation. Each day that a separate violation exists shall constitute a separate offense.

SECTION 53.11 RIGHT OF ENTRY AND INSPECTION.

11.1) Powers. The applicant shall promptly allow the City and their authorized representative, upon presentation of credentials to:

- A.) Enter upon the permitted site for the purpose of obtaining information, examination of records, conducting investigations, inspections or surveys.
- B.) Bring such equipment upon the permitted site as is necessary to conduct such surveys and investigations.
- C.) Examine and copy any books, papers, records, or memoranda pertaining to activities or records to be kept under the terms and conditions of this permitted site.
- D.) Inspect the storm water pollution control measures.
- E.) Sample and monitor any items or activities pertaining to storm water pollution control measures.
- F.) Any temporary or permanent obstruction to the safe and easy access of such as inspection shall be promptly removed upon the inspector's request. The cost of providing such access shall be born by the applicant.

SECTION 53.12 ABROGATION AND GREATER RESTRICTIONS.

It is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail. Any other ordinances inconsistent with this ordinance are hereby repealed to the extent of the inconsistency only.

SECTION 53.13 SEVERABILITY.

The provisions of this ordinance are severable, and if any provisions of this ordinance, or application of any provision of this ordinance to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this ordinance must not be affected thereby.

SECTION 53.14 EFFECTIVE DATE.

This ordinance will take effect and be in force after its passage and official publication.