

SECTION 14.0 STORM WATER MANAGEMENT AND EROSION CONTROL

14.1 Storm Water Drainage.

- (1) The City will not approve any subdivision that does not make adequate provision for managing the quantity and quality of storm water runoff. Subdivisions shall meet the adopted water management rules, standards and plan requirements of local watershed districts for volume control, rate control and water quality.
- (2) The design of ponds and other stormwater Best Management Practices (BMPs) shall conform to the requirements of the City's Engineering Standards and to the standards and design recommendations in the Minnesota Pollution Control Agency's Minnesota Stormwater Manual (2006 and subsequent revisions) and Minnesota Stormwater Best Management Practices Manual.
- (3) Where a watercourse, drainage way, channel or stream traverses a subdivision, the subdivider shall provide a storm water easement or drainage right-of-way, whichever the City may deem more appropriate. This easement, right-of-way or dedication shall conform substantially with the lines of such water courses, together with such further width or construction, or both, as will be adequate for the storm water drainage of the area. The City Engineer shall determine the width of such easements or rights-of-way.
 - (A) Where topography or other conditions make the inclusion of drainage facilities within road rights-of-way impractical, the subdivider shall provide perpetual, unobstructed easements at least 20 feet in width for drainage facilities across property outside the road lines and with satisfactory access to the road. Easements shall be indicated on the plat. Drainage easements shall extend from the road to a natural watercourse or to other drainage facilities.
 - (B) When a proposed drainage system will carry water across private land outside the subdivision, appropriate drainage rights shall be secured and indicated on the plat.
 - (C) The subdivider shall dedicate by drainage easement, land on each side of the centerline of any wetland, body of water, watercourse or drainage channel, whether or not shown on the City's Comprehensive Plan, to a sufficient width to 1) provide proper protection for water quality, 2) provide retention of storm water runoff, and 3) provide for the installation and maintenance of storm sewers, swales or other such conveyance method.
- (4) Where directed by the City and based on site suitability, the subdivider shall consider reducing the need for stormwater controls and BMPs by minimizing impervious surfaces and incorporating the use of natural topography. The following design options should be considered, consistent with City and local watershed management organization requirements:
 - (A) Preserving natural vegetation.
 - (B) Preserving and utilizing existing natural upland swales, depressions and storage areas in the post- development condition to the degree that they can convey, store, filter and retain stormwater runoff before discharge without becoming a public nuisance or

hazard. Preservation requires that no manual alteration, grading or other construction activity occurs in those areas.

- (C) Installing semi-permeable, permeable or porous paving.
- (D) Using landscaping and soils to treat and infiltrate stormwater runoff.
- (E) Identifying vegetated areas that can filter sheet flow, remove sediment and other pollutants and increase the time of concentration.
- (F) Installing green roofs.
- (G) Using irrigation systems, cisterns, rain barrels and related BMP's to reuse stormwater runoff.

14.2 Erosion Control During Construction.

- (1) Prior to commencing any earth disturbing activity in the subdivision, the subdivider shall submit an erosion control plan for approval by the City Engineer. The plans shall be suited to the topography and soils so as to create the least erosion potential. Acceptable temporary and permanent erosion control plans shall include, but not be limited to, the following elements:
 - (A) A site map with existing and final grades. These grades shall include dividing lines and direction of flow for all pre- and post-construction storm water runoff drainage areas located within the project limits. The site map must also include impervious surfaces and soil types.
 - (B) Locations of all critical areas, and areas delineated for non-disturbance.
 - (C) Locations of areas where construction will be phased for non-disturbance.
 - (D) Locations and types of all temporary and permanent erosion and sediment control Best Management Practices (BMPs). Standard plates and/or specifications for the BMPs used on the project must be included in the final plans and specifications for the project.
 - (E) Locations and types of sediment control measures for all stockpiles located on the project.
 - (F) Plans and specifications for temporary seeding and mulching any exposed soils during construction.
 - (G) Plans and specifications for final vegetation establishment, including long-term vegetation management plan for controlling noxious weeds where appropriate.
 - (H) All plans shall include maintenance requirements and who will be responsible for the maintenance requirements.
 - (I) Land clearing and erosion control shall comply with all rules and regulations of Federal, State, County and local agencies.

- (2) Erosion control measures shall comply with the Minnesota Pollution Control Agency's Best Management Practices, all applicable NPDES Phase II construction site permit requirements, and the Minnesota Stormwater Manual (2006 and subsequent revisions), or other practices as approved by the City Engineer.
- (3) The subdivider must provide the City Engineer with separate temporary and permanent erosion control plans which shall be suited to the topography and soils so as to create the least erosion potential. Acceptable temporary and permanent erosion control plans shall include, but not be limited to, the following elements:
 - (A) The land shall be developed in increments of workable size on which adequate controls of erosion and siltation can be provided and maintained during the construction period. Grading operations and other land disturbing operations shall be staged so that the area being developed is not exposed for long periods of time without stabilization.
 - (B) Natural vegetation shall be protected whenever practical. All areas of natural vegetation that are to be protected shall be identified prior to any construction activity commencing. Trees shall be protected to meet the requirements of Chapter 2 Section 3.11 Woodland and Tree Preservation.
 - (C) Temporary vegetation and/or mulching shall be used to protect the areas exposed during the development. No area shall be left denuded for a period longer than 7 days after initial site grading and other land disturbing operations on slopes of 3:1 or steeper; 14 days after initial site grading and other land disturbing operations on slopes between 3:1 and 10:1; and 21 days after initial site grading and other land disturbing operations on all other slopes. These areas shall be seeded, mulched and stabilized with erosion control netting or blanket acceptable to the City Engineer.
 - (D) Permanent vegetation and structures shall be installed within 30 days after completion of initial grading. If grading is not completed until after the planting season has expired, temporary erosion control measures, including dormant seeding and mulching, shall be implemented.
 - (E) Sediment basins (debris basins, de-silting basins or silt traps) shall be installed and maintained to remove sediment from runoff waters from the land undergoing development. Storm sewer inlets shall be provided with debris guards and micro-silt basins to trap sediment and avoid possible damage from blockage. The silt shall be removed when necessary. If sediment/siltation measures taken are not adequate and result in downstream sediment, the subdivider shall be responsible for cleaning out or dredging downstream storm sewers and ponds and restoration of disturbed areas as necessary.
 - (F) Temporary rock construction access drives shall be constructed and maintained in working condition throughout construction.
 - (G) Before grading is commenced, all control measures as shown on the approved plan shall be installed.

- (H) The subdivider shall be responsible for cleaning and maintenance of the storm sewer system (including ponds, pipes, catch basins, culverts, and swales) within the subdivision and adjacent off-site storm sewer system that receives storm water from the subdivision. The subdivider shall follow all instructions it receives from the City concerning the cleaning and maintenance of the storm sewer system. The subdivider's obligations under this paragraph shall end after the erosion control is complete and financial guarantees have been released.
 - (I) The subdivider shall be responsible for cleaning all streets in the subdivision and adjacent to the subdivision from silt and dirt from the subdivision. At a minimum, scraping and sweeping shall take place on a weekly basis. If the City finds that the street cleaning is not adequate, the City may order cleaning of the streets and the subdivider shall pay the cost. If the subdivider fails to do so, the City may draw on the subdivider's financial guarantee with the City and use it to provide payment for the cleaning.
- (4) No certificate of occupancy shall be issued until final grading has been completed in accordance with the approved final subdivision plat and the lot covered with top soil with an average depth of at least four inches over the entire area of the lot, except that portion covered by buildings or streets, or where the grade has not been changed or natural vegetation seriously damaged. The soil shall be stabilized by planting or seeding. The soil shall contain no particles more than one inch in diameter. Top soil shall not be removed from the subdivision or used as spoil.
- (5) Debris and Waste. No cut trees, diseased trees, timber, debris, earth, rocks, stones, soil, junk, rubbish or other waste materials of any kind shall be buried in any land, or left or deposited on any lot or street at the time of the issuance of a certificate of occupancy, and removal of those items and materials shall be required prior to issuance of any certificate of occupancy in a subdivision. No items and materials as described in the preceding sentence shall be left or deposited in any area of the subdivision at the time of expiration of the Development Agreement or dedication of public improvements, whichever occurs sooner.
- (6) Enforcement
- (A) The City may issue a stop work order halting all development work and building construction for noncompliance with the erosion control plan.
 - (B) The City will conduct site inspections for compliance with appropriate erosion control measures, and any related issues regarding non-compliance will be addressed as appropriate.