Part 8

PART 8: IMPROVEMENTS AND CONSTRUCTION

DIVISION 15-8.0100 REQUIRED IMPROVEMENTS FOR LAND DIVISIONS

SECTION 15-8.0101 PAYMENT FOR IMPROVEMENTS

The improvements prescribed in this Ordinance are required as a condition of approval of a Subdivision, Certified Survey Map, or Condominium. The required improvements described in this Ordinance shall be installed, furnished, and financed at the sole expense of the Subdivider or Condominium Developer. However, in the case of required improvements in a commercial, industrial, or other nonresidential area, the cost of such improvements, at the sole discretion of the Common Council, may be financed through special assessments. A contract, or "Subdivider's Agreement," with the Subdivider and/or Condominium Developer as specified under Section 15-2.0303 of this Ordinance shall be required. Financial sureties described in Section 15-2.0303 of this Ordinance shall be required.

SECTION 15-8.0102 GENERAL STANDARDS

The required improvements set forth in this Ordinance shall be installed in accordance with the City Engineer's *"Standards and Specifications for Development."* Where the City has no prescribed standards and specifications, the improvements shall be made in accordance with good engineering practices, approved prior to the commencement of construction by the City Engineer.

SECTION 15-8.0103 SURVEY MONUMENTS

The Subdivider shall install survey monuments placed in accordance with the requirements of Chapter 236.15 of the Wisconsin Statutes and as may be required by the City Engineer.

SECTION 15-8.0104 GRADING

A. **Right-of-Way and Roadbed Grading.** After the installation of temporary block corner monuments by the Subdivider and establishment of street grades, the Subdivider shall grade the full width of the right-of-way of all streets proposed to be dedicated in accordance with plans and standard specifications approved by the City and in conformance with the City Engineer's *"Standards and Specifications for Development."* The Subdivider shall grade the roadbeds in the street right-of-ways to subgrade.

B. **Grading of Cut and Filled Lands.** Cut and filled lands shall be graded to a maximum slope of one to four (1:4), or the soil's angle of repose, whichever is the lesser, and covered with permanent vegetation.

C. **Preservation of Septic Field Areas During Grading.** During grading operations, every effort shall be made by the Subdivider or Condominium Developer to preserve and protect any active septic field areas from damage.

D. **Preservation of Existing Trees During Grading.** During grading operations, every effort shall be made by the Subdivider or Condominium Developer to preserve and protect from damage those existing trees identified in the "Natural Resource Protection Plan" to be preserved and retained as a part of the Subdivision, Certified Survey Map, or Condominium approval. (See Section 15-8.0204 of this Ordinance)

SECTION 15-8.0105 SURFACING

A. **Roadway Surfacing.** After the installation of all required utility and storm water drainage improvements, the Subdivider shall surface all roadways in streets proposed to be dedicated to the widths prescribed by these regulations and the City of Franklin Comprehensive Master Plan or plan components.

B. **Required Surfacing Specifications.** Said surfacing shall be done in accordance with plans and standard specifications approved by the City including the City Engineer's *"Standards and Specifications for Development."*

SECTION 15-8.0106 CURB AND GUTTER

In all Subdivisions, Certified Survey Maps, and Condominiums the Plan Commission and Common Council shall require the Subdivider to construct concrete curbs and gutters in accordance with plans and *"Standards and Specifications for Development"* as approved by the City Engineer. Wherever possible, provision shall be made at the time of construction for driveway access curb cuts.

SECTION 15-8.0107 SIDEWALKS

Sidewalks shall be required in the Subdivision, Certified Survey Map, or Condominium under the following conditions: one (1) side of all collector streets; on the school and/or public park side of a collector street; on minor, collector and/or arterial streets which provide adjacent access to school and/or public park sites; on arterial streets with an urban type of cross-section; and any other identified pedestrian access areas to accommodate safe and adequate pedestrian circulation. Where sidewalks are provided, they shall be a minimum of five (5) feet in width and be located within a dedicated public right-of-way or pedestrian access easement. If the sidewalk is to be located within a pedestrian access easement, said easement shall be a minimum of twenty (20) feet in width as specified in Table 15-5.0103 of this Ordinance.

SECTION 15-8.0108 RURAL STREET SECTIONS

When permanent rural street sections have been approved by the Common Council in areas not located within the urban service boundaries of the City of Franklin, the Subdivider shall finish grade all shoulders and road ditches, install all necessary culverts at intersections and, if required, surface ditch inverts to prevent erosion and sedimentation in accordance with plans and standard specifications approved by the City, including the City Engineer's *"Standards and Specifications for Development,"* and as set forth in Table 15-5.0103 of this Ordinance.

SECTION 15-8.0109 BICYCLE PATHS AND TRAILS

The Subdivider or Condominium Developer shall install required bicycle paths and trails in accordance with the plans and specifications, including the City Engineer's *"Standards and Specifications for Development,"* approved by the City. The Subdivider shall assume the entire cost of such bicycle paths and trails except in the case of dual bicycle paths and streets. The added cost for streets wider than those required by Table 15-5.0103 of this Ordinance in order to accommodate bicycle paths and trails shall be the responsibility of the municipality charged with the maintenance of the proposed facility. In the event the Subdivider wishes to install dual lane facilities, which may not be required by the City, the total cost of such improvements shall be borne by the Subdivider or Condominium Developer as applicable.

SECTION 15-8.0110 PUBLIC SANITARY SEWERS

When public sanitary sewer facilities are available to the Subdivision Plat, Certified Survey Map or Condominium, the Subdivider or Condominium Developer shall construct sanitary sewer facilities in such a manner as to make adequate sanitary sewer service available to each lot within the Subdivision or Certified Survey Map or dwelling unit within a Condominium. In addition:

A. **Extent of Required Installation of Lateral Sewer Lines.** The Plan Commission shall require the installation of sewer laterals to the street lot line.

B. **Plans and Specifications Required.** The size, type, and installation of all sanitary sewers and sanitary sewer laterals proposed to be constructed shall be in accordance with plans and standard specifications, including the City Engineer's *"Standards and Specifications for Development,"* approved by the City of Franklin.

C. **Costs Associated with Sanitary Sewers 8" or Less in Diameter.** The Subdivider or Condominium Developer (as applicable) shall assume the cost of installing all sanitary sewers that are eight (8) inches in diameter or less.

D. **Costs Associated with Sanitary Sewers Larger than 8" in Diameter.** If larger than eight (8) inch diameter sanitary sewers are required to handle the contemplated sewage flows, the costs of such larger sewers shall be prorated in proportion to the ratio which the total sewage of the proposed Subdivision, Certified Survey Map, or Condominium is to the total sewage capacity to be served by such larger sewer and the excess cost shall be either borne by the City of Franklin or assessed against the total tributary sewer area.

E. **Sanitary Sewer Availability and Requirements for Installation.** The Subdivider or Condominium Developer shall install sanitary sewers in accordance with this Ordinance and specifications of the City of Franklin, including the City Engineer's *"Standards and Specifications for Development."* All sanitary sewers shall be extended to the farthest property line of any property served which shall include the full property frontage along a public street right-of-way.

SECTION 15-8.0111 WASTEWATER HOLDING TANKS

Where public sanitary sewer facilities are not available in the B-1, B-2, B-3, B-4, B-5, B-6, M-1, M-2, M-3, I-1, P-1, and L-1 zoning districts only, the Plan Commission or Common Council may require the developer to construct either individual or common wastewater holding facilities sufficiently sized and placed to accommodate the proposed development. The individual or common wastewater holding facilities shall be constructed pursuant to all applicable State, County, and local regulations as amended and in such a manner so as to make available wastewater holding facilities to the proposed development.

SECTION 15-8.0112 STORM WATER DRAINAGE FACILITIES

The Developer, Subdivider or Condominium Developer shall construct storm water drainage facilities adequate to serve the proposed development. These facilities may include curbs and gutters, catch basins and inlets, storm sewers, road ditches, open channels, water retention and detention structures, ~~basins, settling, and water quality basins~~infiltration/biofiltration basins, and other green infrastructure. All such facilities shall be of adequate size and grade to hydraulically accommodate the design volumes of flow and shall be so designed as to prevent and control soil erosion and sedimentation and to present no hazards to life or property. All storm water drainage facilities shall be constructed in accordance with the provisions of the City of Franklin Storm water Management Ordinance. In addition:

A. **Detailed Site Specific Storm water Management Plan Required.** A detailed storm water management plan shall be prepared by a Wisconsin registered professional engineer for property proposed for development which shall include, but not be limited to, the following:

1. Existing and proposed topography at two (2) foot contour intervals of the proposed Subdivision, Certified Survey Map, or Condominium.

2. Proposed elevations of all streets.

3. Proposed drainage swales.

4. Proposed storm sewers, manholes, and inlets.

5. Construction site erosion facilities.

6. A report and map(s) showing the drainage basin for the entire area where the Subdivision, Certified Survey Map, or Condominium is located, including estimates of the total acreage in the drainage basin and percentage of the drainage basin within the proposed Subdivision, Certified Survey Map, or Condominium.

7. Location of any planned storm water ~~detention and/or retention basins~~quantity and/or quality control facilities and applicable calculations and/or models for their sizing and design.

8. Calculations relating to the amount of runoff from the site of the proposed Subdivision, Certified Survey Map, or Condominium prior to development and anticipated runoff following the development of the site.

B. **Drainage Facilities**:

1. Required drainage facilities shall include storm water detention and/or retention basins, structures, and settling basins to prevent erosion and sedimentation where such facilities discharge into streams or lakes.

2. The design criteria, the size, type, grades, and installation of all storm water drains and sewers and other cross-section, invert and erosion control paving check dams, flumes, or other energy dissipating structures and seeding and/or sodding of open channels and unpaved road ditches proposed to be constructed shall be in accordance with the plans and standard specifications, including the City Engineer's *"Standards and Specifications for Development,"* approved by the City.

C. **Storm Sewers**: The Developer shall assume the cost of installing all required storm sewers within the proposed development.

D. **Cost Responsibility.** Subdivider shall be responsible for all City costs to review the Storm water Management Plan.

SECTION 15-8.0113 WATER SUPPLY FACILITIES

A. **Adequate Public Water Supply Facilities to be Made Available.** When public water supply and distribution facilities are available to the Subdivision Plat, Certified Survey Map, or Condominium or when it is proposed to establish a private water supply and distribution system to serve two (2) or more lots or dwelling units, the Subdivider or Condominium Developer shall cause such public water supply and distribution facilities to be installed in such a manner as to make adequate water service available to each lot within the Subdivision or Certified Survey Map or to each Condominium dwelling unit. Said water supply facilities shall be made available pursuant to City of Franklin Water Utility extension rules and policies.

B. **Additional Water Supply Facilities Requirements.** When a public water supply is not available, the Common Council may allow the Subdivider of a Subdivision or Certified Survey Map or Condominium Developer to make provision for adequate private water systems as required by the City in accordance with the standards of the State of Wisconsin. In addition:

1. **Water Laterals to Street Lot Line.** The installation of water laterals to the street lot line are required.

2. **Size, Type, and Installation of Public and Private Water Mains.** The size, type, and installation of all public and private water mains proposed to be constructed shall be in accordance with plans and standard specifications, including the City of Franklin's public water supply comprehensive system plan and the City Engineer's *"Standards and Specifications for Development,"* approved by the City.

3. **Costs of Installing Water Mains, Water Laterals, Water System Appurtenances or Wells.** The Subdivider or Condominium Developer shall assume the cost of installing all water mains, water laterals, water system appurtenances or wells within the proposed Subdivision, Certified Survey Map or Condominium except for the added cost of installing public water mains greater than eight (8) inches in diameter pursuant to City of Franklin Water Utility extension policies. The cost of such larger water mains or other

water system-related facilities shall be pursuant to City of Franklin Water Utility extension rules and policies.

4. **Installation of Water Main.** The Subdivider or Condominium Developer shall install water mains in accordance with this Ordinance and specifications of the City, including the City Engineer's *"Standards and Specifications for Development."* For all residential development (except Certified Survey Maps abutting existing public street rights-of-way), all water mains shall be extended to the farthest property line of any property served which shall include the full property frontage along a public street right-of-way.

SECTION 15-8.0114 OTHER UTILITIES

The Subdivider or Condominium Developer shall cause appropriate utilities such as gas, electrical power, cable television, and telephone facilities to be installed in such a manner as to make adequate service available to each lot in the Subdivision or Certified Survey Map and to each dwelling unit in a Condominium. No such electrical, cable television, or telephone service shall be located on overhead poles. In addition, plans indicating the proposed location of all gas, electrical power and telephone, and distribution and transmission lines required to service the Subdivision, Certified Survey Map, or Condominium shall be approved by the City.

SECTION 15-8.0115 STREET LIGHTS

The Subdivider or Condominium Developer shall pay all costs associated with the installation of streetlights by the Wisconsin Electric Power Company along all streets proposed to be dedicated to the public. Said streetlights shall meet the following minimum standards:

A. **Pole and Luminaire Design.** The design of the streetlights shall be compatible with the neighborhood and type of development proposed. Street light pole and luminaire design shall meet the requirements set forth in the City Engineer's *"Standards and Specifications for Development."*

B. **Distribution and Placement.** Streetlights shall be placed at each street intersection and at each interior block location and other spacing as required by the City Engineer.

SECTION 15-8.0116 TRAFFIC CONTROL AND STREET NAME SIGNS

The Subdivider or Condominium Developer shall pay all costs associated with the City's installation of traffic control and street name signs along all streets proposed to be dedicated to the public. Traffic control and street name signs shall meet the following standards:

A. **Traffic Control Signs.** The design and placement of traffic control signs shall follow state regulations or the requirements specified in the most current edition of the *Manual on Uniform Traffic Control Devices for Streets and Highways* published by the U.S. Department of Transportation.

B. **Street Name Signs.** The Subdivider or Condominium Developer (as applicable) shall install at least two (2) street name signs, of a design and color as approved by the City, at each four-way

street intersection proposed to be dedicated and one (1) at each "T" intersection. Signs shall be installed so as to be free of visual obstructions.

SECTION 15-8.0117 STREET TREES

In all Subdivisions, Certified Survey Maps, and Condominiums the City shall require the Subdivider or Condominium Developer (as applicable) to plant a minimum of one (1) street tree of a City approved species and of a minimum caliper of one and three-quarters (1.75) to two (2) inches for each eighty-five (85) feet of lot frontage on each side of all streets to be dedicated to the public. Said required street trees shall be planted within the public right-of-way curblawn area. All required street trees shall be installed by the Subdivider or Condominium Developer (as applicable) in accordance with plans and specifications, including the City Engineer's *"Standards and Specifications for Development,"* and those plans and specifications approved by the Plan Commission. The species of such trees shall be planted in accordance with the planting plan established by the City of Franklin Engineering Department. In addition:

A. **Timing of Tree Installation and City Inspection.** Street trees required to be installed shall be installed for a lot or parcel prior to the issuance of an Occupancy Permit for such lot or parcel. All tree installations must be inspected by a representative of the City Engineer.

B. **Minimum Distance to Utility Poles.** No street trees shall be planted less than fifteen (15) feet from a utility pole.

C. **Minimum Distance to Driveways.** No street trees shall be planted less than five (5) feet from a driveway.

D. **Minimum Distance to Sidewalks.** No street trees shall be planted less than three (3) feet from a sidewalk.

E. **Watering of Trees.** The watering of trees during times of insufficient rainfall shall be the responsibility of the Subdivider or Condominium Developer and the costs of such watering shall be borne by the Subdivider or Condominium Developer .

F. **Street Tree Guarantee Required.** The Subdivider or Condominium Developer (as applicable) shall guarantee to replace any required street tree not surviving three (3) years from the date of planting. The City shall inspect all trees installed under this Section each Spring and Fall and the Subdivider or Condominium Developer shall replace any trees as required by the City at that time and up to two (2) times per year during the term of the Subdivider's or Condominium Developer's obligation hereunder. The Subdivider or the Condominium Developer shall notify the City Engineer in writing of the completion date of tree installation for each installation. In no case shall the street tree guarantee, as set forth herein, conflict with the surety bond herein and elsewhere described in this Ordinance.

SECTION 15-8.0118 SOIL EROSION AND SEDIMENT CONTROL

The Subdivider or Condominium Developer shall plant those grasses, trees, and vines of a species and size as approved by the Plan Commission to prevent soil erosion and sedimentation. In addition:

A. **Installation of Protection and Rehabilitation Measures.** The Plan Commission shall require the Subdivider or Condominium Developer to provide or install certain protection and rehabilitation measures to prevent soil erosion and sedimentation, such as fencing, sloping, seeding, rip-rap, revetments, jetties, clearing dredging, snagging, drop structures, brush mats, willow poles, and grade stabilization structures. Protection and rehabilitation measures shall be in conformance with Division 15-8.0300 of this Ordinance and the City Engineer's *"Standards and Specifications for Development."*

B. **Tree Cutting and Shrubbery Clearing Limitations.** Tree cutting and shrubbery clearing shall not exceed the requirements set forth in this Ordinance for the specified zoning district, the limitations set forth in this Ordinance for natural resource features protection and the approved "Natural Resource Features Protection Plan" for the property as described in Division 15-4.0100 of this Ordinance, and shall be so conducted as to prevent erosion and sedimentation; preserve and improve scenic qualities; and, during foliation, substantially screen any development from stream or lake users.

C. **Maximum Width of Paths and Trails in Wooded and Wetland Areas.** Paths and trails in wooded and wetland areas shall not exceed ten (10) feet in width unless otherwise approved by the Plan Commission, and shall be so designed and constructed as to result in the least removal and disruption of trees and shrubs and the minimum impairment of natural beauty. Any easements for such paths and/or trails shall meet those minimum requirements as set forth in Table 15-5.0103 of this Ordinance.

D. **Earth Moving.** Earth moving, such as grading, topsoil removal, mineral extraction, stream course changing, road cutting, waterway construction or enlargement, removal of stream or lake bed materials, excavation, channel clearing, ditching, drain tile laying, dredging, and lagooning, shall be so conducted as to prevent soil erosion and sedimentation and to least disturb the natural fauna, flora, water course, water regimen, and topography (also see Divisions 15-8.0300 and 15-8.0400 of this Ordinance).

E. **Review of the Conduct of Cutting, Clearing, and Moving.** Review of the conduct of such cutting, clearing, and moving may be requested of the County Soil and Water Conservation District, the State District Fish and Game Managers, and the State District Forester by the City Planner or the Plan Commission as they deem appropriate.

F. **Slope and Terrace Protection.** Areas of cuts, fills, and terraces shall be landscaped sufficiently to prevent soil erosion. All roadway slopes steeper than one (1) foot vertically to four (4) feet horizontally shall be planted and stabilized with groundcover appropriate for the purpose and for soil conditions, water availability, and environment as determined by the City Engineer.

SECTION 15-8.0119 IMPROVEMENTS EXTENDED TO LIMITS OF PARCEL

A. **Improvements to be Extended to Farthest Limits of Parcel or Lot.** Any and all improvements or utility services required by this Ordinance, or a municipality's ordinance concerning areas within that municipality's extraterritorial plat jurisdiction, for the Subdivision, Certified Survey

Map, or Condominium shall be extended to the farthest limits of the parcel or lot upon which a building permit is requested unless the owner is excused from meeting such requirement by the Plan Commission.

B. **Financial Sureties for Extension of Improvements Required.** In the event the improvements are required to the end of the parcel or lot, the owner, Subdivider, or Condominium Developer shall be required to post financial sureties with the City pursuant to Section 15-2.0303 of this Ordinance if improvements are not made.

DIVISION 15-8.0200 CONSTRUCTION

SECTION 15-8.0201 COMMENCEMENT

No construction or installation of improvements shall commence in a proposed Preliminary Plat, Certified Survey Map, or Condominium until said Preliminary Plat, Certified Survey Map, or Condominium has been approved by the Common Council and the City Engineer has given written authorization to commence work and a pre-construction meeting has been held. Inspection fees shall be required as specified in Division 15-9.0400 of this Ordinance.

SECTION 15-8.0202 BUILDING PERMITS

No Building and Zoning Compliance Permits shall be issued for erection of a structure on any lot not of record until all the requirements of this Ordinance and the Subdivision Development Agreement or Development Agreement have been met, including the construction of required streets and sidewalks except as may be provided for under Section 15-3.0804 of this Ordinance for a model home, model dwelling units and pre-construction sales office, and temporary sales structure.

SECTION 15-8.0203 PLANS AND SPECIFICATIONS

The following plans and accompanying construction specifications, in conformance with the City Engineer's *"Standards and Specifications for Development,"* shall be required by the City before authorization of construction or installation of improvements:

A. **Street Plans and Profiles.** Street plans and profiles showing existing and proposed grades, elevations and typical cross-section(s) of required improvements.

B. **Existing and Proposed Contours.** Existing and proposed contours at vertical intervals of not more than two (2) feet. Elevations shall be marked on such contours based on National Geodetic Vertical Datum of 1929 (mean sea level);

C. **Sanitary Sewer Plans and Profiles.** Sanitary sewer plans and profiles showing the locations, grades, sizes, elevations, and materials of required facilities.

D. **Storm Sewer Plans and Profiles.** Storm sewer plans and profiles showing the locations, grades, sizes, cross-sections, elevations, and materials of required facilities. Also, a storm water management plan shall be required as set forth in Section 15-8.0112 of this Ordinance.

E. **Water Main Plans and Profiles.** Water main plans and profiles showing the locations, sizes, elevations, and materials of required facilities.

F. **Gas, Electrical Power, Telephone, and Cable Television Plans.** Plans showing the location and size, where applicable, of all gas, electrical power, telephone, and cable television service.

G. **Erosion and Sedimentation Control Plans.** Erosion and sedimentation control plans that generally follow the guidelines and standards set forth in Division 15-8.0300 of this Ordinance, the publications *U.S.D.A. Conservation Technical Guide*, prepared by the U.S. Department of Agriculture, and the Storm Water Construction Technical Standards ~~*Wisconsin Construction Site Best Management Practices Handbook*~~ prepared by the Wisconsin Department of Natural Resources, ~~as amended,~~ as amended, showing:

1. Those structures required to retard the rate of runoff water and those grading and excavating practices that will prevent erosion and sedimentation;

2. The time span that soil will be exposed; and

3. Plans to protect existing vegetation (fences, tree wells, etc.).

4. A report on how the control will be handled--answering the questions: who, when, and how often?

H. **Protection Against Erosion, Siltation, Sedimentation, and Washing Required.** The Subdivider shall cause all grading, excavations, open cuts, side slopes, and other land surface disturbances to be so mulched, seeded, sodded, or otherwise protected that erosion, siltation, sedimentation, and washing are prevented, in accordance with the plans and specifications, including the City's *"Standards and Specifications for Development,"* approved by the City and Division 15-8.0300 of this Ordinance. In addition:

1. Sod shall be laid in strips at those intervals necessary to prevent erosion and at right angles to the direction of drainage.

2. Temporary vegetation and mulching shall be used to protect critical areas, and permanent vegetation shall be installed as soon as practical.

3. Construction at any given time shall be confined to the smallest practical area and for the shortest practical period of time.

4. Sediment basins shall be installed and maintained at all drainageways to trap, remove, and prevent sediment and debris from being washed outside the area being developed.

5. All erosion control procedures must be carried out in conformance with Division 15-8.0300 of this Ordinance.

I. **Landscape and Planting Plans.** Landscape and planting plans (see Division 15-7.0300 of this Ordinance) showing the locations, age, caliper, and species of any required grasses, vines, shrubs, and trees.

J. **Record "As-Built" Plans.** After completion of all public improvements and prior to final acceptance of said improvements, the Subdivider or Condominium Developer shall make or cause to be made three (3) complete sets of record "as-built" plans for each of the plans required as set forth in this Section of this Ordinance and showing the actual location of all improvements made as the required by the City Engineer. These plans shall be prepared as specified by the City Engineer and shall bear the signature and seal of a professional engineer registered in Wisconsin. The presentation of the record "as built" plans shall be a condition of final acceptance of the improvements and release of the financial surety assuring their completion. These plans shall be submitted to the City Engineer for permanent filing in the Engineering Department at the City of Franklin Municipal Building. Completed storm water management practices must pass a final inspection by the City of Franklin or its designee to determine if they are in accordance with the approved storm water management plan and ordinance. The City of Franklin or its designee shall notify the responsible party in writing of any changes required in such practices to bring them into compliance with the conditions of this permit.

K. **Additional Plans.** Additional special plans or information as required by City Engineer.

SECTION 15-8.0204 EXISTING TREES AND FLORA

The Subdivider or Condominium Developer (as applicable) shall make every effort to protect and retain all existing trees, shrubbery, vines, and grasses not actually lying in public roadways, drainageways, building foundation sites, private driveways, soil absorption waste disposal areas, paths, and trails. Such trees are to be protected and preserved during construction in accordance with sound conservation practices, including the preservation of trees by well islands or retaining walls whenever abutting grades are altered. Towards that end, the following minimum procedures shall be followed during construction:

A. **Methodology for Tree Preservation to be Reviewed by Plan Commission.** The Subdivider's or Condominium Developer's (as applicable) proposed method for preserving trees shall be reviewed by the Plan Commission or its staff during the Preliminary Plat, Certified Survey Map, or Condominium approval phase of application to the City. If, in the opinion of the Plan Commission, the Subdivider or Condominium Developer (as applicable) has not taken the necessary precaution in preserving existing trees as required by this Ordinance, no Zoning Compliance Permit or Special Use Permit shall be issued, or plat approved, until such time as the Subdivider or Developer (as applicable), amends the plans for the preservation of such existing trees.

B. **Limitation on Encroachment of Grading and Construction Equipment.** All grading and construction equipment shall be forbidden from encroaching within the tree's drip line.

C. **Material Dumping Prohibited Within Tree Drip Line.** Materials detrimental to the tree shall not be dumped or placed within a tree's drip line or at any higher elevation than the base of the tree where drainage toward the tree could adversely affect the health of the tree. Said materials shall include, but not necessarily be limited to, excess soil, stone or rock, additional fill, equipment, liquids, or construction debris.

D. **Snow Fence Required.** During grading and construction, a snow fence shall be installed at the periphery of the tree's drip line.

E. **Attachments to Trees Prohibited.** No attachments or wires, other than those of a protective or nondamaging nature, shall be attached to any trees to be preserved during construction.

F. **Tree Destruction and Replacement.** In the event that a tree designated on the approved Preliminary Plat, Certified Survey Map, Condominium or "Natural Resources Protection Plan" for preservation should be destroyed or razed during the construction process, the Subdivider or Condominium Developer (as applicable) shall replace such tree of a species approved by the Plan Commission and having a diameter of not less than the tree so destroyed or razed. No one replacement, however, shall exceed six (6) inches in diameter as measured at twelve (12) inches above the ground level. However, several smaller diameter trees having a combined diameter equal to the tree razed or destroyed shall be planted for trees larger than six (6) inches at the ratios set forth in Table 15-8.0204. Said replacement tress shall be placed in the approximate location of the tree, or trees, so destroyed. Said replacement trees shall not be counted toward any mitigation measures which may be required of the Subdivider or Condominium Developer (as applicable) as specified elsewhere in this Ordinance.

Table 15-8.0204

MINIMUM TREE REPLACEMENT REQUIREMENTS

Size of Tree Destroyed or Razed (in DBH)	Replacement Tree Requirements	
	Number of Trees Required (in Caliper)	Minimum Size of Each Tree Required (in Caliper)
8 to 10 inches	1	3 inches
11 to 16 inches	2	3 inches
17 to 24 inches	3	3 inches
25 to 30 inches	4	3 inches
31 to 36 inches	5	3 inches
37 inches or greater	6	3 inches

SECTION 15-8.0205 REVIEW OF PLANS AND SPECIFICATIONS BY CITY ENGINEER

The City Engineer shall review or cause to be reviewed the plans and specifications for conformance with the requirements of this Ordinance and other pertinent City ordinances and design standards approved by the City Engineer. If the City Engineer rejects the plans and specifications, the City Engineer shall notify the Subdivider or Condominium Developer who shall cause the modification of

the plans or specifications or both accordingly. When the plans and specifications are corrected, the City Engineer shall approve the plans and specifications.

SECTION 15-8.0206 AUTHORIZATION AND INSPECTION

A. **Authorization to Start Construction.** Prior to starting the work covered by the approved plans and specifications, a pre-construction meeting shall be held with the City Engineer before work begins and written authorization to start said work shall be obtained from the City Engineer upon receipt of all necessary and required permits and in accordance with the construction methods prescribed by this Ordinance and Subdivision Development Agreement. Building Permits shall not be issued until all improvements required by this Ordinance and Subdivision Development Agreement are satisfactorily completed.

B. **Inspection.** The Subdivider or Condominium Developer , prior to commencing any work within the Subdivision, Certified Survey Map, or Condominium shall make arrangements with the City to provide for adequate inspection. The City Engineer and/or other City inspectors shall inspect or cause to be inspected and approved all completed work prior to approval of the Final Plat or release of the required financial sureties. During the course of construction, the City Engineer shall make such inspections as deemed necessary to ensure compliance with the approved plans and specifications. The Subdivider or Condominium Developer shall pay the costs incurred by the City for such inspections.

C. **Completion of the Construction of Required Improvements.** The construction of all improvements required by this Ordinance shall be completed within two (2) years from the date of the Common Council approval of the Preliminary Plat, Certified Survey Map, or Condominium.

SECTION 15-8.0207 FINANCIAL SURETIES REQUIRED

A. **Form of Financial Sureties.** Financial sureties furnished to the City Attorney by Subdividers or Condominium Developers (as applicable) to ensure performance of obligations and guarantees under the terms of this Ordinance shall only be in a form which the City deems secure, and may include certified checks, irrevocable letters of credit in a form approved by the City Attorney.

1. **Determination of Financial Surety Amount.** The amount of financial surety shall be one hundred ten (110) percent of the City Engineer's estimated full amount of the obligation being ensured (including the costs of inspection), nor for less a period than the work is scheduled to be completed, however, the City shall allow reductions in the amount of the financial surety in proportion to the amounts of the obligations as they are fulfilled.

2. **Disputes Over the Amount of Financial Sureties.** In a dispute over the amount of a surety, the estimate prepared by the City Engineer shall be given the greater weight.

B. **Criteria for Determining Subdivider's or Condominium Developer's Delinquency in Meeting Requirements.** The City Engineer shall give notice by registered mail to the Subdivider or Condominium Developer and the Subdivider's or Condominium Developer's

surety, of such delinquency, said notice to specify the corrective measures required if the Subdivider or Condominium Developer:

1. Fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the completion of said work within the specified time; or

2. Performs the work unsuitably, as determined by the City Engineer; or

3. Neglects or refuses to supply materials or to perform anew such work as shall be rejected as defective and unsuitable; or

4. Discontinues the execution of the work; or

5. For any other cause whatsoever does not carry on the work in an approved manner.

C. **Guarantee of Improvements.** The Subdivider or Condominium Developer shall guarantee all improvements for a period of one (1) year from the date of the acceptance of improvements by the City. To assure such improvement guarantee, the Subdivider or Condominium Developer shall provide an amount of financial surety (performance bond or letter of credit) not to exceed ten (10) percent of the construction value of said improvements.

D. **Common Council Action.** After said notice, the Common Council shall call upon the performance guarantee to have the work completed in accordance with the terms of the performance guarantee.

DIVISION 15-8.0300 CONSTRUCTION SITE EROSION

SECTION 15-8.0301 PURPOSE, INTENT, AND AUTHORITY

A. Purpose and Intent. The City of Franklin finds that runoff from construction sites carries a significant amount of sediment and other pollutants to the waters of the State and of the City of Franklin, including from sites where the only development activity is grading, filling, and/or excavating, independent of or prior to building construction. It is the purpose of this Division to help preserve the natural resources; to protect the quality of the waters of the State and of the City; and to protect and promote the health, safety and welfare of the people, to the extent practicable, by minimizing the amount of sediment and other pollutants carried by runoff or discharged from construction sites to lakes, streams, nature conservancy areas and wetlands, by minimizing the amount of airborne dust and by preventing the destruction of natural resources intended to be preserved by this ordinance, through the administration and enforcement of the permit, plan, control measure and maintenance requirements of this Division.

B. Authority.

1. This ordinance is adopted under the authority granted by §62.234, Stats. This ordinance supersedes all provisions of an ordinance previously enacted under §62.23, Stats., that relate to construction site erosion control. Except as otherwise specified in §62.234, Stats., §62.23, Stats., applies to this ordinance and to any amendments to this ordinance.

2. The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the City of Franklin Common Council.

3. The City of Franklin Common Council hereby designates the City Engineer or designee to administer and enforce the provisions of this ordinance.

4. The requirements of this ordinance do not preempt more stringent erosion and sediment control requirements that may be imposed by any of the following:

   a. Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under §§281.16 and 283.33, Stats.

   b. Targeted non–agricultural performance standards promulgated in rules by the Wisconsin Department of Natural Resources under s. NR 151.004, Wis. Adm. Code.

5. This Division is additionally intended to further the purposes of and is made pursuant to the authority granted under §§62.23(7), 62.234 and 236.45, Stats.

SECTION 15-8.0302 APPLICABILITY AND JURISDICTION

A. **Applicability.** This Section applies to the following sites of land disturbing construction activities, except as provided under Sub. B.:

1. **Construction site (1/4 or more acres; 25 or more cubic yards).** A construction site, which has one-quarter or more acres of land disturbing construction activity or upon which 25 or more cubic yards of dirt, sand, or other excavation or fill material is excavated or filled by the land disturbing construction activity.

2. **Subdivision Plats.** Those requiring a Subdivision Plat approval or the construction of residential or commercial, industrial or institutional buildings on lots of approved Subdivision Plats.

3. **Certified Survey Map.** Those requiring a Certified Survey Map approval or the construction of residential or commercial, industrial or institutional buildings on lots of an approved Certified Survey Map.

4. **Street, Highway, Road, or Bridge Construction, Enlargement, Relocation or Reconstruction.** Those involving street, highway, road, or bridge construction, enlargement, relocation or reconstruction.

5. **Laying, Repairing, Replacing or Enlarging of an Underground Pipe or Facility**. Those involving the laying, repairing, replacing or enlarging of an underground pipe or facility for a distance of three hundred (300) feet or more.

6. **Supporting or Adjoining Natural Resource Features.** Those, which are within 100 feet of any natural resource feature listed in Table 4.0100.

7. **Adverse Drainage Impacting.** Notwithstanding s~~S~~ubs. 1. through 6. above, this ordinance applies to construction sites of any size that, in the opinion of the City Engineer or designee, are likely to result in runoff that exceeds the safe capacity of the existing drainage facilities or receiving body of water, that causes undue channel erosion, that increases water pollution by scouring or the transportation particulate matter or that endangers property or public safety.

B. Non-applicability. This ordinance does not apply to the following:

1. Land disturbing construction activity that includes the construction of a building and is otherwise regulated by the Wisconsin Department of Commerce under s. Comm 21.125 or 50.115, Wis. Adm. Code.

2. A construction project that is exempted by federal statutes or regulations from the requirement to have a national pollutant discharge elimination system permit issued under chapter 40, Code of Federal Regulations, part 122, for land disturbing construction activity.

3. Nonpoint discharges from agricultural facilities and practices.

4. Nonpoint discharges from silviculture activities.

5. Routine maintenance for project sites under five~~5~~ acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

C. Jurisdiction. This Division of this Ordinance applies to land disturbing and land development activities on lands within the boundaries and jurisdiction of the City of Franklin and the public and private lands subject to extraterritorial review under Chapter 236 of the Wisconsin Statutes. This Division 15-8.0300 is not applicable to activities conducted by a state agency, as defined under s. 227.01 (1), Stats.., but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under s. 281.33 (2), Stats.

SECTION 15-8.0303 DEFINITIONS

A. "Administering authority" means the City of Franklin City Engineer or designee, under §62.234, Stats.., that is hereby designated by the Common Council to administer this ordinance.

B. "Agricultural facilities and practices " has the meaning in §281.16(1), Stats.

C. "Average annual rainfall" means a calendar year of precipitation, excluding snow, which is considered typical.

D. ""~~"~~Best management practice" or "BMP" means structural or non–structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

E. "Business day" means a day the office of the Franklin City Engineer or other office designated by the Common Council is routinely and customarily open for business.

F. "Cease and desist order" means a court–issued order to halt land disturbing construction activity that is being conducted without the required permit.

G. "Construction site" means an area upon which one or more land disturbing construction activities occur, including, but not limited to areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan.

H. "Division of land" means where the title or part thereof of land is transferred by the execution of a land contract, an option-to-purchase, an offer-to-purchase and acceptance, a deed, a Subdivision Plat, or a Certified Survey Map~~the creation, from one parcel, of five or more parcels or building sites of one and one-half or fewer acres each in area, where such creation occurs at one time or through the successive divisions within a 5-year period, or a minor division~~.

I. "Erosion" means the detachment and movement of soil, sediment or rock fragments by water, wind, ice, or gravity~~the process by which the land's surface is worn away by the action of wind, water, ice or gravity~~.

J. "Erosion and sediment control plan" means a comprehensive plan developed to address pollution caused by erosion and sedimentation of soil particles or rock fragments during construction.

K. "Extraterritorial" means the unincorporated area within three~~3~~ miles of the City of Franklin.

L. "Fill" means earth, clay, soil, ground, or any mixture or combination of the foregoing. Stones, rocks or broken concrete, not exceeding 18 inches in diameter, need not be removed from fill, if not constituting more than 5% of the individual load. At no time shall stones, rocks, or broken concrete be used in any degree of concentration as fill, except as aforesaid. No asphalt/bituminous products are allowed as fill material. Unusable topsoil from grubbing operation(s) cannot be used for fill.

M~~L~~. "Final stabilization" means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established, with a density of at least 70 percent of the cover, for the unpaved areas and areas not covered by permanent structures, or that employ equivalent permanent stabilization measures.

~~M. "Fill" means earth, clay, soil, ground or any mixture or combination of the foregoing. Stones, rocks or broken concrete, not exceeding 18 inches in diameter, need not be removed from fill, if not constituting more than 5% of the individual load. At no time shall stones, rocks or broken concrete be used in any degree of concentration as fill, except as aforesaid. No asphalt/bituminous products are allowed as fill material. Unusable topsoil from grubbing operation(s) cannot be used for fill.~~

N. "Governing body" means the City of Franklin Common Council, or as to any other governmental agency, the town board of supervisors, county board of supervisors, city council, village board of trustees or village council.

O. "Land disturbing construction activity" means any man–made alteration of the land surface resulting in a change in the topography or existing vegetative or non–vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling, and grading activities.

P. "Landowner" means any person holding fee title, an easement, or other interest in property, which allows the person to undertake cropping, livestock management, land disturbing construction activity, or maintenance of storm water BMPs on the property.

Q. "MEP" or "maximum extent practicable" means a level of implementing best management practices in order to achieve a performance standard specified in this Division, which takes into account the best available technology, cost--effectiveness, and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties, and geographic features. MEP allows flexibility in the way to meet the performance standards and may vary based on the performance standard and site conditions.

RQ. "Performance standard" means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

SR. "Permit" means a written authorization made by the City of Franklin to the applicant to conduct land disturbing construction activity or to discharge post–construction runoff to waters of the state.

TS. "Pollutant" has the meaning given in s. 283.01-(13), Stats.

UT. "Pollution" has the meaning given in s. 281.01-(10), Stats.

VU. "Responsible party" means any person or entity holding fee title to the property or performing services to meet the performance standards of this ordinance through a contract or other agreement.

WV. "Runoff" means storm water or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.

XW. "Sediment" means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

YX. "Separate storm sewer" means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:

1. Is designed or used for collecting water or conveying runoff.
2. Is not part of a combined sewer system.
3. Is not draining to a storm water treatment device or system.
4. Discharges directly or indirectly to waters of the state.

Z. "Silviculture activity" means activities including tree nursery operations, tree harvesting operations, reforestation, tree thinning, prescribed burning, and pest and fire control. Clearing and grubbing of an area of a construction site is not a silviculture activity.

AA~~Y~~. "Site" means the entire area included in the legal description of the land on which the land disturbing construction activity is proposed in the permit application.

BB~~Z~~. "Stop work order" means an order issued by the City of Franklin, which requires that all construction activity on the site be stopped.

CC~~AA~~. ""Technical standard" means a document that specifies design, predicted performance, and operation and maintenance specifications for a material, device, or method.

DD. "Transportation facility" means a highway, a railroad, a public mass transit facility, a public-use airport, a public trail, or any other public work for transportation purposes such as harbor improvements under s. 85.095(1)(b), Wis. Stats. "Transportation facility" does not include building sites for the construction of public buildings and buildings that are places of employment that are regulated by the Department pursuant to s. 281.33, Wis. Stats.

EE~~BB~~. "Waters of the state" has the meaning given in s. 281.01 (18), Wis. Stats.

SECTION 15-8.03035 APPLICABILITY OF MAXIMUM EXTENT PRACTICABLE

Maximum extent practicable applies when a person who is subject to a performance standard of this ordinance demonstrates to the City Engineer's satisfaction that a performance standard is not achievable and that a lower level of performance is appropriate. In making the assertion that a performance standard is not achievable and that a level of performance different from the performance standard is the maximum extent practicable, the responsible party shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of public safety and welfare, protection of endangered and threatened resources, and preservation of historic properties.

SECTION 15-8.0304 TECHNICAL STANDARDS

A. **DESIGN CRITERIA, STANDARDS, AND SPECIFICATIONS.** All BMPs required to comply with this ordinance shall meet the design criteria, standards, and specifications based on any of the following:

1. ~~Applicable design criteria, standards and specifications identified in the Wisconsin Construction Site Best Management Practice Handbook, WDNR Pub. WR 222 November 1993 Revision.~~

2. ~~Other~~ Ddesign guidance and technical standards identified or developed by the Wisconsin Department of Natural Resources under subchapter V of chapter NR 151, Wis. Adm. Code.

3. Soil loss prediction tools (such as the Universal Soil Loss Equation (USLE)) when using an appropriate rainfall or runoff factor (also referred to as the R factor) or an appropriate design storm and precipitation distribution, and when considering the geographic location of the site and the period of disturbance.~~For this ordinance, average annual basis is calculated using the appropriate annual rainfall or runoff factor, also referred to as the R factor, or an equivalent design storm using a type II distribution, with consideration given to the geographic location of the site and the period of disturbance. In this ordinance, the following year and location has been selected as average annual rainfall(s): Milwaukee, 1969 (Mar. 28-Dec. 6).~~

Note: The USLE and its successors RUSLE and RUSLE2, utilize an R factor which has been developed to estimate annual soil erosion, averaged over extended time periods. The R factor can be modified to estimate monthly and single-storm erosion.~~[Note to Users: The USLE and its successors RUSLE and RUSLE2, utilize an R factor which has been developed to estimate annual soil erosion, averaged over extended time periods. The R factor can be modified to estimate monthly and single storm erosion. A design storm can be statistically calculated to provide an equivalent R factor as an average annual calculation.]~~

B. **OTHER STANDARDS.** Other technical standards not identified or developed in Sub. A. immediately above, may be used provided that the methods have been approved by the City Engineer or designee.

SECTION 15-8.0305 PERFORMANCE STANDARDS~~.~~

A. **RESPONSIBLE PARTY.** The responsible party shall implement an erosion and sediment control plan, developed in accordance with Section 15-8.0307, that incorporates the requirements of this Section.

B. **PLAN.** A written plan shall be developed in accordance with Section 15-8.0307 and implemented for each construction site.

~~[~~Note ~~to Users~~: The written plan may be that specified within s. NR 216.46, the erosion control portion of a construction plan or other plan.~~]~~

C. **EROSION AND OTHER POLLUTANT CONTROL REQUIREMENTS.** The plan required under Sub. B. immediately above, shall include the following:

1. **For Construction Sites Under One Acre.** Erosion and sediment control practices at each site where land disturbing construction activity is to occur shall be used to prevent or reduce all of the following:

   a. The deposition of soil from being tracked onto streets by vehicles.

   b. The discharge of sediment from disturbed areas into on-site storm water inlets.

   c. The discharge of sediment from disturbed areas into adjacent waters of the state.

d. The discharge of sediment from drainage ways that flow off the site.

e. The discharge of sediment by dewatering activities.

f. The discharge of sediment eroding from soil stockpiles existing for more than seven days.

g. The transport by runoff into waters of the state of chemicals, cement, and other building compounds and materials on the construction site during the construction period. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this subdivision.

~~BMPs that, by design, achieve to the maximum extent practicable, a reduction of 80% of the sediment load carried in runoff, on an average annual basis, as compared with no sediment or erosion controls until the construction site has undergone final stabilization. No person shall be required to exceed an 80% sediment reduction to meet the requirements of this paragraph. Erosion and sediment control BMPs may be used alone or in combination to meet the requirements of this paragraph. Credit toward meeting the sediment reduction shall be given for limiting the duration or area, or both, of land disturbing construction activity, or other appropriate mechanism.~~
~~**[Note to Users**: *Soil loss prediction tools that estimate the sediment load leaving the construction site under varying land and management conditions, or methodology identified in such. V. of ch. NR 151, Wis. Adm. Code, may be used to calculate sediment reduction.]*~~

2. **For Construction Sites of One Acre or More:**

a. EROSION AND SEDIMENT CONTROL PRACTICES. Erosion and sediment control practices at each site where land disturbing construction activity is to occur shall be used to prevent or reduce all of the following:

i. The deposition of soil from being tracked onto streets by vehicles.

ii. The discharge of sediment from disturbed areas into on-site storm water inlets.

iii. The discharge of sediment from disturbed areas into adjacent waters of the state.

iv. The discharge of sediment from drainage ways that flow off the site.

v. The discharge of sediment by dewatering activities.

vi. The discharge of sediment eroding from soil stockpiles existing for more than seven days.

vii. The discharge of sediment from erosive flows at outlets and in downstream channels.

viii. The transport by runoff into waters of the state of chemicals, cement, and other building compounds and materials on the construction site during the

construction period. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this subdivision.

ix. The transport by runoff into waters of the state of untreated wash water from vehicle and wheel washing.

b. SEDIMENT PERFORMANCE STANDARDS. In addition to the erosion and sediment control practices under subd. a, the following erosion and sediment control practices shall be employed:

i. BMPs that, by design, discharge no more than five tons per acre per year, or to the maximum extent practicable, of the sediment load carried in runoff from initial grading to final stabilization.

ii. No person shall be required to employ more BMPs than are needed to meet a performance standard in order to comply with maximum extent practicable. Erosion and sediment control BMPs may be combined to meet the requirements of this paragraph. Credit may be given toward meeting the sediment performance standard of this paragraph for limiting the duration or area, or both, of land disturbing construction activity, or for other appropriate mechanisms.

iii. Notwithstanding subd. i, if BMPs cannot be designed and implemented to meet the sediment performance standard, the erosion and sediment control plan shall include a written, site-specific explanation of why the sediment performance standard cannot be met and how the sediment load will be reduced to the maximum extent practicable.

c. PREVENTIVE MEASURES. The erosion and sedimnet control plan shall incorporate all of the following:

i. Maintenance of existing vegetation, especially adjacent to surface waters whenever possible.

ii. Minimization of soil compaction and preservation of topsoil.

iii. Minimization of land disturbing construction activity on slopes of 20 percent or more.

iv. Development of spill prevention and response procedures.~~Notwithstanding Sub. 1. immediately above, if BMPs cannot be designed and implemented to reduce the sediment load by 80%, on an average annual basis, the plan shall include a written and site specific explanation as to why the 80% reduction goal is not attainable and the sediment load shall be reduced to the maximum extent practicable.~~

3~~3~~. ~~Where appropriate, the plan shall include sediment controls to do all of the following to the maximum extent practicable:~~

a. Prevent tracking of sediment from the construction site onto roads and other paved surfaces. Each site shall have graveled roads, access drives and parking areas of sufficient width and length to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (not flushing) before the end of each workday. The entrance for a permitted fill site is to be equipped with a gate to prevent after hours dumping.

b. Prevent the discharge of sediment as part of site dewatering. Water pumped from the site shall be treated by temporary sedimentation basins, grit chambers, sand filters, upflow chambers, hydro-cyclones, swirl concentrators, or other appropriate controls designed and used to remove particles of one hundred (100) microns or greater for the highest dewatering pumping rate. If the water is demonstrated to have no particles greater than one hundred (100) microns during dewatering operations, then no control is needed before discharge, except as determined by the City Engineer or his authorized representative. Water may not be discharged in a manner that causes erosion of the site or receiving channels.

c. Protect the separate storm drain inlet structure from receiving sediment. All storm drain inlets shall be protected with a straw bale, filter fabric, or equivalent barrier meeting City Engineer accepted design criteria, standards and specifications. What ever method is used must be maintained to prevent flooding on streets.

4. **Waste and Material Disposal.** All waste and unused building materials (including garbage, debris, cleaning wastes, wastewater, toxic materials, or hazardous materials) shall be properly disposed and not allowed to be carried by runoff into a receiving channel or storm sewer system. The use, storage and disposal of chemicals, cement and other compounds and materials used on the construction site shall be managed during the construction period, to prevent their entrance into waters of the state. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this paragraph.

5. The following criteria set forth in Subs. a. through d., below, apply only to land development or land disturbing activities that result in runoff leaving the site.

a. Channelized runoff from adjacent areas passing through the site shall be diverted around disturbed areas, if practical. Otherwise, the channel shall be protected as described in this Division. Sheetflow runoff from adjacent areas greater than nine thousand (9,000) square feet in area shall also be diverted around disturbed areas, unless shown to have resultant runoff velocities of less than 0.5 ft/sec across the disturbed area for the set of one-year design storms. Diverted runoff shall be conveyed in a manner that will not erode the conveyance and receiving channels. U.S. Soil Conservation Service guidelines for allowable velocities in different types of channels shall be followed. These guidelines have been incorporated into the Wisconsin Administrative Code at Chapter NR 120.16, as amended.

b. All activities on the site shall be conducted pursuant to a construction site plan schedule sequence approved by the City Engineer or designee, to minimize the area of bare soil exposed at any one time.

c. Runoff from the entire disturbed area on the site shall be controlled by meeting either Subparagraphs (1), (2) and (4), or (1), (3) and (4) set forth below.

(1) All disturbed ground left inactive for seven (7) or more days shall be stabilized by seeding and mulching, or sodding (only available prior to October 15th), or by other equivalent control measure as approved by the City Engineer.

(2) For sites with more than ten (10) acres disturbed at one time, or if a channel originates in the disturbed area, one or more sedimentation basins shall be constructed. Each sedimentation basin shall have a surface area of at least 1.4 percent of the area draining to the basin and at least three (3) feet of depth and constructed in accordance with accepted design specifications. Sediment shall be removed to maintain a depth of three (3) feet. The basin shall be designed to trap sediment greater than fifteen (15) microns in size, based on the set of 1-year design storms having durations from one-half (0.5) to twenty-four (24) hours. The basin discharge rate shall also be sufficiently low as to not cause erosion along the discharge channel or the receiving water.

(3) For sites with less than ten (10) acres disturbed at one time, filter fences, straw bales, or equivalent control measures shall be placed along all side slope and down slope sides of the site. If a channel or area of concentrated runoff passes through the site, filter fences shall be placed along the channel edges to reduce sediment reaching the channel.

(4) For all sites containing disturbed soils, constructed swales shall be protected by filter fence checks placed perpendicular to the flow of the swale and at a distance of not more than one hundred (100) feet apart. The last downstream check fence shall be placed within five (5) feet of the entrance to an existing drainage channel, swale or public right-of-way.

d. Any soil or dirt storage piles containing more than ten cubic yards of material should not be located with a down slope drainage length of less than twenty-five (25) feet to a roadway or drainage channel. If remaining for more than seven (7) days, mulching, vegetative cover, tarps or other means shall stabilize them. Placing straw bales or filter fence barriers around the pile shall control erosion from piles, which will be in existence for less than seven (7) days. In-street utility repair or construction soil or dirt storage piles located closer than twenty-five (25) feet of a roadway or drainage channel must be covered with tarps or suitable alternative control, if exposed for more than seven (7) days, and the storm drain inlets must be protected with insert baskets and straw bales or other appropriate filtering barriers as approved by the City Engineer or his authorized representative.

6. **Dust Control Areas.** Areas disturbed by destruction of vegetative cover shall be subject to dust control by applicable environmental regulation. Bare soils prone to air erosion during windy periods shall be settled down to prevent air pollution. Unpaved streets, haul roads, or adjacent paved streets shall be given a dust-preventative treatment or swept and/or watered as required to prevent airborne dust. Power booms unassisted by water injection or vacuum will not be allowed.

7. **Street Right-of-Way.** No excavated material shall be placed or stored on the pavement or curb lawn area within the street right-of-way. No grading or excavation shall be allowed within the street right-of-way without a special permit issued by the City

~~Engineer or his authorized representative. Soils that have eroded onto or have been tracked onto the street right-of-way from a site will be removed under the direction of the City Engineer, and the cost of said removal shall be charged to the landowner or land user.~~

~~8. **Erosion of Placed Materials.** No soil, sediment, rock or other material existing as a result of any land developing or land disturbing activity shall be allowed to erode onto or be placed upon any private property adjacent to the site without the prior written consent of the adjoining landowner and then, only after that adjoining landowner obtains the necessary permit(s).~~

~~9.~~ **Natural Resource Protection Standards.** All natural resource features shall be preserved and protected at all times, pursuant to the requirements of Part 4 of this Unified Development Ordinance, which is specifically applied to land disturbance, whether such land disturbance is independent of, prior to, or associated with any other development, including, but not limited to, those setting forth any buffer or setback requirements. Every application for a Construction Site Erosion Control Permit shall contain a statement that the proposed land disturbance area is not within 100 feet of a natural resource feature, if true, which shall be confirmed by the City Engineer or designee by inspection. Every application for such permit for a land disturbance within 100 feet of a natural resource feature shall include the submission by the applicant of a Natural Resource Protection Plan pursuant to Division 15-7.0200 of this Unified Development Ordinance or such permit shall not be granted. All defined Protected Natural Resources will be protected with a double row of silt fence and a single line of four-foot~~4'~~ orange construction fence.

D. **LOCATION.** The BMPs used to comply with this section shall be located prior to runoff entering waters of the state.

~~[~~Note ~~to Users~~: While regional treatment facilities are appropriate for control of post–construction pollutants, they should not be used for construction site sediment removal.~~]~~

E. **IMPLEMENTATION.** The BMPs used to comply with this section shall be implemented as follows:

1. Erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin.

2. Erosion and sediment control practices shall be maintained until final stabilization.

3. Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.

4. Temporary stabilization activity shall commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.

5. BMPs that are no longer necessary for erosion and sediment control shall be removed by the responsible party.

FE. **ALTERNATE REQUIREMENTS.** The City of Franklin may establish storm water management requirements more stringent than those set forth in this Section if the City Engineer or designee determines that an added level of protection is needed for sensitive resources.

SECTION 15-8.0306 CONSTRUCTION SITE EROSION CONTROL PERMIT REQUIRED AND APPLICATION

A. **PERMIT REQUIRED.** No responsible party, landowner, occupant, land user, person, or entity may commence, continue, and no responsible party, landowner, or occupant may suffer or allow to continue, a land disturbing construction activity subject to this Division, without receiving prior approval of a control plan for the site and a Construction Site Erosion Control Permit, from the City Engineer or designee, excepting when the disturbance or activity is made under a single family home building permit or other development approval which provides the control measures required under this Division, i.e.., Subdivision Development Agreement, Special Use Resolution, and the like. Any person or entity desiring to undertake a land disturbing construction activity subject to this Division shall obtain the submission of an application for a Construction Site Erosion Control Permit, together with a control plan, and pay an application fee. Notwithstanding the foregoing, land disturbing activities may be permitted under a Construction Site Erosion Control Permit without the prior approval of a control plan, for an Adverse Drainage Impacting land disturbing construction activity for which an erosion and sediment contol plan statement is required in lieu thereof, under Section 15-8.0307B. of this Division, and for a Class 1 (as described below) application; in lieu of a control plan, a Class 1 applicant may submit a plat of survey depicting the area and describing any volume of and the nature of the land disturbing construction activity, and the restoration to be performed, if any, together with such other information as reasonably required by the City Engineer or designee to further the purposes and intent of this Division.

A. ~~(~~*Note: The application fee shall be included in the fee for building permits and other applicable development approvals, where constituting the exception set forth above.*~~)~~

B. **PERMIT APPLICATION AND FEES.** An application for a Construction Site Erosion Control Permit shall be signed by the owner of the land involved, as a responsible party, together with the person applying for the permit, if other than the owner, who shall also be a responsible party by reason of such application. The applicant shall also pay an application fee at the time of filing the application. There shall be three classes of applications for the setting of application fees and in part, for applying the control plan requirements. A Class 1 application is an application involving land disturbing construction activities upon a construction site of 1/4 acre up to 1/2 acre or supporting 25 cubic yards up to 100 cubic yards of fill or excavation activities, for which the application fee is $50.00. A Class 2 application is an application involving land disturbing construction activities upon a construction site of 1/2 acre up to two~~2~~ acres or supporting 100 cubic yards up to 500 cubic yards of fill or excavation activities, any land disturbing construction activity Supporting or Adjoining Natural Resource Features, and any Adverse Drainage Impacting land disturbing construction activity, for which the application fee is $100.00. A Class 3 application is an application involving land disturbing construction activities upon a construction site of two~~2~~ or more acres or supporting 500 or more cubic yards of fill or excavation activities, for which the application fee is $250.00, plus an additional $50.00 for each 500 cubic yards or portion thereof in addition to the base 500 cubic yards. The application shall accurately describe the construction site area and the type of land disturbing construction activity applied for, shall provide the tax key number(s) and available address(es) of property upon which the site is located, and the volume by cubic yards of any filling or

excavation activities. In all other respects, the application shall provide for and contain such information as may be reasonably required by the City Engineer or designee, to further the purpose and intent of this Division. An application fee for land disturbing construction activity commenced prior to the issuance of a permit and applicable approval of a control plan~~,~~ shall be doubled. By submitting an application, the applicant is authorizing the City Engineer or designee to enter the site to obtain information required for the review of the erosion and sediment control plan.

C. **REVIEW AND APPROVAL OF PERMIT APPLICATION.** The City Engineer or designee shall review any permit application that is submitted with an erosion and sediment control plan~~,~~ and the required fee. The following approval procedure shall be used:

1. Within 15 business days of the receipt of a complete permit application, as required by this Section 15-8.0306, the City Engineer or designee shall inform the applicant whether the application and plan are approved or disapproved based on the requirements of this ordinance.

2. If the permit application and plan are approved, the City Engineer or designee shall issue the permit.

3. If the permit application or plan is disapproved, the City Engineer or designee shall state in writing the reasons for disapproval.

4. The City Engineer or designee may request additional information from the applicant. If additional information is submitted, the City Engineer or designee shall have 15 business days from the date the additional information is received to inform the applicant that the plan is either approved or disapproved.

5. Failure by the City Engineer or designee to inform the permit applicant of a decision within 15 business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.

D. **SURETY BOND.** As a condition of approval and issuance of the permit, the City Engineer or designee may require the applicant to deposit a surety bond or irrevocable letter of credit to guarantee a good faith execution of the approved erosion control plan and any permit conditions.

E. **PERMIT REQUIREMENTS.** All permits shall require the responsible party to:

1. Notify the City Engineer or designee within ~~forty-eight (~~48~~)~~ hours of commencing any land disturbing activity.

2. Notify the City Engineer or designee of the completion of installation of any control measures within three ~~(3)~~ days after their installation.

3. Obtain permission in writing from the City Engineer or designee prior to modifying the control plan.

4. Install all control measures as identified in the approved control plan.

5. Maintain all road drainage systems, storm water drainage systems, control measures, and other facilities identified in the control plan and document repairs in a site erosion control log.

6. Repair any siltation or erosion damage to adjoining surfaces and drainage ways resulting from land developing or disturbing activities and document repairs in a site erosion control log.

7. Inspect the construction control measures after each rain of 0.5 inches or more and at least once each week and make needed repairs and undertake such other or additional inspecting and activities as recommended in the Storm Water Construction Technical Standards prepared by the Wisconsin Department of Natural Resources~~Wisconsin Construction Site Best Management Practice Handbook, *WDNR Pub. WR-222* November 1993 Revision~~.

8. Conduct any filling activity so that at the end of each day the surface shall be graded to drain and be free from broken concrete and relatively free from gravel, and that the upper four ~~(4)~~ inches thereof shall be of soil suitable for growing grass. The surface of said filling shall be kept free from dust at all times during the filling activity and thereafter.

9. Allow the City Engineer and/or designee and/or City representatives to enter the site for the purpose of inspecting compliance with the control plan or for performing any work necessary to bring the site into compliance with the control plan.

10. Keep a copy of the control plan on the site~~, if facilities are available~~

F. **PERMIT CONDITIONS.** Permits issued under this Section may include conditions established by the City Engineer or designee, in addition to the requirements set forth in Sub. E. above, where reasonably necessary to assure compliance with the performance standards in Section 15-8.0305.

G. **PERMIT DURATION**. Permits shall be valid for a period of one ~~(1)~~ year unless otherwise shown on the permit, or the length of the building permit or other construction authorizations, whichever are longer, from the date of issuance. The City Engineer or designee may extend the period one or more times for up to an additional ~~one hundred and eighty (~~180~~)~~ days. The City Engineer or designee may require additional control measures as a condition of the extension if they are necessary to meet the requirements of this Division.

H. **MAINTENANCE.** All sedimentation basins and all other control measures required by this Division shall be maintained by the land owner, land occupant, and all persons and entities performing development activities upon or adjacent or near the property upon which the control measures are installed in a manner to ensure their intended performance and to prevent nuisance conditions, during the period of land disturbance and land development of the site, and thereafter for control measures intended to perform thereafter for an extended period of time or permanently.

SECTION 15-8.0307 EROSION AND SEDIMENT CONTROL PLAN, STATEMENT, ~~———~~AND AMENDMENTS~~.~~

A. **EROSION AND SEDIMENT CONTROL PLAN.**

1. An erosion and sediment control plan shall be prepared and submitted to the City Engineer or designee.

2. The erosion and sediment control plan shall be designed to meet the performance standards in Section~~ECTION~~ 15-8.0305 and other requirements of this ordinance.

3. The erosion and sediment control plan shall address pollution caused by soil erosion and sedimentation during construction and up to final stabilization of the site. The erosion and sediment control plan shall include, at a minimum, the following items:

   a. 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. The application shall also include start and end dates for construction.

   b. Description of the site and the nature of the construction activity, including representation of the limits of land disturbance on a United States Geological Service 7.5 minute series topographic map.

   c. A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.

   d. Estimates of the total area of the site and the total area of the site that is expected to be disturbed by construction activities.

   e. Estimates, including calculations, if any, of the runoff coefficient of the site before and after construction activities are completed.

   f. Calculations to show the expected percent reduction in the average annual sediment load carried in runoff as compared to no sediment or erosion controls.

   g. Existing data describing the surface soil as well as sub soils.

   h. Depth to groundwater, as indicated by Natural Resources Conservation Service soil information where available.

   i.

   ~~i.~~ Name of the immediate named receiving water from the United States Geological Service 7.5 minute series topographic maps.

   j. Calculations to show compliance with the performance standard in Section 15-8.0305.

4. The erosion and sediment control plan shall include a site map. The site map shall include the following items and shall be at a scale not greater than 100 feet per inch and at a contour interval not to exceed two feet.

   a. Existing topography, vegetative cover, natural and engineered drainage systems, roads and surface waters. Lakes, ponds, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site shall be shown. Any identified 100–year flood plains, flood fringes and floodways shall also be shown.

   b. Boundaries of the construction site.

   c. Drainage patterns and approximate slopes anticipated after major grading activities.

   d. Areas of soil disturbance.

   e. Locations and dimensions of all temporary soil or dirt stockpiles and areas where construction equipment will be stored on site.

   f. Location of major structural and non–structural controls identified in the plan.

   g~~f~~. Location of areas where stabilization practices will be employed.

   h~~g~~. Areas which will be vegetated following construction.

   i~~h~~. Areal extent of wetland acreage on the site and locations where storm water is discharged to a surface water or wetland.

   j~~i~~. Locations of all surface waters and wetlands within one mile of the construction site.

   ~~j~~k. An alphanumeric or equivalent grid overlying the entire construction site map.

5. Each erosion and sediment control plan shall include a description of appropriate controls and measures that will be performed at the site to prevent pollutants from reaching waters of the state. The plan shall clearly describe the appropriate control measures for each major activity and the timing during the construction process that the measures will be implemented. The description of erosion controls shall include, when appropriate, the following minimum requirements:

   a. Description of interim and permanent stabilization practices, including a practice implementation schedule. Site plans shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized.

   b. Description of structural practices to divert flow away from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from the site. Unless otherwise specifically approved in writing by the City Engineer or designee, structural measures shall be installed on upland soils.

c. Management of overland flow at all sites, unless otherwise controlled by outfall controls.

d. Trapping of sediment in channelized flow.

e. Staging construction to limit bare areas subject to erosion.

f. Protection of down slope drainage inlets where they occur.

g. Minimization of tracking at all sites.

h. Clean up of off–site sediment deposits.

i. Proper disposal of building and waste materials at all sites.

j. Stabilization of drainage ways.

k. Control of soil erosion from dirt stockpiles.

l. Installation of permanent stabilization practices as soon as possible after final grading.

m. Minimization of dust to the maximum extent practicable.

6. The erosion and sediment control plan shall require that velocity dissipation devices be placed at discharge locations and along the length of any outfall channel, as necessary, to provide a non–erosive flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

~~[~~Note ~~to Users~~: The plan requirements of this subsection will meet the erosion control plan requirements of s. NR 216.46, Wis. Adm. Code, when prepared in accordance with good engineering practices and the design criteria, standards, and specifications outlined in the the Storm Water Construction Technical Standards prepared by the Wisconsin Department of Natural Resources~~Wisconsin Construction Site Best Management Practice Handbook (WDNR Pub. WR 222 November 1993 Revision).~~]~~

B. **EROSION AND SEDIMENT CONTROL PLAN STATEMENT.** For each construction site identified under Section 15-8.0302(A)(~~.~~7)~~.~~, an erosion and sediment control plan statement shall be prepared. This statement shall be submitted to the City Engineer or designee. The control plan statement shall briefly describe the site, including a site map. Further, it shall also include the best management practices that will be used to meet the requirements of the ordinance, including the site development schedule.

C. **AMENDMENTS.** The applicant shall amend the plan if any of the following occur:

1. There is a change in design, construction, operation, or maintenance at the site which has the reasonable potential for the discharge of pollutants to waters of the state and which has not otherwise been addressed in the plan.

2. The actions required by the plan fail to reduce the impacts of pollutants carried by construction site runoff.

3. The City Engineer or designee notifies the applicant of changes needed in the plan.

SECTION 15-8.0308 FEE SCHEDULE

The fees referred to in other sections of this Division shall be established by the Governing Body and may from time to time be modified by resolution. A schedule of the fees established by the Governing Body shall be available for review in the office of the City Clerk.

SECTION 15-8.0309 INSPECTION AND ENFORCEMENT

A. **Inspection.** The City Engineer or~~and~~ designee and such City representatives as may be designated by the Common Council may inspect land disturbing construction activity sites as often as necessary to ensure compliance with the control plan. If land disturbing or land development activities are being carried out without a permit, the City Engineer or designee shall enter the land by permission of the landowner or pursuant to the provisions of §66.0119, Stats.~~.~~, as amended.

B. **Enforcement.** Enforcement of this Division shall be accomplished as follows:

1. The City Engineer or designee~~his authorized representative~~ may post a stop-work order on all building, construction, land disturbing, or land development activities if:

   a. Any land disturbing activity regulated under this Division is being undertaken without a permit; or

   b. The control plan is not being implemented in a good faith manner; or

   c. The conditions of the permit are not being met.

2. If the responsible party or any other person or entity performing or suffering the activity does not cease the activity or comply with the control plan or permit conditions forthwith, the City Engineer or designee may revoke the permit.

3. If the landowner or land user or any other person or entity performing or suffering the activity, where no permit has been issued, does not cease the activity forthwith, the City Engineer or designee may request the City Attorney to obtain a cease and desist order.

4. In addition to the foregoing provisions of this Subsection, this Division may be enforced by way of injunction, the imposition of forfeitures and other available relief pursuant to Division 9.0500 of this Ordinance and the undertaking by the City to cure any defects or complete any plans or measures, with the costs thereof to be assessed against the property owner and entered upon the tax roll pursuant to the procedures for a special charge under §66.0627, Stats. It shall not be necessary to prosecute for forfeiture or a cease and desist order before resorting to injunctional proceedings. Any violation of this Division is hereby declared to be a public nuisance.

5. In addition to the foregoing provisions of this Subsection, any person violating any of the provisions of this ordinance shall be subject to the penalty provisions set forth under §15-9.0502 of the Unified Development Ordinance.

SECTION 15-8.0310 APPEALS

A. **BOARD OF ZONING AND BUILDING APPEALS.** The Board of Zoning and Building Appeals:

1. Shall hear and decide appeals where it is alleged that there is error in any order, decision, or determination made by the City Engineer or designee in administering this ordinance except for cease and desist orders obtained.

2. Upon appeal, may authorize variances from the provisions of this ordinance which are not contrary to the public interest and where owing to special conditions a literal enforcement of the provisions of the ordinance will result in unnecessary hardship; and

3. Shall use the rules, procedures, duties, and powers authorized by statute in hearing and deciding appeals and authorizing variances.

B. **WHO MAY APPEAL.** Appeals to the Board of Zoning and Building Appeals may be taken by any aggrieved person or by any office, department, board, or bureau of the City of Franklin affected by any decision of the City Engineer or designee.

DIVISION 15-8.0600 STORM WATER MANAGEMENT

SECTION 15-8.0601 AUTHORITY

~~(1)~~A. This ordinance is adopted by the Common Council under the authority granted by s. 62.234 Wis. Stats. This ordinance supersedes all provisions of an ordinance previously enacted under s. 62.23 Wis. Stat~~s.s.~~, that relate to storm water management regulations.

SECTION 15-8.0602 FINDINGS OF FACT

The Common Council finds that uncontrolled, runoff has a significant impact upon water resources and the health, safety, and general welfare of the community and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled post-construction runoff can:

(1) Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows, and increasing stream temperature;

(2) Diminish the capacity of lakes and streams to support fish, aquatic life, recreational and water supply uses by increasing pollutant loading of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens, and other urban pollutants;

(3) Alter wetland communities by changing wetland hydrology and by increasing pollutant loads;

(4) Reduce the quality of groundwater by increasing pollutant loading;

(5) Threaten public health, safety, property, and general welfare by overtaxing storm sewers, drainage ways, and other drainage facilities;

(6) Threaten public health, safety, property, and general welfare by increasing major flood peaks and volumes;

(7) Undermine floodplain management efforts by increasing the incidence and levels of flooding; and

(8) Aggravate excessive infiltration and inflow of water into sanitary sewer connections during peak storm events causing the conveyance system to surcharge, overflow, or backup into basements.

SECTION 15-8.0603 PURPOSE

It is the purpose of this Division to establish long-term, post-construction runoff management requirements that will diminish the threats to public health, safety, welfare, and the aquatic environment by ~~This chapter~~ integrating local, state, and federal storm water ~~es federal and state construction site storm water qq~~uantity and quality standards ~~with duties to reasonably manage the quantity of water run-off for regional flood abatement~~. This Division~~chapter~~ implements the Milwaukee Metropolitan Sewerage District (MMSD) rules on release rates for development creating more than a de minimis amount of new impervious surface~~,~~ to reduce the probability of increased regional floods as the metropolitan area approaches full build-out forecast for 2050. It also incorporates Wisconsin Department of Natural Resources quantity and quality requirements as found in NR 151, Wis. Adm. Code.

SECTION 15-8.0604 STORM WATER QUALITY AND QUANTITY MANAGEMENT APPLICABILITY

(1) The water quality management duties apply to property development disturbing ~~5 or more acres or property development disturbing~~ one or more acres ~~after March 10, 2003,~~ and the water quantity management duties apply to development disturbing one or more acres or ~~that~~ increasinges impervious surface by one-half acre or more, unless the site is exempt under paragraph (2) or (3).

Note: The ~~5 and~~ one~~1~~ acre land disturbance threshold~~s~~ is ~~are~~consistent with ~~the~~ state and federal laws regarding applicability of construction site erosion control permits. The half-acre or more of new impervious surface is the MMSD criteria.

(2) A site meeting any one of the following criteria is exempt from s~~S~~torm w~~W~~ater quality requirements:~~.~~

a. A redevelopment post-construction site with no increase in exposed parking lots or roads.

b. A post-construction site with less than 10% connected imperviousness based on complete development of the post-construction site, provided the cumulative area of all parking lots and rooftops is less than one acre.

c. Nonpoint discharges from agricultural facilities and practices.

d. Nonpoint discharges from silviculture activities.

e. Routine maintenance for project sites under five~~5~~ acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

f. Underground utility construction such as water, sewer, and fiberoptic lines. This exemption does not apply to the construction of any above-ground structures associated with utility construction.

(3) Water quantity management duties do not apply for~~if~~:

a. Residential infill~~x~~ where the lot is five acres or less, the development is exclusively residential, the net increase in the area of impervious surface is less than 10% of the area of the site,~~;~~ and each boundary of the site is contiguous to: sites that contain earlier development served by sanitary sewers, streets, or public water supply when the governmental unit receives the plans for the new development or parkland; or other public land, a utility right-of-way, or a watercourse; or,

b. Sites where the area of impervious surface after development will be 5% or less of the total area of the site;

c. Recreational trails if the trail is less than or equal to 10 feet in width and has a continuous pervious buffer at least 5 feet wide on each side, disregarding interruption by streets, driveways, or other impervious surfaces crossing the trail. [; or]

d. Notwithstanding the applicability requirements in paragraph (1) ~~(a)~~, this ordinance applies to post-construction sites of any size that, in the opinion of the City Engineer or designee, is likely to result in runoff that exceeds the capacity of the existing drainage facilities or the level of flooding protection in a watercourse that causes undue channel erosion, that increases water pollution by scouring or the transportation of particulate matter, or that endangers property or public safety.

(4) Comity. State agencies should design and incorporate best management practices for surface water quality and s~~S~~torm w~~W~~ater quantity management for new impervious surfaces. The runoff management techniques should be the same as flood abatement plans and techniques utilized by local governments in the watershed. The lead agency preparing an environmental assessment for a federal or state project should identify the mitigating runoff management techniques to prevent increases in peak flood flows from new impervious areas.

Note: See Trans 400 (Environmental Assessment) and Trans 401 (2003 revisions to conform with NR 151 standards). Wisconsin Department of Transportation (WisDOT) and Wis. DNR have a jurisdictional memorandum of understanding per §281.33 (2), Wis. Stats., limited to management of pollutants in sStorm wWater. Trans 401 is narrowly tailed to BMPs for pollution abatement and design criteria for transportation projects. Neither DNR nor DOT rules address post--construction peak runoff and flooding in fully urbanized areas, but each agency's environmental assessment should consider the impacts of new impervious surfaces and the technical and economically feasible alternatives to mitigate the adverse impacts. More stringent local sStorm wWater management requirements for peak runoff do not conflict with the state policy on controlling pollutants discharged from sStorm wWater point sources. The state rules address different adverse impacts of sStorm wWater runoff based on different probabilities and storm intensity. Finally, Trans 401 allows a de minimis exemption from water quality BMPs for highway improvements of less than 1.5 miles and widening of a roadbed by less than 100 feet. Chapter 13 of MMSD Rules and this local ordinance do not treat impervious highways any different than other impervious surfaces. The same threshold of one-half acre or more of new impervious surface for purposes of water quantity BMPs applies.

SECTION 15-8.0605 DEFINITIONS

(1) "Adequate sod, or self-sustaining vegetative cover" means maintenance of sufficient vegetation types and densities such that the physical integrity of the streambank or lakeshore is preserved. Self-sustaining vegetative cover includes grasses, forbs, sedges and duff layers of fallen leaves and woody debris.

~~(1)~~(2) "Administering authority" means a governmental employee under s. 62.234, Wis. Stats., designated by the Common Council to administer this ordinance.

~~(2)~~(3) "Agricultural facilities and practices " has the meaning given in s. 281.16, Wis. Stats.

(4) "Atlas 14" means the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 (Midwestern States), published in 2013.

~~(3)~~(5) "Average annual rainfall" means a calendar year of precipitation, excluding snow, which is considered typical.

~~(4)~~(6) "Best management practice" or "BMP" means structural or non-structural measures, practices, techniques or devices employed to**:**

a. Avoid or minimize sediment or pollutants carried in runoff to waters of the state or

b. Manage the rate or volume of runoff.

~~(5)~~(7) "Business day" means a day the office of the City Engineer is routinely and customarily open for business.

~~(6)~~(8) "Cease and desist order" means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit.

~~(7)~~(9) "Combined sewer system~~,~~" means a system for conveying both sanitary sewage and storm water runoff.

~~(8)~~(10) "Connected imperviousness~~,~~" means an impervious surface that is directly connected to a separate storm sewer or water of the state via an impervious flow path.

~~(9)~~(11) "Critical time" means the period starting at the time of peak rainfall intensity with a duration equal to the time of concentration of the watershed.

~~(10)~~(12) "Design storm" means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency, and total depth of rainfall.

(13) "Development" means residential, commercial, industrial, or institutional land uses and associated roads.

(14) "Direct conduits to groundwater" means wells, sinkholes, swallets, fractured bedrock at the surface, mine shafts, non-metallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured bedrock.

~~(11)~~(15) "Division of land" means where the title or part thereof of land is transferred by the execution of a land contract, an option-to-purchase, an offer-to-purchase and acceptance, a deed, a Subdivision Plat, or a Certified Survey Map~~the creation from one parcel of [one and one-half (1.5) number] or more parcels or building sites of one and one-half (1.5) or fewer acres each in area where such creation occurs at one time or through the successive partition within a 5 year period~~.

~~(12)~~(16) "Effective infiltration area" means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms, or pretreatment.

(17) "Erosion" means the detachment and movement of soil, sediment or rock fragments by water, wind, ice, or gravity.

~~(13)~~(18) "Exceptional resource waters" means waters listed in s. NR 102.11, Wis. Adm. Code.

(19) "Filtering layer" means soil that has at least a three-foot deep layer with at least 20 percent fines; or at least a five-foot deep layer with at least 10 percent fines; or an engineered soil with an equivalent level of protection as determined by the regulatory authority for the site.

~~(14)~~(20) "Final stabilization" means that all land disturbing construction activities at the construction site have been completed and that a uniform, perennial, vegetative cover has been established, with a density of at least 70% of the cover, for the unpaved areas and areas not covered by permanent structures, or employment of equivalent permanent stabilization measures.

~~(15)~~(21) "Financial guarantee" means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the City Attorney by the responsible party to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.

~~(16)~~(22) "Governing body" means Common Council.

(23) "Impervious surface" means an area that releases as runoff all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, gravel or paved parking lots and streets are examples of areas that typically are impervious.

~~(17)~~(24) "In-fill area" means an undeveloped area of land located within existing development.

~~(18)~~(25) "Infiltration" means the entry of precipitation or runoff into or through the soil.

~~(19)~~(26) "Infiltration system" means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices, such as swales or road side channels designed for conveyance and pollutant removal only.

~~(20)~~(27) "Karst feature" means an area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps, or swallets.

~~(21)~~(28) "Land disturbing construction activity" means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling, and grading activities.

(29) "Landowner" means any person holding fee title, an easement, or other interest in property, which allows the person to undertake cropping, livestock management, land disturbing construction activity, or maintenance of storm water BMPs on the property.

~~(22)~~(30) "Maintenance agreement" means a legal document that provides for long-term maintenance of storm water management practices.

~~(23)~~(31) "MEP" or "maximum extent practicable" means a level of implementing best management practices in order to achieve a performance standard specified in this ordinance which takes into account the best available technology, cost effectiveness, and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties, and geographic features. MEP allows flexibility in the way to meet the performance standards and may vary based on the performance standard and site conditions.

(32) "New development" means development resulting from the conversion of previously undeveloped land or agricultural land uses.

~~(24)~~(33) "NRCS MSE3 or MSE4 distribution" means a specific precipitation distribution developed by the United States Department of Agriculture, Natural Resources Conservation Service, using precipitation data from Atlas 14.

~~(25)~~(34) "Off-site" means located outside the property boundary described in the permit application.

~~(26)~~(35) "On-site" means located within the property boundary described in the permit application.

(36) "Ordinary high-water mark" has the meaning given in s. NR 115.03(6), Wis. Adm. Code.

~~(27)~~(37) "Outstanding resource waters" means waters listed in s. NR 102.10, Wis. Adm. Code.

~~(28)~~(38) "Percent fines~~,~~" means the percentage of a given sample of soil~~,~~ which passes through a ## 200 sieve.

Note: Percent fines can be determined using the "American Society for Testing and Materials," ~~,~~ volume 04.02, "Test Method C117-95 Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Material Aggregates by Washing." ~~:~~ Copies can be obtained by contacting the American society for testing and materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959, or phone 610-832-9585, or on line at: http://www.astm.org.

(39) "Performance standard" means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

~~(29)~~(40) "Permit~~,~~" means a written authorization made by the City Engineer to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.

~~(30)~~(41) "Permit administration fee~~,~~" means a sum of money paid to the City Engineer by the permit applicant for the purpose of recouping the expenses incurred by the authority in administering the permit.

~~(31)~~(42) "Pervious surface" means an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests or other similar vegetated areas are examples of surfaces that typically are pervious.

~~(32)~~(43) "Pollutant" has the meaning given in s. 283.01(13), Wis. Stats.

~~(33)~~(44) "Pollution" has the meaning given in s. 281.01(10), Wis. Stats.

~~(34)~~(45) "Post-construction site" means a construction site following the completion of land disturbing construction activity and final site stabilization.

~~(35)~~(46) "Pre-development condition" means the extent and distribution of land cover types present before the initiation of land disturbing construction activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.

~~(36)~~(47) "Preventive action limit" has the meaning given in s. NR 140.05(17), Wis. Adm. Code.

~~(37)~~(48) "Protective area" means ~~s~~ an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface. This is the WDNR definition and is a change from the UDO.~~an area of land that is defined as shore buffers, wetland buffers and wetland setbacks.~~

~~(38)~~(49) "Recreational trail" means a path that is:

(a) distinctly set apart from a roadway, street, or sidewalk;

(b) designed for activities such as jogging, walking, hiking, bird-watching, bicycle riding, roller skating, or similar recreational activities not involving the use of motorized vehicles; and

(c) not a sidewalk according to sec. 340.01(58), Wis. Stats.

~~(39)~~(50) ~~"~~"Redevelopment " means new construction, modification, or replacement of older development.

~~(40)~~(51) "Responsible party" means any entity holding fee title to the property or other person contracted or obligated by other agreement to implement and maintain post-construction storm water BMPs.

~~(41)~~(52) "Separate storm sewer" means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels, or storm drains, which meets all of the following criteria:

(a) Is designed or used for collecting water or conveying runoff;

(b) Is not part of a combined sewer system;

(c) Is not draining to a storm water treatment device or system; and

(d) Discharges directly or indirectly to waters of the state.

~~(42)~~(53) "Shore Buffer" means: All of that land area located within ~~seventy-five (~~75~~)~~ feet landward of the ordinary high water mark of all ponds, streams, lakes, and navigable waters (as determined by the Wisconsin Department of Natural Resources) and parallel to that ordinary high water mark, which is to remain undisturbed as a Natural Resource Feature (including undisturbed natural vegetation). Shore buffers do not include any area of land adjacent to any stream enclosed within a drainage structure, such as a pipe or culvert. The area of shore buffers (in square feet and acres) shall be measured and graphically delineated on the "Natural Resource Protection Plan." A shore buffer is also a setback.

(54) "Silviculture activity" means activities including tree nursery operations, tree harvesting operations, reforestation, tree thinning, prescribed burning, and pest and fire control. Clearing and grubbing of an area of a construction site is not a silviculture activity.

(55) "Site" means the entire area included in the legal description of the land on which the land disturbing construction activity occurred.

~~(43)~~(56) "Stop work order" means an order issued by the City Engineer or Building Inspector~~,~~ which requires that all construction activity on the site~~,~~ be stopped.

~~(44)~~(57) "Storm water management plan" means a comprehensive plan designed to reduce the discharge of pollutants from storm water after the site has under gone final stabilization following completion of the construction activity.

~~(45)~~(58) "Storm water management system plan" is a comprehensive plan designed to reduce the discharge of runoff and pollutants from hydrologic units on a regional or municipal scale.

~~(46)~~(59) ~~"~~"Technical standard"~~"~~ means a document that specifies design, predicted performance, and operation and maintenance specifications for a material, device, or method.

~~(47)~~(60) "Time of concentration" means time required for a drop of water to travel from the most hydrologically remote point in the watershed to the point of collection~~the time period for the furthest runoff from the outlet of a watershed to contribute to flow at the watershed outlet~~.

~~(48)~~(61) "Top of the channel" means an edge, or point on the landscape, landward from the ordinary high water mark of a surface water of the state, where the slope of the land begins to be less than 12% continually for at least 50 feet. If the slope of the land is 12% or less continually for the initial 50 feet, landward from the ordinary high water mark, the top of the channel is the ordinary high water mark.

(62) "Total maximum daily load" or "TMDL" means the amount of pollutants specified as a function of one or more water quality parameters, that can be discharged per day into a water quality limited segment and still ensure attainment of the applicable water quality standard.

(63) "TP-40" means Technical Paper No. 40, Rainfall Frequency Atlas of the United States, published in 1961.

~~(49)~~(64) "TR-55" means the United States Department of Agriculture, Natural Resources Conservation Service (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986.

(65) "Transportation facility" means a highway, a railroad, a public mass transit facility, a public-use airport, a public trail, or any other public work for transportation purposes such as harbor improvements under s. 85.095(1)(b), Wis. Stats. "Transportation facility" does not include building sites for the construction of public buildings and buildings that are places of employment that are regulated by the Department pursuant to s. 281.33, Wis. Stats.

(66) "TSS" means total suspended solids.

(67) "Type II distribution" means a rainfall type curve as established in the "United States Department of Agriculture, Soil Conservation Service, Technical Paper 149," published 1973. The Type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.

~~(50) "Type II distribution" means a rainfall type curve as established in the "United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973". The Type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.~~

~~(51) "Waters of the state" has the meaning given in s. 281.01 (18), Wis. Stats.~~

~~(52)~~(68) "Water quality management" means the s~~S~~torm w~~W~~ater standards and duties established under the Clean Water Act, 33 U.S.C. 1251 et. seq., parallel state law regulating the discharge of pollutants, and implementing regulations.

~~(53)~~(69) "Water quantity management" means s~~S~~torm w~~W~~ater duties and practices to abate peaks flood flows during regional storm events pursuant to Chapter 13 of the Milwaukee Metropolitan Sewerage District rules as implemented and enforced by this municipality.

(70) "Waters of the state" has the meaning given in s. 283.01(20), Wis. Stats.

~~(54) "Wetland Buffer" means: All of that land area located within thirty (30) feet landward of a delineated wetland boundary and parallel to that delineated wetland boundary.~~

~~(55) "Wetland Setback" means: All of that landward land area defined by the minimum required horizontal setback distance of fifty (50) feet from a delineated wetland boundary, and a line parallel thereto. The wetland setback is inclusive of any required wetland buffer area. (Also see §15-4.0102J. of the Unified Development Ordinance.)~~

SECTION 15-8.06055 APPLICABILITY OF MAXIMUM EXTENT PRACTICABLE

Maximum extent practicable applies when a person who is subject to a performance standard of this ordinance demonstrates to the City Engineer's satisfaction that a performance standard is not achievable and that a lower level of performance is appropriate. In making the assertion that a performance standard is not achievable and that a level of performance different from the performance standard is the maximum extent practicable, the responsible party shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of public safety and welfare, protection of endangered and threatened resources, and preservation of historic properties.

SECTION 15-8.0606 TECHNICAL STANDARDS

The following methods shall be used in designing the water quality,~~;~~ peak flow shaving, and infiltration components of storm water practices needed to meet the requirements of this Ordinance:

(1) Technical standards identified, developed, or disseminated by the Wisconsin Department of Natural Resources under subchapter V of chapter NR 151, Wis. Adm. Code.

(2) Where technical standards have not been identified or developed by the Wisconsin Department of Natural Resources, other technical standards may be used provided that the methods have been approved by the City Engineer.

~~**(3) The most recent rainfall data available from the Southeastern Wisconsin Regional Planning Commission or more protective data shall be the basis for the analyses required by this Ordinance.**~~

SECTION 15-8.0607 PERFORMANCE STANDARDS

(1) RESPONSIBLE PARTY. The responsible party shall implement a post-construction storm water management plan that incorporates the requirements of this section.

(2) PLAN. A written storm water quality and quantity management plan in accordance with Section 15-8.0609 shall be developed and implemented for each post-construction site.

~~(2)~~(3) MAINTENANCE OF EFFORT. For redevelopment sites where the redevelopment will be replacing older development that was subject to post-construction performance standards of NR 151 in effect on or after October 1, 2004, the responsible party shall meet the total suspended solids reduction, peak flow control, infiltration, and protective areas standards applicable to the older development or meet the redevelopment standards of this ordinance, whichever is more stringent.

~~(3)~~(4) REQUIREMENTS. The water quality plan required under subd. ~~-~~(2) shall include the following:

(a) TOTAL SUSPENDED SOLIDS. BMPs shall be designed, installed, and maintained to control total suspended solids carried in runoff from the post-construction site as follows:

1. For new and in-fill developments, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on the average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed an 80% total suspended solids reduction to meet the requirements of this subdivision.

2. For redevelopment, by design, reduce to the maximum extent practicable, the total suspended solids load from parking areas and roads by 40%, based on the average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed a 40% total suspended solids reduction to meet the requirements of this subdivision.

~~3.~~ Maximum Extent Practicable. If the design cannot meet a total suspended solids reduction performance standard of subs. 1. to 2, the storm water management plan shall include a written, site-specific explanation of why the total suspended solids reduction performance standard cannot be met and why the total suspended solids load will be reduced only to the maximum extent practicable.~~For in-fill development under 5 acres that occurs within 10 years after the effective date of this rule [February 13, 2003], by design, reduce to the maximum extent practicable, the total suspended solids load by 40%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed a 40% total suspended solids reduction to meet the requirements of this subdivision.~~

~~4. For in-fill development that occurs 10 or more years after the effective date of this rule [February 13, 2003], by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed an 80% total suspended solids reduction to meet the requirements of this subdivision.~~

~~5.~~3. ~~Notwithstanding subds. 1. to 4., if the design cannot achieve the applicable total suspended solids reduction specified, the storm water management plan shall include a written and site-specific explanation why that level of reduction is not~~

~~attained and the total suspended solids load shall be reduced to the maximum extent practicable.~~

Note: Pollutant loading models such as DETPOND, WinSLAMM, P8, or equivalent methodology may be used to evaluate the efficiency of the design in reducing total suspended solids. Use the most recent version of the model and the rainfall files and other parameter files identified for Wisconsin users unless directed otherwise.

4. Off-Site Drainage. When designing BMPs, runoff draining to the BMP from offsite shall be taken into account in determining the treatment efficiency of the practice. Any impact on the efficiency shall be compensated for by increasing the size of the BMP accordingly.

(b) WATER QUANTITY AND MANAGEMENT OF PEAK RUNOFF

1. BMPs~~S~~ shall manage the volume, timing, and peak flow rate of runoff to prevent increases in the *regional flood* and stream bank erosion rates.

2. These BMPs may be implemented on either a watershed basis or an individual site basis.

3. When implemented on a watershed basis, the BMPs implemented at a particular site shall comply with the findings of the relevant local or regional storm water management plan, rather than sub~~s~~d. 6~~4~~ and 7~~5~~.

4. By design, BMPs shall be employed to maintain or reduce the 1-year, 24-hour post-construction peak runoff discharge rate to the 1-year, 24-hour pre-development peak runoff discharge rate, or to the maximum extent practicable.

5. By design, BMPs shall be employed to meet the stricter of the following for the 2-year, 24-hour storm:

   a. Maintain or reduce the 2-year, 24-hour post-construction peak runoff discharge rate to the 2-year, 24-hour pre-development peak runoff discharge rate, or to the maximum extent practicable (per Wisconsin Department of Natural Resources), or

   b. Achieve a maximum runoff release rate of 0.15 cubic feet per second per acre or utilize the volumetric design procedure to limit post-development runoff volumes to existing condition runoff volumes during the critical time period (per MMSD).

6. By design, BMPs shall be employed to maintain or reduce the 10-year, 24-hour post-construction peak runoff discharge rate to the 10-year, 24-hour pre-development peak runoff discharge rate, or to the maximum extent practicable.

7. By design, BMPs shall be employed to meet the stricter of the following for the 100-year, 24-hour storm:

a. Achieve a maximum runoff release rate of 0.5 cubic feet per second per acre or utilize the volumetric design procedure to limit post-development runoff volumes to existing condition runoff volumes during the critical time period (per MMSD), or

b. Maximum hydraulic capacity of existing downstream conveyance facilities as determined by the City, or

c. A rate determined for the individual site that distributes runoff over the critical time sufficient to comply with sub. 1 (per MMSD).

Note: §13.11(3)(b)(2), MMSD Rules, permits an individual site exemption from the 0.5 cfs release rate if an analysis shows that the runoff will be distributed over the critical time (a defined term) so as not to reduce the level of protection downstream.

8. The runoff curve numbers in Table 1 shall be used to represent the actual pre-development conditions. Peak discharges shall be calculated using TR-55 runoff curve number methodology, Atlas 14 precipitation depths, and the appropriate NRCS Wisconsin MSE3 or MSE4 precipitation distribution. On a case-by-case basis, the City Engineer may allow the use of TP-40 precipitation depths and the Type II distribution.

Note: The Natural Resources Conservation Service (NRCS) – Wisconsin has calculated county-specific Atlas 14 precipitation depths and they are to be used in combination with the appropriate NRCS MSE3 or MSE4 precipitation distribution. The NRCS calculated county-specific Atlas 14 precipitation depths and MSE3 and MSE4 precipitation distributions are available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/technical/engineering/?cid=nrcs142p2_025417. ~~(i) For the 50%/2-year, 24-hour design storm, BMPs shall be designed to achieve a maximum runoff release rate of 0.15 cubic feet per second per acre.~~

~~(ii) Pre-development conditions shall assume "good hydrologic conditions" for appropriate land covers as identified in TR-55 or an equivalent methodology. The meaning of "hydrologic soil group" and "runoff curve number" are as determined in TR-55. However, when pre-development land cover is cropland, rather than using TR-55 values for cropland, the runoff curve numbers in Table 1 shall be used.~~

Table 1. Maximum Pre-Development Runoff Curve Numbers

Runoff Curve Number	Hydrologic Soil Group			
	A	B	C	D
Woodland	30	55	70	77
Grassland	39	61	71	78
Cropland	55	69	78	83

Note: Where the pre-development condition is a combination of woodland, grassland, or cropland, the runoff curve number should be pro-rated by area.

9. All storm sewers shall at a minimum be designed to carry the peak flows from a 10-year, 24-hour design storm using planned land use for the entire contributing watershed. All storm sewers shall be designed in accordance with applicable City standards and specifications. The City Engineer may require conveyance of a larger recurrence interval storm for heavily traveled roadways and areas where the City Engineer determines that an added level of protection is needed.

10. This subsection of the ordinance does not apply to any of the following:

a. A post-construction site where the discharge is directly into a lake over 5,000 acres or a stream or river segment draining more than 500 square miles.

b. Except as provided under 15-8.0607(3), a redevelopment post-construction site.

c. An in-fill development area less than five acres.

~~Table 1 – Maximum Pre-Development Runoff Curve Numbers for Cropland Areas~~

~~Hydrologic Soil Group~~	~~A~~	~~B~~	~~C~~	~~D~~
~~Runoff Curve Number~~	~~56~~	~~70~~	~~79~~	~~83~~

~~5. For the 1%/100-year, 24-hour design storm, BMPs shall be designed to achieve a runoff release rate that is less than or equal to either:~~

~~(i) 0.5 cubic feet per second per acre, or~~

~~(ii) Pre-development peak runoff discharge computed for the 50%/2-year, 24-hour design storm, or~~

~~(iii) Maximum hydraulic capacity of existing downstream conveyance facilities as determined by the City, or~~

~~(iv) A rate determined for the individual site that distributes runoff over the critical time sufficient to comply with sub. 1.~~

~~*Note: §13.11(3)(b)(2), MMSD Rules, permits an individual site exemption from the 0.5 cfs release rate if an analysis shows that the runoff will be distributed over the critical time (a defined term) so as not to reduce the level of protection downstream.*~~

(c) INFILTRATION.

1. Best Management Practices. BMPs shall be designed, installed, and maintained to infiltrate runoff in accordance with the following or to the maximum extent practicable:

a. Low imperviousness. For development up to 40 percent connected imperviousness, such as parks, cemeteries, and low density residential development, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than one percent of the post-construction site is required as an effective infiltration area.

b. Moderate imperviousness. For development with more than 40 percent and up to 80 percent connected imperviousness, such as medium and high density residential, multi-family development, industrial and institutional development, and office parks, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 75 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the post-construction site is required as an effective infiltration area.

c. High imperviousness. For development with more than 80 percent connected imperviousness, such as commercial strip malls, shopping centers, and commercial downtowns, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the post-construction site is required as an effective infiltration area.

2. Pre-development. The pre-development condition shall be the same as specified in Table 1 of the Peak Discharge section of this ordinance.

3. Source Areas.

a. Prohibitions. Runoff from the following areas may not be infiltrated and may not qualify as contributing to meeting the requirements of this section unless demonstrated to meet the conditions identified in subd. 6:

i. Areas associated with a tier 1 industrial facility identified in s. NR 216.21(2)(a), including storage, loading, and parking. Rooftops may be infiltrated with the concurrence of the regulatory authority.

ii. Storage and loading areas of a tier 2 industrial facility identified in s. NR 216.21(2)(b).~~BMPs shall be designed, installed, and maintained to infiltrate runoff to the maximum extent practicable in accordance with the following, except as provided in subd. 5 through 8.~~

Note: Runoff from the employee and guest parking and rooftop areas of a tier 2 facility may be infiltrated but runoff from the parking area may require pretreatment.

iii. Fueling and vehicle maintenance areas. Runoff from rooftops of fueling and vehicle maintenance areas may be infiltrated with the concurrence of the regulatory authority.

b. Exemptions. Runoff from the following areas may be credited toward meeting the requirement when infiltrated, but the decision to infiltrate runoff from these source areas is optional:

i. Parking areas and access roads less than 5,000 square feet for commercial development.

ii. Parking areas and access roads less than 5,000 square feet for industrial development not subject to the Prohibitions under subd. a.

iii. Except as provided under 15-8.0607(3), redevelopment post-construction sites.

iv. In-fill development areas less than five acres.

v. Roads on commercial, industrial and institutional land uses, and arterial residential roads.

4. Location of Practices:

a. Prohibitions. Infiltration practices may not be located in the following areas:

i. Areas within 1,000 feet upgradient or within 100 feet downgradient of direct conduits to groundwater.

ii. Areas within 400 feet of a community water system well as specified in s. NR 811.16(4) or within the separation distances listed in s. NR 812.08 for any private well or non-community well for runoff infiltrated from commercial, including multi-family residential, industrial, and institutional land uses or regional devices for one- and two-family residential development.

iii. Areas where contaminants of concern, as defined in s. NR 720.03(2), are present in the soil through which infiltration will occur.

b. Separation distances:

i. Infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with Table 2:

Table 2. Separation Distances and Soil Characteristics

Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer
Residential Arterial Roads	5 feet or more	Filtering Layer
Roofs Draining to Subsurface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	Not Applicable
All Other Impervious Source Areas	3 feet or more	Filtering Layer

~~(c)~~

ii. Notwithstanding subd. i, applicable requirements for injection wells classified under ch. NR 815 shall be followed.

c. Infiltration rate exemptions. Infiltration practices located in the following areas may be credited toward meeting the requirements under the following conditions, but the decision to infiltrate under these conditions is optional:

i. Where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method.

ii. Where the least permeable soil horizon to five feet below the proposed bottom of the infiltration system using the U.S. Department of Agriculture method of soils analysis is one of the following: sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.

5. Alternate Use. Where alternate uses of runoff are employed, such as for toilet flushing, laundry, or irrigation or storage on green roofs where an equivalent portion of the runoff is captured permanently by rooftop vegetation, such alternate use shall be given equal credit toward the infiltration volume required by this section.

6. Groundwater Standards:

a. Infiltration systems designed in accordance with this section shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with ch. NR 140. However, if site specific information

indicates that compliance with a preventive action limit is not achievable, the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.

b. Notwithstanding subd. a., the discharge from BMPs shall remain below the enforcement standard at the point of standards application.

7. Pretreatment. Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial, and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with subd. 6. Pretreatment options may include, but are not limited to, oil and grease separation, sedimentation, biofiltration, filtration, swales, or filter strips.

8. Maximum Extent Practicable. Where the conditions of subs. 3. and 4. limit or restrict the use of infiltration practices, the performance standard of 15-8.0607(4)(c) shall be met to the maximum extent practicable.

~~1. For residential developments one of the following shall be met:~~

~~a. Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least at the level of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 1% of the project site is required as an effective infiltration area.~~

~~b. Infiltrate 25% of the post-development runoff from the 2-year - 24-hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes and not composite curve numbers as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than 1% of the project site is required as an effective infiltration area.~~

~~2. For non-residential development, including commercial, industrial and institutional development, one of the following shall be met:~~

~~a. Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60% of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.~~

~~b. Infiltrate 10% of the runoff from the 2-year - 24-hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes, and not composite curve numbers as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.~~

3. Pre-development condition shall be the same as in par. (b).

***Note**: A model that calculates runoff volume, such as SLAMM, P8, or an equivalent methodology may be used.*

4. Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with subd. 8. Pretreatment options may include, but are not limited to, oil/grease separation, sedimentation, biofiltration, filtration, swales or filter strips.

5. Infiltration Exclusions. The runoff from the following areas are prohibited from meeting the requirements of this paragraph:

a. Areas associated with tier 1 industrial facilities identified in s. NR 216.21(2)(a), Wis. Adm. Code, including storage, loading, rooftop and parking.

b. Storage and loading areas of tier 2 industrial facilities identified in s. NR 216.21(2)(b), Wis. Adm. Code.

***Note**: Runoff from tier 2 parking and rooftop areas may be infiltrated but may require pretreatment.*

c. Fueling and vehicle maintenance areas.

d. Areas within 1000 feet upgradient or within 100 feet downgradient of Karst features.

e. Areas with less than 3 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock, except this subd. 5.e. does not prohibit infiltration of roof runoff.

f. Areas with runoff from industrial, commercial and institutional parking lots and roads and residential arterial roads with less than 5 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.

g. Areas within 400 feet of a community water system well as specified in s. NR 811.16(4), Wis. Adm. Code, or within 100 feet of a private well as specified in s. NR 812.08(4), Wis. Adm. Code, for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.

h. Areas where contaminants of concern, as defined in s. NR 720.03(2), Wis. Adm. Code are present in the soil through which infiltration will occur.

i. Any area where the soil does not exhibit one of the following soil characteristics between the bottom of the infiltration system and the seasonal high groundwater and top of bedrock: at least a 3-foot soil layer with 20% fines or greater; or at least a 5-foot soil layer with 10 percent fines or greater. This does not apply where the soil medium within the infiltration system provides an equivalent level of protection. This subd. 5.i. does not prohibit infiltration of roof runoff.

Note: *The areas listed in subd. 5 are prohibited from infiltrating runoff due to the potential for groundwater contamination.*

6. Infiltration Exemptions. The following are not required to meet the requirements of this paragraph:

a. Areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the site.

b. Parking areas and access roads less than 5,000 square feet for commercial and industrial development.

c. Redevelopment post-construction sites.

d. In-fill development areas less than 5 acres.

e. Infiltration areas during periods when the soil on the site is frozen.

f. Roads in commercial, industrial and institutional land uses, and arterial residential roads.

7. a. Infiltration systems designed in accordance with this paragraph shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with Ch. NR 140, Wis. Adm. Code. However, if site-specific information indicates that compliance with a preventive action limit is not achievable, the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.

b. Notwithstanding par. a., the discharge from BMPs shall remain below the enforcement standard at the point of standards application.

(d) PROTECTIVE AREAS

1. This paragraph applies to post-construction sites located within a protective area, except those areas exempted pursuant to subd. 4.

2. Definition. In this section, "protective area" means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland

boundary to the closest impervious surface. However, in this section, "protective area" does not include any area of land adjacent to any stream enclosed within a pipe or culvert, so that runoff cannot enter the enclosure at this location.

a. For outstanding resource waters and exceptional resource waters, 75 feet. This is not in the UDO but is required per WDNR.

b. For perennial and intermittent streams identified on a U.S. Geological Survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, 75 feet. WDNR requires 50 feet but UDO requires 75.

c. For lakes, 75 feet. WDNR requires 50 feet but UDO requires 75.

d. For wetlands not subject to subs. e. or f., 50 feet.

e. For highly susceptible wetlands, 75 feet. Highly susceptible wetlands include the following types: calcareous fens, sedge meadows, open and coniferous bogs, low prairies, coniferous swamps, lowland hardwood swamps, and ephemeral ponds. This is not in the UDO but is required per WDNR.

f. For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10 feet nor more than 30 feet. Less susceptible wetlands include: degraded wetland dominated by invasive species such as reed canary grass; cultivated hydric soils; and any gravel pits, or dredged material or fill material disposal sites that take on the attributes of a wetland. This is not in the UDO but is required per WDNR.

g. In psubs. d. to f., determinations of the extent of the protective area adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in s. NR 103.03.

h. Wetland boundary delineation shall be made in accordance with s. NR 103.08(1m). This paragraph does not apply to wetlands that have been completely filled in compliance with all applicable state and federal regulations. The protective area for wetlands that have been partially filled in compliance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after a fill has been placed. Where there is a legally authorized wetland fill, the protective area standard need not be met in that location.

i. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet. Notwithstanding subs. a. to i., the greatest protective area width shall apply where rivers, streams, lakes, and wetlands are contiguous. This is not in the UDO but is required per WDNR.

Note: A stream or lake is not eligible for a lower protective area width even if contiguous to a less susceptible wetland.

3. The following requirements shall be met:

a. Impervious surfaces shall be kept out of the protective area and buffers to the maximum extent practicable. The storm water management plan shall contain a written site-specific explanation for any parts of the protective area that are allowed to be disturbed during construction.

b. Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, self-sustaining vegetative cover of 70% or greater shall be established and maintained. The adequate sod or self-sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of aquatic habitat, and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur. Every effort shall be made to return the disturbed protected area to its natural state.

Note: It is recommended that seeding of native vegetative cover be used in the disturbed portion of the protective areas. Vegetation that is flood and drought tolerant and can provide long-term bank stability because of an extensive root system is preferable. Vegetative cover can be measured using the line transect method described in the University of Wisconsin Extension publication number A3533, titled "Estimating Residue Using the Line Transect Method."

c. Best management practices such as filter strips, swales, water retention and detention structures, infiltration/biofiltration basins, and other green infrastructure, that are designed to control pollutants from non-point sources, may be located adjacent to the protective area.

Note: Other regulations, such as ch. 30, Wis. Stats. and chs. NR 103, 115, 116 and 117, Wis. Adm. Code, and their associated review and approval process, may apply in the protective area and the Franklin UDO and the municipal code sections such as the tree and noxious weed ordinances.

4. This paragraph does not apply to:

a. Except as provided in 15-8.0607(3), redevelopment post-construction sites.

b. In-fill development areas less than five acres.

c. Structures that cross or access surface waters such as boat landings, bridges, and culverts.

d. Structures constructed in accordance with s. 59.692(1v), Wis. Stats.

e. Areas of post-construction sites from which the runoff does not enter the surface water, including wetlands, without first being treated by a BMP to meet the local ordinance requirements for total suspended solids and peak flow reduction, except to the extent that vegetative ground cover is necessary to maintain bank stability.

Note: A vegetated protective area to filter runoff pollutants from post−construction sites described in subd. e. is not necessary since the runoff at that location is treated prior to entering the surface water. Other practices necessary to meet the requirements of this section, such as a swale or pond, will need to be designed and implemented to reduce runoff pollutants prior to runoff entering a surface water of the state.

~~1.~~

~~2. The following requirements shall be met:~~

~~a. Impervious surfaces shall be kept out of the protective area and buffers to the maximum extent practicable. The storm water management plan shall contain a written site-specific explanation for any parts of the protective area that are allowed to be disturbed during construction.~~

~~b. Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, self-sustaining vegetative cover of 70% or greater shall be established and maintained. The adequate sod or self-sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of aquatic habitat and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur. Every effort shall be made to return the disturbed protected area to its natural state.~~

~~***Note**: It is recommended that seeding of native vegetative cover be used in the disturbed portion of the protective areas. Vegetation that is flood and drought tolerant and can provide long-term bank stability because of an extensive root system is preferable. Vegetative cover can be measured using the line transect method described in the University of Wisconsin Extension publication number A3533, titled "Estimating Residue Using the Line Transect Method".*~~

~~c. Best management practices such as filter strips, swales, or wet detention basins, that are designed to control pollutants from non-point sources may be located adjacent to the protective area.~~

~~***Note**: Other regulations, such as ch. 30, Wis. Stats. and chs. NR 103, 115, 116 and 117, Wis. Adm. Code, and their associated review and approval process may apply in the protective area and the Franklin UDO and the municipal code sections such as the tree and noxious weed ordinances.*~~

~~3. This paragraph does not apply to:~~

~~a. Redevelopment post-construction sites.~~

~~b. In-fill development areas less than 5 acres.~~

~~c. Structures that cross or access surface waters such as boat landings, bridges and culverts.~~

~~d. Structures constructed in accordance with s. 59.692(1v), Wis. Stats.~~

~~e. Post-construction sites from which runoff does not exit the site, except to the extent that vegetative ground cover is necessary to maintain bank stability.~~

(e) FUELING AND VEHICLE MAINTENANCE AREAS. Fueling and vehicle maintenance areas shall, to the maximum extent practicable, have BMPs designed, installed and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the state contains no visible petroleum sheen and meet the standards of the Clean Water Act.

Note: A combination of the following BMPs may be used: oil and grease separators, canopies, petroleum spill-cleanup materials, or any other structural or non-structural method of preventing or treating petroleum in runoff.

(f) SWALE TREATMENT FOR TRANSPORTATION FACILITIES

1. Applicability. Except as provided in subd. 2., transportation facilities that use swales for runoff conveyance and pollutant removal shall meet all of the requirements of this section, if the swales are designed to the maximum extent practicable to do all of the following:

a. Be vegetated. However, where appropriate, non-vegetative measures may be employed to prevent erosion or provide for runoff treatment, such as rock riprap stabilization or check dams.

Note: It is preferred that tall and dense vegetation be maintained within the swale due to its greater effectiveness at enhancing runoff pollutant removal.

b. Swales shall comply with sections V.F. (Velocity and Depth) and V.G. (Sale Geometry Criteria) with a swale treatment length as long as that specified in section V.C. (Pre-Treatment) of the Wisconsin Department of Natural Resources technical standard 1005 "Vegetated Infiltration Swales," dated May 2007, or a superseding document. Transportation facility swale treatment does not have to comply with other sections of technical standard 1005~~Carry runoff through a swale for 200 feet or more in length that is designed with a flow velocity no greater than 1.5 feet per second based on a 2-year, 24-hour design storm. If a swale of 200 feet in length cannot be designed with a flow velocity of 1.5 feet per second or less, then the flow velocity shall be reduced to the maximum extent practicable~~.

~~Note: Check dams may be included in the swale design to slow runoff flows and improve pollutant removal. Transportation facilities with continuous features such as curb and gutter, sidewalks or parking lanes do not comply with the design requirements of this~~

~~paragraph. However, a limited amount of structural measures such as curb and gutter may be allowed as necessary to account for other concerns such as human safety or resource protection.~~

2. ~~Exemptions~~Other Requirements. The City Engineer may, consistent with water quality standards, require other provisions of this section be met on a transportation facility with an average daily travel of vehicles greater than 2,500 and where the initial surface water of the state that the runoff directly enters is any of the following:

   a. An outstanding resource water as defined in the State Department of Natural Resources.

   b. An exceptional resource water.

   c. Waters listed in s. 303(d) of the federal clean water act that are identified as impaired in whole or in part, due to nonpoint source impacts.

   d. Waters where targeted performance standards are developed under s. NR 151.004, Wis. Adm. Code, to meet water quality standards.

   Note: The transportation facility authority shall contact the City Engineer~~Department of Natural Resource's regional storm water staff to can~~ determine if additional BMPs, beyond a water quality swale, are needed under this ~~paragraph~~subsection.

~~(4)~~(5) GENERAL CONSIDERATIONS FOR ON-SITE AND OFF-SITE STORM WATER MANAGEMENT MEASURES. The following considerations shall be observed in managing runoff:

(a) Natural topography and land cover features such as natural swales, natural depressions, native soil infiltrating capacity, and natural groundwater recharge areas shall be preserved and used, to the extent possible, to meet the requirements of this section and Division 15-4.0100

(b) Emergency overland flow for all storm water facilities shall be provided to prevent exceeding the safe capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.

(c) BMPs for water quantity management shall utilize the following techniques, in order of preference:

1. Preservation of the natural features of development sites, including natural storage and infiltration characteristics;

2. Preservation of existing wetlands, natural streams, channels, and drainage ways;

3. Minimization of new impervious surfaces;

4. Conveyance of storm water in open vegetated channels;

5. Construction of structures that provide both quantity and quality control, with structures serving multiple sites being preferable to structures serving individual sites; and

6. Construction of structures that provide only quantity control, with structures serving multiple sites being preferable to structures serving individual sites.

~~(5)~~(6) LOCATION AND REGIONAL TREATMENT OPTION

(a) The BMPs may be located on-site or off-site as part of a regional storm water device, practice, or system within the same watershed, but shall be installed in accordance with s. NR 151.003, Wis. Adm. Code.

(b) Runoff within a non-navigable drainage way that flows into a BMP, such as a wet pond, is not required to meet water quality performance standards unless designed to provide treatment as long as treatment is provided for total site.

Note: This regional treatment option does not supersede any other federal, state or local regulation of post-construction runoff, such as chs. NR 103 and 30, Wis. Stats.

(c) The discharge of runoff from a BMP, such as a wet pond, or after a series of such BMPs is subject to this chapter.

(d) The City Engineer may approve off-site management measures provided that all of the following conditions are met:

1. The City Engineer determines that the post-construction runoff is covered by a storm water management system plan that is approved by the City of Franklin and that contains management requirements consistent with the purpose and intent of this ordinance.

2. The off-site facility meets all of the following conditions:

a. The facility is in place.

b. The facility is designed and adequately sized to provide a level of storm water control equal to or greater than that which would be afforded by on-site practices meeting the performance standards of this ordinance.

c. The facility has a legally obligated entity responsible for its long-term operation and maintenance.

~~(a)~~(e) Where a regional treatment option exists such that the Common Council exempts the applicant from all or part of the minimum on-site storm water management requirements, the applicant shall be required to pay a fee in an amount determined in negotiation with the Common Council. In determining the fee for post-construction runoff, the Common Council shall consider an equitable distribution of the cost for land, engineering design, construction, and maintenance of the regional treatment option.

~~(6)~~(7) ALTERNATE REQUIREMENTS. The City Engineer may establish storm water management requirements more stringent than those set forth in this section if the City Engineer determines that an added level of protection is needed to protect sensitive resources.

~~(7)~~(8) ~~Credit for Removal of Impervious Surfaces~~CREDIT FOR REMOVAL OF IMPERVIOUS SUFACES~~.~~

(a) Same Site Credit. The City Engineer may use the removal of pavement, covered structures, or other impervious surfaces at the same property to calculate the net post-construction impervious acreage and corresponding water quantity management duties. Credit may equal, but not be larger than, the acreage of impervious surfaces removed when runoff release rates and detention are the best management practices utilized at the site. Credit for reducing impervious surfaces at a site, not utilized by the development on the site, belongs to the administering authority and may be banked for allocation to other development within the sub-watershed under subd.~~section~~ (b).

(b) Dispersed Site in Same Sub-Watershed Credit. The administering authority may bank the removal of impervious surfaces, which individually must be one half acre or more, within the same sub-watershed, where the volume, timing, and peak flow of runoff will be distributed over the critical time sufficient to assure the level of protection provided by MMSD flood abatement projects will not be reduced. The administering authority may allocate banked credit to promote a policy of smart growth. The total acreage banked or allocated, or both, shall be reported, by watershed or sub-watershed, annually to the MMSD for concurrence.

SECTION 15-8.0608 PERMITTING REQUIREMENTS, PROCEDURES AND FEES

(1) PERMIT REQUIRED. No responsible party may undertake a land disturbing construction activity without receiving a post-construction runoff permit from the City Engineer prior to commencing the proposed activity and that all provisions of Division 15-4.0100 are complied with.

(2) PRIOR TO PERMIT APPLICATION: All Storm Water Management Plans shall be submitted at the time of site plan review or as a condition of approval as required under Section 15-8.0112, and as applicable under Sections 15-7.0103 (P) and 15-7.0501 (J), and shall receive complete review with written letter of approval from the City Engineer~~,~~ and all pertaining State, Federal, and Local approving authorities to assure that all proposed design standards meet the requirements of the City Storm Water Management Plan, and further that as-built will be in compliance of Sections 15-4.0100. Any Plats or CSM's receiving contingent Storm Water Management Plan approval shall submit said letters of written approval with the Permit Application before a permit may be granted.

(3) PERMIT APPLICATION AND FEES. Any responsible party desiring a permit shall submit to the City Engineer a permit application made on a form provided by the City Engineer for that purpose.

(a) Unless specifically excepted, a permit application must be accompanied by a storm water management plan, a maintenance agreement, and a non-refundable permit administration fee.

(b) The storm water management plan shall be prepared to meet the requirements of Sections 15-8.0607 and 15-8.0609, the maintenance agreement shall be prepared to meet the requirements of Section 15-8.0610, the financial guarantee shall meet the requirements of Section 15-8.0611, and fees shall be those established by the Common Council as set forth in Section 15-8.0612.

(4) REVIEW AND APPROVAL OF PERMIT APPLICATION. The City Engineer shall review any permit application that is submitted with a storm water management plan, maintenance agreement, and the required fee, as follows:

(a) Within ~~twenty (~~200~~)~~ business days of the receipt of a complete permit application, including all items as required by subd. (2), the City Engineer shall inform the applicant whether the application, plan~~,~~ and maintenance agreement are approved or disapproved based on the requirements of this ordinance.

(b) If the storm water permit application, plan~~,~~ and maintenance agreement are approved, or if an agreed upon payment of fees in lieu of storm water management practices is made, the City Engineer shall issue the permit.

(c) If the storm water permit application, plan~~,~~ or maintenance agreement is disapproved~~,~~~~;~~ the City Engineer shall detail in writing the reasons for disapproval.

(d) The City Engineer may request additional information from the applicant. If additional information is submitted, the City Engineer shall have ~~ten (~~10~~)~~ business days from the date the additional information is received to inform the applicant that the plan and maintenance agreement are either approved or disapproved.

(5) PERMIT REQUIREMENTS. All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions. The City Engineer may suspend or revoke a permit for violation of a permit condition, following written notification of the responsible party. An action by the City Engineer to suspend or revoke this permit may be appealed in accordance with Section 15-8.0614.

(a) The responsible party shall design and install all structural or identify non-structural storm water management measures, or both, in accordance with the approved storm water management plan and this permit.

(b) The responsible party shall notify the City Engineer at least two ~~(2)~~ business days before commencing any work in conjunction with the storm water management plan, and within five ~~(5)~~ business days upon completion of the storm water management practices. If required as a special condition under subd. (5), the responsible party shall make additional notification according to a schedule set forth by the City Engineer so that practice installations can be inspected during construction.

(c) Practice installations required~~,~~ as part of this ordinance shall be certified "as-built" or "record" drawings by a licensed professional engineer. ~~checked by the City Engineer to determine if the facilities were constructed to the approved plans (as built).~~ All depth and size requirements shall be considered a minimum. Completed storm water management

practices must pass a final inspection by the City Engineer or its designee to determine if they are in accordance with the approved storm water management plan and ordinance. The City Engineer or its designee shall notify the responsible party in writing of any changes required in such practices to bring them into compliance with the conditions of this permit.

~~***Note:*** *Certification by a P.E. may be an additional cost without benefit in many instances. Other non-P.E. professionals, e.g., landscape architects or general contractors, appear to provide adequate assurances.*~~

(d) The responsible party shall maintain all storm water management practices until the responsibility is transferred to the City of Franklin, or subsequent private owners as specified in the approved maintenance agreement.

(e) The responsible party authorizes the City Engineer to perform, to delegate, or to take ~~the~~ any work or operations necessary to bring storm water management measures into conformance with the approved storm water management plan, and consents to a special assessment or charge against the property as authorized under subch. VII of ch. 66, Wis. Stats., or to charging such costs against the financial guarantee posted under 15-8.0611.

(f) If so directed by the City Engineer, the responsible party shall repair at the responsible party's own expense all damage to adjoining municipal facilities, private property, drainage ways, and natural resources ~~featured~~ caused by runoff, where such damage is caused by activities that are not in compliance with the approved storm water management plan.

(g) The responsible party shall permit property access to the City Engineer or its designee for the purpose of inspecting the property for compliance with the approved storm water management plan and this permit.

(h) Where site development or redevelopment involves changes in direction or, ~~,~~ increases in the peak rate or the total volume of runoff, the City Engineer may require the responsible party to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.

(6) PERMIT CONDITIONS. Permits issued under this subsection may include reasonable and necessary conditions established by the City Engineer in addition to the requirements needed to meet the performance standards in 15-8.0607 or a financial guarantee as provided for in 15-8.0611.

Note: "Reasonable and necessary" is the §283.63(1), Wis. Stats., standard for permit conditions and duties in Clean Water Act permits.

(7) PERMIT DURATION. Permits issued under this section shall be valid from the date of issuance through the date the City Engineer notifies the responsible party that all storm water management practices have passed the final inspection required under subd. (5~~4~~)(c) not to exceed one year in duration.

(1) PLAN REQUIREMENTS. In addition to the requirements of 15-8.0112 the following items are required. The storm water management plan required under 15-8.06078(2) ~~(2)~~ shall contain at a minimum the following information:

(a) Name, address, and telephone number for the following or their designees: landowner; developer; project engineer for practice design and certification; person(s) responsible for installation of storm water management practices; and person(s) responsible for maintenance of storm water management practices prior to the transfer, if any, of maintenance responsibility to another party.

(b) A proper legal description of the property proposed to be developed, referenced to the U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat.

(c) PRE-DEVELOPMENT SITE CONDITIONS. ~~, a~~A description of the existing conditions of the site, including:

1. A topographic and cadastral map of the site at a scale of one inch equals 100 feet or larger,

2. The hydrologic and hydraulic characteristics of the site including drainage flow paths and directions of flow onto, through, and out of the site; related drainage basin boundaries, including off-site tributary areas; times of concentration,

3. The location of areas where s~~S~~torm w~~W~~ater may collect or percolate into the ground,

4. Locations where runoff enters the site from adjacent tributary areas together with the size of those areas, expressed in acres,

5. Locations where runoff leaves the site and the contributing watersheds to each of these locations, expressed in acres,

6. One-year (per Wisconsin Department of Natural Resources), ~~T~~two-year (per WDNR and MMSD), and 100-year (per MMSD) pre-development~~24 hour, SCS TYPE II peak~~ runoff rates ~~at~~at ~~–~~each location where runoff leaves the site, expressed in cubic feet per second,

7. Ground water elevations,

8. Soils by hydrologic group,

9. Cover type and condition,

10. Location and extent of impervious surfaces, including cover type (genus and species name) and condition of the surfaces,

11. Locations and outlines of all buildings or other structures,

12. Location of all natural resource features as identified in Table 15-4.0100,

13. Information regarding current water quality objectives and current water quality conditions in any intermittent and perennial watercourses located on or within 100 feet of~~to~~ the site,

14. Locations, sizes, and elevations of all existing storm sewers, channels, ditches, detention or retention ponds, or other engineered drainage facilities on or within 100 feet of the site, and,

15. Locations of any existing water supply wells and wellhead protection areas.

(d) POST-DEVELOPMENT SITE CONDITIONS, describing the alterations proposed at to the site and the resulting proposed post-development conditions, including:

1. Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters,

2. Explanation of any restrictions on s~~S~~torm w~~W~~ater management measures in the development area imposed by wellhead protection plans and ordinances,

3. Proposed changes in the planimetry of the site, and in the topography of the site by contours having the same contour interval and referred to the same datum as used to present the topography of the existing site conditions,

4. The location and outline of all proposed buildings or other structures,

5. Changes in the location, extent and type of impervious surfaces,

6. The location, type, and extent of areas where vegetation is to be disturbed or planted,

7. Impacts on existing natural storage or infiltration areas,

8. Changes in the drainage flow paths into, through, and out of the site, and related changes in drainage basin boundaries,

9. The location, elevations, and sizes of all proposed minor and major s~~S~~torm w~~W~~ater management facilities; the former including all storm sewers and inlets, the latter including curbed roadways, roadway ditches, culverts, interconnected flow paths, storage facilities, water retention and detention structures, infiltration/biofiltration basins, and other green infrastructure~~and interconnected flow paths,~~.

~~9.~~10. One-year (per Wisconsin Department of Natural Resources), two-year (per WDNR and MMSD), and 100-year (per MMSD) post-development runoff rates at each location where runoff leaves the site, expressed in cubic feet per second,

~~10.~~11. Any changes to lakes, streams, watercourses, or wetlands on or within 100 feet of the site, and,

~~11.~~12. The location and widths of required public rights-of-way or easements needed to accommodate the recommended Storm Water management facilities.

(e) PROPOSED STORM WATER MANAGEMENT FACILITIES AND MEASURES~~,~~ . A~~a~~ definitive description of the proposed s~~S~~torm w~~W~~ater management facilities and measures for the control of the quantity and quality of the anticipated s~~S~~torm w~~W~~ater runoff from the proposed development, redevelopment, or land division. The description of the proposed management facilities shall include:

1. For storm water quantity and quality control facilities~~detention and retention facilities~~: locations, areas, depths, volumes, inlet and outlet configurations (and elevation of the bottoms), and of key inlet and outlet control structures;

2. In the design of the storm water quantity and quality control facilities~~detention and retention facilities~~, consideration shall be given to access for maintenance purposes. If possible the facilities should be located adjacent to public property. If it is not possible to locate the facilities adjacent to public property an access easement shall be granted with explicit language such that the abutting property owners shall be aware that the easement is for access to the facilities for maintenance purposes;

3. For conveyance facilities:~~–~~ locations of inlets and manholes and associated rim and invert elevations, and pipe sizes, slope, and materials; locations, elevations, and cross sections of ditches, swales, and channels; and culvert sizes and~~,~~ inlet and outlet configurations and elevations;

4. Design computations and all applicable assumptions for the s~~S~~torm w~~W~~ater conveyance (open channel, closed pipe, etc.) system;

5. Detailed drawings including cross-sections and profiles of all permanent s~~S~~torm w~~W~~ater conveyance and treatment practices;

6. Design computations/models and all applicable assumptions for s~~S~~torm w~~W~~ater quantity and quality facilities and practices ~~(sedimentation type, filtration type, infiltration type) is needed to show the location, type (genus and species), and extent of areas where vegetation is to be disturbed or planted, that practices are appropriately sized to accommodate runoff from the 1.5 inch rainfall~~;

~~7. For practice designs that depart from those specified in the "Wisconsin Storm Water Manual, Part 2: Technical Design Guidelines for Storm Water Best Management Practices:, the results of continuous simulation modeling, conducted according to the guidelines established in that manual, shall be presented in such a way as to show the reduction in average annual total suspended solids loading from the developed site;~~

~~8. Erosion Control Plan in accordance with the "Wisconsin Construction Site Best Management Practices Handbook", published and periodically updated by the~~

~~Wisconsin Department of Natural Resources and the requirements as stated in Sections 15-8.0300 and 15-8.0203;~~

~~9.~~7. Measures to abate any potential pollution of surface and ground waters;

~~10.~~8. A schedule for the construction of the required~~commended~~ s~~S~~torm w~~W~~ater management facilities and estimates of attendant capital and operation and maintenance costs;

~~11.~~9. A maintenance plan developed for the life of each s~~S~~torm w~~W~~ater management practice, including the designated and reserved maintenance access route~~–~~(s), required maintenance activities, and maintenance schedule;

~~12.~~10. A landscaping plan in accordance with "The City of Franklin Unified Development Ordinance – Pond Landscaping Guidelines as defined in Appendix "F" of the City of Franklin Storm Water Management update – December 2002; and

~~13.~~11. Other information as needed by the City to determine compliance of the proposed s~~S~~torm w~~W~~ater management measures with the provision of this Section.

(f) A description and installation schedule for the storm water management practices needed to meet the performance standards in Section 15-8.0607.

(g) A maintenance plan developed for the life of each storm water management practice including the required maintenance activities and maintenance activity schedule.

(h) Cost estimates for the construction, operation, and maintenance of each storm water management practice.

(i) Other information requested in writing by the City Engineer to determine compliance of the proposed storm water management measures with the provisions of this ordinance.

(j) All site investigations, plans, designs, computations, and drawings shall be certified by a ~~[~~licensed professional engineer~~]~~ and~~to~~ be prepared in accordance with accepted engineering practice and requirements of this ordinance.

(2) ALTERNATE REQUIREMENTS. The City Engineer may prescribe alternative submittal requirements for applicants seeking an exemption to on-site storm water management performance standards under 15-8.0607(~~65~~)(e).

SECTION 15-8.0610 MAINTENANCE AGREEMENT

(1) **MAINTENANCE AGREEMENT REQUIRED.** The maintenance agreement required under 15-8.0608(~~32~~) for storm water management practices shall be an agreement between the Common Council and the responsible party to provide for maintenance of storm water practices

beyond the duration period of this permit. The maintenance agreement shall be filed with the County Register of Deeds as a property deed restriction so that it is binding upon all subsequent owners of the land served by the storm water management practices. The development agreement may serve as the maintenance agreement.

(2) **AGREEMENT PROVISIONS.** The maintenance agreement shall contain the following information and provisions and be consistent with the maintenance plan required by 15-8.0609(1)(g):

(a) Identification of the storm water facilities and designation of the drainage area served by the facilities.

(b) A schedule for regular maintenance of each aspect of the storm water management system consistent with the storm water management plan required under 15-8.0608(3~~2~~). The schedule and required maintenance activities shall conform to the requirements as given in the Storm Water Post-Construction Technical Standards prepared by the Wisconsin Department of Natural Resources, as amended. At a minimum, all storm water quantity and quality control facilities shall be inspected once per year by the responsible party and the inspection report submitted to the City Engineer.

(c) Identification of the responsible party(s), organization or city, county, town, or village responsible for long-term maintenance of the storm water management practices identified in the storm water management plan required under 15-8.0608(3~~2~~).

(d) Requirement that the responsible party(s), organization, or city shall maintain storm water management practices in accordance with the schedule included in subd~~par~~. (b).

(e) Authorization for the City Engineer, its designee, and the Milwaukee Metropolitan Sewerage District to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.

(f) Agreement that the party designated under subd~~par~~. (c), as responsible for long term maintenance of the storm water management practices, shall be notified by the City Engineer of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the City Engineer.

(g) Authorization of the City Engineer to perform the corrected actions identified in the inspection report if the responsible party designated under subd~~par~~. (c) does not make the required corrections in the specified time period. The City Engineer shall enter the amount due on the tax rolls and collect the money as a special charge against the property pursuant to subch. VII of ch. 66, Wis. Stats.

(3) ~~**(3)**~~ **POND MAINTENANCE GUIDELINES**

Trees and Brush

Trees and brush may be permitted on slope surfaces or berms.

Stump Removal and Sprout Prevention

Stumps of trees should be removed so vegetation can be established and the surface mowed. Stumps can either be removed by pulling or with machines that grind them down. All woody material should be removed to about 6 inches below the ground surface. The cavity should be filled with well-compacted soil and grass vegetation established.

Stumps of trees in riprap areas that cannot usually be easily pulled or ground down can be chemically treated so they will not continually form new sprouts. Certain herbicides are effective for this purpose and can even be used near water supply reservoirs if applied by licensed personnel. These products should be painted, not sprayed, on the stumps. Other instructions found on the label should be strictly followed when handling and applying these materials. Only a few commercially available chemicals can be used along shorelines or near water.

Landscaping

Vegetation shall be examined regularly, at least twice a year during the first two ~~(2)~~ growing seasons. Stunted growth of pond vegetation or growth and excessive invasive species indicate that increased maintenance and intervention will be necessary.

Native landscaping prairie area ~~will~~ shall be managed by hand removal for invasives during the first 2-3 years of the growing season in order to become well established. Burning, cutting, or selective herbicide for management of invasives and woody species should take place as needed o~~r~~n a two ~~(2)~~ -year cycle after the third growing season. Emergent and submergent vegetation around the perimeter of the pond areas ~~will~~ shall be inspected annually and any non-native and invasive species be removed. Herbicides should not be used near open water areas.

Structural Inspection and Maintenance

After construction and site grading are complete, the pond should be checked by the City Engineer for correct design depth and volume. If sediment has deposited during construction or site grading, the pond shall~~ould~~ be re-excavated.

The annual inspection by the City Engineer and/or maintenance of the following items shall~~ould be~~ include inspection of~~completed~~:

- Pond inlets and outlets for structural integrity and blockage,
- Riprap at pipe and culvert outlets for placement, integrity, and effectiveness,
- Inspection of berms for cracks, excessive settlement, or seepage.

Sediment Removal (Dredging)

This component includes monitoring of the levels of the sediment on an annual basis. When the sediment in the forebay (or the main basin) reaches a depth of two feet, the material sh~~o~~all~~uld~~ be removed so that the original volume of the permanent pool is

maintained. In general, pond dredging is expected to occur once every 10 to 15 years. The following practices help ensure dredging is not warranted prematurely:

- Construction site erosion control,
- As-built survey of the pond at time of completion,
- Successful re-vegetation and/or restoration of pond surroundings.

Nuisance Waterfowl Control

Nuisance waterfowl control is generally achieved through the use of upland or shoreland buffers consisting of un-mowed tall vegetation. The buffer zone can be mowed in the early summer of the second full growing season. Refer to Appendix "F" of the City of Franklin Storm Water Management Plan Update dated December 2002 by Bonestroo, Rosene, Anderlik and Associates.

(4) ~~(4)~~ **CONSTRUCTED WETLANDS**

In some situations, a sedimentation basin followed by a natural wetland buffer (to act as a pre-filter to a natural wetland), a restored wetland, or a constructed wetland "can" be an effective means of removing some suspended solids, nutrients, and other potential pollutants from storm water runoff. The primary function of the sedimentation basin is, as already noted, to remove buoyant debris and suspended solids and the related potential pollutants. Storm w~~W~~ater then passes into the restored or constructed wetland where physical (e.g., settling) and biological (e.g., nutrient uptake by vegetation) processes remove additional potential pollutants. The restored or constructed wetland offers opportunities to develop wildlife habitat, education (e.g., self-guided tours), and aesthetic benefits.

In addition to regular maintenance activities, several design features can be incorporated to ease the maintenance of restored or constructed wetlands. One potential maintenance concern in restored or constructed wetlands is clogging of the outlet. Restored or constructed wetlands should be designed with a non-clogging outlet such as a reverse-slope pipe, or a weir outlet with a trash rack. A reverse~~-~~slope pipe draws from below the micropool extending in a reverse angle up to the riser and establishes the water elevation of the micropool. Because these outlets draw water from below the level of the micropool, they are less likely to be clogged by floating debris.

Restored or constructed wetlands should incorporate design features that make sediment cleanouts of both the forebay and the shallow pool easier. Restored or constructed wetlands should have direct maintenance access to the forebay~~,~~ to allow this relatively routine (five to seven year) sediment cleanouts. In addition, the shallow pool should generally have a drain to draw down the restored or constructed wetland for the more infrequent dredging of the main cell of the restored or constructed wetland.

In general, the introduction of natural features in constructed wet detention basins will not only increase pollutant removal capacity, but also result in a new water body that can potentially come to offer wildlife habitat values. In order to help this process, the wet detention ponds must be specially designed to have the appropriate geometry, location, size, and vegetation. Such facilities are called constructed wetlands and have been shown to be effective, successful, and reliable in the long run.

Because of their natural appearance, water quality benefits, and need for minimum maintenance, constructed wetlands are preferred and should be encouraged whenever appropriate and/or possible. However, it should be noted that sStorm wWater wetlands are designed specifically for the purpose of treating sStorm wWater runoff, and typically have less biodiversity than natural wetlands both in terms of plant and animal life.

(5) ~~(5)~~ BIORETENTION FACILITIES

Bioretention areas are landscaping features adapted to treat sStorm wWater runoff on the development site. They are commonly located in parking lot islands or within small pockets in residential land uses. Surface runoff is directed into shallow, landscaped depressions. These depressions are designed to incorporate many of the pollutant removal mechanisms that operate in forested ecosystems. Runoff from larger storms is generally diverted past the facility to the storm drain system or another BMP. The remaining runoff filters through a prepared or amended soil mixture~~native plantings w~~ wh~~h~~ich acts as a pollutant removal system. When underlying soils are not conducive to infiltration ~~Typically,~~ the filtered runoff is collected in a perforated underdrain and sent~~returned~~ to the storm drain system.

Bioretention systems ~~are generally applied to small sites, but~~ can be applied to a wide range of development. Bioretention can be applied in many climate and geologic situations, with some minor design modifications. In cold climates, bioretention areas can be used as a snow storage area. When used for this purpose, or if used to treat parking lot runoff, the bioretention area should be planted with salt~~-~~-tolerant and non-woody plant species, and the composition of the soil mixture should be designed specifically to accommodate this purpose. Wisconsin Department of Natural Resources Storm Water Post-Construction Technical Standard No. 1004, Bioretention for Infiltration, may be used as a reference for design, operation and maintenance of these facilities.

(6) FOREBAYS (PRE-SETTLEMENT BASINS)

Pre-settlement basins or forebays consist of additional storage space located near a sStorm wWater practice inlet that serves to trap incoming coarse sediments before they accumulate in the main treatment area. In general, the surface area of the forebay is typically about 10% of the volume of the main pool.

The forebay is designed to settle out coarse sediment particles before they reach the main pool. By trapping these sediments in the forebay, it is possible to greatly reduce the maintenance burden of the pond. Coarse sediments are trapped in the forebay, and these sediments are removed from the smaller pool on a five to seven year cycle.

It is recommended that wet detention ponds or constructed wetlands with a total main pool area of greater than 0.5 acres should have a forebay area to create an additional level of sediment removal and maintenance reduction.

(7) MISCELLANEOUS MAINTENANCE

Debris and Obstructions

It is important to regularly remove any accumulation of debris, which may act to block the primary outlet, the trash rack leading into the outlet pipe, or the outlet pipe itself. If any of these

items become obstructed, a rise in the pond level could occur, creating undue stress and endangering the slopes and berms. In addition, debris can promote deterioration of the slopes through abrasive actions. ~~The City Engineer shall inspect all inlets and outlets on a regular basis – at least once per year.~~

Animal Burrows

Animal burrows provide a seepage path for water through the berms. Concentrated seepage can result in slope failure. All burrows should be filled in with soil or grout, topped, and seeded for erosion protection and live trapped and removed if necessary.

Riprap

Maintenance of riprap areas should be relatively minor. Any displaced riprap should be replaced. This may be occurring near the water surface, when ice accumulation can move riprap.

~~The r~~Riprap~~, if used at the site~~ is placed over geotextile fabric. Roots from vegetation may act to compromise this fabric, thereby reducing its effectiveness. Therefore, all vegetation in riprap areas should be removed using methods described in ~~Pond Maintenance~~subd. (3).

SECTION 15-8.0611 FINANCIAL GUARANTEE

(1) ESTABLISHMENT OF THE GUARANTEE. The Common Council may require the submittal of a financial guarantee; the form and type of which shall be acceptable to the City Attorney. The financial guarantee shall be in an amount determined by the City Engineer to be the estimated cost of construction and the estimated cost of maintenance of the storm water management practices during the period which the designated party in the maintenance agreement has maintenance responsibility. The financial guarantee shall give the City Engineer, upon approval by the Common Council, the authorization to use the funds to complete the storm water management practices if the responsible party defaults or does not properly implement the approved storm water management plan, upon written notice to the responsible party by the administering authority that the requirements of this ordinance have not been met.

(2) CONDITIONS FOR RELEASE. Conditions for the release of the financial guarantee are as follows:

(a) The Common Council shall release the portion of the financial guarantee established under this section, less any costs incurred by the City Engineer to complete installation of practices, upon submission of "as built plans" by a licensed professional engineer. The City Engineer may make provisions for a partial pro-rata release of the financial guarantee based on the completion of various development stages.

(b) The Common Council shall release the portion of the financial guarantee established under this section to assure maintenance of storm water practices, less any costs incurred by the City Engineer, at such time that the responsibility for practice maintenance is passed on to another entity via an approved maintenance agreement.

SECTION 15-8.0612 FEE SCHEDULE

The fees referred to in other sections of this ordinance shall be established by the Common Council and may from time to time be modified by resolution. A schedule of the fees established by the Common Council shall be available for review in Office of the City Clerk.

SECTION 15.8.0613 ENFORCEMENT

(1) Any land disturbing construction activity or post-construction runoff initiated after the effective date of this ordinance by any person subject to the ordinance provisions shall be deemed a violation unless conducted in accordance with the requirements of this ordinance.

(2) The City Engineer shall notify the responsible party of any non-complying land disturbing construction activity or post-construction runoff. The notice shall describe the nature of the violation, remedial actions needed, a schedule for remedial action, or additional enforcement action which may be taken. Any technique that effectively provides actual and verifiable notice may be used.

(3) If the violations are likely to result in damage to properties, public facilities, or waters of the state, the City Engineer may enter the land and take corrective actions necessary to prevent such damage. The costs incurred by the City Engineer plus interest and legal costs shall be paid by the responsible party.

(4) If the City Engineer determines that any person is in violation of this ordinance or a Storm Water permit, the City Engineer or Building Inspector may issue a notice of violation, a stop work order, a cease and desist order, or revoke the permit, or refer the noncompliance to the City Attorney for civil enforcement, penalties, injunctive orders or other appropriate relief.

(5) Every violation of this ordinance is a public nuisance. Any person who violates this ordinance shall be subject to a forfeiture of not less than $100 or more than $2,500 per offense, together with the costs of prosecution. Each day each violation continues shall constitute a separate offense.

Note: Injunctive orders are authorized pursuant to Wis. Stats., for counties, villages and towns with village powers, and cities respectively.

(6) When the City Engineer determines that the holder of a permit issued pursuant to this ordinance has failed to follow practices, or has failed to comply with schedules in a storm water management plan, the City Engineer or a party designated by the City Engineer may enter upon the land and take required action to see the work is performed as necessary to bring the condition of said lands into conformance with requirements of the approved plan. The City Engineer shall keep a detailed accounting of the costs and expenses of performing this work. These costs and expenses shall be deducted from any financial security posted pursuant to Section 15-8.0611 of this Ordinance. Where such a security has not been established, or where such a security is insufficient to cover these costs, the costs and expenses shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon for the year in which the work is completed.

SECTION 15-8.0614 APPEALS

(1) APPEALS. The Board of Zoning and Building Appeals shall hear and decide appeals where it is alleged that there is error in any order, decision, or determination made by the City Engineer under or in the administration of the regulations set forth in this Division. The Board of Zoning and Building Appeals may affirm, reverse or modify any such order, decision or determination upon written appeal to it, and its reasonable application of the terms and provisions of this Division and any applicable terms and provisions of the Municipal Code and Unified Development Ordinance to the facts of such appeal. Any appeal from any order, decision, or determination made by the Board of Zoning and Building Appeals under or in the administration of the regulations set forth in this Division shall be by way of certiorari to the Milwaukee County Circuit Court. Any appeal aforesaid shall be made within 30 days of the date of the making of the order, decision or determination appealed from. The Board of Zoning and Building Appeals may authorize variances that are not contrary to the public interest, and where owing to special conditions unique to the property, a literal enforcement would be an unnecessary hardship, and only where the literal enforcement of the terms of this Division would result in no reasonable use of the property. Any uncertainty by Staff as to which process should be followed (appeal or variance) upon an application shall be determined by the City Attorney.

(2) WHO MAY APPEAL. Appeals as set forth under Sub. (1) above may be taken by any aggrieved person or by an officer, department or board of the City of Franklin affected by any decision of the City Engineer or the Board of Zoning and Building Appeals.

SECTION 15-8.0615 STORM WATER MANAGEMENT PLAN

The City of Franklin Storm Water Management Plan, as amended, shall be incorporated into this Ordinance by reference.